

# 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

1.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
1	1	W-A	ePNE	11 <sup>h</sup> 29 <sup>m</sup> 39 <sup>s</sup>	$\Delta S-P = 20^{\circ}5$
		W-A	iN	11 30 14	
		W-A	eSE	11 33 17	
		W-A	eSN	11 33 27	
		W-A	eLN	11 37 57	
			F	12 00 ±	
2	2	W-A	ePNE	22 <sup>h</sup> 31 <sup>m</sup> 40 <sup>s</sup>	$\Delta P-H = 19^{\circ}1$ $H = 22^{\text{h}}27^{\text{m}}17^{\text{s}}$
		W-A	eSE	22 35 14	
		W-A	eSN	22 35 16	
		W-A	eLN	22 39.2	
			F	23 30 ±	
3	3	W-A	ePNE	20 <sup>h</sup> 48 <sup>m</sup> 11 <sup>s</sup>	$\Delta S-P = 19^{\circ}8$
		W-A	eSN	20 51 51	
		W-A	eSE	20 51 53	
		W-A	eN	20 52 27	
			F	20 54 ±	
4	3	W-A	ePN	21 <sup>h</sup> 48 <sup>m</sup> 16 <sup>s</sup>	
		W-A	ePE	21 48 21	
		W-A	e(S) <sub>NE</sub>	21 51 46	
		W-A	eLN	21 54 31	
5	18	W-A	iPN	4 <sup>h</sup> 39 <sup>m</sup> 38 <sup>s</sup>	$\Delta S-P = 18^{\circ}7$
		W-A	ePE	4 39 38	
		W-A	iN	4 39 42	
		W-A	iN	4 40 11	
		W-A	iE	4 40 24	
		W-A	eS <sub>NE</sub>	4 43 10	
6	23	W-A	iP	8 <sup>h</sup> 42 <sup>m</sup> 37 <sup>s</sup>	$\Delta P-H = 57^{\circ}7$ $H = 8^{\text{h}}32^{\text{m}}50^{\text{s}}$ 21 <sup>o</sup> 0 N, 156 <sup>o</sup> 2 W. Felt throughout the Hawaiian Islands
		W-A	i	8 42 45	
		W-A	ePR <sub>2</sub>	8 46 09	
		W-A	eS	8 50 33	
		W-A	e	8 50 47	
		W-A	eL	9 00 29	
7	24	W-A	ePR <sub>1E</sub>	10 <sup>h</sup> 50 <sup>m</sup> 36 <sup>s</sup>	$\Delta SKS-H = 107^{\circ}1$ $H = 10^{\text{h}}31^{\text{m}}45^{\text{s}}$ 60 <sup>o</sup> 4 S, 35 <sup>o</sup> 6 W. Normal.
		W-A	eSKS <sub>E</sub>	10 56 39	
		W-A	e(PS) <sub>E</sub>	10 9 46	
		W-A	eL <sub>E</sub>	11 01 26	
			F	12 30 ±	

Minor Seismic Activity: Jan 2, 6h00m to 6h30m; Jan 5, 8h23m to 8h30m;  
Jan 25, 16h30m to 17<sup>h</sup>00m

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No.	Date	Inst.	Phase	G. M. C. T.	Remarks
1	1	W-A	ePNE	11 <sup>h</sup> 29 <sup>m</sup> 39 <sup>s</sup>	$\Delta$ S-P = 20 <sup>o</sup> 5
		W-A	iN	11 30 14	
		W-A	eSE	11 33 17	
		W-A	eSN	11 33 27	
		W-A	eLN	11 37 57	
				F	
2	2	W-A	ePNE	22 <sup>h</sup> 31 <sup>m</sup> 40 <sup>s</sup>	$\Delta$ P-H = 19 <sup>o</sup> 1 H = 22 <sup>h</sup> 27 <sup>m</sup> 17 <sup>s</sup>  16 <sup>o</sup> 7 N, 98 <sup>o</sup> 3 W. Normal.
		W-A	eSE	22 35 14	
		W-A	eSN	22 35 16	
		W-A	eLN	22 39.2	
				F	
3	3	W-A	ePNE	20 <sup>h</sup> 48 <sup>m</sup> 11 <sup>s</sup>	$\Delta$ S-P = 19 <sup>o</sup> 8
		W-A	eSN	20 51 51	
		W-A	eSE	20 51 53	
		W-A	eN	20 52 27	
				F	
4	3	W-A	ePN	21 <sup>h</sup> 48 <sup>m</sup> 16 <sup>s</sup>	
		W-A	ePE	21 48 21	
		W-A	e(S) <sub>NE</sub>	21 51 46	
		W-A	eLN	21 54 31	
5	18	W-A	iPN	4 <sup>h</sup> 39 <sup>m</sup> 38 <sup>s</sup>	$\Delta$ S-P = 18 <sup>o</sup> 7
		W-A	ePE	4 39 38	
		W-A	iN	4 39 42	
		W-A	iE	4 40 11	
		W-A	iE	4 40 24	
		W-A	eS <sub>NE</sub>	4 43 10	
6	23	W-A	iP	8 <sup>h</sup> 42 <sup>m</sup> 37 <sup>s</sup>	$\Delta$ P-H = 57 <sup>o</sup> 7 H = 8 <sup>h</sup> 32 <sup>m</sup> 50 <sup>s</sup> 21 <sup>o</sup> 0 N, 156 <sup>o</sup> 2 W. Felt throughout the Hawaiian Islands
		W-A	i	8 42 45	
		W-A	ePR <sub>2</sub>	8 46 09	
		W-A	eS	8 50 33	
		W-A	e	8 50 47	
		W-A	eL	9 00 29	
7	24	W-A	ePR <sub>1E</sub>	10 <sup>h</sup> 50 <sup>m</sup> 36 <sup>s</sup>	$\Delta$ SKS-H = 107 <sup>o</sup> 1 H = 10 <sup>h</sup> 31 <sup>m</sup> 45 <sup>s</sup> 60 <sup>o</sup> 4 S, 35 <sup>o</sup> 6 W. Normal.
		W-A	eSKS <sub>E</sub>	10 56 39	
		W-A	e(PS) <sub>E</sub>	10 9 46	
		W-A	eL <sub>E</sub>	11 01 26	
				F	

Minor Seismic Activity: Jan 2, 6h00m to 6h30m; Jan 5, 8h23m to 8h30m;  
Jan 25, 16h30m to 17<sup>h</sup>00m

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Bulletin for February, 1938

2.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
8	1	W-A	iPNE	19h10m38s	ΔS-P = 1390
		W-A	eE	19 10 44	
		W-A	eE	19 11 25	
		W-A	eSE	19 13 13	
		W-A	eLE F	19 14 12 19 16 +	
9	1	W-A	eNE	19h23m24s	Region of the Banda Sea Felt in northern Australia and on the Island of Ceram. This earthquake is being studied by Miss Florence Robertson of St Louis University.
		W-A	iNE	19 23 46	
		W-A	iNE	19 23 57	
		W-A	iNE	19 25 54	
		W-A	iNE	19 26 52	
		W-A	iN F	19 28 31 22 30 +	
10	2	W-A	ePN	9h56m33s	ΔS-P = 1895
		W-A	ePE	9 56 35	
		W-A	iPE	9 56 36	
		W-A	iN	9 57 04	
		W-A	eE	9 57 19	
		W-A	eSN F	10 00 03 10 02 +	
11	5	W-A	iPNE	2h30m09s	ΔP-H = 3394 H = 2h23m38s 591 N, 7597 W. Depth by Brunner Depth Chart 130 Kms.
		W-A	iN	2 30 21	
		W-A	iPNE	2 30 50	
		W-A	iN	2 30 51	
		W-A	iN	2 30 58	
		W-A	iSPN	2 31 28	
		W-A	iPCPNE	2 32 26	
		W-A	iSE F	2 34 52 3 35 +	
12	12	W-A	eE	6h31m33s	Local disturbance?
		W-A	eNE	6 31 36	
		W-A	eE F	6 31 48 6 33 +	
13	15	W-A	eP	3h37m51s	ΔS-P = 5297 H = 3h27m45s 1993 N, 2690 W. Normal.
		W-A	eS	3 46 08	

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

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8	1	W-A	iPNE	19h10m38s	$\Delta S-P = 1300$
		W-A	eE	19 10 44	
		W-A	eE	19 11 25	
		W-A	eSE	19 13 13	
		W-A	eLE F	19 14 12 19 16 +	
9	1	W-A	eNE	19h23m24s	Region of the Banda Sea Felt in northern Australia and on the Island of Ceram. This earthquake is being studied by Miss Florence Robertson of St. Louis University.
		W-A	iNE	19 23 46	
		W-A	iNE	19 23 57	
		W-A	iNE	19 25 54	
		W-A	iNE	19 26 52	
		W-A	iN F	19 28 31 22 30 +	
10	2	W-A	ePN	9h56m33s	$\Delta S-P = 1895$
		W-A	ePE	9 56 35	
		W-A	iPE	9 56 36	
		W-A	iN	9 57 04	
		W-A	eE	9 57 19	
		W-A	eSN F	10 00 03 10 02 +	
11	5	W-A	iPNE	2h30m09s	$\Delta P-H = 3394$ $H = 2h23m38s$ 591 N, 7597 W. Depth by Brunner Depth Chart 130 Kms.
		W-A	iN	2 30 21	
		W-A	iPNE	2 30 50	
		W-A	iN	2 30 51	
		W-A	iN	2 30 58	
		W-A	iSPN	2 31 28	
		W-A	iPCPNE	2 32 26	
		W-A	iSE F	2 34 52 3 35 +	
12	12	W-A	eE	6h31m33s	Local disturbance?
		W-A	eNE	6 31 36	
		W-A	eE F	6 31 48 6 33 +	
13	15	W-A	eP	3h37m51s	$\Delta S-P = 5897$ $H = 3h27m45s$ 1993 N, 2690 W. Normal.
		W-A	eS	3 46 08	

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

\* \* \* \* \*

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3.

No.	Date	Inst.	Phase	G. L. C. T.	Remarks
14	4	W-A	ePNE	13 <sup>h</sup> 37 <sup>m</sup> 19 <sup>s</sup>	
		W-A	iPE	13 37 23	
		W-A	eN	13 38 02	
		W-A	eSNE	13 41 21	
			F	13 52 ±	
15	8	W-A	eE	6 <sup>h</sup> 00 <sup>m</sup> 52 <sup>s</sup>	
		W-A	eN	6 00 57	
		W-A	eLE	6 04 09	
			F	Lost in next earthquake	
16	8	W-A	eN	6 <sup>h</sup> 15 <sup>m</sup> 27 <sup>s</sup>	
		W-A	eLN	6 30 44	
			F	7 30 ±	
17	22	W-A	ePN	15 <sup>h</sup> 28 <sup>m</sup> 52 <sup>s</sup>	$\Delta P-H = 33^{\circ}7$ $H = 15^{\text{h}}22^{\text{m}}08^{\text{s}}$  $52^{\circ}2 \text{ N}, 133^{\circ}1 \text{ W.}$  Normal.
		W-A	ePE	15 28 53	
		W-A	eN	15 29 04	
		W-A	eSNE	15 34 25	
		W-A	iSN	15 34 35	
		W-A	iN	15 36 24	
		W-A	eLNE	15 36 58	
		W-A	e(M)E	15 39 23	
	F	Lost in changing records			
18	22	W-A	ePN	22 <sup>h</sup> 34 <sup>m</sup> 22 <sup>s</sup>	
		W-A	ePE	22 34 23	
		W-A	e(S)N	22 38 55	
		W-A	iN	22 45 11	
		W-A	iMN	22 45 46	
			F	23 15 ±	
19	23	W-A	ePNE	14 <sup>h</sup> 10 <sup>m</sup> 15 <sup>s</sup>	
		W-A	eE	14 11 23	
		W-A	eSE	14 13 55	
		W-A	eN	14 18 00	
		W-A	eMNE	14 19 33	
	F	14 26 ±			



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No.	Date	Inst.	Phase	G. L. C. T.	Remarks
14	4	W-A	ePNE	13 <sup>h</sup> 37 <sup>m</sup> 19 <sup>s</sup>	
		W-A	iPE	13 37 23	
		W-A	eN	13 38 02	
		W-A	eSNE	13 41 21	
			F	13 52 ±	
15	8	W-A	eE	6 <sup>h</sup> 00 <sup>m</sup> 52 <sup>s</sup>	Lost in next earthquake
		W-A	eN	6 00 57	
		W-A	eLE	6 04 09	
			F		
16	8	W-A	eN	6 <sup>h</sup> 15 <sup>m</sup> 27 <sup>s</sup>	
		W-A	eLN	6 30 44	
			F	7 30 ±	
17	22	W-A	ePN	15 <sup>h</sup> 28 <sup>m</sup> 52 <sup>s</sup>	$\Delta P-H = 33^{\circ}7$ $H = 15^h22^m08^s$ $52^{\circ}2$ N, $133^{\circ}1$ W. Normal. Lost in changing records
		W-A	ePE	15 28 53	
		W-A	eN	15 29 04	
		W-A	eSNE	15 34 25	
		W-A	iSN	15 34 35	
		W-A	iN	15 36 24	
		W-A	eLNE	15 36 58	
		W-A	e(M)E	15 39 23	
			F		
18	22	W-A	ePN	22 <sup>h</sup> 34 <sup>m</sup> 22 <sup>s</sup>	
		W-A	ePE	22 34 23	
		W-A	e(S)N	22 38 55	
		W-A	iN	22 45 11	
		W-A	iM <sub>N</sub>	22 45 46	
		W-A	F	23 15 ±	
19	23	W-A	ePNE	14 <sup>h</sup> 10 <sup>m</sup> 15 <sup>s</sup>	
		W-A	eE	14 11 23	
		W-A	eSE	14 13 55	
		W-A	eN	14 18 00	
		W-A	eMNE	14 19 33	
			F	14 26 ±	

## Little Rock Bulletin for March, 1938

4.

No.	Date	Inst.	Phase	G.L.C.T.	Remarks
20	25	W-A	ePE	8h27m12 <sup>s</sup>	$\Delta p-H = 19.0$ $H = 8^h22^m50^s$
		W-A	ePN	8 27 14	
		W-A	iN	8 27 27	17°0 N, 85°5 W.
		W-A	iN	8 28 02	
		W-A	iN	8 28 56	
		W-A	eN	8 29 16	
		W-A	iSNE	8 30 41	Normal.
		W-A	eLN	8 32 21	
			F	8 42 +	
21	31	W-A	ePnN	10h13m36 <sup>s</sup>	$\Delta Sn-Pn = 234$ miles Near earthquake in New Madrid Region
		W-A	eSnN	10 14 17	
		W-A	F	10 15 +	

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EXPERIMENTAL



Little Rock Bulletin for March, 1938

No.	Date	Inst.	Phase	G.L.C.T.	Remarks
20	25	W-A	eP <sub>E</sub>	8h27m12 <sup>s</sup>	$\Delta p-H = 19.0$ $H = 8^h 23^m 50^s$
		W-A	eP <sub>N</sub>	8 27 14	
		W-A	iN	8 27 27	17°0 N, 85°5 W.
		W-A	iN	8 28 02	
		W-A	iN	8 28 56	
		W-A	eN	8 29 16	Normal.
		W-A	iSNE	8 30 41	
		W-A	eLN	8 32 21	
			F	8 42 + -	
21	31	W-A	eP <sub>N</sub>	10h13m36 <sup>s</sup>	$\Delta Sn-Pn = 234$ miles Near earthquake in New Madrid Region
		W-A	eS <sub>N</sub>	10 14 17	
		W-A	F	10 15 + -	

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Bulletin for May 1938

8.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
41	May 2	W-A W-A W-A W-A	eN iNE eN eNE F	23 <sup>h</sup> 46 <sup>m</sup> 33 <sup>s</sup> 23 47 07 23 48 22 23 48 52 23 54 ±	
42	May 2	W-A W-A W-A	eN eN eN F	21 <sup>h</sup> 19 <sup>m</sup> 57 <sup>s</sup> 21 20 06 21 20 35 21 21 ±	
43	May 3	W-A W-A W-A W-A W-A W-A W-A W-A	iPNE ipPNE iSE iSN iN iE iNE iNE F	2 <sup>h</sup> 19 <sup>m</sup> 28 <sup>s</sup> 2 19 47 2 22 47 2 22 48 2 23 04 2 23 55 2 24 35 2 27 39 2 48 ±	$\Delta P-H = 17^{\circ}6$ $H = 2^{\text{h}}15^{\text{m}}29^{\text{s}}$ Epicenter: 13 <sup>o</sup> 2 N, 99 <sup>o</sup> 1 W. Depth by Brunner Depth Chart about 100 km. Damage reported at Iqualo, Mexico.
44	May 3	W-A W-A W-A W-A W-A	ePN eN e(S)N eN eN F	19 <sup>h</sup> 28 <sup>m</sup> 04 <sup>s</sup> 19 28 43 19 33 21 19 38 06 19 38 23 19 45 ±	
45	May 6	W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePE ePE iPN iN oPR1N iSE iSN eSR1E eLE F	18 <sup>h</sup> 22 <sup>m</sup> 29 <sup>s</sup> 18 22 30 18 22 31 18 22 50 18 22 57 18 26 39 18 26 44 18 27 23 18 30 03 19 12 ±	$\Delta S-P = 22^{\circ}9$ $H = 18^{\text{h}}17^{\text{m}}26^{\text{s}}$ Epicenter: 12 <sup>o</sup> 6 N, 86 <sup>o</sup> 9 W.
46	May 8	W-A W-A	eN eNE F	14 <sup>h</sup> 08 <sup>m</sup> 25 <sup>s</sup> 14 09 14 Lost in next earthquake	



No.	Date	Inst.	Phase	G.M.C.T.	Remarks
47	May 8	W-A W-A W-A	c <sub>N</sub> c <sub>NE</sub> c <sub>N</sub> F	14 <sup>h</sup> 58 <sup>m</sup> 45 <sup>s</sup> 15 01 17 15 07 24 Lost in microseisms.	
48	May 10	W-A W-A W-A W-A W-A W-A	c <sub>PN</sub> c <sub>PE</sub> c <sub>N</sub> c <sub>SE</sub> i <sub>S</sub> <sub>NE</sub> c <sub>E</sub> F	2 <sup>h</sup> 35 <sup>m</sup> 17 <sup>s</sup> 2 35 20 2 35 39 2 38 32 2 38 33 2 39 06 2 42 ±	
49	May 11	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A	c <sub>PN</sub> i <sub>PR2</sub> <sub>N</sub> i <sub>N</sub> c <sub>E</sub> i <sub>S</sub> <sub>NE</sub> i <sub>S</sub> <sub>RIE</sub> c <sub>LE</sub> i <sub>MN</sub> i <sub>MN</sub> i <sub>MN</sub> F	14 <sup>h</sup> 49 <sup>m</sup> 12 14 49 33 14 49 58 14 51 56 14 53 05 14 53 51 14 55 18 14 57 09 14 58.2 15 02.4 16 25 ±	$\Delta$ S-P = 19 <sup>o</sup> 8 H = 14 <sup>h</sup> 44 <sup>m</sup> 45 <sup>s</sup> Epicenter: 16 <sup>o</sup> 8 N, 100 <sup>o</sup> 7 W Normal.
50	May 12	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	(c <sub>P</sub> ) <sub>E</sub> c <sub>P</sub> ' <sub>E</sub> c(PR <sub>1</sub> ) <sub>N</sub> c(PR <sub>2</sub> ) <sub>E</sub> c(SKS) <sub>NE</sub> c(SKKS) <sub>E</sub> c(S) <sub>E</sub> c(PS) <sub>N</sub> c(SR <sub>2</sub> ) <sub>E</sub> c <sub>LN</sub> c <sub>ME</sub> c <sub>LN</sub> F	15 <sup>h</sup> 57 <sup>m</sup> 47 <sup>s</sup> 15 57 49 15 59 07 16 01 44 16 04 46 16 06 05 16 06 43 16 08 56 16 19.7 16 28.3 16 35.7 16 38.7 18 00 ±	$\Delta$ p <sub>1</sub> -H = 117 <sup>o</sup> 4 H = 15 <sup>h</sup> 39 <sup>m</sup> 02 <sup>s</sup> Region of 5 <sup>o</sup> 0 S, 147 <sup>o</sup> 5 E. Normal.
51	May 19	W-A W-A W-A W-A W-A W-A	c <sub>P</sub> ' <sub>N</sub> c <sub>E</sub> i <sub>SKPNE</sub> c(PSKS) <sub>N</sub> c <sub>NE</sub> c <sub>SR1N</sub> F	17 <sup>h</sup> 28 <sup>m</sup> 03 <sup>s</sup> 17 30 25 17 31 21 17 40 42 17 45 37 17 48 20 20 00 ±	$\Delta$ p <sub>1</sub> -H = 133 <sup>o</sup> 7 H = 17 <sup>h</sup> 08 <sup>m</sup> 46 <sup>s</sup> Epicenter: 1 <sup>o</sup> 0 N, 118 <sup>o</sup> 9 E. Normal.



## Little Rock Bulletin for May 1951

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 eE eE eE iSKSN eE F	7 <sup>h</sup> 31 <sup>m</sup> 19 <sup>s</sup> 7 31 23 7 31 36 7 36 38 7 42 30 7 48 32 20 00 ±	$\Delta$ SKS-H = 92°7 H = 7 <sup>h</sup> 18 <sup>m</sup> 43 <sup>s</sup> 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	iPNE iSNE F	21 <sup>h</sup> 31 <sup>m</sup> 59.5 <sup>s</sup> 21 32 01 21 33 ±	Blast!
54	May 28	W-A W-A W-A W-A W-A W-A	ePNE iPR <sub>1</sub> N ePR <sub>2</sub> N eSNE eLNE eMNE F	10 <sup>h</sup> 19 <sup>m</sup> 48 <sup>s</sup> 10 20 25 10 20 38 10 24 36 10 28 46 10 30 42 11 30 ±	$\Delta$ P-H = 26°7 H = 10 <sup>h</sup> 14 <sup>m</sup> 06 <sup>s</sup> 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	ePN eN e(S)NE eN eLN F	16 <sup>h</sup> 54 <sup>m</sup> 51 <sup>s</sup> 16 55 03 17 05 25 17 06 16 17 24 48 18 15 ±	
56	May 28	W-A W-A	iPN iNE F	18 <sup>h</sup> 17 <sup>m</sup> 23.5 <sup>s</sup> 18 17 24 18 18 ±	Blast?
57	May 30	W-A W-A W-A W-A W-A W-A	ePR <sub>1</sub> E eN eE e(PS)NE e(PPS)E eLE F	14 <sup>h</sup> 48 <sup>m</sup> 37 <sup>s</sup> 14 48 55 14 54 46 14 58 00 14 58 17 15 07 42 18 00 ±	$\Delta$ PR <sub>1</sub> -H = 108°7 Epicenter: 20°4 S, 169°4 E. H = 14 <sup>h</sup> 29 <sup>m</sup> 48 <sup>s</sup> Normal.
58	May 31	W-A W-A W-A	eN iNE iNE F	8 <sup>h</sup> 45 <sup>m</sup> 50 <sup>s</sup> 8 46 21 8 47 15 8 55 ±	

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

J. B. Macelwane, S. J.  
Director, Dept. Geophysics  
St. Louis University

Rev. J. A. Murray  
Director of the Station

Records read by R. R. Heinrich, Instructor



# LITTLE ROCK



From the ISC collection scanned by SISMOS

## 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 September 1938

11.

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 <sub>NE</sub>	17 <sup>h</sup> 23 <sup>m</sup> 34 <sup>s</sup>	ΔJ.S.A. = 13 <sup>o</sup> 8 Epicenter: 33 <sup>o</sup> 6 N, 109 <sup>o</sup> 1 E. H = 17 <sup>h</sup> 20 <sup>m</sup> 16 <sup>s</sup> Depth: normal.
		W-A	c	17 23 36	
		W-A	eP <sub>N</sub>	17 23 24	
		W-A	eS?	17 26 05	
		W-A	eS <sub>NE</sub>	17 26 17	
		W-A	iSR <sub>1</sub> NE	17 26 45	
		W-A	iL <sub>NE</sub>	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	eN	4 <sup>h</sup> 43 <sup>m</sup> 20 <sup>s</sup>	Time uncertain.
		W-A	eN	4 43 47	
		W-A	iN	4 46 04	
		W-A	iM?	4 46 16	
		W-A	F	4 49 ±	
61	Sept 29	W-A	iP <sub>N</sub>	23 <sup>h</sup> 36 <sup>m</sup> 02 <sup>s</sup>	ΔS-P = 14 <sup>o</sup> 1 Time uncertain.
		W-A	eS <sub>NE</sub>	23 38 48	
		W-A	iS <sub>NE</sub>	23 38 58	
			F	23 41 ±	
62	Sept 29	W-A	eP <sub>NE</sub>	23 <sup>h</sup> 39 <sup>m</sup> 35 <sup>s</sup>	ΔP-H = 13 <sup>o</sup> 8 Time uncertain.
		W-A	i	23 39 45	
		W-A	eS?	23 41 35	
		W-A	eS <sub>NE</sub>	23 42 13	
		W-A	L	23 43 19	
			F	23 51 ±	

### Minor Seismic Activity:

Strong microseisms September 20 to 21; September 27.

J. B. Macelwane, S. J.  
Director, Dept. of Geophysics  
Saint Louis University

Rev. J. A. Murray  
Director of the Station

Records Read by George J. Brunner, S. J.  
Professor of Geophysics



# 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 October 1938

12.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
63	Oct 1	W-A	e	22 <sup>h</sup> 16 <sup>m</sup> 58 <sup>s</sup>	$\Delta_{S-P} = 14^{\circ}5$ Aftershock of September 29.
		W-A	eS <sub>N</sub>	22 18 08	
		W-A	i	22 19 08	
			F	22 22 ±	
64	Oct 10	W-A	eP <sup>1</sup> <sub>N</sub>	21 <sup>h</sup> 07 <sup>m</sup> 10 <sup>s</sup>	$\Delta$ J. S. A. = 130 <sup>o</sup> 5 Epicenter: = 1 <sup>o</sup> 0N., 125 <sup>o</sup> 0 E. H = 20 <sup>h</sup> 48 <sup>m</sup> 04 <sup>s</sup>
		W-A	ePR <sub>1</sub> NE	21 09 45	
		W-A	eSKPN	21 10 33	
		W-A	i	21 13 35	
		W-A	eSKS <sub>E</sub>	21 13 55	
		W-A	L	21 49 10	
		F	22 10 ±		
65	Oct 19	W-A	eP?	4 <sup>h</sup> 44 <sup>m</sup> 46 <sup>s</sup>	
		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	
		F	5 40		
66	Oct 20	W-A	ePKPN	2 <sup>h</sup> 38 <sup>m</sup> 46 <sup>s</sup>	$\Delta$ J. S. A. = 139 <sup>o</sup> 2 Epicenter: 9 <sup>o</sup> 5 S., 122 <sup>o</sup> 8 E. H = 2 <sup>h</sup> 19 <sup>m</sup> 15 <sup>s</sup> Depth 50 km.
		W-A	ipPKPN	2 38 54	
		W-A	iSKPN	2 42 13	
		W-A	iPR <sub>2</sub> NE	2 44 35	
		W-A	iSKSNE	2 44 45	
		W-A	iSKKSNE	2 48 18	
		W-A	iS?	2 48 39	
		W-A	i?	2 51 10	
		W-A	L	3 00 30	
		F	4 10 ±		

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

J. B. Macelwane, S. J.  
 Director, Dept. of Geophysics  
 Saint Louis University

Rev. J. A. Murray  
 Director of the Station

Records Read by George J. Brunner, S. J.,  
 Professor of Geophysics



# LITTLE ROCK

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

The following information was received from the Little Rock College Seismological Observatory, Little Rock, Arkansas, U. S. A.

Bulletin for October 1958

No.	Date	Time	Remarks
83	Oct 1	3:16 <sup>pm</sup> 38	4.2 - 1958 Aftershock of September 23
84	Oct 10	3:07 <sup>pm</sup> 10	4.3 - 1958 Epicenter = 170N 125W E M = 20 <sup>±</sup> 0.2
85	Oct 18	4:52 <sup>pm</sup> 18	
86	Oct 20	3:58 <sup>pm</sup> 20	4.3 - 1958 Epicenter = 175 N 125 W E M = 20 <sup>±</sup> 0.2 Depth 50 km.

With special activity: Oct. 14, 1958 to 1958; Oct. 23, 1958 to 1958.

Rev. J. A. Murray  
Director of the Station  
Saint Louis University

Prof. J. S. Gardner, S. A.  
Professor of Geophysics



# LITTLE ROCK



From the ISC collection scanned by SISMOS

## 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 November 1938

13.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
67	Nov 5	W-A	ePN	8 <sup>h</sup> 56 <sup>m</sup> 34 <sup>s</sup>	$\Delta$ J. S. A. = 93.9 Epicenter: 3698 N., 13996 E. h = 8 <sup>h</sup> 43 <sup>m</sup> 18 <sup>s</sup> Depth normal.
		W-A	iSKSNE	9 07 36	
		W-A	iSKKS <sub>NE</sub>	9 08 14	
		W-A	eS <sub>NE</sub>	9 08 24	
		W-A	ePSNE	9 09 24	
		W-A	eSR <sub>1</sub>	9 13 39	
		W-A	L	9 24 00	
		W-A	M	9 31 00	
			F	11 4	
68	Nov 6	W-A	ePN	9 <sup>h</sup> 07 <sup>m</sup> 00 <sup>s</sup>	$\Delta$ J. S. A. = 91.3 Epicenter: 37.0 N., 143.7 E. H = 8 <sup>h</sup> 53 <sup>m</sup> 58 <sup>s</sup> Depth normal. Very strong quake.
		W-A	iPN	9 07 04	
		W-A	iPR <sub>1</sub> NE	9 10 37	
		W-A	ePR <sub>2</sub>	9 12 39	
		W-A	eS <sub>NE</sub>	9 17 55	
		W-A	iS <sub>NE</sub>	9 18 00	
		W-A	iSKKSN	9 18 00	
		W-A	iPS <sub>N</sub>	9 19 00	
		W-A	iPPS	9 14 45	
		W-A	iScS	9 21 53	
		W-A	SR <sub>1</sub> NE	9 24 10	
		W-A	SR <sub>2</sub> NE	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	ePN	21 <sup>h</sup> 52 <sup>m</sup> 01 <sup>s</sup>	$\Delta$ S-P = 90.1 H = 21 <sup>h</sup> 39 <sup>m</sup> 03 <sup>s</sup> Aftershock of the previous quake.
		W-A	ePR <sub>1</sub> N	21 55 29	
		W-A	ePR <sub>2</sub> N	21 57 01	
		W-A	iS <sub>NE</sub>	22 02 55	
		W-A	ePS <sub>N</sub>	22 03 54	
		W-A	ePPS <sub>N</sub>	22 04 19	
		W-A	iPPPS <sub>N</sub>	22 04 56	
		W-A	SR <sub>1</sub> NE	22 09 00	
		W-A	L	22 22 36	
		W-A	M	22 44	
			F	23 30	







No.	Date	Inst.	Phase	G.M.C.T.	Remarks
70	Nov 10	W-A	ePN	20 <sup>h</sup> 27 <sup>m</sup> 34 <sup>s</sup>	$\Delta$ S-P = 49 <sup>o</sup> 1 Epicenter by J.S.A.: 55 <sup>o</sup> 6 N., 157 <sup>o</sup> 7 W. H = 20 <sup>h</sup> 18 <sup>m</sup> 48 <sup>s</sup> Depth normal.
		W-A	iPN	20 27 36.5	
		W-A	i	20 27 42	
		W-A	iPR <sub>1</sub> NE	20 29 27	
		W-A	iPR <sub>2</sub> NE	20 30 07	
		W-A	iScPN	20 32 04	
		W-A	iSNE	20 34 40	
		W-A	iSNE	20 34 43	
		W-A	iScSE	20 37 27	
		W-A	iSR <sub>1</sub>	20 37 42	
		W-A	L	20 42	
		F	(Lost in change of records)		
71	Nov 11	W-A	iPNE	1 <sup>h</sup> 06 <sup>m</sup> 35 <sup>s</sup>	$\Delta$ S-P = 47 <sup>o</sup> 3 Epicenter by J.S.A. = 54 <sup>o</sup> 9 N., 156 <sup>o</sup> 0 W. H = 1 <sup>h</sup> 57 <sup>m</sup> 57 <sup>s</sup> Aftershock of the previous quake.
		W-A	ePR <sub>1</sub> N	1 08 14	
		W-A	iSNE	1 13 34	
		W-A	iSPN	1 13 46	
		W-A	iScSN?	1 16 21	
		W-A	SR <sub>1</sub> NE	1 16 36	
		W-A	L	1 19 30	
		W-A	M	1 23 20	
		F	2 10 ±		
72	Nov 13	W-A	ePE	13 <sup>h</sup> 26 <sup>m</sup> 02 <sup>s</sup>	$\Delta$ J.S.A. = 82 <sup>o</sup> 3 Epicenter: 46 <sup>o</sup> 0 N., 149 <sup>o</sup> 4 E. H = 13 <sup>h</sup> 13 <sup>m</sup> 50 <sup>s</sup> Depth 50 km.
		W-A	iPE	13 26 12	
		W-A	iPR <sub>1</sub> NE	13 29 17	
		W-A	iSNE	13 36 15	
		W-A	iSNE	13 36 40	
		W-A	iSPNE	13 37 10	
				F	
73	Nov 17	W-A	ePNE	4 <sup>h</sup> 03 <sup>m</sup> 17 <sup>s</sup>	$\Delta$ J.S.A. = 47 <sup>o</sup> 4 Epicenter: 52 <sup>o</sup> 4 N., 155 <sup>o</sup> 0 W. H = 3 <sup>h</sup> 54 <sup>m</sup> 49 <sup>s</sup> Depth 50 km.
		W-A	iPE	4 03 26	
		W-A	iPePN or	4 05 03	
		W-A	PR <sub>1</sub> N	4 05 03	
		W-A	iSNE	4 10 17	
		W-A	iSNE	4 10 27	
		W-A	iSPNE	4 11 07	
		W-A	iPSN	4 11 24	
		W-A	i	4 12 24	
		W-A	iScSN	4 13 08	
		W-A	SR <sub>1</sub>	4 13 26	
		W-A	X?	4 13 51	
		W-A	iSR <sub>2</sub> ?	4 14 12	
		W-A	L	4 17 50	
		W-A	iScPPcS	4 20 27	
		W-A	M	4 21 46	
		F	5 20 ±		



No.	Date	Inst.	Phase	G.M.C.T.	Remarks
74	Nov 22	W-A	ePN	1 <sup>h</sup> 27 <sup>m</sup> 12 <sup>s</sup>	$\Delta$ J.S.A. = 93°2 $\Delta$ S-P = 93°5 Epicenter by J.S.A.: 36°3 N. 141°6 E. H = 1 <sup>h</sup> 14 <sup>m</sup> 06 <sup>s</sup> Depth about 60 km.
		W-A	epPN	1 27 22	
		W-A	eSE	1 38 14	
		W-A	iSN	1 38 22	
		-	F	3 00 ±	
75	Nov 30	W-A	ePNE	2 <sup>h</sup> 43 <sup>m</sup> 01 <sup>s</sup>	$\Delta$ J.S.A. = 92°7 Epicenter: 37°5 N., 141°3 E. H = 2 <sup>h</sup> 28 <sup>m</sup> 52 <sup>s</sup> Depth normal.
		W-A	ePN	2 43 10	
		W-A	iSKKSNE	2 54 02	
		W-A	iSE	2 54 14	
		W-A	iPSN	2 54 55	
		W-A	ePPPSN	2 55 55	
		W-A	L	3 13 24	
		W-A	M	3 20	
			F	4 15	

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.

J.B. Macelwane, S.J.  
 Director, Dept. of Geophysics  
 Saint Louis University

Rev. J. A. Murray  
 Director of the Station

Records Read by  
 George J. Brunner, S.J.  
 Professor of Geophysics



# LITTLE ROCK



From the ISC collection scanned by SISMOS

## 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 December 1938

16.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
76	Dec 9	W-A	ePN	4 <sup>h</sup> 03 <sup>m</sup> 56 <sup>s</sup>	
		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 <sup>h</sup> 22 <sup>m</sup> 53 <sup>s</sup>	
		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 <sup>h</sup> 27 <sup>m</sup> 20 <sup>s</sup>	
		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.

J. B. Macelwane, S. J.  
 Director, Dept. of Geophysics  
 Saint Louis University

Rev. J. A. Murray  
 Director of the Station

Records Read by  
 George J. Brunner, S. J.  
 Professor of Geophysics



# LITTLE ROCK

LITTLE ROCK COLLEGE SEISMOLOGICAL OBSERVATORY, PULASKI HEIGHTS, LITTLE ROCK, ARK., U. S. A.  
 This instrument with its own battery, is located at Little Rock, Arkansas, U. S. A.  
 The instrument is of the type known as "Type A" and is of the "Type A" design.

## Station for December 1958

No.	Date	Time	Phase	G.M.T.	Remarks
76	Dec 8	4 01 57	W-A	4 01 57	
		4 09 50	W-A	4 09 50	
		4 11 08	W-A	4 11 08	
		4 20 08	W-A	4 20 08	
		4 21 32	W-A	4 21 32	
		4 22 21	W-A	4 22 21	
		4 23 21	W-A	4 23 21	
		4 48 2	W-A	4 48 2	
77	Dec 12	3 22 25	W-A	3 22 25	
		3 23 12	W-A	3 23 12	
		3 23 25	W-A	3 23 25	
		3 24 01	W-A	3 24 01	
		3 24 25	W-A	3 24 25	
		3 25 12	W-A	3 25 12	
		3 26 38	W-A	3 26 38	
		3 28 1	W-A	3 28 1	
		3 28 25	W-A	3 28 25	
		3 29 25	W-A	3 29 25	
78	Dec 13	9 27 30	W-A	9 27 30	
		9 28 28	W-A	9 28 28	
		9 29 25	W-A	9 29 25	
		9 30 38	W-A	9 30 38	
		9 31 27	W-A	9 31 27	
		9 31 42	W-A	9 31 42	
		9 32 04	W-A	9 32 04	
		9 40 4	W-A	9 40 4	

Major seismic activity: Dec. 8 (1958) to Jan. 7, 1959; Dec. 12, 1958 to Jan. 18, 1959; Dec. 13, 1958 to Jan. 19, 1959; Dec. 13, 1958 to Jan. 19, 1959.

Rev. J. A. Murray  
Director of the Station

J. B. Sanguinetti, S. J.  
Director, Dept. of Geophysics  
Saint Louis University

Records Read by  
George J. Sanguinetti, S. J.  
Professor of Geophysics