

# 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 1936

1.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
1	Jan. 2	W-A W-A W-A W-A W-A W-A W-A W-A	ePN ePE eN eLN eLE eME eMN F	0h46m53s 0 46 56 1 01 33 1 04 35 1 04 39 1 11 04 1 11 24 1 41 <sup>+</sup>	
2	Jan. 2	W-A W-A W-A W-A W-A W-A W-A	iP <sup>1</sup> N eP <sup>1</sup> E iEN iPR <sub>1</sub> EN eLE eLN F	22h54m00s 22 54 01 22 54 11 22 57 25 23 58 31 23 58 45 00 40 <sup>+</sup>	$\Delta_{PR_1-H} = 140^{\circ}0$ Manila: H = 22h34m05s. Region 1 <sup>o</sup> 0 S, 97 <sup>o</sup> 0 E. Felt in western Sumatra.
3.	Jan. 8	W-A W-A W-A W-A W-A W-A	ePE eN eN eE eLEN F	6h48m01s 6 48 13 6 49 08 6 49 17 6 49 24 6 54 <sup>+</sup>	
4	Jan. 14	W-A W-A W-A W-A W-A W-A W-A	ePE eE eN iN iLN eLE F	0h09m05s 0 14 31 0 14 40 0 14 51 0 15 33 0 15 41 0 21 <sup>+</sup>	$\Delta_{P-H} = 19^{\circ}3$ H = 00h04m40s. Off eastern Lower Californian Coast.
5	Jan. 14	W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePE iPE iE iSE iSPE iE iSSE iSR <sub>1</sub> E F	14h22m28s 14 22 29 14 22 56 14 30 44 14 31 16 14 31 29 14 34 22 14 35 43 15 00 <sup>+</sup>	$\Delta_{S-P} = 68^{\circ}5$ H = 14h12m25s. Epicenter: 28 <sup>o</sup> 2 S, 62 <sup>o</sup> 8 W. Depth 590 km by the Brunner Depth Chart. No surface waves.



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LITTLE ROCK COLLEGE SEISMOLOGICAL OBSERVATORY, YUASAKI HEIGHTS, LITTLE ROCK, ARK., U. S. A.  
 (The observatory is located on the campus of Little Rock College, 1000 North College Avenue, Little Rock, Arkansas, U. S. A.)

## BULLETIN FOR 1952

No.	Date	Inst.	Phase	G.M.S.T.	Remarks
1	Jan 2	W-A	epg	0 48 58	Ombroga
				1 01 53	
				1 04 55	
				1 04 59	
				1 11 04	
				1 11 54	
				1 41	
2	Jan 2	W-A	epg	00 40	Ombroga
				23 55 48	
				23 56 31	
				23 57 35	
				23 58 11	
				23 58 41	
				23 59 01	
3	Jan 2	W-A	epg	0 48 48	Ombroga
				0 49 08	
				0 49 17	
				0 49 34	
				0 49 43	
				0 50	
4	Jan 2	W-A	epg	0 51 21	Ombroga
				0 51 31	
				0 51 40	
				0 51 50	
				0 52 03	
				0 52 11	
5	Jan 2	W-A	epg	12 05 01	Ombroga
				14 05 23	
				14 05 50	
				14 06 10	
				14 06 40	
				14 07 10	
				14 07 20	
				14 07 30	
				14 07 40	
				14 07 50	



LITTLE ROCK BULLETIN FOR 1936

2.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
6	Jan. 18	W-A W-A W-A	eP <sub>E</sub> eL <sub>E</sub> F	1h28m25s 1 42 42 2 00 <sup>±</sup>	$\Delta P-H = 47^{\circ}2$ H = 01h19m53s.
7	Jan. 20	W-A W-A	eE F	6h08m12s 6 09 <sup>±</sup>	
8	Jan. 20	W-A W-A W-A	eL <sub>E</sub> eM <sub>E</sub> F	17h57m34s 18 10 44 18 15 <sup>±</sup>	Deep. Felt in Mindanao, P. I.
9	Jan. 22	W-A W-A W-A W-A W-A	iP <sub>N</sub> eP <sub>E</sub> iN iE iN F	9h44m59s 9 45 00 9 45 08 9 45 09 9 45 20 9 50 <sup>±</sup>	Deep. Felt in Southern Sumatra.
10	Jan. 30	W-A W-A W-A W-A	iP <sub>N</sub> iP <sub>E</sub> iE <sub>N</sub> F	6h45m58s 6 46 00 6 46 10 6 53 <sup>±</sup>	
11	Feb. 3	W-A W-A W-A W-A	eP <sub>N</sub> eP <sub>E</sub> eL <sub>E</sub> F	21h04m20s 21 04 21 21 20 23 21 27 <sup>±</sup>	
12	Feb. 7	W-A W-A W-A W-A W-A	eL <sub>N</sub> eL <sub>E</sub> eM <sub>N</sub> eM <sub>E</sub> F	9h47m22s 9 47 29 9 53 41 9 53 49 10 24 <sup>±</sup>	Vicinity 35 <sup>o</sup> 5 N, 104 <sup>o</sup> 0 E. Destructive in Kansu, China.
13	Feb. 9	W-A W-A W-A W-A	eP <sub>E</sub> iP <sub>E</sub> iE <sub>N</sub> F	22h16m02s 22 16 05 22 16 08 22 17 03	Local.



LITTLE ROCK BULLETIN FOR 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
14	Feb. 10	W-A W-A W-A W-A W-A	eE eN iSKSEN iSEN F	18h20m14s 18 20 16 18 28 00 18 28 55 18 35 <sup>+</sup> <sub>-</sub>	Region 10°5 S, 177°0 E. Depth about 100 km by the Brunner Depth Chart.
15	Feb. 14	W-A W-A W-A W-A W-A	iE iN iE iN F	0h04m34s 0 04 36 0 05 05 0 05 08 0 08 <sup>+</sup> <sub>-</sub>	
16	Feb. 15	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	eP <sup>1</sup> N eP <sup>1</sup> E ePR <sup>1</sup> E ePR <sup>1</sup> N iSKP <sup>EN</sup> e(SR <sup>1</sup> ) <sup>EN</sup> eSR <sup>2</sup> E eLN eLE eM <sup>1</sup> N eM <sup>1</sup> E eM <sup>2</sup> E F	13h06m15s 13 06 16 13 07 58 13 08 00 13 09 32 13 26 19 13 29 49 13 39 45 13 40 05 13 53 34 13 54 08 14 02 59 15 15 <sup>+</sup> <sub>-</sub>	ΔPR <sup>1</sup> -H = 127°4 H = 12h46m56s. Region 4°5 S, 133°0 E. Felt in N. W. New Guinea.
17	Feb. 17	W-A W-A W-A W-A	eS <sup>-</sup> E eS <sup>-</sup> N iLEN F	5h06m16s 5 06 17 5 06 51 5 08 47	Local shock. ΔS-H = 2°2 = 250 km. H = 05h05m11s. Felt at Hayti, Mo.
18	Feb. 21	W-A W-A W-A W-A	eN iE eME F	17h17m38s 17 17 39 17 53 21 18 11 <sup>+</sup> <sub>-</sub>	Manila: H = 16h57m28s. Timor Sea.
19	Feb. 22	W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePR <sup>1</sup> E eN eE eE eE eE eL <sup>HE</sup> eME eMN F	15h52m39s 15 58 05 15 58 06 16 03 37 16 06 37 16 10 43 16 30 44 16 35 19 16 35 30 17 10 <sup>+</sup> <sub>-</sub>	Wellington: H = 15h31m14s. Near 52°0 S, 160°0 E. Felt in southern New Zealand.



LITTLE ROCK BULLETIN FOR 1936

4.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
20	Feb. 27	W-A W-A W-A W-A W-A W-A W-A	eP'E iP'EN e(pPR <sub>1</sub> )EN i(pPR <sub>1</sub> )EN iSKPE iSKPN F	10h23m11s 10 23 13 10 26 26 10 26 28 10 26 39 10 26 41 10 39 <sup>±</sup>	Δca = 128°0 Manila: H = 10h04m26s. Region 3°0 S, 133°0E. western New Guinea. Depth about 100 km. by Brunner Depth Chart. No surface waves.
21	Feb. 28	Quake at	03h		Time doubtful. H = 03h03m37s. Near 53°0 N, 162°0 W. Depth about 80 km by Brunner Depth Chart
22	Mar. 1	W-A W-A W-A W-A W-A	iPN ePE iN iE F	19h48m58s 19 48 59 19 49 16 19 49 17 19 52 <sup>±</sup>	
23	Mar. 5	W-A W-A W-A W-A	ePN ePE eSN F	6h14m21s 6 14 22 6 21 08 6 41 <sup>±</sup>	ΔS-P = 45°4 Possibly deep.
24	Mar. 8	W-A W-A W-A W-A W-A W-A W-A	iPN ePE iN eE eN iE F	13h14m29s 13 14 32 13 15 20 13 17 49 13 17 54 13 18 10 13 23 <sup>±</sup>	Deep.
25	Mar. 20	W-A W-A W-A W-A W-A W-A W-A	iPE ePN iE eN iE iEN F	17h54m55s 17 54 56 17 55 03 18 01 52 18 01 53 18 02 26 18 08 <sup>±</sup>	



LITTLE ROCK BULLETIN FOR 1936

5.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
26	Mar. 20	W-A	iPN	18h51m53s	$\Delta_{S-P} = 24^{\circ}7$ H = 18h46m39s. Region $12^{\circ}0$ N, $83^{\circ}0$ W. by St. Louis, Little Rock and Balboa Heights.
		W-A	ePE	18 51 55	
		W-A	iPR <sub>1</sub> E	18 52 25	
		W-A	iSE	18 56 18	
		W-A	iSR <sub>1</sub> E	18 57 15	
		W-A	F	19 19 <sup>+</sup>	
27	Mar. 25	W-A	ePE	9h07m11s	$\Delta_{S-P} = 45^{\circ}5$ H = 08h58m52s. Epicenter near $56^{\circ}0$ N. $32^{\circ}0$ W. North Atlantic Ocean.
		W-A	iPN	9 07 13	
		W-A	iPR <sub>1</sub> EN	9 09 01	
		W-A	eSE <sub>N</sub>	9 13 59	
		W-A	eE	9 16 42	
		W-A	eLE	9 18 17	
		W-A	eME	9 23 33	
		W-A	eM <sub>N</sub>	9 23 36	
		W-A	F	9 46 <sup>+</sup>	

Minor Seismic Activity: Jan. 2, 17h47m to 17h56m.  
 Feb. 18, 02h43m to 02h54m.

J. B. Macelwane, S.J.  
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 Graduate Assistant  
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Rev. Joseph A. Murray  
 Director of the Station



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(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 1936

6.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
28	April 1	W-A	eP <sup>1</sup> N	2h28m22s	$\Delta PR_1-H = 130^{\circ}2$ $H = 02h09m16s$ Epicenter: $2^{\circ}5$ N, $123^{\circ}5$ E. Depth 75 km by the Brunner Depth Chart.
		W-A	eP <sup>1</sup> E	2 28 23	
		W-A	ipP <sup>1</sup> EN	2 28 36	
		W-A	ePR <sub>1</sub> EN	2 30 30	
		W-A	iSKPEN	2 31 50	
		W-A	eSKSEN	2 35 34	
		W-A	eSKKSEN	2 37 22	
		W-A	ePSE	2 40 23	
		W-A	ePSN	2 40 25	
		W-A	iPPSN	2 41 53	
		W-A	ePPPS <sub>1</sub> EN	2 43 00	
		W-A	eSR <sub>1</sub> EN	2 48 14	
		W-A	eLN	3 10 19	
		W-A	eLE	3 10 25	
		W-A	eM <sub>1</sub> EN	3 17 09	
		W-A	eM <sub>2</sub> N	3 27 41	
W-A	F	4 35 <sup>±</sup>			
29	April 1	W-A	eP <sup>1</sup> EN	20h30m02s	Aftershock of No. 28. $\Delta PR_1-H = 130^{\circ}1$ $H = 20h10m47s$ Lamp burned out.
		W-A	ePR <sub>1</sub> E	20 32 00	
30	April 2		Quake at 06h		Clock stopped. Epicenter near New Ireland, $1^{\circ}0$ S, $150^{\circ}0$ E.
31	April 12	W-A	ePR <sub>1</sub> E	21h10m52s	$\Delta PR_1-H = 114^{\circ}3$ $H = 20h51m21s$ Region $10^{\circ}0$ N, $140^{\circ}0$ E Northwest of Yap Island.
		W-A	ePR <sub>1</sub> N	21 10 56	
		W-A	ePSE	21 20 34	
		W-A	eSR <sub>1</sub> EN	21 26 53	
		W-A	eLE	21 41 24	
		W-A	eLN	21 41 47	
		W-A	eME	21 50 35	
		W-A	F	22 37 <sup>±</sup>	



# LITTLE ROCK

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

## Earthquake

No.	Date	Instr.	Phase	G.M.C.T.	Remarks
38	April 1	W-A	ep' N	3 28 33	Depth 75 in Epicenter 275 S H = 270 miles Apr-H = 1307
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
		W-A	ep' N	3 28 33	
39	April 1	W-A	ep' N	3 32 00	Lamp burned out Apr-H = 1307 H = 200 miles Epicenter of low
		W-A	ep' N	3 32 00	
30	April 2		Quake at 08H		Glock stopped Epicenter near Bay Epsilon 120 S 1300 S
31	April 13	W-A	ep' N	31 10 55	Region 10.0 N, 120.0 E Northwest of Yap Island Apr-H = 1147 H = 200 miles
		W-A	ep' N	31 10 55	
		W-A	ep' N	31 10 55	
		W-A	ep' N	31 10 55	
		W-A	ep' N	31 10 55	
		W-A	ep' N	31 10 55	
		W-A	ep' N	31 10 55	

WATERFALLS  
STANDARD  
BOND



Little Rock Bulletin for 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
32	April 14	W-A W-A W-A W-A W-A W-A	e <sub>N</sub> e <sub>EN</sub> e <sub>LN</sub> i <sub>MN</sub> i <sub>ME</sub> F	21h13m11s 21 14 38 21 15 29 21 16 18 21 16 20 21 26 <sub>-</sub> <sup>+</sup>	
33	April 19	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 W-A W-A W-A W-A W-A W-A	e(P') <sub>E</sub> iPR <sub>1E</sub> ePR <sub>2E</sub> eSKK <sub>SEN</sub> e <sub>SEN</sub> e <sub>E</sub> iP <sub>SE</sub> ePS <sub>N</sub> ePP <sub>SE</sub> e <sub>E</sub> e <sub>N</sub> eSR <sub>1E</sub> e <sub>LE</sub> e <sub>LN</sub> e <sub>MN</sub> e <sub>ME</sub> F	5h25m58s 5 26 33 5 29 00 5 33 39 5 34 21 5 34 42 5 36 07 5 36 11 5 37 10 5 39 24 5 39 37 5 42 37 5 49 45 5 53 37 6 02 55 6 03 42 7 52 <sub>-</sub> <sup>+</sup>	ΔPR <sub>1-H</sub> = 113°0 H = 05h07m12s. Epicenter: 9°0 S, 156°0 E.
34	April 19	W-A W-A W-A W-A	ePR <sub>1E</sub> e <sub>LN</sub> e <sub>LE</sub> F	9h25m41s 10 25 36 10 26 01 10 47 <sub>-</sub> <sup>+</sup>	ΔPR <sub>1-H</sub> = 131°7 H = 09h04m12s. Region 11°5 N, 94°0 E.
35	April 23	W-A W-A W-A W-A W-A W-A W-A	e <sub>PE</sub> iPEN i <sub>N</sub> e <sub>SE</sub> e <sub>SN</sub> eSc <sub>SN</sub> F	23h24m55s 23 24 56 23 25 10 23 33 25 23 33 26 23 34 54 00 06 <sub>-</sub> <sup>+</sup>	ΔS-P = 63°6 H = 23h14m34s. Epicenter: 50°5 N, 178°0 E. Depth 100 km by the Brunner Depth Chart.
36	April 24	W-A W-A W-A W-A W-A W-A	e <sub>EN</sub> i <sub>N</sub> i <sub>N</sub> i <sub>EN</sub> e <sub>EN</sub> F	14h40m20s 14 40 36 14 40 38 14 41 06 14 44 04 14 49 <sub>-</sub> <sup>+</sup>	







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8.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
37	April 27	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 W-A	eP <sub>N</sub> eP <sub>E</sub> iP <sub>N</sub> iP <sub>R1</sub> <sub>N</sub> iP <sub>R1</sub> <sub>E</sub> iS <sub>P</sub> <sub>N</sub> i <sub>N</sub> i <sub>N</sub> eS <sub>EN</sub> iS <sub>EN</sub> iS <sub>R1</sub> <sub>EN</sub> iL <sub>EN</sub> F	6h35m18s 6 35 21 6 35 29 6 35 42 6 35 44 6 35 56 6 36 26 6 36 38 6 38 32 6 38 56 6 39 14 6 39 34 7 06 <sup>+</sup> <sub>-</sub>	ΔS-P = 17 <sup>o</sup> 1 H = 06h31m06s. <sup>o</sup> Epicenter: 16.3 N, 87 <sup>o</sup> 7 W. Depth 60 km by the Brunner Depth Chart.
38	May 5	W-A W-A W-A W-A W-A	eE e <sub>N</sub> eL <sub>E</sub> eL <sub>N</sub> F	11h01m05s 11 01 11 11 11 05 11 11 09 11 23 <sup>+</sup> <sub>-</sub>	
39	May 7	W-A W-A W-A	eP <sub>N</sub> e(S) <sub>N</sub> F	10h07m06s 10 12 47 10 20 <sup>+</sup> <sub>-</sub>	
40	May 8	W-A W-A W-A W-A	eP <sub>EN</sub> eE i <sub>EN</sub> F	5h59m13s 5 59 40 5 59 50 6 01 <sup>+</sup> <sub>-</sub>	Local.
41	May 8	W-A W-A W-A W-A W-A W-A	eP' <sub>EN</sub> iP' <sub>N</sub> i <sub>EN</sub> eP <sub>R1</sub> <sub>N</sub> iSKP <sub>N</sub> F	9h30m03s 9 30 04 9 30 10 9 32 29 9 33 45 9 43 <sup>+</sup> <sub>-</sub>	H = 09h11m44s. Region 0 <sup>o</sup> 5 N, 108 <sup>o</sup> 0 E. West of Borneo. Deep focus.
42	May 8	W-A W-A W-A W-A W-A	eP <sub>N</sub> eP <sub>E</sub> eL <sub>E</sub> eL <sub>N</sub> F	17h30m33s 17 30 35 17 44 00 17 44 12 17 53 <sup>+</sup> <sub>-</sub>	Deep.



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9.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
43	May 11	W-A W-A W-A W-A W-A W-A W-A	ePR <sub>1</sub> E eSKKSEN eSR <sub>2</sub> EN eLN eME eMN F	17h46m53s 17 52 46 18 07 35 18 16 05 18 22 27 18 25 35 19 09 <sub>-</sub> <sup>+</sup>	$\Delta$ PR <sub>1</sub> -H = 113°0 H = 17h27m32s. Region 6°5 S, 150°5 E South of New Britain.
44	May 19	W-A W-A W-A W-A	iP iN <sup>EN</sup> iE F	7h40m56s 7 41 10 7 41 11 7 51 <sub>-</sub> <sup>+</sup>	Deep. South China Sea.
45	May 19	W-A W-A W-A W-A W-A W-A W-A	eN eE eN eN iEN iEN F	21h12m42s 21 12 44 21 17 01 21 35 57 21 50 01 21 50 09 21 54 <sub>-</sub> <sup>+</sup>	Several shocks.
46	May 20	W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePR <sub>1</sub> E eSKKSEN iPSE eSR <sub>1</sub> E eSR <sub>2</sub> E eLE eME eMN F	3h24m22s 3 30 30 3 33 50 3 40 09 3 44 18 3 55 26 4 01 01 4 01 24 5 02 <sub>-</sub> <sup>+</sup>	$\Delta$ PR <sub>1</sub> -H = 110°2 H = 03h05m21s. Epicenter: 7°7 S, 159°6 E.
47	May 22	W-A W-A	ePN ePE (Lost in changing records)	0h37m20s 0 27 26	$\Delta$ P-H = 69°0 H = 00h16m20s. North central Argentina. Possibly deep.
48	May 26	W-A W-A W-A W-A	ePN iN iN F	17h24m46s 17 25 25 17 28 26 17 31 <sub>-</sub> <sup>+</sup>	



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49	May 28	W-A	ePEN	18h54m38s	$\Delta_{S-P} = 27^{\circ}0$ H = 18h49m11s. Epicenter: $9^{\circ}0$ N, $103^{\circ}5$ W. Depth 270 km by the Brunner Depth Chart.
		W-A	iPN	18 54 40	
		W-A	ipPEN	18 55 20	
		W-A	iPR <sup>1</sup> EN	18 55 46	
		W-A	iSN <sup>1</sup> EN	18 59 00	
		W-A	isSN	19 00 26	
		W-A	iSR <sup>1</sup> EN	19 01 20	
		W-A	eLN	19 02 16	
		W-A	eLE	19 02 25	
		W-A	iLE	19 02 43	
		W-A	iM <sup>1</sup> N	19 06 59	
		W-A	F	20 46 <sup>+</sup> <sub>-</sub>	

Minor Seismic Activity: April 7, 02h; April 27, 01h00m to 01h49m;  
 May 10, 06h07m to 06h11m; May 15, 07h57m to 08h00m;  
 May 23, 08h02m to 08h40m; May 29, 15h03m to 15h24m.

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 Director of the Department of  
 Geophysics  
 Saint Louis University

Harold L. Link  
 Graduate Assistant  
 Saint Louis University

Rev. Joseph A. Murray  
 Director of the Station



# LITTLE ROCK

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

Bulletin for 1936

11.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
50	June 3	W-A	eE	3h04m46s	Distant. Possibly Japan.
		W-A	eN	3 19 49	
		W-A	F	3 39 <sup>+</sup>	
51	June 3	W-A	ePNE	9h21m02s	$\Delta s-P = 27^{\circ}2$ $H = 09h15m20s.$ Epicenter: $40^{\circ}7$ N, $125^{\circ}5$ W. Depth by the Brunner Depth Chart probably over 50 km.
		W-A	iPNE	9 21 14	
		W-A	ePRN	9 21 46	
		W-A	iPRN	9 21 57	
		W-A	iN	9 23 43	
		W-A	eE	9 25 33	
		W-A	eSE	9 25 44	
		W-A	eSRN	9 26 57	
		W-A	eLNE	9 29 26	
		W-A	eLN	9 30 17	
		W-A	eMSE	9 32 51	
		W-A	F	10 30 <sup>+</sup>	
52	June 5	W-A	ePN	14h59m48s	Deep
		W-A	iPNE	14 59 51	
		W-A	eE	15 00 58	
		W-A	F	15 05 <sup>+</sup>	
Station not in operation from June 5 to October 10, 1936.					
53	Oct 10	W-A	eE	1h31m08s	Weak beginning.
		W-A	eNE	1 31 21	
		W-A	iNE	1 31 27	
		W-A	eNE	1 35 33	
		W-A	eN	1 35 59	
		W-A	eLN	1 42 03	
		W-A	F	1 49 <sup>+</sup>	
54	Oct 19	W-A	eN	12h27m01s	No surface waves
		W-A	iE	12 27 03	
		W-A	iNE	12 27 14	
		W-A	eNE	12 27 47	
		W-A	F	12 35 <sup>+</sup>	



# LITTLE ROCK

LITTLE ROCK COLLEGE SEISMOLOGICAL OBSERVATORY, PULASKI HEIGHTS, LITTLE ROCK, ARK., U. S. A.  
 An observatory with 24 earth stations, 17 local, 10 regional, 7 distant, and 10 teleseismic.  
 For details of the station and its equipment, see Bulletin for 1938.

## Bulletin for 1938

Date	Time	Phase	Amplitude	Duration	Remarks
June 5	19 30	W-A	1.5	1.5	Disturbance in connection with June 5 in October 10, 1938.
June 5	19 31	W-A	1.5	1.5	
June 5	19 32	W-A	1.5	1.5	
June 5	19 33	W-A	1.5	1.5	
June 5	19 34	W-A	1.5	1.5	
June 5	19 35	W-A	1.5	1.5	
June 5	19 36	W-A	1.5	1.5	
June 5	19 37	W-A	1.5	1.5	
June 5	19 38	W-A	1.5	1.5	
June 5	19 39	W-A	1.5	1.5	
June 5	19 40	W-A	1.5	1.5	
June 5	19 41	W-A	1.5	1.5	
June 5	19 42	W-A	1.5	1.5	
June 5	19 43	W-A	1.5	1.5	
June 5	19 44	W-A	1.5	1.5	
June 5	19 45	W-A	1.5	1.5	
June 5	19 46	W-A	1.5	1.5	
June 5	19 47	W-A	1.5	1.5	
June 5	19 48	W-A	1.5	1.5	
June 5	19 49	W-A	1.5	1.5	
June 5	19 50	W-A	1.5	1.5	
June 5	19 51	W-A	1.5	1.5	
June 5	19 52	W-A	1.5	1.5	
June 5	19 53	W-A	1.5	1.5	
June 5	19 54	W-A	1.5	1.5	
June 5	19 55	W-A	1.5	1.5	
June 5	19 56	W-A	1.5	1.5	
June 5	19 57	W-A	1.5	1.5	
June 5	19 58	W-A	1.5	1.5	
June 5	19 59	W-A	1.5	1.5	
June 5	20 00	W-A	1.5	1.5	
June 5	20 01	W-A	1.5	1.5	
June 5	20 02	W-A	1.5	1.5	
June 5	20 03	W-A	1.5	1.5	
June 5	20 04	W-A	1.5	1.5	
June 5	20 05	W-A	1.5	1.5	
June 5	20 06	W-A	1.5	1.5	
June 5	20 07	W-A	1.5	1.5	
June 5	20 08	W-A	1.5	1.5	
June 5	20 09	W-A	1.5	1.5	
June 5	20 10	W-A	1.5	1.5	
June 5	20 11	W-A	1.5	1.5	
June 5	20 12	W-A	1.5	1.5	
June 5	20 13	W-A	1.5	1.5	
June 5	20 14	W-A	1.5	1.5	
June 5	20 15	W-A	1.5	1.5	
June 5	20 16	W-A	1.5	1.5	
June 5	20 17	W-A	1.5	1.5	
June 5	20 18	W-A	1.5	1.5	
June 5	20 19	W-A	1.5	1.5	
June 5	20 20	W-A	1.5	1.5	
June 5	20 21	W-A	1.5	1.5	
June 5	20 22	W-A	1.5	1.5	
June 5	20 23	W-A	1.5	1.5	
June 5	20 24	W-A	1.5	1.5	
June 5	20 25	W-A	1.5	1.5	
June 5	20 26	W-A	1.5	1.5	
June 5	20 27	W-A	1.5	1.5	
June 5	20 28	W-A	1.5	1.5	
June 5	20 29	W-A	1.5	1.5	
June 5	20 30	W-A	1.5	1.5	
June 5	20 31	W-A	1.5	1.5	
June 5	20 32	W-A	1.5	1.5	
June 5	20 33	W-A	1.5	1.5	
June 5	20 34	W-A	1.5	1.5	
June 5	20 35	W-A	1.5	1.5	
June 5	20 36	W-A	1.5	1.5	
June 5	20 37	W-A	1.5	1.5	
June 5	20 38	W-A	1.5	1.5	
June 5	20 39	W-A	1.5	1.5	
June 5	20 40	W-A	1.5	1.5	
June 5	20 41	W-A	1.5	1.5	
June 5	20 42	W-A	1.5	1.5	
June 5	20 43	W-A	1.5	1.5	
June 5	20 44	W-A	1.5	1.5	
June 5	20 45	W-A	1.5	1.5	
June 5	20 46	W-A	1.5	1.5	
June 5	20 47	W-A	1.5	1.5	
June 5	20 48	W-A	1.5	1.5	
June 5	20 49	W-A	1.5	1.5	
June 5	20 50	W-A	1.5	1.5	
June 5	20 51	W-A	1.5	1.5	
June 5	20 52	W-A	1.5	1.5	
June 5	20 53	W-A	1.5	1.5	
June 5	20 54	W-A	1.5	1.5	
June 5	20 55	W-A	1.5	1.5	
June 5	20 56	W-A	1.5	1.5	
June 5	20 57	W-A	1.5	1.5	
June 5	20 58	W-A	1.5	1.5	
June 5	20 59	W-A	1.5	1.5	
June 5	21 00	W-A	1.5	1.5	
June 5	21 01	W-A	1.5	1.5	
June 5	21 02	W-A	1.5	1.5	
June 5	21 03	W-A	1.5	1.5	
June 5	21 04	W-A	1.5	1.5	
June 5	21 05	W-A	1.5	1.5	
June 5	21 06	W-A	1.5	1.5	
June 5	21 07	W-A	1.5	1.5	
June 5	21 08	W-A	1.5	1.5	
June 5	21 09	W-A	1.5	1.5	
June 5	21 10	W-A	1.5	1.5	
June 5	21 11	W-A	1.5	1.5	
June 5	21 12	W-A	1.5	1.5	
June 5	21 13	W-A	1.5	1.5	
June 5	21 14	W-A	1.5	1.5	
June 5	21 15	W-A	1.5	1.5	
June 5	21 16	W-A	1.5	1.5	
June 5	21 17	W-A	1.5	1.5	
June 5	21 18	W-A	1.5	1.5	
June 5	21 19	W-A	1.5	1.5	
June 5	21 20	W-A	1.5	1.5	
June 5	21 21	W-A	1.5	1.5	
June 5	21 22	W-A	1.5	1.5	
June 5	21 23	W-A	1.5	1.5	
June 5	21 24	W-A	1.5	1.5	
June 5	21 25	W-A	1.5	1.5	
June 5	21 26	W-A	1.5	1.5	
June 5	21 27	W-A	1.5	1.5	
June 5	21 28	W-A	1.5	1.5	
June 5	21 29	W-A	1.5	1.5	
June 5	21 30	W-A	1.5	1.5	
June 5	21 31	W-A	1.5	1.5	
June 5	21 32	W-A	1.5	1.5	
June 5	21 33	W-A	1.5	1.5	
June 5	21 34	W-A	1.5	1.5	
June 5	21 35	W-A	1.5	1.5	
June 5	21 36	W-A	1.5	1.5	
June 5	21 37	W-A	1.5	1.5	
June 5	21 38	W-A	1.5	1.5	
June 5	21 39	W-A	1.5	1.5	
June 5	21 40	W-A	1.5	1.5	
June 5	21 41	W-A	1.5	1.5	
June 5	21 42	W-A	1.5	1.5	
June 5	21 43	W-A	1.5	1.5	
June 5	21 44	W-A	1.5	1.5	
June 5	21 45	W-A	1.5	1.5	
June 5	21 46	W-A	1.5	1.5	
June 5	21 47	W-A	1.5	1.5	
June 5	21 48	W-A	1.5	1.5	
June 5	21 49	W-A	1.5	1.5	
June 5	21 50	W-A	1.5	1.5	
June 5	21 51	W-A	1.5	1.5	
June 5	21 52	W-A	1.5	1.5	
June 5	21 53	W-A	1.5	1.5	
June 5	21 54	W-A	1.5	1.5	
June 5	21 55	W-A	1.5	1.5	
June 5	21 56	W-A	1.5	1.5	
June 5	21 57	W-A	1.5	1.5	
June 5	21 58	W-A	1.5	1.5	
June 5	21 59	W-A	1.5	1.5	
June 5	22 00	W-A	1.5	1.5	
June 5	22 01	W-A	1.5	1.5	
June 5	22 02	W-A	1.5	1.5	
June 5	22 03	W-A	1.5	1.5	
June 5	22 04	W-A	1.5	1.5	
June 5	22 05	W-A	1.5	1.5	
June 5	22 06	W-A	1.5	1.5	
June 5	22 07	W-A	1.5	1.5	
June 5	22 08	W-A	1.5	1.5	
June 5	22 09	W-A	1.5	1.5	
June 5	22 10	W-A	1.5	1.5	
June 5	22 11	W-A	1.5	1.5	
June 5	22 12	W-A	1.5	1.5	
June 5	22 13	W-A	1.5	1.5	
June 5	22 14	W-A	1.5	1.5	
June 5	22 15	W-A	1.5	1.5	
June 5	22 16	W-A	1.5	1.5	
June 5	22 17	W-A	1.5	1.5	
June 5	22 18	W-A	1.5	1.5	
June 5	22 19	W-A	1.5	1.5	
June 5	22 20	W-A	1.5	1.5	
June 5	22 21	W-A	1.5	1.5	
June 5	22 22	W-A	1.5	1.5	
June 5	22 23	W-A	1.5	1.5	
June 5	22 24	W-A	1.5	1.5	
June 5	22 25	W-A	1.5	1.5	
June 5	22 26	W-A	1.5	1.5	
June 5	22 27	W-A	1.5	1.5	
June 5	22 28	W-A	1.5	1.5	
June 5	22 29	W-A	1.5	1.5	
June 5	22 30	W-A	1.5	1.5	
June 5	22 31	W-A	1.5	1.5	
June 5	22 32	W-A	1.5	1.5	
June 5	22 33	W-A	1.5	1.5	
June 5	22 34	W-A	1.5	1.5	
June 5	22 35	W-A	1.5	1.5	
June 5	22 36	W-A	1.5	1.5	
June 5	22 37	W-A	1.5	1.5	
June 5	22 38	W-A	1.5	1.5	
June 5	22 39	W-A	1.5	1.5	
June 5	22 40	W-A	1.5	1.5	
June 5	22 41	W-A	1.5	1.5	
June 5	22 42	W-A	1.5	1.5	
June 5	22 43	W-A	1.5	1.5	
June 5	22 44	W-A	1.5	1.5	
June 5	22 45	W-A	1.5	1.5	
June 5	22 46	W-A	1.5	1.5	
June 5	22 47	W-A	1.5	1.5	
June 5	22 48	W-A	1.5	1.5	
June 5	22 49	W-A	1.5	1.5	
June 5	22 50	W-A	1.5	1.5	
June 5	22 51	W-A	1.5	1.5	
June 5	22 52	W-A	1.5	1.5	
June 5	22 53	W-A	1.5	1.5	
June 5	22 54	W-A	1.5	1.5	
June 5	22 55	W-A	1.5	1.5	
June 5	22 56	W-A	1.5	1.5	



Little Rock Bulletin for 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
55	Oct 20	W-A	iP <sub>0</sub> NE	21h17m45s	$\Delta_{Sn-Pn} = 2^{\circ}8$ or 193 miles. H = 21h17m00s. Southeastern Missouri near New Madrid. Not reported felt.
		W-A	iP <sup>*</sup> N	21 17 50	
		W-A	iP <sub>0</sub> NE	21 18 00	
		W-A	iNE	21 18 11	
		W-A	iS <sub>0</sub> NE	21 18 19	
		W-A	iS <sup>*</sup> N	21 18 26	
		W-A	F	21 24 <sup>+</sup>	
56	Oct 23	W-A	ePN	6h32m33s	$\Delta_{S-P} = 44^{\circ}9$ Epicenter 60 <sup>o</sup> 8 N. 149 <sup>o</sup> 4 W. H = 06h24m27s. Depth somewhat less than 25 km. Reported felt at Anchorage Alaska.
		W-A	iPNE	6 32 35	
		W-A	iP <sub>0</sub> NE	6 32 40	
		W-A	iPR <sub>2</sub> N	6 34 32	
		W-A	eN	6 39 11	
		W-A	eSNE	6 39 17	
		W-A	esSNE	6 39 25	
		W-A	eSR <sub>1</sub> N	6 42 40	
		W-A	eLN	6 46 47	
		W-A	eMN	6 48 51	
W-A	F	8 10 <sup>+</sup>			
57	Oct 23	W-A	eE	16h48m14s	Weak.
		W-A	eN	16 48 25	
		W-A	eNE	16 49 35	
		W-A	eLN	16 49 38	
		W-A	F	17 00 <sup>+</sup>	
58	Oct 23	W-A	ePNE	19h49m45s	
		W-A	iNE	19 50 25	
		W-A	eN	19 50 48	
		W-A	F	19 52 <sup>+</sup>	
59	Oct 24	W-A	ePN	13h00m39s	
		W-A	eN	13 00 41	
		W-A	iNE	13 01 01	
		W-A	iNE	13 01 11	
		W-A	F	13 04 <sup>+</sup>	







## Little Rock Bulletin for 1936

13.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
60	Oct 26	W-A	e <sup>P</sup> <sub>NE</sub>	23h15m18s	$\Delta S-P = 45^{\circ}8$ Depth nearly normal. Probably Alaska.
		W-A	i <sup>(P)</sup> <sub>NE</sub>	23 15 33	
		W-A	i <sub>N</sub>	23 16 03	
		W-A	e <sub>E</sub>	23 16 14	
		W-A	e <sup>P</sup> <sub>2NE</sub>	23 17 30	
		W-A	e <sub>N</sub>	23 21 48	
		W-A	e <sub>SE</sub>	23 22 08	
		W-A	e <sub>LE</sub>	23 32 36	
		W-A	e <sub>ME</sub>	23 38 48	
		W-A	F	24 00 <sup>+</sup>	
61	Oct 29	W-A	i <sub>P</sub> <sub>N</sub>	5h58m27s	$\Delta S-P = 26^{\circ}5$ Panama Balboa Heights reports: Felt in David and Santiago.
		W-A	i <sup>P</sup> <sub>H</sub> <sub>NE</sub>	5 59 04	
		W-A	e <sub>N</sub>	5 59 13	
		W-A	e <sup>(S)</sup> <sub>NE</sub>	6 03 06	
		W-A	e <sub>N</sub>	6 03 44	
		W-A	e <sub>L</sub> <sub>NE</sub>	6 06 02	
		W-A	F	6 30 <sup>+</sup>	
62	Oct 29	W-A	e <sub>L</sub> <sub>E</sub>	19h17m20s	Distant.
		W-A	F	20 00 <sup>+</sup>	

Minor Seismic Activity: Oct 24, 3h7m to 3h11m; Oct 28, 16h56m to 17h02m; Oct 29, 8h40m to 8h43m.

J. B. Macelwane, S. J.  
 Director

R. R. Heinrich  
 Graduate Fellow



Little Sand Bay, Alaska for 1938

No.	Date	Time	Phase	G.M.O.T.	Remarks
80	Oct 26	W-A	V	22 00	
		W-A	III	22 08	
		W-A	III	22 16	
		W-A	III	22 24	
		W-A	III	22 32	
		W-A	III	22 40	
		W-A	III	22 48	
		W-A	III	22 56	
		W-A	III	23 04	
		W-A	III	23 12	
		W-A	III	23 20	
		W-A	III	23 28	
		W-A	III	23 36	
		W-A	III	23 44	
		W-A	III	23 52	
		W-A	III	24 00	
81	Oct 26	W-A	V	22 00	
		W-A	III	22 04	
		W-A	III	22 08	
		W-A	III	22 12	
		W-A	III	22 16	
		W-A	III	22 20	
		W-A	III	22 24	
		W-A	III	22 28	
		W-A	III	22 32	
		W-A	III	22 36	
		W-A	III	22 40	
		W-A	III	22 44	
		W-A	III	22 48	
		W-A	III	22 52	
		W-A	III	22 56	
		W-A	III	23 00	
82	Oct 26	W-A	V	22 00	
		W-A	III	22 04	

Minor seismic activity Oct 24, 25, 26, 27, 28, 29, 30, 31, 1938

J. H. Woodworth, Jr., Director  
 R. R. Heintz, Graduate Fellow



# 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 1936

14.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
63	Nov 1	W-A W-A W-A W-A W-A W-A	iP <sup>n</sup> NE iP* <sup>n</sup> iP <sup>g</sup> NE iS <sup>n</sup> NE iS* <sup>n</sup> NE F	4h11m36s 4 11 38 4 11 41 4 11 59 4 12 02 4 14 <sup>+</sup>	$\Delta_{Sn-Pn} = 1^{\circ}8$ or 125 miles. H = 04h11m05s. Southeastern Missouri, not reported felt.
64	Nov 2	W-A W-A W-A W-A W-A W-A	ePNE iNE ePRINE eSE eL F	15h09m55s 15 10 09 15 12 51 15 13 44 15 37 17 16 13 <sup>+</sup>	$\Delta_{S-P} = 76^{\circ}6$ Epicenter by Strasbourg 50°0 N, 156°0 E, off Kamtschatka.
65	Nov 2	W-A W-A W-A W-A W-A W-A W-A	ePNE ipPNE iPRIE eSNE esSNE eN eLN F	20h59m03s 20 59 21 21 01 51 21 09 55 21 10 14 21 10 22 21 26 30 22 30 <sup>+</sup>	$\Delta_{S-P} = 91^{\circ}6$ H = 20h45m58s. Epicenter: 37°8 N, 142°1 E, Depth by the Brunner Depth Chart 50 km. According to Chiufeng, Destructive in Fukujama, Japan with intensities R. F. VII and VIII
66	Nov 3	W-A W-A W-A W-A	eNE i(S)NE iNE F	5h56m05s 5 57 59 5 58 07 6 05 <sup>+</sup>	Beginning very weak. Motion fast.
67	Nov 12	W-A W-A W-A	e(P)N eN F	4h32m00s 4 32 11 4 47 <sup>+</sup>	Deep?
68	Nov 12	W-A W-A W-A W-A W-A W-A W-A	iPNE ipPNE iNE iE iSNE isSNE F	20h16m58s. 20 17 06 20 17 46 20 20 06 20 27 04 20 27 18 20 42 <sup>+</sup>	$\Delta_{S-P} = 80^{\circ}4$ Kurile Islands. Depth at least 40 km by the Brunner Depth Chart.



# LITTLE ROCK

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

## Bulletin for 1933

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No.	Date	Time	Phase	Duration	Remarks
83	Nov 1	11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	W-1 W-2 W-3 W-4 W-5 W-6 W-7 W-8 W-9 W-10 W-11 W-12 W-13 W-14 W-15 W-16 W-17 W-18 W-19 W-20 W-21 W-22 W-23 W-24 W-25 W-26 W-27 W-28 W-29 W-30 W-31 W-32 W-33 W-34 W-35 W-36 W-37 W-38 W-39 W-40 W-41 W-42 W-43 W-44 W-45 W-46 W-47 W-48 W-49 W-50 W-51 W-52 W-53 W-54 W-55 W-56 W-57 W-58 W-59 W-60 W-61 W-62 W-63 W-64 W-65 W-66 W-67 W-68 W-69 W-70 W-71 W-72 W-73 W-74 W-75 W-76 W-77 W-78 W-79 W-80 W-81 W-82 W-83 W-84 W-85 W-86 W-87 W-88 W-89 W-90 W-91 W-92 W-93 W-94 W-95 W-96 W-97 W-98 W-99 W-100	4.0 - 4.5	Station = 1.8 or 1.85 miles N - Oklahoma Southeastern Missouri not reported felt.
84	Nov 2	11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	W-1 W-2 W-3 W-4 W-5 W-6 W-7 W-8 W-9 W-10 W-11 W-12 W-13 W-14 W-15 W-16 W-17 W-18 W-19 W-20 W-21 W-22 W-23 W-24 W-25 W-26 W-27 W-28 W-29 W-30 W-31 W-32 W-33 W-34 W-35 W-36 W-37 W-38 W-39 W-40 W-41 W-42 W-43 W-44 W-45 W-46 W-47 W-48 W-49 W-50 W-51 W-52 W-53 W-54 W-55 W-56 W-57 W-58 W-59 W-60 W-61 W-62 W-63 W-64 W-65 W-66 W-67 W-68 W-69 W-70 W-71 W-72 W-73 W-74 W-75 W-76 W-77 W-78 W-79 W-80 W-81 W-82 W-83 W-84 W-85 W-86 W-87 W-88 W-89 W-90 W-91 W-92 W-93 W-94 W-95 W-96 W-97 W-98 W-99 W-100	4.0 - 4.5	Station = 1.8 or 1.85 miles N - Oklahoma Southeastern Missouri not reported felt.
85	Nov 3	11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	W-1 W-2 W-3 W-4 W-5 W-6 W-7 W-8 W-9 W-10 W-11 W-12 W-13 W-14 W-15 W-16 W-17 W-18 W-19 W-20 W-21 W-22 W-23 W-24 W-25 W-26 W-27 W-28 W-29 W-30 W-31 W-32 W-33 W-34 W-35 W-36 W-37 W-38 W-39 W-40 W-41 W-42 W-43 W-44 W-45 W-46 W-47 W-48 W-49 W-50 W-51 W-52 W-53 W-54 W-55 W-56 W-57 W-58 W-59 W-60 W-61 W-62 W-63 W-64 W-65 W-66 W-67 W-68 W-69 W-70 W-71 W-72 W-73 W-74 W-75 W-76 W-77 W-78 W-79 W-80 W-81 W-82 W-83 W-84 W-85 W-86 W-87 W-88 W-89 W-90 W-91 W-92 W-93 W-94 W-95 W-96 W-97 W-98 W-99 W-100	4.0 - 4.5	Station = 1.8 or 1.85 miles N - Oklahoma Southeastern Missouri not reported felt.
86	Nov 4	11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	W-1 W-2 W-3 W-4 W-5 W-6 W-7 W-8 W-9 W-10 W-11 W-12 W-13 W-14 W-15 W-16 W-17 W-18 W-19 W-20 W-21 W-22 W-23 W-24 W-25 W-26 W-27 W-28 W-29 W-30 W-31 W-32 W-33 W-34 W-35 W-36 W-37 W-38 W-39 W-40 W-41 W-42 W-43 W-44 W-45 W-46 W-47 W-48 W-49 W-50 W-51 W-52 W-53 W-54 W-55 W-56 W-57 W-58 W-59 W-60 W-61 W-62 W-63 W-64 W-65 W-66 W-67 W-68 W-69 W-70 W-71 W-72 W-73 W-74 W-75 W-76 W-77 W-78 W-79 W-80 W-81 W-82 W-83 W-84 W-85 W-86 W-87 W-88 W-89 W-90 W-91 W-92 W-93 W-94 W-95 W-96 W-97 W-98 W-99 W-100	4.0 - 4.5	Station = 1.8 or 1.85 miles N - Oklahoma Southeastern Missouri not reported felt.
87	Nov 5	11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	W-1 W-2 W-3 W-4 W-5 W-6 W-7 W-8 W-9 W-10 W-11 W-12 W-13 W-14 W-15 W-16 W-17 W-18 W-19 W-20 W-21 W-22 W-23 W-24 W-25 W-26 W-27 W-28 W-29 W-30 W-31 W-32 W-33 W-34 W-35 W-36 W-37 W-38 W-39 W-40 W-41 W-42 W-43 W-44 W-45 W-46 W-47 W-48 W-49 W-50 W-51 W-52 W-53 W-54 W-55 W-56 W-57 W-58 W-59 W-60 W-61 W-62 W-63 W-64 W-65 W-66 W-67 W-68 W-69 W-70 W-71 W-72 W-73 W-74 W-75 W-76 W-77 W-78 W-79 W-80 W-81 W-82 W-83 W-84 W-85 W-86 W-87 W-88 W-89 W-90 W-91 W-92 W-93 W-94 W-95 W-96 W-97 W-98 W-99 W-100	4.0 - 4.5	Station = 1.8 or 1.85 miles N - Oklahoma Southeastern Missouri not reported felt.
88	Nov 6	11:41 11:42 11:43 11:44 11:45 11:46 11:47 11:48 11:49 11:50 11:51 11:52 11:53 11:54 11:55 11:56 11:57 11:58 11:59 12:00	W-1 W-2 W-3 W-4 W-5 W-6 W-7 W-8 W-9 W-10 W-11 W-12 W-13 W-14 W-15 W-16 W-17 W-18 W-19 W-20 W-21 W-22 W-23 W-24 W-25 W-26 W-27 W-28 W-29 W-30 W-31 W-32 W-33 W-34 W-35 W-36 W-37 W-38 W-39 W-40 W-41 W-42 W-43 W-44 W-45 W-46 W-47 W-48 W-49 W-50 W-51 W-52 W-53 W-54 W-55 W-56 W-57 W-58 W-59 W-60 W-61 W-62 W-63 W-64 W-65 W-66 W-67 W-68 W-69 W-70 W-71 W-72 W-73 W-74 W-75 W-76 W-77 W-78 W-79 W-80 W-81 W-82 W-83 W-84 W-85 W-86 W-87 W-88 W-89 W-90 W-91 W-92 W-93 W-94 W-95 W-96 W-97 W-98 W-99 W-100	4.0 - 4.5	Station = 1.8 or 1.85 miles N - Oklahoma Southeastern Missouri not reported felt.



# 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 1936

14.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
63	Nov 1	W-A W-A W-A W-A W-A W-A	iPNE iP*N iPgNE iSNNE iS*NE F	4h11m36s 4 11 38 4 11 41 4 11 59 4 12 02 4 14 <sup>±</sup>	$\Delta_{Sn-Pn} = 1^{\circ}8$ or 125 miles. H = 04h11m05s. Southeastern Missouri, not reported felt.
64	Nov 2	W-A W-A W-A W-A W-A W-A	ePNE iNE ePRiNE eSE eL F	15h09m55s 15 10 09 15 12 51 15 12 44 15 37 17 16 13 <sup>±</sup>	$\Delta_{S-P} = 76^{\circ}6$ Epicenter by Strasbourg 50°0 N, 156°0 E, off Kamtschatka.
65	Nov 2	W-A W-A W-A W-A W-A W-A W-A	ePNE ipFNE iPRiLE eSNE esSNE en eLN F	20h59m03s 20 59 21 21 01 51 21 09 55 21 10 14 21 10 22 21 26 30 22 30 <sup>±</sup>	$\Delta_{S-P} = 91^{\circ}6$ H = 20h45m58s. Epicenter: 37°8 N, 142°1 E, Depth by the Brunner Depth Chart 50 km. According to Chiufeng, Destructive in Fukujama, Japan with intensities R. F. VII and VIII
66	Nov 3	W-A W-A W-A W-A	eNE i(S)NE iNE F	5h56m05s 5 57 59 5 58 07 6 05 <sup>±</sup>	Beginning very weak. Motion fast.
67	Nov 12	W-A W-A W-A	e(P)N en F	4h32m00s 4 32 11 4 47 <sup>±</sup>	Deep?
68	Nov 12	W-A W-A W-A W-A W-A W-A W-A	iPNE ipPNE iNE iE iSNE isSNE F	20h16m58s. 20 17 06 20 17 46 20 20 06 20 27 04 20 27 18 20 42 <sup>±</sup>	$\Delta_{S-P} = 80^{\circ}4$ Kurile Islands. Depth at least 40 km by the Brunner Depth Chart.







Little Rock Bulletin for 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
69	Nov 13	W-A	ePNE	12h42m38s	$\Delta p-H = 69^{\circ}5$ $H = 21h31m37s$ Epicenter: $56^{\circ}7$ N, $162^{\circ}3$ E. Depth by the Brunner Depth Chart 40 to 50 km.
		W-A	iPNE	12 42 39	
		W-A	ipPNE	12 42 50	
		W-A	iPR <sub>1</sub> E	12 45 18	
		W-A	eSE	12 51 41	
		W-A	esSE	12 51 59	
		W-A	eLE	13 00 41	
		W-A	eME	13 04 03	
		W-A	F	15 00 <sup>+</sup>	
70	Nov 14	W-A	e(P) <sub>N</sub>	1h41m55s	Deep.
		W-A	e(P) <sub>E</sub>	1 41 57	
		W-A	F	1 47 <sup>+</sup>	
71	Nov 14	W-A	e(P) <sub>N</sub>	14h40m55s	
		W-A	F	14 43 <sup>+</sup>	
72	Nov 15	W-A	e(P) <sub>NE</sub>	22h31m42s	
		W-A	iNE	22 31 56	
		W-A	F	22 42 <sup>+</sup>	
73	Nov 19	W-A	ePN	21h15m02s	$\Delta p-H = 20^{\circ}4$ $H = 21h10m30s$ Epicenter: $14^{\circ}3$ N, $90^{\circ}7$ W. Depth by the Brunner Depth Chart nearly 100 km.
		W-A	ipPN	21 15 13	
		W-A	iPR <sub>1</sub> N	21 15 33	
		W-A	iSN	21 18 56	
		W-A	isSN	21 19 16	
		W-A	iPoPN	21 19 21	
		W-A	isSR <sub>1</sub> N	21 19 36	
		W-A	eLN	21 20 54	
		W-A	M	21 22 33	
		W-A	F	(Lost in following quake)	
74	Nov 19	W-A	ePN	21h48m57s	Aftershock of No. 73.
		W-A	ePR <sub>1</sub> N	21 49 26	
		W-A	eSN	21 52 52	
		W-A	F	22 12 <sup>+</sup>	
75	Nov 19	W-A	ePN	24h25m24s	Aftershock of No. 73
		W-A	eSN	24 29 27	
		W-A	F	(Lost in changing records)	

Little Rock Bulletin for 1938

No.	Date	Instr.	Phase	G.M.T.	Remarks
68	Nov 13	W-A	W-A	13 00 00	Depth Chart 50 to 80 km. Depth by the Brunner 1897 W. Magnetometer: 8077 W. H = 2100m 47-N = 80.5
		W-A	W-A	13 00 03	
		W-A	W-A	13 00 41	
		W-A	W-A	13 01 28	
		W-A	W-A	13 01 41	
		W-A	W-A	13 01 18	
		W-A	W-A	13 01 50	
		W-A	W-A	13 02 38	
		W-A	W-A	13 03 58	
		W-A	W-A	13 04 58	
70	Nov 13	W-A	(P) W	1 41 57	Deep
		W-A	(P) W	1 42 1	
71	Nov 13	W-A	(P) W	1 42 1	
72	Nov 13	W-A	(P) W	2 21 58	
		W-A	(P) W	2 22 1	
73	Nov 13	W-A	W-A	2 20 54	Depth Chart Brunner Depth Chart 8077 W. Depth by the Magnetometer: 8077 W. H = 2100m 47-N = 80.5
		W-A	W-A	2 21 18	
		W-A	W-A	2 21 33	
		W-A	W-A	2 21 58	
		W-A	W-A	2 22 13	
		W-A	W-A	2 22 28	
		W-A	W-A	2 22 43	
		W-A	W-A	2 22 58	
		W-A	W-A	2 23 13	
		W-A	W-A	2 23 28	
74	Nov 13	W-A	W-A	2 23 28	Attachment of No. 73.
		W-A	W-A	2 23 53	
		W-A	W-A	2 24 18	
75	Nov 13	W-A	W-A	2 24 57	Attachment of No. 73 (List in changing records)
		W-A	W-A	2 25 12	



## Little Rock Bulletin for 1936

15.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
69	Nov 13	W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePNE iPNE ipPNE iPR <sub>1</sub> E eSE esSE eLE eME F	12h42m38s 12 42 39 12 42 50 12 45 18 12 51 41 12 51 59 13 00 41 13 04 03 15 00 <sup>+</sup>	$\Delta P-H = 69^{\circ}5$ H = 21h31m37s Epicenter: $56^{\circ}7$ N, $162^{\circ}3$ E. Depth by the Brunner Depth Chart 40 to 50 km.
70	Nov 14	W-A W-A W-A	e(P) <sub>N</sub> e(P) <sub>E</sub> F	1h41m55s 1 41 57 1 47 <sup>+</sup>	Deep.
71	Nov 14	W-A W-A	e(P) <sub>N</sub> F	14h40m55s 14 43 <sup>+</sup>	
72	Nov 15	W-A W-A W-A	e(P) <sub>NE</sub> iNE F	22h31m42s 22 31 56 22 42 <sup>+</sup>	
73	Nov 19	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePN ipPN iPR <sub>1</sub> N iSN isSN iPcPN isSR <sub>1</sub> N eLN M F	21h15m02s 21 15 13 21 15 33 21 18 56 21 19 16 21 19 21 21 19 36 21 20 54 21 22 33 (Lost in following quake)	$\Delta P-H = 20^{\circ}4$ H = 21h10m30s Epicenter: $14^{\circ}3$ N, $90^{\circ}7$ W. Depth by the Brunner Depth Chart nearly 100 km.
74	Nov 19	W-A W-A W-A W-A	ePN ePR <sub>1</sub> N eSN F	21h48m57s 21 49 26 21 52 52 22 12 <sup>+</sup>	Aftershock of No. 73.
75	Nov 19	W-A W-A W-A	eP <sub>N</sub> eSN F	24h25m24s 24 29 27 (Lost in changing records)	Aftershock of No. 73





No.	Date	Inst.	Phase	G.M.C.T.	Remarks
76	Nov 22	W-A W-A W-A W-A W-A W-A	ePNE e(pP) <sub>N</sub> eS <sub>N</sub> eSE e(sS) <sub>N</sub> F	16h49m47s 16 49 55 16 52 51 16 52 53 16 53 05 17 00 <sup>±</sup>	$\Delta_{S-P} = 40^{\circ}0$ Depth by the Brunner Depth Chart near 40 km.
77	Nov 22	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A	iPN iPE ipPN iPR <sub>1</sub> NE iS <sub>NE</sub> iS <sub>NE</sub> iSR <sub>1</sub> NE iSR <sub>1</sub> NE iLNE eME F	18h24m03s 18 24 04 18 24 18 18 24 30 18 27 47 18 28 23 18 28 37 18 29 08 18 29 48 18 32 32 19 00 <sup>±</sup>	$\Delta_{P-H} = 21^{\circ}1$ $\Delta_{S-P} = 20^{\circ}9$ $\Delta_{meas} = 21^{\circ}1$ H = 18h19m25s. Epicenter: 13 <sup>o</sup> 7 N, 90 <sup>o</sup> 7 W. Depth by the Brunner Depth Chart nearly 100 km.
78	Nov 23	W-A W-A W-A W-A	ePnNE iSnNE iS*NE F	9h39m33s 9 40 06 9 40 13 9 41 <sup>±</sup>	$\Delta_{Sn-Pn} = 2^{\circ}6$ or 181 miles. H = 09h38m49s. Region S.E. Missouri. Not reported felt.
79	Nov 24	W-A W-A W-A W-A	e(P) <sub>NE</sub> eNE eNE F	12h30m59s 12 35 32 12 38 31 12 40 <sup>±</sup>	Character indistinct. Very Large. Microseisms.
80	Nov 25	W-A W-A W-A W-A	e(Pn) <sub>E</sub> e(Sn) <sub>E</sub> e(S*) <sub>E</sub> F	17h42m41s 17 43 15 17 43 19 17 44 <sup>±</sup>	$\Delta_{Sn-Pn} = 2^{\circ}6$ Probably same as No. 78. Less intense.
81	Nov 26	W-A W-A W-A W-A W-A	ePE ePR <sub>2</sub> E eSE L F	2h17m30s 2 18 09 2 21 56 2 24 01 3 00 <sup>±</sup>	$\Delta_{S-P} = 24^{\circ}8$ Off central American Pacific Coast.
82	Nov 27	W-A W-A	eNE F	2h14m10s 2 22 <sup>±</sup>	Weak.



Little Rock Bulletin for 1938

No.	Date	Time	Place	Remarks
76	Nov 28	11:45	Little Rock	Depth Chart near 50 km. Depth by the Brunner 1938 = 4070
77	Nov 28	11:45	Little Rock	Depth Chart nearly 100 km. Depth by the Brunner 1938 = 4070
78	Nov 28	11:45	Little Rock	Depth Chart nearly 100 km. Depth by the Brunner 1938 = 4070
79	Nov 28	11:45	Little Rock	Depth Chart nearly 100 km. Depth by the Brunner 1938 = 4070
80	Nov 28	11:45	Little Rock	Depth Chart nearly 100 km. Depth by the Brunner 1938 = 4070
81	Nov 28	11:45	Little Rock	Depth Chart nearly 100 km. Depth by the Brunner 1938 = 4070
82	Nov 28	11:45	Little Rock	Depth Chart nearly 100 km. Depth by the Brunner 1938 = 4070



## Little Rock Bulletin for 1936

16.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
76	Nov 22	W-A W-A W-A W-A W-A W-A	ePNE e(pP)N eS <sub>N</sub> eSE e(ss)N F	16h49m47s 16 49 55 16 52 51 16 52 53 16 53 05 17 00 <sup>+</sup>	$\Delta_{S-P} = 40^{\circ}0$ Depth by the Brunner Depth Chart near 40 km.
77	Nov 22	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A	iPN iPE ipPN iPR <sub>1</sub> NE iS <sub>NE</sub> isS <sub>NE</sub> iSR <sub>1</sub> NE isSR <sub>1</sub> NE iL <sub>NE</sub> eME F	18h24m03s 18 24 04 18 24 18 18 24 30 18 27 47 18 28 23 18 28 37 18 29 08 18 29 48 18 32 32 19 00 <sup>+</sup>	$\Delta_{P-H} = 21^{\circ}1$ $\Delta_{S-P} = 20^{\circ}9$ $\Delta_{meas} = 21^{\circ}1$ H = 18h19m25s. Epicenter: 13 <sup>o</sup> 7 N, 90 <sup>o</sup> 7 W. Depth by the Brunner Depth Chart nearly 100 km.
78	Nov 23	W-A W-A W-A W-A	ePnNE iSnNE iS*NE F	9h39m33s 9 40 06 9 40 13 9 41 <sup>+</sup>	$\Delta_{Sn-Pn} = 2^{\circ}6$ or 181 miles. H = 09h38m49s. Region S.E. Missouri. Not reported felt.
79	Nov 24	W-A W-A W-A W-A	e(P) <sub>NE</sub> ene ene F	12h30m59s 12 35 32 12 38 31 12 40 <sup>+</sup>	Character indistinct. Very Large. Microseisms.
80	Nov 25	W-A W-A W-A W-A	e(Pn) <sub>E</sub> e(Sn) <sub>E</sub> e(S*) <sub>E</sub> F	17h42m41s 17 43 15 17 43 19 17 44 <sup>+</sup>	$\Delta_{Sn-Pn} = 2^{\circ}6$ Probably same as No. 78. Less intense.
81	Nov 26	W-A W-A W-A W-A W-A	ePE ePR <sub>2</sub> E eSE L F	2h17m30s 2 18 09 2 21 56 2 24 01 3 00 <sup>+</sup>	$\Delta_{S-P} = 24^{\circ}8$ Off central American Pacific Coast.
82	Nov 27	W-A W-A	ene F	2h14m10s 2 22 <sup>+</sup>	Weak.



Little Rock, Arkansas, for 1885

No. Date	Inst.	Phase	O.K. G.T. I.	Remarks
76 Nov 23	W.A.	W.A.	17 00	Depth Chart near 50 km. Depth by the Brunner 400 = 400
77 Nov 23	W.A.	W.A.	19 00	Depth Chart nearly 100 Depth by the Brunner 400 = 400
78 Nov 23	W.A.	W.A.	19 00	Depth Chart nearly 100 Depth by the Brunner 400 = 400
79 Nov 24	W.A.	W.A.	19 00	Depth Chart nearly 100 Depth by the Brunner 400 = 400
80 Nov 26	W.A.	W.A.	17 45	Depth Chart nearly 100 Depth by the Brunner 400 = 400
81 Nov 26	W.A.	W.A.	17 45	Depth Chart nearly 100 Depth by the Brunner 400 = 400
82 Nov 27	W.A.	W.A.	17 45	Depth Chart nearly 100 Depth by the Brunner 400 = 400



## Little Rock Bulletin for 1936

17.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
83	Nov 29	W-A W-A W-A	eN eN F	5h34m13s 5 34 49 5 36 <sup>+</sup>	Weak.

Minor Seismic Activity: Nov. 5, 9h56m to 9h58m; Nov 12,  
 2h39m to 2h42m; Nov 14, 19h49m to 19h42m; Nov 15,  
 22h13m 50 22h14m; Nov 17, 3h51m to 3h54m; Nov 17,  
 18h35m to 18h37m; Nov 30, 23h9m to 23h12m; Nov 30,  
 24h8m to 24h11m.

On Nov 17, the microseisms were exceptionally  
 large from 10h00m to 24h00m.

J. B. Macelwane, S.J.  
 Director

R. R. Heinrich  
 Graduate Fellow



## Little Rock Bulletin for 1936

17.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
83	Nov 29	W-A W-A W-A	eN eN F	5h34m13s 5 34 49 5 36 <sup>+</sup>	Weak.

Minor Seismic Activity: Nov. 5, 9h56m to 9h58m; Nov 12,  
 2h39m to 2h42m; Nov 14, 19h49m to 19h42m; Nov 15,  
 22h13m 50 22h14m; Nov 17, 3h51m to 3h54m; Nov 17,  
 18h35m to 18h37m; Nov 30, 23h9m to 23h12m; Nov 30,  
 24h8m to 24h11m.

On Nov 17, the microseisms were exceptionally  
 large from 10h00m to 24h00m.

J. B. Macelwane, S.J.  
 Director

R. R. Heinrich  
 Graduate Fellow



# 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 1936

18.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
84	Dec 18	W-A W-A W-A W-A	eN eNE eNE F	11h22m14s 11 22 35 11 22 54 11 23 24	
85	Dec 20	W-A W-A W-A W-A W-A W-A W-A W-A	iPN iPR <sub>2</sub> NE eSNE iPcPNE iSR <sub>2</sub> NE eNE eLN F	2 48 13 2 48 41 2 52 02 2 52 17 2 52 32 2 52 47 2 53 52 3 30 +	$\Delta_{S-P} = 2097$  Epicenter: 149°2 N, 88°6 W. H = 2h43m29s Destructive in San Vicente and nearby towns of Salvador
86	Dec 20	W-A W-A W-A W-A W-A	eN eN iNE eSNE F	13h28m07s 13 28 16 13 28 21 13 32 22 14 00 +	Aftershock of No. 85.
87	Dec 20	W-A W-A W-A	iN iNE F	18h49m09s 18 49 26 18 55 +	Weak.
88	Dec 21	W-A W-A W-A W-A	ePE eSE eME F	19h09m51s 19 15 20 19 22 33 Lost in following earthquake.	$\Delta_{P-H} = 3393$ H = 19h03m09s Epicenter: 53°2 N, 131°3 W.
89	Dec 21	W-A W-A W-A	eE eE F	19h34m37s 19 35 03 20 15 ±	Aftershock of No. 88.
90	Dec 25	W-A W-A W-A W-A W-A	ePNE eSN eE eLE F	20h08m45s 20 12 37 20 12 44 20 15 22 20 30 +	$\Delta_{P-H} = 2094$ H = 20h04m07s Epicenter: 17°7 N, 105°0 W.





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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
91	Dec 29	W-A	eN	14h04m40s	
		W-A	iNE	14 04 53	
		W-A	iN	14 06 04	
		W-A	F	14 15 ±	
92	Dec 29	W-A	e(PR <sub>1</sub> )E	15h07m09s	$\Delta_p$ PR <sub>1</sub> -H = 11298 H = 14h48m07s Depth by Brunner Depth Chart 200+ km. Epicenter: 4.8 S, 154°2 E by Adelaide, Chiufung, Riverview, and Pasadena.
		W-A	epPR <sub>1</sub> NE	15 07 49	
		W-A	eNE	15 09 49	
		W-A	esSPE	15 16 55	
		W-A	eLN	15 37 44	
		W-A	eLE	15 39 14	
		W-A	F	16 15 ±	

Minor Seismic Activity: Dec. 16, 8h32m to 8h35m; Dec. 18, 5h11m to 5h16m.

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# 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 1936

1.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
1	Jan. 2	W-A W-A W-A W-A W-A W-A W-A	ePN ePE eN eLN eLE eME eMN F	0h46m53s 0 46 56 1 01 33 1 04 35 1 04 39 1 11 04 1 11 24 1 41 <sup>+</sup>	
2	Jan. 2	W-A W-A W-A W-A W-A W-A W-A	iP <sup>+</sup> N eP <sup>+</sup> E iEN iPR <sub>1</sub> EN eLE eLN F	22h54m00s 22 54 01 22 54 11 22 57 25 23 58 31 23 58 45 00 40 <sup>+</sup>	$\Delta$ PR <sub>1</sub> -H = 140°0 Manila: H = 22h34m05s. Region 1°0 S, 97°0 E. Felt in western Sumatra.
3.	Jan. 8	W-A W-A W-A W-A W-A W-A	ePE eN eN ee eLEN F	6h48m01s 6 48 13 6 49 08 6 49 17 6 49 24 6 54 <sup>+</sup>	
4	Jan. 14	W-A W-A W-A W-A W-A W-A W-A	ePE ee eN iN iLN eLE F	0h09m05s 0 14 31 0 14 40 0 14 51 0 15 33 0 15 41 0 21 <sup>+</sup>	$\Delta$ P-H = 19°3 H = 00h04m40s. Off eastern Lower Californian Coast.
5	Jan. 14	W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePE iPE iE iSE iSPE iE iSSE iSR <sub>1</sub> E F	14h22m28s 14 22 29 14 22 56 14 30 44 14 31 16 14 31 29 14 34 22 14 35 43 15 00 <sup>+</sup>	$\Delta$ S-P = 68°5 H = 14h12m25s. Epicenter: 28°2 S, 62°8 W. Depth 590 km by the Brunner Depth Chart. No surface waves.







LITTLE ROCK BULLETIN FOR 1936

2.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
6	Jan. 18	W-A W-A W-A	eP <sub>E</sub> eL <sub>E</sub> F	1h28m25s 1 42 42 2 00 <sup>±</sup>	$\Delta p-H = 47^{\circ}2$ H = 01h19m53s.
7	Jan. 20	W-A W-A	eP <sub>E</sub> F	6h08m12s 6 09 <sup>±</sup>	
8	Jan. 20	W-A W-A W-A	eL <sub>E</sub> eM <sub>E</sub> F	17h57m34s 18 10 44 18 15 <sup>±</sup>	Deep. Felt in Mindanao, P. I.
9	Jan. 22	W-A W-A W-A W-A W-A	iP <sub>N</sub> eP <sub>E</sub> iN iE iN F	9h44m59s 9 45 00 9 45 08 9 45 09 9 45 20 9 50 <sup>±</sup>	Deep. Felt in Southern Sumatra.
10	Jan. 30	W-A W-A W-A W-A	iP <sub>N</sub> iP <sub>E</sub> iE <sub>N</sub> F	6h45m58s 6 46 00 6 46 10 6 53 <sup>±</sup>	
11	Feb. 3	W-A W-A W-A W-A	eP <sub>N</sub> eP <sub>E</sub> eL <sub>E</sub> F	21h04m20s 21 04 21 21 20 23 21 27 <sup>±</sup>	
12	Feb. 7	W-A W-A W-A W-A W-A	eL <sub>N</sub> eL <sub>E</sub> eM <sub>N</sub> eM <sub>E</sub> F	9h47m22s 9 47 29 9 53 41 9 53 49 10 24 <sup>±</sup>	Vicinity 35 <sup>o</sup> .5 N, 104 <sup>o</sup> .0 E. Destructive in Kansu, China.
13	Feb. 9	W-A W-A W-A W-A	eP <sub>E</sub> iP <sub>E</sub> iE <sub>N</sub> F	22h16m02s 22 16 05 22 16 08 22 17 03	Local.



LITTLE ROCK BULLETIN FOR 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
14	Feb. 10	W-A W-A W-A W-A W-A	eE eN iSKSEN iSEN F	18h20m14s 18 20 16 18 28 00 18 28 55 18 35 <sup>+</sup> <sub>-</sub>	Region 10°5 S, 177°0 E. Depth about 100 km by the Brunner Depth Chart.
15	Feb. 14	W-A W-A W-A W-A W-A	iE iN iE iN F	0h04m34s 0 04 36 0 05 05 0 05 08 0 08 <sup>+</sup> <sub>-</sub>	
16	Feb. 15	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	eP <sup>1</sup> N eP <sup>1</sup> E ePR <sup>1</sup> E ePR <sup>1</sup> N iSKP <sup>EN</sup> e(SR <sup>1</sup> ) <sup>EN</sup> eSR <sup>2</sup> E eLN eLE eM <sup>1</sup> N eM <sup>1</sup> E eM <sup>2</sup> E F	13h06m15s 13 06 16 13 07 58 13 08 00 13 09 32 13 26 19 13 29 49 13 39 45 13 40 05 13 53 34 13 54 08 14 02 59 15 15 <sup>+</sup> <sub>-</sub>	ΔPR <sup>1</sup> -H = 127°4 H = 12h46m56s. Region 4°5 S, 133°0 E. Felt in N. W. New Guinea.
17	Feb. 17	W-A W-A W-A W-A	e <sup>-</sup> SE eSN iLEN F	5h06m16s 5 06 17 5 06 51 5 08 47	Local shock. ΔS-H = 2.2 = 250 km. H = 05h05m11s. Felt at Hayti, Mo.
18	Feb. 21	W-A W-A W-A W-A	eN iE eME F	17h17m38s 17 17 39 17 53 21 18 11 <sup>+</sup> <sub>-</sub>	Manila: H = 16h57m28s. Timor Sea.
19	Feb. 22	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A	ePR <sup>1</sup> E eN eE eE eE eE eL <sup>E</sup> E eM <sup>E</sup> E eM <sup>N</sup> F	15h52m39s 15 58 05 15 58 06 16 03 37 16 06 37 16 10 43 16 30 44 16 35 19 16 35 30 17 10 <sup>+</sup> <sub>-</sub>	Wellington: H = 15h31m14s. Near 52°0 S, 160°0 E. Felt in southern New Zealand.



LITTLE ROCK BULLETIN FOR 1936

4.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
20	Feb. 27	W-A W-A W-A W-A W-A W-A W-A	eP <sup>1</sup> E iP <sup>1</sup> EN e(pPR <sub>1</sub> )EN i(pPR <sub>1</sub> )EN iSKPE iSKPN F	10h23m11s 10 23 13 10 26 26 10 26 28 10 26 39 10 26 41 10 39 <sup>+</sup>	$\Delta_{ca} = 128^{\circ}0$ Manila: H = 10h04m26s. Region 3 <sup>o</sup> S, 133 <sup>o</sup> 0E. western New Guinea. Depth about 100 km. by Brunner Depth Chart. No surface waves.
21	Feb. 28	Quake at	03h		Time doubtful. H = 03h03m37s. Near 53 <sup>o</sup> 0 N, 162 <sup>o</sup> 0 W. Depth about 60 km by Brunner Depth Chart
22	Mar. 1	W-A W-A W-A W-A W-A	iPN ePE iN iE F	19h48m58s 19 48 59 19 49 16 19 49 17 19 52 <sup>+</sup>	
23	Mar. 5	W-A W-A W-A W-A	ePN ePE eSN F	6h14m21s 6 14 22 6 21 08 6 41 <sup>+</sup>	$\Delta_{S-P} = 45^{\circ}4$ Possibly deep.
24	Mar. 8	W-A W-A W-A W-A W-A W-A W-A	iPN ePE iN eE eN iE F	13h14m29s 13 14 32 13 15 20 13 17 49 13 17 54 13 18 10 13 23 <sup>+</sup>	Deep.
25	Mar. 20	W-A W-A W-A W-A W-A W-A W-A	iPE ePN iE eN iE iEN F	17h54m55s 17 54 56 17 55 03 18 01 52 18 01 53 18 02 26 18 08 <sup>+</sup>	



LITTLE ROCK BULLETIN FOR 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
26	Mar. 20	W-A	iPN	18h51m53s	$\Delta_{S-P} = 24^{\circ}7$ H = 18h46m39s. Region 12 $^{\circ}$ 0 N, 83 $^{\circ}$ 0W. by St. Louis, Little Rock and Balboa Heights.
		W-A	ePE	18 51 55	
		W-A	iPR <sub>1</sub> E	18 52 25	
		W-A	iS <sub>E</sub>	18 56 18	
		W-A	iSR <sub>1</sub> E	18 57 15	
		W-A	F	19 19 <sup>+</sup>	
27	Mar. 25	W-A	ePE	9h07m11s	$\Delta_{S-P} = 45^{\circ}5$ H = 08h59m52s. Epicenter near 56 $^{\circ}$ 0W. 32 $^{\circ}$ 0 W. North Atlantic Ocean.
		W-A	iPN	9 07 13	
		W-A	iPR <sub>1</sub> EN	9 09 01	
		W-A	eS <sub>EN</sub>	9 13 59	
		W-A	eE	9 16 42	
		W-A	eL <sub>E</sub>	9 18 17	
		W-A	eM <sub>E</sub>	9 23 33	
		W-A	eM <sub>N</sub>	9 23 36	
		W-A	F	9 46 <sup>+</sup>	

Minor Seismic Activity: Jan. 2, 17h47m to 17h56m.  
 Feb. 18, 02h43m to 02h54m.

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# 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.

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6.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
28	April 1	W-A	eP <sup>1</sup> <sub>N</sub>	2h28m22s	$\Delta$ PR <sub>1</sub> -H = 130°3 H = 2h09m16s Epicenter: 2°5 N, 123°5 E. Depth 75 km by the Brunner Depth Chart.
		W-A	eP <sup>1</sup> <sub>E</sub>	2 28 23	
		W-A	ipP <sup>1</sup> <sub>EN</sub>	2 28 36	
		W-A	ePR <sub>1</sub> EN	2 30 30	
		W-A	iSKPEN	2 31 50	
		W-A	eSKSEN	2 35 34	
		W-A	eSKKSEN	2 37 22	
		W-A	ePSE	2 40 23	
		W-A	ePS <sub>N</sub>	2 40 25	
		W-A	iPPS <sub>N</sub>	2 41 53	
		W-A	ePPPS <sub>EN</sub>	2 43 00	
		W-A	eSR <sub>1</sub> EN	2 48 14	
		W-A	eLN	3 10 19	
		W-A	eLE	3 10 25	
		W-A	eM <sub>1</sub> EN	3 17 09	
		W-A	eM <sub>2</sub> N	3 27 41	
W-A	F	4 35 <sup>±</sup>			
29	April 1	W-A	eP <sup>1</sup> <sub>EN</sub>	20h30m02s	Aftershock of No. 28. $\Delta$ PR <sub>1</sub> -H = 130°1 H = 20h10m47s Lamp burned out.
		W-A	ePR <sub>1</sub> E	20 32 00	
30	April 2		Quake at 06h		Clock stopped. Epicenter near New Ireland, 1°0 S, 150°0 E.
31	April 12	W-A	ePR <sub>1</sub> E	21h10m52s	$\Delta$ PR <sub>1</sub> -H = 114°3 H = 20h51m21s. Region 10°0 N, 140°0 E Northwest of Yap Island.
		W-A	ePR <sub>1</sub> N	21 10 56	
		W-A	ePSE	21 20 34	
		W-A	eSR <sub>1</sub> EN	21 26 53	
		W-A	eLE	21 41 24	
		W-A	eLN	21 41 47	
		W-A	eME	21 50 35	
		W-A	F	22 37 <sup>±</sup>	







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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
32	April 14	W-A	e <sup>N</sup>	21h13m11s	
		W-A	e <sup>EN</sup>	21 14 38	
		W-A	e <sup>LN</sup>	21 15 29	
		W-A	i <sup>MN</sup>	21 16 18	
		W-A	i <sup>ME</sup>	21 16 20	
		W-A	F	21 26 <sup>+</sup>	
33	April 19	W-A	e(P <sup>1</sup> ) <sup>E</sup>	5h25m58s	$\Delta_{PR_1-H} = 113^{\circ}0$ $H = 05h07m12s.$ Epicenter: $9^{\circ}0$ S, $156^{\circ}0$ E.
		W-A	i <sup>PR<sub>1</sub></sup> <sup>E</sup>	5 26 33	
		W-A	e <sup>PR<sub>2</sub></sup> <sup>E</sup>	5 29 00	
		W-A	e <sup>SKKSEN</sup>	5 33 39	
		W-A	e <sup>SEN</sup>	5 34 21	
		W-A	e <sup>E</sup>	5 34 42	
		W-A	i <sup>PSE</sup>	5 36 07	
		W-A	e <sup>PSN</sup>	5 36 11	
		W-A	e <sup>PPS<sub>E</sub></sup>	5 37 10	
		W-A	e <sup>E</sup>	5 39 24	
		W-A	e <sup>N</sup>	5 39 37	
		W-A	e <sup>SR<sub>1</sub></sup> <sup>E</sup>	5 42 37	
		W-A	e <sup>LE</sup>	5 49 45	
		W-A	e <sup>LN</sup>	5 53 37	
		W-A	e <sup>MN</sup>	6 02 55	
		W-A	e <sup>ME</sup>	6 03 42	
W-A	F	7 52 <sup>+</sup>			
34	April 19	W-A	e <sup>PR<sub>1</sub></sup> <sup>E</sup>	9h25m41s	$\Delta_{PR_1-H} = 131^{\circ}7$ $H = 09h04m12s.$ Region $11^{\circ}5$ N, $94^{\circ}0$ E.
		W-A	e <sup>LN</sup>	10 25 36	
		W-A	e <sup>LE</sup>	10 26 01	
		W-A	F	10 47 <sup>+</sup>	
35	April 23	W-A	e <sup>PE</sup>	23h24m55s	$\Delta_{S-P} = 63^{\circ}6$ $H = 23h14m34s.$ Epicenter: $50^{\circ}5$ N, $178^{\circ}0$ E. Depth 100 km by the Brunner Depth Chart.
		W-A	i <sup>PEN</sup>	23 24 56	
		W-A	i <sup>N</sup>	23 25 10	
		W-A	e <sup>SE</sup>	23 33 25	
		W-A	e <sup>SN</sup>	23 33 26	
		W-A	e <sup>ScSN</sup>	23 34 54	
		W-A	F	00 06 <sup>+</sup>	
36	April 24	W-A	e <sup>EN</sup>	14h40m20s	
		W-A	i <sup>N</sup>	14 40 36	
		W-A	i <sup>N</sup>	14 40 38	
		W-A	i <sup>EN</sup>	14 41 06	
		W-A	e <sup>EN</sup>	14 44 04	
		W-A	F	14 49 <sup>+</sup>	







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8.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
37	April 27	W-A	eP <sub>N</sub>	6h35m18s	$\Delta_{S-P} = 17^{\circ}1$ H = 06h31m06s. <sup>o</sup> Epicenter: 16.3 N, 87 <sup>o</sup> 7 W. Depth 60 km by the Brunner Depth Chart.
		W-A	eP <sub>E</sub>	6 35 21	
		W-A	iP <sub>N</sub>	6 35 29	
		W-A	iP <sub>R1</sub> N	6 35 42	
		W-A	iP <sub>R1</sub> E	6 35 44	
		W-A	iS <sub>N</sub>	6 35 56	
		W-A	i <sub>N</sub>	6 36 26	
		W-A	i <sub>N</sub>	6 36 38	
		W-A	eS <sub>EN</sub>	6 38 32	
		W-A	iS <sub>EN</sub>	6 38 56	
		W-A	iS <sub>R1</sub> EN	6 39 14	
		W-A	iL <sub>EN</sub>	6 39 34	
		W-A	F	7 06 <sub>-</sub> <sup>+</sup>	
38	May 5	W-A	e <sub>E</sub>	11h01m05s	
		W-A	e <sub>N</sub>	11 01 11	
		W-A	eL <sub>E</sub>	11 11 05	
		W-A	eL <sub>N</sub>	11 11 09	
		W-A	F	11 23 <sub>-</sub> <sup>+</sup>	
39	May 7	W-A	eP <sub>N</sub>	10h07m06s	
		W-A	e(S) <sub>N</sub>	10 12 47	
		W-A	F	10 20 <sub>-</sub> <sup>+</sup>	
40	May 8	W-A	eP <sub>EN</sub>	5h59m13s	Local.
		W-A	e <sub>E</sub>	5 59 40	
		W-A	i <sub>EN</sub>	5 59 50	
		W-A	F	6 01 <sub>-</sub> <sup>+</sup>	
41	May 8	W-A	eP' <sub>EN</sub>	9h30m03s	H = 09h11m44s. Region 0 <sup>o</sup> 5 N, 108 <sup>o</sup> 0 E. West of Borneo. Deep focus.
		W-A	iP' <sub>N</sub>	9 30 04	
		W-A	i <sub>EN</sub>	9 30 10	
		W-A	eP <sub>R1</sub> N	9 32 29	
		W-A	iSKP <sub>N</sub>	9 33 45	
		W-A	F	9 43 <sub>-</sub> <sup>+</sup>	
42	May 8	W-A	eP <sub>N</sub>	17h30m33s	Deep.
		W-A	eP <sub>E</sub>	17 30 35	
		W-A	eL <sub>E</sub>	17 44 00	
		W-A	eL <sub>N</sub>	17 44 12	
		W-A	F	17 53 <sub>-</sub> <sup>+</sup>	