FLORISSANT

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

Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

Bulletin for [illegible]36

Time clock stopped until January 7th.

No.	Date	Inst	C/D	Phase	G.M.C.T.	Remarks
1	Jan 14	G-W G-W G-W G-W G-W		e(P)EN? iSEN eLN iLEN F	0h09m45s 0 13 36 0 15 43 0 16 25 0 46±	Δ_{S-P} = 20°8
2	Jan 14	G-W G-W G-W G-W G-W G-W G-W		ePR$_1$NZ eN iPSENZ iSR$_1$EN eLN iMN F	5h55m44s 5 56 34 6 05 30 6 11 58 6 29 10 6 33 00 8 30±	Δ_{ca} = 117°0
3	Jan 14	G-W W-A G-W G-W G-W G-W W-A G-W G-W G-W G-W G-W G-W	D C	iPZ ipPNZ iPR$_2$Z iENZ iSENZ iSPE isSEZ iE iSR$_1$E iSR$_2$E F	14h22m44s 14 24 46 14 27 00 14 31 09 14 31 15 14 31 49 14 34 51 14 35 39 14 [illegible] 00 14 38 52 16 00±	Δ_{S-P} = 71°6 H = 14h12m25s Epicenter 28°2 S, 62°8 W. Depth of focus 590 km by Brunner Depth Chart.
4	Jan 18	G-W W-A G-W G-W G-W G-W		ePNZ eSEN eLEN eMEN F	1h28m05s 1 34 47 1 41 12 1 43 38 2 20±	Δ_{S-P} = 44°6 H = 1h19m53s.

Florissant Bulletin for 1936

No.	Date	Inst	C/D	Phase	G.M.C.T.	Remarks
5	Jan 20	G-W		ePR_1Z	17h16m16s	Δ = ca 123°0
		G-W		iPR_1Z	17 16 24	South of Philippines.
		G-W		$iSKS_{EN}$	17 22 36	
		G-W		ePS_{EN}	17 26 47	
		G-W		eSR_1E	17 33 36	
		G-W		i_N	17 33 58	
		G-W		eL_E	17 50 00	
		G-W		iM_E	18 00 36	
		G-W		F	19 15±	

Minor Seismic Activity: Jan 10, 00h00m to 00h30m; Jan 14, 12h30m to 13h45m; Jan 15, 15h10m to 17h00m; Jan 16, 8h to 8h30m; Jan 19, 23h30m to 24h30m; Jan 20, 06h00m to 06h10m; Jan 21, 04h20m to 05h30m; Jan 27, 15h30m to 16h15m; Jan 27, 20h00m to 21h00m; Jan 27, 22h00m to 23h15m.

J. B. Macelwane, S.J.
Director

C. G. Dahm
Instructor

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Bulletin for 1936

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
6	Feb 3	G-W W-A G-W G-W		eP_{ENZ} eM_{EN} F	21h04m01s 21 19 29 21 45±	
7	Feb 7	G-W G-W G-W G-W G-W G-W		e_E e_E i_E eL_E eM_E F	1h12m21s 1 15 21 1 32 51 1 34 21 1 43 01 2 45±	
8	Feb 7	G-W G-W G-W G-W G-W G-W G-W G-W		$eSKKS_N$ iS_{EN} e_E e_E eL_E eM_N iM_E F	9h21m43s 9 22 28 9 28 28 9 36 23 9 44 23 9 52 23 9 55 23 11 30±	H = 08h56.5m. Epicenter in vicinity of 35°5 N, 104.0 E. Reported destructiv Kansu, China.
9	Feb 10	G-W G-W G-W G-W G-W G-W G-W G-W G-W	D	iP_Z iS_E $i(sS)_{EN}$ $i(PS)_{EN}$ eSR_{1E} e_N e_N e_N F	18h20m27s 18 28 07 18 28 47 18 29 15 18 31 41 18 32 19 18 36 07 18 41 35 19 30±	No surface waves. Deep.
10	Feb 15	W-A W-A		i_{FEN}	3h20m16s 3 24±	
11	Feb 16	G-W W-A G-W G-W G-W G-W G-W G-W G-W G-W G-W	C	iPR_1 $iSKP$ $iSKS_N$ ePS_{EN} iSR_{1EN} iSR_{2N} i_E eL_E eM_E F	13 08 02 13 09 26 13 13 02 13 18 16 13 25 10 13 29 56 13 30 22 13 47 26 13 54 44 Lost in changing records	ΔPR_1-H = 128°1 H = 12h46m56s Tentative epicenter in vicinity of 4°5 133°E.

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
12	Feb.17	W-A		e_Z	05h05m57.5s	ΔS_n-P_g = 288 km.
		W-A		iP^*_N	05 05 58.2	H = 05h05m07.7s
		W-A		e_N	05 05 59.9	Local earthquake
		W-A		iP_n	05 06 01.2	felt at Hayti,
		W-A		eS_{nEN}	05 06 26.5	Missouri.
		W-A		i_E	05 06 28.0	
		W-A		iS_N	05 06 28.5	
		W-A		F	05 13 + −	
	Feb.21	G-W W-A		i_{EZ}	17h17m40s	From Manila:
		G-W		e_E	17 22 54	H = 16h57m28s
		G-W		e_E	17 24 52	Timor Sea.
		G-W		e_E	17 27 12	
		G-W		e_E	17 28 36	
		G-W		e_{EN}	17 33 46	
		G-W		eM_{EN}	17 55 02	
		G-W		F	20 00 + −	
	Feb.22	G-W		$e?_Z$	15h51m08s	
		G-W		i_{EZ}	15 53 04	
		G-W		e_Z	15 53 26	
		G-W		i_Z	15 53 41	
		G-W		i_E	16 00 06	
		G-W		i_{EN}	16 03 06	
		G-W		i_N	16 04 21	
		G-W		e_N	16 10 24	
		G-W		e_n	16 10 56	
		G-W		e_E	16 18 41	
		G-W		eL_E	16 31 26	
		G-W		iM_E	16 36 14	
		G-W		F	19 00 + −	
15	Feb 23	G-W		e_Z	19h44m02s	
		G-W		e_E	19 44 58	
		G-W		e_Z	19 46 58	
		G-W		e_E	19 50 58	
		G-W		e_E	19 53 58	
		G-W		e_E	19 54 35	
		G-W		e_E	20 01 18	
		G-W		eM_{ENZ}	20 24 58	
		G-W		F	22 00 + −	
3	Feb 27	G-W W-A	C	iP'_Z	10h23m12s	Δ = ca 127°.5
		G-W		ipP^4_Z	10 23 27	Epicenter in
		G-W		e_{EZ}	10 26 15	vicinity of 3°.0 S,
		G-W W-A	C	$iSKP_{EZ}$	10 26 26	133°.0 E.
		G-W		i_Z	10 35 25	Deep.
		G-W		F	12 30 + −	

Florissant Bulletin for 1936

No.	Date	Inst.	Phase	C/D	G.M.C.T.	Remarks
17	Feb 28	G-W	eP_{ENZ}		3h12m22s	Δ_{S-P} = 49°.6
		G-W	epP_Z		3 12 36	H = 3h03m37s
		G-W	iS_E		3 19 33	Epicenter near 53°N,
		G-W	esS_E		3 19 59	162°W. Small surface
		G-W	eL_E		3 26 51	waves. Focal depth
		G-W	eM_E		3 33 11	about 60 km by Brunner
			F		5 00 ±	Depth Chart.

Minor Seismic Activity; Feb 8, 12h30m to 14h; Feb 14, 00h01m to 00h07m; Feb 14, 00h36m to 00h46s; Feb 18, 02h 30m to 03h00m; Feb 21, 02h05m to 02h20m and 07h20m to 08h.

J. B. Macelwane, S.J.
Director

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E R R A T A

May 24, 1935 Change Epicenter 12°.8N, 12°.5E. to 12°.8N, 125°.E.

June 24, 1935
Change Δ_{S-P} = 110°.3 to Δ_{P-H} = 109°: Epicenter 19°S, 168°.5E, to read 15°.3 S, 167°.5E. H = 23h23m06s to H = 23h23m12s

July 29 - Add Δ_{S-P} = 10?.5

July 10 Omission:

iP_{NZ}	9h46m38s	Δ_{S-P} = 25°.3
eS_N	9 51 08	
iL_N	9 54 22	
F	9 20 ±	

July 17
Change:
17h to 0h
14h to 2h

ALL CHANGES TO BE MADE ON FLORISSANT BULLETINS

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BULLETIN FOR 1936

No.	Date	Inst	C/D	Phase	G.M.C.T.	Remarks
18	Mar 1	G-W-W-A		iP_{ENZ}	10h33m22s	Δ_{S-P} = 72°.3
		G-W W-A		iS_{EN}	10 42 49	H = 10h22m00s.
		G-W		e_E	10 45 32	(Probably another
		G-W		eL_E	10 58 32	quake.)
		G-W		e_E	11 16 22	
		G-W		eM_E	11 52 32	
		G-W		F	12 30±	
19	Mar 2	G-W W-A		eP_{ENZ}	3h31m42s	Δ_{S-P} = 83°.2
		G-W		ePR_{1Z}	3 34 48	H = 03h19m18s.
		G-W W-A		iS_E	3 42 04	Probably somewhat
		G-W W-A		iEZ	3 42 09	deep. Japan.
		G-W W-A		$i(sS)_E$	3 42 27	
		G-W		eSR_{1E}	3 47 31	
		G-W		i_E	3 47 53	
		G-W		e_E	3 52 46	
		G-W		eL_E	3 57 34	
		G-W		eM_E	4 04 29	
		G-W		iM_E	4 12 04	
		G-W		F	6 30±	
20	Mar 5	G-W W-A		eP_{EZ}	6h14m54s	Δ_{S-P} = 49°.7
		G-W		eS_E	6 22 08	Perhaps somewhat
		G-W		e_E	6 27 18	deep.
		G-W		eL_E	6 29 38	
		G-W		F	7 36±	
21	Mar 20	W-A		eP_{EN}	17h55m01s	
		W-A		i_E	17 55 54	
		W-A		e_{EN}	18 01 25	
		G-W W-A		eL_E	18 04 58	
		G-W		F	18 42±	
22	Mar 20	G-W W-A		eP_{ENZ}	18h52m25s	
		G-W		eS_E?	18 55 12	
		G-W		eL_E	18 57 12	
		G-W		iM_E	18 58 58	
		G-W		F	20 00±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
23	Mar 21	G-W		iPZ	0h06m40s	Δ_{S-P} = 89°8
		G-W		iSXSE	0 16 57	
		G-W		iSE	0 17 33	
		G-W		ePPSE	0 18 59	
		G-W		eLE	0 36 59	
		G-W		eME	0 40 59	
		G-W		eME	0 47 29	
		G-W		F	1 37±	
24	Mar 21	G-W		iPNZ	9h06m40s	Δ_{S-P} = 48°0
		G-W		ipPZ	9 08 17	H = 08h58m50s.
		G-W		ipPE	9 08 22	520 km. deep.
		G-W		iSENZ	9 12 59	
		G-W		esSN	9 15 55	
		G-W		iLN	9 20 09	
		G-W		iMEN	9 22 47	
		G-W		F	10 07±	

Minor Seismic Activity: Mar 6, 14h to 16h30m; Mar 7 18hto Mar 8 12h; Mar 9, 12h30m to 13h15m; Mar 10, 19h to 20h; Mar 13, 9h30m to 14h30m; Mar 18, 13h30m to 14h30m; Mar 21, 3h00m to 3h50m; Mar 33, 12h50m to 14h20m.

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No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
25	Apr 1	G–W		eP_Z	2h25m08s	ΔP–H = 128°2
		G–W		epP_Z	2 25 26	H = 02h09m16s.
		G–W		eP'_Z	2 28 19	Epicenter: 2°.5 N,
		G–W W–A		epP'_E	2 28 26	123°.5 E.
		G–W		ipP'_{NZ}	2 28 30	Depth 75 km by the
		G–W		iPR_1Z	2 30 14	Brunner Depth Chart.
		G–W		iPR_1EN	2 30 17	
		G–W		$ipPR_1ENZ$	2 30 27	
		G–W		$iSKP_{ENZ}$	2 31 31	
		G–W		iPR_2Z	2 33 28	
		G–W		$iSKS_{ENZ}$	2 35 25	
		G–W		$isSKS_Z$	2 35 56	
		G–W		$isSKS_E$	2 35 58	
		G–W		$iSKKS_{EN}$	2 37 12	
		G–W		iS_{EN}	2 38 17	
		G–W		iPS_{EN}	2 40 17	
		G–W		$iPPS_{EN}$	2 41 43	
		G–W		i_{EN}	2 43 42	
		G–W		iSR_1N	2 47 23	
		G–W		iSR_2EN	2 52 08	
		G–W		iL_N	3 02 28	
		G–W		iM_E	3 15 59	
		G–W		F	6 30±	
26	Apr 1	G–W W–A		eP'_{EZ}	20h29m57s	Aftershock of No. 25.
		G–W		iPR_1NZ	20 31 45	ΔSKKS–H = 129°0
		G–W		$iSKP_Z$	20 32 54	Manila gives:
		G–W		i_{NZ}	20 37 03	H = 20h10m47s.
		G–W		$iSKKS_N$	20 38 35	
		G–W		iPS_{NZ}	20 41 57	
		G–W		iSR_1N	20 46 16	
		G–W		iSR_1E	20 48 24	
		G–W		eL_E	20 56 53	
		G–W		eM_E	21 16 19	
		G–W		F	22 48±	
27	Apr 2	G–W		e_Z	6h36m38s	ΔSKKS–H = 113°0
		G–W		iPR_1N	6 36 56	From Chiufeng:
		G–W		iPR_1Z	6 36 59	H = 06h17m12s.
		G–W		$iSKKS_E$	6 43 41	Region 1°0 S, 150°0 E.
		G–W		iPS_E	6 46 16	Near New Ireland.
		G–W		iSR_1E	6 52 19	
		G–W		iL_E	7 02 08	
		G–W		iL_N	7 05 37	
		G–W		iM_1E	7 14 46	
		G–W		iM_2E	7 22 20	
		G–W		F	9 14±	

Florissant Bulletin for 1936

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
28	Apr 7	G-W W-A		e_E	1h55m33s	Wellington gives:
		G-W		i_E	2 01 57	H = 01h37m48s.
		G-W W-A		i_E	2 02 34	Depth 90-100 km by
		G-W		i_E	2 03 03	the Brunner Depth
		G-W		eL_E	2 25.3	Chart.
		G-W		F	2 40±	
29	Apr 7	G-W		e_N	10h53m47s	
		G-W		e_N	10 57 44	
		G-W		e_N	11 23 16	
		G-W		eL_N	11 32.0	
		G-W		F	(Lost in microseisms)	
30	Apr 9	G-W		e_N	7h36m47s	
		G-W		e_N	7 57 21	
		G-W		eL_Z	8 02 11	
		G-W		F	(Lost in microseisms)	
31	Apr 9	G-W		e_N	16h49m07s	Preliminary phases
		G-W		eL_Z	16 56.4	lost in changing
		G-W		F	17 28±	records. Wellington:
						H = 16h02m21s. Felt
						at Santa Cruz and
						Butuan.
32	Apr 12	G-W		eP_Z	21h06m05s	Δ_{PS-P} = 114°8
		G-W		eP'_Z	21 09 43	Δ_{PS-H} = 113°8
		G-W		ePR_{1Z}	21 10 37	Chiufeng gives:
		G-W		i_{ENZ}	21 10 52	H = 20h51m21s.
		G-W		$eSKS_E$	21 16 49	Region 10°0 N,
		G-W		$eSKKS_E$	21 17 57	140°0 E.
		G-W		iPS_{EN}	21 20 25	Northwest of Yap
		G-W		$iPPS_{EN}$	21 21 26	Island
		G-W		eSR_{1E}	21 26 39	
		G-W		iL_N	21 43 19	
		G-W		iL_Z	21 44 29	
		G-W		iM_{1EZ}	21 52 31	
		G-W		iM_{2EZ}	21 55 56	
		G-W		F	00 00±	
33	Apr 14	G-W		e_N	9h45m15s	
		G-W		e_N	9 48 45	
		G-W		e_N	10 15 09	
		G-W		i_N	10 16 23	
		G-W		F	10 29±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
34	Apr 14	G-W		i_Z(?)	20h11m35s	
		W-A		eP_E	20 11 54	
		G-W		$e(S)_{EN}$	20 13 50	
		G-W		i_E	20 14 09	
		G-W		i_Z	20 14 13	
		G-W		iL_N	20 15 50	
		G-W		i_{EZ}	20 16 16	
		G-W		i_N	20 24 16	
		G-W		i_E	20 24 20	
		G-W		F	20 27±	
35	Apr 19	G-W		eP_{NZ}	5h21m58s	Δ_{PR_1-H} = 113°8
		G-W	W-A	eP'_Z	5 25 47	H = 05h07m12s.
		G-W		iPR_{1EZ}	5 26 38	Epicenter: 9°0 S,
		G-W		$iSK\bar{P}_{EZ}$	5 28 19	156°0 E.
		G-W		iPR_{2E}	5 29 17	
		G-W		$iSKS_E$	5 32 34	
		G-W		i_E	5 33 30	
		G-W		$iSKKS_{EN}$	5 33 46	
		G-W		iS_{EN}	5 34 47	
		G-W		iPS_E	5 36 06	
		G-W		iPS_Z	5 36 09	
		G-W		$iPPS_N$	5 37 02	
		G-W		$iPPPS_{EN}$	5 38 15	
		G-W		iSR_{1E}	5 42 19	
		G-W		iSR_{2E}	5 46 40	
		G-W		iL_E	5 59 38	
		G-W		iM_{1E}	6 06 10	
		G-W		iM_{1Z}	6 06 45	
		G-W		iM_{2E}	6 09 46	
		G-W		F	(Covered by following quake.)	
36	Apr 19	G-W		ePR_{1Z}	9h25m29s	Δ_{PR_1-H} = 129°7
		G-W		ePR_{1N}	9 25 31	From Manila and Chiu-
		G-W	W-A	$iSK\bar{P}_{EN}$	9 26 39	feng: H = 09h04m12s.
		G-W		$i(SKKS)_N$	9 32 21	Region 11°5 N, 94°0 E.
		G-W		iPS_N	9 35 45	Andaman Islands.
		G-W		iSR_{1E}	9 42 49	
		G-W		i_N	9 45 25	
		G-W		eL_{EN}	9 58 21	
		G-W		eM_E	10 16 26	
		G-W		F	11 32±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
37	Apr 22	G–W		i_N	10h20m17s	Probably Atlantic Ocean.
		G–W		e_E	10 20 48	
		G–W		e_N	10 25 25	
		G–W		eL_E	10 34 51	
		G–W		F	11 31±	
38	Apr 23	G–W W–A		iP_{ENZ}	23h24m41s	Δ_{S-P} = 62°2
		G–W		ipP_{ENZ}	23 25 03	H = 23h14m34s.
		G–W		isP_{EZ}	23 25 19	Epicenter:
		G–W W–A		iPR_1ENZ	23 26 59	50°5 N, 178°0 E.
		G–W		eS_{EN}	23 33 01	Depth 100 km by the
		G–W		iS_{ENZ}	23 33 02	Brunner Depth Chart.
		G–W		esS_N	23 33 44	
		G–W		iS_cS_N	23 34 35	
		G–W		isS_cS_N	23 35 24	
		G–W		$iScPPcS_N$	23 40 29	
		G–W		eL_E	23 42 20	
		G–W		eL_N	23 43 49	
		G–W		eM_N	23 53 22	
		G–W		F	01 08±	
39	Apr 26	G–W		e_E	9h13m25s	
		G–W		e_E	9 24 46	
		G–W		eL_E	9 39 04	
		G–W		eL_N	9 40 14	
		G–W		F	11 00±	
40	Apr 27	G–W		ePR_1N	0h18m21s	Δ_{PS-H} = 113°6
		G–W		iPS_N	0 28 05	From Manila, Chiu-feng and Taihoku:
		G–W		$iPPS_N$	0 29 06	H = 23h59m04s.
		G–W		eL_E	0 47 36	Region 29°0 N, 103°0E.
		G–W		eL_N	0 51 56	Felt at Shuehchiang,
		G–W		eM_1E	1 00 41	Yunnan and Chengtu,
		G–W		eM_1N	1 01 52	West China.
		G–W		eM_2E	1 03 13	
		G–W		F	2 07±	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
41	Apr 27	G-W	iP$_{NZ}$	6h36m00s	Δ_{S-P} = 22°4
		W-A	eP$_{N}$	6 36 00	H = 06h31m06s.
		G-W	ipP$_{NZ}$	6 36 12	Epicenter:
		G-W	iPR$_{1NZ}$	6 36 17	16°3 N, 87°7 W.
		G-W W-A	isP$_{NZ}$	6 36 26	Depth 60 km by the
		G-W	iS$_{E}$	6 40 02	Brunner Depth Chart.
		G-W	eS$_{N}$	6 40 04	
		G-W	isS$_{EZ}$	6 40 23	
		G-W	iSR$_{1EN}$	6 40 44	
		G-W	iZ	6 40 56	
		G-W	iL$_{E}$	6 41 46	
		G-W	iL$_{Z}$	6 41 53	
		G-W	iScS$_{Z}$	6 47 25	
		G-W	iM$_{EN}$	6 48 34	
		G-W	F	7 58±	
42	Apr 28	G-W	eP'Z	5h57m55s	Δ_{S-H} = 124°0
		G-W	e$_{E}$	6 04 24	From Manila and
		G-W	eSKS$_{E}$	6 05 28	Chiufeng:
		G-W	eS$_{E}$	6 07 55	H = 05h39m19s.
		G-W	eS$_{Z}$	6 08 00	Region 13°G,S,
		G-W	iSP$_{Z}$	6 09 12	152°0 E.
		G-W	eSP$_{E}$	6 09 15	
		G-W	e$_{E}$	6 13 11	
		G-W	eSR$_{1E}$	6 20 20	
		G-W	eL$_{E}$	6 30 06	
		G-W	eL$_{Z}$	6 33 36	
		G-W	eM$_{Z}$	6 36 51	
		G-W	eM$_{E}$	6 37 01	
		G-W	F	8 24±	
43	Apr 29	G-W	e$_{EN}$	8h36m48s	From Manila and
		G-W	e$_{N}$	02 19	Wellington:
		G-W	e$_{EZ}$	9 04 20	H = 08h14m31s.
		G-W	eL$_{E}$	9 21.4	
		G-W	eL$_{Z}$	9 22.7	
		G-W	eM$_{N}$	9 27.2	
		G-W	F	10 42±	
,44	Apr 29	W-A	eP$_{E}$	19h21m58s	
		G-W	e(S)$_{E}$	19 26 59	
		G-W	eL$_{N}$	19 29.5	
		G-W	eL$_{EZ}$	19 32.1	
		G-W	eM$_{EZ}$	19 33.9	
		G-W	F	19 47±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
45	Apr 30	W-A		eP_E	11h01m39s	$\Delta_{S-P} = 28°.4$
		G-W		iP_{NZ}	11 01 40	H = 10h55m30s.
		G-W		eP_{R_1N}	11 02 25	
		G-W		eS_{EN}	11 07 34	
		G-W		iS_Z	11 06 36	
		G-W		i_N	11 07 07	
		G-W		iL_Z	11 10 27	
		G-W		eL_{EN}	11 10 36	
		G-W		iM_{EN}	11 13 26	
		G-W		iM_Z	11 13 39	
		G-W		F	12 12±	

Minor Seismic Activity: Apr 3, 11h12m to 12h42m; Apr 4, 11h22m to 23h30m; Apr 10, 20h56m to 21h07m; Apr 13, 22h49m to 23h30m; Apr 14, 03h39m to 04h30m; Apr 16, 07h15m to 08h10m; Apr 18, 01h to 02h; Apr 26, 05h55m to 06h16m; Apr 27, 19h00m to 20h27m; Apr 27, 21h29m to 22h 57m.

Heavy Microseisms: Apr 2, 10h10m to Apr 3, 09h; Apr 4, 23h to Apr 5, 08h; Apr 8, 00h to Apr 10, 00h, Apr 11, 14h40m to 21h53m; Apr 15, 17h04m to Apr 16, 03h; Apr 16, 15h to 24h; Apr 17, 14h to 23h; Apr 20, 15h to 23h; Apr 21, 11h to 12h30m; Apr 30, 16h to May 1, 07h.

J. B. Macelwane, S.J.
Director

Harold L. Link
Graduate Assistant

E R R A T A

Change Earthquake No. 11, Feb 16, 1936 to Feb 15, 1936.

FLORISSANT

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

Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
46	May 2	G-W		e_N	12h13m52s	
		G-W		e_N	12 26 40	
		G-W		e_N	12 29 45	
		G-W		iEN	12 37 25	
		G-W		eL_N	12 38 59	
		G-W		F	(Lost in changing record)	
47	May 5	G-W		e_N	20h08m18s	From Manila and Chiufeng: H = 19h43m 12s. Region northwest of Bismarch Archipeligo.
		G-W		eN	20 15 11	
		G-W		eL_E	20 18.4	
		G-W		eL_N	20 27.3	
		G-W		eM_{EZ}	20 43.9	
		G-W		eM_N	20 46.3	
		G-W		F	22 02±	
48	May 6	W-A		eP_E	3h47m28s	Δ_{S-P} = 47°2 H = 03h39m11s. Deep. S Phases exceptionally large. No surface waves.
		G-W		iP_Z	3 47 30	
		G-W		eS_E	3 54 15	
		G-W		iS_{EN}	3 54 18	
		G-W		$i(sS)_E$	3 55 18	
		G-W		iSR_{1E}	3 57 00	
		G-W		iSR_{1N}	3 57 04	
		G-W		iE	3 58 25	
		G-W		F	4 19±	
49	May 7	W-A		eP_E	10h07m54s	Δ_{S-P} = 23°3 H = 10h02m46s.
		G-W		iS_{NZ}	10 12 07	
		G-W		eL_{ENZ}	10 14 51	
		G-W		F	10 33±	
50	May 8	G-W	C	iP'_Z	9h29m57s	From Chiufeng, Manila and Ksara; H = 09h11m44s. Region 0°5 N, 108°0 E. west of Borneo. Deep. No surface waves.
		W-A		iP'_{EN}	9 29 59	
		G-W		iPR_{1Z}	9 32 19	
		G-W		$iSKP_{EN}$	9 33 39	
		G-W		$i(SKS)_{EN}$	9 35 57	
		G-W		$iSKKS_{EN}$	9 39 03	
		G-W		eSR_{1EN}	9 50 27	
		G-W		F	10 38±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
51	May 8	G–W W–A W–A G–W G–W G–W G–W	C	iP_{NZ} iP_{E} $i(S)_{EZ}$ $i(SR_1)_{E}$ eL F	17h30m11s 17 30 12 17 36 30 17 39 53 17 43.6 18 05±	Deep.
52	May 10	G–W G–W G–W G–W		e_{N} e_{E} e_{N} F	6h06m05s 6 08 43 6 08 51 6 20±	
53	May 11	G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W	C	iPR_{1EZ} $iSKS_{EN}$ $eSKKS_{EZ}$ $iSKKS_{E}$ ePS_{ENZ} iPS_{E} $ePPS_{E}$ eSR_{1EN} eSR_{2E} eSR_{2N} eL_{N} eL_{E} eM_{1Z} eM_{1EN} eM_{2N} eM_{2E} F	17h46m55s 17 52 53 17 54 13 17 54 20 17 56 40 17 56 47 17 57 50 18 02 53 18 07 19 18 07 24 18 15 56 18 16 58 18 25 16 18 25 55 18 34 45 18 35 18 20 32±	$\Delta_{PS-H} = 114.^{\circ}3$ from Manila, Riverview, Chiufeng and Taihoku. H = 17h27m32s. Region 6.°5 S, 150.°5 E. south of New Britain.
54	May 16	G–W W–A G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W		$eSKS_{E}$ $iSEN$ iPS_{NZ} $iPPS_{Z}$ iSR_{1E} eL_{E} iL_{E} iL_{N} iM_{1EN} iM_{2E} F	7h30m57s 7 32 39 7 34 30 7 35 17 7 40 20 7 54 47 8 01 59 8 02 36 8 07 25 8 09 42 9 32±	$\Delta_{PS-H} = 110.^{\circ}5$ Strasbourg: 28.°0 N, 102.°0 E. H = 07h06m00s. Felt in Szechuan, Western China.

No.	Date	Inst.	C/D	Phase	G.M.C. T.	Remarks
55	May 19	G-W W-A		ePE_N	7h40m50s	Deep.
		G-W		eP'_{EN}	7 43 38	South China Sea.
		W-A		iP'_E	7 43 40	
		G-W		$i(pP')_{EN}$	7 44 34	
		G-W		ePR_{1E}	7 46 21	
		G-W		F	8 23±	
56	May 19	W-A		e_E	21h12m52s	Probably several distant shocks.
		G-W		i_{ENZ}	21 12 53	
		G-W		e_E	21 25 53	
		G-W		eL_E	21 52 33	
		G-W		F	23 43±	
57	May 20	G-W	D	iP_{EZ}	3h19m56s	Δ_{P-H} = 110°6
		G-W		eP'_E	3 23 47	H = 03h05m21s
		G-W		ePR_{1ENZ}	3 24 28	Epicenter: 7°.7 S,
		G-W		iPR_{1EZ}	3 24 34	159°.6 E.
		G-W		iPR_{2E}	3 27 04	Solomon Islands.
		G-W		$iSKS_{EN}$	3 30 28	
		G-W		$iSKKS_E$	3 31 37	
		G-W		iS_N	3 32 19	
		G-W		iPS_E	3 34 00	
		G-W		iPS_{NZ}	3 34 05	
		G-W		$iPPS_{ENZ}$	3 35 11	
		G-W		iSR_{1E}	3 39 56	
		G-W		iSR_{1N}	3 40 00	
		G-W		$iPPSS_N$	3 40 20	
		G-W		iSR_{2E}	3 44 31	
		G-W		eL_N	3 53 19	
		G-W		iL_E	3 57 18	
		G-W		iM_{1Z}	4 02 36	
		G-W		iM_{1E}	4 02 56	
		G-W		iM_{1N}	4 02 59	
		G-W		iM_{2N}	4 09 18	
		G-W		F	7 31±	
58	May 21	G-W		e_E	3h07m16s	
		G-W		e_E	3 15 48	
		G-W		e_E	3 16 51	
		G-W		e_E	3 19 14	
		G-W		eL_N	3 39 04	
		G-W		eL_E	3 42 11	
		G-W		eM_{EN}	3 48 50	
		G-W		F	5 24±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
59	May 22	G–W W–A		iP_{EN}	0h27m40s	$\Delta_{S-P} = 71.^{\circ}9$
		G–W		ePR_{1E}	0 30 24	H = 00h16m20s.
		G–W		e_N	0 34 15	North Central
		G–W		iS_E	0 37 03	Argentina.
		G–W		iS_N	0 37 05	Possibly deep.
		G–W		iPS_{EN}	0 37 45	
		G–W		eL_E	0 43 37	
		G–W		eL_N	0 45 59	
		G–W		eM_E	1 01 40	
		G–W		F	2 54±	
60	May 22	G–W		$eSKS_E$	23h45m53s	$\Delta_{PS-H} = 112.^{\circ}4$
		G–W		ePS_E	23 49 42	H = 23h20m53s.
		G–W		$ePPS_E$	23 50 28	Region 21.°0 S, 170.°0 E,
		G–W		eSR_{1E}	23 55 52	south of New Hebrides
		G–W		eL_E	00 14 57	Islands.
		G–W		eM_E	00 22 40	
		G–W		F	03 01±	
61	May 24	W–A		$e(P)_E$	16h49m50s	Time correction
		G–W		eS_N	16 53 47	doubtful.
		G–W		eS_E	16 53 51	
		G–W		eL_N	16 56 03	
		G–W		eL_E	16 56 06	
		G–W		F	17 13±	
62	May 25	G–W		e_E	3h29m24s	Time correction
		G–W		e_E	3 30 25	doubtful.
		G–W		e_N	3 32 48	
		G–W		e_E	3 32 56	
		G–W		e_E	3 39 14	
		G–W		eL_E	3 50 08	
		G–W		eM_{1Z}	3 59 51	
		G–W		eM_{1E}	3 59 58	
		G–W		eM_{2E}	4 07 33	
		G–W		F	5 40±	

May 25 to May 27 Station out of operation

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
63	May 28	G-W W-A	D	iP_{ENZ}	18h55m15s	ΔS-P = 32°0
		G-W		iP_{E}	18 55 16	H = 18h49m11s.
		G-W		ipP_{ENZ}	18 56 06	Epicenter: 9°0 N,
		G-W W-A		ipP_{EN}	18 56 10	103°5 W.
		G-W		iPR_{1EN}	18 56 24	Depth 270 km by the
		G-W		isP_{E}	18 56 31	Brunner Depth Chart.
		G-W		isP_{N}	18 56 33	
		G-W		iS_{Z}	19 00 11	
		G-W		iS_{EN}	19 00 12	
		G-W		isS_{EN}	19 01 52	
		G-W		iSR_{1EN}	19 02 08	
		G-W		iL_{N}	19 03 27	
		G-W		iL_{E}	19 03 39	
		G-W		iL_{Z}	19 04 37	
		G-W		$iScS_{E}$	19 05 09	
		G-W		F	23 14±	
64	May 29	G-W		$e(P)_{EN}$	14h56m36s	
		G-W		eS_{EN}	15 00 24	
		G-W		iL_{E}	15 01 45	
		G-W		iL_{N}	15 01 49	
		G-W		iM_{E}	15 02 54	
		G-W		F	15 13±	

Minor Seismic Activity: May 1, 17h03m to 19h00m; May 2, 06h57m to 07h18m; May 4, 22h51m to 23h58m; May 5, 11h12m to 11h39m; May 7, 23h to 24h; May 10 09h21m to 09h30m; May 11, 21h19m to 21h46m; May 14, 05h24m to 06h21m; May 23, 20h04m to 20h41m; May 24, 19h54m to 20h05m; May 30, 16h23m to 16h35m.

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Director

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

Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

Bulletin for 1936

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
65	June 3	W-A		iPE	3h08m31s	Δ_{P-H} = 91°0
		G-W	D	iP_Z	3 08 36	H = 02h55m28s.
		G-W		eS_{EN}	3 18 38	Possibly off eastern
		G-W		iS_N	3 18 49	Japanese Coast.
		G-W		iPS_E	3 19 25	
		G-W		iPS_N	3 19 30	
		G-W		eSR_1E	3 24 29	
		G-W		eSR_1N	3 24 36	
		G-W		eLE	3 34 46	
		G-W		eLN	3 35 11	
		G-W		eM_EZ	3 41 21	
		G-W		eM_N	3 41 42	
		G-W		F	4 20±	
66	June 3	G-W W-A		eP_{ENZ}	9h20m58s	Δ_{S-P} = 27°2
		G-W W-A	C	iP_{ENZ}	9 20 59	H = 09h15m20s
		G-W W-A		ipP_{ENZ}	9 21 09	Epicenter: 40°7 N,
		G-W		isP_{EZ}	9 21 28	125°5 W.
		G-W W-A		iPR_1EZ	9 21 34	Depth about 50 km by
		G-W		iS_{EN}	9 25 40	the Brunner Depth
		G-W		i_N	9 25 50	Chart.
		G-W		i_E	9 25 56	
		G-W		isS_{ENZ}	9 26 03	
		G-W		iSR_1N	9 27 01	
		G-W		eL_{EN}	9 28 08	
		G-W		eM_1EN	9 30 24	
		G-W		eM_2EN	9 32 28	
		G-W		F	11 25±	
67	June 3	G-W		e_E	18h05m52s	Deep.
		G-W W-A		i_{EN}	18 13 49	
		G-W W-A		i_Z	18 13 51	
		G-W		i_{EN}	18 15 05	
		G-W		F	18 25±	
68	June 6	W-A		eE	16h14m14s	
		G-W		eE	16 14 40	
		G-W		eNZ	16 14 56	
		G-W		eE	16 20 28	
		G-W		e_Z	16 20 33	
		G-W		eE	16 25 03	
		G-W		eEN	16 29 10	
		G-W		e_Z	16 29 12	
		G-W		i_{EZ}	16 30 45	
		G-W		eEZ	16 34 56	
		G-W		i_{EZ}	16 35 31	
		G-W		eLE	16 38 26	
		G-W		iMEZ	16 42 21	
		G-W		F	17 58±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
69	June 7	G-W W-A G-W G-W G-W G-W G-W		eP_{ENZ} eS_N eS_Z eL_E eM_{NZ} F	4h08m14s 4 15 56 4 16 05 4 24 32 4 30 28 4 42±	Δ_{S-P} = 54°.2 H = 03h58m38s. Foreshock of No. 70, east of Greenland.
70	June 7	G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W		eP_{NZ} ePR_{1N} iS_N eS_E eSR_{1N} eSR_{1E} eL_N eL_E eM_{1E} eM_{2NZ} F	4h47m47s 4 51 15 4 55 29 4 55 34 4 59 11 4 59 15 5 04 01 5 04 06 5 08 03 5 10 11 5 48±	Δ_{S-P} = 54°.2 H = 04h38m09s. Region 72°.5 N, 6°.0 W, east of Greenland.
71	June 9	G-W W-A W-A G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W		eP'_Z eP'_E ipP'_E ipP'_Z iPR_{1NZ} ePR_{1E} $ipPR_{1NZ}$ $iSKP_Z$ $iSKP_{EN}$ $ipSKP_{EN}$ $ipSKP_Z$ ePR_{2Z} $eSKKS_{EN}$ eSR_{1N} eL_E eM_E eM_{NZ} F	16h55m53s 16 55 59 16 56 13 16 56 15 16 58 53 16 58 57 16 59 08 16 59 29 16 59 33 16 59 48 16 59 50 17 01 57 17 05 39 17 17 05 17 44 23 17 55 18 17 56 54 18 46±	Δ_{PR_1-H} = 139°.0 H = 16h36m43s. Region northeastern Indian Ocean. Depth about 50 km. by the Brunner Depth Chart.

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
72	June 10	W-A G-W W-A G-W G-W G-W W-A G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W	C	eP'$_E$ iPR$_1$EZ ePR$_1$N ipPR$_1$Z epPR$_1$E iSKPENZ iPR$_2$EZ iSKS$_E$NZ iSKKSE iSKKS$_N$Z iS$_N$Z iSP$_E$ iSP$_N$ isSP$_E$N isSP$_Z$ iPPPS$_Z$ iPPPS$_E$ iSR$_1$EN iSR$_2$N eL$_Z$ eL$_E$ eM$_E$Z eM$_N$ F	8h41m55s 8 43 07 8 43 08 8 43 42 8 43 54 8 44 34 8 45 50 8 48 20 8 49 34 8 49 37 8 50 47 8 52 53 8 52 57 8 53 58 8 54 02 8 55 03 8 55 06 8 59 11 9 03 42 9 19 08 9 19 42 9 27 27 9 27 49 11 30±	Δ_{PR_1-H} = 118°6 H = 08h23m20s. Epicenter: 5°4 S, 147°0 E. Bismarck Archipelago Depth about 150 km. by the Brunner Depth Chart.
73	June 10	G-W W-A G-W W-A G-W W-A G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W		ePENZ iPE ePR$_1$EZ eS$_E$N eSZ eSR$_1$N iSR$_1$N iSR$_2$N iL$_N$ eL$_E$Z eM$_N$ eM$_E$Z F	19h00m52s 19 00 53 19 02 30 19 07 10 19 07 13 19 10 13 19 10 23 19 11 22 19 13 05 19 14 07 19 15 08 19 15 33 19 51±	Δ_{S-P} = 40°6 H = 18h53m12s. Region 39°0 N, 33°0 W. North Atlantic Ocean.
74	June 10	G-W W-A G-W G-W G-W G-W G-W G-W G-W		eP$_E$N e(S)$_N$ e$_E$ e$_N$Z i$_E$ i$_N$ iM$_N$Z F	22h06m19s 22 12 45 22 16 00 22 20 15 22 21 34 22 21 37 22 24 20 22 46±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
75	June 12	W-A G-W G-W G-W G-W G-W G-W G-W G-W		iP_E ePR_1N iS_ENZ eSR_1EZ eL_EZ iL_EN iM_EN iM_Z F	15h56m09s 15 56 39 16 00 26 16 01 19 16 03 35 16 03 53 16 05 57 16 06 07 16 25±	Δ_{S-P} = 23°7 H = 15h50m57s.
76	June 14	G-W W-A G-W G-W G-W G-W G-W G-W G-W G-W G-W	C	iP_EZ iS_EN iS_Z eSR_1E eSR_2E eL_E eL_N eM_E eM_N F	2h38m43s 2 47 38 2 47 42 2 52 08 2 55 19 2 59 12 3 00 29 3 03 11 3 03 24 3 37±	Δ_{S-P} = 66°1 H = 02h28m00s. Possibly south central Brazil.
77	June 14	G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W	C	iP_Z eP_EN ePR_1Z $eSKS_E$ eS_N ePS_E eL_E eM_E eM_N F	17h14m31s 17 14 35 17 18 09 17 25 10 17 25 29 17 26 40 17 40 46 17 47 07 17 47 34 18 29±	Δ_{S-P} = 90°8 H = 17h01m30s. Strasbourg: near 37°0 N, 35°5 E.
78	June 16	G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W		ePR_1Z iPR_2Z $eSKS_E$ $iSKKS_E$ ePS_E eSR_1EN eSR_1Z eL_N eL_E eM_EZ F	0h50m40s 0 52 33 0 56 37 0 57 41 0 59 01 1 04 41 1 04 51 1 17 09 1 17 26 1 21 46 3 09±	Δ_{PR_1-H} = 93°0 H = 00h33m48s. Region probably southwest of Samoa.
79	June 20	W-A W-A		$e(Sn)_E$ $e(S)_E$	3h17m21s 3 18 26	H = 03h13m37s Texas. Foreshock of No. 81.

No.	Date	Inst.	C/D	Phase	G.M.O.T.	Remarks
80	June 20	W-A W-A W-A		i(Sn)E i(Sn)N i(S)EN	3h22m11s 3 23 13 3 23 16	H = 03h18m27s Texas. Foreshock of No. 81.
81	June 20	W-A W-A W-A W-A W-A W-A W-A		iPnEN iSnE iSnN iS*N iSN iLN F	3h26m11s 3 27 49 3 27 51 3 28 20 3 28 55 3 28 59 3 38±	ΔSn-Pn = 8°.4 or 937 km H = 03h24m06s. Epicenter: near 35°.7 N 100°.3 W. Texas-Oklahoma State line.
82	June 20	G-W G-W G-W G-W G-W G-W G-W G-W		ePR1E eSEZ eSR1E eLE eLN eMN eME F	6h42m16s 6 47 19 6 50 18 6 53 28 6 53 46 6 57 11 6 57 32 (Covered by following quake.)	ΔPR1-H = 44°.6 H = 06h32m28s. Region Atlantic Ocean, north of Azores Island
83	June 20	W-A G-W G-W G-W G-W G-W G-W G-W		ePE iSEN eSR1E eSR1N eSR2E eLE eME F	7h10m48s 7 17 03 7 19 28 7 19 31 7 20 30 7 22 26 7 27 22 8 11±	ΔS-P = 40°.1 H = 07h03m12s.
84	June 20	G-W G-W G-W G-W G-W G-W		ePE ePR2E eSE eLE eME F	8h33m23s 8 35 03 8 40 33 8 48 25 8 51 32 9 00±	ΔS-P = 49°.1 H = 08h24m37s. Aftershock of No. 82.
85	June 22	G-W W-A G-W G-W G-W G-W G-W G-W		ePEZ iZ e(S)EZ eE iZ iE F	10h38m38s 10 39 01 10 47 18 10 47 46 10 48 01 10 48 04 11 24±	Deep.

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
86	June 22	W-A G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W	D	iP_E iP_{EZ} iPR_{1EZ} ePR_{1N} ePR_{2EZ} eS_{ENZ} iS_{EZ} e_{EN} eSR_{1EN} eSR_{2E} eL_E eM_E F	19h35m38s 19 35 39 19 37 30 19 37 32 19 38 14 19 42 35 19 42 37 19 44 04 19 46 00 19 47 12 19 48 22 19 53 40 20 51±	$\Delta S-P = 47°0$ H = 19h37m08s. Strasbourg Epicenter near 11°0 N. 43°0 W.
87	June 27	G-W G-W G-W G-W G-W G-W G-W G-W		eE eZ e_E eL_E eM_{1Z} eM_{1E} eM_{2E} F	3h37m08s 3 37 13 3 41 54 3 43 31 3 47 18 3 47 30 3 49 29 4 11±	Atlantic Ocean.
88	June 27	G-W G-W G-W G-W G-W G-W G-W G-W G-W	D	ePZ $ipPZ$ iSE eS_{NZ} isS_E eSR_{1E} eL_E eM_E F	21h25m55s 21 26 04 21 36 10 21 36 12 21 36 29 21 41 32 21 53 16 22 00 24 22 19±	$\Delta S-P = 82°4$ H = 21h13m27s Depth about 50 km by the Brunner Depth Chart. Epicenter near 43°0 N, 147°5 E, east of Hokkaido Island.
89	June 28	G-W G-W G-W G-W		iS_E eE eL_E F	20h34m19s 20 34 53 20 50 25 22 20±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
90	June 29	G-W	D	iP_Z	14h43m47s	Δ_{S-P} = 99°0
		G-W		ePR_{1Z}	14 47 53	H = 14h30m16s
		G-W		iZ	14 49 21	Epicenter near
		G-W		iPR_{3Z}	14 51 33	39°0 N, 70°5 E,
		G-W		$iSKS_{EN}$	14 54 01	Turkestan.
		G-W		eS_E	14 55 08	Depth about 100 km.
		G-W		iS_E	14 55 11	by the Brunner
		G-W		isS_{EN}	14 55 48	Depth Chart.
		G-W		eSP_{EN}	14 56 25	
		G-W		$isSP_E$	14 56 55	
		G-W		eSR_{1E}	15 02 11	
		G-W		eSR_{2E}	15 06 27	
		G-W		eL_E	15 14 24	
		G-W		eM_E	15 18 53	
		G-W		F	16 09±	
91	June 30	W-A	C	iP_{EN}	15h17m57s	Δ_{S-P} = 71°0
		G-W		iP_{ENZ}	15 17 58	H = 15h06m48s.
		G-W W-A		ipP_{EN}	15 18 09	Epicenter: 51°0 N,
		G-W W-A		isP_{EN}	15 18 15	161°1 W, off eastern
		G-W W-A		$ipPcP_{EN}$	15 18 26	Kamchatkan coast.
		G-W		$isPcP_N$	15 18 34	Depth 50 km. by the
		G-W		iPR_{1EN}	15 20 43	Brunner Depth Chart.
		G-W		iPR_{2E}	15 22 20	
		G-W W-A		iE_N	15 26 13	
		G-W W-A		iS_{EN}	15 27 10	
		G-W W-A		isS_{EN}	15 27 34	
		G-W		iSP_N	15 27 44	
		G-W		$isSP_N$	15 28 05	
		G-W		i_N	15 28 22	
		G-W		iSR_{1E}	15 32 13	
		G-W		iSR_{2E}	15 35 23	
		G-W		iL_E	15 38 27	
		G-W		iM_{1E}	15 40 36	
		G-W		iM_{2E}	15 44 33	
		G-W		F	19 18±	
92	June 30	G-W		ePS_E	19h53m25s	Δ_{PS-H} = 104°5
		G-W		eSR_{1E}	19 59 53	H = 19h25m58s
		G-W		eL_E	20 11 44	Strasbourg.
		G-W		eM_E	20 21 46	Near 37°5 N, 60°5 E,
		G-W		F	21 16±	Turkestan.

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Minor Seismic Activity: Jun 1, 19h20m to 19h26m; Jun 2, 23h 42m to 00h20m; Jun 6, 07h11m to 08h37m; Jun 7, 00h57m to 01h48m; Jun 9, 23h41m to 01h; Jun 10, 04h14m to 05h04m; Jun 10, 18h05m to 18h27m; Jun 11, 03h33m to 04h26m; June 11, 10h35m to 11h10m; Jun 12, 15h38m to 16h20m; Jun 13, 00h 43m to 01h20m; Jun 14, 01h04m to 01h31m; Jun 17, 17h43m to 18h46m; Jun 17, 22h36m to 23h59m; Jun 18, 04h46m to 05h17m; Jun 21, 17h08m to 19h23m; Jun 22, 06h54m to 07h18m; June 22, 11h47m to 12h48m; Jun 25, 03h52m to 03h58m.

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Harold L. Link
Graduate Assistant

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
93	July 3	G-W	eL_Z	3h53m00s	Weak.
		G-W	eM_Z	3 55 54	
		G-W	F	4 26±	
94	July 4	G-W	eP_E	9h02m32s	Tentative Epicenter
		G-W	$iPZN$	9 02 33	near ϕ = 14°0 S, λ =
		W-A	eP_E	9 02 33	64°2 W.
		G-W	epP_N	9 03 00	Depth = 120 km by the
		G-W	ipP_{ZN}	9 03 03	Brunner Depth Chart.
		G-W	eS_N	9 10 22	Δ(S-P) = 58°1
		G-W W-A	$iSNE$	9 10 28	H = 08h52m54s.
		G-W	i_{EN}	9 10 35	No surface waves.
		G-W	$e(sS)_E$	9 11 20	
		G-W	i_Z	9 19 26	
		G-W	F	10 01±	
95	July 5	G-W	eP'_Z	19h14m09s	Δ_{PR_1-H} = 126°5
		G-W	ipP'_Z	19 14 31	Δ_{meas} = 126°5
		G-W	iPR_1Z	19 15 51	Epicenter: ϕ = 4°0 N,
		G-W	$ipPR_1ZE$	19 16 10	λ = 124°9 E.
		G-W	$iSKP_Z$	19 16 57	Celebes Sea.
		G-W	$ipSKP_Z$	19 17 25	H = 19h55m04s.
		G-W	$isSKP_Z$	19 17 35	Depth by the Brunner
		G-W	$iSKS_{EZ}$	19 21 17	Depth Chart 70 km.
		G-W	$iSKKS_{EZ}$	19 23 18	
		G-W	$i(sS)_{EZ}$	19 25 09	
		G-W	$e(PS)_E$	19 25 42	
		G-W	i_Z	19 26 11	
		G-W	iSR_1E	19 33 01	
		G-W	$e(L)_E$	19 46 09	
		G-W	$e(M)_E$	19 59 06	
		G-W	F	21 55±	
96	July 12	G-W	$e(SKS)_N$	3h06m24s	Epicenter near
		G-W	e_N	3 07 14	Macquarie Island
		G-W	$i(SKKS)_N$	3 07 17	(Southeast of Australia
		G-W	e_N	3 10 15	
		G-W	e_N	3 28 10	
		G-W	eL_N	3 34 54	
		G-W	e_N	3 40 31	
		G-W	F	4 35±	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
97	July 13	G–W	iP_ENZ	11h23m02s	Δ_{S-P} = 64°.9
		G–W	ipP_{NEZ}	11 23 17	Δ_{P-H} = 64°.9
		W–A	isP_E	11 23 29	Δ_{meas} = 64°.9
		G–W	iPR_1NE	11 25 30	H = 11h12m29s
		G–W	$ipPR_1EN$	11 25 45	Epicenter: ϕ = 23°.0 S,
		G–W	iS_{NE}	11 31 44	λ = 70°.2 W.
		G–W	isS_{NE}	11 32 07	Western Coast of
		G–W	iSP_{NE}	11 32 22	Chile.
		G–W	$isSP_{NE}$	11 32 34	Depth by the Brunner
		G–W W–A	i_N	11 32 42	Depth Chart 60 km.
		G–W	iSR_1EN	11 36 16	Numerours phases
		G–W	$isSR_1N$	11 36 56	throughout surface
		W–A	eL_E	11 40 59	waves.
		G–W	eL_E	11 44 10	
		G–W	eM_E	11 50 01	
		G–W	F	(lost in changing records)	
98	July 14	G–W	e_N	22h35m46s	No P phases
		G–W	i_N	22 35 50	
		G–W	i_Z	22 38 17	
		G–W	i_{NE}	22 38 19	
		G–W	i_E	22 38 34	
		G–W	i_{NZ}	22 38 39	
		G–W	$i(L)_Z$	22 39.2	
		G–W	$i(M)_{NZ}$	22 40.25	
		G–W	F	23 32±	
99	July 16	G–W	eP_E	7h12m42s	Δ_{S-P} = 21°.5
		W–A	eP_E	7 12 43	Δ_{meas} = 21°.5
		G–W	eS_N	7 16 39	H = 07h07m50s
		G–W	iS_E	7 16 43	Epicenter: ϕ = 46°.0 N,
		G–W	eSR_1N	7 17 30	λ = 118°.1 W.
		G–W	eL_N	7 18 41	
		G–W	e_N	7 18 43	
		G–W	e_E	7 19 08	
		G–W	eM_{NE}	7 19 42	
		G–W	F	9 59±	
100	July 23	G–W	e_Z	6h33m41s	Weak.
		G–W	e_{NZ}	6 45 12	Initial phases ob-
		G–W	i_N	6 45 14	scured by microseisms
		G–W	F	7 08±	and seismic activity.
					Foreshock of 702 ?

No.	Date	Inst.	Phase	G.M.T.	Remarks
101	July 23	G–W G–W G–W G–W G–W	e_{NE} e_Z i_N e_E F	18h29 36 18 29 40 18 37 48 18 37 49 18 56±	Probably foreshock of No. 102. Large Microseisms preceeding and following. Weak.
102	July 23	G–W G–W G–W G–W G–W G–W G–W G–W	$e(P)_{NZ}$ $e(PR)_N$ iPR_Z eS_{EN} $e(S)_Z$ eL_{ZN} iM_N F	19h06m59s 19 07 05 19 07 06 19 08 38 19 08 41 19 10 42 19 13 44 (Lost in microseisms)	Large microseisms.
103	July 25	G–W G–W G–W G–W	e_N e_N e_{NZ} e_Z	1h30m03s 1 40 17 1 40 42 1 42 22	Weak.
104	July 25	G–W G–W G–W G–W	e_N i_Z i_{NE} F	2h25m15s 2 25 17 2 26 01 2 39±	Weak. Aftershock of 103 ?
105	July 26	G–W W–A G–W G–W W–A G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W	eP_{NZ} iP_E iP_{NEZ} ipP_{ENZ} iPR_{1N} iPR_{EZ} iS_{EN} isS_E eSP_N $i(sSP)_E$ $eScS_{EN}$ iSR_{1N} eSR_{1E} eL_{EN} eM_{1EN} iM_{2N} F	7h47m35s 7 47 36 7 47 37 7047 44 7 50 01 7 50 04 7 56 15 7 56 29 7 56 51 7 57 25 7 57 53 8 00 26 8 00 30 8 07 29 8 14 59 8 20 05 10 32±	Δ_{S-P} = 64°.2 Δ_{meas} = 64°.2 H = 07h37m08s. Depth by the Brunner Depth Chart = 40 km. Epicenter ϕ = 22°.8 S. λ = 70°.8 W. Chilean Coast.
106	July 28	G–W G–W	e_Z e_Z	5h38m43s 5 38 57	Weak. Long trace surface waves.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
107	July 28	G-W	e_N	7h12m19s	Weak.
		G-W	e_{NZ}	7 12 31	
108	July 31	W-A	eP_E	17h46m08s	$\Delta_{P-H} = 23.^{\circ}6$
		G-W	iP_{ENZ}	17 46 11	$\Delta_{meas} = 23.^{\circ}96$
		G-W	ipP_E	17 46 17	H = 17h41m00s.
		G-W	isP_{ENZ}	17 46 31	Epicenter: $\phi = 22.^{\circ}7$ N
		G-W	iS_N	17 50 04	$\lambda = 110.^{\circ}7$ W.
		G-W	eS_{EZ}	17 50 07	Coast of Mexico.
		G-W	isS_Z	17 50 17	Depth 40 km by the
		G-W	isS_E	17 50 18	Brunner Depth Chart.
		G-W	iSR_{1EN}	17 50 59	
		G-W	iL_{ENZ}	17 52 23	
		G-W	iM_1E	17 53 10	
		G-W	iM_1Z	17 53 23	
		G-W	iM_1N	17 53 38	
		G-W	iM_2N	17 55 35	
		G-W	F	18 51±	

Minor Seismic Activity; July 4, 21h06m to 21h18m; July 6, 19h23m to 20h01m, 23h29m to 23h52m; July 7, 15h17m to 15h56m; July 11, 22h08m to 22h44m; July 14, 10h11m to 11h22m; July 15, 9h03m to 9h58m, 11h28m to 12h01m; July 15, 23h39m to July 16, 5h34m, 11h00m to 13h01m, 16h22m to 16h56m; July 17, 22h13m to 2h25m; July 19, 2h49m to 3h21m, 9h33m to 10h34m, 13h14m to 13h49m; July 22, 18h41m to 19h04m, July 23, 21h01m to 00h03m, 3h40m to 9h27m, 13h35m to 1h10m; July 24, 17h47m to 18h29m, 18h59m to 19h02m, 21h01m to 21h03m; July 25, 22h23m to 00h28m, 6h49m to 9 38m; July 26, 17h04m to 23h33m, 23h40m to 23h43m; July 27, 23h45m to 1h09m, 4h28m to 4h51m, 5h22m to 10h20m, 12h04m to 14h21m; July 28, 14h33m to 23h54m, 5h09m to 10h30m; Sept 29, 16h26m to 16h37m, 16h49m to 17h05m, 17h35m to 17h39m, 17h55m to 18h03m, 19h25m to 19h35m, 19h51m to 21h03m, 23h09m to 23h23m; July 30, 5h24m to 5h38m, 6h14m to 9h33m, July 31, 14h50m to 00h04m, 15h03m to 17h45m, 18h45m to 23h36m.

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Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
109	Aug 1	G–W G–W G–W G–W	e_N $e(L)_N$ eL_E F	7h05m19s 7 22 31 7 23 00 8 03±	Weak. Probably after-shock of No. 108.
110	Aug 1	G–W W–A G–W W–A G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W G–W	iP_{ENZ} ipP_E ipP_{NZ} isP_{NZ} iS_{EN} eS_Z isS_{EN} $e(SR_1)_{EN}$ eL_E eL_N eL_Z iM_{1EN} iM_{2N} eM_{3N} F	8h10m51s 8 11 13 8 11 15 8 11 33 8 14 46 8 14 48 8 15 20 8 16 01 8 17 07 8 17 14 8 17 20 8 17 57 8 18 45 8 19 25 9 33±	$\Delta S-P = 22.^{\circ}0$ H = 08h06m04s. Epicenter: $\phi = 22.^{\circ}7$ N, $\lambda = 110.^{\circ}7$ W. H = 100 km by the Brunner Depth Chart. Aftershock of No. 108.
111	Aug 1	W–A G–W G–W G–W G–W G–W G–W G–W G–W	i_E $i(P)_{NZ}$ e_E i_{ENZ} i_{EN} i_{NZ} i_{NZ} i_N F	14h39m49s 15 01 53 15 02 00 15 02 03 15 02 17 15 02 50 15 03 13 15 05 30 15 21±	Weak. Heavy microsisms. No surface waves.
112	Aug 2	W–A W–A W–A W–A W–A W–A W–A W–A W–A G–W W–A G–W W–A W–A -	$i(Pn)_N$ $e(Pn)_E$ i_N iP^*_N i_E i_N iPg_N i_{EN} iSn_{EN} iS^*_E iSg_{NEZ} i_{NEZ} $e(L)_{NE}$ F	22h16m25s 22 16 26 22 16 28 22 16 29 22 16 32 22 16 34 22 16 37 22 16 41 22 16 59 22 17 02 22 17 13 22 17 23 22 18 26 22 23±	$\Delta(Sn-Pn) = 2.^{\circ}6+$ Region- extreme south-western Kentucky. Reported felt in Springville, Mansfield, and Hickory Point, Tenn.

No.	Date	Inst.	Phase	G. M. C. T.	Remarks
113	Aug 4	G–W	e_N	6h17m37s	Weak.
		G–W	e_N	6 19 58	Large Microseisms.
		G–W	e_Z	6 20 12	
		G–W	i_N	6 20 15	
		G–W	i_{EZ}	6 20 50	
		G–W	F	(Lost in microseisms)	
114	Aug 7	W–A	i_E	22h00m04s	Weak.
		G–W	i_Z	22 00 04	
		G–W	i_{NEZ}	22 01 58	
		G–W	e_N	22 06 55	
		G–W	$e(L)_{NE}$	22 16 07	
		G–W	F	23 00±	
115	Aug 8	G–W	e_Z	4h25m31s	Weak.
		G–W	e_Z	4 25 36	
		G–W	i_{ZE}	4 25 38	
		G–W	e_N	4 35 47	
		G–W	e_Z	4 35 52	
		G–W	e_E	4 35 54	
		G–W	e_{NEZ}	4 36 14	
		G–W	e_N	4 49 24	
		G–W	e_N	4 53 20	
		G–W	$e(M)_N$	4 55 10	
116	Aug 13	G–W	ePR_1E	20h23m04s	Region off north eastern coast of Mindanao.
		G–W	iPR_1NZ	20 23 06	
		W–A	e_E	20 23 21	
		G–W	$eSKS_N$	20 28 35	
		G–W	$iSKKS_N$	20 30 05	
		G–W	iPS_N	20 32 54	
		G–W	ePS_{EZ}	20 32 55	
		G–W	$iPPS_N$	20 34 17	
		G–W	eSR_1EN	20 39 19	
		G–W	eL_{NZ}	20 53 51	
		G–W	eM_N	21 05 05	
		G–W	F	22 30±	
117	Aug 16	G–W	e_{NZ}	5h34m30s.	Weak.
		G–W	e_N	5 43 01	
		G–W	e_Z	5 43 03	
		G–W	e_N	5 45 34	
		G–W	e_N	5 48 27	
		G–W	e_N	5 49 27	
		G–W	F	8 40±	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
118	Aug 17	G-W	e_Z	14h29m15s	
		G-W	$e(L)_N$	14 50 35	
		G-W	eM_{NEZ}	15 02 05	
		G-W	F	16 44±	
119	Aug 18	G-W W-A	eP_{EN}	7h12m24s	Δ_{S-P} = 25°2
		G-W W-A	iP_{ENZ}	7 12 25	Depth by Brunner Depth
		G-W W-A	ipP_E	7 12 39	Chart about 80 km.
		G-W	iPR_1NZ	7 13 15	H = 07h07m04s.
		G-W	iPR_2N	7 13 24	Epicenter: ϕ = 17°0 N,
		G-W	iNZ	7 15 23	λ = 104°5 W.
		G-W	$iPcP_{NZ}$	7 15 52	
		G-W W-A	eS_{ENZ}	7 16 46	
		G-W	iS_{EN}	7 16 47	
		G-W	isS_N	7 17 11	
		G-W	isS_Z	7 17 13	
		G-W	eSR_1N	7 18 02	
		G-W	iL_N	7 19 03	
		G-W	$iScP_N$	7 19 50	
		G-W	eM_1Z	7 20 04	
		G-W	iM_1N	7 20 43	
		G-W	iM_2N	7 22 12	
		G-W	$iScSENZ$	7 23 25	
		G-W	F	8 34±	
120	Aug 22	G-W	ePN	7h06m18s	Δ_{P-H} = 112°2
		G-W	iP_Z	7 06 19	H = 06h51m38s.
		G-W	$eP'NZ$	7 09 57	Epicenter: Region
		G-W	iPR_1ENZ	7 10 57	Formosa ϕ = 22°3 N,
		G-W	$ipPR_1NZ$	7 11 10	λ = 121°5 E.
		G-W	iNZ	7 11 43	Depth by the Brunner
		G-W	iPR_2NZ	7 13 28	Depth Chart about 50
		G-W	iPR_2E	7 13 30	km.
		G-W	iPR_3NZ	7 15 21	
		G-W	$eSKS_N$	7 16 47	
		G-W	$iSKS_E$	7 16 51	
		G-W	$iSKKS_{EN}$	7 17 47	
		G-W	eS_N	7 18 23	
		G-W	eSP_N	7 19 54	
		G-W	iSP_{NZ}	7 19 59	
		G-W	$isSP_Z$	7 20 23	
		G-W	$iPPS_{NZ}$	7 20 42	
		G-W	$ePPPS_{NZ}$	7 21 47	
		G-W	iSR_1EN	7 26 47	
		G-W	eSR_2EN	7 31 12	
		G-W	eL_E	7 41 56	
		G-W	iL_N	7 42 01	
		G-W	eM_1E	7 50 43	
		G-W	iM_1N	7 51 23	
		G-W	iM_2NZ	8 01 29	
		G-W	F	10 00±	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
121	Aug 23	G–W	iP^1Z	21h31m30s	$\Delta_{P^1-H} = 135°.5$
		G–W W–A	eP^1EN	21 31 32	H = 21h12m19s
		G–W	ipP^1Z	21 31 53	Epicenter: Northern
		G–W	iPR_1NZ	21 34 01	Sumatra ϕ = 5°.8 N,
		G–W	i_{NZ}	21 34 44	λ = 95°.4 E.
		G–W	$iSKP_{NZ}$	21 35 00	h = about 90 km by the
		G–W W–A	$iSKP_E$	21 35 03	Brunner Depth Chart.
		G–W	$ipSKP_{EN}$	21 35 30	
		G–W	iPR_3N	21 36 55	
		G–W	iPR_2Z	21 37 02	
		G–W	$e(SKS)_{EN}$	21 38 07	
		G–W	$e(SKKS)_{EN}$	21 40 29	
		G–W	eSR_1E	21 51 56	
		G–W	eSR_1N	21 51 59	
		G–W	$ePPSS_N$	21 52 47	
		G–W	eSR_2N	21 57 27	
		G–W	eL_N	22 19 46	
		G–W	eL_Z	22 19 54	
		G–W	eL_E	22 20 32	
		G–W	eM_1N	22 31 42	
		G–W	eM_2N	22 33 18	
		G–W	eM_2E	22 34 14	
		G–W	F	24 00±	
122	Aug 24	G–W	eL_N	18h49m28s	Weak. Probably after-shock of No. 121.
		G–W	eN	19 08 48	Time doubtful.
		G–W	F	21 33±	
123	Aug 26	G–W	e_{NZ}	22h41m36s	Weak.
		G–W	eZ	22 44 13	Time doubtful.
		G–W	eZ	22 49 55	
		G–W	eN	22 52 45	
		G–W	eL_N	23 18.3	
		G–W	eM_{NZ}	23 33.8	
		G–W	F	01 30±	
124	Aug 25	G–W	eN	6h07m49s	Weak.
		G–W	e_{EZ}	6 10 07	Time doubtful.
		G–W	eZ	6 10 13	No surface waves.
		G–W	iZ	6 10 15	
		G–W	eE	6 10 15	
		G–W	iZ	6 10 23	
		G–W	iZ	6 10 33	
		G–W	$i(PR_1)_N$	6 10 38	
		G–W	$i(PR_1)_E$	6 10 39	
		G–W	eN	6 11 02	
		G–W	$e(S)_E$	6 11 09	
		G–W	F	7 00±	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
125	Aug 25	G-W G-W	e_Z eM_N	19h39m00s 19 34 50	Weak.
126	Aug 26	G-W G-W	e_E e_E	21h34m13s 21 37 45	Weak. No surface waves.

Minor Seismic Activity: Aug 1, 15h32m to 24h00m; Aug 2, 9h36m to 9h43m; Aug 3, 12h36m to 3h01m; 15h18m to 21h59m; Aug 4, 1h47m to 4h34m, 14h38m to 19h59m, 21h06m to 21h37m; Aug 5, 2h01m to 4h59m, 16h25m to 16h40m; Aug 6, 14h36m to 15h03m, 19h29m to 23h46m; Aug 7, 16h07m to 21h40m; Aug 8, 13h39m to 22h42m; Aug 9, 12h56m to 14h32m, 16h02m to 22h30m; Aug 10, 4h37m to 5h17m, 14h48m to 15h59m, 16h28m to 16h50m, 17h11m to 18h45m, 18h55m to 21h06m; Aug 11, 14h42m to Aug 12, 14h14m; Aug 13, 16h24m to Aug 14, 00h21m, 05h01m to 08h46m, 7h49m to 9h43m, 14h36m to Aug 15, 12h56m, 15h51m to 17h10m; Aug 16, 01h58m to 02h23m, 04h20m to 04h 37m, 09h50m to 10h30m; Aug 17, 01h18m to 01h41m, 6h32m to 6h44m, 7h06m to 7h52m, 17h50m to 18h17m; Aug 18, 16h19m to 16h30m, 16h43m to 20h07m, 20h18m to 20h21m, 20h30m to 20h34m, 20h49m to 21h29m, 21h40m to 23h32m; Aug 19, 3h44m to 8h23m, 10h33m to 11h34m, 13h17m to 15h00m, 17h05m to 17h41m, 17h57m to 18h07m, 18h17m to 18h19m, 18h53m to 19h13m, 19h38m to 19h50m, 20h02m to 20h23m, 21h04m to 21h 17m, 22h19m to Aug 20, 00h31m, 16h26m to 23h10m, 23h38m to 23h39m; Aug 21, 4h02m to 4h15m, 6h56m to 9h19m, 13h34m to 14h00m, 14h49m to 23h30m; Aug 22, 3h06m to 6h01m, 14h42m to Aug 23, 4h33m; Aug 25, 12h59m to 14h11m, 17h30m to Aug 26, 00h15m; Aug 28, 16h00m to 23h35m; Aug 29, 10h30m to 10h47m, 17h17m to 19h17m.

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Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

Bulletin for 1936

No.	Date	Inst.	Phase	G.M.C.T	Remarks
127	Sept 3	G–W	$i(P)_Z$	5h11m20s	Probably somewhat deep.
		G–W	$e(P)_N$	5 11 22	
		G–W	e_{NZ}	5 15 36	
		G–W	$e(S)_{NZ}$	5 15 42	
		G–W	i_{NZ}	5 15 47	
		G–W	i_N	5 15 51	
		G–W	e_N	5 15 56	
		G–W	eL_Z	5 22 41	
		G–W	eL_N	5 23 01	
		G–W	eM_N	5 24 54	
		G–W	F	5 56±	
128	Sept 3	G–W	e_N	13h11m33s	Weak.
		G–W	eL_{NZ}	13 17 25	
		G–W	eM_Z	13 33 32	
		G–W	eM_N	13 33 49	
		G–W	F	13 56±	
129	Sept 3	W–A	e_E	23h01m33s	Weak.
		G–W	e_N	23 08 22	
		G–W	e_N	23 08 32	
		G–W	F	(Lost in microseisms)	
130	Sept 19	G–W	iP^2_N	1h21m09s	ΔP^2–H = 136°5
		W–A	eP^2_F	1 21 09	H = 01h01m58s.
		W–A	epP^2_E	1 21 32	Epicenter: ϕ = 4°3 N,
		G–W	ipP^2_{NZ}	1 21 33	λ = 97°8 E.
		G–W	e_Z	1 21 41	Depth about 100 km
		W–A	$eSKP_E$	1 24 41	by the Brunner Depth
		W–A	e_E	1 24 50	Chart. Initial
		G–W	e_Z	1 24 50	phases somewhat
		G–W	eL_{NE}	2 05 14	doubtful because of
		G–W	eL_Z	2 12 14	microseisms.
		G–W	eM_{1EN}	2 19 44	
		G–W	eM_{1Z}	2 21 14	
		G–W	eM_{2EN}	2 24 44	
		G–W	F	3 01±	
131	Sept 19	G–W W–A	$e(P)_{NE}$	14h44m38s	Weak.
		G–W	iP_Z	14 45 14	
		G–W	eP_E	14 45 14	
		G–W	iS_N	14 51 49	
		G–W W–A	eS_E	14 51 53	
		G–W	iS_Z	14 51 53	
		G–W	F	(Lost in microseisms)	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
132	Sept 21	W–A	eP^*_{NE}	22h24m50s	$\Delta S^*-P^* = 1.1^\circ$
		W–A	iPn_E	22 24 54	
		W–A	i_E	22 24 56	
		W–A	iS^*_N	22 25 04	
		W–A	iSn_{NE}	22 25 05	
		W–A	iSg_{NE}	22 25 06	
		W–A	$i(M)_{NE}$	22 25 17	
		W–A	$i(M)_{NE}$	22 25 18	
		W–A	$i(M)_{NE}$	22 25 19	
		W–A	F	22 41±	
133	Sept 21	W–A	e_E	23h53m46s	
		G–W	e_E	23 56 14	
		G–W	e_N	23 56 18	
		G–W	e_E	23 56 36	
		G–W	F	25 01±	
134	Sept 24	W–A	iPg_{EN}	21h45m31s	Near quake or blast.
		W–A	iP^*_{EN}	21 45 33	$\Delta S-P = 0°.3$
		W–A	iSg_{EN}	21 45 35	
		W–A	iS^*_E	21 45 37	
		W–A	$i(M)_{NE}$	21 45 40	
		W–A	F	21 47±	
135	Sept 25	G–W	eP_{NEZ}	12h59m41s	$\Delta S-P = 30°.7$
		G–W	epP_Z	12 59 58	H = 12h53m30s.
		G–W	ipP_Z	13 00 02	Epicenter: ϕ = 42°.5
		G–W	isP_{EZ}	13 00 24	N, λ = 131°.0 W.
		G–W	$eP\bar{R}_{1Z}$	13 00 45	By the Brunner Depth
		G–W	$ipP\bar{R}_{1Z}$	13 01 01	Chart h = about 80
		G–W	eS_E	13 04 42	km.
		G–W	$e(S)_N$	13 04 48	
		G–W	$i(S)_{NE}$	13 04 49	
		G–W	$e(S)_Z$	13 04 49	
		G–W	esS_E	13 05 04	
		G–W	isS_N	13 05 06	
		G–W	F	(Records changed)	
136	Sept 28	G–W	e_N	13h16m19s	May be microseism
		G–W	e_E	13 16 22	Weak.
		G–W	i_E	13 16 39	
		G–W W–A	e_{NZ}	13 16 45	
		G–W	e_Z	13 16 53	
		G–W	i_Z	13 16 57	
		G–W	e_N	13 19 58	
		G–W	i_{NZ}	13 20 09	
		G–W	F	14 21±	

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Minor Seismic Activity; Sept 1, 6h00m to 16h00m, 16h48m to 22h16m, 23h52m to Sept 2, 5h40m, 6h23m to 10h22m 12h17m to 14h37m, 19h24m to 21h22m, 22h25m to 23h19m; Sept 3, 00h09 to 01h14m; Sept 4, 08h34m to 10h14m, 20h03m to 22h00m; Sept 5, 04h34m to 05h05m, 14h59m to 21h10m; Sept 6, 07h21m to 07h29m, 17h35m to Sept 7, 05h08m, 11h59m to 14h08m, 14h52m to 18h40m; Sept 8, 20h24m to 20h34m; Sept 9, 16h29m to 17h41m; Sept 11, 15h50m to 16h49m, 20h55m to 22h46m; Sept 12, 05h36m to 07h44m, 23h24m to Sept 13, 00h11m, 21h40m to 21h41m, Sept 19, 19h00m to 20h00m; Sept 22, 01h14m to 01h16m, 19h58m to 20h10m, 21h11m to 21h56m; Sept 23 17h32m to 17h34m; Sept 24, 15h18m to 15h19m; Sept 25, 14h32m to 23h00m; Sept 26, 18h43m to 20h32m, 21h43m to Sept 27, 05h09m; Sept 28, 14h34m to 22h32m.

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Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

Bulletin for 1936

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
137	Oct 2	W-A	ePE	6h14m41s	Possibly a blast.
		W-A	i_E	6 14 42	
		W-A	$i(S)_E$	6 14 53	
		W-A	i_E	6 14 55	
		W-A	F	6 17±	
138	Oct 3	G-W	$e(PR_1)_{EZ}$	22h11m30s	Distant. Weak. Probably foreshock of No. 139.
		G-W	i_Z	22 11 39	
		G-W	eNE	22 12 41	
		G-W	i_Z	22 12 41	
		G-W	e_N	22 21 17	
		G-W	e_N	22 22 11	
		G-W	e_N	22 28 42	
		G-W	e_N	22 31 09	
		G-W	eL_N	22 35.7	
		G-W	eM_N	22 54.1	
		G-W	F	00 11±	
139	Oct 5	G-W	eZ	0h12m15s	Distant.
		G-W	i_Z	0 12 21	
		G-W	i_Z	0 12 29	
		G-W	eZ	0 20 41	
		G-W	i_Z	0 20 48	
		G-W	$e(L)_N$	0 39.7	
		G-W	eL_Z	0 43.6	
		G-W	$e(L)_E$	0 45.6	
		G-W	$e(M)_N$	0 51.9	
		G-W	eM_Z	0 53.6	
		G-W	$e(M)_E$	0 55.6	
		G-W	F	1 33±	
140	Oct 5	G-W	ePi_{NEZ}	10h03m26s	$\Delta p'_H$ = 127°0
		G-W	iP'_Z	10 03 27	H = 09h44m34s
		G-W	ipP'_Z	10 03 50	h = 100 km by the
		G-W	epP'_{EN}	10 03 50	Brunner Depth Chart.
		G-W	iPR_{1NEZ}	10 05 24	Epicenter: ϕ = 39° N,
		G-W	$ipPR_{1EZ}$	10 05 46	λ = 126°4 E.
		G-W	$e(SKP)_N$	10 05 57	
		G-W	ePR_{2Z}	10 08 17	
		G-W	$epPR_{2NEZ}$	10 08 35	
		G-W	$ipPR_{2Z}$	10 08 38	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
140	Oct 5 (con't)	G-W G-W G-W G-W G-W G-W G-W G-W G-W	$iSKS_{NEZ}$ $iSKKS_{NE}$ iS_N esS_N $i(PPS)_Z$ eL_N eL_Z eL_E F	10h10m07s 10 12 09 10 13 40 10 14 14 10 17 04 10 44.4 10 45.3 10 46.7 12 26±	
141	Oct 10	G-W G-W W-A G-W W-A G-W G-W G-W G-W G-W	$(e)_N$ $(e)_N$ e_N i_{EN} e_{NE} e_E eL_N eM_N F	1h18m58s 1 19 44 1 31 11 1 31 40 1 35 57 1 37 21 1 40.6 1 44.9 2 17±	May be microseisms. Weak.
142	Oct 19	G-W G-W G-W W-A G-W G-W G-W G-W	iN iN e_E e_N iN eL_N F	12h26m36s 12 27 02 12 27 05 12 27 31 12 27 36 13 10.6 13 53±	
143	Oct 20	W-A W-A G-W W-A W-A W-A W-A W-A W-A	iPn_N iP^*_N iPg_E i_E iSn_{NE} iS^*_{NE} $i(Sg)_E$ F	21h17m41s 21 17 45 21 17 51 21 18 06 21 18 12 21 18 16 21 18 21 21 23±	ΔSn-Pn = 2°47 H = 21h17m00s. Region: S. E. Missouri, New Madrid Area, not reported felt.
144	Oct 23	G-W G-W G-W G-W G-W G-W G-W G-W G-W G-W	iZ eN iZ eL_N eL_E eL_Z eM_N eM_E eM_Z F	0h05m33s. 0 08 59 0 09 07 0 15.6 0 15.9 0 17.5 0 26.1 0 27.1 0 28.0 0 50±	Weak, Probably foreshock of No. 145.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
145	Oct 23	G-W W-A	iPNEZ	6h32m16s	Δ_{S-P} = 42°2
		G-W	i(pP)NEZ	6 32 22	H = 06h24m27s
		G-W	iPcPNEZ	6 33 08	Epicenter: Ø = 60°8N,
		G-W	ePR$_1$NE	6 33 44	λ = 149°4 W.
		G-W	iPR$_1$Z	6 33 46	Near normal depth.
		W-A	i(S)E	6 38 42	
		G-W W-A	iSNE	6 38 14	
		G-W W-A	i(SP)NEZ	6 38 53	
		G-W	iSR$_1$N	6 41 25	
		G-W	e(SR$_1$)N	6 41 31	
		G-W	iSR$_2$N	6 42 59	
		W-A	e(L)E	6 42.5	
		G-W	eMNEZ	6 46.5	
		G-W	F	8 41±	
146	Oct 23	G-W	ePZ	16h33m20s	
		G-W W-A	iPEZ	16 33 21	
		G-W	eN	16 42 50	
		G-W	eZ	16 43 03	
		G-W	iZ	16 47 25	
		G-W	eM	16 51.2	
		G-W	F	17 23±	
147	Oct 29	G-W W-A	ePNE	23h14m46s	Region: Probably
		G-W	iNE	23 14 52	Alaska.
		G-W	i(S)NE	23 22 08	
		G-W	eLNE	23 26.0	
		G-W	F	23 59±	
148	Oct 29	W-A	iPnNE	5h58m19s	Near quake ~~in~~ or
		W-A	iNE	5 58 22	blast.
		W-A	iE	5 58 26	
		W-A	iE	5 58 40	
		W-A	F	(lost in following quake)	
149	Oct 29	W-A	iPN	5h59m33s	Δ_{S-P} = 31°1
		G-W	ePR$_1$N	6 00 24	Reported by Balboa
		G-W	iNZ	6 00 37	Heights, Panama Canal
		G-W	iPR$_2$Z	6 00 45	Zone. Felt in David
		G-W	ePcPNZ	6 02 28	and Santiago.
		G-W	iSN	6 04 46	
		G-W	eXN	6 05 39	
		G-W	iGN	6 06 08	
		G-W	iSR$_1$N	6 06 34	
		G-W	eLNZ	6 8.0	
		G-W	F	(lost in microseisms)	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
150	Oct 29	G-W	eZ	18h51m24s	Region: Guam.
		G-W	e(SKS)NZ	18 57 36	According to Manila:
		G-W	eNZ	18 57 44	Felt strongly in
		G-W	eSZ	18 58 54	Guam; some damage to
		G-W	eLZ	19 28.0	buildings. Initial
		G-W	eM	19 39.0	phase masked by
		G-W	F	21 42±	microseisms.

Minor Seismic Activity: Oct 1, 19h10m to 19h32m, 19h57m to 20h43m. Oct 3, 15h04m to 15h14m, 22h49m to 22h55m; Oct 5, 15h58m to 22h05m; Oct 6, 14h59m to 17h32m; Oct 7, 14h41m to 14h45m; Oct 8, 11h36m to 11h47m; Oct 9, 18h38m to 19h01m, 22h07m to 23h17m; Oct 10, 14h30m to 22h46m; Oct 15, 21h29m to 21h54m; Oct 17, 15h11m to 15h15m; Oct 23, 15h10m to 15h27m, 20h43m to 21h35m; Oct 25, 17h47m to 17h58m; Oct 26, 5h17m to13h00m, 20h45m to 21h15m; Oct 29, 15h07m to 18h33m; Oct 30, 16h05m to Oct 31, 22h00m.

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
151	Nov 1	W-A	ePnN	4h11m38s	Δ Sn-Pn = 2°0
		W-A	e(Pn)EN	4 11 39	H = 04h11m05s.
		W-A	iP*N	4 11 41	Region southeast of
		W-A	iN	4 11 42	Missouri.
		W-A	eE	4 11 44	Not reported felt.
		W-A	iPgEN	4 11 45	
		W-A	iE	4 11 52	
		W-A	iSnN	4 12 04	
		W-A	iN	4 12 08	
		W-A	i(M)N	4 12 14	
		W-A	i(M)E	4 12 15	
		W-A	iNE	4 12 20	
		W-A	F	4 17±	
152	Nov 2	G-W	e(P)Z	15h08m46s	Weak.
		G-W	eE	15 09 07	Epicenter by Strasbourg
		G-W	eEZ	15 09 42	Ø = 50°0 N, λ = 156°0 E.
		W-A	eE	15 09 44	Region off coast of
		G-W	iE	15 09 54	Kamchatka.
		G-W	e(S)E	15 19 26	
		G-W	iE	15 19 27	
		G-W	ME	15 49.1	
		G-W	F	(Lost in changing records)	
153	Nov 2	G-W	iPZ	20h58m51s	Δ P-H = 89°7
		G-W	ipPZ	20 59 09	Ø = 37°8 N, λ = 142°1 E.
		G-W	eSKSE	21 09 18	According to Chiufeng:
		G-W	eSKKSE	21 09 38	Destructive in Fukujama,
		G-W	iSE	21 09 39	Japan. Intensity Rossi
		G-W	isS	21 10 13	Forel VII and VIII
		G-W	eSEZ	21 26.1	H = 20h45m58s
		G-W	eGEZ	21 27 05	h about 50 km by the
		G-W	eMEZ	21 31.1	Brunner Depth Chart.
		G-W	F	23 50±	
154	Nov 3	G-W	e(P)Z	5h52m45s	Weak.
		G-W	iZ	5 52 51	
		W-A G-W	eE	5 55 36	
		G-W	iE	5 55 47	
		G-W	iZ	6 00 18	
		G-W	F	6 06±	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
155	Nov 12	G-W	e_E	2h40m06s	Weak. Probably foreshock of No. 155.
		G-W	e_N	2 40 07	
		G-W	i_{NEZ}	2 40 10	
		G-W	e_N	2 48 24	
		G-W	eL_{ZE}	3 08.8	
		G-W	F	3 37±	
156	Nov 12	G-W	$e(P)_{NZ}$	4h32m39s	Probably somewhat deep.
		G-W	e_E	4 32 48	
		G-W	i_N	4 33 37	
		G-W	i_Z	4 33 39	
		G-W	eS_N	4 37 01	
		G-W	e_N	4 37 46	
		G-W	i_N	4 37 59	
		G-W	i_Z	4 38 00	
		G-W	i_E	4 38 59	
		G-W	eL_N	4 42.4	
		G-W	eL_Z	4 42.9	
		G-W	i_{NZ}	4 45 58	
		G-W	i_{NZ}	4 46 05	
		G-W	i_N	4 46 24	
		G-W	F	5 34±	
157	Nov 12	G-W	e_Z	9h20m20s	Weak. Aftershock of No. 155?
		G-W	e_N	9 20 52	
		G-W	e_E	9 28 58	
		G-W	e_Z	9 30 02	
		G-W	e_E	9 31 18	
		G-W	F	9 53±	
158	Nov 12	G-W	eP_Z	20h16m46s	Epicenter: Region of the Kurile Islands. Probably somewhat deep. No surface waves.
		W-AG-W	iP_{NEZ}	20 16 47	
		G-W	$e(pP)_{NEZ}$	20 17 10	
		G-W	e_Z	20 17 14	
		G-W	$i(S)_E$	20 26 41	
		G-W	i_E	20 26 51	
		G-W	e_N	20 27 48	
		G-W	i_N	20 27 50	
		G-W	F	21 56±	
159	Nov 13	G-W	eP_N	12h42m19s	$\Delta_{S-P} = 66^\circ.9$ $\Delta_{meas} = 66^\circ.9$ $\phi = 56^\circ.7$ N, $\lambda = 162^\circ.3$ E. h = 40 to 50 km by the Brunner Depth Chart. H = 12h31m37s. No vertical or E-W Components.
		G-W	ipP_N	12 42 27	
		G-W	$iPcP$	12 42 51	
		G-W	ePR_1	12 44 52	
		G-W	$epPR_1$	12 45 04	
		G-W	ePR_2	12 46 11	
		G-W	$epPR_2$	12 46 28	
		G-W	iPR_3	12 47 02	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
159	Nov 13 (con't)	G-W	iS	12 51 12	
		G-W	isS	12 51 26	
		G-W	iSP	12 51 37	
		G-W	iPPPS	12 51 43	
		G-W	iSR_1	12 55 41	
		G-W	F	(Records changed.)	
160	Nov 14	G-W	$(e)_N$	1h41m34s	Weak
		G-W	$i(P)_{NEZ}$	1 41 36	
		G-W	$e(S)_N$	1 47 03	
		G-W	e_E	1 47 24	
		G-W	e_{NE}	1 47 36	
		G-W	M	1 58.0	
		G-W	F	2 16±	
161	Nov 15	G-W	$e(P)_Z$	22h31m28s	Initial phases not well defined.
		W-A	e_E	22 31 30	
		G-W	e_E	22 31 33	
		G-W	e_N	22 31 40	
		G-W	$e(S)_E$	22 39 58	
		G-W	e_E	22 40 11	
		G-W-	i_E	22 40 13	
		G-W	i_N	22 40 15	
		G-W	eL_N	22 51.3	
		G-W	eL_E	22 52.3	
		G-W	eM_1NZ	22 57.3	
		G-W	eM_2	23 03.8	
		G-W	F	23 32±	
162	Nov 19	G-W	iP_{NZ}	21h15m41s	$\Delta_{P-H} = 24°.5$ $\Delta_{meas} = 24°.5$ H = 21h10m30s. h = about 100 km by the Brunner Depth Chart. $\phi = 14°.3$ N, $\lambda = 90°.7$ W. Including 2nd shock.
		G-W	ipP_{NZ}	21 15 55	
		G-W	i_Z	21 15 57	
		G-W	iPR_1Z	21 15 08	
		G-W	$i(pPR_1)_Z$	21 15 21	
		G-W	isP_Z	21 15 23	
		G-W	eS_N	21 19 48	
		G-W	eSZ	21 19 51	
		G-W	i_Z	21 19 54	
		G-W	isSZ	21 20 15	
		G-W	eM	21 27.1	
		G-W	F	00 51±	
163	Nov 19	W-A	$e(P)_N$	21h49m44s	Lost in No. 162. Probably aftershock.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
164	Nov 22	G-W	iPNZ	18h24m42s	$\Delta_{P-H} = 25^{\circ}.1$
		W-A	ePN	18 24 43	$\Delta_{S-P} = 25^{\circ}.1$
		W-A G-W	ipPNZ	18 24 56	$\Delta_{meas} = 25^{\circ}.1$
		G-W	iZ	18 25 04	H = 18h19m25s.
		G-W	iEZ	18 25 14	h = about 100 km by the Brunner Depth Chart.
		G-W	eSNE	18 28 59	$\phi = 13^{\circ}.7$ N, $\lambda = 90^{\circ}.7$ W.
		G-W	iZ	18 29 09	Surface irregular.
		G-W	isSNZ	18 29 24	
		G-W	iSR1NZ	18 30 03	
		G-W	e(L)	18 34.5	
		G-W	eM	18 36	
		G-W	F	21 31	
165	Nov 23	W-A	$(e)_N$	9h39m22s	$\Delta_{Sn-Pn} = 1^{\circ}.9+$
		W-A	ePnN	9 39 24	H = 09h38m40s
		W-A	eP*NE	9 39 26	$\phi = 36^{\circ}.8$ N, $\lambda = 90^{\circ}.6$ W.
		W-A	iPgN	9 39 33	Near quake not reported felt.
		W-A	iE	9 39 41	
		W-A	eE	9 39 46	
		W-A	iSnE	9 39 49	
		W-A	i(S)NE	9 39 55	
		W-A	iNE	9 39 57	
		W-A	iNE	9 40 04	
		W-A	F	9 44±	
166	Nov 25	W-A	e(Pn)N	17h42m35s	Near quake not reported felt. Probably after-shock of No. 165. Weak. Region Southeast Missouri.
		W-A	eE	17 42 57	
		W-A	eE	17 43 04	
		W-A	i(S)N	17 43 05	
		W-A	iE	17 43±07	
		W-A	F	17 45-	
167	Nov 26	G-W	ePZ	2h17m55s	
		G-W	eENZ	2 17 58	
		W-A	eN	2 17 59	
		G-W	ePR1N	2 18 30	
		G-W	eN	2 20 17	
		G-W	e(S)N	2 22 26	
		G-W	eNE	2 22 46	
		G-W	iN	2 22 52	
		G-W	eZ	2 23 14	
		G-W	iZ	2 23 20	
		G-W	iE	2 23 41	
		G-W	F	3 39±	

FLORISSANT

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

Three Galitzin-Wilip, two Wood-Anderson short-period seismographs, Shortt synchronome clock

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
170	Dec 20	G-W W-A	ePN_Z	2h48m50s	$\Delta S-P = 24°6$
		G-W W-A	iP_{NZ}	2 48 52	$\Delta P-H = 24°6$
		G-W	i_{NEZ}	2 49 04	Δ meas = 24°7
		G-W	ePR_1NEZ	2 49 14	$\varphi = 14°2$ N, $\lambda = 88°6$W.
		G-W	iPR_1NEZ	2 49 16	H = 2h43m29s
		G-W	eS_N	2 53 14	Near normal depth.
		G-W	$e(S)_Z$	2 53 20	Destructive in San
		G-W	iS_{NEZ}	2 53 23	Vincente and several
		G-W	i_{NEZ}	2 53 45	other nearby towns
		G-W	eL	2 56.2	of Salvador.
		G-W	eM	2 58.2	
		G-W	F	(Lost in microseisms)	
171	Dec 21	G-W	eP_Z	19h09m34s	$\Delta S-P = 31°4$
		G-W	eP_N	19 09 35	$\Delta P-H = 31°4$
		G-W	$i(PR_2)Z$	19 10 43	Δmeas = 31°3
		G-W	eS_{NE}	19 14 49	$\varphi = 53°2$ N;
		G-W	eZ	19 14 52	$\lambda = 131°3$ W.
		G-W	i_N	19 14 56	H = 19h03m09s
		G-W	eM	19 40.6	
			F	(Lost in following earthquake)	
172	Dec 21	G-W	i_Z	19h33m49s	Weak.
173	Dec 21	G-W W-A	eP_E	19h34m19s	$\Delta S-P = 31°8$
		G-W	iP_N	19 34 20	Probably aftershock
		G-W	iS_{NE}	19 39 07	of No. 171.
		G-W	iM_E	19 44 40	
		G-W	eM_N	19 44 42	
		G-W	F	(Lost in following shock)	
174	Dec 21	W-A	$e(P)_E$	19h45m13s	Weak.
				(Lost in preceeding shocks)	
175	Dec 25	G-W	e_N	20h06m05s	May be microseisms.
		G-W	e_Z	20 06 07	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
168	Nov 27	G-W	$e(P)_Z$	2h14m41s	Weak.
		G-W	e_N	2 14 45	
		G-W	$e(S)_N$	2 19 27	
		G-W	e_Z	2 19.9	
		G-W	eL_{NZ}	2 26.4	
		G-W	eM_{NZ}	2 29.4	
		G-W	F	2 55±	
169	Nov 30	G-W	e_N	23h08m13s	Weak
		G-W	eM_N	23 10 46	
		G-W	F	23 20±	

Minor Seismic Activity: Nov 1, 00h00m to 01h09m, 17h02m to Nov 2, 11h53m; Nov 3, 04h01m to 05h50m, 06h52m to 11h19m, 14h38m to Nov 4 01h31m; Nov 5, 21h00m to 21h10m, Nov 6 11h50m to 11h56m; Nov 8, 10h06m to 12h45m, 16h54m to 20h45m; Nov 9, 17h00m to 22h48m; Nov 10, 17h46m to 18h06m; Nov 11 01h24m to 01h43m; Nov 14, 10h03m to 10h21m, 14h36m to 22h13m; Nov 15, 01h25m to 19h12m; Nov 20, 15h01m to 22h08m; Nov 21, 05h27m to 12h00m; Nov 23, 00h45m to 01h22m 16h24m to Nov 24, 00h03m; Nov 25, 05h20m to 22h35m; Nov 26 18h26m to Nov 27, 01h43m, 04h00m to 08h13m; Nov 28, 06h15m to 21h46m; Nov 29, 06h34m to 11h00m; Nov 30, 15h22m to 21h00m.

J. B. Macelwane, S.J.
Director

F. Robertson
Graduate Fellow

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
176	Dec 25	G-W	$ePNZ$	20h09m25s	Δ S-P = 24°3
		G-W	iP_{NZ}	20 09 27	H = 20h04m07s
		G-W	eS_{NEZ}	20 13 47	φ = 17°7 N;
		G-W	iS_{N}	20 13 51	λ = 105°0 W.
		G-W	eM_{N}	20 17.0	Epicenter on basis
		G-W	eM_{E}	20 19.3	Florissant, St.
		G-W	F	21 24 ±	Louis, Pasadena.
177	Dec 26	G-W	eNZ	23h06m40s	Δ_{meas} = 107°3
		G-W	eZ	23 06 47	H = 22h52m33s
		G-W	eZ	23 10 32	Depth about 175 km
		G-W	epP'_{Z}	23 11 21	by the Brunner
		G-W	$i(pPR_1)_{Z}$	23 11 44	Depth Chart.
		G-W	$e(SKS)_{NE}$	23 17 24	Region Kermadec Is.
		G-W	$i(SKKS)_{NEZ}$	23 18 16	Epicenter
		G-W	$e(S)_{Z}$	23 20 24	φ = 33°8 S;
		G-W	esS_{NZ}	23 21 37	λ = 175°4 W based on
		G-W	eL	23 43.4	the data of River-
		G-W	eM	23 49.4	view, Wellington,
		G-W	F	Lost in microseisms	Pasadena, Tuscon.
178	Dec 29	G-W	$e(P)Z$	15h05m10s	Probably foreshock
		G-W	eZ	15 06 19	of No. 179.
		G-W	eZ	15 07 01	
		G-W	eE	15 13 04	
		G-W	eN	15 13 06	
		G-W	eZ	15 14 02	
		G-W	$e(S)_{E}$	15 14 08	
		G-W	eN	15 15 10	
		G-W	eZ	15 15 46	
		G-W	eL	15 34.7	
		G-W	eM	15 41.3	
		G-W	F	(Lost in following earthquake)	
179	Dec 29	G-W	$ePR1Z$	15h07m07s	Δ_{meas} = 113°3
		W-A	eE	15 07 13	H = 14h48m07s
		G-W	i_{Z}	15 07 30	φ = 4°8 S;
		G-W	$ipPR_{1}Z$	15 07 54	λ = 154°2 E.
		G-W	$e(SKS)_{Z}$	15 13 03	Depth = 200 km +
		G-W	$e(S)_{E}$	15 15 08	by the Brunner
		G-W	e_{Z}	15 16 35	Depth Chart.
		G-W	eN	15 16 46	Epicenter based on
		G-W	i_{Z}	15 16 48	the data of:
		G-W	eNZ	15 17 22	Chiufeng, Riverview
		G-W	i_{N}	15 17 26	Pasadena, Wellington
		G-W	i_{Z}	15 17 29	
		G-W	iNEZ	15 17 35	
		G-W	eZ	15 22 40	
		G-W	iN	15 22 51	
		G-W	e_{E}	15 22 54	
		G-W	F	(Lost in following earthquake)	

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
180	Dec 29	G-W G-W G-W	eL eM F	16h39.7 16 45.2 (Lost in microseisms)	

Seismic Activity for Florissant for December, 1936: Dec. 1, 18h11m to 18h26m, 21h02m to 21h05m; Dec. 4, 23h26m to 00h00m on Dec. 5; Dec. 5, 00h56m to 00h58m, 17h31m to 21h53m; Dec. 6, 17h46m to 00h49m on Dec. 7, Dec. 7, 16h53m to 17h04m, 17h55m to 17h57m, 18h54m to 21h42m, Dec. 8, 00h02m to 00h06m, 04h02m to 10h28m, Dec. 9, 03h03m to 04h16m, 15h03m to 03h03m on Dec. 10, Dec. 13, 21h57m to 23h37m, Dec. 15, 22h54m to 22h57m, Dec. 16, 00h46m to 00h46m, Dec. 25, 15h53m to 20h00m, 23h34m to 24h00m, Dec. 26, 14h59m to 04h28m on Dec. 27, Dec. 27, 08h45m to 11h22m, 18h14m to 18h59m, Dec. 29, 17h35m to 19h00m on Dec. 30.

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