Jesuit Seismological Service Record of the Earthquake Station, St. Louis University.

ST. LOUIS, MO., U. S. A.

LATITUDE: 38° 38′ 17″ N.
LONGITUDE: 90° 13′ 58″.5 or 6h. 0m. 55s.9 W. Gr.
ALTITUDE: 160.36 m.

TIME: Mean Greenwich, midnight to midnight.
INSTRUMENT: Wiechert 80 kg., astatic, horizontal pendulum.

NOMENCLATURE: International.

The symbols used in the following records are those of the *International* Nomenclature, which is identical with that given by us in the December Bulletin of the University (1911).

SYMBOLS.

CHARACTER OF THE EARTHQUAKE.

I = noticeable, II = striking, III = violent.

d = (terrae motus domesticus) = local earthquake (felt at station).

v = (terrae motus vicinus) = nearby earthquake (less than 1000 km.).

r = (terrae motus remotus) = distant earthquake (1000-5000 km.).

u = (terrae motus ultimus) = very distant earthquake (more than 5000 km.).

PHASES:

P = (undae primae) = first preliminary tremors (longitudinal waves through the earth's interior.)

PRn = P waves reflected n times at the earth's surface.

S = (undae secundae) = second preliminary tremors (transverse waves through the earth's interior).

SRn = S waves reflected n times at the earth's surface.

PS = transformed waves, i. e., waves which, in their reflection at the earth's surface, have been changed from longitudinal to transverse, or vice versa.

L = (undae longae) = long or "Rayleigh" waves (first phase of main or principal portion—surface waves).

M = (undae maximae) = greatest motion in the main or principal portion (complicated surface waves).

C = (cauda) after-shocks or trailers.

F = (finis) = end of visible motion.

NATURE OF THE MOTION:

i = (impetus) = sudden impulse.

e = (emersio) = gradual development (beginning uncertain).

T = period = time of complete vibration to and fro.

A = amplitude of earth motion—reckoned from the line of rest and measured in microns ($\mu = \frac{1}{1000}$ mm).

E or N attached to a symbol refers it to the E-W or N-S component.

EARTHQUAKE RECORDS FOR 1912.

DATE	CHARACTER	PHASE	TIME	PERIOD T	AMPLITUDE A_E	AMPLITUDE A_N	REMARKS.
			h. m.	s	μ	μ	
Jan. 4	II	i	16:05.3	6			S-P=6m.18sec.Δ=4560km.
		F	18:22				From data furnished by Graz, Hamburg, Mobile, Ottawa and Saint Louis, φ =68°.6 N
							λ =148°.8 W
Jan. 31	II	iP	20:19.5	3	5	4	
		S	20:25.8	T_E = 6, T_N = 6.9	6	5	
		L	20:30.6				
		M_E	20:35	8.4	12		
		M_N	20:35.2	8.4		5	
		C_{1E}	20:42				
		C_{2E}	20:45.1				
		F	21:47				
Mar. 11	Ir	eP	10:27.5				S-P = 3m.28sec.
		S	10:30.9				Δ = 2050km.
		M_{1E}	10:33.9	10	28		
		M_{1N}	10:33.9	8		23	
		M_{2E}	10:35.8	10.1	32		
		M_{2N}	10:36.1	10.1		67	
		M_{3N}	10:37	7.8		28	
		M_{3E}	10:37.6	8	20.		
		F	11:28				
May 6	II	e	19:08.5				The first part of the record is too indefinite to allow of phase analysis.
		$?L_N$	19:15.4				
		$?L_E$	19:15.5				
		M_N	19:27.9	15		126	
		M_E	19:27.9	11	51		
		F	20:21				

DATE	CHARACTER	PHASE	TIME	PERIOD T	AMPLITUDE A_E	AMPLITUDE A_N	REMARKS
			h. m.	s	μ	μ	
May 23	II	e_E	2:44.9				
		e_N	2:46.5				
		L_E	3:19.9				
		$?L_N$	3:25.7				
		M_E	3:25.2	36	183		
		M_N	3:36.5	28		200	
		F	4:30.				
Jun. 7	I	e_N	10:59.				
		e_E	11:00.				
		F_E	11:09.				
		F_N	11:28.				
Jun. 7	I	e	18:42				
		F	19:08				
Jun. 8	I	e'	7:11.9				
		F'	7:28				
Jun. 8	IIr	P_N	7:49.9				$(S-P)_E$ = 6m.30sec.
		P_E	7:50.4				Δ = 4780 km.
		S_E	7:56.9				Microseisms during greater
		L_N	8:00.4				part of the day.
		L_E	8:00.6				
		M_E	8:02.9	15	126		
		M_N	8:03.2	15		252	
		F_N	8:34				
		F_E	8:38				
Jun. 8	I	e	9:05.4				
		M_N	9:15.1	12		34	
		M_E	9:15.1	9	9		
		F	9:29.				

DATE	CHARACTER	PHASE	TIME	PERIOD T	AMPLITUDE A_E	AMPLITUDE A_N	REMARKS
			h. m.	s.	μ	μ	
Jun. 8	I	e_N	13:15.9				
		e_E	13:17.7				
		L	13:23.				
		M_E	13:25.6	12	31		
		M_N	13:27.8	13		49	
		F	13:52.				
Jun. 9	I	e_N	17:38.8				
		e_E	17:39.9				
		F	17:46.				
Jun. 10	IIu	P	16:14.4				$(S-P)_N = 6^m.51^{sec.}$
		S_N	16:21.2				$\Delta = 5160$ km.
		S_E	16:21.3				
		L_E	16:30.6				
		L_N	16:30.7				
		M_N	16:34.3	18		163	
		M_E	16:35.6	15	114		
		F_E	17:40				
		F_N	17:41				
Jun. 12	I	e	7:26.8				
		L_E	7:31.				
		L_N	7:31.1				
		M_N	7:31.1	14		25	
		M_E	7:31.2	12	16		
		F_E	7:37.				
		F_N	7:39.				

DATE	CHARACTER	PHASE	TIME	PERIOD T	AMPLITUDE A_E	AMPLITUDE A_N	REMARKS.
			h. m.	s.	μ	μ	
Jun. 12	IIr	iP_N	12:48.8				$(S-P)_N = 3^m.59^{sec.}$
		eP_E	12:49.				$\Delta = 2430$km.
		IS_N	12:52.7				
		IS_E	12:52.8				
		L_N	12:53.7				
		L_E	12:53.8				
		M_N	12:53.9	10		108	
		M_E	12:54.1	12	47		
		F	13:33.				
Jun. 18		e_E	12:02.2				Microseisms prevail.
		?e	12:25.7				
			h m s				
Jul. 7	IIIu	P_E	8:04:52				$S-P = 5^m.53^{sec.}$
		P_N	8:05:22				$\Delta = 4175$ km.
		P_{RIN}	8:07:08				
		P_{RIE}	8:07:16				Quake in Alaska.
		S_E	8:11:09				
		S_N	8:11:15				
		L_E	8:14:57				
		L_N	8:15				
		M_{E1}	8:20:39	12	1613		
		M_{N1}	8:20:44	12		1366	
		M_{E2}	8:20:50	13	1988		
		M_{N2}	8:20:56	14		1588	
		M_{E3}	8:21:02	12	1388		
		M_{N3}	8:23:28	10		751	
		M_{N4}	8:23:40	11		951	
		F_N	9:47.				
		F_E	10.				

DATE	CHARACTER	PHASE	TIME	PERIOD	AMPLITUDE A_E	AMPLITUDE A_N	REMARKS.
			h. m. s.	s.	μ	μ	
Jul. 8	IIu	P	22:01:50				S-P = $6^m.39^{sec}$.
		S	22:08:29				Δ = 4990 km.
		L	22:14;30				
		M_E	22:17:04	11	183		
		M_{N1}	22:17:04	11		150	
		M_{N2}	22:20:04	11		156	Reported from Alaska.
		F	23:10				
Jul. 21			13:30 to 14:00				
			15:02 to 15:07				
Jul. 22		e_E	9:58				
		e_N	9:58				
		?F	10:06				
Jul. 22	I	e_E	23:49.9				e in local disturbance.
		e_N	23:49.8				
		$?_N$	23:52.9				
Jul. 24.	Ir	eP_N	12:07.7				$(S-P)_E = 6^m.6^{sec}$.
		eP_E	12:07.8				$(S-P)_N = 6^m.13^{sec}$.
		iS_E	12:13.9				Δ= 4340 km.
		iP_N	12:14.				Reported from Guayaquil
		M_E	12:13.9	8	10		Ecuador.
		M_N	12:14.	4		5	
		?L	12:18.				
		F	12:36.				
Jul. 25	I	e_E	23:26.6				Principal disturbance bet-
		$?_E$	23:36.6				ween 0:04 and 0:15. N-S
26		L_E	0:04.7	to 24			very faint.

Date.	Character.	Phase.	Time	Period T.	Amplitude. A_E	Amplitude. A_N	Remarks.
			h. m.	s.	μ	μ	
Aug. 6	I	P	21:29.7				Periods very small.
		S	21:36.6				
		?L	21:40.				
		L	21:46.4				
		C_N	22:06.3				
Aug. 9	IIu	$e?_E$	1:39.9				
		e	1:40.5				
		$e?_N$	1:38.7				
		S_E	1:50.9				
		S_N	1:50.9				
		eL_E	2:03.4	56	410		
		eL_N	2:03.5				
		M_E	2:15.7	23	272		
		M_{N1}	2:18.8	18		135	
		M_{N2}	2:15.	20		126	
		F	3:19.7				
Aug. 9	I	$?eL_N$	23:32.5				E-W scarcely anything.
Aug. 17	I	S_E	19:40.8				
		L_E	19:50.6	15			
		L_E	20:29.6	20			
		L_E	20:38.1	16			
		F_E	21:11.				
Aug. 18	IIr	P	21:15.6				S-P = $3^m.13^{sec}$.
		S	21:18.8				Δ = 1870 km.
		iL	21:19.3				
		M_{N1}	21:19.5	6		15	Earthquake reported from
		M_{N2}	21:21.	6		10	400 miles west of Albu-
		M_E	21:21	8	32		querque, N.M.
Aug. 19		F	4.00.0				
Aug. 31		L	23:04.2	15ca.			

Date.	Charaoter.	Phase.	Time.	Period T.	Amplitude. A_E	Amplitude. A_N	Remarks.
			h. m.	s.	μ	μ	
Sep. 1		?S_E	4:10.6				
		?L_E	4:35.2	6			
Sep. 10	I	e_E	16:14.7				
		e_N	16:14.7				
		L_N	16:16.9				
		L_E	16:17.				
		M_N	16:18.6	10		12	
		?F	16:35.				
Sep. 13		L_N	24:13.4	15-18			
Sep. 20		?P_N	21:30.2				
		?L_N	21:48.9	12			
		?F	22:17.				
Sep. 29	Iu	eP	21:11.2				Δ = 8370 km
		eS	21:20.8				
		?eL_E	21:42.3				
		?eL_N	21:41.1				
		L_N	21:49.4	32		27	
		L_E	21:48.5	32	67		
		L_N	21:58.1	20		41	
		L_E	21:56.5	20	32		
		F_N	22:47.1				
		F_E	22:49.3				
Oct. 12	I	?eL	15:59.8				
		?F	16:43.5				

Date.	Charaoter.	Phase.	Time	Period T.	Amplitude. A_E	Amplitude. A_N	Remarks.
			h. m. s.	s.	μ	μ	
Oct. 18	I	eP	12:13:42				S-P = $6^m.54^{sec}$.
		S	12:20:36				Δ = 5260 km
		eL	12:24:30				
		M_E	12:25:32	16	4		
		M_{N1}	12:25:32	16		5	
		M_{N2}	12:31:10	16		6	
		?F	13:04				
Nov. 7	IIu	eP	7:48.6				S-P = $6^m.30^{sec}$.
		eS	7:55.1				Δ = 4830 km.
		eL	7:58.6				
		M_{N1}	8:04.3	11		57	
		M_E	8:04.5	12	43		
		M_{N2}	8:07.5	13		69	
		?F	8:43				
Nov. 7	I	?eP_E	16:05.7				
		?L_E	16:50.8				
		?L_N	16:14.6				
Nov. 7	I	e_N	16:50.3				E-W very slight record.
		eL_N	16:55.3				
		eL_E	16:55.4				
		?F_N	17:19.				
Nov. 7	I	L	17:40.4				
		?F_N	18:13.				

Date.	Character.	Phase.	Time.	Period T.	Amplitude. A_E	Amplitude. A_N	Remarks.
			h. m. s.	s.	μ	μ	
Nov. 19	IIr	iP_N	13:59:41				S-P = $3^m.53^{sec}$.
		eP_E	13:59:42				Δ = 2420 km.
		iS_E	14:03:33				Mexico.
		iS_N	14:03:35				
		M_{E1}	14:03:33	10	25		
		M_{N1}	14:03:44	10		127	
		?L	14:04:41				
		M_{E2}	14:09:55	8	20		
		M_{N2}	14:13:27	6		26	
		?F	15:00:00				
Nov. 22	I	$?eL_N$	1:10:33				Microseisms prevail especially before midnight 21st inst. Quake reported from Vancouver Island B.C. Time determinations uncertain.
		$?eL_E$	1:10.7				
		$?F_E$	1:24.				
Dec. 5	Ir	$?eP_N$	12:35.9				eP in local disturbance. S-P = $6^m.7^{sec}$. Δ = 4430 km.
		$?eP_E$	12:35.9				
		eS	12:42.2				
		eL	12:45.9				
		M_N	12:54.3	18		1mm	
		?C	13:17.2				
		$?F_E$	13:32.8				
Dec. 5		$?eS_N$	17:51.1				e in local tremors.
		$?eL_E$	17:59.6				
		$?eL_N$	17:59.6				
		?F	18:13				

Date.	Character.	Phase.	Time.	Period T.	Amplitude. A_E	Amplitude. A_N	Remarks.
			h. m. s.	s.	μ	μ	
Dec. 7	I	i	23:05:28				Microseisms make determinations of P and F impossible. No M in L waves.
		iM_E	23:05:28	5	26		
		iM_N	23:09:18	5		26	
		$?L_N$	23:09:18				
		$?L_E$	23:09:25				
Dec. 9	IIr	eP_N	8:37.5				S-P = $4^m.11^{sec}$. Δ = 2580 km. No P on E-W. eL uncertain.
		eS_N	8:41.7				
		eS_E	8:41.8				
		$?L_N$	8:43.3				
		$?L_E$	8:43.1				
		M_{N1}	8:42.2	12		97	
		M_E	8:42.6	8	15		
		M_{N2}	8:51.6	14		85	
		F_N	9:18.8				
		F_E	9:28.5				