

SEISMOLOGICAL LABORATORY

California Institute of Technology
Pasadena, California

BULLETIN ON LOCAL SHOCKS

January - March, 1959

This bulletin catalogues earthquakes in the general Southern California area for which seismograph data are sufficient for good epicenter determinations. In general this includes shocks of magnitude 3.0 within the boundaries indicated on the index map circulated with earlier issues. (A limited number of copies of this index map are still in stock, available on request until exhausted). Shocks in adjacent parts of Mexico, Nevada, and central California are included when of magnitude 4.5 or over.

Shocks of magnitude less than 3.0 in the Southern California area, or less than 4.5 in the adjacent areas, are included when reported as felt, when unusually well located, or when there is some other reason for special interest.

Artificial earthquakes due to explosions, etc., are not listed.

Dates and times are in terms of Greenwich Civil Time (G.C.T.). For Pacific Standard Time subtract 8 hours, for Pacific Daylight-Saving Time subtract 7 hours; this will sometimes change the date. Time reported is that of origination of the shock, generally to the nearest second; when determination is less precise, time is given to the nearest tenth of a minute.

Latitudes North and longitudes West are in degrees and minutes, or degrees and tenths. Quality of location is indicated in the column headed Q, as follows: A, specially investigated; B, probably within 5 kilometers (3 miles); C, probably within 15 kilometers (or 10 miles); D, very rough.

Magnitudes are given in the column headed M. Index letters and figures, such as K7, refer to the index map.

USCGS, or CGS: United States Coast and Geodetic Survey. Reports of felt earthquakes as collected by the San Francisco office, Seismological Field Survey; epicenters and origin times as determined at the office of the Director, Washington, D. C.

Roman numerals I, II, III...are intensities on the Modified Mercalli scale of 1931.

Charles F. Richter
September 10, 1959

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BULLETIN ON LOCAL SHOCKS

January - March, 1959

NOTE: Beginning on January 6 there was a long series of recorded shocks in Owens Valley, at first near Haiwee and later including shocks near China Lake. The following list includes only those of magnitude 3 or over. Epicenters and origin times given for these shocks in this bulletin are preliminary, subject to small revision in definitive publication.

Shocks in Baja California continued, most of them originating near Laguna Salada as aftershocks of the earthquake of December 1, 1958. Those of magnitude 4.0 and over are listed at the end of this issue, for January through March.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959									
<u>January</u>									
5	12:36:03	36	09	118	03	A	4.7	J9	Near Haiwee. V in that vicinity (USCGS). Felt generally in southern Owens Valley, and as far west as Porterville.
6	16:10:20	36	07	118	03	B	3.7	J9	Near Haiwee. IV at Olancho (CGS).
6	23:37:07	36	09	118	03	B	3.1	J9	Near Haiwee. IV there (CGS).
7	00:20:41	35	46	117	35	B	3.2	K8	Near China Lake. Felt there (letter).
7	02:07:19	35	46	117	35	B	3.1	K8	Near China Lake. Felt there (letter).
7	03:04:47	36	09	118	03	B	3.0	K8	Near Haiwee. Felt at China Lake (letter).
7	20:04:40	35	46	117	35	B	3.1	K8	Near China Lake. Felt there (letter).
7	21:26:16	34	01	119	02	C	3.0	G5	Off Point Mugu.
9	06:41:05	35	46	117	35	B	3.3	K8	Near China Lake. Felt there (letter).
11	18:54:48	36	09	118	03	A	3.7	J9	Near Haiwee.
12	12:36:06	36	09	118	03	B	3.9	J9	Near Haiwee. IV at Haiwee (CGS). Felt at China Lake (letter).
16	00:10:06	36	07	118	03	A	4.3	J9	Near Haiwee. Felt at Lone Pine (CGS).

Date	G.C.T.	Lat.	N.	Long. W.	Q.	M.	Index	Remarks
1959 January								
17	20:05:05	36	09	118	03	B	3.3	J9 Near Haiwee.
19	16:57:10	34	02	118	00	B	1.5	J5 North of Whittier.
19	21:46:00	36	09	118	03	A	4.1	J9 Near Haiwee. IV there and at Darwin (USCGS).
22	00:23:						4.6	Baja California.
28	18:09:04	36	48	116	12	C	4.0	N10 Southern Nye County, Nevada.
29	14:47:05	33	27	116	32	B	3.4	M3 Santa Rosa Mountains.
31	16:20:34	35	06	119	00	B	3.1	G7 North of Wheeler Ridge.
1959 February								
1	04:20:01	35	28	118	46	B	3.0	H7 Kern River Gorge.
3	13:54:42	35	18	118	34	B	3.1	H7 Near Caliente.
3	14:06:33	35	19	118	34	D	2.7	H7 Near Caliente.
3	16:44:44	35	18	118	38	C	2.9	H7 West of Caliente.
4	15:20:45	36	09	118	03	C	3.4	J9 Near Haiwee.
5	02:43:30	34	11	116	57	B	3.3	M5 South of Big Bear Lake. IV at Fawnskin (CGS).
6	02:01:51	35	20	118	31	B	3.2	H7 Near Caliente.
7	21:24:22	33	28	118	20	B	3.0	J3 Off Catalina Island.
8	08:28:55	36	07	118	03	B	3.5	J9 Near Haiwee.
25	16:18:43	35	25	118	30	B	2.2	H7 Northeast of Caliente.
26	03:03:						4.5	Baja California.
27	04:32:45	35	37	118	27	B	3.0	J8 Near Isabella.
27	21:31:04	33	56	118	08	C	1.7	J4 Near San Pedro. Peculiar record.
28	18:01:05	33	23	116	31	B	3.2	M3 Northeast of Palomar.
28	22:41:25	34	13	117	54	C	1.6	K5 Vicinity of Dalton.
28	22:47:53	35	21	118	31	C	2.9	H7 Near Caliente.
1959 March								
<u>2</u>	23:27:15	36	59	121	36		5.2	B10 Near Gilroy. Epicenter by Berkeley. Maximum VI, in Santa Clara and Santa Cruz Counties. Felt in San Francisco, and to distances of over 250 km.
3	07:23:44	37.0		121.6			4.5	B10 Aftershock of Mar. 2, 23h. V at Soquel and Watsonville (CGS). IV at San Francisco.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<u>1959</u> <u>March</u>									
3	18:32:10	37		122			4.1	B10	Epicenter and origin time by USCGS. After-shock of Mar. 2. IV at Aptos, Gilroy, Hollister; felt at San Francisco (CGS). Southeast of China Lake.
5	05:59:37	35	37	117	09	C	3.1	L8	
9	20:55:11	34	00	117	47	B	2.0		
10	06:57:56	33	07	116	26	B	3.2	N3	Southeast of Palomar.
10	19:08:59	34	25	119	29	B	3.0	G5	East of Santa Barbara.
15	04:24:08	33	22	116	48	B	3.3	M3	Near Palomar. IV at Hemet (CGS).
18	14:20:39	38 $\frac{1}{2}$		118 $\frac{1}{2}$			4.5	J13	Nevada. Felt in Reno (press).
23	00:08:32	34	10	117	26	B	2.6	L5	Northwest of San Bernardino.
23	07:10:22	40		118			6.3	J15	Epicenter and origin time by USCGS. VI at Carson City and east of Fallon, Nevada. V at many points in Nevada; felt as far as Fresno in California (CGS).
25	05:34:17	34	15	119	35	C	2.5	F5	Santa Barbara Channel. IV at Carpinteria (CGS).
29	23:42:11	34	02	118	30	C	2.7	J5	Near Santa Monica; felt at Pacific Palisades (letter).
30	05:52:50	34	02	117	42	B	2.4	K5	Near Dalton.
30	14:17:32	33	22	117	52	C	3.3	K3	Off Laguna Beach.

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Pasadena Local Shocks
January - March, 1959

The following is a possibly not quite complete list of shocks in northern Baja California (mostly near Laguna Salada) of magnitude 4.0 and over, January through March, 1959:

			M
January	7	15:14	4.3
"	9	18:35	4.0
"	10	15:02	4.0
"	14	03:32	4.2
"	15	06:35	4.1
"	18	18:13	4.0
"	18	19:33	4.0
"	22	00:23	4.6
"	22	06:31	4.4
"	22	07:39	4.0
"	22	08:20	4.1
"	25	03:45	4.0
"	25	10:01	4.0
February	16	06:43	4.0
"	26	03:03	4.5
March	4	16:59	4.1

September 10, 1959

C. F. Richter
S. Alexander
D. Krotser
and other assistants

SEISMOLOGICAL LABORATORY
California Institute of Technology
Pasadena, California



BULLETIN ON LOCAL SHOCKS

April - June, 1959

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959 April									
1	08:27:24	34	14	118	37	C	2.5	H5	Near Calabasas.
1	11:55:24	33	57	116	37	C	3.2	M4	Near San Geronio Pass.
1	18:18:28	40		120			5.6	F15	Epicerter and origin time by USCGS. VII at Loyalton, VI at Baxter, Blue Cannon, Chilcoot, Crescent Mills and Doyle. Felt in Northern California and Western Nevada. East of El Centro. Felt at El Centro (CGS).
2	05:47:58	32	46	115	21	B	3.5	Q2	
8	14:09:21	34	08	116	23	C	3.1	N5	South of Joshua Tree.
10	14:30:15	35	19	118	32	B	3.0	H7	Near Caliente.
10	23:58:11	34	38	117	02	C	3.1	L6	South of Barstow.
12	04:31:25	34	05	117	23	C	2.5	L5	Fontana area. Felt at Fontana (press).
12	04:52:44	34	07	117	25	C	2.3	L5	Fontana area. Felt at Fontana (press). Intensity IV (CGS).
13	01:21:15	33	50	119	27	D	2.8	G4	South of Anacapa Island.
13	13:17:25	34	05	117	20	C	2.5	L5	Near Colton.
17	13:06:03	34	18	117	03	C	2.8	L5	East of Big Bear. Felt in Palm Springs vicinity. (Phone call).
17	14:27:47	33	51	116	10	D	3.6	N4	Near Palm Springs. Felt in Palm Springs and vicinity. (Phone call).
17	16:18:57	33	55	116	20	C	4.2	N4	North of Indio. IV at Palm Springs. (CGS) Felt in Palm Springs and Cathedral City.
18	17:08:44	35	21	118	33	C	3.0	H7	South of Caliente.
20	13:16:10	34	27	118	43	C	2.5	H5	Northeast of Ventura.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<u>1959</u>									
<u>April</u>									
20	17:19:25	34	11	117	31	C	2.5	K5	Near Ontario.
23	06:52:51	33	49	118	07	C	2.7	J4	Felt in the Whittier area. IV at Whittier (CGS).
24	07:25:50	33	48	118	07	C	2.7	J4	South of Whittier. Felt in Buena Park. (Phone call).
24	16:53:10	36	59	117	58	C	3.4	K10	Southeast of Tinemaha.
25	12:16:25	37	03	118	00	B	3.6	J11	Near Tinemaha.
25	23:30:11	34	58	116	49	C	3.1	M6	East of Barstow.
26	01:34:27	33	12	115	40	D	3.1	P3	Near Westmorland.
27	17:45:07	32	04	115	14	D	4.5	Q1	South of Volcano Lake. Felt over a wide area. IV at Calexico, Heber, Seeley, and Winterhaven; III at Bard, Calipatria, El Centro and San Diego (CGS).
28	05:38:10	35	14	118	42	C	2.8	H7	South of Caliente.
28	05:40:18	35	13	118	32	C	3.0	H7	Near Caliente.
30	05:37:09	35	12	119	08	C	3.5	G7	Near Taft.
<u>May</u>									
1	04:05:29	35	03	119	09	B	3.0	G7	Near Taft.
6	23:23:29	34	04	117	22	C	3.3	L5	San Bernardino-Fontana area. Felt in Fontana (press).
10	15:42:57	33	02	117	43	B	3.1	J2	Southeast of San Clemente Island.
12	19:54:54	34	56	116	53	C	2.8	M6	Near Barstow.
20	07:58:47	35	15	118	28	C	3.5	J7	Southeast of Caliente.
21	02:13:57	35	16	118	32	C	3.1	H7	South of Caliente.
21	09:12:40	35	18	118	38	C	2.5	H7	South of Caliente.
21	13:26:43	33	29	116	31	C	3.0	M4	Near Cahuilla.
21	15:50:44	33	23	116	48	C	3.6	M3	Near Palomar.
21	17:51:40	39 $\frac{1}{2}$		118			4.7	M15	Epicenter and origin time USCGS. Western Nevada. Mag. acc. Berkeley.
22	18:33:49	34	19	117	51	C	2.1	K5	Near Dalton.
23	11:21:16	34	07	117	27	C	3.3	L5	Fontana, San Bernardino area. Felt at Fontana, San Bernardino, and Etiwanda. (Phone call).

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<u>1959</u>									
<u>May</u>									
23	11:25:20	34	05	117	27	B	2.3	L5	Fontana, San Bernar- dino area.
31	02:34:24	33	59	117	14	C	2.6	L4	East of Riverside.
31	02:36:13	34	04	117	14	B	2.6	L5	East of San Bernar- dino.
<u>June</u>									
1	15:16:31	35	19	119	00	B	3.0	G7	East of Taft.
1	16:35:36	32	43	116	02	C	4.6	N2	West of El Centro.
6	16:30:46	37	20	118	38	C	4.0	H11	Near Bishop.
6	19:29:53	33	07	116	27	B	3.1	N3	East of Julian.
10	11:30:50	33	02	115	46	C	3.5	P3	South of Salton Sea.
11	06:28:27	33	42	118	06	C	2.3	J4	Near Long Beach.
12	11:03:13	33	30	116	46	C	4.0	M3	Near Palomar. Felt at Hemet, Fallbrook and San Diego. Maxi- mum intensity V (CGS).
14	06:13:35	31	40	115	18	D	4.6		Baja California.
16	08:49:33	34	28	116	29	C	3.0	N5	East of Means Wells.
18	06:01:40	36	11	118	00	B	2.7	K9	Near Haiwee. Felt there, IV (CGS).
20	04:10:49	35	20	118	30	C	3.5	H7	South of Caliente.
20	17:03:53	35	13	118	22	B	2.8	J7	Southeast of Caliente.
21	09:24:07	34	19	119	40	B	3.3	F5	Near Santa Cruz Island.
23	06:25:35	36	09	117	58	B	3.8	K9	Near Haiwee.
23	14:32:38	39 $\frac{1}{2}$		119			4.5	H15	Epicenter and origin time by USCGS; mag. 4 $\frac{1}{2}$ acc. to Berkeley. Nevada foreshock.
23	14:35:02	39		119			6.2	H15	Epicenter and origin time by USCGS; maxi- mum intensity VI. Principal effects of the shock occurred at and near Schurz, Nevada. Felt in Nevada and eastern California (CGS).
23	15:04:36	39		119			5.5	H15	Epicenter and origin time by USCGS; mag. 5 $\frac{1}{2}$ acc. to Berkeley. Nevada aftershock.

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Pasadena Local Shocks
April - June, 1959

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959 June									
26	06:30:31	35	31	118	44	B	3.0	H8	Near Caliente.
26	19:47:29	34	09	117	51	C	1.9	K5	Near Dalton.
27	05:28:55	35	31	118	39	B	2.9	H8	Near Caliente.
27	16:22:11	34	02	116	51	B	4.0	M5	North of Banning in San Gorgonio Mts. Felt at Palm Springs, phoned in by Mrs. Kierney (bankteller).

February 10, 1960

Violet M. Taylor
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AUG 8 1960



SEISMOLOGICAL LABORATORY
California Institute of Technology
Pasadena, California

BULLETIN ON LOCAL SHOCKS

June - September, 1959

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959 July									
1	19:38:24	35	10	119	14	C	3.2	G7	East of Taft.
1	19:50:42	35	13	119	07	C	3.4	G7	East of Taft.
1	23:49:24	35	12	119	03	B	4.7	G7	South of Bannister. Felt in Kern County area. Felt sharply at Bakersfield. Max- imum intensity IV (CGS).
3	21:47:50	34	57	117	02	B	3.0	L6	Near Barstow.
3	22:23:34	33	23	119	57	B	3.3	F3	West of San Nicolas Island.
4	19:49:50	35	22	118	34	B	2.9	H7	Near Caliente.
10	14:44:59	33	57	118	25	C	2.5	J4	Near Venice. Felt in Beverly Hills and Culver City.
10	19:39:44	34	22	117	50	C	2.1	K5	Near Dalton
18	13:18:13	34	14	118	15	D	1.7	J5	Near Pasadena.
20	11:41:49	33	22	116	33	B	3.8	M3	Near Warner Hot Springs. Felt at El Cajon and Descanso (press). Maximum intensity IV (CGS).
20	13:25:23	34	06	116	59	C	2.5	M5	Near Big Bear.
20	18:34:55	34	24	117	48	C	2.1	K5	North of Dalton.
21	00:36:42	36	36	117	08	C	3.5	L10	Near Emigrant Springs.
23	03:21:03	33	56	117	15	C	3.5	L4	East of Riverside. Felt in Fontana, River- side and San Bernardi (press).
29	16:00:43	34	12	117	30	D	2.7	K5	North of Etiwanda
29	16:09:33	34	13	117	35	D	2.1	K5	Near Etiwanda.
29	16:30:22	34	00	117	48	B	2.2	K5	East of Walnut.
29	16:48:35	34	00	117	48	B	2.9	K5	East of Walnut. Felt in San Dimas, La Puente, Pomona and Covina.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<p>1959 July</p> <p>There was a swarm of shocks during the months of July and August, 1959, with epicenter $34^{\circ} 00' N$ $117^{\circ} 48' W$. Those of magnitude 2.2 and over are listed separately at the end of this issue. A paper, written by C. F. Richter and John K. Gardner, "The Walnut, California Earthquakes of July - August, 1959," has been published in the April, 1960 issue of the Bulletin of the Seismological Society of America.</p>									
29	17:39:15	33	57	116	33	C	3.1	M4	Near Desert Hot Springs.
<p>August</p>									
4	07:36:59	37	21	118	33	C	5.2	H11	West of Bishop. Felt over approximately 12,000 square miles of Central California. Maximum intensity VI (CGS).
4	07:41:33	37	21	118	39	B	4.2	H11	West of Bishop. Felt over a wide area of Central California. Maximum intensity IV (CGS).
4	14:05:43	34	10	117	32	B	2.7	K5	North of Etiwanda.
4	18:25:22	33	57	115	40	C	4.1	P5	Southeast of Twenty-nine Palms. Maximum intensity V (CGS). Felt at Twentynine Palms.
4	19:12:35	37	28	118	39	C	4.0	H11	West of Bishop. Maximum intensity V (CGS). Felt at Bartlett.
5	03:00:32	35	59	120	32	C	3.8	D8	Near Parkfield. Felt at Parkfield and Paso Robles. Maximum intensity IV (CGS).

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Pasadena Local Shocks
July - September, 1959

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959 August									
8	07:18:10	34	17	116	07	C	3.2	N5	Near Twentynine Palms.
8	15:58:58	35	06	116	41	C	3.0	M7	East of Coyote Wells.
11	21:25:34	32	57	118	04	C	2.7	J2	East of San Clemente Island.
13	21:38:06	33	34	115	34	D	3.3	P4	Near Salton Sea.
13	21:40:55	33	11	115	44	B	3.1	P3	South of Salton Sea.
14	03:15:17	33	50	117	42	B	2.7	K4	Near Corona.
14	08:02:44	33	58	115	50	C	3.2	P4	Near Pinto Basin.
14	18:25:03	33	59	115	49	C	3.0	P4	Near Pinto Basin.
16	16:48:12	35	05	116	45	C	3.3	M7	Near Coyote Wells.
18	05:01:42	34	17	116	18	C	2.9	N5	Near Joshua Tree.
18	21:52:22	33	08	116	29	C	4.3	N3	Northeast of Julian. Felt at El Cajon and Jamul. Maximum intensity IV (CGS).
20	16:23:28	34	39	116	29	C	2.7	N6	Pisgah Crater area.
20	22:55:04	34	58	116	40	B	2.8	M6	East of Barstow.
23	16:01:57	34	08	117	47	B	3.6	K5	Near La Verne. Felt at Fullerton, Anaheim, Santa Ana, La Puente, Pomona, Covina, and Maywood (press). Maximum intensity IV (CGS).
24	07:59:00	34	03	117	49	B	2.9	K5	East of La Puente. Felt in La Puente. (Phone to Lab by Valley Times).
26	05:32:51	34	03	116	33	B	4.3	M5	Morongo Valley. Felt over a large area of Southern California: San Bernardino, Los Angeles, and San Diego Counties. No damage reported. Maximum intensity V (CGS).
27	00:23:57	34	04	116	28	B	3.2	N5	South of Yucca Valley.
30	16:51:33	35	14	118	34	C	3.5	H7	West of Tehachapi.
31	22:45:27	34	44	117	04	C	3.2	L6	Near Stoddard Wells.

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Pasadena Local Shocks
July - September, 1959

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959 September									
4	14:26:00	34	00	117	14	B	2.6	L5	Redlands area.
9	01:40:34	35	12	118	44	B	2.9	H7	East of Arvin.
10	18:22:08	37	34	118	56	D	3.5	H12	Near Lake Mary.
11	18:25:46	33	53	118	22	D	1.9	J4	Near Redondo Beach.
11	21:07:35	35	00	118	41	C	2.6	H7	East of Wheeler Ridge.
15	11:36:24	36	02	117	50	B	3.1	K9	East of Sykes.
17	08:11:15	35	58	117	52	B	3.8	K8	Near Little Lake.
17	08:37:57	36	02	117	50	B	3.0	K9	East of Sykes.
17	15:37:03	36	00	117	50	C	3.0	K9	Near Sykes.
20	02:31:06	33	28	115	53	C	3.5	P3	Salton Sea area.
23	05:32:26	35	16	118	38	C	3.1	H7	South of Caliente. Felt at Keene. Max- imum intensity IV (CGS).
26	01:57:23	35	55	117	27	C	3.2	L8	Near Argus.
27	00:21:50	36	02	117	55	C	3.0	K9	South of Coso Junction
29	04:10:38	33	58	118	27	B	2.2	J4	West of El Segundo.
30	16:29:27	35	20	118	34	B	2.7	H7	Near Caliente.
30	16:51:34	35	26	118	34	B	2.8	H7	Near Caliente.

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Pasadena Local Shocks
July - September, 1959

July and August, 1959

List of shocks originating $34^{\circ}00'N$ $117^{\circ}48'W$, of magnitude 2.2 and over.

<u>Date</u>	<u>Time</u>	<u>Magnitude</u>	
July 29	16:30	2.2	
	16:48	2.9	
	17:33	2.8	
	18:39	2.8	
	19:13	2.3	
	19:14	2.3	
	20:14	3.1	
	21:26	2.8	
	21:29	3.3	
	22:03	2.7	
July 30	00:02	2.2	
	00:03	2.2	
	09:04	2.3	
	12:04	2.2	
	12:06	2.2	
August 1	14:23	2.3	
	14:25	2.3	
August 3	15:26	3.5	Felt: La Habra, La Puente, Tustin and Pomona.
	17:06	2.2	
	17:15	2.2	
	17:54	2.9	Felt at Pomona.
	18:26	2.2	
	18:36	2.5	
August 5	03:30	2.3	
August 6	03:02	2.3	

August 1, 1960

Violet M. Taylor
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SEISMOLOGICAL LABORATORY
California Institute of Technology
Pasadena, California

BULLETIN ON LOCAL SHOCKS

October - December, 1959

NOTE: This quarterly report is being issued with the usual locations based on instrumental recordings, but with notes on perceptibility and intensity derived only from press clippings and individual reports reaching Pasadena. A supplement will be issued later, giving revised and additional data of this kind, and any necessary corrections and additions to the epicenter list.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<u>1959</u> <u>October</u>									
1	04:35:35	34	26	120	34	B	4.5	D5	Near Point Concepcion. Slight damage in Santa Barbara area. Felt in Lompoc, Santa Barbara, San Francisco and Los Angeles. Maximum intensity VI at Gaviota Pass where large boulders fell and partially blocked highway 101 (CGS).
1	05:52:55	34	12	119	30	C	3.2	G5	North of Anacapa Island.
1	11:53:03	35	41	117	35	C	2.3	K8	Near China Lake.
1	11:53:06	34	22	118	03	C	2.4	J5	In San Gabriel Mts.
3	20:41:02	35	05	117	04	D	2.9	L7	North of Barstow.
4	05:06:14	34	15	116	09	B	3.0	N5	North of Twentynine Palms.
6	15:02:17	32	50	118	21	B	3.2	J2	Near San Clemente Island.
6	18:59:02	34	11	116	58	C	3.1	M5	Near Seven Oaks.
10	20:48:19	35	18	118	50	C	2.9	H7	North of Di Giorgio.
11	09:42:28	34	00	116	28	B	3.2	N5	Near Desert Hot Springs.
14	11:29:38	35	23	118	36	B	3.3	H7	Near Caliente.
14	15:07:45	35	08	118	36	B	2.6	H5	West of Tehachapi.
15	10:19:55	35	51	117	31	B	3.6	K8	China Lake area.
19	05:45:12	35	47	117	33	B	3.1	K8	China Lake area.
21	12:42:30	35	06	118	35	B	3.4	H7	South of Tehachapi.
24	15:35:15	35	44	118	00	B	4.2	K8	Near Owens Park.
24	16:09:33	35	45	117	53	B	2.9	K8	Near Owens Park.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<u>1959</u>									
<u>October</u>									
24	16:11:25	35	44	118	00	B	3.8	K8	Near Owens Park.
24	19:58:20	35	44	117	58	B	3.4	K8	Near Owens Park.
29	04:52:12	35	36	118	08	B	3.1	J8	East of Isabella.
29	20:28:14	35	42	118	00	B	3.1	K8	South of Owens Park. 21
<u>November</u>									
1	03:17:17	35	44	118	01	C	3.1	J8	East of Isabella.
7	05:36:30	35	45	118	02	C	3.3	J8	East of Isabella.
12	10:00:07	34	57	119	11	C	3.0	G6	West of Ft. Tejon.
12	14:51:04	35	41	117	58	B	3.0	K7	Walker Pass area.
14	21:54:13	34	15	117	49	D	2.0	K5	East of Dalton.
15	20:34:14	35	25	118	21	B	3.3	J7	East of Caliente.
15	20:34:17	33	30	116	53	C	2.6	M3	Near Palomar.
16	12:05:35	35	42	117	59	B	3.8	K8	South of Haiwee. Felt by the dam keeper at Haiwee Reservoir (phone to Lab.).
16	12:15:23	35	45	118	00	C	2.9	J8	East of Isabella.
22	18:30:09	35	24	118	46	C	3.0	H7	Near Caliente.
23	20:02:41	35	47	117	36	B	3.1	K8	Near China Lake.
25	23:49:14	33	13	118	38	B	3.0	H3	Near Santa Catalina Island.
29	23:42:14	34	00	116	59	C	3.1	M5	Near Yucaipa.
29	23:50:45	34	01	116	56	B	3.1	M5	Near Yucaipa. 14
<u>December</u>									
5	08:13:36	40 $\frac{1}{2}$		126			5.0		Off the coast of northern California. Felt in Humboldt County. Magnitude according to Berkeley. Epicenter and origin time by CGS.
7	01:14:39	33	02	119	03	C	3.4	G3	Southeast of San Nicolas Island.
8	11:24:02	35	04	119	11	C	3.4	G7	East of Maricopa.
8	23:58:49	33	33	118	27	C	2.7	J4	San Pedro Channel.
9	00:00:08	33	36	118	21	B	2.6	J4	San Pedro Channel.
9	00:33:33	33	36	118	19	C	2.8	J4	San Pedro Channel.
9	04:57:17	33	36	118	21	D	2.8	J4	San Pedro Channel.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
1959 December									
15	18:59:17	33	42	120	35	D	3.7	D4	Southwest of San Miguel Island.
15	21:23:17	33	59	117	01	C	3.0	L4	Near Calimesa.
16	02:28:44	38 $\frac{1}{2}$		122			4.5	A13	Felt in Sonoma County, California. Magnitude according to Berkeley. Epicenter and origin time by CGS.
17	03:37:07	34	03	117	43	C	2.3	K5	Near Ontario.
18	03:28:09	33	59	116	20	C	2.9	N4	East of Desert Hot Springs.
18	12:20:32	33	58	117	42	C	2.6	K4	South of Chino.
19	06:44:13	34	02	117	43	C	2.7	K5	Near Pomona.
24	07:40:16	35	38	118	22	B	2.9	J8	Near Isabella. Felt at Isabella by seismological station attendant, Mr. Cate.
24	16:45:37	35	40	118	23	B	3.3	J8	Near Isabella. Felt there by station attendant.
27	13:58:53	33	42	118	00	C	2.7	J4	Near Huntington Beach.
29	14:53:08	35	45	120	18	C	3.5	E8	Near Cholame. Felt at Paso Robles.
29	20:59:07	33	51	118	38	C	3.0	H4	East of Redondo Beach.
31	18:27:05	34	03	118	40	D	2.2	H5	Near Malibu Beach. Felt in the West Los Angeles and Wilshire district (press).

September 28, 1960

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BULLETIN ON LOCAL SHOCKS

October - December, 1959

Supplement

The following information on perceptibility of certain earthquakes previously reported has come to hand.

Times and locations are unchanged, but are repeated here for convenience.

Date	G.C.T.	Lat.	N.	Long.	W.	Q.	M.	Index	Remarks
<u>1959</u>									
<u>Oct.</u>									
24	15:35:15	35	44	118	00	B	4.2	K8	Near Owens Park. V at Onyx (CGS), VI at head of Sand Canyon (telephone to Laboratory). East of Isabella. IV at Onyx (CGS).
29	04:52:12	35	36	118	08	B	3.1	J8	
<u>Dec.</u>									
29	14:53:08	35	45	120	18	C	3.5	E8	Near Cholame. III at Paso Robles (CGS).