Earthquake Commentary for July, 1998

Map of recent earthquake activity

Send comments and suggestions to:kate@bombay.gps.caltech.edu

13:21 PDT, Friday, July 31

At 12:19 pm today, a M2.8 occurred about 3 miles northwest of Mt. San Gorgonio, which is in the San Bernardino Mtns. south of Big Bear Lake. The focal mechanism was strike-slip. The small event had eight foreshocks, beginning at 11:02 am.

09:08 PDT, Friday, July 31

There was a quake in the early hours of the moring, at 2:37 am, located offshore, 14 miles southeast of Santa Barbara Island. Magnitude was M3.2.

18:01 PDT, Thursday, July 30

We recorded and analysed 165 earthquakes in the past week. Click here to see a summary and map .

09:33 PDT, Wednesday, July 29

This morning's quake was a M3.2, located 13 miles southeast of Calexico, at 8:13 am. Although the epicenter was actually in Mexico, it is reasonable to expect this quake to have been felt in the southern Imperial Valley.

08:34 PDT, Tuesday, July 28

The only quake of interest overnight was another Stovepipe Wells quake, a M2.8 at 11:15 pm. It was located 31 miles northwest of Stovepipe Wells.

11:00 PDT, Monday, July 27

Over the weekend, there were a few small quakes. On Saturday, at 7:27 am, a M2.5 occurred about 6 miles north-northwest of the town of Big Bear Lake. There were no reports that it was felt.

Then, on Sunday night at 10:15 pm, there was a M3.3 located 28 miles northeast of Lone Pine. This is associated with the "Stovepipe Wells" activity of the past few weeks. It also escaped public notice, which makes sense due to the location.

Finally, at 6:55 am this morning, we had a M3.6 located 8 miles east of Desert Hot Springs. Contrary to what I said earlier this morning, this quake was within the Landers aftershocks zone. It was, in fact, within a few miles of the Joshua Tree earthquake, which started off the whole Landers sequence in April of 1992. The focal mechanism indicates oblique strike-slip on a plane consistent with the strike of the the Joshua Tree and Landers ruptures. The quake was felt in the Palm Springs and Desert Hot Springs area.

12:33 PDT, Friday, July 24

Slightly before noon today, at 11:51 am, a M3.9 quake occurred 5 miles north of Julian. This epicenter is near the Elsinore fault zone, and the focal mechanism is consistent oblique strike-slip on that fault. We don’t know yet whether the quake was felt or not, but it seems likely, given the magnitude.

09:49 PDT, Friday, July 24

Activity overnight included a M2.6 11 miles east-southeast of Anza, at 1:54 am. This quake was in the complicated San Jacinto fault zone. At 7:43 am this morning, there was a M2.5 Landers aftershock, located 13 miles north of Yucca Valley.

17:46 PDT, Thursday, July 23

We recorded and analysed 206 earthquakes in the past week. Click here to see a summary and map .

Here are the quarterly statistics. As you can see, the second quarter was a fairly quiet one, and both the Northridge and the Landers aftershock sequences are clearly on the "exponential tail" portion of their decay curves.

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Totals listed below apply to the area within a polygon bounded by
the following latitude, longitude pairs:
35.0N, 121.0W; 37.0N, 119.0W; 37.0N, 115.0W; 32.5N, 115.0W; and
32.5N, 121.0W.
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	1st quarter		2nd quarter		3rd quarter		4th quarter	
	all	3.0+	all	3.0+	all	3.0+	all	3.0+
1986	3,040	16	2,865	19	6,634	192	2,300	38
1987	1,679	24	1,887	36	2,341	38	5,748	198
1988	2,749	40	2,128	45	2,195	30	2,208	27
1989	2,528	46	2,340	21	2,323	19	2,335	26
1990	2,850	56	2,293	43	1,859	27	2,039	31
1991	1,679	10	1,843	32	2,081	21	2,337	27
1992	3,389	37	10,084	741	25,849	808	9,775	181

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1993     4,799   41       5,152   58       5,039   46       4,419   34
1994    10,735  418       5,766   42       5,221   48       4,813   39
1995     3,639   28       3,788   37       8,252   88       7,733   49
1996     5,735   56       3,966   32       3,690   23       4,660   50
1997     3,699   39       3,276   54       3,193   31       2,443   27
1998     3,590   56       2,830   27

Northridge
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1/17/94 - 3/31/98
Latitude 34.1 - 34.5 North, Longitude 118.3 - 118.85 West
All events      14,745  (85 of them this quarter)
3.0 - 3.9          420  (4 of them this quarter)
4.0 - 4.9           52  (none this quarter)
5.0 and up          11  (none this quarter)

Landers/Big Bear
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4/23/92 - 3/31/98
Latitude 33.8 - 35.33 North, Longitude 116.0 - 117.05 West

All events      69,349  (557 of them this quarter)
3.0 - 3.9        1,646  (5 of them this quarter)
4.0 - 4.9          172  (none this quarter)
5.0 and up          23  (none this quarter)
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09:08 PDT, Wednesday, July 22

We had a couple of quakes worth mentioning overnight. At 12:12 am, there was a M2.6, located 5 miles east-northeast of Ocotillo Wells. Then, at 6:48 am, there was a M2.5, located 6 miles southwest of Morongo Valley. The latter location is about 13 miles from Palm Springs. Neither quake, however, has been reported felt.

15:31 PDT, Tuesday, July 21

There was a M3.0 earthquake in the Brawley Seismic Zone (Imperial Valley) at 2:40 pm today. The epicenter was 1 miles north of the town of Brawley, where it was felt. The focal mechanism was strike slip. The Brawley Seismic Zone is an active microearthquake zone that connects the northern end of the Imperial fault with the southern end of the San Andreas fault at Bombay Beach. The Zone is famous for its earthquake swarms; today’s quake, however, is a loner, at least so far.

09:00 PDT, Tuesday, July 21

At 1:06 am this morning, we had a M3.0 Landers aftershock, located in a sparsely populated area 20 miles north of Yucca Valley. Like most Landers aftershocks, it had a mostly strike-slip focal mechanism.

09:53 PDT, Monday, July 20

Here’s another one: M2.5 at 9:21 am today, located 6 miles south-southeast of Banning. This location is a common source of small events, not far from the intersection of the Banning and the San Jacinto faults.

08:34 PDT, Monday, July 20

We had a small ’felt’ quake at 5:44 am this morning. It was located in Newport Beach and had a magnitude of M2.5. This location is in the zone of the Newport-Inglewood fault, which is famous for causing the Long Beach earthquake in 1933.

11:37 PDT, Sunday, July 19

Oops. I’m getting a little behind here!

Early Friday morning (4:43 am), there was a M3.3 Landers aftershock, located 7 miles north-northeast of Barstow. This quake might conceivably have been felt in Barstow, but we have received no reports.

At 6:33 am on Friday, there was a M2.5 just south of San Clemente Island.

At 10:36 pm on Friday, there was a M3.5 offshore, located 18 miles southeast of Santa Cruz Island. This quake also might conceivable have been felt, in the Ventura or Camarillo area.

17:37 PDT, Thursday, July 16

We recorded and analysed 201 earthquakes in the past week. Click here to see a summary and map .

Two small quake occurred early this afternoon in Laguna Niguel. The first and larger one, a M2.5 at 12:10 pm, was lightly felt in the epicentral area. A small aftershock, M2.3, at 12:19 pm, occurred at the same location.

Earlier, at 11:50, there was a M2.6 near the California/Nevada border, 18 miles east of Shoshone. If it was felt, it was only by coyotes and lizards.

09:01 PDT, Thursday, July 16

We had a pair of small quakes yesterday evening in the Coso Range area. They were: a M3.0 at 8:41 pm and a M2.6 at 8:42 pm, both located 8 miles east-southeast of Coso Junction.

08:58 PDT, Monday, July 13

Early this morning, there were a couple of earthquakes to the north of metropolitan Los Angeles. The first was a M2.5 Landers aftershockk, 8 miles north-northeast of Barstow, at 4:38 am. The other one was a M2.7, located 14 miles north-northwest of Tehachapi, at 4:57 am. As far as we know, neither as felt.

20:48 PDT, Saturday, July 11

Today, Saturday, there have been a few events at different locations in the northern part of the network. The first occurred at 8:39 am, 13 miles south-southeast of the town of Lake Isabella. It had a magnitude of M3.0. Following that, at 10:11 pm, we saw a M2.9 quake, located 13 miles north-northeast of Trona. This is in the Panamint Valley. A third quake, M2.7, occurred at 2:23 pm, located 26 miles east-northeast of Olancha. This is just northwest of the Panamint Valley. Both the M3.0 and the M2.9 appear to have had strike-slip mechanisms.

15:18 PDT, Friday, July 10

At 2:29 pm today, there was a M4.1 quake in the Anza-Borrego desert, 6 miles north-northeast of Ocotillo Wells. This epicenter is within the complex San Jacinto fault zone. The focal mechanism was strike-slip, consistent with the San Jacinto system. Today's event was felt as far away as San Diego and Palm Springs.

17:36 PDT, Thursday, July 09

We recorded and analysed 295 earthquakes in the past week. Click here to see a summary and map .

11:44 PDT, Thursday, July 09

The largest event overnight was a M4.8 at 11:33 pm. The epicenter was quite far offshore, 120 miles southwest of San Diego. Theoretically, this event might have been felt in San Diego, but we have received no such reports.

Other than that, the only action was in the China Lake/Coso area. At 6:45 am this morning, there was a M2.7, located 14 miles north of Ridgecrest. Following that, at 7:57 am, there was a M2.9 11 miles northeast of Coso Junction.

16:57 PDT, Tuesday, July 07

There was another small Imperial Valley quake at 12:14 pm today, a M2.8 located 4 miles southwest of Niland. This is the same location as the quakes on July 3rd, a few miles east of the Obsidian Butte location.

09:28 PDT, Tuesday, July 07

We had a couple of more Imperial Valley events last night, this time only 2 miles east-northeast of Obsidian Butte. They were: a M3.0 at 6:54 pm and a M2.7 at 7:04 pm. We have received not inquiries about either one.

We also had another Stovepipe Wells aftershock, at 10:28 pm, with a magnitude of M2.9.

13:54 PDT, Monday, July 06

The latest of the Stovepipe Wells aftershocks was a M3.7 at 9:25 am yesterday. These events are located 27 miles northwest of Stovepipe Wells, CA, near the northern end of Death Valley, on the west side of the Valley. The mainshock (M4.8) occurred at 8:39 pm on July 1st. This location is on the fringe of our network, so we are not recording very small events nor locating any of them particularly accurately. We have five aftershocks of M3+ magnitude so far, yesterday's M3.7 being the largest.

The most recent quake of interest other than Stovepipe Wells was a M3.7 Landers aftershock at 4:15 am on July 4th. It was located in an unpopulated region 19 miles northeast of Lucerne Valley. The focal mechanism was strike-slip, with planes striking almost due north-south and east-west. Probably because of the sparse population (or maybe someone thought it was an early firework?), we did not get any inquiries.

Going backwards in time, there was a M3.0 offshore quake at 8:13 pm on July 3rd. The location was 7 miles northwest of San Clemente Island. This quake had a M2.5 aftershock almost three hours later, at 11:00 pm. Because of the offshore location, these events were probably not felt either.

Also on July 3rd, we had a bit of activity at two different locations in the Imperial Valley. This included a M2.5 at 11:36 am and a M2.8 at 12:00 noon, both located 4 miles southwest of the town of Niland. This epicenter is only a few miles away from the very productive Obsidian Butte location. There were also a handful of smaller events in this mini-swarm. The other Imperial Valley site that was active during the same one-hour time frame was the Salton City area, on the western side of the Imperial Valley. That quake was a M2.3 at 11:37 am.

23:23 PDT, Thursday, July 02

We recorded and analysed 156 earthquakes in the past week. Click here to see a summary and map .

Last updated 13:21 PDT July 31, 1998

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