Earthquake Commentary for August, 2002

Map of recent earthquake activity

Did you feel it?

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

19:06 PDT, Saturday, August 31

We had a small swarm in the northern Imperial Valley this morning, about one mile northeast of Westmorland. The swarm began with a M2.9 at 7:55 am & culminated with a M3.6 at 9:24 am. There was also another M2.8 at 9:56 am. The total number of events in the swarm is probably about 30. The M3.6, at least, was felt in the Westmorland & Calipatria areas.

17:12 PDT, Thursday, August 29

We have recorded and located 174 earthquakes in the last week. Click here to see a summary and map .

07:45 PDT, Friday, August 23

Two small quakes may have been felt overnight. The first was a M2.9 located offshore 15 miles west of Oceanside, at 12:51 am. The other was a M2.5 at 1:57 am, located 9 miles north of Lake Isabella.

17:30 PDT, Thursday, August 22

We have recorded and located 186 earthquakes in the last week. Click here to see a summary and map .

13:05 PDT, Monday, August 19

Submitted by Kate Hutton

I’ve had a couple of e-mail inquiries about how exactly a deep teleseism can create "ghost" local earthquakes. There is probably enough general interest that I will take a shot at explaining it.

It happens when the P waves from the teleseism pass through our local network. (Some people may not realize that seismographs are incredibly sensitive & can pick up quakes above about Mw6.0 anywhere in the world. We refer to these as "teleseisms" or distant earthquakes.) Because the Fiji quake was a deep teleseism, the seismogram at each of our stations is relatively "impulsive", jumps right out of the background noise, like a local earthquake. However, the arrival times are all wrong, so it (the real-time computer) can’t locate it as a local quake. One of the things it tries to do is "split" the arrivals into two or more quakes. It has to know to do that, because we sometimes have more than one local quake in the same minute. This was the result from the first (now called Mw7.5 by NEIC) Fiji quake. Three bogus local quake solutions were generated. All three were judged (again by the real-time computer) to be of poor quality, but two of them were still good enough to get onto the "Recent Eartthquakes" web site. We deleted those when we arrived at work this morning.

When the waves from the second quake came through 7.5 minutes later, there were still some other waves passing through from the first quake, so the arrivals were not as clean & "impulsive". The real-time system detected the Mw7.7, but did not generated even any poor quality local solutions.

I hope this makes sense. It is the down side of generating earthquake data for the public in near-real time, which I think is generally agreed to be a good thing. The system does a good job about 99% of the time, but not 100%. That’s why we keep checking up on it. If you watch the web page closely, you may notice small quakes that disappear after working hours start. Most of these are actually telemetry (data transmission) noise that happens to (usually poorly) mimic the arrival pattern of a local earthquake. If we changed the software to be more selective, we would end up throwing out a few earthquakes, which we don’t want. Better to just keep an eye on the automatic results & fix them when needed.

07:20 PDT, Monday, August 19

Please note that the two M3+ quakes this morning at 4:12 am are not accurate. They are our local Seismic Network’s misread on waves coming in from a pair of deep M7’s in the Fiji Islands (Mw7.4 & Mw7.7). The events have been changed to "teleseisms" in our data base, but I still need to figure out how to remove them from the web page. Sorry.

17:14 PDT, Thursday, August 15

We have recorded and located 201 earthquakes in the last week. Click here to see a summary and map .

08:49 PDT, Thursday, August 15

A quake this morning at 7:57 am was felt in the San Bernardino, Rancho Cucamonga & Redlands areas. It was a M2.8, 2 miles southwest of San Bernardino, close to the San Jacinto fault.

12:51 PDT, Tuesday, August 13

Oops. The two felt quakes that I submitted to the commentary report earlier today didn’t make it. They were: a M3.0 at 3:09 am, located in the Lytle Creek area 4 miles north of Fontana. It was felt in the Cajon Pass area, Fontana & Rancho Cucamonga. The second one, a M2.4, occurred a few seconds before 3:29 am, under Culver City. It was felt in Culver City & Inglewood.

12:48 PDT, Tuesday, August 13

A pair of M3.1 quakes happened mid-day today, in different locations. The first occurred at 10:03 am, 12 miles north of the town of Taft, in the western San Joaquin Valley. It was felt in Taft itself & in Tupman.

Another M3.1 occurred at 12:20 pm, in the White Mtns. east of Owens Valley, 17 miles east-northeast of Big Pine. It had a M2.7 aftershock at 12:23 pm. Due to its remote location, there have been no "felt reports".

17:15 PDT, Thursday, August 08

We have recorded and located 204 earthquakes in the last week. Click here to see a summary and map .

08:12 PDT, Thursday, August 08

At 3:25 am this morning, there was a M2.7 quake along the San Gabriel Mtn. front 4 miles north of Upland. It might have been felt, but we have no reports so far.

07:23 PDT, Friday, August 02

A small quake was felt in the Santa Susana area late last night, at 11:22 pm. The magnitude was M2.6 & the epicenter was located in the Santa Susana Mtns. 6 miles north-northeast of Simi Valley. The quake was felt in West Hills, Westlake Village, Valencia & Simi Valley.

17:18 PDT, Thursday, August 01

We have recorded and located 162 earthquakes in the last week. Click here to see a summary and map .

This page is www.trinet.org/eqreports/comments/August2002.html.
Last updated 19:10 PDT August 31, 2002.