Earthquake Commentary for February, 2000

Map of recent earthquake activity

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

18:19 PST, Tuesday, February 29

Here is the late afternoon update on the Coso swarm, with magnitude revisions. The largest quakes have been: a M4.2 at 3:08 pm yesterday (Monday), a M3.7 at 10:55 am today, a M2.9 at 11:08 am today, and a M4.1 at 2:08 pm today. All were located 19 miles east of Coso Junction, about 3 miles east of the epicenter of a swarm in late 1996 that included a Mw5.3.

The reason for the confusion on magnitudes is the fact that there are multiple methods of magnitude computation. The original values posted by the automatic system, and the final values that you see now, are both ML estimates. ML, or local magnitude, is very similar but not identical to Richter's original method (e.g. we are now using more modern seismometers!). ML works very well for quakes in this size range. The values that were posted were ML's based on only a few stations or MC magnitudes. MC is called "coda magnitude" and is based on how fast the tail of the quake dies off on the record. It tends to work well for smaller quakes, but not so well for M4's.

13:17 PST, Tuesday, February 29

The Coso swarm continues: at 10:55 am today, there was a M3.5 located 19 miles east of Coso Junction. As mentioned previously, this is in the Coso Range, which is a prolific source of earthquake swarms.

The update from last night apparently did not make it onto the web page: there was a M4.0 at 3:08 pm yesterday at the same location. As expected, these two largish events have been accompanied by a fair number of M2 and M3 smaller shocks, making this a fairly typical small Coso swarm.

09:10 PST, Monday, February 28

A pair of M2.7's occurred late yesterday afternoon 18 miles east of Coso Junction. The times were 3:26 pm and 3:29 pm. This is a very unpopulated area, and we got no inquiries.

09:00 PST, Friday, February 25

There was some earthquake action overnight, in the Imperial Valley and in the Coso Range area. At 3:40:58 am early this morning, a M3.0 occurred 2 miles north-northwest of Brawley. It was followed at 3:41:53 am by a M3.1 at the same location. Both quakes were reported felt. Brawley is about 13 miles north of El Centro.

About 20 minutes later, at 4:02 am, an unrelated M3.3 quake occurred 19 miles east of Coso Junction. This is close to where the Coso swarms occurred in November of 1996.

17:43 PST, Thursday, February 24

The week's earthquake list, which is fully based on analyst processed hypocenters, totals 325 this week. Click here to see a summary and map .

16:57 PST, Thursday, February 24

A M2.7 quake occurred early this afternoon, at 1:04 pm, 3 miles east of Borrego Springs. We have received no inquiries.

11:55 PST, Thursday, February 24

There was a M3.9 Hector aftershock at 2:41 am this morning, located 36 miles south-southwest of Baker, in the northern part of the aftershock zone. It was reported felt in the area east of Barstow.

06:58 PST, Wednesday, February 23

Since the last update, there have been two M2.9's in the southern Sierra Nevada area. At 2:42 pm Tuesday, there was one 21 miles south-southwest of Coso Junction, and the second one occurred at 5:26 am today, 9 miles northwest of Coso Junction. Neither was felt.

20:48 PST, Monday, February 21

There have been a couple of potentially feelable aftershocks to this morning's Loma Linda quake: a M2.5 at 7:53 am and a M3.2 at 7:47 pm.

In addition, there was a M3.3 Hector aftershock at 11:35 am, located 31 miles north of Twentynine Palms.

09:10 PST, Monday, February 21

There have been several quakes over the weekend that deserve mention:

First, there was another small Coso quake Friday evening, at 8:26 pm, located 4 miles northeast of Coso Junction. Magnitude was M3.0. A M2.5 occurred closeby at 5:09 am today. We got no inquiries about either quake.

There was a M2.6 quake at 6:58 Sunday morning, also north of us, this time 4 miles northeast of Ridgecrest. It was followed at 7:15 am Sunday, by a M2.5 at the same location. A larger one, M2.9, occurred at the same site at 1:48 am today. All, as far as we know, went unnoticed.

The biggest excitement was this morning at 5:49 am, when a M4.4 quake occurred near Loma Linda, very close to if not in the San Jacinto fault zone. It was felt from Victorville to south of Temecula, but was most noticable in the Riverside and San Bernardino areas.

09:13 PST, Friday, February 18

There were two quakes in the upper M2's overnight. The first was at 9:16 pm, in the Santa Ana Mtns., 11 miles south-southeast of Corona, magnitude M2.7. The other was at 7:06 am, located 6 miles north-northwest of Borrego Springs, magnitude M2.6. We have received no public inquiries about either event.

16:34 PST, Thursday, February 17

The week's earthquake list, which is fully based on analyst processed hypocenters, totals 385 this week. Click here to see a summary and map .

08:55 PST, Thursday, February 17

A M3.1 quake occurred this morning at 8:12 am, in the Coso Ranges 4 miles northeast of Coso Junction. Coso Junction is a very small town that you pass by on 395 about halfway between L.A. and Mammoth Lakes. The area is a common source of small quakes, with occasional swarms including M5+ events.

It is our intention to resume frequent commentary of the daily earthquakes. We plan to mention Hector aftershocks that are above M3, and quakes elsewhere in the region that are above M2.5. This should last until we get overwhelmed again by the next sequence!

06:37 PST, Monday, February 14

At 1:57 am this morning, there was a M4.4 Hector aftershock, located in the northern part of the aftershock zone, 36 miles southwest of Baker. It was followed by a number of aftershocks of its own, including a M3.3 at 4:02:07 am, a M3.1 at 4:02:49 (in other words, two M3's in the same minute), and a M3.3 at 4:38 am. The M4.4 was probably felt, although we do not have any inquiries at this time.

08:37 PST, Friday, February 11

The week's earthquake list, which is fully based on analyst processed hypocenters, totals 406 this week. Click here to see a summary and map .

17:54 PST, Thursday, February 03

The week's earthquake list, which is fully based on analyst processed hypocenters, totals 461 this week. Click here to see a summary and map .

09:43 PST, Thursday, February 03

Below is a preliminary statistical summary, including the 4th quarter of 1999. Note that, because the Hector aftershocks are still not completely processed, the totals for 4th quarter are minimum numbers.

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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.

        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
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      2,655   37      2,352   29
1999     2,253   35      2,546   58      2,555   36      8,147+ 414+
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