The March 5, 1998 Coso Earthquake

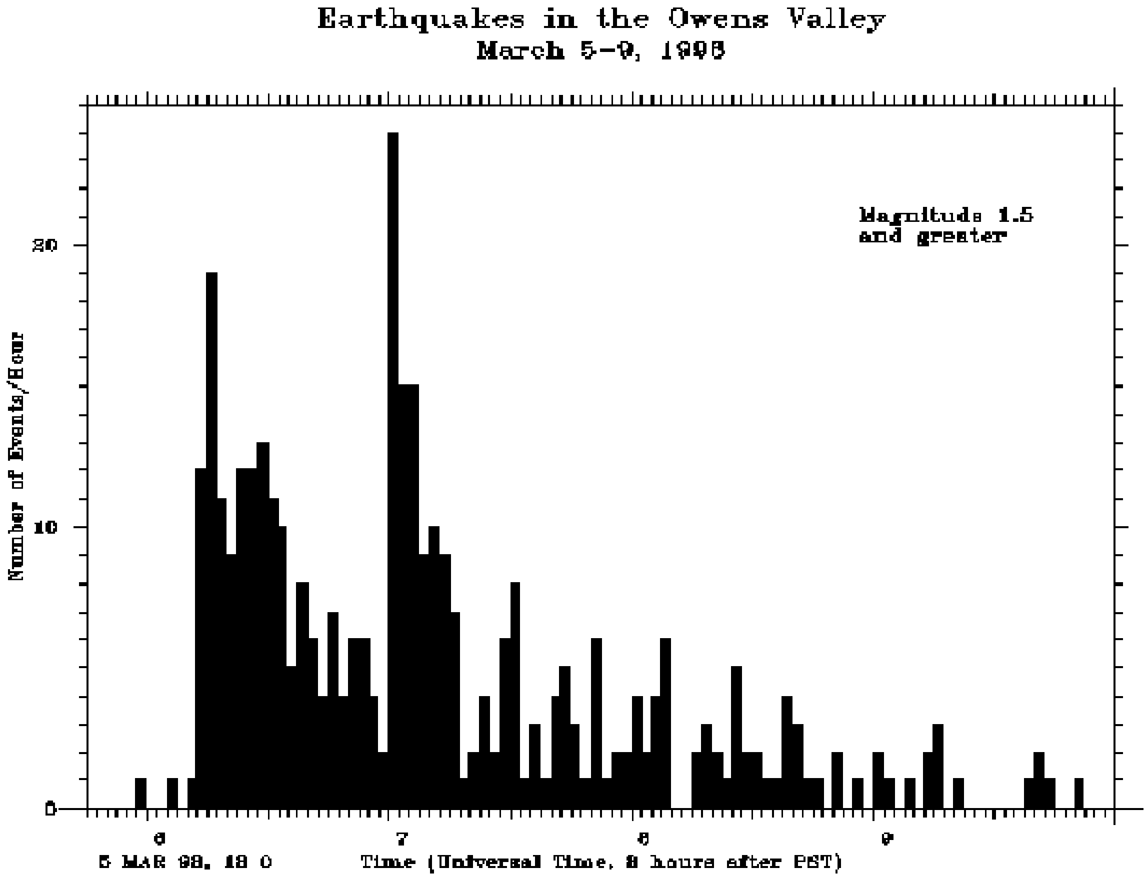
March 6, 1998: The largest earthquake in southern California since March 1997 occurred on Thursday night, March 5, at 9:47 p.m. PST. It was a magnitude 5.2 earthquake located in the Owens Valley, 17 east-northeast of the small town of Little Lake . It was located just 2 km east of a M5.3 earthquake that occurred on Thanksgiving 1996. Both earthquakes are near the Coso geothermal area (see map).

The Owens Valley is an extensional regime, but the predominant focal mechanisms are strike-slip. This earthquake is also strike slip with planes striking northwest and northeast. The aftershocks strike northeast, suggesting that the causative fault is left-lateral strike-slip on the northeast-striking plane

As of 2:30 p.m. on Friday March 6, SCSN/TriNet (the Southern California Seismic Network componenet of TriNet) had recorded 164 aftershocks to this earthquake. The largest 3 are M4.8 at 9:49, M4.6 at 9:54 p.m., and M4.5 at 11:36 p.m. The aftershocks are decaying as we usually see for aftershock sequences. At the present rate, the probablity of another earthquake of magnitude 5 or larger in the next week is about 1 in 8.

March 9, 1998: Update on the Coso sequence

As of 2:30 pm, SCSN/TriNet has recorded 495 earthquakes in the Coso sequence. A second magnitude 5+ earthquake (M5.1) did occur, at 4:36 pm PST on Friday March 6. The sequence is decaying as expected. The number of M1.5 and greater earthquakes recorded by SCSN/TriNet increased after each M5+ event and decayed approximately as 1/t. In the first few hours after each M5, the rate of earthquakes is high enough that not all of the smaller earthqukaes can be seen.



The spatial distribution of earthquakes indicates a northeast-striking fault with a slight dip to the northeast. This is consistent with the focal mechansims of the earthquakes.

Earthquakes in the Owens Valley
March 5–9, 1998