

## Southern California Seismicity: 2022 in Review

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Southern California is a very seismically active region with major faults capable of large magnitude earthquakes. Because of the highly populated metropolitan areas, there is a high seismic risk. The Southern California Seismic Network (SCSN) has been monitoring earthquakes in the region for 90 years to help understand the associated seismic hazards. One of its main products is a near-real-time, human-reviewed earthquake catalog, accessible from the Southern California Earthquake Data Center. Here we provide a summary of cataloged seismicity from the past year and discuss notable activity.

Overall, 2022 was a typical year for seismicity. The SCSN located 16,432 earthquakes with magnitudes from -0.7 to 4.6 throughout its authoritative monitoring region (orange outline). About a quarter of that seismicity (~4,200 events) was continuing aftershocks of the 2019 Ridgecrest sequence that consisted of an M6.4 foreshock and M7.1 mainshock. From April 19-22, a minor swarm of 71 events occurred in the Brawley Seismic Zone, with 6 events between M3.3 and M3.7. This zone is located south of the Salton Sea and regularly produces seismic swarms. Other typically active areas with seismicity in 2022 were the San Andreas, San Jacinto, Elsinore, and White Wolf fault zones and the Mojave Block region. Thirteen earthquakes above M3.5 occurred near the Los Angeles and San Diego metro areas. Of these, the most widely felt was an M4.0 near Palomar Observatory on January 30 that generated nearly 5,800 “Did You Feel It?” reports. In addition to the expected activity, an interesting swarm of earthquakes occurred south of Lake Isabella. The swarm began in June and continued through the end of the year. It consisted of 209 earthquakes during 2022, including 8 between M3.2 and M3.8.

