

# Odds grow of major quake in bay region by 2043

David Perlman, San Francisco Chronicle, 9-14-16

The odds are mounting once again that more destructive earthquakes will hit the bay region within the next 30 years.

There's now a 72 percent probability — which means the odds are nearly 3 to 1 — that one or more quakes with a magnitude of 6.7 or greater will strike along one of the region's faults in the San Andreas Fault system before 2043, the experts have calculated.

The last Big One was the Loma Prieta quake of Oct. 17, 1989. Its magnitude was 6.9, and it killed 63 people and caused \$6 billion in widespread damage.

The [Working Group on California Earthquake Probabilities](#), a team of experts led by scientists at the U.S. Geological Survey, released its latest outlook for future earthquakes last week, based on new information from recent quakes, improved mapping and new methods for modeling earthquake behavior.

The report also considers 32 smaller faults, from the Wright Way and Collayami faults near Clear Lake to the Reliz and Monterey Bay-Tularcitos faults between Salinas and Monterey, said David Schwartz, a geophysicist at the survey in Menlo Park and longtime member of the working group. Information on those faults was also used in the new probability estimates, he said.

Only a year ago, the working group estimated that the probability of one or more large quakes striking on any of the Bay Area faults was 63 percent. The new probability calculations put it at 72 percent.

Quake probabilities have risen more sharply for Bay Area faults largely because scientists have developed a new understanding of the stresses building up on one seismic fault that can cause stress on other nearby faults, and that several faults may be capable of rupturing together in large earthquakes, Schwartz said.

The probability of a large quake hitting somewhere along the East Bay's Calaveras Fault has risen from 7 percent to 26 percent because of those phenomena, while the probability of a large quake on the Hayward combined with the Rodgers Creek Fault is now estimated at 33 percent, compared with an estimate of 31 percent a year ago.

For the entire length of the San Andreas Fault within the Bay Area, the Working Group now estimates the probability of a 6.7-magnitude quake somewhere on that fault at 22 percent, compared with 21 percent three years ago.

The probability of a large quake on the Green Valley-Concord Fault has risen much higher: from 3 percent a year ago to 16 percent today, the Working Group estimated.

On Wednesday, a quake with a magnitude of 3.5 was reported on the Hayward Fault near Highway 13 in Oakland. The tremor, which the USGS said happened at 12:30 a.m., was widely felt around the area. It occurred at a depth of about 3 miles and appeared to cause no damage.