



Dan Coyro/Sentinel file

Citizen rescuers dig through rubble at the former Ford's Department Store in Santa Cruz trying to free quake victims.

Loma Prieta shook area 14 years ago

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In 1988 geologists estimated there was a 30 percent chance a massive earthquake would rock the Bay Area within 30 years.

As we all know, they were proved correct big time the next year when the Loma Prieta earthquake centered in Santa Cruz County shook the Bay Area for about 15 seconds at 5:04 p.m. on Oct. 17, 1989, leaving 63 people dead

Fourteen years later, the probability of a similar quake hitting the county is about the same, scientists with the U.S. Geological Survey say.

The USGS estimates that San Mateo, Santa Cruz and Monterey counties face a 34 percent probability of a 6.7 magnitude or greater earthquake produced by the two faults both sides of those coastal communities — the San Andreas and San Gregorio faults.

Worried? The news gets worse.

The Bay Area in general faces a 62 percent probability of a 6.7 magnitude earthquake between now and 2032.

These numbers simply add up to what most Californians know — be ever vigilant and prepared for tremor.

"I think it's just a prudent thing to do in California," said Tom Holzer, geologist with the USGS in Menlo Park. "It's not a low-risk event by any means."

The 1989 quake that killed six in Santa Cruz County — another county resident died in San Francisco — relieved pressure on a segment of the San Andreas fault, meaning another quake centered in the same place in our lifetimes is unlikely.

On the other hand, scientists say the portion of the fault north of Highway 17 up to San Francisco, known as the Peninsula segment, has not slipped since 1906.

"That remains a fault seg-

ment of concern," Holzer said.

Also, geologists now know more about the San Gregorio fault than they did 14 years ago. That fault lies to the west of Santa Cruz County, sandwiching the county between it and the San Andreas fault.

"We know it's capable of generating a significant earthquake, and we know strain is accumulating on it," Holzer said. "For coastal communities, it's the primary fault of concern."

Scientists also learned other things after Loma Prieta.

For one, after the 1989 quake the frequency of smaller mini-quakes that had been occurring along the Hayward fault, which runs down the East Bay, slowed down.

"It's clear now faults can affect adjacent faults," Holzer said.

He called it "conversation" between faults and that helps scientists estimate probability of future quakes.

Also, geologists found that

soil type in various locations can impact how much shake an earthquake has. That information has been used as a factor in building codes, Holzer said.

Last summer, the USGS and Stanford University launched an effort to drill a 1.4-mile hole along the San Andreas fault near Parkfield. The plan called for scientists to install underground instruments to help better predict timing and severity of quake activity along the 800-mile long fault, according to the USGS.

The Loma Prieta earthquake was initially measured as a 7.1-magnitude quake. In later years, scientists refined how quakes were measured and downgraded it to a 6.9 magnitude. The first number reflected the measure of surface magnitude, the latter took into consideration shock waves traveling deep underground.

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✓ Earth quake - 10 yrs after 10.17.03