

'Big One' Quake Could Devastate California Despite State's Preparations

Jeremy A. Kaplan, Fox News, 4-6-10

When it comes to a devastating earthquake in California, the question isn't if, but when?

What magnitude would qualify as "big one," and what would the resulting disaster look like?

In light of the magnitude 7.2 earthquake that struck Mexico's Baja California on Sunday and the continuing aftershocks, nervous residents are worrying over these questions and wondering about the seismic future of the Sunshine State.

In 1960 a 9.5 quake struck Chile, the most powerful ever recorded. In 1964, a 9.2 hit in Alaska. California isn't likely to register a quake of that magnitude, but "the big one" still could be destructive.

"We probably don't have faults large enough to generate an 8.0 except in the very northern part of the state, off Mendocino -- the Cascadia subduction zone," explains California state geologist Dr. John Parrish. That fault line runs from Northern California up to Vancouver, and it has probably generated big ones in the past.

"In fact, we think there was a greater-than-8 quake in 1700, which generated a sea wave called a tsunami when it hit Japan," he said. Still, anything larger than a 5 has the power to cause structural damage, he explained.

It's not clear what would happen if a truly massive quake hit California -- on the magnitude of, say, a terrifying 9.2. No scientific data exists, and geologists and policy makers are almost superstitiously loathe to speculate.

But if predictions from the Great California Shakeout are any indication, even a lesser massive quake could be devastating.

California's preparedness agencies assessed the effects a magnitude 7.8 temblor striking one of the most populated regions of California. The most likely place for such an earthquake to occur is the southern tip of the San Andreas fault -- "the Los Angeles region," pointed out Kelly Huston, assistant agency secretary for public and crisis communication at California's Emergency Management Agency (CEMA).

"You would see buildings collapse, you'd see people trapped, you'd see roadways collapse. You'd see widespread destruction," Huston said.

In the test scenario, deep-rolling seismic waves move nearly 200 miles across the Southern California landscape, leaving a wake of devastation. Predictions are over 2,000 deaths, 50,000 injuries and \$200 billion in damage to the Los Angeles area. There would also be 4,000 or so fires, and making matters worse, the water supply would be out for six months, thanks to contamination from nearby sewage pipes.

Due to dramatically better building codes, there would be far fewer deaths in California from buildings, more like 1 in 1,000 than the 1 in 10 killed when an earthquake hit poverty-stricken Haiti in January, explained Vicki Pedone, chair of Geology at California State University Northridge.

But buildings are nevertheless the cause for the majority of earthquake deaths, and Parrish says tens of

thousands of Californian buildings aren't up to snuff. "There's a saying: It's not earthquakes that kill people, it's buildings that do," he said.

Pedone explains that the repercussions of such an earthquake would be far worse than what happened in Baja.

"The infrastructure damage will be severe. It'll be years to a decade before everything is back to the same, thanks to ruptures to gas lines, water lines, aqueducts. The repercussion of that will be very severe, and I think people don't take it seriously enough," Pedone explained.

Huston says he is concerned about the potential for a devastating earthquake all the time.

"Whenever we get an earthquake call, I wonder, is this the big one?" he told FoxNews.com. Working with the Federal Emergency Management Agency, CEMA is attempting to plan for such eventualities.

"We're diving as deep as we can in terms of all the specifics: the worst-case outages, the largest number of injuries, the eventual follow-on fires. How do resources get deployed? What if roadways are blocked? What if first responders can't get through? "

In spite of the stricter building codes, studies and attempts at preparedness, citizens are not necessarily ready.

"Most Californians don't do adequate preparations for an earthquake," Huston said. "They're in the mode of, it's going to happen, we know it's going to happen, so let's just ride it out and we'll see what happens."

Pedone points out that a magnitude 7.2 quake like the one that hit Sunday is a very strong one, and notes that the shaking falls off fairly rapidly the further you go from the epicenter. "That's the major reason that the damage was not as severe -- it was unpopulated," she explained.

Parrish stresses the need to improve on emergency preparation plans. "We may not get the next quake for 30 years or we may get it in ten minutes. But we may as well get started working on these issues now."