

San Andreas Fault 'locked, loaded and ready to roll' with big quake, expert says

May 5 2016, by Rong-Gong Lin Li, Los Angeles Times

Southern California's section of the San Andreas Fault is "locked, loaded and ready to roll," a leading earthquake scientist said Wednesday at the National Earthquake Conference in Long Beach.

The San Andreas Fault is one of California's most dangerous, and is the state's longest [fault](#). Yet for Southern California, the last big [earthquake](#) to strike the southern San Andreas was in 1857, when a magnitude 7.9 earthquake ruptured an astonishing 185 miles between Monterey County and the San Gabriel Mountains near Los Angeles.

It has been quiet since then - too quiet, said Thomas Jordan, director of the Southern California Earthquake Center.

"The springs on the San Andreas system have been wound very, very tight. And the southern San Andreas fault, in particular, looks like it's locked, loaded and ready to go," Jordan said in the opening keynote talk.

Other sections of the San Andreas Fault also are overdue for a big quake. Further southeast of the Cajon Pass, such as in San Bernardino County, the fault has not moved substantially since an earthquake in 1812, and further southeast toward the Salton Sea, it has been relatively quiet since about 1680 to 1690.

Here's the problem: Scientists have observed that based on the movement of tectonic plates, with the Pacific plate moving northwest of the North American plate, earthquakes should be relieving about 16 feet

of accumulated plate movement every 100 years. Yet the San Andreas has not relieved stress that has been building up for more than a century.

Jordan said it's important that California focus on becoming resilient to a potential huge earthquake, one as strong as a magnitude 8. He praised Los Angeles' plan to require earthquake retrofits on apartment and concrete buildings, pushed into law by Mayor Eric Garcetti.

"It's remarkable that this happened," Jordan said. "We know politically how difficult it is to make these kinds of changes."

Other areas of focus have included strengthening Los Angeles' vulnerable aqueduct systems and its telecommunications networks.

A 2008 U.S. Geological Survey report warned that a magnitude 7.8 earthquake on the southern San Andreas Fault would cause more than 1,800 deaths, 50,000 injuries, \$200 billion in damage and severe, long-lasting disruptions. Among the predicted problems: The sewer system could be out of commission for six months.

Such an earthquake could cause shaking for nearly two minutes, with the strongest shaking in the Coachella Valley, Inland Empire and Antelope Valley, but it also could send pockets of strong shaking into areas where sediments trap shaking waves, such as the San Gabriel Valley and East Los Angeles.

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