

San Jacinto quake was triggered by Baja California temblor

Experts say April's 7.2 quake put more pressure on the San Jacinto fault, triggering the 5.4-magnitude temblor that shook much of Southern California on Wednesday. It rattled nerves but caused no major damage.

Rong-Gong Lin II, Kimi Yoshino and Andrew Blankstein, Los Angeles Times, 7-9-10

The moderate 5.4 magnitude earthquake that rolled through Southern California on Wednesday was probably triggered by the Mexicali temblor that hit Easter Sunday, seismologists said.

Earthquake scientists' preliminary analysis had already shown that the 7.2 magnitude Baja California quake placed more pressure on at least two fault zones in Southern California — the Elsinore and the San Jacinto.

Wednesday's earthquake, which caused no major damage, appeared to confirm that analysis. It struck on the San Jacinto fault zone, which runs roughly from the Salton Sea area northwest through the San Jacinto Mountains toward San Bernardino.

"We've been calling those 'triggered earthquakes,' " Caltech seismologist Kate Hutton said, referring to temblors north of the aftershock zone that runs from the Gulf of California to Ocotillo, Calif., near the Mexican border.

"We've been able to see an increase in activity," Hutton said. Wednesday's earthquake was the largest to hit the Elsinore and San Jacinto fault zones since the April 4 shaker.

Large earthquakes can continue causing aftershocks and triggered earthquakes for many years, Hutton said, but they will become gradually less frequent. When the 7.3 magnitude Landers earthquake hit in 1992, the Mojave Desert area continued having aftershocks 15 years later, Hutton said.

The most significant reports of damage Wednesday were food falling off store shelves in Borrego Springs, near the border of Riverside and San Diego counties, and some other communities, as well as a small rock slide near the Palm Springs Aerial Tramway. The tramway was not damaged

The lack of damage was unsurprising — the epicenter was in a remote area, and nearby communities don't have any high-rises or old brick buildings, Hutton said.

But the quake was large enough to rattle nerves.

"I can hardly talk because I'm still shaking," Celina Vega of Borrego Springs said, adding that glasses fell at her house.

"It shook up and down really hard. That was the big jolt, then back and forth," said Mary Jane Laws, an assistant manager at the Center Market grocery store in Borrego Springs. "I've been here 30 years, and it was bigger than any of us have experienced."

The quake hit at 4:53 p.m. about 28 miles south of Palm Springs, but was felt all the way to Nevada and Arizona, and as far north as Fresno. High-rises swayed in Los Angeles and San Diego.

The earthquake occurred on a strike-slip fault, in which one side slips horizontally past the other.

Seismologists earlier this year said the number of earthquakes greater than magnitude 4 in Southern California and Baja California has increased significantly in 2010. They haven't been able to fully explain the rise, but experts have said the region had been in a lull in recent years and the frequency of quakes was probably picking up again.