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Northern California quake is a curiosity for seismologists

The 5.7 temblor northeast of Sacramento, in a part of the state that hasn't been studied much, didn't do a lot of damage but was felt 'along an unusual distance.'

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A magnitude 5.7 temblor Thursday night was the largest earthquake to shake California since 2008 and has generated curiosity from seismologists.

The temblor occurred in a rugged section of Northern California that has not been studied as thoroughly as Southern California and the Bay Area and has less monitoring equipment. Experts said they were surprised the quake was felt over such a large area, and they plan to go to the region to investigate.

The magnitude 5.7 quake struck around 8:47 p.m., about 150 miles northeast of Sacramento; its epicenter was about 27 miles southwest of the town of Susanville.

The last quake of similar magnitude, recorded at 5.5, struck Chino Hills in San Bernardino County in July 2008, said David Schwartz, an earthquake geologist for the Northern California USGS division in Menlo Park. It caused little damage, but it was the most sizable quake to hit a metropolitan part of California since the much larger and destructive [1994 Northridge quake](#).



A bedside lamp knocked over by Thursday night's quake at the Quail... (Susan Shephard / Quail Lodge...)

PHOTO: 2008 Chino Hills earthquake



Thursday's quake did occur in a zone with known active faults, said David Schwartz, an earthquake geologist for the Northern California USGS division, including a series of faults that extend through the northern end of Lake Tahoe all the way to Oregon. But 5.7 is the strongest magnitude recorded in the area. This mountainous eastern Sierra Nevada region, known for its lakes, rivers and national forests, has had about seven

magnitude 4 earthquakes since the 1930s, Schwartz said.

Scientists are still studying the intensity of Thursday's shaking and have moved seismographs there from more populated areas to monitor aftershocks.

Within minutes of the first quake, more than 7,000 people reported feeling it, from across state borders into Oregon and Nevada and as far south as the San Francisco area, according to the U.S. Geological Survey website. Officials in Susanville and Sacramento said the quake set off a number of home and car alarms and rattled windows. A Chico resident told The Times he felt a slow roll that lasted about 30 seconds.

The quake itself was not a huge surprise for Schwartz's USGS division, but "what was interesting was it was felt along an unusual distance," he said. "Earthquakes in different parts of the state are felt over different distances. We just haven't had that many examples of earthquakes in this part of the state, really, for comparison."

"There are more interesting questions now than we have answers for, at present," he said.

More than four dozen aftershocks, ranging up to a magnitude 4.9 in an area of about 20 square miles, have been recorded since the first quake, according to the USGS.

Schwartz said these aftershocks look to be "fairly standard." Within the next week, there is a 20% chance that an earthquake larger than magnitude 5 will strike the area and a 5% to 10% chance a

quake of a magnitude greater than 5.7, according to a USGS probability report released Friday morning.

There have been no reports of injuries in the areas closest to the epicenter, Plumas County Sheriff's officials said. About 600 residents lost power for a brief period, and a water tank was ruptured due to the earthquake, affecting up to 1,500 customers.

At least three homes in the area had moderate damage — collapsed chimneys and plaster cracking, authorities said. No structural damage has been reported.

"A 5.7 is still a moderate-size earthquake, and earthquakes of that magnitude can occur really anywhere throughout the state," Schwartz said. "But it's large enough to generate interest and provide us some real info on how things work. We plan to keep looking at the sequence."