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Aftershocks are 'typical,' experts say

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SANTA CRUZ — Aftershocks from the earthquake of Oct. 17 are starting to get on everyone's nerves. But the quakes "so far generally follow the behavior of a typical California sequence" of aftershocks, the U.S. Geological Survey said Wednesday.

If the pattern holds, Santa Cruz County residents will feel additional quakes for several weeks or months, although the likelihood of sizeable aftershocks will continue to slowly decline.

Two more good-sized jolts rolled through the Santa Cruz Mountains Wednesday. A 3.7-magnitude quake awakened many Santa Cruzans at 6 a.m. At 3:01 p.m., a 3.8-magnitude temblor hit.

By 5 p.m. Wednesday, eight days after the 7.1-magnitude quake of Oct. 17, 20 aftershocks of magnitude 4.0 or greater had been recorded. Twelve of these came on Oct. 17, during the first seven hours after the quake.

One magnitude 4.0-plus quake struck on Oct. 18; four came on Oct. 19, one on Oct. 20 and one on Oct. 21. The most recent such quake was a 4.5-magnitude temblor that hit at 6:27 p.m. Tuesday.

"Approximately three additional magnitude 4.0 or larger aftershocks are expected" during the next two months, the USGS said.

Of the 20 aftershocks magnitude 4.0 or greater thus far, two have been 5.0 or greater. A 5.2-magnitude quake hit at 5:41 p.m. Oct. 17, just 37 minutes after the main shock. Two days later, a 5.0-magnitude shock struck, at 3:14 a.m. Oct.

19.

There is a 45 percent chance of at least one more 5.0-magnitude aftershock during the next two months, the USGS said Wednesday. The chance of a magnitude 6.0 aftershock during that time is 10 percent.

While aftershocks will continue to jolt the Santa Cruz area, the likelihood of an earthquake comparable to the Oct. 17 temblor is "very small, but not zero," the USGS said. But even if such a large quake were to rock Northern California, there is almost no chance it would come along the same segment of the San Andreas fault that slipped Oct. 17.

UC Santa Cruz geologist Gary Griggs told the Santa Cruz County Board of Supervisors Tuesday that he would be "very surprised" if another earthquake of magnitude 7 or larger hit the Santa Cruz Mountains segment of the San Andreas fault within the next 150 years. But the same cannot be said for adjacent segments of the fault.

"In a small fraction of the cases observed in California, a large earthquake has triggered a comparable or larger earthquake on an adjacent segment of the same fault or on a neighboring fault," the USGS said. "Scientists are focusing attention on the Peninsula segment of the San Andreas fault, from Los Gatos to Daly City."

The Oct. 17 Santa Cruz Mountains earthquake was the fifth largest jolt in California's recorded history. It was the largest since July 21, 1952, when a 7.7-magnitude quake hit Kern County.