

Scientists looking to find fault in Plumas County quake

Roger H. Aylworth, Chico Enterprise-Record, 5-26-13

Scientists with the U.S. Geological Survey may find themselves headed to Lake Almanor to determine which fault line triggered the 5.7-magnitude earthquake that shook the region Thursday night.

The quake hit at 8:47 p.m. near Canyon Dam, 7 miles northwest of Greenville.

Keith Knudsen, a geologist with the USGS office in Menlo Park, said in a telephone interview it is entirely possible the shaker could have come from a previously identified fault line.

The geologist said the region in the vicinity of Lake Almanor "is not a seismically quiet area."

USGS records indicate that besides two aftershocks above 4.0 on the seismic scale from Thursday's event, the region has experienced seven quakes with magnitudes greater than 4.0 since 1934. The previously largest recorded quake was a 4.3-magnitude that shook the area in June 1989, months before the Loma Prieta earthquake hit the Bay Area Oct. 17.

Knudsen said there are identified faults in the region but there are a couple of reasons the USGS can't be as precise as it would like to be about where the "causative fault" might be.

He explained the country is so rough it is hard to find the surface ruptures that categorically identify a fault's location, and secondly, the region is not well covered with seismographs.

Knudsen said "typically" it takes a 6.5-magnitude earthquake or greater to produce the kind of "surface expression" scientists look for.

That reality was part of what a group of USGS scientists talked about when they met in Menlo Park on Friday. Knudsen said the discussion was about rushing some more seismographs to the region. The geologist said aftershocks usually occur along the same fault that was the source of the original event.

More than 150 aftershocks ranging from tiny to magnitude-4.9 had been recorded since Thursday night.

Knudsen said it would not surprise him if additional monitoring equipment would show the earthquake's origin.

The geologist also can't say categorically if the Thursday event was the "big one" in this series, or the harbinger of something more violent to come.

As a rule of thumb, according to Knudsen, there is a 5 percent to 10 percent chance that any earthquake in California is a "pre-shock."

Knudsen said the USGS is asking anybody in the vicinity of the quake who may have seen a surface rupture or any evidence of "liquefaction" to contact USGS at 1-650-329-4390.

Liquefaction takes place when water in the soil turns the ground to loose mud during a quake.