

Earthquake preparedness lacking at Tahoe, researcher warns

Adam Jensen, Tahoe Daily Tribune, 4-23-11

LAKE TAHOE — More than 5,000 miles separate Sendai and Lake Tahoe.

But the tsunami-ravaged Japanese city and the Sierra lake share at least one geological similarity that belies their physical distance, said University of Nevada, Reno, earthquake researcher Graham Kent.

Prior to the 9.0 magnitude earthquake that set off massive tsunami waves and devastated swaths of Northern Japan in March, Kent said both Sendai and Lake Tahoe were at or beyond the end of their expected earthquake cycle.

The seismologist showed the latest data for Lake Tahoe Basin and spoke about the area's earthquake risk during a presentation Wednesday at Harrah's Lake Tahoe.

Japan experiences earthquakes the size of the Sendai quake about once every 1,000 years, Kent said. The area had not experienced a quake similar in size to the March quake in approximately 1,200 years.

The 40-mile West Tahoe Fault, which runs along Lake Tahoe's West Shore and is the largest of the basin's three faults, triggers large earthquakes about once every 4,000 to 6,000 years. The last big quake recorded along the fault was 4,500 years ago.

While the long timelines for quakes often lead people to assume such an event will never happen in their lifetimes, the large quakes the West Tahoe Fault has generated in the past could just as easily happen tomorrow, Kent said.

And Lake Tahoe's cobalt blue waters could complicate such an event along the West Tahoe Fault or the nearby Stateline Fault, which runs along the middle of the lake through Incline Village.

An underwater, magnitude 7 earthquake along the faults could create a wave 3 to 10 meters high.

Such a wave originating from the West Shore would reach the East Shore in two minutes, and everywhere around Lake Tahoe in six. How far inland the wave could reach is unknown, but digital animation of how a wave would spread throughout the Lake Tahoe Basin showed water reaching as far as Lake Tahoe Airport. The animation drew muted gasps from those in attendance.

Placing signs on area beaches warning of the potential danger is an immediate way to spread information about the potential risk of an earthquake-derived wave, Kent said.

He said the idea of an earthquake and a subsequent wave during the summer months, when thousands of people populate area beaches, is particularly scary.

Getting involved in the Great Nevada Shakeout, an annual earthquake drill, is another way to up the basin's level of preparedness, Kent said, noting the deaths caused by the Japan quake would have likely stretched to more than 100,000 if it wasn't for the extensive measures the country took prior to the Sendai quake.

Kent said his goal is not to “freak everyone out,” but to realize that there is a real need for additional preparedness in the Lake Tahoe Basin.

Data gathered last year has given researchers a clearer picture of where the West Tahoe Fault runs and could soon influence building decisions, Kent said. More research is needed to determine the fault's quake history, Kent added.

“When it happens everybody's going to say, ‘why didn't we do the simple things to protect everyone?’” Kent said. “We don't do a very good job at monitoring and preparedness in this area, and we're going to fix that.”