

## **Not My Fault: Earthquakes, volcanoes - and an elephant at the fair**

Lori Dengler/For the Times-Standard  
Posted August 15, 2018

It's that time of year again. For the 20th consecutive year, the Redwood Coast Tsunami Work Group is sponsoring the Earthquake – Tsunami Room at the Humboldt County Fair. Thank you to the Humboldt County Fair Association for providing us with space so that we can share preparedness information and the latest in earthquake and tsunami news with you.

My part in the room is putting together posters summarizing earthquake and tsunami activity and highlighting interesting recent events. I started sketching out this year's posters a month ago, but have learned not to print them up until the last possible moment. Good thing I waited because the last week has taken me back to the drawing board. In the space of ten days, the Hawaiian eruption ground to a halt, we had a new deadliest quake of the year, and an unusual sequence of tremors struck Alaska's North Slope. It's meant a lot of last minute adjusting, but fairgoers will get the latest. And if something happens during the fair run, we will do our best to give you updates. Here's a sneak preview.

Kilauea has held my attention for the past three months. It's provided fodder for two columns and continues to create new chapters. For all of July and August, the Kilauea summit was racked by hundreds of earthquakes a day and a collapse explosion every 24 to 36 hours. It was easy to tell when the next explosion was coming because of the acceleration of quake activity in the hours beforehand. The earthquakes and explosions were caused by the flow of magma out of the summit to feed the eruption from fissures 25 miles away in the Leilani Estates area atop the Lower East Rift Zone. A report issued by the USGS three weeks ago suggested this pattern could persist for months or years. And then the earthquakes, the explosions, and the lava flows stopped. The last explosion occurred on August 2 and, as if Mother Nature had turned off the tap, within two days seismicity was back to pre-eruption levels.

Move over Papua New Guinea. The August 5 magnitude 6.9 earthquake in Indonesia is now atop the leader board for the deadliest earthquake of 2018. As I write this, the

death toll stands at 460, 300 more than losses from the February 25 M7.5 earthquake in Papua New Guinea's Southern Highlands. The August 5th earthquake was near the north coast of the island of Lombok. Large earthquakes are no surprise in Indonesia, the most volcanically and seismically active country in the world. A catastrophic earthquake struck neighboring Bali in 1917, but the resort island of Lombok has been largely spared major damage over the past 300 years.

Impacts in Lombok were exacerbated by a magnitude 6.4 foreshock on July 28 that caused damage to structures and killed 20. About 10 percent of significant earthquakes are preceded by foreshocks. Unfortunately, foreshocks are no different than "ordinary" earthquakes and there is nothing about their characteristics that suggest a bigger quake may be on its way.

The Lombok earthquake affected both residents and tourists alike. At least 1000 tourists were trapped on the Gili Islands, an idyllic vacation spot just off the NW coast of Lombok. Some lost their belongings when hotels and cottages collapsed. It is another reminder that Nature doesn't take holidays and it's always smart to keep your essential documents and a few emergency supplies with you.

Last Sunday morning, just as I was preparing to record the Humboldt Earthquake Hotline, my phone buzzed and the National Tsunami Warning Center informed me that a magnitude 6.4 earthquake had occurred in Alaska. My first thought, another Aleutian Islands event. On closer inspection, the earthquake wasn't where I expected it to be. It was centered on the North Slope only 25 miles from the Beaufort Sea. The earthquake and its M6.1 aftershock are now the two largest ever recorded north of the Brooks Range.

Because the location was about 90 miles from the Prudhoe Bay oil field, the obvious question is whether the quake was related to the disposal of drilling waste fluids. At this point in time, everything known is consistent with natural earthquake activity. The orientation of the strike-slip mechanism aligns perfectly with known tectonics and previous earthquakes in the region.

And yes – we do have an elephant in the Earthquake – Tsunami Room this year. We are asking visitors to the room to take Post It notes and write down the reasons why you haven't put together an emergency plan or stored supplies. We'll have another pile of Post Its for you to note some simple actions you could take. We hope that looking this elephant square in the face (or

rump) and reading what others have written, will jog you into taking some steps to help you and your family not only survive but thrive after the next earthquake, tsunami or other disaster strikes our area.

The Earthquake – Tsunami Room is in Hindley Hall, the Commercial Building at the Ferndale Fairgrounds and is open from noon to 9 pm from August 16 to 26th.

Preparedness tip for this week: When it comes to emergency supplies, some things are more important than others. At the top of the list is water. Consider 1 gallon per person per day, and be prepared to shelter in your home for at least a week and preferably two.

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Lori Dengler is an emeritus professor of geology at Humboldt State University, an expert in tsunami and earthquake hazards. Questions or comments about this column, or want a free copy of the preparedness magazine “Living on Shaky Ground”? Leave a message at (707) 826-6019 or email [Kamome@humboldt.edu](mailto:Kamome@humboldt.edu) <http://www.times-standard.com/opinion/20180815/lori-dengler-earthquakes-volcanoes-and-an-elephant-at-the-fair>