

## **Not My Fault: Tsunami week cancelled; a North Coast tremor strikes**

Lori Dengler/For the Times-Standard  
Posted Mar 21, 2020

I had this week's column nearly finished about a month ago. The last week in March is California's Tsunami Week, and I always write a variation on the same theme.

The North Coast is California's leader in tsunami planning and preparedness. From the first TsunamiReady community (Crescent City), the first evacuation drill (Samoa), the first Caltrans tsunami signs, to the first tsunami-app to delineate tsunami hazard zones, we've led the way.

In 2008, the North Coast held the first Tsunami Communications Test. What's the big deal you say? When tsunamis come from far away, the Emergency Alert System (EAS) is our first line of notification and everyone is aware of the weekly test interruptions on TV and radio. The 2008 test was different. It used the real "live" codes as if an actual tsunami had occurred. You may be surprised to learn that the real alert doesn't work in the same way as routine tests, and there's no way to know how well EAS will work unless you run the real codes.

Most areas are justifiably shy about doing a Live Code test. What if someone isn't aware it's only a test when the crawler on the television says "tsunami warning," and takes actions that put themselves in peril? It requires a lot of work. Lead by the Eureka NWS Forecast Office, presentations were made to officials to get them on board. Special efforts were made to reach the people with hearing loss and non-English speakers. When the test went well, it was expanded to add Del Norte in 2009 and Mendocino in 2010. Additional activities were added such as sirens sounding, airplane alerts from civil air patrol and county telephone/text/email reverse 911 notifications.

A test can only be successful if everyone is aware of what it means and there is no possibility of confusing it with a real emergency. Everyone must understand that sirens sounding or a plane flying overhead is only part of the test. Real emergencies always take precedence. The 2011 test was pre-empted by the real tsunami from Japan.. In 2017 it was cancelled because of fires. Last

year it was scratched because the government shutdown made it impossible to carry out the needed planning and outreach.

The NWS coordinates the test with the support of the Redwood Coast Tsunami Work Group. Our last meeting was on March 4. We discussed logistics and outreach activities and we looked at scenarios that could require cancellation. March 4 seems like a world ago now. We were aware of the looming coronavirus threat, but most thought the test and other Tsunami Week activities such as talks, a Del Norte Preparedness Fair, and Grange Breakfasts could all proceed. We did agree to touch bases again in ten days to see if the situation had changed and reconsider if necessary.

And oh did the world change. By March 11, it was abundantly clear that county emergency officials were overwhelmed by coronavirus response. One by one we pulled back on events - cancelling the test, presentations, and the rest of the activities. Last week, the State Office of Emergency Services officially cancelled all Tsunami Week activities.

All things coronavirus right now – from the individual to the federal government. But geologic forces pay no attention to what is happening on the earth's surface and the inexorable stress along faults continues to build. We had modest reminders in the past two weeks – a magnitude 5.8 earthquake on March 8th and a 5.2 last Wednesday.

Neither of these earthquakes were in any way unusual for our area. The 5.8 was on the Mendocino fault, the transform plate boundary between the Gorda and Pacific plate 43 miles west of Petrolia. Since 1980, it's been the location of 33 earthquakes of magnitude 5 or larger and is, arguably, the most active fault for its length in California. The earthquake was reported felt by many in Humboldt County and by some from Santa Cruz to Brookings, OR and inland to Redding. Peak intensities were in the MMI 5 range, meaning a few items were reported knocked over. No significant damage was reported.

The 5.2 was in the Mendocino triple junction region where the Gorda, Pacific, and North American plates meet just off the coast of Cape Mendocino, 9 miles west of Petrolia and 34 miles east of the 5.8. The triple junction is not a point, but rather a zone at least 30 miles in dimension that includes faults and highly deformed rock. For it's size, it is the most seismically active area in the contiguous 48 states. Over 1000 earthquakes of

magnitude 3 or larger including 15 in the 5 or larger range have been reported since 1980.

Wednesday's earthquake was reported felt sharply in much of coastal Humboldt County with peak intensities in the MMI 6 range (many items knocked from shelves). It was felt by some from Mendocino County to Brookings and inland to Redding. A number of people told me that it felt much stronger than the 5.8. I'm not at all surprised – it was closer to populated areas and the rupture appears to have produced more high frequencies vibrations, the ones that we perceive as “sharp.”

Were these two earthquakes related? Probably. They are in the same tectonic neighborhood and close enough that stresses released in the 5.8 may have influenced the triple junction region. During past large earthquakes in the Gorda plate and Mendocino fault, the triple junction region tends to light up with small to moderate earthquakes.

We were fortunate that these two earthquakes got our attention but didn't cause significant damage or injuries. They are a reminder that the pandemic is not the only potential threat to our area. The next felt earthquake could be much larger. So while you are self-isolating in your homes, take some of your time to look at earthquake safety. Secure cabinets and heavy objects to walls, lower big items that could fall or topple in an earthquake. Remember that long duration shaking is your warning to evacuate if you live in a tsunami zone.

-----

Lori Dengler is an emeritus professor of geology at Humboldt State University, an expert in tsunami and earthquake hazards. All Not My Fault columns are archived at <https://www2.humboldt.edu/kamome/resources> and may be reused for educational purposes. Leave a message at (707) 826-6019 or email [Kamome@humboldt.edu](mailto:Kamome@humboldt.edu) for questions or comments about this column, or to request a free copy of the North Coast preparedness magazine “Living on Shaky Ground.” <https://www.times-standard.com/2020/03/21/lori-dengler-tsunami-week-canceled-north-coast-tremor-strikes/>