

Not My Fault: North Coast ShakeOut 2022 and a seismic tickle

Lori Dengler/For the Times-Standard
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Thursday was the Great ShakeOut and more than 9.6 million Californians were registered participants. Out North Coast tally exceeded 68,000, a whopping 23% increase over last year. A toast to all of the individuals, families, schools, businesses, and other organizations who practiced what to do during an earthquake.

My ShakeOut was subdued this year. No under the table for me as I still have a few months to go before my new knee will afford me that luxury. But that didn't prevent me from grabbing a pillow and putting it over my head and neck when the pretend ShakeOut quake arrived.

I had received three ShakeOut notifications. The first was from MyShake that alerted my cell phone that a test of California's earthquake alert system was underway. For MyShake, the annual ShakeOut drill is a birthday party. California's alerting system that strong shaking could be on its way was officially released for public use on ShakeOut day 2019.

The second heads-up was from Humboldt County's emergency notification network, an automated system that pushes messages out to phones and emails. I received a real notification from the system back in January after the Tonga volcanic explosion and potential tsunami threat to our coast. I responded by text back by texting YES that I received the alert. On the North Coast, the annual ShakeOut drill in October and Tsunami Communications test in March provide opportunities to test the system to make sure it is working properly.

If you didn't receive these alerts on Thursday, most likely you aren't signed up. Both MyShake and the county alert system require that you enroll. MyShake works on both Android and iPhone cell phone platforms. It won't run automatically – you need to enable location services for it to work. Every California county has a notification system – Humboldt's is at <https://humboldt.gov/2014/Emergency-Notifications> to sign up. If you don't want to negotiate the web platform, just call County OES at (707) 268-2500.

The third was from KMUD radio. KMUD staff have been very active in earthquake/tsunami awareness for decades. In the 1990s after any event the first phone call was usually from Estelle Fennell, the KMUD news director for many years. The current KMUD news staff has carried on the tradition. KMUD was one of many radio stations in California that carried the ShakeOut broadcast, cutting into regular programming to announce the drill was underway.

How did Humboldt County do? You can find a list of registered participants at <https://www.shakeout.org/california/participants.php?st=Humboldt>. The biggest participant category was K-12 schools. This was no surprise as California schools are required to hold earthquake drills and most incorporate them into ShakeOut. Colleges were the second largest group. They aren't mandated to hold drills but both Cal Poly Humboldt and College of the Redwoods have been ShakeOut supporters since inception.

A shout out to a few other groups who stepped up to the plate this year. Nearly 2000 medical and other health groups were enrolled, a four-fold increase from a decade ago. Humboldt County had the largest tribal participation in the State – hooray for the Blue Lake Rancheria, Hoopa Valley Tribe, and the Yurok tribe.

But we are still lagging in a number of important areas. Kudos to American AgCredit – they were the only business participant this year. I can't overemphasize the importance of earthquake preparedness to the business sector. Close to 80% of small businesses in the areas affected by strong shaking in the 1994 Northridge earthquake were out of business two years later. Protecting your staff and your customers should be a top priority.

I was also disappointed in the weak participation of senior facilities. In disaster after disaster, it is the elderly that often are the hardest hit. As a member of this demographic, I take it personally. Staff and residents of care homes and senior living centers need to know what to do in any disaster. ShakeOut participation isn't a complete solution, but it is a beginning.

Residents of the North Coast have a particular reason to be engaged in ShakeOut. We have more earthquakes than any other part of the coterminous 48-states. Not only do we have frequent earthquakes, we are also atop the only fault system in the lower 48 capable of producing a magnitude 9 earthquake. Couple this with a rural population connected by fragile roads and bridges, we are

far more likely to be cut off from one another and from resources when an earthquake strikes.

It is easy to get into the rut of “the last earthquake didn’t cause damage so I should be ok.” The next earthquake won’t be like the last one and here on the North Coast we have more different types of earthquakes and earthquake sources than almost anywhere else. Mother Nature provided us with a small taste of our earthquake varieties early on ShakeOut morning. At 12:55 AM local time, a 4.3 struck near the Humboldt – Trinity County border about midway between Hayfork and Redway.

The earthquake was felt in Southern Humboldt and by a few as far away as Eureka but caused no damage. It was an interesting earthquake because of its location, depth, and type of faulting. Most of our earthquakes are fairly shallow, less than ten miles beneath the surface. Thursday’s quake was 20 miles deep. And unlike most of our earthquakes that are the result of compression, this was an extensional earthquake.

Thursday’s earthquake is a ‘down-slab tension’ earthquake. The earthquake was deep because it was in the subducting Gorda plate. The Gorda plate is slowly descending beneath the North Coast, pulled by gravity. The upper part of the plate is stuck along the Cascadia subduction zone, but gravity continues to yank on the on the lower part of the plate. The result is tension and earthquakes like the 4.3. It’s an indication that the subduction zone is active.

I can’t predict the next North Coast earthquake, but I am pretty sure it will be different than the last one. Reducing hazards and knowing what to do when it strikes will make a difference in how it impacts you.

Note: An overview of the different types of earthquakes on the North Coast is at

<https://kamome.humboldt.edu/sites/default/files/Sources%20of%20North%20Coast%20Seismicity.pdf>

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