

Not My Fault: World Tsunami Day 2022

Lori Dengler/For the Times-Standard
Posted November 5, 2022

In 2015, the United Nations designated November 5th as World Tsunami Awareness Day. The UN currently recognizes 198 special days. To establish a day, a member state proposes the day and the General Assembly votes to approve the resolution. It's a diverse group of commemorations including seagrass, toilets, space flight, full moons, and bees.

There are many days commemorating war victims and health issues, but Tsunami Day is the only one that highlights a particular natural disaster. Japan proposed the Day in the aftermath of the 2011 tsunami, to emphasize tsunamis are global in impact and the importance of education and awareness in reducing tsunami deaths.

Tsunamis are unique in the disaster world in several ways. They are always secondary. A tsunami won't just pop up on your coast out of the blue. Something has to deform the sea floor first. Most often that trigger is a very large earthquake. But submarine landslides, volcanic eruptions, underwater explosions, and large atmospheric events can also produce tsunamis. Areas hit by tsunami may also be dealing with shaking damage or volcanic impacts as well.

The emphasis on 'World' for this day is appropriate. The largest tsunamis are global, causing damage across oceans thousands of miles from the source region. The 2004 Indian Ocean tsunami was recorded on nearly every tide gauge on the planet. It took 37 hours to reach Crescent City and produced a nearly one-foot-high surge. Last January's explosive eruption in Tonga showed us that atmospheric pressure waves can traverse land, triggering tsunami surges in opposite oceans.

Protecting coastal communities from tsunamis is complex as large tsunamis are relatively infrequent and the warning signs near the source and far away are quite different. Decades or centuries may pass between successive damaging tsunamis in any region. With the passage of time, tsunami preparedness loses priority. When I was in Peru studying the 2001 tsunami, I was told a common saying in the region: the next tsunami will arrive when we have forgotten the last one.

Tsunamis are a problem that can't be engineered away. Building stronger structures is important, but the only way to save lives is to get people out of the inundation area, and to do so requires action on their part. Evacuation whether for fire, hurricane, flood, or other disaster is always challenging. No one wants to leave their home. It is particularly difficult for tsunamis when the source is nearby and there is no time to coordinate an official evacuation.

I am glad World Tsunami Day follows so closely after ShakeOut. ShakeOut focuses on what to do to protect yourself during an earthquake. In coastal areas, we emphasize that shaking is also the first sign a tsunami could be on its way and encourage evacuation drills as part of ShakeOut drills. Redwood Coast Montessori School on Humboldt's Samoa Peninsula includes a hike to the high dunes as part of their ShakeOut exercise. Del Norte County's include a county-wide evacuation drill on October 27th.

In every tsunami, the highest water surges are closest to the source. More than 90% of tsunami casualties occur within 100 miles of the source. There is no way to predict earthquakes before they strike, and the first tsunami surges may arrive at nearby coasts in as little as ten minutes. In every North Coast drill, we emphasize that the shaking is your warning. Don't expect sirens to blare, cellphone alerts, or knocks on your door when the ground shakes for a really long time.

November 5th was chosen by Japan to remember Goryo Hamaguchi who saved his village because he knew that tsunamis could follow earthquakes. In the early winter of 1854, a magnitude 8.4 earthquake struck Japan's Kii Peninsula. After the earthquake, Hamaguchi-Sensei set fire to piled sheaves of newly harvested rice to get the attention of villagers near the coast and guide them to high ground in the darkness. The 1854 tsunami caused damage and casualties, but his actions saved many.

The Redwood Coast Tsunami Work Group (RCTWG) also honored one of our community "elders" this week for efforts to protect our North Coast community from tsunamis. Vicki Ozaki was awarded our first ever RCTWG Lifetime Achievement award. Vicki is younger than I am so not truly an elder in years, but certainly in wisdom.

Vicki was the spark that started the RCTWG. In 1995, the California Division of Mines and Geology (now the Geologic Survey) released a study a great earthquake and tsunami on the Cascadia subduction zone in Northern California. Vicki, a resource geologist at Redwood National and State

Parks, immediately recognized that the Park and other coastal jurisdictions had no policies in place for a tsunami coming from nearby. She convened a group of North Coast Agencies to discuss likely impacts and next steps.

That first inter-agency meeting led to the formation of the RCTWG in 1996. An ad-hoc organization with no budget, no bylaws, and no official organization, it has persisted for 26 years and has become a leader not only in California but also internationally as a model for developing region-based awareness/preparedness programs.

In 1996, California had no materials, programs, or official stance on tsunamis generated by earthquakes in the State. Vicki was at the forefront of developing our first brochures, the first hazard maps, and participating in almost every tsunami drill. She collected oral history of earthquakes and tsunamis from the First Nations in the area and drew a number of Tribes into the RCTWG fold. And, perhaps more than anyone else in the group, developed our philosophy that what we know now will change as we learn more.

In the spirit of World Tsunami Day, recognize that knowledge is power and the more you and your family know about tsunamis, the better you can protect yourself and your loved ones. Read the heartwarming story of Kamome to your children (available at Northtown Books, Cal Poly Humboldt Bookstore and Eureka Books or at <https://kamome.humboldt.edu/>). Visit our Tsunami Day website at <https://rctwg.humboldt.edu/world-tsunami-awareness-day>.

Note: Curious to know what other days/weeks are recognized by the UN? Visit <https://www.un.org/en/observances/list-days-weeks>.

Lori Dengler is an emeritus professor of geology at Cal Poly Humboldt and an expert in tsunami and earthquake hazards. The opinions expressed are hers and not the Times-Standard's. All Not My Fault columns are archived online at <https://kamome.humboldt.edu/resources> and may be reused for educational purposes. Leave a message at (707) 826-6019 or email rctwg@humboldt.edu for questions and comments about this column, or to request a free copy of the North Coast preparedness magazine "Living on Shaky Ground."