Times Standard

Not My Fault: The Redwood Coast Tsunami Work Group turns thirty!

Lori Dengler for the Times-Standard

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The author's grandsons Alex and Otto Lisle point the way to the 2012 Earthquake – Tsunami display at the Humboldt County Fair. You can visit the 2026 booth in Hindley Hall Aug.12-16, still staffed by Redwood Coast Tsunami Work Group volunteers.

Thirty years ago, a small group got together to discuss how the North Coast region could reduce the threats posed by a great earthquake and tsunami on the Cascadia subduction zone (CSZ). The CSZ was a relatively new concept at the time, but a study had just been released on what the likely impacts of a great CSZ earthquake might be. It was very clear we weren't prepared.

Vicki Ozaki was the spark that started the RCTWG. Vicki, a resource geologist at Redwood National and State Parks at the time, was keenly aware of geologic hazards. In 1995, the California Division of Mines and Geology published a scenario that included all of the possible impacts of a magnitude 8.5 earthquake on the southern segment of the CSZ. The 1995 scenario was first scenario to include a tsunami. Redwood National and State Parks has jurisdiction of nearly 40 miles of coastline in Humboldt and Del Norte counties and Vicki recognized that the Park and other coastal jurisdictions had no policies to prepare for or respond to a tsunami like the one described in the publication.

On July 26, 1996, Vicki gathered a small group of people representing the California Geological Survey, Humboldt OES, Crescent City Fire, California Coastal Conservancy, Del Norte Ambulance, and California Parks and Recreation, for a meeting at the Redwood National Park Office in Arcata. I wasn't there. The meeting focused on agencies with coastal management responsibilities. They called themselves the "Interagency Tsunami Education Task Group" and found there were more holes than substance in how to handle a CSZ earthquake and tsunami. There were no State guidelines, and in 1996, tsunamis were not a high priority for the State.

The lack of concern and resources at the state level may have worked to our advantage. Humboldt State was the only university in the region and there were no research branches of federal or state agencies here. The Cascadia earthquake/tsunami problem had been dropped squarely in our laps, and it was up to us to deal with it. We weren't without resources. There is considerable local expertise on the North Coast, and we also had something much more important – personal investment. We all lived here, and a great Cascadia earthquake and tsunami would profoundly affect each and every one of us.

The people at that first meeting said, "make the table large". Anyone with interest and responsibilities for coastal areas was welcome. A second meeting added more groups. I was invited, along with John Lovegrove the Warning Coordination Meteorologist from the Eureka NWS office, and representatives from Red Cross, Cal Trans, and Tribes and Rancherias. We were 'ad hoc' in the truest definition of the term – formed for the specific task of building resilience to the Cascadia earthquake and tsunami threat within the three North Coast counties most affected. We had no idea just how big a task that would be and that we would still at it thirty years later.

To be fair, we weren't the only ones paying attention to the CSZ. Only about a month after our first RCTWG meeting, Congress authorized a few million dollars to form the National Tsunami Hazard Mitigation Program (NTHMP). A Cascadia earthquake and tsunami is not just a North Coast problem. A full rupture would extend from Cape Mendocino to Vancouver Island, Canada and cause damaging ground shaking over a very wide area. Its tsunami would have the potential to damage Hawaii and Alaska and countries in much of the Pacific basin.

The original NTHMP was a small program for five Pacific states focused on hazard assessment, warning centers/warning dissemination, and mitigation (education and outreach). I was an NTHMP rep in those early days, so it was easy to keep in close contact with what the other states were doing to improve tsunami readiness and borrow outreach materials. Our first effort was a black and white trifold brochure, adapted in large part from an Oregon flyer.

The RCTWG has never had a formal charter, official structure, or budget. Much of the effort was volunteer or through grants to member organizations. The NWS Forecast Office in Eureka took a serious interest early on. NWS is the agency with the sole responsibility for assessing potential tsunamis and issuing alert bulletins to coastlines that could be affected. Nancy Dean was the Meteorologist in Charge when the RCTWG began and she made participation a duty of the Eureka Warning Coordination Meteorologist (WCM), the person responsible for communicating NWS alerts to the public. Beginning with John Lovegrove, then Troy Nicolini, and Ryan Aylward, our WCMs have been deeply committed to the tsunami effort and a backbone of the RCTWG.

I had a few grants at the time that allowed me to launch complimentary efforts on campus. We also had the benefit of Humboldt faculty, research staff, and students. Gary Carver, Bud Burke, Harvey Kelsey and their students were at the forefront of paleotsunami research. I brought a Humboldt student with me for a two-week post tsunami field survey to Peru in June 2001. Tsunamis were not yet a household word, but we kept interest on the North Coast high.

I divide RCTWG history into four eras. The first was the low-profile period before the 2004 Indian Ocean tsunami and we were developing projects and materials largely on our own. 1998 was the year of our first earthquake/tsunami display at the Humboldt County Fair, a tradition that would continue until COVID and was resumed in 2023. You can visit our virtual fair display at https://rctwg.humboldt.edu/virtual-fair if you never visited in person. We will be back at the Humboldt County Fair August 12th-16th. The horse racing may be gone but you can still learn the latest about our earthquake and tsunami hazards.

In 2003, we developed the first generation of tsunami maps for our area. At that time the State focused only on highly populated areas for detailed mapping so Jay Patton (a Humboldt grad student at the time) and I developed our own relative hazard maps. We used the Fair to debut the maps and get public feedback. That same year, Crescent City became the first California city to achieve "Tsunami Ready" status under a new NWS program.

The Indian Ocean tsunami in December 2004 changed the tsunami landscape in an instant and ushered in RCTWG era #2. Budgets were boosted and states had adequate resources to map coastlines in detail. In 2008, the first Live Code Tsunami Communications test was held in Humboldt and expanded to Del Norte and Mendocino over the next two years. The first generation of maps for our area came out in 2009. The new maps provided the basis for installing tsunami signs on roadways and conducting evacuation drills and more communities gained Tsunami Ready recognition. Thanks to Jim Goltz who headed the State OES earthquake tsunami program, the University began receiving grant support for RCTWG outreach activities.

2011 and the Great East Japan earthquake and tsunami initiates the third era. With major damage to harbors and low-lying areas in Hawaii, California, and Oregon, tsunami was no longer something that affected areas far away but became up close and personal. I haven't kept count of all the interviews, professional and community meetings, but RCTWG members were present and pivotal in tsunami decision making both locally and at the national level. It's a period of updated tsunami hazard maps, a new edition of the 'Living on Shaky Ground' magazine, live code tests, more Tsunami Ready community designations and international recognition of the RCTWG as the example of a grass roots preparedness organization.

The 2011 tsunami is now a distant memory for most people. Somewhere around 2020 I'd argue our 'post Japan era' began. We've had tsunami alerts since then, including from the Tonga volcanic eruption, our December 2024 earthquake, and last summer's M8.7 earthquake off the coast of Kamchatka. They caused inconvenience and confusion but only modest damage on the West Coast. This is an era of declining support for many government entities andthere is no exception for agencies that make up the RCTWG.

The good news is that we will persist. Our original purpose to provide a forum for North Coast entities with coastal responsibilities and develop/disseminate outreach products will continue with or without federal support. We still all live here and the partnerships developed through

the RCTWG have helped in non-geologic events as well including flooding, winter storms, sneaker waves and wildland fires. Perhaps the most telling example of the group's value is that at least a dozen RCTWG members, long retired from the position that first linked them to the group, continue to actively participate. I like to remind people that once an RCTWG member, always an RCTWG member.

The Cascadia subduction zone has yet to release its next major tremor. But it will and each day brings us one day closer. The Redwood Coast Tsunami Work Group is one of our best tools to build local resilience, reduce losses, survive and thrive.

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