

Times Standard

Not My Fault: Humboldt Earthquake Education Center turns 40

Lori Dengler for the Times-Standard

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Lori Dengler and Amy Uyeki of the Humboldt Earthquake Education Center read the story of the Kamome the tsunami boat to second graders at Jacoby Creek School in 2015.

Happy Birthday to the Humboldt Earthquake Education Center (HEEC). The Center owes its existence to the California Earthquake Education Act of 1984 when the California legislature designated the creation of six earthquake outreach centers at CSU campuses.

The Humboldt Geology Department became involved with community earthquake outreach far earlier. California's North Coast has always been a seismically active place, and the Geology Department created in the mid-1960s by John Young, Frank Kilmer and John Longshore, was a natural place for studying and responding to local tremors.

The Department rapidly grew and by the time I arrived in 1978, it had gained a national reputation for regional tectonics. I had expert resources in Gary Carver, Ken Aalto, Bob McPherson and Adam Honea to understand why our small corner of California was such a special place.

In 1981, the State funded Lawrence Hall of Science to create the California Earthquake Education Project (CALEEP) a K through 12 curriculum. The California Earthquake Education Act in 1984 provided three years of funding to disseminate the curriculum in California schools. The CSU System would provide grants to establish six regional earthquake education centers for teacher training.

I liked what I had seen of the curriculum, and it seemed like worth trying. I knew very little about K-12 education at the time, but I led the effort to throw a Humboldt hat into the ring and were awarded one of the centers. It was only \$5000, and the only requirement was an annual training workshop for teachers over the next three years.

Mother Nature anointed our new center by providing an earthquake. On September 10, 1984, a magnitude 6.7 occurred on the Mendocino fault 134 miles west of Cape Mendocino. There was no damage, but the earthquake was felt from San Francisco to Port Orford and immediately put us in the media spotlight.

This was long before the internet and easy access to real-time earthquake information. Cal Tech, Berkeley, and the National Earthquake Information Center in Colorado all had telephone earthquake information lines, but they weren't updated regularly and often omitted felt events in our area. We began our own recording, the Humboldt Earthquake Hotline (707-826-6020) soon after the 1984 earthquake to provide local information.

The annual training workshop became a 700-level professional development class designed for area teachers to keep their credentials current. It was very popular, and we held it each semester. The interest and enthusiasm led us to add several other 700 classes including weekend field trips featuring faults, fossils, and landslides. We added two tsunami-focused 700 classes in the 1990s.

The CALEEP grant ran out in 1987, and the legislature passed an authorization for continued support for the program. Then Governor George Deukmejian vetoed the appropriation on October 1st, 1987. Even the M5.9 Whittier-Narrows earthquake (\$300 million in damages, 8 deaths) in Southern California on the same day wasn't enough to convince the governor it was worth continuing. A few of the trained teachers incorporated aspects of the program into their classes, but CALEEP was never widely adopted and, without support, it withered away.

Except at Humboldt. HEEC continues to this day. There were several reasons for our survival. We offered CALEEP training as continuing development courses, so it didn't require additional resources as long as a sufficient number of students and area teachers enrolled. Six widely felt earthquakes occurred between 1987 and 1991 and regional interest in earthquakes was high. Unlike the other five regional CSU CALEEP centers, we were isolated from major government or university seismic research centers. People wanted earthquake information, and we were the only ones around.

With strong earthquakes came more requests for talks and field trips. I began to meet people in emergency response agencies. Our College budget was a bit fatter in the late 80s and I was fortunate that the department and college dean recognized value in our slowly expanding outreach efforts and gave me a few units compensation for HEEC activities.

1992 was the game changer. The M9.2 Cape Mendocino earthquake sequence caused at least \$60 million in damages, injured over 350, produced a modest tsunami and resulted in a federal disaster declaration. It focused the interest of scientists and the State's emergency management system on the North Coast and the near source tsunami threat.

Interest translated into support. An NSF grant allowed us to study the shaking pattern of the 7.2 and the two major aftershocks. That work would be the nucleus of the USGS “Did You Feel It?” crowdsourcing website of today. The Federal Emergency Management Agency (FEMA) funded what would become the last in the California Department of Conservation’s Earthquake Scenario studies, and the first to focus on a predominantly rural area and include tsunami inundation. Suddenly HEEC was no longer offering a few classes and giving a few talks. We were at the table in the discussions of how to study and address the potential tsunami hazard.

In 1996, The Redwood Coast Tsunami Work Group was formed. The RCTWG was created as an ad-hoc group of local and State agencies and organizations to address the near-source tsunami threat described by the Scenario. Over the ensuing years decades, HEEC has played a major role in RCTWG activities. The State Office of Emergency has funneled well over 1.5 million in FEMA and NOAA grant funding to the University’s Sponsored Program Foundation to support RCTWG activities.

What have we done with those funds? Just visit our web sites and find out. Almost all of our work is in collaboration with other RCTWG members and includes tsunami hazard mapping, evacuation drills, the annual ShakeOut and Tsunami drills. We are partners in the new CRESCENT Cascadia Earthquake Center and participated in last month’s first CRESCENT Partners Meeting to help guide research priorities to build regional resilience. And that telephone hotline? We are the only telephone earthquake information line remaining - just call 707-826-6020 for a daily accounting of regional, national, and global earthquake activity.

The biggest challenge for any organization is continuity and passing the baton to the next generation of scientists, educators, and emergency professionals. It is not at all clear that HEEC will survive this challenge. My position at Humboldt was not filled when I retired in 2015, and the current faculty numbers have dwindled to the point that teaching the minimum requirements for the major are a struggle. The current administration has shown little interest or support for our outreach efforts.

But I am an optimist, and I can always count on Mother Nature to remind everyone that earthquake education is important – right?

Note: Visit <https://rctwg.humboldt.edu/home> and <https://kamome.humboldt.edu/> for an overview of HEEC activities.

Lori Dengler is an emeritus professor of geology at Humboldt State University, 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/taxonomy/term/5> and may be reused for educational purposes. Leave a message at (707) 826-6019 or email Kamome@humboldt.edu for questions and comments about this column or to request copies of the preparedness magazine “Living on Shaky Ground.” Digital copies are at <https://rctwg.humboldt.edu/prepare/shaky-ground>.