

## **Not My Fault: Every California school needs to be tsunami aware**

Lori Dengler/For the Times-Standard

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Last week, Amanda Admire and I were asked to give a presentation on tsunamis to a meeting of emergency managers from the 23 California State University campuses. Amanda was my graduate student and measured tsunami currents in Humboldt Bay and Crescent City for her thesis. She is now a lecturer in the Geology Department and co-chairs the Humboldt Earthquake Education Center with me.

Emergency Management is an important part of campus administration. Most of the time you hear nothing about it and campus emergency managers fight for space and budget allocations. But when something happens, they are expected to seamlessly establish an Emergency Operations Center (EOC), often in borrowed space, coordinate response, and keep up on all the activities and expenditures that have to be included when reports are due.

I got my introduction to emergency management in the late 1990s when Tom Dewey was the Humboldt Chief of Police. Tom was gung-ho on emergency management and was eager to help me with my new Natural Disasters course. He suggested that I include an exercise in the class where students could ‘manage’ a mock emergency. He even pulled in staff and let us use the campus EOC and provided the official emergency management vests for students to wear.

There are three types of exercises used in emergency management training. The most common are desktop exercises where everyone is in a large room and walks through a scripted hypothetical event such as an earthquake, fire, or campus disturbance and discusses the response options. It’s a great introduction to emergency management.

The second is a functional exercise and requires more work. The exercise takes place in the EOC with everyone at their stations. The exercise development team phones in “injects” – it could be a report that a building is on fire in the chemistry building, or a hysterical parent is calling to

find out if their child is safe. But outside the EOC, nothing is happening – no assets are actually being moved. But from the perspective of the EOC, it feels very real.

The third type is a full-scale exercise. You take the exercise into the field and play-act out the event. Makeup may be applied to “victims” to enhance the realism of the scene and fire engines and first responders participate. We’ve held a few full-scale exercises at Humboldt, but they are rare and restricted to one building or area.

Tom Dewey suggested we do a functional exercise with my students. I prepped them for the week before with an introduction to the Standardized Emergency Management Systems (SEMS) and they were assigned roles in the campus emergency management system such as President, EOC Director, Public Information Officer, and coroner.

My class exercises were always for a major earthquake and began as the “ground shaking” stopped. I was always impressed with how well they worked – the students taking their roles seriously. Not everyone enjoyed the controlled chaos of the EOC. One very good student told me the lack in information in the early hours really bothered her. She told me it was her least favorite part of the class. That was in the spring of 2001. She graduated and moved to New York. I got an email from her in October. She had experienced the World Trade Center bombing firsthand. In those desperate hours on September 11, she said she got it. She understood how messy and imperfect information is during a disaster. In hindsight, she now felt that class exercise was the most important part of her undergraduate education.

Another person who took that class was Jenny Novak. She enjoyed the class EOC exercise, and it was one factor that steered her into a career in emergency management. She is currently works out of the CSU Chancellor’s Office as the Director for Systemwide Emergency Management. Her job is to coordinate emergency management efforts across campuses. I think herding cats would be an easier vocation.

One of her jobs this year was to organize a conference of CSU emergency managers. It was the first in-person meeting in the COVID era and Humboldt was selected as the venue. Several people on the organizing committee thought it would be a good idea to include a session on tsunamis.

Why a tsunami session when only a third of the CSU campuses are near tsunami hazard zones? For the same

reason that every Californian no matter where there live should have an understanding on tsunami basics. We all visit the coast. All CSU campuses have classes that take field trips to the coast.

Tourists and occasional coast visitors are among the most vulnerable to tsunamis as they are less likely to be aware of the hazard. Thirty-nine Americans died in the 2004 Indian Ocean tsunami, including a man from McKinleyville. The M8.7 Chile earthquake occurred on the last summer weekend in 2010 when coastal resorts and campgrounds were filled with vacationers. Most residents were aware of tsunami hazards and understood ground shaking is a signal to evacuate but few out-of-towners did and unfortunately many died.

There is another reason why emergency managers need to be concerned about tsunamis. Tsunami alert bulletins are not infrequent. I estimate that 36 events would have triggered bulletins in the past century if our current warning system had been in place. It's important for everyone with emergency management responsibilities understand what they mean and the appropriate response. There could be anywhere between two and fourteen hours between the time that a bulletin is issued and when it arrives on local coasts. That is plenty of time for confusion and misinformation and emergency managers need to be on top of it.

I hope Amanda and I were able to convey that tsunamis are tricky and no two are the same. It's not just the extreme tsunami with mountainous surges to be concerned about. In California, few tsunamis in written historic times have caused flooding. Much more common are the ones like last January that produce strong currents. And they can be deadly to those unaware.

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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](mailto: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."