

Not My Fault: Sneaker waves, volcanos and remembering Haiti

Lori Dengler/For the Times-Standard

Posted January 19, 2020

Deciding on a subject for this column is usually straightforward. I look for issues close to home, geologic events and research in the news, or memorable events in the past worthy of remembering. This week all three were in play and I couldn't decide. My quick take on all of them.

1) SNEAKER WAVES. Sneaker waves were in the news. The result was tragic when a father and two children were caught by a wave and swept into the ocean on the Northern Oregon coast. The father got out but both children perished. There were close calls on many beaches during the king tides and large waves of the past week including in Humboldt County. A widely shared video shows three men at Moonstone Beach who were swept into the water. Fortunately they survived.

A sneaker wave is any surge that catches you unaware. Don't confuse them with monster rogue waves far offshore. Rogue waves are caused by gale force winds and can reach heights of 80 feet or more and are perilous to ships. Sneaker waves are more insidious. They are produced by interference of swells that add or subtract to one another depending on their periods. Any surfer knows the phenomenon well. There may be ten or fifteen minutes of relatively smaller waves and then a set of larger waves come in. Sneaker waves can occur at any time of year, but are more common in winter and early spring when large storms in the far Pacific produce swells.

It is natural to scan the coast when arriving at a beach and develop a mental picture of the wave wash zone, where it's safe to sit and read a book, climb around on rocks, set up an easel, take photographs or let children and dogs run. The problem is that you probably only took a few minutes to make that assessment and it didn't include the full range of variation. It is hard to recognize that bigger-than-average surge while on the beach. You might get an audio cue that the ocean roar becomes louder, but usually you won't notice anything until it is too late.

Watching the men at Moonstone in the video is instructive. They have no concerns. One turns his back on the waves. It is not until the water overwhelms them

that they realize the risk. The bottom line – always assume waves can suddenly build to two or three times what you are seeing, keep children well away from the surf's edge, keep an eye on the water and never ever go into the water to rescue a pet. Your dog, no matter how small, is much better equipped to get out alive than you are.

2) VOLCANOS: Taal volcano in the Philippines put on a spectacular show this week. On January 12, the volcano located 40 miles south of Manila put on a show, blasting ash and volcanic debris as high as nine miles. The eruption wasn't entirely unexpected. Earthquake activity began to increase beneath Taal last March and continued throughout the year. The January 12th eruption was preceded by vigorous seismic swarm an hour before the first phreatic (steam) eruption occurred. PHILVOLCS (the Philippine agency that monitors earthquakes and volcanos) raised the alert level. Activity continued to escalate with seismographs detecting volcanic tremor, continuous vibrations that usually herald an eruption.

The government ordered evacuations of about 45,000 people living near the volcano and PHILVOLCS raised the alert level to 4 on the 5 point volcano hazard scale, meaning that a major eruption could follow in hours or days. The January 12th blast may have only been an appetizer. Conditions near the crater have been changing quickly with fissures opening and water in the surrounding lake disappearing.

It's difficult to predict what Taal will do next, but close monitoring is essential. Taal has produced six major eruptions in historic times, most recently in 1965. An eruption in 1911 killed over 1300 people. The historic eruptions have been moderately explosive, but an eruption over 5000 years ago was much bigger. It is instructive to follow the Taal story because it is the same kind of volcano as those in the Cascade range and the monitoring and managing of volcanic hazards in the Philippines is comparable to what we do here.

So far, the Taal eruption has been dramatic, not tragic. This is in large part because of the investment the Philippines has made in monitoring and planning. It costs money to maintain equipment and support scientists and it is always tempting to cut back on studying hazards that are rare. Budget proposals from the current administration would slash volcanic and other natural hazard monitoring. This is a direction we don't want to head in.

3) REMEMBERING HAITI: It's been ten years since Haiti was devastated by a magnitude 7.0 earthquake. Most major media platforms noted the date and included depressing stories of how rubble is still in the street, aid money mishandled, corruption rampant, gangs violence, and recovery delayed. Sadly, Haiti has suffered corruption and mismanagement since long before the earthquake. It was the poorest country in the Western Hemisphere before 2010 and the earthquake only cemented that position more solidly.

I frequently mention 'resiliency' in this column, the ability to make it through disasters and other assaults and bounce back quickly. It's what we all desire – minimizing impacts and recovering quickly. One of the important factors social scientists identify in resiliency is social capital and capacity. Economy, education, health and income all contribute to social capital. But just as important is interconnectedness and whether people feel a part of their community.

There are a few glimmers of hope in Haiti, what journalist Amy Wilentz, calls "little sprouts of possibility everywhere" <https://www.thenation.com/article/haiti-earthquake-corruption-protests/> Young people, local community groups and some outside aid groups have joined together to begin rebuilding neighborhoods.

The lesson for us, build your capacity and strengthen interconnectedness BEFORE disaster strikes. It's easier and will make the ride to recovery much smoother.

Note: check out the National Weather Service <https://www.noaa.gov/stories/story-map-play-it-safe> for sneaker wave and other beach hazard information.

Lori Dengler is an emeritus professor of geology at Humboldt State University, an expert in tsunami and earthquake hazards. Questions or comments about this column, or want a free copy of the preparedness magazine "Living on Shaky Ground." Leave a message at (707) 826-6019 or email Kamome@humboldt.edu

<https://www.times-standard.com/2020/01/19/lori-dengler-sneaker-waves-volcanos-and-remembering-haiti/>