

Not My Fault: Challenges of working in disaster zones

Lori Dengler/For the Times-Standard

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Last week's column sparked several questions. How do you keep yourself safe doing post-tsunami studies? Who pays? Was what you learned applied to our area? I have participated in six international studies and four on the North Coast. Each was unique but all had features in common.

It begins with an event. Sometimes you know right away that the earthquake and/or tsunami is something big and other times it takes days to get a reasonable picture. Factors such as location and context, or did it produce a tsunami, surface faulting, or other features that, even in the absence of damage, are important.

The event starts a dialog among people in the discipline. The tsunami world is still a small field and most of us know each other. Reconnaissance studies to Papua New Guinea, Chile, Indonesia and other remote areas are expensive. Transportation and logistics require up front expenditures. No organization has a pot of money ready to dole out to anyone who wants to visit a disaster scene. Some researchers may already have an NSF or other grant that they can leverage for support.

People can have many reasons for wanting to visit the scene of an earthquake, tsunami, volcanic eruption or other disaster and not all are good ones. "Disaster tourism" has even gained notice on Wikipedia to describe people who are drawn to scenes of devastation just to gawk and see it. I've had people ask me if they join up on my survey and provide support for them. I do my best to steer them towards organizations like GEER (Geotechnical Extreme Events Reconnaissance) or EERI (Earthquake Engineering Research Institute) who have longstanding programs that coordinate post event reconnaissance. A disaster scene is not the place to learn how someone might perform under stress and both GEER and EERI have careful vetting processes.

I have been lucky. I was part of an EERI team for my first foray (Papua New Guinea 1998), and since then have found a variety of funders including PG&E, grants and private

donations. My last three trips were supported through a donor to the Desert Community Foundation who was very interested in tsunamis and found my approach to post event studies worthy of funding. After both the 2009 Samoa and 2010 Chile tsunami, she contacted me and gave me the green light to start planning. Regardless of funding, I've always worked under the EERI auspices.

Funding is a necessary first step, but a productive trip requires coordination – both with officials and scientists in the affected area and with international colleagues. Effective reconnaissance requires connections with local scientists and researchers. They will likely have a better understanding of what happened and the best places to focus on. When possible, it's best to have a local researcher as part of the team or to closely work with one.

It is also useful to coordinate with government officials as they may control access. We were initially denied permission to travel Papua New Guinea in 1998. A group of missionaries had arrived in the area, telling people if they didn't convert, another tsunami would hit. In response, the government shut down all access. Fortunately for my group, the geology professor at the University of Papua New Guinea had government connections and was able to vouch for us.

Coordination helps to avoid duplication of effort. If every group visits the same places, comprehensive understanding of the event is lost. Lesser impacted areas are just as important as the most ravaged ones to understand all the factors that reduced as well as exacerbated impacts. Since the Indian Ocean tsunami, Laura Kong at NOAA's International Tsunami Information Center has made a valiant effort to coordinate groups and make sure they share information. There are always one or two teams that opt to go it alone, but most of us realize that it is to all our benefit to work together.

Once in the field, safety is the top priority. Travel always has some risk; disaster travel has more. This means a well-trained team that knows their job and communication within the group and with other groups and officials to stay aware of situations that may rapidly change. The ability to recognize threats, improvise and quickly change plans is an important part of staying safe.

The only time I felt seriously threatened during a survey was in Indonesia (2005). Eleven of us were crammed onto a boat designed for seven. The magnitude 9.1 earthquake four months before had completely changed the coastline and ocean charts were now useless. During the two-week trip, we heard reports of several boats going aground. A

civil war was still in process in the Aceh region and areas were controlled by regional militias with little to no oversight by the national government. At one point we were delayed by a group of teenagers with AK47s while they searched the boat.

On day ten, our boat was ordered out of Aceh waters because of civil war concerns. One person in the team was furious and proposed we hoof it on the coast. We had no vehicles or logistical support. When asked where we should stay, he said the militias. I could see terror in our Indonesian team members, and everyone else looking uneasy. For the first and only time on a field survey, I pulled the female card and said it wasn't safe for me and I was staying on the boat. The rest of the team gave a sigh of relief. We spent our last two days on Simeulue Island where almost everyone had survived the tsunami because of their oral history (see Not My Fault 9/6/2020). The change in plans had provided me the best stop of the trip. The Simeulue Islanders survived because they recognized the ground shaking as the warning and headed to high ground – a message I continue to use in almost every tsunami preparedness project we have.

Note: Reconnaissance blogs from Japan, Samoa and Chile are posted <https://kamome.humboldt.edu/resources>.

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/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."