

## **Not My Fault: Human behavior as important as technology in disaster response**

Lori Dengler/For the Times-Standard  
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I shared my last week's column with the HSU Geosciences capstone class and they came up with four excellent questions. The questions had one thing in common – they couldn't be answered only using information from science.

My academic training was hardcore math and science. Most of my classes focused on the physics of earthquakes and the solid earth. We barely touched on societal issues of safety and impacts, and human behavior was never mentioned. It wasn't until the 1992 Cape Mendocino earthquake that I became aware of the great body of work that geographers, sociologists, psychologists, economists and others outside of the "hard sciences" fields have made to explain why people do what they do when threatened and why resilience must be an interdisciplinary effort.

After the 1992 Cape Mendocino earthquakes, I got funding to compile the first Shaky Ground preparedness magazine. I had never written anything like that before and found a 1990 publication "The Next Big Earthquake in the Bay Area May Come Sooner Than You Think" to use as a model. I also learned that a sociologist, Dr. Dennis Mileti, had studied the effectiveness of the magazine and what motivates people to take preparedness actions. I called him and he was gracious enough to give me a half hour intensive introduction to the psychology of preparedness motivation and references to several papers. I have never seen disasters in the same way again.

I think Dr. Mileti would have liked the questions the capstone students asked:

- How do you get people to prepare for something that is not currently affecting them?
- How do you phrase dangerous situations without making people fearful?
- Can you use just one method of notification and information before and during a disaster?
- How do you know if a source of information is reliable and get people to pay attention to it?

It's really hard to get people to take action about threats they don't perceive as immediate. This is particularly true of earthquakes and tsunamis. Unlike hurricanes, wildland fires and winter storms, there is no season to earthquakes and many decades often pass between damaging events. Mileti found a surprisingly simple factor that predicted who took preparedness actions and who did not. The people who took action were not those living closest to a fault zone or who had experienced a damaging earthquake. They were the people who talked about hazards at home or in the work place. The essential first step for getting people to prepare is to talk about the threat.

California has expended resources and time into determining what motivates people to prepare. The California Earthquake Authority and the Office of Emergency Services joined forces a decade ago to study this question. They did surveys and held focus groups and found there were three things that always rose to the top – by taking action I can survive, by taking action I have some control over the situation, and by taking action I gain peace of mind knowing I have done everything I could for the safety of my loved ones.

In study after study, there is one thing that does not promote preparedness actions – FEAR. Fear does just the opposite. People may be drawn to horror films and graphic news stories, but study after study show it's absolute loser when it comes to promoting action. If you associate securing bookshelves or practicing an evacuation route with something frightening you've seen or read, you certainly won't expend the energy doing so.

Avoiding fear as a tactic does not mean hiding or omitting threat information. It means presenting it clearly in a way that everyone can understand and emphasizing all the things you can do to reduce the threat and protect yourself and your loved ones. Talking about what you can do, even to children, will make a potentially frightening situation much less scary.

There is never one method for notifying people that a hazardous situation exists. In times of disaster, some or all of our communication networks such as radio, telephone, and Internet might not work. While technology has expanded communication methods such as Wireless Emergency Alert (WEA) systems, there is no guarantee that any one system is resilient or can provide accurate information quickly enough for a particular situation. And any notification depends on people understanding the message and what they need to do – a process that should start years before any real event.

There is also no one way to make people aware or disseminate information. Participatory events like ShakeOut and evacuation drills have the advantage of developing muscle memory. But workshops, media reports and PSAs, movies and podcasts can all be an important part of the preparedness toolbox. I am emphasizing toolbox because there is no one perfect way of connecting to people. We learn in different ways and, for most of us, need to hear something from multiple sources in order to believe it.

Consistency in messaging whether before or during a disaster is essential. That was the reason we founded the Redwood Coast Tsunami Work Group 24 years ago – we needed to develop consistent and comprehensive messaging to deal with our earthquake and tsunami threat. That also doesn't mean messaging and information doesn't change over time. Every event is an opportunity to test what we've done and assess what worked and what needs improvement. The new tsunami maps released next month are an example. I respect the intelligence of our community. If we make it clear that what we are doing is based on the best currently available information, and we will continue to update as we learn more.

An easy way for you to kick start your preparedness effort is to sign up for ShakeOut 2020 at <https://www.shakeout.org/> More next week with my own story of air quality and getting information about fires.

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