

# Times Standard

## Not My Fault: Fear of earthquakes

Lori Dengler for the Times-Standard

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Talking with family members can be a first step to addressing earthquake fears.

Seismophobia is the fear of earthquakes. It's a topic that I have wanted to write about for a while but needed the right moment. We are now in a relatively "quiet" time on the North Coast. The aftershock sequence of the December 2022 M6.4 Ferndale earthquake is over and our last felt earthquake (a 4.0 near Blue Lake) was nearly three weeks ago. It caused no damage and is only a vague memory for most.

Why am I looking for a quiet window? Because experiencing a strong earthquake exacerbates seismophobia and I want to gently broach the topic at a time when it is not as likely to produce anxiety. Just the mention of "earthquake" can be debilitating, triggering nightmares and panic attacks in some people. At the extreme, this fear can color all aspects of one's life and affect a family's well-being.

People who tell me they like earthquakes or think they are fun have never been in a strong one. It is normal to dislike them and to fear them, especially if you and your community have experienced damage. I have no regrets of being out of town on December 20th, 2022, and missing the Ferndale earthquake mainshock. I wasn't traumatized by the nighttime shaking and

sounds of crashing items all around me. For people who were here, each aftershock was another needle in the wound, triggering the adrenalin shock and compounding the trauma.

As time goes on, aftershocks lessen, most people readjust, and earthquakes fall off of their issues of biggest concerns. But for some, tremors continue to loom large and even small jiggles, or the mention of an earthquake elsewhere brings back the overwhelming sense of dread and terror.

First a disclaimer. I am not a sociologist, psychologist, or an expert in earthquake human behavior. But I do know people who are specialists in this field and have firsthand experience in studying firsthand earthquake fears.

Dr. Sara McBride is a USGS professional who comes from a very different background than most in that agency. With degrees in law, public administration, and disaster management she found herself on New Zealand's South Island in 2005 working for the Canterbury Civil Defense Emergency Management agency in Christchurch. It put her in the perfect position to respond to the 2009 tsunami in Samoa, and a year later to work for World Vision in the Solomon Islands.

2011 brought Sara back to Christchurch and a more immediate disaster. The Canterbury earthquake sequence began with a 7.0 in September 2010 roughly 40 miles from the Christchurch city center and produced a vigorous aftershock sequence that progressed ever closer to the metropolitan area. The most damaging earthquake in the sequence occurred nearly six months later when the M6.1 Christchurch earthquake struck only four miles from downtown, killing 185 people and causing about \$25 million (US \$) in economic losses.

In a six-year stint in New Zealand, Sara played a critical public communications role in the aftermath of the Christchurch and the 2016 M7.8 Kaikoura earthquake, roughly 90 miles to the north of Christchurch. She also managed to squeeze in a PhD in based in part on that experience. Almost everyone on the northern part of New Zealand's North Island developed some degree of seismophobia in those years and it was something Sara dealt with nearly every day. She kindly sent me five summary points on how to face and deal with earthquake fears.

1. Acknowledge the fear. It is not irrational or abnormal. We can't see earthquakes coming and they can be a rude interruption in our day, even if not damaging. Images of damages from deadly quakes around the world amplify that fear. Even when assured that our buildings will resist collapse, it is hard to erase those pictures of catastrophic failures from your mind. There are many valid reasons to fear earthquakes.

2. Delve deeper. What exactly are you afraid of? Is it being hurt or killed? Is it not being able to protect loved ones like children or elderly parents and friends? Is it memories of a previous earthquake where you may have felt trapped or helpless? Is it a secondary effect such as fire or tsunami that keeps you worrying at night? Is it just how unexpected earthquakes are? Writing down and acknowledging these fears as legitimate is an important part of alleviating them.

3. A few seconds of warning can help. ShakeAlert early shaking alerts can mentally preparing you for shaking. This system may give you a few seconds to be in a safer spot (like under a desk or sturdy table) when the stronger shaking arrives. It's still a work in progress on the North Coast where we don't have offshore instruments, but I appreciated the handful of alerts that

have worked. I recommend turning off your phone at bedtime as the alert can be as frightening as the shaking in the dead of night and your bed should be a safe place to be.

4. Practice, practice, practice. The more you know and drill what to do in case of earthquake or tsunami, the less anxious you are likely to be. Don't take my word for it; there have been a number of social science studies that back this up. Participate in the ShakeOut drill this October and add tsunami evacuation if you live in the tsunami zone. We can't stop earthquakes, but the impact on ourselves, families, and communities are things we can control. The most likely cause of damage in your home are items that may topple, fall, or slide. Reducing those hazards and training yourself to stay put while the ground is shaking puts you in control and most of the fixes are not expensive. Being scared is natural; being prepared is the antidote.

5. Put earthquake hazards in perspective. Earthquakes aren't just a California or West Coast phenomena. Data for the last century show that two-thirds of U.S. states have experienced some seismic shaking and for the past few years, Texas has been at or near the top of the list for felt quakes in the lower 48. The April 5 M4.8 in New Jersey underlines that earthquakes can and do happen anywhere. Yes, we have more felt earthquakes on the North Coast than anywhere else in the lower 48 states, but only two deaths since 1850 were directly related to shaking damage. Walking on county and city roads and bicycle riding are far more dangerous. Most of us don't think much about risk when we drive a car, but over 4,000 Californians died on the highway in 2021. And of course, there are many other natural disasters that claim more lives year in and year out in other parts of the country.

Our response to earthquakes is hard wired and it is difficult to change how people are going to feel about them. But having open conversations about fears can often reduce their impacts and make them easier to live with. Such conversations can lead to anxiety reducing actions such as reducing in-home hazards, developing family emergency plans, and improved communication with neighbors. I have known several people who became involved with Community Emergency Response Teams (CERT) and found the skills they developed made them much more confident in their abilities to ride out an earthquake safely.

Families should be particularly aware of their own fears and those of their children. Children are very good at sensing unspoken concerns that can exacerbate their anxiety. Encouraging children to actively participate in earthquake and tsunami drills, preparing emergency supplies and age-appropriate hazard reduction can go a long way to feeling safe and secure.

Much more on how to make your home earthquake safe in our Living on Shaky Ground magazine. But recognize that when a phobia, due to earthquakes or other causes, interrupts someone's ability to function then it's time to seek the advice of professionals.

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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](mailto:Kamome@humboldt.edu) for questions and comments about this column and to request print copies of preparedness magazine "Living on Shaky Ground."