

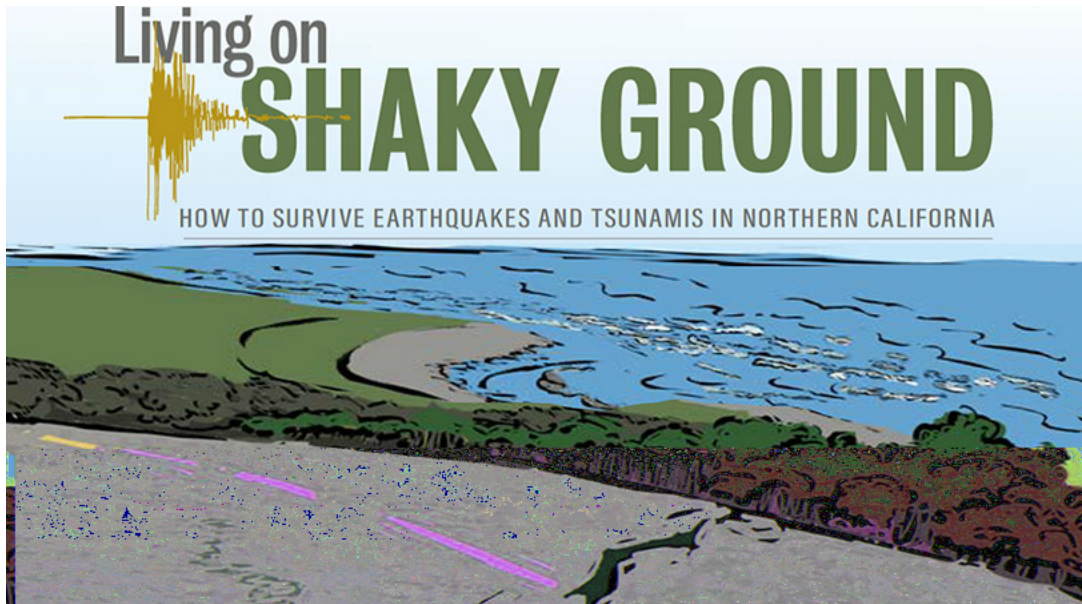
Times Standard

Not My Fault: There was no earthquake THREE-PEAT on December 20

Lori Dengler for the Times-Standard

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<https://www.times-standard.com/2023/12/23/lori-dengler-there-was-no-earthquake-three-peat-this-year-on-dec-20/>



New edition of Living on Shaky Ground released on December 20th. Digital copies at <https://rctwg.humboldt.edu/prepare/shaky-ground>, print copies available early 2024.

We made it all the way through December 20, 2023 with not a peep from Mother Earth. Only four earthquakes were detected on the North Coast in the past week, none large enough to be felt and none since a week ago Saturday. There's nothing special about this time of year to make earthquakes any more likely. It was pure coincidence that magnitude 6 earthquakes occurred on that date in 2021 and 2022.

It was a relief for many, especially in the Rio Dell and Fortuna area, to make it through the solstice window unscathed. But all the forces that led to the earthquakes of the past two years are still in play today and another magnitude 6 or larger earthquake is just as likely tomorrow or the next day as last Wednesday. The beauty of the North Coast owes a debt to tectonics and the same forces that create breathtaking views occasionally cause earthquakes.

The best way to commemorate the Ferndale earthquake and what happened a year ago is to strengthen weaknesses and become more resilient. To that end, we have just completed an update of our earthquake and tsunami preparedness magazine Living on Shaky Ground. The new edition is now available in electronic form at <https://rctwg.humboldt.edu/home>; print copies will be out early next year.

Why the overhaul? The last edition was fully revamped in 2008, with small updates in 2011 and 2014. We've experienced earthquakes and a tsunami since then and technology has taken big strides forward. The new magazine includes the 2022 earthquake, the 2021 Tonga tsunami, and a full page on the ShakeAlert earthquake early warning system. I was fortunate to pull former Redwood National Park Geologist Vicki Ozaki into the project whose retirement last year gave us the time to thoroughly examine, edit, and update the text.

Last year's earthquake played a big role in the decision as well and changed our emphasis on what to do when the ground shakes. For several decades we've emphasized Drop, Cover, and Hold On (DCHO) – dropping down to the ground, getting under a nearby desk or table, and holding on to a furniture leg. This is still fine advice if you are awake, indoors, there is something nearby to get under, and if you are physically capable of getting down on the ground.

But the 2022 Ferndale quake happened at night when most people were in bed and asleep. There's roughly a one in three chance that the next strong quake will also happen at night. It's not a good idea to attempt DCHO if you are in bed. Trying to get up during strong shaking will make you more vulnerable to injury. Only 17 injuries were reported in the Ferndale earthquake, far fewer than the hundreds treated after the similar-sized 2010 earthquake offshore of Eureka in 2010. That earthquake occurred on a Saturday afternoon and most injuries caused by people running during ill-thought attempts to make panicky exits of buildings.

There are other situations where it makes no sense to DCHO. For the physically able, dropping is almost always a good idea, but when there is no nearby desk or table, just stay where you are. Drop to the ground, slide away from something that might topple over on you, make yourself as small as possible, and protect the back of your neck with your arm. Moving 15 or 20 feet trying to get to a table puts you at more risk than just staying in one spot.

I am now part of the roughly 15% of Americans with some mobility limitation. For us, dropping down on the ground may either be impossible or pose the dilemma of never getting back up. Our inability to DCHO does not make us more vulnerable. Leaning over in a chair or wheelchair, using an arm to protect neck and head, and staying put makes us nearly as safe as people under the table.

Throughout the new Living on Shaky ground, we emphasize situational awareness. Take a moment in a theater, restaurant, market, or other location to assess not only where exits are, but to remind yourself of the best thing to do if the ground shakes. Stay where you are! AFTER the shaking stops, head out the door slowly and cautiously.

Today, if you are in a West Coast State and have a cell phone, you are likely to get an alert a few seconds before you actually feel the ground move whether or not you have signed up for the MyShake App. To explain what it is and what to do if you receive an alert, we've added a whole page of explanation on how the new ShakeAlert™ system works.

I felt very good about the previous Shaky Ground renditions. But they featured 8-point fonts and crammed too much information on the page. The smallest font in the new magazine is 10-point. To accommodate the larger text, we've added four pages and pared down text. In the years of writing this column, I've learned it is always possible to be more concise.

Graphics sometimes tell the story better than text. Vicki and I partnered with artist Amy Uyeki for new illustrations and a design makeover. Amy and I first worked together on the bilingual children's book "The Extraordinary Voyage of Kamome" about the boat that beached in Crescent City two years after the Japan tsunami. Amy's illustrations brought the story to life in such a sweet gentle way. She's proven her worth once again with this great facelift of Living on Shaky Ground.

We have incorporated numerous links to more detailed information on every page. Thanks to the magic of QR codes and clickable links, anyone who wants to delve deeper can quickly access the latest tsunami hazard maps, emergency supply checklists, background on plate tectonics, and much more. My personal favorite is the audible recording made in Anchorage in 1964 during the magnitude 9.2 earthquake.

We've been fortunate to have a great team of local, State, and international experts look closely at this new edition. They have been invaluable both in finding errors, some of which slipped through previous editions for years, and in suggesting better ways to cover topics. We believe the result represents the scientific consensus of 2023. In this field, events and technology always means some change and I am sure five or ten years down the road, it will be time for another new edition.

The electronic version of the magazine is currently accessible to anyone on the Redwood Coast Tsunami Work Group website <https://rctwg.humboldt.edu/home> . You can read it online or print out the pdf. Proofs are currently at Bug Press in Arcata and print copies will be available early next year.

Please take a look and spread the word. If you find something that is confusing, give me feedback. Let me also know about sections you really like.

Update: Magma finally made it to the surface in Iceland's Sundhnúkur region on the Reykjanes Peninsula north of the town of Grindavik. An eruption seemed imminent six weeks ago when ground deformation and earthquake activity suddenly increased. On December 18th, lava fountains finally burst forth along a two-mile long set of fissures, some reaching over 650 feet high. Most of the lava drained towards uninhabited areas to the north and at present, the town of Grindavik, the Svartsengi Power Station, and Blue Lagoon are not directly threatened. The eruption quickly diminished in intensity and as I write, there is no visible activity, and for the time being, the eruption has stopped. Residents of Grindavik are still under evacuation orders and Blue Lagoon, after reopening for two days, is again closed.

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 for questions and comments about this column. Downloadable copies of the new North Coast preparedness magazine "Living on Shaky Ground" are posted at <https://rctwg.humboldt.edu/prepare/shaky-ground>.