

# Chilean town shaken by reminders of deadly quake

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In this photo taken Nov. 29, 2012, a student walks past a sign indicating an evacuation route in the event of a tsunami, in Navidad, Chile. The road to the town of Navidad (Christmas in Spanish) is lined by a forest of eucalyptus trees and wildflowers that grow around painted tsunami warning signs that urge residents to build their homes high or dash for higher ground in case of a quake. (AP Photo/Luis Hidalgo)

(AP)—One jolt hit in the middle of the night. Another caught fishermen at a nearby beach. Then the ground shook at supper. And then again, and

again: More than 170 tremors were felt in Navidad in just five weeks. The strongest struck during a funeral, and sent panicked mourners fleeing into the street.

Navidad, a coastal farming town of 5,500 people, has become one of the shakiest spots in one of the world's shakiest countries. And [seismologists](#) can't say whether these were aftershocks from Chile's devastating quake two years ago, or warnings of another huge disaster to come.

Navidenos, though, have learned to take quakes in stride.

In this town whose name means Christmas, some decorate [Christmas trees](#) with quakes in mind, wiring ornaments to the branches or taking extra efforts to secure the base. Restaurant owners nail wood railings panels to their shelves to keep glasses and liquor from crashing down. Some now use canned beer, shunning bottles as too risky.

Children at public schools practice drills every day and everyone seems to have a quake bag with flashlights and food ready.

"We were born, grew up and were raised with earthquakes," acting Mayor Rodrigo Soto said. "It seems like the world for the first time has discovered Navidad. Everyone asks us if we're scared and all we can say is that we need to be prepared."

Still, no amount of preparation can avoid that panicky feeling when the ground really rumbles. There's no way to know at that moment whether the shaking will pass quickly, or become frighteningly worse.



In this photo taken Nov. 29, 2012, a bare lone tree is part of the landscape on the shores of La Boca beach in Navidad, Chile. An 8.8-magnitude earthquake and the tsunami it triggered on Chile's coasts in 2010, killed 551 people, destroyed 220,000 homes and washed away docks, riverfronts and seaside resorts. Most Navidenos were left without power and water for a month; many lost their homes. (AP Photo/Luis Hidalgo)

While the ground shook under the pews at the funeral, the faces of the mourners turned pale like the dead. Despite appeals for calm, the church swayed so much that people panicked and ran outside.

"People were terrorized," Carolina Jeria, recalling that 5.9-magnitude quake on Nov. 21. "In a moment like that, you lose control. We're very worried about the quakes because the big one in 2010 caught us unprepared."

Soto says the town still has an inadequate tsunami alert system—a siren

that sounds like a car alarm and lacks the volume needed to reach all the townspeople. But after so many tremors, he says Navidenos know in their bones when to run.

They know they'll barely feel a magnitude-2, but a magnitude-7 will knock them off their feet and that's a sign to scramble for high ground in case there's a tsunami.

Aside from the quakes, life is slow in Navidad. Many farmers still use oxen to plow their land, while others cater to tourists who come for the Pacific beaches from Chile's capital of Santiago, 170 kilometers (100 miles) northeast of town. Yet people are often on edge.

It's not just the ground's trembling that reminds people of earthquake risks here. Alongside the highway into town, wildflowers grow around tsunami warning signs that urge residents to build their homes high or be prepared to run for higher ground.



In this photo taken Nov. 29, 2012, the waters of La Boca hug the coast of Navidad, Chile. A magnitude 9.5, the strongest ever recorded in the world, occurred here in 1960. More than 5,000 people were killed after it unleashed tidal waves and sparked the eruption of a volcano. (AP Photo/Luis Hidalgo)

So far, the recent tremors have not caused damage or injuries, but they're a frequent reminder of the 8.8-magnitude quake and tsunami in 2010 that devastated much of Chile's coast, including Navidad. That quake killed 551 people, destroyed 220,000 homes and washed away docks and seaside resorts, costing Chile \$30 billion, or 18 percent of its annual gross domestic product.

No Navidenos died, but nearly 200 homes were lost or severely damaged, and most townspeople had no power or water for a month.

"During the 2010 quake, the rupture zone reached all the way to Navidad. That's why seismologists at the Universidad de Chile indicate that these could be late [aftershocks](#)," Miguel Ortiz, national chief of the early alert center at Chile's ONEMI Emergency Office. He also said the recent shaking could be a harbinger of another huge quake to come.



In this photo taken Nov. 29, 2012, the son of Evelyn Perez looks out the window of their home, in Navidad, Chile. The motion of the tectonic plates that are responsible for the big earthquakes that occur in Chile are also responsible for the beautiful mountains, active volcanoes, and a range of climates - from very cold to deserts, says Paul Caruso, a geophysicist with the United States Geological Service, making Chile a fascinating place. (AP Photo/Luis Hidalgo)

A team of international scientists said the chance of a big, or even great, quake could have increased along a wide expanse of Chile's coast because of the 2010 quake. Their report in the journal *Nature Geoscience* last year concluded that it relieved only some of the stress accumulating underground since an 1835 quake that was witnessed and documented by British naturalist Charles Darwin.

Just off Chile's long coast, the Nazca tectonic plate plunges beneath the South American continent, pushing the towering Andes to ever-higher altitudes. The 2010 quake was so strong it changed time, shortening the

Earth's day slightly by changing the planet's rotation. The strongest earthquake ever recorded also happened in Chile, a magnitude-9.5 in 1960 that struck about 500 miles south of Navidad and killed more than 5,000 people.

"What strikes me most about Chile is its beauty but also great potential for disasters—from large earthquakes to volcanic eruptions, much like in California," said Paul Caruso, a geophysicist with the U.S. Geological Service.

"The big faults are responsible for the big earthquakes but also for beautiful mountains, active volcanoes, and a range of climates—from very cold to deserts," Caruso said. "It's a fascinating place, especially for a geophysicist."

Navidenos have different ways of coping.

Retiree Carmen Delgado is so haunted by the 2010 disaster that she often stays awake trembling, anxiously waiting for the sun to rise so she can volunteer as a waitress at a local restaurant to keep her mind busy.

"People are afraid because in the past weeks it shook so much," said Karen Contreras, 18, a waitress at La Boca restaurant, near the mouth of a river that runs down to the ocean from the green hills surrounding the town.

"It's still trembling, but at least people know where to evacuate if it's strong," she added.



In this Nov. 29, 2012 photo, a car drives by a sign indicating the evacuation route in the event of a tsunami, in Navidad, Chile. The road to the town of Navidad (Christmas in Spanish) is lined by a forest of eucalyptus trees and wildflowers that grow around painted tsunami warning signs that urge residents to build their homes high or dash for higher ground in case of a quake. (AP Photo/Luis Hidalgo)

At the Divina Gabriela public school, children rush out of classrooms and line up at the sound of a rusty white bell each day. There's also an annual [earthquake](#) drill.

"I keep canned goods, a flashlight and batteries, because we're scared about these daily quakes," said Valentina Villagran, 11. "Every kid here knows they should run for the hills."

Evelyn Perez, 31, who's studying to become a teacher, was seven months pregnant when she was jarred awake in 2010. She dragged three kids up



cold, dark streets without any emergency supplies. Now she keeps a quake bag at her door.

From his porch overlooking the Pacific, Hernan Cepeda, 82, recalls how the tsunami rolled toward him that night. He ended up clinging to the roots of bushes and losing his dentures, almost swallowed by the sea.

"I didn't return here until last year and now the [tremors](#) have brought back memories," Cepeda said. "It seemed like it didn't shake as much before. No one can tell what will happen next, but all you hear is that the next one will be an even bigger [quake](#)."

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