

Oregon town plans first tsunami-resistant building

Abby Haight, Associated Press, 5-31-10

CORVALLIS, Ore. -- An Oregon coastal town hopes to put its new City Hall on stilts and become the first U.S. city to raise a municipal building to withstand the major earthquake and tsunami that scientists say are coming sooner rather than later.

City officials and emergency workers hope the building in Cannon Beach will also raise a sense of urgency in the Pacific Northwest about the jeopardy coastal residents and visitors face.

Geological findings in recent years suggest there's a one-in-three chance that in the next half century a mega-earthquake will tear the seafloor apart off the Oregon Coast.

Huge waves would surge onto coastal communities in as little as 15 minutes. There isn't a coastwide estimate of potential lives lost and damage, but about 100,000 Oregonians live in tsunami inundation zones. Many more visit the coast.

The \$4 million building the city proposes in Cannon Beach would have room for as many as 1,500 people, and could save lives.

The 2004 Sumatra tsunami, which killed almost 230,000 people, galvanized federal emergency planners and coastal communities. The National Oceanic and Atmospheric Administration sent engineers to learn what buildings withstood the earthquake - measured at magnitude 9.1 to 9.3 - and cataclysmic waves.

They found that buildings on stilts, without impediments that increased the stress of the on-rushing water, often survived, said Jenifer Rhoades, tsunami program manager for the National Weather Service. The Cannon Beach structure would be the first "vertical evacuation site" built in the United States, she said.

Japan has built several of the buildings but they've never been tested.

The permanent population of Cannon Beach is about 1,700, but its beaches and art galleries draw an estimated 750,000 visitors annually.

"Imagine a July 4 weekend with an additional 200,000 people at the coast," said James Roddey of Oregon's geology agency. "That's a lot of folks who don't know what to do if the ground starts shaking."

The Feb. 27 earthquake and tsunami in Chile, which killed about 525 people, gave officials in Cannon Beach and the Pacific Northwest a chill. The two regions are similar geologically and have similar coastal development.

"Tidal waves have always been on our tongue," said Sam Steidel, a gallery owner and City Council member in Cannon Beach. "But Chile really showed what would happen to communities like Cannon Beach."

Steidel was 6 years old in 1964 when the last big tsunami swept the Pacific Northwest coastline, claiming 17 lives in Oregon and California and causing \$27 million in damage.

He remembers the scene as moonlit and magical, the foam of the waves lingering on the highway through Cannon Beach.

"I thought it had snowed," Steidel said.

A 8.6-magnitude earthquake in Prince William Sound, Alaska, set off the tsunami, which washed out a main bridge in Cannon Beach and caused severe flooding. Four campers drowned in Newport, 120 miles to the south.

Modern warning systems now give coastal residents time to reach safety from distant earthquakes. It's the prospect of quakes nearby that rattle the nerves of emergency managers.

About 75 miles off the Pacific Northwest coast, tectonic plates snagging and sliding over one another create the Cascadia Subduction Zone. It has a history of big earthquakes, some topping 9.0 in magnitude, in the past 10,000 years, said Chris Goldfinger, a marine geologist at Oregon State University.

Cascadia last ruptured in a great earthquake 300 years ago. It's due for another, Goldfinger said.

Emergency officials have stepped up tsunami awareness campaigns, and towns like Cannon Beach are installing signs about tsunamis, designating evacuation routes and testing sirens. Residents are being urged to hack through brambles to make paths to higher ground.

"We need things like vegetation management, so people can get to higher ground without having to fight blackberry bushes. We need footbridges across wet areas," said Pat Corcoran whose job as an Oregon State extension worker is to travel the Oregon coast urging beachfront communities to prepare for the "when," not "if."

Cannon Beach is working with Oregon State to design its proposed 9,800-square-foot City Hall. Recently at a university lab in Corvallis, city leaders and representatives of several other coastal communities watched simulated waves crash against a model of the city hall building.

Washington and Oregon state experts say it could become a model for other communities. Local officials say it will be a center for tsunami education as well as refuge when the wave comes.

"We can't keep the tsunamis from happening," said Clatsop County Commissioner Robert Mushen. "But we can tell you where to go. We can tell you what to do. We can keep you safe."