

# U.S. West Coast's big threat from an ocean quake

By Los Angeles Times, adapted by Newsela staff on 03.24.14

Word Count **480**

Level **770L**



Surfer Lee Johnson emerges from the water at San Onofre State Beach, Calif., with the twin domes from the San Onofre Nuclear Generating Station in the distance. Officials have said the plant can sustain a 7.0 quake but not the 9.0 that struck Japan in 2011. Mark Boster/Los Angeles Times/MCT

**LOS ANGELES** — Scientists are worried that a large earthquake in the ocean near California could badly damage the West Coast.

Earthquakes on land can cause a lot of damage. But an earthquake in the ocean has different dangers. These earthquakes can cause a huge wave that floods coastal cities. Such a wave is called a tsunami.

A large tsunami hitting the West Coast would wash away towns and destroy U.S. Highway 101. The wave could destroy bridges, knock down power lines, and hurt phone lines. The damage could cost \$70 billion.

It's possible that people would only have 15 minutes to escape. As many as 10,000 people could die.

California, Oregon and Washington are now making plans to be better prepared for an earthquake and tsunami.

## **Building High Ground**

The officials hope to learn lessons from a 2011 disaster in Japan. A 9.0 earthquake there created a huge tsunami that flooded coastal areas.

That tsunami took people by surprise. It killed more than 10,000 and left more than 300,000 homeless. It also damaged a nuclear power plant. A meltdown at the plant spread dangerous radiation in the area, making some people and animals sick.

Researchers hope to save lives by quickly spotting tsunamis. They have installed tsunami detectors deep under the ocean.

Predicting a tsunami's strength is important to saving lives. Japanese scientists did not realize how big their tsunami was. Local people were not prepared, and many lost their lives.

To escape a tsunami, people must get to high ground such as a hill or mountain. But in flat areas, there is nowhere to go. Safety officials must build high ground.

One idea is buildings with roofs that can protect people from a tsunami. One of these at a school in Washington will protect 1,000 people with a high wall.

Officials have also discussed building man-made hills. Each hill could hold as many as 800 people.

## **Why It's Dangerous**

California is famous for the San Andreas fault. This fault runs through the heart of the state. It produced the terrible 1906 San Francisco earthquake which killed more than 3,000 people.

Scientists now think that the Cascadia fault is more dangerous than they thought.

The Cascadia fault is made up of three tectonic plates that push against each other. The most powerful earthquakes in the last 10 years in California were caused by Cascadia.

Scientists had believed that the Cascadia fault could only produce a 7.5 earthquake. But they now believe that it could create an enormous 9.0 quake.

On March 16, a small earthquake caused by the Cascadia fault erupted 50 miles off the coast, causing light shaking. No injuries or damages were reported.

The West Coast was spared this time. Scientists still wonder when "The Big One" will hit.

"It could be today. It could be 100 years from now," said earthquake expert David Oppenheimer.