

# THREE THINGS YOU NEED TO KNOW ABOUT TSUNAMIS

## 1. OREGON GETS TWO KINDS OF TSUNAMIS—LOCAL, AND DISTANT

If you feel an earthquake, it's a local event. Duck, cover, and hold on till the shaking stops. Move out of unsafe buildings. Large earthquakes cause large tsunamis. If you're at or above 50 feet elevation, stay there. If not, run for the highest spot you can get to within 15 minutes. Do not move from high ground for 12 to 24 hours, as there will be several surges. Do not expect to be able to drive or use telephones or cell phones. Do not expect outside help. Expect to be out of contact with loved ones.

If you don't feel an earthquake but you hear a warning on TV, the radio, or a siren, it's a distant event (like we saw after the earthquakes in Alaska, Chile, and Japan). Take a breath. Find out more information. Media warnings and sirens tell us that an earthquake has happened somewhere else and that small tsunamis, though on their way, will take hours to arrive here. There are no earthquake issues in this case, and you have plenty of time to evacuate if needed.



*If you feel an earthquake, it's a local event. Move quickly to the highest spot you can reach—at least 50 feet in elevation.*



*If you don't feel an earthquake but hear a siren or a warning on TV or the radio, it's a distant event. Find out more before evacuating.*

## 2. AREAS LESS THAN 50 FEET IN ELEVATION ARE DANGER ZONES

Danger zones for local earthquakes and tsunamis are essentially all areas less than 50 to 100 feet in elevation. Danger zones are defined on official tsunami "evacuation" maps. These zones indicate the worst-case inundation (waves) expected during a local event. Identify the dangerous areas where you live, work, shop, play, etc. Note the nearest high ground and the routes to get there. Develop an "eye for the landscape" and discuss with family where the safe places are. **Ask for evacuation maps at your**

**local fire department or City Hall.** Ensure access and assembly areas at these locations.

Distant tsunamis have no local earthquake and produce smaller waves. The inundation may be similar to floods during a severe winter storm at high tide (beaches, waterways, and low-lying areas). Most people won't need to go anywhere. Those who do need to evacuate must do so for 12 to 24 hours, as there will be several surges. Monitor media for instructions. Be considerate of emergency managers: don't go to the beach to watch!

## 3. YOU NEED A PLAN TO RECONNECT WITH LOVED ONES

The odds of everyone being together when an earthquake or tsunami happens are slim. For a local earthquake, teach loved ones to immediately get to high ground, stay there overnight, and reconnect the next day. Do not insist on rushing to a predetermined location (home, school, etc.), as this will cause people to travel through dangerous areas to get there. Do identify a non-local (out-of-state)

person for everyone to call as soon as they can. Although it may take a while, family members can eventually reconnect through this common contact. Preparing with loved ones today will give you greater peace of mind during the actual event. For distant, tsunami-only events, there is typically little problem. At worst, it's the hassle of busy phone lines and potential traffic delays.



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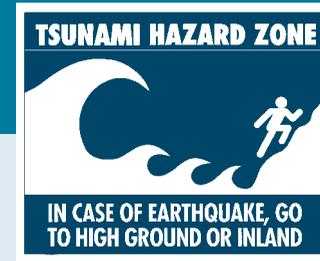
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# LITTLE-KNOWN FACTS ABOUT TSUNAMIS



Signs like these indicate where to go during a tsunami.

## IT'S NOT A MATTER OF IF, BUT WHEN.

The largest earthquakes on earth happen here on the Cascadia subduction zone. They occur regularly in geologic time. The last Big One was in 1700 AD. Given historic averages, we are about due. We need to prepare for this inevitability.

## SIRENS INDICATE A DISTANT TSUNAMI.

If you hear a siren, it does not mean "run"; you have hours to evacuate beaches, waterways, and low-lying areas. If you are at home, and your home is in such a location, gather your medications and personal items and leave the inundation zone for 12 to 24 hours. If you are in a low-lying area when the siren sounds, simply go home or visit someone on higher ground. Make friends in high places!

Consider buying a NOAA All Hazards radio (widely available at electronics stores for about \$30 and up). These radios serve as "personal sirens" for distant events, providing immediate information on where the earthquake occurred and how long the tsunami will take to get here. (Think of the radios as "smoke detectors for distant tsunamis.")

## LIVING ON A HILL MAY HELP, BUT...

You might live on a hill, but you're in danger if you happen to be working, shopping, recreating, or driving through an inundation zone when the Big One hits. Second, people who live on hills need to worry about their houses falling off those hills during the earthquake and subsequent landslides.

## TSUNAMIS ARE NOT WAVES.

A tsunami is not a "wave" that moves up and down, but the ocean moving sideways. Here's an analogy. When your dog laps water in her bowl, she's making "waves." When she kicks the bowl across the floor and it slams into the refrigerator, spilling water over the side...that's a tsunami. The approaching tsunami looks more like a storm surge. Even small tsunamis carry tremendous power. Tsunamis come in a series of surges lasting at least 12 to 24 hours.

## YOU MAY NOT BE ABLE TO DRIVE TO SAFETY DURING A LOCAL EARTHQUAKE OR TSUNAMI.

After the local Big One, you probably won't be able to drive, due to the damage from the earthquake. (If it's obvious that you can drive, do it—but don't plan on it.) Your car may be under the rubble that used to be your garage. Even if your car is okay, the garage door probably won't open. And even if it does open, the roads will be impassable due to fallen trees and power poles, damaged bridges, and the scores of landslides that will occur on all major roadways. Don't rely on a car strategy; plan on running to safety. If you live in an inundation zone, practice your evacuation route so you can do it in the dark. (In a distant event, there will be no earthquake damage and you will have plenty of time to leave—if necessary.)

## YOU CAN'T COUNT ON BEING ABLE TO CONNECT WITH OTHERS BY PHONE AFTER A LOCAL TSUNAMI.

After the local Big One, telephone poles and cell towers will topple and any working lines will be jammed. Satellite phones may work. Critical-service providers and other key individuals and agencies might consider getting satellite phones. OnStar systems in cars are satellite phones. Ham radios will work, and local ham operators are prepared. (In a distant event, the phone lines will be intact but overwhelmed. Sometimes text messaging works when phone service doesn't.)

## HAVING AN EMERGENCY KIT IS GOOD, BUT IT DOESN'T MEAN YOU'RE COMPLETELY COVERED.

After the local Big One, the odds of your having your kit handy are low. Emergency kits are good, but knowing first aid is even better. Take an Advanced First Aid class. You will almost certainly need to administer first aid to yourself, your family, and your neighbors. Remember, many homes will be

OK. You can get supplies from neighbors' pantries and medicine cabinets. Note: prescription medications can be a matter of life and death. Consider identifying people in safe areas who take the same medications as you do. Evacuate to their house if you're caught without medicines during the Big One. (In a distant event, grab a go-bag of medications if you need to evacuate a low-lying area.)

## YOU WON'T NECESSARILY HAVE TO CAMP OUT FOR A WEEK AFTER THE BIG ONE.

Some will, but most probably will not. Residents in outlying areas may be cut off for several days or weeks due to landslides. But in town, it's more likely that some neighborhoods will be devastated while others will be relatively intact. We should expect that displaced people will go to homes left standing and be taken in by neighbors. It's a good idea to prepare for this at the family and neighborhood level.

## YOU CAN'T COUNT ON SOMEONE COMING TO SAVE YOU.

After the local Big One, emergency management professionals (police, fire, ambulance, etc.) will be in the same boat as everyone else—unable to drive their vehicles over destroyed bridges, landslides, and debris. As good as our local emergency officials are, they will have only a limited ability to help individuals under either scenario. Do not expect personal attention. The more likely scenario is "neighbor helping neighbor." What will that look like? What can we do now to prepare for that? (In a distant event, emergency managers facilitate the evacuation of people out of the low-lying areas. Be considerate of them; stay away from the beaches and waterways.)

## TSUNAMI PREPAREDNESS IS NOT BAD FOR BUSINESS.

Evidence indicates otherwise. Disney World in Orlando is in "hurricane alley," and the county has one of the highest incidences of lightning strikes in the country. Yet, Disney World is one of the top tourist attractions in the U.S. Similarly, Disneyland in California is located in a highly seismic region and yet remains highly popular. The Hawaiian Islands are an actively erupting volcano! Hawaii is also vulnerable to hurricanes, earthquakes, local tsunamis, and distant tsunamis from all over the Pacific. Yet, everyone still wants to go to Hawaii. The awareness and attitude of local residents, businesses, and realtors about these hazards set the tone for how others respond. Prepared people are confident, and confident people are reassuring. Educate yourself, and train your employees to be proactive. "Own" the fact that Big Ones happen here, "frame" the way you want to present that to the market, and "capitalize" on the brand! Own it, frame it, and capitalize on it.

## YOU WILL NOT HAVE TO FIND YOUR PET.

Pets instinctively flee disasters. Follow them!

## THERE ARE SEVERAL THINGS YOU CAN DO TO SURVIVE AN EARTHQUAKE OR TSUNAMI.

You just read several things individuals and families can do to improve their odds of surviving earthquakes and tsunamis. Take an hour to learn what you need to know, and then let it go. Enjoy life on the coast. This is a beautiful place to live, work, and play, but it's important to do so with a deep appreciation of the landscape—and a sharp eye for the high ground.