

Earthquakes in Oregon



When the shaking starts

Multnomah County
The City of Portland

What is an earthquake?

The Earth is made up of massive blocks called tectonic plates. These plates are always shifting on the earth's surface at a very slow pace. They can pull apart, slide past each other, or push into each other.

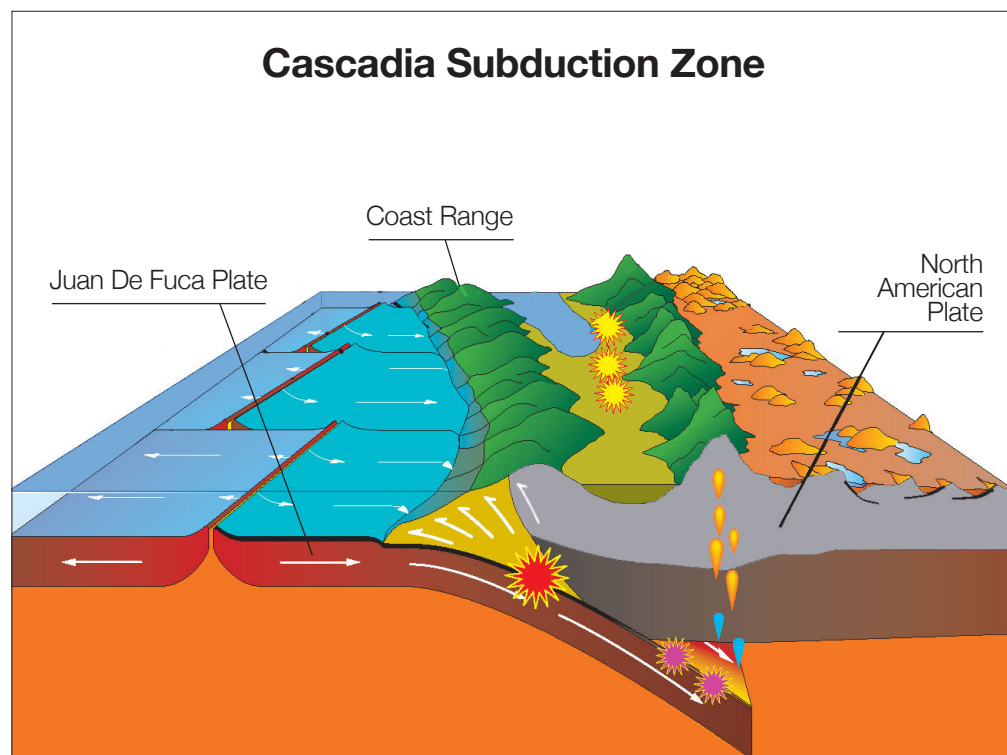
When they push into each other, pressure builds.

Sometimes, the edge of one plate slips under the other plate. This slip releases pressure and causes the ground to shake and sway.

Oregon has small earthquakes all the time as many as 300 a year. This is a good thing because a lot of little earthquakes release pressure that builds where tectonic plates come together. We usually can't feel these small quakes. However, Oregon does have about 15 quakes a year strong enough for people to notice. These do not cause much damage.

When there is a big slip, the earthquake can cause a lot of movement. In the Northwest, this is called a Cascadia Subduction Zone Earthquake. The last big earthquake was in 1700. Big earthquakes happen on average every 240 years. No one knows for sure when another Cascadia Earthquake may happen, but scientists believe it could happen in our lifetime.

These earthquakes can happen without warning. So it is important to be prepared.



SOURCE: NATIONAL PARK SERVICE

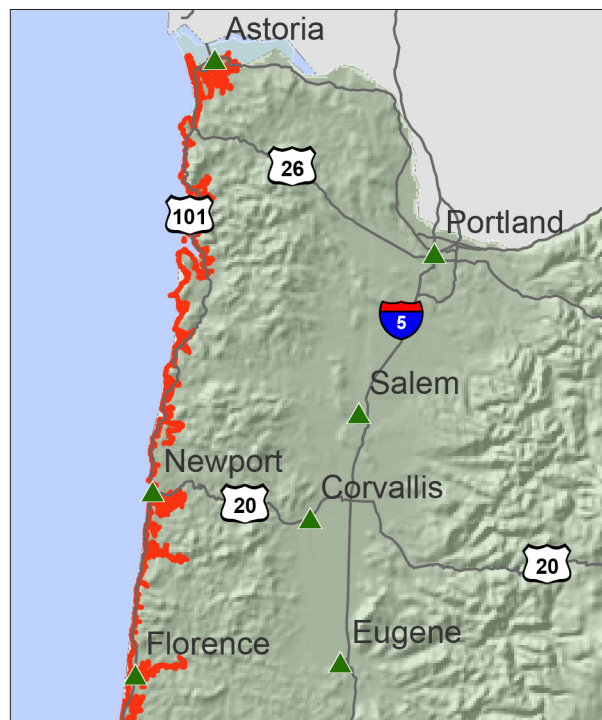
What is a Tsunami?

Sometimes when a big earthquake happens near the coast, huge waves of water can be pushed high up on the land. The waves can be up to 40 feet (12 meters) high; that's about the same as a three-story building.

If we have a Cascadia earthquake, towns on the coast are at risk of a tsunami.

If this happens, people may have only 15 minutes after shaking stops to get up a hill or to the top level of a tall building before the waves reach the land. Most scientists say that getting at least 100 feet or 30 meters high is enough to be safe.

A tsunami may flow onto land up to 1.5 miles (shown in red).



Will a Tsunami hit Portland? No!

Portland is too far from the Ocean to be in danger of a tsunami. Portland, like Salem and Eugene, is in the Willamette Valley, about 60 miles from the ocean. There is a range of mountains between the valley and the ocean. It is far from the ocean and much higher than any waves could reach.

Will I be safe in a big quake?

Some places, such as downtown Portland and along rivers, are built on softer ground and may shake a lot. Some neighborhoods are built on steep slopes where shaking could cause landslides.

Areas east of downtown Portland are built on firmer, flatter ground. Those may shake less, and there may be less risk of injury.



What could happen to our city in a “Cascadia” earthquake?

Communication: Cell phone towers and phone lines may be damaged. It may be difficult to make calls, but it may be possible to send short text messages.

Travel: Bridges and overpasses may collapse or be damaged. Roads may be broken or covered with bricks and other material. The airports may be damaged. Gasoline may be limited.



Utilities: Sewer, water and natural gas pipes may break, and electric power lines may fall.

Government Buildings: Many schools and other government buildings are old. Some may withstand the shaking, but may be unusable after a big earthquake.

Care: Hospitals may be damaged and too busy to help everyone. Fire fighters, paramedics and police won't be able to help everyone or reach every neighborhood.

Help: It could take many days for help to reach people in need, leaving families to rely on any food, water and first-aid skills they have. But when help arrives, everyone (regardless of immigration status) will be eligible for emergency food, water and shelter.

When we have an earthquake, what should I do?

People may feel a sudden jolt, then strong shaking that could last 3 to 6 minutes.

Inside: Hide under a desk or table, hold on to the leg, and wait until the shaking stops.

In Bed: Stay there and cover your head with a pillow.

In the Street: Move away from trees and buildings, or crouch between cars to protect yourself from shattering glass and other things that might fall.

In your Car: Stay in your car.

For more: Visit earthquakecountry.org



Plan ahead

Family, friends, neighbors or a faith community can make a plan to help each other if an earthquake happens. No plan looks the same. Here are some questions to help you get started.

*(Make a copy of this plan for each person on your contact list.
Leave one copy in a home emergency kit, one copy at work and save one electronic copy.)*

• • •

MEMBERS OF YOUR EMERGENCY PLAN / WHO WOULD YOU WANT TO CONTACT?

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

Name _____

Phone _____

MEMBERS OF YOUR EMERGENCY PLAN / WHO WOULD YOU WANT TO CONTACT? (continued)

Name _____

Name _____

Phone _____

Phone _____

Name _____

Name _____

Phone _____

Phone _____

Name _____

Name _____

Phone _____

Phone _____

IF MEMBERS CAN'T REACH ONE ANOTHER, WHO CAN EVERYONE CALL WHO LIVES FAR AWAY?

(Sometimes, it's possible to call long distance when local calls don't work.)

Name _____

Phone _____

WHERE WILL YOU MEET WHEN AN EARTHQUAKE HAPPENS?

(Ideas: a park, church or school parking lot, or other open space in your neighborhood)

WHAT MIGHT KEEP MEMBERS OF YOUR EMERGENCY PLAN FROM MEETING AT THIS LOCATION?

(Ideas: a child at daycare, a parent who works on the other side of the river)

WHAT SHOULD PEOPLE DO IF THEY CANNOT MEET AT THIS LOCATION?

(*Ideas: text your out-of-area contact, identify an alternative meeting location*)

SPECIAL NEEDS

Does anyone in your plan have special physical or mental needs?

What assistance might this person need when an earthquake happens?

NEIGHBORS

How might you need them? _____

How might they need you? _____

STAYED TUNED

Is everyone with a cellphone registered to receive emergency phone alerts? **Visit publicalerts.org**

Who in your plan can communicate in English? (*It will take time for government to assist in other languages.*)

Who will make sure this plan stays up-to-date? _____

Build a kit

Every family's kit looks different, but here are some questions to help you decide what to include in yours. Experts recommend storing enough supplies for 14 days.

WATER

(**Tip:** Experts recommend 14 gallons per person, a gallon per/person/per day)

How many people live in my home? _____

How much water should we store for 14 days? _____

(**Tips:** Wash used soda bottles with bleach water, then fill with tap water. Tap water is safe to drink! A hot-water heater usually holds at least 30 gallons of drinkable water.)

FOOD

What foods do you eat that are high in protein and don't have to be cooked?

(**Ideas:** condensed or powdered milk, canned beans, canned fish, canned meat, peanut butter)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(**Tip:** eat stored food before it expires, then restock your supply.)

MEDICATION

Does anyone need a prescription medication to avoid serious harm? _____

What does your doctor say to do if you run low or out? _____

Does anyone in your family need glasses to see? _____

FIRST AID

What do you want in a first aid kit?

(**Ideas:** roller bandage, aspirin, disposable gloves, antiseptic, gauze)

_____	_____
_____	_____
_____	_____

BABIES

Do you have a baby?

What would the baby need? (**Ideas:** formula, diapers, wipes)

_____	_____
_____	_____
_____	_____

PETS

Do you have a pet?

What would your pet need? (**Ideas:** food, leash, hard crate, vaccination record & photo w/ owner)

_____	_____
_____	_____
_____	_____

WHAT ELSE?

Here is a big list of supplies some people include. Check off things you want in your kit

Bleach: For cleaning (9 parts water/1 part bleach)
For drinking (1 gal. water/16 eyedrops bleach)

Can opener

Warm jackets, rain coats, socks and underwear

Sturdy shoes

SUPPLIES? (continued)

- Sturdy gloves
- Tarp, plastic sheeting, tent, large garbage bags
- Flashlight (consider a handcrank flashlight or headlamp)
- Radio (consider a handcrank radio)
- Batteries
- Tools (wrench or pliers, crowbar, shovel, pocket knife)
- Documents (copies of IDs, birth certificates or other important papers you don't want to lose)
- Toiletries/female hygiene
- Entertainment (books, puzzles, games or toys)

(**Tip:** Get together with neighbors, friends or faith community to pool money on expensive items.)

SPACE LIMITED AT HOME?

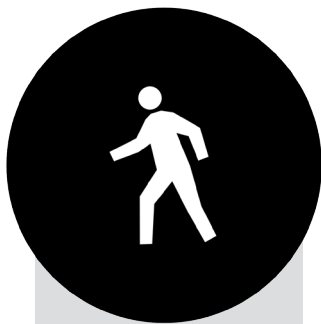
Talk to a neighbor, your place of worship or community center about creating a shared space to store supplies.



Multnomah County

Office of Emergency Management
503-988-6700
multco.us/em

When the earthquake hits, where will you be?



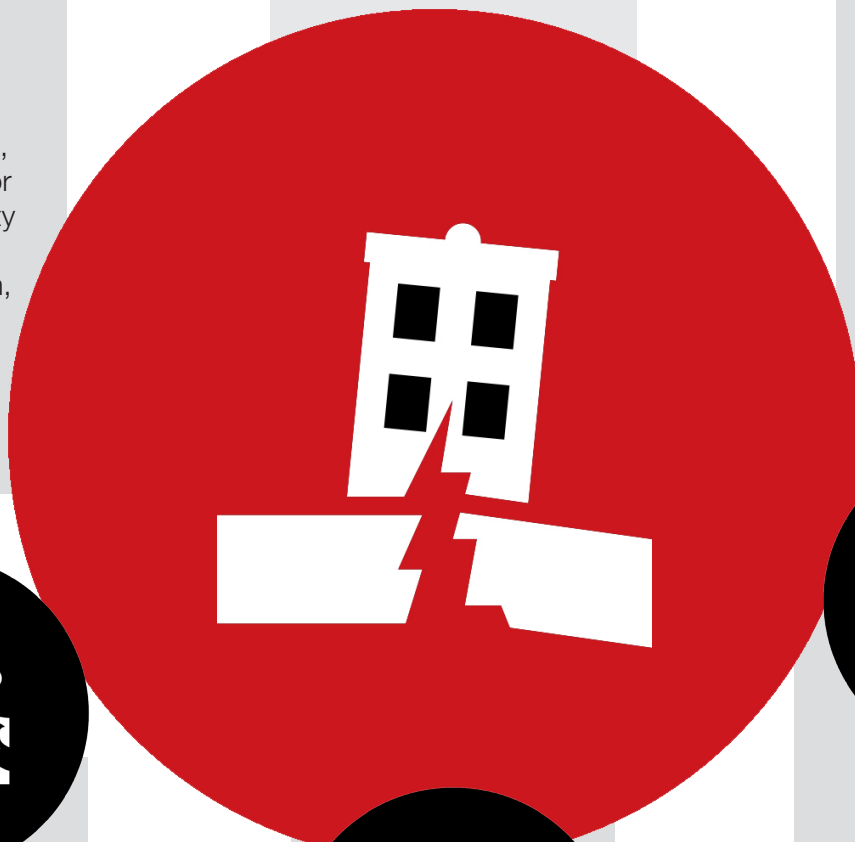
OUTSIDE

Move away from buildings, falling bricks or glass and utility wires. If you are downtown, within a few feet of a high-rise, duck inside.



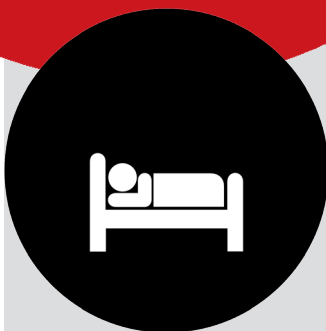
IN YOUR CAR

Avoid bridges and overpasses. Stop. Set your parking brake. And stay in the car.



THE COAST

Move to higher ground or the top of a building (at least 100 feet). A tsunami wave could hit within minutes.



IN BED

Stay still. Cover your head with a pillow, and wait for the shaking to stop.



INSIDE

Don't go outside, or use stairs or elevators until the shaking stops.

Get under a table or desk and hold on.

No table? Crouch next to an inside wall, in the corner of a room or beside big furniture.