#### WHAT IS A TSUNAMI?

A tsunami is a series of waves most commonly caused by an earthquake beneath the sea floor. As tsunamis enter shallow water near land, they increase in height and can cause great loss of life and property damage where they come ashore.

Recent research suggests that tsunamis have struck the Washington coast on a regular basis. They can occur at any time of the day or night, under any and all weather conditions, and in all seasons. Beaches open to the ocean, bay entrances, tidal flats, and coastal rivers are especially vulnerable to tsunamis.

### WHAT IS THE DIFFERENCE BETWEEN A 'DISTANT' AND A 'LOCAL' TSUNAMI?

When a tsunami has been generated by a distant earthquake, it will not reach the Washington coast for several hours, and there is time to issue a warning. When a tsunami is generated by a strong offshore earthquake, its first waves would reach the outer coast minutes after the ground stops shaking. Feeling an earthquake could be your only warning!

# WHAT CAN I DO TO PROTECT MYSELF FROM A TSUNAMI?

- Develop a family disaster plan. Everyone needs to know what to do on their own to protect themselves in case of disaster.
- Be familiar with local earthquake and tsunami plans. Know where to go to survive a tsunami. Identify an evacuation site within 15 minutes walking distance of home and/or work.
- Prepare three-day emergency kits for your home, automobile, and work.



For a local earthquake, if car evacuation is not possible, go directly to the nearest high ground. Police and fire stations are shown as landmarks only. Do not go there for help—they will likely be deserted. Assembly areas have been designated where can get help and services when you can't go home.

 Take a first aid course and learn survival skills. Knowledge is your greatest defense against potential disaster.

#### **HOW DO I KNOW WHEN TO EVACUATE?**

If you feel the ground shake, evacuate inland or to high ground immediately! Waves higher than 30 feet could reach the Long Beach area within 30 minutes of the quake. The first wave is often not the largest; successive waves may be spaced many minutes apart and continue to arrive for

several hours. Return only after emergency officials say it is safe.

Isolated areas may not receive official warnings of distant tsunamis. If you notice a sudden drop or rise in sea level, move to high ground or inland immediately.

#### WHERE DO I EVACUATE TO?

The map shows tsunami hazard areas in yellow. Go to the nearest high ground—at least 50 feet above sea level, if possible. If you don't have time to travel to high ground,

but are near a multi-story building, go to an upper level. If you are on the beach and unable to get to high ground, go inland as far as you can (at least 2 miles).

# WHAT DO THE EVACUATION SIGNS MEAN?

Tsunami evacuation routes were developed to guide coastal residents and visitors to safer locations when car evacuation is possible, as for a distant tsunami. Evacuation signs have

been placed along the main roads to direct motorists to higher ground. In some places, there may be more than one way to reach safer areas. These routes are marked with multiple signs showing additional options for evacuation. You will need to know the evacuation routes for your area.

# HOW DO I GET INLAND OR TO HIGH GROUND?

Car evacuation may not be possible if an earthquake has damaged roads and power lines and resulted in significant debris. If this is the case, do not try to follow the evacuation routes out. Evacuate on foot directly to the nearest high ground. Avoid lakes and wetlands, which are prone to flooding and liquefaction during aftershocks.

# WHAT SHOULD I HAVE IN MY EMERGENCY KIT?

You should prepare an emergency kit with a three-day supply of necessary items for each member of your family. The kit should be adapted to your needs, but keep it light and manageable in case you must evacuate on foot. Have it ready to go for immediate evacuation. Possible supplies include:

- Maps showing safe routes to high ground
- Non-perishable food and cooking and eating utensils, including can opener
- Water and a water purification kit
- First-aid kit and prescriptions
- Plastic bags for water storage and waste
- Dental and personal hygiene items
- Sturdy shoes, clothes, sleeping bag, tent
- Portable radio, headlamp/flashlight, and extra batteries

 Pocket knife, whistle, matches, duct tape, and rubber, latex, and heavy-duty gloves

#### WHERE CAN I STAY UNTIL THIS IS OVER?

After the immediate danger is past and if there is damage to the degree that you cannot return home, you should attempt to reach a designated assembly area. These outdoor areas have been selected to facilitate delivery of emergency services. It may be several days before help can arrive, so if possible, bring your own three-day emergency kit and emergency shelter.

Assembly areas are not specific in terms of boundaries. You may camp or park in adjacent areas. Do not block a roadway—leave access for emergency vehicles.

If you do not have an assembly area close by, you are urged to develop a neighborhood evacuation site. The site should be outside the tsunami hazard zone, easy to get to, and capable of accommodating the number of people expected. If it is on private property, you will need the permission of the owner. Inform your County Emergency Manager of the site's location.

Designated assembly areas are along State Route Loop 100 and 67th Place and at School Hill—parking areas of Ilwaco High School and Hilltop Middle School.

# WHAT ARE THE EMERGENCY RADIO FREQUENCIES?

Astoria, OR, 162.40 MHz Olympia, 162.475 MHz Forks/Mount Octopus, 162.425 MHz

#### WHEN YOU FEEL AN EARTHQUAKE:

- Protect yourself—drop, cover, hold until the earthquake is over
- Grab your three-day emergency kit
- Move quickly inland to high ground and away from low-lying coastal areas
- Evacuate on foot if at all possible because of potential road damage and traffic jams
- Do not wait for an official warning
- Do not pack or delay
- Listen to NOAA Weather Radio or your local radio station for information on shelter locations and emergency broadcasts
- Be alert for aftershocks
- Do not return to the tsunami hazard zone until emergency officials say it is safe for you to return

### WHO CAN I WHO CAN I CONTACT FOR MORE INFORMATION?

#### PACIFIC COUNTY EMERGENCY MANAGEMENT

Box 101, 300 Memorial Dr South Bend, WA 98586 360-875-9340; http://www.co.pacific.wa.us/pcema/

#### WASHINGTON MILITARY DEPARTMENT

Emergency Management Division Camp Murray, WA 98430-5122 1-800-562-6108; http://www.mil.wa.gov/

This map was produced by the Washington State Department of Natural Resources, Division of Geology and Earth Resources, in cooperation with local emergency management officials.

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Printed on recycled paper

Long Beach and Ilwaco

Tsunami!

**Evacuation** 

Map for

**TSUNAMI HAZARD ZONE** 



IN CASE OF EARTHQUAKE, GO TO HIGH GROUND OR INLAND

**Safety Tips for Pacific County**