

FACT SHEET



Federal Emergency Management Agency

TSUNAMIS

A tsunami is a series of waves that may be dangerous and destructive. When you hear a tsunami warning, move at once to higher ground and stay there until local authorities say it is safe to return home.

BEFORE Find out if your home is in a danger area.

Know the height of your street above sea level and the distance of your street from the coast. Evacuation orders may be based on these numbers.

Be familiar with the tsunami warning signs.

Because tsunamis can be caused by an underwater disturbance or an earthquake, people living along the coast should consider an earthquake or a sizable ground rumbling as a warning signal. A noticeable rapid rise or fall in coastal waters is also a sign that a tsunami is approaching.

Make sure all family members know how to respond to a tsunami.

Make evacuation plans.

Pick an inland location that is elevated. After an earthquake or other natural disaster, roads in and out of the vicinity may be blocked, so pick more than one evacuation route.

Teach family members how and when to turn off gas, electricity, and water.

Teach children how and when to call 9-1-1, police or fire department, and which radio station to listen to for official information.

Have disaster supplies on hand.

- Flashlight and extra batteries
- Portable, battery-operated radio and extra batteries
- First aid kit and manual
- Emergency food and water
- Nonelectric can opener
- Essential medicines
- Cash and credit cards
- Sturdy shoes

Develop an emergency communication plan.

In case family members are separated from one another during a tsunami (a real possibility during the day when adults are at work and children are at school), have a plan for getting back together.

Ask an out-of-state relative or friend to serve as the "family contact." After a disaster, it's often easier to call long distance. Make sure everyone knows the name, address, and phone number of the contact person.

Contact your local emergency management office or American Red Cross chapter for more information on tsunamis.

DURING Listen to a radio or television to get the latest emergency information, and be ready to evacuate if asked to do so.

If you hear an official tsunami warning or detect signs of a tsunami, evacuate at once. Climb to higher ground. A tsunami warning is issued when authorities are certain that a tsunami threat exists.

Stay away from the beach.

Never go down to the beach to watch a tsunami come in. If you can see the wave, you are too close to escape it.

Return home only after authorities advise it is safe to do so.

A tsunami is a series of waves. Do not assume that one wave means that the danger is over. The next wave may be larger than the first one. Stay out of the area.

Mitigation

Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency happening, or lessen the damaging effects of unavoidable emergencies. Investing in preventive mitigation steps now, such as purchasing flood insurance or building structures at least several hundred feet away from the coastline, will help reduce the impact of tsunamis in the future. For more information on mitigation, contact your local emergency management office.

AFTER Stay tuned to a battery-operated radio for the latest emergency information.

Help injured or trapped persons.

Give first aid where appropriate. Do not move seriously injured persons unless they are in immediate danger of further injury. Call for help.

Remember to help your neighbors who may require special assistance — infants, elderly people, and people with disabilities.

Stay out of damaged buildings. Return home only when authorities say it is safe.

Enter home with caution.

Use a flashlight when entering damaged buildings. Check for electrical shorts and live wires. Do not use any appliances or lights until an electrician has checked the electrical system.

Open windows and doors to help dry the building.

Shovel mud while it is still moist to give walls and floors an opportunity to dry.

Check food supplies and test drinking water.

Fresh food that has come in contact with flood waters may be contaminated and should be thrown out. Have tap water tested by the local health department.

Inspecting Utilities in a Damaged Home

Check for gas leaks — If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.

Look for electrical system damage — If you see sparks, broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call an electrician first for advice.

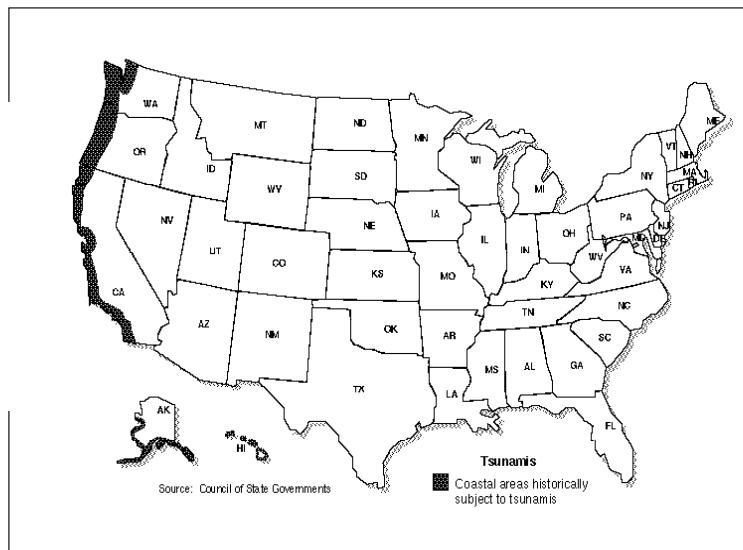
Check for sewage and water line damage — If you suspect sewage lines are damaged, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. You can obtain safe water by melting ice cubes.

BACKGROUND

T S U N A M I S

EMERGENCY INFORMATION

- 1.** Tsunamis are caused by an underwater disturbance — usually an undersea earthquake. Landslides, volcanic eruptions, and even meteors can also generate a tsunami.
- 2.** Tsunamis can originate hundreds or even thousands of miles away from coastal areas. Local geography may intensify the effects of a tsunami. Areas at greatest risk are less than 50 feet above sea level and within 1 mile of the shoreline.
- 3.** People who are near the seashore during a strong earthquake should listen to a radio for a tsunami warning and be ready to evacuate at once to higher ground.
- 4.** Rapid changes in the water level are an indication of an approaching tsunami.
- 5.** Tsunamis arrive as a series of successive “crests” (high water levels) and “troughs” (low water levels). These successive crests and troughs can occur anywhere from 5 to 90 minutes apart. They usually occur 10 to 45 minutes apart.



Hawaii, the highest risk area, averages one tsunami every year with a damaging occurrence every 7 years. Alaska, also at high risk, averages a tsunami every 1.75 years and a damaging event every 7 years. The West Coast experiences a damaging tsunami every 18 years on average.

WHAT IS A TSUNAMI?

A tsunami (pronounced “soo-nahm’-ee”) is a series of waves generated by an undersea disturbance such as an earthquake. From the area of the disturbance, the waves will travel outward in all directions, much like the ripples caused by throwing a rock into a pond. The time between wave crests may be from 5 to 90 minutes and the wave speed in the open ocean will average 450 miles per hour. Tsunamis reaching heights of more than 100 feet have been recorded. As the waves approach the shallow coastal waters, they appear normal and the speed decreases. Then as the tsunami nears the coastline, it may grow to great height and smash into the shore causing much destruction.

HELP YOUR COMMUNITY GET READY

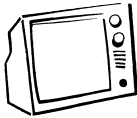
The media can raise awareness about tsunamis by providing important information to the community. Here are some suggestions:



1. Publish a special section in your local newspaper with emergency information on tsunamis. Localize the information by printing the phone numbers of local emergency services offices, the American Red Cross, and hospitals.

2. Periodically inform your community of local public warning systems.

3. Work with local emergency services and American Red Cross officials to prepare special reports for people with mobility impairments on what to do if an evacuation is ordered.



4. Interview local officials and the insurance community about the proper types of insurance to cover a flood-related loss. Include information on the economic effects of disaster.



HOW THE PUBLIC CAN HELP AFTER A DISASTER

When disaster strikes, people everywhere want to help those in need. To ensure that this compassion and generosity are put to good use, the media can highlight these facts:

▶ Financial aid is an immediate need of disaster victims. Financial contributions should be made through a recognized voluntary organization to help ensure that contributions are put to their intended use.

▶ Before donating food or clothing, wait for instructions from local officials. Immediately after a disaster, relief workers usually don't have the time or facilities to setup distribution channels, and too often these items go to waste.

▶ Volunteers should go through a recognized voluntary agency such as the American Red Cross or Salvation Army. They know what is needed and are prepared to deal with the need. Local emergency services officials also coordinate volunteer efforts for helping in disasters.

▶ Organizations and community groups wishing to donate items should first contact local officials, the American Red Cross or Salvation Army to find out what is needed and where to send it. Be prepared to deliver the items to one place, tell officials when you'll be there, and provide for transportation, driver, and unloading.

DID YOU KNOW...

■ In 1964, an Alaskan earthquake generated a tsunami with waves between 10 and 20 feet high along parts of the California, Oregon, and Washington coasts. This tsunami caused more than \$84 million in damage in Alaska and 123 fatalities in Alaska, Oregon, and California.

■ Although tsunamis are rare along the Atlantic coastline, a severe earthquake on November 18, 1929, in the Grand Banks of Newfoundland generated a tsunami that caused considerable damage and loss of life at Placentia Bay, Newfoundland.

■ In 1946, a tsunami with waves of 20 to 32 feet crashed into Hilo, Hawaii, flooding the downtown area and killing 159 people.

■ The Tsunami Warning Centers in Honolulu, Hawaii, and Palmer, Alaska, monitor disturbances that trigger tsunamis. When a tsunami is recorded, it is tracked and a tsunami warning is issued to the threatened area.

■ Most deaths during a tsunami are a result of drowning. Associated risks include flooding, polluted water supplies, and damaged gas lines.

■ Since 1945, more people have been killed as a result of tsunamis than as a direct result of an earthquake's groundshaking.