TSUNAMIS

Tsunamis are ocean waves that are produced by earthquakes or underwater landslides. The word is Japanese and means "harbor wave," because of the devastating effects that these waves have had on low-lying Japanese coastal communities. Tsunamis are often incorrectly referred to as tidal waves.

Tsunamis, which pose the greatest risk to areas less than 25 feet above sea level and within one mile of the shoreline, can cause:

- Flooding.
- Contamination of drinking water.
- Fires from ruptured tanks or gas lines.
- Loss of vital community infrastructure.

Most deaths caused by tsunamis result from drowning.

Since 1945, six tsunamis have killed more than 350 people and caused 500 million dollars worth of property damage in Hawaii, Alaska, and the West Coast. Twenty-four tsunamis have caused damage in the United States and its territories during the past 224 years.

Tsunamis can travel upstream in coastal estuaries and rivers, with damaging waves extending farther inland than the immediate coast. A tsunami can occur during any season of the year and at any time, day or night.

The first wave of a tsunami is usually not the largest in a series of waves, nor is it the most significant. One coastal community may experience no damaging waves, while another, not far away, may experience destructive deadly waves. Depending on a number of factors, some low-lying areas could experience severe inland inundation of water and debris of more than 1,000 feet.

Tsunami warnings originate from two agencies:

- The West Coast/Alaska Tsunami Warning Center (WC/ATWC) is responsible for tsunami warnings for California, Oregon, Washington, British Columbia, and Alaska.
- The Pacific Tsunami Warning Center (PTWC) is responsible for providing warnings to international authorities, Hawaii, and U.S. territories within the Pacific basin.

The two Tsunami Warning Centers coordinate the information that is being disseminated.

TSUNAMIS (CONTINUED)

Do the following to prepare for a tsunamis:

- Know the risk for tsunamis in the area. Know the height of your street above sea level and the distance of your street from the coast or other high-risk waters. Evacuation orders may be based on these numbers.

  If you are visiting an area at risk from tsunamis, check with the hotel, motel, or campground operators for evacuation information.

- Plan and practice evacuation routes. If possible, pick an area 100 feet or more above sea level, or go at least two miles inland, away from the coastline. You should be able to reach your safe location on foot within 15 minutes. Be able to follow your escape route at night and during inclement weather.

- Discuss tsunamis with your family. Discussing tsunamis ahead of time will help reduce fear and anxiety and let everyone know how to respond. Review flood safety and preparedness measures with your family.

- Talk to your insurance agent. Homeowners' policies do not cover flooding from a tsunami. Ask your agent about the National Flood Insurance Program (NFIP).

- Use a NOAA Weather Radio with a tone-alert feature to keep you informed of local watches and warnings.

Ways to protect property:

- Avoid building or living in buildings within several hundred feet of the coastline. These areas are most likely to experience damage form tsunamis, strong winds, or coastal storms.

- Elevate coastal homes. Most tsunami waves are less than 10 feet high.

- Follow flood preparedness precautions. Many of the precautions that are appropriate for floods are also appropriate for tsunamis.

- Consult with a professional for advice about ways to make your home more resistant to tsunami and water. Also, there may be ways to divert waves away from your property.

TSUNAMIS (CONTINUED)

If a strong coastal earthquake occurs:

- Drop, cover, and hold. You should protect yourself from the earthquake first.
- When the shaking stops, gather your family members and evacuate quickly. Leave everything else behind. A tsunami could occur within minutes. Move quickly to higher ground away from the coast.
- Avoid downed power lines, and stay away from buildings and bridges from which heavy objects might fall during an aftershock.

Actions to take:

- If you are in a tsunami risk area and you hear an official tsunami warning or detect signs of a tsunami, evacuate at once. A tsunami warning is issued when authorities are certain that a tsunami threat exists, and there may be little time to get out.
- Follow instructions issued by local authorities. Recommended evacuation routes may be different from the one you planned, or you may be advised to move to higher ground than you had planned.
- Get to higher ground as far inland as possible. Officials cannot reliably predict either the height or local effects of tsunamis.
- Listen to a NOAA Weather Radio or Coast Guard emergency frequency station for updated emergency information.
- Return home only after local officials tell you that it is safe. A tsunami is a series of waves that may continue for hours. Do not assume that after one wave, the danger is over. The next wave may be larger than the first one.

Following a tsunami, citizens should continue listening to a NOAA Weather Radio or Coast Guard emergency frequency station for updated emergency information and instructions. As with many other hazards, post-tsunami actions include:

- Avoiding fallen power lines or broken utility lines and immediately reporting those that you see.
- Staying out of damaged areas until told that it is safe to enter.
- Staying out of damaged buildings.
- Using a flashlight to look for damage and fire hazards, and documenting damage for insurance purposes.

TSUNAMIS (CONTINUED)

- Turning off utilities, if necessary.
- Reserving the telephone for emergencies.

Tsunami Myths and Facts

Myth:	Tsunamis are giant walls of water.
Fact:	Tsunamis normally have the appearance of a fast-rising and receding flood. They can be similar to a tide cycle occurring over 10-60 minutes instead of 12 hours. Occasionally, tsunamis can form walls of water, known as tsunami bores, when the waves are high enough and the shoreline configuration is appropriate.
Myth:	Tsunamis are a single wave.
Fact:	Tsunamis are a series of waves. Often the initial wave is not the largest. The largest wave may occur several hours after the initial activity has started at a coastal location.
Myth:	Boats should seek protection of a bay or harbor during a tsunami.
Fact:	Tsunamis are often most destructive in bays and harbors. Tsunamis are least destructive in deep, open ocean waters.

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