

## WHAT IS A TSUNAMI?

Tsunamis are a **series of long waves** that can last **over 24+ hours** and are usually caused by earthquakes beneath the sea floor or landslides. Tsunamis cause **dangerous flooding and strong currents**. They are very **fast and powerful**, like a moving wall of cement.

**The time it takes for tsunami waves to arrive depends on their source:**

- Tsunamis originating near WA's coast are considered **LOCAL SOURCE** tsunamis. Local source tsunamis can **arrive within minutes** and typically are **the most dangerous**. **Extreme flooding and destructive currents** can last for hours.
- Tsunamis originating far from WA's coast will take multiple hours to arrive and are considered **DISTANT SOURCE** tsunamis. Typically, distant source tsunamis cause less flooding and fewer strong currents but can still **pose a high risk for the maritime community**.

## TSUNAMI HAZARDS FOR BOATERS

Tsunamis can be **deadly** for boaters. Tsunami hazards that directly affect vessels and boaters include:

- **Sudden water-level fluctuations**
- **Grounding of vessels** as water level drops
- **Capsizing of vessels** from tsunami surges, bores, and complex coastal waves
- **Strong and unpredictable currents**
- **Drag** on large-keeled vessels
- **Collision** with other vessels, docks, and debris
- **Spillage** of toxic waste and chemicals
- **Docks overtopping pilings**
- **Moored vessels tearing cleats from docks**
- **Eddies/whirlpools**

## TSUNAMI PREPAREDNESS

### ✓ **LEARN YOUR HAZARDS**

- ❑ Look up tsunami inundation and current velocity maps where you take your vessel
- ❑ Learn about natural and official warning signs for tsunamis

### ✓ **MAKE A PLAN**

- ❑ Create a plan with you and your crew in case a tsunami happens while you are on the water OR onshore
- ❑ Practice and update plans regularly
- ❑ Have a way to receive tsunami alerts (marine radio, NOAA weather radio)
- ❑ Monitor VHF channels 13, 14, and 16 for urgent broadcasts from the US Coast Guard
- ❑ Have a plan to quickly cease any activities and release bottom attachments so your vessel is not dragged by currents
- ❑ Securely tie your vessel when you dock
- ❑ Replace degraded mooring lines
- ❑ Check with your local harbor and county emergency management about their tsunami procedures
- ❑ Sign up for tsunami alerts and local alerts with your city, county, and harbor

### ✓ **BUILD KITS**

- ❑ Prepare to be self-sufficient onboard your vessel with enough food, fuel, and supplies to last at least 3 days
- ❑ If you live on your vessel, store at least 2 weeks of emergency supplies outside of the inundation zone

**Need help with your checklist?  
Visit below to learn more!**



**MIL.WA.GOV/TSUNAMI**

# TSUNAMIS!

## WHAT WASHINGTON'S BOATERS NEED TO KNOW



## NATURAL WARNING SIGNS

*If you are **ONSHORE**, you might:*

- Feel strong ground shaking
- Hear a loud roar from the ocean
- See water rapidly receding, possibly exposing the sea floor
- See water surging towards the shore faster than any tide

*If you are **OFFSHORE**, you might:*

- Feel shaking through the hull of your vessel
- See a rapid or extreme shift in currents and changes in wind wave heights



## NATURAL SIGN: ACTIONS TO TAKE

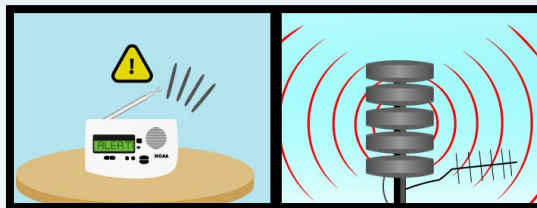
*If you are on land, tied up at a dock, or nearshore:*

- LEAVE YOUR VESSEL IMMEDIATELY and EVACUATE INLAND TO HIGH GROUND. You DO NOT have time to save your vessel and could die trying to do so!

*If you are far out on the water:*

- Head out to the deepest water you can reach
- Proceed as perpendicular to the shore as possible
- Sail directly into waves, keeping in mind that wind waves opposed by tsunami currents will be amplified
- Maintain as much separation as possible from other vessels
- Synchronize movements with any other vessels to avoid collisions

## OFFICIAL TSUNAMI ALERTS



Tsunami alerts are most important for distant tsunamis for which you will not feel ground shaking. **These are the alert levels:**

**WARNING** Move to high ground!

Tsunami wave heights could exceed 3 feet. Very strong, dangerous currents and inundation of dry land is expected.

**ADVISORY** Stay away from the shore.

Peak tsunami wave heights of 1-3 feet are expected, indicating strong and dangerous currents can be produced in harbors, channels and local waters.

**WATCH** Be prepared to take action.

An incident has occurred which may have created a tsunami. More information will follow; be prepared to act and listen for further instructions.

**When an advisory or warning is issued, the US Coast Guard broadcasts it on VHF channels 13, 14, and 16.**

Washington's network of tsunami sirens are activated for a warning only.

**Learn how to receive alerts for tsunamis and other hazards at:**



**MIL.WA.GOV/ALERTS**

## OFFICIAL ALERT: ACTIONS TO TAKE

*If you are on land, tied up at a dock, or nearshore:*

It is **NOT** recommended that you take your vessel offshore during a tsunami; you could put yourself at greater risk. Your local harbormaster, port captain, or emergency manager may provide the best advice.

*If you choose to go offshore, consider:*

- How much **time** you have before waves arrive
- How much **time** it will take to reach a safe location
- The **preparedness** and **readiness** of the vessel and its captain
- The **weather** at sea could be as dangerous as the tsunami itself
- The **congestion** on roads and boat ramps

**DO NOT go offshore if you don't have the TIME**

*If you are far out on the water:*

- Get your vessel to shore and evacuate to high ground before the first waves are expected to arrive

*If that is NOT possible:*

- Head out to the deepest water you can
- Proceed as perpendicular to the shore as possible
- Sail directly into waves, keeping in mind that wind waves opposed by tsunami currents will be amplified
- Maintain as much separation as possible from other vessels
- Synchronize movements with any other vessels to avoid collisions