

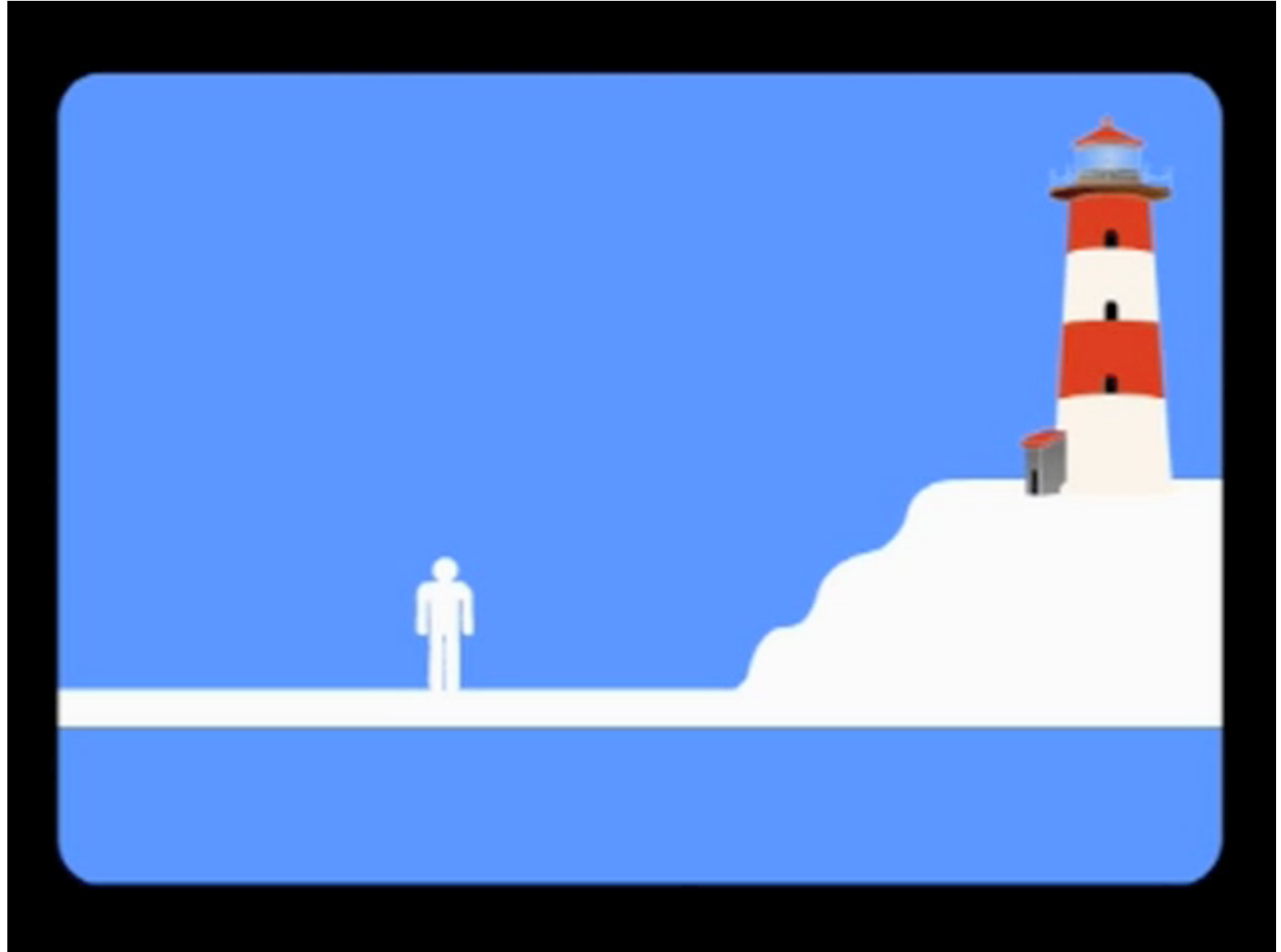
Tsunami!

Are you Prepared?

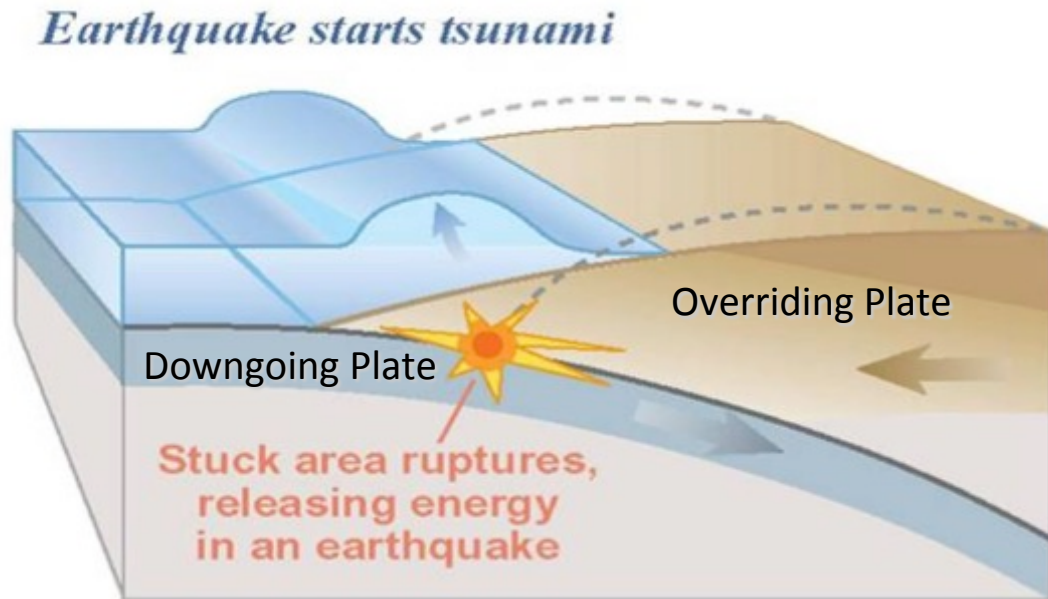
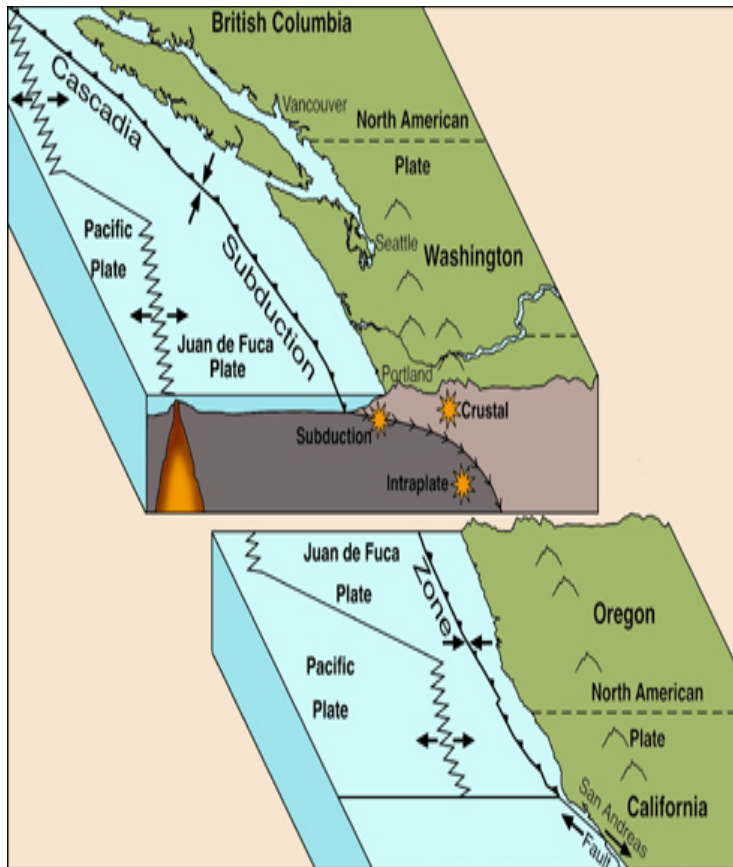


"I'll never get a shot like this again!"

Tsunami!



Local Tsunami from Cascadia Earthquake





How do we know?

Evidence of Cascadia
earthquakes:
Land-level changes

Dead forest along the Copalis river in
western Washington.

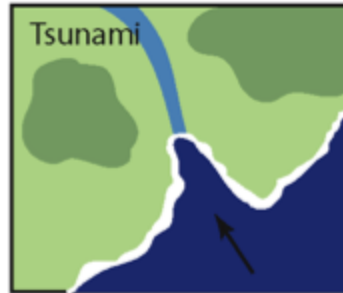
How do we know?

Evidence of past tsunamis: Sand deposits

Time series: Aerial view



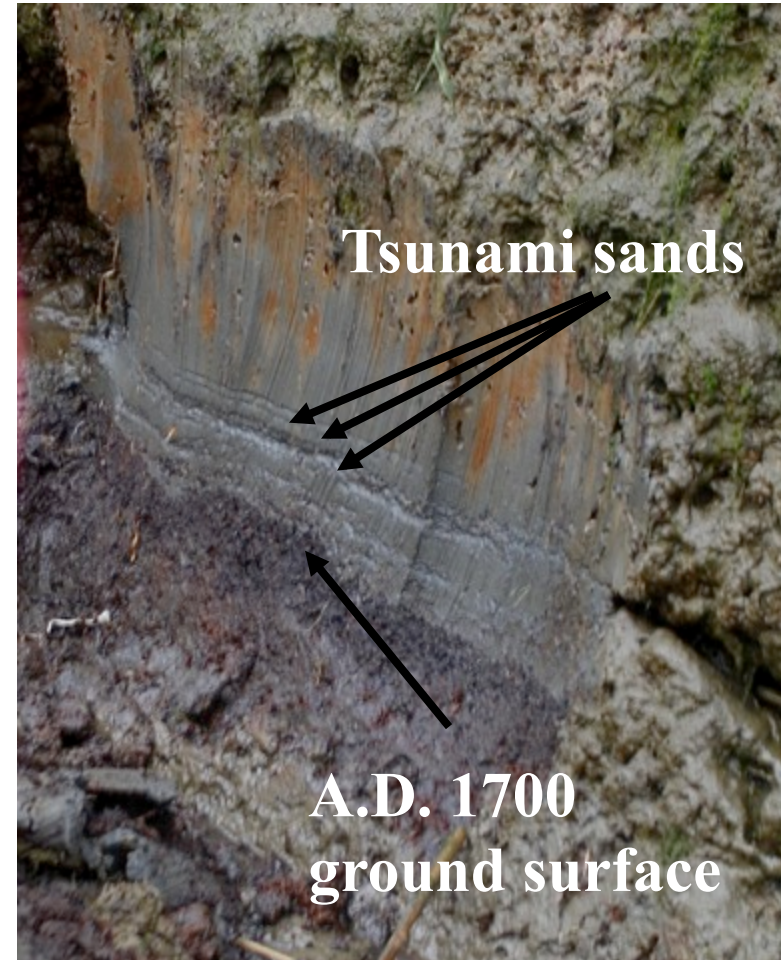
Before tsunami



Tsunami inundates
land and goes
upstream

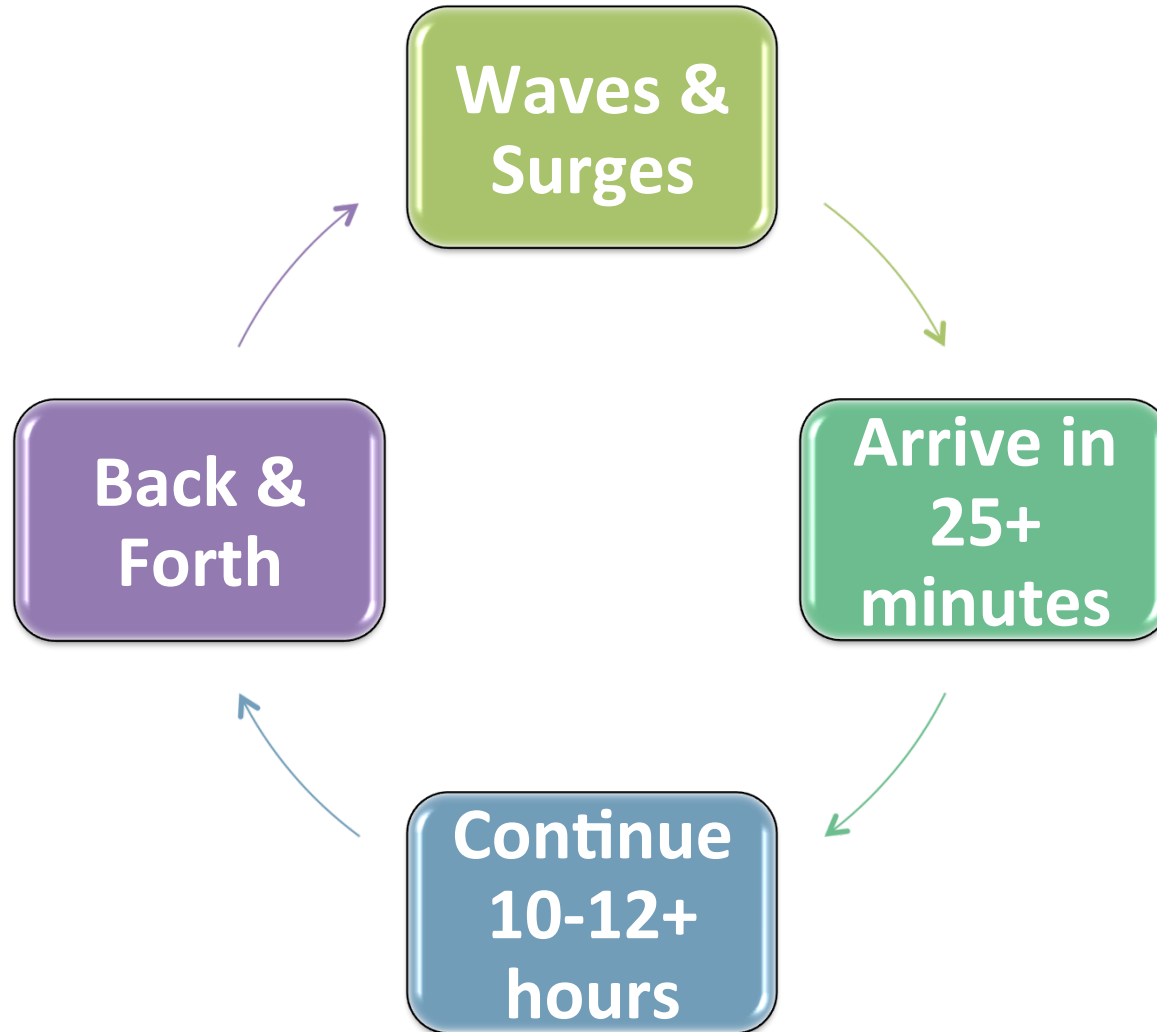


Sand deposits left
by tsunami



*Subsided marsh along the Niawiakum
River, southwest Washington*

Local (Cascadia) Tsunami



The Destructive Surge



Fires



Debris



Inundation of coastal communities with strong currents



Buildings Destroyed



Communication Outages



Road and Highway Damage



How will the community be notified?

- Natural cues are the warning notification!
 - **What are the Natural cues?**
- **Your Actions:**
 - Drop, Cover and Hold – Head to high ground
 - ✓ Do not Drive – **WALK!**

Weather Information...When YOU Need It.

NOAA Weather Radio



- 7 Day Forecast
- Watches/Warnings/Advisories
- Hourly Weather Conditions
- Climate and River Information
- Warnings broadcast 24 hours/Day
- Used to Activate EAS for Weather Events that are life threatening



<http://weather.gov/nwr>



Scheduled Tests

- ❖ Weekly - Wednesdays (11am – Noon)
- ❖ Monthly
- ❖ Annually - in coordination with the Emergency Alert System (EAS) committee.

Weather/Hydrologic Warning Levels

- ▶ **Warning:** A warning is issued when a hazardous weather or hydrologic event is occurring, imminent or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action.

You need to take protective action!
Poses a threat to life or property.

- ▶ **Watch:** A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location or timing is still uncertain.

Have a plan of action and listen for more information.

- ▶ **Advisory:** An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent or likely. Advisories are for less serious conditions than warnings.

Could lead to situations that may threaten life or property.

Tsunami Warning Levels

Warning – Initially based solely on seismic data, are issued as quickly as possible indicating that a significant inundation may occur.

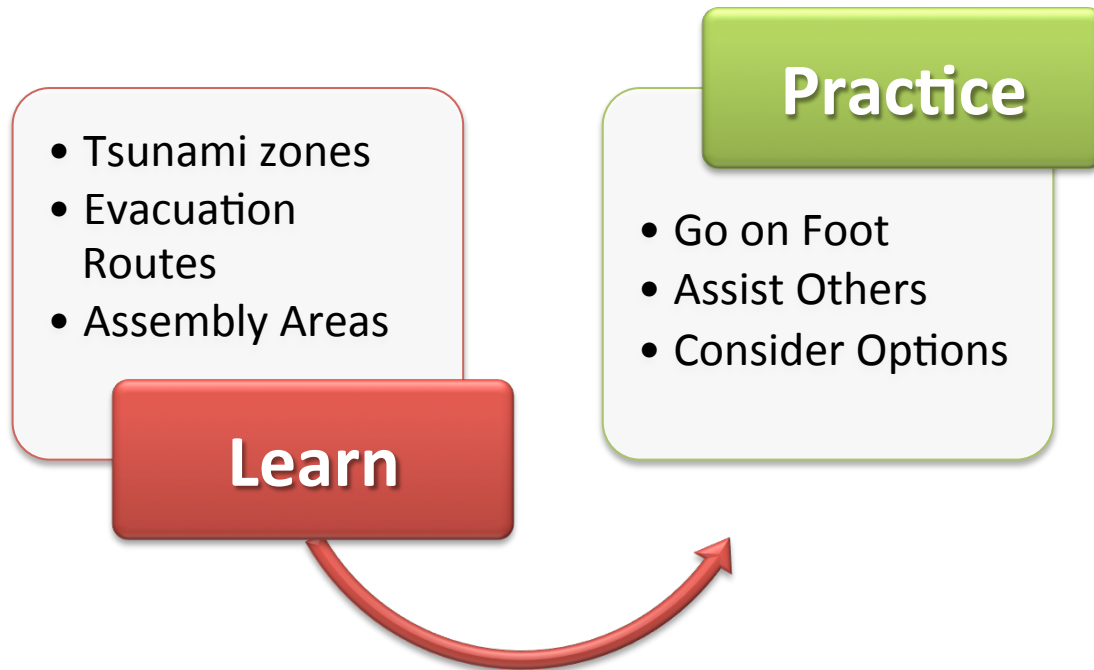
Advisory – Indicates potential beach and harbor danger; significant widespread inundation is not expected.

Watch – Tells communities that a potentially dangerous distant event has occurred and to be alert for more information.

Information Statement – Issued to reassure those experiencing an earthquake that conditions do not warrant tsunami generation.



Escape the Tsunami



Know the community Tsunami Hazard Zone and have a Tsunami Evacuation Map



“Local tsunami evacuation maps developed from inundation modeling, mapping, and community input”

Local Event – WALK!



Use common sense!



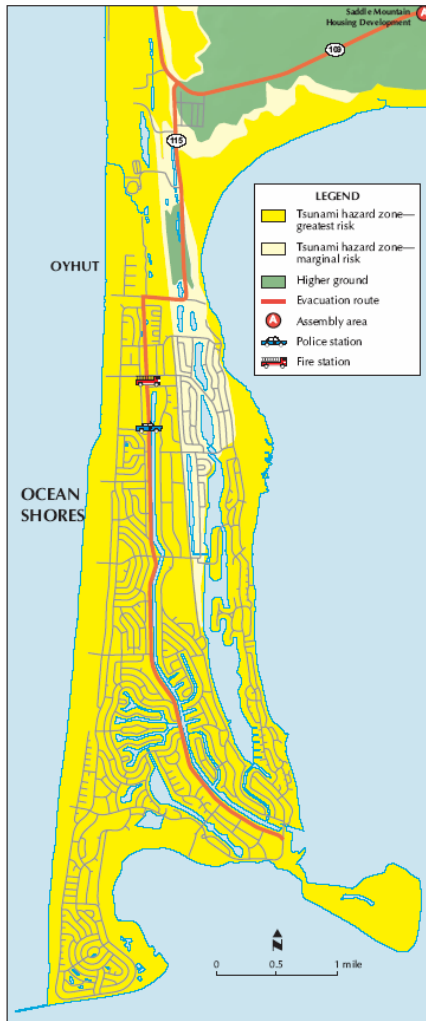
Don't Give Up!

Issues:

- No high ground exists
- No time to go inland to high ground
- Special needs populations

Solutions:

- Vertical evacuation
- Vertical evacuation refuge



Identify High Ground



- Signs
- Evacuation Routes
- Safe Areas
 - Assembly Areas
 - Vertical Evacuation Options

Don't forget to grab your emergency kit

Having a plan and practicing it works!



The Discipline to STAY PUT!

**WHEN DO YOU RETURN
to the
Tsunami Hazard Zone?**

Cancellation versus All-Clear

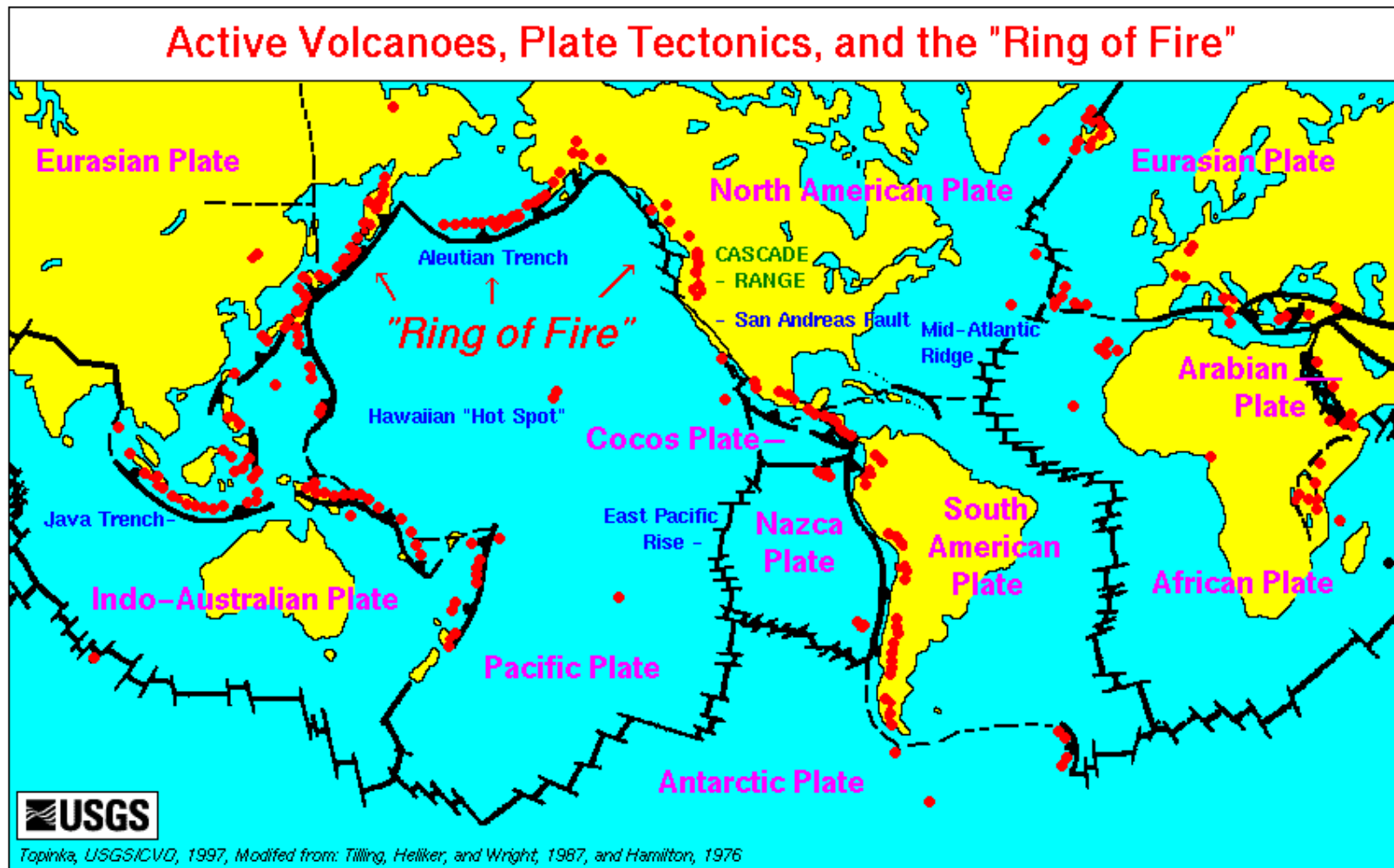
Cancellation Message

- Issued by TWCs
- Cancels warning, watch, and advisory messages
- Means that destructive waves have stopped
- Does NOT mean it is safe to return to Tsunami Hazard Zone

All-Clear

- Issued by **LOCAL AUTHORITY**
- Issued when it is SAFE to re-enter the Tsunami Hazard Zone

Washington's Distant Tsunami Hazard Source



Due to the various tsunami sources along the "Ring of Fire", distant source tsunamis are more frequent than local source tsunamis.

TSUNAMI ALERTS

www.emd.wa.gov



Warning

- Danger!
- Run to higher ground.
- Follow emergency instructions.



Advisory

- Possible strong and dangerous currents.
- Be prepared to take action.



Watch

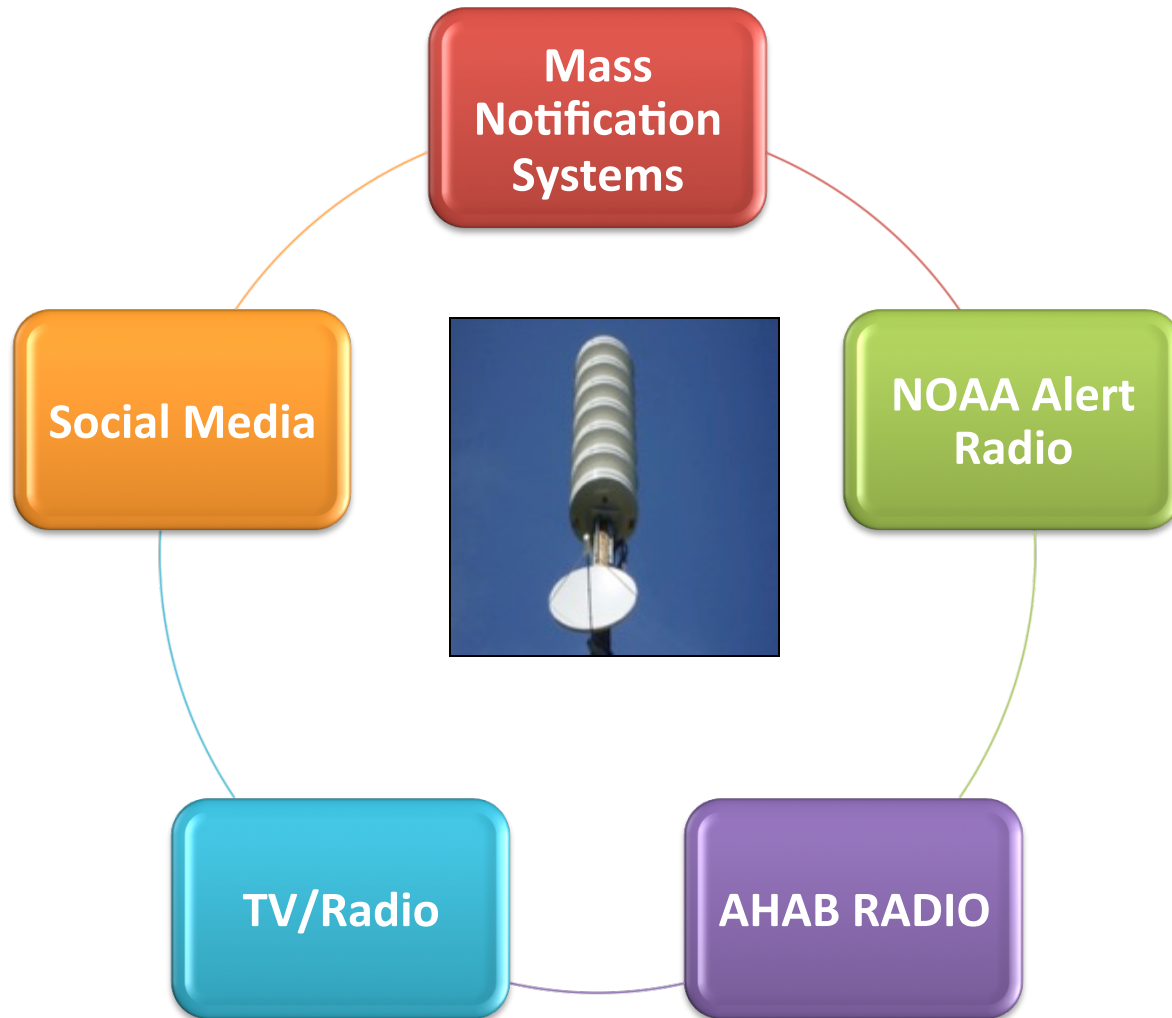
- Potential danger.
- Be alert, listen to your radio.



Information Statement

- For information only, no tsunami generated.

Distant Tsunami Notification



Re-entry After a Distant Tsunami

- **ALL CLEAR**
- Re-enter with Caution
- Damage
 - Harbors
 - Beaches
 - Low-lying areas
 - Roads, Bridges
- Clean up



SHOULD ANYONE DIE

FROM A DISTANT TSUNAMI?

NO