

Washington State Tsunami Siren Network



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Why are Tsunami Sirens Important?

Local Tsunamis

- You will feel the earthquake
- Earthquake is primary warning
- < 3 hours until first wave arrives
- More inundation/severe currents
- Greater impact to coast
- Greatest threat is CSZ

Distant Tsunamis

- **You will *NOT* feel the earthquake**
- Tsunami alerts are primary warning
- > 3 hours until first wave arrives
- Less inundation/slower currents
- Less impact to coast
- Greatest threat is Alaska

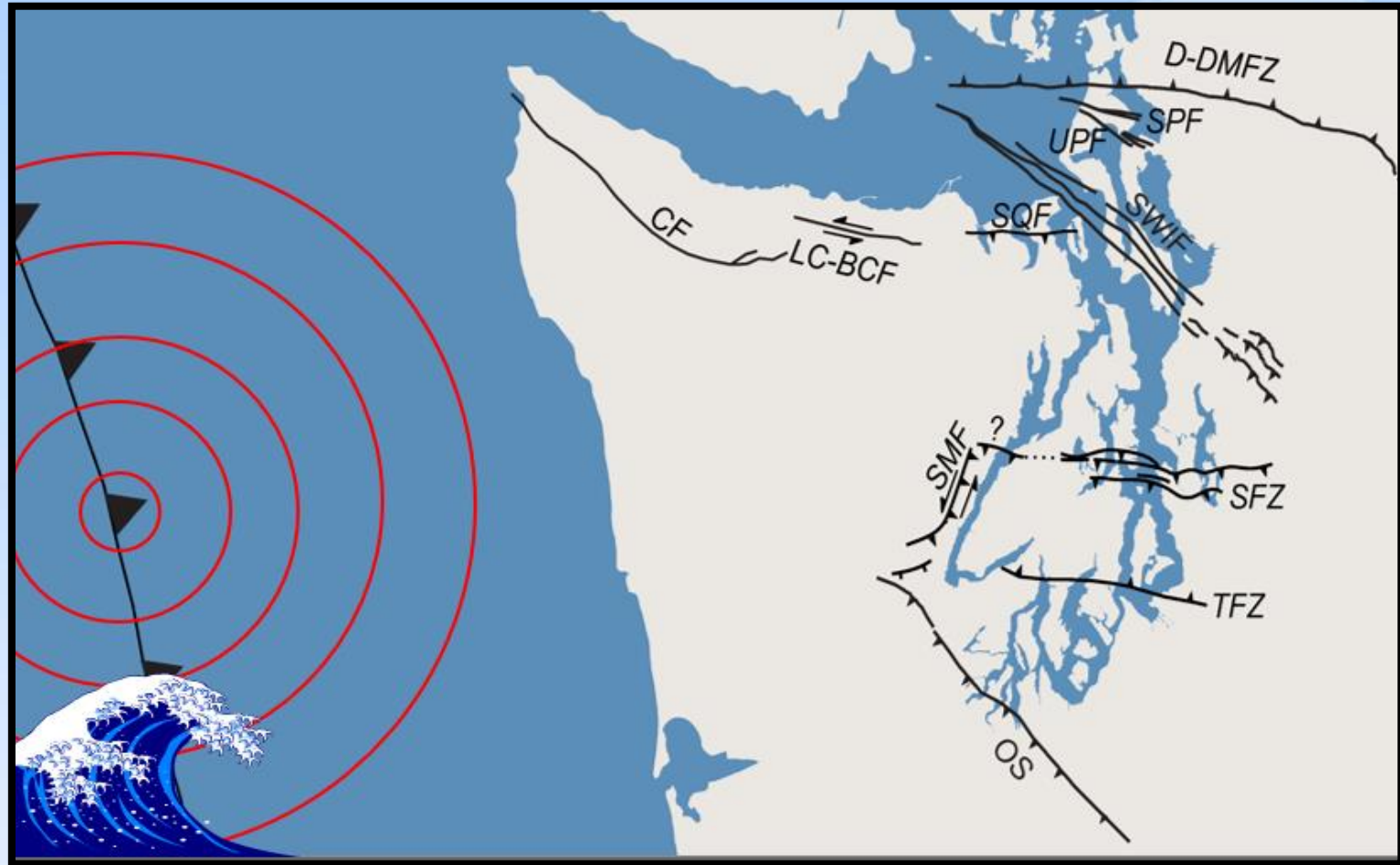


Local Tsunamis: Cascadia Subduction Zone

Cascadia Subduction Zone (CSZ)

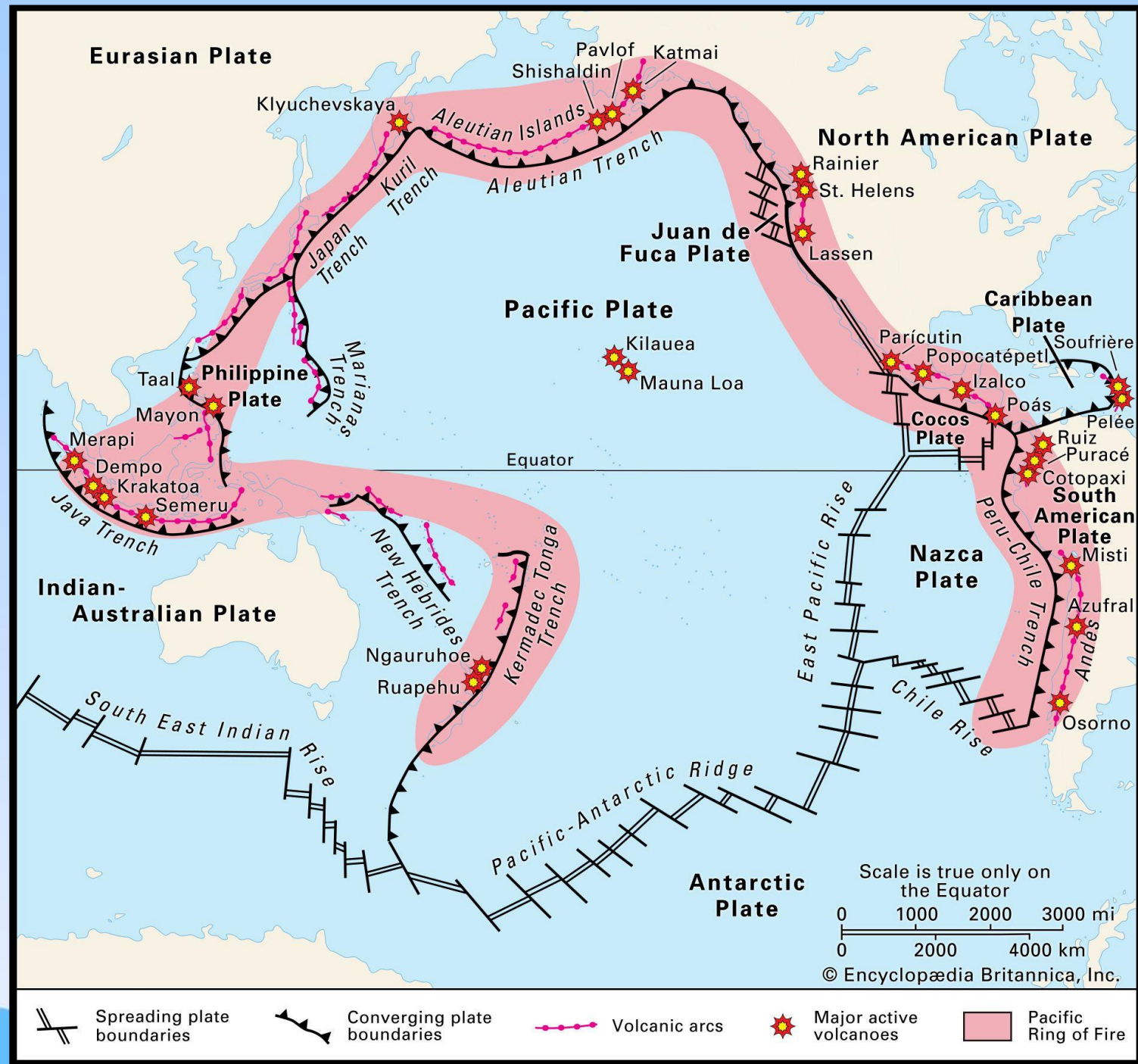
- 700 miles long
- Breaks every 300 – 600 years, last great rupture in 1700
- **15-25% chance within next 50 years**
- Magnitude 8.0-9.0+
- Shaking felt for 3–6 minutes
- Followed by a **major tsunami hitting WA's outer coast in minutes**

The shaking will be your warning!!



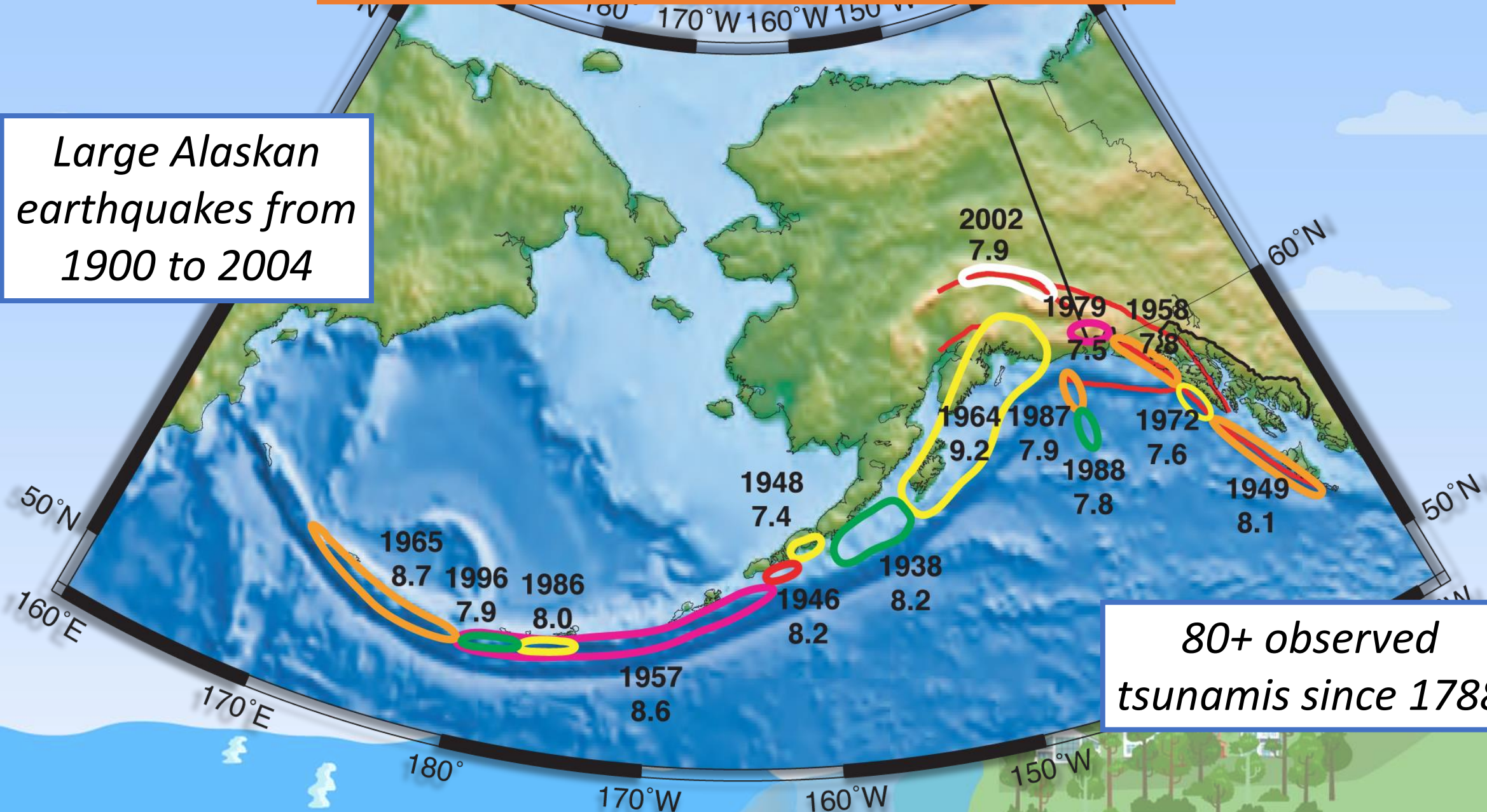
Distant Tsunamis: The Ring of Fire

You WON'T feel the shaking...



Distant Tsunamis: Alaska

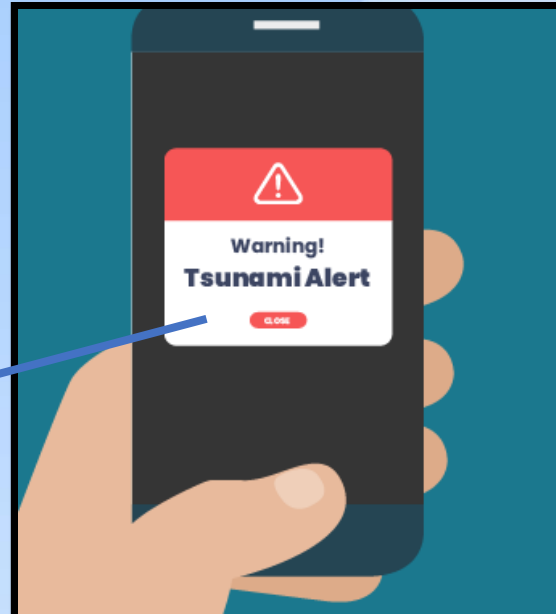
Large Alaskan earthquakes from 1900 to 2004



80+ observed tsunamis since 1788

Official Tsunami Alert Methods

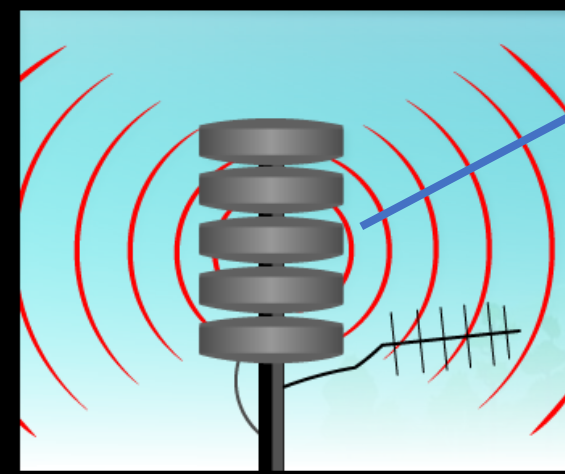
Smartphone: WEA, local alerts, Twitter, other apps



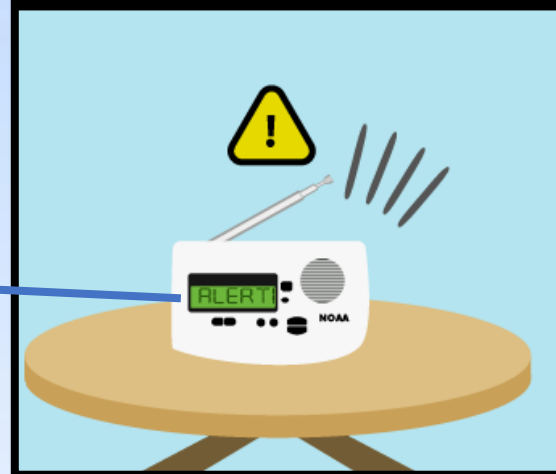
EAS on TV or the radio



Tsunami siren making wail sound



NOAA Weather Radio alert
Marine radio



Sign up for tsunami alerts at mil.wa.gov/alerts

AHAB Tsunami Sirens

- AHAB: All Hazards Alert Broadcast
- **OUTDOOR** tsunami warning system intended for people on/near the beach
- **You will NOT hear the sirens if you are inside**
- **Approx. 1-mile radius of audibility** BUT can be lower due to wind, barriers, and other environmental factors
- Statewide network is complete with over 122 sirens along the inner and outer coast thanks to funding from the state legislature and the National Tsunami Hazard Mitigation Program
- **36 sirens located in Grays Harbor County**
- Look up your closest siren at <https://www.dnr.wa.gov/geologyportal>



AHAB Tsunami Sirens in Grays Harbor County

Let's look them up:

<https://www.dnr.wa.gov/geologyportal>



AHAB Siren Testing

- WA EMD conducts **daily “quiet” tests at 1200 hours** to confirm all sirens can receive and transmit via satellite connection; this test makes no sound.
- At **1200 hours on the 1st Monday of each month**, WA EMD and local jurisdictions conduct a test which includes the siren audio system; the **sirens issue the Westminster Chime sound followed by audio instructions in English and Spanish:**



“The following is a test of the siren warning system. This is only a test of the siren warning system. Had this been a real emergency you should have moved to higher ground or inland before tuning to your local media sources for further instructions. This was only a test.”

- Every **3rd Thursday in October** the sirens are utilized for the Great Washington ShakeOut. This is the only time the sirens use the wail tone outside of an actual tsunami event. WA EMD works closely with local jurisdictions to ensure the public is aware they will hear the wail tone during the drill.

AHAB Siren Activation

- **WA EMD activates the sirens when Washington is under a tsunami WARNING only.**
- Local jurisdictions may activate their sirens at any time but usually do not choose to do so for anything below a warning.
- When activated, the **sirens emit a wailing tone followed by a message in English and Spanish:**



“The National Weather Service has issued a tsunami warning. A tsunami can create strong waves, dangerous flooding and powerful currents. If you are in a coastal area you are at risk and must move to higher ground or inland now. Do not return until directed to do so. Tune to local media for additional information after you move to higher ground or inland.”



Tsunami Alerts

Alert Name

Actions

Potential Hazards



WARNING

Get to high ground or inland
IMMEDIATELY
Follow tsunami evacuation signage

DANGER! TSUNAMI IMMINENT!
Flooding/powerful currents
Wave heights > 3 ft. or unknown



ADVISORY

Stay out of the water and
away from the shore

**STRONG CURRENTS AND
DANGEROUS WAVES**
in or very near coastal water
Wave heights of 1 - 3 ft.



WATCH

Be prepared to take action
Stay tuned to local radio/TV/
NOAA "alert" weather radios

TSUNAMI IS POSSIBLE
Alert level *will* change once
more information is known



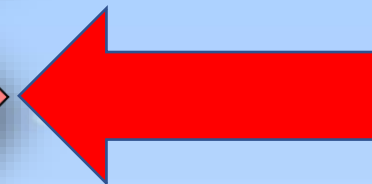
**INFORMATION
STATEMENT**

No action needed

NO TSUNAMI IMPACT EXPECTED
Alert level may change once
more information is known

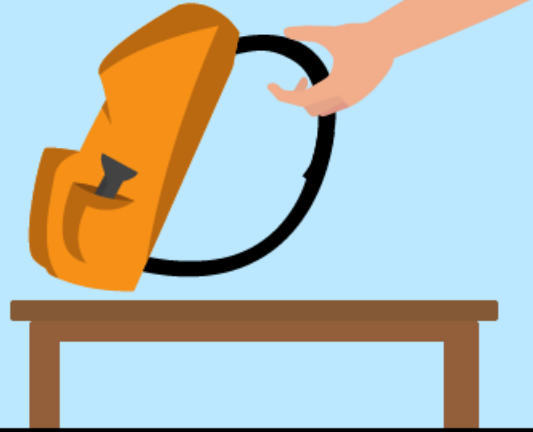
THREAT Message: Intended to alert international partners only. Not applicable to U.S. coasts

**THE NATIONAL TSUNAMI WARNING CENTER ISSUES OFFICIAL TSUNAMI ALERTS FOR WASHINGTON.
CHECK TSUNAMI.GOV OR WEATHER.GOV WEBSITES FOR TSUNAMI ALERT DETAILS.**



Know what to do when you hear the sirens!

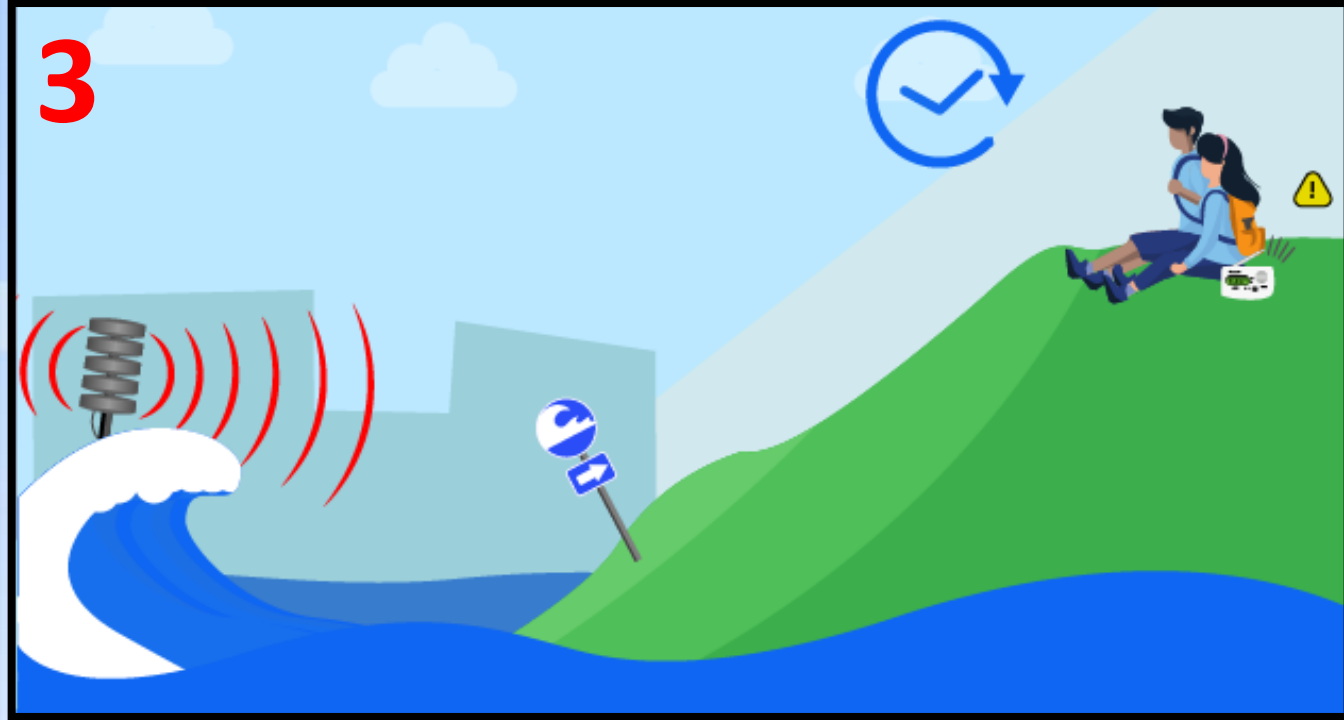
1



2



3

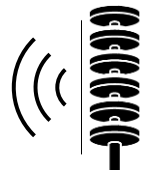


Plan to evacuate on foot even for a distant tsunami so the roads are kept open for emergency vehicles and those who need assistance evacuating.

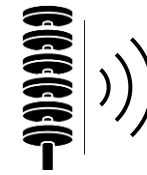
Ongoing AHAB Tsunami Siren Projects

- Ongoing testing and maintenance throughout the year to ensure sirens are always operable
- Addition of some pre-existing and/or privately funded sirens to state siren network (ex: National Park Service at Kalaloch!)
- Project in conjunction with WA EMD Access and Functional Needs Program to add blue strobe lights to the sirens for those who are deaf or hard of hearing





Become an AHAB Spotter!



- Becoming a Siren Observer is tremendously helpful to the continuous successful operation of the sirens.



All Hazards Alert Broadcast (AHAB) Monthly Test

OBSERVATION REPORT

NAME:		DATE:	
1. Which siren did you observe?		2. What was your geographical/street location during the test?	
3. At the time of your observation, what variables may have contributed to the audibility of the siren?		Wind	
		Noise (Industrial, traffic, etc.)	
		Surf/Waves	
		Rain	
		Other	
Note/Comments:			
4. Did you hear the test tones/chimes?		YES	
		NO	
5. How well did you hear the test tones/chimes?		Barely heard it	
		Little louder, but still weak	
		Moderate-almost loud & clear	
		Loud & clear	
		Very loud	
Note/Comments:			
6. Did you hear the voice test message?		YES	
		NO	
7. How well did you understand the voice test message?		Barely understood the words	
		Little louder, but could not understand ALL the words	
		Moderate-almost loud & clear	
		Loud & clear, static at first, then easily understood	
		Very loud, clearly understood	
Note/Comments:			

Don't forget... ShakeOut is coming!

- **Thursday, October 19th at 10:19 AM**
- **All tsunami sirens will be tested with the actual wail sound**
- Use this opportunity to practice walking your nearest evacuation route
- Public schools will practice drop, cover, and hold on; schools in tsunami inundation zones will practice tsunami evacuation
- **Register today to help us hit 1.5 million participants!**
shakeout.org/washington/register

Get October 19, 2023
Ready to
Shake
Out. **shake**
Out™

www.ShakeOut.org



Resources



mil.wa.gov/alerts



shakeout.org/washington



mil.wa.gov/tsunami

Questions?

Public.Education@mil.wa.gov

