

# Washington State Military Department

## Emergency Management Division: Earthquake\Tsunami Program Overview

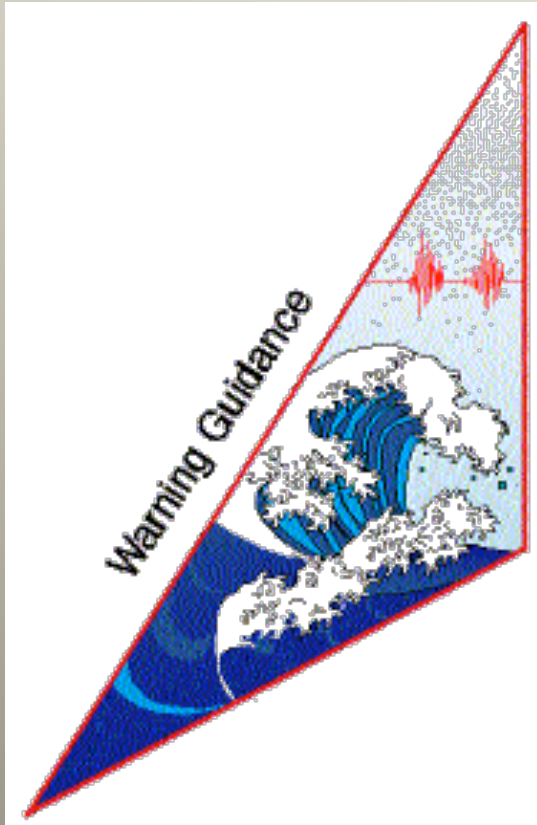
Sumatra tsunami hitting Koh Pu, Thailand



John Schelling, Program Manager

■ [www.emd.wa.gov](http://www.emd.wa.gov)

# Warning Guidance



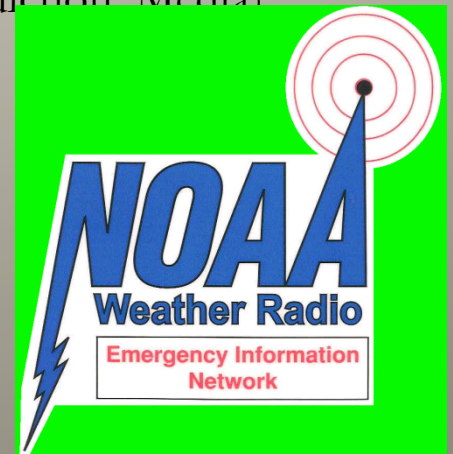
NOAA:

- Tsunami Detection

Washington State Tsunami  
Program:

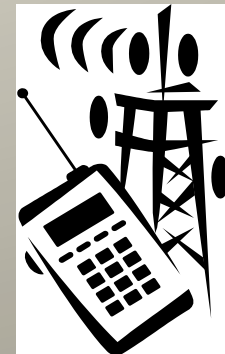
- Alert and Notification

(NOAA, WA EMD, Local Jurisdiction, Media)



# Warning Systems & Protocols

- All-Hazards Alert Broadcast (AHAB) Sirens
  - 58 Sirens located along outer coast, Strait of Juan de Fuca, and Puget Sound
  - 2 installations in progress
- Emergency Alert System (EAS)
- NOAA Weather Radios




# NOAA Weather Radio

- All-Hazards Warning System
- Part of the Emergency Alert System
- Works in concert with All-Hazard Alert Broadcasting (AHAB) Siren
- Operational in event of local power outages
- Automatically relays warnings directly to you if you have a NOAA Weather Radio

## NOAA WEATHER RADIOS

*save lives*  
for the cost of a pair of shoes




**NOAA Weather Radio is Washington's All-Hazards Warning System**

NOAA Weather Radio is a warning system used not only for flood and weather-related events, but also for hazards like tsunamis, volcanic activity, hazardous releases, and Amber Alerts.

**NOAA Weather Radio automatically relays lahar and volcano warnings direct from volcano monitors to you.**




- NOAA Weather Radio is a major part of the Emergency Alert System (EAS).
- Now "EAS-type" weather radio models permit you to alarm only the warning messages you want for your area.



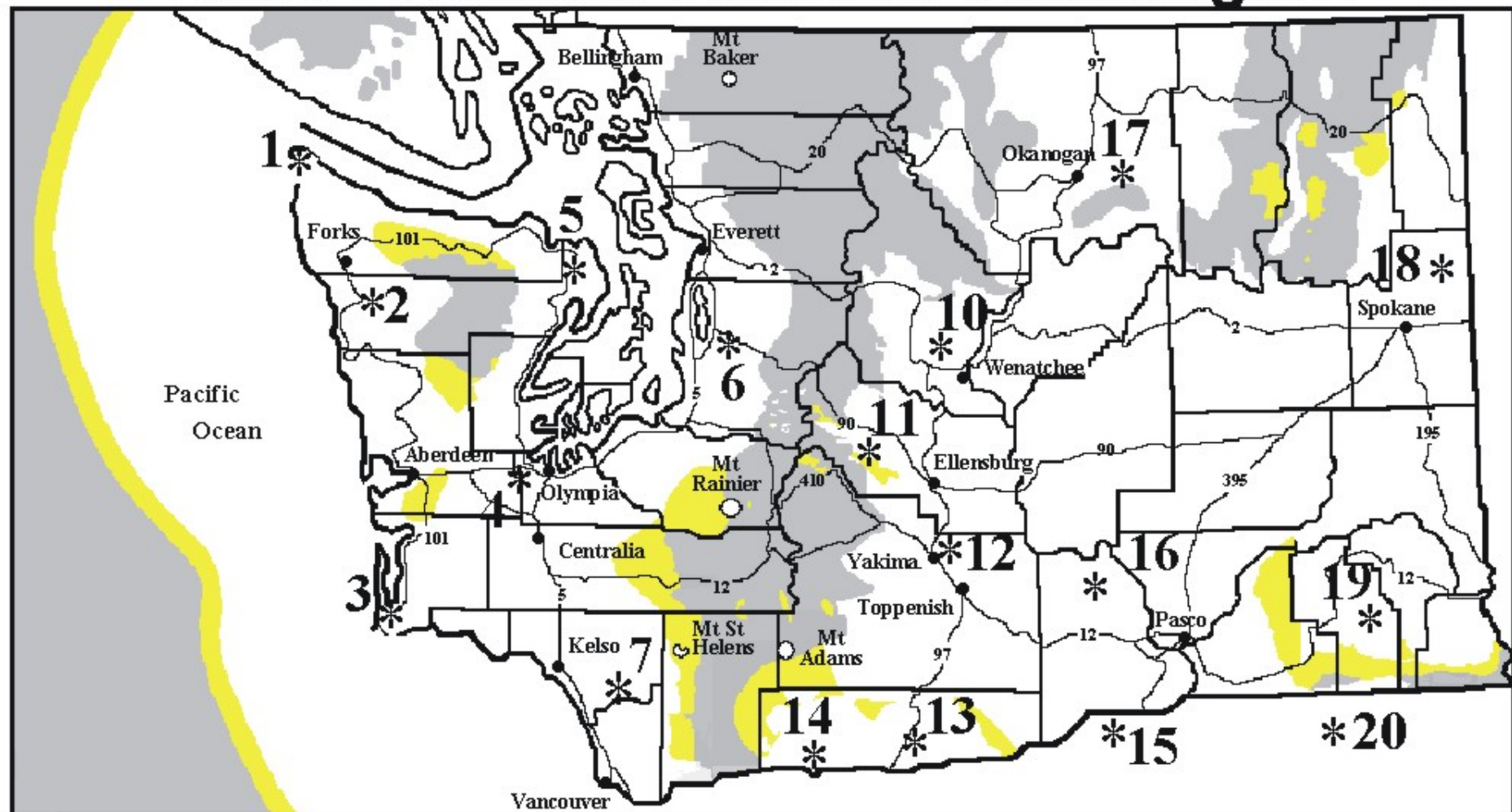
- Weather Radios have a warning alarm feature that instantly alerts you to fast breaking events around the clock.
- Weather Radios are battery-operated in the event of power outages.
- Weather Radios are available at most radio electronic retailers and Internet outlets.

**NOAA**  
Weather Radio  
enables you to monitor weather-related  
Forecasts, Watches and Warnings — 24 hours a day direct from the National Weather Service.

*Presented jointly by:*

-   
National Oceanic and Atmospheric Administration (NOAA)  
National Weather Service
-   
Washington Military Department  
Emergency Management Division
-   
Pierce County  
Emergency Management Division

# NOAA Weather Radio in Washington



Reliable Reception

Marginal Reception

No Reception

1 - Neah Bay 162.550 MHz  
 2 - Mt. Octopus 162.425 MHz  
 3 - Astoria, OR 162.400 MHz  
 4 - Olympia 162.475 MHz  
 5 - Puget Sound 162.425 MHz  
 6 - Seattle 162.550 MHz  
 7 - Woodland 162.525 MHz  
 10 - Wenatchee 162.475 MHz  
 11 - Cle Elum 162.400 MHz

12 - Yakima 162.550 MHz  
 13 - Goldendale 162.525 MHz  
 14 - The Dalles 162.400 MHz  
 15 - Umatilla, OR 162.500 MHz  
 16 - Tri-Cities 162.450 MHz  
 17 - Okanogan 162.400 MHz  
 18 - Spokane 162.400 MHz  
 19 - Dayton 162.525 MHz

20 Pendleton, OR 162.400 MHz  
 Additional Sites (not shown):  
 - Aldergrove, BC 162.550 MHz  
 - Bonners Ferry, ID 162.500 MHz  
 - Lewiston, ID 162.550 MHz  
 - Portland, OR 162.550 MHz  
 - Vancouver, BC 162.400 MHz  
 - Victoria, BC 162.475 MHz

# All-Hazard Alert Broadcasting (AHAB) Siren

- ❑ Federal-State-Local Partnership
  - Population Centers
  - Primarily Located Along Outer Coast and Strait of Juan de Fuca
- ❑ Modulator siren – 360 Degree
  - Digital Voice Capability
  - Can be used as a 4500 watt PA
- ❑ Redundant System- Can be activated by :
  - 24/7 State EOC
  - Local Emergency Management



# Washington State All-Hazard Alert Broadcasting (AHAB) Network

## Operational (58)

- |                            |                             |
|----------------------------|-----------------------------|
| ● Aberdeen (2)             | ● Ocean City                |
| ● Bay Center               | ● Ocean Park (4)            |
| ● Cape Disappointment      | ● Ocean Shores (4)          |
| ● Copalis Beach            | ● Orting (3)                |
| ● Diamond Point            | ● Puyallup (2)              |
| ● Fort Worden              | ● Pacific Beach             |
| ● Grayland (3)             | ● Pacific Park              |
| ● Hoh Tribe                | ● Point Roberts             |
| ● Hoquiam                  | ● Port Angeles              |
| ● Ilwaco                   | ● Port Townsend (2)         |
| ● Island County            | ● Sandy Point               |
| ● La Push (Quileute Tribe) | ● Seattle (3)               |
| ● Long Beach               | ● Seaview                   |
| ● Lower Elwha              | ● Sumner                    |
| ● Lummi Nation (2)         | ● Surfside                  |
| ● McAlder                  | ● Taholah (Quinault Nation) |
| ● McMillin                 | ● Shoalwater Bay Tribe (2)  |
| ● Moclips                  | ● Westport (3)              |
| ● Neah Bay                 | ● Camp Murray (Controller)  |
| ● North Cove               |                             |

## In Progress (4)

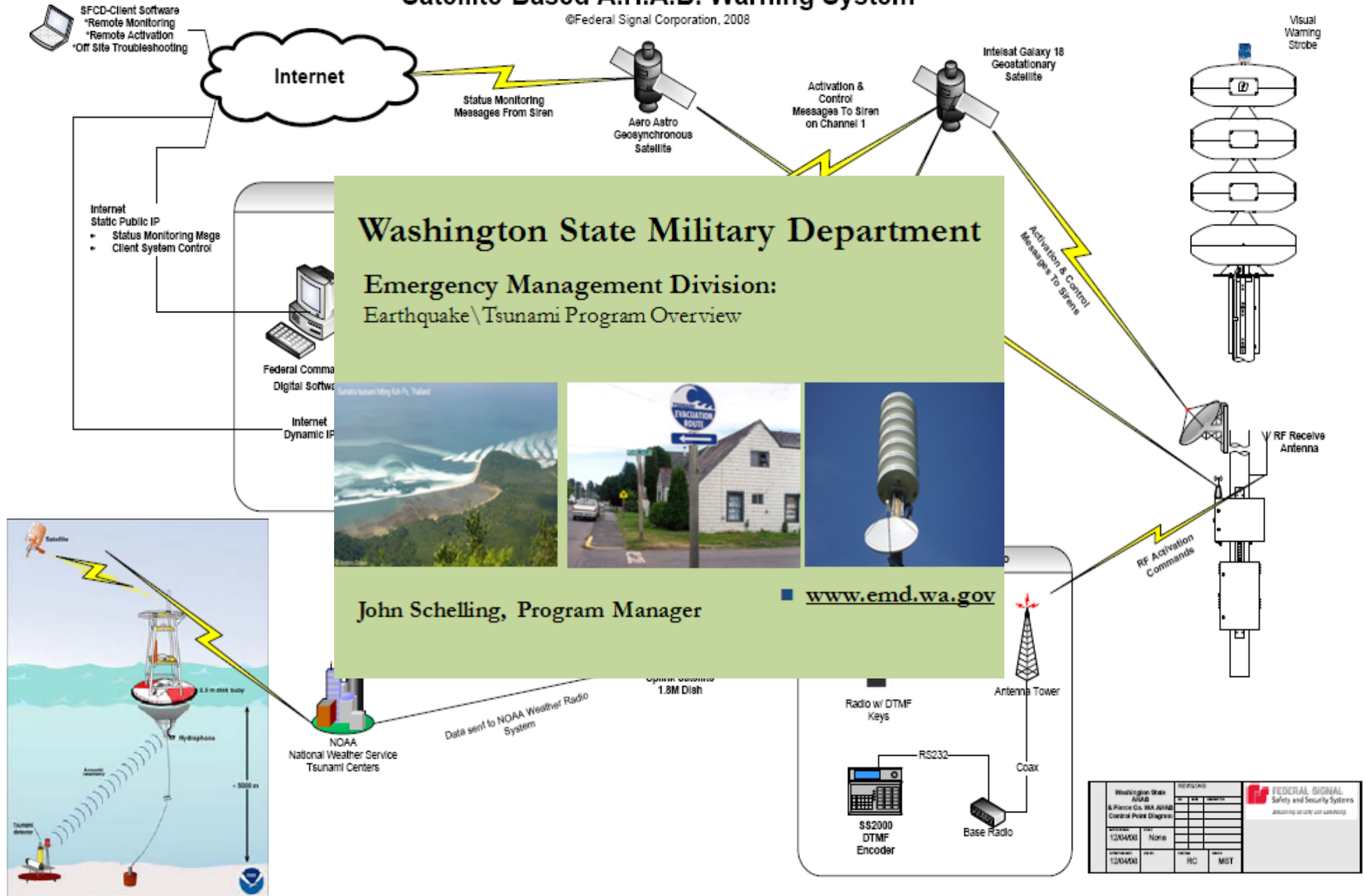
- |                         |                     |
|-------------------------|---------------------|
| ● Makah Tribe           | ● Sequim            |
| ● Pt. Townsend-N. Beach | ● Seiku/Clallam Bay |

- 96 AHABs needed along outer coast for effective tsunami warning
- 47 of 58 are satellite linked
- Current: 50 tsunami, 8 volcano



# Washington State Emergency Management Division Satellite-Based A.H.A.B. Warning System

©Federal Signal Corporation, 2008



Drawing from NOAA.GOV

# What does an AHAB Siren sound like?

- During a routine TEST of the system, the siren will play the Westminster Chimes. The voice message below will follow the test chimes:

*Voice Test Message:* "The following is a test of the siren system. It is only a test. This is a test of the siren warning system. If this had been a real emergency you should tune in to your local radio station or listen to this system for further instructions. This was only a test."



- Currently, sirens in the outer coastal counties (Pacific, Grays Harbor, Clallam, and Jefferson) are tested on the first Monday of the month at noon.
- During even numbered months, tests are initiated by Washington Emergency Management. Local jurisdictions initiate tests during odd months.

# What does an AHAB Siren sound like?

- Upon the issuance of a TSUNAMI WARNING from the West Coast/Alaska Tsunami Warning Center, the siren will play a wail sound and a voice message will follow the siren. The following voice message will be used:
- *Voice Warning Message:* "This is NOT a Test. A tsunami warning has been issued for the coastal areas of Washington. A tsunami can cause dangerous flooding. If you are in a low coastal area, you are at risk and must move to higher ground or inland now. Do not return until directed to do so. Tune into your local radio station for additional information. This is NOT a test a tsunami warning has been issued for the coastal areas of Washington move to higher ground or inland now."



# People are Part of the Warning System

- T-3 Course
- Media Guidebook
- Weather Radio Program –CERT- Amateur Radio
- Hotel-Motel Program
- TsuInfo Alert Newsletter
- [j.schelling@emd.wa.gov](mailto:j.schelling@emd.wa.gov)