

## June 14th 2005 Tsunami Warning Lessons Learned

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## **Lesson # 1**

### **Multiple communication paths must be available**

- ❖ **Multiple lines added to NOAA Weather Radio Network**
- ❖ **Lines alarmed**
- ❖ **Tsunami Message sent statewide instead of affected jurisdictions only**
- ❖ **Increase the number of All Hazard Alert Broadcasting (AHAB) Radios on the coast**
  - ✓ **Interoperability - system on satellite control**

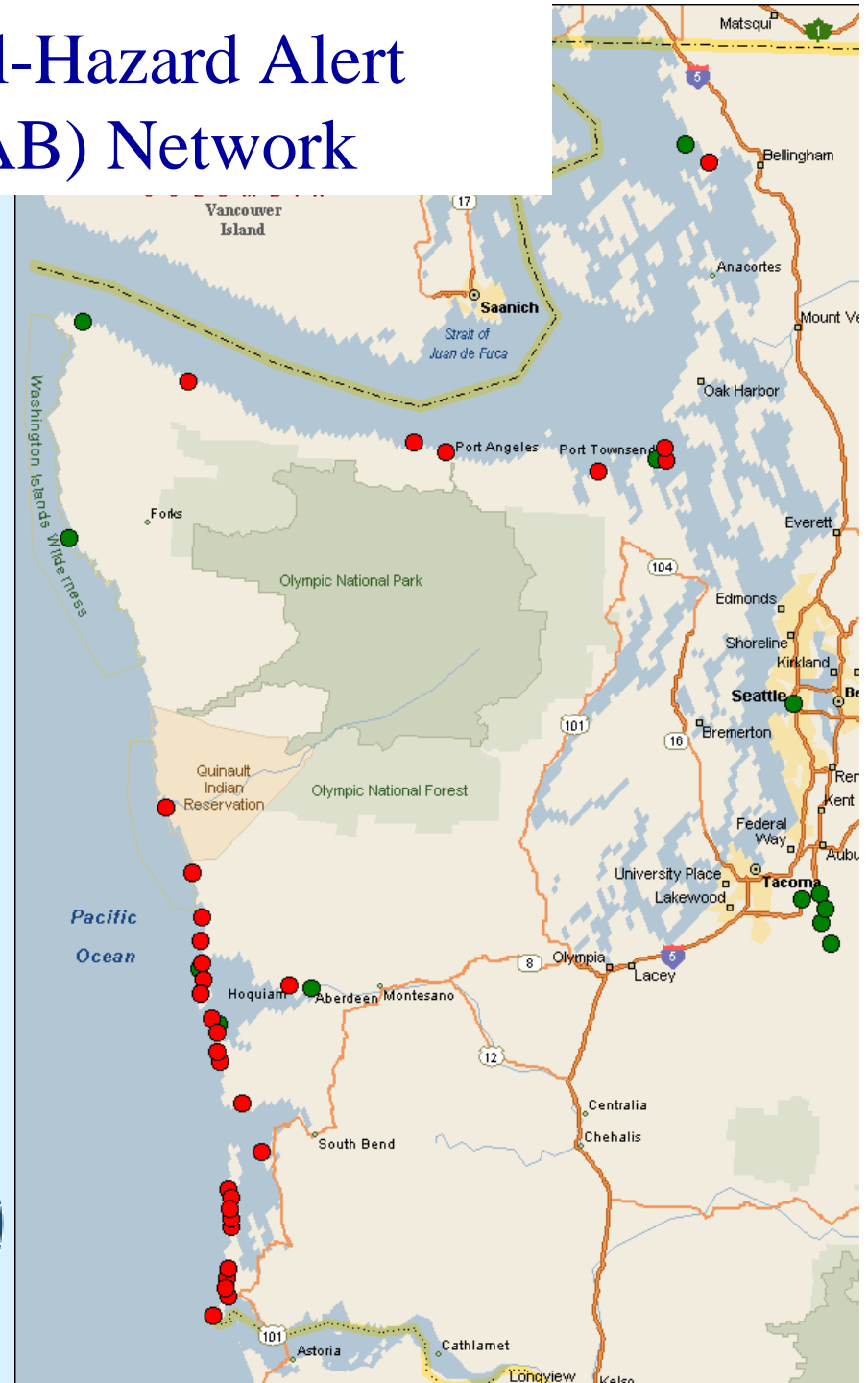
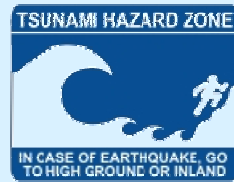
# Washington State All-Hazard Alert Broadcasting (AHAB) Network

## FUNDED SYSTEMS TO BE INSTALLED BY JUNE 2007 (32)

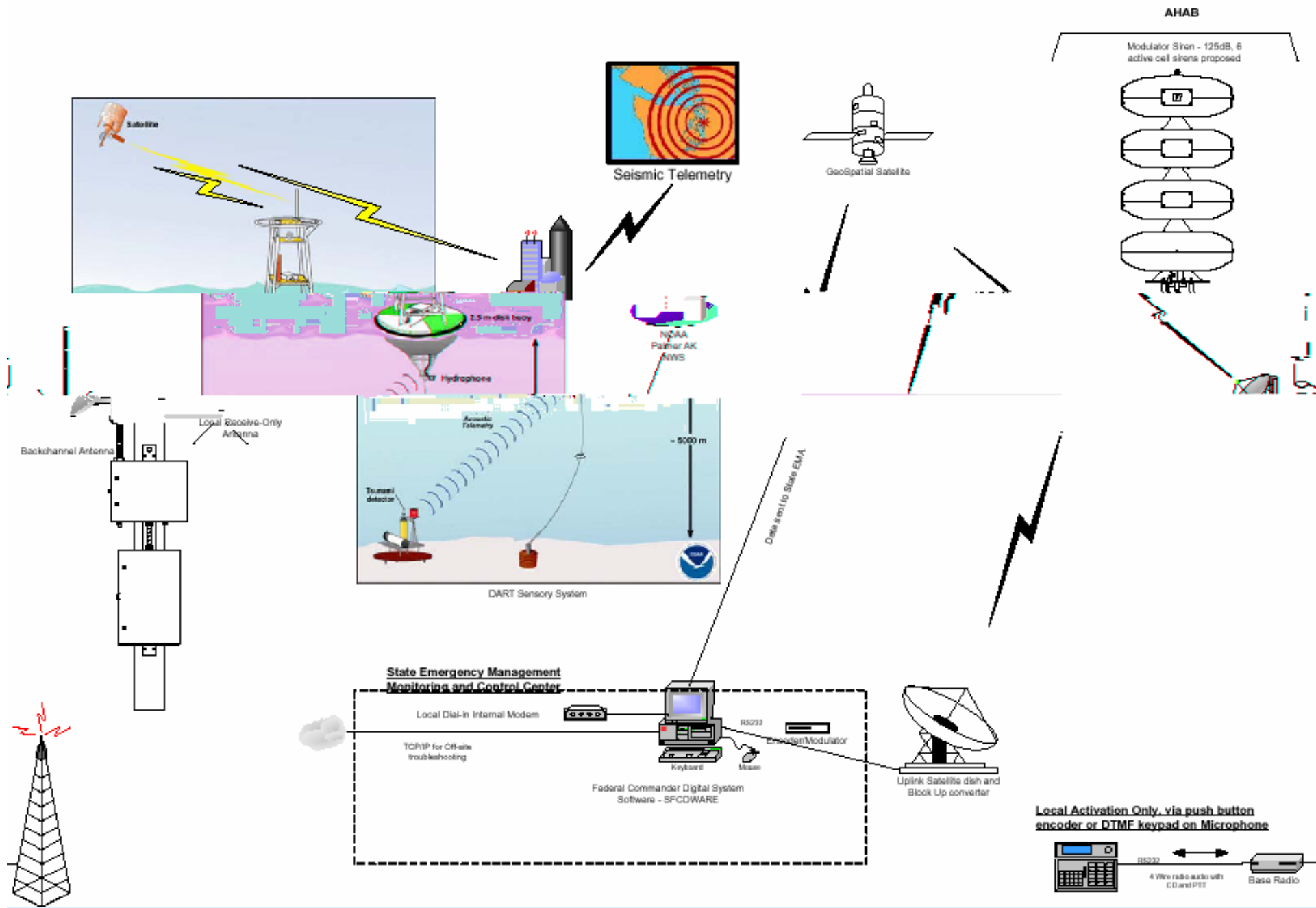
- Bay Center
- Cape Disappointment
- Clallam Bay
- Cohasset Beach
- Copalis Beach
- Diamond Point
- Fort Worden
- Grayland (2)
- Hoquiam
- Ilwaco
- Long Beach
- Lower Elwha
- Lummi Nation (2)
- Pacific Beach
- Pacific Park
- Point Hudson
- Port Angeles
- Ocean City
- Ocean Park (4)
- Ocean Shores (3)
- Seaview
- Surfside
- Taholah
- Tokeland
- Westport

## OPERATIONAL (16)

- Aberdeen
- La Push
- McAlder
- McMillin
- Neah Bay
- Ocean Shores
- Orting
- Port Townsend
- Puyallup (2)
- Sandy Point
- Seattle (3)
- Sumner
- Westport



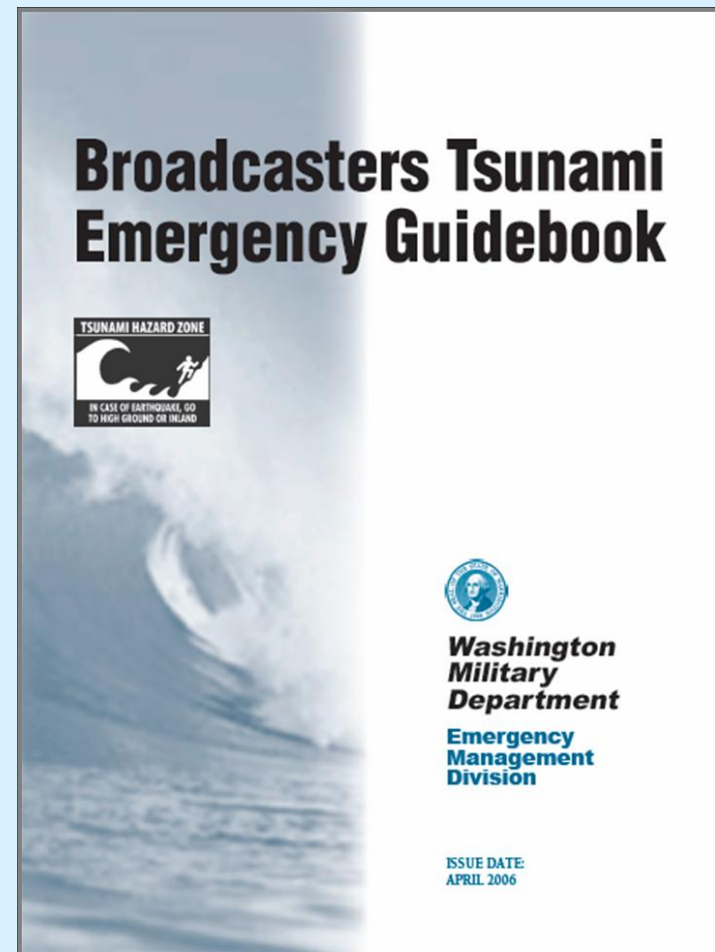
# Federal Signal / State of Washington Satellite-Based **AHAB** (All Hazard Alert Broadcast system)



## Lesson # 2

# Media must be part of the tsunami warning process

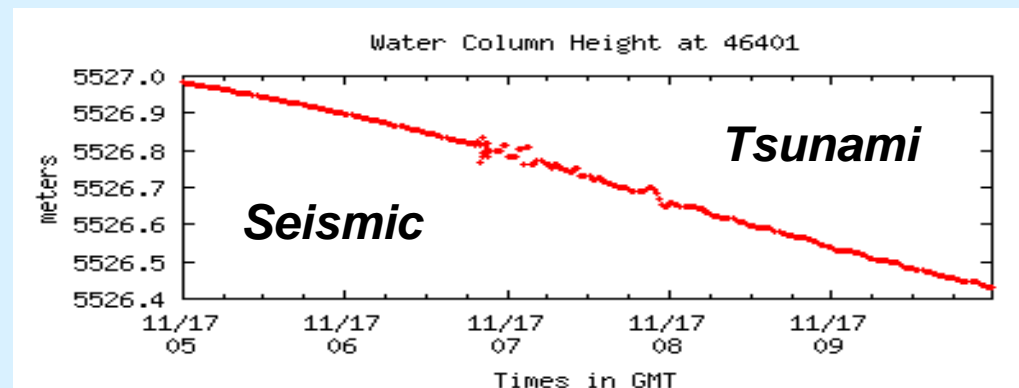
- ❖ Educate Broadcasters on the hazard
- ❖ Provide outline of process
- ❖ Provide sample messages
- ❖ Provide list of local experts
- ❖ Provide evacuation maps
- ❖ Provide “B Roll” that they can air



## Lesson # 3

# Decisions on tsunami warning/cancellation must be based on tsunami data and not seismic models

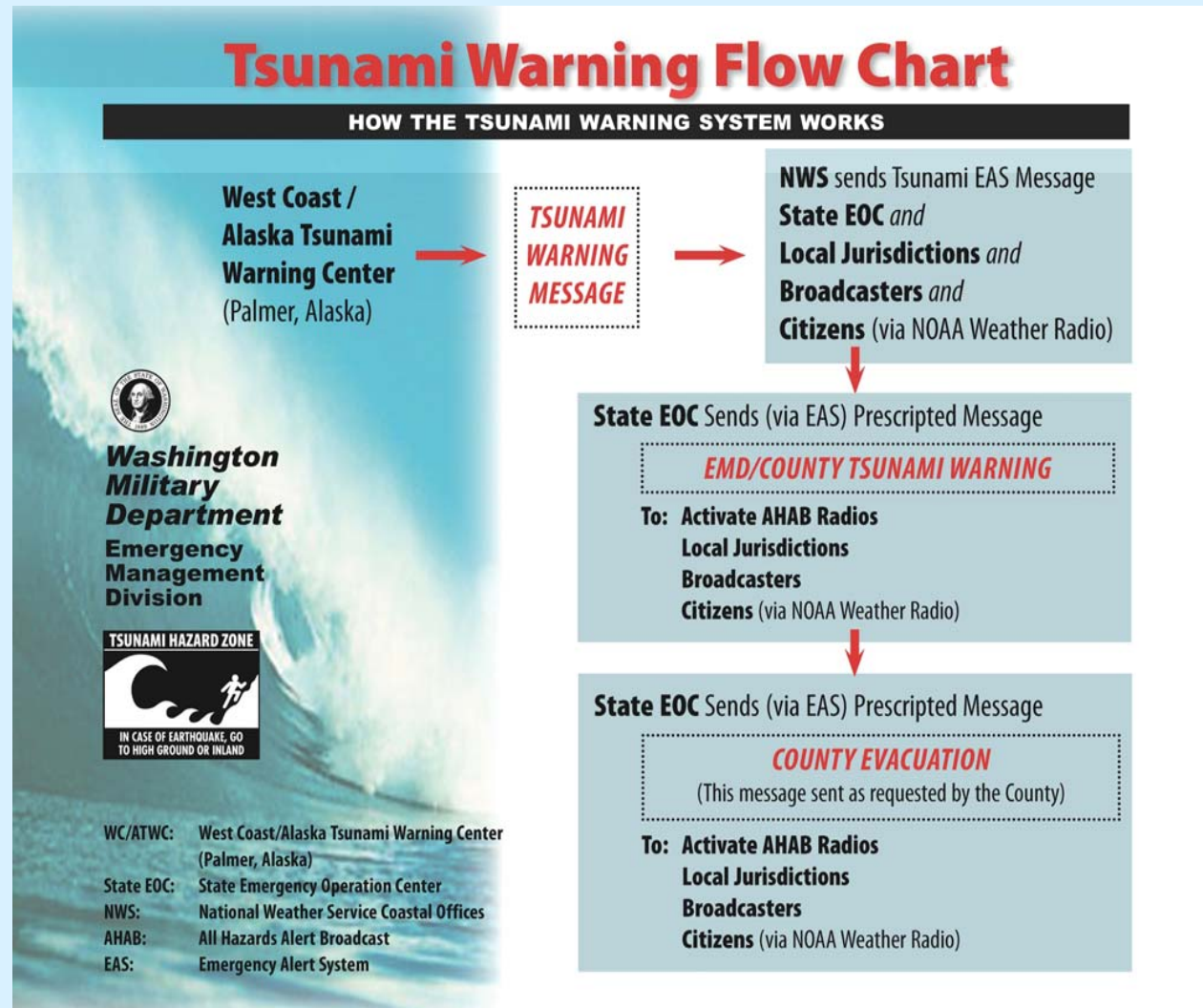
- ❖ Tsunami Warning Center must be sole authority for Tsunami Warning/Cancellation
  - ✓ Seismic Networks reports only on the earthquake not tsunami
- ❖ Tsunami Warning Center needs to update tsunami status faster
- ❖ DART Buoys need to be closer to source and extra DARTs added to Cascadia
- ❖ Upgrade tide gages to automate reporting



*Real Time Detection of  
November 17, 2003 Tsunami*

# Lesson # 4

## All levels of government must come together in a unified response





## Lesson 5

### Citizens must be educated on tsunami warning response

- ❖ Message must be short and simple
- ❖ Workshops, media and public education materials
- ❖ Community and school exercises
- ❖ Testing tsunami communication systems





## Summary

- ❖ **Tsunami warnings can be effectively disseminated through multiple communication paths – infrastructure supporting them should be “life safety” and actively monitored for interoperability**
- ❖ **Media is key for disseminating a tsunami warning – educating and training broadcasters on tsunami warning processes, evacuation routes/assembly areas, and providing videos they can air and a list of local experts will ensure that there is a consistent message**
- ❖ **A seismic event provides the source for the initial tsunami warning -- tide gauge and buoy data provides sea level data to determine it’s potential impact -- you must be prepared for conflicting information**

## Summary

- ❖ **Tsunami warning requires a unified response at all levels of government to reduce confusion for the public and supports effective allocation of resources**
- ❖ **Key to an appropriate response by the public: Keep warning message short and simple – regular testing of communication systems, holding workshops and exercises**