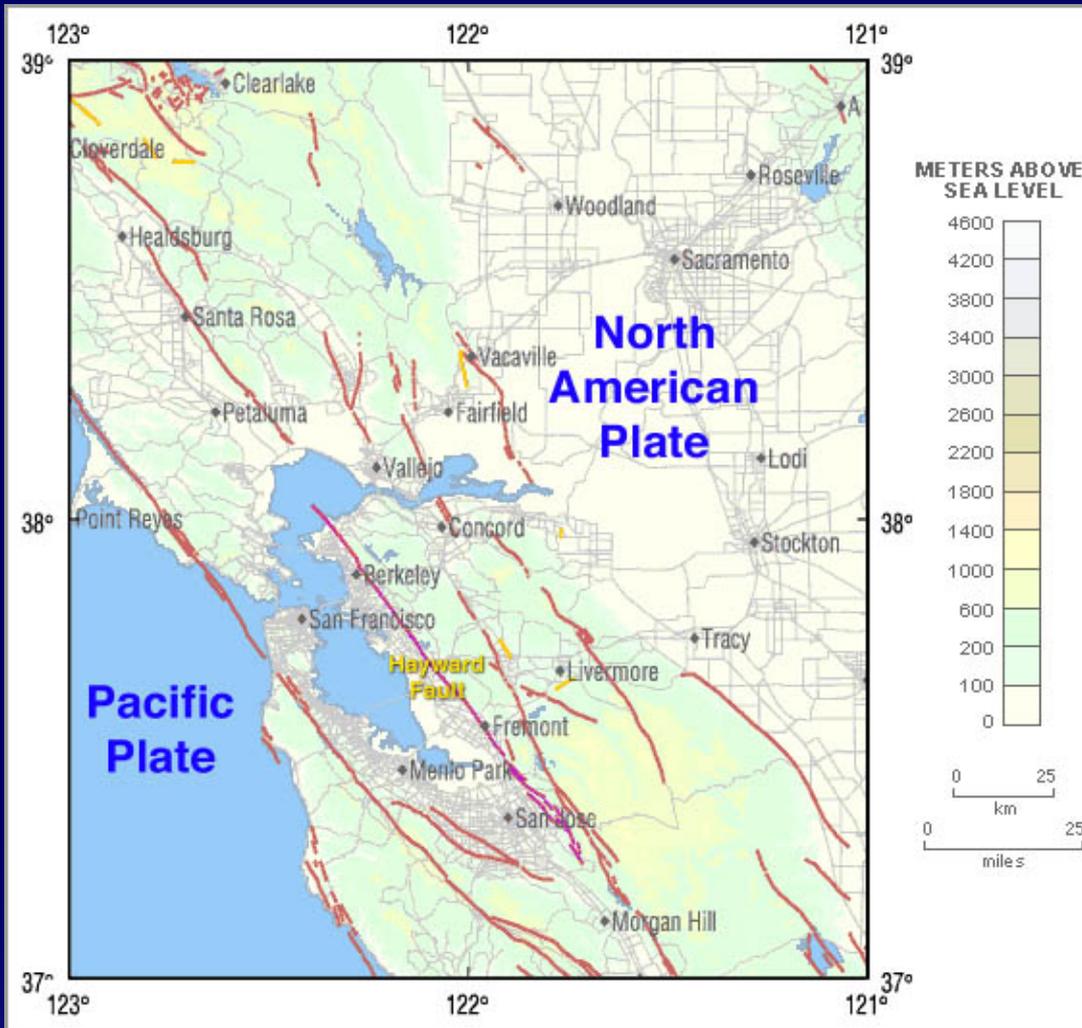


# San Francisco Bay: Port Evacuation and Tsunami Response



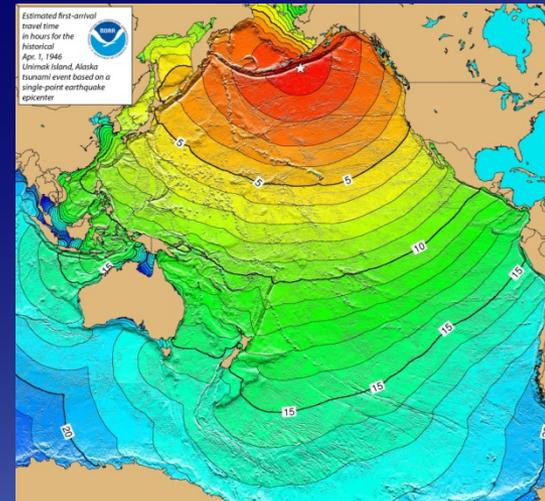
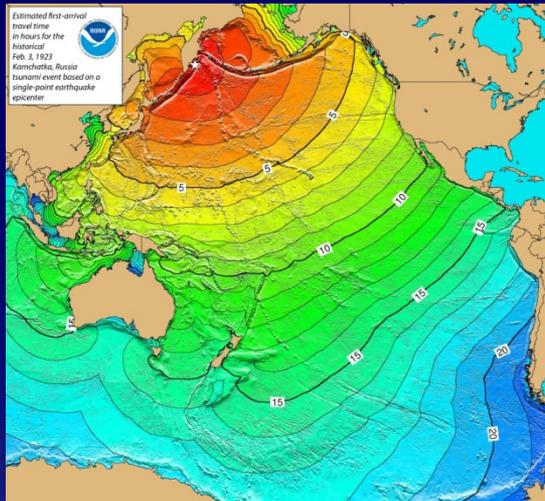
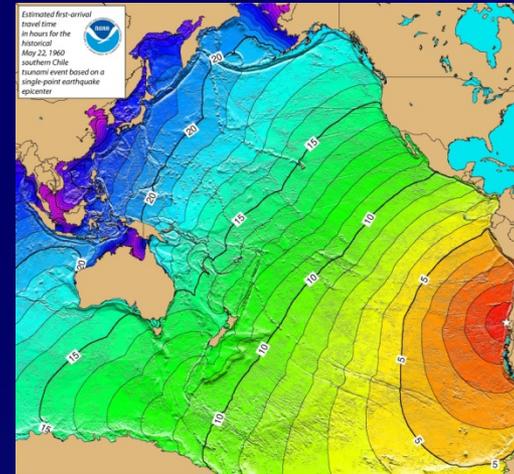
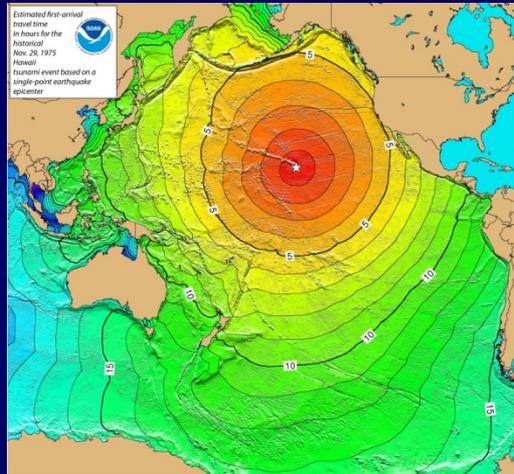
CDR Andrew Williamson  
Prevention Department  
USCG Sector San Francisco

# The Earthquake Threat to the Bay Area – Local Faults



- 9 Ports in SF Bay including:
  - Strategic ports of Stockton and Sacramento
- >135,000 vessel transits per year in VTS area
  - >9,500 Deep Draft transits
  - >88,000 Ferry movements (7 million pax, #3 national)
- 5<sup>th</sup> largest US Container Port (Oakland)
- 1500 SAR cases throughout AOR (#1 national)

# Tsunami Threat to the Bay Area – Distant Earthquakes



# Port Evacuation Goals/Objectives



- #1: Preservation of life.
- Minimize the risk of harm to the health and safety of all personnel.
- Protect the environment and private property from undue harm.
- Coordinate a safe, timely, and efficient port evacuation. (Vessels should be communicating their ability to put to sea with Sector San Francisco's MTSRU).
- Minimize economic impact.

# NORCAL TSUNAMI

## 2011



### Crescent City



### Crescent City

- USCG, Dept of Fish & Game, OSRO's, and NOAA personnel responded
- 59 vsls loose in harbor w/ 16 vsls sunk/capsized
- All floating docks completely destroyed
- Sheen throughout harbor w/ no impact outside of harbor
- OSLTF ceiling of \$3.25 Mil
- Safety Zone established

### Sector San Francisco

- Unified Command established in new Command Center building on Yerba Buena Island w/ USCG and California Dept of Fish & Game. NOAA science advisor and Port of San Francisco LNO supporting

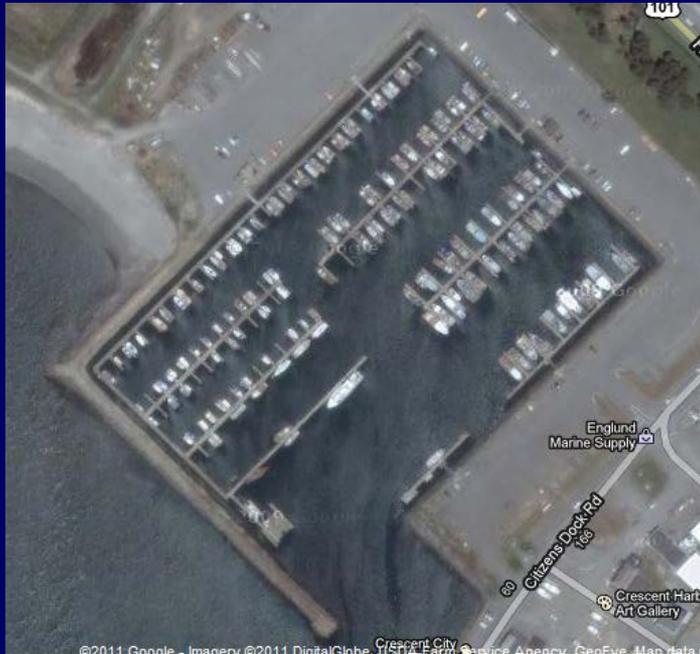


### Santa Cruz

- USCG, Dept of Fish & Game, OSRO's, and NOAA personnel responded
- 100 vsls initially broke loose in harbor w/ 11 sunk/capsized
- Patchy areas of sheen w/ no impact outside harbor
- OSLTF ceiling of \$350 k
- Safety Zone established

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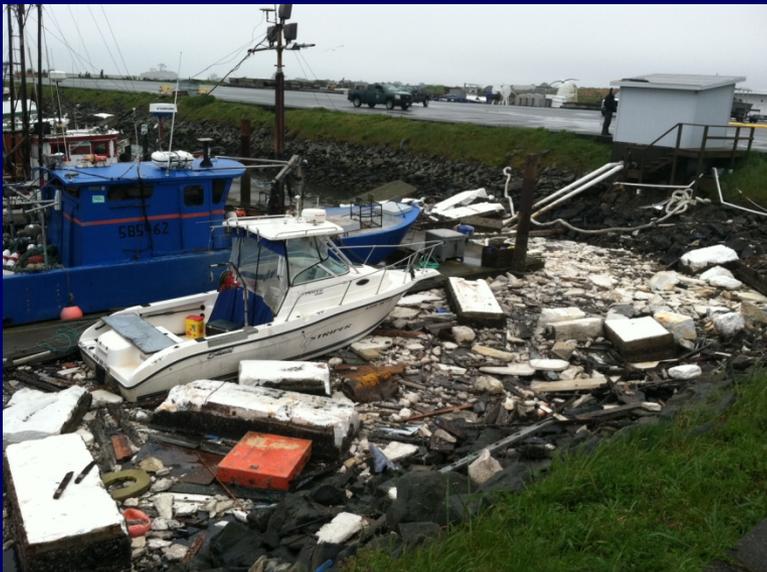
# Crescent City: Before and After



Crescent City Harbor, 12 March 2011

Crescent City Harbor Prior to Tsunami

# Hazmat/Debris Removal



- 2,107 gallons of petroleum removed
- 2,260 cubic yard of oily debris removed
- 16 pilings removed
- Work completed on 11 April

# General Evacuation Procedures for a Natural Disaster



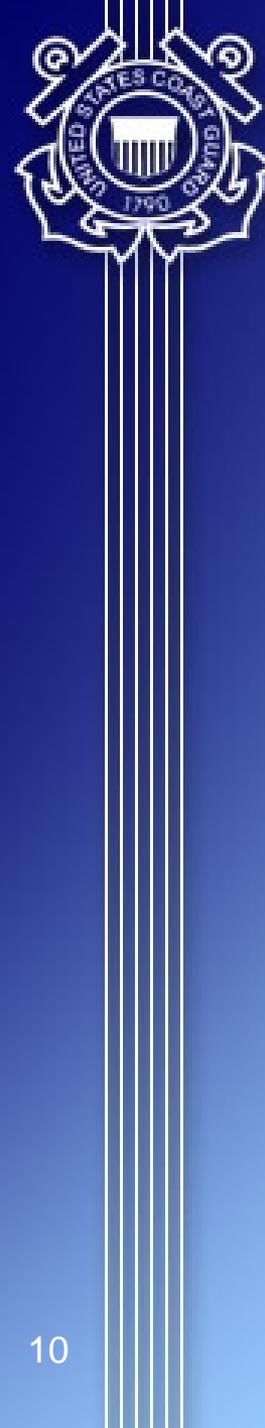
- Evacuations are to be to the nearest safe area, as directed by the COTP. For a tsunami threat, evacuation will most likely be to sea.
- In the event of a tsunami or tsunami threat, the Captain of the Port will take the following actions:
  1. Make notifications within 60 minutes of the initial report
  2. Restrict the movement of all vessels.
  3. Evaluate threat or event area.
  4. Require tugboats to be ready to respond.
  5. Establish appropriate safety or security zones
  6. Coordinate assets for escort requirements
  7. Issue an order for the movement of vessels. 12hr movement requirement for all vessels for natural disaster evacuations.
  8. Based on the circumstances, potentially close the port(s).

# General Evacuation Procedures for a Natural Disaster



- Vessel Traffic Service (VTS) San Francisco will manage the safe movement of vessels based upon COTP directions within the VTS Area.
- For ports outside of the VTS Area (Monterey, Humboldt, etc) port evacuation will be coordinated through harbor masters or directly with the affected vessels.
- The COTP may prioritize and organize evacuations based upon the situation and information received from facilities and vessel masters.
- A Maritime Transportation System Recovery Unit (MTSRU) will normally be established to assist with prioritization of vessel movement and to begin port reconstitution.

# MTSRU Considerations Prior to Evac



- The following should be considered during vessel evacuations:
  1. Will moving the vessel create additional risk?
  2. The vessel master's or facility operator's assessment of the situation.
  3. Vessel and crew readiness and availability, including propulsion status.
  4. State of cargo operations being conducted and cargo transfer systems.
  5. Stability considerations throughout the cargo operations.
  6. Vessel strength and stability.
  7. Tug and pilot availability.
  8. Availability of resources to provide vessel escort.
  9. Current weather conditions (visibility, tides, currents, sea state).
  10. Under keel and air draft clearances along evacuation route.
  11. Ability to unmoor.
  12. Ability to remain at anchor.

# Coast Guard Response Within the First 24 Hours...



- Search and Rescue (14 U.S.C. 141)
  - Preserve Human Life
- Port & Waterways Coastal Security (14 U.S.C. 143)
  - Secure maritime infrastructure and key assets

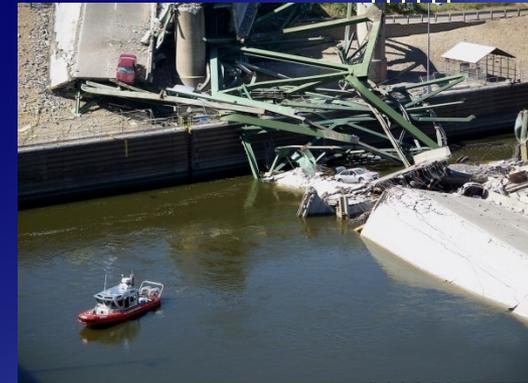


- Marine Environmental Protection (33 U.S.C.)
  - Respond to Oil Spills/HAZMAT Releases
- Maritime Law Enforcement (14 U.S.C. 89)
  - Primary federal maritime law enforcement agency.

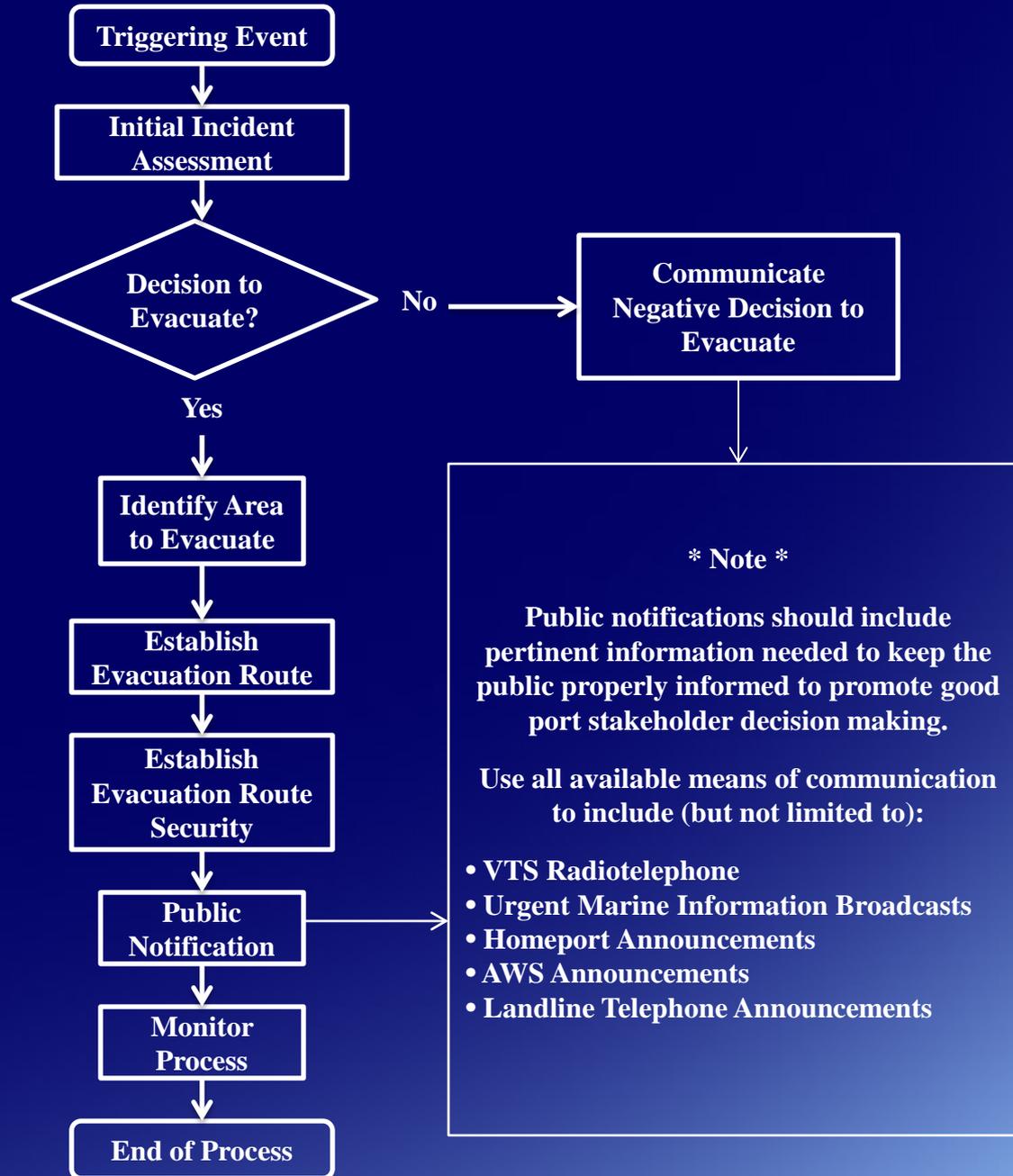
# *Next 48-72 Hours*



- Marine Transportation System Recovery
  - Regulation of Commercial Shipping (46 U.S.C.)
- Reconstitute Marine Infrastructure – including identification of hazards
- Service Aids to Navigation
- Transition Phase
  - Flow of resources in
  - Collaboration w/DOD



# Evacuation Process Flow Chart



# Questions & Discussion



CDR Andrew Williamson  
Prevention Department Head  
USCG Sector San Francisco