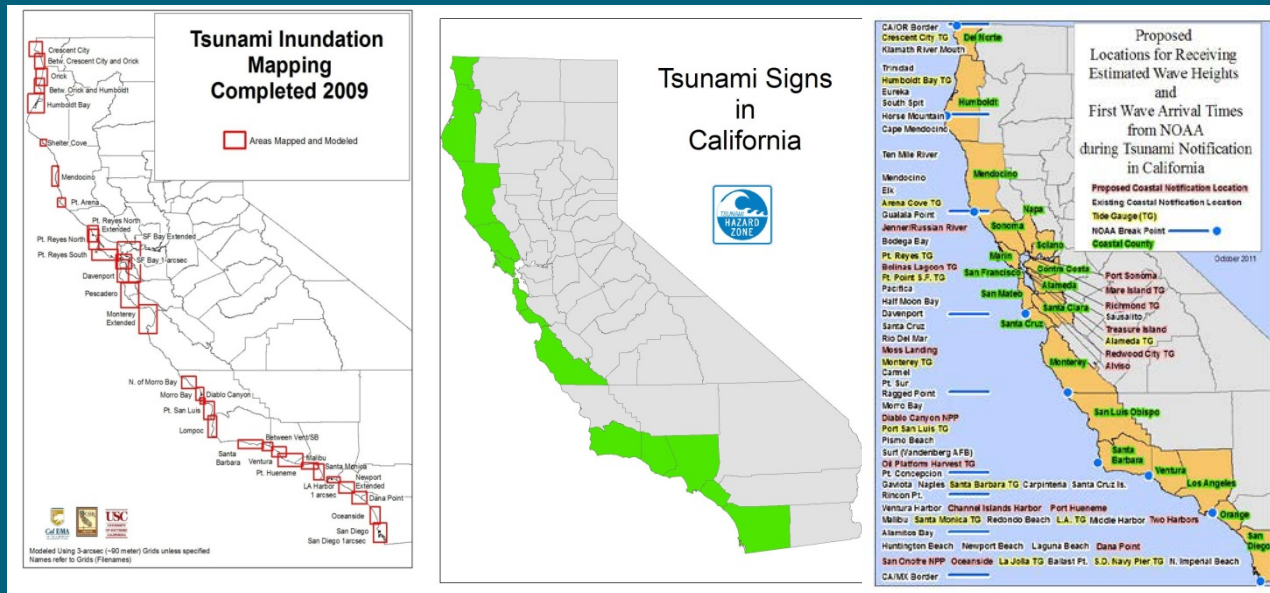


California Tsunami Program 2013 Accomplishments



Outreach & Coordination: Over 100 Workshops, Presentations, Meetings, and Community Forums in 20 CA Counties

2013 Tsunami Preparedness Week

- Activities & Exercises in 20 Coastal Counties
- New brochures developed and disseminated
- Conducted 5th Tsunami Warning Communications Test during which there were a number of “firsts”:
 - Alert & Warning tests statewide as Required Monthly Test (using tsunami code) concurrent w/live code test.
 - First time message delivered live to TV/Radio in both Spanish/English
 - Every county from Oregon border to Golden Gate scheduled airplane flights testing on-board broadcast systems
 - CalOES put up a Tsunami Preparedness Week portal
 - CalOES Director recorded a video support ing TPW13

TsunamiReady Update

NWS Eureka: Ft. Bragg initiated process

NWS Monterey: Pacifica completed

NWS Oxnard:

Naval Base Ventura County 9/10

Los Angeles Unified School District 10/21

Manhattan Beach, Rancho Palos Verdes,
Goleta in progress

NWS San Diego: Orange County, Huntington
Beach, Dana Point renewals completed,
Oceanside in progress

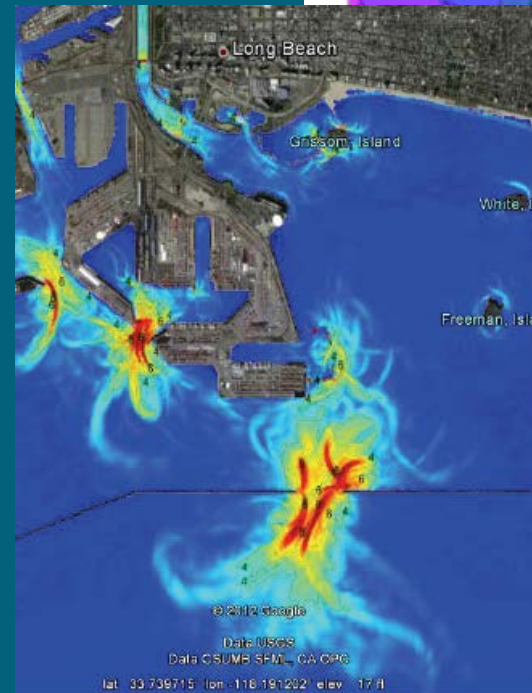
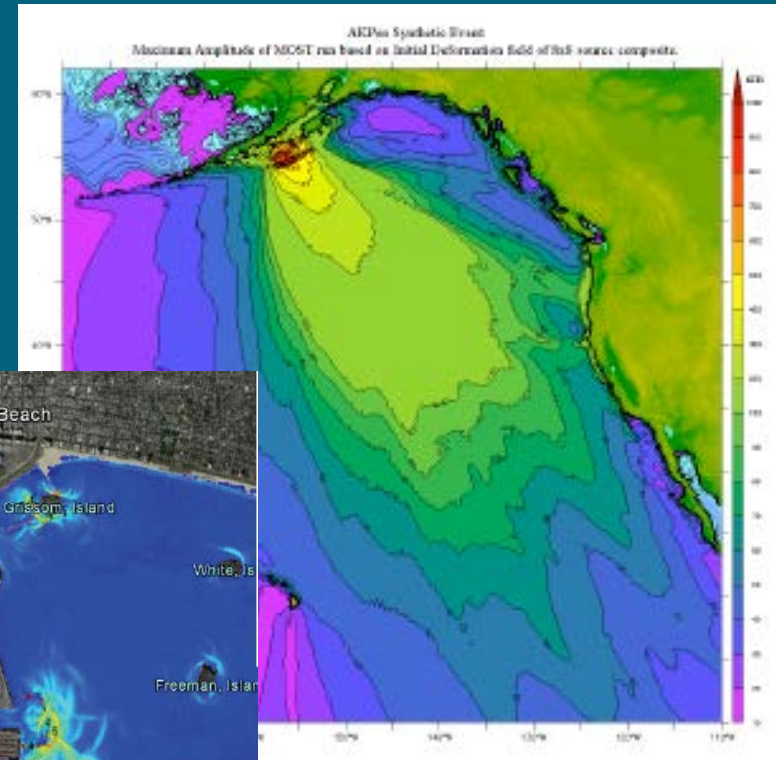
National: Held a meeting Oct. 28, 2013 in
Coronado to review criteria and process.



SAFRR Tsunami Scenario Roll-Out

Looked at:

- M9.1 EQ Alaska Tsunami Scenario
Inundation
Scientific Basis
- Tsunami Deposits
- Physical Impacts
- Economic Impacts
- Environmental Impact
- Emergency Management
Considerations
- Population Vulnerability
- Evacuation Challenges
- State Program
- Policy



SAFRR Tsunami Scenario Roll-Out

Regional Stakeholder Workshops

- Emergency Managers, Maritime Authorities, Land-Use Planners, Elected Officials/Staffers
 - **Aug. 15th - Webinar (Heads Up for Emergency Managers)**
 - **Sept. 4th – Los Angeles/Orange**
 - **Sept. 5th – Santa Barbara/Ventura/San Luis Obispo**
 - **Sept. 6th – San Diego**
 - **Sept. 9th – Santa Cruz/Monterey**
 - **Sept. 10th – San Francisco Bay Area**

Tsunami Evacuation Playbook Work Update/Schedule

- ▶ Work Group held multiple preliminary teleconferences; NTHMP review and Warning Center acceptance
- ▶ Four workshops have been held in Humboldt, Monterey, Orange, and San Diego Co's.; will be scheduling Ventura Co. next
- ▶ Draft Playbook "evacuation" maps completed for Humboldt, Ventura & San Diego; others pending
- ▶ Draft report and guidance for using Playbooks now available (will be sent to Steering Committee)
- ▶ **Counties:** 1) Schedule other counties for Playbook production and workshops; 2) Review draft report; 3) Review your draft Playbook elevation/evacuation lines; and 4) Integration of Playbooks into county/city emergency response plans should start by summer of 2014
- ▶ Completion of final Playbooks statewide and draft statewide guidance in fall of 2014

Working example: Formula for determining playbook evacuation line to use (FA-S-T-E-R):

FA: **Forecasted Amplitude (Wave Height)** from
Warning Center
+

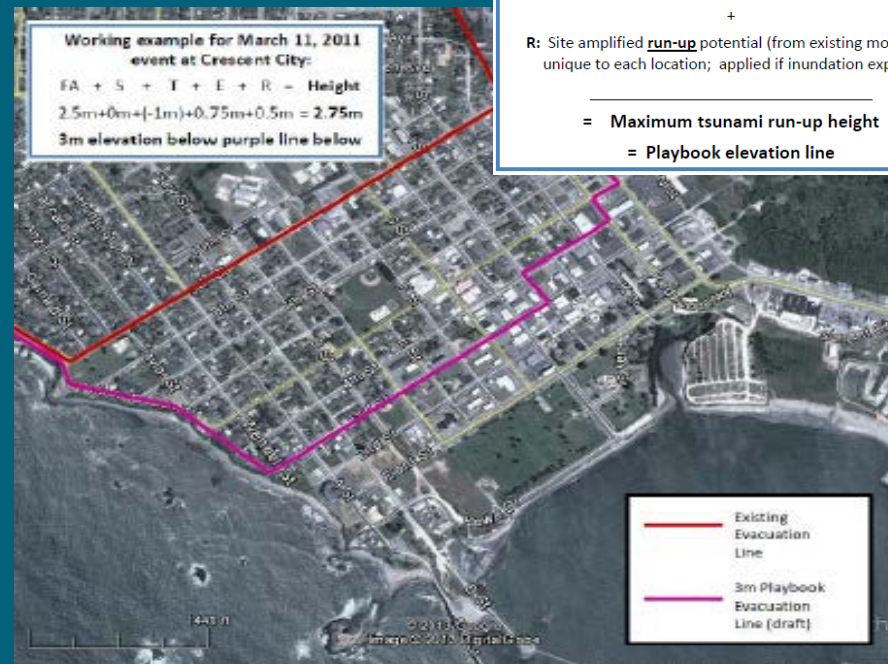
S: **Storm** surge or existing ocean conditions
+

T: Maximum **tidal** height (first 5 hours of tsunami)
+

E: Forecast **error** potential (30%; analysis of 2010-11 events)
+

R: Site amplified **run-up** potential (from existing modeling, unique to each location; applied if inundation expected)

= Maximum tsunami run-up height
= Playbook elevation line



Scenario evacuation playbooks – Crescent City (California Tsunami Program)

CA-PTHA Products and Land-Use Planning Work Schedule

- ▶ Complete Phase 1 Work Group report by November 2013; reviewed by NTHMP (CGS Special Report; draft will be sent to Steering Committee)
- ▶ Implementing Phase 2 work, including:
 - ▶ Evaluation/Validation of current velocities
 - ▶ Initiate new modeling and develop example maps and strategy for use of PTHA products, especially with Coastal Commission and community land-use planners
- ▶ Projected PTHA map production schedule for 20 counties:
 - ▶ 1/3 counties by Spring 2014
 - ▶ 1/3 counties by Spring 2015
 - ▶ Remaining counties and full implementation – funds pending
- ▶ **Counties:** 1) Assist connecting with county/city Planning Departments; and 2) Feedback on use of products

Risk levels (ARP)	Annual rate of exceedance	SHMA Zones	FEMA FIRM	Evacuation planning	Evacuation design	DWR Flood Zones	ASCE - IBC
100	50% in 50yr		yes				yes
200	25% in 50yr					yes	
500	10% in 50yr	yes	yes				
1000	5% in 50yr			maybe			
2500	2% in 50yr			maybe	yes		yes
3000	1.67% in 50yr			maybe			

Preliminary risk levels for different applications

Data Needs	Seismic Hazard Mapping Zones	FEMA FIRM	Evacuation planning	Evacuation design	DWR Flood Zones	ASCE - IBC	Maritime evacuation	Maritime design
Inundation Limit	Yes	Yes	Yes	Yes	Yes	Yes		
Flow Depth		Yes		Yes		Yes	Yes	Yes
Current Velocity		Yes		Yes	Yes	Yes	Yes	Yes
Momentum Flux				Yes		Yes		Yes
Water-level Fluctuations							Yes	Yes
Hard Copies	Yes	Yes	Yes		Yes	Yes	Yes	
Digital Data				Yes		Yes		Yes
Time History						Yes		

Other secondary data: scour potential, sedimentation, debris zones, etc.

Preliminary products for different applications