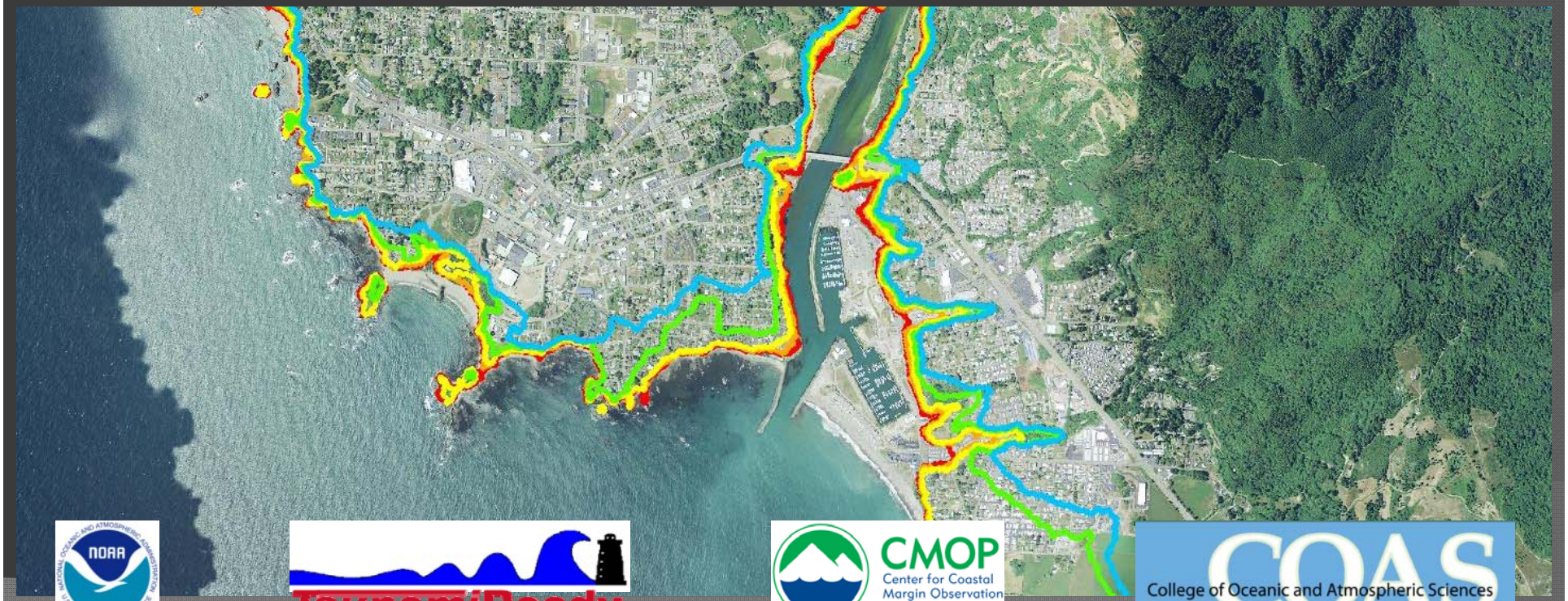
# 2011 Annual NTHMP Meeting

## Oregon Report

1 February 2011
Portland, Oregon

**Rob Witter**
Oregon Department of Geology

**Althea Turner**
Oregon Emergency Management



# Oregon FY09–FY11 Funding

## FY08 Grant – complete

- Total award: $253,910

## FY09 Grant – nearly complete

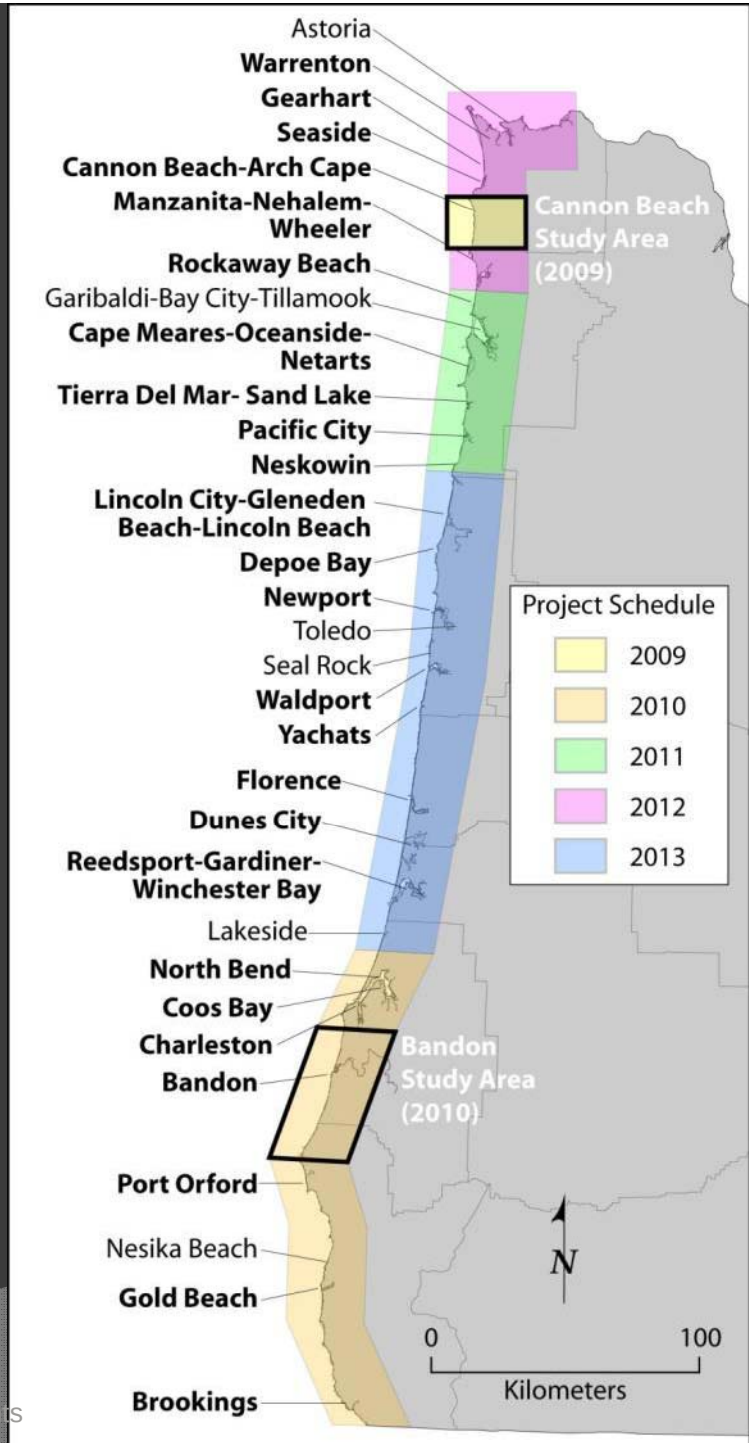
- Total award: $710,992

## FY10 Grant – underway

- Total award: $718,734

## FY11 Grant – looking ahead

- Requested: $726,645



# Southern Oregon Tsunami Inundation Modeling

**Acknowledgments:**

Rob Witter

Joseph Zhang

Chris Goldfinger

George Priest

Kelin Wang

Laura Stimely

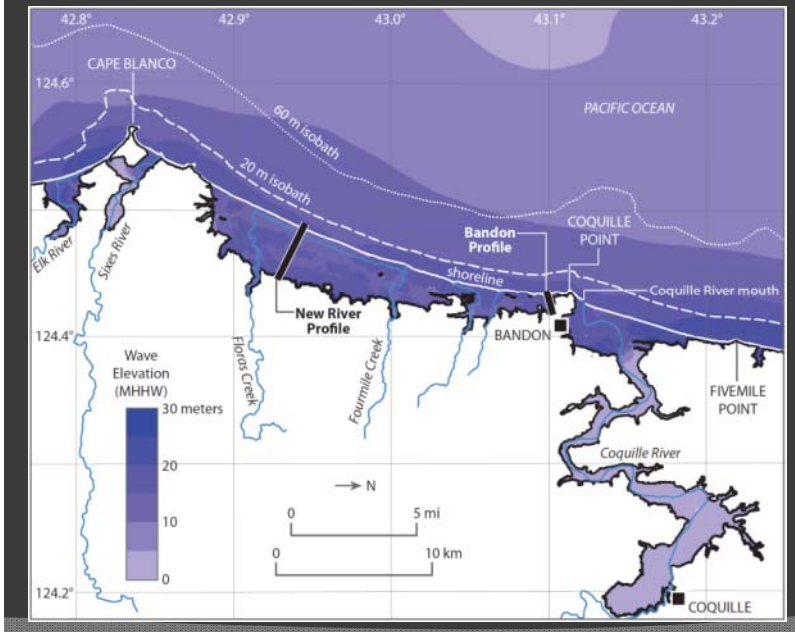
CMOP Center for Coastal Margin Observation & Prediction

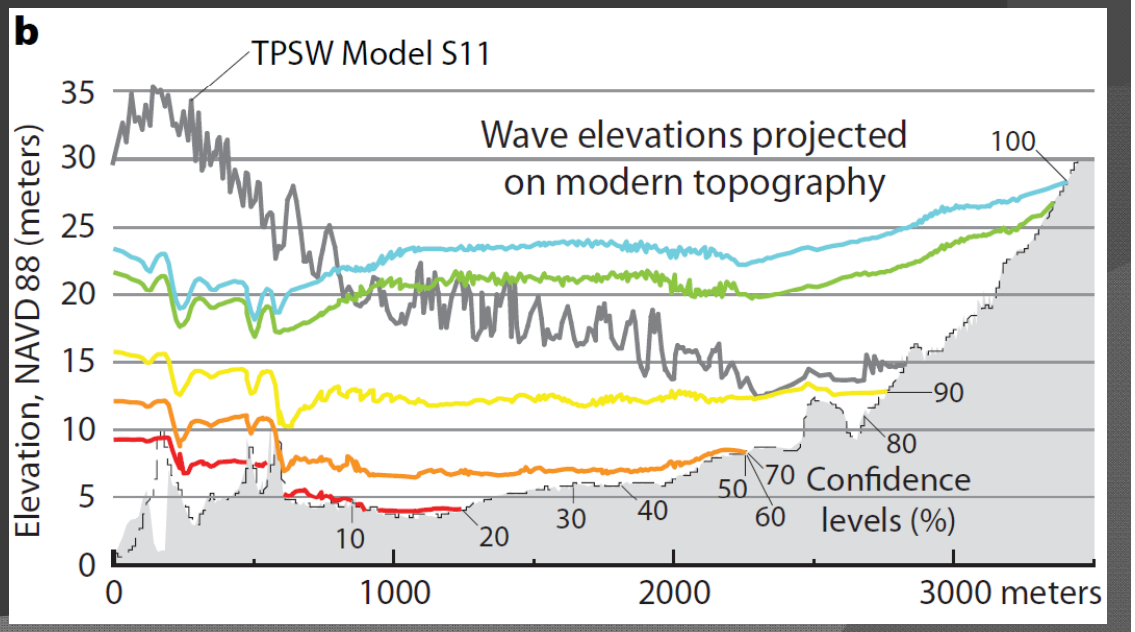
College of Oceanic and Atmospheric Sciences COAS

# Oregon FY09 NTHMP Grant Accomplishments

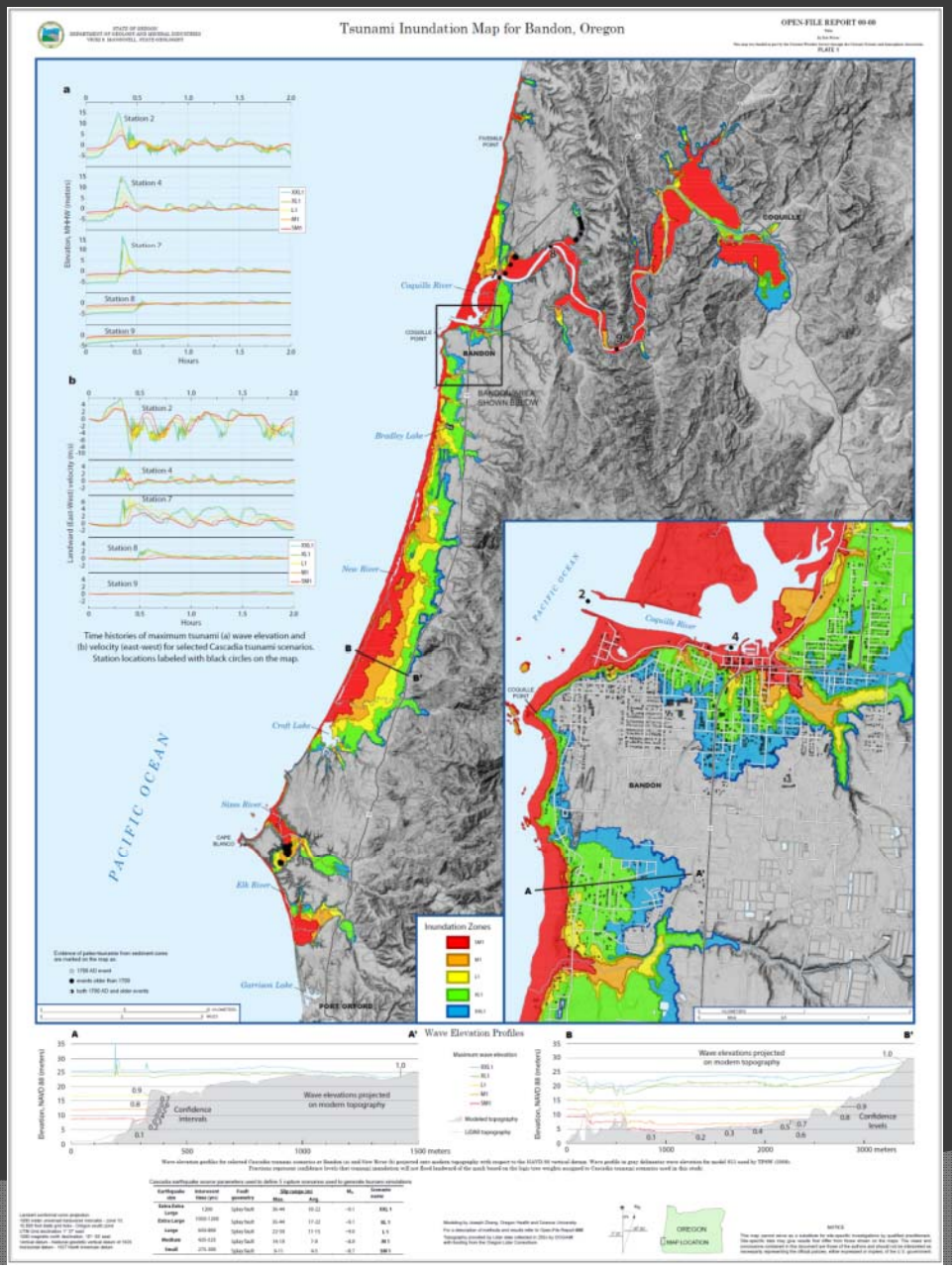
## Tsunami Mapping & Modeling, Oregon's south coast

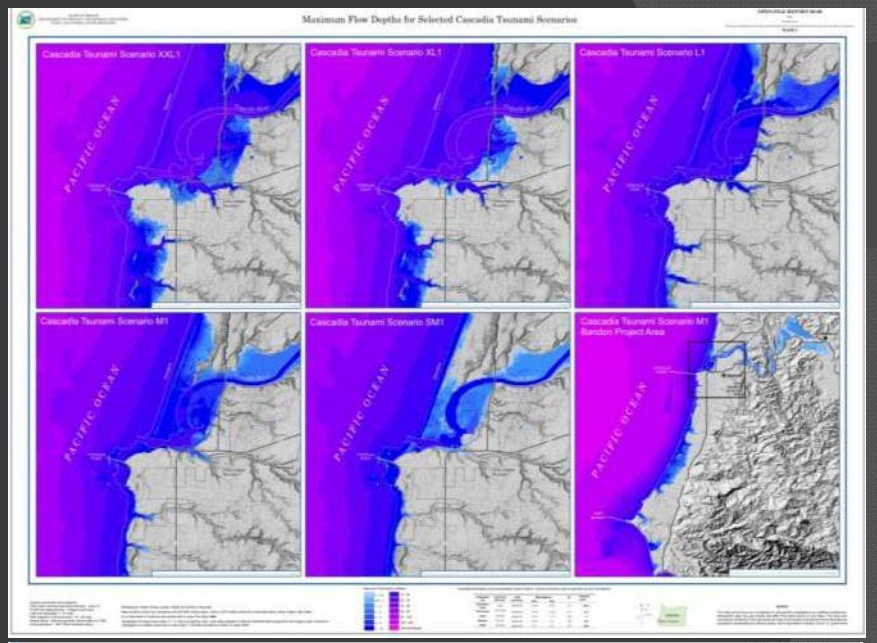
- Bandon inundation map and report in review
- Modeling complete from Coos Bay to OR-CA border
- Southern Oregon tsunami deposits database compiled

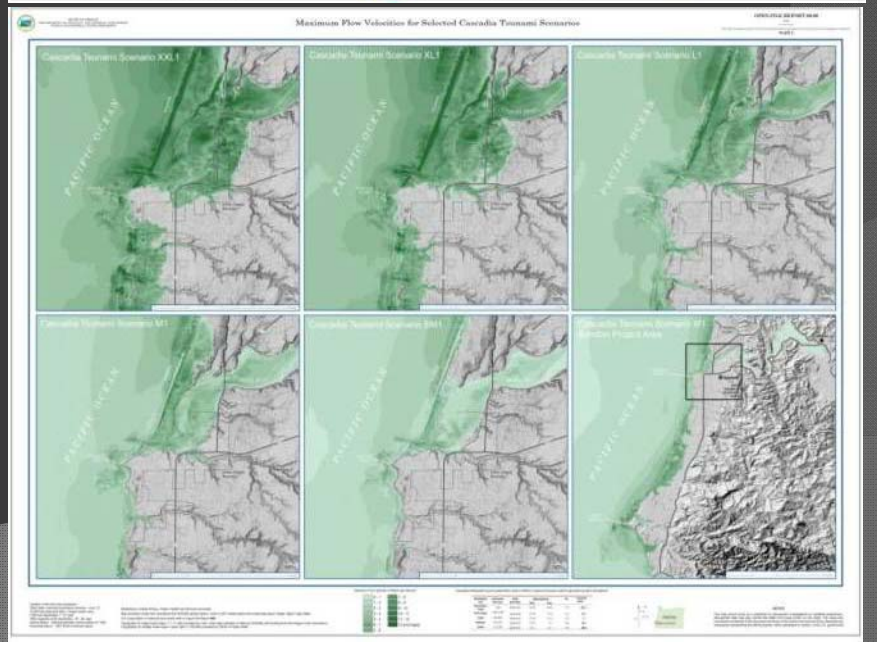


# Bandon Tsunami Inundation Maps



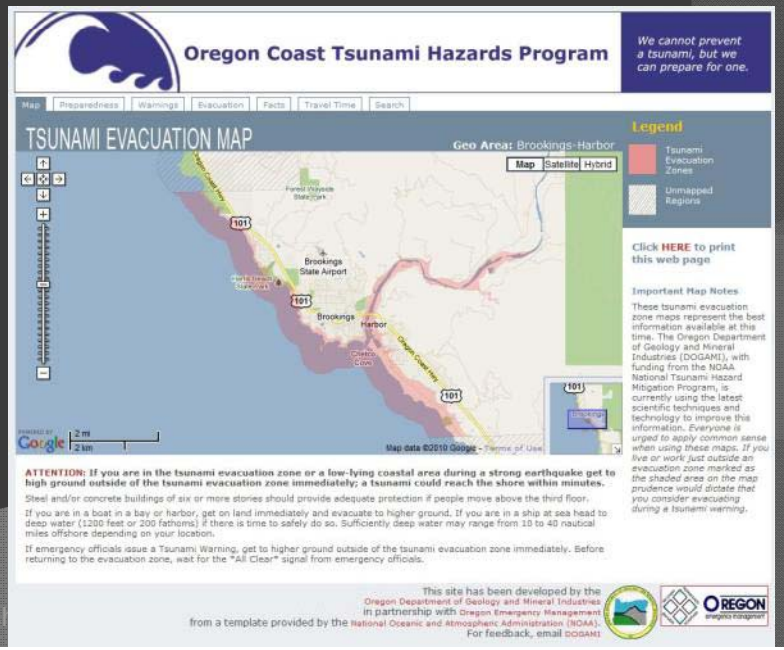



# Oregon FY09 NTHMP Grant Accomplishments

## Tsunami Mitigation and Education

- 6 southern Oregon tsunami evacuation maps
- 3 more evacuation maps by March 2011
- Updating online tsunami evacuation map viewer
- Launched Oregon Tsunami Information Clearinghouse *www.oregontsunami.org*
- Advised City of Bandon on new evacuation map
- Oregon *TsuTube* channel launched



# New Bandon Evacuation Map

- Adopts Cannon Beach design
- Two evacuation zones
  - Local tsunami (yellow)
  - Distant tsunami (orange)
- English/Spanish
- Checked for color blind
- Landmarks featured
- Assembly areas
- Runup elevations
- Standardized symbols
- LiDAR base map

# www.oregontsunami.org

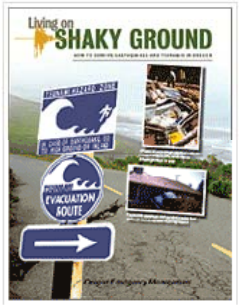
*We cannot prevent a tsunami but we can prepare for one.*

## Oregon Tsunami Clearinghouse

Home | Coastal Residents | Visitors | Kids & Teachers | Community Planners | Scientists

Frontpage | Evacuation Zone Map Viewer | Evacuation Brochures | Regulatory Maps | Resource Library | Calendar

Welcome to Oregon's tsunami information source!




Living On Shaky Ground PDF

**Interactive Tsunami Evacuation Zone Map Viewer**
Search by address or coastal area.

**Tsunami Evacuation Brochures**
For coastal communities.

**Tsunami Regulatory Maps**
Official maps for implementation of ORS 455.446 and 455.447.

Which type of tsunami map is right for you?

**Latest NWS West Coast/Alaska Tsunami Center News:**
Tsunami Information Statement for Alaska

**TsunamiReady, TsunamiPrepared News**

**» Events Calendar «**

**Jan. 26,** Don't miss the **Great Oregon ShakeOut** Drop, Cover, and Hold Drill!

**Jan. 28,** Coos Bay, "Impacts of the MW 8.8, Feb. 27, 2010 Chile Earthquake and Implications for Oregon" by Dr. Rob Witter

**Coastal Residents**
What to watch for and how to prepare. More »

**Visitors**
What to do before and after you get to the coast. More »

**Kids & Teachers**
Learn through activities and games. More »

**Community Planners**
*Including Outreach Leaders, Builders & Developers* — How to get your community into **TsunamiReady** shape. More »

Search

Tsunami news around the web

Seismic fault beneath us is 'fully
HeraldNet
It happened off the Northwest coast, and created huge tsunamis that devastated shorelines here and in Japan. What's amazing is how much is known, ...

New Zealand Student To
Voxy
He aims to improve understanding of the long-term risk of tsunami hazards in the Pacific region and allow for better preparation and mitigation against such ...

Large Earthquake Strikes Chile
LiveScience.com
No significant tsunamis are expected. "A strong earthquake has occurred, but a tsunami IS NOT expected along the California, Oregon, Washington, ...

Climate Change is still Real
McCook Daily Gazette (blog)
You will learn of Earthquakes, Snowstorms, Volcano's, Tsunami's and Floods. You will learn of Seas receding and Glacier advances. ...

# Oregon FY09 NTHMP Grant Accomplishments

## Oregon's *TsunamiReady, TsunamiPrepared* Program

- Outreach activities targeted in 8 communities
- Outreach coordinator advises 3 community organizers
- Florence, Oregon designated *TsunamiReady*, Aug. 2010
- Tsunami evacuation drills in 4 communities

***Priorities for TsunamiReady, TsunamiPrepared***

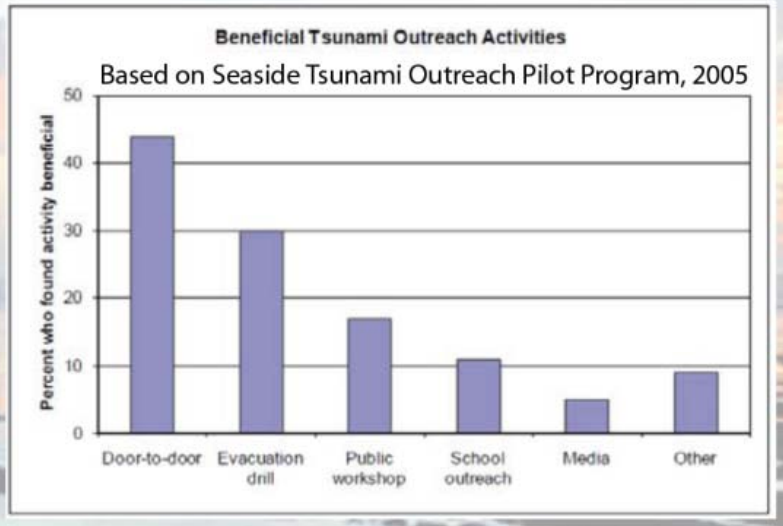
***1. Door-to-door education***

***2. Tsunami evacuation drill***

***3. Outreach to K-12 schools***

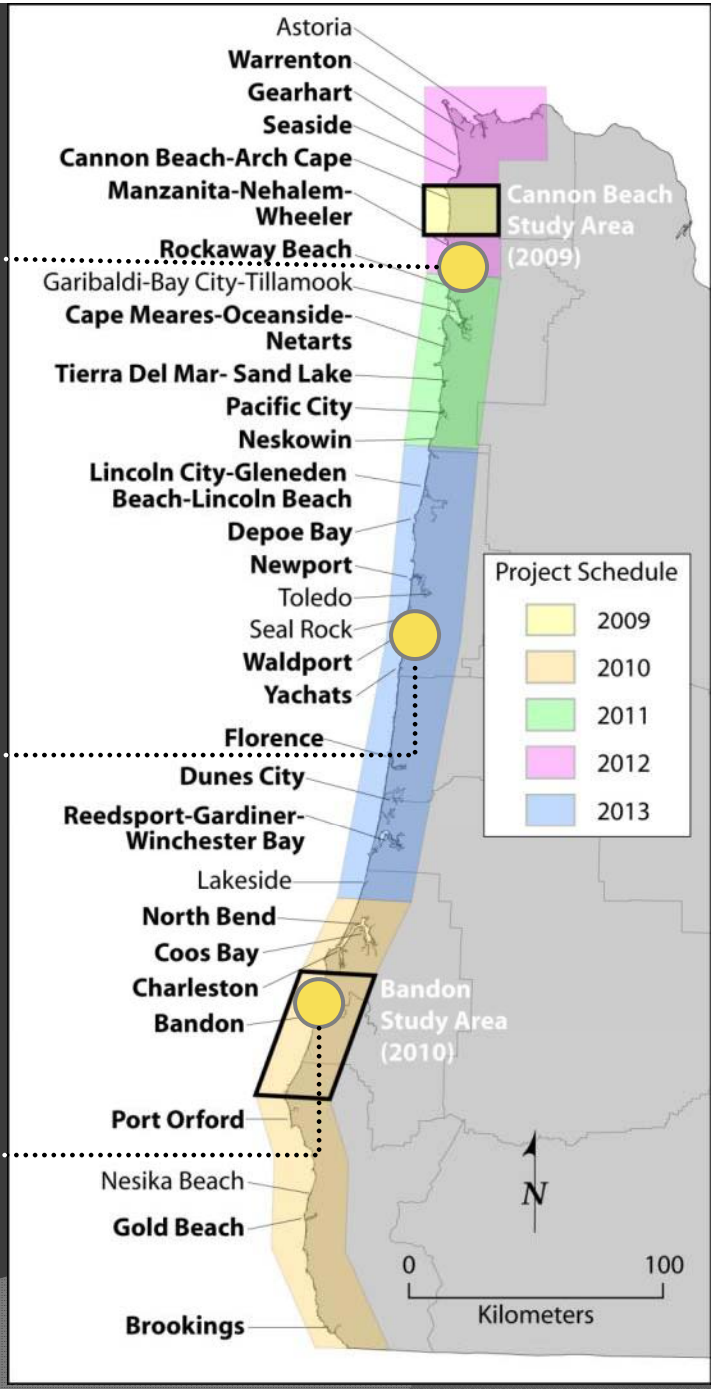
***4. Media events***

***5. Workshops targeting key audiences***
***lodging and business industry, elected officials, community managers***



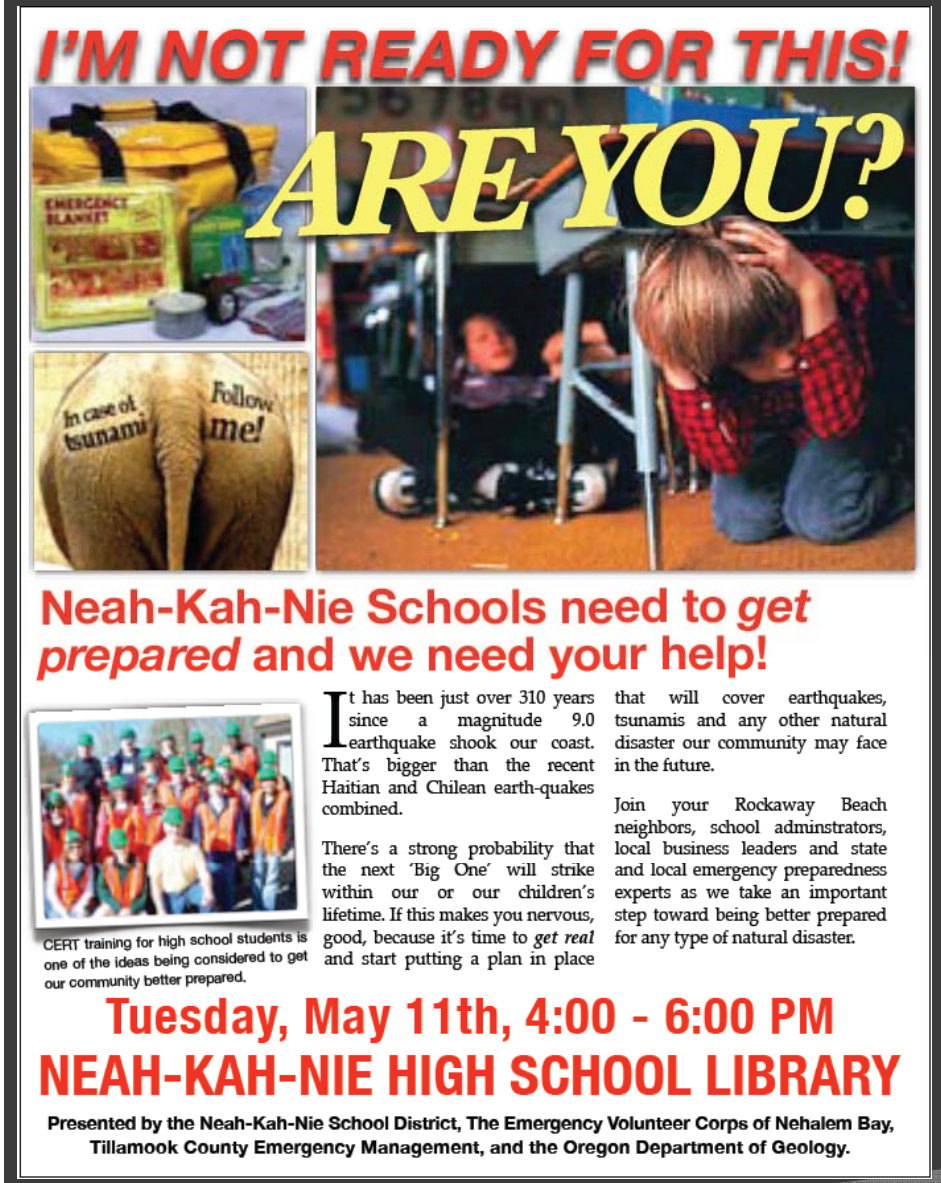
# Community Outreach (FY 09)

- North Coast
  - Manzanita-Nehalem-Wheeler
  - Rockaway Beach
- Central Coast
  - Seal Rock
  - Waldport
  - Yachats
- South Coast
  - Bandon

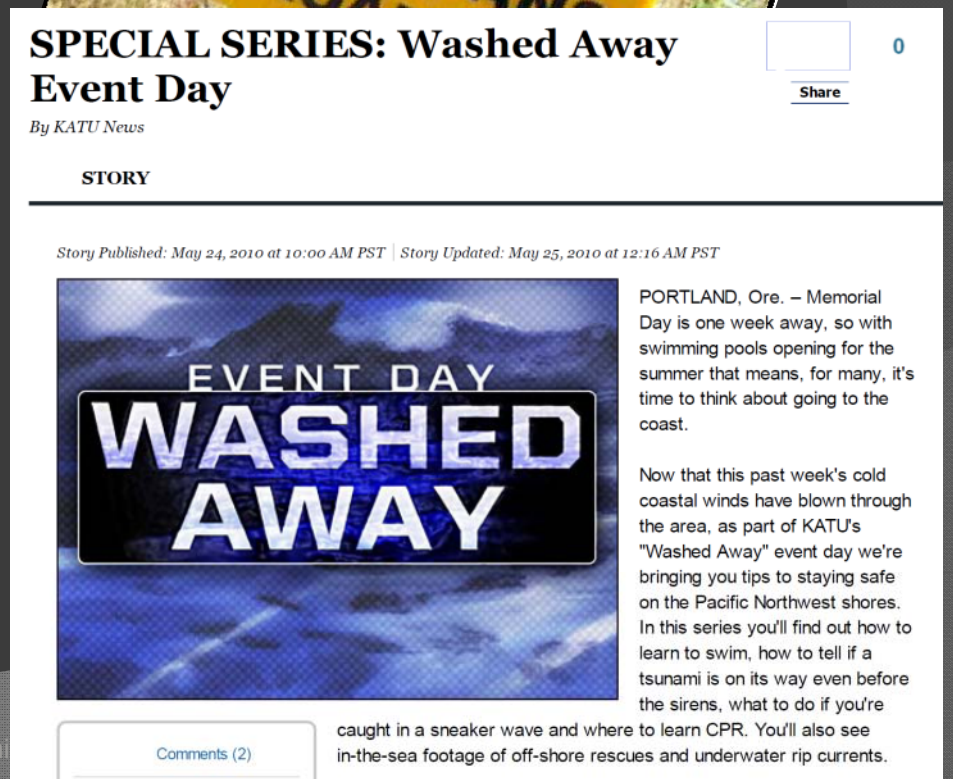


# Education Targeting Youth

# Schools, Drills, Media Events


I'M NOT READY FOR THIS!
ARE YOU?

Neah-Kah-Nie Schools need to *get prepared* and we need your help!
CERT training for high school students is one of the ideas being considered to get our community better prepared.
It has been just over 310 years since a magnitude 9.0 earthquake shook our coast. That's bigger than the recent Haitian and Chilean earth-quakes combined.
There's a strong probability that the next 'Big One' will strike within our or our children's lifetime. If this makes you nervous, good, because it's time to *get real* and start putting a plan in place that will cover earthquakes, tsunamis and any other natural disaster our community may face in the future.
Join your Rockaway Beach neighbors, school adminstrators, local business leaders and state and local emergency preparedness experts as we take an important step toward being better prepared for any type of natural disaster.
Tuesday, May 11th, 4:00 - 6:00 PM
NEAH-KAH-NIE HIGH SCHOOL LIBRARY
Presented by the Neah-Kah-Nie School District, The Emergency Volunteer Corps of Nehalem Bay, Tillamook County Emergency Management, and the Oregon Department of Geology.


SPECIAL SERIES: Washed Away Event Day
0
Share
By KATU News
STORY
Story Published: May 24, 2010 at 10:00 AM PST | Story Updated: May 25, 2010 at 12:16 AM PST

PORTLAND, Ore. – Memorial Day is one week away, so with swimming pools opening for the summer that means, for many, it's time to think about going to the coast.
Now that this past week's cold coastal winds have blown through the area, as part of KATU's "Washed Away" event day we're bringing you tips to staying safe on the Pacific Northwest shores. In this series you'll find out how to learn to swim, how to tell if a tsunami is on its way even before the sirens, what to do if you're caught in a sneaker wave and where to learn CPR. You'll also see in-the-sea footage of off-shore rescues and underwater rip currents.
Comments (2)

# Oregon Tsunami Outreach in 2010

**NEHALEM BAY**

**NBEVC**
established
2008

| JAN | | MAR | | MAY | | JUL | | SEP | |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | FEB | | APR | | JUN | | AUG | | OCT |

***TsunamiReady, TsunamiPrepared***
program initiated

# Oregon Tsunami Outreach in 2010

## NEHALEM BAY

**NBEVC**
established
2008

**NBEVC / DOGAMI**
planning workshop

JAN 2010 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT

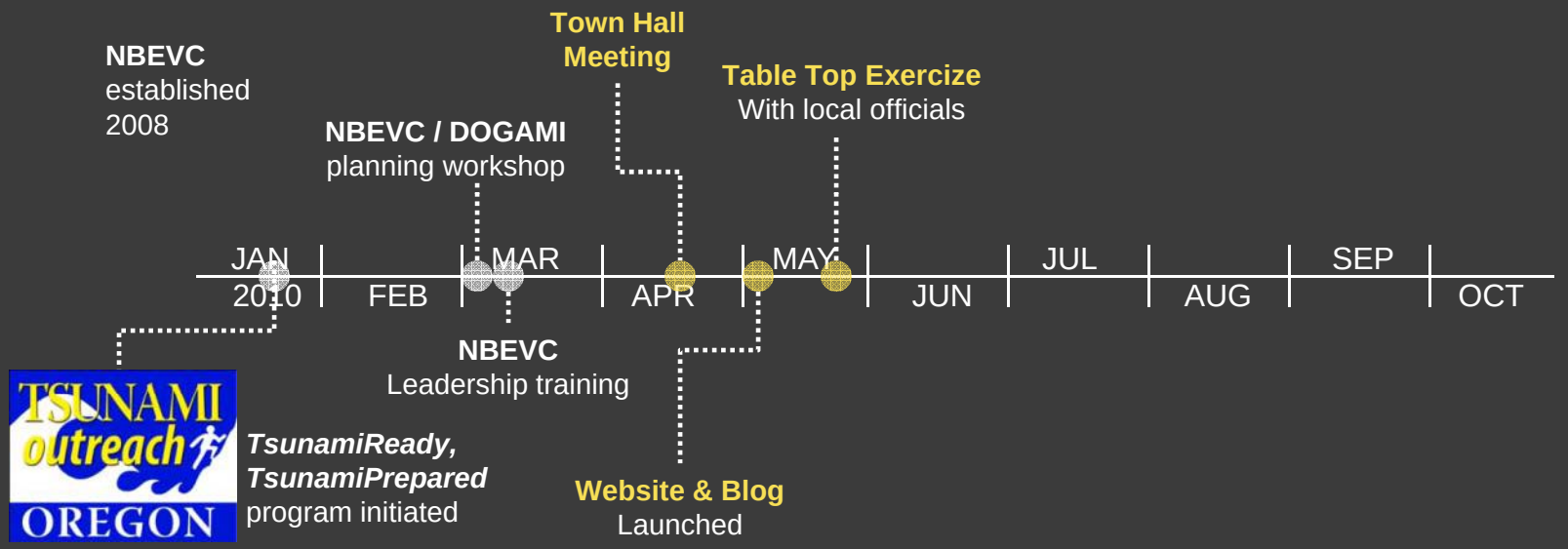
**NBEVC**
Leadership training

TSUNAMI outreach OREGON

***TsunamiReady, TsunamiPrepared***
program initiated

# Oregon Tsunami Outreach in 2010

## NEHALEM BAY



# Oregon Tsunami Outreach in 2010

## NEHALEM BAY

**NBEVC** established 2008

**NBEVC / DOGAMI** planning workshop

**Town Hall Meeting**

**Table Top Exercize** With local officials

**Map Your Neighborhood** Database prep

**Outreach to Hispanic Community**

JAN 2010 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT

**NBEVC** Leadership training

***TsunamiReady, TsunamiPrepared*** program initiated

**Website & Blog** Launched

**Business Dinner** 35 local leaders

**July 4th Parade**

# Oregon Tsunami Outreach in 2010

## NEHALEM BAY

**NBEVC** established 2008

**NBEVC / DOGAMI** planning workshop

**Town Hall Meeting**

**Table Top Exercize** With local officials

**Map Your Neighborhood** Database prep

**Outreach to Hispanic Community**

**Tsunami Drill** CERT training

JAN 2010 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT

**NBEVC** Leadership training

***TsunamiReady, TsunamiPrepared*** program initiated

**Website & Blog** Launched

**Business Dinner** 35 local leaders

**July 4th Parade**

**Tillamook Co Sirens** Strategy meeting

**Neah-Kah-Nie Schools** Outreach to students

# Outreach in Waldport, Yachats & Seal Rock (WYSR)

# Oregon Tsunami Outreach in 2010

## SOUTHERN LINCOLN COUNTY (WYSR)

**Tsunami Preparedness Briefings**
with County officials and local stakeholders

**City Council**
presentations

**Pill Box Pharmacy**
Outreach to local businesses

**"Washed Away"**
KATU-TV special

**Safety Fair**
Chinook Winds Casino

**Teen CERT**
initiated

**Tsunami Drill**
by CERT & local officials

JAN 2010 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT

**Final Surveys**
Measures change

**Emergency Supplies Cache**
Waldport Middle School

**Community Organizer**
training

**Governor's Tourism Convention**

**Pre-outreach Surveys**
CERT collects 550 surveys!

**la de da Parade**
4th of July in Yachats

**Yachats Outreach**
Preparedness Day

**Door-to-Door**
outreach

# Oregon Tsunami Outreach in 2010

## ROCKAWAY BEACH

**Neah-Kah-Nie School District**
Preparedness meeting

**Initial Meeting**
TRTP stakeholders

**HAM Radio Group**
organized

**Local Paper**
Announces program

**Public Service Announcement**
On local radio

**Town Hall Meeting**

**Tsunami Evacuation Drill**
by CERT & local officials

JAN 2010 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT

**Community Organizer**
Training workshop

***Map Your Neighborhood***
Workshops ongoing

**Pre-outreach Surveys**

**Kite Festival**
Public outreach

**Nedonna Beach Workshop**

**CERT Training**
Rockaway Beach

**Business Outreach**
With local leaders

**Door-to-Door**
Outreach planned

# Oregon Tsunami Outreach in 2010

## BANDON

**Tsunami Preparedness Briefings**
With County officials and local stakeholders

**City Council**
presentations

**Town Hall Meeting**
Bandon

**Cranberry Festival**

**Door-to-Door**
Outreach

**CERT**
Preparedness training

**Bandon Schools**
Outreach with Bullard Beach State Park

JAN 2010 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT

**Tsunami Drill**
planned

**Hospitality Workshop**
Outreach to lodging industry

**Press Release**
Announces program

**Community Organizer**
Training workshop

**Pre-outreach Surveys**
Documents preparedness

**Map Your Neighborhood**
Workshops

# Oregon FY09 NTHMP Grant

## Issues

- Unstructured grids (1.5 – 2 million nodes) used for tsunami modeling required more time to construct than anticipated
- Establishing Inter-governmental Agreement with OHSU for tsunami modeling for the southern Oregon coast project involved delays
- Time was lost due to hardware failure, data storage problems, and software licensing needs related to modeling. These issues are now resolved.

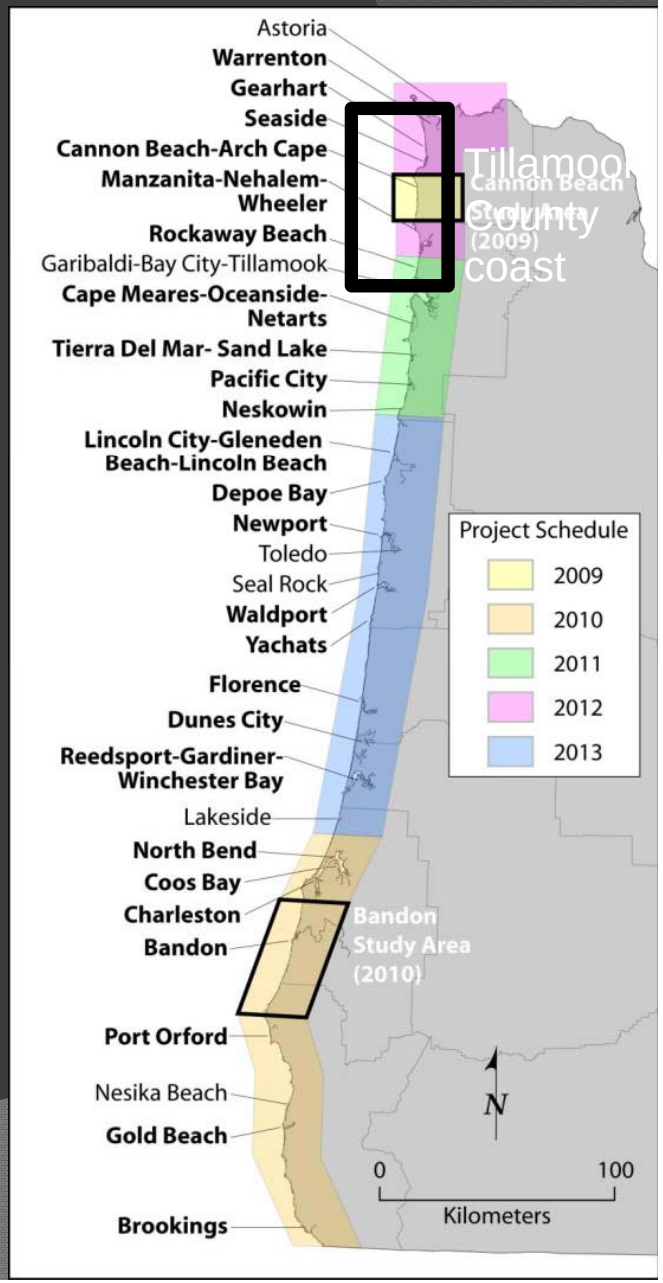
## Resolutions

- Grids were divided into manageable extents.
- Contract negotiations resolved .
- Hardware / software will be acquired through next contract.

# Oregon FY10 NTHMP Grant Accomplishments

## Tsunami Mapping & Modeling, Tillamook County

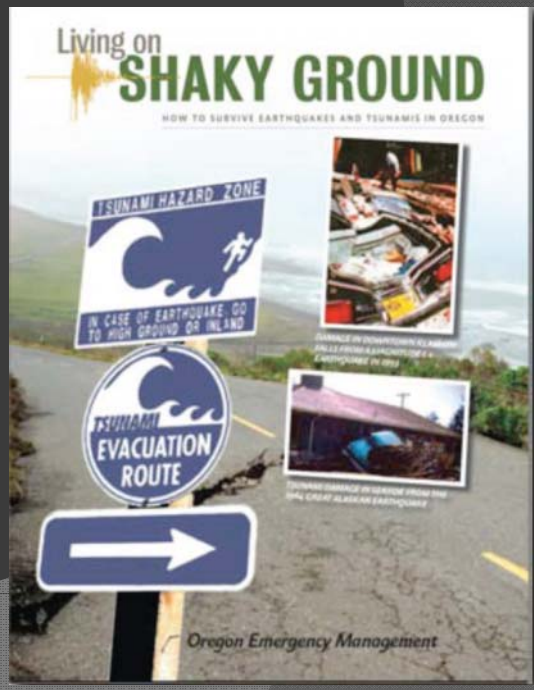
- Two tsunami grids for Tillamook County in development
- Sources include 5 Cascadia and 2 Alaska scenarios
- Tsunami modeling planned for spring 2011



# Oregon FY10 NTHMP Grant Accomplishments

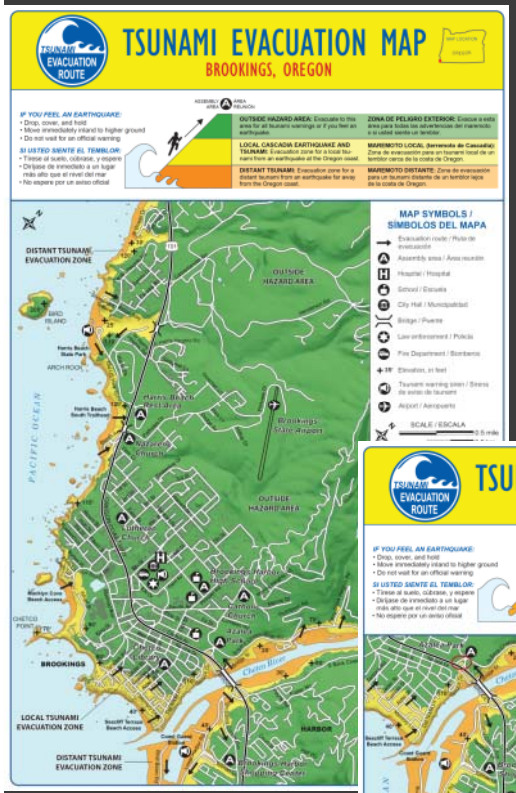
## Tsunami Mitigation and Education

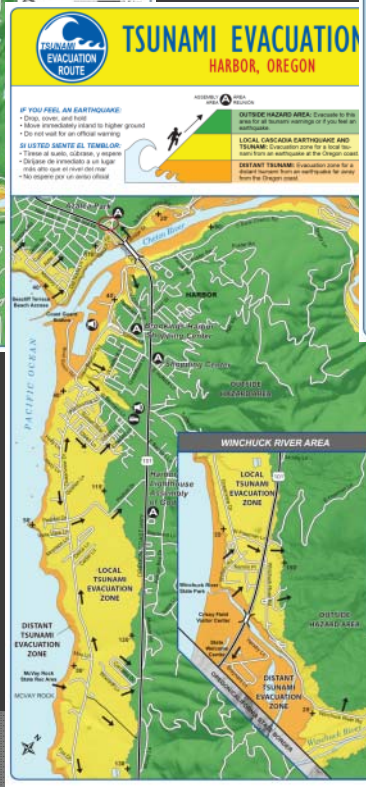
- 11 tsunami evacuation maps planned
- Updating online tsunami evacuation map viewer
- High school projects to develop PSAs and tsunami preparedness videos for *TsuTube* channel
- Presentations to Red Cross, FEMA, Pacific Power
- Living in Earthquake Country released

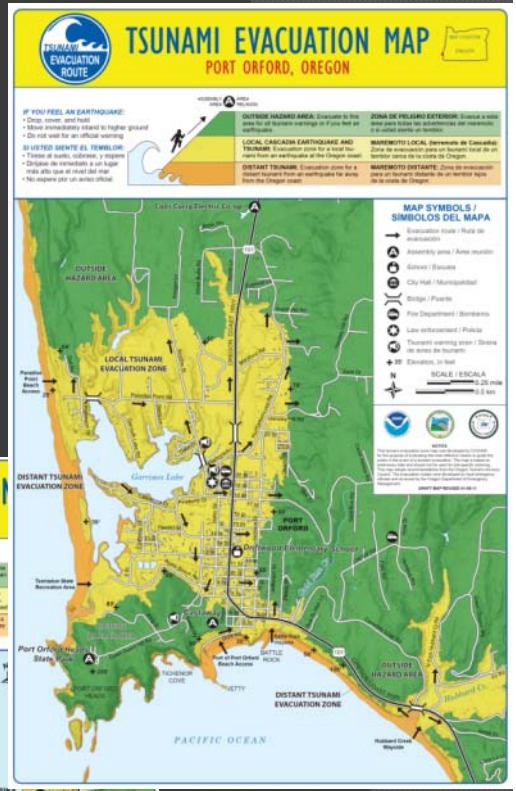


# Five New Evacuation Maps

## … and more coming!



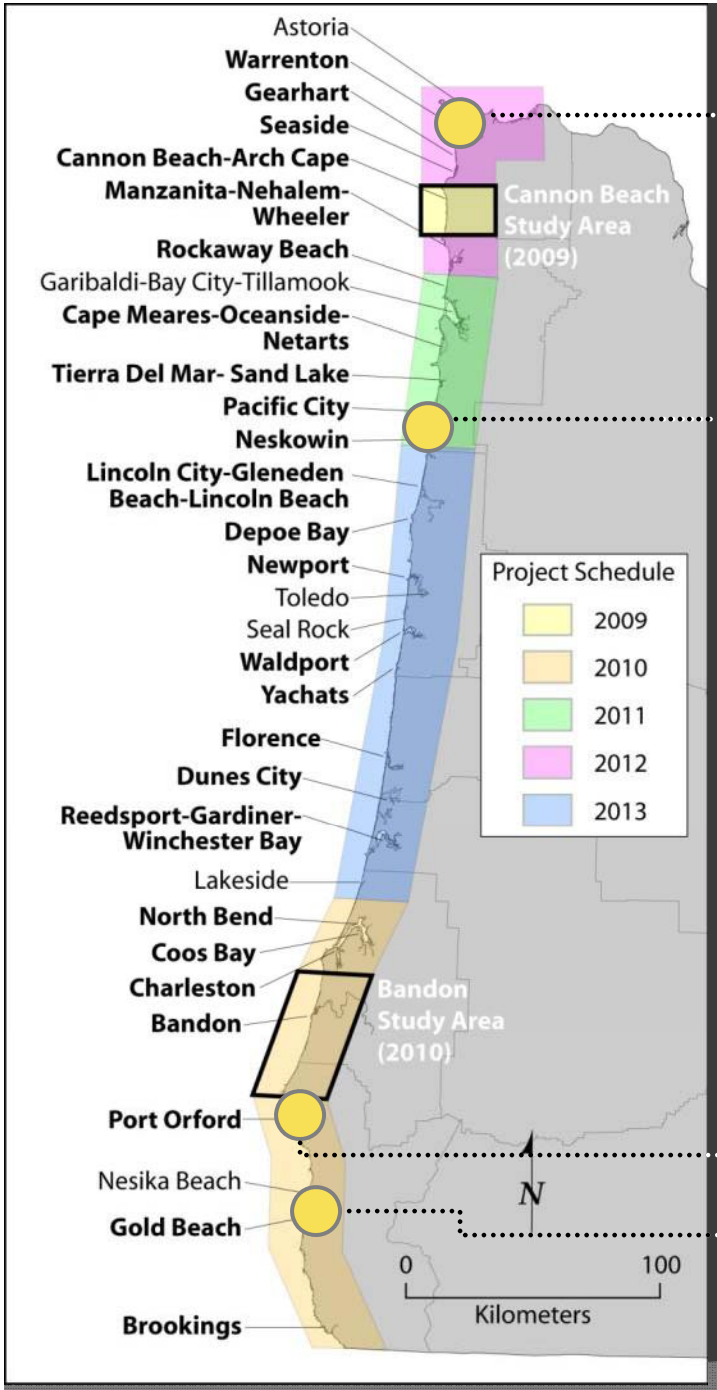


# Oregon FY10 NTHMP Grant Accomplishments

## Oregon's *TsunamiReady, TsunamiPrepared* Program

- Community organizers hired for 7 communities
- 2-day training workshop for community organizers
- Workshops with sheriffs, police and fire officials
- Town hall meetings in 3 communities
- Brookings / Harbor initiating preparedness program
- Training HAM radio operators in Seaside & Gearhart
- Gold Beach High School seniors go door-to-door
- Map Your Neighborhood training at Neskowin Fire Hall
- Pre-outreach surveys

# Community Outreach (FY 10)



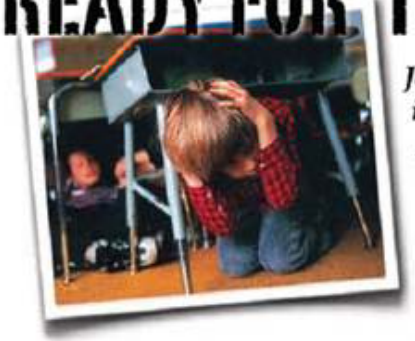

- North Coast
  - Warrenton
  - Astoria
- Central Coast
  - Pacific City
  - Neskowin
- South Coast
  - Port Orford
  - Nesika Beach
  - Gold Beach

# South Coast Townhall Meetings

# TONIGHT!

**January 13 – Gold Beach, 6:00 PM**
**Showcase Building, County Fairgrounds**

## READY FOR THE BIG ONE'?



*Join your friends and neighbors in Brookings, Gold Beach and Port Orford to learn more about tsunamis, earthquakes and other hazards at the Oregon Coast and find out how to get prepared for just about anything!*

*In addition to state and local emergency preparedness experts and the Red Cross, there will be a free raffle of emergency kits and radios and other goodies, refreshments and a chance to learn about Community Emergency Response Team (CERT) training and the innovative Map Your Neighborhood program on emergency preparedness.*

## FREE RAFFLE & MUNCHIES!

*Sponsored by: Curry County Sheriff's Dept. and Emergency Services, the Cities of Brookings, Port Orford and Gold Beach, Oregon Red Cross, Oregon Emergency Management, Oregon Department of Geology and National Weather Service.*

*Call Dave Lacey at (541) 373-0487 for more information and how you or your group can participate.*

Port Orford

Brookings-Harbor

# Oregon FY10 NTHMP Grant

## Issues

- Contracting issues have delayed Tillamook modeling
- Hiring community organizers has proved difficult and time consuming

## Resolutions

- Contract negotiations with OHSU underway
- Community organizers hired as DOGAMI temporary employees

# Oregon FY11 Project Plan

Objective 1: Mapping & Modeling – Aug. 1, 2011 to July 31, 2012

| Task | NTHMP Performance Metrics Supported | Requested Funds |
|---|---|---|
| 1.1 Compile tsunami deposits data, northern Oregon coast | *Produce inundation maps that meet NTHMP guidelines by 2012* | **$36,843** |
| 1.2 Complete northern Oregon tsunami inundation map | *Complete inundation maps for all threatened communities in Oregon by 2013* | **$331,584** |
| | **Total Requested for Objective 1:** | **$368,427** |

# Oregon FY11 Project Plan

Objective 2: Mitigation and Education – Aug. 1, 2011 to July 31, 2012

| Task | NTHMP Performance Metrics Supported | Requested Funds |
|---|---|---|
| 2.1 Tsunami evacuation maps for 7 communities, Clatsop County | *Increase the number of tsunami evacuation maps by 10% annually* | **$72,422** |
| 2.2 Update online tsunami evacuation map | *Increase the percentage of NTHMP products available on the web to 90% by 2012* | **$15,519** |
| 2.3 Update Tsunami Information Clearing-house (online) | *Increase the percentage of NTHMP products available on the web to 90% by 2012;*<br>*Post 100% if tsunami evacuation maps to the NTHMP web repository by 2012* | **$15,519** |
| | **Total Requested for Objective 2:** | **$103,460** |

# Oregon FY11 Project Plan

Objective 3: *TsunamiReady* Support – Aug. 1, 2011 to July 31, 2012

| Task | NTHMP Performance Metrics Supported | Requested Funds |
|---|---|---|
| 3.1 Support Tsunami Outreach Coordinator activities | *Establishing more tsunami resilient communities; Promote a culture of tsunami preparedness and response.* | **$96,896** |
| 3.2 Help 3 communities meet *TsunamiReady* guidelines | *Increase the number of recognized TsunamiReady communities to 105 in 2013; Annually increase local warning reception capabilities by 10%, based on the baseline established by 2010.* | **$17,658** |
| 3.3 Disseminate online education information to communities | *Explore the feasibility of integrating tsunami information into K-12 education; Facilitate educational events.* | **$16,599** |
| 3.4 Support community organizers for 3 areas | *Establishing more tsunami resilient communities; Promote a culture of tsunami preparedness and response.* | **$117,720** |

# Oregon FY11 Project Plan

Objective 3: *TsunamiReady* Support (*continued*)

| Task | NTHMP Performance Metrics Supported | Requested Funds |
|---|---|---|
| 3.5 Coordinate the 2011 Tsunami Road Show | *Establishing more tsunami resilient communities; Promote a culture of tsunami preparedness and response.* | $5,886 |
| | **Total Requested for Objective 3:** | **$254,759** |

**TOTAL REQUESTED FOR FY2011: $726,645**

# Are You Ready for the Big One?

http://www.youtube.com/OregonTsuTube