Earthquake & Tsunami Preparedness For Local Government

By Thomas E. Manning CEM, OCEMS
Tsunami Hazard Risk Map

Earthquake & Tsunami Secondary Hazards

• Tillamook County Associated Hazards
Landslide Risk Map

Resource Shortages
Tsunami Inundation Neskowin

Director Thomas E. Manning CEM, OCEMS

Tillamook County Department of Emergency Management
Tsunami Inundation Rockaway Beach

Depoe Bay
Tangled debris is all that remains of the 200-foot-long Elk Creek Bridge, which stood at Cannon Beach, Oregon, before being destroyed by a tsunami generated by the disastrous Alaskan earthquake of March 27, 1964. Photo courtesy of The Oregonian.
Tillamook County Tsunami Warning System

Tsunami Warning Notification

- National Alert & Warning System
- Oregon Emergency Response System
- Law Enforcement Data System
- NOAA Alert Radio System S.A.M.E.
- Emergency Alert System
- US Coast Guard Maritime Warning System
- RACES/ARES
- Alaska Tsunami Warning Center Buoy System NOAA
- Warning Sirens
- ODOT AM Radio Emergency Road Info 1650 AM
9-1-1 Activation of Radio Controlled Sirens

- Neahkahnie
- Manzanita
- Nedonna Beach
- Rockaway Beach
- Twin Rocks
- Cape Meres
- Oceanside
- Netarts
- Tierra del Mar
- Cape Kiwanda
- Pacific City
- Neskowin

- Nehalem
- Wheeler
- Garibaldi
- Bay City
- Nehalem State Park
- Cape Look Out State Park
- Sandlake Recreation Area USFS

Emergency and Public Service Communications

- FCC declarations of an emergency
  - The information included in an FCC declaration of a temporary state of communication emergency is any special conditions and rules to be observed during the emergency.
Emergency and Public Service Communications

- Tillamook County RACES / ARES
  - Radio Amateur Civil Emergency Service
  - Provides emergency Communications when all else fails.

Tillamook County Emergency Services

- RACES/ARES Amateur Radio Operators
- CERT Community Emergency Response Teams
- VOAID Volunteer Organizations Active in Disasters
  - Red Cross
  - Salvation Army
  - Faith Based Organizations
  - Boy Scouts of America / Girl Scouts of America
  - School Districts
  - Special Districts
  - Critical Incident Stress Debriefing Teams
  - Local and Visiting Volunteers
Scientists calculated the "mean North pole" was shifted by about 2.5 centimeters (1 inch) in the direction of 145 degrees East Longitude. This shift east is continuing a long-term seismic trend identified in previous studies.

They also found the earthquake decreased the length of day by 2.68 microseconds.

The quake also affected the Earth's shape, flattening it on the top and bulging at the equator, continuing the trend of earthquakes making Earth less oblate.

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**CASCADIA SUBDUCTION ZONE EARTHQUAKES**

- Can last 3-5 minutes
- Parts of the coast will rise or fall 10+ feet
- A tsunami 30-50+ feet high will strike the coast minutes after the earthquake
- Tsunamis will travel across the Pacific at 500 mph, striking Hawaii, Alaska, Japan and other countries
The chances of:

Winning the Powerball Lottery - 1 in 140,089,128
Being hit by lightning - 1 in 2,800,000
A Cascadia Subduction Zone Earthquake in the next 50 years - 1 in 6...
An earthquake occurring in the Pacific Northwest in the next few days - 100%

Are We prepared?

[Cartoon image of a disaster recovery plan]
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