### Local Source (Cascadia Subduction Zone) Tsunami Inundation Map

**Coquille, Oregon**

**Introduction**

The Oregon Department of Geology and Mineral Industries and the U.S. Army Corps of Engineers have undertaken a joint project to create a tsunami hazard assessment of the northern Oregon coast. This project is funded through a National Tsunami Hazard Mitigation Program Grant from the Federal Emergency Management Agency. This project will generate a tsunami inundation map that will be used to target tsunami education and outreach efforts in the Coquille area.

**Map Boundaries**

The map boundaries are defined by the geographic coordinates of 43°00'0"N, 124°12'0"W and 43°16'0"N, 124°16'0"W.

**Map Information**

The map was created by the Oregon State University Extension Program's Nature of the Northwest Information Center. The map was developed using ArcGIS software and detailed topographic and bathymetric data. The map is intended to be used by local residents, emergency management officials, and the general public to understand the potential tsunami hazard in the Coquille area.

**Data Sources**

- Oregon State University Extension Program
- Oregon Department of Geology and Mineral Industries
- Oregon Statewide Lambert Conformal Conic
- NOAA: National Tsunami Hazard Mitigation Program

**Acknowledgments**

This project was made possible through the support of the Oregon State University Extension Program's Nature of the Northwest Information Center, the Coquille Tribe, the City of Coquille, and the Oregon Department of Geology and Mineral Industries.

**References**


**Map Legends**

- Tsunami Inundation Zones
- Building Footprints
- Urban Growth Boundaries
- Profile Locations
- Building Occupancy Structures
- City and Town Names
- Reference Points

**Note:** This map is intended for informational purposes only and should not be used for navigation or planning.

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**Faults and Earthquakes**

Faults in the Cascadia Subduction Zone (CSZ) are subject to great earthquakes that can generate tsunamis. The most recent great earthquake in the CSZ occurred offshore Chile in 1960. The potential for similar events along the Oregon coast is significant, with the largest recorded earthquake being the 1964 Alaska earthquake with a magnitude of 9.2. The Cascadia Subduction Zone is thought to be capable of generating earthquakes of magnitude 8 to 9.

The Cascadia Subduction Zone is a convergent plate boundary where the Juan de Fuca Plate is colliding with the North American Plate. This collision results in the subduction of the Juan de Fuca Plate underneath the North American Plate, causing the formation of the Cascade Range and the development of the Cascadia Subduction Zone.

Over the past 10,000 years, there have been 19 full-rupture events along the Cascadia Subduction Zone, with the most recent event occurring on January 26, 2011. The 2011 earthquake was a magnitude 9.2 event that generated a tsunami that affected the Pacific Northwest.

### Earthquake Size

- **Magnitude 8-9 CSZ earthquake occurring over the next 30 years is estimated to have a 10% chance.**
- **Such earthquakes occur about every 500 years.**

### Tsunami Hazard

- **Tsunamis generated by great earthquakes along the Cascadia Subduction Zone can be extremely destructive, with waves reaching up to 30 meters in height.**
- **The hazard is greatest along the Oregon coast, with tsunami waves extending inland for several kilometers.**

### Educational Aspects of Hazard Mitigation and Response

- **Using federal funding awarded by NOAA, DOGAMI has targeted tsunami education and outreach efforts in the Coquille area.**
- **This map also shows the regulatory tsunami inundation line along the Oregon coast.**
- **This line is intended to be used by local residents, emergency management officials, and the general public to understand the potential tsunami hazard.**

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**Contact Information**

- Don W.T. Lewis, Rachel R. Lyles Smith
- Oregon State University Extension Program
- 800 NE Oregon Street, #28, Ste. 965, Portland, Oregon 97232
- Telephone (971) 673-2331
- www.OregonGeology.org

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**Surfing and Boating Near Cascadia Subduction Zone Faults and Earthquakes**

Surfing and boating near Cascadia Subduction Zone faults and earthquakes should be approached with caution. Great earthquakes in this region can generate tsunamis that can be extremely destructive, with waves reaching up to 30 meters in height. The hazard is greatest along the Oregon coast, with tsunami waves extending inland for several kilometers. Surfing and boating near this region should be approached with caution, as the potential for great earthquakes and tsunamis is significant.