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

**Port Orford, Oregon**

### Map Description

- **Map Title**: Local Source (Cascadia Subduction Zone) Tsunami Inundation Map
- **Location**: Port Orford, Oregon
- **Date**: 2010

### Map Features

- **Legend**
  - Different colors represent different inundation zones.
- **Data Sources**
  - National Oceanic and Atmospheric Administration (NOAA)
  - Urban growth boundaries (2010) provided by the Oregon Department of Land Conservation and Development (DLCD).
- **Data and Analysis**
  - Profiles show that there may be a steep splay fault running nearly the Juan de Fuca Plate during a CSZ event. DOGAMI has modeled a recent CSZ event happened approximately 300 years ago on January 1960 and 2010, offshore Alaska in 1964, near Sumatra in 2004, and 2010. These profiles are based on the analysis of tsunami wave heights and inundation patterns.
  - DOGAMI's work is designed to improve tsunami inundation maps to help residents and visitors along the Oregon coast.
  - The Cascadia Subduction Zone (CSZ) earthquake and tsunami occur due to the converging of two tectonic plates, the North American Plate and the Juan de Fuca Plate (Figure 1). These plates are not smooth and continuous. Rather, they lock in place, and movement is periodic at a rate of about 1.5 inches per year, but the movement is not uniform.
  - Wave heights vary through time, and the first wave will not necessarily be the largest as waves interfere and reflect off local topography.

### Data References


### Map Elements

- **Tsunami Inundation Map**: Shows the extent of inundation zones resulting from local source events.
- **Estimated Tsunami Wave Height through Time**: Depicts wave height variations through time, including the first wave and subsequent waves.
- **Maximal Wave Elevation Profiles**: Illustrates wave elevation at different points along the coast.
- **Building density**: Indicates areas with higher building density and potential tsunami impact.

### Map Annotations

- **City of Port Orford**: Marked on the map for reference.
- **Port Orford Tide Gauge**: Used for monitoring tsunami wave heights.
- **Tide Gauge Station**: Posts tide gauge data for reference.

### Map Scale

- **Scale**: 1:12,000

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This map is a valuable resource for understanding the potential impact of tsunamis in the Port Orford area, particularly in light of recent events and ongoing research on the Cascadia Subduction Zone.