Introduction

The Cascadia Subduction Zone (CSZ) is a convergent plate margin that extends from northern Vancouver Island to northern California. It is characterized by the subduction of the Pacific Plate beneath the North American Plate. The CSZ is known for its occurrence of megathrust earthquakes, which can generate large tsunami waves.

Map Exploration

The map provides a visual representation of the local source (Cascadia Subduction Zone) tsunami inundation for the Umpqua River East, Oregon. It includes various layers such as bathymetry, shoreline, critical facilities, and building footprints. The map also highlights the Enhanced Tsunami Inundation Zones and provides information on the inundation scenarios.

Tsunami Hazard Mitigation Program

The Oregon Department of Geology and Mineral Industries (DOGAMI) administers the Tsunami Hazard Mitigation Program to help residents and visitors understand and mitigate the geologic hazard associated with the CSZ. The program includes the creation of tsunami inundation maps to inform planning and development decisions.

Figure 1: The table and chart show the number of buildings inundated for each tsunami T-shirt scenario for cities along the Oregon coast.

Figure 6: The figure compares tide elevations generated in the model to the observed maximum high water (MHHW) values.

Legend:
- Land Use Areas
- Critical Facilities
- Buildings in Inundation Zones
- Elevation Contours
- Time Series Graphs and Wave Elevation Profiles

Tsunami Inundation Scenarios

The scenarios are labeled as XXL Wet/Dry Zones, which represent different levels of inundation. Each scenario assumes that a tsunami occurs at Mean Higher High Water (MHHW) tide, and the computer model produces time series data for tsunami waves as they arrive at a simulated gauge station.

Data Sources:

- DOGAMI Lidar Data Quadrangles
- Oregon Department of Land Conservation and Development Lidar Data
- Hydrology data, contours, critical facilities, and building footprints

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References:

- DOGAMI Special Paper 43, 57 p.