Distant Source (Alaska-Aleutian Subduction Zone) Tsunami Inundation Map
Warrenton North, Oregon

Introduction

The Alaska-Aleutian subduction zone is a geologically active region with a history of large earthquakes. The 1964 M 9.2 earthquake in Alaska, which generated a devastating tsunami, is a well-known event.

Map Explanation

This map is based on hydrodynamic tsunami modeling by basin scale numerical models and utilizes the United States National Geophysical Data Center / World Data Center for Earthquake Engineering (NGDC/WDC). The model parameters were determined using the National Tsunami Hazard Mitigation Program. High and low tide observed at local tide gages near Warrenton North, Oregon, were used to generate the map.

The resulting tsunami inundation map was edited at Oregon State University (OSU) for Warrenton North, Oregon, to improve the spatial accuracy and resolution. The edited map was then digitized by Sean G. and Rachel L. Smith for the Oregon Department of Geology and Mineral Industries.

References

For further information and details on the parameters and modeling methods used in the tsunami inundation mapping, please refer to the original sources listed below. This map is designed for use by emergency managers and their communities in Warrenton North, Oregon.

Plate 2

The accompanying figures include detailed profiles and graphs showing inundation levels for different locations along the Oregon coast. These data are valuable for assessing potential tsunami impacts and guiding community preparedness and planning.

Legend

The legend contains symbols and color codes indicating various inundation levels and critical facilities. These symbols are used to denote areas affected by different tsunami scenarios, including the Alaska Maximum Wet/Dry Zone.

Building Footprints

The building footprints on the map represent critical facilities and infrastructure important for emergency response and evacuation. These facilities are shown with specific symbols to indicate their classification and function.

Earthquake Activity

The Ring of Fire, located around the Pacific Ocean, represents active earthquake and volcanic zones. This region is highly prone to tsunamis due to the movements of tectonic plates.

Tsunami Wave Heights

Tsunami wave heights are crucial for understanding the potential inundation zones. The map depicts these heights using color gradients, with orange indicating higher wave heights.

Natural Hazards

This map is essential for understanding the risks associated with tsunamis and other natural hazards. It provides a comprehensive view for emergency planning and response.

Transportation Data

Transportation data (2011) provided by Clatsop County Development (DLCD) was used to improve the spatial accuracy of the transport grid on the map.

Map Date

The map was produced in 2013.

Map Production

This map was produced at Oregon State University for the Oregon Department of Geology and Mineral Industries (DOGAMI) with support from the National Tsunami Hazard Mitigation Program.