Distant Source (Alaska-Aleutian Subduction Zone) Tsunami Inundation Map
Clatsop Spit, Oregon

Introduction

Tsunamis are generated by submarine earthquakes, landslides, and volcanic eruptions (Ring of Fire). They are waves that travel across the ocean, with wave amplitudes of 10-100 m, and 10-100 km2 of water may be involved. Tsunamis can have destructive power in port areas, especially if there are low-lying structures in the path of the wave. Coastal areas with high tide levels are at greater risk of inundation (MHHW). This tsunami scenario is based on a large magnitude earthquake, either in the Cascadia subduction zone or in the Alaska-Aleutian subduction zone, which can be modeled using DOGAMI's computer models. The inundation map was generated using data from the Cascadia and Alaska subduction zones.

Map Exploration

This map highlights the inundation zones for Clatsop Spit, Oregon. The inundation zones are based on the peak wave heights generated by the modeled earthquakes. The map shows the wet and dry zones, with the dry zone extending inland to the regulatory tsunami inundation line. The map data was created using hypothetical Cascadia and Alaska earthquake scenarios.

For copies of this publication contact:
Taylore E. Wille

Basemap Data:
Developing Flood Maps (1902-2011) by the National Tsunami Hazard Mitigation Program.


Software:

Hydrology data, contours, critical facilities, and building data were obtained from the National Tsunami Hazard Mitigation Program.

Legend:

Earthquake Size
Magnitude
Elevation Contour
Profile Location
Slip / Deformation
Uniform slip on 12 subfaults with estimate.
Vertical seafloor deformation
Earthquake
Magnitude
Inundation Map Index

Acknowledgments:

This map is based on hydrodynamic tsunami modeling by
Don W.T. Lewis, Rachel L. Smith
Deborah A. Schueller
George R. Priest, Laura L.

DOEAMI Special Paper 43, 57 p.

For copies of this publication contact:
Taylore E. Wille
800 NE Oregon Street, #28, Ste. 965
Portland, Oregon 97232

Legend:

Earthquake Size
Magnitude
Elevation Contour
Profile Location
Slip / Deformation
Uniform slip on 12 subfaults with estimate.
Vertical seafloor deformation
Earthquake
Magnitude
Inundation Map Index

Acknowledgments:

This map is based on hydrodynamic tsunami modeling by
Don W.T. Lewis, Rachel L. Smith
Deborah A. Schueller
George R. Priest, Laura L.

DOEAMI Special Paper 43, 57 p.

For copies of this publication contact:
Taylore E. Wille
800 NE Oregon Street, #28, Ste. 965
Portland, Oregon 97232

Tsunami Inundation Map Index