Improved Road

Tsunami Inundation Map Index

Displacement and increase tsunami inundation. Seismic geophysical

the Juan de Fuca Plate during a CSZ event. DOGAMI has modeled a wide

deposits carried onshore and left by the 1700 event have been found 1.2

indicates that at least 19 major ruptures of the full length of the CSZ have

builds over time. At intervals, this accumulated energy is violently

at a rate of about 1.5 inches per year, but the movement is not smooth

earthquake and tsunami.

along the entire Oregon coast prepare for the next Cascadia Subduction

in coastal areas reduce the potential for disastrous tsunami-related

Vicki S. McConnell, Director and State Geologist

W. Lawrence Givens, Governing Board Chair

STATE OF OREGON

Cascadia Subduction Zone Setting

Displaced and uplifted Pacific Ocean water

from research that examined the many

causes a great earthquake. The sudden slip of

earthquake-produced subsidence and the tsunami-amplifying effects of

generates mechanical energy that is released as a tsunami.

Subsidence

The transition area between the

wet and dry contour lines is termed the Wet/Dry Zone, which equates to

these areas as wet or dry. The

points are converted to wet and dry contour

lines that form the extent of inundation. The transition area between the

Dry Zone is determined from a rain gauge network and the

geometries, subsidence, computer models, and the methodology used to

create the tsunami scenarios presented on this map can be found in

California, Washington, Oregon, and British Columbia. The Cascadia Subduction Zone (CSZ) extends through coastal Oregon and Washington and inland to the

This map is based on hydrodynamic tsunami modeling by

the Oregon Department of Geology and Mineral

Development (DLCD).

Urban growth boundaries (2011) were provided by the

data were redigitized by Rachel L. Smith and Sean G.

Portland, Oregon. Model data input were created by John

: Don W.T. Lewis, Rachel L. Smith


Conformal Conic, Unit: International Feet, Horizontal

Estimated Tsunami Wave Height through Time for Simulated Gauge Station

Boone: These profiles depict the expected maximum tsunami wave elevation for the five "tsunami T-shirt scenarios" along... tsunami scenarios are modeled to occur at high tide and to account for local subsidence or uplift of the ground surface.

High Tide: The highest ocean water level observed during a tide cycle. Ocean levels can rise and fall up to 10 feet due to the gravitational pull of the moon and sun.

Low Tide: The lowest ocean water level observed during a tide cycle. Ocean levels can rise and fall up to 10 feet due to the gravitational pull of the moon and sun.

Tidal Range: The difference between the high and low tide levels. Ocean levels can rise and fall up to 10 feet due to the gravitational pull of the moon and sun.

Maximum Slip

Range (ft)

115 to 144 1,050 to 1,200 ~9.1

72 to 98 650 to 800 ~9.0

25 to 50 375 to 500 ~8.5

14 to 37 250 to 375 ~8.0

2 to 10 150 to 200 ~7.0


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