Other Tsunami Sources in Washington

by

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Earthquakes

Tsunami Evidence
- Published geologic tsunami deposit
- Candidate geologic tsunami deposit seen in reconnaissance
- Native American Stories

Published co-seismic Vertical Deformation Estimates (Color-coded for Tsunami Evidence)
- \( n \) Uplift of \( n \) meters
- \( n \) Subsidence of \( n \) meters
- Fault Zones
- Vertical deformation for Mw 7.3 Seattle Fault

Peak Ground Acceleration with 2% probability of exceedance in 50 years (after Frankel, et al., 1996)

Map (a) is based on discussions held during the Puget Sound Tsunami Sources workshop held in Seattle, Washington on 10 June 2002, and on subsequent reviews and discussion by workshop participants. Contributing institutions included Kent State University, National Oceanic and Atmospheric Administration (NOAA), University of Nevada, University of Washington, U.S. Geological Survey (USGS), and Washington Division of Geology and Earth Resources. The workshop was organized by NOAA’s Center for Tsunami Inundation Mapping Efforts (TIME), the USGS, Washington’s Department of Natural Resources (WADNR) and Washington’s Emergency Management Division (WAEMD).
Washington also has a locally generated tsunami hazard from faults in Puget Sound. We have modeled inundation in Seattle and Tacoma from simulations on the Seattle and Tacoma faults.
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Landslide-induced tsunamis are also fairly common in western Washington.

Delta Failures

Historic Delta Failure

River Deltas

Probabilistic shaking hazard contours

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Commencement Bay -- 1894

Commencement Bay dump site
5x VE, looking SE
On Wednesday, August 25th, 2009, a large landslide occurred near the Blue Creek drainage on the Spokane Indian Reservation side of the Spokane Arm of the lake. Like the one that occurred on January 16th of this year, responding park staff found that a large section of hillside had broken free, creating a wave that was approximately 12 feet high by the time it hit Porcupine Campground on the southern shore less than a thousand yards across the lake.