



*Northwest Association of Networked Ocean Observing Systems
Oregon Department of Geology and Mineral Industries
Washington State Department of Natural Resources*

FOR IMMEDIATE RELEASE

Interactive Tsunami Evacuation Maps Now Available For the Pacific Northwest

Interactive maps of tsunami evacuation zones in both Oregon and Washington are now available online and as a smartphone app (*TsunamiEvac-NW*).

The Pacific Northwest Tsunami Evacuation Zones online portal and smartphone app provide an at-a-glance view of tsunami hazard zones along the coasts of Oregon and Washington. This tool was developed by the Northwest Association of Networked Ocean Observing Systems (NANOOS) program. The online portal can be found on the web at: <http://nvs.nanoos.org/tsunami>. The maps have also been integrated into a free smartphone app, *TsunamiEvac-NW*, which allows users to see whether they are in a tsunami evacuation zone, and plan their own evacuation routes. This free app is available from the iTunes App Store and Android Market:

- iPhone: <http://itunes.apple.com/us/app/tsunamievac-nw/id478984841?mt=8>
- Android: <https://play.google.com/store/apps/details?id=org.nanoos.tsunami&hl=en>

The coasts of Oregon, Washington, and Northern California are exposed to tsunamis from either *distant earthquakes* (such as the March 11, 2011, Tōhoku, Japan tsunami) or *local* earthquake events. The greatest risk to Northwest coastal communities is from very large *locally* generated tsunamis produced by an earthquake (magnitude 8-9+) occurring immediately offshore the Pacific Northwest coast on the Cascadia Subduction Zone. The Oregon Department of Geology and Mineral Industries (DOGAMI) and the Washington State Department of Natural Resources (DNR) have mapped the zones that would be inundated by a tsunami. The collaborative effort between NANOOS, DOGAMI, and DNR will serve as an important tool in preparing for a potentially catastrophic tsunami event along the Pacific Northwest coast.

Both the interactive online portal and the smartphone app allow users to view whether their home, work place, school, etc., are in a tsunami evacuation zone. Visitors to the coast can use the app to learn about tsunami risks before or during their visit. To help users develop and plan their own evacuation routes, the *Places* feature of this tool allows users to pin-point a location by either entering an address or clicking on the map to see if that location is in a danger zone. Users can create multiple places with the feature and, if they log in with their *myNANOOS* account, those places will be saved automatically.

In addition to the maps, the portal and app provide information and resources of critical importance before, during, and following a tsunami event, including:

- Direct links to tsunami warnings issued by the NOAA West Coast and Alaska Tsunami Warning Center (WCTWC);
- Information links to WCATWC and the U.S. Geological Survey;

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- The *Markers* feature that displays pre-set locations of schools, bridges, assembly areas, and various local government and emergency management buildings; and,
- Downloadable brochures produced by DOGAMI and DNR showing evacuation routes and links to local emergency agencies for many communities along the Washington and Oregon coasts.

Although infrequent, tsunamis are a major threat to both life and property on the Washington and Oregon coasts. Based on sediment deposits, Japanese harbor records and Pacific Northwest tribal oral histories, scientists have identified that the last mega-thrust earthquake (magnitude 8-9+) happened in 1700. Preparation for this type of event is necessary since scientists estimate that there is a 10% probability that the next earthquake will occur in the next 30 years.

Tsunamis that result from distant earthquakes, like the 1964 magnitude-9.2 Alaska earthquake or 2011 magnitude-9.0 Japan earthquake, can cause damage in the Pacific Northwest as well. When the tsunamis from both of these events reached the shores of Washington, Oregon, and Northern California, lives were lost and tens of millions of dollars' worth of damage was created in several harbors and bays.

To minimize the loss of life and utilizing funding from NOAA's National Tsunami Hazard Mitigation Program, the Oregon Department of Geology and Mineral Industries (DOGAMI) has embarked on a massive effort to map new tsunami inundation zones for the entire Oregon coast by mid 2014. DOGAMI scientists developed new earthquake source models in partnership with researchers at Oregon State University and the Geological Survey of Canada. DOGAMI constructed 3D point clouds using improved bathymetry and high-resolution lidar ground surface elevation data so that numerical hydrodynamic modeling could be performed by the Center for Coastal Margin Observation and Prediction. Upon model completion, DOGAMI staff created two lidar-based tsunami inundation map plate templates to create the Tsunami Inundation Map Series. This map series will span the entire Oregon Coast when complete, and will provide multiple local- and distant-source tsunami inundation scenarios, wave elevation profiles, wave height time series data, and building exposure analysis results. DOGAMI also manages a comprehensive community outreach program that works to increase earthquake and tsunami preparedness among coastal visitors and residents, to create a local and sustainable grass-roots outreach program, and to create new evacuation brochures in collaboration with county and city officials. This outreach program is also supported by the Oregon Department of Land Conservation and Development and Oregon Emergency Management. For more information visit: www.oregontsunami.org.

In addition to managing more than 5.6 million acres of state-owned lands and serving as the state's wildland fire department, the Washington Department of Natural Resources (DNR) houses the Washington State Geologist. The department regulates surface mining reclamation and provides technical assistance to citizens, industry and government on geologic hazards, forest stewardship, and other issues. Tsunami modeling was performed by NOAA's Center for Tsunami Research. Inundation mapping was undertaken by staff from the Washington Department of Natural Resources. Community outreach is provided by the Washington Department of Military Emergency Management Division. For more information visit: www.dnr.wa.gov.

The Northwest Association of Networked Ocean Observing Systems (NANOOS) is the Pacific Northwest Regional Association of the U.S. Integrated Ocean Observing System (IOOS®), a national effort designed to enable the broadest access to ocean data, tools, products, and knowledge. NANOOS and our partners work with stakeholders to provide data and information needed to increase understanding and support decisions about key regional issues. For more information visit: www.nanoos.org.

The U.S. Integrated Ocean Observing System (IOOS®) is a federal, regional and private-sector partnership working to enhance our ability to collect, deliver and use ocean information. IOOS delivers the data and information needed to increase understanding of our oceans and coasts, so that decision-makers can act to improve safety, enhance the economy and protect the environment. For more information visit: www.ioos.gov.

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