# OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

Vicki S. McConnell, State Geologist



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# New series of tsunami inundation maps for Oregon Coast debuts

Portland, Oregon: The Oregon Department of Geology and Mineral Industries (DOGAMI) has released the first of its new, second generation tsunami inundation maps for communities along the Oregon coast.

DOGAMI TIM-Coos-05, Tsunami Inundation Maps for Coos Bay - North Bend, Coos County, Oregon by DOGAMI, 2012, scale 1:12,000. Includes two plates showing local-source (Cascadia Subduction Zone) and distant-source (Alaska-Aleutian Subduction Zone) tsunami inundation scenarios.





Portions of DOGAMI TIM-Coos-05, the first publication released in the new Tsunami Inundation Map Series.

DOGAMI is pleased to initiate the release of a new style of tsunami inundation maps that incorporate all the best tsunami science that is available today, including recent publications by colleagues studying the Cascadia Subduction Zone, updated computer simulation models using high-resolution lidar topographic data, and knowledge gained from the 2004 Sumatra, 2010 Chile, and 2011 Tōhoku earthquakes and tsunamis.

Plate 1 displays five scenarios, labeled as "T-shirt sizes" (S, M, L, XL, and XXL), of the impact of Cascadia Subduction Zone tsunamis that reflect the full range of what was experienced in the past and will be encountered in the future. The geologic record shows that the amount of time that has passed since the last great Cascadia earthquake (312 years since January 26, 1700) is not a reliable indicator of the size of the next one, so the size ranges are intended to fully bracket what might happen next.

Plate 2 shows tsunami inundation scenarios for two distant-source tsunamis that were modeled and originate in Alaska. These distant tsunamis are not nearly as dangerous as the local ones, as Oregonians will have several hours instead of only minutes to evacuate and the tsunamis themselves are much smaller. For these reasons DOGAMI's focus is on

DOGAMI's mission is to provide earth science information and regulation to make Oregon safe and prosperous.

## Media contact: Carol DuVernois

carol.duvernois@state.or.us

800 NE Oregon St., #28, Ste. 965 Portland, OR 97232 Phone: (971) 673-1555 Fax: (971) 673-1562 www.OregonGeology.org

### **Mineral Land Regulation and**

Reclamation Program 229 Broadalbin St. SW Albany, OR 97321 Phone: (541) 967-2039 Fax: (541) 967-2075 info@mlrr.oregongeology.com Gary W. Lynch, Assistant Director

### **Coastal Field Office**

313 SW 2nd, Ste. D Newport, OR 97365 Phone: (541) 574-6642 Fax: (541) 265-5241 Jonathan C. Allan, Coastal Team Leader

### Eastern Oregon Field Office

Baker County Courthouse 1995 3rd St., Ste. 130 Baker City, OR 978149 Phone: (541) 523-3133 Fax: (541) 523-5992 Jason D. McClaughry, Regional Geologist

Nature of the Northwest Information Center

800 NE Oregon St., Ste. 965 Portland, Oregon 97232 (971) 673-2331 Email: info@naturenw.org Web: www.NatureNW.org Donald J. Haines, Manager

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the big Cascadia events. If the ground shakes for an extended period of time, don't wait for more warning, evacuate to high ground as fast as possible.

These maps include a wealth of information, including projected tsunami wave height time series charts and a measurement of the exposure each community has to the various tsunami scenarios: we count the number of buildings that are inundated by each scenario.

We hope that the public, planners, emergency managers and first responders, elected officials, and other local decision makers will use this detailed and innovative map product to mitigate risk and to reduce the loss of life and property.

To learn more about this publication and to see the anticipated publication schedule for other publications in the TIM series, visit: <u>http://www.oregongeology.org/pubs/tim/p-TIM-Coos-05.htm</u>

DOGAMI publication TIM-Coos-05 can be purchased on CD-ROM for \$10 from the Nature of the Northwest Information Center (NNW), 800 NE Oregon Street, Suite 965, Portland, Oregon, 97232. You may also call NNW at (971) 673-2331 or order online at *http://www.naturenw.org*. There is a \$4 shipping and handling charge for all mailed items.

### **Contact Information:**

Oregon Department of Geology Ian Madin, Chief Scientist (971) 673-1542 <u>ian.madin@state.or.us</u>

The Oregon Department of Geology and Mineral Industries is an independent agency of the State and has a broad responsibility in developing an understanding of the state's geologic resources and natural hazards. The Department then makes this information available to communities and individuals to help inform and reduce the risks from natural hazards, such as earthquakes, tsunamis, landslides, floods and volcanic eruptions. The Department assists in the formulation of state policy where an understanding of geologic materials, geologic resources, processes, and hazards is key to decision-making. The Department is also the lead state regulatory agency for mining, oil, gas and geothermal exploration, production and reclamation.

Learn more about Oregon's geology online: <u>http://www.OregonGeology.org</u>

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