

OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

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The mission of the Oregon Department of Geology and Mineral Industries is to provide earth science information and regulation to make Oregon safe and prosperous.

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New report details research on tsunami hazard assessment for Cannon Beach

Newly published study shows large portions of Cannon Beach area would be inundated by a worst case tsunami generated by a Cascadia Subduction Zone earthquake.

Portland, Oregon: A new report published by the Oregon Department of Geology and Mineral Industries (DOGAMI) details the underlying research that went into the production of new tsunami evacuation maps for the Cannon Beach area. This new research shows that run-ups (how high above sea level a tsunami would push inland) from a Cascadia Subduction Zone earthquake are much higher in worst-case scenario events than previously estimated.

George Priest and Rob Witter of DOGAMI led a team of world renowned researchers, scientists and computer modelers in a two year investigation of tsunami hazards in the Cannon Beach area that served as the pilot project for a complete re-mapping of the Oregon coast for tsunami inundation.

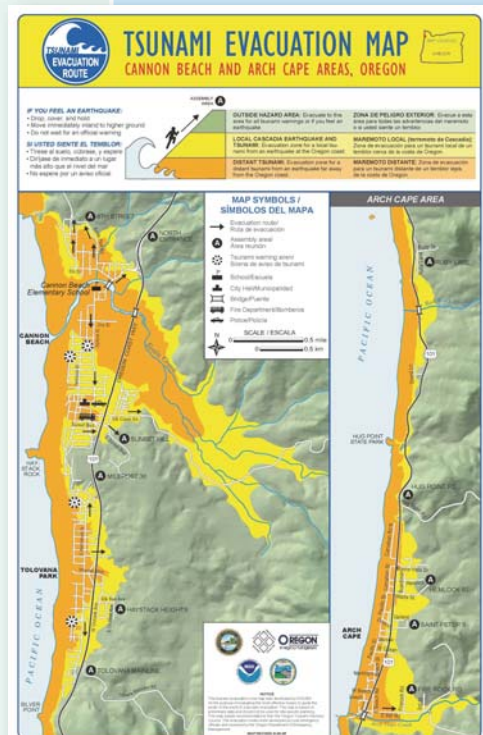
One of the most important tasks for DOGAMI is helping coastal communities understand and mitigate for the risk of possible tsunamis. Communities located in exposed, low-lying areas along the Oregon coast face the risk of inundation by tsunamis produced by earthquakes around the Pacific Rim far from Oregon, as well as local earthquakes on the Cascadia Subduction Zone.

Cannon Beach was chosen for its relatively small size, variety of topography, rich record of Cascadia tsunami deposit, and detailed historical observations of tsunami inundation from the

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The new Cannon Beach tsunami evacuation map includes both local (yellow) and distant (orange) inundation zones based on the new report.

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1964 tsunami generated by the magnitude 9.2 Prince William Sound earthquake in the Gulf of Alaska. The ultimate objective of this new study was development of a cost-effective, improved approach for tsunami hazard assessment of the Oregon coast by DOGAMI.

This work is being complemented by a similar investigation, in progress now, of the southern Oregon coast centered on the Bradley Lake-Bandon area where a similarly rich record of paleotsunami deposits exists.

A related study, **Open-File Report O-08-12, Prehistoric Cascadia Tsunami Inundation and Runup at Cannon Beach, Clatsop County, Oregon**, was released in December 2008.

Open-File Report O-08-12 discusses field investigations conducted over the past 2 years that detail the landward extent of sand deposits left by Cascadia tsunamis that inundated the lower Ecola Creek valley in Cannon Beach over the last 2,000 years.

The brochure and map base on these two reports can be found online at: <http://www.oregongeology.com/pubs/tsubrochures/CannonEvac.pdf> This is the first of a new generation of tsunami evacuation brochures that will result from the remapping of the coastline for tsunami inundation.

This investigation was supported by the National Oceanic and Atmospheric Administration (NOAA) the City of Cannon Beach, the Cannon Beach Rural Fire Protection District, and the Seaside School District.

Special Paper 41, Multi-Deterministic Tsunami Hazard Assessment, Cannon Beach, Clatsop County, Oregon, by George R. Priest, Chris Goldfinger, Kelin Wang, Robert C. Witter, Yinglong Zhang, and António M. Baptista, is available on DVD-ROM for \$15.

Open-File Report O-08-12, Prehistoric Cascadia Tsunami Inundation and Runup at Cannon Beach, Clatsop County, Oregon, by Robert C. Witter, is available on CD-ROM for \$10.

Both can be purchased from the Nature of the Northwest Information Center (NNW), 800 NE Oregon Street, Suite 177, Portland, Oregon, 97232. You may also call NNW at (503) 872-2750 or order online at <http://www.naturenw.org>. There is a \$4 shipping and handling charge for all mailed items.

Learn more about Oregon's geology by going online at: <http://www.oregongeology.org>

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