Western States Seismic Policy Council
2013 Awards in Excellence

Overall Award in Excellence for Use of New Technology

Administering Agency:	Oregon Department of Geology and Mineral Industries (DOGAMI)
Program Name:	DOGAMI Special Paper 43: *Simulating tsunami inundation at Bandon, Coos County, Oregon, using hypothetical Cascadia and Alaska earthquake scenarios*
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Program Summary

In July 2011, the Oregon Department of Geology and Mineral Industries (DOGAMI) published *DOGAMI Special Paper 43 Simulating tsunami inundation at Bandon, Coos County, Oregon, using hypothetical Cascadia and Alaska earthquake scenarios,* providing a new method for modeling Cascadia subduction zone earthquakes for use in tsunami inundation modeling. The new method incorporates multiple source characterization for the Cascadia subduction zone with many possible earthquake scenarios using a logic tree framework. DOGAMI is currently using this method – which includes modeling fault slip ranging from 9 to 44 m and earthquakes with moment magnitude ranging from M8.7 to M9.2 – to develop tsunami inundation maps for the Oregon coast.

Funded by the National Oceanic and Atmospheric Administration's National Tsunami Hazard Mitigation Program, the method was developed by a group of scientific experts on the Cascadia subduction zone who developed a consensus on how to model the fault source with rupture parameters for use in tsunami hazard modeling. The method could be used to model Cascadia subduction zone-related tsunami hazards in northern California, Washington, and British Columbia as well as specific locations in Oregon. Although it is considered a state-of-the-art method, a future advancement might be to develop probabilistic tsunami hazard assessments and maps, perhaps to complement the USGS's probabilistic seismic hazard maps.

The publication may be downloaded from DOGAMI's website.