

State of Oregon
Department of Environmental Quality

Memorandum

Date: Nov. 23, 2015
To: Environmental Quality Commission
From: Dick Pedersen, Director 
Subject: Agenda item Q, Informational item: Oregon's earthquake resiliency
Nov. 9-10, 2015, EQC meeting

Why this is important Ian Madin, State Geologist, will present to the commission on environmental and human health issues, and DEQ's role in response, associated with the projected Cascadia Subduction Zone earthquake. This item is presented at the request of the commission.

Background During the 2011 Oregon Legislative Assembly, the House of Representatives passed House Resolution 3. That resolution acknowledged the threat posed to Oregon by great subduction earthquakes from the Cascadia Subduction Zone that lies off the coast of Oregon, Washington, northern California and British Columbia. The resolution also charged the Oregon State Seismic Safety Policy Advisory Commission with the preparation of a resilience plan for Oregon that would estimate current vulnerabilities and recommend policies to address those vulnerabilities and increase the state's resilience to a great earthquake. OSSPAC developed a strategy that involved the use of several workgroups to look at different parts of the problem and populated these groups with volunteers from the engineering, planning, emergency management, architectural, business, and geoscience communities as well as members of the public and representatives of state and local government. The workgroups were:

- Cascadia Earthquake Scenario
- Business
- Energy
- Transportation
- Water and Wastewater
- Communication
- Critical Buildings
- Coastal Communities

The workgroups analyzed the vulnerability of their respective sectors to the chosen earthquake scenario, a magnitude 9.0 great subduction earthquake off the coast of Oregon, accompanied by a large tsunami. The likelihood of this earthquake is currently estimated to be seven to 12 percent in the next 50 years. The geologic record of great subduction earthquakes in Oregon for the last 10,000 years suggests that this event is about average in size for the Cascadia Subduction Zone.

The Cascadia Earthquake Scenario workgroup was charged with developing a description of the likely ground motion and ground deformation to be expected from the scenario event, as well as maps of the likely tsunami inundation for coastal cities.

The workgroups created a final report, including maps and scientific data, to support the work of the Oregon Resilience Plan workgroups and OSSPAC. The information has been used by many others since its publication.

**EQC
involvement
and next
steps**

There is no commission action associated with this item.

**Available
online**

1. 2012 Oregon Earthquake Resiliency Plan:
http://www.oregon.gov/OMD/OEM/osspace/docs/Oregon_Resilience_Plan_Final.pdf
2. Maps and data sets related to the resiliency report:
<http://www.oregongeology.org/pubs/ofr/p-O-13-06.htm>

*Information provided by DOGAMI - report prepared by Stephanie Caldera
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