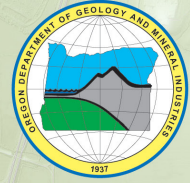


OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

VICKI S. MCCONNELL, STATE GEOLOGIST



NEWS RELEASE: October 16, 2013

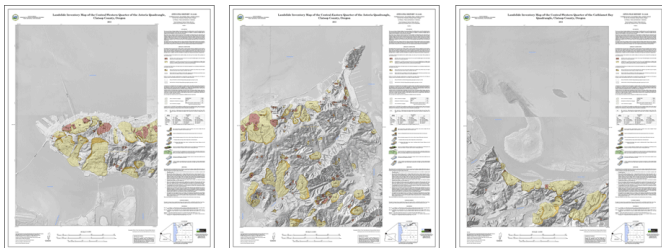
Landslide susceptibility mapped for City of Astoria

City has high risk, say geologists

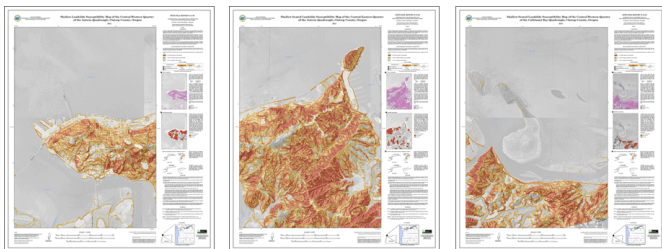
Portland, Oregon: The Oregon Department of Geology and Mineral Industries (DOGAMI) has released shallow and deep landslide susceptibility maps that will aid planners for the City of Astoria.

DOGAMI scientists Bill Burns and Kate Mickelson used lidar, a laser-mapping technology that allows for amazingly detailed and accurate mapping of the earth's surface, to locate 120 landslides within the city limits – 83 of these have moved in the last 150 years and several have caused significant damage.

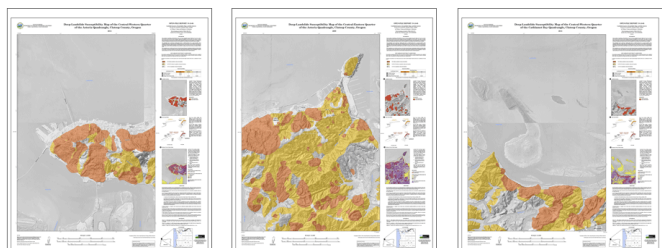
With a protocol developed at DOGAMI, Burns and Mickelson then used the inventory of mapped landslides to create landslide susceptibility maps. These maps show areas that have the potential for landslide hazards. About 55 percent of the city of Astoria is classified as highly susceptible to shallow landslides – slides where movement occurs along a plane less than 9.5 feet deep. About 37 percent of the city is highly susceptible to deep landslides – slides that move along a plane at depths greater than 15 feet.



(top) Landslide inventory maps for the city of Astoria. Colors show existing mapped landslides.



(middle) Corresponding shallow landslide susceptibility maps. Colors show areas at risk for landslides with depths of failure less than 15 feet.



(bottom) Corresponding deep landslide susceptibility maps. Colors show areas at risk for landslides with depths of failure more than 15 feet.

Map scale for full-size maps is 1:8,000.

To preview larger versions of these maps, visit:

<http://www.oregongeology.org/g/pubs/ofr/p-O-13-05.htm>

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,
Field 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

With this information and a Federal Emergency Management Agency (FEMA) tool called Hazus, Burns and Mickelson conducted a regional risk analysis. The risk analysis indicates that a loss ratio of about 65 percent can be expected in a major earthquake, with about 50 percent of the damage and losses resulting just from landslides. Similarly, an exposure analysis indicates that roughly one quarter of the city is at risk to landslides.

These maps and loss estimation products can be used by city planning and emergency management officials to develop and refine emergency response plans, public outreach activities, the selection of appropriate safe-haven sites, and mitigation of critical facilities and infrastructure. For example, by combining the hazard maps with transportation data, potential road blockages can be identified and alternative routes located. Similarly, the hazard maps can be combined with other information such as the locations of hazardous waste facilities to evaluate potential effects and to plan for emergency response.

“It is important to remember that these maps and results are valuable for regional screening,” says Bill Burns. “They aren’t for site specific evaluations. However, they give planners an idea of what is out there and where to focus their efforts.”

To see a preview of **Open-File Report O-13-05, Landslide inventory, susceptibility maps, and risk analysis for the City of Astoria, Clatsop County, Oregon**, visit:

<http://www.oregongeology.org/pubs/ofr/p-O-13-05.htm>

CD-ROMs of the publication can be purchased for \$15 each 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 \$4.95 shipping and handling charge for all mailed items.

Contact Information:

Ian Madin, Chief Scientist
Oregon Department of Geology and Mineral Industries
telephone (971) 673-1542
email ian.madin@state.or.us

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 at www.OregonGeology.org.

###