

OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

Vicki S. McConnell, State Geologist

NEWS RELEASE: April 20, 2009

New maps reveal landslides using laser based imaging

*New technology is helping state geologists create some of
the most accurate landslide inventory maps in the world.*

Portland, Oregon: The Oregon Department of Geology and Mineral Industries (DOGAMI) has released two maps showing historic and pre-historic landslides in the West Bull Mountain area of Washington County and the northwest portion of Oregon City in Clackamas County.

On a yearly basis, damage from landslides is the most costly natural hazard in Oregon, with some years exceeding over \$100 million in damage statewide.

Using a laser based terrain mapping system called lidar (light detection and ranging) DOGAMI geologists are working with local governments across Oregon to create a new generation of landslide inventory maps that are more accurate and comprehensive than any in the past. Also, the new mapping protocols put in place (Special Paper 42) mean all future landslides maps in Oregon will be consistent and standardized.

In 2005, DOGAMI began a collaborative landslide research program with the U.S. Geological Survey (USGS) Landslide Hazards Program to comprehensively identify and better understand landslides in Oregon. This new mapping program using lidar data has identified up to 200 times the number of landslides in areas where traditional mapping methods have been used in the past.

To learn more about seeing landslide with lidar, go online at:

<http://www.oregongeology.org/pubs/Cascadia/CascadiaFall2006.pdf>

“The benefits are obvious,” said State Geologist Vicki McConnell. “If we’re able to tell communities where landslides have occurred in the past, they can work to lessen or eliminate landslide hazards in the future.”

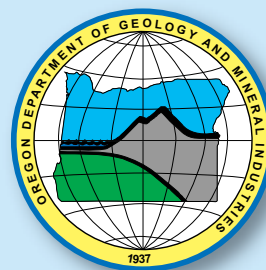
“Landslide inventory maps are really the first step in an overall strategy to mitigate the effects of landslides where people live,” said Geologist Bill Burns, co-

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This portion of the Oregon City landslide inventory map shows several different types of landslides, including earth slides, rock slides and debris flows.



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author of the new maps and the accompanying technical report. "Once we identify existing landslides, we can then create susceptibility maps that show the most likely places for different types of landslides to occur in the future. That includes maps we're working on right now in Clatsop, Marion, Clackamas, Washington and Multnomah counties."

The new publications include:

IMS-26, Landslide Inventory Map of the Northwest Quarter of the Oregon City Quadrangle, Clackamas County, Oregon, by William J. Burns and Ian P. Madin, Oregon Department of Geology and Mineral Industries;

IMS-27, Landslide Inventory Map of the Southwest Quarter of the Beaverton Quadrangle, Washington County, Oregon, by William J. Burns and Ian P. Madin, Oregon Department of Geology and Mineral Industries and;

Special Paper 42, Protocol for Inventory Mapping of Landslide Deposits from Light Detection and Ranging (Lidar) Imagery, by William J. Burns and Ian P. Madin, Oregon Department of Geology and Mineral Industries.

A version of the **Landslide Inventory Map of the Southwest Quarter of the Beaverton Quadrangle** was released in February as **Open File Report O-08-09, Regional Landslide Hazard Maps of the Southwest Quarter the Beaverton Quadrangle, West Bull Mountain Planning Area, Washington County, Oregon**. This publication also included landslide susceptibility maps of the area.

A less detailed version of the **Landslide Inventory Map of the Northwest Quarter of the Oregon City Quadrangle** was released in 2006. There is also a simplified, interactive version of this map available online as part of DOGAMI's lidar based hazard map of the Portland metro area at:

<http://www.oregongeology.org/sub/lidar/index.htm>

These maps are intended to provide users with geologic information regarding landslides within the mapped area. These maps contain useful information to guide site-specific investigations for future development, to assist in regional planning and development, to mitigate existing landslides and slopes, and to prepare for emergency situations, such as storm events and earthquakes.

The maps are not appropriate for site-specific evaluations, however the data contained in the CD-ROM are valuable for regional screening for landslides and selection of appropriate areas on which to focus further site-specific studies. The data are particularly suitable for incorporation and consideration into regional Graphic Information System (GIS) databases for a multitude of purposes, including city and county hillside development ordinances, issuance of building permit conditions, public works planning and operations, and environmental and sustainability issues.

All three publications are available on CD-ROM for \$15 each. Maps of **IMS-26, Landslide Inventory Map of the Northwest Quarter of the Oregon City Quadrangle, Clackamas County, Oregon**, and **IMS-27, Landslide Inventory Map of the Southwest Quarter of the Beaverton Quadrangle, Washington**

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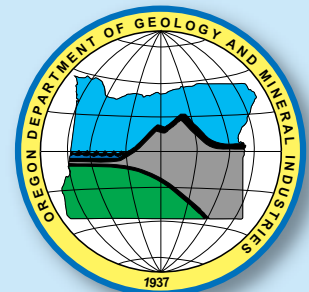
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County, Oregon, are available as printed sheets for \$15 each. They can be purchased from the Nature of the Northwest Information Center (NNW), 800 NE Oregon Street, Suite 177, Portland, Oregon, 97232. You may also call NNW at (503) 872-2750 or order online at <http://www.naturenw.org>. There is a \$4 shipping and handling charge for all mailed items.

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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.

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

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