

OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

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NEWS RELEASE: April 3, 2013

Maps for City of Vernonia show flood and landslide hazards

Lidar-based maps will help agencies assess risk to critical and essential facilities

Portland, Oregon: Much of the public infrastructure and property in the city of Vernonia, Oregon, was damaged by a long-duration winter storm in December 2007. A series of three storms arrived over three consecutive days, producing extreme winds and heavy rain that resulted in widespread record flooding throughout the region. As directed by the State of Oregon Executive Order No. 10-07, "Rebuilding Vernonia's Schools and the Surrounding Community in the Wake of December 2007 Storm," the Oregon Department of Geology and Mineral Industries (DOGAMI) created a set of lidar-based maps to aid in assessing the vulnerability of critical and essential facilities to flood and landslide hazards. Landslide inventory maps for the city of Vernonia were also created in conjunction with this map series.

The Oregon Department of Geology and Mineral Industries (DOGAMI) has now released these maps:

DOGAMI Open-File Report O-13-03, Lidar-Based Maps for the City of Vernonia, Columbia County, Oregon, Pursuant to Oregon Executive Order No. 10-07

DOGAMI Interpretive Map 54, Landslide inventory maps of the northern half of the Vernonia quadrangle, Columbia County, Oregon, and

DOGAMI Interpretive Map 55, Landslide inventory maps of the southern half of the Pittsburg quadrangle, Columbia County, Oregon

DOGAMI **Open-File Report O-13-03** comprises five 1:5,000-scale 48 x 48 inch map plates:

- Plate 1: Lidar-Based Full-Feature Map
- Plate 2: Lidar-Based Bare-Earth Imagery Map
- Plate 3: Lidar-Based Digital Flood Insurance Rate Map (DFIRM)
- Plate 4: Lidar-Based Water Depth of Flood of Record (December 2007)
- Plate 5: Lidar-Based Suggested Minimum Building Elevation

This O-13-03 Vernonia map series depicts an inventory of existing features based on published and unpublished reports and interpretations of topography derived from lidar data. These maps cannot serve as a substitute for site-specific investigations by qualified practitioners, which may give results that differ from those shown on the maps. These maps are not intended to provide authoritative locations for any of the features depicted. Although the maps are derived from highly accurate lidar imagery, they should not be used for engineering or survey purposes.

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DOGAMI Interpretive Map 54 and DOGAMI Interpretive Map 55 contain data that characterize historic and pre-historic landslides. These GIS-based inventories use a laser-based terrain elevation technology called lidar (light detection and ranging). DOGAMI geologists use the technology to create landslide inventory maps that are more accurate and comprehensive than any in the past.

To preview these publications, visit:

<http://www.oregongeology.org/pubs/ofr/p-O-13-03.htm>

<http://www.oregongeology.org/pubs/ims/p-ims-054.htm>

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Purchase these publications from Nature of the Northwest Information Center (NNW), 800 NE Oregon Street, Suite 965, Portland, Oregon, 97232:

- DOGAMI Open-File Report O-13-03, comprising five 1:5,000-scale 48 x 48 inch map plates can be purchased on CD-ROM for \$15.
- DOGAMI IMS-54 and IMS-55 can be purchased on CD-ROM for \$15 each.

Color plots of the map plates are available for \$40 each. 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.

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The Oregon Department of Geology and Mineral Industries is an independent agency of the State and has a broad responsibility in developing a geologic understanding of natural hazards. We then make this information available to communities and individuals to help reduce the risks from earthquakes, tsunamis, landslides, floods and volcanic eruptions. We assist 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 about Oregon's geology online: <http://www.OregonGeology.org>

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DOGAMI's mission is to provide earth science information and regulation to make Oregon safe and prosperous.

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