OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

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Landslide mapping methods defined in new paper

PORTLAND, Ore. – A new paper shows how Oregon geologists map the state's susceptibility to deep landslides.

The paper, published today by the Oregon Department of Geology and Mineral Industries (DOGAMI), provides a consistent method for mapping susceptibility to deep landslides – typically very large landslides that extend deep into bedrock.

The methods have already been put into practice in landslide mapping projects across the state, says Bill Burns, DOGAMI engineering geologist and the paper's lead author. Recent landslide maps, such as those for northwest Clackamas County, Clatskanie, Astoria and Silverton, were created using the method, which helps compare hazards in areas across the state, and defines common terms for discussing landslide risks.

"Our focus in developing this method was using the best science to create the most useful maps, so that Oregon cities and counties have the information they most need to reduce landslide risks," Burns says.

Little information had been published on mapping deep landslide susceptibility. Deep landslides tend to cover larger areas and move more slowly than shallow landslides – but can do great damage. Knowing how susceptible an area is to multiple types of landslides is critical for planning, because strategies for reducing risks are different.

The paper is part of a series that captures landslide mapping methods, and builds on previous papers – a protocol for landslide inventories, which show where landslides have occurred in the past, and a protocol for shallow landslide susceptibility. The papers describe methods for producing detailed, accurate and consistent maps, and detail what the maps show, and what their limitations are.

DOGAMI Special Paper 48, Protocol for Deep Landslide Susceptibility Mapping, by William J. Burns and Katherine A. Mickelson is available for free download at: www.oregongeology.org/pubs/sp/p-SP-48.htm

Other papers in the series include Special Paper 42, Protocol for inventory mapping of landslide deposits from light detection and ranging (lidar) imagery, 2009; and Special Paper 45, Protocol for shallow-landslide susceptibility mapping, 2012. The papers are available for free download in the DOGAMI Publications Center at www.oregongeology.org/pubs

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