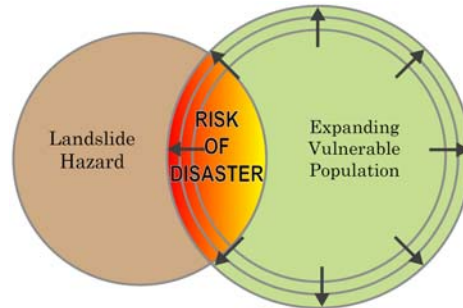


Statement of Work for *Landslide Element* in the *HAZARDS Theme* 2009-11 Biennium

Background

One of the primary chronic and most devastating hazards in Oregon is landslides. Average annual repair costs for landslides in Oregon exceed \$10 million and severe winter storm losses can exceed \$100 million. As population growth continues to expand and development into increased landslide susceptible terrain occurs, greater losses are likely to result as shown in adjacent diagram and photo (landslide which completely destroyed several houses in a SW Portland neighborhood in 2008).



In order to begin reducing losses from landslides, the landslide hazard must first be located. One of DOGAMI's current and future goals is the creation of lidar based landslide inventory maps. Ideally, local governments would all have detailed and reliable maps of landslide hazards that would allow them to actively reduce risk of landslide impact to proposed and existing development areas through informed planning and engineering.



This proposal is focused on the compilation of lidar based landslide inventory GIS data into a standardized statewide landslide hazard element.

Proposed Activity

The focus of this proposal for the 2009-11 biennium will be on the compilation of existing lidar based landslide inventory GIS data into the proposed statewide landslide hazard element. The proposal would initiate the systematic upgrading of the existing preliminary statewide landslide dataset SLIDO – R1 (Statewide Landslide Information Database for Oregon, published by DOGAMI (Burns, et al, 2008) with the new lidar based landslide inventory mapping by DOGAMI including: Oregon City, Linnton, Lake Oswego, Portland, Dixie Mountain, Beaverton, Canby, Astoria, and Silverton, quadrangles. In essence, the requested funding would leverage upon the listed work that totals roughly \$430,000 of federal and local community support.

Independently, but at the same time (2009-11) the landslide element subcommittee team will develop and have adopted a landslide element standard, including a landslide element stewardship procedure (for future updates of the landslide element). This 2 track approach is proposed so that by the end of 2011 we will have a standard and a base level statewide landslide element.

This proposal also builds the current DOGAMI-USGS Landslide Program *Collaborative Landslide Hazard Study Initiative* in Oregon, which funded the creation of the first

statewide compilation inventory of landslides (SLIDO-Statewide Landslide Information Database of Oregon). Because SLIDO is a compilation of legacy maps (pre lidar based landslide mapping) with varying amounts of data and the many new lidar based landslide inventory maps have a great deal of data, the database structures do not match. Therefore, a portion of this proposal is focused on the final database structure and combination of the legacy data and new data into a single GIS geodatabase. The proposed effort will capitalize on the significant, ongoing landslide research and current state interest in enhancing our collective knowledge regarding the landslide hazard in Oregon.

Deliverables

1) Statewide landslide element (Geodatabase) (SLIDO – Release 2)

Items Not Funded by This Proposal

1) Landslide Element Standards Development

Amount Requested: \$76,294

Previous Funding

In the 2005-2007 biennium, DOGAMI received \$50,000 for support of the first two parts of a six part statewide digital geologic map compilation. The NE and SE compilation areas were both completed on time, and published as OGDC-1 and OGDC-2 respectively.

In the 2007-2009 biennium, DOGAMI received \$50,000 for support of the next two parts of a six part statewide digital geologic map compilation. The Central and SW compilation areas were both completed on time, and published as OGDC-3 and OGDC-4 respectively.

In the 2009-2011 biennium, DOGAMI received \$150,000 for support of the final two parts of the six part statewide digital geologic map compilation. The W and NW compilation areas are essentially complete, and will be published by the end of the biennium as OGDC-5.

Business Purposes Served

- Part of DOGAMI's mission is to prevent/reduce losses resulting from geologic hazards which include statewide hazard assessment, including identification and mapping of geologic hazards [ORS 516.030(3)].
- Enhance public safety through informed emergency planning/response.
- Support to local governments actively reducing risk of landslide impact to proposed and existing development areas through informed planning and engineering.
- Support pre-disaster mitigation planning by state, counties and cities, as required by Disaster Mitigation Act of 2000 to be eligible for mitigation funding through the Pre-Disaster Mitigation (PDM) Grant Program and Hazard Mitigation Grant Program.
- Support prosperous economic development for public and private sector through informed decision-making regarding geologic hazards.
- Support efforts by ODF to regulate timber harvest to minimize the risk of landslides
- Support efforts to understand stream dynamics and sediment loads that may affect anadromous fish populations.

- Support efforts of state and federal land managers to understand the implication of climate change for mountainous areas of Western Oregon.

Goals and Results

The ultimate goal is statewide, current, and accurate lidar-based landslide hazard data in a standardized GIS format. This data can be used directly to actively reduce risk of landslide impact. Development of the landslide element standard is an important first step.

Citations

- Governor's principles: public safety, livability and the environment, economic development, government efficiency and accountability
- Oregon Statewide Planning Goal 2-Land Use Planning, Goal 7-Natural Hazards, Goal 9-Economic Development
- Senate Bill 12 (1999) was passed in response to the catastrophic landslide events that occurred in Oregon in 1996 and is aimed at reduction of landslide losses [ORS 195.260].
- One of DOGAMI's duties include: initiate, carry out or administer studies and programs that will, in cooperation with universities, federal, state and local government agencies, reduce the loss of life and property by understanding and mitigating geologic hazards [ORS 516.030(3)].

By submitting this application I understand and agree that all members of the project team shall recuse themselves from participation in the current proposal evaluation process

A past proposal was submitted for the 2007-09 biennium, which requested \$55,000 to fund the development of the standard for the landslide element. That proposal was denied. However, we are proposing to complete the standard during the 2009-11 biennium as discussed above.

Contact Information

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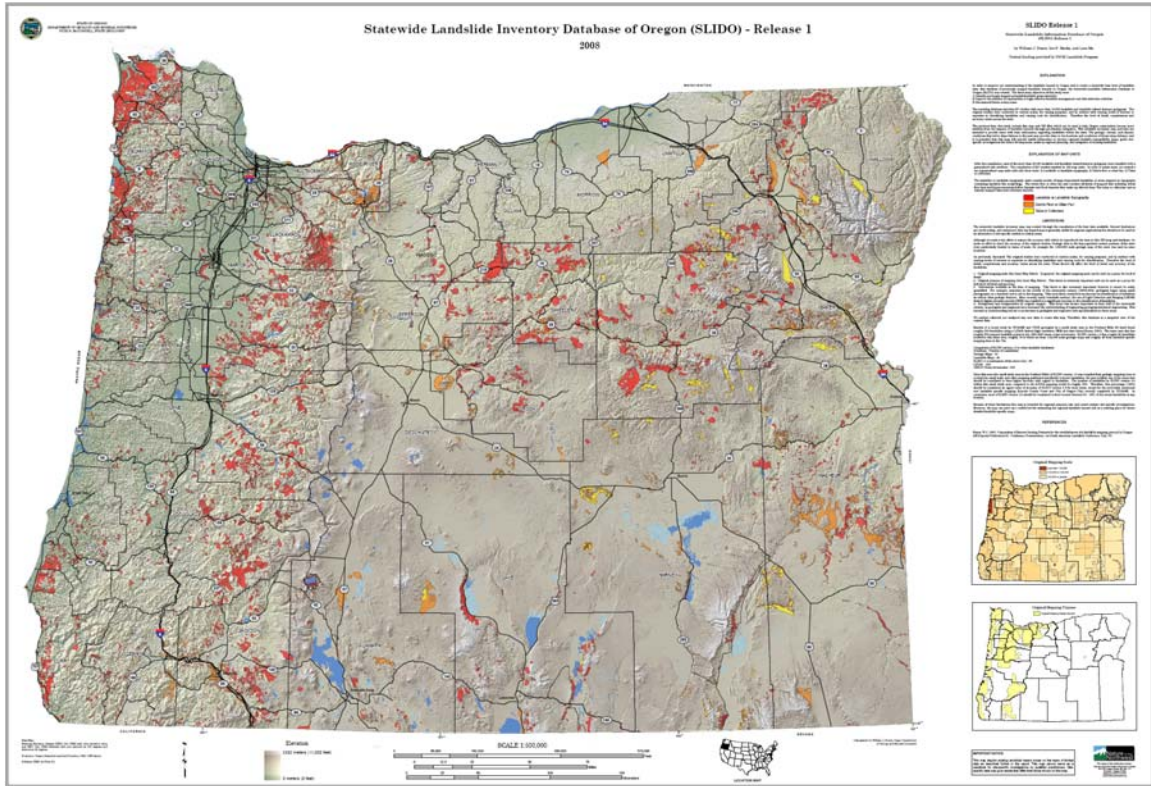
Landslide Element of the Hazards Theme

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SLIDO is an accurate compilation of landslides contained within published geologic and hazard maps 2006. However, SLIDO does not yet incorporate the recent landslide inventory maps generated from lidar-derived images. The primary purpose of this proposal is to rectify this by including these recent databases into SLIDO.