

# Preparing for Landslide Hazards: A Land Use Guide for Oregon Communities

Oregon City Planning Commission and City Council

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# Landslides are among the most widespread, chronic, and damaging natural hazards in Oregon.

13,048  
Historic  
Landslides in  
Oregon  
(1932-2013)

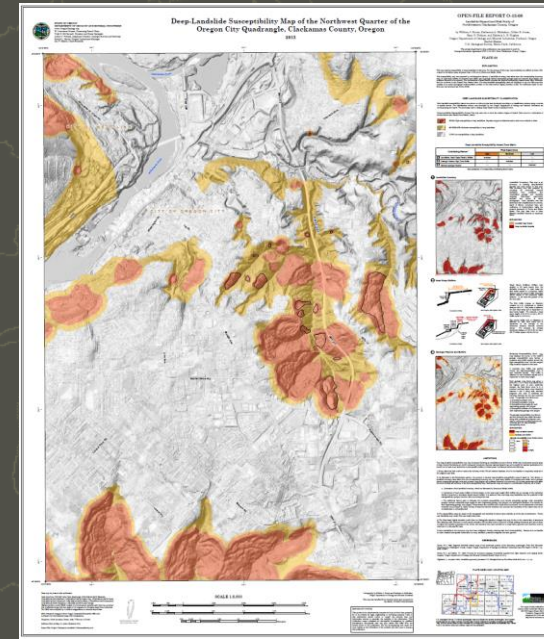
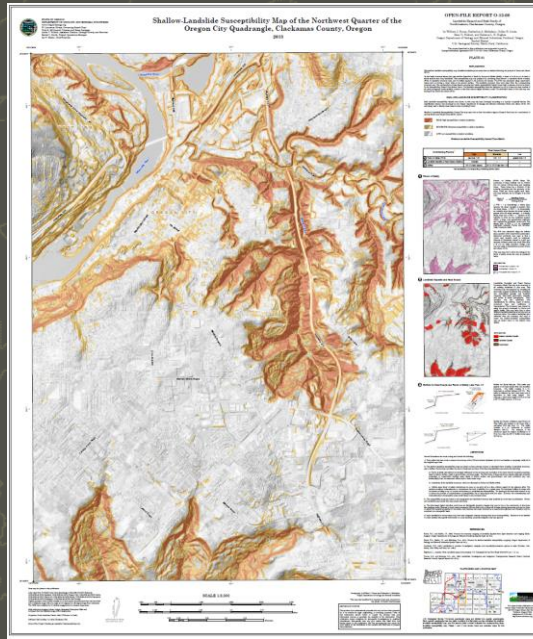
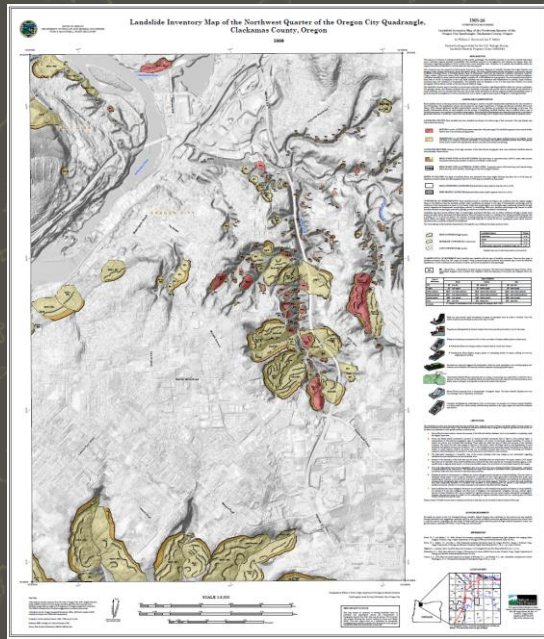
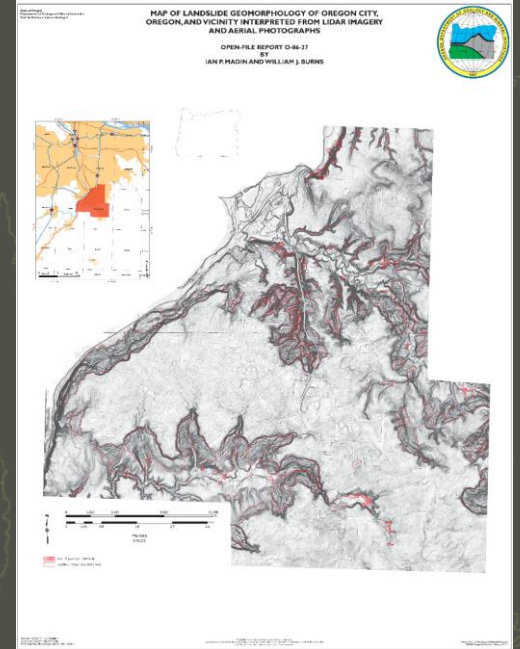
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# Oregon City Landslide Data History

- 1979, Schlicker and Finlayson (DOGAMI) map of landslides
- First community in Oregon to get lidar ~2005
  - Oregon City paid for it themselves
- First community with lidar-based landslide map 2006, Open-File Report O-06-27
- One of the first with the full suite of landslide hazard maps and risk analysis, 2013 OFR O-13-08



# The Goals of the Landslide Land Use Guide

Fuse and use  
science and  
policy!

Info about reports  
and  
geoprofessionals

Communities  
become more  
resilient!

Provide  
examples of  
strong codes  
and policies!

Identify key  
issues and  
provide  
resources!

Reduce  
Risk!





# Landslide Land Use Guide Summary

- Explains types of landslide hazards
- Explains Lidar
- Describes engineering geology reports and geotechnical engineering reports, and geoprofessionals
- Key issues in implementing landslide hazard risk reduction
- Key ways to reduce a community's risk
- Comp plan and zoning code examples
- Other resources

Figure 4-7. Oregon Community Landslide Code Provisions – Summary of Results

## Landslide Code Review — Summary of Results

**Table 1-1** lists communities and counties that have complete or partial DOGAMI lidar-based landslide mapping. Many communities with DOGAMI lidar-based mapping and two jurisdictions without DOGAMI lidar-based mapping\* were included in the code review. The majority of the code review occurred between May and December of 2017. In total, codes and plans from 34 communities were reviewed. Of those,

- 20 of the 28 cities and all 6 of the county plans reviewed require a geologic report as part of the development permitting process for land parcels or lots.
- 22 of the 26 codes that require geologic reports include a certification requirement for the person completing the report. In most cases, this was listed as a geologist, registered geologist (RG), engineering geologist (CEG), or a geotechnical engineer (PE or GE).
- 18 of the 26 codes that require a geologic report also include regulations addressing drainage and hydrology of the site.
- 13 communities either require a soils study report prior to development or include that information as a required part of the geologic report.
- 24 of the 34 communities in the code review include requirements for predevelopment grading plans.
- 26 of the 34 codes include a requirement for an erosion control plan.
- 11 of 28 cities and 4 of 6 counties referenced DOGAMI publications in their codes when deciding where geologic reports are required.
- 14 communities implement their provisions through a hazards overlay zone.
- Sandy is the only community of the 34 to include the Oregon State Board of Geologist Examiners Guidelines for Preparing Engineering Geologic Reports in Oregon as an appendix to the hillside development chapter of the city code.

\*Although the Cities of Newport and Salem have not received DOGAMI lidar-based landslide inventory and landslide susceptibility maps, these two cities were included because of their unique geologic hazard codes.



# Oregon City Title 17.44 Strengths

- Early adopter of new landslide mapping technology
- Maps use inventory information and landslide susceptibility for shallow and deep landslides
- Maps available on the City's website
- Strong provisions in Title 17.44 Geologic Hazards
- Geologic hazard areas and other terms are defined
- The geotechnical review procedure has three options
  - City staff can make a determination of waiver
  - City staff need the third-party geotechnical consultant to make a determination of waiver
  - the third-party geotechnical consultant makes a determination of the need for full review
- Declaration of Covenant Release and Indemnity for Geologic Hazards must be supplied to the City with a document recording fee for all new private development constructing anything relating to City Code 17.44 with a geologic hazard. The City will record the document with the County.

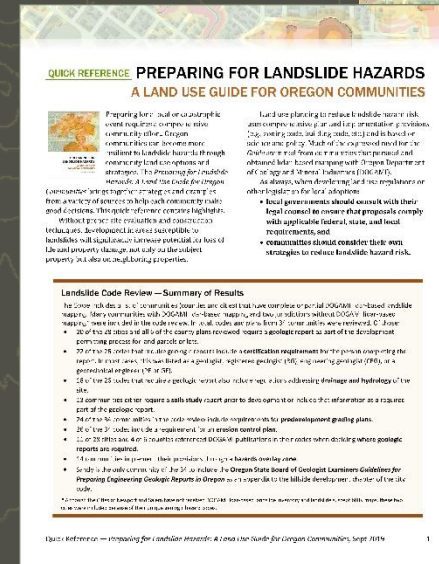


# Actively Reducing a Community's Risk

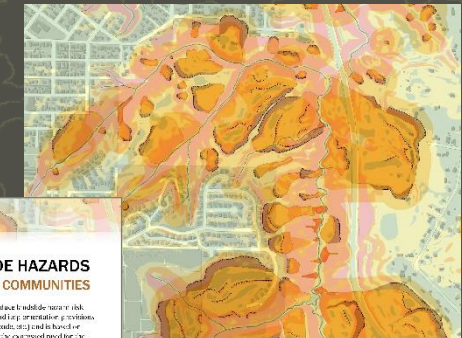
“By adopting the best available science-based maps and information and using them to formulate far-sighted land use policies and development regulations, community leaders are strengthening the community's social and physical condition, setting the stage for long-term stability and resiliency. Rather than *avoiding* the hard choices, local leaders are *making* the hard choices necessary to keep people safe, their property intact, and the essential public services operating.”

*Preparing for Landslide Hazards: A Land Use Guide for Oregon Communities*

Two new products:



Quick Reference  
booklet



Full Guide





# The Guide will be Available Online

- DLCD <https://www.oregon.gov/lcd/NH/Pages/Natural-Hazards.aspx>
- DOGAMI <https://www.oregongeology.org/Landslide/landslidehome.htm>
- Local governments should consult with their legal counsel to ensure that proposals comply with applicable federal, state, and local requirements.
- Communities should consider their own strategies to reduce landslide hazard risk.
- *Planning for Natural Hazards: Oregon Technical Resource Guide*, 2001 collaboration of DLCD and OPDR.





# Contact Us!

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