

Association of Environmental and Engineering Geologists

The Rocky Mountain Section Newsletter

DECEMBER 2008

MEETING DATE

FRIDAY
DECEMBER 12th, 2008

TIME

5:45 p.m. Social Hour
6:30 p.m. Dinner
7:30 p.m. Presentation

LOCATION

Berthoud Hall,
Colorado School of
Mines
1516 Illinois St.
Golden, Co 80401
Room 205
See Map Below

COST

\$25 Members
\$27 Non-members
Students, free first
time then \$10

RESERVATIONS

Kristi Ainslie
(303) 440-5236
or
meetings@aeqrms.org
or
WWW.AEGRMS.ORG

BY NOON,
TUESDAY
DECEMBER 9TH

The Last Newsletter . . . ? ? ? . . .

After nearly 7 years of dedicated service as a co-editor for the AEG-RMS newsletter, Kristi Ainslie will be stepping down from her tasking responsibilities at the end of 2008. Kristi is moving back east to the humid hustle and bustle of northern Virginia where the rocks are old, the mountains are hills, and there are more politicians than prairie dogs. Please join me in a thank you and goodbye to Kristi. Her services will be severely missed.

Ed Friend
Editor

Practical Applications of Airborne LiDAR Data for Environmental and Engineering Geology Projects

Mark Molinari
URS Corporation

Over the past decade there has been a significant increase in the use of airborne LiDAR (Light Detection and Ranging) data to create detailed topographic base maps and high-resolution (0.2 - 1 m vertical accuracy) digital elevation models (DEMs) for a variety of regional and site-specific projects. If the scope of data acquisition is properly defined and implemented, LiDAR is effective in all types of terrain and vegetation; however it is particularly useful in densely vegetated areas where conventional photogrammetry-based topographic maps and resulting DEMs have a relatively low accuracy. In addition, it is very cost-effective in steep or remote terrain that cannot be easily surveyed by conventional methods. This talk will present a variety of examples where LiDAR was successfully used for environmental and engineering geology projects and the type of derivative products that can be generated using GIS or other computer applications. Primary lessons learned regarding acquisition and QA/QC review of LiDAR data, management of LiDAR vendors, managing large LiDAR data sets and automation of LiDAR data processing will also be summarized.

Example projects include:

- Use of LiDAR-derived GIS products for 28 separate proposed timber sale areas covering approximately 1,400 square miles in Tongass National Forest in Southeast Alaska to map and evaluate geologic hazards and watershed hydrology, karst, and potential hydrologic effects of the surging Hubbard Glacier on Russell Fjord, and road reconstruction
- Active fault and landslide mapping
- Unexploded ordinance range mapping
- Structural geologic mapping of an inaccessible rock avalanche
- Mine tailing and landslide debris volume estimates
- Levee evaluation
- Detailed topography for surface water- groundwater interaction for a contaminant plume
- Floodplain mapping and geomorphic analysis
- Wetlands Hydrology

Words from the Chair

Well, this AEG season is turning out to be great! We've been at capacity for every meeting so far. Thanks to everyone for showing your enthusiasm and interest for our presenters and this great section! Also, thanks again to Dr. Paul Santi for informing us about the unique geologic hazard mitigation techniques of New Zealand.



This December we're pleased to have AEG Executive Council meeting. AEG Executive Council President Mark Molinari will be delivering a presentation on the various uses of airborne LiDAR data with respect to environmental and engineering geology projects. This technology can be especially useful in areas of dense vegetation such as the Pacific Northwest where, for example, a landslide scarp may be completely unrecognizable by aerial photos after only a few years due to rapid revegetation.

We look forward to another great turnout. Happy Thanksgiving and we'll see you in December. Don't forget to RSVP!

Sean Harvey, GIT
Chair, AEG-RMS

2008-2009 Upcoming Meeting Presentations

December 12, 2008	Mark Molinari	AEG President presentation
January 8, 2009	Ed Medley	Jahn's Lecturer
February 12, 2009	<i>Open</i>	
March 26, 2009	Student Night	
April 9, 2009	Robin Dornfest	Sugar Beet Spoils, Geotechnical Implications
May 14, 2009	Susan Steele-Weir	Trip report from Antarctica— Family Night

If you are interested in Presenting at an AEG meeting contact Sean Harvey at chair@aeqrms.org

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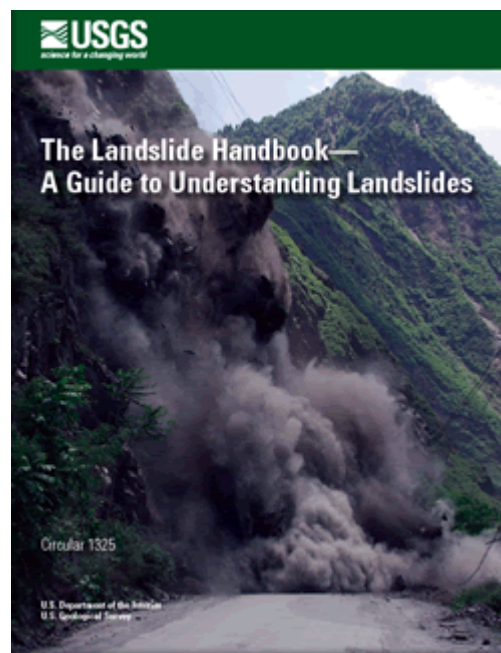
Steve Compton

The Landslide Handbook — A Guide to Understanding Landslides

The US Geological Survey has released Circular 1325, *The Landslide Handbook – A Guide to Understanding Landslides*, by Lynn Highland and Peter Bobrowsky.

This 129-page booklet was written in cooperation with the International Consortium on Landslides and the Geological Survey of Canada. It contains basic descriptions of landslide types, triggers, effects, mitigation measures, and predictability.

It contains sections on evaluating and communicating landslide hazards and mitigation concepts and approaches. The text is well illustrated with colorful diagrams and dramatic photographs.

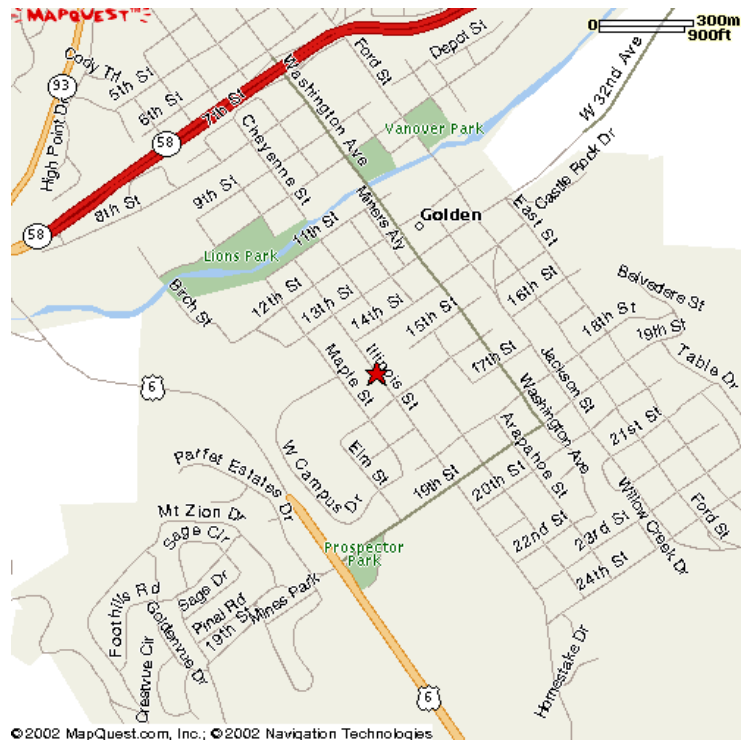
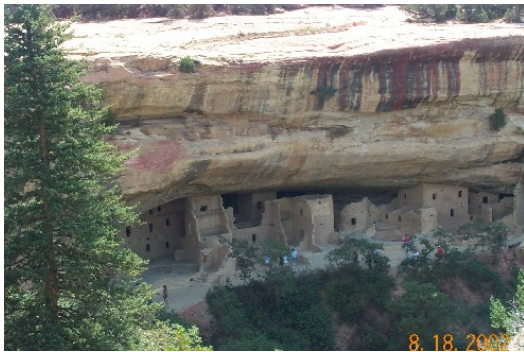


It is an excellent resource for communicating landslide hazards and the need for mitigation with non-technical audiences such as local-government planners and officials, developers and builders, and the general public. Because of its size and breadth, the use of specific excerpts is advisable.

The booklet is available for downloading at no cost at <http://pubs.usgs.gov/circ/1325/>.

Dave Noe
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