OREGON SECTION OF THE ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

May 2008

Volume 8, Number 9

The Official

OREGON SECTION AEG NEWSLETTER

April Meeting Details

Date: Tues May 20, 2008

Location: Lucky Lab

1945 NW Quimby

Portland, OR

5:30 pm Social

7:00 pm Dinner

8:00 pm Presentation

Dinner: Bento Bar

$18 Dinner ($10 Students)

Reservations: mwegner@cornforthconsultants.com with "AEG Reservation" in the subject line or 971-222-2047 by 4pm Thursday May 15th.

There is a $2 surcharge for those who do not reserve by the deadline.

Upcoming Meetings:

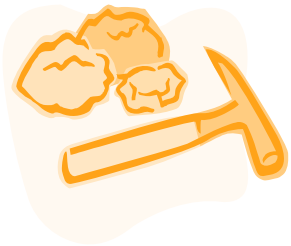
- **May 31—WA AEG Field Trip (see details on page 2)**

Mays Guest Speaker is John J. Clague from the Centre for Natural Hazards Research—Presentation: The Formation and Failure of Natural Dams

Lakes dammed by landslides, moraines, and glaciers in high mountains have drained suddenly to produce floods orders of magnitude larger than normal nival or rainfall floods. Reservoirs that form behind landslide dams pose a threat to upstream infrastructure. In addition, most landslide dams fail soon after they form, typically by overtopping and incision; the failure may produce destructive downstream floods. Lakes dammed by Neoglacial end and lateral moraines are susceptible to failure because they are steep-sided and consist of loose, poorly sorted sediment that in some cases is ice-rich. Irreversible rapid incision of a moraine dam may be caused by a large overflow triggered by an avalanche or rockfall. As climate warms, lakes impounded by glaciers may drain suddenly and unexpectedly following a long period of stability due to progressive wastage of the glacier dam and the formation of subglacial, supraglacial, or ice-marginal channels. Most outburst floods display an exponential increase in discharge, followed by a gradual or abrupt decrease to background levels as the water supply is exhausted. Peak discharges are controlled by lake volume, dam morphology and materials, failure mechanism, and downstream topography and sediment availability. Climate is an important determinant of the stability of moraine and glacier dams. Most moraine-dammed lakes formed in the last century as glaciers retreated from bulky end moraines constructed during the Little Ice Age. The lakes soon began to fail as climate warmed. With continued warming and glacier retreat, the supply of moraine-dammed lakes that are susceptible to failure will be exhausted, and the threat they pose will diminish. Glacier-dammed lakes typically have gone through a period of cyclic or sporadic outburst activity, lasting up to several decades, since climate began to warm in the late nineteenth century. The outburst floods from any one lake ended when the glacier dam weakened to the point that it could no longer trap water behind it. However, with continued glacier retreat, the locus of outburst activity may, in some cases, shift up-glacier to sites where new lakes develop in areas that are becoming deglaciated.

Bio: John J. Clague

John J. Clague is Shrum Professor of Science at Simon Fraser University and Emeritus Scientist, Geological Survey of Canada. He has published over 200 papers in 34 journals on a range of earth science disciplines, including glacial geology, geomorphology, stratigraphy, sedimentology, and natural hazards. John and his graduate students are currently conducting research on natural hazards and late Holocene climate change in western Canada. His other principle professional interest is improving public awareness of earth science by making relevant geoscience information available to students, teachers, and the general public. John is a Fellow of the Royal Society of Canada, former President of the Geological Association of Canada, and Past-President of the International Union for Quaternary Research. He is recipient of the Geological Society of America Burwell Award, the Royal Society of Canada Bancroft Award, the Association of Professional Engineers and Geoscientists of British Columbia's 2001 and 2005 *Innovation* Editorial Board Awards, the Geological Association of Canada's (GAC) 2006 E.R.W Neale Medal, and GAC's 2007 Logan Medal. He is the 2007-2008 Richard Jahns Distinguished Lecturer.



Message From The Chair

Our esteemed and diligent editor has asked me to get onto my underemployed tokus and write my column early this month, so he can get the newsletter out early (for reasons I shall not divulge, except to express the hope that they involve someplace warm and dry). Anyway, May Day is still to come when you get this, so – whether you celebrate by marching in socialist workers' parades or dancing around the Maypole for Beltane – we can all look forward to a big month for AEG.

As most of you have heard, the association's mid-year national board meeting will take place in Tualatin on May 16–18. I haven't seen an official schedule yet – but members who wish to attend, participate or just hang out with this band of poo-bahs can get in touch with Dorian Kuper or me for details.

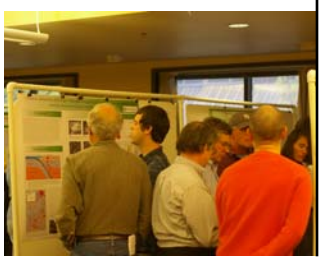
The following week, this year's AEG-GSA Jahns lecturer will be in Portland, and we will be mercilessly exploiting John Clague for a three-fer: AEG's meeting on Tuesday the 20th, and two talks at Portland State on Wednesday the 21st (departmental seminar at 3:30, and engineering geology case studies class at 5:00). John is a great speaker, and you can't beat the topics for drama (landslides and tsunamis and broke-dams, oh my!). Invite your non-AEG colleagues to come along (we may slip a little recruitment-juice in their beer).

The Washington section's Seattle Fault field trip and baseball game wraps up the month on the 31st. A few Oregon folks have signed up; as of last week, there was still space on the bus (and plenty of room in the Safeco Field stands).

Lastly, our thanks and congratulations to the students who presented posters at last month's meeting, and to all the folks who attended (especially the road-trippers from Monmouth). Special kudos to Scott Braunsten for navigating the catering labyrinth to get it organized.

Matt Brunengo

AEG Oregon Section Chair



Annual AEG Student Night Results

The 6th annual Student Poster Night was hosted by the PSU student chapter of AEG on April 15, 2008. A poster session highlighted the academic activities and research of both graduate and undergraduate students from Oregon universities.

The turnout for the event was about 70 people (45 students including 20 from WOU, and 25 other). There was a total of 14 posters displayed at the event.

A committee of faculty and professionals from the community judged the posters on presenter's performance (5-min oral summary by the student), general components, scientific relevance and practicality, and technical rigor. Based on these scores, five prizes were awarded including 1x 200, and 4x $100 prizes for outstanding posters. Thanks to the judges: Marshall Gannett, Tom Lindsay, Liz Safran, and David Scofield. Great job to all the students who participated and a special congratulations to the winners who are highlighted below!

Best overall

"Sulfur-rich Apatites in Silicic, Calc-alkaline Magmas: Inherited or not?" Cindy Broderick

Best undergraduate

"Distribution of heavy metals and trace elements in soils of northwest Oregon" Darrick Boschmann

Best graduate

"Evolution of phenocrysts as a result of magma mixing at Mount St. Helens Volcano, Washington" Karen Carroll

Best use of science?

"Unusual features in a stony meteorite NWA 4859" Niina Jamsja

Best applied geology?

"Determining Landslide Susceptibility along Natural Gas Pipelines in Northwest Oregon" Joshua Theule

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Job Opportunities: Hart Crowser Inc.

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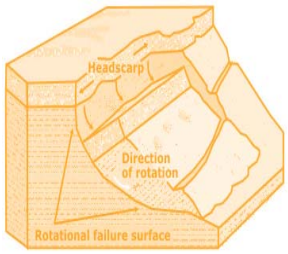
The Oregon Section Newsletter

OREGON SECTION AEG NEWSLETTER is published monthly from September through May. Subscriptions are for members of AEG affiliated with the Oregon Section or other Sections, and other interested people who have requested and paid a local subscription fee of $10.00. E-mail subscriptions are free. News items are invited and should be sent to: Bill Burns, OR Section AEG Newsletter Editor, Oregon Department of Geology, 800 NE Oregon Street, Portland, OR 97232, e-mail: <bill.burns@dogami.state.or.us>, phone (971) 673-1555. Electronic media is preferred. Deadline for submittal is Friday three weeks before each meeting. Advertising: business card $10/mo, $100/yr; ¼ page $30/mo, $200/yr; ½ page $35/mo, $350/yr. Please notify Bill if you have a change to your email or mailing address.



The Association of Engineering Geologists (AEG) contributes to its members' professional success and the public welfare by providing leadership, advocacy, and applied research in environmental and engineering geology. AEG's values are based on the belief that its members have a responsibility to assume stewardship over their fields of expertise. AEG is the acknowledged international leader in environmental and engineering geology, and is greatly respected for its stewardship of the profession.

The Oregon Section is also on the web at http://www.aegoregon.org
National AEG webpage: http://aegweb.org

Thanks For Supporting AEG !

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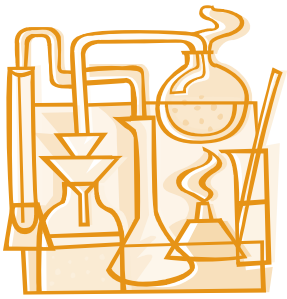

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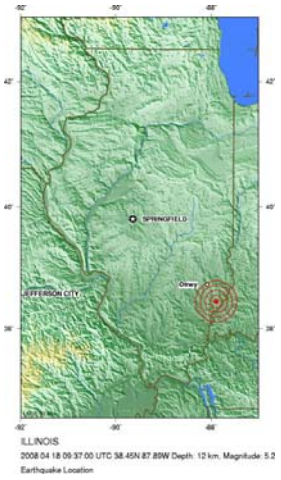
Photos of the Month

The May photos are from the recent magnitude 5.2 earthquake in southeastern Illinois. The photos were downloaded from foxnews.com. The following text is from the USGS Earthquake Hazards Program. The April 18, 2008 earthquake occurred in the Wabash Valley Seismic zone, which is defined by a zone of earthquakes that are scattered across a large area of southeastern Illinois and southwestern Indiana. The Wabash Valley fault system is the main structural feature associated with the seismic zone. The fault system consists of a network of normal faults that trend north-northeastward from Gallatin and White Counties in southern Illinois and adjacent Posey County in southern Indiana.

For more information on the earthquake go to http://earthquake.usgs.gov/eqcenter/eqinthenews/2008/us2008qza6/



To submit a photo, please email the picture in a JPEG or TIF format to bill.burns@dogami.state.or.us. Also include a short paragraph describing the photo and project.