



The Official

# Newsletter

of the Oregon Section Association of Engineering Geologists

Serving Professionals in Engineering, Environmental, and Groundwater Geology

## MARCH 2003 SECTION MEETING

**William E. Scott, Ph.D., Scientist in Charge, U.S. Geological Survey's Cascades Volcano Observatory**

### ONGOING CRUSTAL UPLIFT AT THREE SISTERS VOLCANIC CENTER, OREGON

The April 2001 discovery by radar interferometry of a broad area of uplift centered 5 km west of South Sister volcano created an opportunity to investigate processes that might be early precursors to an eruption. Initial analysis suggested that uplift began after 1996, but was it still underway? Modeling suggested a volume increase of  $\sim 10^7$  m<sup>3</sup> at  $\sim 6$  km depth, but was magma intrusion its cause? A sparse seismic network had not triggered on any earthquakes in the area, but was there any microseismicity? Spring-chemistry measurements in 1990 and 1999 suggested the presence of a shallow hydrothermal system, but were there gas emissions or geochemical changes that might confirm intrusion of magma? If intrusion were going on, would it lead to eruption? If so, where and when? Were there public safety concerns? USGS scientists alerted officials from the Willamette and Deschutes National Forests and consulted them about appropriate responses. A public-information release in early May created a stir when the uplift was christened "the bulge" in the media, raising public concern that something akin to

Mount St. Helens' infamous bulge was forming.

Owing to potential safety concerns, difficult access, lack of real-time monitoring, and sparse recreational use in May 2001, USFS allowed scientists from USGS and the Pacific Northwest Seismograph Network (PNSN) to install a 3-component seismometer and a continuous GPS station near the center of uplift. The seismometer soon confirmed the near lack of



microseismicity, which continues to the present. Spring-water studies in 2001 and 2002 yielded results similar to those of earlier surveys, but C and He isotopic studies, not done previously, point to a magmatic source. Ground-based geodetic surveys, continuous GPS, and new interferograms confirm that uplift is continuing at  $\sim 20$  mm/yr.

*(Continued on page 2)*

**This Month's Meeting is on Tuesday March 18**

**Luck Labrador Brew Pub  
915 SE Hawthorne Blvd  
Portland, Oregon**

6:00 pm Social  
7:00 pm Dinner  
8:00 pm Presentation  
\$12.00 dinner (\$6.00 for students).  
Options: Chicken or Veggie Bento

Call URS at 503-222-7200 by 4 pm Thurs. March 13 with your reservation.

There will be a \$2.00 surcharge for those who do not reserve by the deadline. Call now!

A reservation made is a reservation paid.

## MESSAGE FROM THE CHAIR

It was great to see so many members at our meeting last month at the Lucky Lab and thanks to Jon Hofmeister for a great presentation. This month we will have our meeting at the same favorite location, so call in your reservation today. Willie Scott of the USGS Cascade Volcano Observatory will speak on the current state of the bulge in the Three Sisters area east of the Cascade Range.

As mentioned at the last meeting, the AEG Board of Directors and Executive Council will meet for the mid-year meeting in Portland this year, thanks to our President Scott Burns. Either of two social

activities planned for the weekend of the meeting would be a great opportunity for anyone interested in moving into a leadership position in the AEG organization to meet and talk with some of the current leaders from across the country. Leadership positions include our section Board, as well as helping with any of several section committees listed in this newsletter. In addition, there are over 30 technical and advisory committees within the AEG organization that work to serve the Association and its members on the national and international level. The two social activities are a brewpub tour of Portland planned for the

evening of Friday, May 2<sup>nd</sup> and a Mt St Helens/Kelso landslide field trip scheduled for the afternoon of Sunday, May 4<sup>th</sup>. Both social activities require advance notice so that adequate transportation can be arranged; please email me to reserve your spot at either of the planned social activities by April 4<sup>th</sup>.

We did great to keep our walk-ins and no-shows to a record low last month. Don't forget to mark your calendar and call in your reservation today. See you again at the Lucky Lab.

*Ruth Wilmoth*  
AEG Oregon Section Chair

## APRIL 15, 2003 STUDENT NIGHT

Mark your calendar's for April 15! April's meeting will feature the AEG Oregon Section's Second Annual Student Night hosted by the Portland State University Student Chapter. Last year's Student Night meeting was a huge success with approximately 75 people attending. Posters from 14 graduate and undergraduate students presenting

their research were on display and provided the centerpiece for the gathering. Like last year, the meeting will be held on the PSU campus and will feature dinner, beverages, beer, and the students of course! The evening will culminate with the judging of posters and the awarding of prizes. Watch for more information in upcoming e-mails as well as

in the April Newsletter.

**IMPORTANT: The Portland State University Chapter of AEG is seeking BEVERAGE SPONSORSHIP for Student Night. Contributors will be recognized.**

For more information, please contact Eve James at: psu\_aeg@yahoo.com

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USGS and PNSN are working with USFS to improve monitoring and, will hopefully work with State and local agencies to develop an emergency-response plan.

### **Dr. Scott's Bio**

M.S. and Ph.D. in Geological Sciences, University of Washington. Geologist since 1974 with U.S. Geological Survey in Denver, CO, and Vancouver, WA. Major projects include surficial-geologic and fault studies of Eastern Snake River Plain, Idaho, and Wasatch

Front, Utah; volcanic history, eruptive process, and volcanic hazard studies in central Oregon and at Mount Hood; investigations of eruptive processes and hazards at erupting volcanoes including Mount St. Helens, 1980; Redoubt Volcano, Alaska, 1989-90; Mount Pinatubo, Philippines, 1991-92; Soufriere Hills, Montserrat, West Indies, 1997. Fields of interest include volcanology, volcano-hazard assessment, and volcanic-risk mitigation.

## CALENDAR

**March 18:** Willie Scott, USGS CVO, Three Sisters Bulge Data

**March 30-April 4:** Cordilleran GSA in Puerto Vallarta, Mexico

**April 15:** Student Night

**May 2-4:** AEG Executive Council Meeting and Mid-Year Board Meeting, Portland, Oregon

**May 20:** to be determined

# 4TH SYMPOSIUM-HYDROGEOLOGY OF WASHINGTON STATE

## PROGRAM AND REGISTRATION ANNOUNCEMENT

You are invited to attend the 4th Symposium on the Hydrogeology of Washington State on April 8-10, at the Sheraton Convention Center in Tacoma.

The goal of the Symposium is to bring together scientists, regulators, consultants, students, and other groundwater professionals to learn and exchange ideas. The program includes 60+ speakers, two panel sessions, three keynote speakers, 20+ posters, commercial and non-profit exhibitors, two workshops and three field trips.

Featured keynote speakers are Richelle Allen-King, Frank Chapelle, and Nadine Romero. Dr. Allen King, a professor at Washington State University, is the NGWA 2003 Darcy lecturer. Her talk is titled "Ground and Surface Water Contributions to Chemical Mass Discharge: Field to Basin Scales." Dr. Frank Chapelle, from the USGS, will present "Estimating Time of Remediation Associated with Monitored Natural Attenuation." Ms. Romero will speak about "Global Water Resources and the Role of Science in Public Policy."

For oral presentations, two sessions will run concurrently over three days. Topics include Geochemistry, Hydrogeology, Water

Availability, Surface-Ground Water Interaction, Modeling, Database/Decision Support, Water Quality, Public Policy, and New Technology. Posters will be available for viewing during the entire Symposium.

We have two panel sessions - one on Water Rights and the other titled "The Contemporary Hydrogeologist." There will also be an informal evening Forum on Geology - a big hit in previous years.

Two workshops will be held in conjunction with the Symposium. The first will be an 8-Hour Hazardous Waste Safety Refresher Course on Monday. The second workshop will be "Estimating Remediation Using Natural Attenuation," taught by Frank Chapelle on Thursday afternoon.

Three field trips will be offered for Symposium attendees only. The first will explore the Hydrogeology of the Hanford site. The second will tour the Columbia Basin Groundwater Management Area. Both of these will occur on Sunday and Monday before the Symposium. The third field trip will visit two Superfund sites in the Tacoma area on Thursday afternoon after the Symposium.

**If you register by March 7, 2002, the Symposium cost is \$200.** The rates for students and exhibitors are \$100 and \$400, respectively.

Rates increase by \$50 after that date. Each registration includes two lunches, one dinner, and break refreshments.

For the complete Symposium schedule, details on workshops and field trips, and registration information, please visit our Web site at: <http://www.ecy.wa.gov/events/hg>

If you would like print copies of the Symposium flyers to distribute, please email Sandy Williamson at: [akwill@usgs.gov](mailto:akwill@usgs.gov).

*Sandy Williamson, Symposium Chair, U.S. Geological Survey, Tacoma, WA (253) 428-3600 ext 2683, (253) 428-3614 fax, [akwill@usgs.gov](mailto:akwill@usgs.gov)*

*Jim Goodrich, Symposium Vice-Chair, AGWA/AGWSE Past Chair, Vancouver, WA, (360) 202-7073, [moonspun@earthlink.net](mailto:moonspun@earthlink.net)*

Organized by: U.S. Geological Survey, Washington State Department of Ecology, Washington Hydrologic Society, Pacific Northwest National Lab, National Ground Water Association, and others

Mailing Address:  
*4th Symposium on the Hydrogeology of Washington State  
Washington State Department of Ecology  
P.O. Box 47775  
Olympia, WA 98504-7775*

## THANKS FOR SUPPORTING OREGON AEG!

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## FROM THE SECTION MEMBERSHIP CHAIR

As a quick introduction to the geographic distribution of our section's membership, I did a survey of the places where we live and work. It is probably no surprise to anyone that the majority of us are in the Portland metropolitan area, but there are some interesting gleanings about where else engineering geologists hang their shingles (or retire?).

As many of you know, AEG's sections are organized irregularly, around clusters of members sufficiently numerous to want (and be able to support) a section organization – typically centered on the bigger urban areas. The section map (see page 57 of the new 2003 AEG directory) shows the results of this process. The Oregon section actually covers a bit more than the state, encompassing southern Idaho;

the Washington section extends across the Idaho Panhandle and western Montana. (Rather like the original division between Oregon Territory and Washington Territory in 1853, which followed the 46<sup>th</sup> parallel from Wallula Gap east to the continental divide. But you all know this already.) Members are free to affiliate with whatever section they wish, leading to some logical anomalies (people in Clark County gravitating to the Oregon section), but also some oddities (see below).

Anyway, according to the list in hand, Oregon is a gross section: we have 144 members, including all levels (and even those tardy with their dues). The breakdown, by my informal regions:

Portland metro: 90  
86 in Multnomah, Clackamas and

Washington Co's.; plus 4 in Clark Co.

Willamette Valley and northern coast: 21

Eugene (7), Corvallis (4), Salem (3), Yamhill Co. (3), Seaside (2), Lincoln City, Ilwaco

Southwest Oregon: 14

Ashland (4), Sutherlin (2), Medford (2), Gold Beach (2), Roseburg, Grants Pass, Coos Bay, Sunny Valley

Central and eastern Oregon: 10

Bend (4), Hood River, Redmond, Sisters, Klamath Falls, Milton-Freewater, Ontario

Idaho: 7

Boise (4), Nampa, Iona, Moscow

Far out: 2

West Hollywood CA, Tucson AZ

*Matt Brunengo*

*Membership Chair*

## OREGON SECTION OFFICERS & COMMITTEE CHAIRS



**Chair: Ruth Wilmoth**, Columbia Geotechnical, Inc., (360) 944-7397, cgivanc@aol.com



**Chair-Elect: Warren Krager**, (503) 684-4902, wkrager@aol.com

**Secretary: Rowland French**, Northwest Geophysical Associates, Inc., (541) 757-7231, rowland@nga.com



**Treasurer: Brent Black**, Cornforth Consultants, Inc., (503) 452-1100, bblack@cornforthconsultants.com



**Past Chair: Andrew Harvey**, PBS Environmental, (503) 248-1939, andrew\_harvey@pbsenv.com

**PSU Student Chapter President: Julie Griswold**, griswold@pdx.edu

**Program Chairs: Jason Hinkle**, Oregon Department of Forestry, (503) 945-7468, jhinkle@odf.state.or.us



**Tim Richter**, URS Corporation, Inc., (503) 948-7213, tim\_richter@urscorp.com



**Membership Chair: Matt Brunengo**, GeoEngineers, Inc., (503) 624-9274, mbrunengo@geoengineers.com

**Field Trip Chair: Dave Scofield**, Portland District COE, (503) 808-4867, scofield@onemain.com

**History Chair: George Freitag**, GRI, Inc., (503) 641-3478, gfreitag@gri.com



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**Legislature Chair:** position available

**Continuing Education Liaison:** position available



Three AEG geologists listening intently to another geologist on one of our local fieldtrips.



Two more AEG geologists setting up for a morning coffee break

## SHORT NEWS ITEMS

**Membership Information:** If your membership information has changed, please take the time to update through the AEG Website or by contacting our Chief Staff Executive Becky Roland at (303) 757-2926 x307

**Oregon Section Book:** The 1998 publication "Environmental, Groundwater And Engineering Geology Applications from Oregon" Edited by Scott Burns, with articles by many Oregon Section members, is available from Nature of the Northwest (DOGAMI Book Store at 800 NE Oregon St.), Powell's Book Store, Portland State Book Store (corner 5<sup>th</sup> and Mill), and Amazon.com.

**"Seeking Old AEG Annual Directories":** If anybody has any pre-1997 AEG annual directories, please email George Freitag, History Chair at gfreitag@gri.com. George is compiling our sections history. His mailing address is: GRI Inc., 9725 SW Beaverton-Hillsdale Hwy, Beaverton, OR 97005

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News items are invited and should be sent to: Charlie Hammond, OR Section AEG Newsletter Editor, Cornforth Consultants, 10250 SW Greenburg Road, Portland, OR 97223, email: or.aeg.news@cornforthconsultants.com, phone (503) 452-1100. Electronic media is preferred. Deadline for submittal is Friday three weeks before each meeting.

Please notify Charlie if you have a change to your email or mailing address.