OREGON CHAPTER OF THE
ASSOCIATION OF ENVIRONMENTAL &
ENGINEERING GEOLOGISTS

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The Official

AEG OREGON CHAPTER NEWSLETTER

http://www.aegoregon.org

Meeting Details:

Date: Tuesday, October 24th, 2023 7:00 pm Hybrid

RSVP

In-Person $25 Cash or check.
Cards please use link above.

Old Market Pub 6959
SW Multnomah Blvd

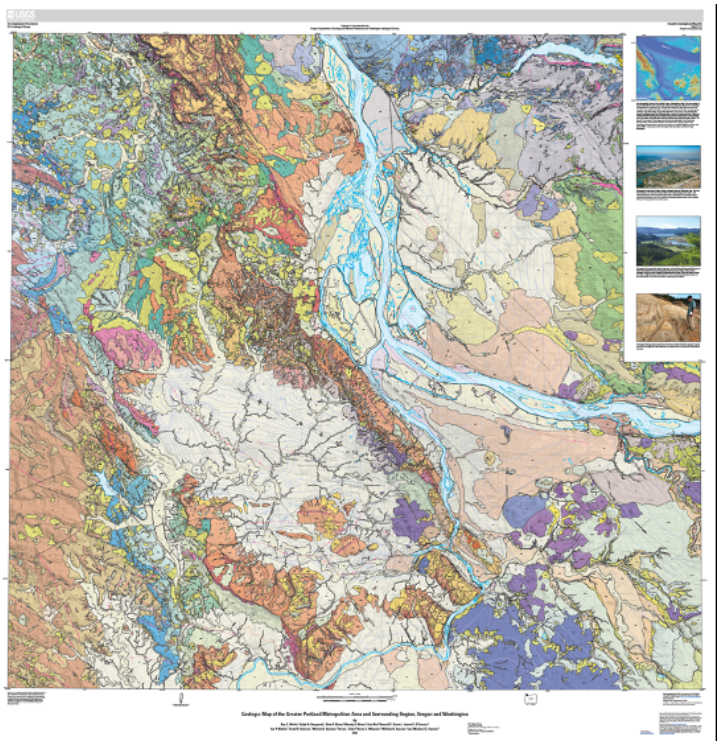
Agenda:

5:30- 6:30 pm social
6:30-7:00 pm dinner
7:00 pm presentation

UPCOMING MEETINGS:

November 07, 2023--Charlie Hammond and Ben George: Beach Road Landslide - Geology, Instrumentation, and Monitoring
December 12, 2023--Josh Wagner: Constructability Lessons on a Multi-Phase Rockfall Mitigation Project at a Hydroelectric Facility
January 2023--Joint AEG/ ASCE meeting
February 21, 2022--TBD
March 21, 2022--TBD
April 18, 2022--TBD
May 2023--Student Poster Night
June 2023--TBD

Geologic Map of the Greater Portland Metropolitan Area and Surrounding Regions, Oregon and Washington



We present a new geologic map of the greater Portland-Vancouver metropolitan area, which occupies the tectonically active lowland between the Coast Range and Cascade volcanic arc. The map synthesizes the geology of 51 7.5' quadrangles, mapped at 1:24,000 scale since 1989 in a cooperative effort among the USGS, Oregon Department of Geology and Mineral Industries, and Washington Geological Survey. The map covers accreted basalt basement of the Coast Range and onlapping Paleogene marine strata; younger rocks of the western Cascade arc; flood basalt of the Miocene Columbia River Basalt Group (CRBG); post-CRBG fill of the Portland, Tualatin, and northern Willamette basins; and the Quaternary Boring volcanic field. Missoula flood deposits and mega-landslide complexes are widespread. We compiled the map from digital sources in an ArcGIS geodatabase (USGS GeMS; Geologic Map Schema) at 1:24,000 scale, including 18 quadrangles of previously unpublished mapping.

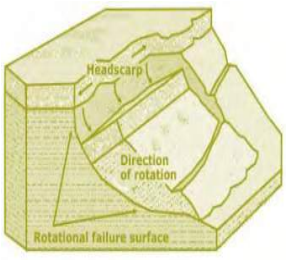
Geologists have a saying - rocks remember.

Neal Armstrong

We resolved gaps and overlaps, fixed mapping errors, and removed tiny polygons to produce a 1:63,360-scale map. The structure of the map area is dominated by the Holocene-active, NW-trending Gales Creek and Quaternary-active Portland Hills dextral-oblique fault systems that accommodate northward motion of the Cascadia fore-arc. The 60-km-long Gales Creek Fault, about 35 km west of Portland, forms the boundary between the Coast Range and the Tualatin basin, which is at least 5 km deep based on companion geophysical surveys. The Portland Hills fault system bounds the NW-striking Tualatin Mountains uplift that separates the Portland Basin from the Tualatin basin. Continued subsidence of the Tualatin and Portland basins is suggested by Columbia River Basalt at 300-400 m below sea level in the basins. This map provides a framework for an improved understanding of a variety of earth science issues; including earthquake hazards from crustal faulting and strong ground shaking, aquifer storage and recovery systems in the CRBG, natural gas storage at the Mist gas field, Columbia River ecosystems, and the terroir of well-known American Viticultural Areas in northwest Oregon.

Ray Wells

Ray Wells has 40 years of experience as a USGS field geologist and geophysicist documenting the structure, tectonic evolution, and earthquake hazards of the Cascadia subduction margin of the northwest U.S. More broadly, he applies geologic mapping, GPS, potential fields, and paleomagnetism to examine Cascadia in the context of the plate tectonic evolution of the North American Cordillera, processes of terrane accretion and transport, and the structure of circum-Pacific source regions of great subduction earthquakes. He was the Geological Society of America's Florence Bascom Awardee for Geologic Mapping in 2017, and he received GSA's Geophysics Division George P. Woollard Award for application of geophysics to geologic problems in 2022.



Message from the Chapter Chair

Hello Oregon Chapter!

Hopefully you all had an excellent field season and are looking forward to attending the 2023-2024 Chapter meetings. I hope you all had the opportunity to attend the annual meeting in our hometown this year. There were many excellent presentations as well as field trips that were led by many of our own Chapter members. I received quite a bit of positive feedback on the meeting, and heard that this meeting was a huge financial success for the organization.

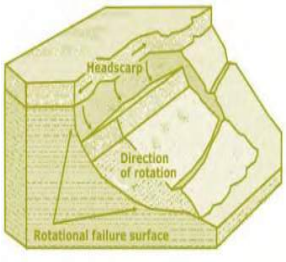
I'd like to take an opportunity to formally announce the 2023-2024 election results for the Oregon Chapter Board. Justin McCarley will be coming aboard as Secretary, Nick Farny has moved up to Treasurer, Nikos Tzetos will be the incoming Chair-elect, and I am honored to serve as Chair this year. Sebastian Dirringer is staying on as the legislative chair, and we've also added a new Program Chair, Nathan Villeneuve. Marge Belcastro was elected to the position of PSU Student Chapter President. Congrats to you all, and thank you for volunteering to continue pushing the Chapter forward. We still have many positions open if you are interested in becoming more involved with the Chapter. Lastly, I would like to take this opportunity to thank Aine Mines for her leadership over the last year. Hers are big shoes to fill, and I am fortunate to have her around for guidance and advice this year!

We're still working on the schedule of talks for this year's Chapter meetings, and scheduling has been a little tricky. We normally host on the third Tuesday of each month, but competing holidays and speaker availability has required us to be flexible. Make sure to note that not all meetings will be held on our normal monthly schedule. All Chapter meetings will be hybrid via Zoom, with the exception of Student Poster Night, which will be in person only. Our first talk of the year is sure to be of interest to us all. Ray Wells will be talking about his and his coauthors most recent work on mapping of the Portland-Vancouver metropolitan area. I had the opportunity at the annual meeting to attend Ray's keynote presentation on Cascadia Subduction, Block Motions, and Seismic Hazards, Northwest USA, which was fantastic. Ray has indicated that the map is available online and in hard copy. He will be bringing FREE hardcopies to the meeting!

See you all soon,

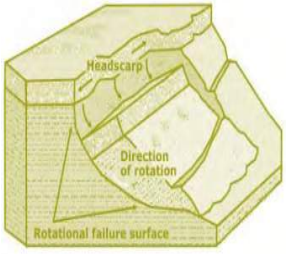
Ryan Cole

AEG Oregon Chapter Chair 2023-2024



Geologists are never at a loss for paperweights.

Bill Bryson



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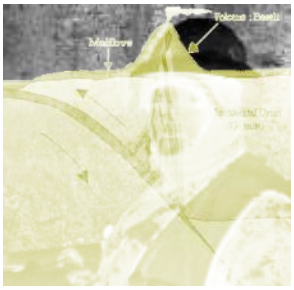
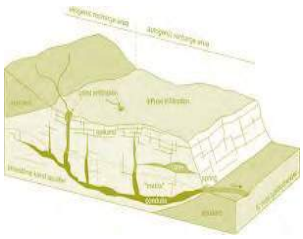
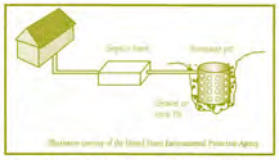
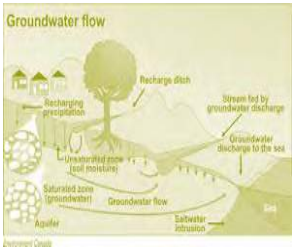






Schematic of a Seepage Pit (Dry Well)



We learn geology the morning after the earthquake.

Ralph Waldo Emerson

Chapter Officers & Committee Chairs

Chair:
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Chair –Elect:
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The Oregon Chapter is also on the web at
http://www.aegoregon.org
National AEG webpage:
http://aegweb.org

Subscribe to the newsletter by sending any e-mail to
aegoregon-subscribe@groups.electricembers.net

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Portland State University

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Thanks For Supporting AEG

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The AEG Oregon Chapter Newsletter

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.

AEG OREGON CHAPTER NEWSLETTER is published monthly from September through May. Subscriptions are for members of AEG affiliated with the Oregon Chapter or other Chapters, 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: Aine Mines, AEG Oregon Chapter Chair-Elect, Cornforth Consultants, Inc., 10250 SW Greenburg Road, Suite 111, Portland, OR 97223, e-mail: amines@ccilt.com, phone (503) 452-1100. Electronic media is preferred. Deadline for submittal is the 25th of the month. Advertising: business card size $100/yr; ¼ page $200/yr; ½ page $350/yr; 1 page $450/yr.