



NORTHWEST GEOLOGICAL SOCIETY

A regional association of professionals, students & others interested in geology
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November, 2009 Newsletter

Volume 23, Number 7

November 10 Program Speaker

Speaker: Charlotte Sullivan, Pacific Northwest Laboratory
Title: Carbon Dioxide Sequestration in Continental Flood Basalts of Eastern Washington

Speaker Abstract: Brecciated pahoehoe flow tops of stacked continental flood basalts appear to offer storage potential for tens of millions of tons of anthropogenic carbon dioxide where the basalts contain unpotable water and are at depths greater than 800 m. In laboratory experiments at reservoir conditions, basalts react with formation water and supercritical CO₂ to precipitate carbonates, adding a potential mineral trapping mechanism to dissolution and hydrodynamic trapping mechanisms associated with conventional sedimentary reservoirs. The DOE's Big Sky Regional Carbon Sequestration Partnership (BSRCSP) is conducting a pilot test of the sequestration potential of the flood basalts of the Columbia River Basalt Group (CRBG) in eastern Washington. Activities to date include acquisition of an innovative 6.5 km, five line multi-component seismic swath and drilling a 1253 m pilot well on the Boise White Paper Mill property at Wallula, Washington. The focus of the basalt pilot is an assessment of the mineralogical, geochemical, and hydrologic impact of injecting 1,000 tons of CO₂ within selected basalt reservoir zones. Injection is expected to occur over a two week period in 2010; the well will be monitored for about 1.5 years, after which the well will be reentered and cored to determine rate and types of in-situ mineralization of the CO₂. Lessons learned from imaging and analysis of these challenging rocks have implications for assessing local and regional potential for CO₂ sequestration, as well as calibration of log and seismic data acquired for deeper natural gas exploration in the region.

5:30pm: No-host social hour
6:30pm: Buffet dinner
7:30pm: Speaker program
All are welcome to attend –
reservations are required
if coming for dinner.

PROGRAM DINNER RESERVATIONS: NWGS members: \$30; Non-members: \$35; Full-time students : \$10. Add \$5 for LATE REGISTRATION. Mail check to Ginny Agnew, 935 Pine St., Edmonds, WA. 98020 (must be received by Thursday prior to meeting). Contact her at 425-776-6151 or agnewv@msn.com.

If attending the speaker program only, a \$5 voluntary donation to help defray the meeting room cost is greatly appreciated.

Location: Pacific Dining Hall at the [Talaris Conference Center](http://www.talariscenter.com), 4000 NE 41st St., Seattle, WA. Ph 206-268-7000. **Directions:** See [on-line directions with map](#), or: from I-5 northbound or southbound in Seattle, take Exit 168B (NE 45th St.). Drive east on NE 45th St. past UW down the hill and past University Village. Turn south (right) onto Mary Gates Memorial Drive at the 5-way intersection. MGM Drive will curve east (left) and become NE 41st St. Continue several blocks to the [Talaris Conference Center](#) entrance on the north (left) side.

Upcoming Speakers and Field Trips

December Speaker: Dr. Brittany Brand, UW, Mafic hydrovolcanism in the northwest.

January Speaker: Richard Fiske, Smithsonian Institution, Submarine Pyroclastic Volcanism of the Izu-Bonin Arc (Japan).

Spring, 2010 Field Trip: TBA; **Fall, 2010 Field Trip:** Holocene deposits of Mt. Baker.

Other Announcements

Your research posters are requested! If you have a poster conveying your research, whether at the undergraduate, graduate, or professional level, please bring it to our next meeting for display! POSTERS ARE WELCOME AND ENCOURAGED AT ALL MONTHLY GATHERINGS! Also, please contact Lars Gilmour for information on the official student poster session competition at the *May, 2010* meeting. **Big prizes!!!**

Next Board Meeting: November 10, 4:30pm, [Talaris Conference Center](http://www.talariscenter.com).

President Obama signed legislation establishing the [Ice Age Floods National Geologic Trail](#)! Next step: funding!
Membership dues for 2010 may be paid at anytime (sooner is better!) to NWGS Secretary Dan Smith (see p. 2).

Please see the [NWGS website](http://www.nwgs.org) for detailed announcements.

Contact webmaster Julie Masura if you have any announcements to post on the website.

Photo Spotlight

View looking northward from Peoh Point across the Yakima River valley to the Stuart Range with Cle Elum, WA in the middleground. Cle Elum Ridge north of town is the dip slope of the southerly dipping Eocene Roslyn Formation on the northern limb of the Kittitas Valley syncline. The Stuart Range consists of pre-Cenozoic crystalline rocks in the core of the Naneum Ridge anticline. Photo and caption submitted by E. Cheney; photo taken by L.A. Gilmour.



Your geology photo submissions with captions are appreciated. Please email to Newsletter Editor [Tom Bush](#).

About NWGS

NWGS, a regional association of professionals, students & other persons interested in **geology**, provides a forum for the presentation and discussion of a wide range of geologic topics, emphasizing those of the Pacific Northwest or of fundamental scientific interest. **Program meetings:** 2nd Tuesdays, October through May in the Pacific Dining Hall at the [Talaris Conference Center](#) in Seattle (see 1st page). Anyone may attend the speaker program, but a reservation is necessary for those wanting dinner (see 1st page). **Field trips (members only):** one in late spring/early summer and one in late summer/early fall, usually of 1-3 days in length. **Membership** is open to anybody with a professional or amateur interest in geology. **Annual dues:** Professional: \$30; Student: \$5. **To join or pay annual dues:** send a check payable to NWGS to Secretary [Dan Smith](#), 10203 40th Ave SW, Seattle, WA. 98146. Please include your name, address, home phone, email, and employer/affiliation (if any).

Recommended Readings

Pedoja, K., Bourgeois, J., Pinegina, Tatiana, and Higman, B., 2006, Does Kamchatka belong to North America? An extruding Okhotsk block suggested by coastal neotectonics of the Ozernoi Peninsula, Kamchatka, Russia, *Geology*, Vol. 34, No. 5, 353-356.

Portnyagin, M., Savelyev, D., Hoemle, K., Hauff, F., Garbe-Schonberg, D., 2008, Mid-Cretaceous Hawaiian tholeiites preserved in Kamchatka, *Geology*, Vol. 36, No. 11, 903-906.

Please send your reading recommendations to Newsletter Editor [Tom Bush](#).

To report a change of email or postal address or request to be removed from mailings, notify Secretary [Dan Smith](#) at 206.937.5313. Questions or comments? Contact President [Donn Charnley](#) at 206.546.3868.

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