

NORTHWEST GEOLOGICAL SOCIETY

A regional association of professionals, students & others interested in geology
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February, 2011 Newsletter

Volume 25, Number 2

February 8 Program Speaker

Speaker: Pat Pringle, Centralia College

Title: Buried forests part II-including new evidence on the nature and timing of past volcanism of Mounts Hood and Rainier

Abstract: Studies of buried forests at Mounts Hood and Rainier have allowed relatively precise dating of late Holocene eruptive and geomorphic events via radiocarbon wiggle matching and/or dendrochronology. At Mount Hood, Sheppard and others (2010) and Pringle and others (2010) dated the timing of tephra fallout near timberline and of lahars in the Sandy River basin that marked the beginning of the Old Maid eruptive period in 1781. Pierson and others (2011) further refined those tree-ring studies and characterized the timing and scale of dramatic post-lahar aggradation. These studies help to shed light on the historical observations of Broughton (1792) and Lewis and Clark in 1805 and 1806 as well as on future volcanic hazards. Since about 1986 a series of research projects by a number of investigators into Mount Rainier's past eruptive activity and lahars grew out of the pioneering work of Rocky Crandell and Don Mullineaux (1960s and 1970s). Most recently a study by Sisson and Vallance (2008) reveals that Mount Rainier has been quite active over the past 2600 years. Combined use of radiocarbon wiggle matching and dendrochronology indicates the Electron Mudflow inundated Orting and Puyallup River valley about 1502 or 1503 (Pringle and Vallance, unpub. data). Other recent studies of buried or submerged subfossil trees have helped shed light on the age of the Bonneville landslide, Greenwater Lakes, Lake Crescent, and lower Dry Beds Lake, among other sites. Future studies of past volcanic, seismic, and landslide events will undoubtedly be greatly enhanced by the greater precision enabled by combining radiocarbon dating and dendrochronology techniques.

(For references cited in the above abstract, please see Recommended Readings, p. 2 below.)

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: **\$35**; Non-members: **\$40**; Full-time students : **\$15**. Add \$5 for LATE REGISTRATION. Reservations may be made on-line at NWGS or mail check to Dan Smith, 10203 40th Ave SW, Seattle, WA. 98146 (must be received by Thursday prior to meeting). Contact him at 206-937-5313 or nwgeo@yahoo.com. *If attending the speaker program only, a \$5 voluntary donation to help defray the meeting room cost is "required."* Location: Pacific Dining Hall at the Talaris Conference Center, 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

March 8: Sian Davies-Vollum, UW Tacoma Environmental Science, Making the mudrock sandwich: fine grained and organic deposits on modern and ancient floodplains

April 12: TBA

May 10: John Dilles, Oregon State University, The Demise of Economic Geology

Spring, 2011 FT: TBA

Fall, 2011 FT: TBA

YOU would like to be involved!

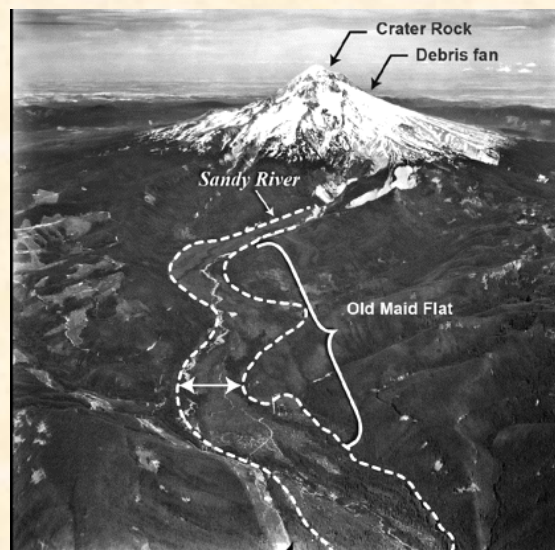
Please see the NWGS website for detailed announcements.

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

Announcements

- 2011 dues are due! Please send your dues to Dan Smith (see About NWGS below).
- Dinner reservations may now be made on the NWGS website, but you still need to mail your check to the Treasurer as before, for now. On-line payment is coming soon!
- A special meeting to form the 25th anniversary symposium organizing committee, chaired by [Lars Gilmour](#), will be held at 5:30pm on Tues. Feb. 15 at [Varlamos Restaurant](#), 3617 NE 45th, Seattle. Please attend, or contact Lars regarding how *YOU would like to be involved* in the event. Many tasks require *minimal time commitments*!
- This year's poster session will be held at the May 10 meeting. Contact new Poster Coordinator [Brittany Brand](#) if you'd like to enter a poster in the competition.
- NWGS needs your suggestions for 2011 field trips! Please contact Field Trip Coordinator [Greg Ferris](#) with your suggestions.
- Next Board Meeting is 4:30pm, Tues. March 8, 2011, [Talaris Conference Center](#). *YOU would like to be involved!*

Photo Spotlight



Aerial oblique photograph of the western flank of Mount Hood and the Old Maid Flat in the upper part of the sediment-source reach of the Sandy River. U.S. Geological Survey photo by Austin Post, 1980.

Your geology photo submissions (~1MB) 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 of fundamental scientific interest. *YOU would like to be involved!*

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). *YOU would like to be involved!*

Recommended Readings

Pierson, T.C.; Pringle, P.T.; Cameron, K.A., 2011, Magnitude and timing of downstream channel aggradation and degradation in response to a dome-building eruption at Mount Hood, Oregon. *Geological Society of America Bulletin*. v. 123, no. 1-2, p. 3-20. (See <http://bulletin.geoscienceworld.org/cgi/content/full/123/1-2/3?ijkey=4xxL7.WGKnpY.&keytype=ref&siteid=gsabull>.)

Pringle, P.T.; Pierson, T.C.; Cameron, K.A.; Sheppard, P.R., 2010, Late 18th century Old Maid eruption and lahars at Mount Hood, Oregon (USA) dated with tree rings and historical observations. IN *Tree-Ring Analysis in Natural Hazards Research: A State-of-the-Art*, Stoffel, M., Bollschweiler, M., Butler, D.R., Luckman, B.H. (eds.). Advances in Global Change Research 41. Springer: Heidelberg, London, New York, p. 487-491.

Sheppard, P.R., Weaver, R., Pringle, P.T., Kent, A.J.R., 2010. Dendrochemical evidence of the 1781 eruption of Mount Hood, Oregon. IN *Tree-Ring Analysis in Natural Hazards Research: A State-of-the-Art*, Stoffel, M., Bollschweiler, M., Butler, D.R., Luckman, B.H. (eds.). Advances in Global Change Research 41. Springer: Heidelberg, London, New York, p. 465-467.

Sisson, T. W.; Vallance, J. W., 2008, Frequent eruptions of Mount Rainier over the last ~2,600 years: Bulletin of Volcanology online, DOI 10.1007/s00445-008-0245-7, [24 p.].

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 [Julie Masura](#).

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