



NORTHWEST GEOLOGICAL SOCIETY

A regional association of professionals, students & others interested in geology
Please browse www.nwgs.org for more about us

October, 2016 Newsletter

Volume 30, Number 6



October 11 Program Speaker

Speaker: Ned Brown, Western Wash. Univ. (retired)

Title: Geology of the San Juan Islands—Northwest Cascades thrust system

Abstract: Four large nappes comprise the Paleozoic to mid-Cretaceous bedrock geology of the San Juan Islands and north-western Cascades. The nappes represent oceanic and continental terranes formed far from their present assembly in the Pacific Northwest. Together, the nappes represent the: northern Appalachian orogen, Tethyan sea floor, and arc-marginal basins and oceanic arcs of the Farallon plate. The nappes bear evidence, including subduction zone metamorphism, of interaction with the Cordilleran margin prior to emplacement. Absolute and relative nappe emplacement ages, determined by fossil and radiometric dating and by cross-cutting features, indicate an obducted sequence - emplacement ages decrease upward in the nappe pile. The time interval of the entire thrusting event is bracketed as <114 to >55 Ma. Emplacement direction of the nappes was apparently coastwise, from south to north. The footwall was a south-facing embayment in the continental margin formed by the south end of Wrangellia, and the adjoined and truncated active Coast Plutonic Complex arc. A forearc sliver caused by oblique plate convergence is suggested, as well as offset of the Coast Plutonic arc by transform faulting.

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.

► [Reservations here](#)



PROGRAM DINNER RESERVATIONS: NWGS members: **\$40**; Non-members: **\$45**; Full-time students : **\$20**. Add \$5 for LATE REGISTRATION. Make your reservation and payment on-line at www.nwgs.org (or mail your payment to **Northwest Geological Society, 4616 25th Ave NE #397, Seattle, WA. 98105** (must be received by Thursday prior to meeting)). Contact Secretary [Beth Tanner](#) with questions about dinner reservations.

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

Location: Pacific Dining Hall at the [Talaris Conference Center](#), 4000 NE 41st St., Seattle, WA., 98105. **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. We meet in the Pacific Dining room on the left (**SEE MAP ON P. 3**).

Upcoming Speakers and Field Trips

Fall, 2016 Field Trip: Eric Cheney, Geology of the Republic area and the Okanogan Metamorphic Core Complex, October 14-16.

November 8: Joint meeting with AWG- Speaker and topic from AWG.

December 13: David Williams, Geological and Geomorphic Controls on the Historical Development of Seattle.

If you would like to volunteer to give a talk or lead a field trip for NWGS, please contact President [Jim Miller](#).

Please see the [NWGS website](#) for detailed announcements.

Contact webmaster [Julie Masura](#) if you have any announcements to post on the website.

Announcements

- The **2018 NWGS Symposium** will be in early May, 2018. It will likely be 2 days, with technical sessions the first day and public presentations the second day, plus a one-day field trip either before or after. The USGS and AEG are considering involvement. Please consider volunteering for a position on the organizing committee. Contact President [Jim Miller](#).
- The Portland-based [River Restoration Northwest](#) (Seattle arm) is hosting a screening of their 3rd annual "[Stories of Our Watersheds](#)" film event, Oct. 12th at 7:30 pm at [Columbia City Theater](#), 4916 Rainier Ave. S., Seattle. Cost is \$11.61. Purchase tickets on-line at [Columbia City Theater](#).
- If you have an unusual rock, please bring it to show!

YOU would like to be involved!

Photo Spotlight



Mt. Shuksan in the North Cascades is composed of rocks of the Easton Metamorphic Suite (mostly Jurassic(?) ocean floor basalt and mudstone) affected by Late Jurassic—Early Cretaceous blueschist metamorphism, and lies within the Shuksan nappe of the Northwest Cascades thrust system (Brown, 2007). Photo submitted by E.H. Brown, caption by the Editor.

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 geological 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 [Beth Tanner](#), 4616 25th Ave NE #397, Seattle, WA. 98105. Please include your name, address, home phone, email, and employer/affiliation (if any). Professional dues may now also be paid at www.nwgs.org.

YOU would like to be involved!

Recommended Readings

Brown, E.H., 2012, Obducted nappe sequence in the San Juan Islands—northwest Cascades thrust system, Washington and British Columbia, Canadian Journal of Earth Sciences, vol. 49, no. 7, pp. 796-817.

Brown, E.H., and Gehrels, G.E., 2007, Detrital zircon constraints on terrane ages and affinities and timing of orogenic events in the San Juan Islands and North Cascades, Washington, Canadian Journal of Earth Sciences, vol. 44, no. 10, pp. 1375-1396, doi:10.1139/e07-040.

Brown, E.H., Housen, B.A., and Schermer, E.R. 2007, Tectonic evolution of the San Juan Islands thrust system, in *Floods, Faults and Fire: Geological Field Trips in Washington State and Southwest British Columbia*, edited by P. Stelling and D. S. Tucker, Geological Society of America, Boulder, Field Guide 9, pp. 143–177.

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 Membership Chair [George Bennett](#). Questions or comments? Contact President [Jim Miller](#).

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**HOW TO FIND THE NWGS MEETING SITE IN THE
PACIFIC BUILDING AT THE TALARIS CONFERENCE CENTER**

