NORTHWEST GEOLOGICAL SOCIETY

A regional association of professionals, students & others interested in geology
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June, 2022 Newsletter

Volume 36, Number 6

June 14 Program Speaker (in-person—see details below!) (Joint AEG Meeting)

6:30pm: No-host pizza social hour (see reservation details below)
7:30pm: Speaker program

Speaker: John Oldow, Western Washington University (retired)
Title: Fidalgo Ophiolite Revisited: A Late Jurassic ophiolitic basalt-argillite matrix mélange and JuraCretaceous stratigraphic overlap sequence, northwestern Washington

Abstract: The exposures of Jurassic-Cretaceous peridotite, gabbro, plagiogranite, and feldspar porphyry overlain depositionally by pelagic and epiclastic sedimentary rocks exposed on Fidalgo Island, northwest Washington, were interpreted as an intact oceanic ophiolite (Brown et al., 1979) and as part of the an island arc (Decatur terrane) that was obducted onto the North American continental margin in the Cretaceous (Brandon et al., 1988). Recent geologic mapping and structural analysis of late Mesozoic rocks exposed on the islands in the eastern Salish Sea document that the rocks interpreted to be an ophiolite sheet obducted onto the continental marge actually are a Jurassic ophiolitic mélange overlain by Jura-Cretaceous marine sedimentary rocks (Katopody and Oldow, 2019). The Jurassic mélange contains blocks and olistoliths of ultramafic, mafic, and intermediate igneous rocks together with blocks of chert, argillite, and volcaniclastic breccia. The blocks and olistoliths range in size from less than 1 m to over 1 km and are contained within a matrix of basalt, argillite, and volcaniclastic sediments. The mélange rocks are overlain in angular unconformity (locally nonconformity) by over 500 m of Late Jurassic to Early Cretaceous fine- to coarse grained sedimentary rocks sourced from an oceanic island arc. Many olistoliths within and the matrix of the mélange record an early history of cataclastic deformation that predated deposition of the overlap sequence. The heterolithic mélange contains volcanic arc and oceanic constituents exhumed and deposited during transpressional tectonism in a forearc setting. Both the mélange and overlap rocks are deformed in four generations of penetrative structures formed during a complex history of folding and imbrication during Cretaceous to Eocene accretion along the northwestern continental margin of North America.

IN-PERSON PROGRAM RESERVATIONS!

To register for attending in-person: please make your reservations at nwgs.org (you may still attend via Zoom for no charge (no need to register))
Location: Optimism Brewing on Capitol Hill, 1158 Broadway, Seattle, WA. 98122. We will meet in the mezzanine upstairs (there is no elevator, but we will offer assistance for those that need support up the stairs)
Directions: get Google Maps driving directions here
Cost: Non-student: $30, Student: $10.
Catering: We will be providing pizza, including Vegan and Gluten-friendly options*. There will also be salad, a simple dessert, and some non-alcoholic beverages. You are encouraged to sample the drinks from Optimism Brewing on your own. You may also bring outside food or **non-alcoholic** drinks to the space.

*Some contamination is expected in pizza preparation. We expect at least one salad to be gluten-free, no promises on the dessert.

Upcoming Speakers and Field Trips

Fall Field Trip: Tom Doe & John Oldow, Fidalgo Island Ophiolite Revisited, Sept. 9-11, Cost TBA. See details in Announcements below.
2nd Fall Trip: Tom Doe may be leading a field trip to Cougar Mtn near Lake Sammamish in October. Date and cost TBA.

If you would like to volunteer to give a talk or lead a field trip for NWGS, please contact President Matthew Porter.

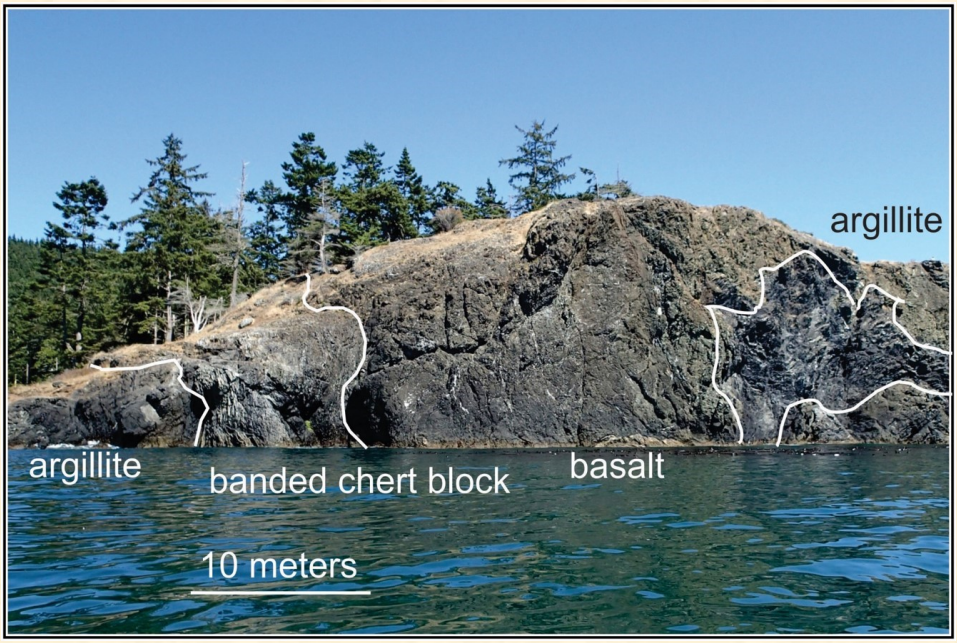
Please see the NWGS website for detailed announcements.
Contact webmaster Matthew Porter if you have any announcements to post on the website.

Announcements

- NWGS is still seeking a talented volunteer to fill the **President Elect** position. The time commitment is not enormous, and this is a rewarding opportunity to contribute to and help shape the direction of our fine organization. Please contact President Matthew Porter for more information.
- Note that NWGS **field trips** are **members only**, so please be sure your membership is current. Memberships are now on a **1-year rolling basis** (good for 1 year from the date you register or renew).
- Next **Board of Directors meeting:** TBA.

YOU would like to be involved!

Photo Spotlight



Rosario Head on southwest Fidalgo Islands showing the complex lithology of the Jurassic Vendovi melange. These rocks were originally interpreted to be part of the Fidalgo ophiolite, which is now recognized to be an ophiolitic melange containing blocks of argillite, bedded chert, basalt, gabbro, intermediated intrusive rock, and peridotite within a basalt-argillite matrix.

About NWGS

The Northwest Geological Society is a non-profit educational organization which provides a forum for information and discussion on Northwest geology and related topics. The Society sponsors talks by leading academic and professional geologists at its monthly meetings, conducts field trips to locales of regional geologic interest, and publishes meeting summaries and field guides based on those activities. Membership is open to anyone interested in regional geoscience issues.

Program meetings are the 2nd Tuesdays, October through May. We are resuming in-person meetings with a special June edition this month at the Optimism Brewing on Capitol Hill I Seattle, 1158 Broadway, Seattle, WA. 98122. You may also attend via Zoom (link is included in the email announcement to all members; nonmembers contact the NWGS Secretary). Reservations are required to attend in-person (Non-student: $30, Student: $10).

Field trips (members only): The Society sponsors two overnight field trips each year, one in the fall and one the spring, to locales of regional geologic interest.

Membership is open to anybody with an interest in geology. **Annual dues**: Professional: $55; Student: $10. **To join or pay annual dues**: go to the NWGS website, or visit our website for more details. We look forward to seeing you soon!

Recommended Readings

Brown, E.H., Bradshaw, J.Y., and Mustoe, G.E., 1979, Plagiogranite and keratophyre in ophiolite on Fidalgo Island, Washington: Geological Society of America Bulletin, Part I., v. 90, p. 493-507.

Brown, E.H., Bradshaw, J.Y., and Mustoe, G.E., 1979, Plagiogranite and keratophyre in ophiolite on Fidalgo Island, Washington: Geological Society of America Bulletin, Part I., v. 90, p. 493-507.

Katopody, D.T., and Oldow, J.S., 2019, Polyphase brittle and ductile deformation of Late Jurassic ophiolitic basalt-argillite matrix melange and stratigraphic over-

Please send your reading recommendations to Newsletter Editor Tom Bush.

To update your account information,, go to NWGS.org/membership.
Questions or comments? Contact President Matthew Porter.

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