



NORTHWEST GEOLOGICAL SOCIETY

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

February, 2024 Newsletter

Volume 38, Number 2

February 13 Program Speaker Co-hosted with Association of Women Geoscientists

No in-person meeting as this month's presentation will be **remote from Reno, Nevada**
6:45pm: Social time; 7:30pm: Speaker program ([Zoom link here](#))

Speaker: Stacia Gordon, University of Nevada Reno

Title: Tracking the Rheology History of an Arc System: Magmatism, Metamorphism, and Deformation in the Deep Crust

Abstract: Continental magmatic arc systems are commonly characterized by periods of high-flux magmatism. This magmatism intrudes into the host rocks to the arc, which generally consist of metasedimentary rocks. In addition, sediments are commonly incorporated into the deep levels of arcs. Combined together all of these processes will change the rheology of the arc crust through time. The crystalline core of the exhumed Cretaceous-Eocene North Cascades continental magmatic arc, Washington, arguably contains the largest amount of metasedimentary rocks of any exhumed arc. Some of these metasediments represent host rocks to the arc and others were incorporated into the arc during active arc magmatism. The North Cascades arc is also unusual in that it exposes >40 km thick section of crust from lower-crustal rocks to basins that formed coeval with magmatism and metamorphism. In this study, we use the metasedimentary rocks of the North Cascades to track the metamorphic, partial melting, and deformation history and therefore the rheological evolution of this continental magmatic arc. We look at the relationship between these processes happening in the deep crust with extension and basin development in the upper crust. Together these data provide a comprehensive ~45 Myr tectonic history for this ancient arc system that can be related to other ancient arcs (e.g., Fiordland, New Zealand) and active arc systems (e.g., the Andes in South America).

IN-PERSON PROGRAM DINNER RESERVATIONS (no in-person dinner this month)!

Cost: NWGS member dinner: \$40; Non-member dinner: \$50; Student dinner: \$10; Talk-only: \$10;
Student talk-only: free

To register for attending in-person: please [make your reservation here \(nwgs.org/meeting-registration/\)](http://nwgs.org/meeting-registration/) by the Thursday prior to the meeting.

Catered menu: no in-person dinner this month.

Location: No in-person dinner this month.

Cost: There is no cost for attending this month's virtual presentation via Zoom.

Upcoming Speakers and Field Trips

March 12: TBD.

April 9: Darrel Cowan, UW Emeritus, A new paradigm for the mid-Cretaceous to Eocene North America Cordillera: An obliquely convergent plate margin

May 14: TBD.

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

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

Announcements

- Maria Parente, PLU graduate, has graciously accepted this year's NWGS Presidential position. Thank you, Maria, and congratulations!
- Please notice below that there still are two open Board of Directors positions: **President Elect** and an **NWGS Board** position. The success and future of this fine organization depends on shared governance by its members. The time commitment is not enormous, and this is a rewarding opportunity to contribute to the direction of NWGS. Please contact President Elect [Maria Parente](#) or any Board member for more information.
- Tom Doe (December, 2023 guest speaker) will lead a follow-up field trip to his recent presentation for our spring field trip to the Issaquah Highlands/Cougar Mountain area. Date TBA (May or June).
- There are some other exciting **field trip** options on the horizon! These include possible trips to the the **Issaquah Highlands**, the **Jurassic coast of England** (Fall, 2024), and **southern Utah** (date TBD), and Wales to be led by Chris Darmon (Fall, 2025?).
- We are currently working on filling in the talk and field trip schedules for 2024. Please let [Maria Parente](#) know if you would like to volunteer or have any suggestions.
- Next **Board of Directors meeting**: February 20, 6:00 pm. Members are welcome to attend. Please email nwgs.secretary.com for the Zoom link.

Photo Spotlight



Migmatite and folded Skagit Gneiss in the North Cascades.

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 trying a new in-person venue this month at the [Fauntleroy YMCA in West Seattle, 9140 California Ave SW, WA, 98136](#). Reservations are required to attend in-person (Member dinner: \$40; Non-member dinner: \$50; Student dinner: \$10; Talk-only: \$10; Student talk-only: free).

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

North Cascades Highway Geology w/ Stacia Gordon and Bob Miller (early 2023)

<https://www.youtube.com/watch?v=4fi3kqIJ3bU>

North Cascades w/Bob Miller, Stacia Gordon, and Mike Eddy – Eocene Z (early 2023)

<https://www.youtube.com/watch?v=x6ksmB6NuPs>

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

To update your account information,, go to [NWGS.org/membership](https://www.nwgs.org/membership).
Questions or comments? Contact President [Francois Lalague](#).

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