

NORTHWEST GEOLOGICAL SOCIETY

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

April, 2024 Newsletter

Volume 38, Number 4

April 9 Program Speaker

5:30pm: No-host social hour; 6:30pm: Dinner
7:30pm: Speaker program ([reservations here](#), see below for details)

Speaker: Darrel Cowan, UW Emeritus

Title: Evolution of ideas—1969-1985— about plate convergence along the western margin of North America

Abstract: At the 1969 GSA Penrose Conference convened by Bill Dickinson, Tanya Atwater illustrated how the tectonics of the family of Pacific plates resulted in hundreds of kilometers of dextral slip on the San Andreas fault. The conference also enabled geologists to recognize the on-land geologic record of plate convergence. In the 1970's and 1980's, derivative models for late Mesozoic subduction in western North America portrayed exclusively orthogonal convergence, even though the first paleomagnetic data proposing dextral coastwise displacements had been published as early as 1972. Meanwhile, many of the site-specific paleomagnetic studies in the western Cordillera that appeared in the 1980's and 1990's indicated dextral coastwise transport of these sites in the Late Cretaceous and early Tertiary. No model respecting the paleomagnetic data, in particular, is generally accepted by the tectonics community.

I have wondered why geologists working on land have been so reluctant not only to consider the Baja British Columbia hypothesis but also to devise geologic tests to corroborate or disprove it, especially given all the other evidence for dextral displacements in the Cordillera? I think that California geologists have been satisfied with both the concept of the Franciscan-Great Valley-Sierra Nevada triad, and paleomagnetic data requiring large coastwise displacements seemingly have not solved any outstanding local geological problems. However, in northwestern Washington and southwest BC, the diverse terranes assembled during the Late Cretaceous and early Tertiary do not fit easily into a simple model of orthogonal convergence, so paleomagnetically determined latitudinal displacements offer a viable alternative tectonic explanation.

IN-PERSON PROGRAM DINNER RESERVATIONS!

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/) by the Thursday prior to the meeting.

Catered menu: beef chili, chicken chili, vegan chili, baked potatoes, broccoli, cheese sauce, green onions, diced onions, bacon bits, shredded cheddar, corn bread, cinnamon rolls, garden salad with choice of dressing

Location: Fautleroy YMCA next to the Fautleroy UCC Church, West Seattle, 9140 California Ave SW, Seattle, WA. 98136. Use the parking lot on the [north side of the building](#). Get [Google Maps driving directions here](#).

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

Upcoming Speakers and Field Trips

May 7 (first Tuesday): Will Hoover, UW Postdoc, Will Hoover, UW Postdoc, Earthquakes and baby powder: How chemical reactions influence Cascadia slow slip.

Spring Field Trip: Tom Doe, Issaquah Highlands/Cougar Mtn (date TBD in May or June).

Fall Field Trip: TBD.

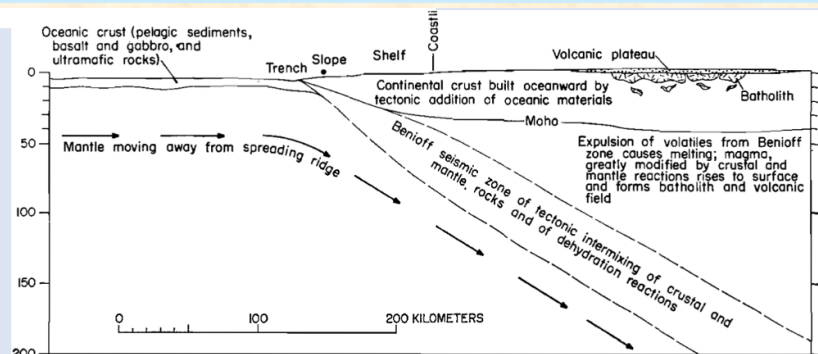
If you would like to volunteer to give a talk or lead a field trip for NWGS, please contact President [Maria Parente](#).

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

Announcements

- Note that the **May meeting will be on May 7**, the first Tuesday, so as to not conflict with the GSA Cordilleran Sectional meeting.
- Please notice below that there are still 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.
- There are some other exciting **field trip** options on the horizon! These include possible trips to the **Jurassic coast of England** (Fall, 2024), 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**: March 19 and April 16, 6:00 pm. Members are welcome to attend. Please email nwgs.secretary.com for the Zoom link.

Photo Spotlight



Mesozoic California and the underflow of Pacific Mantle (from Hamilton, 1969).

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 [Fautleroy 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 in 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

Hamilton, Warren, 1969, Mesozoic California and the Underflow of Pacific Mantle, GSA Bulletin vol. 80, no. 12, 2409-2430. [https://doi.org/10.1130/0016-7606\(1969\)80\[2409:MCATUO\]2.0.CO;2](https://doi.org/10.1130/0016-7606(1969)80[2409:MCATUO]2.0.CO;2).

Hutchinson, J., Kao, H., Riedel, M. *et al.*, 2023, Tectonic evolution of the Nootka fault zone and deformation of the shallow subducted Explorer plate in northern Cascadia as revealed by earthquake distributions and seismic tomography. *Sci Rep* 13, 7873. <https://doi.org/10.1038/s41598-023-33310-z>

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

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

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