



NORTHWEST GEOLOGICAL SOCIETY

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



October, 2017 Newsletter

Volume 31, Number 6



October 10 Program Speaker

Speaker: Michael Kipp, UW Earth and Space Sciences and Astrobiology

Title: The “Pale Blue dot” through time: Viewing Earth as an exoplanet

Abstract: The number of known planets orbiting stars beyond our Sun is growing exponentially, with over 4000 exoplanet candidates described to date. Among these are planets with a similar mass to Earth and orbiting at the right distance to maintain liquid surface water - what is referred to as the “habitable zone.” The next generation of space telescopes - launching as soon as 2018 - will be able to measure the atmospheric composition of these planets, and will have the goal of using that information to discern whether we have found signs of life beyond Earth.

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](#) 

While we know very well what the Earth looks like today, the ~4.5 billion year history of our planet features many intervals that may not be immediately recognizable as “inhabited,” but in fact were times of abundant and diverse life. The task at hand then, before these telescopes can compellingly assess the presence or absence of life on exoplanets, is to characterize the many different past Earths that have existed.

This talk highlights work being done in the UW Dept. of Earth & Space Sciences and Astrobiology Program to characterize changes in Earth’s atmospheric composition on billion-year timescales. It will recap two stories that have recently developed about the major constituents of the atmosphere - nitrogen and oxygen - and will discuss the ways in which we can and cannot use these gases as biosignatures. Furthermore, the talk will emphasize the critical role of field geologists, geochemists, geochronologists, and paleontologists in the search for life beyond Earth.

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

November 14: Dave Tucker, WWU Geology, Precambrian Evolution

December 12: Jeff Randall, Professional Geologic Licensing

January 9: Ralph Haugerud, USGS, topic TBA

February 16-18: 3rd NWGS Symposium, University of Washington (no February 13 speaker)

March 13: Lisa Ely, CWU Geological Sciences, Fluvial Geomorphology of Natural Dams in Chile

April 10: Jim O’Conner, USGS, Floods and Columbia River Geology

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

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** dates February 16 (technical sessions), 17 (public sessions), & 18 (field trip). Save the dates!
- [River Restoration Northwest](#) is hosting a film event, 2017 [RRNW Film Event: Stories of Our Watersheds](#) on Oct. 12 at the [Northwest Film Forum](#) in Seattle. Cost: \$10 ([advanced ticket](#) required).
- The field trip guidebook from the 2016 NWGS field trip to Scotland, *The Grand Geologic Tour of Scotland*, compiled by Kathleen Goodman from contributions of many of the participants, is now available. Please contact Publications Coordinator [Tom Bush](#) if you would like a digital copy sent to you (available only if your annual dues are current).
- If you have an **unusual rock**, please bring it to show! You could also bring anything else of a geologic or scientific nature such as maps or books, especially ones that you have authored.
- **Next Board of Directors meeting:** October 10, 2017, 4:30PM, Talaris Conference Center.

YOU would like to be involved!

Photo Spotlight



Wide-angle image from NASA's Cassini spacecraft showing the rings of Saturn with Earth in the distant background of the same image (arrow). Image taken on July 19, 2013. Image credit: NASA/JPL-Caltech/Space Science Institute, Pale Blue Dot: distant Spacecraft Photograph Earth (https://science.nasa.gov/science-news/science-at-nasa/2013/23jul_palebluedot), accessed 9/25/2017).

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: \$40; 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

Kipp, M.A, Stüeken, E.E., Bekker, Andrey, and Buick, Roger, Selenium isotopes record extensive marine suboxia during the Great Oxidation Event, Proceedings of the National Academy of Sciences, vol. 114, no. 5, pp. 875-880, doi: 10.1073/pnas.1615867114.

NASA, 2013, Pale Blue Dot: Distant Spacecraft Photograph Earth, https://science.nasa.gov/science-news/science-at-nasa/2013/23jul_palebluedot.

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 [Scott Calhoun](#).

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

