



NORTHWEST GEOLOGICAL SOCIETY

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

November, 2022 Newsletter

Volume 36, Number 8

November 15 Program Speaker

The [Zoom meeting link](#) will be in the meeting reminder email from [NWGS Secretary](#) to all registered members prior to the meeting.

If you are not a member, please email [NWGS Secretary](#) for the link.

Reservations are not needed.

6:30pm: No-host social hour small group break-out sessions; 7:30pm: Speaker program

Speaker: William Burgel, Retired

Title: The Development of the Science of Geology as it Corresponds to the Growth of the Railroad Industry: How Geology Played a Significant Role in Railroading in the Pacific Northwest

Abstract: James Watt invented the steam engine in 1769 greatly increasing the need for coal. Mutually beneficial, the fledgling science of geology found the coal for an ever-increasing industrial society. Steam engines powered pumps to enable coal mining to even greater depths as water removal was improved. But how to transport this coal to population centers where the workers lived? In 1803, President Thomas Jefferson secured, for the newly born United States of America, the entire north-west portion of our country. A year later, Richard Trevithick attached a steam engine to wheels and voila, the steam locomotive was born! Not only was coal needed to power these labor savings machines but a means to transport this source of energy to locations where it was needed. Geology experienced a second growth spurt as railroads needed nearly level routes to transport goods and people. Throughout the 1800's and early 1900's, these two "disciplines" would work closely together to the mutual benefit of both. This paper and accompanying PowerPoint show how, time and time again, these two efforts, one that of science and the other, that of industry, would be called upon to decide: (1) why the demand for coal incentivized the nation's first railroad, (2) which route across the United States provided the optimal route for the nation? (3) why the USGS was formed to answer these three important questions: what is a mountain, and upland or a plain? (4) once a general corridor for a transcontinental railroad was decided upon, where economically should we place the alignment given the actual location where coal, iron ore, gravel deposits could be found? Answering these and other questions gave employment to many geologists. The Hayden Surveys, which introduced us to one of the greatest geologic spectacles of them all, Yellowstone, began as a railroad survey. Indeed, building the rail grade offered geologists a glimpse into massive embankments and excavations (exposing rocks and minerals heretofore unseen) required by the construction effort.

[JOIN THE PROGRAM VIA ZOOM!](#) Join the program by clicking the link in the separate meeting email announcement. Until we start meeting in person again, there is no cost and a reservation is not needed. You may join for both the social hour (6:30 pm) and the speaker program (7:30 pm), or just the speaker program. During the speaker presentation, the host will mute your microphone, and we ask that you please also mute your camera so as to allow sufficient band width for the speaker program. A Q&A session will follow the presentation. If you have a question or comment during the presentation, click **Chat** at the bottom of your screen to type your question or comment to the general audience. You may also click the **Raise my hand** link to ask the speaker a question and the host will call on you. Click on the Zoom link above to join the meeting at the appropriate time as listed above on the day of the meeting. See the [NWGS](#)

Upcoming Speakers and Field Trips

December 13: TBA.

January 10: TBA

February 14: TBA.

March 14: 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.
- **Next Board of Directors meeting:** November 15, 2022, 5:30 P.M. via Zoom.

YOU would like to be involved!

Photo Spotlight



In 1987, a BNRR freight train drops down the Devil's Canyon, nearing the Snake River, one of Bretz/ Missoula Flood outwash channels. (Photo credit not reported.)

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. **Until we are able to meet in person again, meetings are held via Zoom (link is included in the email announcement to all members; nonmembers contact the [NWGS Secretary](#)).** Anyone may attend the speaker program at no cost, and a reservation is not needed.

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

Ambrose, S. E., 2000, [Nothing Like It in the World: The Men Who Built the Transcontinental Railroad 1863-1869](#), Simon and Schuster, 432 p.

Chassignet, M. P., 2014, The Steam Engine, Environment and Society Portal, Multimedia Library, <http://www.environmentandsociety.org/node/6627/>.

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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