

NORTHWEST GEOLOGICAL SOCIETY

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

November, 2018 Newsletter

Volume 32, Number 7

November 13 Program Speaker

Speaker: Seth Moran, Scientist-in-Charge, USGS Cascade Volcano Observatory

Title: The 2018 Eruption of Kilauea Volcano, Hawai'i – What Happened, and How Is It Relevant to Volcanism in the Pacific Northwest?

Abstract: The 2018 eruption on the Lower East Rift Zone of Kilauea Volcano was a remarkable event in many regards. From early May through mid-August scientists and society alike bore witness to voluminous amounts of lava erupted out of a new fissure system that formed within the middle of the Leilani Estates subdivision, ultimately destroying over 700 homes and creating 875 acres of new land. The eruption was fed by the draining of a magma reservoir stored at the Kilauea summit; the draining of this magma caused significant collapse features in the Kilauea summit caldera, including the deepening of the Halemaumau caldera by ~1000m. This deepening occurred progressively over the space of 3.5 months accompanied by daily $M > 5$ earthquakes that caused significant damage to local buildings, including to the U.S. Geological Survey's Hawaii Volcano Observatory building.

Fortunately, there were only a few casualties from the eruption. This is attributable to a number of factors, including, a good monitoring network, 24/7 field presence, an engaged Hilo County Emergency Management Division that rapidly and effectively responded to events as they unfolded, good communication and trust between HVO staff and the Hilo EMD that was established well before the eruption began, and an extraordinary effort to provide up-to-date information on social media platforms (e.g., the USGS Volcanoes Facebook page), which were used as primary information sources by local residents as well as the international scientific community.

There are a few places in the Cascades where a similar eruption could occur, including Newberry Caldera near Bend, OR, and also in the Boring Lava Field located in the greater Portland area. Such eruptions are much less likely than in Hawaii, however; Newberry's last eruption was 1300 years ago, and the last cinder-cone eruption in the Portland area was ~50,000 years ago. Other Cascades-relevant lessons from the Kilauea volcano include the importance of having monitoring equipment in place before unrest begins; the importance of continuously engaging stakeholders in the emergency response community, in land-management agencies, and in communities near volcanoes so that when a volcano wakes up there is broad familiarity with roles and responsibilities as well as the nature of volcanic hazards; and the importance of having good working models of volcanic systems to help interpret the significance of various unrest phenomena associated with the movement of magma.

Also, there will be a special musical performance by one of our members as a part of our evening's events!

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](mailto:beth.tanner@nwgs.org) 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 (see map p. 3): 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).

Upcoming Speakers and Field Trips

December 11: Darrel Cowan, UW ESS (retired), book discussion of [Roadside Geology of Washington](#)

January 8: Dr. Kevin Pogue, Whitman College, Tasting Geology in Wine: Terroir and Am. Viticulture Areas

February 12: Michael Holland, Reconstruction of Dinosaur Fossils

March 12: Liz Schermer, WWU, Paleoseismic Trenching/Active Tectonics Near Port Angeles

April 9: Wayne Ranney, Carving of the Grand Canyon

May 14: Poster session with multiple presenters in lieu of a speaker.

If you would like to volunteer to give a talk or lead a field trip for NWGS, please contact President [Tom Colligan](mailto:tom.colligan@nwgs.org).

Please see the [NWGS website](http://www.nwgs.org) for detailed announcements.

Contact webmaster [Julie Masura](mailto:julie.masura@nwgs.org) if you have any announcements to post on the website.

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](#)



Announcements

- Sadly, long-time member, friend, and former NWGS Secretary **Hal Pelton** passed away on Aug. 4 at the age of 90. Please see his memorial on page 3.
- **Heather Vick** (Dept. of Ecology) has graciously agreed to serve as the current **President-elect**, which means she will assume the role of **President** starting in January. Congratulations Heather, and thank-you in advance for your service!
- The June 27-July 7, 2019 **Italy/Slovenia trip** is full but if you are interested, contact [Kathleen Goodman](#) to start a waitlist.
- Board member and recent WWU graduate **Katie Brower** won the American Institute of Professional Geologist's 2018 "Why I Want to Be A Geologist" essay award for WWU. See **Recommended Readings** on p. 2 for the link to her essay in [The Professional Geologist](#).
- **Next Board of Directors meeting: November 13, 4:30PM**, Talaris Conference Center.

YOU would like to be involved!

Photo Spotlight



View looking SW of the Fissure 8 lava fountain at Kilauea Volcano's Lower East Rift Zone (LERZ), Big Island of Hawai'i, during the 2018 eruption. The fountain is feeding a channelized lava flow that ultimately covered 35.5 km² (13.7 mi²) of land, added 875 acres to the coastline, and destroyed over 700 homes. The cone in the foreground is not the Fissure 8 cone. S. Moran photo.

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 geological 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: \$42; 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

Anderson, Kyle, Swanson, Don, Mastin, Larry, and Neal, Christina, 2018, Preliminary Analysis of Current Explosion Hazards at the Summit of Kilauea Volcano, U.S. Geol. Survey, https://volcanoes.usgs.gov/vsc/file_mgr/file-180/PreliminaryAnalysisOfCurrentExplosionHazardsSummit_May8_2018.pdf.

USGS Hawaiian Volcano Observatory, 2018, Preliminary summary of Kilauea Volcano's 2018 lower East Rift Zone eruption and summit collapse, U.S. Geol. Survey, https://volcanoes.usgs.gov/vsc/file_mgr/file-192/PrelimSum_LERZ-Summit_2018.pdf.

Brower, Katelyn, 2018, Why I Want to Be A Geologist, The Professional Geologist, The American Institute of Professional Geologists, Vol. 55, No. 3, p. 13, http://96.93.209.186/StaticContent/3/TPGs/2018_TPG_JulAugSep.pdf.

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 [Tom Colligan](#).

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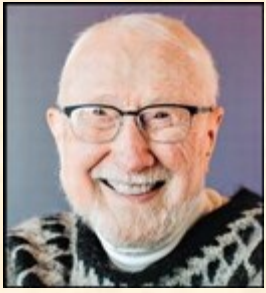
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In Memory of Harold Archie “Hal” Pelton September 26, 1927–August 4, 2018



Our colleague, friend, and former NWGS Secretary Harold Archie “Hal” Pelton passed away at his home in Seattle after a brief illness on August 4, 2018 at the age of 90. Hal was a long-time member of NWGS, dating back to the early years of the 1960s and 70s. He served as NWGS Secretary in 1971. Although Hal never graced NWGS as a guest speaker or field trip leader, he was a steadfast attendee of meetings and field trips over several decades.

Hal was born in Easton, WA and eventually moved to Seattle where he graduated from Ballard High School in 1945. He attended the University of Washington but quickly left to join the Army. Following his service, he returned to UW where he earned bachelor’s and master’s degrees in geology.

Hal spent the early years of his geology career in the oil industry with stints in North Dakota, Wyoming, Denver, and Oklahoma City. He then returned to Seattle to take a geology teaching post with Seattle Central Community College, where he spent the last 26 years of his career.

Hal was a renowned world traveler, having visited almost every continent.

Hal met his wife, Sharon, while in North Dakota, who preceded him in death in 1990. He is survived by his three adult children, all of whom live in Seattle.

Thank-you, Hal, for sharing so many wonderful NWGS memories with us.

(The above information was taken from NWGS historical records and [Hal’s complete obituary in the Seattle Times.](#))

Newsletter Editor Tom Bush

