National Association of Geoscience Teachers

Pacific Northwest Section

Fall 2024

Please send information about upcoming events, new publications, teaching resources, photos or other items of interest for the next newsletter to tredding@okanagan.bc.ca

Greetings from the President

Craig Nichol,
Section President,
University of British Columbia Okanagan

I hope that this newsletter finds everyone off to a good start for the year. It was a busy summer, and all too soon fall classes have started again. I always seem to end the summer with items still on the to do list. For me, this fall means working on some big picture changes to our program's curriculum. It has been a great opportunity to really think about what we are trying to achieve across the whole degree, not just in one class. It has also been a good reminder of how integrated all the colleges and universities are as we check over our plans to make sure they will work for transfer students.

The PNW Section executive has been busy getting events lined up for the coming year. We are aiming to have a number of online PNW Section talks which will give an opportunity to mix with your fellow educators. Check out the schedule in the newsletter, and keep a look out for announcements in your emails as we finalize details.

One of the main section activities each year is our annual in-person meeting. This year we were treated to a wonderful summer meeting in Yakima Washington, hosted by the amazing team of Zachary Schierl, Suki Smaglik and Katharine Solada. Thank you all. Please take a moment to read over the report from the meeting.

We are excited to announce that next year's meeting is being planned for June 26-28th, 2025 in Portland Oregon. Save the date. We will be holding our meeting in parallel to the Cascadia Region Earthquake Science Center (CRESECENT) annual stakeholder meeting. We are planning for the program to include a joint session on geoscience education related to seismic hazards in the Pacific Northwest. Please pay a visit to the CRESCENT website to check out the wide range of initiatives they are undertaking. When you are thinking about activities with your student's this year, keep in mind the 2025 conference theme of *Geoscience along the margin: Intersections of people, community, and science* and we will hope to see students presenting at the conference.

We are always happy to have members help out with organizing the section, and have open positions for councilors. Please contact one of the executive if you would like to get involved.

Happy teaching.

2025 NAGT Pacific Northwest Section Conference!
Portland, OR, June 26-28, 2025

Geoscience along the margin: Intersections of people, community, and science

Join us in Portland, OR to meet colleagues from around the Pacific Northwest, share teaching techniques, and explore the amazing geology of the eastern slopes of the Cascades! This year we are excited to announce that our conference is being held in parallel to, and co-located with, the Cascadia Region Earthquake Science Center (https://cascadiaquakes.org/) annual stakeholders meeting. The program of the 2024 stakeholders meeting is linked here. Part of the mandate of CRESCENT is geoscience education. We are looking to have opportunities for interactions between the NAGT and CRESCENT conferences participants, such as a geoscience education workshop and perhaps shared student poster sessions. More details will follow.

Location: University of Oregon Concordia Northeast Campus
Hosts: Mount Hood Community College, University of Oregon

Tentative Schedule
We are working with the CRESCENT team to plan the two meetings to be side by side. The local lead NAGT host, Daina Hardisty and her team have been leading field trips in the Portland area for many years and have an impressive lineup of field trip choices for us.

Thursday, June 26:
Morning:
- Invited and submitted NAGT presentations
- NAGT Section Business Meeting

Afternoon
- NAGT Local Field Trip

Evening:
- Dinner at a local restaurant

Friday, June 27:
Morning:
- Invited and submitted NAGT presentations
- Geoscience Education workshop with CRESCENT

Afternoon
- NAGT Local Field Trip:

Evening:
- Craft Brewery Tour

Saturday, June 28: All Day Field Trip
- Options include traveling to the Oregon Coast to examine geology and hazards in coastal areas. Or, traveling inland.
- May also be open to CRESCENT meeting participants

Survey and Session Proposals:
Please use this link to let us know preliminary interest in being a part of the Portland Conference. We would also like proposals for sessions, workshops, field trips or other activities you would like to see at the 2025 meeting that speak to the conference theme of *Geoscience along the margin: Intersections of people, community, and science*.

Please complete the survey at the following link to share your preferences for the meeting:
https://ubc.ca1.qualtrics.com/jfe/form/SV_d6vA0okt5IGDlXM

Lodging information:
Portland has many lodging options. We will be collaborating with the CRESCENT stakeholders meeting and the University of Oregon on securing hotel room booking deals for the meeting.
The closest hotel to the University Oregon Concordia Northeast Campus (2811 NE Holman Street) is:

McMenamins Kennedy School
5736 NE 33rd Ave., Portland, OR 97211

The University of Oregon has relationships with local hotels and we will be looking at having room blocks at the:
- Country Inn
- Radisson PDX

Questions or Suggestions? Contact the planning team:
Daina Hardisty, Mt Hood Community College, Daina.Hardisty@mhcc.edu
Craig Nichol, University of British Columbia Okanagan, craig.nichol@ubc.ca
Crystal Huscroft, Thompson Rivers University, Chuscroft@tru.ca

---

Awards Reminders

OEST award deadline is March 1. Contact Derek Turner (turnerd1@douglascollege.ca) to nominate a teacher or for more information.
Outstanding TA award nominations deadline is June 15. More information at https://nagt.org/nagt/awards/ta.html
NAGT Awards https://nagt.org/nagt/awards/index.html

2024 Annual Summer Meeting Recap
Zach Schierl, Yakima Valley College

NAGT-PNW members gathered in sunny Yakima, Washington from June 17-19 for our annual summer conference. The meeting kicked off with an informal dinner overlooking the orchards and vineyards of the Yakima Valley at Cowiche Creek Brewing, followed by a hike through the Columbia River Basalt and Tieton Andesite lava flows at Cowiche Canyon.

The formal program began Monday with a conference day on the YVC campus. Highlights included a discussion on the use of AI in geoscience classrooms, several inspiring examples of undergraduate research projects, presentations on the challenges of transfer advising and experiments with "ungrading", and virtual field trip demonstrations. In the evening, we moved down the street to the Yakima Valley Museum to explore their amazing displays of petrified wood from the Columbia River Basalt Group, as well as extensive exhibits on the natural and human history of the Yakima Valley. Dr. Bruce Bjornstad walked us through his stunning photography of Missoula Flood features as our evening keynote speaker.

Tuesday (Day 2) was a field trip to Old Blewett Pass lead by Dr. Bre McInnes of Central Washington University. We made several stops to examine the sedimentology and fossil deposits in the Eocene Swauk Formation. Many attendees went home with new fossils for their classroom and personal collections!

The meeting concluded on Tuesday with a foray into the Cascades as we toured the geology along U.S. Hwy 12 from Yakima to White Pass. Highlights included volcanic deposits from several different episodes of Cascade volcanism and great views up glacier-carved valleys into the Goat Rocks Volcanic Complex. Sadly, a large portion of this field trip route burned in a wildfire that began just a few weeks later (see photos below).

A big thanks to all of the participants that travelled to Yakima to make this meeting a success. We hope to see you next summer in Portland!

Zach Schierl discussing the geology of the Yakima River Valley between Ellensburg and Yakima (C. Huscroft)

Geologists explore columns of Tieton Andesite near Naches, WA (T. Redding)

Jacob Sealander discusses the tectonic history of the Swauk Formation near Blewett Pass (C. Huscroft)

Bre McInnes discussing fossil of the Swauk Fm along the Old Blewett Pass Road (T. Redding)

View up the U-shaped North Fork of the Tieton River to the Goat Rocks Volcanic Complex (T. Redding)

Pillow basalts along Hwy 12. (T. Redding)

Update from Alaska
Sonia Nagorski,

Alaska Geoscience teaching news includes: The University of Alaska Southeast in Juneau inaugurated a new building to support teaching and research in Earth & Environmental Sciences. The building (named Áak'w Tá Hít, House at the Head of Áak'w Bay) is the first UAS building to receive a primary name in native Lingít. In addition to classrooms, analytical labs, and study spaces for the students with exceptional views, the building also provides an additional home to the Alaska Coastal Rainforest Center. UAS will also be recruiting for a new tenure track assistant professor of geology this academic year.

Áak'w Tá Hít, overlooking Auke Bay in Juneau, Alaska, is the new home to the Environmental Science and Resources programs.

Alaska is full of active geohazards, providing many real-world situations to connect students with in terms of the relevance and importance of geoscience education and training. For example, in August, Juneau experienced a record-breaking glacial lake outburst flood event that inundated about 300 houses. A major part of the city's population lives downstream of the Mendenhall glacier, which has been experiencing these floods for the past 12 years since a tributary glacier retreated, leaving behind an overdeepened basin that fills with meltwater and periodically releases. Residents are trying to come up with mitigation strategies for future floods, but there are many large geotechnical challenges. Also in August, a debris flow crashed through a section of Ketchikan, killing one person and impacting several homes. A landslide produced a 17m high tsunami in Pederson Lagoon in Kenai Fjords National Park, although nobody was injured. Alaska has the most earthquakes and volcanoes in the country, and there are excellent information resources online at UAF's Alaska Earthquake Center (https://earthquake.alaska.edu/) and the Alaska Volcano Observatory (https://avo.alaska.edu/) that could easily be integrated into classroom lessons.

Upcoming workshops and conferences include: American Water Resources Association- AK section (https://ak-awra.org/) meeting in April 2025; Alaska Miner's Association Critical Mining for these Critical Times convention (https://www.alaskaminers.org/2024-ama-convention) in November 2024; Workshop on Mitigating the Hazard of Permafrost-thaw induced Landslides in Alaska and the Arctic (https://www.nukaprojects.com/permafrostlandslidehazards); and the 2025 Southeast Alaska Interagency Landslide Working Group conference in March, 2025. Last but not least, the USGS Alaska Science Center has a seminar series this fall-winter; find the schedule here: https://www.usgs.gov/centers/alaska-science-center/alaska-science-center-seminar-series.

Hiking in the Enchantments, WA
Sean Daniels, Chemeketa Community College, OR

These photos are from a 4 day hike through the Enchantments. The photos are used in courses that discuss tectonic evolution of the PNW region.

Online presentation: "Indigenous Perspectives on Data, Evidence and Uncertainty in Science" Dr. Shandin Pete
October 24, 2024 1130 am to 1 pm Pacific Time
Presented by the UBC EaSEIL Initiative

Please register **here** by October 22, 2024!

There will be another presentation from EaSEIL in March 2025.

News from Portland State University
(S. Carlson, Oregon Councilor)

The Geology Department is now part of a new college within the College of Liberal Arts and Sciences that includes Geography, Anthropology and the interdisciplinary PhD program in science.

CRESCENT Events and Activities

Mentor Recruitment for CRESCENT Undergraduate Twinning Program

The inaugural Undergraduate Twinning Program is off to a great start with 6 students funded this year!
Now is the time to recruit mentors for next year's program (2025-2026). We seek research pairs to introduce and guide year-long undergraduate research projects.

A pair of mentors (a Project Director and a collaborator or other professional participant [Twin Mentor]) can be from any area of subduction zone and hazards research broadly defined including Science, Engineering, policy, Social Science, and others.

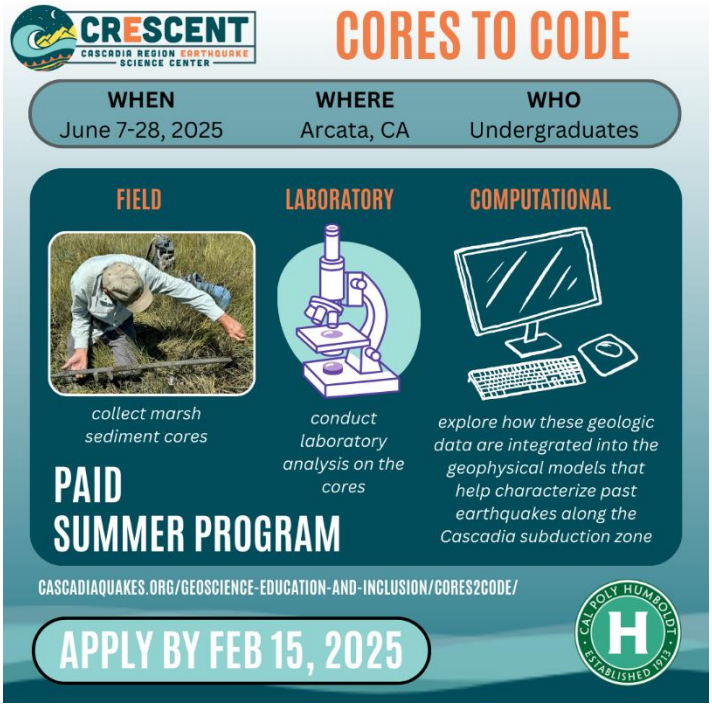
The goal of this paid, year-long research experience is to increase participation of undergraduates from minoritized communities in subduction zone science and hazards research. Students from minority-serving institutions or who identify as one of the following: BIPOC (Black, Indigenous and people of color), Latinx, LGBTQ+, and first-generation college students will be prioritized in the selection process.

If you are passionate about mentoring the future generation of geoscientists, we encourage you to apply as a mentor. Of the mentor pair, only the Project Director needs to submit an application. Both of your expertise and guidance will leave a lasting impact on these aspiring geoscientists, contributing to the advancement of subduction zone and hazards science and fostering a more inclusive and diverse scientific community.

For more information on the Twinning Program and instructions for the mentor application, please visit the Twinning webpage.
Application closes December 1, 2024.

Cores to Code (C2C): A Unique Summer Opportunity for Undergraduates

Please share the announcement below with your students.
In June 2025 CRESCENT is offering a paid 3-week summer research experience that will delve into the interdisciplinary study of the earthquake and tsunami history of the Cascadia subduction zone. The program will be based out of Cal Poly Humboldt, a minority-serving institution. Students will conduct geologic fieldwork in Humboldt Bay coastal marshes, collect marsh sediment cores, conduct laboratory analysis on the cores, and explore how these geologic data are integrated into the geophysical models that help characterize past earthquakes along the Cascadia subduction zone.



C2C seeks a broad applicant pool with the goal of engaging a new, diverse generation of coastal geologists and modelers. Students from minority-serving institutions or who identify as BIPOC (Black, Indigenous and people of color), Latinx, LGBTQ+, or first-generation college students will have priority during the selection process.

Student applications are now open and will close February 15.

For more information on C2C and how to apply, please visit the webpage.

For questions, please reach out to GEI Program Manager Shannon Fasola at sfasola@uoregon.edu.

Scientific Ocean Drilling: Exploration and Discovery through Time
Laura Guertin; Elizabeth Doyle; and Tessa Peixoto

An OER that assists readers in understanding the process of scientific ocean drilling and its context in oceanographic research, past and present. View the resource here

Chilcotin River Landslide 2024
Late in the evening of July 30, 2024, a large landslide occurred on the Chilcotin River about 30 kilometres upstream of the Fraser River confluence, causing a complete blockage of the river's flow. The material that was deposited in the river was estimated to be roughly 1,000 metres in length, 600 metres in width, and approximately 30 metres deep.

The BC Government has built a website with excellent imagery that may be useful for teaching. View the website here.

An Earth Observatory summary is also available here.

Upcoming Events

View the NAGT national events calendar here.

Ancient Ice Age Floods Before the Missoula Floods
Dr. Scott Burns, Portland State University
Tuesday November 12, 7:00pm (Pacific Time)
Hosted by the Ice Age Floods Institute
More information here

An open discussion on CHATGPT/AI in teaching geosciences.
Hosts: Derek Turner (Douglas College); Crystal Huscroft (Thompson Rivers University)
Wednesday Nov 20th, 12:00 to 1pm

Mount Robson, highest peak in the Canadian Rockies, August 2024 (T. Redding)

Cross-bedded river rock along North Saskatchewan River near Rocky Mountain House, Alberta (T. Redding)

Glacial erratics near Penticton, British Columbia (T. Redding)

Recent landslide in Paskapoo Fm sedimentary rocks along North Saskatchewan River, Alberta (T. Redding)

Please send updates, new publications, teaching ideas, photos or anything else of interest for the newsletter to Todd Redding (tredding@okanagan.bc.ca) for the next edition.