NAGT Pacific Northwest Section

Annual Conference and Business Meeting

June 26-28, University of Oregon Concordia Northeast Campus, Portland, Oregon
Hosted by Mount Hood Community College & University of Oregon

For over 20 years, the Pacific Northwest Section has been holding annual meetings and field trips that focus on regional geology, research done by area professionals, and teaching methods. Section meetings attract professional geologists, 2 and 4-year college faculty, and K-12 educators from across the Pacific Northwest.

Join us in Portland Oregon to meet colleagues from around the Pacific Northwest, share teaching techniques, and explore some amazing geology!

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 will have a joint mixer and poster session on Thursday afternoon, a joint workshop session on Friday morning, and joint field trips on Friday afternoon.

Register for the conference:

- https://nagt.org/nagt/sections/northwest/2025_registration.html

Submit your oral presentation or poster abstract:

- https://docs.google.com/forms/d/e/1FAIpQLSfUEJWPtZgZ0BzcXQRwiiIY1OzR92n1AyWc8tKx0z0NHUlkOg/viewform

MEETING OUTLINE:

THURSDAY June 26th, 2025

Thursday Morning:
NAGT field trip: Quick overview of Columbia River Gorge Geology (8am- 1pm)
Trip leader: Jacob Selander, Highline College
Short Summary: This half-day trip will explore the geology of one of the few rivers in the world that bisects an active continental volcanic arc.
Cost: $50 (includes lunch); $40 for K-12 educators and students
Details:
This short field trip will be a general overview of the Columbia River Gorge geology, from the big-picture setting of the Cascade Arc, the Miocene Columbia River Flood Basalts, Missoula Floods, waterfalls, and landslides! Different than most Columbia Gorge field trips, we will traverse the Washington side via Highway 14 between Vancouver and Stevenson, returning along I-84 on the Oregon side.
Takeaways:

- Become familiar with the broad geologic setting of the Columbia River and Cascade Arc
- Why the geology/ geomorphology on the Washington side of the Gorge is actually a bit different than on the Oregon side
- The Gorge as a conduit for the Missoula Floods; and their shaping of the local topography
- Why the Columbia Gorge is considered the "Wind Sport Capitol" of North America

Tentative itinerary:
STOP 1: Rocky Butte Natural Area, NE PDX (~30 min)
STOP 2: Cape Horn Lookout (~30- 45 min)
STOP 3: Cascade Boat Launch, Stevenson (~30 min)
STOP 4: Cascade Locks Marine Park (~30- 45 min)

Thursday Afternoon
1:30 to 4:30 NAGT Sessions.
Includes Invited Talk from Andrew Meigs (Oregon State) summarizing CRESECENT activities and opportunities.

4:30 to 6pm Joint Social and Posters event with CRESCENT participants
Please submit poster abstracts if you wish to present a poster at this forum.

Thursday Evening (after 6pm)
No formal activity planned. Groups will likely go out for dinner.

FRIDAY June 27th, 2025

Friday Morning
8:30 to 9:00 Section AGM Business Meeting
https://ubc.zoom.us/j/61135596834?pwd=k925hpaLqvbNgcW7TB5YiUxCygWI3z.1

9:00 to 10:30 NAGT Sessions
10:30 to 10:45 Break
10:45 to 12:15 Facilitated Joint Workshop with CRESCENT participants on geoscience education and outreach around Earthquakes and Seismic Hazards. Guided by some large-scale questions such as:
What are the skills and workforce gaps for your discipline?
What are the training/ education opportunities?
What collaborations could help address the burden of resource limitations?

Note: There may be an online session for this workshop for those CRESCENT and NAGT members who are not able to attend in person.

Friday Afternoon: There are three field trip options, all of which will be joint with CRESCENT participants:
Please indicate your preferred order of trips when you register. We will try to accommodate people's choices, but may need to distribute participants from CRESCENT and NAGT across the 3 trips for logistical purposes.

Friday Trip #1: Port of Portland Marine Terminal and the Critical Energy Infrastructure (CEI) hub.
Trip Leaders: Daina Hardisty, Mount Hood Community College; Additional leaders TBA
Short Summary: This short trip will explore the seismic hazards associated with the Willamette River port facilities and in particular, the Critical Energy Infrastructure (CEI) hub in Linnton.
Cost: $45 (includes lunch)
Details:
This short field trip will visit locations in North Portland along the Willamette River in order to have a "boots on the ground" view of the Critical Energy Infrastructure Hub and Port of Portland Marine Terminal to facilitate conversations around risk and resilience in the event of a M9 Cascadia Subduction Zone Mega-Earthquake.

Takeaways
- Understand the general geologic setting of Portland/Willamette River
- Transportation infrastructure issues & resilience associated with a Megaquake.
- Port of Portland plan for marine terminals
- Critical Energy Infrastructure Hub

Draft program

- STOP 1 Willamette & Harvard/ Moss Bottom Overlook (25 mins)
- STOP 2 Univ of Portland Corrado Dock view of bridges (20 mins)
- STOP 3 Port of Portland Terminal 4 - dependent on no ship being at dock
- Intro at admin building (20 min)
- Upper dock with view of CEI (30 mins)
- STOP 4 CEI hub if they allow us access (30 mins)

More Information:
https://multco.us/info/cei-hub-seismic-risk-analysis
https://www.oregon.gov/dogami/earthquakes/Documents/CEI-Hub-report.pdf

Friday Trip #2 Portland Airport and the levees of the urban flood water quality district.

Trip Leaders: Lalo Guerrero, DOGAMI (Dept of Oregon Geology and Mineral Industries) ; Additional leaders TBA

Cost: $45 (includes lunch)

Details: This short field trip will visit locations in Northeast Portland along the Columbia River in order to have a boots on the ground view of the Levees and Port of Portland Airport to facilitate conversations around risk and resilience in the event of a M9 Cascadia Subduction Zone Mega-Earthquake.

Takeaways

- Understand the general geologic setting of Columbia River floodplain
- Levees, Pump Houses & Urban Flood Safety & Water Quality District
- Transportation infrastructure issues & resilience associated with a Megaquake
- Port of Portland plan for airport terminal & runways

Draft program

- STOP 1 Rocky Butte Overlook (25 mins)
- STOP 2 UFSWQD (40 mins)
- STOP 3 33rd & Marine Drive bike path (30 min)
- STOP 4 PDX parking structure 3 (30 mins)

More Information:
https://cdn.portofportland.com/pdfs/2-PDX%20CAC%20Seismic%20Resiliency%20Spring%202019%20Final.pdf
https://news.oregonstate.edu/news/osu-college-engineering-research-will-save-port-portland-millions-runway-work

Friday Trip #3: Oregon Museum of Science and Industry

Trip Leaders: OMSI staff

Cost: $30 (includes lunch)

Summary: How can you engage your community in conversations about earthquake awareness and preparedness? Learn about event models like ShakeOut with potential to reach large number of community members, explore how tools like Raspberry Shake can support education and outreach, and get hands-on with demos that foster two-way conversations with people of diverse ages and backgrounds.

Takeaways

- At least four ideas for event models and ways you can help events be successful
- Experience and feedback on hands-on activities facilitation
- At least three ideas for venues or contexts you might offer hands-on activities
- Ideas for using Raspberry Shake in your work

Draft program

- Welcome activity (20 mins)
- ShakeOut community engagement models + ShakeOut at OMSI highlights (45 mins)
- Raspberry Shake as an outreach and education tool - facilitated discussion/brainstorming ideas (50 mins)
- Hands-on demos facilitation practice (55 mins)
- Wrap-up: Participants draft one next step to explore (10 mins)

Friday Evening

Please join us for an evening of touring the Portland craft beer scene.

Trip leaders: Crystal Huscroft, Thompson Rivers University; Daina Hardisty, Mount Hood Community College.

SATURDAY June 28th, 2025

All Day Field Trip – NAGT and some student participants from CRESCENT
Trip Leaders: Daina Hardisty, Mount Hood Community College; Laura Gabel, Department of Geology and Mineral Industries
Summary: This trip will go west from Portland to explore seismic activity and geomorphology of the Oregon Coast.
Cost: $60 (includes packed lunch) ($50 dollars for K-12 Teachers and Students)

Departure: 730 am from the U of O Concordia Campus, or earlier accommodation pickup.
Return: ~6pm, dinner not included in trip
For discussion amongst participants: We could do a dinner stop at a Pelican Brewing pub along the coast which would push the return time to ~8:30. Dinner is not included in the price.
Takeaways

- See landslides and seismic hazards along the Oregon Coast.
- New information about past seismic events along the Cascade Subduction Zone
- Resilience planning and community preparation strategies for coastal communities

Draft program
S1 Wilson R. LS site enroute to coast
S2 Netarts Bay/Wee Willies with Marge B/Michelle C.
S3 Oceanside (tunnel & LS 2020)
OPT S1. Cape Meares lighthouse CRBs
S4 Cape Meares LS/Bayocean spit story
OPT S2. Cape Mears the town, or Barview Jetty
OPT S3 POSSIBLE DINNER STOP @ Pelican Brewing in Tillamook with their Tsunami Stout! (*dinner cost not included in trip fee, see above*)

Saturday Evening
No formal activity planned. See the note above about the possibility of a dinner stop along the trip route.

Accommodations:
The closest hotel to the University Oregon Concordia Northeast Campus (2811 NE Holman Street) is: McMenamins Kennedy School
A more distant but lower-cost option is: Radisson Hotel Portland Airport

- CRESCENT is partnering with the Radisson Portland Airport, and the hotel has said that they will provide a shuttle to/from the conference site, which must be booked ahead of time.

Upcoming Presentation: The 2024 Chilcotin Landslide: documenting and communicating a historic event

Adam Hawkins, PhD, Assistant Professor, University of Northern BC

Date: Tuesday May 20th at 7pm

Join Zoom Meeting:
https://ubc.zoom.us/j/62955899689?pwd=aavnWk2BTs721rAUfqGoRRUQDAj9v8.1

Short Summary: In this presentation, I will provide an overview of the 2024 Chilcotin Landslide event, which blocked the Chilcotin River with nearly 6 million cubic meters of sediment for almost a week, prompting a large-scale emergency response. This event was captured in exquisite detail by ground observations, repeat drone surveys, and aerial LiDAR acquisitions. Attendees will be directed to useful resources for understanding and teaching geoscience students about this incredible event and the lessons we can learn from it.

Long Abstract: The Chilcotin River drains 19,200 km^2 of the central Interior Plateau of British Columbia and serves a vital role for First Nation communities in the region for fishing and cultural practices. In the late evening of 30 July 2024, a 5.88 $x10^6$ m^3 landslide crossed the river from the adjacent valley wall and deposited sediment up to 60 m deep along a 600 m long section of the river, fully damming the river's flow. The Cariboo Regional District issued evacuation alerts and orders along much of Chilcotin River valley and down past the confluence with the Fraser River, due to imminent safety concerns from flooding once water breached the dam. Over the course of six days, the landslide dam impounded nearly 100 $x10^6$ m^3 of water, enough to cover Prince George (318 km^2) in about 30 cm of water. On the morning of August 5th, the impounded water overtopped the landslide dam, rapidly incised a channel through the debris, and sent a torrent of water and debris down the Chilcotin River valley and into the Fraser River. My presentation will describe the timeline of the Chilcotin landslide–damming event, outline the geomorphic and historical context of the slide, and discuss the immediate and longer-term impacts of this event. Attendees will be directed to useful resources for understanding and teaching geoscience students about this incredible event.

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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