

March 2021

NISQUALLY CHAPTER OF THE
ASSOCIATION OF ENVIRONMENTAL &
ENGINEERING GEOLOGISTS

The Official

AEG Nisqually Chapter Newsletter

November Meeting Details

Tuesday, March 2nd

Location: Go To Meeting

6:00 Presentation

Dinner: At your home

FREE for Member or Non-Member

Upcoming Meetings:

April: Kelsay Stanton
May: Scott Burns



Earthquakes and landslides of Seattle's past: Geologic evidence for liquefaction from the Duwamish Waterway and Seattle's updated historic landslide map

For thousands of years, earthquakes and landslides have been occurring in what is now called Seattle. Attempts to prepare for and mitigate such hazards are benefitted by a thorough understanding of these past events on both geologic and human timescales.

1000-year old liquefaction: geologic evidence for earthquakes in Seattle

The industrialized banks of the Duwamish Waterway in Seattle hold evidence for earthquakes in the form of paleo-liquefaction deposits. The banks, which consist of muddy estuarine deposits, contain dikes and lenses of andesitic sand. These features were likely produced by earthquake-induced liquefaction of the Mount Rainier lahar-runout sand that underlies the mud. Growth-position marsh plants were dated in order to ascribe ages to the liquefaction features. These ages suggest that at least two earthquakes occurred following the previously-described 900-930 CE Seattle Fault event that uplifted the marsh by several meters. None of the injected or erupted sand bodies observed thus far reach the stratigraphic level of the 1700 Cascadia earthquake or the Puget Sound earthquakes of 1949, 1965, and 2001, even though historic earthquakes produced liquefaction elsewhere in the same valley.

100-year old landslides: an update to the City of Seattle's historic landslide inventory

The City of Seattle maintains a database of historic landslides that dates to 1890. During the past century, the City's methods for collection, display, and dissemination of landslide data have varied, resulting in a complex, nonuniform, and rich dataset. A new update to the dataset combines multiple inventories and digitized historic records to meet the City's objectives of keeping landslide areas precise with respect to property boundaries. Compared with prior maps, the new map provides more information from the historical record, maps landslide extents more accurately, and tags fewer private properties with landslide features than prior maps. In addition, digitized historic documents are now attached to landslide features in the City's public GIS map. Better access to information about historic landslides will streamline workflows for public and private engineers and geologists and will serve property owners and the general public. The new map is currently available at <http://web6.seattle.gov/dpd/maps/dpdgis.aspx>.

Meeting Info:

<https://global.gotomeeting.com/join/982090581>

You can also dial in using your phone.

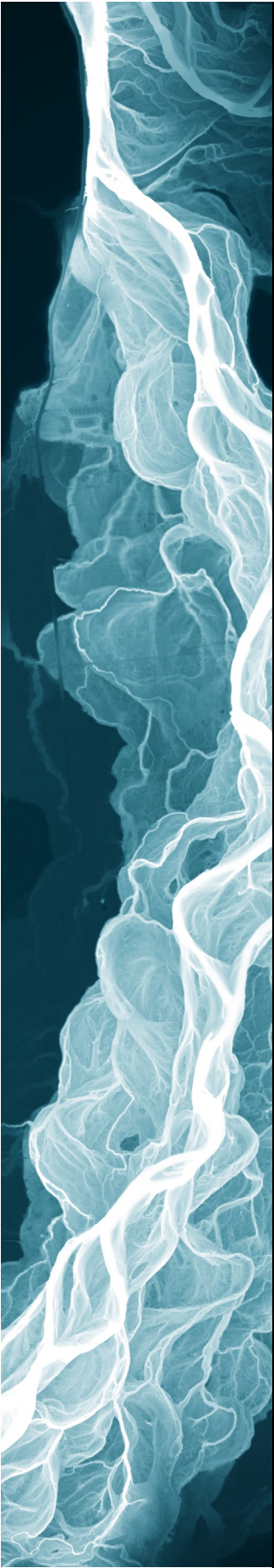
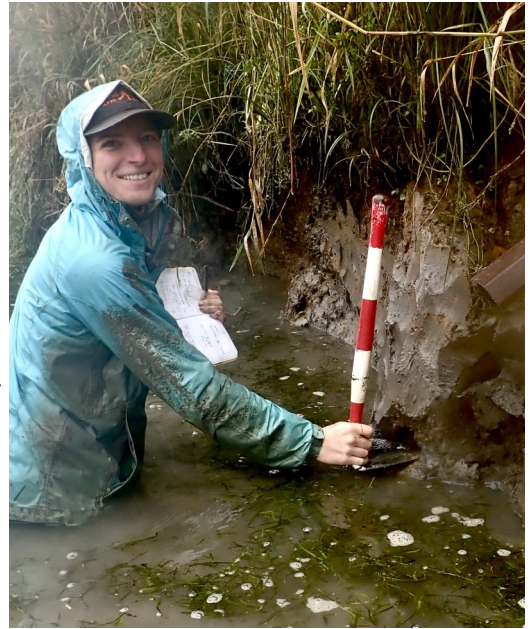
United States: +1 (408) 650-3123

- One-touch: <tel:+14086503123>, 982090581#

Access Code: 982-090-581

Bio: Elizabeth Davis

Elizabeth Davis is a PhD student studying Quaternary field geology at the University of Washington. Her work focuses on refining the timing and cataloging geologic effects of recent earthquakes, landslides, and floods western Washington. After graduating with her MS from UW's Applied Masters in Geosciences (MESSAGE) program, she continued as a PhD student. While at UW, she has had the opportunity to work on a variety of hazards-related field projects, including describing sedimentary evidence for paleo-liquefaction in the Duwamish delta in Seattle, collecting a new marine seismic reflection survey across the Seattle Fault Zone, and tracing ancient flood deposits on islands in the Columbia River estuary. In the future, she hopes to continue hazards-related field research in ways that contribute to planning and policy-making



Message from the Chair

Last minute newsletter

Greetings, AEG Nisqually! Your Chapter Board managed to let the month of March sneak up on us and I must apologize for bringing this newsletter to you so late. I recognize that this arrives in your email Inbox very shortly before our March meeting, and I hope that you have the evening available and will enjoy our presentation from Elizabeth Davis.

AEG things to do

We have been busy lining up speakers for our spring Chapter Meetings. I'd like to thank Juliet Crider for her role in connecting us with several presenters. Just in case your next newsletter arrives late, here is some advanced notice of upcoming remote events from both AEG Nisqually and AEG Puget Sound.

March 11: AEG Puget Sound hosts Alison Duvall for a talk titled: "Landslides along the Cascadia Subduction Zone"

April 6: AEG Nisqually hosts Kelsay Stanton for a talk on her recent mapping of coastal stratigraphy with a focus on Qt deposits.

April 8: AEG Puget Sound hosts Jeff Tepper for a talk titled: "The ~15,000-year Environmental History of Lakes in South Puget Sound: From Glacial Retreat to Toxic Algal Blooms"

May 4: AEG Nisqually hosts Scott Burns for a talk titled "Radon - the invisible geological killer and hazard".

Legislation to track and discuss:

Thanks to AEG members who monitor the StateScape system (Mark Molinari and Ken Neal), we were recently made aware of three pieces of legislation introduced into the Washington State Legislature that may affect our profession. These are all in House Committee at the moment:

HB 1400: This bill would eliminate many of the current requirements for licensure (i.e., educational requirements, experience, the ASBOG exams, etc.) by allowing "competency-based requirements". These "competency-based requirements" may include, but are not limited to, any combination of training, experience, testing, or observation. This bill is sponsored by Representatives Vick (R-18), Kirby (D-29), and Dufault (R-15). This bill would take effect on January 1, 2022 and it needs strong opposition.

HB 1401: Sponsored by the same group of legislators, plus Dolan (R-22), this bill requires the Department of Licensing to expedite the professional license of any person licensed and in good standing in another state. This bill requires some discussion.

HB 1402: This bill is sponsored by the same three that brought us HB 1400, plus Jacobsen (R-25). It develops criteria that essentially restrict how the state can regulate currently unlicensed professions. This bill would likely not affect geologists unless we chose to add another specialty but it also requires some discussion.

It's great to be part of AEG Nisqually! I look forward to seeing you all soon.

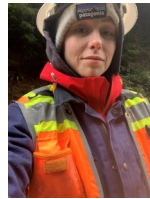
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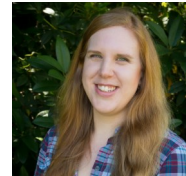
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<http://aegweb.org>

The AEG Nisqually Chapter Newsletter

The Association of Engineering Geologists (AEG) contributes to its members' professional success and the public welfare by providing leadership, advocacy, and applied research in environmental and engineering geology. AEG's values are based on the belief that its members have a responsibility to assume stewardship over their fields of expertise. AEG is the acknowledged international leader in environmental and engineering geology, and is greatly respected for its stewardship of the profession.

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