

NISQUALLY CHAPTER OF THE  
ASSOCIATION OF ENVIRONMENTAL &  
ENGINEERING GEOLOGISTS

The Official

# AEG Nisqually Chapter Newsletter

## Meeting Details

Tuesday, April, 5th

Location: Mercato Ristorante

111 Market St NE

Olympia, WA

6:00 pm Social

7:00 pm Presentation

Dinner: Pizza and Salad

**\$25 Member or Non-Member**

**\$15 Educators or Job Seekers**

**\$5 Student**

Virtual attendance is free

## Connecting hillslope landslides with the channel network: Mass Wasting Runout

Predicting sediment yield in high order channels following changes in landslide frequency remains dubious due to channel and valley storage processes. In this talk, I will briefly present a new model that couples representations of initiation, runout, deposition and fluvial erosion of mass wasting events with network-scale sediment transport (the Mass Wasting Router). I will then detail the Mass Wasting Runout, the sub-model within Mass Wasting Router that represents the runout and deposition processes and connects hillslope landslides with the channel network.

Mass Wasting Runout is a simple, cellular-automata model that can be calibrated to replicate observed debris-flow behavior by adjusting only a few parameters, one of which is field determined. As it routes debris flows or other mass wasting processes through a watershed, it computes scour and deposition rates and evolves the watershed topography. The entrainment function is developed to respond to both grain size and flow depth/slope. Mass Wasting Runout is coded in Python for the package Landlab. I will demonstrate the Mass Wasting Runout at three debris flow sites in the State of Washington and discuss the field review I used to parameterize the model.

## Upcoming Meetings:

**Please RSVP by 4 pm Monday, April 4th if you plan on attending in person. RSVP at:**

<https://aeg-nisqually.brownpapertickets.com>

**\*COVID vaccination required for in-person attendance\***

## Zoom Meeting Info:

Join Zoom Meeting

<https://us02web.zoom.us/j/5468085690?pwd=Q3dWUkc4SUYyQVNHOjZuRFNNS2pndz09>

Meeting ID: 546 808 5690

Passcode: 536655

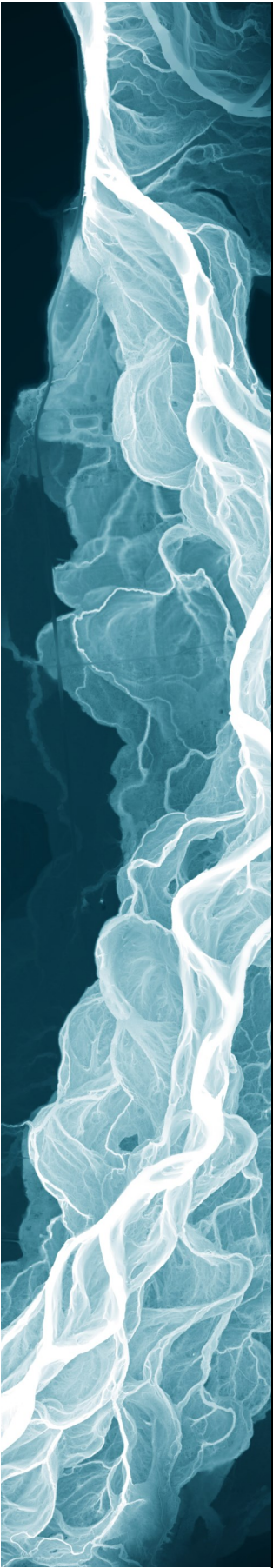
One tap mobile

+12532158782,,5468085690#,,, \*536655# US (Tacoma)



## Bio: Jeff Keck

Jeff Keck is a forest hydrologist at the Washington Department of Natural Resources (DNR). Before the DNR, he worked in Taipei for Sinotech Engineering Consultants as a scientist on landslide monitoring and sediment budget studies in Taiwan. He has degrees in Forest Engineering, Civil Engineering and Applied Geoscience. He is presently a Ph.D. candidate in computational hydrology at the University of Washington. His research focuses on improving and developing methods for coupling hydrology with sediment production and transport models. Jeff is a licensed engineering geologist (LEG #20120183), a “qualified expert” under the Washington Forest Practices Rules, and an engineer-in-training (EIT) in Washington.



## Message from the Chair

This month the AEG Nisqually team is excited to bring you all double trouble! In addition to Jeff Keck's exciting talk, we will be hosting the 2021-2022 Jahns Distinguished Lecturer Rick Wooten on April 20<sup>th</sup> at 7:00 PM. We are currently looking at venue options. Specific meeting details and tickets will be available by April 10<sup>th</sup>. Remember to choose which presentation you would like to hear from him by 6:00 PM on April 4<sup>th</sup>. You can find the survey [here](#). The options currently are:

1. Debris Flows, Big Slow Movers, and Rocks Slides: Assembling the Geospatial Legacy of Landslides using Lidar, Drones, and Boots on the Ground
2. The Building and Upkeep of a Landslide Hazards Program: The Confluence (Collision?) of Science, History, Politics, and Public Opinion – A Blue Ridge Perspective on a National Challenge
3. Responding to Landslide Emergencies: Communicating with Stakeholders and the Feedback Loop of Preparation, Response, Analysis and Lessons Learned
4. Going Against the Grain: Linking Brittle Cross-Structures with Landslides, Hydrogeology, and Earthquakes in the North Carolina Blue Ridge and Piedmont

Additionally, the AEG Nisqually board are sending our well wishes to those taking one or more of the Spring ASBOG exams this Friday! It's a major career milestone and we're excited to see the next round of GIT, LG, LHG and LEG recipients!

## Webinars for DAYS:

I found out recently (don't judge) that the AEG National website has a whole slew of awesome webinars available for members to enjoy [here](#). If that isn't cool enough, they additionally offer credit for viewing any of the webinars if that is something your employer would like to see. You simply need to email them at [contact@aegweb.org](mailto:contact@aegweb.org) with your name and the name of the webinar you viewed. Once they verify, they will email you a certificate. Neat!

## Women in Geology

Did you know that based on the results of a recent AEG demographics survey, women only comprise 28% of AEG's total membership? Additionally, we have had 6 inspiring women serve as Association President over its 64 year history.

In honor of Women's History Month and International Women's Day (March 8<sup>th</sup>), I wanted to share a few select highlights (in no particular order) about a few well-known American female Geologists! If you would like to dig more into the background of these amazing women, and see all of the other women also being honored, check out the full article on AEG Nationals webpage, [here](#).

### Past & Current Presidents (in our 64 year history):



Mavis Kent



Susan Steele Weir



Dorian Kuper



Cynthia Palomares



Jennifer Bauer



Maddie German



## Message from the Chair

**Mary Emilie Holmes** (1850-1906) was the first woman to be elected a fellow of the Geological Society of America. She also co-founded a seminary for young black women that evolved into Mary Holmes College, named for her mother. Holmes earned her PhD in 1888 from the University of Michigan, where her dissertation was on the morphology of corals, and was the first woman to earn a doctorate in earth science. In 1892 she gave a talk before the Women's Department of the World's Congress Auxiliary of the World's Columbian Exposition in Chicago, urging the importance of teaching geology to children. While she did not practice geology for very long (1885 to 1892), Holmes helped pave the way for future women to establish careers as geologists, and devoted the remainder of her career to teaching.



**Marguerite Thomas Williams** (1895-1991) was the first African American to earn a PhD in geology in the United States. She earned her degree from Catholic University of America in Washington, D.C. with her dissertation, *The History of Erosion in the Anacostia Drainage Basin* in 1942. Williams spent most of her career teaching geology courses, and from 1923-1933 was the Chair of the Division of Geography at the University of the District of Columbia. She additionally taught at Howard University during the 1940's and retired in 1955. Even with the incredible teaching, leadership, and mentorship of Holmes, Bascom, Williams and others, women were slow to enter the field of geology in part because, while women were allowed to study geology and teach on the university level, field work was considered "too dangerous." It wasn't until 1964 (one year after AEG was officially incorporated) that the first women, **Cynthia Avery, Rosalind Tuthill, and Judy Terry**, were enrolled in the summer field program at Stanford University. Back then, women were unable to enter a tunnel or go underground in mines- for fear that they would bring bad luck, causing the mine or tunnel to collapse



**Jessica Watkins**, NASA astronaut, will be the first Black woman to complete a long-term mission on the International Space Station. Her crew launch is scheduled for April 2022. Watkins earned her BS in geological and environmental sciences from Stanford University and completed her PhD at UC Los Angeles. She worked as an intern at the NASA Ames Research Center and Jet Propulsion Laboratory, studying landslides on Mars. After completing her PhD,



## Message from the Chair

she worked as a post-doctoral fellow at the California Institute of Technology and was a member of the science team that worked on planning missions for NASA's Curiosity Rover. She has additionally been selected to join NASA's Artemis team, who will be the first to step on the moon since the Apollo missions over 50 years ago. Upon completion of that mission, she will be the first woman and person of color to reach the moon.

Cheers,

Britt

aegnisqually@gmail.com

## Current Job Postings:

Job Title (Linked)	Employer	Closing Date
Project Level Engineering <a href="#">Geologist</a> based out of Spokane WA	Crux Subsurface, Inc.	Not listed

## Meetings Sponsors:

We are currently seeking sponsors to help us support this chapter now and into the future! All interested Sponsors will be featured in the newsletter for the month, with monthly subscription options available as shown below. If you, or someone you know is interested, just let us know!

- Gold Status: \$100/Month, Full Page
- Silver Status: \$50/Month, ½ Page
- Bronze Status: \$25/Month, ¼ Page

## Section Officers & Committee Chairs



Chair:  
Brittany Dayley  
Washington DNR  
Brittany.Dayley@dnr.wa.gov



Vice Chair:  
Susie Wischart  
Washington DNR  
Susie.Wischart@dnr.wa.gov



Treasurer:  
Samantha Denham  
Mud Bay Geotechnical  
denhamsamm@gmail.com



Secretary:  
Stephen Newman  
WSDOT  
NewmanS@wsdot.wa.gov



Newsletter:  
Kate Mickelson  
Washington Geological Survey  
Kate.Mickelson@dnr.wa.gov



Virtual Meetings Chair:  
Kara Jacobacci  
FEMA Region X  
kara.jacobacci@fema.dhs.gov

Field-Trip Chair:  
Vacant

**National AEG webpage:**  
<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.

AEG NISQUALLY CHAPTER NEWSLETTER is published monthly from September through April. Subscriptions are for members of AEG affiliated with the Nisqually Chapter or other Chapters, and other interested people. E-mail subscriptions are free.

Mailing List sign up link: <http://eepurl.com/c5gyKn>

