

Michael D. Turzewski

PhD Geology

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QUALIFICATIONS AND INTERESTS

- Passionate teacher committed to promoting diversity and inclusion in academics.
- Skilled at communicating with students and engaging them in the Earth Sciences.
- Expertise in geology, geomorphology, remote sensing, modeling, statistics, and more.
- Eager to teach students about natural processes that impact the Pacific Northwest.

EDUCATION

- 2019 Ph.D., Geology, University of Washington, Department of Earth and Space Sciences. Thesis advisor: Katharine W. Huntington
- 2010 B.S. with dual concentration in Earth Sciences and Statistics, University of Michigan, Ann Arbor, Dept. of Earth and Environmental Sciences

PROFESSIONAL EXPERIENCE

- 2020 Tutor at University Tutors for Seattle Schools (UTSS)
- Ran after school tutoring program at Cleveland STEM High School.
 - Developed online tutor forum for UTSS website.
- 2012-2019 Graduate Research and Teaching Assistant, Department of Earth and Space Sciences, University of Washington
- Researched outburst floods in the eastern Himalaya using a combination of fieldwork, remote sensing, statistics, and numerical modeling.
 - Managed research laboratory and advised undergraduate assistants.
- 2011-2012 Research Assistant, Department of Earth and Environmental Sciences, University of Michigan
- Developed code to analyze geological data with Bayesian statistics.
- 2009-2010 Math Tutor, Comprehensive Studies Program, University of Michigan
- Tutored undergraduates in calculus and statistics.

TEACHING EXPERIENCE

- 2019 ESS 420 Introduction to GIS for the Earth Sciences
- 2019 ESS 422 Introduction to Remote Sensing
- 2018-2019 ESS 101 Introduction to the Geological Sciences
- 2016 ESS 310 Mathematical Models in the Earth Sciences
- 2015 ESS 456 Depositional Environments
- 2014/15 ESS 211 Physical Processes of the Earth
- 2014 ESS 427/527 Hillslope Geomorphology
- 2013 ESS/OCEAN 230 Rivers and Beaches

LEADERSHIP & OUTREACH

- 2015-2018 Graduate representative on department curriculum committee, Earth and Space Sciences, UW.
- 2016-19 Managed department computer cluster, Earth and Space Sciences, UW.

- 2017 Designed and taught topography and flood hazard lessons for Whittier Elementary; Built Augmented Reality Sandbox for teaching hands-on lessons for 4th and 5th grade students.
- 2014 Volunteer mentor for Puesta del Sol robotics Team #2322; Worked with students in the First Lego League robotics competition to design flood protection device for local homes.
- 2013-2018 Department of Earth Space Sciences 'Rockin' Out' volunteer; Taught geology at several science nights in local elementary schools.

PUBLICATIONS - PEER REVIEWED

- 2020 Turzewski, M.D., Huntington, K.W., Licht, A., and Lang, K.A. Provenance and erosional impact of Quaternary megafloods through the Yarlung-Tsangpo Gorge from zircon U-Pb geochronology of flood deposits, eastern Himalaya. *Earth and Planetary Science Letters*, 535.
- 2019 Turzewski, M.D. The history, hydraulics, and geomorphic impact of outburst floods in the eastern Himalaya. Thesis, *University of Washington*.
- 2019 Turzewski, M.D., Huntington, K.W., and LeVeque, R.J. The geomorphic impact of outburst floods: Integrating observations and numerical simulations of the 2000 Yigong flood, eastern Himalaya. *Journal of Geophysical Research: Earth Surface*, 124.
- In prep Turzewski, M.D., Huntington, K.W., Feathers, J. K., Montgomery, D.R., and Larsen, I. Radiocarbon and single-grain luminescence dating of megaflood slackwater deposits in the Siang River valley.

PUBLICATIONS - OTHER

- 2018 Ballard, A., Turzewski, M.D., Huntington, K.W. K-12 Topographic Maps and Hydrology Lesson 1: How to Read and Use Topographic Maps, EarthRef Database, <https://earthref.org/ERDA/2378/>.
- 2018 Ballard, A., Turzewski, M.D., Huntington, K.W. K-12 Topographic Maps and Hydrology Lesson 2: K-12 Topographic Maps and Hydrology Lesson 2: Using Topography and an Augmented Reality Sandbox to Design Solutions to a Dam Break Problem, EarthRef Database, <https://earthref.org/ERDA/2379/>.

PRESENTATIONS

- 2019 Turzewski, M.D. "The history, hydraulics, and geomorphic impact of outburst floods in the eastern Himalaya". *UW ESS Thesis Defense*.
- 2018 Turzewski, M.D., Huntington K.W., "Mega-samples from megafloods: Insight from the sedimentary provenance of slackwater flood deposits in northeastern India". *UW ESS Research Gala*.
- 2016 Turzewski, M.D., Huntington, K.W., and LeVeque, R.J. "The Geomorphic impact of outburst floods: integrating field observations and numerical simulations of an extreme flood event, eastern Himalaya". *Geological Society of America (GSA) Annual meeting*.
- 2016 Turzewski, M.D., Huntington, K.W., and LeVeque, R.J. "Reconciling geomorphic observations with simulations of a modern landslide-dam outburst flood using GeoClaw software, eastern Himalaya". Poster; *Community Surface Dynamics Modeling System (CSDMS) Meeting*.

- 2014 Turzewski, M.D., Huntington, K.W., Montgomery, D.R., LeVeque, R.J., Feathers, J., Larsen, I., and Danner, M. "Megaflood erosion of the Tsangpo Gorge constrained by hydraulic modeling, geochronology, and geochemical fingerprinting". Poster; *American Geophysical Union (AGU) Fall Meeting*.
- 2014 Turzewski, M.D., Huntington, K.W., Feathers, J., Larsen, I., and Montgomery, D.R., "Quaternary megaflood chronology from luminescence and radiocarbon dating of flood sands, eastern Himalaya". Poster; *American Quaternary Association (AMQUA) Meeting*.
- 2013 Turzewski, M.D., Huntington, K.W., Quaternary megafloods and erosion of the Tsangpo River gorge, eastern Himalaya. *Clawpack Developers Workshop and Hackathon*.

FIELD EXPERIENCE

- 2015 Fieldwork in the Columbia River Gorge, WA. Worked with USGS professional locating and identifying flood sediments from ancient and historical floods.
- 2012/13 Fieldwork in Arunachal Pradesh, eastern Himalaya. Measured several kilometers of stratigraphic section and mapped/sampled outburst flood deposits for U-Pb and IRSL dating.
- 2011 Two weeks in Sierra Nevada backcountry collecting samples for geologic analyses.

HONORS & AWARDS

- 2014 National Science Foundation Graduate Research Fellowship Honorable Mention
- 2013 UW Dept. of Earth and Space Sciences, Stephens Graduate Support Fund Research Award
- 2012 Top Scholar Research Assistantship

REFERENCES

- Katharine W. Huntington Associate Professor, Department of Earth & Space Sciences, University of Washington, Endowed Professor for the College of the Environment in Earth Systems; kate1@uw.edu
- Alison Duvall Assistant Professor, Department of Earth and Space Sciences; aduvall@uw.edu
- Terry Swanson Principal Lecturer, Department of Earth & Space Sciences, University of Washington; tswanson@uw.edu
- Randy J. LeVeque Professor Emeritus, Former Boeing Professor of Applied Mathematics, Adjunct Professor of Mathematics, Adjunct Professor of Earth & Space Sciences; rjl@amath.washington.edu