

Madison Hernandez *she/her*

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EDUCATION

Pennsylvania State University ~ *Master of Science* State College, PA

Geosciences 2023-present

Relevant Courses: Surface Hydrology, Issues in Geosciences, Data Visualization, Simulation Modeling for Water Resources Management, Environmental Data Analytics, Water Law and Policy (audit)

Lehigh University ~ *Bachelor of Science* Bethlehem, PA

Earth and Environmental Science, Environmental Studies Minor, 3.79 GPA 2019-2023

Relevant Courses: Field Camp, Hydrogeology, Remote Sensing, Limnology, Surficial Processes, Microbial Ecology, Foundations of Sustainable Development, Environment and Culture

EXPERIENCE

Research Assistant Pennsylvania State University

Hadjimichael Lab August 2023-current

Understand drivers of saltwater intrusion in a coastal aquifer under uncertainty in human-nature interactions and climate change.

Wrote proposals, data analytics in Python, data visualization in Python, model in Visual MODFLOW Flex with SEAWAT, run model on high-performance computer.

Geosciences Dept. Pennsylvania State University

Assistant June 2024

Update course material, revise quizzes, manage class on Canvas for EARTH 111 Water and Society.

Senior Honors Thesis Lehigh University

Peters' Lab August 2022-May 2023

Collect, process, and analyze clay particles from Precambrian-aged granite and subsequent saprolite samples.

Wrote proposal, composed senior honors thesis, and presented findings in a 15-minute presentation at EES Undergraduate Symposium.

Center for Gender Equity Lehigh University

Assistant August 2021-May 2023

Inform and engage Lehigh students and the greater community about issues involving women's rights, gender inequities, reproductive justice, and more.

Earth and Environmental Science Dept. Lehigh University

Course Grader January 2022-May 2023

EES 027 Natural Hazards, EES 002 Introduction to Environmental Science, EES 095 Can You Dig It? Life Below Ground.

Review students' homework and exams, compose useful feedback, and input grades and comments into Coursesite.

PUBLICATIONS & CONFERENCES

Hernandez, M. (2024). Climate Change and Human-Nature Interactions as Drivers of Coastal Aquifer Salinization in Dover, DE. Penn State Climate Solutions Symposium, The Penn Stater Hotel and Conference Center. Zenodo. <https://doi.org/10.5281/zenodo.11225081>

Huang, Z., Peters, S.C., Pazzaglia, F.J., **Hernandez, M.** (2024). A chemical weathering reconstruction of the Early Cambrian environment of the Wyoming Craton from the Wind River Canyon, WY paleosol on the Great Unconformity. *Precambrian Research*, 409. <https://doi.org/10.1016/j.precamres.2024.107447>

GRANTS & AWARDS

- Bunton Waller Graduate Assistantship (PSU) Fall 2023-Spring 2024
- Knopf Scholarship (PSU) Spring 2024
- American Geophysical Union Travel Grant Fall 2024

TECHNICAL SKILLS

- Programming with Python and R
- Microsoft Office Suite
- Adobe Illustrator
- Groundwater modeling with MODFLOW and SEAWAT
- Surface water modeling with SWMM and SWAT
- Geospatial analysis with ArcGIS

LEADERSHIP

- Association for Women Geoscientists – Mentor Fall 2024
- Phi Sigma Pi Honor Fraternity - President Spring 2022-Fall 2022
- Phi Sigma Pi Honor Fraternity - Secretary Spring 2021-Fall 2021
- Phi Sigma Pi National Convention Delta Chi Delegate Summer 2022
- Lehigh Mentor Collective – Mentor Fall 2022-Spring 2023

ACTIVITIES & ASSOCIATIONS

- Association for Women Geoscientists (PSU)
- Graduate Colloquium Committee (PSU)
- Picnic Committee (PSU)
- Rapidly Accelerated Research Experience (LU)
- Earth and Environmental Science Committee on Diversity, Equity, and Inclusion (LU)
- Club Leaders Institute (LU)
- Phi Sigma Pi Honor Fraternity (LU)
- oSTEM (LU)