

Ava Spangler

📍 State College, PA, USA

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in [avaspangler](#)

Education

- PhD** THE PENNSYLVANIA STATE UNIVERSITY, Geoscience and Climate Science 2023 – 2028
Advisor: Dr. Antonia Hadjimichael
- BSc** UNIVERSITY OF COLORADO BOULDER, Civil Engineering. *Cum Laude.* 2019 – 2023

Appointments and Professional Experience

- National Science Foundation Graduate Research Fellow** 2023 - 2028
- Developed a community-co-designed urban flood model and optimized green infrastructure adaptation strategies for Baltimore, MD, integrating stakeholder input with hydrological modeling (SWMM).
- Wright Water Engineers - Civil Engineering Intern** 2023
- Analyzed survey data from engineering firms regarding how engineering practice responds to changing climate and coauthored the resulting ASCE journal article.
- RockSol Engineering - Civil Engineering Intern** 2022
- Constructed custom AutoCAD storm sewer parts list, enabling faster and standardized drafting throughout the company. Researched and evaluated several drainage construction projects in Denver.
- Colorado Department of Transportation - Hydraulic Engineering Intern** 2021
- Developed two-dimensional hydrologic and hydraulic models of ten culverts, designed, and proposed the appropriate culvert replacements.
 - Investigated and recorded conditions before and after the Poudre Canyon post-wildfire flood.
- Sustainable Water Sanitation and Hygiene Systems - Undergraduate Researcher** 2020 - 2021
- Qualitative analysis of survey data regarding rural water access in Uganda and well service improvements.

Publications

Collar, N; Jones, J; Stewart, B; Jhatakia, M; **Spangler, A.** (2025) "Impacts of a Dynamic Climate on Water Resources Engineering, Science, and Management", *ASCE Civil Engineering Magazine*.

Selected Presentations

- Spangler, Ava A.**, Hadjimichael, Antonia, Mitigating Impacts Through Urban Flood Modeling, *Penn State Climate Solutions Symposium*, State College, PA. May 2025. Poster.
- Spangler, Ava A.**, Hadjimichael, Antonia, Mitigating Impacts Through Urban Flood Modeling, *Penn State Geosciences Graduate Colloquium*, State College, PA. April 2025, Talk.
- Spangler, Ava A.**, Hadjimichael, Antonia, Collaborative Design of Dynamic Adaptation Pathways for Urban Flooding Resilience, Penn State Water Conference *Penn State Association of Water Students (PAWS)*, State College, PA. March 2025. Poster.

Spangler, Ava A, Hadjimichael, Antonia, Collaborative Design of Dynamic Adaptation Pathways for Urban Flooding Resilience, *Penn State Earth and Environmental Systems Scholars Symposium*, State College, PA. February 2025. Poster.

Spangler, Ava A, Hadjimichael, Antonia, Collaborative Design of Dynamic Adaptation Pathways for Urban Flooding Resilience, American Geophysical Union Fall Meeting, *American Geophysical Union (AGU)* Washington DC. December 2024. Poster.

Spangler, Ava A, Hadjimichael, Antonia, Collaborative Design of Dynamic Adaptation Pathways for Urban Flooding Resilience, *Decision Making Under Deep Uncertainty*, Denver, CO. November 2024. Poster.

Spangler, Ava A, Hadjimichael, Antonia, Community-Engaged Design of Robust and Dynamic Adaptation Pathways for Pluvial Flooding in the City of Baltimore, MD, *Urban Integrated Field Laboratory Principal Investigators Meeting*, Washington DC. October 2024. Poster.

Spangler, Ava A, Hadjimichael, Antonia, Robust Adaptations to Pluvial Flooding in Baltimore, *Penn State Climate Solutions Symposium*, State College, PA. May 2023. Poster.

Spangler, Ava A, Hadjimichael, Antonia, Robust Adaptations to Pluvial Flooding in Baltimore, *Penn State Geosciences Graduate Colloquium*, State College, PA. April 2023. Poster.

Spangler, Ava A, Javernick-Will, Amy, Linden, Karl, Breaking Down the Breakdown Problem: Sustainable Water Delivery Systems in Uganda, *National Conference for Undergraduate Research*, Online. April 2021. Poster.

Advising

Co-Advisor for Undergraduate Research

2024 - 2025

- Carlin Blash - Project Title: *Evaluating the Flood Mitigation Capacity of Current and Planned Green Infrastructure in Baltimore, MD*

Awards and Certifications

Geosciences Graduate Colloquium 1st Place Presenter Award

2024, 2025

The Pennsylvania State University

NASA ARSET: Drought Monitoring, Prediction and Projection

2024

National Aeronautics and Space Administration

National Science Foundation Graduate Research Fellowship

2023 - 2028

National Science Foundation

Environmental Systems Institute Interdisciplinary Scholar

2023 - 2025

The Pennsylvania State University

Civil Engineer in Training (EIT) Certification

2023

National Council of Examiners for Engineering and Surveying (NCEES)

Milo S. Ketchum Most Outstanding Civil Engineering Graduate Award

2023

University of Colorado Boulder

Kiewit Design-Build Scholarship for Excellence in Civil Engineering

2021 - 2023

University of Colorado Boulder, Kiewit Corporation

Donald Mackison Engineering Writing Contest 1st Place Award

2021

University of Colorado Boulder

University of Colorado Chancellors Scholarship

2019 - 2023

University of Colorado Boulder

Volunteer and Leadership Activities

Urban IDEAS Flood Modeling Panelist

2025

- Served as a volunteer panelist discussing challenges and shared opportunities in

urban flood modeling

Association of Women Geoscientists (AWG) Fundraising Chair

2024 - 2025

- Organizer for AWG outreach and fundraising events, including a novel partnership with a local girl scout troop, and leading several fundraising campaigns which raised over \$2000 for undergraduate scholarships

Geosciences Graduate Colloquium Committee Co-chair

2024 - 2025

- Organized and ran the 24th and 25th Annual Geosciences Graduate Student Colloquium, an event showcasing graduate student research within the department

University of Colorado Engineering Fellow

2022 - 2023

- Provided focused peer academic support and lead exam review sessions as a member of this service-minded student organization

Skills

Python, Linux/Unix, HPC (SLURM)

Programming

LaTeX, Git, Adobe Illustrator, Microsoft Office, GIS, Google Earth Engine

Software and Tools

Surface Hydrology Field Methods, Surveying, OSHA 10 Certification

Physical