

Maya Hope Hillis

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Environmental Engineering PhD Candidate focused on **human-centered climate resilience**, **flood risk assessment**, and **translating climate data** into actionable strategies for communities.

Education

Drexel University, Philadelphia, Pennsylvania

Environmental Engineering PhD Candidate

Fall 2022 - Present

- Research focus: Flood hazard risk assessment, community preparedness, decision support

Peace Engineering MS

Fall 2022 – Spring 2024

University of Kentucky, Lexington, Kentucky

Fall 2018 - Spring 2022

Chemical Engineering BS (graduated Summa Cum Laude)

Mathematics Minor; Environmental Engineering Certificate; Lewis Honors College

Applied Climate and Community Resilience Experience (current)

The Environmental Collaboratory, Drexel University – **Graduate Research Asst.** Winter 2023 - Present

- Engage stakeholders for annual regional convening for community-level preparedness for increasingly severe weather, connecting nonprofits, local agencies, and community leaders.
- Translate input from convened stakeholders, follow-up interviews, and supplemental research to develop actionable recommendations to strengthen preparedness for *2025 report* used by cross-sector partners.
- Support decision-making around community impact of flooding in Eastwick, Philadelphia
 - Conduct benefit-cost analyses of mitigation and climate scenarios
 - Synthesize surveys, public comments, and stakeholder maps into clear narrative tools

Research and Technical Experience (previous)

Drexel University – **Graduate Research Asst.**

Fall 2022 – Winter 2023

- Cultivated algal systems for laboratory-based PFAS bioaccumulation research.

Beaver Creek Hydrology – **Field Intern**

Summer 2022

- Collected field data and mapped spatial stream information for assessment and restoration.

UK Center for Applied Energy Research – **Undergraduate Research Asst.**

Summer 2019 - Spring 2022

- Performed biomass characterization and bioprocessing for bioenergy research
- Managed experimental data, chemical inventory, and photobioreactor maintenance

University of Kentucky's Dep. of Entomology – **High School Research Asst.**

Fall 2016 - Spring 2018

- Conducted molecular biology analyses to assess organism response to environmental stress

Publications

- **Co-Authored:** Fritz VE et al. Towards an Integrated Process for CO₂ Capture and Utilization: Cultivation of *Scenedesmus acutus* Using Gaseous CO₂ and NH₃. *BioEnergy Research*. 2023.
- **Co-Authored:** Teets NM et al. Changes in Energy Reserves and Gene Expression Elicited by Freezing and Supercooling in the Antarctic Midge, *Belgica antarctica*. *Insects*. 2019; Vol. 11, Special Issue

Technical and Professional Skills

- **Data & risk communication:** interdisciplinary systematic research, benefit-cost analysis, data visualization and presentation (MS Office), narrative reframing for decision-support
- **Stakeholder engagement & qualitative analysis:** survey and interview design, qualitative coding and thematic synthesis
- **Systems & spatial analysis:** systems mapping, geospatial data processing (ArcGIS, QGIS), foundational programming (Python, MATLAB, Java)

Leadership Activities

Design Team, Biodesign Challenge

2024 Summit

Event Coordinator, Drexel's CAEE Graduate Student Association

Spring 2023 – Spring 2024

Relevant Course Work

Systems Engineering for Peacebuilding; Sustainable Water Resource Engineering; Project Management