

**Emily Hugo**

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**EDUCATION**

**University of Texas at Austin**, Austin, TX, Department of Earth & Planetary Sciences/Institute for Geophysics  
 Master of Science, Geosciences *Expected:* May 2025

*Thesis:* Using Optical Satellite Imagery to Estimate Pre- and Post-Storm Shoreface Bathymetry on the Texas Gulf Coast; Supervisors: Dr. David Mohrig, Dr. Ginny Catania, Dr. Tim Goudge

*Relevant Coursework:* Spatial Hydrology; Dynamics of Sedimentary Systems; Coastal Engineering; Ice Sheets, Sediments, & Sea Level; Marine Geology & Geophysics Field Course; Remote Sensing for Geoscientists

**Williams College**, Williamstown, MA, Department of Geosciences  
 Bachelor of Arts, Geosciences, *Cum Laude*, GPA: 3.86 June 2023

*Thesis:* River tortuosity as a driver of organic pollutant storage within point bars and floodplains;  
 Advisors: Dr. José Constantine, Dr. Jay Thoman, Dr. David Dethier

*Relevant Coursework:* Oceanography; Modern Climate Modeling; Structural Geology; Geomorphology; Mastering GIS; Climate Data Analysis; Coastal Processes; Mineralogy and Petrology; Multivariable Calculus; Statistics & Data Analysis

**East Hampton High School**, East Hampton, NY  
 Valedictorian, GPA: 104.9 May 2019

**GRANTS, HONORS, AWARDS**

**Independent Study Fellowship**, University of Texas at Austin (Aug.-Dec., 2024)

**Dean's List**, Williams College (2019-20: Fall; 2020-21: Fall+Spring; 2021-22: Fall+Spring, 2022-23: Fall)

**Summer Research Grant**, Williams College (May-Aug., 2022)

**Arthur Levitt Scholarship**, Williams College (2022)

**Miranda Heller 1978 and Jerry Tone 1977 Environmental Studies Grant Fund**, CES Williams College (May-Aug. 2021)

**Salisbury Family Scholarship**, Williams College (2021)

**William C. Alden '54 Scholarship**, Williams College (2020)

**RESEARCH EXPERIENCE**

**University of Texas at Austin, Department of Earth & Planetary Sciences / Institute for Geophysics**  
*Research Assistant*, Supervisor: Dr. David Mohrig June 2024 - Aug 2024

Executed initial stages of research to assess the feasibility of utilizing optical satellite imagery to extract nearshore bathymetry. Worked with a team of scientists to develop a two-year research plan involving a budget, field work and travel, presenting at conferences, and streamlining research goals. Analyzed large geospatial datasets, including satellite imagery and LiDAR, using ArcGIS Pro. Developed a workflow using Python and Microsoft Excel to efficiently process remote sensing satellite data.

**Williams College, Geosciences Department***Research Assistant, Advisor: Dr. José Constantine*

Aug. 2022 - June 2023

Development of long-term fluvial contaminants analysis project with the intention of predicting variability in organic contaminant distribution along the floodplain of the Housatonic River in western Massachusetts. Analyzed a large EPA dataset using ArcGIS Pro to assess spatial trends in contaminant distribution. Participated in weekly environmental justice workshops to situate the importance of my work within broader structures of inequality.

**PUBLICATIONS**

*Forthcoming:* Hugo, E., Constantine, J., Thoman, J., Dethier, D. River tortuosity as a driver of organic pollutant storage in point bars and floodplains.

**PRESENTATIONS**

UT Institute for Geophysics Marine Geology & Geophysics Presentations, Austin, TX (May 2024). Hugo, E., Parker, E., Morales, E. “Proposal for an Oyster Reef Aquaculture Viability Assessment of Corpus Christi Bay: A Comparison of Characteristics of Early Holocene and Modern Oyster Reef Habitats” (lecture).

From Ice Sheets to the Coast: Sea-Level Rise Impacts Workshop, Houston, TX (Apr. 2024). Hugo, E., Mohrig, D., Catania, G., Zhang, E., Magruder, L. “Spatiotemporal bathymetric change for the Texas Gulf Coast shoreface using satellite-derived products” (poster).

UT Jackson School Symposium, Austin, TX (Feb. 2024). Hugo, E., Mohrig, D., Catania, G., Zhang, E., Magruder, L. “Spatiotemporal bathymetric change for the Texas Gulf Coast shoreface using satellite-derived products” (poster).

GSA Connects, Denver, CO (Oct. 2022). Hugo, E., Constantine, J., Thoman, J., Dethier, D. “River tortuosity as a driver of organic pollutant storage within point bars and floodplains” (poster).

Williams College Mastering GIS Lectures, Williamstown, MA (May 2022). Hugo, E.; Garcia-Nueva, B.; Oh, A. “Livable Land Loss in Louisiana: A Qualitative and Quantitative Analysis” (lecture).

Williams College Geomorphology Lectures, Williamstown, MA (Dec. 2021). Hugo, E.; Watkins, T.J.; Chalmers, P. “Impacts of climate change on patterns of downstream fining in the Green River, Williamstown, MA” (lecture).

**TEACHING/ PROFESSIONAL EXPERIENCE****University of Texas at Austin Department of Earth & Planetary Sciences***Teaching Assistant GEO 327G/386G Geographic Information System and Global**Positioning System Applications in Earth Sciences*

Jan.-Apr. 2024

*Teaching Assistant GEO 104 Physical Geology*

Aug.-Dec. 2023

Developed and delivered weekly lectures. Administered labs, distributed materials, assisted students with lab processes. Held weekly office hours to aid students. Graded lab assignments and lab exams.

**Williams College, Department of Geosciences***Teaching Assistant GEOS 214 Mastering GIS*

Feb.-May 2023

*Teaching Assistant GEOS 103 Global Warming & Environmental Change*

Aug.-Dec. 2022

*Teaching Assistant GEOS 104 Oceanography*

Feb.-May 2021

Assisted with students' laboratory work. Explained content to students in office hour sessions. Graded labs and weekly quizzes.

**Jones Beach Energy & Nature Center***Summer Intern – Conserving our Coasts*

May-Aug. 2021

Conceptualized and organized a lecture series focusing on an interdisciplinary approach to climate change and its mitigation on Long Island. Researched predicted impacts of climate change, specifically sea level rise on the South Shore of Long Island. Worked with a variety of local experts, from research institutions, town governments, mitigation/green energy projects, and indigenous nations to create a panel. Promoted the talk through various outreach channels including working with local libraries, newspaper and radio broadcasting, and using university networks. Hosted the first lecture and facilitated discussion between the panel of experts.

**EduMate NYC***Volunteer Tutor*

Sept.-Mar. 2021

Assisted multiple students enrolled in New York City public schools with math, ELA, and Spanish. Hosted weekly virtual meetings to gauge progress and explain concepts. Improved virtual communication skills.

**East Hampton Sports Camps @ SportimeNY***Head Counselor*

May-Aug. 2015-2020

Led groups of about forty five-year-olds through daily activities, including sports and art, at the camp's Preschool throughout the summer. Organized groups of counselors and designated responsibilities among my coworkers. Communicated with parents and coworkers to ensure that each child had a safe, positive experience. Used creative problem-solving and conflict-management skills to encourage group cooperation among campers.

**LEADERSHIP ROLES AND EXTRACURRICULAR ACTIVITIES****Williams College Varsity Crew***Captain*

Jun. 2022-Jun. 2023

Facilitate communication between teammates and coaches. Recruit walk-ons and integrate new members into the sport and team with the intention of making crew more accessible. Organize team events and meetings. Participate in fall and spring racing seasons from 2019-2023.

*Awards:* CRCA All-American Second Team (2023), All-NESCAC First Team (2023), CSC Academic All-District (2023), CRCA Scholar Athlete (2023), NIRC All-Academic (2020-2023)

**Williams College Residential Life Team***Junior Advisor (Volunteer)*

Aug. 2021-May 2022

Lived with and acted as a peer mentor for a group of 38 freshmen. Trained in Diversity, Equity & Inclusion. Facilitated First Days orientation activities and helped freshmen find their place on campus. Served as a liaison between campus administration/ resources and students. Worked with two co-JAs to perform regular check-ins with freshmen and act as the first line of assistance in emergency situations. Managed a budget over two semesters, and planned and hosted group activities.

**PROFESSIONAL MEMBERSHIPS**

Sigma Xi (2023-Present)

Geological Society of America (2021-Present)

American Geophysical Union (2020-Present)

**TECHNICAL SKILLS**

ArcGIS Pro; Python; ENVI – remote sensing analysis; drone flight trainee (DJI Mavic 3); Agisoft Metashape – drone imagery structure for motion; EIVA NaviSuite – multibeam processing; Landmark – multichannel sparker & chirp seismic processing; MATLAB; Stata; R; Microsoft Suite (Excel, Powerpoint, Word); Google Suite (Sheets, Slides, Doc); Adobe Suite (Illustrator, Photoshop); Social Media Management (Instagram, FaceBook, TikTok)

First Aid CPR Certification - American Red Cross, Jan. 2024