



DAVIDSON FELLOWSHIP

Margaret A. Davidson Graduate Fellowship Newsletter

The first class of Davidson fellows has hit the ground running following the program's official launch in fall 2020. This issue of the newsletter features the fellows conducting research at the Great Lakes and Northeast [national estuarine research reserves](#), and reflections on recent professional development.

Fellow Highlights



Molly Wick, University of Minnesota – Duluth and Lake Superior Reserve, Wisconsin

"The [Davidson] Fellowship is offering me an opportunity to make my research more impactful and relevant for coastal management needs."

Project title: Climate Change Adaptation and Human Well-Being in the St. Louis River Estuary

Importance: Climate change disproportionately affects vulnerable populations. It is unclear if climate adaptation efforts help address or reinforce those inequities. Molly's research will contribute to understanding and addressing inequity in human well-being outcomes of climate adaptation projects in the Lake Superior Reserve and throughout the Great Lakes.



Haley Kujawa, Ohio State University and Old Woman Creek Reserve, Ohio

"Environmental models are so important in understanding the world, and they provide valuable insight into solving issues like climate change and eutrophication. I also really enjoy coding!"

Project title: Assessing Watershed Impacts of Climate Change and Land Use in Old Woman Creek

Importance: How watersheds respond to climate change will be important in understanding how humans then need to adapt and change. Haley will be using climate and

watershed modeling to get a glimpse of what the future of Old Woman Creek's watershed, streams, and estuary may look like, and assess how improved stewardship could mitigate these changes.



Anna Lowien, University of New Hampshire and Great Bay Reserve, New Hampshire

"I am interested in estuarine biogeochemistry because the estuarine filter, where the river meets the sea, is an exciting transitional area where many biogeochemical pathways and transformations are possible."

Project title: Biogeochemical Stressors and Ecological Response in Great Bay

Importance: Anna's research provides new perspectives regarding Great Bay's ability to process inputs of nutrients, carbon, and sediments, and will help to identify thresholds of material flux that the estuary can ecologically handle.



Claudia Mazur, Boston University and Waquoit Bay Reserve, Massachusetts

"[The Davidson Fellowship] allows me to apply my skills as a scientist to solve and better understand a pressing environmental issue in my community."

Project title: Sediment Nutrient and Metal Flux under Coastal Acidification in a Temperate Estuary

Importance: Claudia is researching the effect of coastal acidification on nutrient cycling and removal (i.e., denitrification) to better understand how these changes will alter ecosystem productivity and water quality.



Jessica Brunacini, Michigan State University and Wells Reserve, Maine

"Coastal communities throughout the U.S., and around the world, are already dealing with the challenges of planning for relocation as a strategy for adapting to changing climate conditions. This research will shed light on effective practices for meaningfully engaging the public in making decisions about the future."

Project title: Broadening Public Participation to Build Coastal Resilience

Importance: There's no one-size-fits-all solution for

responding to sea level rise, coastal erosion, and increased flooding. Jessica will convene conversations with coastal communities to collaboratively decide on their best path forward.



Nia Bartolucci, Boston University and Narragansett Bay Reserve, Rhode Island

"I think climate change is one of the biggest challenges we face, and I am greatly interested in helping to find ways we can mitigate climate change, as well as make ecosystems more resilient to environmental change."

Project title: Thin-Layer Placement of Sediment Impacts on Salt Marsh Biogeochemistry

Importance: Salt marshes play a vital role in sequestering and storing carbon, as well as returning nitrogen to the atmosphere via denitrification. These functions help mitigate the negative impacts of rising atmospheric carbon dioxide and nutrient pollution in coastal areas. Nia's research will help inform coastal managers on how to make these systems more resilient to sea level rise while ensuring that these functions are preserved.

Reflections on Professional Development

"Work horizontally to build your networks." – Margaret A. Davidson

2020 National Estuarine Research Reserve System (and NERRA) Annual Meeting – The annual meeting brings together all program sectors—management, research, education, training, stewardship, and representatives from the reserve system's friends and foundations groups. The goal of the 2020 meeting was to embrace community, share innovation, and improve inclusivity in a virtual setting.

What did you learn?

"There are a lot of opportunities to work with other reserves on collaborative science projects. Everyone wants to help one another to protect coastal ecosystems."

– Anna Lowien, Great Bay Reserve

"I learned a lot about what the reserves are doing to address inclusion and diversity, which included addressing some of the structural barriers to participation (e.g., childcare)."

– Haley Kujawa, Old Woman Creek Reserve

How did you expand your professional network?

"I recently had to contact a research coordinator at another reserve, and she remembered me from the meeting."

– Nia Bartolucci, Narragansett Bay Reserve

"I had the chance to engage with folks from various reserve sectors in the Northeast, and I

also participated in the Coastal Training Program meetings, both of which allowed me to connect with professionals in meaningful ways.”

– Jessica Brunacini, Wells Reserve

Collaborative Science Training Course – One of the key elements of the Davidson Fellowship program is to develop meaningful cross-discipline research projects in conjunction with scientists, community leaders, and other organizations. The NOAA Science Collaborative funded a training for fellows to help plan their projects and ensure that information generated from field and laboratory studies is useful for decision-making at the national, regional, state, and community levels.

How will you incorporate what you learned to improve your project?

“I am currently incorporating what I learned from the collaborative science training to plan for future research. The training course helped me successfully navigate the Science Collaborative pre-proposal process with a group of scientists (including myself!).”

– Anna Lowien, Great Bay Reserve

“The collaborative science training helped prepare me for the challenges that will come when conducting collaborative science. The training gave me the confidence to engage with my local community and stakeholders early on in my fellowship, and to continue to cultivate these relationships throughout the entirety of my fellowship and beyond.”

– Claudia Mazur, Waquoit Bay Reserve

About the Program

This fellowship program honors the legacy of Margaret A. Davidson, a visionary and pioneer in the world of coastal resource management. The Margaret A. Davidson Graduate Fellowship emphasizes professional development, mentoring, and innovation, and offers students admitted to or enrolled in a master’s or doctoral program the opportunity to conduct research within one of the 29 [national estuarine research reserves](#). For more information, and to see a list of the full 2020 to 2022 cohort, visit coast.noaa.gov/nerrs/research/davidson-fellowship.html.

Program Timeline

Summer 2021 – Call for applications for the 2022 to 2024 cohort

December 2021 – Applications due for the 2022 to 2024 cohort

August 1, 2022 – Start date for the 2022 to 2024 cohort



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