

Danielle E. Pratt, Ph.D.

Postdoctoral Researcher
Delaware Environmental Institute
University of Delaware, Newark, DE

Education

- 2025: **Ph.D.**, Civil, Construction, and Environmental Engineering, University of Delaware
Committee: Dr. Holly A. Michael (Advisor), Dr. Julia A. Guimond, Dr. Carolyn B. Voter, Dr. Keryn B. Gedan, Dr. Sergio Fagherazzi
- 2019: **M.S.**, Environmental Science and Management, Duquesne University
Committee: Dr. John F. Stolz (Advisor), Dr. David Kahler, Dr. Daniel Bain
- 2016: **B.S.**, Biology, Minor: Geology, Syracuse University

Professional Experience

- 2025-present: **Postdoctoral Researcher**, Delaware Environmental Institute (DENIN)
University of Delaware
- 2024-2025: **Doctoral Fellow for Excellence**, Civil, Construction, and Environmental Engineering
University of Delaware
- 2022-2024: **Delaware Environmental Institute Environmental Fellow**, DENIN
University of Delaware
- 2020-2022: **Graduate Research Assistant**, Civil, Construction, and Environmental Engineering
University of Delaware
- 2019-2020: **Environmental Scientist I**, Waste and Hazardous Substances, Remediation Section
Delaware Department of Natural Resources and Environmental Control
- 2018-2019: **Bayer Research Fellow**, Center for Environmental Research and Education
Duquesne University
- 2017-2018: **Graduate Research Assistant**, Center for Environmental Research and Education
Duquesne University

Fellowships, Grants, & Awards

- 2025: **Graduate Travel Grant**, University of Delaware (\$1,500)
- 2024: **Doctoral Fellowship for Excellence**, University of Delaware (\$30,000 + tuition)
- 2024: **Wills Family Award**, Delaware Environmental Institute (\$1,000)
- 2022-2024: **Delaware Environmental Institute Fellowship**, DENIN (\$66,000 + tuition)
- 2022: **Graduate Travel Grant**, University of Delaware (\$1,500)
- 2018-2019: **Bayer Research Fellowship**, (\$20,000 + tuition)

Research Interests

Coastal groundwater
Critical zone science
Water Resources Engineering
Ecosystem resilience
Infrastructure resilience
Groundwater-surface water interaction
Marsh migration
Groundwater modeling
Time series analysis

Publications

Published

- 2026: A Noori, G Nordio, **D Pratt**, TC Messerschmidt, S Fettrow, A Seyfferth, ML Kirwan, HA Michael, S Fagherazzi, Seasonal hydrology at the marsh-upland interface, Journal of Geophysical Research: Biogeosciences, 2026. DOI: 10.1029/2025JG009297.
- Fettrow, S, A Montgomery, **D Pratt**, HA Michael, ML Kirwan, AL Seyfferth, Marsh Migration into Forests and Farms: Effects of Soil Biogeochemistry Along the Salinity Gradients, Journal of Geophysical Research: Biogeosciences, 2026. DOI: 10.1029/2025JG009149.
- 2025: *Doctoral Dissertation: Pratt, D*, The Hydrogeological Drivers of Marsh Migration, University of Delaware, 2025, 32165126.
- Pratt, D**, JA Guimond, ES Bacmeister, S Fagherazzi, and HA Michael, Terrestrial groundwater drives coastal ecosystem shifts, Geophysical Research Letters, 2025. DOI: 10.1029/2025GL116251.
- Fagherazzi, S, G Nordio, J Boaga, G Cassiani, HA Michael, **D Pratt**, TC Messerschmidt, ML Kirwan, S Stotts, The ecohydrology of coastal ghost forests, Ecohydrology, 2025. DOI: 10.1002/eco.70020.
- Guimond, JA, E Grande, HA Michael, **D Pratt**, E Herndon, GL Noyce, ND Ward, I Forbrich, P Regier, MJ Berens, B Arora, The hidden influences of terrestrial groundwater on salt marsh function and resilience, Nature Water, 2025. DOI: 10.1038/s44221-024-00384-6.
- Pratt, D**, RW McQuiggan, E Snell Bacmeister, A Sprague-Getsy, HA Michael, Groundwater and soil moisture data collected in the Coastal Critical Zone of the Delmarva Peninsula, United States, Data in Brief, 2025. DOI: 10.1016/j.dib.2025.111336.
- 2024: Nordio, G, **D Pratt**, HA Michael, S Fagherazzi, Initial Soil Moisture and Soil Texture Control the Impact of Storm Surges in Coastal Forests, Science of the Total Environment, 2024. DOI: 10.1016/j.scitotenv.2024.175911.
- Kirwan, ML, HA Michael, K Gedam, K Tully, S Fagherazzi, N McDowell, G Molino, **D Pratt**, WG Reay, S Stotts, Feedbacks regulating the salinization of coastal landscapes, Annual Reviews of Marine Science, 2024. DOI: 10.1146/annurev-marine-070924-031447.
- 2023: Regier, P, [and 68 others including **D Pratt**], Coastal inundation regime moderates the short-term effects of sediment and soil additions on seawater oxygen and greenhouse gas dynamics: a microcosm experiment, Frontiers in Marine Science, 2023. DOI: 10.3389/fmars.2023.1308590.
- Myers-Pigg, AN, [and 68 others including **D Pratt**], Biogeochemistry of upland to wetland soils, sediments, and surface waters across Mid-Atlantic and Great Lakes coastal interfaces, Nature Scientific Data, 2023. DOI: 10.1038/s41597-023-02548-7.

2019: *Master's Dissertation: Pratt, D, Unconventional Gas Extraction in Southwestern Pennsylvania: Complaints, Production, and Water Quality, Duquesne University, 2019.*

Submitted or In Review/Revision

2026: **Pratt, D**, JA Guimond, J Jobe, T Messerschmidt, M Kirwan, K Gedan, G Nordio, S Fagherazzi, HA Michael, Untangling Dynamic Drivers of Salt Marsh Migration (submitted to Water Resources Research).

Spicer, N, B Moyer, **D Pratt**, HA Michael, K Tully, Linking Hydrology to Biogeochemistry: Rating Curve-Based Estimates of Nitrogen and Carbon Fluxes in a Tidal Creek (submitted to Journal of Hydrology).

Datasets

Published

2025: **Pratt, D**, HA Michael, A Sprague-Getsy, ES Bacmeister, Crisfield Farm - DTW, Water Temperature, Specific conductance - May 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.24ae4ba3490346e088c5fca5a745b0b9.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Crisfield Farm - Soil water content, Soil temperature, Electrical conductivity - Jul 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.ffb417acb8bb4fdda660d8756b38b4cd.

Pratt, D, HA Michael, JA Guimond, A Sprague-Getsy, ES Bacmeister, Dover Farm - DTW, Water Temperature, Specific conductance - May 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.647b0abd93fe4d10946d2c3205d106a4.

Pratt, D, HA Michael, A Sprague-Getsy, JA Guimond, ES Bacmeister, Dover Farm - Redox Potential - Mar 2022-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.6266637e25504372a28285ebd3a78b18.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Dover Farm - Soil water content, Soil temperature, Electrical conductivity - Jul 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.c4e6bc66235e42b6b364bab513b747ee.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Metompkin Farm - DTW, Water Temperature, Specific conductance - Jul 2022-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.de8341f1e4544c61b0f0128099cfc08a.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Metompkin Farm - Soil water content, Soil temperature, Electrical conductivity - Jul 2022-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.c414b4b08e2647da9ae5d70dc1aae60c.

Pratt, D, HA Michael, A Sprague-Getsy, JA Guimond, ES Bacmeister, Milford Neck - DTW, Water Temperature, Specific conductance - Nov 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.844209cb8da943d5bec4cfa76f68920e.

Pratt, D, HA Michael, A Sprague-Getsy, JA Guimond, ES Bacmeister, Milford Neck - Redox Potential - Mar 2022-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.a67d5e40ec0043b79cbc3e1fb7034578.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Milford Neck - Soil water content, Soil temperature, Electrical conductivity - Dec 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.9b08109214f14f6c9f0b51ffd96ba3b1.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Monie Bay - DTW, Water Temperature, Specific conductance - Mar 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.1c69a4c9140f4893a644b5187b0e16fd.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Monie Bay - Soil water content, Soil temperature, Electrical conductivity - Aug 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.24f5579b1d8245669eaaeb8e4c07f162.

Pratt, D, HA Michael, G Nordio, S Fagherazzi, Virginia Forest - DTW, Water Temperature, Specific conductance - Jun 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.e99ee3f096964b31add85947894d812c.

Pratt, D, HA Michael, G Nordio, S Fagherazzi, Virginia Forest - Soil water content, Soil temperature, Electrical conductivity - Jun 2021-Jul 2024, [HydroShare](#), 2025. DOI: 10.4211/hs.064e5da7690048849e31bf36c524ba7f.

2023: Pennington, SC, [and 68 others including **D Pratt**], EXCHANGE Campaign 1: A community-drive baseline characterization of soils, sediments, and water across coastal gradients, [ESS-Dive](#), 2023. DOI: 10.15485/1960313.

Discoverable

2025: **Pratt, D**, HA Michael, A Sprague-Getsy, ES Bacmeister, Crisfield Farm - Redox Potential - Mar 2022-Jul 2024, [HydroShare](#), 2025. <http://www.hydroshare.org/resource/1c7e85e2fea941e79c98fb8769cf2259>.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Metompkin Farm - Redox Potential - Jul 2022-Jul 2024, [HydroShare](#), 2025. <http://www.hydroshare.org/resource/fa1109c6b6f1482b934169ae4e45dd99>.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Monie Bay - Redox Potential - Mar 2022-Jul 2024, [HydroShare](#), 2025. <http://www.hydroshare.org/resource/a7f73c42a7e7482fad9c88929bfbe46d>.

Pratt, D, HA Michael, A Sprague-Getsy, ES Bacmeister, Virginia Forest- Redox Potential - Jun 2022-Jan 2024, [HydroShare](#), 2025. <http://www.hydroshare.org/resource/f9f60649a2de4fea865f764fdf111ed8>.

Synergistic Activities

2025: **DENIN “Pitch-90” Judge**
Role: Judged a student elevator pitch competition with over 25 graduate and undergraduate student participants.

2024: **AGU Hydrology Section Outstanding Student Presentation Award (OSPA), Liaison**
Role: Organized reviewers for student presentations in the Hydrology Section and voted on presenter awards

2023-2024: **Women in Engineering Steering Committee, Member**
Role: Organized coffee hours and luncheons for women-identifying engineers to connect, network, and collaborate.

2023 & 2024: **DENIN Graduate Symposium Planning Committee, Co-Chair**
Role: Co-organized Environmental Graduate Student Symposium which included approximately 100 total oral and poster presentations each year, judged by a diverse group of faculty, student, and public judges.

2022: **DENIN “Pitch-90” Planning Committee, Co-Chair**
Role: Co-organized a student elevator pitch competition with over 30 graduate and undergraduate student participants, judged by a diverse group of faculty, student, and public judges.

Teaching & Mentoring

University Instruction

- Spring 2026: **Teaching Assistant**, Ecohydrology, University of Delaware
Spring 2026: **Co-Instructor**, Hydrogeology, University of Delaware
Spring 2024: **Teaching Assistant**, Hydrogeology, University of Delaware

Undergraduate Mentees

- 2022: Gabriel Acevedo, Environmental Science, University of Maryland (Summer REU)
2021: Andrew Kellogg, Water Resources, Policy, and Management, Virginia Tech (Summer REU)

K-12 Instruction

- 2023: **Delaware 4H Camp Science Instruction Lead**, DENIN

Professional Training

- 2022: **Alan Alda Center for Communicating Science Workshop**
Virtual Participant, Alan Alda Center for Communicating Science, Stony Brook University
- 2020: **Nature Masterclass in Scientific Writing and Publishing**
Virtual Participant, Springer Nature

Invited Seminars

- 2025: **American University**, Department of Environmental Science
- 2023: **Duquesne University**, Center for Environmental Research & Education
University of Delaware, Delaware Environmental Institute

Invited Abstracts

- 2025: **Pratt, D**, JA Guimond, T Messerschmidt, J Jobe, ML Kirwan, K Gedan, S Fagherazzi, HA Michael, Untangling Dynamic Drivers of Salt Marsh Migration, *American Geophysical Union*, New Orleans, LA, December 15-19, 2025.

Conference Presentations

- 2025: **Pratt, D**, JA Guimond, HA Michael, Dynamic drivers of marsh migration in the coastal critical zone: Untangling temporal and spatial variability, *Critical Zone Collaborative Network Meeting: Consortium of Universities for the Advancement of Hydrological Sciences*, Lamont-Doherty Earth Observatory, August 5-7, 2025.
- Pratt D**, JA Guimond, HA Michael, Dynamic drivers of marsh migration in the coastal critical zone: Untangling temporal and spatial variability, Saltwater Intrusion Congress, *Saltwater Intrusion Meeting (SWIM)*, Barcelona, Spain, June 2-6, 2025.
***outstanding student poster winner**
- 2024: **Pratt, D**, A Paldor, CY Chen, HA Michael, Balancing the seesaw: Quantifying the relative impacts of terrestrial and seaside forcings on coastal groundwater salinization, *American Geophysical Union*, Washington, DC, December 9-13, 2024.
- Pratt, D**, HA Michael, Hydrological mechanisms of salinization and flushing in the coastal critical zone, *Critical Zone Collaborative Network Meeting: Consortium of Universities for the Advancement of Hydrological Sciences*, University of Illinois Urbana-Champaign, August 6-8, 2024.

Pratt, D, HA Michael, Hydrological mechanisms of salinization and flushing in the coastal critical zone, *SALT Conference*, Cambridge, MD, June 10-12, 2024.

***outstanding student poster winner**

Pratt, D, J Guimond, E Snell Bacmeister, HA Michael, Coastal drought drives salinization of groundwater along the marsh-upland boundary on the Delmarva Peninsula, *Young Coastal Scientists & Engineers- Americas*, Quebec City, Canada, June 4-6, 2024.

Pratt, D, J Guimond, E Snell Bacmeister, HA Michael, Coastal drought drives salinization of groundwater along the marsh-upland boundary on the Delmarva Peninsula, *Delaware Wetlands Conference*, Wilmington, DE, February 6-7, 2024.

2023: **Pratt, D**, J Guimond, E Snell Bacmeister, HA Michael, Coastal drought drives salinization of groundwater along the marsh-upland boundary on the Delmarva Peninsula, *American Geophysical Union*, San Francisco, CA, December 11-15, 2023.

Pratt, D, A Sprague- Getsy, HA Michael, The hydrological drivers of marsh migration, *Critical Zone Collaborative Network Meeting: Consortium of Universities for the Advancement of Hydrological Sciences*, Salt Lake City, UT, June 26-28, 2023.

2022: **Pratt D**, G Nordio, S Fagherazzi, The fast and slow hydrological drivers of marsh migration along the Delmarva Peninsula, *American Geophysical Union*, Chicago, IL, December 12-16, 2022.

Pratt, D, A Sprague-Getsy, HA Michael, The hydrological drivers of salinization and flooding in the coastal critical zone, *Frontiers in Hydrology-American Geophysical Union*, San Juan, PR, June 19-24, 2022.

2019: **Pratt, D**, J Stolz, Unconventional gas extraction in southwestern Pennsylvania: complaints, production, and water quality, *2019 Annual Shale Network Workshop*, Penn State University, PA. May 16-17, 2019.

Contributed Abstracts

2026: AK Farnum, O Erukubami, **D Pratt**, P Imhoff, HA Michael, L Trout, T Barber, C Overcash, CB Voter, Integrated Assessment of Coastal Hydrologic Hazards to Groundwater, Stormwater, and Wastewater Infrastructure at Coastal Military Facilities, *Department of War Applied Innovation Workshop*, Washington DC, March 2-5, 2026.

2025: TR Junayed, **D Pratt**, R Leff, K Gedam, HA Michael, Salinity Dominates Moisture Content in Soil Water Potential at Marsh-Forest Boundaries, *American Geophysical Union*, New Orleans, LA, December 15-19, 2025.

HA Michael, JA Guimond, **D Pratt**, E Grande, The hidden role of groundwater in the functioning and migration of saltmarshes, *American Geophysical Union*, New Orleans, LA, December 15-19, 2025.

Terra, C, RJ Hess, **D Pratt**, TR Junayed, HA Michael, LD Slater, Does Soil Heterogeneity Promote Seasonal Changes in Salinity along Forested and Agricultural Marsh-to-Upland Transects?, *American Geophysical Union*, New Orleans, LA, December 15-19, 2025.

McGraw, A, **D Pratt**, HA Michael, Hydrogeologic Controls on the Position of the Marsh-Forest Boundary in the Mid-Atlantic, *American Geophysical Union*, New Orleans, LA, December 15-19, 2025.

Chen, C, A Paldor, **D Pratt**, HA Michael, Influence of Microtopography and Soil Heterogeneity on Salinization in Changing Coastal Environments, *American Geophysical Union*, New Orleans, LA, December 15-19, 2025.

Powell, E, T Fatoyinbo, HA Michael, **D Pratt**, Uncovering soil moisture boundaries and forest structure in transgressing forests with spaceborne SAR and lidar, Coastal Estuarine Research Federation Biennial Conference, November 9-13, 2025.

Chen, CY, A Paldor, **D Pratt**, HA Michael, Influence of tree mortality on salt distributions in changing coastal environments, Saltwater Intrusion Congress, Saltwater Intrusion Meeting (SWIM), Barcelona, Spain, June 2-6, 2025.

2024: Junayed, TR, **D Pratt**, R Leff, KB Gedan, HA Michael, Salinity is the dominant factor in root water uptake along transition zones in coastal forests, *American Geophysical Union*, Washington, DC December 9-13, 2024.

Chen, CY, **D Pratt**, Z Li, B Li, X Chen, HA Michael, Evaluation of coupled models to simulate the effects of marsh on saltwater intrusion under changing groundwater-surface water environments in coastal critical zone, *American Geophysical Union*, Washington, DC December 9-13, 2024.

Noori, A, G Nordio, **D Pratt**, T Messerschmidt, S Fettrow, A Seyfferth, ML Kirwan, HA Michael, S Fagherazzi, Evaluating the hydrological heterogeneity and key drivers at the salt marsh-forest boundary in coastal areas, *American Geophysical Union*, Washington, DC December 9-13, 2024.

Terra, C, **D Pratt**, L Slater, HA Michael, Investigating transport dynamics and salinity distribution trends during flooding events at coastal sites in the Delmarva Peninsula, *International Meeting of Applied Geosciences and Energy*, Houston, TX, August 26-29, 2024.

Terra, C, **D Pratt**, L Slater, HA Michael, Investigating transport dynamics and salinity distribution trends during flooding events at coastal sites in the Delmarva Peninsula, *Critical Zone Collaborative Network Meeting: Consortium of Universities for the Advancement of Hydrological Sciences*, University of Illinois Urbana-Champaign, August 6-8, 2024.

Junayed, TR, **D Pratt**, ES Bacmeister, HA Michael, Evapotranspiration-induced salinization of shallow soils along the Delmarva Peninsula, *SALT Conference*, Cambridge, MD, June 10-12, 2024.

Michael, HA, **D Pratt**, Y Chin, S Fagherazzi, K Gedan, M Kirwan, A Seyfferth, L Slater, S Stotts, K Tully, Hydrological, biogeochemical, and ecological linkages at the land-sea margin: insights from a coastal critical zone network, *European Geophysical Union*, Vienna, Austria, March 3, 2024.

Sinyigenga, LI, **D Pratt**, R Leff, HA Michael, Exploring the impact of vegetation response to hydrological processes on evapotranspiration (ET) and water balance in the marsh-upland transition zones, *Delaware Wetlands Conference*, Wilmington, DE, February 6-7, 2024.

2023: Nordio, G, **D Pratt**, HA Michael, S Fagherazzi, Initial soil moisture and soil texture control the impact of storm surges in coastal forests, *American Geophysical Union*, San Francisco, CA, December 11-15, 2023.

Michael, HA, **D Pratt**, Y Chin, S Fagherazzi, K Gedan, M Kirwan, A Seyfferth, L Slater, S Stotts, K Tully, Marsh migration in the coastal critical zone: drivers and impacts of hydrological, biogeochemical and ecological change, *European Geophysical Union*, Vienna, Austria, April 23-28, 2023.

2022: Sprague-Getsy, A, E Whitney, **D Pratt**, HA Michael, Influence of redox potential and hydrologic processes on DOC in the transition zone in salt marshes, *American Geophysical Union*, Chicago, IL, December 12-16, 2022.

2021: Kellogg, A, **D Pratt**, HA Michael, Hydrological dynamics along the marsh-forest critical zone, *Project WICCED Summer Scholars Symposium*, Newark, DE, August 12, 2021.

Invited Panelist

- 2025: **Salted Earth film screening**, Green Drinks Environmental Interest Group
- 2024: **Salted Earth film screening**, Osher Lifelong Learning Institute, University of Delaware
Earth Week Film screening, Lewes Public Library
Green Screen Film Night, Delaware Center for Inland Bays.
- 2023: **Salted Earth film screening**, Coast Day, University of Delaware
Critical Zone Collaborative Network meeting, CUAHSI

Media

- 2025: **Carried by Water Podcast: Blue Labs Princeton**, Episode 4: “Retreat or Rot” ([link](#))
- 2024: **CZNet Article**, “Human Impact on Coastal Transformations” ([link](#))
- 2022: **Mainspring Agency Film**, Salted Earth ([link](#))

Society Memberships

American Geophysical Union
Community of Women in Water
Earth Science Women’s Network
Society for Women in Marine Science