

CURRICULUM VITAE

JULIA A. GUIMOND

Assistant Scientist
Department of Applied Ocean Physics & Engineering
Bigelow Laboratory Rm. 105D
Woods Hole Oceanographic Institution
Woods Hole, MA

Telephone: (508) 289-3492
Email: Julia.Guimond@whoi.edu
Homepage: <https://www.whoi.edu/staff/jguimond/>
Personal website: juliaguimond.com

EDUCATION

- 2020 **Ph.D.**, Geological Sciences, University of Delaware
Thesis: Connecting Hydrology, Biology, and Geochemistry in a Coastal Wetland: Feedbacks between Ecosystem Processes toward Predictive Understanding
Advisor: Dr. Holly A. Michael
- 2013 **B.S.**, Geology-Biology Honors, Brown University
Thesis: Leaf wax hydrogen and carbon isotope ratios measured from base-to-tip in five terrestrial C3 plant species: implications for paleoclimate reconstructions
Advisor: Dr. Yongsong Huang

PROFESSIONAL EXPERIENCE

- 2023-present **Assistant Scientist**, Department of Applied Ocean Physics & Engineering, Woods Hole Oceanographic Institution
- 2024-present **Adjunct Faculty of Graduate Studies**, Department of Civil and Resource Engineering, Dalhousie University
- 2020-2022 **NSF Earth Sciences Postdoctoral Fellow**, Department of Civil and Resource Engineering, Dalhousie University
Mentors: Dr. Barret Kurylyk, Dr. Michelle Walvoord
- 2019-2020 **Graduate Research Assistant**, Department of Earth Sciences, University of Delaware
Advisor: Dr. Holly Michael
- 2018-2019 **Doctoral Fellow**, Department of Earth Sciences, University of Delaware
Mentor: Dr. Holly Michael
- 2016-2018 **Delaware Environmental Institute Environmental Fellow**, Department of Earth Sciences, University of Delaware
Mentor: Dr. Holly Michael
- 2015-2016 **Teaching Assistant**, Department of Earth Sciences, University of Delaware
Professor: Dr. John Madsen, Dr. Susan McGeary
- 2014-2015 **Laboratory Technician**, Jackson Estuarine Laboratory, University of New Hampshire
Supervisor: Dr. Stephen Jones
- 2012-2013 **Research Assistant**, Department of Earth, Environmental and Planetary Sciences, Brown University
Advisor: Dr. Yongsong Huang

PUBLICATIONS

- Guimond, J. A.** (2025). The overlooked role of terrestrial groundwater in coastal wetland resilience. *Nature Water*, 1-3.

- Guimond, J. A.**, Grande, E., Michael, H. A., Pratt, D., Herndon, E., Noyce, G. L., Ward, N. D., Forbrich, I., Regier, P., Berens, M. J., & Arora, B. (2025). The hidden influence of terrestrial groundwater on salt marsh function and resilience. *Nature Water*, 1–10. <https://doi.org/10.1038/s44221-024-00384-6>
- Creel, R., **Guimond, J. A.**, Jones, B. M., Nielsen, D. M., Bristol, E., Tweedie, C. E., & Overduin, P. P. (2024). Permafrost thaw subsidence, sea-level rise, and erosion are transforming Alaska's Arctic coastal zone. *Proceedings of the National Academy of Sciences*, 121(50), e2409411121. <https://doi.org/10.1073/pnas.2409411121>
- James Stegen, Amy Burgin, Michelle Busch, Joshua Fisher, Joshua Ladau, Jenna Abrahamson, Lauren Kinsman-Costello, Li Li, Xingyuan Chen, Thibault Datry, Nate McDowell, Corianne Tatariw, Anna Braswell, Jillian Deines, **Julia Guimond**, Peter Regier, Kenton Rod, Edward Bam, Etienne Fluet-Chouinard, Inke Forbrich, Kristin Jaeger, Teri O'Meara, Tim Scheibe, Erin Seybold, Jon Sweetman, Jianqiu Zheng, Daniel Allen, Elizabeth Herndon, Beth Middleton, Scott Painter, Kevin Roche, Julianne Scamardo, Ross Vander Vorste, Kristin Boye, Ellen Wohl, Margaret Zimmer, Kelly Hondula, Maggi Laan, Anna Marshall, and Kaizad Patel. (2025). Reviews and syntheses: Variable inundation across Earth's terrestrial ecosystems. *Biogeosciences*, 22(4), 995–1034.
- Guimond, J. A.**, Kurylyk, B. L., & Sohn, R. A. (2024). Seasonal drivers and patterns of sediment temperatures in a New England salt marsh. *Hydrological Processes*, 38(2), e15100.
- Richardson, C. M., Davis, K., Ruiz-González, C., **Guimond, J. A.**, Michael, H., Paldor, A., Moosdorf, N., and Paytan, A. (2023). The impacts of climate change on groundwater at the coast. *Nature Reviews Earth & Environment*. <https://doi.org/10.1038/s43017-023-00500-2>
- LeRoux, N. K., Frey, S. K., Lapen, D. R., **Guimond, J. A.**, and Kurylyk, B. L. (2023). Mega-tidal and surface flooding controls on coastal groundwater and saltwater intrusion within agricultural dikelands. *Resources Research*, 59, e2023WR035054. <https://doi.org/10.1029/2023WR035054>
- Guimond, J. A.**, Demir, C., Kurylyk, B., Walvoord, M., McClelland, J., Cardenas, M.B. (2023) Wind-modulated groundwater discharge along a microtidal Arctic coastline. *Environmental Research Letters*. <https://iopscience.iop.org/article/10.1088/1748-9326/acf0d8>
- Mohammed A., **Guimond J.**, Bense V., Jamieson R., McKenzie J., Kurylyk B. (2022) Mobilization of Subsurface Carbon Pools Driven by Permafrost Thaw and Reactivation of groundwater Flow: A Virtual Experiment. *Environmental Research Letters*. <https://iopscience.iop.org/article/10.1088/1748-9326/aca701/pdf>
- Cantelon J, **Guimond J.**, Robinson C, Michael H, Kurylyk B. (2022) Vertical Saltwater Intrusion in Coastal Aquifers Driven by Episodic Flooding: A Review. *Water resources research*. <https://doi.org/10.1029/2022WR032614>
- Guimond, J. A.**, Mohammed, A. A., Walvoord, M. A., Bense, V. F., & Kurylyk, B. L. (2022). Sea-level rise and warming mediate coastal groundwater discharge in the Arctic. *Environmental Research Letters*, 17(4), 045027. <https://doi.org/10.1088/1748-9326/ac6085>
- Guimond, J. A.**, Mohammed, A. A., Walvoord, M. A., Bense, V. F., & Kurylyk, B. L. (2021). Saltwater intrusion intensifies coastal permafrost thaw. *Geophysical Research Letters*, 48, e2021GL094776. <https://doi.org/10.1029/2021GL094776>
- Sherren, K., Ellis, K., **Guimond, J.**, Kurylyk, B., LeRoux, N., Lundholm, J., Mallory, M., van Proosdij, D., Walker, A., Bowron, T., Brazner, J., Kellman, L., Turner II, B., (2021). Understanding

multifunctional Bay of Fundy dykelands and tidal wetlands using ecosystem services – a baseline. *FACETS*.

Santos, I. R., Burdige, D. J., Jennerjahn, T. C., Bouillon, S., Cabral, A., Serrano, O., Wernberg, T., Filbee-Dexter, K., **Guimond, J. A.**, & Tamborski, J. J. (2021). The renaissance of Odum's outwelling hypothesis in "Blue Carbon" science. *Estuarine, Coastal and Shelf Science*, 255(December 2020), 107361. <https://doi.org/10.1016/j.ecss.2021.107361>

Guimond, J. A. and Tamborski, J. J., (2021). Salt marsh hydrogeology: a review. *Water*, 13, 543. <https://doi.org/10.3390/w13040543>

Guimond, J. A. and Michael, H. A., (2021). Effects of marsh migration on flooding, saltwater intrusion, and crop yield in coastal agricultural land subject to storm surge inundation. *Water Resources Research*, 57, e2020WR028326. <https://doi.org/10.1029/2020WR028326>

Guimond, J. A., Yu, X., Seyfferth, A. L., and Michael, H. A. (2020). Using hydrological-biogeochemical linkages to elucidate carbon dynamics in coastal marshes subject to relative sea-level rise. *Water Resources Research*, 56, e2019WR026302. <https://doi.org/10.1029/2019WR026302>

Guimond, J. A., Seyfferth, A. L., Moffett, K. B., and Michael, H. A. (2020). A physical-biogeochemical mechanism for positive feedback between marsh crabs and carbon efflux. *Environmental Research Letters*, 15(3), 34024. <https://doi.org/10.1088/1748-9326/ab60e2>

Seyfferth, A. L., Bothfeld, F., Vargas, R., Stuckey, J. W., Wang, J., Kearns, K., Michael, H. A., **Guimond, J. A.**, Yu, X., and Sparks, D. L. (2020). Spatial and temporal heterogeneity of geochemical controls on carbon cycling in a tidal salt marsh. *Geochimica et Cosmochimica Acta*, 282, 1-18. <https://doi.org/10.1016/j.gca.2020.05.013>

Gao, L., **Guimond, J. A.**, Thomas, E. and Huang, Y., (2015). Major trends in leaf wax abundance, $\delta^2\text{H}$ and $\delta^{13}\text{C}$ values along leaf venation in five species of C_3 plants: Physiological and geochemical implications. *Organic Geochemistry*, 78, 144-152. <https://doi.org/https://doi.org/10.1016/j.orggeochem.2014.11.005>

HONORS, AWARDS, AND FELLOWSHIPS

2024	Kohout Early Career Award, Hydrogeology Division, Geological Society of America
2024	Water Resources Research, Mostly Highly Cite Paper Award, Cantelon et al., 2024
2020-2022	NSF Earth Science Postdoctoral Fellowship (<i>NSF EAR-PF-1952627</i>), Dalhousie University
2019	Professional Development Award (2), University of Delaware
2018-2019	Doctoral Fellowship, University of Delaware
2018	Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) Biennial Travel Grant, CUAHSI
2017-2018	Delaware Sea Grant & National Estuarine Research Reserve Fellowship
2016-2018	Carski Family Fellowship, DENIN
2017	Wharry Research Grant
2016	Graduate Research Grant, Geological Society of America
2012	NASA RI Space Grant/Brown University Teaching and Research Award

PROFESSIONAL ACTIVITIES: WHOI COMMITTEES AND ACTIVITIES

2024-2026	WHOI Summer Student Fellow Committee, Member and AOPE representative
-----------	--

2024-2026	WHOI Women's Committee (Society of Women and Minoritized Genders), Member
2023	WHOI Chief People Officer Search Committee, Member
2023	WHOI SLOW RISE: Sea Level Outlook Workshop: Research and Investment in Science and Engagement Organizing Committee, Member
2023	Applied Ocean Physics and Engineering Seminar Coordinator
2023	COFDL Technician Hiring Committee, Member

PROFESSIONAL ACTIVITIES: ORGANIZATIONAL AND INSTITUTIONAL COMMITTEES

2021-2022	AGU Hydrology Section Executive Committee, Member
2021-2022	Young Hydrological Society, AGU H3S Representative
2019-2022	AGU Hydrology Section Student Subcommittee, Chair
2020-2021	Student & Early Career Scientist Conference Planning Committee, Member
2020	Hydrologic Sciences Conference Program Committee Review Board, Member
2019-2020	Earth Sciences Graduate Student Association, Founder and President
2019-2020	Earth Sciences Chair Search Committee, Member
2019-2020	CUAHSI Diversity & Inclusion Committee, Member
2019	AGU Hydrology Section Task Force, Co-Chair
2018-2019	Grand Challenges Symposium Series Planning Committee, Co-Chair
2017-2019	UD Earth Sciences Graduate Student Leader and Faculty Liaison
2016 & 2017	DENIN Graduate Symposium Planning Committee, Co-Chair
2016	DENIN Pitch:90 Planning Committee, Chair

PROFESSIONAL ACTIVITIES: WORKSHOPS AND OTHER

2024	DoE Environmental Systems Science Workshop (Invited). Topic: Critical Knowledge Gaps for Coastal Systems: Research Priorities for the U.S. South Atlantic and Gulf of Mexico Workshop, Washington, DC, March 26-27, 2024 <ul style="list-style-type: none"> Member of the committee writing workshop report to DoE leadership.
2024	Permafrost Coastal Systems Net Workshop, New Orleans, LA, February 14-17, 2024
2023	WHOI Development and Communications Committee presentation
2023	Arctic Coasts Workshop, Boulder, Colorado, October 9-11, 2023
2022	Arctic Coastal Network Retreat, Mystic, CT, October 16-21, 2022
2021	Coastal Sustainability NSF Convergence Accelerator Workshop, Virtual
2021	SHared Operational REsearch Logistics In the Nearshore Environment (SHORELINE) Workshop, Virtual
2018-2019	Cross-Disciplinary Problem-Solving Workshop, Coastal Virginia

PROFESSIONAL ACTIVITIES: FIELD CAMPAIGNS

Cold Season Coastal Wetlands, <i>New England (MA-ME)</i>	Oct 6, 2024 - present
Tundra Geologic History, <i>Utqiagvik, AK</i>	Sep 6-14, 2024
Coastal Arctic Saltwater Intrusion, <i>Prudhoe Bay, AK</i>	Aug 27-Sep 6, 2024
Coastal Arctic Groundwater Dynamics, <i>Prudhoe Bay, AK</i>	Jul 23-Aug 3, 2023
Drinking Water Quality in the Arctic, <i>Coral Harbour, Nunavut, Canada</i>	Aug 24-30, 2022

INVITED SEMINARS

2025	Old Dominion University, Department of Ocean and Earth Sciences, Seminar
2024	University of Delaware, Department of Earth Sciences, Seminar
2024	Northeastern University, Department of Marine and Environmental Sciences, Seminar
2024	CMarsh Virtual Seminar
2024	Syracuse University, Nelson Seminar
2023	Queens University/Royal Military College of Canada
2023	Los Alamos National Laboratory, Computational Earth Sciences
2023	Arctic Coastal Observations, Research, and Networking, Permafrost Coastal Systems Network
2021	Woods Hole Oceanographic Institution, Applied Ocean Physics and Engineering
2021	Colorado School of Mines, Hydrologic Science and Engineering Program
2021	Marine Biological Laboratory, Ecosystems Center
2020	University of Wisconsin – Madison, Department of Geoscience
2020	University of Delaware, Department of Earth Sciences
2019	Los Alamos National Laboratory
2019	CUAHSI-H3S Cyberseminar (link)

CONFERENCE PRESENTATIONS (+INVITED)

2024	<p>+Guimond, J. A., Demir, C., McClelland, J. W., Cardenas, B. M. Potential feedbacks between climate change and groundwater hydrology along an Arctic coastline. <i>American Geophysical Union Fall Meeting</i>, Washington, DC, December 2024. Oral Presentation.</p> <p>Guimond, J. A., Mohammed, A., Kurylyk, B. L., Walvoord, M. A., Bense, V. F. Ice sheet dynamics drive pronounced, long-term changes in the freshwater-saltwater interface. <i>Geological Society of America Annual Meeting</i>, Anaheim, CA, September 2024.</p> <p>+Guimond, J. A., Michael, H.A. The potential benefit of coastal wetland migration to agricultural land subject to storm surge inundation. <i>Salt Affecting Land in Transition</i>, Cambridge, MD, June 11, 2024. Oral Presentation.</p> <p>Guimond, J. A., Demir, C., McClelland, J. W., Cardenas, B. M. Geophysical insights into coastal permafrost and salinity distributions below variably degraded Arctic tundra. <i>AGU Ocean Sciences Meeting</i>, New Orleans, LA, February 2024. Poster Presentation.</p>
2023	<p>+Guimond, J. A., Demir, C., Kurylyk, B. L., Walvoord, M. A., McClelland, J. W., Cardenas, B. M. Drivers and implications of groundwater-surface water interactions along an Arctic coastline. <i>American Geophysical Union Fall Meeting</i>, San Francisco, California, December 11, 2023. Oral Presentation.</p> <p>+Guimond, J. A., Mohammed, A., Demir, C., Walvoord, M. A., Bense, V., Cardenas, B. M., McClelland, J. W., Kurylyk, B. L. Aquifer-ocean interactions as catalysts of coastal arctic change. <i>European Conference on Permafrost</i>, Puigcerda, Spain, June 22, 2023. Oral Presentation.</p>

- 2022 **Guimond, J. A.**, Demir, C., Cardenas, B. M., McClelland, J. W., Walvoord, M. A., Kurylyk, B. L. Groundwater Salinity Dynamics and Drivers Along an Actively Degrading Arctic Coastline. *American Geophysical Union Fall Meeting*, Chicago, Illinois, December 14, 2022. Oral Presentation.
- 2021 **Guimond, J. A.**, Mohammed, A., Walvoord, M. A., Bense, V. F., Kurylyk, B. L. Feedbacks between sea-level rise, groundwater flow, and permafrost extent in the coastal zone. *American Geophysical Union Fall Meeting*, New Orleans, Louisiana, December 16, 2021. Oral Presentation.
- ⁺**Guimond, J. A.**, Mohammed, A., Walvoord, M. A., Bense, V. F., Kurylyk, B. L. Climate change impacts on Arctic submarine groundwater discharge. *Geological Society of America Annual Meeting*, Portland, Oregon, October 13, 2021. Oral Presentation.
- Guimond, J. A.**, Mohammed, A., Walvoord, M. A., Bense, V. F., Kurylyk, B. L. Coastal Arctic hydrogeological activation in a changing climate. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting*, virtual, June 25, 2021. Oral Presentation.
- Guimond, J. A.**, Mohammed, A., Walvoord, M. A., Kurylyk, B. L. Sea-level rise impacts on coastal permafrost and land-sea connectivity. *Coastal Zone Canada Conference*, virtual, June 15, 2021. Oral Presentation.
- 2020 **Guimond, J. A.**, Walvoord, M. A., Kurylyk, B. L. Ocean-aquifer exchange in a warmer Arctic. *American Geophysical Union Fall Meeting*, virtual, December 16, 2020. eLightning Presentation.
- 2019 **Guimond, J. A.**, Yu, X., Seyfferth, A. L., Michael, H. A. Using hydrological-biogeochemical linkages to elucidate carbon dynamics in coastal wetlands subject to relative sea-level rise. *American Geophysical Union Fall Meeting*, San Francisco, California, December 13, 2019. Oral Presentation.
- Guimond, J. A.**, Kurylyk, B. L. High-latitude aquifer-ocean exchange in a changing climate. *ArcticNet*, Halifax, Nova Scotia, Canada, December 3, 2019. Poster Presentation.
- Guimond, J. A.**, Yu, X., Seyfferth, A. L., Michael, H. A. Using hydrological-biogeochemical linkages to elucidate coastal wetland carbon dynamics today and tomorrow. *Coastal and Estuarine Research Federation Biennial Conference*, Mobile, Alabama, November 5, 2019. Oral Presentation.
- Guimond, J. A.**, Yu, X., Michael, H. A. Marsh migration impacts on saltwater intrusion into agricultural fields: a modeling study. *Clean and Healthy Chesapeake Bay Conference*, College Park, Maryland, October 29, 2019. Poster Presentation.
- Guimond, J. A.**, Yu, X., Michael, H. A. Sea-level rise changes groundwater-surface water exchange and hydro-redox zonations in a temperate salt marsh: implications for carbon cycling. *MODFLOW & More*, Golden, Colorado, June 3, 2019. Oral Presentation.
- Guimond, J. A.**, Michael, H. A. Marsh crab impacts on hydrology and biogeochemistry alter coastal carbon cycling. *Xiamen Symposium on Marine Environmental Sciences*, Xiamen, China, January 7, 2019. Oral Presentation.
- 2018 **Guimond, J. A.**, Michael, H. A. Marsh crab impacts on hydrology and biogeochemistry alter coastal carbon cycling. *American Geophysical Union Fall Meeting*, Washington D.C., December 13, 2018. Poster Presentation.

- Guimond, J. A.,** Michael, H. A. Linkages between hydrology, biology, and geochemistry in a tidal wetland. *Delaware Wetlands Conference*, Wilmington, Delaware, February 1, 2018. Oral Presentation.
- 2017 **Guimond, J. A.,** Seyfferth, A. L., Michael, H. A. Hydrologically mediated iron reduction/oxidation fluctuations and dissolved organic carbon exports in tidal wetlands. *American Geophysical Union Fall Meeting*, New Orleans, Louisiana, December 14, 2017. Poster Presentation.
- Guimond, J. A.,** Seyfferth, A. L., Michael, H. A. Spatial and temporal impacts of crab burrows on groundwater-surface water interactions and redox conditions in a tidal wetland. *Geological Society of America Annual Meeting*, Seattle, Washington, October 25, 2017. Poster Presentation.
- 2016 **Guimond, J. A.,** Yu, X., Duque, C. Michael, H. A. Spatial patterns in salt marsh porewater dissolved organic matter over a spring-neap tidal cycle: insight to the impact of hydrodynamics on lateral carbon fluxes. *American Geophysical Union Fall Meeting*, San Francisco, California, December 12, 2016. Poster Presentation.
- 2013 **Guimond, J. A.,** Huang, Y., Gao, L. Leaf wax hydrogen and carbon isotope ratios measured from base-to-tip in five terrestrial C3 plant species: implications for paleoclimate reconstructions. *Northeastern Section Geological Society of America Annual Meeting*, Bretton Woods, New Hampshire, March 18, 2013. Poster Presentation.

CONTRIBUTED ABSTRACTS (* STUDENT)

- 2024 *Bechtel, M., Bell, T., Charrette, M., Henderson, P., **Guimond, J. A.** Exploring Temporal, Spatial, and Physical Variability in Plant Spectra Across a New England Salt Marsh and Coastal Forest. *American Geophysical Union Fall Meeting*, Washington, DC, December 2024.
- *Mocino Sanchez, I., Piecuch, C., Caamargo, C., Walker, C., **Guimond, J.A.** Recent Sea-Level Rise in the Gulf of Mexico: Faster Than Ever? *American Geophysical Union Fall Meeting*, Washington, DC, December 2024.
- *Demir, C., **Guimond, J. A.,** McClelland, J., Charette, M., Cardenas, M. Ice break-up to freeze-up: Morphological, hydraulic, and thermal evolution of an Arctic subterranean estuary along a coastal lagoon. *American Geophysical Union Fall Meeting*, Washington, DC, December 2024.
- *Demir, C., Gomez Velez, J. D., **Guimond, J. A.,** McClelland, J., Charette, M., Cardenas, M. B. Insights on hydro-climatic and oceanic forcing of Arctic submarine groundwater discharge from explainable artificial intelligence. *American Geophysical Union Fall Meeting*, Washington, DC, December 2024.
- *Berry, B., **Guimond, J. A.,** Demir, C., Cardenas, M. B., Kurylyk, B., Time and Frequency Domain Analysis of Coastal Signal Propagation Through a Supra-Permafrost Aquifer. *American Geophysical Union Fall Meeting*, Washington, DC, December 2024.
- Creel, R., **Guimond, J.,** Jones, B., Nielsen, D., Overduin, P. P., Fuson, T., Tweedie, C., Bristol, E. Rising water, sinking land, slumping shores: permafrost thaw subsidence, sea-level rise, and coastal erosion are transforming the Alaska North Slope. *International Conference on Permafrost*, Whitehorse, Yukon, Canada, June 2024.
- Creel, R., **Guimond, J.,** Jones, B., Nielsen, D., Overduin, P. P., Fuson, T., Tweedie, C., Bristol, E. The triple whammy: sea-level rise, permafrost thaw subsidence, and coastal

- erosion are reshaping Arctic Alaska's coastal zone. *Ocean Sciences Meeting*, New Orleans, February 2024.
- Kurylyk, B. L. **Guimond, J.**, Mohammed, A., Bense, V. F., McKenzie, J. M., Walvoord, M. A., Jamieson, R. C., Strong, B. A History of Cryohydrogeology Modeling and Recent Advancements through the Integration of Solute Transport. *International Conference on Permafrost*, Whitehorse, Yukon, Canada, June 2024.
- 2023 *Demir, C., **Guimond, J.**, Bristol, E., Bullock, E., Charette, M., McClelland, J., Cardenas, M. B. Seasonal Progression of Coastal Supra-permafrost Aquifers and Forces Driving Groundwater Flow. *American Geophysical Union Fall Meeting*, San Francisco, California, December 2023.
- *Pratt, D., Bacmeister, E., **Guimond, J.**, Michael, H. Coastal drought drives salinization of groundwater along the marsh-upland boundary on the Delmarva Peninsula. *American Geophysical Union Fall Meeting*, San Francisco, California, December 2023.
- Stegen, J., Datry, T., Busch, M., Braswell, A., Fisher, J., Zheng, J., Herndon, E., Painter, S., Roche, K., Seybold, E., Sweetman, J., Kinsman-Costello, L., Abrahamson J., **Guimond, J.**, Regier, P., Joshua, L., Boye, K., Forbrich, I., Middleton, B., Burgin, A., Song, H., Fluet-Chouinard, E., Vorste, R., and Bam, E. Variable Inundation Among Earth's Terrestrial Ecosystems. *American Geophysical Union Fall Meeting*, San Francisco, California, December, 2023.
- 2022 *Demir, C., **Guimond, J.**, Bristol, E., Bullock, E., Schaal, I., Henderson, P., ... & Cardenas, M. B. Seasonal Dynamics of Groundwater Flow and Transport in the Nearshore Arctic. *American Geophysical Union Fall Meeting*, Chicago, Illinois, December 15, 2022.
- *Stribling, S., Mohammed, A., McKenzie, J., Guimond, J., How does climate warming affect the mass transport of a nonreactive solute in a thawing permafrost environment? *American Geophysical Union Fall Meeting*, Chicago, Illinois, December 12, 2022
- 2021 Michael, H. A., **Guimond, J. A.**, Chin, Y., Fagherazzi, S., Gedan, K., Kirwan, M., Seyfferth, A., Stotts, S., Tully, K. Drivers and impacts of marsh migration in the coastal critical zone. *American Geophysical Union Fall Meeting*, New Orleans, Louisiana, December 15, 2021.
- Mohammed, A., **Guimond, J.**, Bense, V., Kurylyk, B., Jamieson, R., McKenzie, J. Coupled heat-solute transport processes in permafrost-affected groundwater systems. *American Geophysical Union Fall Meeting*, New Orleans, Louisiana, December 15, 2021.
- Tamborski, J, **Guimond, J.** Upscaling salt marsh porewater exchange along eastern North America. *Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting*, virtual, June 23, 2021.
- Kurylyk, B., Cantelon, J., Stanic, S., LeRoux, N., Dolan, K., **Guimond, J.** Saltwater intrusion: Over, under, or through? *Coastal Zone Canada Conference*, virtual, June 15, 2021.
- 2020 Mohammed, A., Bense, V., Kurylyk, B., Jamieson, R., **Guimond, J.** Modeling reactive solute transport in permafrost-affected groundwater systems. *American Geophysical Union Fall Meeting*, virtual, December 16, 2020.
- 2019 Michael, H., Kim, K., Heiss, J., **Guimond, J.**, Ullman, W., Chan, C., McAllister, S. Dynamic hydrologic and biogeochemical processes along coastlines as potential targets for biogeophysical methods. *American Geophysical Union Fall Meeting*, San Francisco, California, December 13, 2019. Invited Presentation.
- Yücel, M., **Guimond, J.**, Chace, P., Estes, E., Cagri Yapan, B., Cao, X. and Luther, G. Distinct Chemical Microenvironments Drive Two Different Macrofaunal Habitat Types in

- the East Pacific Rise, 9°50 N Hydrothermal Ecosystems. *Goldschmidt Conference*, Barcelona, Spain, August 19, 2019. Oral Presentation.
- 2017 Michael, H., Kim, K., **Guimond, J.**, Heiss, J., Ullman, W., Seyfferth, A. Hydrologic influence on redox dynamics in estuarine environments. *American Geophysical Union Fall Meeting*, New Orleans, LA, Dec. 14, 2017. Invited Presentation.
- Michael, H., Duque, C., Geng, X., **Guimond, J.**, Heiss, J., Kim, K., Koneshloo, M., Kreyns, P., Russionello, C., Scott, K., Yu, X. Submarine groundwater discharge across scales from marsh to shelf. *Geological Society of America Annual Meeting*, Seattle, Washington, October 22-25, 2017. Invited Presentation.
- 2016 Michael, H., Yu, X., LeMonte, J., Sparks, D., Kim, K., Heiss, J., Ullman, W., **Guimond, J.**, Seyfferth, A. Geochemical response to hydrologic change along land-sea interfaces. *American Geophysical Union Fall Meeting*, San Francisco, California, December 14, 2016. Invited Presentation.

CONVENED SESSIONS & TOWN HALLS

- 2024 Radfar, S., Heiss, J., Guimond, J. A., Rostamkhani, H. M., Coastal Hydrology. Session at *AGU Fall Meeting 2024*. AGU.
- Eidam, E., Jones, B., Smith, M., **Guimond, J.** Arctic Coastal Dynamics. Session at *AGU Fall Meeting 2024*. AGU.
- Eidam, E., Jones, B., Smith, M., **Guimond, J.**, Creel, R. Arctic Coastal Dynamics. Session in *Ocean Sciences Meeting 2024*. AGU.
- 2022 Marshall, A. M., **Guimond, J.**, Mohammed, A., & Evans, S. G. Frozen Ground Hydrology: Moving Toward a Process-Based Understanding. Session in *AGU Fall Meeting 2022*. AGU.
- Nathalie Voisin, Duerrast, H., **Guimond, J.**, (2022, June). Islands' Dynamic Hydrological Processes in a Changing World. Session in *AGU Frontiers in Hydrology Meeting 2022*. AGU.
- Danyka Byrnes, **Guimond, J.**, Tyler, S., Dymond, S., Bhaskar, A., (2022, June). Professional Opportunities for Student and Early Career Researchers: When to Jump and When to Duck! Session in *AGU Frontiers in Hydrology Meeting 2022*. AGU.
- 2021 Douglas, P., Olefeldt, D., **Guimond, J.**, Kuhn, M. (2021, December). Interactions between hydrological and biogeochemical change in permafrost environments. Session in *AGU Fall Meeting 2021*. AGU.
- Guimond, J.** (2021, December). Coming together after being apart: A cross-career stage conversation about AGU Hydrology Section goals and initiatives. Town hall in *AGU Fall Meeting 2021*. AGU.
- Martin, P., Oakes, R., Jones, J., Neto, A., Greene, C., Robson, E., Rao, Y., **Guimond, J.**, Jackson, N. Student and early career voices at AGU. Town hall in *AGU Fall Meeting 2021*. AGU.
- Lee, E., Byrnes, D., Matos, K., Knights, D., **Guimond, J.** Finding Your Place for Change: How and Where to Take an Active Role in DEI Initiatives as Early-Career Researchers and Students. Town hall in *AGU Fall Meeting 2021*. AGU.
- Johnson, K., John, K., Koppes, M., Brigham-Grette, J., Torn, M., Reimers, C., Newman, P., Jagannathan, K., **Guimond, J.**, Hills, D., Tripathi, A. Toward Increasing Justice, Equity,

- Diversity, and Inclusion (JEDI) and Community Engagement in Climate Research: Challenges, Opportunities, and Successes. Town hall in *AGU Fall Meeting 2021*. AGU.
- Tamborski, J., Rodellas, V., **Guimond, J.** (2021, June). Groundwater-surface water exchange across the land-ocean continuum. Session in *Aquatic Sciences Meeting 2021*. ASLO.
- 2020 Schutte, C. A., **Guimond, J.**, Rossi, R., & Jones, S. F. (2020, December). Integrating Hydrology, Biogeochemistry, and Ecology in Coastal Wetlands To Understand Their Response to Global Environmental Change. Session in *AGU Fall Meeting 2020*. AGU.
- 2019 Hall, C. A., **Guimond, J.**, Illingworth, S. M., & van Emmerik, T. H. (2019, December). Building Momentum: Developing Sustainable Cross-Disciplinary Collaborations. Town hall in *AGU Fall Meeting 2019*. AGU.

EDUCATIONAL ACTIVITIES: STUDENT MENTORSHIP

Co-supervised PhD students

- 2024-present Abigail Bonnington, WHOI-MIT Joint Program, AOSE, CEE. Co-supervise with Chris Piecuch and Catherine Walker.
- 2024-present Bay Berry, Dalhousie University

PhD Committees

- 2023-present Dannielle Pratt, University of Delaware
- 2022-2024 Emma Bullock, MIT/WHOI Joint Program
- 2023 Kelly Mckeen, MIT/WHOI Joint Program (Generals Committee)

Summer Student Fellows

- 2024 Isis Mocino Sanchez, Universidad de Guanajuato (co-mentor with Chris Piecuch and Catherine Walker)
- 2024 Mikayla Bechtel, Johns Hopkins University
- 2023 Valeria Pérez Rivera, University of Puerto Rico (co-mentor with Rob Sohn)

Undergraduate Mentees

- 2016-2017 Shailja Gangrade, Civil and Environmental Engineering, University of Delaware
- 2016 Catherine Medlock, Environmental Sciences, University of Delaware

EDUCATIONAL ACTIVITIES: TEACHING

Classroom Instruction

- Fall 2015 **Teaching Assistant**, Geology of Dynamic Earth, University of Delaware
- Spring 2016 **Teaching Assistant**, Earth Sciences, University of Delaware
- Fall 2011 **Teaching Assistant**, Environmental Geochemistry, Brown University

Courses Developed

- Summer 2011 Environmental Geochemistry Laboratory Sections

Guest Lectures

- 2024 Professional Development Lecture, Syracuse University
- 2020 “Coastal Wetland Hydrology”, Coastal Water Resources, Dalhousie University
- 2020 “Arctic Hydrology in a Changing Climate”, Environmental Studies, Roanoke College

EDUCATIONAL ACTIVITIES: RELATED OUTREACH & COMMUNITY SERVICE

- 2025 *Polar STEAM Fellow*, NSF Funded Polar STEAM program.
- 2023 *Women in Science Camp Guest Speaker*, Waquoit Bay National Estuarine Research Reserve, East Falmouth, MA

2022	<i>What is Seawater Intrusion Community Event Guest Speaker</i> , “Saltwater Intrusion: Processes, Mitigation, and Prevention” Oral presentation, Plymouth, MA
2019	<i>Coast Day Volunteer</i> , University of Delaware, Volunteer, Lewes, DE
2017-2019	<i>Education Volunteer</i> , Delaware National Estuarine Research Reserve, Dover, DE
2017	<i>TIDE Camp Volunteer</i> , University of Delaware, Lewes, DE
2016-2018	<i>Science Committee Member</i> , Sassafras River Association, Georgetown, MD
2013-2015	<i>Alternate Voting Member</i> , Town of Barrington, New Hampshire Conservation Commission, Barrington, NH

JOURNAL & PROPOSAL REVIEWS

<i>Biogeochemistry</i> (1)	<i>Nature Communications</i> (2)
<i>Cryosphere</i> (2)	<i>Nature Comm. Earth & Environment</i> (1)
<i>Ecohydrology</i> (1)	<i>One Earth Review</i> (1)
<i>Estuaries and Coasts</i> (2)	<i>Permafrost and Periglacial Processes</i> (1)
<i>Estuarine, Coastal, & Shelf Sci.</i> (3)	<i>Reviews of Geophysics</i> (1)
<i>Geophysical Research Letters</i> (2)	<i>Science Advances</i> (1)
<i>Global Change Biology</i> (1)	<i>New Hampshire Sea Grant</i> (1)
<i>Journal of Coastal Research</i> (1)	<i>Water Resources Research</i> (9)
<i>Journal of Hydrology</i> (2)	<i>WIREs Water</i> (1)
<i>National Science Foundation</i> (2)	

MEDIA COVERAGE

2022	Castanon, L. Living on the edge. <i>OCEANUS</i> . (2022). https://www.whoi.edu/oceanus/feature/living-on-the-edge/ (link)
2021	Simpkins, G. Saltwater intrusion impacts. <i>Nat Rev Earth Environ</i> 2 , 740 (2021). https://doi.org/10.1038/s43017-021-00231-2 (link) CityNews Everywhere. “New Dalhousie study says sea-level rise causing permafrost to thaw is threatening ecosystems”. (link) Global News. “Sea-level rise causing frozen grounds along Arctic coastlines to thaw, study suggests”. (link)
2017	UDaily Research Article, “UD Student Uses Delaware Sea Grant Fellowship to Study Coastal Marshes”. (link) NERRA, “Graduate Researcher Studies Marsh Hydrology as Shorelines Change”. (link)

PROFESSIONAL AFFILIATIONS

2015-present	American Geophysical Union, Member
2015-present	Geological Society of America, Member
2015-2020	Coastal & Estuarine Research Federation, Member
2016-2018	Society for Women in Marine Science, Member