

Calendar year: 2026

Javier Lloret

Horn Point Laboratory

University of Maryland Center for Environmental Science

Certification

I have reviewed this Curriculum Vitae and hereby certify that it is a current and accurate statement of my professional record.

Signed:  Date: 23 July 2026

Javier Lloret, PhD.

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Education

Ph.D.	University of Murcia, Spain	2012
	Ecology and Hydrology Dissertation: <i>"The role of coastal lagoon benthic communities in the processing of nutrients and overall ecosystem's resistance to eutrophication"</i>	
B.S.	University of Cadiz, Spain	1999
	Marine Sciences	

Professional Experience

Assistant Professor	2025-Present
Horn Point Laboratory, University of Maryland Center for Environmental Science, Cambridge, MD	
Adjunct Scientist	2025-Present
Ecosystems Center, Marine Biological Laboratory–University of Chicago, Woods Hole, MA	
Research Scientist	2018-2025
Ecosystems Center, Marine Biological Laboratory–University of Chicago, Woods Hole, MA	
Postdoctoral Scientist	2014-2018
Ecosystems Center, Marine Biological Laboratory–University of Chicago, Woods Hole, MA Advisor: Ivan Valiela, Ph.D.	
Postdoctoral Scientist	2012-2014
Department of Ecology and Hydrology, University of Murcia, Murcia, Spain Advisor: Arnaldo Marin, Ph.D.	
Research Assistant-Graduate Student	2005-2011
Department of Ecology and Hydrology, University of Murcia, Murcia, Spain Advisor: Arnaldo Marin, Ph.D.	

Publications (*indicates student co-author)

Total published peer reviewed articles and book chapters: 44 (10 as first author, 2 since starting at UMCES).

Google Scholar H-Index: 24; **Total Citations:** 2,079

Publications Under Review

- (2) *Garcia, K., Koop-Jakobsen, K., **Lloret, J.** Under review. Sea-level rise reduces salt marshes' capacity for long-term carbon and nitrogen storage in sediments. *Estuaries and Coasts*.
- (1) *Benson, M., **Lloret, J.**, Ibarra, D. Under review. Seagrasses and macroalgae incorporate land-derived metal pollution while limiting its transfer through estuarine food webs. *Marine Pollution Bulletin*. Preprint available at: <https://dx.doi.org/10.2139/ssrn.6461213>.

Peer-Reviewed Articles

- (35) *Wang, Y, Valiela, I., Chenoweth, K., **Lloret, J.** 2026. Competitive interactions between invasive *Phragmites australis* and *Spartina alterniflora*: Mechanisms and management implications for marsh migration. *Environmental Advances*, 23: 101453.
- (34) **Lloret, J.**, 2025. High variability in carbon stable isotopes in the macroalga *Ulva* spp. and implications for eutrophication indicators. *Scientific Reports*, 15: 40889.
- (33) Valiela, I., **Lloret, J.**, Chenoweth, K., *Wang, Y. 2024. An example of accelerated changes in current and future ecosystem trajectories: Unexpected rapid transitions in salt marsh vegetation forced by sea level rise. *Environmental Challenges*, 14: 100842.
- (32) *Carden, L., **Lloret, J.**, Kidwell, S.M. 2023. Dead molluscan shells as archives of nitrogen isotopic evidence from wastewater to estuaries. *Marine Pollution Bulletin*, 189: 114752.
- (31) Valiela, I., Chenoweth, K., **Lloret, J.**, Teal, J., Howes, B., Goehring-Toner, D. 2023. Salt marsh vegetation change during a half-century of experimental nutrient addition and climate-driven controls in Great Sippewissett Marsh. *Science of the Total Environment*, 867: 161546.
- (30) **Lloret, J.**, *Valva, C., Valiela, I., Rheuban, J., Jakuba, R., Hanacek, D., Chenoweth, K., Elmstrom, E. 2022. Decadal trajectories of land-sea couplings: Nitrogen loads and interception in New England watersheds, discharges to estuaries, and water quality effects. *Estuarine, Coastal and Shelf Science*, 277: 108057.
- (29) Dukes, E., Castner, E., Leech, A.M., Galloway, J.N., **Lloret, J.**, *Messenger, S., Zheng, A., Baumgarn, S., Yoder, J., Royal, E., Wiestma, D. 2021. Introducing the nitrogen footprint in SIMAP: a review of improvements in nitrogen footprint methodology for institutions. *Sustainability and Climate Change*, 14: 415-423.
- (28) **Lloret, J.**, Pedrosa-Pamies, R., *Vandal, N., *Rorty, R., *Ritchie, M., *McGuire, C., Chenoweth, K., Valiela, I. 2021. Salt marsh sediments act as sinks for microplastics and reveal effects of current and historical land use changes. *Environmental Advances*, 4: 100060.
- (27) *Messenger, S., **Lloret, J.**, Galloway, J.N., Giblin, A. 2021. Identifying and assessing effectiveness of alternative low-effort nitrogen footprint reductions in small research institutions. *Environmental Research Letters*, 16: 035014.

- (26) Valiela, I., **Lloret, J.**, Chenoweth, K., Elmstrom, E., Hanacek, D. 2021. Control of N concentrations in Cape Cod estuaries by nitrogen loads, season, and down-estuary transit: Assessment by conventional and effect-size statistics. *Estuaries and Coasts*, 1-16.
- (25) Valiela, I., Juman, R., Asmath, H., **Lloret, J.**, Hanacek, D., Elmstrom, E., Chenoweth, K., Brookshire, E. N. J. 2020. Water quality, nutrients, and stable isotopic signatures of particulates and vegetation in a mangrove ecosystem exposed to past anthropogenic perturbations. *Regional Studies in Marine Science*, 35: 101208.
- (24) Valiela, I., Liu, D., **Lloret, J.**, Chenoweth, K., Hanacek, D. 2018. Stable isotopic evidence of nitrogen sources and C4 metabolism driving the world's largest macroalgal green tides in the Yellow Sea. *Scientific Reports*, 8: 17437.
- (23) Valiela, I., **Lloret, J.**, *Bowyer, T., Miner, S., Remsen, D., Elmstrom, E., Cogswell, C., Thielert, E.R. 2018. Transient coastal landscapes: Rising sea level threatens salt marshes. *Science of the Total Environment*, 640-641: 1148-1156.
- (22) Martin, R.M., Wigand, C., Elmstrom, E., **Lloret, J.**, Valiela, I. 2018. Long-term nutrient addition increases respiration and nitrous oxide emissions in a New England salt marsh. *Ecology and Evolution*, 2018: 1-9.
- (21) Valiela, I., Elmstrom, E., **Lloret, J.**, Stone, T., Camilli, L. 2018. Tropical land-sea couplings: Role of watershed deforestation, mangrove estuary processing, and marine inputs on N fluxes in coastal Pacific Panama. *Science of the Total Environment*, 630: 126-140.
- (20) Valiela, I., *Owens, C., Elmstrom, E., **Lloret, J.** 2016. Eutrophication of Cape Cod estuaries: Effect of decadal changes in global-driven atmospheric and local-scale wastewater nutrient loads. *Marine Pollution Bulletin*, 110: 309-315.
- (19) **Lloret, J.**, Valiela, I. 2016. Unprecedented decrease in deposition of nitrogen oxides over North America: The relative effects of emission controls and prevailing air-mass trajectories. *Biogeochemistry*, 129: 165-180.
- (18) Lillebø, A.I., Somma, F., Noren, K., Gonçalves, J., Alves, F., Ballarin, E., Bentes, L., Bielecka, M., Chubarenko, B., Heise, S., Khokhlov, V., Klaoudatos, D., **Lloret, J.**, Margonski, P., Marin, A., Matczak, M., Oen, A., Palmieri, M., Przedzimirska, J., Różyński, G., Sousa, A., Sousa, L., Tuchkovenko, Y., Zaucha, J. 2016. Assessment of Marine Ecosystem Services indicators: experiences and lessons learned from 14 European case studies. *Integrated Environmental Assessment and Management*, 12: 726-734
- (17) Moulton, O.M., Altabet, M.A., Beman, J.M., Deegan, L.A., **Lloret, J.**, Lyons, M.K., Nelson, J.A., Pfister, C.A. 2016. Microbial associations with macrobiota in coastal ecosystems: patterns and implications for nitrogen cycling. *Frontiers in Ecology and the Environment*, 14(4): 200-208.
- (16) Dolbeth, M., Stålnacke, P., Lopes-Alves, F., Sousa, L.P., Gooch, G., Khokhlov, V., Tuchkovenko, Y., **Lloret, J.**, Bielecka, M., Rozynski, G., Soares, J.A., Baggett, S., Margonski, P., Chubarenko, B.V., Lillebø, A.I. 2016. An integrated Pan-European perspective on coastal Lagoons management through a mosaic-DPSIR approach. *Scientific Reports*, 6: 19400.
- (15) Celdran, D., **Lloret, J.**, Verduin, J., van Keulen, M., Marin, A. 2015. Linking seed photosynthesis and evolution of the Australian and Mediterranean seagrass genus *Posidonia*. *PLoS ONE*, 10 (6): e0130015.
- (14) **Lloret, J.**, Marín, A. 2011. The contribution of benthic macrofauna to the nutrient filter in coastal lagoons. *Marine Pollution Bulletin*, 62: 2732-2740.

- (13) Morillo-Velarde, P.S., **Lloret, J.**, Marín, A., Sánchez-Vázquez, F.J. 2011. Effects of cadmium on locomotor activity rhythms on the amphipod *Gammarus aequicauda*. *Archives of Environmental Contamination and Toxicology*, 60: 444-451.
- (12) Cesar, A., Marín, A., Marín-Guirao, L., Vita, R., **Lloret, J.**, Del Valls, T.A. 2009. Integrative ecotoxicological assessment of sediment in Portmán Bay (southeast Spain). *Ecotoxicology and Environmental Safety*, 72: 1832-1841.
- (11) **Lloret, J.**, Marín, A. 2009. The role of benthic macrophytes and their associated macroinvertebrate community in coastal lagoon resistance to eutrophication. *Marine Pollution Bulletin*, 58: 1827-1834.
- (10) **Lloret, J.**, Marín, A., Marín-Guirao, L. 2008. Is coastal lagoon eutrophication likely to be aggravated by global climate change? *Estuarine, Coastal and Shelf Science*, 78: 403-412.
- (9) Marín-Guirao, L., **Lloret, J.**, Marín, A. 2008. Carbon and nitrogen stable isotopes and metal concentration in food webs from a mining-impacted coastal lagoon. *Science of the Total Environment*, 393: 118-130.
- (8) Marín, A., Montoya, S., Vita, R., Marín-Guirao, L., **Lloret, J.**, Aguado, F. 2007. Utility of sea urchin embryo-larval bioassays for assessing the environmental impact of marine fishcage farming. *Aquaculture*, 271: 286-297.
- (7) Marín-Guirao, L., **Lloret, J.**, Marín, A., García, G., García-Fernández, A.J. 2007. Pulse-discharges of mining wastes into a coastal lagoon: Water chemistry and toxicity. *Chemistry and Ecology*, 23(3): 217-231.
- (6) Casado-Martínez, M.C., Fernández, N., **Lloret, J.**, Marín, A., Martínez-Gómez, C., Riba, I., Saco-Álvarez, L., DelValls, T.A. 2006. Interlaboratory assessment of marine bioassays to evaluate the environmental quality of coastal sediments in Spain. III. Bioassay using embryos of the sea urchin *Paracentrotus lividus*. *Ciencias Marinas*, 32(12): 139-147.
- (5) Velasco, J., **Lloret, J.**, Millán, A., Marín, A., Barahona, J., Abellán, P., Sánchez-Fernández, D. 2006. Nutrients and particulate inputs to Mar Menor lagoon from an intensive agricultural watershed. *Water, Air and Soil Pollution*, 176: 37-56.
- (4) **Lloret, J.**, Marín, A., Marín-Guirao, L., Carreño, M.F. 2006. An alternative approach for managing Scuba diving in small Marine Protected Areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 16: 579-591.
- (3) **Lloret, J.**, Marín, A., Marín-Guirao, L., Velasco, J. 2005. Changes in macrophytes distribution in a hypersaline lagoon associated to the development of intensively irrigated agriculture. *Ocean & Coastal Management*, 48: 828-842.
- (2) Marín-Guirao, L., Marín, A., **Lloret, J.**, Martínez-López, E., García-Fernández, A.J. 2005. Effects of mining wastes on a seagrass ecosystem: metal accumulation, bioavailability, seagrass dynamics and associated community structure. *Marine Environmental Research*, 60: 317-337.
- (1) Marín-Guirao, L., Cesar, A., Marín, A., **Lloret, J.**, Vita, R. 2005. Establishing the ecological status of soft-bottom mining-impacted coastal water bodies in the scope of the Water Framework Directive. *Marine Pollution Bulletin*, 50: 374-387.

Book Chapters

- (9) Valiela, I., **Lloret, J.**, Chenoweth, K. Climate Change Effects on Salt Marshes. In: Kennish, M., Paerl, H., Crosswell, J. (Eds.). 2023. *Climate Change and Estuaries*. Taylor and Francis Publications, London, New York, and Boca Raton.
- (8) Marín, A., **Lloret, J.**, Velasco, J., Bello, C. The physio-geographical background and ecology of Mar Menor. In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (7) **Lloret, J.**, Marín, A., Velasco, J., Bello, C. The management story of Mar Menor. In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (6) Bielecka, M., Tuchkovenko, Y., **Lloret, J.**, Lillebø, A.I., Dias, J.M., Robakiewicz, M., Zalewski, M., Krysanova, V., Chubarenko, B., Stålnacke, P. The challenges to improve integrated catchment and lagoon modelling in the context of climate change. In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (5) Hesse, C., Bielecka, M., Stefanova, A., Robakiewicz, M., Staroszczyk, R., Zalewski, M., Khokhlov, V., Tuchkovenko, Y., **Lloret, J.**, Lencart e Silva, J., Dias, J.M., Lillebø, A.I., Chubarenko, B., Krysanova, V. Impacts of potential climate change on lagoons and their catchments. In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (4) Bielecka, M., Robakiewicz, M., Zalewski, M., Khokhlov, V., Tuchkovenko, Y., **Lloret, J.**, Lencart e Silva, J., Dias, J.M., Lillebø, A.I., Chubarenko, B., Staroszczyk, R. Lagoons impact integrated scenarios. In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (3) Marín, A., **Lloret, J.**, Velasco, J., Bello, C., Lillebø, A.I., Sousa, A.I., Soares, A.M.V.M., Tuchkovenko, Y., Tuchkovenko, O., Warzocha, J., Kornijow, R., Gromisz, S., Drgas, A., Szymanek, L., Margonski, P. Lagoons response using key bio-indicators and implications on ecological status (WFD). In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (2) Lillebø, A.I., Spray, C., Alves, F.L., Stålnacke, P., Gooch, G.D., Soares, J.A., Sousa, L.P., Sousa, A.I., Khokhlov, V., Tuchkovenko, Y., Marín, A., **Lloret, J.**, Bello, C., Bielecka, M., Rozynski, G., Margonski, P., Chubarenko, B. European coastal lagoons: an integrated vision for ecosystem services, environmental SWOT analysis and human well-being. In: Lillebø, A.I., Stålnacke, P., Gooch, G.D. (Eds.). 2015. *Coastal lagoons in Europe. Integrated water resource strategies*. IWA Publishing, London.
- (1) Marín, A., Millán, A., Velasco, J., **Lloret, J.**, Marín-Guirao, L. Interacciones tierra-mar en la laguna costera del Mar Menor. In: Cabezas, F., Martínez, A. (Eds.). 2009. *El Mar Menor. Estado actual del conocimiento científico*. Instituto Euromediterráneo del Agua.

Other Publications

- (11) **Lloret, J.** 2026. The pond's first line of defense. In: Great Pond Foundation Annual Report 2025. Great Pond Foundation, Edgartown, MA.
- (10) Bradford, A., Gentry, E., *Goodyear, J., Landry, D., Price, E., Smeltzer, J., Staggers, D., Hynson, D., Kilbourne, K.H., **Lloret, J.**, Staver, L., Harris, L., Lowe, R. 2025. Village vitality: Strengthening community through connection. Contribution to the CERF 2025 Student Coastal Design

Competition: Building Resilience in Galesville, MD for a Collaborative Future Vision, Richmond, VA.

- (9) **Lloret, J.** 2025. The legacy beneath our feet. In: Great Pond Foundation Annual Report 2024. Great Pond Foundation, Edgartown, MA.
- (8) *Ackerman, J., **Lloret, J.** 2023. Bioaccumulation of microplastics along a gradient of urbanization and potential effects on ribbed mussel respiration and feeding rates. *Rhodes Journal of Biological Science*, 38: 5-12.
- (7) *McGuire, C., Pedrosa-Pamies, R., **Lloret, J.**, Conte, M., Weber, J.C. 2020. Plastic Marsh (The Tenacity): A look back at the varying anthropogenic impacts on estuary systems through microplastic pollution and stable isotopes. *Rhodes Journal of Biological Science*, 34: 22-34.
- (6) **Lloret, J.**, Pedrosa-Pamies, R. 2020. Microplastic pollution in estuarine ecosystems. In: The Ecosystems Center Annual Report 2018-2019. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.
- (5) **Lloret, J.**, Peredo, E.L. 2019. Synergistic human impacts on coastal areas. In: The Ecosystems Center Annual Report 2017-2018. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.
- (4) **Lloret, J.** 2018. The uncertain future of salt marshes in an era of sea level rise. In: The Ecosystems Center Annual Report 2016-2017. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.
- (3) Valiela, I., **Lloret, J.** 2018. Novel insights from the largest green tides in the world. In: The Ecosystems Center Annual Report 2016-2017. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.
- (2) **Lloret, J.**, Valiela, I. 2015. Declining nitrogen deposition. In: The Ecosystems Center Annual Report 2014. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.
- (1) Ramos, M., Marín, A., Vita, R., Marín-Guirao, L., Cesar, A., **Lloret, J.** 2003. Evolution of benthic communities in El Hornillo Bay (Águilas, Murcia) (southeast Spain) after cessation of floating-cage seabream *Sparus auratus* (L., 1758) and seabass *Dicentrarchus labrax* (L., 1758) culture. *Boletín del Instituto Español de Oceanografía*, 19 (1-4): 379-389.

Published Datasets

- (3) Benson, M., **Lloret, J.**, Ibarra, D. 2026. Metal concentrations and stable isotopic signatures of groundwater and biota in Edgartown Great Pond, MA, US. Mendeley Data. Dataset. <https://data.mendeley.com/datasets/ycwdnpzm6n/1>
- (2) **Lloret, J.** 2026. Compilation of data on carbon stable isotopes in the macroalga *Ulva* spp. from an extensive literature data collection and from selected New England estuaries. figshare. Dataset. <https://doi.org/10.6084/m9.figshare.31198282.v1>
- (1) *Wang, Y, Valiela, I., Chenoweth, K., **Lloret, J.** 2026. Data and Code for Wang et al. "Competition between *Phragmites australis* and *Spartina alterniflora*: Mechanisms and marsh migration management". figshare. Dataset. <https://doi.org/10.6084/m9.figshare.30068944>

Funding

Total awarded at UMCES: \$156,200

Active Grants and Contracts

Great Pond Foundation, Edgartown, MA. 2026-2027. Integrated water quality monitoring and nitrogen source identification for Martha's Vineyard ponds. Amount: \$25,200. PI: Javier Lloret.

UMCES-Institutional Support. 2026. Potomac Sewage Spill Response. Amount: \$40,000. PIs: Lora Harris, Ryan Woodland; Co-PIs: Feng Chen, Andrew Heyes, Javier Lloret, Carys Mitchelmore, Judith O'Neil, Benjamin Oyler, Eric Schott.

Great Pond Foundation, Edgartown, MA. 2021-2026. Laying the foundation for island coastal pond restoration. Amount: \$426,500. PI: Javier Lloret.

Past Grants

Various sources. 2018-2024. MBL Institutional Nitrogen Footprint. Amount: \$73,039. PI: Javier Lloret.

Hermann Foundation Inc. 2021-2022. The problem with Falmouth's water: Supporting undergraduate research and civic partnerships at the MBL. Amount: \$100,000. PI: Ken Foreman, Co-PI: Javier Lloret.

National Science Foundation, Division of Environmental Biology. 2020-2023. OPUS:CRS: Synthesis of decadal changes in controls, trajectories, & tipping points in vegetation cover, spatial structure, and marsh platform elevation in Great Sippewissett salt marsh. Amount: \$413,426. PI: Ivan Valiela, Co-PI: Javier Lloret.

Institute of Marine Affairs, Port of Spain, Trinidad and Tobago. 2019-2020. A first analysis of microplastic particle abundance and blue carbon profiles in Caroni Swamp, Trinidad. Amount: \$3,000. PIs: Ivan Valiela, Javier Lloret, and Rut Pedrosa-Pamies.

United States Geological Survey, National Institutes for Water Resources. 2018-2019. Forest land cover as a tool in water quality management: Developing a valuable addition to the Cape Cod Commission's 208 Technologies Matrix. Amount: \$173,012. PI: I. Valiela (J. Lloret status: Co-Investigator).

United States Environmental Protection Agency, Southeast New England Program for Coastal Watershed Restoration. 2016-2018. Assessing climate effects on watershed and stormwater nitrogen loading and vulnerabilities in meeting TMDLs in Buzzards Bay and Cape Cod. Amount: \$402,461. PI: I. Valiela (J. Lloret status: Co-Investigator).

Woods Hole Sea Grant. 2016-2018. Is the recent decreased atmospheric nitrogen deposition improving water and vegetation quality in Waquoit Bay, MA? Amount: \$201,729. PIs: I. Valiela, and J. Lloret.

Cape Cod Water Protection Collaborative. 2014-2016. Nitrogen loads to Cape Cod estuaries: Effects of reduced atmospheric nitrate concentrations. PI: I. Valiela (J. Lloret status: Co-Investigator).

European Commission-7th Framework Programme. 2011-2014. Integrated water resources and coastal zone management in European lagoons in the context of climate change. Amount:

€2,545,660 (€311,200 Sub-award). PIs: A.I. Lillebø and P. Stålnacke; Sub-award PI: Arnaldo Marin (J. Lloret status: Sub-award Co-Investigator).

Pending

Maryland Water Resources Research Center. 2026-2027. Evaluating constructed floating wetlands for nutrient interception in an urban estuary. Amount: \$120,152. PI: Javier Lloret; Co-PIs: Eric Schott, Charmaine Dahlenburg.

National Fish and Wildlife Foundation–Chesapeake Bay Small Watershed Grants. 2026-2027. Planning and Technical Assistance for a partnership to evaluate use of suspension feeders to remove nutrients from urban estuaries. Amount: \$149,461. PI: Eric Schott; Co-PIs: Javier Lloret, Jeff Cornwell.

Declined (Since joining UMCES only)

UMCES Endeavor Fund for Innovative Science. 2026. Carbon stable isotopes as a rapid diagnostic tool for coastal eutrophication and macroalgal bloom risk. Amount: \$30,000. PI: Javier Lloret

National Science Foundation, Division of Environmental Biology. RAPID: Frozen Filters: Leveraging a unique opportunity to quantify the impact of ice coverage on estuarine biogeochemical processing and trophodynamics. Amount: \$298,408. PI: Lora Harris; Co-PIs: Javier Lloret, Judith O'Neil, Benjamin Oyler, Ryan Woodland.

Maryland Sea Grant. 2026-2028. Unraveling the role of Chesapeake Bay salt marshes as microplastic sinks. Amount: \$200,000. PI: Javier Lloret

Teaching Experience

University System of Maryland Courses Taught

Fall 2025 **MEES 660 Ecological Systems.** Co-instructors: Bob Hildebrand (AL, lead instructor), Ryan Woodland (CBL), Lora Harris (CBL) and Jeremy Testa (CBL). This 3-credit foundational course introduces graduate students to foundational ecological theory and practice, emphasizing hands-on learning, quantitative skills, and the role of humans as drivers of ecological change. Enrollment: 14 students.

Other Courses Taught

Fall 2018-2024* **Semester in Environmental Sciences, Marine Biological Laboratory.** The semester is a 15-week program for undergraduate students that provides immersive field and laboratory-based learning opportunities to better understand ecosystem science and the biogeochemistry of coastal forests, freshwater ponds, and estuaries. I taught three of the Semester's modules on *Secondary Production and Ecological Efficiency*, *Use of Stable Isotopes in Ecosystem Studies*, and *Terrestrial Inputs to Marine Ecosystems*. Enrollment: between 12 and 23 students each year. (*The semester got cancelled in 2020 because of the Covid-19 pandemic)

Spring 2018-2024* **Logan Science Journalism Program, Marine Biological Laboratory.** Co-instructors: Anne Giblin, James McClelland. The program is an intensive, hands-on environmental research experience for science journalists, writers, editors, and broadcast journalists. Enrollment: 6 students each

year. (*The course got cancelled in 2020 because of the Covid-19 pandemic)

- Summer 2013** **Marine Ecology: Management and Conservation of the Mediterranean Coasts, Universidad Internacional del Mar, Spain.** Co-instructor: Arnaldo Marin. The program is an intensive, hands-on research experience for undergraduate and postbaccalaureate students.
- Summer 2010** **Marine Ecology: Management and Conservation of the Mediterranean Coasts, Universidad Internacional del Mar, Spain.** Co-instructor: Arnaldo Marin. The program is an intensive, hands-on research experience for undergraduate and postbaccalaureate students.

Mentoring

Committee Chair

- (1) **Jordan Goodyear.** Marine Estuarine Environmental Sciences Graduate Program, UMCES. M.S. *In progress.*

Committee Member

- (4) **Jennifer Gil-Acevedo.** Marine Estuarine Environmental Sciences Graduate Program, UMCES. Ph.D. *In progress.*
- (3) **Hannah Claggett.** Marine Estuarine Environmental Sciences Graduate Program, UMCES. Ph.D. *In progress.*
- (2) **Marina Benson.** Brown University, B.S. Honors Thesis, 2024. Thesis: Evaluating the Ecological Impacts of Nitrogen Pollution on Coastal Estuaries: A Case Study of Edgartown Great Pond, Martha's Vineyard.
- (1) **Marta Alonso.** Biodiversity Management in Mediterranean Environments Master's Program, University of Murcia (Spain). M.S. 2011. Thesis: Ecotoxicological Characterization of the Segura River Water and Sediments Using Amphipod Toxicity Bioassays.

Research Internships Supervised

- (22) **Yunisa Giri Ban.** Baltimore City Community College. MD Sea Grant Maxwell-Hanrahan Summer Research Internship, Summer 2026. Project: Restored seagrass beds as high-quality habitats for benthic invertebrates.
- (21) **Kayla Garcia.** St. Mary's University. Maxwell-Hanrahan Summer Research Internship, Summer 2024. Project: The impact of Sea Level Rise on the Great Sippewissett Marsh plant communities and how it affects blue carbon storage.
- (20) **Olivia Grobmyer.** University of Chicago. Jeff Metcalf Summer for Undergraduate Research Fellowship, Summer 2023. Project: Nitrogen loads to Edgartown Great Pond: Using stable isotopes to identify nitrogen sources and quantify the role of wetlands in pollution mitigation.
- (19) **Kristin Lewis.** Howard University. NSF-REU Program "Biological Discovery in Woods Hole", Summer 2023. Project: Microplastic contamination in estuarine mollusks: Effects of urbanization and feeding types.

- (18) **Marina Benson.** Brown University. Voss Undergraduate Research Fellowship, Summer 2023. Project: Edgartown Great Pond is turning green! The ecological impacts of wastewater pollution on coastal estuaries.
- (17) **Yuyang Wang.** Mount Holyoke College. Maxwell-Hanrahan Summer Research Internship, Summer 2023. Project: Recent acceleration of sea level rise and invasion of *Phragmites australis* are rapidly changing the mosaic of salt marsh vegetation in Great Sippewissett Marsh.
- (16) **Marina Benson.** Brown University. Brown-MBL LINK Summer Internship, Summer 2022. Project: Effects of eutrophication on local estuaries revealed by the analysis of food webs and stable isotopes.
- (15) **Reece Ciampitti.** Boston University. NSF-REU Program “Biological Discovery in Woods Hole”, Summer 2022. Project: Effects of 50-year long experimental nitrogen additions on salt marsh vegetation and platform elevation.
- (14) **Karen Robles.** Brown University. NSF-REU Program “Biological Discovery in Woods Hole”, Summer 2021. Project: Combined effects of nutrient enrichment and sea level rise on salt marsh vegetation.
- (13) **Claire Bekker.** Brown University. Brown-MBL LINK Summer Internship, Summer 2019. Project: Eutrophication and sea level rise in Great Sippewissett Marsh: Effects on elevation of marsh platform.
- (12) **Samantha Valentine.** Brown University. Brown-MBL LINK Summer Internship, Summer 2019. Project: Eutrophication and sea level rise in Great Sippewissett Marsh: Effects on vegetation cover and species dominance.
- (11) **Nicole Vandal.** Amherst College. NSF-REU Program “Biological Discovery in Woods Hole”, Summer 2019. Project: Microplastics everywhere: The history of microplastic accumulation in Cape Cod salt marsh sediments.
- (10) **Ruby Rorty.** University of Chicago. Jeff Metcalf Summer for Undergraduate Research Fellowship, Summer 2019. Project: Microplastics everywhere: Watershed urbanization affects microplastic abundance in salt marsh sediments.
- (9) **Sarah Messenger.** Trinity College. MBL-Nitrogen Footprint Network, Spring 2019. Project: Estimating the Marine Biological Laboratory carbon and nitrogen footprints.
- (8) **Paige Torres.** Brown University. Brown-MBL LINK Summer Internship, Summer 2018. Project: Stable isotope signatures of macrophytes as indicators of N loads and sources, and photosynthetic pathways in estuaries of Waquoit Bay, MA.
- (7) **Claire Valva.** University of Chicago. Jeff Metcalf Summer for Undergraduate Research Fellowship, Summer 2018. Project: Nitrogen load regime change: Changes in atmospheric deposition drive trajectory of nitrogen loads in Buzzards Bay estuaries.
- (6) **Sharanya Sarathy.** Brown University. Brown-MBL LINK Summer Internship, Summer 2017. Project: Eutrophication of Waquoit Bay estuaries: Effects of land-derived nitrogen loading on the assemblages of macroalgal taxa.
- (5) **Claire Valva.** University of Chicago. Jeff Metcalf Summer for Undergraduate Research Fellowship, Summer 2017. Project: Effects of different land-derived nitrogen loads to Cape Cod estuarine systems.

- (4) **Clara Maynard.** Brown University. Brown-MBL LINK Summer Internship, Summer 2016.
Project: Spatial-temporal responses of estuarine phytoplankton to changes in nitrogen loads from watersheds.
- (3) **Lindsay Levine.** Brown University. Brown-MBL LINK Summer Internship, Summer 2016.
Project: Atmospheric conditions driving *Zostera marina* recovery: Changes in climatic patterns, atmospheric nitrogen deposition, and wastewater nitrogen loads.
- (2) **Tynan Bowyer.** University of Chicago. Jeff Metcalf Summer for Undergraduate Research Fellowship, Summer 2016. Project: Decadal shifts in the vegetation structure Great Sippewissett Marsh in response to sea level rise.
- (1) **Sarah Skelton.** Brown University. Brown-MBL LINK Summer Internship, Summer 2015.
Project: The impact of nitrogen loading in Waquoit Bay, MA on estuarine food webs constructed by stable isotope analysis.

Other Undergraduate Research Supervised

- (12) **Ellen Warmerdam.** Oberlin College. Semester in Environmental Science, Fall 2023. Project: Impact of *Phragmites australis* invasion on carbon and nitrogen storage in salt marsh sediments.
- (11) **Anna Watson.** University of Chicago. Semester in Environmental Science, Fall 2023. Project: The effect of urbanization on the concentration and lability of organic nitrogen inputs to Waquoit Bay.
- (10) **Jake Ackerman.** Rhodes College. Semester in Environmental Science, Fall 2022. Project: Bioaccumulation of microplastics along a gradient of urbanization and potential effects on ribbed mussel respiration and feeding rates.
- (9) **Mackenzie “Kenzie” Allinson.** Grinnell College. Semester in Environmental Science, Fall 2022. Project: Tracing groundwater contamination in Little Sippewissett Marsh using nutrient analysis of groundwater and stable N-isotope analysis in biomass.
- (8) **A Jordan.** Colorado College. Semester in Environmental Science, Fall 2022. Project: Little Pond sediment cores: A primary productivity peer through time.
- (7) **Lilja Carden.** University of Chicago. Semester in Environmental Science, Fall 2021. Project: Historical effects of nitrogen eutrophication on mollusk communities.
- (6) **Dianna Gagnon.** Wheaton College. Semester in Environmental Science, Fall 2021. Project: Determining whether or not property value is indicative of nitrogen runoff from fertilizer application.
- (5) **Lauren Johnson.** Trinity University. Semester in Environmental Science, Fall 2019. Project: Effects of excess nutrients on the carbon metabolism of the macroalga *Ulva*. ***Awarded MBL Associates Prize for Excellence.**
- (4) **Cody Pham.** Pomona College. Semester in Environmental Science, Fall 2019. Project: Habitat selection in birds across fragmented landscapes.
- (3) **Boya “Twiggy” Cui.** Dickinson College. Semester in Environmental Science, Fall 2018. Project: Algal carbon stable isotopes as indicators of coastal eutrophication.
- (2) **Grace Gavazzi.** Kenyon College. Semester in Environmental Science, Fall 2018. Project: High nitrogen content in *Spartina alterniflora* as a feeding cue for invertebrates in New England salt marshes.

(1) **Ali McGarigal**. Colorado College. Semester in Environmental Science, Fall 2018. Project: A marsh against tide: The impact of nitrogen enrichment on salt marsh platform elevation in the Great Sippewissett Marsh.

Honors, Awards and Fellowships

2025. Second Prize at the CERF 2025 Student Coastal Design Competition for our contribution “Village Vitality: Strengthening Community Through Connection”. Coastal and Estuarine Research Federation (CERF), Richmond, VA.

2015-2018. Northeast Climate Adaptation Science Center Fellowship. University of Massachusetts, Amherst, MA.

2014-2017. Rosenthal Postdoctoral Fellowship. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.

Invited Talks

June 2026. Salt Marsh Research in the Coastal Bays: Understanding the impacts of sea level rise on vital marsh functions — Maryland Coastal Bays Program Scientific and Technical Advisory Committee Meeting. Cambridge, MD.

February 2026. From Green Tides to Drowning Marshes. The Transforming Roles of Coastal Vegetation in a Changing World — University of Maryland Center for Environmental Science, Institute of Marine and Environmental Technology Seminar Series. Baltimore, MD.

November 2025. From Green Tides to Drowning Marshes. The Transforming Roles of Coastal Vegetation in a Changing World — University of Maryland Center for Environmental Science, Appalachian Laboratory Fall Seminar Series. Frostburg, MD.

August 2024. Addressing our Coastal Pond Challenges: New Insights into Nitrogen Sources and Potential Solutions Changes — Dave and Doris Luening Pond Sustainability Series. Edgartown, MA.

July 2024. Resilience in Balance: Estuarine Vegetation at Risk from Climate and Nutrient Changes — University of Maryland Center for Environmental Science, Horn Point Laboratory Seminar Series. Cambridge, MD.

July 2024. Accumulation of microplastic in salt marshes: A record of urbanization and plastic waste in Cape Cod — International Visitor Leadership Program sponsored by the US Department of State. Woods Hole, MA.

February 2024. Waves of change: Exploring the interplay of climate and nutrient dynamics in the coastal zone — St. Mary's College of Maryland Marine Science Seminars. St. Mary's City, MD.

December 2021. Using stable isotopes to identify sources and effects of nitrogen pollution. Great Pond Foundation — Island Ponds Community Workshop. Edgartown, MA.

March 2021. Microplastics in the salt marshes of Waquoit Bay: A story of urbanization and plastic waste. Waquoit Bay National Estuarine Research Reserve Webinar Series — Research at the Reserve. Falmouth, MA.

December 2020. Human impacts on the global nitrogen cycle and nitrogen in the coastal zone: The good, the bad and the ugly. Ecosystems Center and Semester in Environmental Science Webinars — Lunch & Learn: Environmental Issues and Challenges in the 21st Century. Woods Hole, MA.

October 2019. The uncertain future of New England salt marshes: Understanding and quantifying the impacts of sea level rise. Massachusetts Institute of Technology Knight Fellows visit to the Marine Biological Laboratory. Woods Hole, MA.

July 2018. Panellist at the panel discussion “Adapting to a Climate-Changed World” for the visit of H.S.H. Prince Albert II of Monaco to the Marine Biological Laboratory. Woods Hole, MA.

November 2017. The uncertain future of coastal ecosystems: Working towards a more predictive ecology in a rapidly changing world. Marine Biological Laboratory 2017-2018 Informal Scientist Meeting. Woods Hole, MA

October 2017. Tracking nitrogen sources to the Caroni Swamp: Analysis of stable isotopes in mangrove leaves and suspended particulate materials. Institute of Marine Affairs Seminars. Port of Spain, Trinidad and Tobago.

April 2016. Reductions in atmospheric oxidized nitrogen deposition over North America: The relative role of emission controls and climatic patterns. The Ecosystems Center Seminar Series. Woods Hole, MA.

September 2015. Multidecadal trends in atmospheric deposition of reactive nitrogen forms over North America and Europe: Implications for marine, freshwater and terrestrial ecosystems. 3rd Annual Northeast Climate Science Center Fellows Retreat. Suring, WI.

November 2014. The impact of intensively irrigated agriculture on coastal lagoons in the context of climate change. Brown-Marine Biological Laboratory Retreat and Symposium. Providence, RI.

August 2014. The role of marine vegetation as a filter for coastal nutrients. Coastal Nitrogen Synthesis Charette. Woods Hole, MA.

June 2014. The impact of global change on shallow estuarine ecosystems. The Ecosystems Center Special Seminar. Woods Hole, MA.

September 2014. A comparison of the ecological quality status of four European lagoons. LAGOONS International Conference: Between the River and the Sea. Dundee, Scotland.

Workshops Attended

May 2026. Common Waters: Aligning Science and Community for a Sustainable Harbor. Baltimore, MD.

September 2025. AACC-UMCES Design Charrette: Building Resilience in Galesville, MD for a Collaborative Future Vision. Arnold, MD.

January 2025. Living Shorelines in the Mid-Atlantic Workshop: Connecting Scientists, Managers and Practitioners. Cambridge, MD.

December 2021. Island Ponds Community Workshop. Edgartown, MA.

October 2018. ‘Slow the Flow’ for Coastal Climate Resilience Workshop. Boston, MA.

October 2018. Three Bays Nonpoint Source Nutrient Management Problem Formulation Workshop. Woods Hole, MA.

August 2014. Coastal Nitrogen Synthesis Charette. Woods Hole, MA.

In the News

National and International News

New York Times. April 23, 2026. A Huge Sewage Spill Is Over, but Contamination Lingers in the Potomac.

<https://www.google.com/url?q=https://www.nytimes.com/2026/04/23/climate/potomac-river-sewage-contamination.html>

Scientific American/WBUR. February 13, 2024. Cape Cod Faces a Rising 'Yellow Tide'.

<https://www.scientificamerican.com/video/cape-cod-faces-a-rising-yellow-tide/>.

National Science Foundation News. May 3, 2023. Most of World's Salt Marshes Likely to Be Underwater by 2100.

<https://www.nsf.gov/news/most-worlds-salt-marshes-likely-be-underwater-2100>

USA Today. March 31, 2022. A New Threat Emerges for US Lakes and Rivers. Your Lawn or Toilet May Be Partly to Blame.

<https://www.usatoday.com/story/news/2022/03/31/runaway-pollution-climate-change-threaten-u-s-lakes-and-rivers/7172227001/?gnt-cfr=1>

Reuters. October 26, 2021. Capitulation? Spain's Land Buyout Plan in Shrinking Ebro Delta Irks Locals.

<https://www.reuters.com/business/cop/capitulation-spains-land-buyout-plan-shrinking-ebro-delta-irks-locals-2021-10-26/>

Popular Science. June 10, 2021. Salt Marshes Keep Score on Humanity's Plastic Problem.

<https://www.popsci.com/science/salt-marshes-world-plastic-problem/>

Phys.org, ScienceMag, ScienceDaily, Newsbeezer. June 4, 2021. Salt Marshes Trap Microplastics in Their Sediments, Creating Record of Human Plastic Use.

<https://phys.org/news/2021-06-salt-marshes-microplastics-sediments-human.html>

<https://scienmag.com/salt-marshes-trap-microplastics-in-their-sediments-creating-record-of-human-plastic-use/>

<https://www.sciencedaily.com/releases/2021/06/210604122508.htm>

<https://newsbeezer.com/singapore/salt-marshes-trap-microplastics-in-their-sediments-and-keep-records-of-human-plastic-consumption/>

Phys.org, ScienceMag, EurekAlert!, ScienceDaily. April 12, 2021. Bottom-up Is the Way Forward for Nitrogen Reduction at Institutions.

<https://phys.org/news/2021-04-bottom-up-nitrogen-reduction.html>

<https://scienmag.com/bottom-up-is-the-way-forward-for-nitrogen-reduction-at-institutions/>

https://www.eurekalert.org/pub_releases/2021-04/mbl-bit041221.php

<https://www.sciencedaily.com/releases/2021/04/210412142717.htm>

EuroNews. March 25, 2013. Lagoons Under the Microscope.

<https://www.euronews.com/2013/03/25/lagoons-under-the-microscope>

ScienceDaily. July 31, 2008. Ecological Status of Spain's Mar Menor Lagoon Will Deteriorate as Waters Warm, Researchers Predict.

<https://www.sciencedaily.com/releases/2008/07/080729075115.htm>

Local News

The Baltimore Sun. June 20, 2026. Why an unusually large seaweed mass on Kent Island may actually be a good sign.

<https://www.baltimoresun.com/2026/06/20/why-an-unusually-large-seaweed-mass-on-kent-island-may-be-actually-be-a-good-sign/>

The Baltimore Sun. November 28, 2025. Microplastics spur some Maryland restaurants to swap materials.

<https://www.baltimoresun.com/2025/11/28/microplastics-restaurants/>

The Baltimore Sun. November 24, 2025. Rising microplastics endanger Chesapeake Bay oysters, human health.

<https://www.baltimoresun.com/2025/11/24/rising-microplastics-endanger-chesapeake-bay-oysters-human-health/>

Vineyard Gazette. December 5, 2024. Tracing the Source of Pond Nitrogen.

<https://vineyardgazette.com/news/2024/12/05/tracking-source-pond-nitrogen>

Newsday. June 22, 2024. Rising seas endanger Long Island shore bird habitats.

<https://www.newsday.com/long-island/sea-rise-saltmarsh-sparrow-long-island-kzpr1lmg>

Vineyard Gazette. July 25, 2022. Chilmark Cyanobacteria Bloom Triggers Season's First Red Notice.

<https://vineyardgazette.com/news/2022/07/25/chilmark-cyanobacteria-bloom-triggers-islands-first-closure-season>

Martha's Vineyard Times. June 15, 2022. 'The Cut' is Half the Battle.

<https://www.mvtimes.com/2022/06/15/cut-half-battle/>

Vineyard Gazette. May 26, 2022. Scientific Study Traces Nitrogen in Great Ponds Directly to Wastewater.

<https://vineyardgazette.com/news/2022/05/26/scientific-study-ties-nitrogen-great-ponds-directly-wastewater>

Vineyard Gazette. December 6, 2021. Nitrogen Tracked to Housing Near Great Pond.

<https://vineyardgazette.com/news/2021/12/06/egp>

The Enterprise, Mashpee. July 9, 2021. Scientists Find Decades of Microplastic Contamination in Salt Marsh.

https://www.capenews.net/mashpee/news/scientists-find-decades-of-microplastic-contamination-in-salt-marsh/article_0fec106d-3b6a-5bfc-a8ff-15425f1f510b.html

South Coast Today, The Standard Times. June 29, 2021. Scientists find microplastics embedded in New Bedford and Cape Cod salt marshes.

<https://www.southcoasttoday.com/story/news/environment/2021/06/29/new-bedford-cape-cod-ma-marine-biological-laboratory-woods-hole-study-microplastics-salt-marshes/5321231001/>

WCAI Local NPR for the Cape, Coast & Islands. June 18, 2021. Microplastics Infiltrate Region's Salt Marshes.

<https://www.capeandislands.org/local-news/2021-06-18/study-microplastics-infiltrate-regions-salt-marshes>

Martha's Vineyard Times. February 22, 2021. Great Pond Foundation Partners With MBL

<https://www.mvtimes.com/2021/02/22/edgartown-great-pond-partners-mbl/>

Cape Cod Times. August 10, 2019. Tackling microplastic pollution in Waquoit Bay.

<https://www.capecodtimes.com/news/20190810/tackling-microplastic-pollution-in-waquoit-bay>

The Falmouth Enterprise. April 28, 2017. Thanks to the EPA and the Clean Air Act.

https://www.capenews.net/falmouth/columns/thanks-to-the-epa-and-the-clean-air-act/article_23cbae1b-a329-5e52-be0c-ecebda9395a7.html

La Verdad. January 26, 2017. The study that “nailed” the collapse of the Mar Menor coastal lagoon
<http://lospiesenlatierra.laverdad.es/blog/4065-el-estudio-que-clavo-el-shock-del-mar-menor.html>

La Opinion, Murcia. April 27, 2007. University of Murcia researchers predict that the Mar Menor will become “a dead lagoon”.
<https://www.laopiniondemurcia.es/comunidad/2007/04/27/investigadores-umu-vaticinan-mar-menor-33073762.html>

Service and Other Professional Activities

Institution/Department level

2026-present. Member of the Horn Point Coastal Dynamics Building Working Group.

2025-present. Co-Chair of the Horn Point Laboratory Seminar Committee.

2025-present. Member of the Horn Point Laboratory DEI Committee.

2024. Member of the Ecosystems Center’s “Vision” Committee in charge of developing and producing a vision statement for our department and generating related documentation, Marine Biological Laboratory, Woods Hole, MA.

2022. Member of the Search Committee for a Postdoctoral Scientist at the Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.

2021-2025. Member of the MBL Sustainability Committee, Marine Biological Laboratory, Woods Hole, MA.

2021-2022. Member of the MBL-Ecosystems Center Pod in URGE: Unlearning Racism in Geoscience, Marine Biological Laboratory, Woods Hole, MA.
<https://urgeosience.org/pods/mbl-ecosystems-center/>

2020. Co-Editor of the 2018-2019 Ecosystems Center Annual Report, Marine Biological Laboratory, Woods Hole, MA.
<https://www.mbl.edu/sites/default/files/2022-01/2018-2019-Annual-Report-reduced.pdf>

2018. Member of the planning committee for the 2018 SUCCESS (Shaping and Understanding Career Choices in Education, Science and Self) Workshops, Marine Biological Laboratory, Woods Hole, MA.

2014-2015. Co-Chair of the Ecosystems Center Seminar Committee, Marine Biological Laboratory, Woods Hole, MA.

External Service

2026-present. Serving in the Marsh Resilience Summit Steering Committee

2025-present. Member of the Food Emissions Working Group.

2025-present. Member of the Maryland Coastal Restoration Alliance (MCRA).

2025-present. Member of the Science and Technology Advisory Committee (STAC) for the Maryland Coastal Bays Program.

- 2023.** Member of the Coastal and Estuarine Research Federation (CERF) 2023 Cronin Award Committee.
- 2022.** Served as Stakeholder/Partner representative at the NOAA 312 Evaluation of the Waquoit Bay NERR Program.
- 2021-2024.** Member of the Sustainability Indicator Management & Analysis Platform Nitrogen Working Group.
- 2018-2024.** Member of the Advisory Committee for the State of the Waters: Cape Cod Project of the Association to Preserve Cape Cod.
- 2018-2020.** Member of the Institutional Nitrogen Footprint Tool Network.
- 2017.** Participant in the December 2017 US EPA Southeast New England Program Steering Committee Meeting, EPA's New England Headquarters, Boston, MA.

Journal Editing

Nature Publishing Group: Editorial Board Member of the journal *Scientific Reports* (2026-present). Guest Editor of the Intertidal Ecology Collection in the journals *Scientific Reports* and *Scientific Reviews* (2026-2027).

Journal Manuscript Review Service

Copernicus Publications: *Atmospheric Chemistry and Physics*.

Eagle Hill Institute: *Northeastern Naturalist*.

Elsevier: *Ecological Indicators; Environment International; Estuarine Coastal and Shelf Science; Marine Pollution Bulletin; Science of the Total Environment*.

Frontiers: *Frontiers in Environmental Science; Frontiers in Marine Science; Frontiers in Plant Science*.

Inter-Research: *Aquatic Biology; Marine Ecology Progress Series*.

IOPscience: *Environmental Research Letters*.

Nature Publishing Group: *Communications Earth & Environment; Nature Communications; Scientific Reports*.

PeerJ Publishing: *PeerJ*

Taylor & Francis: *Italian Journal of Zoology; Marine Biology Research*.

Springer: *Ambio; Biogeochemistry; Cell Biology and Toxicology; Ecosystems; Environmental Monitoring and Assessment; Estuaries and Coasts; International Aquatic Research; Regional Environmental Change; Wetlands Ecology and Management; Water, Air & Soil Pollution*.

Wiley: *Aquaculture Research; Aquatic Conservation: Marine and Freshwater Ecosystems; Journal of Ecology; Journal of Geophysical Research: Biogeosciences; Limnology and Oceanography (ASLO)*.

Grant Proposal Review Service

NOAA: Texas Sea Grant (2021), Rhode Island Sea Grant (2023), Maryland Sea Grant (2024), Connecticut Sea Grant (2025), California Sea Grant (2026).

EPA: 2024 Coastal Ecosystems Climate Resilience Grant (2024),

Society Memberships

2024-present. North Atlantic Coast Cooperative Ecosystem Studies Units (NACCESU) Expert Database.

2021-present. MBL Society. Woods Hole, Massachusetts, US.

2020-present. Coastal and Estuarine Research Federation. Seattle, Washington, US.

2017-present. Ecological Society of America, Washington, DC, US.