

Julia M. Moriarty

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Education

- 2017 Ph.D. Marine Science, Marine Geology Concentration**
Virginia Institute of Marine Science, College of William & Mary, VA
- 2012 M.S. Marine Science, Physical Oceanography Concentration**
Virginia Institute of Marine Science, College of William & Mary, VA
- 2009 B.A. Physics; B.S. Geophysical Sciences**
University of Chicago, IL

Professional Experience

- 2020-present Assistant Professor, Atmospheric and Oceanic Sciences Department (ATOC), University of Colorado Boulder
- 2020-present Fellow, Institute of Arctic and Alpine Research (INSTAAR), University of Colorado Boulder
- 2017-2019 Research Oceanographer / Mendenhall Post-doctoral Fellow, U.S. Geological Survey

Proposals, Fellowships, and Grants

Funded Proposals:

- 2022 *Collaborative Research: Facility: CSDMS: Engaging a Thriving Community of Practice in Earth-Surface Dynamics*, Geoinformatics, NSF. PI: G. Tucker, co-PIs: E. Hutton, A. J. Kettner, I. Overeem, M. D. Piper, M. Zellner (Northeastern U), N. Gasparini (Tulane). Funded Senior Personnel: T. Gian, **J. Moriarty**, B. Campforts, M. Rossi. Funding requested for 2022-2027: \$6,000,057 total & \$5,403,958 for CU
- 2021 *Collaborative Research: Frameworks: OpenEarthscape—Transformative Cyberinfrastructure for Modeling and Simulation in the Earth-Surface Science Communities*, Cyberinfrastructure for Sustained Scientific Innovation (CSSI), NSF. PI: G. Tucker, co-PIs: A. Kettner, E. Hutton, I. Overeem, **J. Moriarty**, C. Jenkins, S. Peckham, D. Gochis (NCAR), N. Gasparini (Tulane University), A. Pfeiffer (Western Washington University), E. Istanbuluoglu (University of Washington). Funding for 2021-2026: \$2,969,535 total; \$2,562,303 for CU
- 2017 *Biophysical Feedbacks Between Vegetation and Particulate Fluxes: Implications for Water Clarity and Carbon Sequestration in Estuarine Environments*, Mendenhall Post-Doctoral Research Fellowship, US Geological Survey, Woods Hole Mass. PI: **J. Moriarty** (VIMS/USGS). Funding for 2017-2019: ~\$198,000.

Student Grants and Fellowships, Externally Funded:

- 2016 **Anchor QEA 2015 Scholarship**, Anchor QEA (\$1500)
- 2014, 2016 **CSDMS Graduate Student Scholarship**, Community Surface Dynamics Modeling Systems (CSDMS) (travel expenses to Boulder, Colorado)
- 2015 **Student Grant**, Student Support Program, Southern Association of Marine Laboratories (\$250)
- 2015 **Student Travel Grant**, Coastal and Estuarine Research Federation (CERF) (\$250)
- 2014 **Ocean Sciences Meeting 2014 Student Travel Award**, ASLO/AGU/TOS (\$500)
- 2013 **Fellow**, East Asia and Pacific Summer Institute (EAPSI) Fellowship, NSF.
- 2008 **REU to Ocean Sciences Award**, NSF (travel expenses to San Francisco)

- 2008 **Research Experience for Undergraduates Internship**, NSF (~\$5000)
 2007 **Summer Undergraduate Research Fellowship**, California Institute for Technology/ Jet Propulsion Laboratory, NASA (\$6000)

Student Grants and Fellowships, Internally Funded at Virginia Institute of Marine Science:

- 2016 **Graduate Student Association Student Travel Grant** (\$600)
 2016 **Dean's Fellowship** (\$6000)
 2015-2016 **Council Fellowship** (\$2000)
 2014-2015 **SunTrust Fellowship** (\$3400)
 2014 **Graduate Student Association Student Travel Grant** (\$200)
 2013 – 2014 **Craig L. Smith Memorial Educational Fellowship** (\$1500)
 2013–2014 **Norfolk Southern Fellowship** (\$2000)
 2013 **Nichols Travel Fellowship** (\$1000)
 2009–2011 **Graduate Fellowship** (\$61,272)
 2009–2011 **Kathleen & Robert Roper Fellowship** (\$4000)
 2010 **Student Research Grant**, Reves Center, College of William & Mary (\$1500)

Honors and Awards

External Awards:

- 2017 **Student Modeler Award**, Community Surface Dynamics Modeling System (CSDMS). *Judged on the basis of ingenuity, applicability, and contribution toward the advancement of geoscience modeling.*
 2016 **2015 Editors' Citation for Excellence in Refereeing**, Journal of Geophysical Research: Oceans, American Geophysical Union (AGU).
 2016 **Outstanding Student Paper Award**, American Geophysical Union (AGU) Fall Meeting 2016 (\$200). *Awarded to the top 3 – 5% of student presentations at the Earth Science community's flagship meeting.*
 2015 **Ray Krone Award for Best Oral Contribution from a Young Scientist**, INTERCOH (International Conference on Cohesive Sediment Transport Processes), Leuven, Belgium.
 2015 **Outstanding Poster Award**, Gordon Conference for Coastal Ocean Modeling, Biddeford, Maine.

Internal Awards:

- 2022 **ATOC Service Award**, as part of the REU Team's Group Award for exceptional work in implementing and running the ATOC REU, University of Colorado Boulder
 2016 **George R. Healy Fellowship Award**, College of William & Mary (\$2000)
 2014 **Tied for 4th-6th place**, Three-Minute Thesis (3MT) Speaking Competition, Virginia Institute of Marine Science
 2013 **John M. and Marilyn Zeigler Student Achievement Award**, Virginia Institute of Marine Science (~\$3000). *Recognizes students who excel in scholarship, leadership, research initiative, outstanding publications, and exceptional thesis or dissertation work.*

Publications

Peer-Reviewed Publications:

- 2021 Kalra, T., N. K. Ganju, A. Arexabaleta, J. Carr, Z. Defne, and **J. M. Moriarty**. *Modeling Marsh Dynamics Using a 3-D Coupled Wave-Flow-Sediment Model*. *Frontiers in Marine Science*, 8, 740921. doi:10.3389/fmars.2021.740921
 2021 Hood, R. R., G. W. Shenk, R. L. Dixon, S. M. C. Smith, W. P. Ball, J. O. Bash, R. Batiuk, K. Boomer, D. C. Brady, C. Cerco, P. Claggett, K. de Mutsert, Z. M. Easton, A. J. Elmore, M. A. M. Friedrichs, L. A. Harris, T. F. Ihde, I. Lacher, L. Li, L. C. Linker, A. Miller, **J. Moriarty**, G. B.

- Noe, G. Onyullo, K. Rose, K. Skalak, R. Tian, T. L. Veith, L. Wainger, D. Weller, Y. J. Zhang. *The Chesapeake Bay Program Modeling System: Overview and Recommendations for Future Development*. Ecological Modeling, 456, 109653. doi:10.1016/j.ecolmodel.2021.109635.
- 2021 Zhang, W., **J. M. Moriarty**, H. Wu and Y. Feng. *Response of Bottom Hypoxia off the Changjiang River Estuary to Multiple Factors: A Numerical Study*. Ocean Modelling, 159, 101751. doi:10.1016/j.ocemod.2021.101751.
- 2021 **Moriarty, J. M.**, M. A. M. Friedrichs and C. K. Harris. *Seabed Resuspension in Chesapeake Bay: Implications for Biogeochemical Cycling and Hypoxia*. Estuaries & Coasts, 44 (1), 103-122. doi: 10.1007/s12237-020-00763-8
- 2019 Defne, Z., N. K. Ganju and **J. M. Moriarty**. *Hydrodynamic and Morphologic Response of a Back-Barrier Estuary to an Extratropical Storm*. Journal of Geophysical Research: Oceans, 24, 1-18. doi: doi.org/10.1029/2019JC015238
- 2019 Ganju, N. K., Z. Defne, T. Elsey-Quirk and **J. M. Moriarty**. *Role of Tidal Wetland Stability in Lateral Fluxes of Particulate Organic Matter and Carbon*. Journal of Geophysical Research: Biogeosciences, 124, 1265-1277. doi:10.1029/2018JG004920.
- 2018 Bianucci, L., K. Balaguru, R. W. Smith, L. R. Leung, and **J. M. Moriarty**. *Contribution of hurricane-induced sediment resuspension to coastal oxygen dynamics*. Scientific Reports, 8, 1-10. doi:10.1038/s41598-018-33640-3.
- 2018 **Moriarty, J. M.**, C. K. Harris, M. A. M. Friedrichs, K. Fennel, and K. Xu. *The Role of Seabed Resuspension on Oxygen and Nitrogen Dynamics in the Northern Gulf of Mexico: A Numerical Modeling Study*. Journal of Geophysical Research: Oceans, 123, 1-27. doi:10.1029/2018JC013950.
- 2017 **Moriarty, J. M.**, C. K. Harris, K. Fennel, M. A. M. Friedrichs, K. Xu, and C. Rabouille. *The Roles of Resuspension, Diffusion and Biogeochemical Processes on Oxygen Dynamics Offshore of the Rhone River, France: A Numerical Modeling Study*. Biogeosciences, 14, 1919-1946. doi:10.5194/bg-14-1919-2017.
- 2016 Kuehl, S. A., C. R. Alexander, N. E. Blair, C. K. Harris, K. M. Marsaglia, A. S. Ogston, A. R. Orpin, J. J. Roering, A. J. Bever, E. L. Bilderback, L. Carter, C. Cerovski-Darriau, L. B. Childress, D. R. Corbett, R. P. Hale, E. L. Leithold, N. Litchfield, **J. M. Moriarty**, M. J. Page, L. E. R. Pierce, P. Upton, and J.P. Walsh. *A Source to Sink Perspective of the Waipaoa River Margin*. Earth-Science Reviews, 153, 301-334. DOI: 10.1016/j.earscirev.2015.10.001.
- 2015 **Moriarty, J. M.**, C. K. Harris, and M. G. Hadfield. *Event - to - seasonal sediment dispersal on the Waipaoa River Shelf, New Zealand: a numerical modeling study*. Continental Shelf Research, 110, 108-123. DOI:10.1016/j.csr.2015.10.005
- 2014 **Moriarty, J. M.**, C. K. Harris, and M. G. Hadfield. *A hydrodynamic and sediment transport model for the Waipaoa Shelf, New Zealand: Sensitivity of fluxes to spatially-varying erodibility and model nesting*. J. of Marine Science and Engineering, 2 (2), 336-369.

Publicly Available Datasets:

- 2020 **Moriarty, J. M.**, C. K. Harris, M. A. M. Friedrichs, K. Fennel, and K. Xu. *A Model Archive for a Coupled Hydrodynamic-Sediment Transport-Biogeochemistry model for the Chesapeake Bay, USA*. Virginia Institute of Marine Science, College of William and Mary. <http://doi.org/10.25773/hamz-zc50>
- 2018 **Moriarty, J. M.**, C. K. Harris, M. A. M. Friedrichs, K. Fennel, and K. Xu. *A Model Archive for a Coupled Hydrodynamic-Sediment Transport-Biogeochemistry model for the Northern Gulf of Mexico, USA*. Virginia Institute of Marine Science, College of William and Mary. <http://doi.org/10.21220/rb78-k115>.
- 2017 **Moriarty, J. M.**, C. K. Harris, K. Fennel, K. Xu, C. Rabouille, and M.A.M. Friedrichs. *A Model Archive for a Coupled Hydrodynamic-Sediment Transport-Biogeochemistry model for the Rhone River Sub-aqueous Delta, France*. Virginia Institute of Marine Science, College of William and Mary. <http://doi.org/10.21220/V53P4Q>.

- 2016 **Moriarty, J.M.**, C. K. Harris, and M. G. Hadfield. *A Hydrodynamic-Sediment Transport Numerical Model for the Waipaoa Shelf, New Zealand: Model Archive*. Virginia Institute of Marine Science, College of William & Mary. <http://doi.org/10.21220/V5159T>.

Book Chapters (Peer-Reviewed):

- 2022 Fennel, K., T. Cyronak, M. DeGrandpre, D. T. Ho, G. G. Laruelle, D. Maher, D. and **J. Moriarty**. *Carbon, Coasts, and the Climate*. In Oxford Research Encyclopedia of Climate Science. Oxford University Press. doi: <https://doi.org/10.1093/acrefore/9780190228620.013.824>.

Presentations

Bold indicates Moriarty; ⁺⁺ Moriarty as graduate advisor; ⁺ Moriarty as undergraduate advisor

Invited Conference Abstracts:

- 2022 **Moriarty, J.M.** *Using Models to Quantify Knowledge Gaps: The Role of Storm-Induced Resuspension on Coastal Biogeochemical Cycling*. C-SAW: Time Domain Controls on Carbon Storage, Release, and Transformation in Coastal and Estuarine Waters Following Extreme Events, Ocean Carbon Biogeochemistry (OCB) Workshop, NC State University. 23-26 October 2022. Oral Presentation / Plenary Speaker
- 2021 **Moriarty, J.M.** *Modeling at the Land-Sea Interface: Understanding the Impact of Sediment Transport on Oxygen Levels and Marsh Vulnerability Using Coupled Hydrodynamic-Sediment Transport-Biogeochemistry Models*. Gulf Coast Terrestrial Aquatic Interfaces Workshop: Climate Change and Disturbance Impacts, Oak Ridge National Laboratory, US Department of Energy, Virtual Workshop. 2-3 September 2021. Oral Presentation
- 2019 Harris, C. K., L. Cui, **J.M. Moriarty**, and D. Tarpley. *Sediment transport in coastal environments: Advances in numerical modeling and applications to interdisciplinary problems*. Workshop on the Asian Sedimentary Continuum (ASC): Toward a global perspective. 11-12 October 2019.
- 2019 **Moriarty, J.M.** *Sediment redistribution following marsh-edge erosion and resuspension: Implications for Biogeochemistry*. Gordon Research Conference on Coastal Ocean Dynamics, Biddeford, Maine. 16-21 June 2019. Oral Presentation.
- 2018 **Moriarty, J.M.**, C.K. Harris, and M.A.M. Friedrichs. *Role of resuspension events on oxygen and nitrogen dynamics in coastal environments*. American Geophysical Union Fall Meeting, Washington, D.C. 10-14 December 2018. Oral Presentation.
- 2018 **Moriarty, J.M.** *Lessons from Hydrodynamic-Sediment Transport-Biogeochemistry-Vegetation Modeling in Coastal Systems*. NSF Workshop on the Future of Coastal Ocean and Estuarine Modeling, Raleigh, North Carolina. 18-21 June 2018. Oral Presentation.
- 2017 Harris, C. K., **J.M. Moriarty**, and C. T. Friedrichs. *The role of particulate gravity currents on continental shelf sediment fluxes and fate for the Waipaoa Shelf, New Zealand: A numerical modeling study*. IUTAM/AMERIMEH Symposium: Dynamics of Gravity Currents, University of California, Santa Barbara. 25-27 September 2017. Oral Presentation.
- 2017 **Moriarty, J.M.**, M.A.M. Friedrichs, and C.K. Harris. *The Role of Resuspension on Organic Matter, Oxygen, and Nitrogen Dynamics in Coastal Waters: Results from a Coupled Model*. Ocean Carbon Biogeochemistry (OCB) meeting, Woods Hole, Massachusetts. 26-29 June 2017. Oral presentation.
- 2017 **Moriarty, J.M.**, M.A.M. Friedrichs, and C.K. Harris. *Role of Particulate Resuspension and Transport on Oxygen Dynamics in Chesapeake Bay: Preliminary Results from a Coupled Model*. Gordon Research Seminar on Coastal Ocean Dynamics, Biddeford, Maine. 10-11 June 2017. Oral presentation.

- 2017 **Moriarty, J.M.** *Coupling Sediment Transport and Biogeochemical Processes: The Role of Resuspension on Oxygen & Nutrient Dynamics*. Community Surface Dynamics Modeling Systems Annual Meeting, Boulder, Colorado. 23-25 May 2017. Oral presentation.

Conference Abstracts:

- 2022 **Moriarty, J.M.**, C. Jenkins, and B. Undzis⁺⁺. *Quantifying oxygen exposure time due to sediment resuspension in the coastal ocean*. American Geophysical Union (AGU) Annual Meeting, 12–16 December 2022. Poster Presentation.
- 2022 Geller, T.⁺⁺, and **Moriarty, J.M.** *Residence time and estuarine-ocean fluxes in an Arctic estuary: A numerical modeling study of Kaktovik Lagoon*. C-SAW: Time Domain Controls on Carbon Storage, Release, and Transformation in Coastal and Estuarine Waters Following Extreme Events, Ocean Carbon Biogeochemistry (OCB) Workshop, NC State University. 23-26 October 2022. Poster Presentation.
- 2022 Geller, T.⁺⁺, and **Moriarty, J.M.** *Implementing a numerical hydrodynamic model for Beaufort Sea Lagoons*. Community Surface Dynamics Modeling System (CSDMS) Annual Meeting, 17–19 May 2022. Poster Presentation.
- 2022 Undzis, B.⁺⁺, and **Moriarty, J.M.** *Implementing a Hydrodynamic – Sediment Transport Numerical Model for the Beaufort Sea Shelf*. Community Surface Dynamics Modeling System (CSDMS) Annual Meeting, 17–19 May 2022. Poster Presentation.
- 2022 Geller, T.⁺⁺, and **Moriarty, J.M.** *Variability of Residence Time and Estuary-Shelf Fluxes in an Arctic Lagoon: A numerical modeling study*. Ocean Sciences, Virtual Conference. 27 February–4 March 2022. Poster Presentation.
- 2022 **Moriarty, J.M.** *How Does Source Location Impact the Role of Seabed Nutrients on Estuarine Biogeochemistry?: A Numerical Modeling Study*. Ocean Sciences, Virtual Conference. 27 February–4 March 2022. Oral Presentation.
- 2022 Undzis, B.⁺⁺, and **Moriarty, J.M.** *Variability in Hydrodynamics and Sediment Transport due to Waves and Sea Ice Extent: A numerical modeling study of the Beaufort Sea Shelf*. Ocean Sciences, Virtual Conference. 27 February–4 March 2022. Poster Presentation.
- 2020 **Moriarty, J.M.**, N.K. Ganju, T.K. Kalra, and Z. Defne. *Variability in Marsh-Estuarine Sediment Exchanges in Back-Barrier Systems: Barnegat Bay, NJ, USA*. Community Surface Dynamics Modeling System (CSDMS) Summer Science Series (in lieu of 2020 Annual Meeting Presentation), Virtual Webinars. 16 June 2020. Oral Presentation.
- 2020 **Moriarty, J.M.**, N.K. Ganju, T.K. Kalra, and Z. Defne. *Role of Marsh-edge erosion and Submerged Aquatic Vegetation on Estuarine Sediment Fluxes and Light Attenuation*. Ocean Sciences, San Diego, California. 16–21 February 2020. Oral Presentation.
- 2019 **Moriarty, J.M.**, N.K. Ganju, T.K. Kalra, and Z. Defne. *Marsh-edge erosion and estuarine transport affect sediment availability in back-barrier marshes: Barnegat Bay, New Jersey*. Coastal and Estuarine Research Federation Biennial Meeting, Mobile, Alabama. 3-7 November 2019. Oral Presentation.
- 2019 Kalra, T.K., A.L. Aretxabaleta, N.K. Ganju, **J.M. Moriarty**, J. Carr, and J.C. Warner. *Development of vertical marsh growth dynamics in a 3-D Coupled Wave-Flow-Sediment Transport Model (COAWST)*. Coastal and Estuarine Research Federation Biennial Meeting, Mobile, Alabama. 3-7 November 2019. Poster Presentation.
- 2018 Bianucci, L., K. Balaguru, R.W. Smith, L.R. Leung, and **J.M. Moriarty**. *Contribution of hurricane-induced sediment resuspension to coastal oxygen dynamics*. American Geophysical Union Fall Meeting, Washington, D.C. 10-14 December 2018. Oral Presentation.
- 2018 **Moriarty, J.M.**, T.K. Kalra, N.K. Ganju, and Z. Defne. *Redistribution of particulate organic matter following marsh lateral erosion in a back-barrier estuary*. American Geophysical Union Fall Meeting, Washington, D.C. 10-14 December 2018. Electronic Poster Presentation.

- 2018 **Moriarty, J.M.**, T.K. Kalra, N.K. Ganju, and Z. Defne. *Effect of vegetation and hydrodynamics on estuarine-marsh sediment fluxes: Implications for marsh stability*. Physics of Estuaries and Coastal Seas (PECS) Symposium, Galveston, Texas. 15–18 October 2018. Oral Presentation.
- 2018 **Moriarty, J.M.**, T.K. Kalra, N.K. Ganju, and Z. Defne. *Effect of Vegetation and Hydrodynamics on Estuarine-Marsh Sediment Fluxes in Barnegat Bay, New Jersey*. Mid-Atlantic Bight Physical Oceanography & Meteorology (MABPOM) Meeting, Woods Hole, Massachusetts. 11–12 October 2018. Poster Presentation.
- 2018 Kalra, T.S., Warner, J.C., Ganju, N.K., and **J.M. Moriarty**. *Development of a coupled modeling system to simulate ocean-wave-sediment-vegetation response to storms in a back-barrier setting*. Estuarine and Coastal Modeling, Seattle, Washington. 25–27 June 2018. Oral presentation.
- 2018 Bianucci, L., Balaguru, K., Leung, L.R., Smith, R. W., and **J. M. Moriarty**. *Contribution of hurricane-induced sediment resuspension to oxygen dynamics*. American Society of Limnology and Oceanography Summer Meeting, Victoria, British Columbia, Canada, 10–15 June 2018. Oral presentation.
- 2018 **Moriarty, J.M.**, M.A.M. Friedrichs, and C.K. Harris. *Effects of Seabed Resuspension on Primary Productivity and Remineralization in Chesapeake Bay*. Chesapeake Research and Modeling Symposium, 2018, Annapolis, Maryland. 12-14 June 2018. Oral presentation.
- 2018 Kalra, T.S., **Moriarty, J.M.**, N.K. Ganju, and J.C. Warner. *Marsh Erosion Under Wave Action Using a 3-D Coupled Wave-Flow-Sediment Model*. Ocean Sciences, Portland, Oregon. 11–16 February 2018. Poster Presentation.
- 2018 **Moriarty, J.M.**, T.K. Kalra, N.K. Ganju, and Z. Defne. *Wetland-Estuarine Exchanges of Sediment and Particulate Organic Carbon in Barnegat Bay, New Jersey*. Ocean Sciences, Portland, Oregon. 11–16 February 2018. Oral Presentation.
- 2017 **Moriarty, J.M.**, M.A.M. Friedrichs, and C.K. Harris. *Effects of Particulate Resuspension on Oxygen and Nitrogen Dynamics in Chesapeake Bay*. Coastal & Estuarine Research Federation Biennial Meeting, Providence, Rhode Island, 5-9 November 2017. Oral Presentation.
- 2017 **Moriarty, J.M.**, M.A.M. Friedrichs, and C.K. Harris. *The Role of Particulate Resuspension and Transport on Organic Matter, Nutrient, and Oxygen Dynamics in Chesapeake Bay: Preliminary Results from a Coupled Hydrodynamic-Sediment Transport-Biogeochemical Model*. Ocean Carbon Biogeochemistry (OCB) meeting, Woods Hole, Massachusetts. 26-29 June 2017. Poster presentation.
- 2017 **Moriarty, J.M.**, M.A.M. Friedrichs, and C.K. Harris. *Role of Particulate Resuspension and Transport on Chesapeake Bay Oxygen Dynamics*. Gordon Research Conference on Coastal Ocean Dynamics, Biddeford, Maine. 11-16 June 2017. Poster presentation.
- 2017 Rabouille, C., B. Lansard, J. Rassmann, L. Pozzato, M. Taillefert, E. Eytel, A. Abchiche, **J.M. Moriarty**, and C.K. Harris. *Sediment carbon and oxygen cycling and its temporal variations at the continent-ocean interface*. European Geophysical Union (EGU) General Assembly 2017, Vienna, Austria. 23-28 April 2017. Oral Presentation.
- 2016 Harris, C.K., I. Overeem, E. Hutton, **J.M. Moriarty**, and P. Wiberg. *Introducing Students to Ocean Modeling via a Web-Based Implementation for the Regional Ocean Modeling System (ROMS) River Plume Case Study*. American Geophysical Union (AGU) Fall Meeting, 2016, San Francisco, California. 12-16 December 2016. Poster presentation.
- 2016 **Moriarty, J.M.**, C.K. Harris, M.A.M. Friedrichs, K. Fennel, and K. Xu. *The Effect of Resuspension and Deposition on Biogeochemical Cycles in the Northern Gulf of Mexico: Numerical Modeling Results*. American Geophysical Union (AGU) Fall Meeting, 2016, San Francisco, California. 12-16 December 2016. Poster presentation.
- 2016 **Moriarty, J.M.**, C.K. Harris, and M.A.M. Friedrichs. *The Roles of Resuspension and Redistribution on Nutrient Cycling in Coastal Environments: Results from a Coupled Hydrodynamic-Sediment Transport-biogeochemical Numerical Model*. Chesapeake Modeling Symposium, 2016, Williamsbrug, Virginia. 1-2 June 2016. Oral presentation.

- 2016 **Moriarty, J.M.**, C.K. Harris, and M.A.M. Friedrichs. *The Roles of Resuspension and Redistribution on Nutrient Cycling in the Northern Gulf of Mexico: Results from a Coupled Hydrodynamic-Sediment Transport-biogeochemical Numerical Model*. Community Surface Dynamics Modeling Systems Annual Meeting, Boulder, Colorado. 17-19 May 2016. Poster Presentation.
- 2016 **Moriarty, J.M.**, C.K. Harris, C. Rabouille, and M.A.M. Friedrichs. *Resuspension and Biogeochemistry in Coastal Environments: Results from a Coupled Model for Seabed-Water Column Fluxes*. Ocean Sciences, New Orleans, Louisiana, 21-26 February 2016. Oral Presentation.
- 2015 **Moriarty, J.M.**, C.K. Harris, and M.A.M. Friedrichs. *Resuspension and Biogeochemistry: A Coupled Model for Seabed-Water Column Fluxes in Coastal Environments*. Coastal & Estuarine Research Federation Biennial Meeting, Portland, Oregon, 8-12 November 2015. Oral Presentation.
- 2015 **Moriarty, J.M.**, and C.K. Harris. *Resuspension and Sediment Bed Oxygen Consumption: Developing and Testing a Coupled Model*. INTERCOH (International Conference on Cohesive Sediment Transport), Leuvan, Belgium. 6-11 September 2015. Oral Presentation.
- 2015 Rabouille, C., F. Toussaint, C. Cathalot, J. Rassmann, B. Lansard, N. Laborde, **J.M. Moriarty**, and C.K. Harris. *Temporal variability of carbon recycling in deltaic sediments at different time scales: An example from the Rhone River delta*. Goldschmidt 2015, Prague, Czechoslovakia. 16-21 August 2015. Oral Presentation.
- 2015 **Moriarty, J.M.**, and C.K. Harris. *Resuspension and Sediment Oxygen Consumption: Developing and Testing a Coupled Model*. Gordon Conference on Coastal Ocean Modeling, Biddeford, Maine. 7-12 June 2015. Poster Presentation.
- 2015 **Moriarty, J.M.**, and C.K. Harris. *Resuspension and Sediment Bed Oxygen Consumption: Developing and Testing a Coupled Model*. Atlantic Estuarine Research Society (AERS) Spring Meeting, Wanchese, North Carolina. 12-14 March 2015. Poster Presentation.
- 2014 **Moriarty, J.M.**, and C.K. Harris. *Resuspension and Sediment Oxygen Consumption: Developing and Testing a Coupled Model*. Mid-Atlantic Bight Physical Oceanography and Meteorology (MABPOM) Conference, Gloucester Point, Virginia. 30-31 October 2014. Poster Presentation.
- 2014 **Moriarty, J.M.**, C.K. Harris, C. Rabouille, and F. Toussaint. *Resuspension and Sediment Oxygen Consumption: Developing and Testing a Coupled Model*. Chesapeake Modeling Symposium, 2014, Annapolis, Maryland. 28-29 May 2014. Oral Presentation.
- 2014 **Moriarty, J.M.**, C.K. Harris, C.T. Friedrichs and M.G. Hadfield. *Buoyant and gravity-driven transport on the Waipaoa Shelf, New Zealand*. Community Surface Dynamics Modeling Systems Annual Meeting. Boulder, Colorado. 20-22 May 2014. Poster Presentation.
- 2014 Harris, C.K., **J. M. Moriarty**, K. Fennel, and R. Hetland. *Modeling resuspension and sediment oxygen demand*. Ocean Sciences, Honolulu, Hawaii. 23-28 February 2014. Oral Presentation.
- 2014 **Moriarty, J.M.**, S.-J. Kao, T.-Y. Lee, and C.K. Harris. *Variations in riverine fluxes of suspended matter during typhoons: the Zhuoshuei River, Taiwan*. Ocean Sciences, Honolulu, Hawaii. 23-28 February 2014. Poster Presentation.
- 2013 Kuehl, S.A., C.R. Alexander, D.R. Corbett, C.K. Harris, L. Leithold, **J.M. Moriarty**, A.S. Ogston, A.R. Orpin, J.P. Walsh. *Humans, Tectonics and Climate, Changing S2S Systems over Time: Waipaoa River Margin Example*. AGU Fall Meeting, San Francisco, California. 9-13 December 2013. Poster Presentation.
- 2013 **Moriarty, J.M.**, C.K. Harris, C.T. Friedrichs and M.G. Hadfield. *Gravity-driven transport on the Waipaoa River Continental Shelf, New Zealand*. Coastal & Estuarine Research Federation Biennial Meeting. San Diego, California. 3-8 November 2013. Oral Presentation.
- 2013 **Moriarty, J.M.**, C.K. Harris, and M.G. Hadfield. *A hydrodynamic and sediment transport model for the Waipaoa Shelf, New Zealand: Sensitivity of fluxes to spatially-varying erodibility and model nesting*. Estuarine & Coastal Modelling Biennial conference. San Diego, California. 4-6 November 2013. Oral Presentation.

- 2012 Walsh, J.P., D.R. Corbett, R. Hale, C.K. Harris, J. Kiker, **J.M. Moriarty**, C. Nittrouer, A. Ogston, A. Orpin, D. Young. *Emplacement, character, and preservation of shelf event strata: Insights from river dispersal systems*. Geological Society of America (GSA) Annual Meeting, Charlotte, NC. 4–7 November 2012. Oral Presentation.
- 2012 **Moriarty, J.M.**, C.K. Harris, and C.T. Friedrichs. *Gravity-driven transport on the Waipaoa River Continental Shelf, New Zealand*. Physics of Estuaries and Coastal Seas (PECS) Symposium, New York City, New York. 12–6 August 2012. Oral Presentation.
- 2012 Corbett, D.R., J.P. Walsh, A. Orpin, A. Ogston, J. Kiker, R. Hale, **J.M. Moriarty**, C.K. Harris. *An investigation of spatial and temporal variability of surface seabed properties and erodibility on the Waipaoa River margin, New Zealand*. Ocean Sciences, Salt Lake City, Utah. 20–24 February 2012. Oral Presentation.
- 2012 **Moriarty, J.M.**, C.K. Harris. *Reworking of Flood Deposits on the Waipaoa River Continental Shelf, New Zealand*. Ocean Sciences, Salt Lake City, Utah. 20–24 February 2012. Poster Presentation.
- 2012 Orpin, A.R., J.P. Walsh, D.R. Corbett, A. Ogston, R. Hale, J. Kiker, **J.M. Moriarty**, C.K. Harris. *Floods, ocean storms and stratigraphic variability over a year-long experiment on the muddy and energetic Waipaoa River margin*. Ocean Sciences, Salt Lake City, Utah. 20–24 February 2012. Oral Presentation.
- 2011 Orpin, A.R., J.P. Walsh, D.R. Corbett, A. Ogston, R. Hale, J. Kiker, **J.M. Moriarty**, C.K. Harris. *Floods, ocean storms and stratigraphic variability over a year-long experiment on the muddy and energetic Waipaoa River margin*. Geosciences 2011 Conference, Nelson, New Zealand. 27 November–1 December 2011.
- 2011 **Moriarty, J.M.**, C.K. Harris. *Model Nesting: Open Boundary Conditions for a Hydrodynamic-Wave-Sediment Transport Coastal Ocean Model*. MODSIM (Modeling and Simulation) World Conference & Expo, Virginia Beach, Virginia. 11– 4 October 2011. Poster Presentation.
- 2011 **Moriarty, J.M.**, C.K. Harris. *Wave- and current- induced bed stress on the Waipaoa Shelf, New Zealand: Variations in Time and Space*. AGU Chapman Conference on source to Sink Systems Around the World and Through Time, Oxnard, California. 24– 27 January 2011. Poster Presentation.
- 2010 Hastings, R.H., M.A. Goñi, R.A. Wheatcroft, T.A. Kniskern, **J.M. Moriarty**. *Particulate organic carbon distribution in ocean margin sediments adjacent to the Umpqua River*. Ocean Sciences, Portland, Oregon. 22–26 February 2010. Poster Presentation.
- 2010 **Moriarty, J.M.**, T.A. Kniskern, C.K. Harris, and J. Warrick. *Inter-annual Variation in Sediment Transport and Deposition During Winter and Spring Flood Events: Umpqua River, Oregon*. Ocean Sciences, Portland, Oregon. 22–26 February 2010. Poster Presentation.
- 2009 Kniskern, T.A., J. Warrick, **J.M. Moriarty**, K. Farnsworth, C.K. Harris. *Effects of Seasonal River-Ocean Coherence on Sediment Transport, Deposition and Reworking along the U.S. West Coast*. Coastal and Estuarine Research Federation, Portland, Oregon. 1–5 November 2009.
- 2008 **Moriarty, J.M.**, T. Kniskern, and C.K. Harris. *Effect of Seasonal Variation on Sediment Transport and Deposition on a Collision Margin: The Umpqua River*. AGU Fall Meeting, San Francisco, California. 15–19 December 2008. Poster Presentation.

Invited Departmental and Community Presentations:

- 2022 **Moriarty, J.M.** Virginia Institute of Marine Science, Virtual Seminar. Declined.
- 2022 **Moriarty, J.M.** *Resuspension in Chesapeake Bay: Implications for Biogeochemistry*. Chesapeake Bay Program, Virtual Seminar. 11 July.
- 2022 **Moriarty, J.M.** *Coupled Hydrodynamic-Sediment Transport-Biogeochemistry Modeling: Examples from the Coastal Ocean*. Earth Surface Processes Institute (ESPIIn), University of Colorado Boulder. 13 May.
- 2021 **Moriarty, J.M.** *Coupled Hydrodynamic-Sediment Transport Modeling: Examples from the Coastal Ocean*. Earth Surface Processes Institute (ESPIIn), Virtual Summer School. 15 June.

- 2021 **Moriarty, J.M.** *Sediment Transport – Biogeochemical Coupling, and “Biology” Modules in COAWST*. COAWST [Coupled Ocean-Atmosphere-Wave-Sediment Transport] Modeling Workshop 2021, U.S. Geological Survey, Virtual Workshop. 27 May.
- 2021 **Moriarty, J.M.** *The Role of Sediment and Particulate Organic Matter Transport on Oxygen Dynamics and Marsh Trajectory*. Department of Marine Science, University of Southern Mississippi, Virtual Seminar Series. 19 February.
- 2021 **Moriarty, J.M.** *The Role of Sediment and Particulate Organic Matter Transport on Marsh Trajectory and Hypoxia*. Soft Rock Seminar, Jackson School of Geosciences, University of Texas Austin, Virtual Seminar. 8 February.
- 2019 **Moriarty, J.M.** *Implementing the Biogeochemistry Modules in COAWST*. COAWST [Coupled Ocean-Atmosphere-Wave-Sediment Transport] Modeling Workshop 2019, North Carolina State University
- 2018 **Moriarty, J.M.** *Sediment Transport in Estuarine and Continental Shelf Systems: Effects on Oxygen and Nitrogen Dynamics*. Department of Marine Sciences, University of Connecticut. 9 November.
- 2018 **Moriarty, J.M.** *Sediment Transport in Coastal Systems: Implications for Water Quality and Carbon Cycling*. Skidaway Institute of Oceanography, Department of Marine Sciences, University of Georgia. 5 November.
- 2018 **Moriarty, J.M.** *Sediment Transport in Coastal Systems: Implications for Hypoxia and Carbon Cycling*. Center for Coastal Physical Oceanography and ODU Resilience Collaborative Seminar Series, Old Dominion University. 17 September.

Departmental and Community Presentations:

- 2022 Tucker, G., Hutton, E.W.H., Kettner, A., Moriarty, J.M., Overeen, I., Piper, M., Gan, T., Campforts, B., Peckham, S.D., Stoica, M., McCready, L., Gasparini, N., Pfeiffer, A., Istanbuluoglu, E., Gochis, D., Cabell, R. *OpenEarthscope: A Community Platform for Computational Modeling of Earth-surface Processes*. 2022 NSF Cyberinfrastructure for Sustained Scientific Innovation Principal Investigator Meeting. July 2022.
- 2021 Geller, T. ⁺⁺, and **Moriarty, J.M.** *Implementation of a Hydrodynamic Model for an Arctic Lagoon*. Earth System and Space Science Poster Conference, Boulder, CO. 3 December.
- 2021 Undzis, B. ⁺⁺, and **Moriarty, J.M.** *Sediment Dynamics on the Beaufort Sea Shelf: Implementation of a Coupled Numerical Model*. Earth System and Space Science Poster Conference, Boulder, CO. 3 December.
- 2021 Martinez, I. ⁺, DeRepentigny, P. **Moriarty, J. M.**, Jahn, A., Zanowski, H. *The North Water Polynya: Change Over Time*. Joint Boulder Summer Internship Poster Session, Boulder, CO. 29 July.
- 2020 **Moriarty, J.M.** *Coastal Ocean Modeling: Sediment and Nutrient Transport*. Data Blitz, Institute for Arctic and Alpine Research (INSTAAR), CU Boulder, Boulder, CO. 15 January.
- 2019 **Moriarty, J.M.** *Spatial Variability in Marsh-Estuarine Sediment Exchanges in a Back-Barrier Estuary*. Woods Hole Coastal and Marine Science Center Meeting, United States Geological Service, Woods Hole, MA. 3 September.
- 2019 **Moriarty, J.M.** *Role of Estuarine Hydrodynamics & Sediment Transport on Marsh-Estuarine Sediment Fluxes*. Coastal Ocean Fluid Dynamics Laboratory, Woods Hole Oceanographic Institution. 23 August.
- 2019 **Moriarty, J.M.** *Marsh-edge Erosion and Estuarine Transport Affect Sediment Availability in Back-Barrier Marshes*. Pacific Coastal and Marine Science Center, United States Geological Service, Santa Cruz, CA. 21 August.
- 2017 **Moriarty, J.M.** *The Role of Resuspension on Oxygen Dynamics*. Coastal Ocean Fluid Dynamics Laboratory, Woods Hole Oceanographic Institution. 17 November.

- 2017 **Moriarty, J.M.**. *The Role of Resuspension on Coastal Ocean Oxygen Levels: Results from a Coupled Numerical Model*. Woods Hole Science Center Meeting, United States Geological Service. 3 October.
- 2016 **Moriarty, J.M.**, C.K. Harris, M.A.M. Friedrichs, K. Fennel, K. Xu. *The Effect of Resuspension and Deposition on Seabed-Water Column Fluxes: Numerical Modeling Results from the Northern Gulf of Mexico*. Department of Physical Sciences, Virginia Institute of Marine Science. 1 December.
- 2015 **Moriarty, J.M.**, and C.K. Harris. *Seabed Resuspension and Biogeochemistry: A Coupled Model for Seabed-Water Column Fluxes in Coastal Environments*. 75th Anniversary Alumni Research Symposium, Virginia Institute of Marine Science. 8-9 October.
- 2015 **Moriarty, J.M.**, and C.K. Harris. *Resuspension and Sediment Oxygen Consumption: A Coupled Model for the Rhone River Delta*. Department of Physical Sciences, Virginia Institute of Marine Science. 3 September.
- 2014 **Moriarty, J.M.**, S.-J. Kao, T.-Y. Lee and C.K. Harris. *Variations in Riverine Fluxes of Suspended Matter During Typhoons: the Jhuoshuei River, Taiwan*. Department of Physical Sciences, Virginia Institute of Marine Science. 13 March.
- 2013 **Moriarty, J.M.**, C.K. Harris, C.T. Friedrichs and M.G. Hadfield. *Sensitivity of sediment fluxes to seabed erodibility, model nesting, and gravity-induced transport: A modeling study of the Waipaoa Shelf, New Zealand*. Department of Physical Sciences, Virginia Institute of Marine Science. 31 October.
- 2013 **Moriarty, J.M.**, C.K. Harris, C.T. Friedrichs and M.G. Hadfield. *Gravity-driven transport on the Waipaoa River continental shelf, New Zealand*. Institute of Oceanography, National Taiwan University. 8 August.

Teaching & Advising

Classroom Teaching (at University of Colorado Boulder, and in-person, unless indicated):

- | | |
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| 2023 | Our Changing Environment, ATOC 1060 (3 credits) |
| 2022 | Introduction to Physical Oceanography, ATOC 5051 (3 credits) |
| 2022 | Seminar in Coastal Oceanography, ATOC 6020-812 (1 credit) |
| 2022 | Our Changing Environment, ATOC 1060 (3 credits, in-person except first two weeks) |
| 2021 | Introduction to Physical Oceanography, ATOC 5051 (3 credits) |
| 2021 | Numerical Methods and Modeling Laboratory, ATOC 4850/5850 (3 credits, online synchronous class) |
| 2020 | Numerical Methods and Modeling Laboratory, ATOC 4500/7500 (3 credits, in-person format, transitioned to online synchronous class at the beginning of the pandemic) |
| 2016 | Sediment Transport Modeling, MSC1 398 (1 credit), College of William & Mary |

Workshop Teaching:

- | | |
|------|---|
| 2016 | Introduction to Classroom Activities on Regional Ocean Modeling, Community Surface Dynamics Modeling System (CSDMS) 2016 Meeting, University of Colorado (Co-leader) |
| 2014 | Regional Ocean Modeling System (ROMS) For the Non-Specialist (ROMS-LITE), Community Surface Dynamics Modeling System (CSDMS) 2014 Meeting, University of Colorado (Co-leader) |

Online Educational Materials:

- | | |
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| 2016 | Community Surface Dynamics Modeling System (CSDMS) Online Lab Portal, University of Colorado (Co-developer) <ul style="list-style-type: none"> • ROMS-Lite Modeling: Learning About Grids • ROMS-Lite Modeling: Settling Rates and Shear Stress • ROMS-Lite Modeling: Wave Forcing |
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- ROMS-Lite Modeling: River Forcing

Student Advising (at University of Colorado Boulder, unless indicated):

Graduate Students:

- 2021-present **Advisor** for Brianna Undzis, Ph.D. Student, Dept. of Atmospheric and Oceanic Sciences. *ATOC 2021-2022 Service Award*
- 2020-present **Advisor** for Christina (Tina) Geller, Ph.D. Student, Dept. of Atmospheric and Oceanic Sciences. *2020-2021 Devaney Fellowship Recipient, CU Boulder; ATOC 2020-2021 Service Award; 2021 Best Poster Award for Polar Oceanography Section, ESSS Conference; 2022 Spring ATOC Teaching Assistant Award; 2022 INSTAAR DEI Scholar*

Undergraduate Students:

- 2021-2022 **Advisor** for Kaosidi (Ossy) Obioha, B.S. Student, Dept. of Chemical and Biological Engineering, CU Uplift Program.
- 2021 **Advisor** for Liam Duncan, B.S. Student, Depts. of Physics (major) and Atmospheric and Oceanic Sciences (minor), Undergraduate Research Opportunity Program (UROP).
- 2021 **Advisor** for Ivonne Martinez, B.S. Mathematics, University of Texas Austin, ATOC REU program. Co-advisor: Alexandra Jahn.
- 2020 **Advisor** for David Imola, B.S. Student, Department of Electrical, Computer and Energy Engineering, Undergraduate Research Opportunity Program (UROP).
- 2014 **Co-Advisor** for Jessica Sydnor, Governor's [High] School program, Virginia Institute of Marine Science
- 2011 **Co-Advisor** for Daniel O'Hara, NSF's Research Experience for Undergraduates program, Virginia Institute of Marine Science

Student Committee Service:

Graduate Students:

- 2022-present **Committee Member**, William Kamp, PhD Dissertation committee, Department of Atmospheric and Oceanic Sciences, University of Colorado Boulder. Advisor: Weiqing Han.
- 2022-present **Committee Member**, Holly Olivarez, PhD Dissertation committee, Department of Environmental Sciences, University of Colorado Boulder. Advisor: Nicole Lovenduski
- 2019-2022 **Committee Member**, Geneviève Elsworth, PhD Dissertation committee, Department of Geology, University of Colorado Boulder. Advisors: Nicole Lovenduski, Tom Marchitto

Undergraduate Students:

- 2021 **External Reader**, Madeleine Horan, B.S. Honors Thesis, Department of Ecology and Evolutionary Biology, University of Colorado Boulder. Advisor: Jingchun Li
- 2020 **External Reader**, Drew Brown, B.S. Honors Thesis, Department of Geology, University of Colorado Boulder. Advisor: Elizabeth Trower

Enhancing Undergraduate & Graduate Student Professional Development:

- 2022 **Speaker**, "Growing Up in Science" seminar series, NSF's Research Experience for Undergraduates program, Dept. of Atmospheric and Oceanic Sciences, University of Colorado Boulder
- 2020 **Speaker**, Atmospheric and Oceanic Sciences Department Forum, University of Colorado Boulder
- 2020 **Mentor**, CV/Communication workshop, Dept. of Atmospheric and Oceanic Sciences, University of Colorado Boulder
- 2018 **Visiting Scientist and Seminar Speaker**, City College of New York (CCNY)–U.S. Geological Survey Outreach Program, CCNY

- 2018 **Seminar Speaker**, Summer Lecture Series, Summer [Undergraduate] Student Fellowship Program, Woods Hole Oceanographic Institution.
- 2016 **Panelist**, Graduate Student Panel, Undergraduate Marine Science Society, College of William & Mary
- 2009 **Panelist**, Women in Physics, University of Chicago, IL

K-12 Education:

- 2020 **Correspondent/Subject Matter Expert**, AP Environmental Science Student's Final Project, Mead High School Freshman, Colorado
- 2019 **Science Fair Judge**, Mashpee Middle and High School, MA
- 2014-2017 **Activity Leader**, TechSavvy career program for middle school girls, American Association of University Women
- 2010, '12-' 17 **Competition Official (Science Judge and other roles)**, Blue Crab Bowl Competition for High School Students, National Ocean Sciences Bowl
- 2009 **Correspondent**, Science and Technology Outreach and Mentoring Program, University of Chicago, IL

Community Education:

- 2019 **Outreach Educator**, U.S. Geological Survey, Woods Hole Science Stroll
- 2014-2017 **Exhibit Leader and other roles**, Marine Science Day Open House, Virginia Institute of Marine Science
- 2016-'17 **Math and English Tutor**, Literacy for Life program for adults, Williamsburg, VA
- 2010–2011 **Outreach Educator**, Careers in Marine Science Program, Virginia Sea Grant
- 2010 **Reviewer**, Bastian, Scott F. (2011). "Oceanography", In: *Virginia Beach Naturally: A Guide to Enjoying the Wildlife of Virginia Beach, Virginia*. Dexter, Michigan: Thomson-Shore, Inc.

Professional Service

Service at Professional Organizations:

- 2020 – present **Co-Chair**, Marine Working Group, Community Surface Dynamics Modeling System (CSDMS)
- 2018 – present **Reviewer**, Student Posters at conferences, e.g. AGU 2018, CERF 2019, OSM 2022
- 2020 **Mentor**, Mentoring365, AGU Ocean Sciences Meeting
- 2019-2020 **External Reviewer**, Consultant for U.S. Environmental Protection Agency, Eastern Research Group, Inc.
- 2018, 2019 **Coordinator**, Outstanding Student Presentation Award, Ocean Sciences Section, American Geophysical Union (AGU)
- 2018 **Panel Convener**, Student and Early Career Scientist Conference Planning Committee, American Geophysical Union (AGU)
- 2018 **Invited Participant**, Workshop on Lateral Carbon Flux in Tidal Wetlands: Filling a Key Knowledge Gap Through a Methods Intercomparison and Data Synthesis, Ocean Carbon and Biogeochemistry
- 2018 **Invited Participant**, Modeling Beyond 2025, Chesapeake Bay Program (CBP)'s Science and Technology Advisory Committee (STAC)
- 2017 **Session Chair**, Ocean, Carbon and Biogeochemistry annual meeting

Service at University of Colorado Boulder:

- 2023-present **Member**, Search Committee, Atmospheric and Oceanic Sciences Department
- 2022-present **Co-Founder**, Coastal Colorado.
- 2022-present **Retention Lead**, JEDI Committee, Institute of Arctic and Alpine Research
- 2021-present **Member**, Admissions Committee, Atmospheric and Oceanic Sciences Department

- 2021-present **Chair**, Fest and Distinguished Seminar Committee, Atmospheric and Oceanic Sciences Department
- 2020-present **Member**, Technology Committee, Atmospheric and Oceanic Sciences Department
- 2021-2022 **Member**, Executive Committee, Institute of Arctic and Alpine Research
- 2022 **Co-Leader**, Led in-person social activities for Ocean Sciences Meeting attendees from the Boulder, CO region
- 2021 **Poster Evaluator**, Earth System and Space Science Poster Conference, Atmospheric and Oceanic Sciences Department
- 2021 **Poster Evaluator**, Boulder Summer Student Research Virtual Poster Symposium
- 2021 **Reviewer**, REU Admissions, Atmospheric and Oceanic Sciences Department
- 2021 **Reviewer**, UROP Review Board
- 2021 **Reviewer**, Research & Innovation Seed Grants
- 2021 **Member**, ARPAC Committee, Institute of Arctic and Alpine Research
- 2021 **Member**, Search Committee, Institute of Arctic and Alpine Research
- 2020-2021 **Member**, Fest and Distinguished Seminar Committee, Atmospheric and Oceanic Sciences Department
- 2020-2021 **Co-Chair**, Seminar Committee, Institute of Arctic and Alpine Research

Service at U.S. Geological Survey:

- 2017-2019 **Internal Reviewer**, 4 manuscripts, 14 conference abstracts, 3 datasets
- 2019 **Panelist**, Job Application Workshop, Woods Hole Oceanographic Institution Postdoctoral Association
- 2018 **Panelist**, Response to Integrated Modeling Presentation, Community for Data Integration

Service at Virginia Institute of Marine Science:

- 2015–2017 **Peer Advisor**, Graduate Ombudsmen Program
- 2015–2017 **Student Representative**, Academic Council
- 2014–2016 **Founder & Member**, Writing Group for Graduate Students
- 2009–2016 **Student Representative**, Educational Policy Committee
- 2012–2013 **Student Representative**, Physical Sci. Department Faculty Meetings
- 2011–2012 **Student Representative**, Marine Geology Search Committee
- 2010–2012 **Student Representative**, Awards Committee

Journal Article and Proposal Reviews:

- 2023 National Science Foundation (1 panel)
- 2023 Geophysical Research Letters (1 manuscript), Journal of Geophysical Research: Oceans (1 manuscript)
- 2022 National Science Foundation (2 panels; 1 additional proposal)
- 2022 Journal of Geophysical Research: Oceans (1 manuscript), Journal of Geophysical Research: Earth Surface Processes (1 manuscript), Estuarine, Coastal and Shelf Science (1 manuscript)
- 2021 National Science Foundation (2 proposals)
- 2020 Journal of Geophysical Research: Oceans (4 manuscripts), Estuaries and Coasts (2 manuscripts), Geoscientific Model Development (1 manuscript)
- 2020 National Science Foundation (1 proposal)
- 2019 National Science Foundation (2 proposals)
- 2019 Journal of Geophysical Research: Oceans (2 manuscript), Ocean Modeling (1 manuscript), Continental Shelf Research (1 manuscript), Estuaries and Coasts (3 manuscripts), Marine Ecology Progress Series (1 manuscript)
- 2018 National Science Foundation (1 proposal)

- 2018 Journal of Geophysical Research: Oceans (1 manuscript), Journal of Geophysical Research: Biogeosciences (1 manuscript)
- 2017 Journal of Marine Systems (1 manuscript), Ocean Modeling (1 manuscript), Journal of Sea Research (1 manuscript)
- 2016 Continental Shelf Research (1 manuscript), Journal of Marine Systems (1 manuscript), Journal of Sea Research (2 manuscripts), Journal of Geophysical Research: Oceans (1 manuscript), Estuarine, Coastal and Shelf Science (1 manuscript)
- 2015 Journal of Geophysical Research: Oceans (1 manuscript)
- 2014 Ocean Dynamics (1 manuscript)
- 2013 Ocean Dynamics (1 manuscript)

Professional Memberships:

- 2009-present American Geophysical Union (AGU)
- 2010-present Community Surface Dynamics Modeling System (CSDMS)
- 2010-present Earth Science Women's Network (ESWN)
- 2013-present Coastal and Estuarine Research Federation (CERF)
- 2016-present Mentoring Physical Oceanography Women to Increase Retention (MPOWIR)

News and Online Media

- 2022 "INSTAAR DEI Summer Scholars share research plans", INSTAAR, CU Boulder. <<https://www.colorado.edu/instaar/2022/05/20/instaar-dei-summer-scholars-share-research-plans>>.
- 2021 "Muddy waters lead to decreased oxygen in Chesapeake Bay", Geobites. <<https://geobites.org/muddy-waters-lead-to-decreased-oxygen-in-chesapeake-bay/>>.
- 2020 "Meet Julia Moriarty", INSTAAR, CU Boulder. <<https://instaar.colorado.edu/news-events/instaar-news/meet-julia-moriarty/>>.
- 2019 "Featured Modeler: Julia Moriarty", Community Chesapeake Modeling Program Newsletter. <<https://mailchi.mp/9396e27b5941/results-from-the-tech-transfer-workshop-new-use-of-the-coawst-model-and-more>>.
- 2019 "Featured Model: Simulating Processes in Vegetated Estuaries using COAWST", Community Chesapeake Modeling Program.
- 2013 "VIMS Graduate Students Pursue Summer Research in East Asia". Virginia Institute of Marine Science Website. <<https://www.vims.edu/newsandevents/topstories/archives/2013/eapsi.php>>.