

Daniel J. Coleman, Ph.D.

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Personal Profile

Driven and enthusiastic environmental scientist with expertise in quantitative, interdisciplinary, coastal research. Passionately working towards building diverse, inclusive learning environments and incorporating science into activism and policymaking. Strong written and oral communication skills

Education

VIRGINIA INSTITUTE of MARINE SCIENCE, Gloucester Point, VA		May/2020
Doctor of Philosophy in Marine Science	GPA 3.90	
TULANE UNIVERSITY, New Orleans, LA		May/2015
Bachelor of Science Geology	GPA 3.98	
Bachelor of Science Environmental Biology		

Publications

- Coleman, D.J.**, Cassalho, F., Miesse, T.W., Ferreira, C.M., (2023). The role of invasive *Phragmites australis* in wave attenuation in the Eastern United States. *Estuaries and Coasts*
- Coleman, D.J.**, Schuerch, M., Temmerman, S., Guntenspergen, G., Smith, C.G., Kirwan, M.L. (2022). Reconciling models and measurements of marsh vulnerability to sea level rise. *Limnology and Oceanography Letters*, doi: 10.1002/lol2.10230
- Cassalho, F., de S. de Lima, A., Miesse, T.W., Khalid, A., **Coleman, D.J.**, Ferreira, C.M. (2022) ArcWaT: a model-based cell-by-cell GIS toolbox for estimating wave transformation during storm surge events, Geocarto International, DOI: 10.1080/10106049.2022.2037731
- Langston, A. K., **Coleman, D. J.**, Jung, N. W., Shawler, J. L., Smith, A. J., Williams, B. L., ... & Kirwan, M. L. (2021). The Effect of Marsh Age on Ecosystem Function in a Rapidly Transgressing Marsh. *Ecosystems*, doi: 10.1007/s10021-021-00652-6
- Coleman, D.J.**, Rogers, K., Corbett, D.R., Owers, C.J., Kirwan, M.L. (2021). The geomorphic impact of mangroves on inland salt marsh. *Estuar Coast Shelf S* doi: 10.1016/j.ecss.2021.107238
- Duran Vinent, O., Herbert, E.R., **Coleman, D.J.**, Himmelstein, J.D., Kirwan, M.L. (2021). Onset of runway fragmentation of salt marshes. *One Earth* doi: 10.1016/j.oneear.2021.02.013
- Coleman, D.J.**, Ganju, N.K., Kirwan, M.L. (2020). Sediment delivery to marsh platforms minimized by source decoupling and flux convergence. *J Geophys Res-Earth* doi: 10.1029/2020JF005558
- Coleman, D.J.**, Kirwan, M.L. (2018). The effect of a small vegetation dieback event on salt marsh sediment transport. *Earth Surf Proc Land* doi: 10.1002/esp.4547
- Coleman, D.J.**, Kolker A.S., Johannesson K.H. (2017). Submarine groundwater discharge and alkaline earth element dynamics in a deltaic coastal setting. *J Hydrologic Res* doi: 10.2166/nh.2016.285

Formal Presentations

- Coleman, D.J.**, Miesse, T.W., Cassalho, F., Ferreira, C., Carloza, N., Campbell, E.T., Golden, R.R., Specht, J.A. (2020). Quantifying the benefits of natural and nature-based features in Maryland's Chesapeake and Atlantic coastal bays to inform conservation and management under future sea level rise scenarios. Virtual Poster at: American Geophysical Union
- Specht, J.A. and **Coleman, D.J.** (2020). Quantifying the benefits of natural and nature-based features in Maryland's Chesapeake and Atlantic Coastal Bays. Co-Presentation at: Maryland Association of Floodplain & Stormwater Managers
- Coleman, D.J.**, Rogers, K., Corbett, D.R., Owers, C.J., Kirwan, M.L. (2019). The geomorphic impact of mangroves on inland salt marsh. Oral presentation at: Coastal and Estuarine Research Federation
- Coleman, D.J.**, Ganju, N.K., Kirwan, M.L. (2018). Decoupling between marsh and tidal channel sediment supply under seasonal variations in plant biomass. Oral presentation at: American Geophysical Union
- Coleman, D.J.**, Ganju, N.K., Guntenspergen, G.R., Kirwan, M.L. (2017). Decoupling of channel and marsh sediment availability: Implication for marsh response to sea level rise. Oral presentation at: Coastal and Estuarine Research Federation
- Coleman, D.J.**, Kirwan, M.L., Ganju, N.K., Guntenspergen, G. (2016). Effect of vegetation on sediment transport across salt marshes. Poster presented at: American Geophysical Union

Select Grants and Awards

- University of Georgia, Athens, GA April/2022-Present
- Co-PI on successful U.S. Coastal Research Program proposal entitled Harnessing marsh spatial heterogeneity and hydroperiod for multiple benefits through community engagement
- Virginia Institute of Marine Science, Gloucester Point, VA August/2015-May/2020
- Secured >\$100,000 in external funding, including NSF Graduate Research Fellowship and NSF Graduate Research Opportunities Worldwide.

Research Experience

Professional

- University of Georgia, Athens, GA April/2022-Present
- Postdoctoral Research Associate: Member of the College of Engineering and the Network for Engineering with Nature, a partnership between UGA and the U.S. Army Corp of Engineers. Leading the Holistic Monitoring project. Responsibilities include: promoting collaboration; mentoring graduate students; coordinating research efforts developing and implementing research plans.
 - Lead research project at U.S. Army base aimed at assessing environmental consequences of tidal mitigation project and the subsequent impact on critical transportation infrastructure.
- George Mason University, Fairfax, VA June/2020-April/2022
- Postdoctoral Research Fellow: Member of the Civil, Environmental, and Infrastructural Engineering Department, collaborated with The Nature Conservancy and Maryland Department of Natural Resources to quantify the wave and storm surge reduction benefits of coastal green infrastructure currently and under predicted sea level rise. Led the field work component, including personnel management; logistics; site design; data collection, processing, and analysis.

Graduate

Virginia Institute of Marine Science, Gloucester Point, VA

August/2016-May/2020

- Dissertation Chapter 1: Quantified the geomorphic impact of a small vegetation dieback on a US East Coast salt marsh, highlighting the importance of wetland vegetation in maintaining elevation with respect to sea level.
- Dissertation Chapter 2: Investigated spatiotemporal patterns of suspended sediment concentrations across a marsh complex with state-of-the-art measurements. Documented a counterintuitive sediment transport phenomenon that implies greater marsh vulnerability than predicted by conventional practices.
- Dissertation Chapter 3: Wrote an NSF grant to fund research in Australia in collaboration with University of Wollongong. Tested, and ultimately refuted, the hypothesis that sediment transport dynamics enhanced mangrove encroachment into salt marsh habitat.
- Dissertation Chapter 4: Measured suspended sediment concentration and vertical accretion to establish a relationship between these variables in coastal marshes. Augmented this data with an extensive literature review and reconciled the different conclusions on marsh vulnerability reached by numerical modeling and field-based studies.

Teaching and Mentoring Experience

- Instructor of Record: Designed and taught a course for College of William and Mary Undergraduate students as part of the Marine Science Teaching Fellowship. Employed active learning techniques and facilitated discussions to explore the ecological and geologic controls on coastal wetland morphology. Received a 4.8 out of 5 for overall satisfaction in end-of-term student evaluations.
- Graduate Student Mentor: Offered guidance to George Mason University and University of Georgia graduate students in areas of study design, field methodologies, manuscript preparation, and science communication.
- Undergraduate Assistant Mentor: Coordinated and supervised numerous Thomas Nelson Community College and College of William and Mary undergraduate assistants. Guided exceptional undergraduate students through the development and implementation of individual research projects.
- Research Experience for Undergraduate Supervisor: Acted as the primary, day-to-day supervisor of an undergraduate intern participating in the NSF REU program. Mentoring focused on project development, data analysis, and presentation.

Outreach and Community Service

Professional

Peer Reviewer for Grant Proposals and Academic Journals

- PLOS ONE; Estuarine, Coastal and Shelf Science; NSF Geomorphology and Land-use Dynamics; Regional Studies in Marine Science

Graduate

College of William and Mary, Williamsburg, VA

August/2018-May/2019

- Representative for the School of Marine Science: Represented the interests and concerns of the VIMS student body to the college-wide Graduate Council. Hosted social and professional development events for all graduate students, with a focus on cross-school connections.

Virginia Institute of Marine Science, Gloucester Point, VA

June/2016-June/2018

- VIMS Graduate Student Association Treasurer: As executive board member, planned and organized social, professional, and outreach events; oversaw student committees; worked to build sense of community for the student body. As the Treasurer, balanced the yearly budget; maintained an off-campus checking account, two campus accounts, and petty cash; completed vendor reimbursements