

**Curriculum Vitae**  
**John A. Madsen, Associate Professor**  
**Department of Earth Sciences, College of Earth, Ocean and Environment,**  
**University of Delaware, [jmadsen@udel.edu](mailto:jmadsen@udel.edu), 302-831-1608**

**Education:**

Ph.D., Oceanography, University of Rhode Island, Graduate School of Oceanography, 1988  
B.S. with distinction, Geology, Iowa State University, 1981

**Experience:**

Chairperson, Department of Earth Sciences, 2022-2024  
Interim Chairperson, Department of Earth Sciences, 2019-2022  
Associate Professor of Geology (with tenure), University of Delaware, 1994-Present  
Associate Director for Education Programs, Center for Research in Wind (CReW),  
University of Delaware 2013-Present  
Adjunct Scientist, Woods Hole Oceanographic Institution, 1999-2001  
Summer Guest Investigator, Woods Hole Oceanographic Institution, 1996 –1998  
Senior Lecturer (Temporary), Department of Geology, University of Papua New Guinea, 1992  
Assistant Professor of Geology, University of Delaware, 1988–1994

**Research Interests:**

Areas of Focus: High-Resolution Geophysical Acoustic Applications to Fisheries; Geological Aspects of Offshore Wind Projects

**Current Funded Research**

Principal Investigator – Refining Side Scan Sonar as a Tool to Support Management of Asian Carp - 10/1/24–09/30/25 - \$25,000 – Funding Agency: USGS  
Principal Investigator – Project INFO: Informing wise management of an endangered species through the evaluation of critical population dynamics of Atlantic Sturgeon in the New York Distinct Population Segment – 07/01/22–06/30/26 – \$769,867 - Funding Agency: DNREC from NOAA/NMFS Section 6  
Principal Investigator – Molecular assessment of a stressed Atlantic sturgeon nursery habitat: The Nanticoke River-Marshyhope Creek, Chesapeake Bay - 07/01/22–05/31/26 – \$298,083.00 - Funding Agency: University of Maryland from NOAA/NMFS Section 6  
Principal Investigator – Using a multifaceted approach to conserve and recover the Delaware Watershed’s most imperiled aquatic organism: the Atlantic Sturgeon – 03/01/21–03/31/25 – \$124,763 - Funding Agency: Delaware State University from National Fish and Wildlife Foundation (NFWF)

**Publications (within past five years)**

Higgs, A.L., White, S.L., Madsen, J.A., Kazyak, D.C., Fox, D.A., Pendleton, R.M., Bonemery, A., Smolinski, T.G., Simmonds, A, and Sullivan, P.J., 2025, Combining acoustic telemetry and side-scan sonar to estimate abundance of endangered shortnose sturgeon in the Hudson River, New York, Canadian Journal of Fisheries and Aquatic Sciences, <https://doi.org/10.1139/cjfas-2024-0395>  
Ridgway, J.L., Madsen, J.A., Fischer, J.R., Calfee, R.D., Acre, M.R., Kazyak, D.C., 2024, Side-Scan Sonar as a Tool for Measuring Fish Populations: Current State of the Science and Future Directions, Fisheries Magazine, <https://doi.org/10.1002/fsh.11137>  
Kazyak D.C., Flowers, A.M., Hostetter, N.J., Madsen, J.A., Breece, M.W., Higgs, A.L., Brown, L.M., Royle, J.A., Fox, D.A., 2020, Integrating side-scan sonar and acoustic telemetry to estimate the annual spawning run size of Atlantic sturgeon in the Hudson River, Canadian Journal of Fisheries and Aquatic Sciences, <https://doi.org/10.1139/cjfas-2019-0398>

### **Publication in review**

Christoph, O.P. & Madsen, J.A., 2025. Identification of natural and anthropogenic hazards within Mid-Atlantic Bight for the purpose of offshore wind turbine foundation recommendations. EAWE-Wind Energy Science, NAWEA Issue. [submitted, in review]

### **Abstracts of Presentations at Recent Conferences**

- Hughes, C., Madsen, J., and Fox, D., 2025, A Comparative Analysis of the Delaware River Bottom Sediments Pre- and Post-Army Corps Main Channel Deepening Project (2013-2020). Oral Presentation Partnership for the Delaware River Science Summit. February 11, 2025.
- Bonemery, A., Higgs, A., Simmonds, A., Pendleton, R., Fox, D., Smolinski, T., Madsen, J., Kazyak, D., White, S., Sullivan P., & Kenney, G., 2024, Rise of the machines: leveraging side scan sonar and machine learning to enumerate sturgeon in a large river system. Oral Presentation, New York Chapter of the American Fisheries Society Annual Meeting, Cooperstown, NY. February 6th-8th, 2024.
- Hughes, C.P., Madsen, J.A., & Fox, D., 2024, Identification of potential Atlantic Sturgeon spawning habitat in the Delaware River post-ACOE main channel deepening project, Oral Presentation, 2024 GeoHab (Marine Geological and Biological Habitat Mapping) Conference, May 6-10, Arendal, Norway.
- Hughes, C.P., Madsen, J.A., & Fox, D., 2024, Identification of Atlantic Sturgeon spawning habitat in the Delaware River post-ACOE main channel deepening project, Oral Presentation, 2024 Young Coastal Scientists and Engineers Conference - Americas, June 4-6, Quebec City, Canada.
- Millea, D.R., Fox, D.A., White, S.L., Madsen, J.A., Kazyak, D.C., Breece, M.W., Park, I.A., Higgs, A.L., Pendleton, R.M., & Hale, E.A., 2024, Counting big fish with side-scan sonar: Atlantic Sturgeon in the Mid-Atlantic. Annual Meeting of the American Fisheries Society, Honolulu, HI. September 15-19, 2024.
- Christoph, O. & Madsen, J., 2024, Geological Data of the Mid-Atlantic Bight Continental Shelf for the Purpose of Offshore Wind Turbine Foundation Recommendations, Poster presented at the American Geophysical Union (AGU) Fall Meeting 2024, Washington D.C.
- Hughes, C., Madsen, J., Fox, D., and J. Famigletti. 2023. Identifying Potential Atlantic Sturgeon Habitat Post-Dredging in the Delaware River: Side-Scan Sonar and Bottom Sampling Analyses. Delaware Estuary Science and Environmental Summit 2023. January 30 - February 1, 2023, Atlantic City, NJ.
- Millea, D.R., Madsen, J.A., Breece, M.W., Fox, D.A., Kazyak, D.C., Higgs, A., Pendleton, R. and E.A. Hale. 2023. Atlantic Sturgeon Recruitment and Spawning Run Abundance Monitoring in the New York Bight DPS. Mid-Atlantic Chapter of the American Fisheries Society. November 16-17, 2023, Wilmington, DE.

### **Teaching Interests:**

Introductory-level courses in geology, earth science and environmental science; upper-level undergraduate courses in structural geology and plate tectonics and a senior seminar (intensive writing course) in petroleum geology and energy; graduate and upper-level undergraduate courses in environmental and applied geology, geophysics, geological aspects of offshore wind.

### **Graduate Student Advisement**

Currently academic advisor for 2 PhD graduate students (Ophelia Christoph, Catherine Hughes)  
Total number of graduate students advised and post-doctoral scholars sponsored: 26

### **Service Activities**

University of Delaware:

- Member and Chairperson, University Faculty Senate Faculty Welfare and Privileges Committee
- Member, Environmental Sciences and Studies Advisory Committee
- Member, Department Promotion and Tenure Committee
- Member, College of Earth, Ocean and Environment Promotion and Tenure Committee