

MELISSA E. LaCROCE

North Carolina State University – Center for Marine Sciences and Technology (CMAST)
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EDUCATION

- 2020 North Carolina State University, Graduate Certificate
Geographic Information Systems (GIS)
- 2017 University of North Carolina Wilmington, M.S.
Marine Science
- 2011 Manhattanville College, B.A.
Environmental Studies, Chemistry Minor
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RESEARCH EXPERIENCE

- 2026 **Scientist and AAUS diver**, North Carolina State University – South Caicos, Turks and Caicos
- Assisted with diving and data collection to contribute to an ongoing project assessing the health of coral reefs and testing a newly built solar-powered underwater speaker system
- 2025 **Scientist and AAUS diver**, North Carolina State University – Bonaire
- Assisted with diving, data collection and analysis to contribute to an ongoing project assessing the health of coral reefs
- 2025 **Scientist and AAUS diver**, North Carolina State University – San Cristobal, Galapagos
- Assisted with diving and data collection for a pilot study to test a newly built audio-video-array (AVA)
- 2022 **Scientist**, Woods Hole Oceanographic Institution – R/V Atlantis
- Collected data and photos for DSV Alvin dive to Mississippi Canyon, Gulf of Mexico and instructed Alvin pilots on instrument recovery and collection.
 - Assisted with deep sea invertebrate identification, water quality filtration and analysis, specimen husbandry and preservation, CTD casts, and MOCNESS (multiple opening/closing net and environmental sensing system) casts
- 2020-2022 **Scientist and AAUS Diver**, North Carolina State University– FKNMS, Key West, FL
- Assisted with diving, data collection, and analysis for the NOAA funded project “Integrating Visual Ecological Surveys, Passive Acoustics and Habitat Photogrammetry to Characterize Reef Fish Assemblages, Spawning Activity & Resilience Among Management Zones in the FKNMS Post-Hurricane Irma”
- 2015-2017 **Scientist and AAUS Diver**, University of North Carolina Wilmington – Wilmington, NC
- Lead diver and scientist for the project “Seasonality and recruitment of the epibenthic community on an Onslow Bay, North Carolina hard bottom”
- 2016-2019 **UNCW AAUS Diver**, University of North Carolina Wilmington – Wilmington, NC
- Assist with training new AAUS and open water divers
 - Provide underwater maintenance support for the UNCW Coastal Ocean Research and Monitoring Program (CORMP)
- 2017 **AAUS Diver**, National Oceanic and Atmospheric Administration – R/V Nancy Foster
- Assist with demography data collection focusing on sessile invertebrates on natural and artificial reefs in Onslow Bay, NC
- 2015-2016 **AAUS Diver**, Institute of Marine Sciences UNC-Chapel Hill – Morehead City, NC
- Assist researchers with NC Marine Fisheries funded project “Epibenthic and fish community comparisons of Onslow Bay nearshore natural and artificial structures”
- 2010-2019 **Research and Teaching Assistant**, Manhattanville College – Codrington, Barbuda
- Assist with data collection and analysis
 - Assist with training students for field work and data processing
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PUBLICATIONS

Journal Articles:

- Kimball, M.E, Dunn, R., Ziegler, S.L., Atencio, W.E., Bowling, D.J., Brugler, M.R., Byers, J.E, Carroll, J., Dix, N., Eggleston, D.B., Guy, R.K., **LaCroce, M.E.**, Pelton, M.M., Pfirrmann, B.W., Prevost, H.J., Ridge, J.T. 2026. Acoustic imaging and direct capture are complementary techniques to assess nekton community structure on fringing intertidal oyster reefs. *Mar Ecol Prog Ser* (in press)
- Oviatt J.H., McLean M., **LaCroce M.E.**, Freshwater D.W. 2026. Epibenthic species traits demonstrate how macroalgal decline degrades temperate reef function. *Mar Ecol Prog Ser* 785: meps15131. <https://doi.org/10.3354/meps15131>
- LaCroce, M.E.**, & Eggleston, D. B. 2024. Patterns and Processes Underlying Spatiotemporal Variation in Bay Scallop (*Argopecten irradians concentricus*) Density and Size Structure within Three North Carolina Sounds. *Journal of Shellfish Research*, 42(3), 411-422. <https://doi.org/10.2983/035.042.0306>
- LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., 2020. Seasonality and disturbance recovery of the epibenthic community on a warm-temperate hard bottom. *Journal of Experimental Marine Biology and Ecology*, 524, 151283. <https://doi.org/10.1016/j.jembe.2019.151283>
- LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., 2018. Seasonal diversity and composition of epibenthic organisms on a North Carolina, USA continental shelf hard bottom. *Regional Studies in Marine Science*, 24, 196-202. <https://doi.org/10.1016/j.rsma.2018.08.008>

Reports:

- McFarlane, W., Montello, M., **LaCroce, M.**, and Todd, N. 2019. A Caribbean Eden Recovers from Hurricane Irma. *State of the World's Sea Turtles (SWOT)* vol. 14. <https://www.seaturtlestatus.org/swot-report-vol-14>

PRESENTATIONS

Conferences:

- 2026 **LaCroce, M.E.**, Eggleston, D.B., Bohnenstiehl, D.R., Caretti, O.N, Post restoration monitoring of oyster cultch reefs as essential fish habitat in Pamlico Sound, North Carolina, USA. Southeastern Estuarine Research Society and Atlantic Estuarine Research Society Meeting
- 2023 **LaCroce, M.E.**, & Eggleston, D. B., Patterns and processes underlying spatiotemporal variation in bay scallop density and size-structure within and among North Carolina's sounds. 115th Annual Meeting of the National Shellfish Association
- 2019 McFarlane, W., Montello, M., **LaCroce, M.E.**, and Todd, N., Documenting the resiliency of Barbuda's sea turtle nesting population on an island vulnerable to climate change. 39th Annual International Sea Turtle Symposium
- 2017 **LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., Seasonality and recruitment of the epibenthic community on an Onslow Bay, NC hard bottom. 39th Annual Southeastern Phycological Colloquy
- 2017 **LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., Seasonal recruitment of epibenthic organisms on a hard bottom in Onslow Bay, NC. 46th Annual Benthic Ecology Meeting
- 2017 **LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., Seasonality and recruitment of epibenthic organisms on a hard bottom in Onslow Bay, NC. NC Coastal and Marine Graduate Student Consortium
- 2017 **LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., Seasonality of epibenthic organisms on the hard bottom at Five Mile Ledge in Onslow Bay, NC. 8th Annual Coastal Carolina Scientific Diving Symposium
- 2016 **LaCroce, M.E.**, Long, Z.T., & Freshwater, D.W., Seasonality of conspicuous macroalgae on a hard bottom at Five Mile Ledge in Onslow Bay, NC". 38th Annual Southeastern Phycological Colloquy

Campus Talks:

- 2016 Seasonal recruitment of epibenthic organisms on a hard bottom in Onslow Bay, NC. UNCW Graduate Student Session.

AWARDS AND GRANTS

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| 2025-2026 | Educational and Technology Fee (ETF) Grant (\$39,948) |
| 2022-2023 | NC Sea Grant Award 125643 (\$44,326) |
| 2016-2017 | Center for Marine Science Travel Grant (\$1500) |
| 2017 | UNCW Graduate School Travel Grant (\$1,000) |

2016	UNCW Marine Science Summer Scholar (\$2,000)
2017-2011	Board of Trustees Scholar, Manhattanville College
2010	Tribeta President's Prize, Manhattanville College

PROFESSIONAL EXPERIENCE

- 2020-Present **Research Specialist**, NC State University CMAST – Morehead City, NC
- Lead and coordinate scientific dives, field work, data entry and analysis
 - QA/QC of lab space, data and projects, and equipment
 - Assist with managing budgets for grants (~6-8 totaling between \$750K and \$1.5 million)
 - Assist with managing and training graduate students and technicians for time management, scientific protocols, boat safety and trailering, and boat and equipment care
 - Write up manuscripts for publication and present research at scientific conferences
 - Maintain a fleet of five boats, two trucks, and all scientific field and lab equipment
- 2024-Present **Researcher**, Biofouling Technologies – Morehead City, NC
- Organize and Conduct experiments and field work, analyze data, and write reports for Biofouling group and recommend improvement for future experiments
- 2019-2020 **Research Technician**, UNC-Chapel Hill IMS – Morehead City, NC
- Run and perform maintenance on nutrient analyzer and manage lab website
 - Conduct field work to collect water for data analysis
- 2019 **Coastal Wildlife Diversity Technician**, NC WRC – Morehead City, NC
- Monitor NC beaches for sea turtle nesting and stranding, and collect DNA samples
 - Organize diamondback terrapin tally and lead kayak paddles to collect data
- 2018 **Educator**, MarineQuest UNC-Wilmington CMS – Wilmington, NC
- Teach K-12 students marine science in their classroom, at our facility, or in the field
- 2015-2018 **Teaching Assistant**, Marine Biology/Genetics, UNC-Wilmington – Wilmington, NC
- Prepare and carry out classroom and field labs following lecture professor's guidelines
 - Grade weekly assignments following UNCW's writing intensive course guidelines
- 2016-2017 **DNA Sequencer Maintenance**, DNA Core Lab UNCW CMS – Wilmington, NC
- Perform maintenance on DNA sequencer, run DNA sequences, and troubleshoot
- 2017 **Contracted Algal Researcher**, FAU HBOI – Fort Pierce, FL
- Identified macroalgae using morphological characteristics and PCR DNA sequencing
- 2014-2015 **Vocational Instructor**, Fresh Start Program, LCF – Baltimore, MD
- Educate 16-19yo males using carpentry to teach GED subjects and employment skills
 - Update probation officers on the students' progress and attendance
- 2013-2014 **Environmental Educator/Mate**, Skipjack Sigsbee, LCF – Baltimore, MD
- Educate 4th grade to college students about the ecology of the Chesapeake Bay
 - Ensure the boat is legally operational and the safety of all aboard
- 2012 **Educator/Deckhand**, Schooner SoundWaters, SoundWaters – Stamford CT
- Educate K-12 students and the public about the ecology of the Long Island Sound
 - Report weekly trawl and water quality sample data to state environmental departments
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SERVICE AND OUTREACH

Peer Review:

BioOne Journal of Shellfish Research

University:

2015-2017 Member of the UNCW Marine Science Graduate Student Association
2009-2011 Elected President of Tribeta Biological National Honor Society, Upsilon Sigma Chapter
2008-Present Member of Tribeta Biological National Honor Society, Upsilon Sigma Chapter

Science Outreach:

2026 co-taught MEA 459 course for introduction to Geospatial Sciences and hydrographic survey
2024 SciREN (Scientific Research and Education Network)
2023-2024 Volunteer taught for the Core Sound Marine Science Academy
2021 Volunteer taught at Croatan High School
2016-2017 Volunteer taught at Center for Marine Science Open House

Community:

2024 Atlantic Beach, Beach Clean-up
2023-2026 Pink is Just a Color Run (Breast Cancer)
2022-2025 Volunteer for Reverse Bartender Night (charities supported: Tunnel to Towers and Misplaced Mutts)
2016-2018 Cape Fear Community College Beach Clean-up
2017 Cape Fear Community College Race for Scholarships
2014-2015 Wounded Warrior Run
2012 Bennet Cancer Center Hope in Motion Run
2009-2010 Midnight Run
2006-2010 Breast Cancer Walk
1995-2010 Cystic Fibrosis Walk

CERTIFICATIONS AND SKILLS

SDI/TDI Certified: Divemaster, Dry Suit Diver, Rescue Diver, Adv. Nitrox Diver, and Deco. Diver
PADI Certified: Advanced Open Water Diver and Peak Performance Buoyance
NAUI Certified: Nitrox Diver
AAUS Certified: Scientific Research Diver 100ft-current (150ft in past)
DAN Certified: CPR, First Aid, and O₂ Administration for Professional Divers
NC Boating License
R Programming Environment
MATLAB
ArcGIS: Desktop, Pro, and Online
Microsoft: Word, PowerPoint, Excel (pivot tables, macros, VBA)
Adobe: Illustrator, Photoshop, InDesign