

DEPARTMENT OF EARTH, MARINE, AND ENVIRONMENTAL SCIENCES

Introduction

The Department of Earth, Marine, and Environmental Sciences (EMES) provides instruction and conducts research into the physical, chemical, and biologic processes that operate within the Earth and its oceans. Research seeks to understand how the dynamic interplay among these processes shape the Earth's surface, govern environmental change, generate natural hazards, supply energy and resources, and sustain life. The department has a strong tradition of undergraduate students conducting independent and guided research as part of their training.

Advising

All majors and minors have a primary academic advisor from the Academic Advising Program (<https://advising.unc.edu/>). Students are strongly encouraged to meet regularly with their advisor and review their Tar Heel Tracker each semester. The department's director of undergraduate studies works with current and prospective majors by appointment. Departmental academic advising is particularly important for those majors who are considering continuing graduate education. Further information on courses, undergraduate research opportunities, the honors program, career opportunities, and graduate schools may be obtained from the department's website. Prospective students in the department are encouraged to meet with one of the directors of undergraduate studies.

Facilities

The department maintains laboratory facilities, many of which are available for undergraduate students to use in research and classroom learning. These include several mass spectrometers for isotopic, geochronology, and geochemical research, geophysical and seismic imaging facilities, environmentally controlled laboratory spaces, a paleoclimate laboratory, an aquarium research facility, and a clean room for trace metal research. The department also shares the interdisciplinary Joint Fluids Lab with researchers in applied mathematics. In addition, the Institute for Marine Sciences, located in Morehead City, N.C., houses laboratory buildings with dock and ocean access and a modern vivarium space for marine research. The institute operates a modern 48-foot coastal vessel, the R.V. Capricorn, as well as a fleet of outboard-powered boats.

Graduate School and Career Opportunities

In the earth and marine sciences, graduates are employed in the commercial/ industrial, educational, and governmental sectors. Graduates may find employment in private industry and consulting firms, including hydrology, environmental geology, engineering geology, the energy industry, and/or resource extraction. Job opportunities exist within both state and federal environmental and regulatory agencies. Many positions prefer some graduate training at the master's level, and a doctoral degree is typically required for employment in higher education.

Majors

- Geological Sciences Major, B.A.–Earth Science (<https://catalog.unc.edu/undergraduate/programs-study/geological-sciences-major-ba-earth-science-concentration/>)
- Earth and Marine Sciences Major, B.S. (<https://catalog.unc.edu/undergraduate/programs-study/earth-marine-sciences-major-bs/>)

Minors

- Environmental Microbiology Minor (<https://catalog.unc.edu/undergraduate/programs-study/environmental-microbiology-minor/>)
- Geological Sciences Minor (<https://catalog.unc.edu/undergraduate/programs-study/geological-sciences-minor/>)
- Hydrology Minor (<https://catalog.unc.edu/undergraduate/programs-study/hydrology-minor/>)
- Marine Sciences Minor (<https://catalog.unc.edu/undergraduate/programs-study/marine-sciences-minor/>)

Graduate Programs

- M.S. in Earth and Marine Sciences (<https://catalog.unc.edu/graduate/schools-departments/earth-marine-environment/>)
- Ph.D. in Earth and Marine Sciences (<https://catalog.unc.edu/graduate/schools-departments/earth-marine-environment/>)

Courses

- Earth, Marine, and Environmental Sciences (EMES) (<https://catalog.unc.edu/courses/emes/>)

Distinguished Professors

Christopher S. Martens, Richard A. Luettich, Brent A. McKee, Rachel Noble, Hans Pearl.

Professors

Carol Arnosti, Jaye E. Cable, Karl Castillo, Drew S. Coleman, Joel Fodrie, Eric Kirby, Jonathan Lees, Niels Lindquist, Richard A. Luettich, Adrian Marchetti, Laura Moore, Rachel Noble, Janet Nye, Tamlin M. Pavelsky, Michael Piehler, Antonio Rodriguez, Harvey Seim, Donna Surge, Andreas Teske.

Associate Professors

Marc J. Alperin, Scott Gifford, Xiaoming Liu, Janet Nye, Johanna Rosman, Alicia Septer, Kevin G. Stewart.

Assistant Professors

Sevan Adourian, Kennet Flores, Jonathan Gardner, Antonia Sebastian.

Research Assistant Professors

Nathan Hall, Chao Wang.

Teaching Associate Professor

Megan Plenge.

Teaching Assistant Professor

Michelle Haskin.

Professors Emeriti

Dan Albert, John M. Bane Jr., Larry K. Benninger, Paul D. Fullagar, Allen F. Glazner.

Contact Information

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Visit Program Website (<https://emes.unc.edu/>)

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