

ABOUT DEES

The Department of Earth and Environmental Sciences (DEES) hosts one of the top-rated earth and environmental science programs internationally. Faculty from all over the world bring their expertise and knowledge to our classrooms preparing students to take on the current challenges facing earth and humanity. The program provides an understanding of the natural functioning of our planet and considers the consequences of human interactions with it. It is designed to instill a comprehension of how the complex earth systems work, at a level that will encourage students to think creatively about how to address multidisciplinary environmental problems.

With climate change rapidly reshaping the earth, it has never been a more crucial time to train the next generation of scientists in the earth and environmental science fields. Students will graduate with a degree that readies them to think critically and tackle the problems of Earth's unpredictable future.

The breadth of material covered in the program provides an excellent background for students to continue on to careers in various fields or graduate school in the earth and environmental sciences. The skills developed in the program can open up many career paths such as law, business, environmental consulting, research, public policy, teaching, and journalism.



Field trip to the Newark Basin



Field trip to Death Valley, California



Field trip to Greenbush, Maine

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DEPARTMENT OF
EARTH & ENVIRONMENTAL
SCIENCES

 **COLUMBIA UNIVERSITY**
IN THE CITY OF NEW YORK



Field trip to Fire Island, New York

MAJORS & CONCENTRATIONS

The **Climate System Science** major is designed for students who are interested in how the past, present, and future climate system works, *and* in solution strategies for the rapidly accelerating climate crisis

The **Environmental Science** major focuses on the interaction between Earth's physical environment and the biosphere, anthropogenic processes like pollution and global climate change, and environmental remediation.

The **Earth Science** major provides an in-depth study of the solid and fluid Earth and its geological history.

The **concentrations** in Earth and Environmental Science are designed to provide students with further exposure to earth and environmental science than what is provided by introductory- level courses.

COURSES

Fall 2023

Dinosaurs & History of Life - UN1001 / 1401
 Oceanography - UN1030
 Environmental Risks & Disasters - UN1201
 Earth Resources & Sustainable Development - UN1600/GU4600
 Climate System - UN2100
 Solid Earth System - UN2200
 Science for Sustainable Development - UN2330
 Chemistry of Climate - UN3031
 Geochemistry for a Habitable Planet - UN3101
 Sedimentology and Stratigraphy - UN3223
 Computational Earth Science - UN3400
 Intro to Atmospheric Science - GU4008
 Global Assessment & Remote Sensing - GU4050
 Intro to Mineralogy - GU4113
 Paleobiology & Earth System History - GU4480
 Plant Ecophysiology - GU4550
 Earth Resources & Sustainable Development - GU4600
 Wetlands & Climate Change - GU4835
 Stable Isotope Geochemistry - GU4888
 Intro to Physical Oceanography - GU4925
 Spring 2024 courses on our website

FIELD TRIPS

The department hosts field trips to bring lessons from the classroom to the outdoors. We have a field-geology course for majors offered annually, typically in Italy or Barbados. We also offer trips to California's Death Valley and other destinations for first and second-year students. Some professors in the department also host their own field trips as part of their coursework.



RESEARCH

The Department of Earth and Environmental Sciences shares staff and facilities with Columbia University's world renowned research institution, the Lamont-Doherty Earth Observatory. Since its founding in 1949, Lamont-Doherty Earth Observatory has been a leader in the earth sciences.

The Department is also affiliated with the NASA Goddard Institute for Space Studies (GISS) and the American Museum of Natural History (AMNH).

Undergraduate students can participate in research alongside professors and graduate students at Lamont, NASA GISS, and AMNH.



Field trip to Iceland