

DEPARTMENT OF EARTH, ATMOSPHERIC, AND PLANETARY SCIENCES

The Department of Earth, Atmospheric, and Planetary Sciences offers a bachelor's degree in earth, atmospheric, and planetary sciences, and master's and doctoral degrees in atmospheric sciences, climate science, geology, geochemistry, geobiology, geophysics, and planetary sciences. In conjunction with the Computational Science and Engineering Program (CSE), the department offers a PhD in computational earth, atmospheric and planetary sciences (<https://catalog.mit.edu/interdisciplinary/graduate-programs/computational-science-engineering>). The department also participates in the MIT-WHOI Joint Program in Oceanography/Applied Ocean Science and Engineering (<https://catalog.mit.edu/interdisciplinary/graduate-programs/joint-program-woods-hole-oceanographic-institution>) with doctoral degree programs in chemical oceanography, physical oceanography, biological oceanography, and marine geology and geophysics.

Departmental programs apply physics, chemistry, and mathematics to the study of the Earth and planets in order to understand the processes that are active in the Earth's interior, oceans, and atmosphere, as well as the interiors and atmospheres of other planets. The department also uses the basic sciences to understand the past history of the Earth and planets. By combining the past history with models of present physical, biological, and chemical processes, faculty and students work to develop an understanding of the dynamics of systems as diverse as the global climate system, regional tectonics and deformation, petroleum and geothermal reservoirs, and the solar system.

Research in the department is fundamental in nature, but underpins many of the most pressing societal questions of our time: climate and environmental change; natural hazards; natural resources; the origins of life both on Earth and elsewhere. Much of the research is interdisciplinary, so faculty, researchers, and students commonly cross discipline boundaries. Modern problems in these fields are approached by field measurements, laboratory studies, simulations, and theory. Experimental facilities for training and research are available not only in departmental laboratories such as the Earth Resources Laboratory, but also in MIT's interdepartmental laboratories (<https://catalog.mit.edu/mit/research>) such as the Center for Global Change Science, Kavli Institute for Astrophysics and Space Research, Lincoln Laboratory, Haystack Radio Observatory and Millstone Radar facility, and the Wallace Astrophysical and Geophysical Observatories, and in cooperating institutions such as the Woods Hole Oceanographic Institution.