

SOILS & BIOGEOCHEMISTRY, DOCTOR OF PHILOSOPHY

College of Agricultural & Environmental Sciences

Graduate Study

The Soils & Biogeochemistry Graduate Group offers programs of study and research leading to M.S. and Ph.D. degrees. The focus of Soils and Biogeochemistry is on the physical, chemical and biological processes occurring in soils of different landforms and ecosystems. The goal is to understand the complex processes of mass and energy flow that control agricultural and natural ecosystem functions, productivity, and sustainability. Investigations assess impacts and implications of natural processes and anthropogenic effects, such as climate change, on soil and ecosystem behavior and development. Examples include: fate and emission of greenhouse gases; soil carbon sequestration; fate and transport of native and applied chemicals; soil microbial ecology; nutrient uptake and management; nutrient cycling in managed and wildland ecosystems; pesticide and trace element adsorption on surfaces; mineral weathering; organic agriculture; bioavailability of toxics; soil erosion; conservation; ecosystem productivity and sustainability; and the study of soil evolution on the landscape. These studies are carried out within a framework of integrating applied chemical, physical, mathematical, and biological sciences.

Degree Requirements & Program Coordinator

See Soils & Biogeochemistry (<https://grad.ucdavis.edu/programs/gsbg/>).