ESS Faculty use many different approaches to study changes in our climate over the scale of a human lifetime...

Faculty

**Steven Allison**
Ph.D., Stanford University
Expert in ecosystem ecology, carbon and nutrient cycling, climate change, soils and modeling.

**Claudia Czimczik**
Ph.D., Max-Planck-Institute for Biogeochemistry & Friedrich-Schiller University
Expert in how climate and land-use change affect the storage of carbon in land ecosystems and the exchange of carbon dioxide, methane and carbonaceous aerosols between the land and the atmosphere.

**Kathleen Johnson**
Ph.D., University of California, Berkeley
Expert in ecosystem ecology, and the marine carbon cycle, as well as satellite remote sensing data, carbon dioxide observations and Earth system models to study interactions between human activity, ecosystem processes and climate.

**Saewung Kim**
Ph.D., Georgia Institute of Technology
Expert in how biosphere-atmosphere-human interactions affect oxygen capacity in the troposphere, greenhouse gases, ozone and air pollution.

**Keith Moore**
Ph.D., Oregon State University
Expert in the role of marine biota in global biogeochemical cycles and the Earth’s climate system. Uses computer modeling of marine ecosystem dynamics and biogeochemical cycles, as well as satellite remote sensing data of ocean physical and biological properties.

**Jim Randerson**
Ph.D., Stanford University
Expert in global change and disturbance dynamics in terrestrial ecosystems. Uses remote sensing data, carbon dioxide observations and Earth system models to study interactions between human activity, ecosystem processes and climate.

**Jin-Yi Yu**
Ph.D., University of Washington
Expert in climate change, El Niño activity, interactions between the oceans and atmosphere and variability in oceans, global monsoons and stormtracks.

**Kristen Davis**
Ph.D., Stanford University
Expert in marine ecosystems, circulation of the coastal ocean and the effects of fronts, eddies, tides and waves on the transport and mixing of biologically important parameters.

**Katherine Mackey**
Ph.D., Stanford University
Expert in marine photosynthesis and biogeochemistry, phytoplankton ecophysiology and biogeochemistry, oceanic responses to natural and human-induced changes; science education and outreach.

**Mathieu Morlighem,**
Ph.D., Ecole Centrale Paris, France
Expert in the flow and evolution of ice sheets and glaciers, modeling their dynamics, contribution to sea level rise and feedbacks between the atmosphere, ocean and cryosphere.

**Eric Saltzman**
Ph.D., University of Miami
Expert in the production, emissions and atmospheric chemistry of oceanic trace gases, trace gas detectors, computer modeling and simulation, ice cores and air trapped in polar snow in Greenland and Antarctica.

**Soroosh Sorooshian**
Ph.D., University of California, Los Angeles
Expert in hydrometeorology, water resources systems engineering, climate studies and application of remote sensing to water resources and hydrologic issues.

**Eric Prather**
Ph.D., University of Southern California
Expert in how ice sheet models in Antarctica and Greenland will respond to climate change, interactions of ice and climate, global sea level, and satellite remote sensing and ocean circulation.

**Michael Prather**
Ph.D., Yale University
Expert in atmospheric circulation, climate variability, the intersection between weather and climate, including extreme cold events, atmospheric moisture transport, interaction between atmospheric circulation and sea-ice variability.

**Steven Davis**
Ph.D., Stanford University
Expert in the interactions of energy, agriculture, water, climate and international trade.

**Michael Goulden**
Ph.D., Stanford University
Expert in how terrestrial ecosystems work, changes in climate and global biogeochemistry and what controls the exchanges of gases and energy between land and the atmosphere.

**Ellen Druffel**
Ph.D., University of California, San Diego
Expert in the production, emissions and isotope geochemistry, the carbon cycle and water availability; computer modeling and simulation.

**Adam Martiny**
Ph.D., Technical University of Denmark
Expert in identifying how microbial life influences the functioning of ecosystems.

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**Jay Famiglietti**
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We fly at the top of the troposphere, trek through tropical regions, explore remote areas, sail the world ocean, drill into the ice of Antarctica and design computer simulations to better understand our Earth.

Some of the first ESS Faculty

Ralph Cicerone, Professor Emeritus of Earth System Science and founder of the Department of Earth System Science at UC Irvine