

Immersion Lecture: Ecosystem Ecology - Theories, Methods, Lenses

Time of Event:

Monday, August 31, 2015 - 12:00 to 12:45

Video:

In this first of two lectures on ecosystem ecology, Dr. Whendee Silver presents an overview of the focus and some key currencies in the field. She defines ecosystem ecology as the study of both the organisms and the abiotic environment, and interactions between them, in an area defined by the strength of the connections between components of the system. She notes that ecosystem ecology focuses on stocks, pools, and flows of the basic components of life, energy and nutrients. She uses the example of the carbon cycle as one physical process that is conceptualized and measured within ecosystem ecology, and one that has contemporary relevance in the context of understanding the impacts of global climate change. She notes that the conceptualization of cycles and impacts in ecosystem ecology focuses at the human time scale, rather than the geologic time scale, in part because of measurement and data issues.

Reading List

Chapin, F.S. III, Matson, P.A., and Vitousek, P.M. 2012. Principles of terrestrial ecosystem ecology. New York: Springer. Read Chapter 1, "The Ecosystem Concept."

Presentation Slides

[Click here to download the presentation slides.](#) [1]



[Whendee Silver](#) [2] is the Rudy Grah Chair and Professor of Ecosystem Ecology in the Department of Environmental Science, Policy, and Management at UC Berkeley and Geological Scientist Faculty in the Earth Sciences Division of Lawrence Berkeley National Laboratory. She received a Master of Forest Science and PhD in Ecosystem Ecology, both from Yale University. Her work seeks to determine the biogeochemical effects of climate change and human impacts on the environment, and the potential for mitigating these effects. Her current research program has three primary foci: (1) the impacts of deforestation, reforestation, grazing, and other land use practices on carbon losses, carbon sequestration, and biogeochemical cycling, (2) retention and loss of carbon and

nutrients under variable redox conditions, and (3) the impacts of water and agricultural management on greenhouse gas emissions. Professor Silver is one of the founding members and the lead scientist of the Marin Carbon Project, and the Silver Lab was recently awarded the Innovation Prize by the American Carbon Registry for this work.

Event type:

Immersion Speaker

Event Attendance:

Private Working Group

Source URL:

<https://www.sesync.org/events-announcements/wed-2015-08-19-0805/immersion-lecture-ecosystem-ecology-%E2%80%93-theories-methods>

Links

[1] <https://www.sesync.org/sites/default/files/education/ecology-7.pdf>

[2] http://ourenvironment.berkeley.edu/people_profiles/whendee-silver/