

Immersion Lecture: Ecosystem Ecology - Concepts, Data, Models

Time of Event:

Monday, August 31, 2015 - 12:30 to 13:15

Video:

In this second of two lectures on ecosystem ecology, Dr. Whendee Silver focuses on specific examples of how to conceptualize and measure complex changes in ecosystems. She notes that ecosystem function will be defined by the availability of the most limiting resource, and that over time, the limiting resource will also change. She presents several examples of ecosystem properties or components that play a different limiting role depending on the spatial and temporal context. She then discusses the data challenges and opportunities associated with combining simulated models with field assessments and notes the potential scale mismatch between these data and analyses. She also reflects on the contributions that can be made by ecosystem ecology to questions of environmental conservation and restoration, and highlights that ecosystem ecology can help answer questions of how and why a current ecosystem functions as it does.

Reading List

Richter, D.D. and Billings, S.A. 2015. 'One physical system': Tansley's ecosystem as Earth's critical zone. *New Phytologist*, 206(3), 900–912.

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/fri-2016-02-12-1456/immersion-lecture-ecosystem-ecology-%E2%80%93-93-concepts-data-models>

Links

[1] <https://www.sesync.org/sites/default/files/education/ecology-8.pdf>

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