
GCSC Seminar Series

210 ASB
(Aline Skaggs Building)

Tuesday, November 28, 2017
4:00-5:00 PM

ALL ARE WELCOME

Refreshments & meet
the speaker at 3:45

Jack Williams

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“Achieving global ecology via dispersed community curated data resources: Neotoma and PaLEON”



Abstract

Ecologists often seek to study processes operating at continental to global scales from amalgams of data originally collected at local to regional scales. Ecological data are, increasingly big data, characterized by large data volumes, high heterogeneity of data types, and methods (variety), multiple potential sources of uncertainty and error (veracity), and, increasingly, high rates of data generation and analysis (velocity) (LaDeau et al. 2017). In response, multiple groups have begun to build and coalesce around multiple nodes of ecological data, with big data in ecology beginning to emerge as a network of networks. This talk describes the close partnership between two distinct efforts: the Neotoma Paleoecology Database (Neotoma, www.neotomadb.org), a community-curated data resource that provides an open, community-curated, sustainable, and high-quality repository for multiple kinds of paleoecological data, and the Paleoecological Observatory Network (PalEON, <https://www3.nd.edu/~paleolab/paleonproject/>), which seeks to improve the model parameterization and simulation of slow forest processes, operating at timescales of decades to centuries. Analyses of historic forest surveys from the Public Land Survey and fossil pollen records have demonstrated significant shifts in tree-climate relationships over the last two centuries due to historic land use and climate change and subtle but significant trends in forest composition in the north-central US over the last two millennia, possibly in response to regional cooling. Current work is focusing on assimilating these pollen-based reconstructions with terrestrial ecosystem model simulations for the last millennium.

Bio

John (Jack) Williams is a professor in the Department of Geography at the University of Wisconsin-Madison and a former director of the Center for Climatic Research. Dr. Williams' research focuses on the responses of plant species and communities to past and future climate change. Research themes include novel climates and ecosystems, the causes and consequences of past species extinctions, the capacity of species to respond to abrupt climate change, and the last deglaciation as a model system for understanding 21st-century climate change. Awards include the Cooper Award from the Ecological Society of America, the Phil Certain Distinguished Faculty Award and Romnes Faculty Fellowship from the University of Wisconsin-Madison, an Aldo Leopold Leadership Fellowship from the Stanford Woods Institute for the Environment, and an Institute for Advanced Study Fellowship at Durham University. More information can be found at <https://williamspaleolab.github.io/> or via Twitter @IceAgeEcologist