New Postdoctoral Positions at UW-Madison

Abrupt Change in Ecological Systems

(Ecosystem modeling; Spatial modeling;
Linking models + big data; Applied ecological statistics)

Postdoctoral Positions: We seek a cluster of 3-4 postdoctoral research associates (each for two years) for newly funded research on understanding abrupt change in ecological systems (ACES). Science currently lacks a framework for predicting when, where, why, and how surprisingly abrupt and fundamental changes are likely to occur in ecosystems and landscapes. Rates of environmental change are accelerating, and understanding the consequences of these 21st-C changes for natural resources and human wellbeing is among the biggest challenges in contemporary ecology. We aim to answer fundamental research questions, such as: How much disturbance can living resources absorb before they change qualitatively? Where are the tipping points in ecosystems, and what forces can push ecosystems past those tipping points? When and where do we expect significant changes in our landscapes and waters? What natural resources are likely to change radically in the coming decades? The ACES project is a new collaboration among UW-Madison PIs (Monica Turner, Steve Carpenter, Tony Ives, Chris Kucharik, Jack Williams) who are leaders and have complementary expertise in theoretical and applied ecology; a range of terrestrial, aquatic, and agricultural systems; and scales that extend deep in time and from local to regional extent. Our research will focus on a diverse set of real world 'model ecosystems,' each characterized by complex spatial dynamics and time lags that can mask impending abrupt changes. Case studies include harmful algal blooms that occur in over-fertilized lakes, tree population collapses related to variation in climate in deciduous forests of eastern North America, loss of conifer forests as climate and fire regimes change in western North America, and risk to crop yields with climate warming and declining water availability. For questions about ACES, contact Monica Turner (turnermg@wisc.edu) or any of the faculty listed above. For more information about ecology at UW-Madison, visit http://ecology.wisc.edu/.

Qualifications. Applications are encouraged from outstanding candidates who are experienced collaborators who enjoy and work well in a team setting. Applicants should have flexible ecological modeling skills in at least one of the following: **(1) ecosystem simulation modeling, (2) spatial simulation modeling, (3) linking models with big data, and (4) applied ecological statistics.** Applicants must have completed a PhD in ecology or related field prior to appointment. Successful candidates will have an excellent publication record, proven communication and quantitative skills, and proficiency working with models across a wide range of spatial and temporal scales. Candidates ideally should be available to begin between 1 September 2016 and 15 January 2017.

To Apply. Candidates should email (*in a single PDF file*) a cover letter, CV, one-page statement of research interests, and the names and contact information of three references to Carol Cooley (cacooley@wisc.edu). Please indicate "ACES Postdoc" in the subject line. Review of applications will begin 15 June 2016, and positions will remain open until filled.

12 April 2016