



## NCEAS MONTHLY ROUNDTABLE

Thursday March 6, 2025 @ 3:30 pm

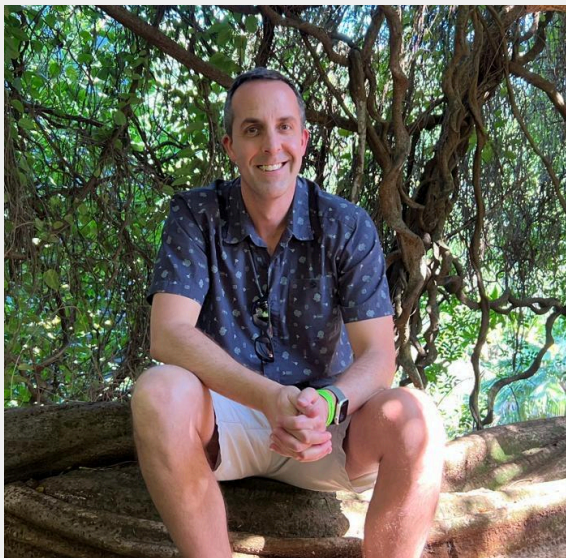
In Person on the 3rd Floor Lounge + [Zoom](#)

Followed by a terrace happy hour

### Dr. Forest Isbell

*University of Minnesota, Department of Ecology, Evolution, and Behavior  
Cedar Creek Long Term Ecological Research Site*

#### *Predicting temporal stability and resilience from resistance and recovery*



Stability, in a variety of forms, can be desirable for many natural and social systems, such as ecosystems, the climate, agriculture, and economic markets. Intuitively, temporal stability, the invariability of a system over time, can be enhanced by resisting displacement during perturbations, accelerating recovery after them, or both. Likewise, resilience (sensu proximity to unperturbed levels after a perturbation) also has components of withstanding (resistance) and recovering after perturbations. Here we develop and test new predictions for how temporal stability and resilience depend on their resistance and recovery components.

Using plant productivity data from the world's longest running biodiversity experiment, we find that long-term temporal stability, quantified over a quarter century at the ecosystem or species level, is predicted with moderate accuracy from single-year estimates of resistance alone or, with slight improvement, a combination of resistance and recovery. Our results clarify how resistance and recovery can be leveraged to enhance the temporal stability and resilience of both natural and managed systems.

**About the Speaker:** Forest Isbell is an associate professor in the Department of Ecology, Evolution, and Behavior and a Fellow at the University of Minnesota's Institute on the Environment. His research considers how human activities are changing biodiversity, and how changes in biodiversity cause changes in ecosystem functioning, stability, and services. He is recognized as a Clarivate highly cited researcher and is actively involved in science-policy efforts, including contributing to expert information documents for the United Nations Convention on Biological Diversity, assessments by the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services, and the First National Nature Assessment of the U.S.

Questions, comments, or concerns?

Contact: [roundtable-org@nceas.ucsb.edu](mailto:roundtable-org@nceas.ucsb.edu)