Developing quantitative state and transition models to improve ecosystem management

Postdoctoral Research Associate

Project Description: San Diego State University, in collaboration with the University of Arizona, is seeking a postdoctoral researcher with strong quantitative skills to take a lead role in a project connecting rangeland conservation practice data to state-and-transition models (STMs) and ecological site descriptions (ESDs) in the Southwestern U.S. The project aims to develop robust methods for integrating empirical data into STMs. This work will involve compiling and verifying existing practice data, field assessments of ecological states, and incorporating remote-sensed and practitioner-informed data. Key methods include multistate modeling, data simulation, and scenario-based prediction. The postdoc will: lead development of quantitative STM methods for data-informed management; author at least two peer-reviewed manuscripts; and prepare technical reports.

Collaboration: This project is a collaboration between the Natural Resources Conservation Service (NRCS), San Diego State University, and the University of Arizona. The postdoc will be based within the Institute for Ecological Monitoring and Management (IEMM) at San Diego State University and work closely with the project PIs, Drs. Jessie Golding (San Diego State University), Aaron Lien, and Mitch McClaran (University of Arizona). The role includes participating in IEMM meetings, collaborating with researchers across both universities, collaborating with NRCS staff and researchers, and opportunities to help mentor a master's student based at the University of Arizona.

Salary: $68,640/yr with full benefits

Duration: 2 years, contingent upon performance

Anticipated Start Date: October 13, 2025 (earliest)

Location: San Diego State University, San Diego, CA. *Candidates must be able to relocate to San Diego Remote work is NOT available.*

Required Qualifications:

- PhD in a relevant field (e.g., Biology, Ecology, Statistics, Geography, Rangeland Ecology, etc.)
- Strong quantitative and advanced programming skills in R
- Proven ability to publish scientific research and communicate findings to diverse audiences
- Experience leading manuscript preparation for peer-reviewed journals
- Excellent written and verbal communication skills
- Ability to work independently and collaboratively
- Strong work ethic and enthusiasm for learning

Preferred Qualifications:

- Previous experience with Bayesian and/or integrated data models
- Familiarity with data simulation and model development
- Interest in integrating diverse data sources into cohesive models
- Comfortable working with complex or inconsistent data sets

We are committed to fostering an inclusive, supportive, and collaborative work environment. We welcome all backgrounds and value diverse perspectives as essential to advancing science and conservation.

To Apply:

Send an email to Dr. Jessie Golding (jgolding@sdsu.edu) that includes:

1) A subject line of "STM Postdoc Application"

2) A cover letter explaining your interest in the position, how you match the qualifications, and how the position aligns with your future goals

3) A current CV with contact information for 3 references