Postdoc in Ecohydrology and Forest Resilience

The **Department of Forestry and Environmental Resources at NC State University** is seeking a highly motivated Postdoctoral Research Scholar to work with Dr. Matthias Sprenger (Assistant Professor) on collaborative research investigating the interplay between bedrock properties and forest resilience in the Rocky Mountains.
This position is part of the DOE-funded Watershed Function Science Focus Area (https://watershed.lbl.gov/), which investigates how mountainous watershed functions respond and adapt in the face of increasingly warmer and drier conditions. The successful candidate will be hired **as soon as possible** and explore the influence of climate variability on mountainous forests using available (unpublished) observational data, advanced modeling, and quantitative analytics.



Duties & Responsibilities

- Lead and conduct **collaborative research** on how climate variability impacts mountainous forests
- Develop and execute **analytical approaches** combining tree-ring data (width and stable isotopes; ^{13}C & ^{18}O), remote sensing observations, machine learning, and ecological/hydrological modeling to assess forest resilience under stressors like warming and drought
- Co-lead multi-day **field campaigns** for data collection in the Rocky Mountains
- **Publish** high-impact, peer-reviewed journal papers and present findings at scientific conferences
- Actively participate in project meetings, workshops, and inter-institutional collaborations
- Engage in mentorship students, contribute to grant proposal writing, and participate in academic service to build independence beyond primary research

Minimum Education & Experience

- Ph.D. in hydrology, tree physiology, forestry, ecohydrology, or a closely related field
- Demonstrated evidence of strong research capabilities and a solid publication record
- Quantitative and computational skills, including proficiency in programming with Python or R
- Core domain knowledge in one or more relevant fields: ecology, ecosystem science, ecophysiology, ecohydrology, or stable isotope applications
- Demonstrated ability to design, lead, and execute original research in ecohydrology / tree physiology
- Excellent written and oral communication skills

Preferred Experience & Skills

- Research experience in forest science, tree physiology, stable isotopes (^{13}C&^{18}O), and/or dendrochronology
- Experience processing and analyzing remote sensing data (e.g., LiDAR, hyperspectral imaging)
- Familiarity with modern workflow tools that enable large-scale data analytics and machine learning
- Strong interest in collaborative research, open science, and implementing maintainable, reusable, and well-documented software or data products for the broader scientific community
- Capability & willingness to participate in multi-day field campaigns in remote mountain environments

Apply by June 15, 2026, via this form: https://go.ncsu.edu/postdocsfa