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Opportunity Title: USFS Postdoctoral Fellowship in Applying a Risk-Based Framework for Ecological Drought
Opportunity Reference Code: USDA-USFS-SRS-2023-0479

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-SRS-2023-0479

How to Apply ***Connect with ORISE...on the GO!*** Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

A complete application package consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Selected candidate must provide proof of completion of the degree before the appointment can start. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two educational or professional recommendations. At least one recommendation must be submitted in order for the mentor to view your application.

All documents must be in English or include an official English translation.

Application Deadline 2/16/2024 11:59:00 PM Eastern Time Zone

Description ***Applications will be reviewed on a rolling-basis.**

USFS Office/Lab and Location: A fellowship opportunity is available with the US Department of Agriculture (USDA) within the Forest Service Southern Research Station located in Research Triangle Park, North Carolina.

At the heart of the U.S. Forest Service's mission is their purpose. Everything they do is intended to help sustain forests and grasslands for present and future generations. Why? Because their stewardship work supports nature in sustaining life. This is the purpose that drives the agency's mission and motivates their work across the agency. It's been there from the agency's very beginning, and it still drives them. To advance the mission and serve their purpose, the U.S. Forest Service balances the short and long-term needs of people and nature by: working in collaboration with communities and our partners; providing access to resources and experiences that promote economic, ecological, and social vitality; connecting people to the land and one another; and delivering world-class science, technology and land management.

Research Project: Forest Service Southern Research Station scientists are seeking a Postdoctoral Fellow to join our research team focused on analyzing forest change and threats to forests from global change drivers. In this project, we will collaboratively investigate the factors that influence forest impacts from drought and create a risk framework that can be applied to rapidly assess the potential for forest impact from drought. As climate warms, forests are being exposed to drought more often. However, the effects of drought on forests are challenging to attribute and may take a while to document in forest inventories.

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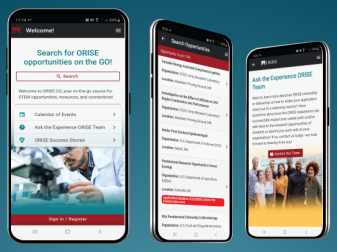
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Researching collaboratively with our team, you will analyze recent forest inventory data, along with gridded climate data and ancillary data sets such as remote sensing, land use, and other biophysical data. We will investigate which drought or related climate variables best explain observed forest impact and resilience over the past two decades, and which forest and landscape conditions have resulted in greater forest resilience from drought. We will combine this information into a risk-based framework that can be used for short-term forecasts of future risk for forest locations. In addition, this will inform longer-term projection models of potential drought impacts. We will focus on the southern U.S., with the potential to expand beyond the South.

Learning Objectives: In this project, you will have the opportunity to continue your professional development while tackling important management- and adaptation-relevant research questions in this time of rapid global change. We will produce information on risk of impact from drought that can inform forest managers and those conducting rapid forest inventories following future drought events.

Mentor: The mentor for this opportunity is Jennifer Costanza (jennifer.costanza@usda.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: Early 2024. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for two years but may be extended upon recommendation of USFS and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a yearly stipend equivalent to $75,000 per year. An allowance for health insurance and on-appointment travel will be provided.

Citizenship Requirements: This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the Guidelines for Non-U.S. Citizens Details page of the program website for information about the valid immigration statuses that are acceptable for program participation.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and USFS. Participants do not become employees of USDA, USFS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our Program Website. After reading, if you have additional questions about the application process please

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email ORISE.USFS.SRS@orau.org and include the reference code for this opportunity.

Qualifications

Doctoral Degree in one of the relevant fields (e.g., Ecology, Forestry, Climatology, Geography). All degree requirements must be complete prior to appointment start date.

Preferred Skills:

- A background in ecology or natural resources, with a working knowledge of US forest ecosystems, and especially with a background in Southern forest ecosystems.
- A background in risk analysis or risk management as applied to natural resources.
- Strong data analysis skills, including statistical models of the effects of climate and/or disturbance on ecosystems, and experience with FIA data.
- Strong data management and demonstrated experience managing, standardizing, synthesizing, analyzing, and visualizing large, disparate natural resource (e.g., forest inventory, climate, land use, soils, elevation) data sets in R or Python as well as GIS software such as QGIS or ArcGIS Pro.
- Excellent communication skills and demonstrated experience lead-authoring peer-reviewed natural resources publications.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1)
  - **Computer, Information, and Data Sciences** (2)
  - **Earth and Geosciences** (10)
  - **Engineering** (2)
  - **Environmental and Marine Sciences** (14)
  - **Life Health and Medical Sciences** (16)
  - **Mathematics and Statistics** (2)
  - **Other Non-Science & Engineering** (1)
  - **Social and Behavioral Sciences** (3)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).