

Opportunity Title: USFS Research Opportunity for Climate Analyses of Bristlecone Pine

Opportunity Reference Code: USDA-USFS-2023-0311

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-2023-0311

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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 9/29/2023 3:00:00 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) Forest Service (USFS) located in Bozeman, Montana.

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: The postgraduate will participate in a project looking at climate niches of *Pinus longaeva*, Great Basin bristlecone pine (GBBP). Changing climate, including increased periods of hot droughts, can influence the trees directly but also indirectly through effects to bark beetle populations. Warm temperatures at high elevations can be positive drivers for bark beetle population growth, and when combined with drought that stresses trees, can result in tree death. GBBP is considered the longest lived non-clonal organism globally, and therefore an iconic species of high elevation forests, valued by scientists and the public. A goal of the project is to analyze past and contemporary climate trends to better understand areas within the range of GBBP that may be more susceptible to direct and

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indirect climate-driven mortality.

Learning Objectives: The incumbent will have the opportunity to contribute intellectually to experimental design, data analysis, interpretation, and publishing and communicating findings. The participant will also be exposed to a management-based research organization (USDA Forest Service, Rocky Mountain Research Station), learn about the challenges posed by bark beetles to land managers, and how science is seeking ways to address these challenges.

Mentor: The mentor(s) for this opportunity are USDA Forest Service Research Entomologist Dr. Barbara Bentz (Logan, Utah; barbara.bentz@usda.gov) and Dr. Brian Smithers at Montana State University (Bozeman, Montana). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: August 1, 2023; start date is flexible (earlier or later).

Appointment Length: The appointment will initially be for two months beginning August 1st and extending through September 30, 2023, but may be extended upon recommendation of USFS and is contingent on the availability of funds.

Level of Participation: The appointment is part-time (20 hours per week).

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. **The current stipend for this opportunity is \$2,500 per month.**

Citizenship Requirements: This opportunity is available to U.S. citizens.

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 email USForestService@orise.orau.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's degree in one of the relevant fields (e.g., Ecology, Plant Sciences, Environmental Sciences). Degree must have been received within the past five years.

Preferred Skills:

- A strong background in computational analysis



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and comfortability coding in R and/or python.

- Experience working with climate data across large landscapes.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree received within the last 60 month(s).
- **Academic Level(s):** Post-Bachelor's.
- **Discipline(s):**
 - **Environmental and Marine Sciences** ([3](#) )
 - **Mathematics and Statistics** ([3](#) )