

Opportunity Title: USDA Forest Service Post-Fire Watershed Restoration
Postdoctoral Fellowship
Opportunity Reference Code: USDA-FS-RMRS-2024-0208

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-FS-RMRS-2024-0208

How to Apply *To submit your application, scroll to the bottom of this opportunity and click **APPLY**.*

A complete application 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. Click [here](#) for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- 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.

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Application Deadline 7/26/2024 10:09:38 AM Eastern Time Zone

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

USDA Forest Service Office/Lab and Location: This fellowship is available with the Water and Watershed Program with the U.S. Department of Agriculture (USDA) Forest Service's (FS) Rocky Mountain Research Station, located in Fort Collins, Colorado. (<https://www.fs.usda.gov/research/rmrs>). The selected candidate will be co-located with multiple Forest Service research scientists.


At the heart of the USDA 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 USDA 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.


The Water and Watersheds (W&W) program's mission is to conduct basic and applied research on the effects of natural processes and human activities on watershed resources including interactions between aquatic




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and terrestrial ecosystems. The goal of this program is to develop core knowledge, methods, and technologies that enable effective watershed management in forests and grasslands, sustain biodiversity, and maintain healthy watershed conditions. The science program emphasizes integration across disciplines and with our science partners. W&W has internal research capacity for integration of physical and biological sciences that includes studies in the disciplines of atmospheric sciences, soils, forest engineering, biogeochemistry, hydrology, terrestrial and riparian plant physiology and aquatic ecology and limnology, conservation biology and fisheries. In addition, the program uses high-quality, long-term data for evaluating local, regional and national environmental change. The program also provides managers with tools to evaluate environmental change and manage terrestrial and aquatic resources.

Research Project: The ORISE fellow will participate in research on topics related to Post-fire Watershed Response and Restoration. The participant will:

- Synthesize existing research to identify gaps in understanding of how stream restoration influences watershed processes to guide new post-fire research aimed at improving post-fire management and
- Contribute to and initiate research to evaluate how wildfires reshape biogeochemical, hydrologic and geomorphic processes in burned watersheds and how restoration approaches alter those processes.

The participant will liaise with other scientists researching interrelated aspects of the post-fire watershed response and restoration. The research is regional in scope but has national and international implications.

Learning Objectives:

- The participant will conduct a synthesis of existing and on-going research to identify gaps in understanding of how stream restoration influences watershed processes to guide new post-fire research aimed at improving post-fire management and watershed conservation.
- The participant will contribute to and initiate research to evaluate how wildfires reshape biogeochemical, hydrologic and geomorphic processes in burned watersheds and how restoration approaches alter those processes. This research will contribute to efforts to identify priority areas for post-fire revegetation to reverse stream water quality and aquatic habitat impairment following severe wildfire and to evaluate the extent to which stream and riparian restoration treatments reverse post-fire stream water quality and habitat impairment.
- The participant will assist with soil, vegetation and stream sampling and ensure that data is properly collected, QA/QCed, archived and presented to the project research team.
- The participant will assist with laboratory soil nutrient assays, extract DNA, analyze C bioavailability using fluorescence and metabolism techniques to assess microbial community composition and activity.
- The participant will coordinate and liaise with other scientists researching interrelated aspects of the post-fire watershed response

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and restoration.

- The candidate will coordinate and conduct field sampling, enter, check, and manage field data, and communicate with supervisors and project partners.

Mentor: The mentor for this opportunity is Charles Rhoades (charles.c.rhoades@usda.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: August 5, 2024. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year but may be extended upon recommendation of USDA Forest Service and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. **Current stipend range is \$75,000 to \$80,665 annually.**

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 USDA Forest Service. Participants do not become employees of USDA, USDA Forest Service, 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 ORISE.USFS.RMRS@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a doctoral degree in one of the relevant fields (e.g. biogeochemistry, ecosystem ecology, soil science, hydrology, forestry, environmental chemistry), or be currently pursuing the degree with completion before December 31, 2024. Degree must have been received within the past five years.

Preferred Skills:

- Highly Preferred qualifications:
 - Understanding of stream and watershed processes, watershed effects of wildfire in the Interior Western US, watershed restoration

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approaches

- Demonstrated publication record
- Experience designing, conducting and completing biogeochemical research
- Experience writing and/or designing public-facing communications for a broad audience (e.g., newsletters, blogs, etc.)
- Experience synthesizing scientific research (i.e., peer-reviewed articles, government reports)
- Outstanding interpersonal and written and verbal communication skills
- Preferred qualifications
 - Practical experience on multi-disciplinary projects with colleagues from diverse backgrounds and areas of expertise
 - Experience facilitating stakeholder engagement
 - Ability to manage multiple and competing priorities

**Eligibility
Requirements**

- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2024 11:59:59 PM.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([1](#))
 - **Earth and Geosciences** ([2](#))
 - **Environmental and Marine Sciences** ([7](#))