Opportunity Title: USDA FS Fellowship on Socioeconomic Issues Related to Water and Wildfires in the Western United States
Opportunity Reference Code: USDA-FS-PNWRS-2024-0231

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-FS-PNWRS-2024-0231

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 8/16/2024 3:00:00 PM Eastern Time Zone

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

USDA Forest Service Office/Lab and Location: A fellowship opportunity is available with the U.S. Department of Agriculture (USDA) Forest Service (FS) at the Pacific Northwest (PNW) Research Station located in Portland, Oregon.

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.

The USDA Forest Service Pacific Northwest (PNW) Research Station's mission is to develop and communicate impartial knowledge to help people understand and make informed choices about natural resource management and sustainability. Our research improves understanding of how these complex socio-ecological systems function and how to keep them healthy and productive while balancing such objectives as reducing

the risk of catastrophic wildfire, mitigating and adapting to the effects of climate change, provisioning goods and services, addressing environmental justice, and supporting the economic sustainability of communities and tribes

Research Project: Wildfires have increased in frequency and intensity over the last decade and are affecting communities directly and indirectly through their impacts on the landscape and ecosystem function. Communities may have different capacities to adapt and mitigate wildfire risk to drinking water, leaving disadvantaged communities potentially more vulnerable to the effects of wildfires on watersheds, both in the short- and long-term. Water quality and quantity are important ecosystem services watersheds and national forests provide and research has shown that wildfires effect physical water quality characteristics. Since watershed management of forests for drinking water yield co-benefits to the broader ecosystem (e.g., aquatic and terrestrial biodiversity, recreation, etc.), policy options include a combination of risk management reduction and conservation efforts.

This project will focus on 1) the socioeconomic impacts of wildfires on water security for communities in the West and 2) understanding the set of options available pre- and post-fire to agencies, managers, and landowners as they manage for risk and ecosystem services.

Research activities may include:

- Explore the socioeconomic impacts of wildfires on water quality and supply as well as the environmental justice dimensions of the issues.
- Contribute to research conducted by the USDA FS and academic partners on the topic
- Collaborate with researchers from the USDA FS and academic partners
- Participate in regular meetings with mentor(s) and research team.
- Developing updated reports (oral, written) to inform mentors and collaborators about activities and results concerning research progress (e.g., presentations, posters, and manuscripts).
- Communicating scientific findings by presenting results at scientific meetings.

Learning Objectives: The participant will develop skills in designing, conducting, analyzing, and interpreting data for communication to the broader scientific audience. The participant will learn and participate in advances in using ecosystem service valuation in the development of decision-support tools. The research participant will also be part of a large multidisciplinary team of academic and government collaborators addressing relevant questions concerning wildfire and drinking water security in the Pacific Northwest. The research participant will have opportunities to present research findings at major society conferences and interact with a broad group of scientists at the USDA-FS and elsewhere.

Mentor: The mentor for this opportunity is Sonja Kolstoe (sonja.kolstoe@usda.gov). If you have questions about the nature

of the research please contact the mentor.

Anticipated Appointment Start Date: Summer/Fall 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-FS 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.

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-FS. Participants do not become employees of USDA, USDA-FS, 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.PNWRS@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a Master's Degree or Doctoral Degree in one of the relevant fields or be currently pursuing the degree with completion before start of appointment. Degree must have been received within the past five years.

Preferred Skills:

- Strong modeling skills
- Familiarity with, and experience in, conservation finance models (e.g., conservation reserve site selection models, portfolio optimization, etc.)
- Technical writing and communication skills
- Experience with mathematical optimization, linear programing, and integer programing
- Proficiency in ArcGIS, GAMS, R, STATA, and/or Matlab
- Willingness to learn programming languages
- Experience working with large datasets

Eligibility

- **Degree:** Master's Degree or Doctoral Degree received within the last 60

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Requirements

months or currently pursuing.

- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 👁)
  - **Environmental and Marine Sciences** (1 👁)
  - **Mathematics and Statistics** (3 👁)
  - **Social and Behavioral Sciences** (4 👁)