

Opportunity Title: USFS Postdoctoral Fellowship in Hydrological Research on Stream Temperature Regimes

Opportunity Reference Code: USDA-USFS-2022-0009

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-2022-0009

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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.

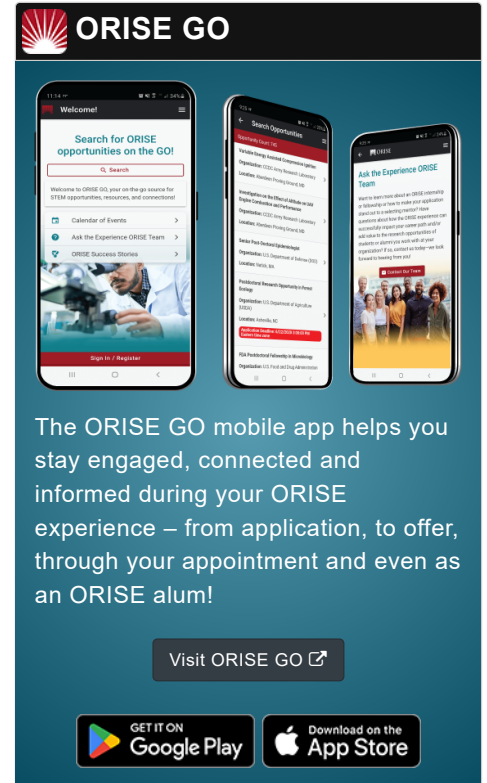
All documents must be in English or include an official English translation.

Description ****Applications will be reviewed starting December 5, 2021 and will continue until position is filled.***

USFS Office/Lab and Location: A research opportunity is available with US Forest Service (USFS), Pacific Northwest (PNW) Research Station located in Corvallis, Oregon.

The Pacific Northwest (PNW) Research Station is a leader in the scientific study of natural resources. We generate and communicate impartial knowledge to help people understand and make informed choices about natural resource management. The Station has 11 laboratories and research centers in Alaska, Oregon, and Washington as well as 12 active experimental forests.

Research Project: Stream temperature is a fundamental property of streams that drives both physical and ecological processes, and the factors that control stream temperature are well understood. However, we are unable to accurately predict stream temperatures across landscapes or their response to forest harvest or other disturbance over large geographic areas with a spatial grain small enough to be informative to land managers. This project capitalizes on high resolution stream temperature data to explore physical controls on stream temperatures and energy budgets with implications for ecological responses and societal impacts. The participant will combine first-principle energy budgets with analysis of temperature records that considers covariates describing geomorphologic, climatic, and vegetative attributes of streams and watersheds over a wide geographic area in the Pacific Northwest. This



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analysis will be used to test first-order hypothesis on landscape factors controlling stream thermal regimes and their sensitivity to disturbances and climate change. This exploration will involve a combination of empirical data analysis and temperature modeling using state of the art process based models as well as correlative relationships.

Learning Objectives: The participant will learn to interpret landscape-level patterns in stream temperature regimes, and the value of a critical zone perspective when approaching problems of this nature. The participant will engage with a multidisciplinary team of hydrologists, ecologists, and geomorphologists, may present findings at professional meetings, and lead or participate in manuscript preparation. The participant will be a member of a team addressing complementary questions around forest-stream interactions and will collaborate with other federal and university scientists.

Mentor: The mentors for this opportunity are Sherri Johnson (sherri.johnson2@usda.gov), Steven Wondzell (steven.wondzell@usda.gov), Becky Fasth (becky.fasth@oregonstate.edu) and Gordan Grant (Gordon.grant@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: Early to Mid-2022. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but will be extended for an additional year upon recommendation of USFS.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a yearly stipend ranging from \$55,000-\$60,000 plus coverage for 75% of the health insurance costs.

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

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

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please email USForestService@orise.orau.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, or be currently pursuing the degree with completion by June 15, 2022. Degree must have been received within the past five years.

Preferred skills:

- Strong background in one or more of the following disciplinary areas: physics, hydrogeology, geology, hydrology, climatology
- Familiarity with tools such as GIS and geospatial analysis, modeling, and statistical analysis
- Familiarity with issues surrounding forest landscapes and heat budgets
- Ability to write peer-reviewed publications

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 6/15/2022 11:59:00 PM.
- **Overall GPA:** 3.50
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (12 )
 - **Computer, Information, and Data Sciences** (2 )
 - **Earth and Geosciences** (21 )
 - **Engineering** (8 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (13 )
 - **Physics** (4 )
 - **Social and Behavioral Sciences** (1 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).