

**Opportunity Title:** USFS Postdoctoral Fellowship in Hydroecological Research on Stream Flow

**Opportunity Reference Code:** USDA-USFS-2022-0008

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-USFS-2022-0008

**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.

**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.

U.S. Department of Agriculture, Forest Service Research and Development is a world leader in forestry research and has been integral to the mission of the Forest Service since the agency's inception in 1905. We study the most pressing natural resource management issues of our day, generating science findings and tools that help sustain the health, diversity, and productivity of our national forests and grasslands—and ultimately enhance the rigor and impact of the entire agency.

Forest Service Research and Development supports the sustainable management and restoration of Federal, State, and private forests and grasslands. The research informs strategies to improve the quality and quantity of water on National Forest System lands. National forests provide clean drinking water to more than 60 million people and are the largest source of municipal water in the United States.

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:** The relationship between forest management and stream flow is a long-standing, yet unresolved, issue in the western US. This project seeks to better understand these relationships with the overarching goal of providing guidance to land management agencies and practitioners. The participant will conduct research aimed at exploring landscape-level hydroecological controls on streamflow generation,



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especially during late-summer low-flow periods. The research effort will identify how these controls vary across Pacific Northwest landscapes, and in relation to forest harvest, as well as other land management activities, natural disturbance, and climate change. To address this, the participant will analyze long-term climate and stream flow records, conduct targeted field campaigns, and review relevant literature. These data and information will be used to parameterize ecohydrological models which will then be used to investigate the hydroecological mechanisms that control stream flow responses to land management activities, explore scaling effects from small watersheds to large basins, and include considerations of climate change. Based on literature review and research results, the participant will critically evaluate previous studies and synthesize results.

**Learning Objectives:** This project offers the participant the opportunity to learn and be involved in cutting edge research and forge new understandings of hydroecological linkages, pathways, and interactions across diverse landscapes using multiple types of analyses and programs. The participant will collaborate with a multidisciplinary team of hydrologists, ecologists and will have the opportunity to present findings at professional meetings and lead or participate in manuscript preparation. The person selected will be a member of a team addressing complementary landscape problems and interacting with other federal and university scientists.

**Mentor:** The mentors for this opportunity are Steven Wondzell ([steven.wondzell@usda.gov](mailto:steven.wondzell@usda.gov)), Becky Fasth ([becky.fasth@oregonstate.edu](mailto:becky.fasth@oregonstate.edu)), Gordon Grant ([Gordon.grant@usda.gov](mailto:Gordon.grant@usda.gov)) and Sherri Johnson ([sherri.johnson2@usda.gov](mailto:sherri.johnson2@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 please

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email [USForestService@orise.orau.gov](mailto: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 February 2022. Degree must have been received within the past five years.

Preferred skills:

- Strong background in hydroecological modeling
- Experience/education in one or more of the following disciplines: hydrology, hydromorphology, geohydrology, hydroecology, environmental engineering, or plant physiology
- Experience with climatic data sets and geospatial modeling
- Familiarity with issues surrounding forest landscapes
- 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 2/28/2022 11:59:00 PM.
  - **Overall GPA:** 3.50
  - **Academic Level(s):** Graduate Students or Postdoctoral.
  - **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).