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Opportunity Title: USFS Streamflow Permanence Research Opportunity
Opportunity Reference Code: USDA-USFS-2023-0227

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-2023-0227

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, including Cover Letter (please upload with CV/resume)
- 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 7/7/2023 3:00:00 PM Eastern Time Zone

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

USFS Office/Lab and Location: This fellowship is available with the US Department of Agriculture (USDA) Forest Service's (USFS) located in Corvallis, 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.

Research Project: The fellow and trainee in these appointments will be involved in our team's flow permanence project. Their learning will involve the full cycle of research: starting with navigating in the field to collect observations using the FLOw PERmanence (FLOwPER) app, then conducting research on quality control (QC) for archiving of those data and input of data to analytical models. QC includes anomaly detections, geospatial processing and analyses using ArcGIS pro. Fellows will have the opportunity to learn R and Python software for data engineering as they explore novel variable combinations for characterization of conditions pertinent to streamflow. Fellows will conduct research using the Western Oregon Wet Dry model to generate predictions of flow permanence based

on landscape, geology, vegetation and other factors.

Learning Objectives: Over the course of the fellowship fellows will gain experience with documenting processes and data with metadata, sharing R and Python code using GIT, and documenting code with Jupyter Notebooks. They will be involved in presentations of findings to at scientific meetings and meetings with managers. These activities will enhance their professional development, build confidence and analytical skills, familiarize them with USDA research topics and expose them to future career opportunities.

Mentor: The mentor for this opportunity is Jonathan Burnett (jonathan.burnett@usda.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: June 2023. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for three months but may be extended upon recommendation of USFS 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 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 email USForestService@orise.orau.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's, master's, or doctoral degree in one of the relevant fields, or be currently pursuing the degree with completion before October 1, 2026. Degree must have been received within the past three years.

Preferred Skills:

- Experience collecting field data to support ecological (or related field) research and is familiar with following protocols.

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- Expertise in any of the following is desirable: data science, GIS, hydrology, geomorphology, remote sensing, R programming, Python Programming.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 36 months or anticipated to be received by 10/1/2026 12:00:00 AM.
- **Overall GPA:** 3.00
- **Academic Level(s):** Graduate Students, Post-Bachelor's, Postdoctoral, Post-Master's, or Undergraduate Students.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (6 👁)
  - **Earth and Geosciences** (7 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (11 👁)
  - **Life Health and Medical Sciences** (5 👁)
  - **Mathematics and Statistics** (11 👁)
- **Age:** Must be 18 years of age