

Opportunity Title: USFS Erosion and sediment transport at Caspar Creek
Experimental Watersheds
Opportunity Reference Code: USDA-USFS-PSWRS-2023-0487

Organization U.S. Department of Agriculture (USDA)

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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.

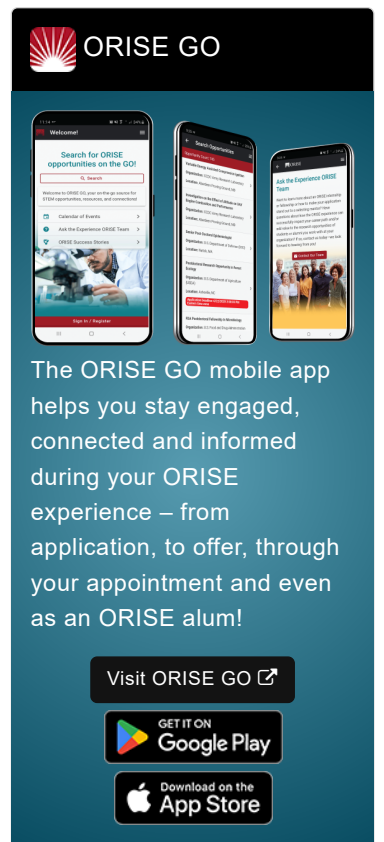
Application Deadline 2/16/2024 11:59:00 PM Eastern Time Zone

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

USFS Office/Lab and Location: A fellowship opportunity is available with the US Department of Agriculture (USDA) Forest Service (USFS) within the Pacific Southwest Research Station (PSWRS) located in Fort Bragg, California.


The mission of the U.S. Forest Service since its inception in 1905 is to help sustain forests and grasslands for present and future generations. Their stewardship work supports nature in sustaining life. To advance this mission, 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 Research and Development branch creates and communicates knowledge and develops applications and tools so that the Forest Service Systems staff and other land managers can use the best available scientific information to make their decisions.


Research Project: We seek an exceptional candidate in hydrology, geomorphology, or a closely related field for a post-graduate fellowship with the long-term Caspar Creek watershed experiments. The fellow will collaborate with staff at the US Forest Service's Pacific Southwest Research Station (PSW), the California Department of Forestry and Fire Protection (CAL FIRE), and other partners. The opportunity is located near Caspar Creek in Fort Bragg, CA, where the fellow will join the Caspar Creek research team to study bedload sediment transport and sediment delivery from forest roads. The fellow will collect, interpret, and develop written and oral communications related to these and other ongoing field-




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based research projects at Caspar Creek and in the surrounding Jackson Demonstration State Forest. The fellow will also assist with other field study installation and data collection and engage with our partners and develop outreach opportunities and materials for the public and other researchers.

The Caspar Creek watersheds are the only long-term research watersheds in managed coast redwood forests, and are among a small number throughout the US with streamflow and sediment records spanning more than 50 years. Previously published South Fork studies at Caspar Creek focused their attention on early harvest techniques and examined hydrogeomorphic responses to more severe hillslope and stream channel damage, followed by studies in the North Fork documenting the impacts from even-aged management. The most recent timber harvest experiment is examining impacts from contemporary timber operations using best management practices that have been designed to limit impacts of timber harvest on hydrogeomorphic function. More information can be found at:

<https://doi.org/10.3389/ffgc.2021.691732>

<https://doi.org/10.1002/hyp.14207>

<https://www.fs.usda.gov/research/psw/forestsandranges/locations/casparcreek#overview>

Learning Objectives: The assignment entails challenges to advance our basic understanding of how hydrology, geologic setting, forest practices, and other factors affect water quality in coast redwood forests. Potential applications of the fellow's efforts will include: use in designing restoration of the functional attributes of riparian and upland zones; understanding effects of timber harvest on bedload sediment delivery at high temporal resolution; and understanding how different types of forest roads contribute to sediment delivery to streams.

Mentor: The mentor for this opportunity is Joseph Wagenbrenner (joseph.wagenbrenner@usda.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: January 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 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

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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 ORISE.USFS.PSWRS@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a master's or doctoral degree in one of the relevant fields. Degree must have been received within the past five years.

Preferred skills:

- Interest in conducting field-based science in a research watershed.
- Training and experience in GIS, statistics (e.g., R, SAS, MatLab).
- Experience implementing a research project from start to finish and addressing each aspect of the scientific method.
- Demonstrated ability to write high-quality reports or publications.
- Experience with developing technology transfer or interpretive products for to engage the public.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Master's Degree or Doctoral Degree received within the last 60 month(s).
 - **Academic Level(s):** Graduate Students, Postdoctoral, or Post-Master's.
 - **Discipline(s):**
 - **Earth and Geosciences** (2👁)
 - **Engineering** (2👁)
 - **Environmental and Marine Sciences** (6👁)
 - **Physics** (1👁)
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).