

**Opportunity Title:** USDA-FS Caspar Creek Transpiration Fellow

**Opportunity Reference Code:** USDA-FS-PSWRS-2024-0280

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

**Reference Code** USDA-FS-PSWRS-2024-0280

**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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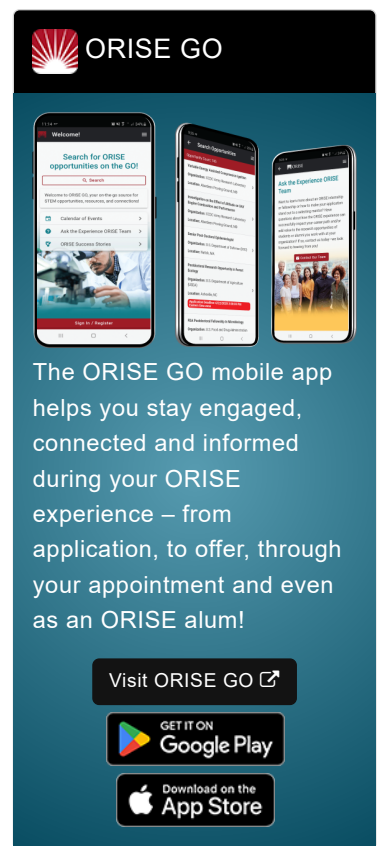
**Application Deadline** 8/30/2024 3:00:00 PM Eastern Time Zone

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

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


At the heart of the USDA 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 USDA 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:** We seek an exceptional candidate in hydrology or a closely related field for a faculty 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




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Northern Arizona University. The opportunity is located near Caspar Creek in Arcata, CA, where the fellow will join the Caspar Creek research team to the study effects of timber harvest, weather patterns, and meteorological conditions on tree water use using sap flux sensors. The fellow will review and interpret data, and develop written and oral communications related to these and other ongoing field-based research projects at Caspar Creek.

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://research.fs.usda.gov/psw/forestsandranges/locations/casparcreek>

**Learning Objectives:** The assignment entails challenges to advance our basic understanding of how hydrology, geologic setting, forest practices, and other factors affect water movement through coast redwood forests. Potential applications of the fellow's efforts will include: use in designing harvest or thinning operations; understanding effects of timber harvest on magnitude and timing of transpiration in residual trees during the regrowth period; and understanding how different hillslope positions and meteorological conditions affect tree water use. The applicant will have opportunities to practice data review and quality assurance, data interpretation and graphical presentation, and developing oral and written communications for scientific and management audiences.

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

**Anticipated Appointment Start Date: August 12, 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 Forest Service and is contingent on the availability of funds.

**Level of Participation:** The appointment is full time or part 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

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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 USDA Forest Service. Participants do not become employees of USDA, USDA Forest Service, 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](mailto:ORISE.USFS.PSWRS@orau.org) and include the reference code for this opportunity.

**Qualifications** The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields.

**Preferred experience:**

- Experience analyzing water balance components in forests, particularly measuring and interpreting evaporation or transpiration from sap flux or eddy flux covariance datasets.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Doctoral Degree.
  - **Discipline(s):**
    - **Earth and Geosciences** ([3](#))
    - **Engineering** ([4](#))
    - **Environmental and Marine Sciences** ([5](#))