Opportunity Title: USFS Fellowship on Biomass and BioHubs Strategically Supporting Management of the Wildfire Crisis
Opportunity Reference Code: USDA-USFS-2022-0282

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-USFS-2022-0282
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. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- A writing sample such as a publication, paper submitted for a course, or thesis chapter (upload sample in Writing area)
- Two educational or professional recommendations. Applications need at least one recommendation submitted in order to be viewed by the mentor.

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

Application Deadline	4/28/2023 3:00:00 PM Eastern Time Zone
Description	***Applications will be reviewed on a rolling-basis.**

USFS Office/Lab and Location: A research opportunity is available at the U.S. Department of Agriculture (USDA) Forest Service (USFS), Pacific Northwest Research Station with the opportunity to be based in either Portland or Corvallis, Oregon.

Research Project: Using Forest Inventory and Analysis plot data and the BioSum modeling framework that supports analysis workflows for policy modeling based on FIA data and the projections of the Forest Vegetation Simulator, the research fellow will analyze planned implementation of fire resistance enhancing management in firesheds within 5-8 representative "priority investment landscapes" described under the Forest Service's Wildfire Crisis Strategy. The fellow will estimate merchantable wood and harvest residues produced by such management and evaluate the potential of biohubs to expand treatable forest area and enhance landscape scale fire resistance by providing markets for the material removed in treatments that would otherwise impose insurmountable disposal costs and related challenges (e.g., smoke and escapes that can result from prescribed fire operations). Findings from this inter-disciplinary effort, coordinated between USDA Forest Service Research and the Dept. of Energy's Oak Ridge National Laboratory, will also support the next semi-decadal "billion-ton report" which forecasts biomass availability across the United States. The mission of the Forest Service's Pacific Northwest
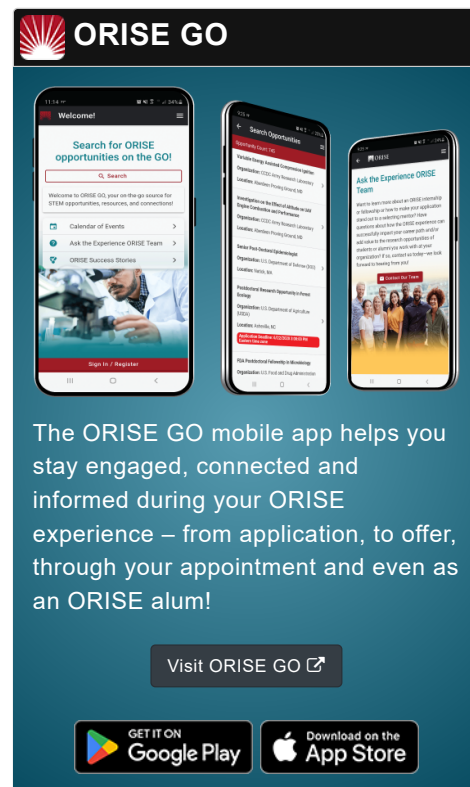
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Research Station is to generate and communicate impartial knowledge to help people understand and make informed choices about natural resource management and sustainability. Consistent with this mission and with guidance from the mentor, the participant will enjoy opportunities to:

1. Continue their professional development while addressing policy relevant questions at a pivotal moment, as changes in climate and fire are becoming increasingly apparent in west coast forests,
2. Inform and contribute to decisions about managing forest ecosystems, and
3. Gain understanding of how development of markets for wood that couldn't previously be utilized can facilitate mitigation of fire outcomes and reduce net carbon emissions.

Learning Objectives: The research fellow will develop a deep understanding of plans and potentials for modifying western forests in the highest priority areas identified under the wildfire crisis strategy to enhance their fire resistance, while maintaining compatibility with other forest objectives, and how these could play out in delivering wood residues to biomass utilization campuses. They can also gain experience in forest modeling with inventory data, gain broad perspectives on forest management through research co-production with managers and practitioners, and improve communication skills and experience by sharing information developed with management, professional and scientific communities via presentations and publishing findings in journals, reports and electronically delivered visualizations. The participant will engage with a diverse set of scientists in Forest Service Research and Oak Ridge National Lab, as well as managers in the priority landscapes selected as focal areas for this analysis.

Mentor: The mentor for this opportunity is Jeremy Fried (jeremy.s.fried@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: May 2023. Start date is flexible and negotiable 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. **Annual Stipend ranges from $65,000 to $76,000 depending on education attainment and experience. There is no relocation allowance. Health insurance can be provided as**

needed, covering 70% of premiums for insurance obtained via ORISE. There will be funds allocated for travel to conduct research and/or present research findings.

<u>Citizenship Requirements:</u> This opportunity is available to U.S. citizens only.

<u>ORISE Information:</u> 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.

<u>Questions:</u> 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 master's or doctoral degree in one of the relevant fields (e.g. Forestry, Natural Resources), or be currently pursuing a doctoral degree nearing completion. Masters-level researchers possessing exceptionally strong quantitative analysis/data science skills and forest modeling experience are encouraged to apply. Preferred Skills: - Demonstrated understanding and experience with research or practice involving forest projection models, silviculture, timber management, fire and fuels, and/or forestry applications of operations research or forest inventory analysis; - An educational background that includes training in forestry, natural resources, ecology, environmental science, geography, wildlife management, economics, operations research, statistics or a related discipline. - A research fellow with the ideal fit for this research opportunity will have: - Experience running and interpreting output from the Forest Vegetation Simulator or another stand projection system, analyzing forest inventory data, and engaging in or carrying out research related to forest or fuels management. - Strong data management skills, especially working with databases (e.g., MS Access, SQLite) and analysis programming environments (e.g., R) to link, query,

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summarize, massage and analyze large datasets to generate clearly understandable tables and graphics that convey accurate and compelling interpretations
- A proven track record with effective oral and written communications, particularly when it comes to documenting analysis processes and reporting research findings
- Experience with effectively conveying technical information to both decision-makers and scientists.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree.
- **Academic Level(s):** Graduate Students, Postdoctoral, or Post-Master's.
- **Discipline(s):**
  - **Environmental and Marine Sciences** (8 👁)
  - **Life Health and Medical Sciences** (5 👁)
  - **Mathematics and Statistics** (2 👁)
  - **Social and Behavioral Sciences** (1 👁)