

**Opportunity Title:** USGS Scalable Aerial-Seeding Restoration to Enhance Military Readiness & Wildfire Resilience  
**Opportunity Reference Code:** DOI-USGS-2026-49

**Organization** U.S. Department of the Interior (DOI)

**Reference Code** DOI-USGS-2026-49

**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.

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

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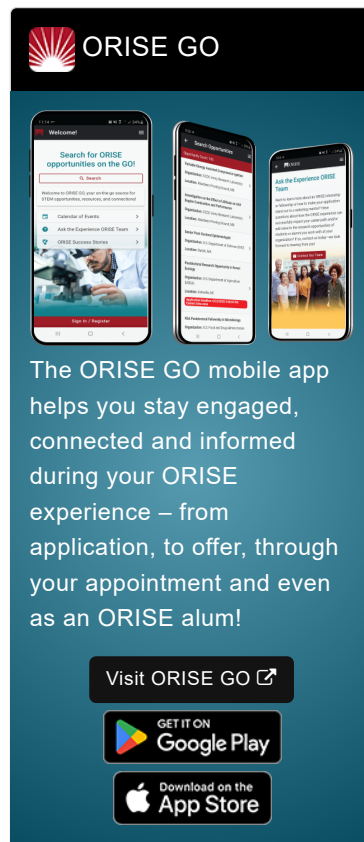
**Application Deadline** 9/30/2026 3:00:00 PM Eastern Time Zone

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

**USGS Office/Lab and Location:** A research opportunity is currently available with the U.S. Geological Survey (USGS) located in Hilo, Hawaii.

The USGS mission is to monitor, analyze, and predict current and evolving dynamics of complex human and natural Earth-system interactions and to deliver actionable intelligence at scales and timeframes relevant to decision makers. As the Nation's largest water, earth, and biological science and civilian mapping agency, USGS collects, monitors, analyzes, and provides science about natural resource conditions, issues, and problems.

**Research Project:** Hawaii's dry forests are among the most critically endangered ecosystems in the world. More than 90% of the original dry forest has been lost, and what remains faces ongoing threats from invasive grasses, increasing wildfire frequency, and climate-driven aridification. The Department of War (DoW) manages roughly 200,000 acres in Hawaii — much of it dry forest habitat that supports an extraordinary concentration of threatened and endangered native plant species found nowhere else on Earth. Restoring these ecosystems at the scale needed is a major challenge. Traditional approaches, such as growing native plants in greenhouses and hand-planting them in the field, are labor-intensive, costly, and difficult to implement across vast and rugged terrain. Even manual seed scattering has shown limited success. New, scalable restoration tools are urgently needed.



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This project, led by the U.S. Geological Survey – Pacific Island Ecosystems Research Center (USGS-PIERC), is developing and testing aerial seeding as a cost-effective solution for large-scale dry forest restoration on DoW-managed lands. Using helicopters, dry seed mixes and soil amendments are applied across degraded landscapes — an adaptation of traditional hydroseeding techniques tailored to Hawaii's water-scarce, geographically isolated conditions.

The project has four core objectives:

- Refine and test seed delivery methods suited to rugged dryland terrain
- Evaluate different seed mixes and soil amendments through field trials
- Monitor ecosystem-wide responses to restoration treatments
- Share findings with DoW land managers and the broader restoration community

By improving the effectiveness and scalability of aerial seeding, this research aims to accelerate the recovery of Hawaiian dry forests, reduce wildfire risk, and provide a replicable restoration model for dryland ecosystems across DoW installations in Hawaii and beyond.

- Biological Soil Crust Propagation
  - You will help with the cultivation and propagation of biological soil crusts (biocrusts), which play an important role in dryland restoration by stabilizing soils and supporting native plant establishment. This may include maintaining propagation cultures, monitoring crust growth, and preparing biocrust material for field application.
- Pre-Deployment Preparation
  - Prior to field deployment, you will gain experience with logistical and scientific preparations, which may include organizing and processing seed mixes and soil amendments, supporting baseline data collection, and training to set up monitoring plots that will be used to track ecosystem responses over time.
- Field Seed Deployment
  - You will participate directly in aerial seeding operations, training with the team during seed and soil amendment deployment. This is a hands-on opportunity to gain experience with restoration techniques applied across rugged dryland terrain.
- Baseline and Follow-Up Monitoring
  - You will gain experience with field monitoring before and after seed deployment, collecting data on vegetation, soils, and other ecosystem indicators. This helps with evaluating the effectiveness of different seed mixes, application rates, and soil amendments over time.

**Learning Objectives:** This fellowship offers a meaningful professional development opportunity for a student interested in ecology, conservation, or natural resource management. By training with an active USGS research team, you will gain hands-on experience in applied restoration science at a

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scale and in an ecosystem that few early-career researchers have the opportunity to access. Collaborating across the full project cycle — from laboratory propagation through field deployment and post-treatment monitoring — you will develop a well-rounded skill set that is directly applicable to careers in land management, conservation biology, and ecological research.

Specific training experiences include:

- **Field and Technical Skills:**
  - You will gain practical experience in dryland restoration techniques, biological soil crust propagation, field data collection, and ecosystem monitoring — skills that are highly valued in both research and land management careers.
- **Exposure to Applied Conservation Research:**
  - You will observe and contribute to how scientific findings are translated into on-the-ground restoration practice, developing an understanding of the full research-to-management pipeline.
- **Professional Networking:**
  - Collaborating alongside USGS scientists and collaborators, you will have the opportunity to build professional relationships with researchers and land managers at the forefront of restoration science in Hawaii and beyond.

**Mentor:** The mentor for this opportunity is Michala Phillips ([mphillips@usgs.gov](mailto:mphillips@usgs.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date:** January 11, 2027. Start date is flexible and will depend on a variety of factors.

**Appointment Length:** The appointment will initially be for 10 weeks, but may be renewed upon recommendation of DOI and is contingent on the availability of funds.

**Level of Participation:** The appointment is full time.

**Participant Stipend:** Stipend rates may vary based on numerous factors, including opportunity, location, education, and experience. If you are interviewed, you can inquire about the exact stipend rate at that time and if selected, your appointment offer will include the monthly stipend rate.

**Citizenship Requirements:** This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details page](#) of the program website for information about the valid immigration statuses that are acceptable for program participation.

**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 USGS. Participants

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do not become employees of USGS, 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:** If you have questions about the application process please email [USGS@orau.org](mailto:USGS@orau.org) and include the reference code for this opportunity.

**Qualifications** The qualified candidate should be currently pursuing or have received a bachelor's or master's degree in the one of the relevant fields. Degree must have been received within the past four years, or anticipated to be received by 6/1/2029.

**Point of Contact** [Rachel](#)

- Eligibility Requirements**
- **Degree:** Bachelor's Degree or Master's Degree received within the last 48 months or anticipated to be received by 6/1/2029 12:00:00 AM.
  - **Discipline(s):**
    - **Chemistry and Materials Sciences** ([12](#) )
    - **Communications and Graphics Design** ([2](#) )
    - **Computer, Information, and Data Sciences** ([17](#) )
    - **Earth and Geosciences** ([21](#) )
    - **Engineering** ([29](#) )
    - **Environmental and Marine Sciences** ([14](#) )
    - **Life Health and Medical Sciences** ([51](#) )
    - **Mathematics and Statistics** ([11](#) )
    - **Physics** ([16](#) )
    - **Science & Engineering-related** ([2](#) )