Opportunity Title: USGS Alaska Climate Adaptation Postdoctoral Fellowship
Opportunity Reference Code: USGS-2022-07

Organization	U.S. Department of the Interior (DOI)
Reference Code	USGS-2022-07
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 • 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	5/23/2022 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), Alaska Climate Adaptation Science Center located in Anchorage, Alaska. **Requests for remote participation may be considered on a case-by-case basis.** 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. The DOI USGS Alaska Climate Adaptation Science Center (https://akcasc.org/, https://www.usgs.gov/programs/climate-adaptation-science-centers/alaska-casc) is a regional center within the National Climate Adaptation Science Center network. The science mission of the CASCs is to “develop science, data, and tools to help natural and cultural resource managers address the impacts of climate change on fish, wildlife, ecosystems, & the communities they support.” CASCs are federal-university partnerships, and as such allow considerably flexibility in addressing the climate adaptation research needs of a wide range of collaborators, partners, and stakeholders. The Alaska CASC approaches this mission for Alaska-specific impacts of climate change and variability on landscapes and resources important to our partners in research and management. We provide climate information, projections, and climate impacts modeling for Federal agency, Tribal, and other partners. **Research Project:** The research will focus on the roles of climate variability and change in forest ecosystem responses in Alaska. Existing downscaled historical climate and future climate projections will be used to evaluate current climatic controls on forest responses (potentially including insect-driven forest mortality, wildfire regimes, or tree growth). The participant will be involved in exploring the statistical modeling of these relationships and developing future plausible impacts for climate futures. The participant will also be involved in the translational science process – collaborating with land / resource managers or other decision makers to develop information useful in existing planning processes. The participant will join a team conducting research on regional climate impacts pathways in Alaska, engage

with federal and non-federal decision makers and researchers, and gain valuable experience being a part of a partnership-driven program within a federal science agency. Collaborative, use-inspired research is a core component of the AK CASC, and this opportunity will leverage existing partnerships and established needs for climate impacts information on climate-driven forest responses and related hydrologic changes. Results of this research will fill important gaps in understanding of climate-driven disturbance in southeast and southcentral Alaska.

The participant will act as part of a research team consisting of both federal and university researchers investigating these problems. This includes all aspects of translational science – engaging in dialogue with potential users of information, preparing and analyzing climate and forest datasets, developing and executing scientific analyses inspired by their potential use in decision making, and creating translation materials useful to partners as well as presenting and publishing those results with the team that develops them. Specific project assignments include:

- Participate in dialogues with management partners to assess research needs;
- Perform research and quantitative analysis of climate observations and model projections to evaluate climate impacts on forest processes and forest hydrology, especially those associated with disturbances;
- Perform analysis and synthesis of large volumes of point and gridded climate data to create value-added products, such as maps, data layers, and models;
- Partner with a collaborative, interdisciplinary team of experts to summarize data, design analysis methods, and develop products
- Prepare and deliver oral and written summaries syntheses, reports, documents, briefing materials, fact sheets, handouts, and/or summaries of climate science relevant to fish, wildlife, and habitat management partners

Learning Objectives: The participant will learn best practices for developing climate impacts scenarios and climate futures for users in resource management, climate adaptation planning, and vulnerability assessment. The participant will also observe and participate in dialogues with other scientists and managers that center on the development of use-inspired research, which is often (though by no means always) very different from research experiences encountered in graduate school. The participant will also learn the ways in which the diverse human and physical geographies of Alaska as well as the data limitations of conducting research in remote, high-latitude systems affect what is possible in the science and translational projects done here. This knowledge base creates a strong foundation for conducting research in other areas of the planet where similar conditions can be challenging.

Mentor: The mentor for this opportunity is Jeremy Littell (jlittell@usgs.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: May 2022. 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 USGS and is contingent on the availability of funds.

Level of Participation: The appointment is full-time (40 hours per week).

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 USGS. Participants 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.

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Questions: If you have questions about the application process please email USGS@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a doctoral degree in one of the fields listed in the eligibility requirements section, or be currently pursuing the degree with completion in 2022.

Preferred Skills:

- Familiarity with climate change science and climate impacts assessment, preferably experience analyzing climate data / projections and modeling impacts responses
- Experience communicating research (oral presentations at conferences, writing / co-writing scientific journal articles, developing other communications materials for professionals or non-scientists)
- Capability in statistical computing, scripting, and/or GIS software - such as R, Python, QGIS or similar - especially ability to process raster and NetCDF datasets
- Familiarity with time series analysis, spatial statistics, or hydrologic modeling desired but not required
- Experience with co-production, knowledge-to-action, stakeholder-driven science, translational ecology, or similar

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Overall GPA:** 3.30
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (3 👁)
  - **Earth and Geosciences** (7 👁)
  - **Engineering** (1 👁)
  - **Life Health and Medical Sciences** (3 👁)
  - **Mathematics and Statistics** (2 👁)