Opportunity Title: USGS Data Integration Fellowship at the Alaska Climate Adaptation Science Center
Opportunity Reference Code: DOI-USGS-2023-15

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

Reference Code DOI-USGS-2023-15

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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. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two educational or professional recommendations.

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

Application Deadline 1/5/2024 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) at the Alaska Climate Adaptation Science Center (AKCASC) located in Anchorage or Fairbanks, Alaska. **Remote participation is a possibility.**

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 Alaska Climate Adaptation Science Center (AKCASC) is a federal-university partnership between the USGS and the University of Alaska system. Research and administration is located at University of Alaska Fairbanks (Fairbanks, AK), University of Alaska Southeast (Juneau, AK), and USGS (Anchorage, AK). Established in 2010, the Alaska CASC is Congressionally mandated to meet state and federal needs around climate impacts, adaptation, and resilience. Hosted by UAF's International Arctic Research Center with a USGS-hosted office in Anchorage, the Alaska CASC provides scientific information, tools, and techniques that managers and others interested in land, water, wildlife, and cultural resources can use to adapt to climate change. https://akcasc.org/

Research Project: Our research directions are determined by representatives of federal, state, tribal, and regional organizations. We aim to meet high-level climate science priorities while ensuring this science also is pertinent to and addresses management needs. We create and use high-resolution climate models and derivative products to help project ecological and population responses at national, regional, and local scales. We

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integrate physical climate models with ecological, habitat, and population response models. We develop methods to assess vulnerability of species, habitats, and human communities. We develop standardized approaches to modeling, monitoring, data management and decision support.

The selected participant will assist in the development of quantitative climate and ecological scenarios, including climate impacts modeling and summary products, derived from existing high-resolution climate data and projections. Participant will leverage existing capacity that develops climate impacts information on climate-driven environmental changes in Alaska, northwest Canada, and the Arctic. Results of this research will fill important gaps in understanding of climate-driven impacts in Alaska and be used to support adaptation planning and dialogue with natural and cultural resource managers. Project funding for two years is available.

Learning Objectives: The objective is to help the AKCASC provide climate information to collaborators and managers and refine that information to meet agency management and decision-making needs. Through this fellowship, the participant will have the opportunity to: co-develop foundational data sets and derived information to support and communicate research on regional climate impacts in Alaska and the Arctic; gain experience developing actionable science tailored to the needs of 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.

Mentor: The mentor for this opportunity is Jeremy Littel (jlittell@usgs.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 USGS 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 based on education and experience. **The current stipend range for this opportunity is $51,332 - $77,898 per year plus an additional travel and supplies allowance.**

Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents.

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.

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 master's or doctoral degree in one of the relevant fields listed in the eligibility requirements section, or be currently pursuing one of the degrees with completion before January 1, 2024. Degree must have been received within the last five years.

Preferred Skills:

- Background and capability in data science and statistical computing, scripting, including capability with multiple geospatial data production and analysis languages, frameworks, and technologies - such as R, Python, QGIS, GDAL, Julia, Pandas, Google Earth Engine, or similar - especially ability to process and analyze raster and NetCDF datasets
- Expert analytical, troubleshooting, and critical thinking skills
- Knowledge of, and ability to implement, scientific metadata standards and protocols
- Knowledge of Quality Assurance / Quality control as it applies to geospatial scientific datasets and analysis
- Knowledge of Linux filesystems (or similar, as appropriate) able to manage data and execute processing code on clusters/processing node desired but not required
- Experience analyzing climate data / projections and quantifying/modeling impacts responses desired but not required
- Ability to work effectively and productively in digital collaboration and communication environments with teams of diverse professionals, possibly remotely
- Expertise with time series analysis, spatial statistics, or hydrologic modeling desired but not required

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or anticipated to be received by 1/1/2024 12:00:00 AM.
- **Overall GPA:** 3.50
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (4 👁)
  - **Earth and Geosciences** (4 👁)
  - **Environmental and Marine Sciences** (1 👁)
  - **Life Health and Medical Sciences** (6 👁)
  - **Social and Behavioral Sciences** (1 👁)