

Opportunity Title: USGS Data Informatics Fellowship at the National Climate Adaptation Science Center

Opportunity Reference Code: DOI-USGS-2024-09

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

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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 recommendation.

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

Application Deadline 5/10/2024 3:00:00 PM Eastern Time Zone

Description **USGS Office/Lab and Location:** A research opportunity is currently available with the U.S. Geological Survey (USGS) at the National Climate Adaptation Science Center (NCASC) located in Reston, Virginia. **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 National Climate Adaptation Science Center (NCASC) is a national center for independent and collaborative research on climate change vulnerability and adaptation. It also serves as the managing entity for the broader CASC network, providing leadership and guidance in administration, communication, partnership coordination, and data/program management. <https://www.usgs.gov/programs/climate-adaptation-science-centers/national-casc-0>

Research Project: Climate change has broad and complex effects on natural systems, impacting everything from how plants grow to how often a region floods. Traditional management paradigms, which look to the past to guide decisions, are becoming less effective in this changing world. As a result, many resource stewards are searching for new and innovative tools to



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help guide their landscapes into the future. The National CASC (NCASC) generates science and decision-making tools to help our nation respond to novel resource management challenges brought on by climate change.

The selected participant will be stationed within the National Climate Adaptation Science Center (NCASC) working on data informatics. The participant will support NCASC and partner projects; develop and maintain NCASC large-scale datasets (such as the U.S. Inland Creel and Angler Survey Catalog, [CreelCat](#), and the Fish and Climate Change Database, [FiCli](#)); develop and maintain applications for data integration and visualization; and, assist with complying with USGS data management requirements.

Learning Objectives: The participant will help the NCASC manage big data and to develop data processing workflows in support of actionable, open, and replicable science. Through this research, the participant will have the opportunity to: gain experience developing innovative solutions for ecological big data challenges; expand his/her/their technical skill set for conducting research; and receive mentoring from USGS ecologists and data scientists in the CASC network and Ecosystems Mission area of the USGS.

Mentor: The mentor for this opportunity is **Abigail Lynch** (ajlynch@usgs.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: **May 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 may be part- to full-time.

Participant Stipend: The participant will receive a monthly stipend based on education, experience, and full-/part-time status. **The current (full-time) stipend range for this opportunity is \$59,966 - \$86,962 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

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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 Currently pursuing a Master's Degree or Doctoral Degree or received within the last 60 months.

Preferred Skills:

- Strong analytical, troubleshooting, and critical thinking skills.
- Ability to clearly communicate technical concepts to others and prepare well-written documentation of methods used.
- Ability to assess workflows, make improvements, and document processes.
- Experience with data processing, formatting, and manipulation in R, particularly with Tidyverse functions.
- Experience developing creative solutions to extract data from varied sources (e.g., scraping HTML, use of regex to query messy data).
- Experience developing metadata.
- Experience developing R shiny applications, particularly those that include mapping and plotting functionality using key packages such as Tidyverse, SF, Plotly, Leaflet, and DT.
- Familiarity with hierarchical data as well as developing and maintaining relational databases.
- Familiarity with geospatial tools (e.g., SF/Terra in R; ArcGIS; Grass/QGIS).
- Familiarity with natural resource sciences.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Overall GPA:** 3.50
- **Academic Level(s):** Graduate Students, Postdoctoral, or Post-Master's.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (17 )
 - **Earth and Geosciences** (21 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (51 )
 - **Social and Behavioral Sciences** (30 )