Opportunity Title: USGS Water Use Estimation for Data Center Industry
Opportunity Reference Code: DOI-USGS-2026-70

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

Reference Code DOI-USGS-2026-70

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. 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.

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Application Deadline 10/15/2026 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 Evanston, Illinois. This is not a remote opportunity.

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

Research Project: Rapid expansion of data centers to support artificial intelligence and cloud computing, accelerated by federal policy (Executive Order 14179), has created an emerging water-use category with important implications for water resources and infrastructure. Consistent with the USGS mission to provide impartial scientific information about the Nation's water resources, this research participation opportunity offers a mentored learning experience focused on advancing methods to estimate direct data center water use under varying climatic, technological, and operational conditions. You will conduct research that synthesizes publicly available information (for example, utility reports, sustainability disclosures, and cooling technology specifications) and other compiled datasets to explore uncertainties in reported water use and to develop a pilot, regionally scalable modeling framework. The primary focus of this appointment is to provide hands-on training in data synthesis, uncertainty evaluation, and predictive modeling while contributing to foundational science that may inform future national assessments.

Learning Objectives: Through this mentored research experience, you will:

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1. Gain experience compiling and comparing structured and unstructured datasets to identify key uncertainties in estimating direct data center water use, including development of reproducible data extraction and documentation approaches; and
2. Develop and evaluate a regional machine learning modeling framework that integrates facility characteristics, cooling technologies, and environmental conditions to explore water-use estimates under multiple growth and climate scenarios, while strengthening skills in feature engineering, model evaluation, uncertainty analysis, and clear scientific communication.

Mentor: The mentor for this opportunity is Guoxiang Yang (gyang@usgs.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: October 19, 2026. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for two years, 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 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.

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 relevant fields. Degree must have been received within the past three years.

Preferred skills:

- The ideal candidate is highly motivated, eager and capable of learning new things, and able to perform both independently as well as with a team.

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Point of Contact Rachel

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 36 month(s).
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1)
  - **Earth and Geosciences** (2)
  - **Engineering** (1)
  - **Environmental and Marine Sciences** (1)