

Opportunity Title: Watershed Characteristics Web-based Tool Development and Support

Opportunity Reference Code: EPA-ORD-NHEERL-WED-2018-12

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply A complete application consists of:

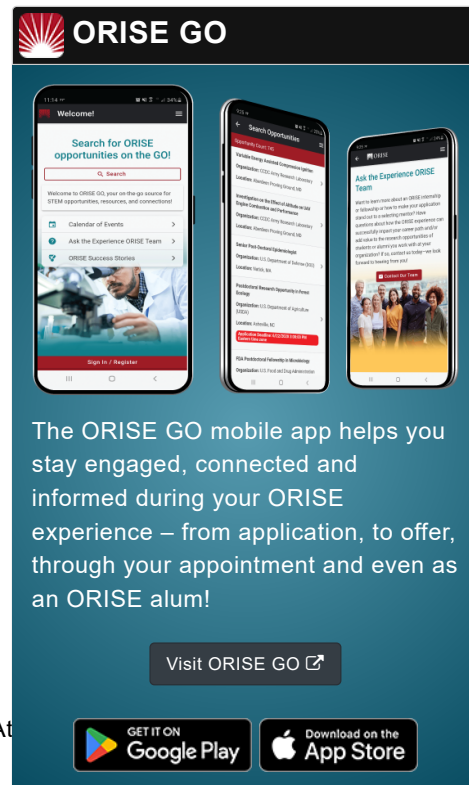
- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional references

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

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Description As a part of the Safe and Sustainable Water Resources National Research Program, EPA researchers have developed the StreamCat (<ftp://newftp.epa.gov/EPADDataCommons/ORD/NHDPlusLandscapeAttributes/LakeCat/welcomePage.html>) and LakeCat (<ftp://newftp.epa.gov/EPADDataCommons/ORD/NHDPlusLandscapeAttributes/LakeCat/welcomePage.html>) datasets. These contain an extensive collection of landscape metrics for about 2.6 million streams and 378 thousand lakes and associated catchments within the conterminous US. StreamCat and LakeCat data are currently stored on an EPA ftp site as csv files and available to the public. While these two datasets provide an important tool for researchers and managers to understand and characterize the Nation's rivers, streams, and lakes, there is no user-friendly interface and so data are not easily accessible to non-specialists. To make the data more accessible to both technical and non-technical users, EPA would like to develop web-based software applications that will allow for simple interactive queries, easy-to-use batch retrievals, and basic tools that could be used for data analysis. This would likely involve development and/or use of a server database and web services. This effort could make use of a variety of programming languages and platforms, so we are looking for a candidate with a broad range of skills and a willingness and desire to learn new ones, though knowledge of Python, Java, Javascript, and PHP is desirable.

The participant will gain expertise in developing code by writing a variety of applications. This may include database applications and interactive web applications. The research participant will gain experience in developing user interface designs and graphical user interfaces. The research participant will develop



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expertise in communicating to a variety of technical and non-technical audiences by developing technical and end-user documentation, preparing reports and summaries of data, presenting results at meetings, and contributing to publications. The research participant will develop collaborative skills through interaction with a team of researchers having diverse interests such as computer scientists, aquatic and landscape ecologists, geographers, and other environmental scientists.



Ideal candidates will have a strong background in software development. These candidates will have experience in a number of different computer languages, including at least one object oriented language as well as experience with databases and web development. Experience with GIS and training in one of the sciences is desirable.

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 EPA. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.

The mentor for this project is Dr. Scott Leibowitz (leibowitz.scott@epa.gov). The anticipated start date for the appointment is October 1, 2018.

Qualifications Applicants should have a Bachelor's or Master's degree in Computer Science or Engineering, with a strong background in software development. A Master's degree in another scientific discipline with demonstrated software development skills is also acceptable. The degree must be received within five years of the appointment start date. Strong written, oral and electronic communication skills preferred.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 month(s).
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (6 )
 - **Engineering** (2 )