

Opportunity Title: Identification of Streamflow Duration Indicators

Opportunity Reference Code: EPA-ORD-NERL-SED-2019-08



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Organization U.S. Environmental Protection Agency (EPA)

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How to 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. All transcripts must be in English or include an official English translation. 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

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

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

Application Deadline 9/11/2019 3:00:00 PM Eastern Time Zone

Description *Applications will be reviewed on a rolling-basis.

A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), National Exposure Research Laboratory (NERL), Systems Exposure Division (SED) in Cincinnati, Ohio.

Despite flow permanence being a fundamental characteristic governing ecological structure and function of streams, hydrological data to classify streams by flow permanence is limited spatially and temporally. The use of physical and biological features (indicators) that reflect the typical duration of flow is one approach to classify streams by their flow permanence where continuous hydrological data is lacking. The research participant may collaborate with a team of EPA scientists in using a national physical and biological dataset to inform possible measures to guide the development of rapid streamflow duration assessment methods (SDAMs) tailored for different regions of the country. The research participant's research may include synthesizing existing literature on physical, chemical and biological features of streams and their relationships to flow regime. The research participants will be trained on the creation of documents and databases that expedite development of regional SDAMs through use of statistical analyses of existing datasets and detailing a robust approach to interpret flow permanence through physical and biological indicators.

The research participant will gain knowledge of how the EPA scientists interacts within the federal government and with relevant stakeholders on issues related to water body classification and assessment.

The research participant may interact with ORD scientists and their collaborators from a broad range of disciplines and research topics. The research participant may be included in efforts to develop novel technology and other tools used to assess,

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protect, and restore environments.

This research project may contribute research, development, and demonstration of innovative technologies and approaches that improve the mapping of aquatic resources to support regulatory and non-regulatory needs. The research project supports ORD 's Safe and Sustainable Water Resources National Research Program.

The mentor for this opportunity is Dr. Ken Fritz (fritz.ken@epa.gov).

Anticipated Appointment Start Date: October 1, 2019

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 at EPA in the Cincinnati, Ohio, area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.








Qualifications

The qualified candidate should have received a master's or doctoral degree in one of the relevant fields, or be currently pursuing one of the degrees and will reach completion by the start date of the appointment. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Strong statistical analysis skills, including machine learning, multivariate analysis, and detection ecological thresholds
- Experience with large biotic community and environmental datasets
- Knowledge or practical experience with the ecology and/or hydrology of rivers and streams (including intermittent and ephemeral)
- Strong written and oral communication skills, and ability to comfortably interact with small and large groups of stakeholders

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or anticipated to be received by 10/1/2019 11:59:00 PM.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (1 )
 - **Earth and Geosciences** (21 )
 - **Engineering** (27 )
 - **Environmental and Marine Sciences** (14 )
 - **Life Health and Medical Sciences** (45 )
 - **Mathematics and Statistics** (10 )
 - **Social and Behavioral Sciences** (1 )