

**Opportunity Title:** Ecology: Wetland Restoration Research  
**Opportunity Reference Code:** ERDC-EL-2020-0036

**Organization** U.S. Department of Defense (DOD)  
**Reference Code** ERDC-EL-2020-0036  
**How to Apply** **How to Apply**

Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records
- Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

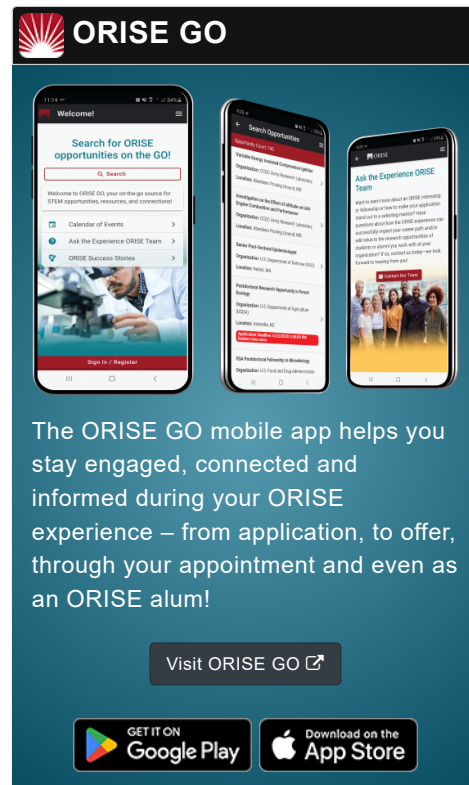
If you have questions, send an email to [USACE@orise.ora.gov](mailto:USACE@orise.ora.gov). Please list the reference code of this opportunity in the subject line of the email.

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

## Description

The Environmental Laboratory (EL) provides relevant, value-added technology supporting the environmental mission of the US Army Corps of Engineers, the Army, the Department of Defense (DoD), and the Nation. Headquartered in Vicksburg, Mississippi, the EL's interdisciplinary staff of over 220 engineers, scientists, technicians, and support personnel plans and executes all phases of the technology development process, from basic research to field implementation to commercialization. The EL staff consists of problem solvers who use research, development, experimentation, special studies, and technical support to address the needs of national and international business development partners. Partnering with Federal and State agencies, academia, and the private sector, the EL uses its distinctive technical capabilities to resolve complex, multi-disciplinary environmental sustainability problems.

Under the guidance of a mentor, the selected candidate will participate with USACE Engineer Research and Development Center (ERDC) Environmental Laboratory (EL) wetland and soil scientists on research that will expand our understanding of wetland responses to natural to restoration activities. Specifically, the candidate will conduct research investigating the formation and fate of iron sulfides (FeS) in a restoration context. Recent studies have documented the development of FeS following restoration actions, and FeS has the capacity to alter soil chemistry through oxidation and generation of sulfuric acid. As a result, materials containing FeS pose challenges to wetland restoration success and more research is required to inform wetland restoration practitioners about this topic. The candidate will participate with the design and execution of mesocosm and field studies investigating FeS formation and fate under a variety of wetland restoration scenarios. The results of those studies will be used to parametrize a model to predict the effect of FeS on future restoration initiatives. We anticipate that the research effort will result in the development of several journal articles, conference presentations, and other opportunities for the candidate to interact with the scientific community and develop



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their career.

### Appointment Length

This appointment is a full-time twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

### Participant Benefits

Participants will receive a stipend to be determined by ERDC-EL. Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. *Participants are eligible to purchase health insurance through ORISE.*
- Relocation Allowance
- Training and Travel Allowance



### Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

## Qualifications

The selected candidate will have general knowledge of wetland ecology, ecosystem function, and restoration. Ideal candidates will have experience working with wetland soil systems and have a general understanding of soil chemistry. Detailed knowledge of iron and sulfide chemistry is preferred but not required for this position. Candidates should have a strong interest in applied science and developing practical guidance for field practitioners, participate in a diverse team setting, and display the desire to publish results in peer reviewed journals. The candidate should have Master's or Doctoral degree received within the last 60 months or pursuing the degree. Candidates from backgrounds traditionally under-represented in science are strongly encouraged to apply.

### Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 )
  - **Communications and Graphics Design** (1 )

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- **Earth and Geosciences** (21 👁)
- **Engineering** (27 👁)
- **Environmental and Marine Sciences** (14 👁)
- **Life Health and Medical Sciences** (45 👁)
- **Mathematics and Statistics** (10 👁)
- **Physics** (16 👁)
- **Age:** Must be 18 years of age