

## **Project Title: Monitoring of Tree Island Condition in the Southern Everglades**

Responses to this Request for Statements of Interest will be used to identify potential investigators for a project to be funded by the Engineering Research Development Center (ERDC) which provides information regarding tree island condition in the Everglades as restoration efforts under the Comprehensive Everglades Restoration Plan (CERP) program are implemented.

Approximately \$92,667 is expected to be available to support this project for one (1) year. Funding for efforts in future years may be available up to 4 years at \$92,667/yr for a total of \$463,335 over 5 years.

### **Background:**

The Water Resources Development Act (WRDA) of 2000 authorized the Comprehensive Everglades Restoration Plan (CERP) as a framework for modifications and operational changes to the Central and Southern Florida Project needed to restore the south Florida ecosystem. Provisions within WRDA 2000 provided for specific authorization for an adaptive assessment and monitoring program. The CERP Monitoring and Assessment Plan (MAP) was developed as a framework for measuring and understanding system responses to CERP, determining how well CERP is meeting its goals and objectives, and identifying opportunities for improving the performance of CERP where needed.

Tree islands are fundamental elements within both the ridge and slough and marl prairie landscapes of the Everglades. In the past decade, tree islands have been severely damaged by drought, fire, extreme flooding, and encroaching exotic plants. This research effort will study how hydrologic restoration efforts (through CERP implementation) impact the internal water economy of tree islands and their risk to fire. It will build upon and enhance prior research which established a monitoring network of permanent sampling plots.

### **Brief Description of Anticipated Work:**

The purpose of this research is to focus on the response of tree island vegetation (e.g., recruitment and growth) to changes in the surrounding hydrology. Specifically, the objectives include:

- Objective 1: Monitoring the current condition of tree islands (in particular within Shark River Slough); and
- Objective 2: Exploring the relationships between short- and long-hydroperiod marshes, soil moisture, stress variables, and population dynamics of vegetation communities on tree islands.

### **Public Benefit:**

This project will play a critical role in building the knowledge base for understanding the ecology of tree islands and the relationship between a variety of ecology stressors, such as hydrology and soil characteristics, and tree island attributes, such as species composition and species shifts. Tree Islands are an integral ecological community of south Florida that provide a wide-range of ecosystem services. Understanding vegetation dynamics within the tree island landscape is critical to assess and predict the effects of hydrologic changes associated with ecosystem restoration and climate change which have potential impacts on the economy of South Florida, including tourism, recreational opportunities, and water management.

### **Vendor Requirements:**

The Vendor must be a non-federal partner of the South Florida – Caribbean CESU Unit willing to accept the negotiated CESU indirect cost rate of 17.5%. Successful applicants should have expert knowledge of the Everglades ecosystem (in particular Shark River Slough) and a record that demonstrates research experience with tree island vegetation communities. Candidates should have prior experience with sampling tree island vegetation composition, quantifying temporal changes in vegetation, relating vegetation responses to hydrological changes, and understanding fire dynamics within the system. Candidates will be required to prepare a Statement of Work and Work Plan regarding the research to be conducted. The candidates will also be required to submit three (3) quarterly status reports, one (1) annual report each year, and one (1) final report for all years of the contract to provide updates on monitoring, data collection and analyses, and assessments

regarding the impacts of CERP implementation on marl prairie-slough gradients.

### **Government Participation:**

The USACE will participate in study site selections, design, and work plan development. USACE will participate in field data collection efforts as appropriate, will review quarterly status reports, and will provide input to data interpretation for final reports, as well as review annual and final reports. USACE will incorporate the data and analysis into a system-wide database that assesses and evaluates ecosystem restoration efforts in central and southern Florida. Scientific and technical information generated from the project will be utilized to evaluate project/restoration performance and system responses to be used in the development of assessment reports describing and interpreting those responses.

### **Materials Requested for Statement of Interest/Qualifications:**

Please provide the following via e-mail attachment to:

Deberay.R.Carmichael@usace.army.mil

(Maximum length: 2 pages, single-spaced 12 pt. font).

1. Name, Organization and Contact Information
2. Brief Statement of Qualifications (including):
  - a. Biographical Sketch,
  - b. Relevant past projects and clients with brief descriptions of these projects,
  - c. Staff, faculty or students available to work on this project and their areas of expertise,
  - d. Any brief description of capabilities to successfully complete the project you may wish to add (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.).

**Note:** A proposed budget is NOT requested at this time.

**Review of Statements Received:** Based on a review of the Statements of Interest received, an investigator or investigators will be invited to prepare a full study proposal. Statements will be evaluated based on the investigator's specific experience and capabilities in areas related to the study requirements.

**Please send responses or direct questions to:**

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**Timeline for Review of Statements of Interest:** Review of Statements of Interest will begin after the SOI has been posted on the CESU website for 10 working days.