

REQUEST FOR LETTERS OF INTEREST (RLOI) FOR A PROJECT TO BE INITIATED THROUGH THE COOPERATIVE ECOSYSTEM STUDIES UNIT (CESU) NETWORK

PROJECT TITLE

CESU-Developing Targets of Resilience Across Everglades National Park Coastal Ecotones: Incorporating Sea Level Rise and Climate Change

DEADLINE: Friday, May 3, 2024, 5:00 pm ET.

BACKGROUND

Everglades National Park (ENP) has been actively involved in Comprehensive Everglades Restoration Plan (CERP) and non-CERP projects to improve the quantity, quality, timing, and distribution of water moving through the everglades to the coastal waters of ENP. Targets and performance metrics that link hydrology and ecology and provide quantifiable links to desirable habitat and or ecologic conditions play critical roles in assessing water management options and restoration actions within ENP. Salinity performance metrics which were developed in 2005, are used to evaluate restoration activities in estuarine and marine surface waters do not account for sea level rise or climate change. There are no performance metrics within the ENP coastal transition ecotones. This extensive area within ENP represents numerous fresh to saltwater ecotones consisting of a mosaic of natural and wilderness habitats that include mangroves, ponds, and coastal marshes connected to Florida Bay, Whitewater Bay and the Lower Gulf Coast. Saltwater intrusion is advancing in the transition ecotones with changes to existing habitats imminent. A method that establishes targets needs to be developed to assess impacts of restoration activities that include climate and sea level changes that are ecologically resilient and consistent across the ecotones to the coastal waters.

OBJECTIVE

The objective of this project is to create targets across the freshwater to saltwater transition ecotones and coastal waters within Everglades National Park that account for ongoing and future restoration implementation and changes due to climate and sea level. The targets should take into account both hydrologic and ecologic considerations, be quantitative, implementable and have associated measures of resiliency.

DESCRIPTION OF WORK AND ANTICIPATED RESULTS

Monitoring data and/or computer modeling methods will be evaluated and used to establish targets for evaluations using a team-based approach that incorporates ideas and needs of SFNRC subject matter experts. Sea level rise will be incorporated and the habitats and species that need specific habitats or conditions, will be considered. The approach and outcomes will follow the Resist, Accept Direct (RAD) framework and provide consistency between the coastal and transition zone habitats.

Year 1: A method to set objectives and establish approaches for targets that can be used to develop performance measures will be established. This will be a collaborative process with the cooperator and NPS through implementing a series of themed workshops with ENP staff

encompassing multiple disciplines. Methods that include the unique aspects of ENP such as the wilderness designation or other aspects should be considered.

An evaluation of existing data to determine relationships between upstream and downstream conditions that can be used to set targets should be performed in parallel to the workshops. It will be important to establish targets that are consistent along salinity gradients and incorporate a mosaic of habitats between upstream freshwater to saltwater transition ecotones (mangroves, ponds, fresh and saltwater marshes) and coastal bay waters. Additionally, anticipated changes due to sea level rise and changes in climate related variables need to be incorporated. Innovative methods will be considered for data analyses.

Year 2: Specific means to establish targets will be determined using information gained in Year 1. Methods may include the development of new tools or evaluation of existing information to assess saltwater intrusion that incorporate existing information and includes sea level rise as a component.

Anticipated Results: This project will provide a method to be used to develop targets in the transition ecotones of ENP that incorporates SFNRC staff input and ecosystem change. The information will be used to provide the basis for performance metric development throughout the ENP coastal transition ecotones (e.g. including a mosaic of habitats within the freshwater to saltwater ecotones). Consideration for targets that provide coordination and consistency between the freshwater to saltwater transition ecotones (mangroves, ponds, fresh and saltwater marshes) and coastal bay areas that receive freshwater input from restoration efforts and incorporates measures of resiliency is essential.

PROJECT PERFORMANCE AND FINAL PRODUCTS

Project performance may require the following activities:

- a. Help coordinate and attend several workshops with ENP staff according to a specified schedule.
- b. Gather monitoring data in the south Florida Region in several locations along transition and coastal ecotones of ENP.
- c. Perform data evaluation, analyses, and interpretation.
- d. Develop assessment tool, or other means to apply data if applicable.
- e. Provide written progress reports according to a specified schedule.
- f. Participate and provide oral reports at progress meetings.
- g. Develop a draft and final technical report with management recommendation for Park managers review and approval. Preparation of a publication to submit to a peer reviewed journal is strongly recommended.

The success of this project will depend on the collaboration between the cooperator and the NPS. NPS staff will have significant involvement with the project to ensure the study and resultant products meets the NPS needs. SFNRC staff will provide any background references, documents, or coordinate activities with NPS staff as needed.

TIMELINES

The project should be designed for two (2) years with an estimated start date in summer 2024. Interested cooperators are welcome to adjust the project duration and start date understanding the start date must be prior to October 1, 2024.

BUDGET

NPS will provide funding in an amount not to exceed \$110,00 annually for the work described in accordance with the approved budget for this project. All awards are subject to the availability of funds per the Anti-Deficiency Act, satisfactory performance in Year 1, and compliance with the terms and conditions of the Federal award.

The project will be awarded as a cooperative or task agreement under the CESU Agreement already in place with your institution which sets the indirect cost rate at 17.5 %.

ELIGIBILITY

This opportunity is open to *non-federal* members of the South Florida- Caribbean CESU, Gulf Coast CESU, Piedmont- South Atlantic CESU and the Chesapeake Watershed CESU.

EXPERTISE SOUGHT

A demonstrated interdisciplinary knowledge of South Florida ecosystem and hydrology, specifically the Everglades and the adjacent coastal ecosystems. Proven ability to integrate hydrologic and ecologic information is sought. A general knowledge of CERP restoration efforts is desired.

HOW TO APPLY AND MATERIALS REQUESTED FOR LETTER OF INTEREST

Interested principal investigators are invited to submit a letter of interest (i.e., application) of no more than 4 pages. The package should cover the following areas, which will be used to evaluate the applications received.

1. *Research Team Experience and Qualifications:* The letters of interest should describe your research interest in the project, your experience as relates to knowledge, skills and abilities sought, your proposed approach for conducting the project, similar past projects, and any additional relevant experience. Please include your name, affiliated institution, and contact information. Page limit is 4 pages and curriculum vitae for key personal can be submitted as attachments. similar past projects
2. *Methodology:* Describe how you would approach the project, including staffing, methodology and timelines. Describe your vision for the project. Are there objectives that are particularly appealing? Are there any that seem weak, missing, or odd? How does the applicant define success for the project and how will they measure project success? The applicant should also include a discussion of the results of the project will

be transferred, including resources developed (datasets, tools developed or used, reports, literature used, webinars etc.) to NPS.

3. *Logistics*: Detail a thorough and reasonable budget breakdown. Please be specific (e.g., institutional tuition and graduate student costs as well as faculty salary rates and schedules). Please also quantify potential institutional match (e.g., finances, equipment, services).

NOTE: Institutional match is not required. Please provide a clear statement that you would be able to complete the project with the available funds.

EVALUATION

All Letters of Interest received will be evaluated by-SFNRC staff with expertise related to the park unit and subject matter. Letters of Interest will be evaluated based on demonstrated experience and capabilities related to the project requirements. Based on this review, an investigator or investigators may be invited to prepare a full study proposal.

CONTACT INFORMATION

Questions regarding technical requirements and or the proposed scope of the project should be addressed to Melody Hunt, South Florida Natural Resources Center, National Park Service, (melody_hunt@nps.gov, 305-224-4211).

Submit your application package by the closing date to Carol Daniels, Senior Science Advisor, SFC-CESU, (Carol_Daniels@nps.gov). Please use the subject line “CESU RLOI - Incorporating Sea Level Rise and Climate Change into Resilient Target Development Across Coastal Ecotones of Everglades National Park” to ensure that the email is properly received and reviewed.