

**REQUEST FOR STATEMENTS OF INTEREST
W912HZ-19-SOI-0008**

Project Title: USCRP Research Topic 1: Identify and Communicate Coastal Impacts

Responses to this Request for Statements of Interest (RSOI) will be used to identify potential investigators for studies to be sponsored by the U.S. Army of Engineer (USACE) Engineer Research and Development Center (ERDC) Coastal and Hydraulics Laboratory (CHL). The intent of this request is to describe and quantify the risk communities face from coastal impacts and how best to communicate those risks to a broader audience. The intent of the communication effort is to compel communities to consider actions to reduce risk from coastal impacts. Estimated award amounts for individual proposals of \$50,000 to \$250,000 may be accepted. Multiple awards may be funded. Possibly no awards will be made if the submitted proposals do not meet the objectives outlined in this RSOI.

Background:

The U.S. Coastal Research Program (USCRP) is a partnership of the coastal research community to coordinate Federal activities, strengthen academic programs, and build a strong workforce. Three primary research needs identified by the USCRP's nearshore coastal community are to improve understanding of: 1) long-term coastal evolution due to natural and anthropogenic processes; 2) extreme events, including flooding, erosion, and the subsequent recovery; and 3) the physical, biological and chemical processes impacting human and ecosystem health. As identified by the USCRPs plan, the USCRP addresses societal needs along the coast through a coordinated effort backed by researchers from Federal agencies, academia, industry, and non-governmental organizations. Awards will be made with the intent of assisting academic institutions in funding coastal and nearshore processes graduate students to address critical research needs within the coastal community, advancing the state of knowledge, and building the future U.S. workforce.

Public Purpose and Benefit:

These results will benefit the public through improved prediction of storm processes and impacts, better estimates and validation of numerical model accuracy for storm processes, identification and reduction of sources of error for storm processes, improved strategies for short- and long-term coastal resilience; and development of more effective communication methods for coastal communities impacted by storms.

Brief Description of Anticipated Work:

This research is envisioned as a 2-year study.

Objective 1: In order to achieve the main objective of this study of identifying risk, communicating risk, and compelling communities to consider actions to reduce risk from coastal impacts, the researcher should first summarize the present state-of-knowledge concerning the ability to describe and quantify the risk communities face from coastal impacts

and how best to communicate those risks to a broader audience. Researchers will analyze field and laboratory data from multiple disciplines on the feedback between defining risk, techniques for communicating risk, and human behavior in response to this information with the goal of providing improved methods of communicating risk of storm impacts to at-risk communities. The basic and applied methods researchers may use to reach this research goal include analyzing existing field data to validate models and to determine the level of model uncertainty, collecting new field or laboratory data to improve model physics and reduce model uncertainty, conducting surveys of human behavior in response to past storms/future events given their present knowledge of risk, using field, laboratory, and survey data to develop methods for quantifying risk to the public, then determining new methods to better convey risk from impending storms to the public. The researchers may examine and quantify risk parameters, summarize known and unknown physical conditions that control human behavior for this topic, the policies or regulations governing the human activities, the economic implications to coastal communities (based on anecdotal and measured data), and describe the research infrastructure that is lacking (e.g., lacking data on human behavior in response to storms, parameterizing the risk, etc.). Include research recommendations to address the unknown elements. Products from this objective will include: a Shore & Beach article that documents the state-of-knowledge; and a Community Fact Sheet that succinctly synthesizes these findings (2-4 pages).

Objective 2: Based on the findings from Objective 1, the researcher should recommend analytical (e.g., analysis of historical data), and/or field experiments/surveys to address gaps in knowledge and document gaps and recommended actions in a Shore & Beach article.

Objective 3: Based on knowledge synthesized in Objectives 1 and 2, the researcher should develop a Guidebook to help communities understand mitigation and/or adaptive actions to address storm, seasonal, and long-term community risks from coastal events. The primary product from this objective will be the Community Guidebook.

Annual products from this work will include Community Fact Sheets (2-4 pages each) that summarize advancements each year; and an annual contribution to the USCRP Quarterly Bulletin (1/2- 1 page for each article). Shore & Beach articles that are co-authored with a practitioner are anticipated at the end of Objectives 1 and 2, and at the conclusion of the study. If numerical models are utilized in the study, open-source modeling systems are preferred so that all coastal researchers can benefit from advancements

Base Period Tasks:

Objectives 1-3 will be addressed in the base period work effort and summarized in the summary report for this period.

Government Participation:

The university researcher(s) will work in close coordination with the USACE and USCRP staff who will provide technical assistance on accessing data available on USACE and other federal agency data portals, coordinating with community leaders, and notifying the researchers of potential field data collection opportunities. The USACE and USCRP will also facilitate and

participate in researcher coordination efforts and meetings either in person or by webinar during the study. The USACE and USCRP team will ultimately incorporate the research and documentation completed by the researcher(s) into a technical report.

Materials Requested for Statement of Interest/Qualifications:

Please provide the following via e-mail attachment to: Stacy.D.Thurman@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 (SOI) received, an investigator or investigators will be invited to prepare a full study proposal. Statements will be evaluated based on the specific experience and capabilities of the investigator(s) in areas related to the study requirements. Additionally, the evaluation method and selection criteria for research and development awards must be: (1) the technical merits of the proposed research and development; and (2) potential relationship of the proposed research and development to the Department of Defense missions.

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.