

# U.S. Coastal Research Program (USCRP)

2023 Request for Proposals Informational Webinar  
February 6, 2023



*This webinar will be recorded, slides will be posted to the USCRP website.*

<https://uscoastalresearch.org/2023-awards-info>

# USCRP 2023 Request for Proposals

## Agenda

- Introduction to USCRP
- Timeline and Proposal Process Overview
- Eligible Applicants
- Research Topics and Prioritized Needs
- Proposal Content and Evaluation Criteria
- ERDC CHL Facility and Capabilities
- Questions

**USCRP**  
US COASTAL RESEARCH PROGRAM

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### 2023 Request for Proposals

March 1: Research proposals due to USCRP  
March - April: Proposals reviewed  
April 1: Proposals recommended for funding  
April 15: Recommended proposals submitted to USACE  
January 1 2024: Anticipated start

[SUBMIT PROPOSAL](#)

In fiscal year 2023, the USCRP intends to provide up to \$4M for competitive academic proposals addressing the ability to collaboratively predict sediment transport processes and morphologic response to coastal processes under highly controlled conditions at the U.S. Army Engineer Research and Development Center (ERDC) Coastal and Hydraulics (CHL) laboratory facility (see Appendix in RFP for additional information). The academic proposals should include funding for graduate students to help build their expertise in coastal research and develop the next generation of leaders. Researchers and students at U.S. institutions of higher education are invited to respond to this request for proposals. The period of performance for the awards is up to 4 years. The full laboratory research campaign will occur in spring 2025 at the U.S. Army Engineer Research and Development Center Coastal and Hydraulics Laboratory facility.

# What is USCRP?

- Multi-agency led effort to coordinate federal activities, strengthen academic programs, and address coastal community needs.
  - Identifying coastal research priorities
  - Enhancing funding for coastal academic programs
  - Fostering collaboration
  - Promoting science translation
- Guided by priorities of coastal leaders in federal agencies, academics, and non-governmental organizations and by the overarching framework and needs as identified in the seminal 2014 Nearshore Report.



# USCRP Research Themes

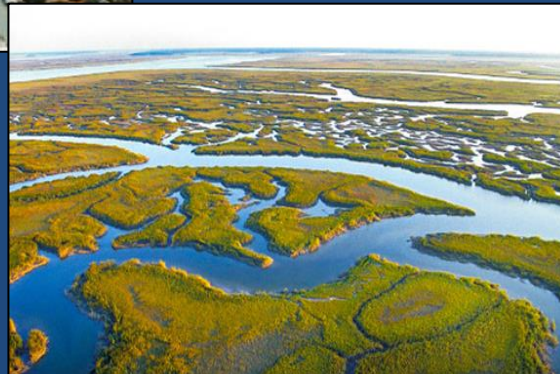
*Complex issues require integrated approaches and provide opportunities for unique, and new partnerships*



**Extreme events:** storm-induced flooding, coastal erosion, community impacts, natural recovery



**Long-term processes and coastal response:** sea level changes, future storms, sediment supply, land use changes, human interventions



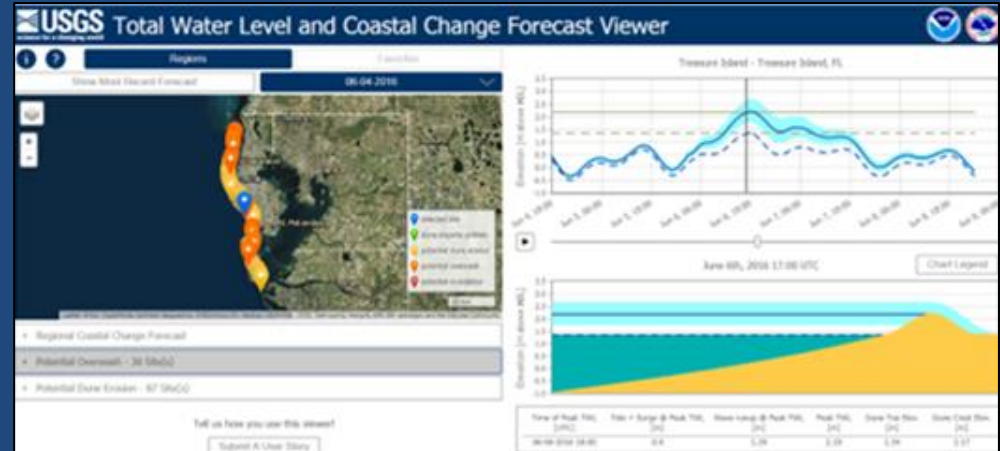
**Biological, chemical, physical processes** that impact human and ecosystem health.

# USCRP Enabling Infrastructure



**Observations:** Development of new sensors and methods, focused programs, and expanded nearshore observing systems; provide test beds to compare and improve models.

**Modeling:** Improved process representation, better model coupling, incorporation of data assimilation techniques, and testing of real-time models.



**Coordination/Collaboration:** Collaboration between academia, government, and industry will enable efficient transfer of results and predictive tools to stakeholders, supporting informed decisions that will improve diverse aspects of coastal management.

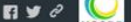
# U.S. Coastal Research Program

Federal agencies, academics, and stakeholders collaborating to develop a national coastal research program that addresses communities' challenges



- Overview
- Identifying Research Priorities
- Academic Research Funding
- Fostering Collaboration
- Promoting Science Translation

## Research Projects



- Overview
- Long Term Processes Research
- Extreme Events Research
- Human and Ecosystem Health Research

Since inception, the USCRP has provided a total of \$11.4 million dollars in funding to university research and education programs.

[Dune Management Challenges](#) (2016): 5 projects

[Storm Processes and Impacts](#) (2018): 7 projects

[Research in Support of Federal Coastal Priorities](#) (2019): 24 projects including DUNEX

[Long-term Coastal Processes: Estuarine Ecosystems](#) (2020): 15 projects

The USCRP enhances research opportunities for academics and students by securing and directing funding to university programs. Funding from federal sources is targeted at research that addresses user challenges and priority science questions pertaining to the three priority research themes identified in the Nearshore Report. Proposals require participation from practitioners who will use research outcomes. By leveraging and expanding federal funding, opportunities are created for coastal science and engineering university programs to advance their research directions, provide graduate student opportunities, and connect their work to national coastal priorities.

Proposed research should address the user-identified needs or federal science priorities with products that are likely to have a positive impact in coastal communities. To advance expertise in coastal science and engineering, funding is directed towards projects that support graduate



## USCRP Story Map:

<https://bit.ly/uscrp-projects>

## USCRP Research Highlights:

<https://uscoastalresearch.org/>

[2020-research-highlights](#)

## FY19 Funded Research

### University of Washington

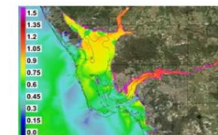


**Coherent drifter arrays during DUNEX** is focused on studying nearshore wave breaking and wave-driven circulation during the DUNEX experiment using a coherent arrays of drifting microSWIFT buoys. **The project** is helping the **Army Corps** develop new rapid-response sampling tools for the coastal community, including mapping patterns of waves, currents, and inundation.

**Dr. Jim Thomson**

*Photo: Launch of a microSWIFT buoy from the FRF pier (Duck, NC); October 2019.*

### University of North Carolina-Chapel Hill



**Climatological and Hydrodynamic Model Uncertainties** quantifies uncertainties in storm surge models and flood hazard studies by leveraging large datasets of modeled and measured water levels. The work will help the **Nuclear Regulatory Commission, the Army Corps, FEMA** and other stakeholders include improved understanding of model error structure and more accurate flood hazard estimates.

**Dr. Rick Luettich and Taylor Asher**

*Image: Increase (m) in the 0.2% (500-year) probabilistic surge hazard in SW FL by including uncertainty*

### Rutgers University

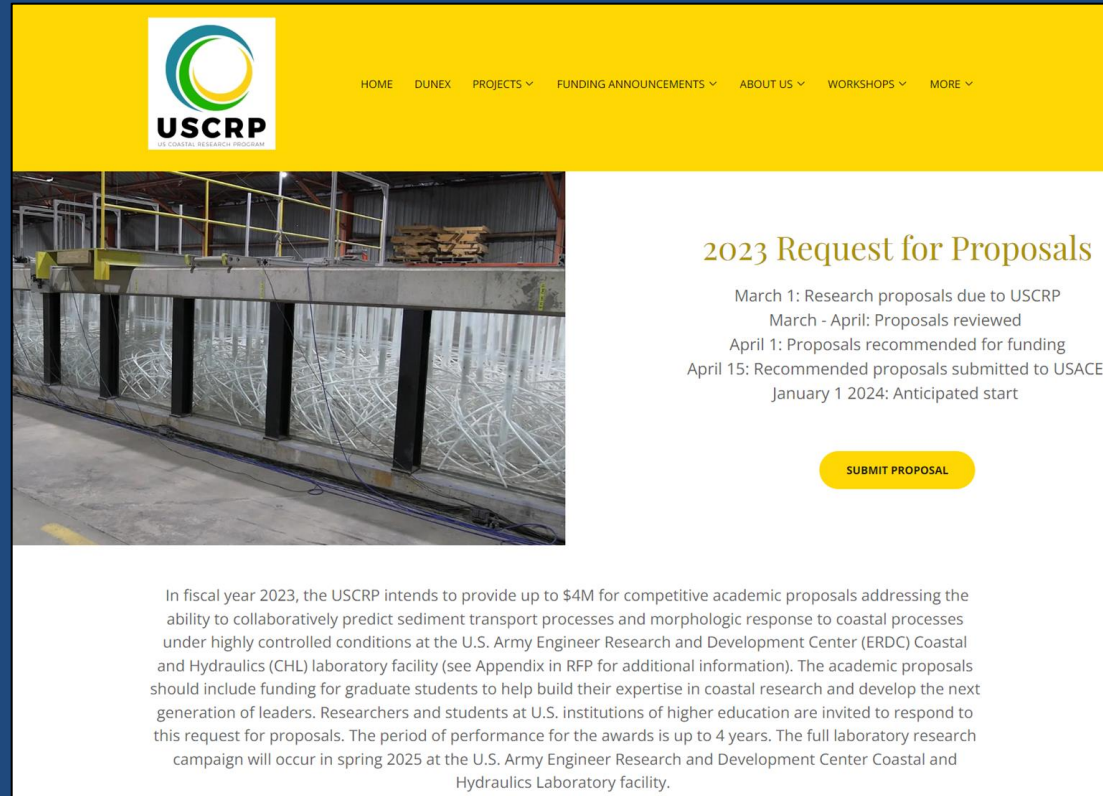


Oyster farms located in shallow coastal habitats provide a plethora of ecosystem functions, including physically interacting with waves and currents to potentially stabilize sediment and protect vulnerable shorelines. **Back bay shellfish farms as a model for studying coastal ecosystem feedback systems** investigates how oyster farms may act to reduce habitat loss and shoreline loss, ultimately helping the **Army Corps** and other stakeholders develop shoreline management practices, adaptation planning, and in permitting considerations for future aquaculture operations.

**Dr. Daphne Munroe**

# USCRP 2023 Request for Proposals

- Total anticipated funding for all awards is up to \$4 million for FY23 to support at least 4 awards
- Applicants may submit proposals with a period of performance of up to 4 years from the anticipated start date of January 1, 2024



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# 2023 Request for Proposals: Proposal Process Overview

- A research proposal describing the science/engineering questions to be addressed and planned work should be submitted to the USCRP in response to this RFP
- Proposals are due by March 1, 2023, at 11:59 PM (EST)
- Proposals should be submitted to the USCRP RFP posted on the USCRP website (submit proposal button)
- Applicants must be in good standing with previous USCRP awards to receive FY23 funds



# 2023 Request for Proposals: Timeline

Anticipated Dates	Task
March 1, 2023	Research proposals due to USCRP
March - April 2023	Proposals reviewed
April 1, 2023	Proposals recommended for funding; researchers notified
April 15, 2023	Recommended proposals submitted through the USACE Broad Agency Announcement (BAA) process
December 31, 2023	Awards made
January 1, 2024	Anticipated start
Spring/Summer 2024	Student and professional development week in the U.S. Army Engineer Research and Development Center Coastal and Hydraulics Laboratory facility
Spring 2025	Full laboratory research campaign in the U.S. Army Engineer Research and Development Center Coastal and Hydraulics Laboratory facility



# 2023 Request for Proposals: Eligible Applicants

- PIs should be a researcher in good standing at a U.S. institution and in a role that includes educating and supervising graduate students.
- The USCRP encourages support and leadership roles, as appropriate, for STEM undergraduates into the coastal field.
- Academic collaborations of interdisciplinary teams are highly encouraged.
- Disbursements of funding should be handled by the lead university, who will receive the USCRP award, and detailed in the proposed budget including overhead for the collaborating universities.
- Collaborations with international academics is acceptable.

# 2023 Request for Proposals: Research Topics and Prioritized Needs

- Proposals that align with or support federal research priorities in sediment transport processes to address critical research needs within the coastal community and advance the state of knowledge of coastal science.
- Successful proposals will form interdisciplinary collaborative teams and leverage and share data and research plans with other selected projects in the research campaign.
- For purposes of this effort, sediment transport will be limited to non-cohesive sediment including for example suspended and/or bedload transport, scour, or liquefaction.

# 2023 Request for Proposals: Research Topics and Prioritized Needs

Proposals are encouraged to address one or more of the USCRP objectives:

- ***Understanding fundamental processes of sediment transport***
  - Understanding fluid-sediment dynamics in nearshore environments
- ***Improving numerical modeling of sediment transport***
  - Furthering the development of existing numerical models by incorporating novel or better physics formulations derived from laboratory tests
  - Identifying and prioritizing parameters that cause uncertainty in numerical modeling of sediment transport processes
- ***Improving instrumentation and advances in experimental techniques***
  - Applying previously tested and validated sensors and instrumentation
  - Piloting novel approaches for sediment-transport and related phenomena
  - Advances in experimental techniques related to sediment transport, including scaling laws

# 2023 Request for Proposals: Proposal Content

- Proposals should describe the research plan, show how the work aligns with prioritized needs, specify the graduate student(s) role, present a detailed budget, and outline a laboratory facility and scaling plan.
- Collaboration across multiple disciplines and research proposals is encouraged.
- Proposals will be evaluated on individual merit and on the collective benefit to funding proposals in the same topic area that can leverage the experimental research facilities at CHL.

# 2023 Request for Proposals: Proposal Content

**Proposals must be no more than 10 pages (single-spaced, 12-point font):**

1. Research Proposal Overview
2. Goal and Objectives
3. Societal Relevance
4. Scientific and Technical Approach
5. Deliverables
6. Qualifications
7. Partners
8. Diversity Statement
9. Project Budget
10. Laboratory Facility and Scaling Plan

**Additional Items (not counted towards 10-page limit):**

11. Cross-Team Collaboration (Optional, 1 page limit)
12. Works Cited (Required)
13. CVs (Required, 2-page limit per CV)
14. Letters of Support (Optional, 2-page limit per letter)



# 2023 Request for Proposals: Evaluation Criteria

Evaluation Criteria	Value
Scope	25%
Scientific and Technical Merit	25%
Experience/Research Team/ Partners	20%
Deliverables	10%
Graduate Student	5%
Timeline	5%
Budget	10%

# 2023 Request for Proposals: Proposal Process

- Applicants should submit their proposal to USCRP by March 1, 2023.
- Successful proposals will receive a letter of recommendation from the USCRP and then will be asked to submit their proposal with any suggested revisions through the USACE Broad Agency Announcement (BAA) process.
- Details on how to apply through the BAA process will be described in the letter of recommendation from USCRP, however the BAA process can be accessed at any time.





# 2023 Request for Proposals: ERDC CHL Facility and Capabilities

- ERDC CHL facility has two directional-spectra wave generator basins and three wave flumes of different scales.
- The directional spectra wave generator is moveable and can be set up in either basin. The directional spectra wave generator is composed of 56 individual paddles for a total length of 96-ft.



# 2023 Request for Proposals: ERDC CHL Facility and Capabilities

- In house sediment available for use by awardees is well sorted, 0.15 mm. Other sizes would need to be sourced independently by the participants including material costs and costs associated with transport to ERDC CHL.
- Materials that will NOT be allowed in the flumes/basins:
  - Salt water and salt
  - Cohesive sediment
  - Any sharp edged, mobile material that may permanently damage viewing glass during testing (flumes)
  - Any hazardous materials that cannot be safely drained from the facility

# Questions

2023 Request for Proposals Informational Webinar



**Send all questions to the USCRP email:  
contact.uscrp@gmail.com**

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