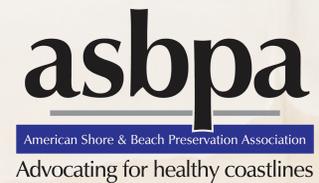


US Coastal Research Program: Fostering Academic Research



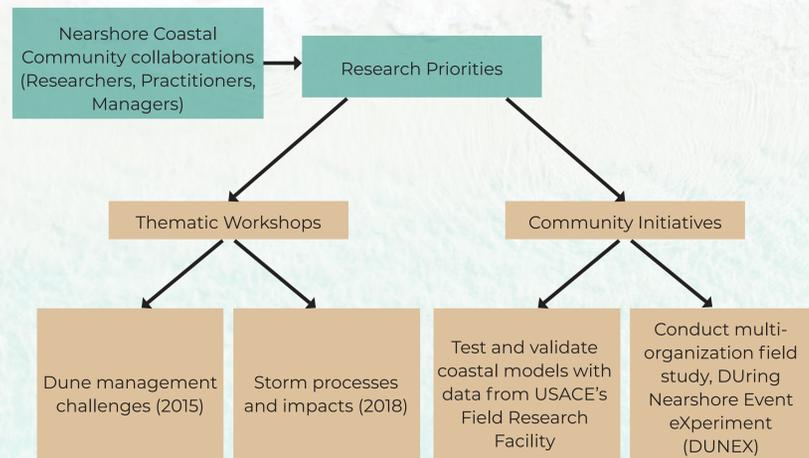
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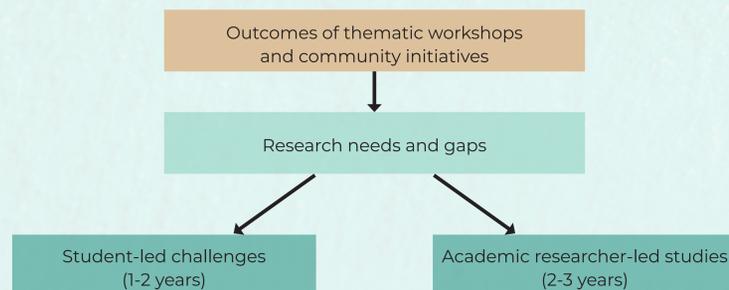
INTRODUCTION

The U.S. Coastal Research Program (USCRP) was created to develop, coordinate, and enable a National science plan to address growing needs of coastal communities. Researchers from federal agencies, academia, industry, and non-governmental organizations work together to identify priorities that support coastal stakeholders in activities such as emergency response, resource management, planning, and engineering. By fostering existing partnerships and multi-agency collaborations, the USCRP increases the value and impact of these coastal research applications.

The USCRP helps leverage ongoing and planned coastal research activities to address priority needs of coastal communities.



The USCRP works with researchers and practitioners to identify research needs and gaps through thematic workshops and community initiatives. The USCRP addresses these research needs through academic research awards.



By funding academic research, the USCRP helps train the next generation of coastal engineers, scientists, and practitioners in studies and tools that make a difference to coastal communities.

Outcomes of student challenges and academic research studies:

- Address societal needs
- Support advanced degrees for coastal and related fields
- Foster partnerships with other institutions and practitioners
- Communicate findings to Nearshore Community
- Share applications via co-authoring Shore & Beach article with a coastal practitioner
- Make use of and promote open-source community models

PAST WORKSHOPS



Photo Credit: Kate Brodie, US Army Corps of Engineers

Dune Management Challenges on Developed Coasts (Elko et al. 2016) 26-28 October 2015, Kill Devil Hills, NC

The purpose of the workshop was to:

- Identify challenges involved in managing, restoring and/or building dunes on developed coasts
- Determine the highest priority research needs for managing dunes
- Identify approaches to help bridge the gap between scientific knowledge and management implications

Outcomes:

Awarded five dune research studies totaling > \$265K:

- Ruggiero and Cohn (Oregon State University)
- Moore and Goldstein (University of North Carolina)
- Charbonneau (University of Pennsylvania)
- Sciaudone and Overton (North Carolina State University)
- Walker and Sherman (Arizona State University and University of Alabama)



Mantoloking Breach, NJ, following Superstorm Sandy. Photo Credit: Stephen Farrell, US Army Corps of Engineers

Storm Processes and Impacts (Elko et al. 2019) 16-18 April 2018, St. Petersburg, FL

The purpose of the workshop was to:

- Expand the understanding and representation of dynamic storm processes and response feedbacks between multiple time/length scales
- Improve storm surge forecasting methodology and communicate inherent model uncertainty
- Quantify the role of nature-based and engineered shorelines in mitigating storm effects

Outcomes:

Awarded eight research studies totaling > \$775K:

- Dietrich (North Carolina State University)
- Mayo (University of Central Florida)
- Mildenberger (University of California at Santa Barbara)
- Puleo (University of Delaware)
- Raubenheimer (Woods Hole Oceanographic Institute)
- Tomiczek (US Naval Academy)
- Wang (University of South Florida)
- Weaver (Florida Institute of Technology)

FUTURE ACADEMIC STUDY TOPICS

In 2019, the USCRP is providing approximately \$5M in competitive awards for academic research to address the following topics:

- Identify and communicate coastal impacts
- Coastal structure design and rehabilitation incorporating stochastic risk and uncertainty
- Understanding the crossroads of human and ecosystem health
- Evaluating the distribution and geotechnical properties of Outer Continental Shelf (OCS) sand resources and coupled environmental responses to dredging
- Nearshore sediment transport and sediment budgets over decadal scales
- Long-term implications of coastal restoration
- Quantifying and communicating numerical model uncertainty
- Develop community resilience guidance for recovery, mitigation, and adaptation
- Applied storm and recovery studies as part of the DURING Nearshore Event Experiment (DUNEX)
- Coastal adaptation pathways for barrier island communities
- Quantitative model for optimizing coastal community systems performance

Proposals are expected to be awarded in Fall 2019.

VOTE FOR YOUR TOP COASTAL MANAGEMENT CHALLENGES

Use voting dots to indicate your priorities for research to inform coastal management – or write-in your own! Results will be considered in planning the next USCRP Thematic Workshops.

Priority #1= ●

Priority #2= ●

Priority #3= ●

1. Coastal Engineering Properties of Natural and Nature-Based Features
2. Tools to Plan for Long-Term Coastal Adaptation
3. Technologies to Estimate Compound Coastal Flooding (rain, river, storm surge)
4. Write-in YOUR Coastal Management Challenge! (use sticky notes)

For more information or to join the USCRP, please visit the USCRP website: <https://uscoastalresearch.org/>

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