



SOUTH ATLANTIC COASTAL STUDY (SACS) | OVERVIEW

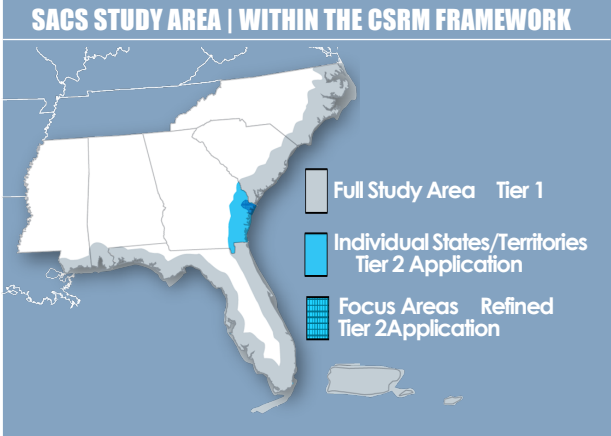
THE SACS SHARED VISION IS TO:

Provide a common understanding of risk from coastal storms and sea level rise to support resilient communities and habitats. This collaborative effort will leverage stakeholders' actions to plan and implement cohesive coastal storm risk management strategies along the South Atlantic and Gulf Coast shorelines, including the territories of Puerto Rico and the U.S. Virgin Islands.

In the wake of the destructive 2017 hurricane season, Congress passed the Bipartisan Budget Act of 2018 (Public Law 115-123) and allocated funding for the SACS, as authorized by Section 1204 of the Water Resources Development Act of 2016 to study the coastal areas located within the geographical boundaries of the South Atlantic Division of the U.S. Army Corps of Engineers (USACE).

The overarching goal of the SACS is a shared vision - broadly representing problems and opportunities stakeholders wish to address in the study area – with input across federal, state and local public and private sectors. Guided by this shared vision, the study follows a coastal storm risk management (CSRM) framework to assess existing and future coastal storm risk as a result of sea level rise to populations, infrastructure, and environmental and cultural resources throughout the tidally influenced coastal areas of the South Atlantic Division's area of responsibility.

This overview briefly illustrates the framework used to evaluate coastal storm risk; the key products developed and used during the study to assess, communicate, and address risk; and the types of recommendations resulting from the collaborative watershed study, including a list of those prioritized at the regional level.



SOUTH ATLANTIC DIVISION VULNERABILITY SNAPSHOT *

298

Hurricane Strikes (1851-2019)

(NOAA HURDAT Database)

2,500

Miles of Ocean Coastline

More Than 65,000

Miles Of Tidally Influenced Coastline

Population 2,763,000

In Areas < 6 Feet MHHW*

High Socially Vulnerable (Social Vulnerability Index, University of South Carolina)

1,573,100

Homes In Areas < 6 feet MHHW Mainland Only* (USACE Coastal Division)

Habitat For Listed Species 202

Listed Species Flora/Fauna in Mainland Coastal Counties

USACE Coastal Infrastructure

35 Deep Draft Harbors

49 Coastal Storm Risk Management Projects (260 miles)

22,000

Miles of Roadway In Areas < 6 Feet MHHW*

60 HOSPITALS

535 SCHOOLS

In Areas < 6 feet MHHW*

OTHER:

▪ \$573B Property Values In Areas < 6 feet MHHW Mainland Only

▪ 2,328,000 Federal Flood Insurance Policies

▪ Jobs and Federal, State, and Local Revenues at Risk

* The snapshot includes infrastructure, assets, and resources potentially vulnerable to increased coastal storm damages as a result of sea level rise (statistics do not include Puerto Rico or the U.S. Virgin Islands); the area less than 6 feet MHHW (mean higher high water) represents an area along tidally influenced shorelines that is most vulnerable to flooding caused by storm surge, waves, and sea level rise in addition to the normal astronomical tide.

Sources: 1) ClimateCentral.org; 2) Coast.NOAA.gov; 3) AOML.NOAA.gov; 4) FEMA.gov

COASTAL STORM RISK MANAGEMENT (CSRM) FRAMEWORK

Planning Steps Completed by SACS

Follow-on Implementation Not Completed as Part of SACS

1

Initiate Analysis

2

Characterize Conditions

3

Analyze Risk And Vulnerability

4

Identify Possible Solutions

5

Evaluate And Compare Solutions

6

Select Plan

7

Develop Implementation Plan

8

Execute Plan

9

Monitor And Adapt

TIER 1

Tier 1 is conducted at a regional scale and applies Steps 1 through 5 of the Framework, and represent an evaluation of coastal flood risk from storm surge inundation.

TIER 2

Tier 2 is conducted at a state/territory scale and repeats Steps 1 through 5 of the Framework with additional data, consideration of additional coastal hazards, and stakeholder input.

FOCUS AREA

Selected example high-risk areas analyzed in coordination with other agencies and stakeholders.

TIER 3

Tier 3 efforts are completed as follow-on analyses, either by USACE or stakeholders. Implementation of Tier 3 applies Steps 1–9 of the Framework.

SACS RECOMMENDATIONS

SACS applied a regional strategy built on the shared responsibility of all stakeholders to advance ongoing, planned, and needed actions that incrementally contribute to the SACS Shared Vision. The strategy focuses on maintaining and adapting projects and programs that are successfully addressing coastal storm risk while advancing emerging methods.



More than 200 recommendations to manage coastal storm risk were developed for the SACS study area and are grouped into six categories, as illustrated in the icon graphic below. The recommendations are further grouped by timeframe: near term (< 5 years), mid term (5 10 years), and long term (> 10 years); as well as by responsible party (multi agency, USACE, and Congress).

Activities and Areas Warranting Further Analysis		Recommendations on Previously Authorized USACE Construction Projects	
Address Barrier Preventing Comprehensive Risk Management		Regional Sediment Management Practices	
Design and Construction Efforts		Study Efforts	

REGIONAL PRIORITY RECOMMENDATIONS

Of the 200+ recommendations, 59 represent regional priorities that have the greatest potential to address coastal storm risk across the SACS study area. Page 2 of this overview lists the regional priority recommendations. Additional state and territory recommendations are included in the appendices of the main report and within separate placemats.

SACS KEY PRODUCTS

TIER 1 RISK ASSESSMENT

Available as a web portal

Assessment is based on environmental and cultural resources, social vulnerability to inundation hazards, and exposure of population and infrastructure.

ENVIRONMENTAL & CULTURAL HAZARDS

REGIONAL SEDIMENT MANAGEMENT (RSM)

Available as a standalone report

Identifies and quantifies total contribution of RSM principles to projects in the SACS study area that support long-term coastal resiliency.

2020 REGIONAL SEDIMENT MANAGEMENT OPERATIONS UPDATE

SAND AVAILABILITY & NEEDS DETERMINATION (SAND)

Available as a standalone report

Determines the need and availability of sediment (sand) to maintain beaches across the South Atlantic for the next 50 years.

SAND AVAILABILITY & NEEDS DETERMINATION (SAND)

COASTAL HAZARDS SYSTEM (CHS)

Available as a web portal

Provides water elevation and wave information data for the study area under current-day and two future sea level rise scenarios.

COASTAL HAZARDS SYSTEM (CHS)

GEOPORTAL

Available as a web portal

Provides public access to study datasets, products, and documentation.

South Atlantic Coastal Study Geoportal

MEASURES & COST LIBRARY

Available as a standalone report

Detailed list of Coastal Storm Risk Management (CSRM) measures and costs developed to a screening level for use in USACE and stakeholder planning.

MEASURES & COST LIBRARY

COASTAL PROGRAM GUIDE

Available as a standalone report

Information on programs that provide guidance, services, and funding opportunities that support implementation of risk management strategies and encourage coastal resilience. The guide also highlights tools and services (e.g., disaster information, partnership and research opportunities, guidance and training documents, and data and web map applications).

COASTAL PROGRAM GUIDE

TIER 2 ECONOMIC RISK ASSESSMENT

Available as a standalone report and web portal

Estimated storm surge inundation risk expressed as dollar damages to public and private property and limited critical infrastructure.

TIER 2 ECONOMIC RISK ASSESSMENT

PRIORITY ENVIRONMENTAL AREA IDENTIFICATION

Available within the Environmental Technical Report

A subset of medium- and high-risk environmental resource areas. These areas support priority biological resources and can be considered by stakeholders when looking for environmental resources to conserve and/or manage.

PRIORITY ENVIRONMENTAL AREA IDENTIFICATION

PLANNING AID REPORT U.S. FISH AND WILDLIFE SERVICE (USFWS)

Available as a standalone report

Report of priority biological resource habitats in the South Atlantic region that are vulnerable to harm from coastal storms and sea level rise with a focus on areas used by federally listed species. The report also includes a description of risk to coastal national wildlife refuges.

USFWS: BON SECOUR NWR

INSTITUTIONAL AND OTHER BARRIERS REPORT

Available as a standalone report

Document identifies institutional and other barriers to providing comprehensive protection for affected coastal areas. The report includes information on the performance of existing federal Coastal Storm Risk Management (CSRM) projects and recommendations for improvement.

FLORIDA FEDERAL CSRM PROJECT POST-TROPICAL STORM: MAY 2008

FOCUS AREA ACTION STRATEGIES

Available as part of the State and Territory Appendices

Focus Area Action Strategies (FAAS) use SACS products in combination with other resources and input from stakeholders to develop actionable risk reduction strategies. FAAS serve as examples of how coastal risk can be assessed and addressed in other locations.

SOUTH ATLANTIC REGION HURRICANES

The Regional Priority Recommendations may be applicable to the entire region, such as improving understanding and application of compound flooding effects, or they may be location-specific recommendations to address areas with the most significant risk relative to the entire study area.

CATEGORY	LOCATION	TIMING*	RECOMMENDATION	ASSIGNED TO	NEXT STEP
Activities/Areas Warranting Further Analysis	All	Mid-Term	Advance ongoing interagency work to improve understanding and application of compound flooding effects on existing and future coastal storm risk.	Multi-Agency	Stakeholder Collaboration
	All	Near-Term	SACS key products should be maintained and updated by USACE and utilized, as applicable, by USACE and stakeholders to support consistent, efficient, and effective analyses. Additionally, other agency-led data and tools should be supported to facilitate use of consistent, up-to-date information for decision making. Examples of such agency-led efforts include the Bureau of Ocean Energy Management (BOEM) Minerals Management Information System (MMIS) and the National Oceanic and Atmospheric Administration (NOAA) Coastal Change Analysis Program.	Multi-Agency	Funding
	All	Near-Term	A multi-agency and collaborative approach should be used to develop methods that account for environmental benefits in traditional habitat units and economic quantities (monetized) in order to acknowledge and consider environmental benefits as a factor in deciding on a recommended plan in all future CSRМ studies.	Multi-Agency	Guidance/ Policy
	All	Near-Term	Develop streamlined and vetted methods to quantify and incorporate risk management benefits to Regional Economic Development, Environmental Quality, and Other Social Effects to ensure Federal interest determinations consider benefits other than National Economic Development.	USACE	Guidance/ Policy
Address Barriers Preventing Comprehensive Risk Management	All	Near-Term	Develop streamlined and vetted methods to quantify and incorporate risk management benefits to Regional Economic Development, Environmental Quality, and Other Social Effects to ensure Federal interest determinations consider benefits other than National Economic Development.	USACE	Guidance/Policy
Design and Construction	FL	Near-Term	Miami-Dade Back Bay CSRМ Feasibility Study Recommended Plan.	Congress	Construction
	SC	Near-Term	Charleston Peninsula, South Carolina Coastal Flood Risk Management (FRM) Feasibility Study Recommended Plan (pending).	Congress	Construction
	PR	Near-Term	San Juan Back Bay CSRМ Feasibility Study Recommended Plan.	USACE	Construction
	SC	Near-Term	Folly Beach Shore Protection Project, South Carolina; General Investigation (GI).	Congress	Construction
	FL	Near-Term	Florida Keys CSRМ Feasibility Study Recommended Plan.	Congress	Construction
	FL	Near-Term	Miami-Dade (beaches) CSRМ Feasibility Study Recommended Plan (pending).	Congress	Construction
	FL	Near-Term	Collier County CSRМ Feasibility Study Recommended Plan (pending).	Congress	Construction
	FL	Near-Term	Pinellas County CSRМ Feasibility Study Recommended Plan.	Congress	Construction
	FL	Near-Term	Construction of Recommended Plan from Okaloosa County study.	USACE	Construction
	FL	Near-Term	St. Lucie County, Florida Shore Protection Project.	Congress	Funding
	MS	Near-Term	Bayou Combest Ecosystem Restoration.	Congress	Funding
	MS	Near-Term	High-Hazard Area Risk Reduction Program.	Congress	Funding
Previously Authorized USACE Construction Projects	All except PR and USVI	Near-Term	Prioritize funding for renourishment of existing federal CSRМ beach nourishment projects.	Congress	Funding
	All except PR and USVI	Near-Term	Prioritize extension of federal periods of participation in existing CSRМ beach nourishment projects, as appropriate, to continue providing coastal storm risk management and important incidental benefits to coastal systems, communities, and environmental and cultural resources. Options could include prioritizing funding and review of studies on existing CSRМ projects, streamlining the study process for existing projects, or providing extensions to the existing periods of federal participation through legislation such as was done by WRDA 2018 (P.L. 115-270).	Congress	Funding
	All	Near-Term	Ongoing and future federal and nonfederal studies recommending beach nourishment should explicitly incorporate adaptive capacity to improve project resilience.	Multi-Agency	Guidance/ Policy
Regional Sediment Management	All	Near-Term	Promote partnerships and collaboration on beneficial use of dredged material opportunities.	Multi-Agency	Stakeholder Collaboration
	GA	Near-Term	Sustain and expand Atlantic Intracoastal Waterway (AIWW) operation and maintenance efforts to characterize beneficial use material.	USACE	Funding
	SC	Mid-Term	Existing Marsh Shorelines Beneficial Use of Dredged Material (BUDM) Study.	Multi-Agency	Funding
	SC	Mid-Term	Thin Layer Placement Pilot Project.	USACE	Funding
	FL	Long-Term	Investigation of RSM practices to improve resilience to mangrove habitat should be explored to increase resilience to south Florida regions.	Multi-Agency	Stakeholder Collaboration
	PR	Mid-Term	Use of dredge material for creating SAV habitat or filling dredge holes.	USACE	Funding
	All	Near-Term	Develop regional prioritization of strategies to address sand needs.	USACE	Funding
	GA	Mid-Term	Beneficially use dredged maintenance material from the Savannah Harbor on northern shoreline of Tybee Island.	USACE	Funding
	FL	Near-Term	Complete a USACE Planning Assistance to States effort in the vicinity of Pensacola Pass, Florida.	Multi-Agency	Funding
	FL	Mid-Term	Coordination/implementation of effective beneficial use of nearshore placement for multiple locations (Regional Sediment Management - Regional Center of Expertise).	USACE	Stakeholder Collaboration
	FL	Mid-Term	Effective utilization of inlet system for beach or nearshore placement in Florida.	USACE	Funding
Study Efforts	FL	Near-Term	A comprehensive study of the Central and Southern Florida (C&SF) Project is needed to enhance the resilience of all salinity structures and inland components of the system while integrating resilient measures to manage coastal storm risk in areas seaward of the existing system.	USACE	Funding
	NC	Near-Term	Back Bay Erosion/Marsh Restoration Study – Albemarle-Pamlico Estuary System (APES) (USACE.)	Multi-Agency	Identify Nonfederal Sponsor (USACE Study)
	FL	Mid-Term	A Planning Assistance to States (PAS) effort including hydrologic and hydraulic modeling, potential economic and environmental support, and a comprehensive monitoring evaluation.	Multi-Agency	Funding
	SC	Mid-Term	Charleston County Flood Map Delineation Study.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	GA	Long-Term	Perform a county-wide assessment of road flooding in Glynn County.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	GA	Long-Term	Perform a comprehensive wastewater infrastructure improvements study in Glynn County.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	SC	Long-Term	Broad River Watershed study.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	AL	Mid-Term	Develop conservation management plans and implementation for Tensaw Delta Habitat Preservation.	USACE	New Study Authority
	MS	Long-Term	Graveline Beach and Bayou Shorelines.	Multi-Agency	Funding
	GA	Long-Term	Perform a comprehensive drainage improvements study in the City of Savannah.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	FL	Mid-Term	Sarasota County Longboat Key Shore Protection Project General Re-evaluation Report.	USACE	Funding
	SC	Long-Term	City of North Charleston FRM/CSRМ Vulnerability Assessment.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	FL	Mid-Term	New Continuing Authorities Program or General Investigation Flood Risk Management study for the City of Milton, Florida to address coastal/inland/tidal inundation.	Congress	New Study Authority
	FL	Near-Term	Fund/conduct Cape Canaveral Wastewater Treatment Plant Continuing Authorities Program (CAP) Section 14.	USACE	Funding
	SC	Mid-Term	City of Georgetown Compound Flooding Study.	Multi-Agency	Identify Likely Lead Stakeholder(s)
	FL	Mid-Term	Follow-on study for additional high-risk locations not able to be addressed in the ongoing USACE Miami-Dade County, Florida Back Bay CSRМ study.	Congress	Funding
	FL	Long-Term	Lee County, Florida Back Bay Feasibility Study (CSRМ).	Congress	Funding
	FL	Near-Term	Charlotte County, Florida Feasibility Study (CSRМ).	Congress	Funding
	MS	Long-Term	Long-Term High-Hazard Area Risk Reduction Program.	Congress	Funding
	FL	Long-Term	Pinellas County Back Bay CSRМ - address residual risk in back bay locations.	Congress	Funding
	FL	Mid-Term	Brevard County, Florida Back Bay Feasibility Study (CSRМ).	Congress	Modify study authority
	FL	Mid-Term	Hillsborough County CSRМ.	Congress	New study authority
	FL	Long-Term	Volusia County, Florida Feasibility Study (CSRМ).	Congress	Modify study authority
	FL	Near-Term	Duval County, Florida Back Bay Feasibility Study (CSRМ).	Congress	New study authority
	FL	Mid-Term	Broward Counties Back Bay System CSRМ.	Congress	New study authority
	FL	Mid-Term	A study investigating improvements in the interest of coastal storm risk management, flood risk management, ecosystem restoration, and other related purposes for Pensacola, Fort Walton Beach, and Destin.	Congress	New study authority
	SC	Near-Term	Charleston Inland and Tidal Study.	Congress	Funding

* **Near-Term: < 5 Years** **Mid-term: 5 – 10 Years** **Long-term: >10 Years**