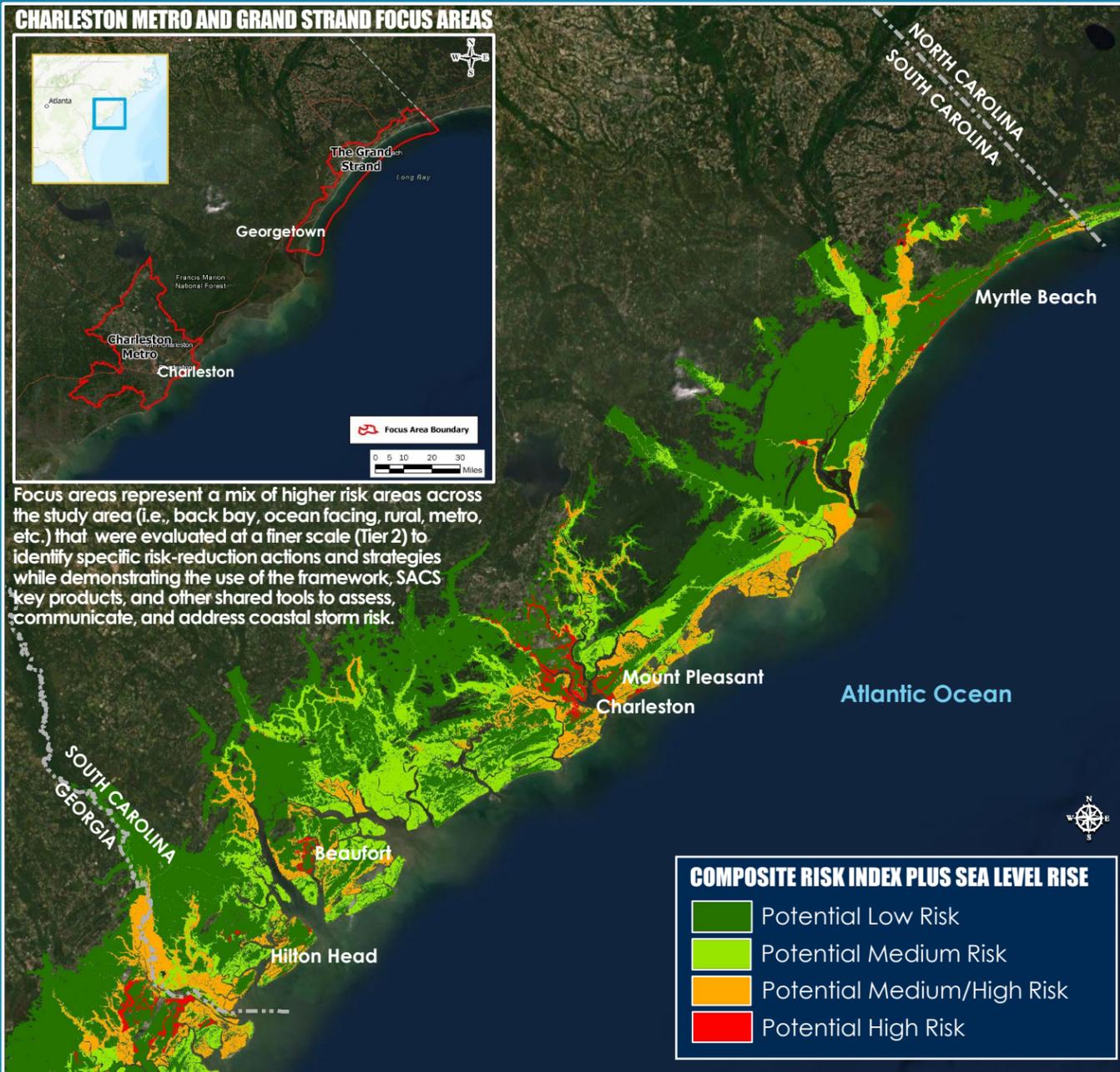


SOUTH CAROLINA SUMMARY

South Carolina has the second highest potential economic risk in the study area due to its densely populated lower lying areas in the southern part of the state, which contain 85 percent of the overall economic risk. The risk is heavily concentrated in Charleston and Beaufort counties. Census places with the greatest risk include Hilton Head Island, Mount Pleasant, and Charleston. Over 73 percent of the risk is concentrated in more populated census places.

TIER 1 COMPOSITE RISK ASSESSMENT MAP (PLUS SEA LEVEL RISE)



SOUTH CAROLINA SACS SNAPSHOT

<p>30 Hurricane Strikes (1851-2021)</p>	<p>3 Deep Draft Harbors</p> <p>Annual Dredge Volume: 1,600,000 Cubic Yards</p>	<p>More Than 8,000 Miles Of Tidally Influenced Coastline</p>										
<p>266,000 Estimated Population Within High Socially Vulnerable Communities</p>	<p>512,000 Estimated Vulnerable Structures</p> <p>Footprint: 500-year Floodplain + 3 Feet Sea Level Rise</p>	<p>13 Priority Environmental Areas (PEAs)</p>										
<p>20 Beach Nourishment Projects Federal and Non-Federal</p>	<p>84 High-Risk Locations Future Condition with 3 Feet Sea Level Rise</p>	<p>115% Increase in Economic Damages from the Existing to the Future Condition (with 3 feet Sea Level Rise)</p>										
<p>OTHER:</p> <ul style="list-style-type: none"> 205,101 Federal Flood Insurance Policies Jobs and Federal, State, and Local Revenues at Risk 												
<p>Sources (rows, left to right):</p> <table border="0"> <tr> <td>1) NOAA HURDAT Database</td> <td>6) SACS Appendices</td> </tr> <tr> <td>2) 2020 RSM Optimization Report</td> <td>7) SACS SAND Report</td> </tr> <tr> <td>3) NOAA Environmental Sensitivity Index (ESI) Guidelines</td> <td>8) SACS Tier 1 & Tier 2 Risk Assessments</td> </tr> <tr> <td>4) 2016 CDC Social Vulnerability Index</td> <td>9) SACS Tier 2 Economic Risk Assessment</td> </tr> <tr> <td>5) National Structure Inventory</td> <td></td> </tr> </table>			1) NOAA HURDAT Database	6) SACS Appendices	2) 2020 RSM Optimization Report	7) SACS SAND Report	3) NOAA Environmental Sensitivity Index (ESI) Guidelines	8) SACS Tier 1 & Tier 2 Risk Assessments	4) 2016 CDC Social Vulnerability Index	9) SACS Tier 2 Economic Risk Assessment	5) National Structure Inventory	
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5) National Structure Inventory												



HURRICANE FLORENCE RESPONSE



CHARLESTON FLOODING, 2017



CHARLESTON HARBOR



HUNTING ISLAND

RECOMMENDATIONS

The Coastal Storm Risk Management Framework, SACS key products, and other shared tools were used to assess and communicate risk across the SACS Study Area, and ultimately to address the assessed risk with a series of recommendations. The entire process was implemented with input from stakeholders across federal, state, and local public and private sectors. Recommendations to manage coastal storm risk are grouped into six categories, as illustrated in the icon graphics below, and 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).

<p>Activities and Areas Warranting Further Analysis</p>	<p>Address Barrier Preventing Comprehensive Risk Management</p>	<p>Design and Construction Efforts</p>	<p>Recommendations on Previously Authorized USACE Construction Projects</p>	<p>Regional Sediment Management Practices</p>	<p>Study Efforts</p>
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RECOMMENDATION CATEGORIES DEFINED



Activities and Areas Warranting Further Analysis: This category includes development of tools, data collection, and multi-agency efforts such as those undertaken by Silver Jackets teams, which bring together multiple state, federal, and sometimes tribal and local agencies to manage risk from flooding and other natural disasters.



Address Barriers Preventing Comprehensive Risk Management: This category advances opportunities to address the multiple barriers preventing comprehensive risk management identified in the SACS report.



Design and Construction Efforts: Examples include recommendations that support design and construction of tentatively selected or recommended plans from USACE CSRMs studies conducted separately from SACS.



Recommendations on Previously Authorized USACE Construction Projects: This category includes recommendations that maintain and/or adapt existing USACE CSRMs projects to continue providing storm risk management as sea level rises.



Regional Sediment Management Practices: This category supports a systems approach for more efficient and effective use of sediments in coastal environments, ranging from agency collaboration on sand source identification to leveraging the beneficial use of dredged material with emerging natural, nature-based features (NNBF).



Study Efforts
Examples include USACE feasibility study recommendations, studies that may be led by other stakeholders, and studies that fall under existing USACE authorities, such as the Continuing Authorities Program (CAP) and Planning Assistance to States (PAS).

SOUTH CAROLINA RECOMMENDATIONS

CATEGORY	TIMING*	TYPE**	RECOMMENDATION	ASSIGNED TO	NEXT STEP
Activities/Areas Warranting Further Analysis	Mid-Term		Statewide Community Rating System (CRS) Open Space Tool Completion.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Long-Term		Development management throughout coastal South Carolina.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Mid-Term		Charleston Metro Special Flood Hazard Areas Standards Update.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Mid-Term		Charleston Metro Risk Communication Program.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Mid-Term		Horry and Georgetown Counties Flood Warning Systems Update.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Mid-Term		Georgetown County Living With Water Development Management Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Mid-Term		Horry County Risk Informed Development Management Regulations.	Multi-agency	Identify Likely Lead Stakeholder(s)
Activities/Areas Warranting Further Analysis	Mid-Term		Socastee Policies and Regulations for the Conservation of Forested Wetlands.	Multi-agency	Identify Likely Lead Stakeholder(s)
Design and Construction	Mid-Term		Church Creek Project Design/Build.	Multi-agency	Identify Likely Lead Stakeholder(s)
Design and Construction	Near-Term	RP, SP	Folly Beach Shore Protection Project, South Carolina; General Investigation (GI).	Congress	Construction Authority
Design and Construction	Near-Term	RP, SP	Charleston Peninsula Coastal Storm Risk Management Feasibility Study Recommended Plan (pending).	Congress	Construction Authority
Regional Sediment Management	Near-Term	RP	Thin Layer Placement Pilot Project.	USACE	Funding
Regional Sediment Management	Mid-Term	RP	Existing Marsh Shorelines Beneficial Use of Dredged Material (BUDM) Study.	Multi-agency	Funding
Regional Sediment Management	Mid-Term		Waterfowl Impoundment Sediment Sources Study.	Multi-agency	Funding
Study Efforts	Near-Term	RP, SP	Charleston Inland and Tidal Study.	Congress	Funding
Study Efforts	Near-Term	SP	Beaufort Peninsula Coastal Storm/Flood Risk Management Study.	Congress	Funding
Study Efforts	Near-Term	SP	Waccamaw River, Horry County, South Carolina (SC) – Flood Risk Management.	Multi-agency	Stakeholder Collaboration
Study Efforts	Mid-Term	RP	City of Georgetown Compound Flooding Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term	RP	City of North Charleston FRM/CSRM Vulnerability Assessment.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term	RP	Broad River Watershed Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		Regional Inland Shelters Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		South Carolina Compound Flooding Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Mid-Term		Charleston County Flood Map Delineation Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Mid-Term		Eagle Creek and Chandler Creek FRM/Coastal Storm Risk Management (CSRM) Study.	USACE	Funding
Study Efforts	Long-Term		Charleston Port Flooding Study.	Multi-agency	Stakeholder Collaboration
Study Efforts	Long-Term		Highway 17/Main Road Infrastructure FRM/CSRM Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		James Island, Westchester Neighborhood Channel Wetland Restoration Project.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		Sea Level Rise Best Management Practices Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		Gullah-Geechee Communities FRM/CSRM Studies.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		Plum Island Wastewater Treatment Plant FRM/CSRM Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term	RP	Charleston County Back Bay FRM Study.	Congress	New Study Authority
Study Efforts	Long-Term		Island of Pawleys Island Flood Risk Management (FRM)/Coastal Storm Risk Management (CSRM) Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Mid-Term		Botany Bay Heritage Preserve State Wildlife Management Area Erosion Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Mid-Term		Cape Romaine National Wildlife Refuge Ocean Facing Erosion Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Mid-Term		Conway Area Compound Flooding Study.	Multi-agency	Stakeholder Collaboration
Study Efforts	Mid-Term		Cape Romaine Back Bay Marsh Conservation Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		Saluda River Watershed Study.	Multi-agency	Identify Likely Lead Stakeholder(s)
Study Efforts	Long-Term		Santee River Watershed Study.	Multi-agency	Identify Likely Lead Stakeholder(s)

SOUTH CAROLINA RECOMMENDATIONS

The recommendations to the right include:

1 REGIONAL RECOMMENDATIONS APPLICABLE TO SOUTH CAROLINA

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.

2 SOUTH CAROLINA-SPECIFIC RECOMMENDATIONS

To manage increased coastal storm risk as a result of sea level rise throughout the SACS South Carolina study area, it is the shared responsibility of all stakeholders to:

- Focus on maintaining and adapting projects and programs that are successfully addressing coastal storm risk while advancing emerging methods.
- Advance coordination and collaboration on complex issues, such as land use and development practices.

Recommendations that can manage a significant amount of coastal storm risk and have a high implementation potential based on leveraging ongoing or planned actions and/or demonstrated stakeholder interest were identified as priority recommendations.

ADDITIONAL REGIONAL PRIORITY RECOMMENDATIONS APPLICABLE TO ALL STATES

CATEGORY	TIMING*	TYPE**	RECOMMENDATION	ASSIGNED TO	NEXT STEP
Activities/Areas Warranting Further Analysis	Mid-Term	RP	Advance ongoing interagency work to improve understanding and application of compound flooding effects on existing and future coastal storm risk.	Multi-Agency	Stakeholder collaboration
	Near-Term	RP	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
	Near-Term	RP	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 CSRM studies.	Multi-Agency	Guidance/ Policy
	Near-Term	RP	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	Near-Term	RP	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
Previously Authorized USACE Construction Projects	Near-Term	RP	Prioritize funding for renourishment of existing federal CSRM beach nourishment projects (except Puerto Rico and USVI).	Congress	Funding
	Near-Term	RP	Prioritize extension of federal periods of participation in existing CSRM 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 CSRM 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) (except Puerto Rico and USVI).	Congress	Funding
	Near-Term	RP	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	Near-Term	RP	Promote partnerships and collaboration on beneficial use of dredged material opportunities.	Multi-Agency	Stakeholder Collaboration
	Near-Term	RP	Develop regional prioritization of strategies to address sand needs.	USACE	Funding

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

** RP: Regional Priority SP: State Priority