



MEMORANDUM

AGENDA ITEM # 10

DATE: FEBRUARY 17, 2023

TO: COUNCIL MEMBERS

FROM: STAFF

SUBJECT: CONNECTING SOUTHEAST FLORIDA'S RESTORATION & FLOOD CONTROL PLANNING STUDIES, PROJECTS, AND TIMELINES

Please welcome our guests Drew Bartlett, SFWMD Executive Director; Carolina Marán P.E., Ph.D., SFWMD Resiliency Officer; and Timothy Gysan, P.E., PMP, U.S. Army Corps of Engineers Resilience Senior Project Manager with the Ecosystem Programs and Project Division in Jacksonville, for a high level look at how Southeast Florida's Restoration and Flood Control Planning Studies and Projects fit together along with their relevant timelines.

The South Florida Water Management District and the U.S. Army Corps of Engineers are partnering to advance the **Central and Southern Florida Flood Resiliency Study under Section 216 of the Flood Control Act of 1970**. This study analyzes the current Central and Southern Florida Project (C&SF Project), that laid the groundwork for the series of flood protection canals that exist today.

In Southeast Florida, the District is also coordinating with the U.S. Army Corps of Engineers on several resiliency planning initiatives, including the [South Atlantic Coastal Study](#), the [Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study](#), and the [Florida Keys Coastal Storm Risk Management Feasibility Study](#).

ECOSYSTEM RESTORATION

1. Comprehensive Everglades Restoration Plan (CERP)
2. Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER)

FLOOD RISK / COASTAL STORM RISK

1. Central and Southern Florida (C&SF) System Section 216 Flood Resiliency Study
2. Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study
3. Florida Keys Coastal Storm Risk Management Feasibility Study
4. South Atlantic Coastal Study

ECOSYSTEM RESTORATION

Comprehensive Everglades Restoration Plan (CERP)

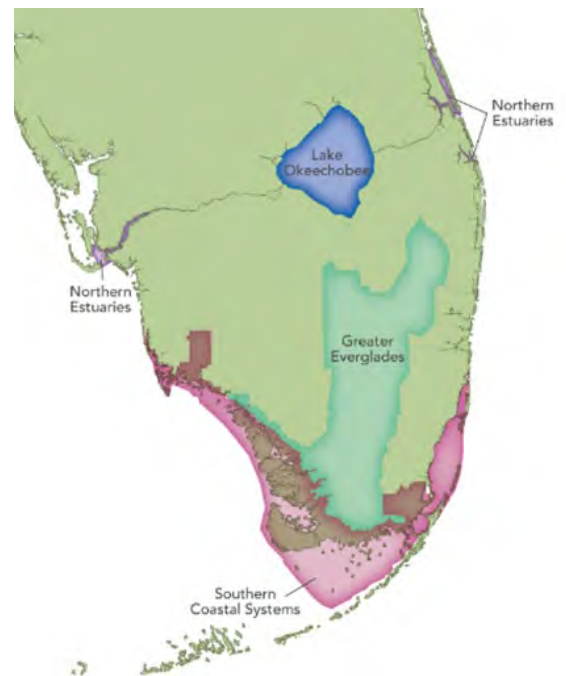
A series of planning studies is underway to develop the next generation of ecosystem restoration projects as part of the Comprehensive Everglades Restoration Plan (CERP). Once each study is complete, a finalized plan with a suite of recommended projects will be delivered to the U.S. Congress for federal authorization and appropriations. The U.S. Army Corps of Engineers is leading these planning efforts in partnership with the South Florida Water Management District, which is providing technical support.

Integrated Delivery Schedule¹

The IDS provides the roadmap for sequencing of planning, design, construction, and operations of both federal and state projects related to Everglades restoration.

The Integrated Delivery Schedule (IDS) is a forward-looking snapshot of upcoming design and construction schedules and programmatic costs at a “top” line level for the South Florida Ecosystem Restoration (SFER) Program. It includes Modified Water Deliveries to Everglades National Park, Critical Projects, Kissimmee River Restoration, non-Comprehensive Everglades Restoration Plan (CERP) Central and Southern Flood (C&SF), and CERP projects. The Comprehensive Everglades Restoration Plan (CERP) focuses on “getting the water right.” CERP—the largest aquatic ecosystem restoration effort in the nation, spanning over 18,000 square miles—is designed to improve the health of more than 2.4 million acres.

The IDS reflects the sequencing strategy for planning, design, and construction and does not include costs for completed work or land acquisition. The IDS does not require an agency action and is not a decision document. It is a tool that provides information to decision-makers—a living document that is updated as needed to reflect progress and/or program changes. The IDS synchronizes program and project priorities with the State of Florida and achieves the CERP restoration objectives at the earliest practicable time, consistent with annual funding updates and the interdependencies between project components. All Everglades restoration-related projects upon which the CERP is dependent—such as the Herbert Hoover Dike, the Modified Water Deliveries to Everglades National Park, Tamiami Trail Next Steps bridging, and the Restoration Strategies projects—are reflected in the IDS schedule but are not included in the funding scenario. These projects are funded through other program



¹ <https://www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Integrated-Delivery-Schedule/>

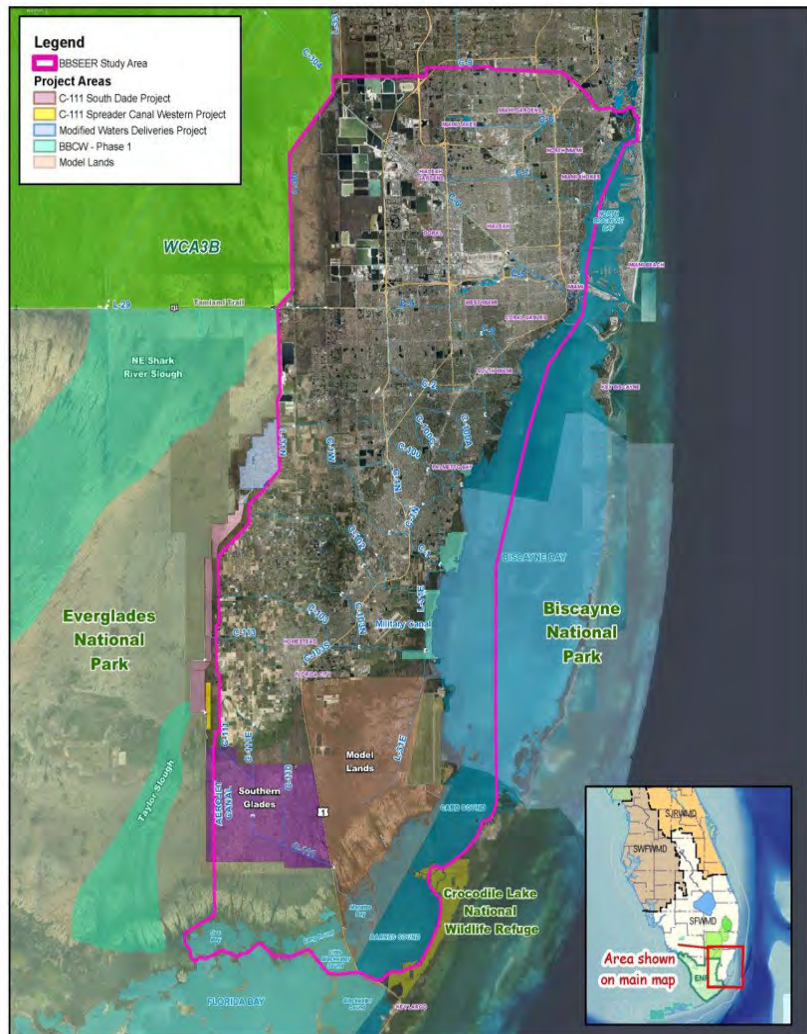
authorities or by other entities. Restoration projects by others are also not included but are considered during planning.

Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER)

<https://www.saj.usace.army.mil/Media/News-Releases/Article/3275577/usace-announces-virtual-bbseer-project-delivery-team-meeting-on-february-1/>

The U.S. Army Corps of Engineers (USACE) is in the planning phase for the Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER) Project, an important part of the Comprehensive Everglades Restoration Plan (CERP). The South Florida Water Management District (SFWMD) is the USACE's as the non-federal sponsor for this project.

The BBSEER Study is focused on formulating plans to restore parts of the south Florida ecosystem in freshwater wetlands of the Southern Glades and Model Lands, the coastal wetlands and subtidal areas, including mangrove and seagrass areas, of Biscayne Bay, Biscayne National Park, Manatee Bay, Card Sound and Barnes Sound. These areas have been affected by over-drainage and by large-volume freshwater releases from canals, such as the C-111 Canal. As part of the study, the USACE will publish information in a Draft Integrated Project Implementation Report (PIR) and National Environmental Policy Act (NEPA) document.



To meet BBSEER objectives, this study will identify, consider, and assess a comprehensive list of features and operational changes. The features and operational changes may include, but are not limited to, canal plugs and backfilling, structure removal, conveyance features, stormwater treatment areas, reservoir and storage areas, seepage capture, treated wastewater, new levees or berms and controlled burns. During the study, additional measures may be added, and project locations and dimensions will be specified in the draft integrated PIR/NEPA document.

Similar to other CERP studies where multiple components are combined into one planning effort and Project Implementation Report, the BBSEER Study will also include more than one CERP component. The BBSEER Study will begin with six CERP components identified in the 1999 study known as the “Restudy” or “Yellow Book.” These components include:

- Biscayne Bay Coastal Wetlands
- Biscayne Bay Coastal Canals
- C-111N Canal Project
- South Miami Dade County Reuse
- West Miami Dade Reuse
- North Lake Belt

For additional information regarding the project, please visit the project webpage www.saj.usace.army.mil/BBSEER

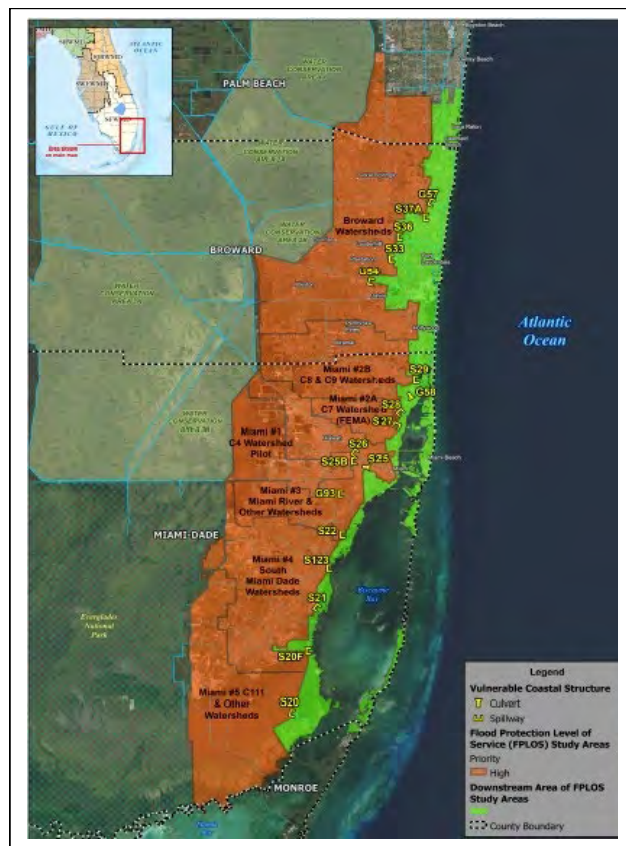
FLOOD AND COASTAL STORM RISK

Central and Southern Florida (C&SF) System Section 216 Flood Resiliency Study²

The Jacksonville District and its non-federal sponsor partner at the [South Florida Water Management District](http://www.saj.usace.army.mil/BBSEER) began a flood risk management (FRM) study initiated under the authority of Section 216 of the Flood Control Act of 1970 within the Central and Southern Florida (C&SF) Project.

The purpose of the study is to identify the need to provide continued flood risk management to reduce the most immediate risk to the C&SF Project due to changing conditions including climate change, sea level change, land development, and population growth in the lower east coast of Florida in Palm Beach, Broward, and Miami-Dade counties. FRM measures to be evaluated may include a combination of structural, non-structural, natural, and nature-based features.

The C&SF Project is a large, multipurpose water resources project initially authorized by the Flood Control Act of 1948 for the purposes of flood protection for urban and agricultural areas, water supply for agricultural, municipal, industrial, and ecosystem uses and to prevent saltwater intrusion risks to the coastal water supply.



² <https://www.saj.usace.army.mil/CSFFRS>

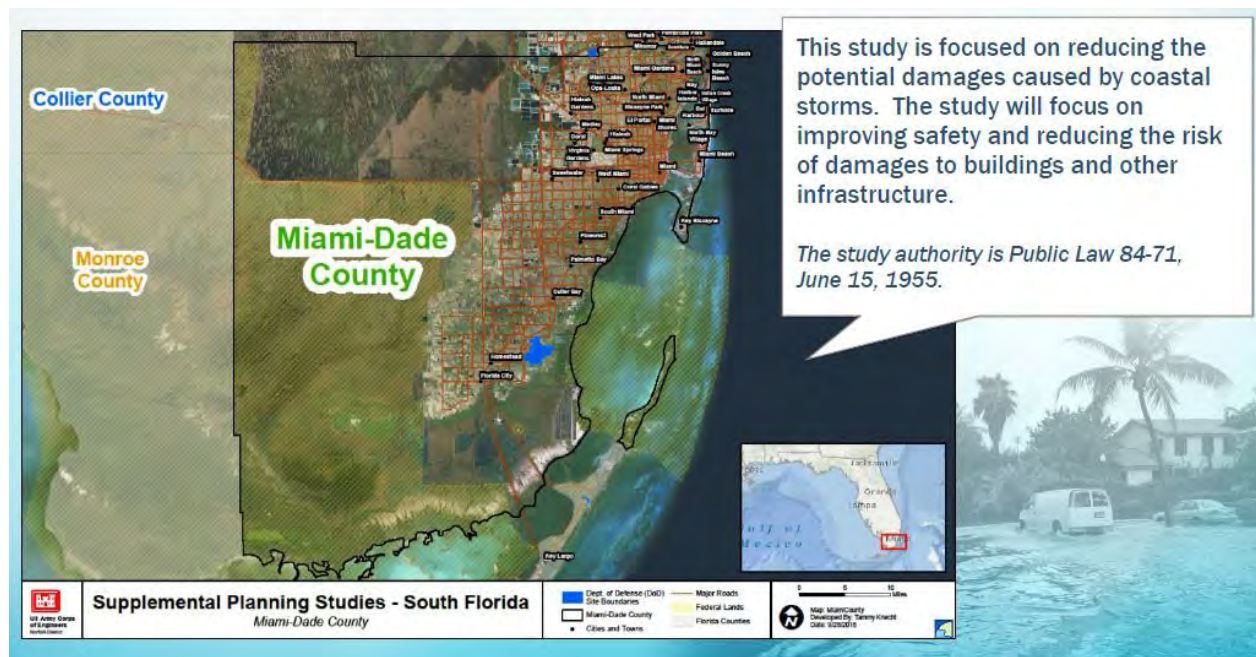
The key infrastructure of the system includes approximately 2,200 miles of canals, 2,100 miles of levees/berms, 84 pump stations, and 778 water control structures and this regional system serves a population of approximately nine million residents.

The need for this flood risk management study is driven by increased development of land and associated population growth, extreme rainfall events, and sea level rise trends that have substantially decreased the performance of the C&SF Project as initially authorized and designed over 70 years ago.

The study focus will include reducing flood risk and increasing flood resiliency in high-risk urban watersheds in southeast Florida (Figure 1), while looking to enhance the overall benefits of the multipurpose C&SF Project.

Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study³

The study authority for the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study is Public Law 84-71, June 15, 1955 which authorizes an examination and survey of the coastal and tidal areas of the eastern and southern United States, with particular reference to areas where severe damages have occurred from hurricane winds and tides. The purpose of the project is to reduce potential damages caused by coastal storms and improve human safety and coastal resiliency in the Miami-Dade County Back Bay. The Tentatively Selected Plan (TSP) includes a combination of structural (such as surge barriers and floodwalls), nonstructural (such as flood proofing, relocation, and elevation of structures) and natural and nature-based features (such as mangrove plantings). The Local Sponsor is Miami-Dade County.



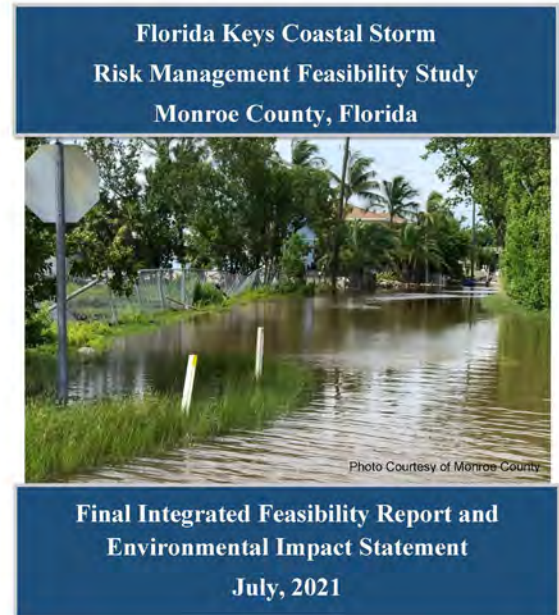
³ <https://www.saj.usace.army.mil/About/Congressional-Fact-Sheets-2022/Miami-Back-Bay-Feasibility-Study-I/>

Florida Keys Coastal Storm Risk Management Feasibility Study⁴

The Florida Keys Coastal Storm Risk Management Feasibility Study began in October 2018 and addressed critical infrastructure, evacuation route protection, and structure damage reduction in response to coastal storm risks and considering sea level change. CSRM studies analyze and assess the economic, environmental, and social effects and formulate plans to address a local or regional issue with a goal to select, refine and present an optimal alternative that will be authorized and implemented on a cost shared basis with the non-federal sponsor.

The recommended plan includes the following measures to reduce coastal storm risk and damage throughout the Florida Keys:

- Shoreline stabilization in six different locations along U.S. Route 1 (Overseas Highway) that were identified as having risk of damage due to erosion and/or wave energy during a storm event. These six rock revetment structures range in height from four to ten feet NAVD88 and were designed to reduce damage to a total of approximately 5,500 linear feet of roadway by stabilizing the shoreline and reducing the risk of washout.
- Dry floodproofing 53 critical infrastructure buildings that were identified at risk to damage from coastal storms. Dry floodproofing will reduce the damage caused by storm surge during storm events so that emergency and critical services can resume more quickly after a storm event.
- Nonstructural measures to reduce coastal storm damage by elevating 4,698 residential structures and dry floodproofing 1,052 nonresidential structures at risk throughout the Keys. Nonstructural measures are applied to a structure to reduce damage from storm surge flooding. Participation is voluntary for the recommended nonstructural measures (elevation and floodproofing).



⁴ <https://www.saj.usace.army.mil/FloridaKeysCSRMFeasibilityStudy/>

South Atlantic Coast Study (SACS)

[FINAL REPORT AUGUST 2022](#)

The South Atlantic Coastal Study (SACS) 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.

Completed in August 2022, the four-year, \$18.4 million, comprehensive regional study was designed to identify the risks and vulnerabilities of tidally influenced areas to increased hurricane and storm damage as a result of sea level rise. The study area included the entire Gulf of Mexico and Atlantic Ocean coasts from Mississippi to North Carolina as well as Puerto Rico and the Virgin Islands. The 65,000 miles of tidally influenced shoreline, including back bays, within these states and territories remains highly vulnerable to coastal storms and the associated effects of sea level rise.

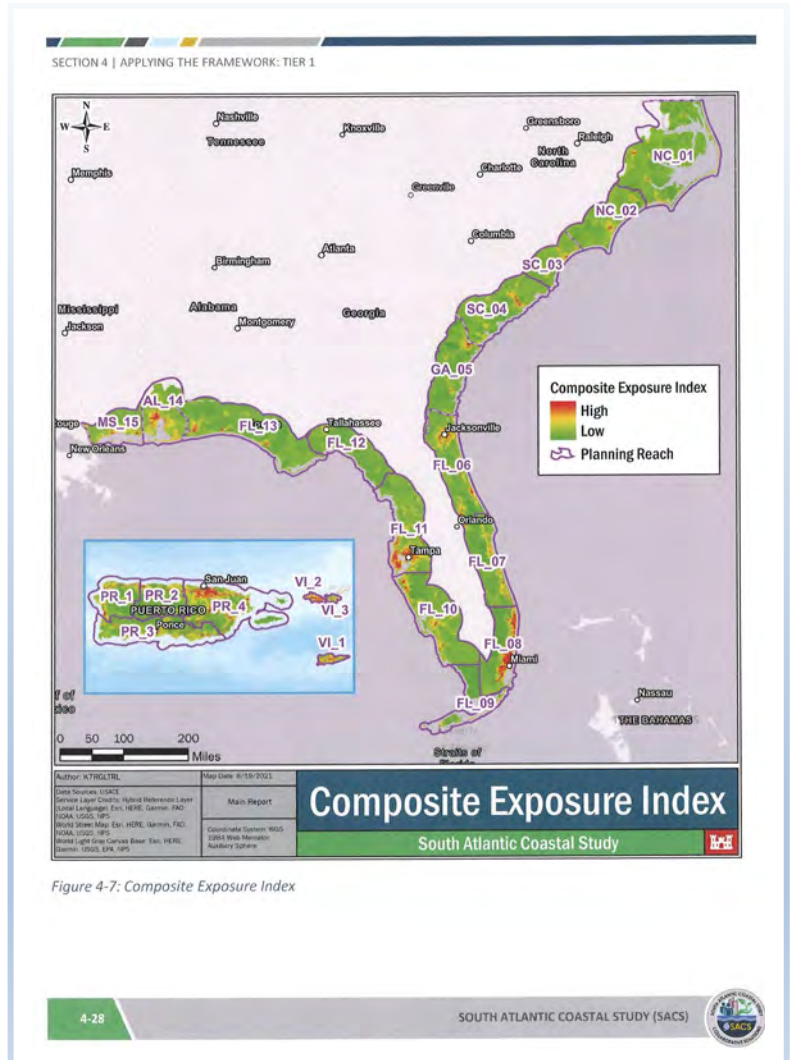


Figure 4-7: Composite Exposure Index



