



Miami-Dade County Office of Resilience

KEY DATES

A Long-Term Co₂ Reduction Plan for Miami-Dade County

Sustainable Building Program: LEED certification for new County buildings

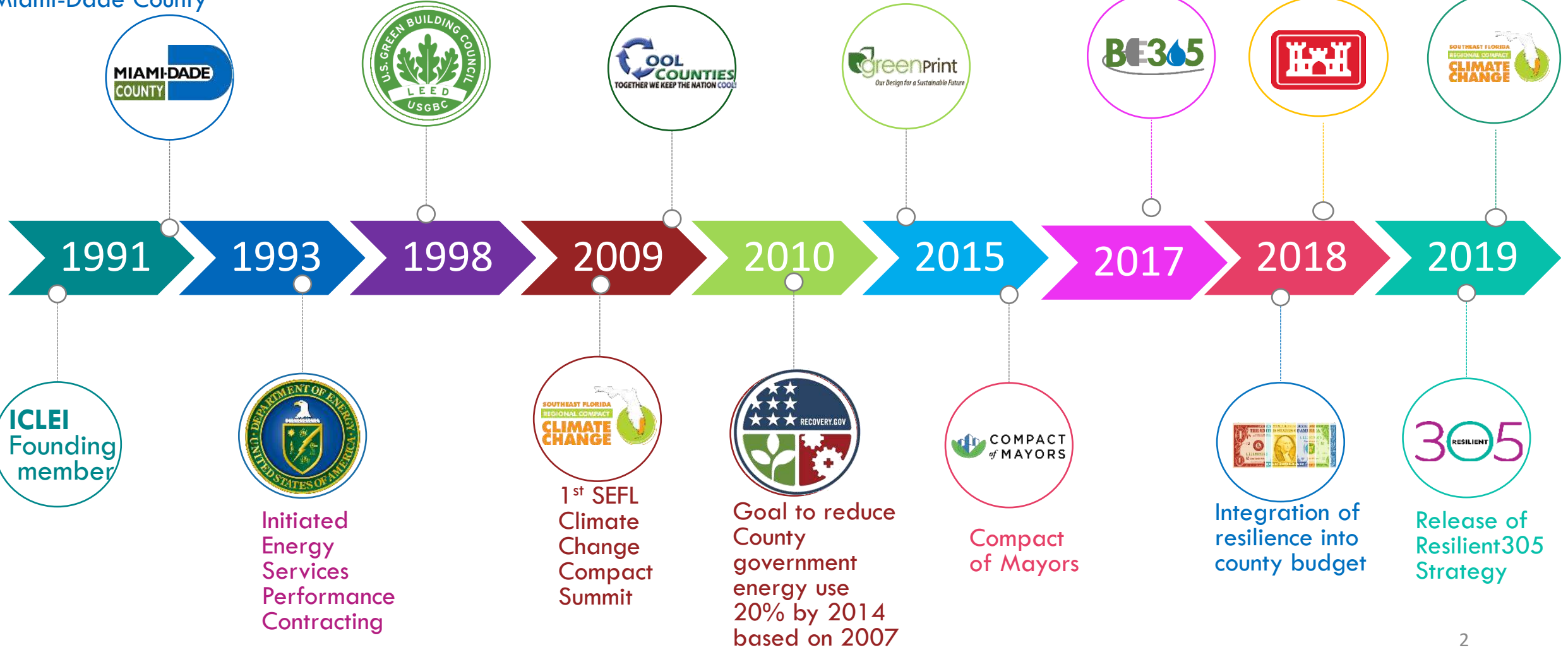
Reduce 2008 GHG 80% by 2050

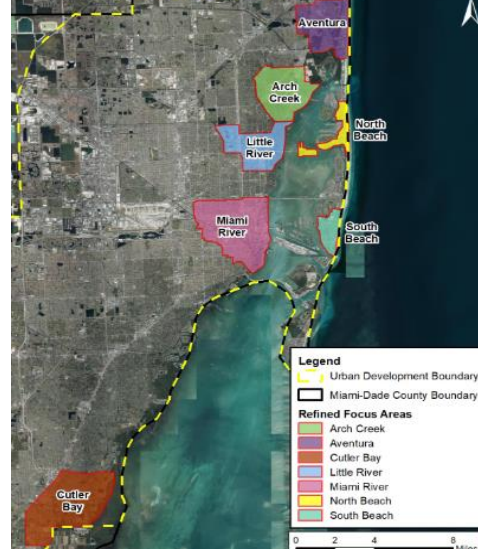
Greenprint:
Reduce 2008 GHG 10% by 2015

Building Efficiency 305

USACE Back Bay Study

10-year anniversary SEFLCCC





BUILDING OWNERS AND MANAGERS



The Miami-Dade County Office of Resilience's Building Efficiency 305 (BE305) Challenge focuses on improving building performance and reducing operational costs.

WHO CAN PARTICIPATE:

Owners and managers of existing residential and commercial buildings.

WHAT IS THE COMMITMENT:

To lower building energy and water use over time with assistance from industry experts and the Office of Resilience.

JOIN NOW!

PARTICIPATION IN THIS EXCITING CHALLENGE IS LIMITED. [CLICK HERE](#) to register!

WHAT'S IN IT FOR PARTICIPATING PROPERTIES:

- Free trainings to help you lower your operating costs.
- Educational opportunities from industry experts.
- Peer-to-peer networking.
- Public recognition and other incentives from the County, plus great potential for lower utility bills & operating costs, and higher tenant satisfaction.
- Opportunities to win free building energy and water audits.

Enhance your building's performance and reduce costs.

ACT NOW!
PARTICIPATION IS LIMITED.



be305about-mdc.hub.arcgis.com



The Resilient Cities Network

helps cities around the world become more resilient to the **physical, social, and economic challenges** that are a growing part of the 21st Century.

We are city-led, regionally-driven, partner-based and impact-focused.



We operate in
6 continents
21 languages
47 countries

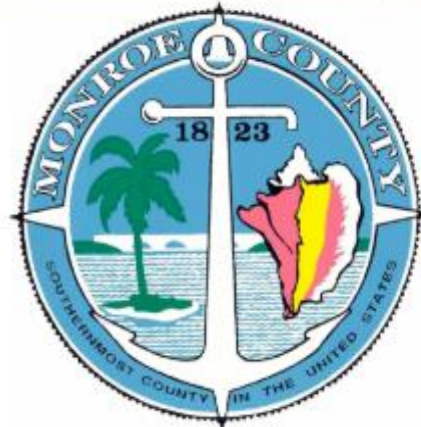
GRCN builds on over ten years of investment in resilience from **The Rockefeller Foundation** and the former **100 Resilience Cities** program.

GRCN is comprised of former 100RC executives with regional offices in London, Singapore, Mexico City and New York.

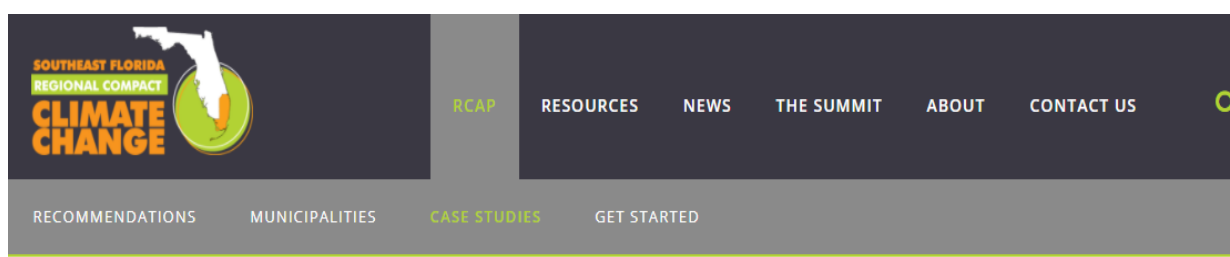


**RESILIENT
CITIES
NETWORK**

SOUTHEAST FLORIDA
REGIONAL COMPACT
CLIMATE CHANGE



**SOUTHEAST FLORIDA
REGIONAL COMPACT
CLIMATE
CHANGE**



Case Studies

Hill Avenue Drainage

Due to flooding, the Town of Mangonia Park decided to improve its stormwater infrastructure. The town received a \$500,000 grant to do the engineering and design. The construction was carried out in phases, with the money for phase I awarded by the Department of Environmental Protection. The project, which found full support from residents and [...]

Advanced Hydrologic Modeling

In 2006, Broward County partnered with the U.S. Geological Survey (USGS) to develop a numerical model tracking the movement of saltwater inundation in the northern third of the county. The initial results established that the model accurately represented the historic movement of the saltwater front, while sensitivity analyses identified how various factors contributed to the [...]

Transportation Management Initiative

The City of Boca Raton's Transportation Management Initiative (TMI) program was established to develop solutions to local traffic congestion problems. The TMI is a resource for residents and employees, offering alternatives to driving alone, such as carpooling, taking the train or bus, riding a bike, and/or walking. The TMI offers a Tri-Rail shuttle system connecting [...]

South Miami Intermodal Transportation Plan

The City of South Miami desires to enhance the existing transportation system and mobility choices available to

<http://southeastfloridaclimatecompact.org/>

Browse by Category

- > Agriculture
- > Energy and Fuel
- > Natural Systems
- > Risk Reduction and Emergency Management
- > Sustainable Communities and Transportation
- > Water



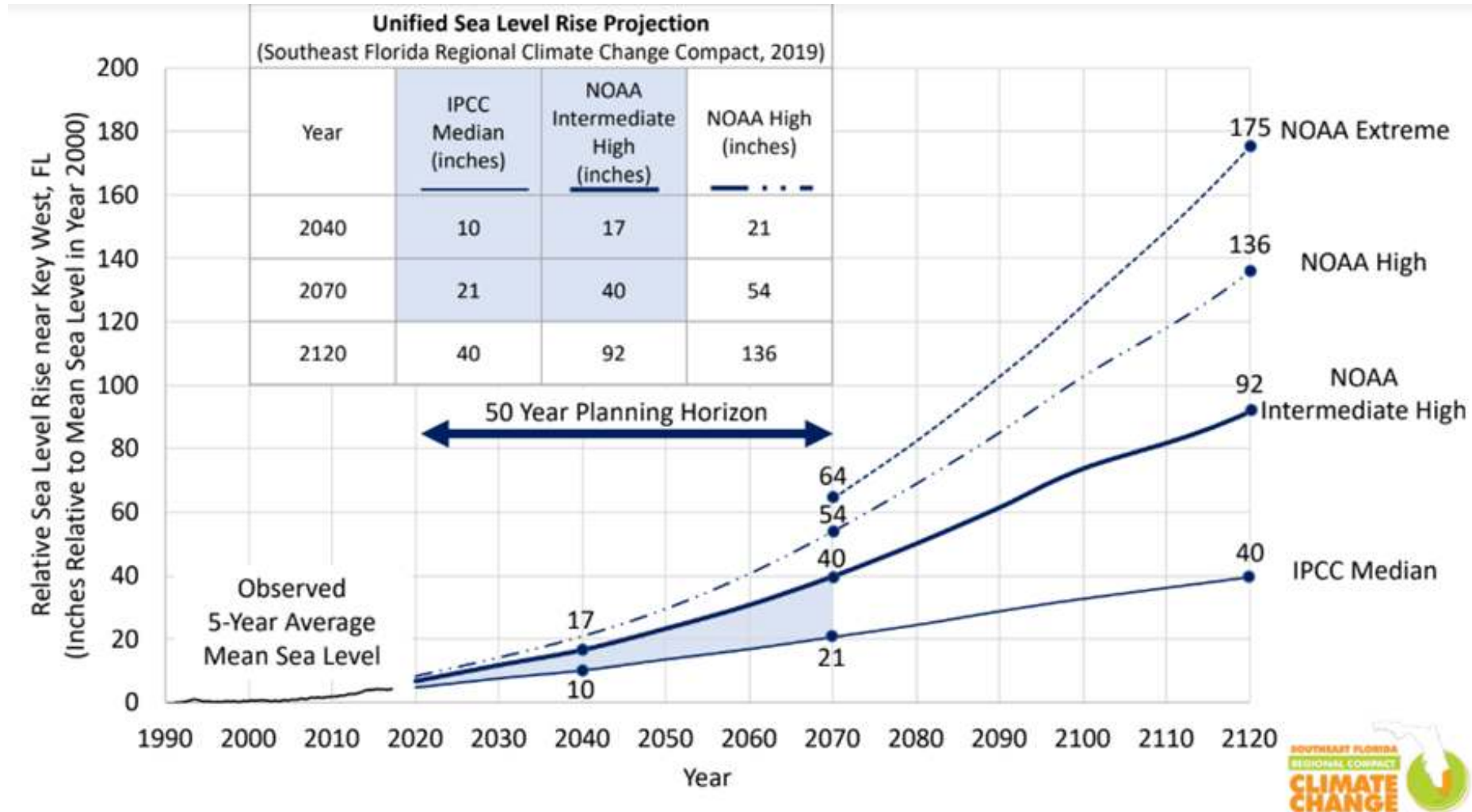
Implementation and funding support from:

THE KRESGE FOUNDATION



Southeast Florida Regional Unified Sea Level Rise Projection

Updated every 5 years





METROLAB
NETWORK



+



+

MIAMIBEACH

UNIVERSITY
OF MIAMI



FIU



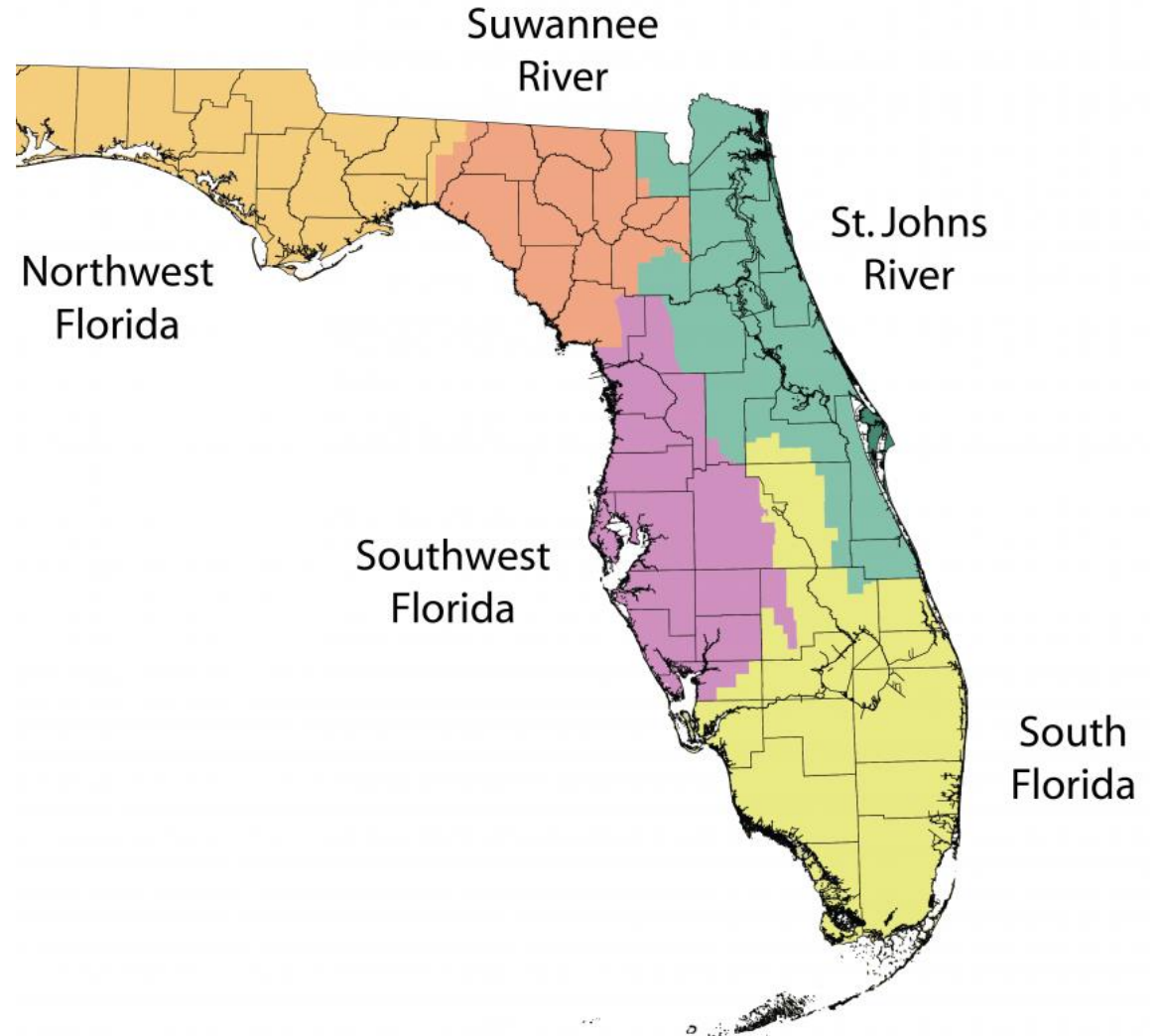
Miami Dade
College

Partnering with South Florida Water Management District

South Florida Water Management District Names First District Resiliency Officer



The South Florida Water Management District (SFWMD) is strongly committed to addressing sea level rise and other climate change impacts, and as such, has named its first District Resiliency Officer, Carolina Maran, Ph.D., P.E. In the new role, Maran is responsible for leading the District's resilience efforts to support SFWMD's mission; coordinating scientific data and



MITIGATION

reducing climate pollution



ADAPTATION

preparing for climate change



COMMUNICATION

engaging & connecting



Resilience.

the capacity of individuals, communities, institutions, businesses, and systems to **survive, adapt, and grow** no matter what kinds of chronic stresses and acute shocks they experience

CHRONIC STRESSES are slow moving and weaken the fabric of a city.

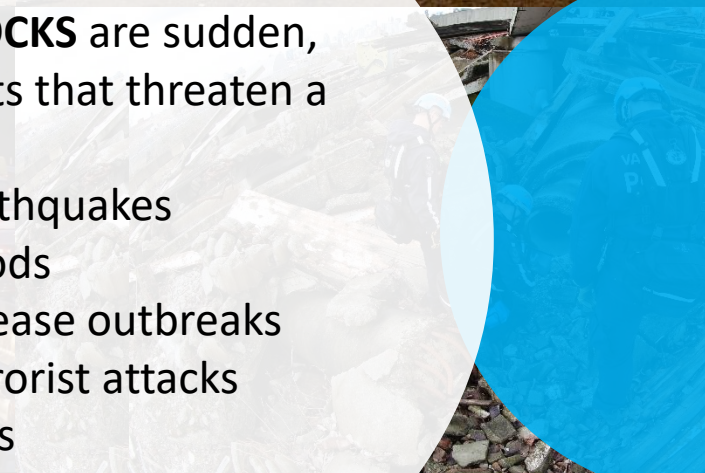
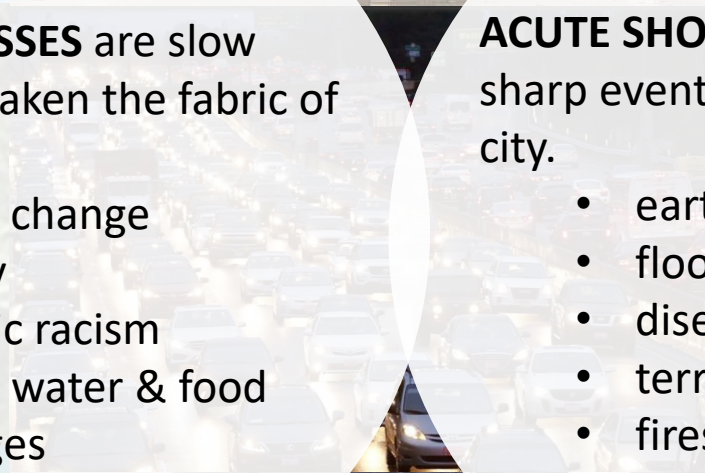
- climate change
- poverty
- systemic racism
- chronic water & food shortages

ACUTE SHOCKS are sudden, sharp events that threaten a city.

- earthquakes
- floods
- disease outbreaks
- terrorist attacks
- fires



RESILIENT
CITIES
NETWORK



Shocks amplify stresses



GREATER MIAMI & THE BEACHES RESILIENT305 STRATEGY



100 RESILIENT CITIES
 PIONEERED BY THE
 ROCKEFELLER FOUNDATION



RESILIENT
 GREATER MIAMI
 & THE BEACHES



PLACES

OBJECTIVES

- ◆ Enhance Natural Systems
- ◆ Safeguard Urban Systems
- ◆ Create Mobility Options
- ◆ Increase Energy Efficiencies
- ◆ Enhance Housing Options

19 actions | 5 spotlights
 11 case studies



PEOPLE

OBJECTIVES

- ◆ Cultivate Financial Stability
- ◆ Advance Public Health Priorities
- ◆ Strengthen Community Response
- ◆ Communicate the Concept of Resilience

22 actions | 13 spotlights
 8 case studies



PATHWAYS

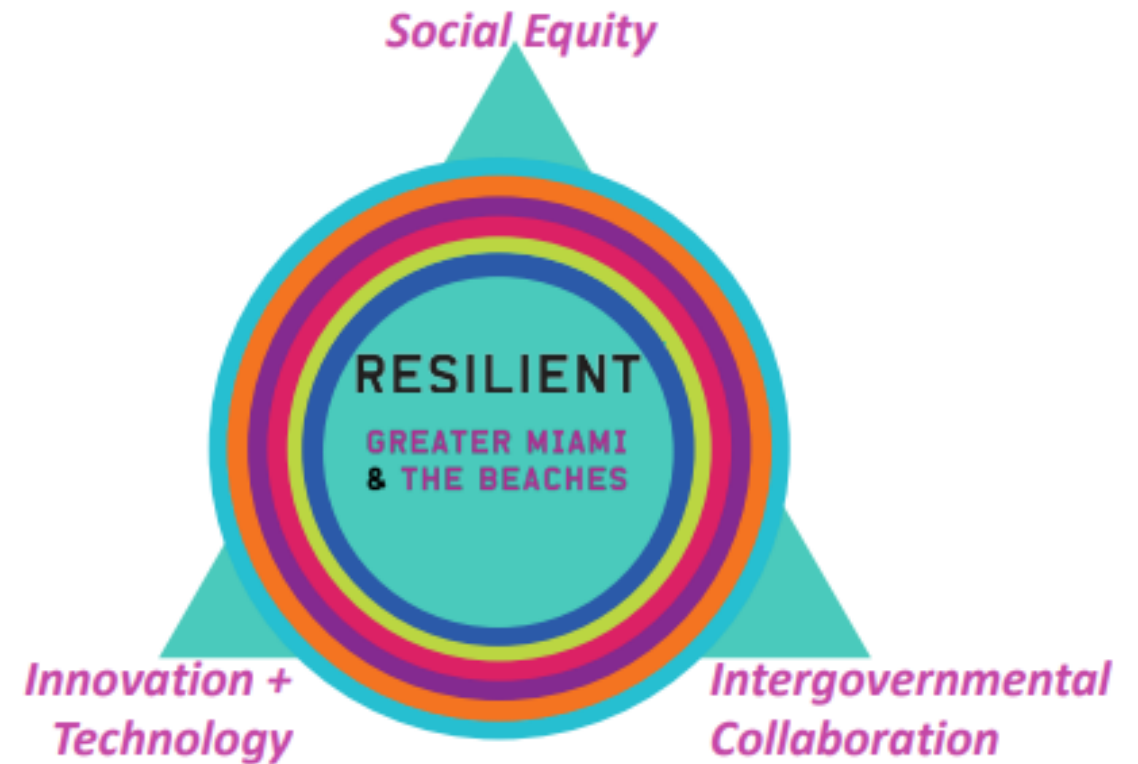
OBJECTIVES

- ◆ Pre-plan for Post Recovery
- ◆ Cultivate Resilience Expertise
- ◆ Leverage our Experience
- ◆ Develop Shared Resources
- ◆ Leverage our Dollars

18 actions | 6 spotlights
 9 case studies

Cross Cutting Themes

- Too many of us are struggling just to find living-wage jobs, affordable housing, and feel safe in our neighborhoods, therefore we need to address **Social Equity** head on.
- These complex matters require a multidisciplinary approach and must incorporate **Innovation and Technology**.
- As an **Intergovernmental Collaboration** from the start, GM&B has an opportunity to seek solutions that involve multiple public and private sector partners.



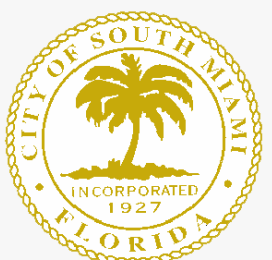


CORAL GABLES
THE CITY BEAUTIFUL

Golden BEACH



BAL HARBOUR



- VILLAGE -

Implementing

- Year 1 Implementation Summary in early 2021
- Redesigning Resilient305 website - resilient305.com
- Developing Resilient305 ArcGIS Hub to track implementation
- Monthly implementation team (PIVOT) meeting
- Assessing role of resilience in pandemic recovery (Action 34)

Action Item Progress



In Action



- **Action 1:** Preserve and Restore Biscayne Bay
- **Action 6:** Reduce Back Bay Flooding
- **Action 7:** Implement the Sea Level Rise Strategy
- **Action 10:** Strengthen Resilience Planning
- **Action 17:** Building Efficiency 305

Action 1: Preserve and Restore Biscayne Bay



A Unified Approach to Recovery for a Healthy & Resilient Biscayne Bay

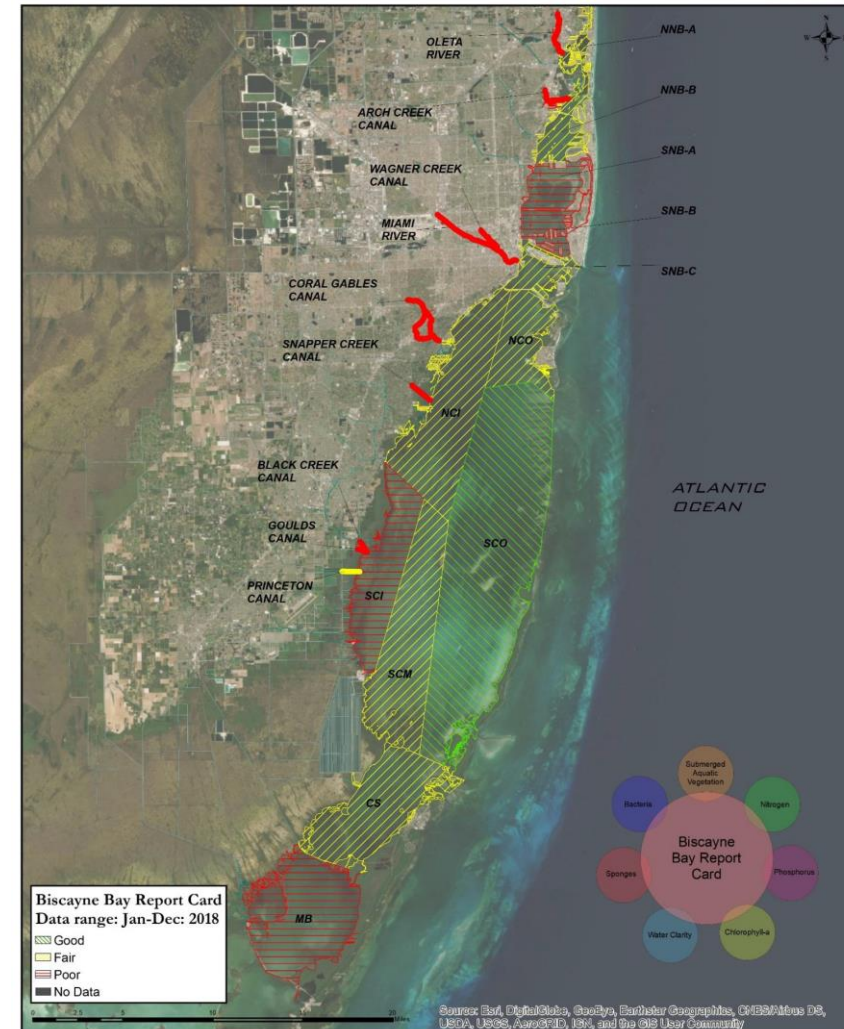
Biscayne Bay Task Force Report and Recommendations

June 2020

Biscayne Bay Task Force Members

- Irela Bagué**, Task Force Chairperson, President, Bagué Group
- David Martin**, Task Force Vice Chairperson, President, Terra Group
- Lynette Cardoch**, Ph.D., Director of Resilience & Adaptation, Moffatt & Nichol
- Lee Hefty**, Director, Division of Environmental Resources Management, Miami-Dade County
- James Murley**, Chief Resilience Officer, Office of Resilience, Miami-Dade County
- John Pistorino**, P.E., Principal, Pistorino and Alam
- Alyce Robertson**, Executive Director, Downtown Development Authority
- Steve Sauls**, Biscayne Bay Marine Health Summit Steering Committee Member
- Tiffany Troxler**, Ph.D., Director of Science, Sea Level Solutions Center, Florida International University

2019 Biscayne Bay Report Card





Concurrent U.S. Army Corps studies in Miami-Dade



**Miami-Dade
Back Bay
Study Coastal
Storm Risk
Management
Feasibility
Study**



**Miami Harbor
Florida
Navigation
Improvement
Study**



**Miami-Dade
Coastal Storm
Risk
Management
Feasibility
Study
“Beach Study”**

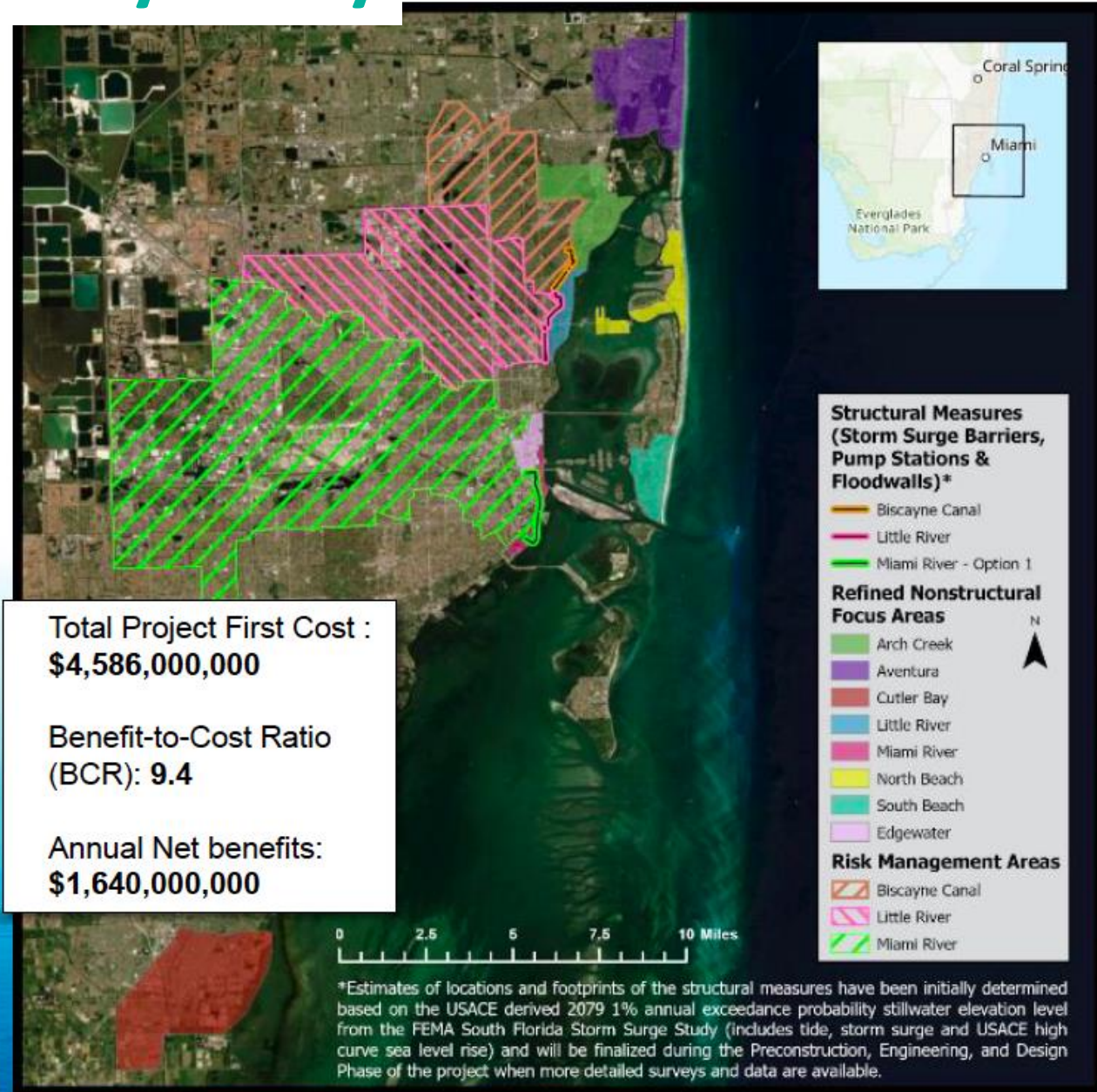


**South
Atlantic
Coastal
Study**



TENTATIVELY SELECTED PLAN (ALTERNATIVE 8)

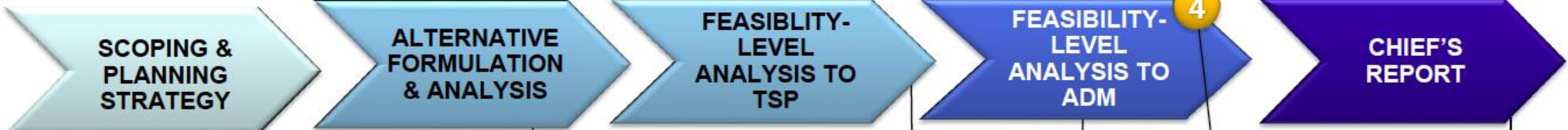
- Surge barriers at Biscayne Canal, Little River, and Miami River all of which include associated pump stations and floodwalls
- Nonstructural mitigation at seven socially vulnerable economic damage centers
 - Outside structural measures at Arch Creek, Little River, and Miami River/Edgewater.
 - Aventura, Cutler Bay (not shown on map), North Beach, and South Beach
- Natural and Nature-Based Features are being considered at the Cutler Bay site
- Critical infrastructure mitigation on priority asset categories throughout all of Miami-Dade County (not shown on map)





SMART Feasibility Study Process: Miami-Dade Back Bay Coastal Storm Risk Management Study

Concurrent review



Execute Feasibility Agreement with non-Federal Sponsor:
9 Oct 2018

- Initiate Scoping
- Invite Agencies to Participate
- Examine Existing and Future Without Project Conditions
- Identify Problems, Opportunities, Objectives and Constraints

1

Alternatives Milestone:
9 Jan 2019

- Receive Stakeholder Input on Potential Measures
- Develop Screening Criteria
- Formulate Initial Array of Alternatives

2

Tentatively Selected Plan (TSP) Milestone: Jan 2020
 Alternative Evaluation and Comparison:

- Environmental Considerations
- Parametric Costs and Determine Preliminary Benefits (Future With Project Conditions)
- Final Array of Alternatives
- Detailed Benefit-to-Cost Ratio
- Stakeholder Input
- Determine the TSP
- Develop Draft Report

3

Agency Decision Milestone (ADM): Oct 2020

- Release Draft Report (Integrated Environmental Impact Statement) and Respond to Comments
- Initiate Multiple Levels of Quality Review
- Finalize Environmental Mitigation Plans
- Develop Final Report

4

District Engineer transmits final report package
April 2021

5

Sept 2021

- Release Final Report
- Complete National Environmental Policy Act (NEPA) Conclusions

Draft Report Release:
5 June 2020

Action 7: Implement Sea Level Rise Strategy



'Areas' Across Miami-Dade County



Parks & Conservation Lands



Agriculture



Western Suburbs



Critical Facilities



Sloughs



Ridge



Mainland - Bayfront



Island - Bayfront



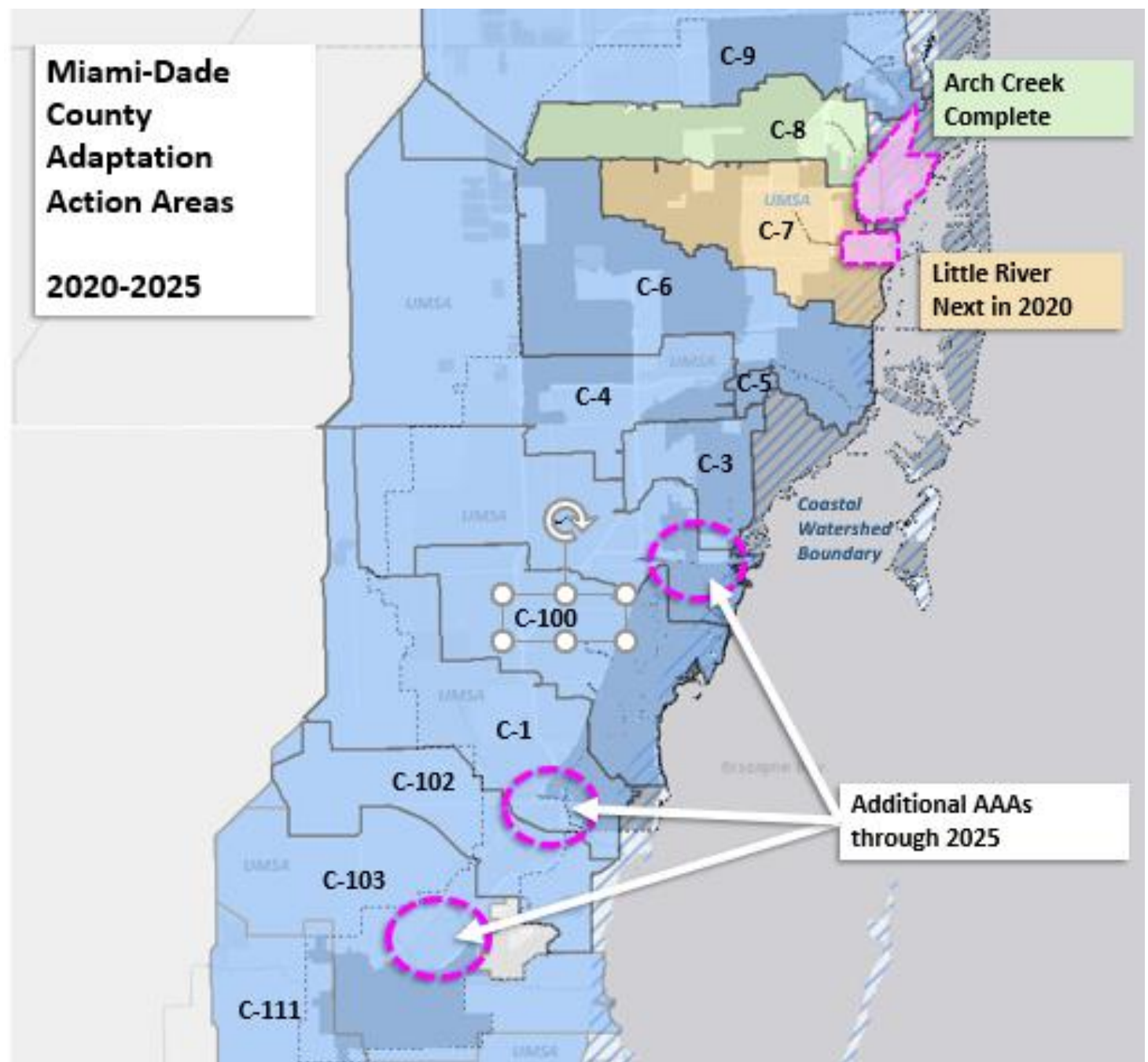
Island - Oceanfront



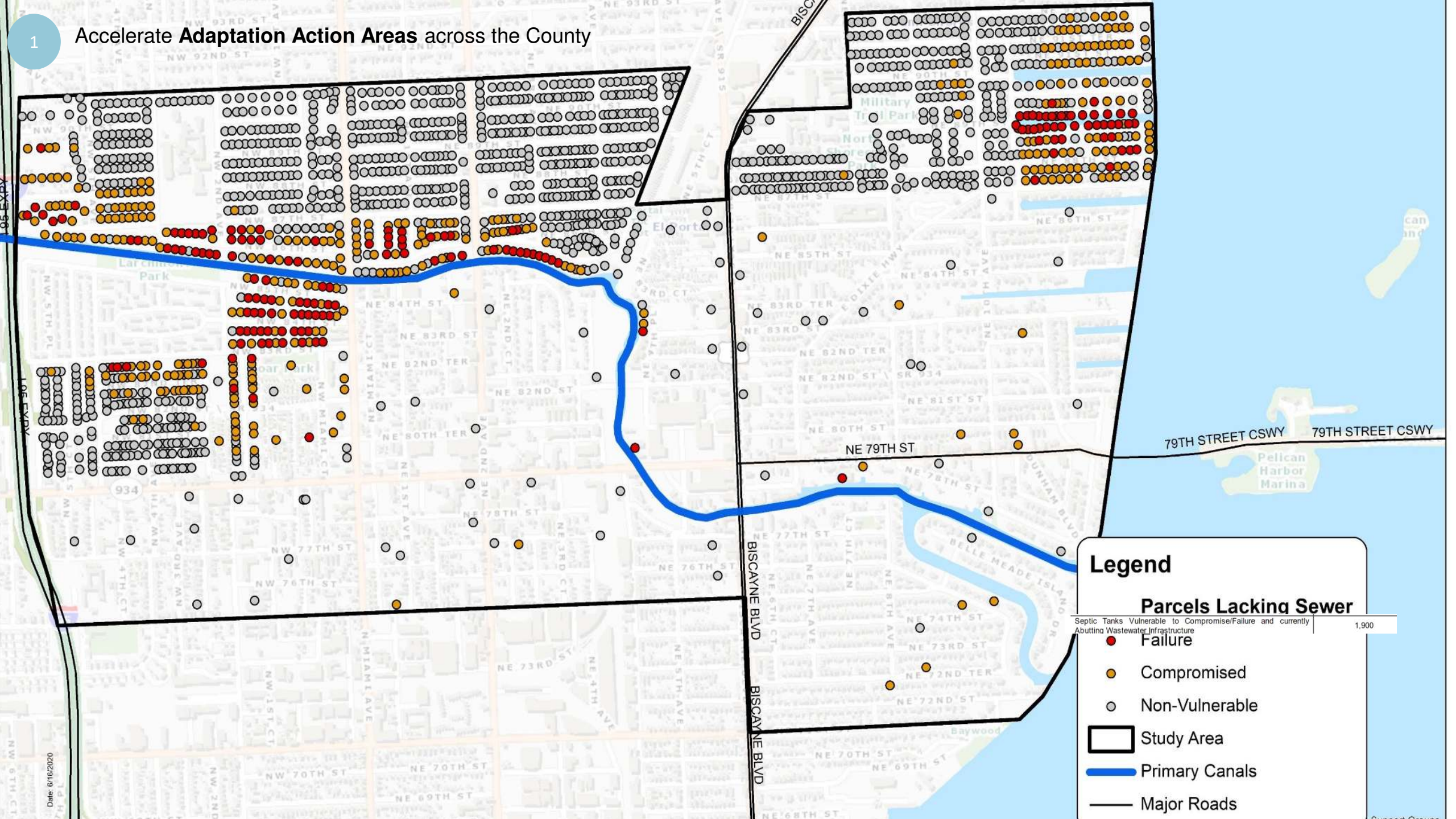
Sea Level Rise Strategy



Adaptation Action Areas



Accelerate Adaptation Action Areas across the County



Legend

Parcels Lacking Sewer

Septic Tanks Vulnerable to Compromise/Failure and currently Abutting Wastewater Infrastructure

- Failure
- Compromised
- Non-Vulnerable
- Study Area
- Primary Canals
- Major Roads

1,900

Engaging the community through education and outreach



Action 10: Strengthen Resilience Planning

Miami-Dade County Board of County Commissioners approved updates to Miami-Dade County's **Comprehensive Development Master Plan** in 2020

- Reduce GHG emissions
- Hold the urban development boundary line
- Densify along transit corridors



Climate Mitigation Work



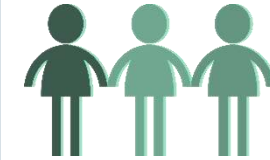
strengthening efficiency in County operations

- Utility Billing Management Software for County Buildings
- Sustainability Training for staff
- Revenue recovery programs EpACT 2005/179D
- Innovative financing for SEAM Revolving Loan Fund
- Sustainable Buildings Program
- Electricity Master Plan



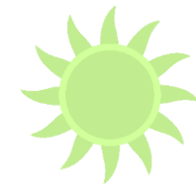
developing community programs

- Electric Vehicles (EVs) and Infrastructure for EVs
- Property Assessed Clean Energy Act (PACE)
- Building Efficiency 305
- GreenPrint Sustainability Plan
- Emissions inventories



working with public & private partners

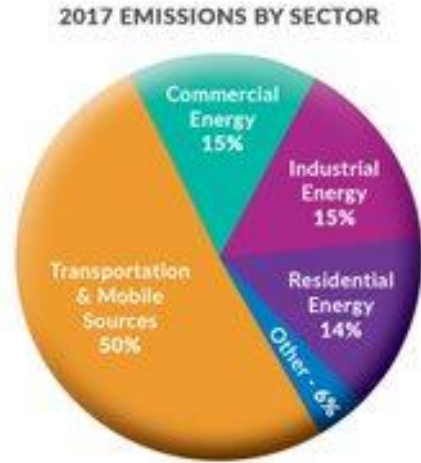
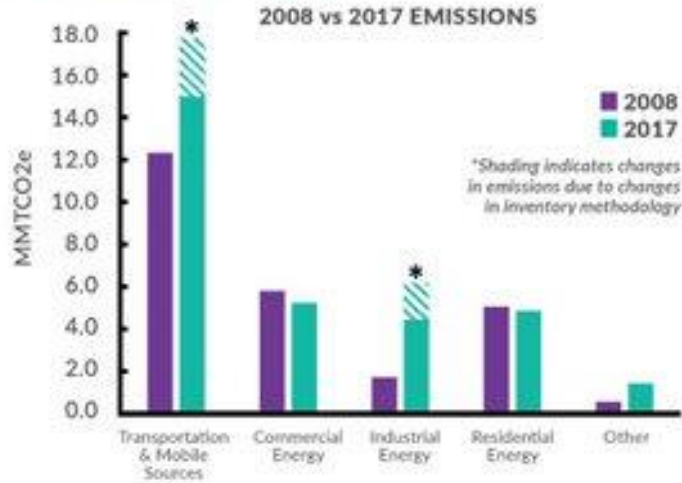
- Florida Green Building Coalition
- Urban Sustainability Directors Network
- Better Buildings Program
- Better Communities Alliance
- Grants



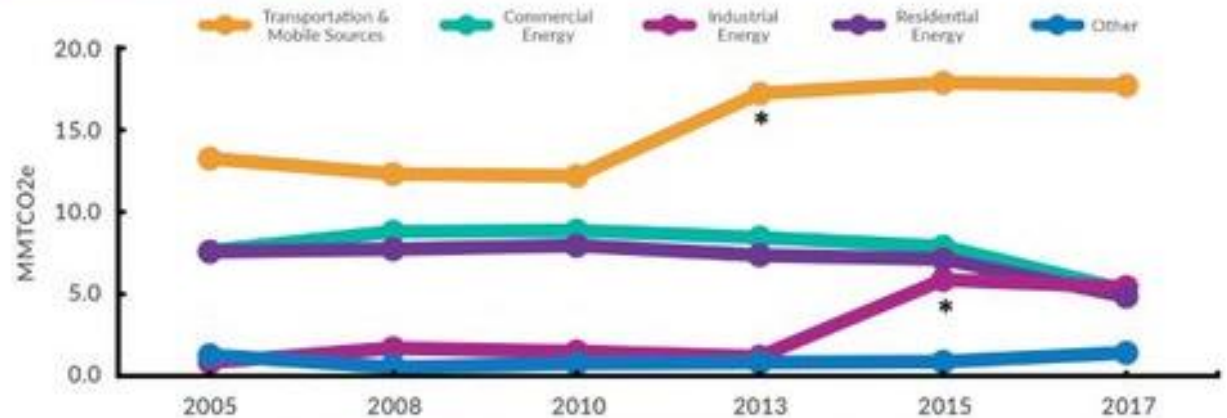
advancing renewable energy

- solar study
- solar co-ops
- solsmart
- Florida GoSolar

EMISSIONS SECTORS



EMISSIONS TRENDS



*Large changes in these sectors are due in part to changes in inventory scope and methodology

Miami-Dade County's



BUILDING EFFICIENCY 305



BUILDING EFFICIENCY 305

MIAMI-DADE COUNTY'S ENERGY + WATER EFFICIENCY STRATEGY



37%
of Miami-Dade's
climate pollution
comes from

electricity usage in our buildings



Buildings waste
30%
of their energy
and water due to

inefficiencies and poor operation



GOAL: Reduce energy and water use by 20% over 5 years for cohort

Open to all interested owners or managers of existing residential and commercial buildings



Leading by Example

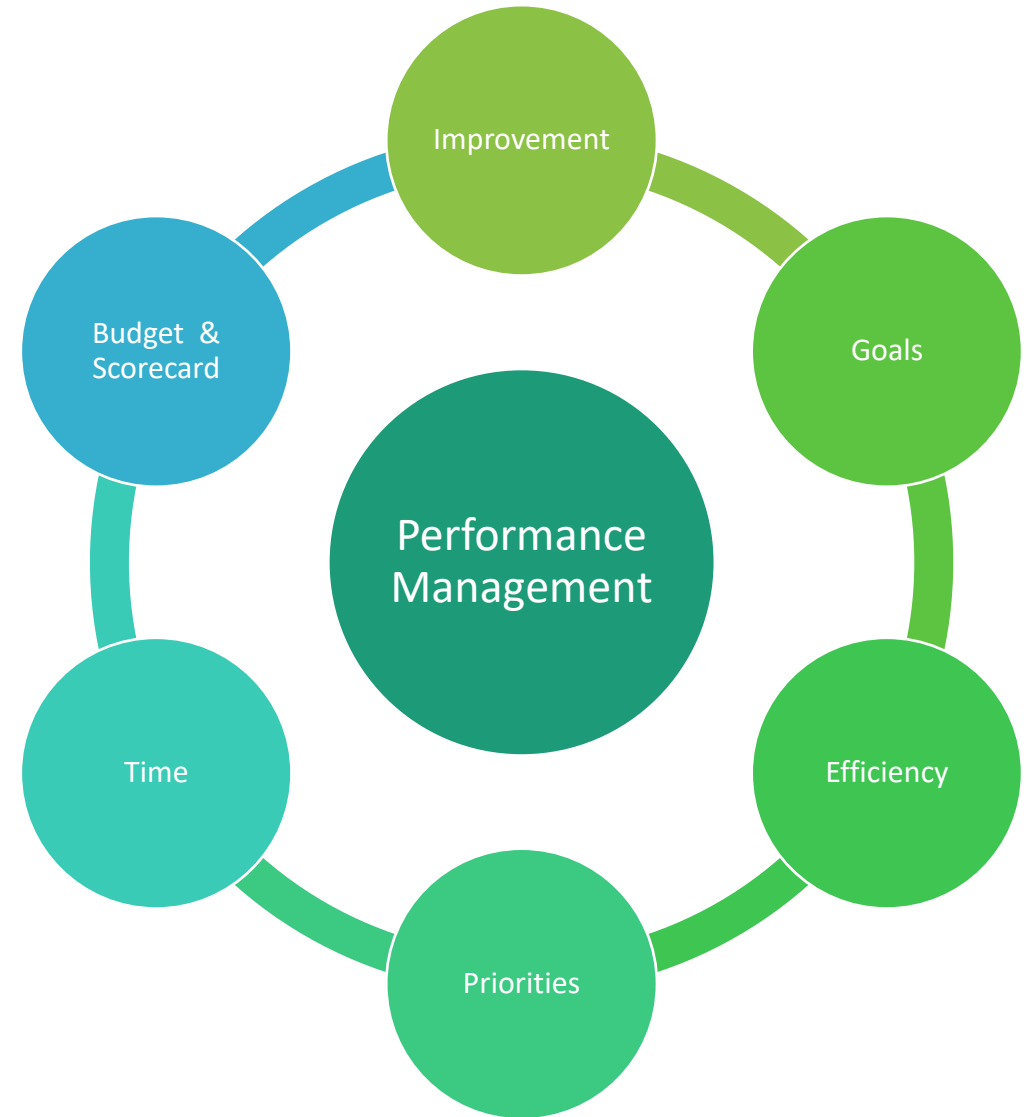
- Leading by example: Miami-Dade County has benchmarked energy and water use for ~214 County Buildings to track and analyze performance.
- Work with County departments, building managers to identify intervention points.
- Collaboration with Public Housing and Community Development department and FPL via Pilot Project.



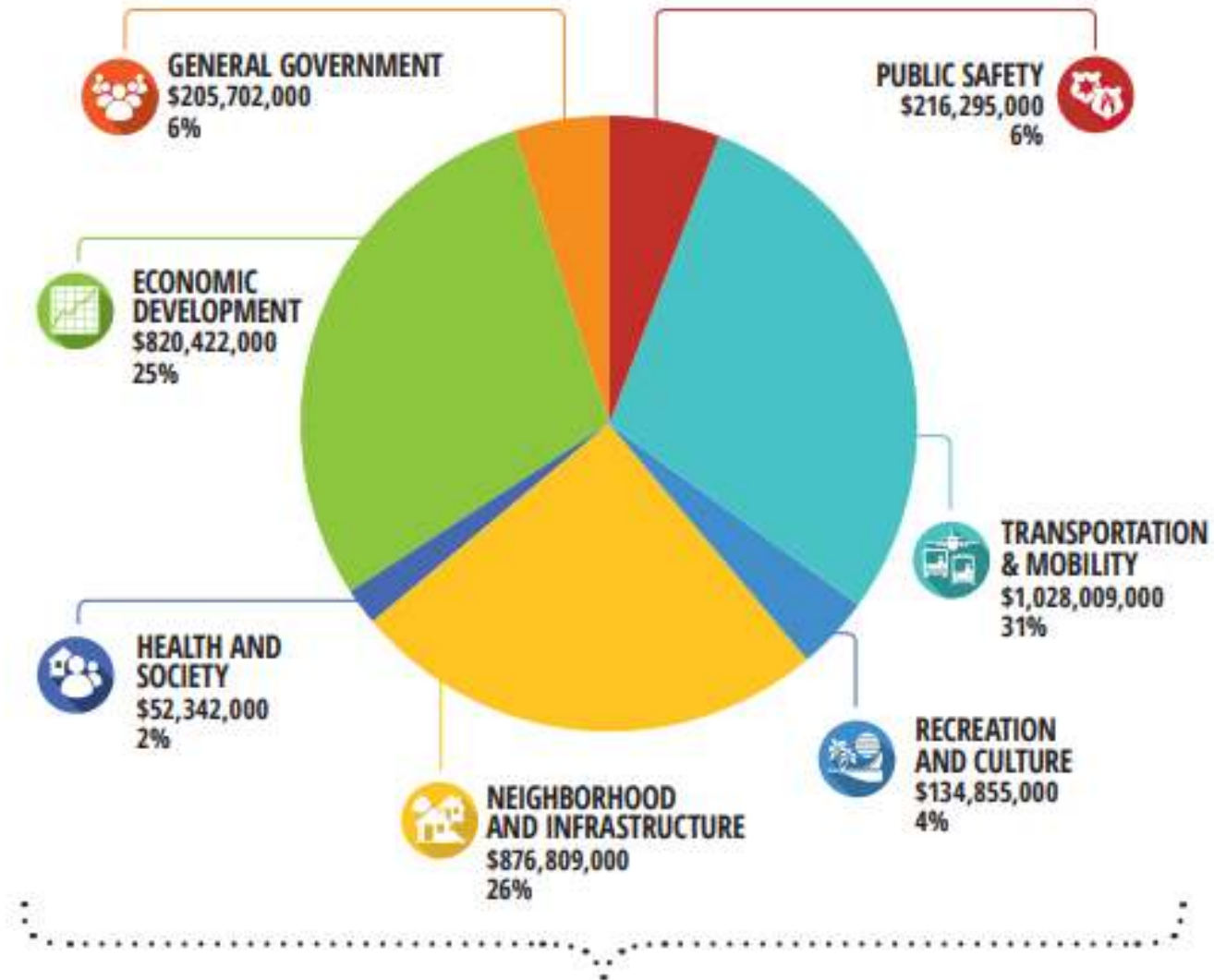
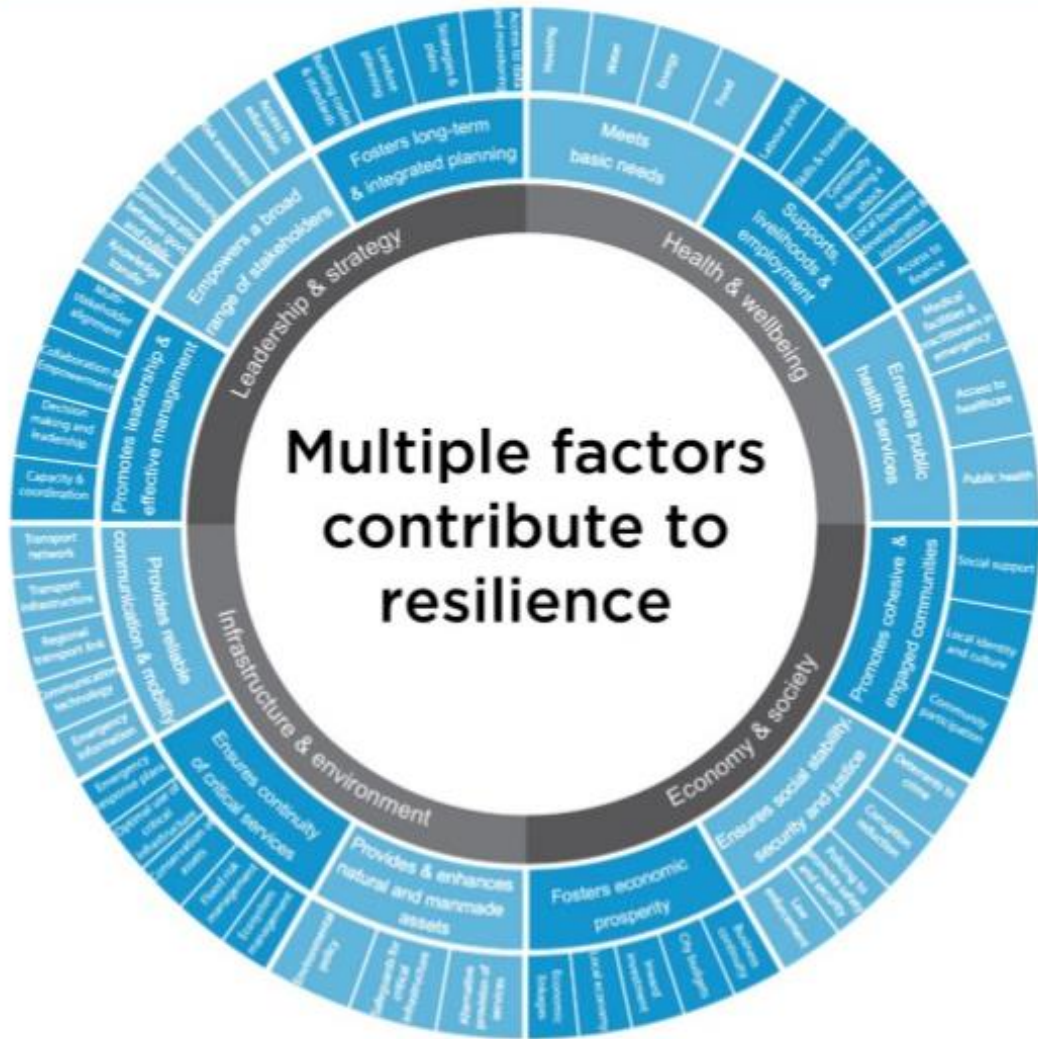


Performance Management

- ECAP water and electricity bill integration
- Resilient Budget and Strategic Plan
- Development Review Checklist (Sea level rise, energy efficiency, social justice)
- Financial disclosure
- Risk management



Miami-Dade County's Resilient Budget



**TOTAL PROPOSED CAPITAL PLAN:
\$3,334,434,000**

Thank you!

James F. Murley

Chief Resilience Officer

Miami-Dade County

James.Murley@miamidade.gov

