

Speakers/Panelists: Rachel Wellman, Lisa Milenkovic, Megan Houston, and Kimberly Brown

Agenda

Introduction

Welcome to South Florida Location and General Climate Hazards Panelists

FAU Climate READY Program

Rachel Wellman Florida Atlantic University Pine Jog

Annual Broward Youth Climate Summit

Lisa Milenkovic Broward County Schools







Palm Beach County Office of Resilience

Megan Houston SE FL Regional Climate Compact

Miami-Dade County Office of Resilience

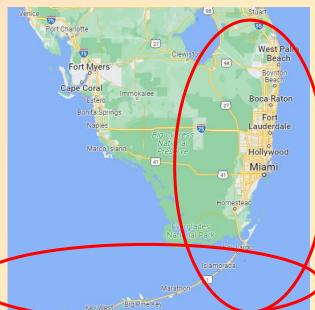
Kimberly Brown SE FL Regional Climate Compact

Questions and Open Discussion

Community and Panelists

Location

SE Florida Region includes Broward, Miami-Dade, Monroe, and Palm Beach Counties







"Satellite imagery of the Miami Metropolitan Area"

-Wikipedia



Source: Google Maps



Climate Change Hazards

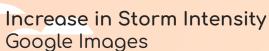
Extreme Heat
FL Public Radio
Emergency Network



What is Florida these hazards concerns?









Flooding
<u>Gettyimages</u> in Miami

Speakers/Panelists





Rachel Wellman FAU Pine Jog Environmental Education Center



Lisa Milenkovic Broward County Schools



Megan Houston Palm Beach County Office of Resilience



Kimberly Brown Miami-Dade County Office of Resilience



FLORIDA ATLANTIC UNIVERSITY.

PINE JOG ENVIRONMENTAL EDUCATION CENTER

Climate READY Program

Climate Resilience Education & Action for Dedicated Youth

Empowering Palm Beach County Teens to Become Community Climate Ambassadors!



This program has been made possible by a generous grant from the Environmental Literacy Program of the National Oceanic and Atmospheric Administration (NOAA).

Are You Climate READY?

FAU Pine Jog Environmental Education



Climate READY

Climate R esilience



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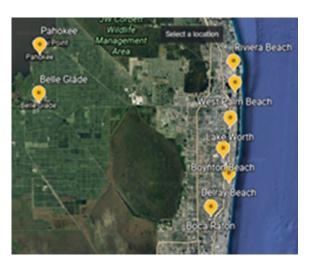
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Core Communities



- Pahokee/Belle Glade
- Riviera Beach
- West Palm Beach
- Lake Worth
- Boynton Beach / Delray Beach
- Boca Raton



Program Components 2021-2023

- Ambassador Institute (Summer)
 - Dual Enrolled Teen FAU Students
- After School Mentorship (Fall)
 - 4th and 5th Grade Students
- Community Outreach (Spring)
 - City/County Partners
- Teacher Collaborative
 - K-12 Educators









Broward Youth Climate Summit

http://browardschools.com/youthclimatesummit

Dr. Lisa Milenkovic STEM + Computer Science Supervisor

- In its fifth year
- For BCPS students in grades 5-12
- Provides a platform for students to advocate for policy change and gives them a voice for promoting environmental sustainability
- In partnership with Broward County Natural Resources
 Division and the Museum of Discovery and Science

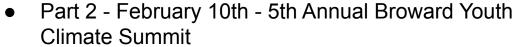






2022-23 Broward Youth Climate Summit 4 Part Series

- Part 1 December 22 14th Annual Southeast Florida Regional Climate Leadership Summit
 - 50 high school students attended



 47 presenters with over 900 attendees from 21 schools











2022-23 Broward Youth Climate Summit - 4 Part Series

- Part 3 March 23 Sustainability Superhero
 Teacher Workshop
 - o 30 Teachers
 - Partnership: Museum of Discovery and Science, Coca-Cola Florida, USF, and BCPS
- Part 4 April 23 Youth Climate Summit in Action
 - 250 8th grade students
 - At the Museum of Discovery and Science





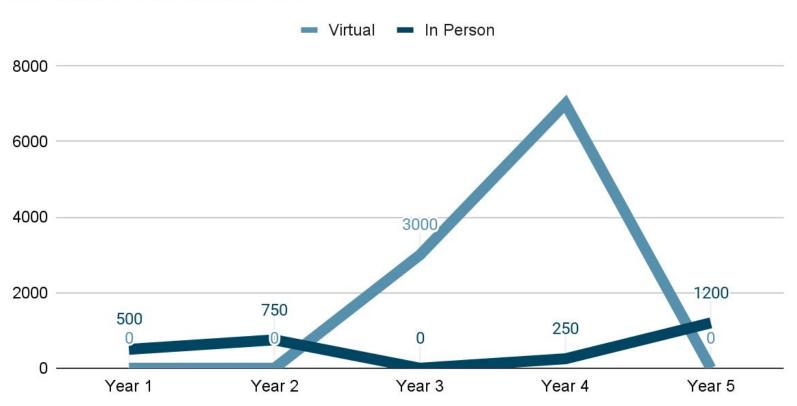






Broward Youth Climate Summit

Students and Teachers 2019-2023



Resilient Palm Beach County



The Office of Resilience

The Office of Resilience works to make Palm Beach County more sustainable for the planet and more resilient to climate change challenges.





Rainfall-Induced Flooding



Harmful Algal Blooms



Pest & Disease Outbreaks



Extreme Heat



Drought



Wildfire



Shoreline Recession



Tidal Flooding



Storm Surge



Groundwater Inundation



Saltwater Intrusion

NOAA High

Recommended for Sensitive and Critical Infrastructure

NOAA Intermediate High

Recommended for Assets with Adaptive Capacity

IPCC Median

Recommended for Assets
with Short Life Cycle

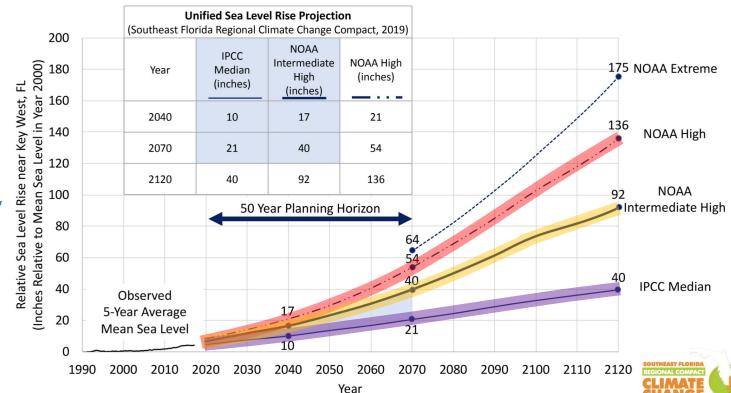


FIGURE 1: SFRCCC Unified Sea Level Rise Projection modified to show colored curves



Palm Beach County Initiatives

SUSTAINABILITY PROJECTS



Palm Beach County Water Utilities Department

Ensuring a safe, sustainable water supply for future generations through environmental stewardship is a core value of the Palm Beach County Water Utilities Department (PBCWUD). The development and maintenance of Wakodahatchee & Green Cay Wetlands are a shining example of this core value in action.

Each day, the Southern Region Water Reclamation Facility pumps approximately three million gallons of highly treated wastewater into the Wakodahatchee and Green Cay Wetlands, whic...

















Plastic Waste Presentation Slide





Energy Efficiency

1,722 PERMITS

Solar Installations

1,009 CONVERTED

LED Streetlights

5TH YEAR

of a 6-Year Conversion of All Sports Field Lighting









Projects

PLANNING & COMPLIANCE

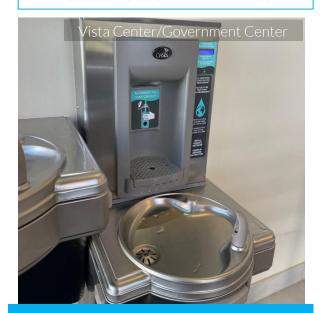
PALM BEACH COUNTY DEPARTMENT OF AIRPORTS Sustainability Management Plan September 2022

Finalizing the Sustainability

Management Plan

Document

RESOURCE OPTIMIZATION



+30 Water Bottle Refill Stations **EMISSIONS REDUCTION**



21 EV Permits

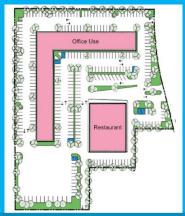
Electric Vehicles

County Pilot

Government Center complete, with 3 additional sites

planned Electric Buses

Infrastructure
installed, and Palm
Tran is acquiring 7
electric buses in FY 24



Uniform Land Development Code Amendments



EV Demo Day

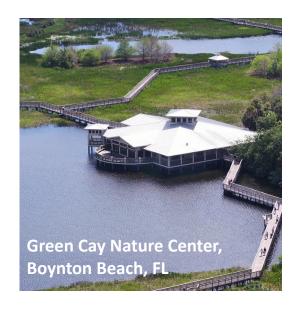


Governmental Center

Resiliency in County Capital Construction Projects

- Policy manual requiring consideration of resiliency and sustainability
- Checklist for metrics and accountability
- All county construction departments involved





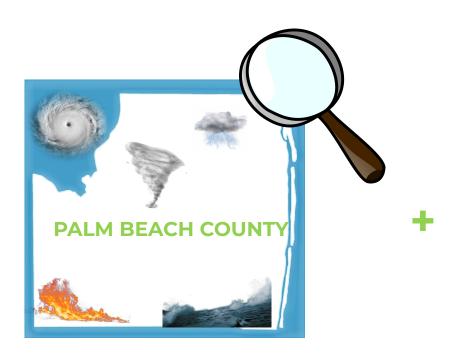




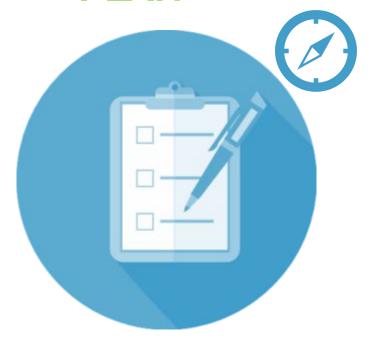




CLIMATE RISK ASSESSMENT



RESILIENCE ACTION PLAN



CLIMATE RISK ASSESSMENT

RESILIENCE ACTION PLAN



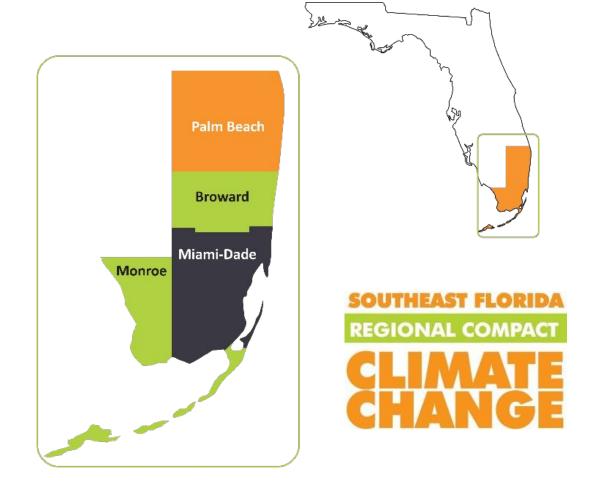






Southeast Florida Regional Climate Change Compact

- Ratified January 2010
- Palm Beach, Broward,
 Miami-Dade, and Monroe
 Counties (109 cities and 6 million people)
- Address climate impacts and solutions at scales beyond jurisdictional boundaries





- Compact Leadership
 Committee
- Knowledge exchanges
- Input sessions
- Workshops
- Summits

- Policy and advocacy
- Similar collaboratives in FL and nationally
- Florida Climate Institute
- Local/state/national/ international conferences

















































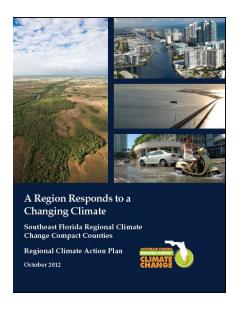




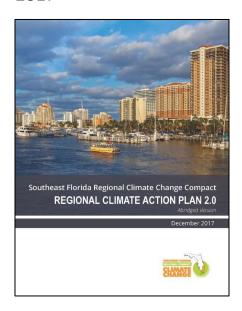


Regional Climate Action Plan

2012



2017



2022





Southeast Florida Regional Climate Change Compact
REGIONAL CLIMATE
ACTION PLAN 3.0



- Agriculture
- Energy
- Equity
- Informed and Engaged Communities
- Natural Systems
- Public Health
- Public Policy Advocacy
- Regional Economic Resilience
- Risk Reduction and Emergency Coordination
- Sustainable Communities and Transportation
- Water

- Updated Mayor's Pledge for Cities
- Implementation Workshops (TBD -Resilient Housing, Federal Funding Opportunities)
- Climate Change Assessment Tool (C-CAT)
 Municipal Survey (May 2024)
- Regional Climate Action Plan 3.0 Implementation
- Federal and State Legislative Platform
- 11/15/24 to 11/16/24: Climate Summit, Miami Beach, FL



THANK YOU



Megan Houston

Resilience Director

mhouston@pbcgov.org





What is "resilience"?

Resilience

Preparing for and responding to long-term stresses and short-term shocks by coordinating intra and intergovernmental work in ----->



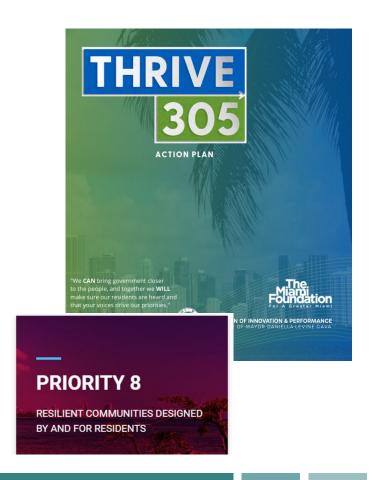
Miami-Dade County's Office of Resilience



MITIGATION ADAPTATION COMMUNICATION **BISCAYNE BAY EXTREME HEAT FUTURE READY** address climate reduce sources **Implement heat** protect & Implement and change impacts of climate risk reduction restore plan change stakeholders efforts

Our 6 primary resilience initiatives/office divisions

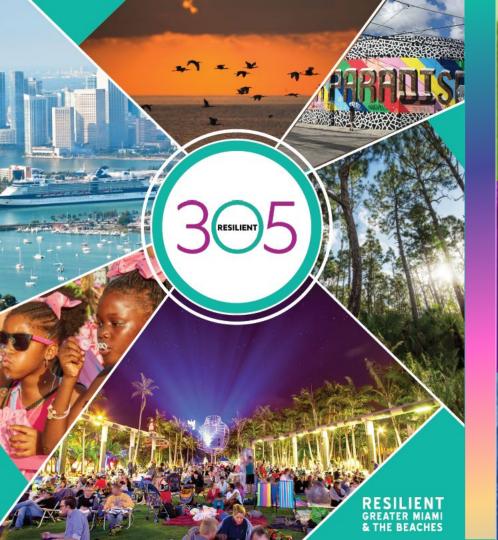
- Thrive305 is the largest public engagement initiative in Miami-Dade County government's history.
- The Plan incorporates feedback received through surveys and community workshops.
- It provides a blueprint to build a stronger, more thriving Miami-Dade, crafted by our residents in close collaboration with civic partners and County staff.
- Community-driven resilience was identified as a priority.



Community-Driven Resilience



Connected Strategies





PLACES

Through our "Places" actions, we aim to address placebased challenges by enhancing our climate resilience through design and planning for the future, creating, connecting, and improving mobility and housing options: and safeguarding our ecosystems.





PEOPLE

Through our "People" actions, we aim to improve the lives of our residents every day, whether sunny or stormy, by supporting job and wealth creation; addressing specific health needs for the most vulnerable among us; and preparing and empowering neighborhoods and networks to anticipate and respond to disruptions, both large and small.



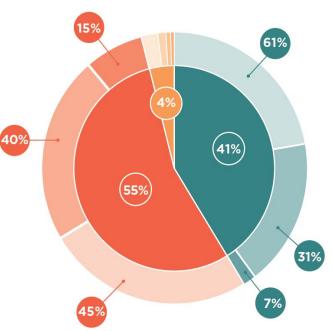


PATHWAYS

Through our "Pathways" actions, we aim to build the connections, collaborations, and committed leadership needed to change the status quo, enabling GM&B to become a global leader in resilience. We can achieve this by setting common goals and committing to actions that bring together governments, businesses, and academic and community organizations.







Communitywide Sources of Emissions

- Buildings and Energy 41%
 - Electricity 61%
 - Other Fuels 31%
 - Natural Gas 7%
- Transportation and Land Use **55%**
 - Air Travel 45%
 - Ground Gasoline 40%
 - Ground Diesel 15%
- Water and Waste 4%
 - Landfilled Waste 53%
 - Wastewater Energy 25%
 - Incinerated Waste 12%
 - Other 10%

Miami-Dade Climate Action Strategy

Climate Action Strategy Targets



Emission reductions from 2019 levels

50%

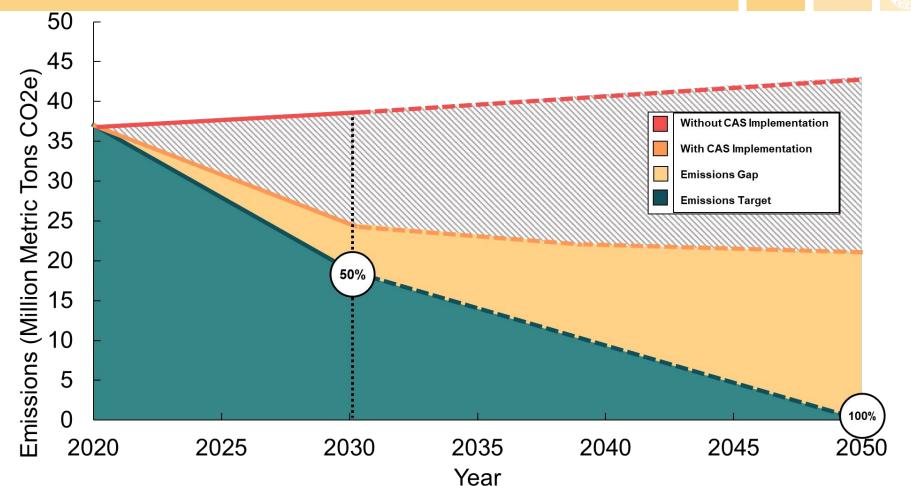
by 2030

Net Zero by 2050



Miami-Dade GHG Forecast Scenarios





7 Approaches to reach our goal



GETTING TO NET ZERO EMISSIONS BY 2050

7 APPROACHES TO REACH OUR GOAL



ENERGY & BUILDINGS



Benchmark, retune and retrofit existing buildings



Expand on-site and off-site renewable energy generation



Build ultra-low energy buildings



LAND USE & TRANSPORTATION



Reduce transportationrelated fuel consumption



Expand and protect green and blue spaces



WATER & WASTE



Convert waste to energy



Reduce waste and water use

Collaboration

Regional

- Southeast Florida Regional Climate Change Compact a partnership between Broward, Miami-Dade, Monroe, and Palm Beach Counties, to work collaboratively to reduce regional greenhouse gas emissions, implement adaptation strategies, and build climate resilience across the Southeast Florida region.
- **Southeast Florida Clean Cities Coalition** a public-private partnership composed of local government representatives and the private sector concerned with alternative fuel technology and programs. The role of the Coalition is to provide a fuel-neutral policy direction to maximize the use of vehicles operating on clean, alternative fuels.

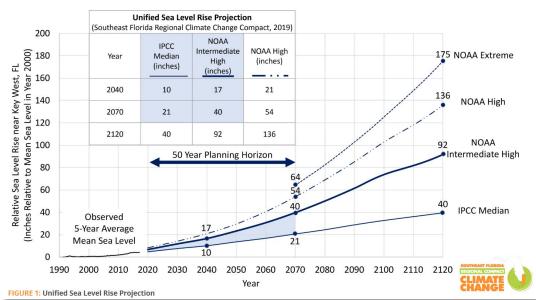
Local

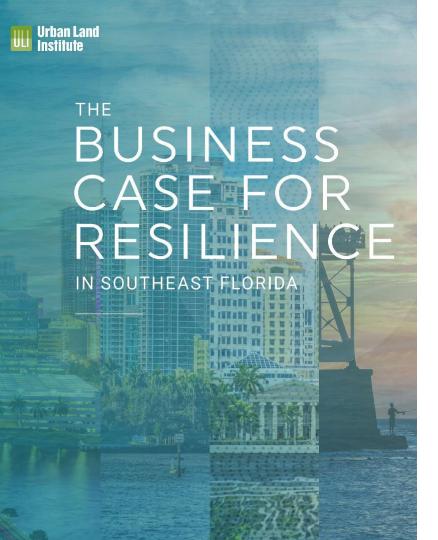
- 305 Collaborative a joint academic-government research partnership among Florida International University (FIU), Miami-Dade College (MDC), University of Miami (UM), and government and non-government organization (NGO) leaders of GM&B.
- 35 in the 305 fosters collaboration between the County and our 34 municipalities
- **Youth Engagement Roundtables** designed to connect young people engaged in climate action with County government.

Regional climate challenge: sea level rise



Regional Compact Projection





"A compelling business case exists for investing in climate adaptation in Southeast Florida."



Nation's 8th largest metro area in the country, with **6,138,333** residents and counting.



In 2040, daily tidal inundation could expose \$4.2B in property value, and one 10-year storm tide event could cause \$3.2B in property damage.

Return on Investment

\$37.9 billion in economic benefits for the region and support 85,000 job years.*

For every \$1 invested in community-wide adaptation strategies, the region will see about \$2 in benefits.

Examples:
Beach nourishment
Seawall construction
Dune restoration

Benefit-cost ratio for community-wide adaptation



4:1
Benefit-cost ratio for building-level adaptation

\$17.6 billion in economic benefits for the region and support 56,000 job years.*

For every \$1 invested in building-level adaptation strategies, the region will see about \$4 in benefits.

Examples: Elevating structures Floodproofing

Together we need to work on making investments in resilient infrastructure now and continue to coordinate to address flood-related threats.

Adaptation Efforts



- County's Sea Level Rise Strategy includes recommendations for adapting to sea level rise vulnerabilities.
- Efforts emphasize nature-based solutions which have a multitude of benefits including storm surge attenuation, water storage, wildlife habitat, carbon sequestration, and recreational opportunities.
- Localized adaptation planning through Adaptation Action Areas. County is launching our second AAA.
- County has adopted site and building standards to address vulnerabilities including updates to the County Flood Criteria (which determines the minimum height of fill material needed for a property and height of seawalls) to consider 2060 sea level rise scenarios.

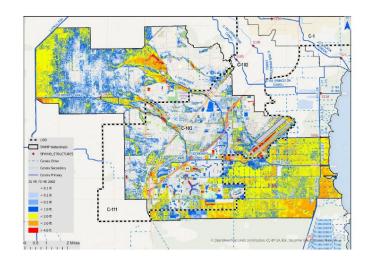


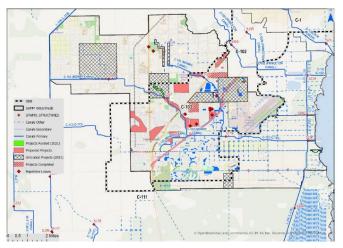
- Accelerate Adaptation Action Areas across the County
- 2 Require County projects be designed for sea level rise
- 3 Establish safer building and seawall elevation standards
- Ensure development avoids flooding neighboring properties
- 6 Enhance flood protection by expanding greenways and blueways
- 6 Flood-proof the County's most vulnerable critical facilities
- Integrate green infrastructure into County projects
- Prepare for disaster recovery to accelerate inclusive adaptation
- Address vulnerable septic systems
- Increase affordable, resilient housing on high ground within SMART Plan transit corridors

Stormwater Master Planning



- The County's Stormwater Master Plan reviews vulnerability to flooding with consideration of sea level rise and recommends capital improvement projects to maintain flood protection level of service standards.
- The primary canal system is operated and maintained by the South Florida Water Management District (SFWMD). SFWMD is undertaking Level of Service studies to plan for continued operation of the primary canal system in the face of sea level rise.





Leading by Example

- Beginning in 2021, at least 10% of each Department's annual light fleet purchases should be battery electric and increase by an additional 10% each year or more thereafter with the goal of converting our entire light fleet by 2030.
- County projects must be designed with consideration of sea level rise over the design life of the project or 50 years, whichever is greater.
- Sustainable Buildings Ordinance (Prescriptive Pathway for County Projects)
 - 1. Benchmarking Energy and Water Use and use of Energy Star Certified products
 - 2. Cool Roofs
 - 3. Solar Hot Water and Solar Photovoltaic Feasibility Evaluation
 - 4. Electric Vehicle Charging Stations
 - 5. Life Cycle Cost Analysis
- Green Procurement

Biscayne Bay Recovery Plan Summary of Biscayne Bay Task Force Recommendations



Water Quality



Governance



Infrastructure



Watershed Habitat Restoration and Natural Infrastructure



Marine Debris



Education and Outreach

Funding



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

Resilient 305 Action 1: Preserve & Protect Biscayne Bay



Launched

"Protect Biscayne Bay" specialty license plate for education & conservation



Partnered & Invested State of Florida

2020: \$20 Million (50/50) Cost Share 2021: \$20 Million FDEP Grants 2022: \$10M State| \$40M Federal



Adopted

Fertilizer Ordinance May 15th – Oct 31st



Created

Biscayne Bay Website Bay Health Report Card



Established

Biscayne Bay Watershed Management Advisory Board



Removed

2022 - 8 Derelict Vessels 2021 - 51 Derelict Vessels



Developed

Bay Watch Campaign to report bay issues: Use the 311 App/ 311 online: miamidade.gov/311direct or Email: Baywatch@miamidade.gov



Invested

SFWMD Update to 2005 Biscayne Bay Economic Study

Regional climate challenge: extreme heat





MIAMI-DADE COUNTY				
Heat Index above	Historical (1971-2000)	By midcentury (2036-2065)	By late century (2070-2099)	By late century, if we limit warming to 2℃ (2070-2099)
90℉	154 days	187 days	200 days	183 days
100°F	41 days	134 days	166 days	115 days
105℉	7 days	88 days	138 days	60 days
Off the Charts	0 days	1 days	14 days	0 days

Chief Heat Officer

City Heat is Worse if You're Not Rich or White.
The World's First Heat Officer Wants to Change
That



Meet the 7 Chief Heat Officers who are making their cities more resilient

The all-women workforce is making it happen with the help of a 'chief' chief heat officer, who's helping coordinate efforts across the globe.









Thank you! Gracias!

Kimberly Brown, AICP
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Questions and Open Discussion

Community and Panelists







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> Megan Houston MSHouston@pbcgov.org

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