

**RESILIENT
GREATER MIAMI
& THE BEACHES**

**305
RESILIENT**

**RESILIENT305
COLLABORATIVE**



Images on Cover (clockwise)

1. Miami Dade College offers a College Credit Certificate in Solar Energy Systems Specialist that trains students in how to design and install Solar Photo-Voltaic and Solar thermal systems panels in both commercial and private environments, preparing our workforce for the green job economy.
2. Transplanted corals in Biscayne Bay from a University of Miami lab. Photo courtesy of the University of Miami Rosenstiel School of Marine and Atmospheric Science.
3. Florida International University student presents work on climate resilience during a poster session at a conference. Photo courtesy of Florida International University.
4. The Alfred C. Glassell, Jr. SUSTAIN Laboratory (SURge-STructure-Atmosphere INteraction) at the University of Miami Rosenstiel School of Marine and Atmospheric Science is an ideal platform for testing scientific instruments, new materials, and commercial products designed for coastal water, atmospheric or land environments. Photo courtesy of the University of Miami Rosenstiel School of Marine and Atmospheric Science.
5. Drone utilized during King Tide days to conduct studies and capture data for students' projects at Miami Dade College. Photo courtesy of Miami Dade College.
6. Florida International University research buoys deployed in strategic locations gather water quality data in different locations throughout Miami-Dade County. Photo courtesy of Florida International University and available [here](#).

Back Cover

Mangroves are a nature-based solution to adapting for sea level rise and help with coastal protection. Professors and students from academia continue research to better understand their value. Photo courtesy Florida International University and available [here](#).

The Resilient305 Collaborative

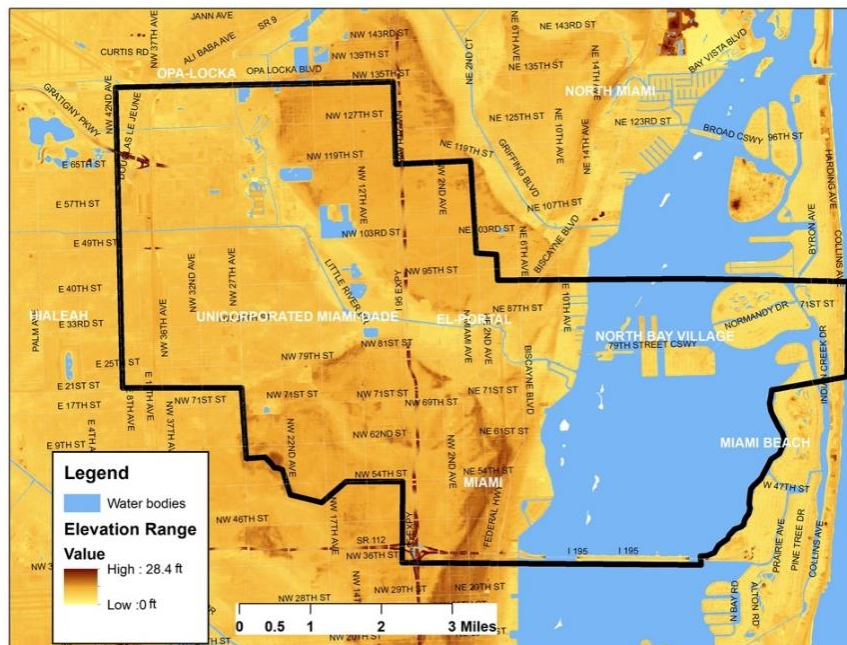
The *Resilient305* Collaborative began in 2019 as an outcome of the MetroLab Network membership. The Collaborative is a joint academic-government research partnership among Florida International University, Miami Dade College, University of Miami, and government and community-based organization leaders of Greater Miami & the Beaches (GM&B) committed to advancing community resilience. The work of the Collaborative directly supports implementation of Action 49: Collaborate with Universities of the Resilient305 Strategy and broadly supports Thrive305. This is a unique partnership which positions GM&B to continue to lead in preparing for and addressing current and future shocks and stressors.

Responding to the COVID-19 pandemic

Now, perhaps more than ever, in the face of the ongoing COVID-19 pandemic, we need our institutional expertise to prepare our community for a resilient and equitable recovery. We need to know how resilient our community was prior to the onset of the pandemic as a benchmark to more clearly understanding how the pandemic has impacted us. We need to know where and how we should focus our resilience-building programs, initiatives, activities, and policies to best recover from this shock, be better prepared for the next shock, and better mitigate stressors over time. We need to be able to monitor and assess if our resilience efforts are benefiting our community and how to improve those efforts over time.

Pilot Project

The *Resilient305* Collaborative is piloting a resilience research strategy and monitoring



program, focused on an area of GM&B dubbed the “Little River to North Beach Resilience District” (left). The District is representative of the character of our GM&B community, which make the lessons learned replicable in other communities throughout GM&B. This diverse area spans communities with varying degrees of exposure to natural hazards, socioeconomic conditions, and technological capacities (e.g., broadband

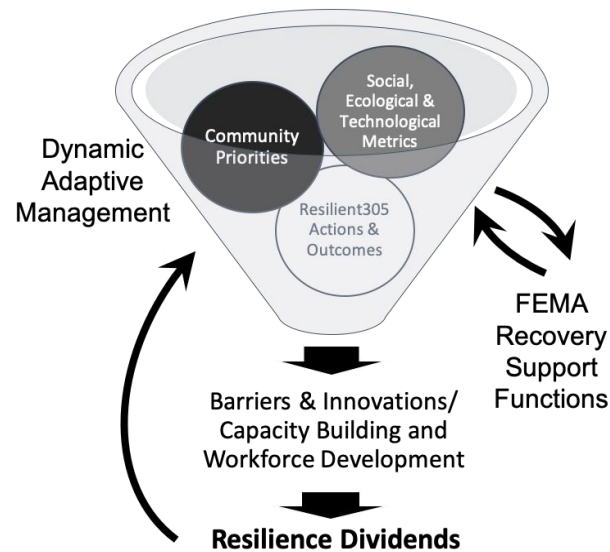
availability, access to sewer). The research will help quantify the benefits of projects resulting from the ongoing implementation of the *Resilient305* Strategy. Lessons learned from this project will be leveraged to report on and enhance resilience outcomes over time. It will also develop new information to improve the translation of

the *Resilient305* Strategy to help meet the resilience priorities of this community and others throughout GM&B.

Approach

The *Resilient305* Collaborative team is organized into workgroups supporting five Core Areas and five Integrated Research-to-Action areas (see table below) and each team member supports both types of workgroups. The five Core Area workgroups focus their subject matter expertise on synthesizing data, identifying, and developing data needs, and refining metrics to quantify the outcomes of *Resilient305* actions. The five Integrated Research-to-Action workgroups are designed to directly support key pillars of a Resilience Learning System (right). The Resilience Learning System is designed to embed resilience learning for practical application.

Resilience Learning System



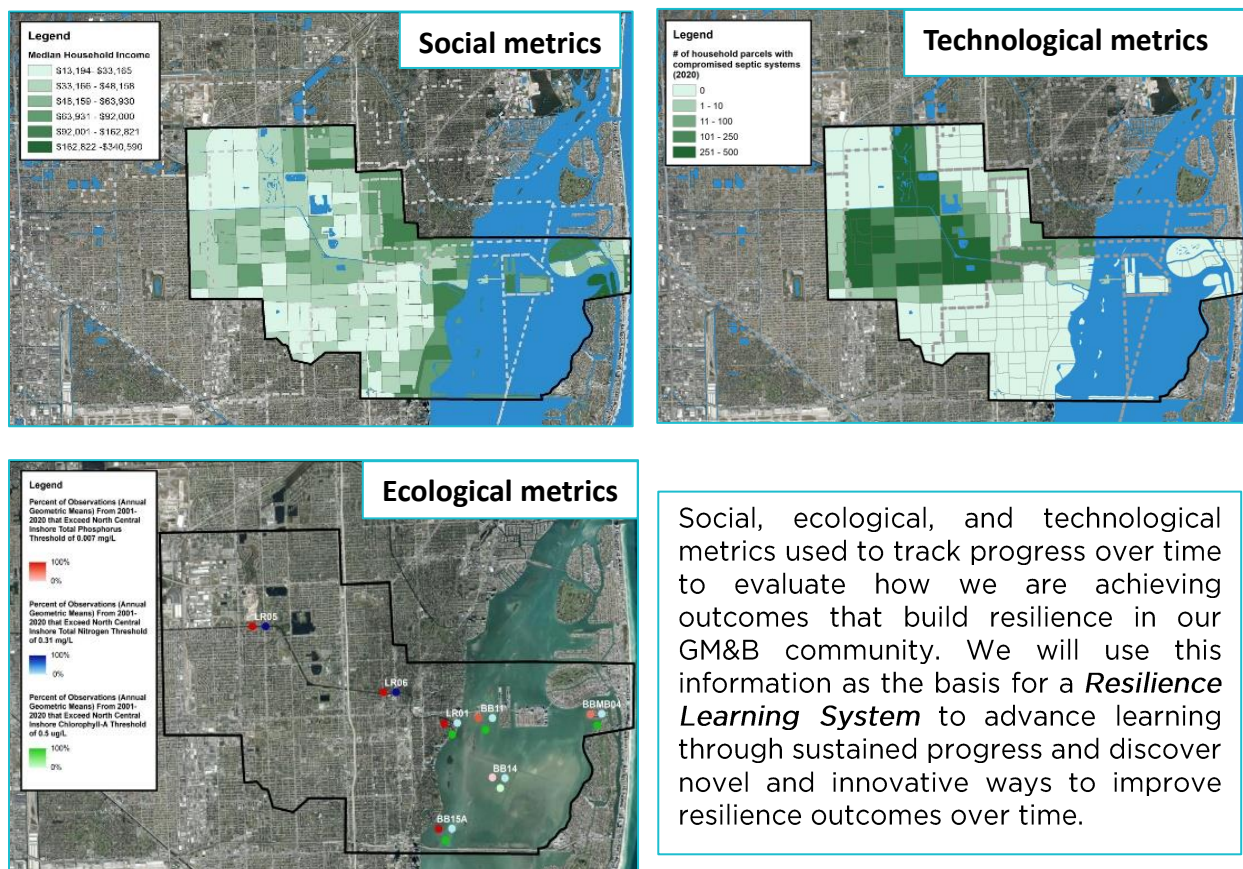
Core Area Workgroups	Integrated Research-to-Action Workgroups
1. Health & Wellbeing	1. Resilience Dividends
2. Economy & Affordability	2. Barriers & Innovations
3. Environment	Capacity Building & Workforce Development
4. Technology & Infrastructure	3. Dynamic Adaptive Management
5. Shocks & Stressors	FEMA Recovery Support Functions

The *Resilient305* Collaborative Research Strategy

The basis for our research strategy is a set of comprehensive, data-driven metrics, co-designed and co-produced with community members and government staff. This set of metrics will lay the framework to track and evaluate the resilience outcomes from *Resilient305* actions. As resilience projects are advanced and implemented, we can monitor those same metrics to assess progress and improve outcomes and effectiveness over time. Monitoring these metrics advances understanding of the co-benefits of these resilience projects and helps to avoid potential unintended consequences. One example (shown below) is a set of metrics for social (*median household income*), technological (*number of household parcels with compromised septic systems*) and environmental (*% time nutrient criteria are exceeded*) systems

that can be used to measure change in resilience outcomes over time from a pre-pandemic baseline in a holistic way.

For example, this approach can be used to understand if financial stability, infrastructure performance, and water quality have been improved. Applied across the GM&B, this approach can also help to understand how to best prioritize resources and investments in an equitable way.



Opportunities

An untapped opportunity for sustaining and increasing the societal impact of this Collaboration lies in the Academic Leaders Council of the One Community, One Goal (OCOG) planning initiative of the Beacon Council. A central goal of OCOG is to foster a one-of-a-kind resilience ecosystem centered on education, economic development, and prosperity that embraces justice, equity, diversity, and inclusivity. By aligning emerging innovations and new workforce opportunities that come from resilience learning, we position our work to support the OCOG outcomes.

Alignment with Other Work

This research strategy and monitoring program supports many important new and ongoing County and municipal activities that are aligned with outcomes of *Resilient305* Actions. For example, Action 1 promotes Biscayne Bay recovery while Action 7 implements the County's Sea Level Rise Strategy. As such, it supports work of the proposed Biscayne Bay Watershed Management Board and Florida Department of Environmental Protection grant for the Little River Adaptation Action Area planning.

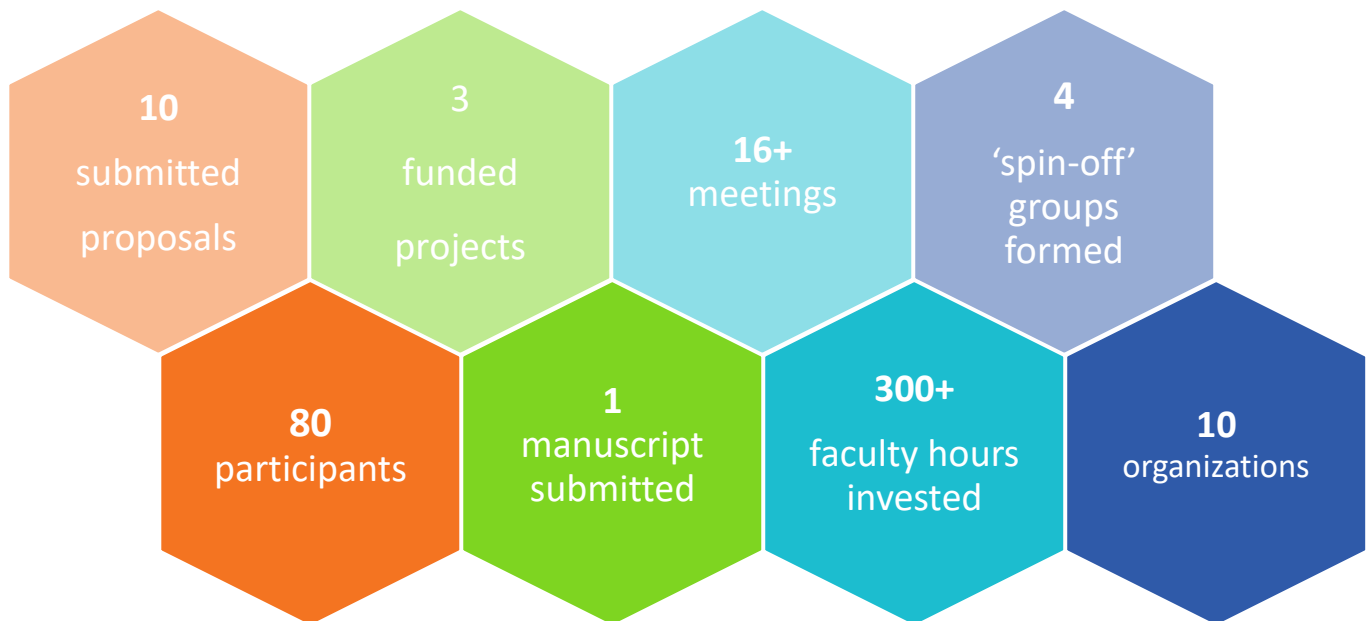
We will advance resilience learning through sustained progress, as well as discover novel and innovative ways to improve resilience outcomes over time.

Next Steps

We will complete our preliminary set of metrics in early 2021 and begin a series of iterative community engagement activities that invite review and refinement of metrics, outcomes and targets based on identified priorities. We also seek to expand participation of civic leaders of community-based organizations and municipal leaders from across GM&B. We are also working with the County to design a public-facing dashboard that visualizes metrics used to monitor resilience outcomes.

Accomplishments (since June 2020)

The *Resilient305* Collaborative has flourished into an unparalleled partnership inspired by the success of intergovernmental collaboration among GM&B. The Collaborative membership has demonstrated both dedication and enthusiasm on the shared vision of creating a more resilient GM&B that puts the community first and improves the lives of those that call GM&B home. The figure below highlights some of the accomplishments to date despite a global pandemic. We have also been pounding the virtual pavement by introducing the *Resilient305* Collaborative to a wider audience in an increasing number of public presentations thus far – including 1 international-level panel, 1 national meeting, presentations to 3 local interest groups, and in 4 community leaders' and educational seminars.





CONTACTS

Karina Castillo, Office of Resilience, Miami-Dade County

Amy Clement, Ph.D., University of Miami

Tiffany Troxler, Ph.D., Florida International University

Carlos Genatios, Ph.D., Miami Dade College

