

# THE BULLETIN

The Official Newsletter of the FDEM Mitigation Bureau



## 30<sup>th</sup> Anniversary of Hurricane Andrew

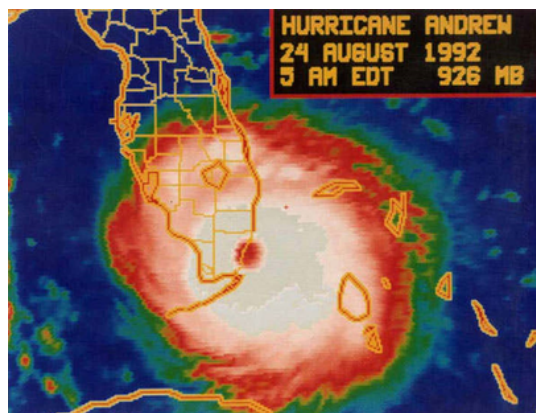
By: Laura Dhuwe

The 30th anniversary of Hurricane Andrew last month was a reminder of how far mitigation and resiliency in Florida has come. The Category 5 storm devastated South Florida in 1992 and changed Emergency Management and Mitigation forever.

Hurricane Andrew was a wakeup call for Florida, indicating that storms will continue to impact our communities and that it is up to us to build a resilient future. Post-Andrew, the state completed a comprehensive review of the state building code system, revealing that building code adoption and enforcement was inconsistent throughout the state. Once thought to be the strongest, local building codes proved inadequate when tested by major hurricane events. The 1998 Florida Legislature created a single state building code to be enforced by local governments. In 2002, the Florida Building Commission began to develop and maintain the Florida Building Code, which supersedes all local building codes and is updated every three years. This system has proved invaluable in building resilience throughout Florida.

Stronger building codes have led to innovation in structure performance as we increase our understanding of how high wind events interact with structures. Various elements of construction ensure the whole envelope is protected from high winds and prevents rain from entering structures, which can cause mold and damage to electrical systems and cost thousands of dollars to repair.

It has been made clear by subsequent storms, like those of the 2004–2005 hurricane seasons and Hurricanes Irma and Michael, that the building codes are working. They have reduced the amount of debris from damaged structures and improved resistance to wind borne missiles. Without the devastation of Hurricane Andrew and the foresight of state officials in the 1990s, Florida may not have one of the most advanced building codes in the world.



*Infrared image of Hurricane Andrew hitting South Florida*

## This Issue:

Hurricane Andrew  
PAGE 01

FY22 Non-Disaster &  
Silver Jackets Update  
PAGE 02

Mitigation Success Story!  
PAGE 03

New Employee Spotlight &  
Mighty Mitigator  
PAGE 04


FDEP Collaboration  
PAGE 05

Resilient Ready Tampa  
PAGE 06

SHMP Update &  
Contact Info  
PAGE 07



# BRIC & FMA Application Period **COMING SOON**



**FUNDING**  
**A TOTAL OF \$3.095B**  
in funding is available for BRIC and FMA grant programs.

<b>BRIC</b> <b>\$2.295B</b>	<b>FMA</b> <b>\$800M</b>
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**APPLICATION PERIOD**  
Apply to FDEM through FEMA GO application system

**SEPT 30 2022** → **NOV 14 2022**

## What's the Buzz? A Silver Jackets Update

By: Brigette Carrillo

Big news! All four of the Florida Team's FY23 project proposals have been approved and selected for funding! See the following for a short synopsis of each proposal:



**US41 Collier Resiliency Study:** Facilitate coordination with regional stakeholders to better understand priorities, long term plans, and objectives for the US 41 Corridor in Collier County, FL.



**Advancing Florida Vulnerability Assessments:** Focus on tidally-influenced locations, particularly with underserved communities, and develop best practices for using publicly available tools to complete specific portions of the standard assessment.



**H&H Support for Astor, FL:** Identify solutions to flood risk, sea level rise, and climate change in the underserved, low-lying area of Astor, FL.



**NNBFs - Moving Guidance to Practice:** Develop educational materials and leverage project designs and case studies to increase public utilization and understanding of Nature and Nature Based Features.

To view past projects, including the recent Coastal Resilience Workshops, visit the Florida Team's new and improved website [here](#). For questions about Silver Jackets, email Brigette Carrillo at [Brigette.Carrillo@em.myflorida.com](mailto:Brigette.Carrillo@em.myflorida.com).

## Holding the Keys to Success

By: Luz Bossanyi

On June 9, 2022, the final inspection was completed for the Galvanic Cathodic Protection for Transmission Poles project, which cost \$11,092,313 and was funded through the Hazard Mitigation Grant Program DR-4337 (Hurricane Irma). The Florida Keys Electric Cooperative (FKEC) protected 115 water crossing highly vulnerable transmission poles, due to their location in a saltwater environment. The visit was conducted by boat and took several hours of inspection and learning about protecting water crossing transmission poles from saltwater corrosion to minimize natural resource invasion.



*This project included conditions to avoid impacts on seagrass beds, corals, and hard bottom habitats. For this project, 8 of the 115 poles were located within Coastal Barrier Resource System Unit FL-35, and 42 poles were located within protected area FL-41P. These locations needed to undergo consultation with U.S. Fish and Wildlife Service regarding underwater natural resources protection including the coral, American crocodile, and West Indian Manatee - Mindy Yang, FDEM Environmental Specialist*



Mindy Yang on the final inspection



The goal of this project was to increase the resiliency of transmission infrastructure to reduce the likelihood of an accelerated failure of a given pole due to the forces of an extreme natural hazard event. This increased resiliency mitigates against the direct loss of electrical service to over 48,000 customers, as well as the countless economic and social impacts that would follow from such a hazardous event. This portion of FKEC's transmission system is the only connection from the Tavernier substation south to the remainder of the Florida Keys, representing 65.15% of FKEC's total transmission system.

The project uses the Lifejacket Cathodic Protection System, which employs a proprietary zinc mesh anode placed directly against the inside face of a stay-in-place fiberglass form. This stops corrosion by providing an electrical current to the affected region, which does not require a remote power supply. This jacket technology is fitted to the base/caisson of a pole and the zinc/sacrificial anode system is activated and tested to ensure operation. This project mitigates corrosion and reinforces the structures to provide a measurable increase in localized strength and an added measure of protection from natural corrosive effects. In addition, it greatly reduces the risk of the failure of one or more transmission structures which prevents significant power outages to all of FKEC's system and an estimated 50% of Florida Keys Energy services system.



Image showing the Lifejacket Cathodic Protection System

The environmental review was very detailed considering that it covered a large area along the Keys and involved work in water. Multiple permits were required from the U.S. Army Corps of Engineers and the Florida Keys National Marine Sanctuary (NOAA).



*The review and approval processes required some time, but it was worth it. This project required an advanced Benefit Cost Analysis utilizing FEMA's BCA tool to calculate the recurrence interval with damages and losses. The calculations were made for different structures depending on the type of poles and used multiple historical scenarios provided by the Sub-Recipient since 1978. This information was used to model expected annual damages under a no-action scenario versus the scenario if the project was implemented. Results from multiple BCA's were used to create a master BCA with expected damages. The process was necessary based on the complexity of the project and the risk the infrastructure was exposed to. This methodology has probably been used in other States, but it was the first for the Florida Technical Unit Engineering team - Claudia Purser, FDEM Lead Engineering Specialist*



Multi-pier Leg Structure pictured above

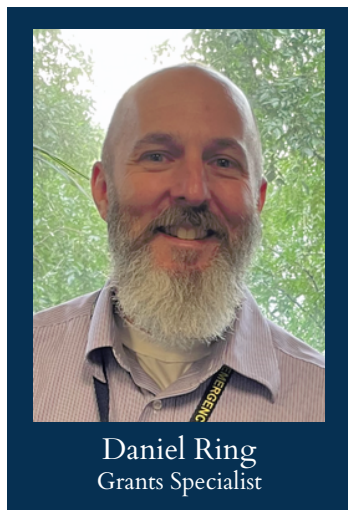


## New Employee Spotlight

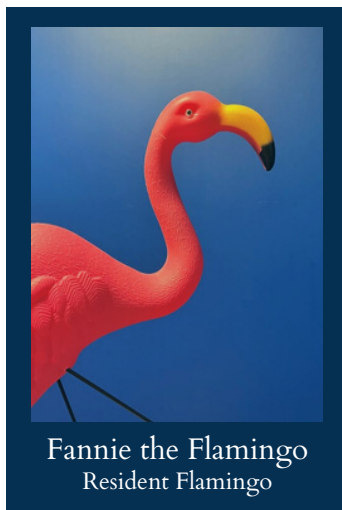
If you see these new faces in the halls, help us welcome our new Mitigation staff to the team!



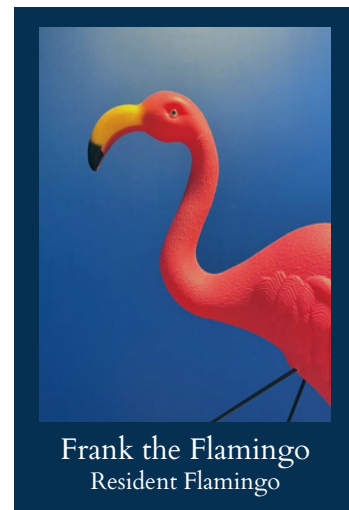
Mishka Bailey-Griffiths  
Senior Management Analyst



Daniel Ring  
Grants Specialist

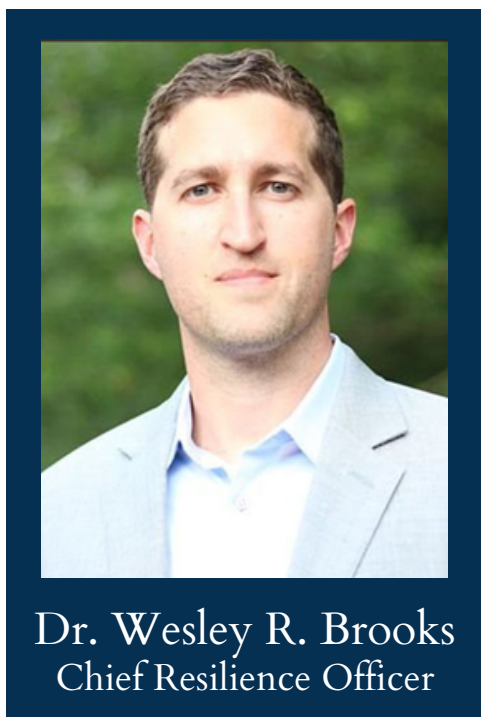


Fannie the Flamingo  
Resident Flamingo



Frank the Flamingo  
Resident Flamingo

## Mighty Mitigator of the Quarter



Dr. Wesley R. Brooks  
Chief Resilience Officer

In November 2021, Governor DeSantis appointed Wesley R. Brooks, PhD to the Chief Resilience Officer role. Dr. Brooks earned his PhD in Ecological Science from Rutgers University and has served as a staffer for members of Florida's Congressional delegation, including Senator Marco Rubio. Most recently, he was the Director of Federal Affairs for the Florida Department of Environmental Protection. Over the last year, Dr. Brooks has engaged many stakeholders, and Florida will undoubtedly continue to benefit from his leadership.

“  
*I'm proud to be helping to lead our resilience coordination across state agencies and local governments on behalf of the Governor. Our shared resilience work will improve quality of life for millions of Floridians, and comes at a historic time when the State of Florida is doing more than ever before to meet the moment in preparing for the future.*  
”

## Oh Hot Dam!

By: Jantzen Heberle and Kristin Lentz

On June 30th, the FDEM Mitigation Planning and Infrastructure teams participated in a tour of the Jackson Bluff Dam and the Lake Jackson Dam #2, hosted by FDEP's Division of Water Resource Management and Division of Recreation and Parks. Both teams benefitted from this visit by learning more about the history of the dams and their operations, as well as the potential impact on local communities. The collaboration was particularly useful for the Mitigation Planning team because the planners were able to discuss potential risks associated with dam failure, an important component of state hazard mitigation planning.

The Florida Park Service team responsible for the management and maintenance of the Jackson Bluff Dam led the tour. Derek Helms led the group around the property, explaining how the dam operates and how the team monitors the status of the dam. While the hydroelectric function of the dam no longer operates, the group was able to go inside the power plant and see how the process worked. The tour of the Jackson Bluff Dam ended with a demonstration on top of the 160-foot spillway, where Helms opened one of the closed flood gates.



*FDEM and FDEP Teams alongside the Jackson Bluff Dam Managers*

The Jackson Bluff Dam was constructed in 1927 on the Ochlockonee River, forming Lake Talquin, establishing one of two hydroelectric power plants in the State of Florida. While the power plant no longer functions, the dam remains an important community feature with recreation trails and essential habitat for local flora and fauna. Following the tour of Jackson Bluff, the group toured the smaller earthen Lake Jackson Dam #2. This dam is owned by the Northwest Florida Water Management District. Richard Musgrove, P.E., explained how these dams differ from larger concrete dams. Musgrove also demonstrated how these dams regulate stormwater and naturally treat the pollutants found in stormwater runoff.



*Outflow from Jackson Bluff Dam at Lake Talquin*

While these dams are designed to prevent flooding, they do pose a risk to surrounding areas. This is especially true for the Jackson Bluff Dam, which is classified as a high hazard potential dam. This classification means the failure of the dam would cause loss of human life and significant property destruction. According to FDEP, 100 of Florida's dams are classified as high-hazard potential (as of 2018).

This larger conversation of dam safety and planning for potential risks associated with dam failure has become a focus of FEMA. Earlier this year, FEMA updated the State Mitigation Planning Policy Guide to include new requirements related to the High Hazard Potential Dam (HHPD) grant program. HHPD funding is available for rehabilitation of dams that fail to meet minimum dam safety standards and pose unacceptable risk to life and property. Some of the specific requirements include engaging with stakeholders responsible for dam safety and identifying risks associated with dam failure and ways to reduce the state's vulnerability to these risks.

With these new requirements in mind, the Mitigation Bureau and planning team are working closely with FDEP State Dam Safety Officer, Tracy Woods, P.G. The planning team is currently updating the State Hazard Mitigation Plan and adding the new HHPD requirements. Opportunities to participate in experiences like the tour of the Jackson Bluff and Lake Jackson dams are invaluable and help to build strong partnerships required to plan for and mitigate risks to Florida's communities.



*Sweeping view of Lake Jackson Dam #2*

# Resilient Ready: An Innovative Approach to Sea-Level Rise Mitigation

By: Vicki Parsons

Tampa Bay is on the frontline of global sea-level rise, but it's not just its world-renowned beaches at risk. Three neighborhoods selected to be part of the Tampa Bay Regional Planning Council's (TBRPC) [Resilient Ready Tampa Bay](#) initiative show different flood mitigation strategies for an inland site, a community at the northern tip of the bay, and a barrier island.

Resilient Ready Tampa Bay, funded by a \$273,000 grant from the Florida Department of Environmental Protection's Resilient Florida Program for Fiscal Years 2021-22, brought a diverse group of national and international experts to meet with community leaders and to determine how their neighborhoods can be protected as sea levels rise an estimated 1.5 feet by 2060 (National Oceanic and Atmospheric Administration). Planners and stakeholders from the three neighborhoods – Pass-a-Grille in St. Pete Beach, R.E. Olds Park in Oldsmar, and the North Tampa Closed Basin – participated in three-day charrettes to develop conceptual designs and mitigation strategies.

In the North Tampa Closed Basin, which contains a series of sinkholes in an underserved community, a multi-use park system could provide both water storage and recreational amenities. The city has already begun voluntary buyouts of homes in the floodplain, but the new proposal includes networked detention ponds that overflow into each other for storage and water filtration, shallow shelves along the water's edge to attract wildlife, larger parks with shade trees, sidewalks and boardwalks and a new corridor to connect neighborhoods with the parks.

At R.E. Olds Park in the City of Oldsmar, a large watershed drains into the area, and there is poor water quality in Old Tampa Bay. The topography creates a storm surge funnel at the top of Tampa Bay. Planners recommend an adaptive approach to coping with stormwater and storm surges using a design that keeps water out of some locations while allowing it to flow into others. Offshore, new mangroves and oyster reefs are planned to slow down storm surges and improve water quality.



*Community open house to share the charrette designs in St. Pete Beach*



*Site visit at the R.E. Olds Park area in Oldsmar*

In the Pass-a-Grille area of St. Pete Beach, a low-lying barrier island, planners proposed defend-and-adapt scenarios that call for raising the seawall and continuing beach nourishment while preparing other adaptive measures. Building offshore structures to slow wave action may impact seagrasses which are protected habitat, and residents may scorn mangroves blocking their views. Alleys leading to homes may need to be transformed for flood protection, and some homes will need to be raised. To read the full Bay Sounding article, visit the website.



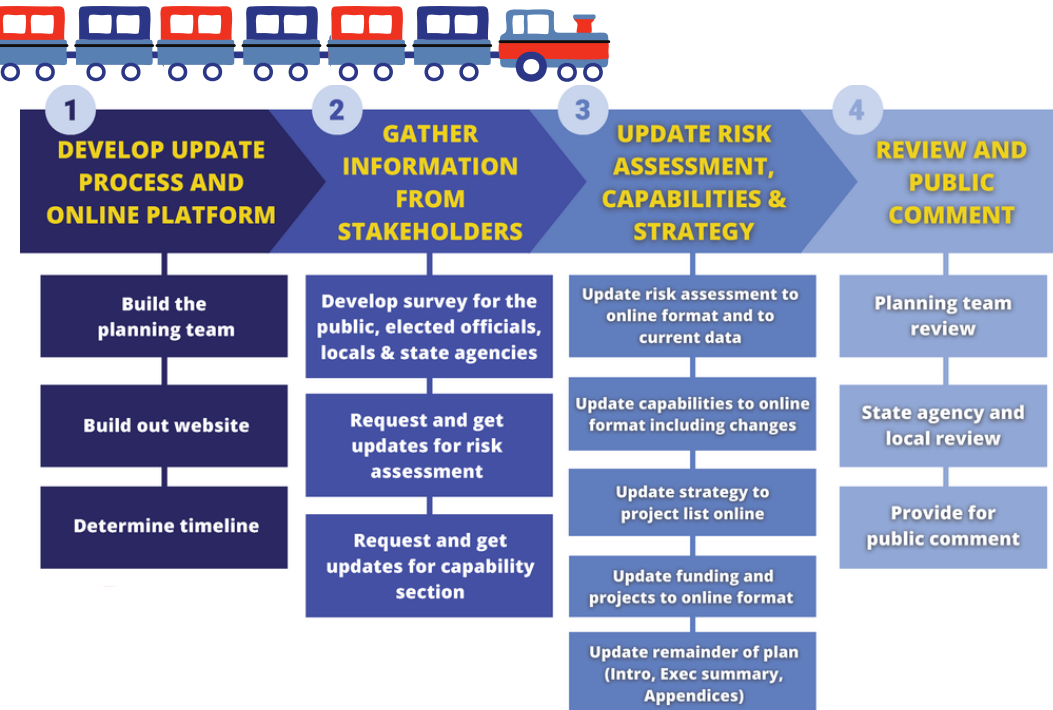
*Design drawings of the Tampa study area.*



View the final report on the Resilient Ready Tampa Bay Project [here](#).

# All Aboard the SHMP Express!

Follow along as the Mitigation Planning Unit updates Florida's State Hazard Mitigation Plan!



## Objectives for the 2023 Update



**2023 Update:** Focus on equity for underserved communities, incorporating climate change (as it relates to hazard vulnerability and increasing resiliency), and including the High Hazard Potential Dam grant requirements.



**Shift to Online Format:** In collaboration with DEM Professionals, the Mitigation Planning Team is converting the SHMP to an all-online format. The goal is to make the SHMP more accessible and user-friendly. This will also allow the plan to be updated as new information is available.



**Stakeholder Involvement:** The Planning Team published a stakeholder survey in September 2021, and received 148 responses. The team will be leading a SHMP Road Tour to collect input from stakeholders across the state later in September 2022.

## Need More Information?

**Kristin Lentz:** Kristin.Lentz@em.myflorida.com

**Brigette Carrillo:** Brigette.Carrillo@em.myflorida.com

**Jantzen Heberle:** Jantzen.Heberle@em.myflorida.com

## The Bureau of Mitigation

Mitigation is an integral part of the Florida Division of Emergency Management (FDEM). Mitigation actions reduce or eliminate the loss of life and property by lessening the impact of disasters. Due to Florida's weather, geography and miles of coastline, the state is highly vulnerable to disasters. Disasters can be very costly to both the citizens and government.

Under the direction of Division Director Kevin Guthrie and State Hazard Mitigation Officer, Laura Dhuwe, the Bureau of Mitigation administers several federal mitigation grant programs including the Hazard Mitigation Grant Program, the Building Resilient Infrastructure and Communities Program, and the Flood Mitigation Assistance Program. The Bureau also administers a state funded mitigation program called the Hurricane Loss Mitigation Program.

If you would like to know more about mitigation in Florida, visit [www.floridadisaster.org/mitigation](http://www.floridadisaster.org/mitigation).

