Florida SHMPoints

Providing insightful mitigation news and information from around the State of Florida.

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Mitigation Bureau Chief wins FDEM Award

By: Melissa Schloss

The Rodney A. Richardson award "is to recognize exemplary service to enhance the field of emergency management in the State of Florida." This award is presented annually in memory of Rodney A. Richardson, a former FDEM employee that the Division lost in 1997. During Miles' tenure he has worked on the considerable goal of advancing mitigation for the State of Florida. Over the past 9 years Miles has shown great leadership and the Bureau has administered nearly $980 million throughout the state into programs that work to aid communities to accomplish their mitigation initiatives, advance building codes and create new ordinances that meet the requirements of National Flood Insurance Program (NFIP).

Florida also has the largest number of participants in the Community Rating System (CRS), a program that offers discounts on flood insurance premiums to communities that qualify through implementation of flood protection activities. The benefit to citizens is not only lower insurance premiums, but also more resilient communities.

Additionally, under Miles's leadership, Florida has achieved Enhanced State status in accordance with the Disaster Mitigation Act of 2000. Currently, this status has only been awarded by FEMA to twelve states, recognizing Florida's dedication and commitment to a comprehensive mitigation program. This status benefits Florida's citizens by making FEMA provide an additional 5% of Hazard Mitigation Grant Program funding when a disaster is presidentially declared. A 5% increase in funding might sound insignificant, but after a devastating disaster, it could potentially translate to additional hundreds of millions of dollars in mitigation funding for the State.

Congratulations to Miles Anderson on achieving this prestigious award!

Floodplain Managers Post-Disaster Toolkit

By: Steve Martin

Florida's community Floodplain Administrators (FPAs) live in the world of mitigation – striving to enable new construction and substantially damaged or improved structures to become more flood resilient against future flood losses. FPAs accomplish this through careful review of permit applications, verification that structures are compliant with local floodplain ordinances, the Florida Building Code (FBC), and the numerous NFIP technical guidance documents from FEMA. This "Blue Sky" work is subject to challenges from building contractors, developers, local political influences, scarcity of staff resources, and general lack of understanding among the public about why communities must employ such building standards.

But then a flood disaster strikes and the role of a FPA suddenly takes a drastic turn. In their "Grey Sky" world, FPAs no longer have the luxury of sitting back and waiting until proposed repair permit applications come through the front door. FPAs have critical responsibilities in response to major flood events. While the emphasis of local disaster recovery begins with preliminary damage assessments, FPAs have an urgent need *(continued on page 5)*

Regional Hazard Mitigation Tool for Water Management

By: Rama Rani

The South Florida Water Management District (SFWMD) manages the water resources in the southern half of the state. SFWMD covers 16 counties from Orlando to the Florida Keys and serves a population of 8.1 million residents. As the oldest and largest of Florida's five water management districts, SFWMD is responsible for managing and protecting water resources of South Florida by balancing and improving flood control, water supply, water quality and natural systems.

This tool is in the conceptual stage, and it proposes to develop the South Florida Data Display, Acquisition, Simulation and Scenario Management (SFDASS), a customized decision support system for water management. SFDASS will be an integrated toolbox to access archived and acquire real-time data as well as hurricane and rainfall forecasts, and then analyze the state of the water management system and develop and test operational strategies.

This toolbox will address the following:

- flood control
- water management
- operations
- early warnings
- flood forecasts
- operational strategies
- system response
- historical data analysis

The SFDASS toolbox will have at least three levels of access:

1) Data retrieval and display,
2) access to data for manipulation and simulation, and
3) open access.

This accommodates an adaptive tool development and a wide range of users.

For emergency management and response, SFDASS will be used for the following:

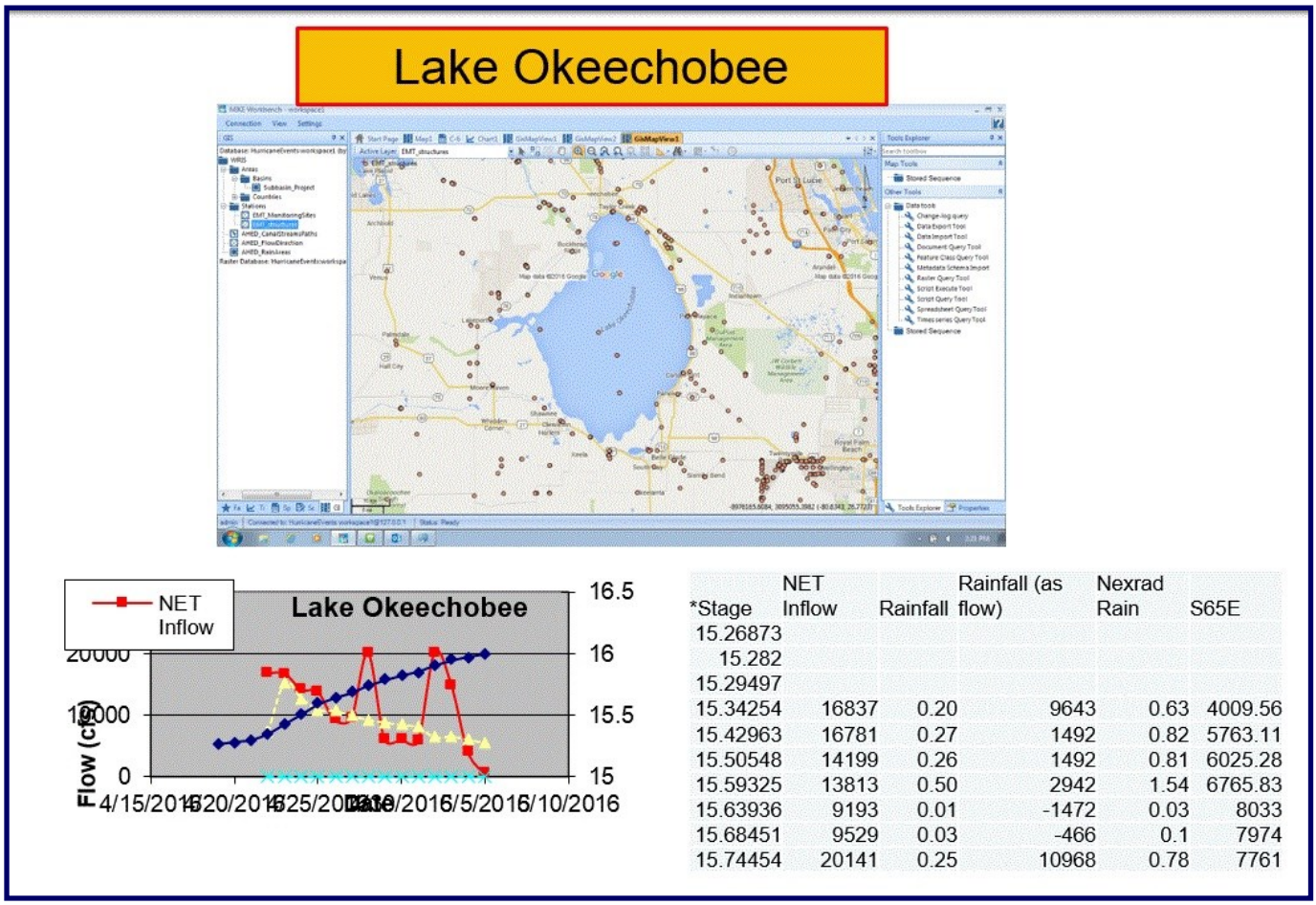
Pre-positioning of emergency equipment and crew. Based on the forecast of rainfall, storm surge and flood-prone areas, SFDASS will be used to strategically determine locations to position emergency equipment and staff with the objective of decreasing response times, and increasing protection of people and infrastructure from hazards.

Vulnerability assessment mitigated through operations. SFDASS will be used to rank areas vulnerable to flooding and provide input to emergency managers tasked with making decisions on operational strategies. The toolbox would give emergency managers insight into current and forecast state of the system, allowing them to better assess hydraulics and hydrology and mitigate economic losses.

Risk assessment through storm forecasts. SFDASS contains an early warning system which would be used for flood management and storm water drainage, among other needs. It will be used to create a database of at-risk infrastructure, using hurricane forecasts from the National Hurricane Center and rainfall forecasts from the National Climate Center.

Coordination with local agencies. SFDASS serves as an emergency management tool and an innovative planning tool. It can be used to leverage community and political participation to make the needed policy and regulatory changes. Strong partnership, knowledge sharing and coordination is needed in bringing together of the right organizations to acquire or relocate hazard prone structures, infrastructure protection measures, storm water management improvements and flood control projects. Communication and public engagement is critical to cost-effectiveness during emergency events.

The overall architectural framework will be provided by the MIKE OPERATIONS platform which provides a proven system in use worldwide (see map below), and has a flexible, open, and supported framework for specific solutions. Many of the core foundational tools and libraries already exist, are simple, and require only minimal configuration to meet the specified needs. It has already been implemented in Big Cypress Basin of the SFWMD. The SFWMD is seeking partnerships with county Local Mitigation Strategy committees as well as communities participating in the Community Rating System to expand this throughout the rest of the SFWMD.



*Stage	NET Inflow	Rainfall	Rainfall (as flow)	Nexrad Rain	S65E
15.26873					
15.282					
15.29497					
15.34254	16837	0.20	9643	0.63	4009.56
15.42963	16781	0.27	1492	0.82	5763.11
15.50548	14199	0.26	1492	0.81	6025.28
15.59325	13813	0.50	2942	1.54	6765.83
15.63936	9193	0.01	-1472	0.03	8033
15.68451	9529	0.03	-466	0.1	7974
15.74454	20141	0.25	10968	0.78	7761

Screenshot of SFDASS tool. *Photo courtesy of SFWMD.*

For more information, please contact Rama Rani, Section Leader Systems Modeling Unit at the South Florida Water Management District, at rrani@sfwmd.gov.

What is Green Infrastructure?

By: Laura Waterman

The term Green Infrastructure refers to any practice that uses or replicates natural systems to achieve a desired outcome, such as environmental, social, and economic benefits. The typical approach to storm water management is 'grey infrastructure' in the form of drains, retention ponds, and sewer systems. 'Grey' refers to the color of concrete. This approach focuses on removing water as soon as possible to prevent flooding of property. Green infrastructure uses vegetation to filter and store storm water, rather than removing it. When rain falls in an urban area, green infrastructure absorbs, filters, and stores it as ground water. In addition to flood protection, these 'green' spaces provide natural habitats for plants, animals, and insects; recreational spaces; and cleaner water and air.

Green infrastructure is very cost-effective because it is often much cheaper than 'grey' infrastructure. Some types of green infrastructure can even lower energy costs of buildings. Green infrastructure is a form of mitigation because the intent of the project is to prevent flooding. Green infrastructure is also essential to a community resiliency plan. Resiliency focuses on helping a community be able to withstand stressors, one of which is flooding. Below are various green infrastructure project types.

Example of a rain garden.

Example of a Bioswale.

Example of a green roof garden.

- Downspout disconnections harvest rain for later use or divert it to permeable surfaces.
- Rain gardens collect and absorb stormwater runoff.
- Bioswales are urban area rain gardens in long narrow spaces.
- Permeable pavement is a different form of green infrastructure that allows stormwater to filter through to the ground beneath.
- Green roofs and walls are covered with vegetation to allow rainfall absorption and evapotranspiration of stored water. These systems even help decrease the urban island heat effect and create cooler inside temperatures.
- Urban tree canopies reduce and slow stormwater and provide cooling shade.
- Land conservation provides recreational areas and natural habitats.

More information about Green Infrastructure can be found here: www.epa.gov/green-infrastructure.

(***Floodplain Managers Post-Disaster Toolkit***, *continued from page 1)* to conduct their own detailed assessments of structural damage.

Within days of impact from a disaster, FPAs must conduct and document detailed damage estimates for every flood-impacted structure to determine if they are "substantially damaged." During this process, FPAs must also collect High Water Marks (HWM), indicating the flood stage on structures and upload this information to DEMs HWM collection system, an ARC-GIS real-time database. A "substantially damaged" structure defined in the NFIP is one where the cost of repairs is equal to or greater than 50% of the pre-damage market value of the structure. In accordance with local flood ordinances and the FBC, 50% or greater damage may require property owners to make their structures compliant, often times elevating the structure. FPAs must make detailed regulatory-level assessments, sometimes taking 30 minutes or more per structure. These assessments may result in property owners having to elevate their homes and cost many tens of thousands of dollars per structure.

To facilitate FPAs gathering this extensive information on each PDA-determined "major" or "destroyed" flood damaged structure, or based on NFIP Quick Claim data, FEMA has developed a computer application called the Substantial Damage Estimator (SDE). The State Floodplain Management Office (SFMO) and FEMA Region IV sponsor one-day courses on how to conduct these detailed assessments using the SDE tool. The data recorded in the SDE calculates the percentage of damage (greater or less than 50%) and preserves the data in exportable spreadsheet format, which meets the NFIP requirement of preserving this data in perpetuity.

Not only are FPAs required to ensure under local flood ordinances that substantially damaged structures must become compliant with Flood Insurance Rate Map (FIRM) elevation requirements, the SDE data may apply to reconcile potential challenges from property owners, and may help to verify unrealistic flood insurance claims. A number of communities have found that on certain homes, the flood insurance claim is significantly higher than the assessed damage, and when homeowners discover that they may have to elevate their homes, they have second thoughts about accepting flood insurance claims in amounts that are greater than 50% of the structure's market value!

Flood insurance covers the loss of damage, but it does not automatically cover the cost for complying with FBC or local floodplain management regulations. Property owners may apply for Increased Cost of Compliance (ICC), an award from their NFIP flood insurance, up to approximately $30,000 toward the cost of elevating the home, but rarely can a structure be elevated for this amount. This leaves the homeowner with a structure for which they have a flood insurance claim, but lack the funds to make the structure compliant, so they are unable to obtain a permit to make the repairs unless they are able to obtain additional funds needed to elevate the home.

Floodplain Administrators have additional post-disaster floodplain management roles and responsibilities not well known by many FPAs or local emergency management teams following disasters. These topics were the subject of a Floodplain Administrators' Post Disaster Roundtable held at the Florida Floodplain Managers Association (FFMA) meeting in April 2017.

To inform the floodplain management and emergency management communities, the SFMO has undertaken development of a draft Floodplain Managers Post Disaster Toolkit. The toolkit is designed to be a "go-to" resource for floodplain managers to prepare for and respond to flood disasters. It will be available for distribution electronically for download on the SFMO and other DEM websites, by hardcopy upon request and during future training opportunities. The toolkit includes the following topics based on topics Floodplain Managers have identified as previously underserved, including:

- Floodplain Managers Post Disaster Roles and Responsibilities
- Collecting and Uploading High Water Marks
- Substantial Damage, Substantial Improvement, Substantial Damage Estimator
- Use of Statewide Mutual Aid Agreement for Floodplain Managers
- NFIP Flood Insurance Claim Process
- Sources of Funding Assistance for Flood Damage
- References for Further Information

Watch for more information on these topics in future SHMPoints issues!

Need More Information?

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Silver Jackets 2017 Project Proposals due to FDEM by July 5th

Contact Laura Waterman for more information

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 Bryan W. Koon and State Hazard Mitigation Officer, Miles E. Anderson, the Bureau of Mitigation administers several federal mitigation grant programs including the Hazard Mitigation Grant Program, the Pre-Disaster Mitigation 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 please visit: www.floridadisaster.org/mitigation.

STATE HAZARD MITIGATION PLAN
SHMPAT
ADVISORY TEAM

Current Update Cycle

Approved	**67**
Approved Pending Adoption	**0**
Expired	**0**
Complete	**60**

Do you have an unfunded mitigation project?

FDEM has two state funded grants for mitigation projects!

Hurricane Loss Mitigation Program
HLMP can fund residential and commercial wind retrofits and other community mitigation projects.

Shelter Retrofit Program
The Shelter Retrofit Program can provide public emergency shelters with funding for wind mitigation projects.

Statewide workshops addressing both grants will be conducted in the Fall of 2017!
Contact Brianna.Beynart@em.myflorida.com for more information.