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Preparedness, Response and Rebuilding: Lessons from the 2017 Disasters

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I.

At 9:10 AM on September 10th, 2017, Hurricane Irma made landfall at Cudjoe Key as a Category 4 storm, becoming the first major hurricane to make landfall in Florida since Wilma in 2005.

Later that afternoon, Irma made landfall in Florida for a second time, now on Marco Island as a Category 3 storm. The State Emergency Operations Center (SEOC) had been at the highest level of activation since September 5th; almost a week of round-the-clock operations in anticipation of a major hurricane impact.

As Irma moved across our state, hurricane strength winds extended up to 80 miles and tropical storm force winds extended up to 400 miles from the center of the storm. At least 32 of Florida's rivers and creeks flooded, and 18 tornadoes were confirmed across the peninsula.

54 out of our state's 67 counties issued evacuation orders to a record 6.8 million people, resulting in our state's largest evacuation to date.

On September 11th, as the storm made its way north, more than 6.7 million customers lost power – more than 64% of Florida utility customers.

Hurricane Irma's constantly changing course and intensity projections required the State Emergency Response Team (SERT) to plan for dozens of potential impact scenarios simultaneously and resulted in one of the largest storm responses in Florida history.

The SERT began operations by initiating coordination calls with the National Hurricane Center and county emergency management officials on September 4th, a week before landfall. On September 5th, the SEOC activated to Level One, the highest level of activation, and sustained its 24-hour operations until the 21st of that same month. The SEOC remained activated for a total of 35 consecutive days, until the evening of October 8th, when the Activation Level returned to Three.

State and local governments utilized Alert Florida, the statewide alert notification system, to send more than 4,500 alert messages to more than 7,000,000 unique recipients. The total number of registrations grew by 156,675 in the month of September alone.

In the SERT's common operating platform, Emergency Management (EM) Constellation, a total of 6,768 missions have been entered to date – 2,000 more than Hurricane Charley and almost 5,000 more than last year's Hurricane Matthew.

Five first responder base camps were opened by the state, while 95 SERT Liaisons deployed to EOCs.

Urban Search and Rescue (USAR) operations were conducted across our state, with tens of thousands of structures searched.

Statewide, 1440 personnel from nine Florida and 21 out of state USAR Task Forces completed 64 USAR missions, resulting in 751 residents assisted and 62 animals rescued.

State law enforcement also played a vital role in Florida's response, as evidenced by the 400 mission requests completed through the SERT. These operations included dedicated escorts for emergency fuel and commodity shipments moving across the state, security and the staffing of critical checkpoints.

62 Florida Department of Law Enforcement (FDLE) personnel deployed, including 21 who supported SEOC operations. These agents and officers spent 27 uninterrupted days working tirelessly to coordinate pre- and post- landfall law enforcement missions. Their contributions formed an important pillar of Florida's response.

Beach fortification and marine debris clean up occurred on an impressive scale. In addition, 62,189 cubic yards of sand were used to fortify beaches in St Johns, Volusia and Flagler Counties.

Statewide, 2,377 vessels were assessed and 2,118 were removed. 1,685 of those removed were in the Florida Keys alone.

252,045 cubic yards of vegetation, construction and demolition debris were cleared, including much from waterways in Duval, Clay, St. Johns, Putnam, Brevard, Collier, Marion and Lee Counties.

In total, the SERT distributed more than 14,945,854 liters of water, 13,870,560 meals, 270,042 tarps and 13,000 cots.

703 shelters opened throughout the state, housing a record-breaking peak population of 191,764 people.

These totals include 117 Special Needs shelters that housed a peak population of 14,290 individuals. In addition, sheltered survivors were served more than one million meals.

44,803 volunteers donated almost 1.5 million hours to the response effort, a time commitment valued at almost \$3.2 million. 5.8 million pounds of food donations were received.

The Florida Disaster Fund, working with Volunteer Florida, has contributed \$2.5 million in grants to 77 organizations, and hopes to commit another \$5 million.

Thanks to the outstanding efforts of our team and partners, every request for resources from county emergency management agencies was met. The SERT successfully planned and actively coordinated the strategic and logistical operations required of an effective response to a major storm impact.

II.

The success of our state's response would not have been possible without the steadfast support of our Mutual Aid and EMAC partners.

Last year, the Florida Division of Emergency Management (FDEM) successfully coordinated 145 EMAC and Mutual Aid requests- 129 for Hurricane Irma, 11 for Maria, 4 for Harvey and 1 for Nate.

Thousands of linemen arrived through Mutual Aid agreements and helped restore electricity to those more than 6.7 million customers left without power. Their round-the-clock efforts resulted in a 91% restoration of statewide power in only 6 days.

226 trucks carried 1,422,587 gallons of fuel into Florida. The 24 emergency fueling stations supplied through these operations supported the efforts of our first responders throughout the state.

34 Incident Management Teams (IMTs) deployed, 28 from outside Florida, and conducted a host of missions, including Basecamp, Field, EOC Support, Recovery and MARC Support Operations.

In the end, 38 states and the District of Columbia aided our efforts, either through dedicated teams or through resources shipped.

Federal agencies also proved invaluable partners during the response to Irma. The Federal Emergency Management Agency (FEMA), for example, supplied 8,455,768 meals, 70,042 tarps, 42,491 gallons of fuel and 5,446,546 liters of drinking water.

Federal personnel deployed across the state in a variety of mission roles. These included including 465 FEMA and 294 Department of Homeland Security (DHS) surge staff, 11 management teams and 8 FEMA Urban Search and Rescue teams.

The military's contribution to Florida's response cannot be understated. Almost 11,000 uniformed Service Members were deployed, 3,228 of them from outside our state.

The Florida National Guard supported nearly every aspect of the State's response through sheltering, search and rescue, security, communications and commodity distribution operations. 2,877 Guard personnel supported 352 shelters in 42 counties, distributed more

than 4.8 million meals and almost 6.5 million liters of water, and de-mucked 471 homes in the Florida Keys.

Regarding Title X resources, the Defense Coordinating Element (DCE) integrated extremely well into daily operations.

The Defense Coordinating Officer (DCO) and his team assisted in the development of a plan that helped the Florida Air Operations Branch build a robust set of planning, coordination and tracking capabilities. This plan's implementation allowed for the synchronization of aviation assets between 6 agencies and across 853 fixed wing and 423 rotary wing missions.

The DCE also coordinated, planned and executed operations involving four uniformed services.

They provided operational coordination with the ships USS Iwo Jima, USS New York and USS Abraham Lincoln, major naval assets positioned to help with Florida's response.

In addition, Naval Air Station (NAS) Key West provided responder housing as well as docking and support for the TS Empire State, a troop ship that ensured the availability of critically needed rescue and support capabilities in the Florida Keys.

They worked with FEMA and the Defense Logistics Agency (DLA) to track the delivery of more than 800 trailers containing life-saving and life-sustaining FEMA supplies.

Emergency Preparedness Liaison Officers (EPLO) coordinated more than 20 air transport missions carrying the medically dependent, critical supplies and personnel.

Lastly, the Joint Regional Medical Planning Officer (JRMPO) attached to the DCE successfully integrated with the SERT's Health and Human Services personnel. The partnership assisted in the development of mission assignments, such as for the movement of critical medical assets under the National Disaster Medical System (NDMS).

The JRMPO also assisted the ESF-8 with the development of patient movement and sheltering plans and coordinated with US Northern Command (USNORTHCOM) and the SERT to develop a vector control plan for anticipated threats stemming from post-storm expanding mosquito populations.

In all, the FEMA Region IV DCE identified the necessary Title X resources and deployed 49 staff from all four service branches. During the response, the DCE completed 48 mission assignments and 11 tasking orders, resulting in the obligation of more than \$300 million- all with zero loss or damage. Their operational contributions and strategic insights only enhanced the SERT's capabilities, proving, once again, that DoD contributions are indispensable.

III.

It is important to remember that Hurricane Irma was not the only challenge we faced in 2017. Irma's impact came just 2 weeks after Hurricane Harvey caused catastrophic damage in Texas.

Ten days after Irma made landfall in Florida, Hurricane Maria impacted Puerto Rico, devastating the island. Nate was not far behind, impacting the Gulf Coast on October 7th.

Despite the effects of one of the largest storms to hit our shores in over a decade, Florida and FDEM stood ready to support.

In support of Texas's efforts associated with Hurricane Harvey, the Division coordinated the deployment of a volunteer agency liaison as well as three Search and Rescue teams. These assets travelled to the Houston area and helped their Texas counterparts respond to the storm.

To prepare for potential West Florida impacts associated with Hurricane Nate, we pre-staged an IMT at the SEOC. We made sure Ambulance, Swift Water Rescue, Recon and USAR Teams were on Standby.

We also expanded the operation of the State Assistance and Information Line (SAIL) in anticipation of any potential impact scenarios and coordinated the opening and staffing of seven public shelters.

Hurricane Maria's devastating landfall in Puerto Rico presented a unique set of challenges for those affected by the storm. However, Florida once again stood ready to help our neighbors. In preparation and response to the storm's impact, the Division and our partners took several important steps.

We fulfilled critical EMAC mission requests in support of the response effort. These included:

- an FDOT crew to evaluate traffic signal installations and transportation systems,
- an 8-member FDLE Law Enforcement IMT
- a 26-airman National Guard sheltering support mission
- 50 Florida Highway Patrol (FHP) officers, along with 12 officers from the Orlando Police Department, providing security and law enforcement support
- a 20-day National Guard rotary wing mission

Division staff worked closely with their Puerto Rico counterparts and members of Governor Rossello's government to provide technical and strategic expertise, as well as information regarding the availability of Florida-based resources.

Just as important was our effort to safeguard the hundreds of thousands of Puerto Ricans who evacuated to the State of Florida.

Florida remains the only state to have entered into a Host State Agreement to directly assist Maria survivors. This helped us coordinate the opening of state Multi Agency Resource Centers (MARC) at our airports, and later in the community, as early as October 10, 2017.

These MARCs have proven an incredibly helpful resource for many of those who were displaced by the effects of Hurricane Maria. The centers brought together state and federal agencies as

well as volunteer organizations to provide Maria evacuees in Florida with a one-stop shop of available survivor resources.

Participating agencies included include FEMA, the Florida Department of Children and Families, Department of Highway Safety and Motor Vehicles, Department of Agriculture and Consumer Services, Department of Health, Department of Economic Opportunity, the American Red Cross and Catholic Charities.

These partners offer storm victims a wide range of important services, including help with registering for FEMA Individual Assistance, crisis counseling, Supplemental Nutrition Assistance Program (SNAP) information, assistance with unaccompanied minors and agency social services, assistance with animal services, medical attention and health concerns, employment information and training services, food and water resources, language guidance and spiritual care.

To date, 34,017 individuals have visited Florida MARCs and received assistance, leaving little doubt that these facilities made a substantial contribution in addressing the needs Maria survivors.

Additionally, the Division has supported Individual Assistance programming for Maria survivors in Florida, such the Transitional Shelter Assistance (TSA) program.

TSA saw a peak of 1,786 households on January 14, 2018, totaling 4,855 individual Maria survivors checked into Florida hotels.

At the request of Governor Scott, the Disaster Case Management (DCM) program was also approved for Maria evacuees in in our state. This, when considered alongside TSA and the MARCs, proves Florida's commitment to providing every storm survivor with the same level of service, regardless of their origin.

The SEOC currently remains activated in support of Puerto Rico's recovery as FDEM continues to play an integral role in the coordination of response efforts between Federal, State, Local, Private industry, volunteer and faith-based organizations.

IV.

The information regarding Hurricane Irma's total impact is still being collected.

All of Florida's 67 counties were declared under a Presidential Disaster Declaration. Out of these, 55 counties were declared for all categories of Public Assistance, while 49 counties were declared for Individual Assistance.

To date, 9,444 recovery projects have been initiated through 1,214 Requests for Public Assistance (RPA). At last estimate, Florida's State Agencies spent \$727,327,438 responding to the storm, and our local community costs are expected to exceed \$1 billion.

A record breaking 2,644,137 Floridians have registered for Individual Assistance.

The Small Business Administration (SBA) has approved more than 31,000 loans, totaling \$1,059,938,900 in Florida.

FEMA's Individuals and Households Program (IHP) has approved \$992,041,840.70 million in assistance, with a to-date disbursement of \$909,200,734.85.

This includes \$686,487,724.77 in Housing Assistance, of which \$679,737,471.13 is already in the hands of storm survivors.

IHP also includes \$305,554,225.93 approved in Other Needs Assessment (ONA) grants, with a to-date disbursement of \$229,463,263.72.

The Transitional Sheltering Assistance program successfully provided hotel rooms for 27,332 displaced households over a six-month period, ending just this past week.

For the first time, Florida executed the Sheltering and Temporary Emergency Power (STEP) program. However, unlike in other states, Florida took the approach of a federally funded, state-administered, locally managed program.

STEP was authorized in ten Florida counties: Monroe, Collier, Lee, Hendry, Miami-Dade, Broward, Palm Beach, Hendry, Charlotte, and St. Johns. However, only Monroe County chose to utilize the program for a current total of 204 eligible households. To date, approximately \$1.6 million dollars has been spent on STEP within Monroe County at an average of \$8,827 per unit-all to provide safe, sanitary and secure survivor housing in the Florida Keys.

Moving forward, there are important considerations regarding state mitigation efforts.

Currently, FEMA's revised 6-month HMGP estimate stands at \$354,066,081, while counties still have more in unfunded project costs than our programs have in available funding. \$4,152,347,415 as of last estimate.

For decades, Florida has been a model of mitigation practices, and Hurricane Irma provided yet another case study in the value of mitigation planning. The juxtaposition of pre-Hurricane Andrew and post-Florida Building Codes structures in the Florida Keys will provide valuable data as we begin to employ Irma HMGP funds in buying down the cost of future disasters.

V.

Hurricane Irma's recovery marks the first full implementation of the National Disaster Recovery Framework (NDRF) in Florida, and having the full federal family integrated into the process has proven a tremendous success.

Florida's NDRF structure mirrored the Federal NDRF structure in pairing partner agencies to perform in a disaster recovery context. This framework was critical in transitioning through the response, recovery and mitigation phases of Hurricane Irma.

In addition, this level of integration carried into the place-based teams, facilitating expeditious resource delivery to the most impacted jurisdictions. Staff embodied four guiding principles when engaging with impacted entities:

1. Disasters are local; locals maintain the best knowledge regarding their communities' needs.
2. Focus on tangible projects that buy-down natural hazard risk.
3. Promote return on investment in all actions.
4. Always be mindful of a project's life-cycle.

The leveraging of funds and programs through the NDRF provided the ability to build resiliency through mitigation. The NDRF structure integrated steady-state and Stafford Act funds and programs in support of disaster recovery and mitigation needs.

Exploring the integration of additional disaster recovery opportunities is on-going. Current efforts in project advancement include the Community Reinvestment Act and Public-Private Partnerships.

The framework also provides a mechanism for direct access to Federal agencies with regulatory oversight or funding opportunities. This level of engagement during the early stages of project development increases program compliance decreases the odds of funding de-obligation.

Florida's success in utilizing the NDRF should serve as a model for other states, ensuring the speedy recovery of impacted communities.

VI.

The 2017 Atlantic Hurricane Season was a defining event for the Division and our partners. We will continue to review and reflect upon the actions taken during the response, seeking ways to improve our practices and provide Floridians with the best possible quality of service.

Though the storm moved through Florida only six months ago, we have already begun to chart a course forward.

Debris cleanup, evacuations, fuel, mass logistics, health and medical risks, communications and considerations for medically dependent and vulnerable populations will be our primary areas of focus. Through effective After-Action Reviews and continuously seeking opportunities for improvement, FDEM will ensure that every Floridian receives the care and service they need to successfully prepare for, respond to, recover from, and mitigate against any potential emergency.

Recovery is a lengthy process- one that takes years of hard work and dedication. Considering the magnitude of the event we witnessed last year, there is still much to be done before we can officially declare this mission accomplished. However, after witnessing the outstanding determination and efficiency of our staff during my time with the Division, and the exemplary results achieved through our team's work during Irma, I have no doubt that Florida is beyond

equipped to handle the challenges ahead and will continue to set the standard for emergency management everywhere.