



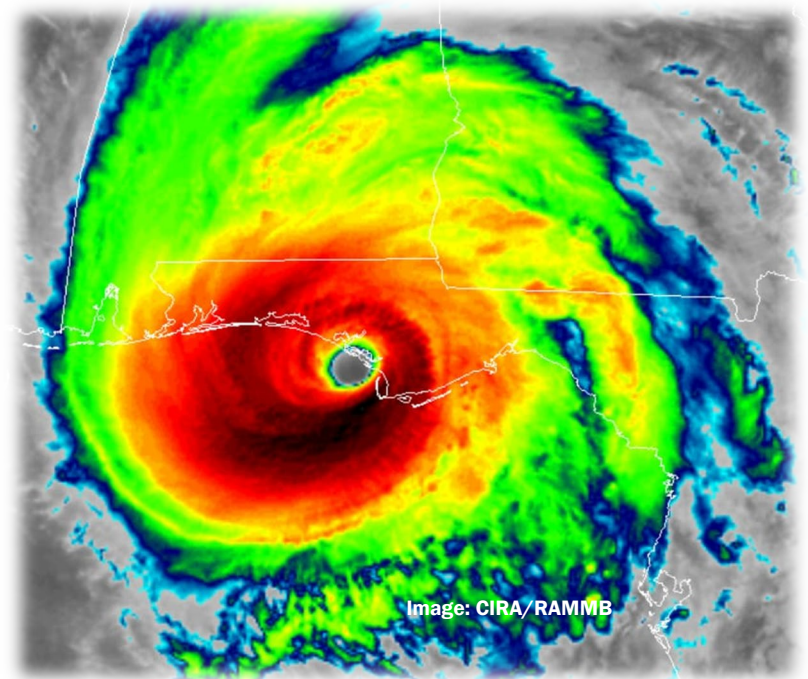
Hurricane Michael Recovery Plan

Alex Reed
Division of Water
Resource Management



Hurricane Michael Impact

- **Hurricane Michael made landfall at Tyndall AFB as a Category 5 (third strongest in US history) on October 10, 2018**
- **Substantial impacts to Bay, Gulf, and Franklin Counties**
- **Damages documented:**
 - **2,725 major structures**
 - **8,100 feet of armoring**





Hurricane Michael Impact – 2

Hurricane Michael Post-Storm Beach Conditions and Coastal Impact Report

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Engineering, Hydrology and Geology Program Quick Links

[Coastal Engineering and
Geology Group](#)

[Coastal Engineering
Geology Group Technical](#)

Document:  [Michael Final Report 04-2019.pdf](#)

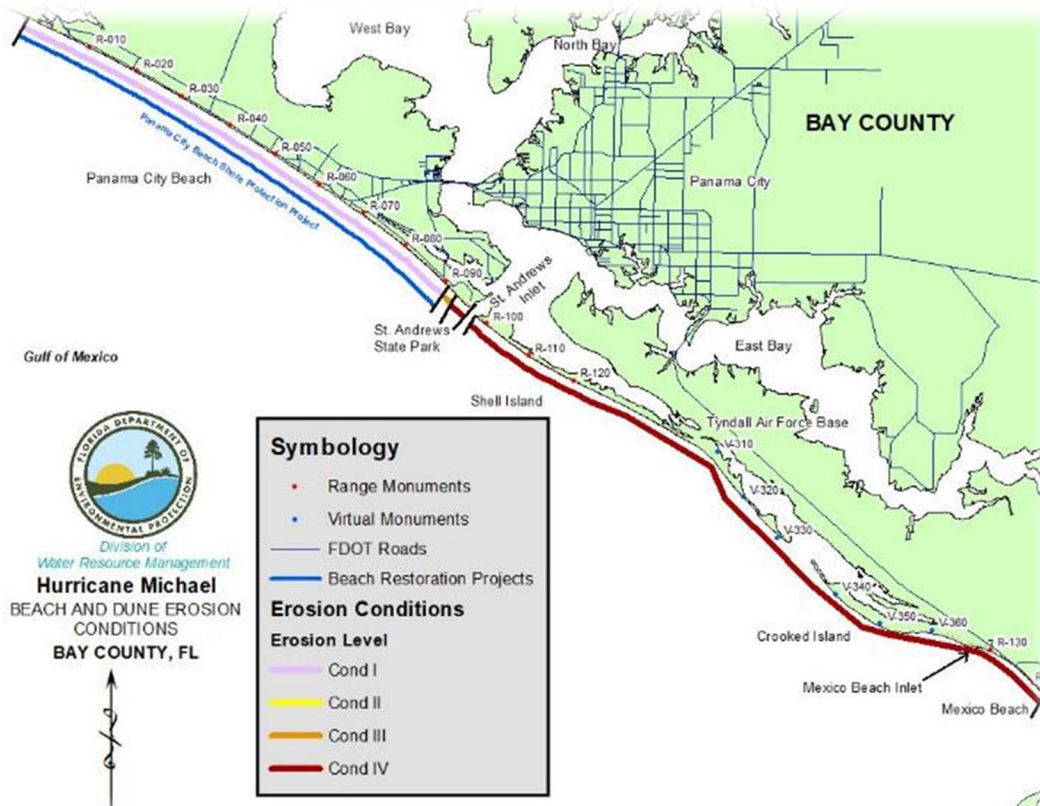
Document Type: Report

Author Name: Clark; Manausa; Steele; Wang; Weeks

Hurricane Michael made landfall on October 10, 2018, in Northwest Florida near Tyndall Air Force Base. At landfall, Michael was a Category 5 hurricane on the Saffir-Simpson hurricane intensity scale. Hurricane Michael substantially impacted the coast from Panama City Beach to St. Marks. This report documents the impact of Hurricane Michael on the beaches, dunes, and coastal construction. It will assist the Florida Department of Environmental Protection (Department) and local governments to identify areas where storm erosion



Bay County

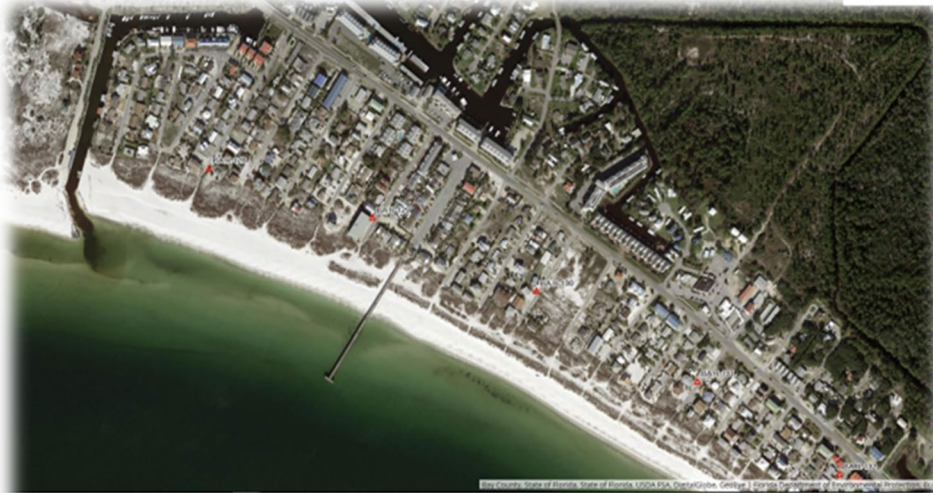


Division of
Water Resource Management
Hurricane Michael
BEACH AND DUUNE EROSION
CONDITIONS
BAY COUNTY, FL

- Severe wind damage in Panama City and eastern Panama City Beach
- All major damage along Panama City Beaches due to the wind
- 466 major structures damaged, including six destroyed along Panama City Beach



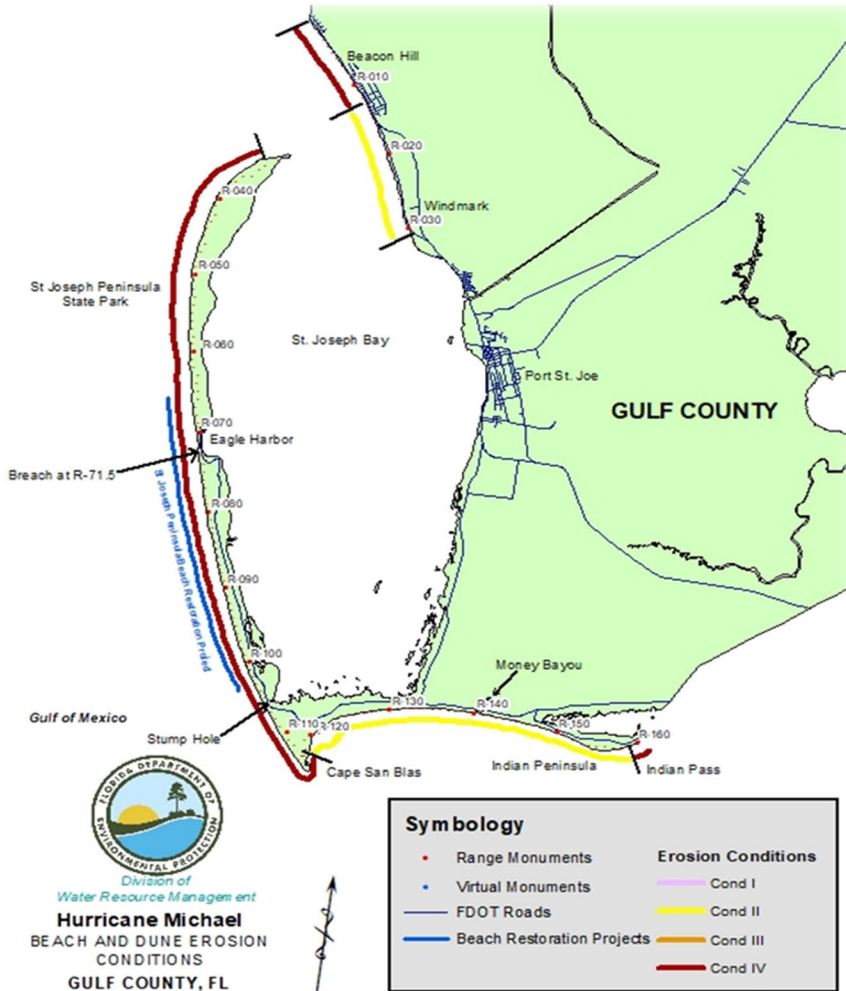
Mexico Beach



- Sustained the greatest damage from the storm surge, waves, and winds exceeding coastal building standards
- 99% of development seaward of US-98 sustained major damage, including 80% of buildings destroyed
- 1,102 buildings with major damage, including 595 destroyed within Coastal Building Zone



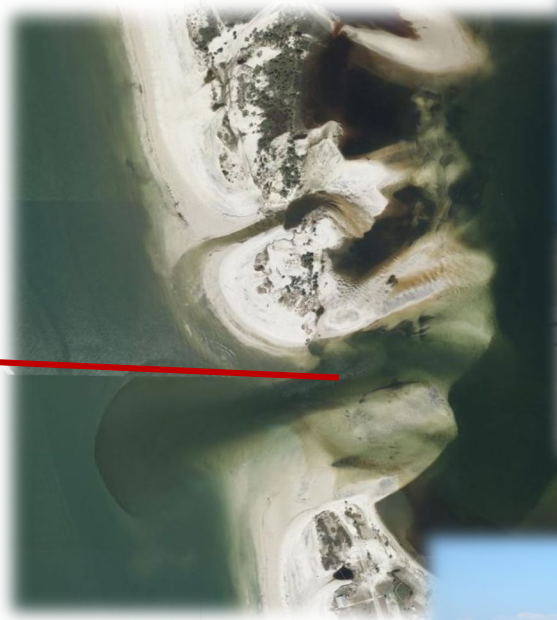
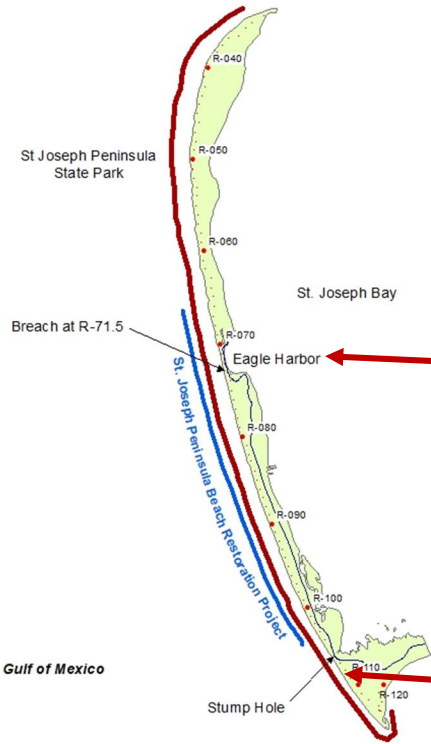
Gulf County



- Extreme impacts along Beacon Hill from surge, waves, and wind
- Major beach and dune erosion along Beacon Hill and St. Joseph Peninsula
- Barrier breach at Eagle Harbor
- Road destroyed at Stump Hole
- 660 ft of Cape San Blas lost to erosion
- Major damage to 984 buildings county-wide in Coastal Building Zone, including 176 destroyed



Gulf County – 2



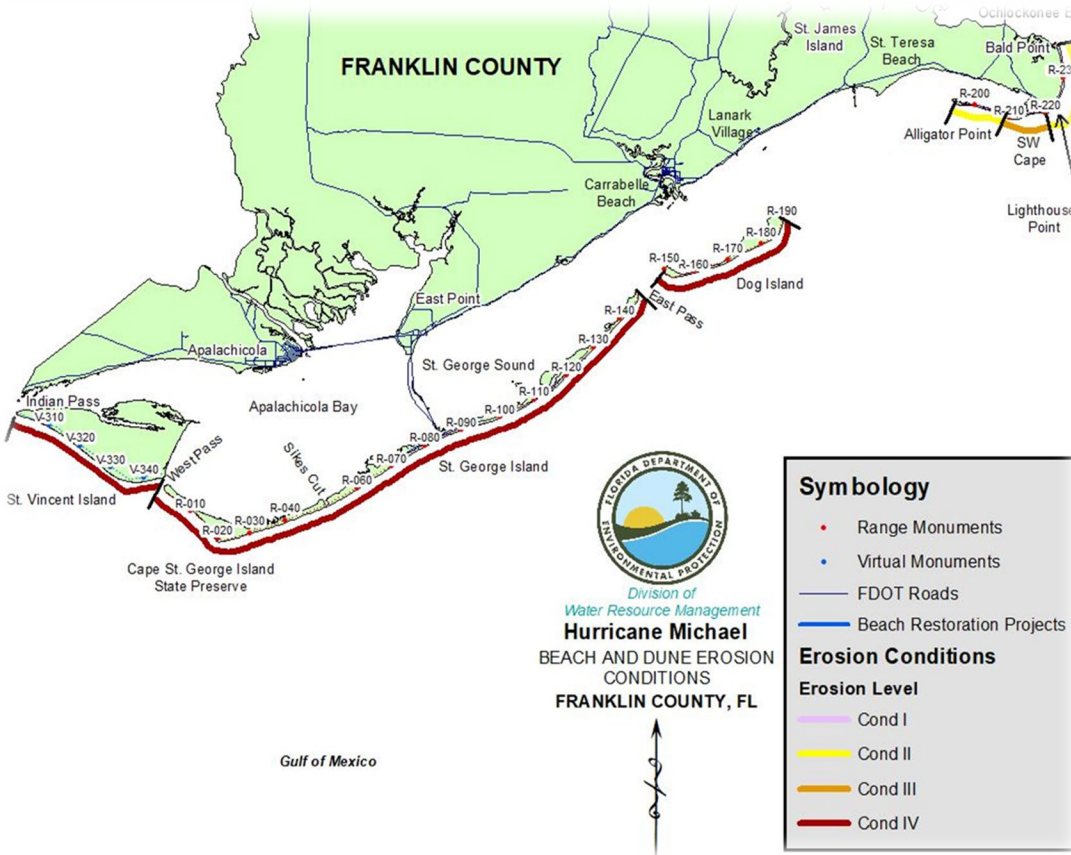
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Hurricane Michael
BEACH AND DUNE EROSION
CONDITIONS
St. Joseph Peninsula
GULF COUNTY, FL



Symbology	
• Range Monuments	Erosion Conditions
— FDOT Roads	Cond I
— Beach Restoration Projects	Cond II
	Cond III
	Cond IV



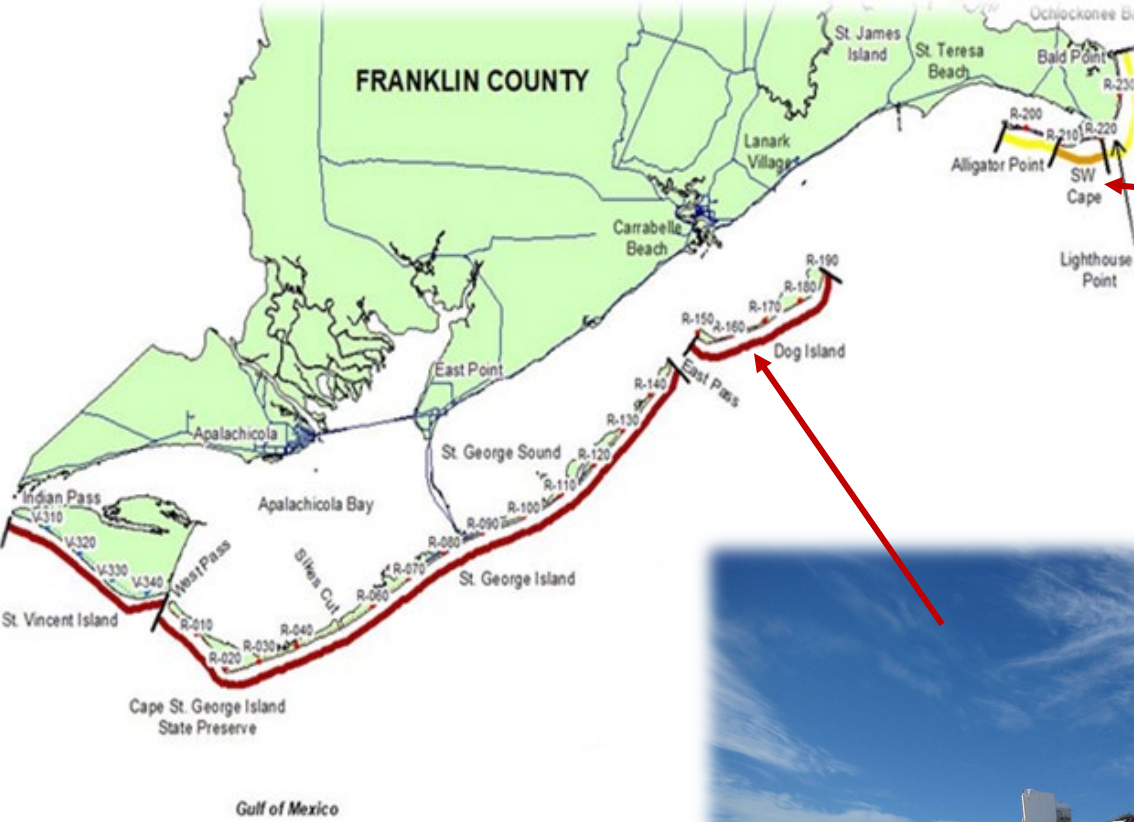
Franklin County



- Erosion loss of 1,052,315 cy
- Dog Island experienced major damage to 25 buildings, 12 were total loss
- Alligator Point experienced major damage to 44 homes, 5 total loss
- 3,000 feet of road destroyed, and over 4,500 feet of armoring



Franklin County





Storm Recovery Plan

Hurricane Michael Storm Recovery Plan for Florida's Beach and Dune System

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Beaches Funding Program Quick Links

[Contacts](#)

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[Program Audits](#)

[Program Documents](#)

[All Beaches Funding Program Content](#)

Document:  [Hurricane Michael Recovery Plan.pdf](#)

Document Type: Report

During the 2018 hurricane season, the State of Florida was impacted by two tropical storm systems and one major hurricane. The most significant impact to coastal areas resulted from Hurricane Michael in the Florida Panhandle. Hurricane Michael made landfall on October 10, 2018, as a strong Category 5 hurricane on the Saffir-Simpson hurricane intensity scale. The Department developed this Hurricane Michael Storm Recovery Plan to address short and long-term beach recovery costs for the panhandle's most eroded beach and dune systems. This plan summarizes proposed management strategies and costs that incorporate ongoing federal, state and local efforts to restore the beach and dune systems that are vital to the health, safety and economic welfare of the State of Florida.



Recovery Strategies

Bay County



- **Storm repair for federal project**
- **Beach restoration for St. Andrews SP**
 - **Interim dune restoration**
- **Maintenance for Mexico Beach Inlet**
- **Restore Mexico Beach**



Recovery Strategies

Gulf County

- **Beacon Hill/Windmark dunes**
- **St. Joseph beach nourishment**
- **Extensions to State Park and Rish Park**
- **Fill Michael's Cut (breach)?**





Recovery Strategies

Franklin County



- **St. George Island dune restoration**
 - **State Park**
 - **Central Island**
 - **Plantation**
- **Alligator Point dune project**



Funding Needed

Total Repairs:

\$94 million total/\$48 million state

Phased Projects:

Short-, medium-, long-term goals

- **FY 2019-20 - \$50 million total/\$25 million state**
- **FY 2020-21 - \$29 million total/\$14.5 million state**
- **FY 2021-22 - \$14.5 million total/\$9.5 million state**



Recovery Efforts

Bay County

- **Federal recovery project**
- **Inlet dredging completed**
- **Emergency sand placement and vegetation**
- **Emergency funds to design a restoration project in Mexico Beach**
 - **Damage to frontal dune limits redevelopment options**





Recovery Efforts

Gulf County

- **Nourishment planned when Michael hit**
- **Redesigned the project**
- **Emergency funds for beach and dune nourishment in state park**





Recovery Efforts

Franklin County

Alligator Point is focus of restoration – FEMA, USACE, DEM, FDOT and County designing multi phase project:

- **Road/armoring**
- **Stormwater**
- **Nourishment**
- **Living Shorelines**



Funding Status

- **No hurricane appropriation for Michael**
- **2020-21 Local Government Funding Request**
 - Panama City Beaches SPP
 - St. Andrews Restoration
 - Mexico Beach Restoration
 - Mexico Beach Inlet Bypassing
 - Alligator Point Dune (design)
- **Draft assessments released**



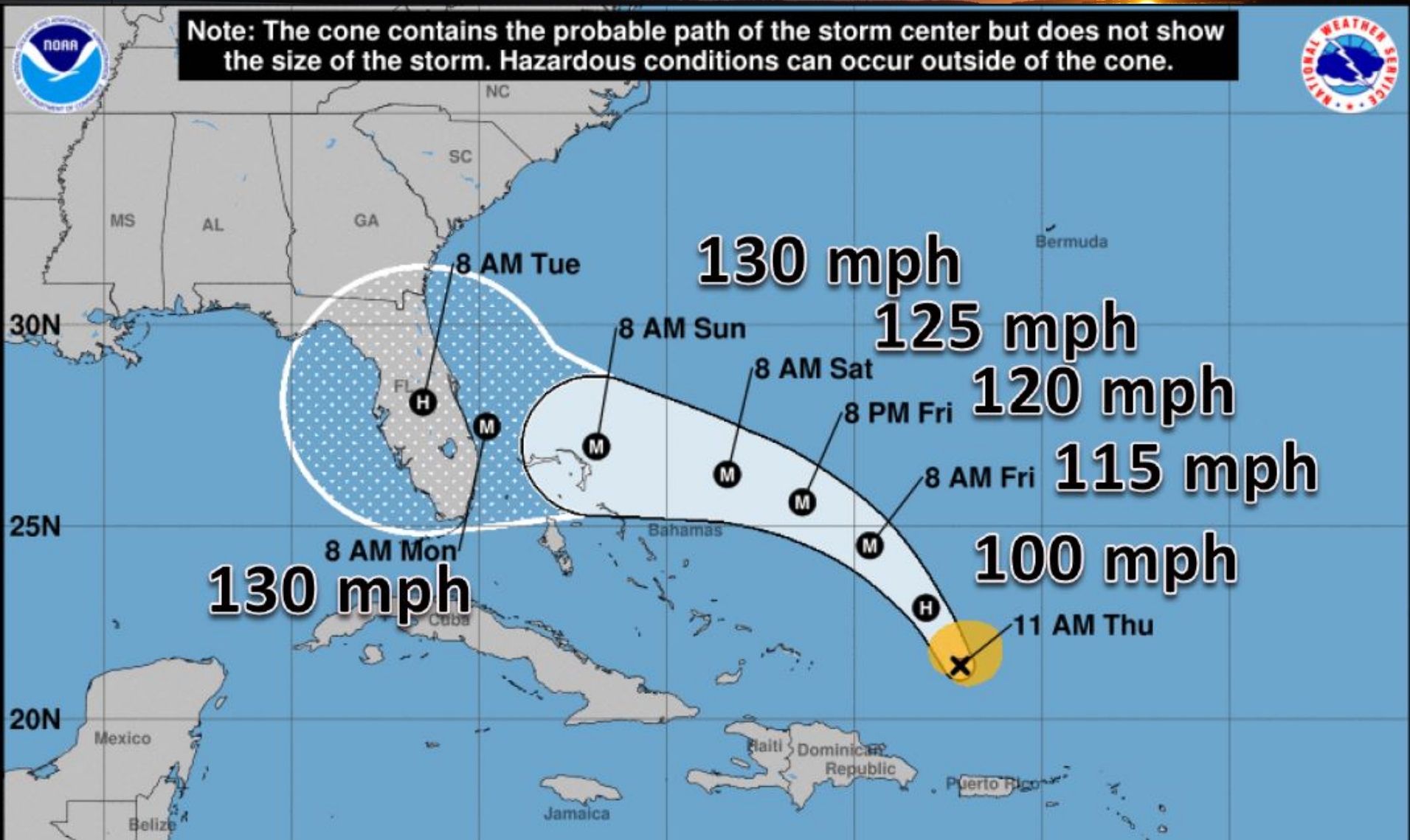
Hurricane Dorian



Hurricane Dorian

Pre- Storm Preparations

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.





Hurricane Dorian

Pre- Storm Preparations

- **Emergency Operations Center**
- **Activate StormTracker & FlaWARN**
- **Pre-season windshield surveys**
- **Coordinate Joint Agency Inspections (USACE/FEMA)**
- **Contact Local Sponsors**
- **Conduct Dune Fortification**



Hurricane Dorian

Preliminary Damage Assessments

Three Engineering Assessment Teams

- **Wide spread Moderate Dune Erosion**
- **Beach Profile Lowering**
- **Minimal Damage to Upland Structures**

Joint Inspections (USACE/FEMA/DEM)

- **Federal projects completed**
- **Nonfederal projects pending**



Hurricane Dorian

Post - Storm Activities- Federal Projects





Hurricane Dorian

Post - Storm Activities- Nonfederal Projects







Contact Information

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