



# **TROPICAL UPDATE**

**6 PM EDT**

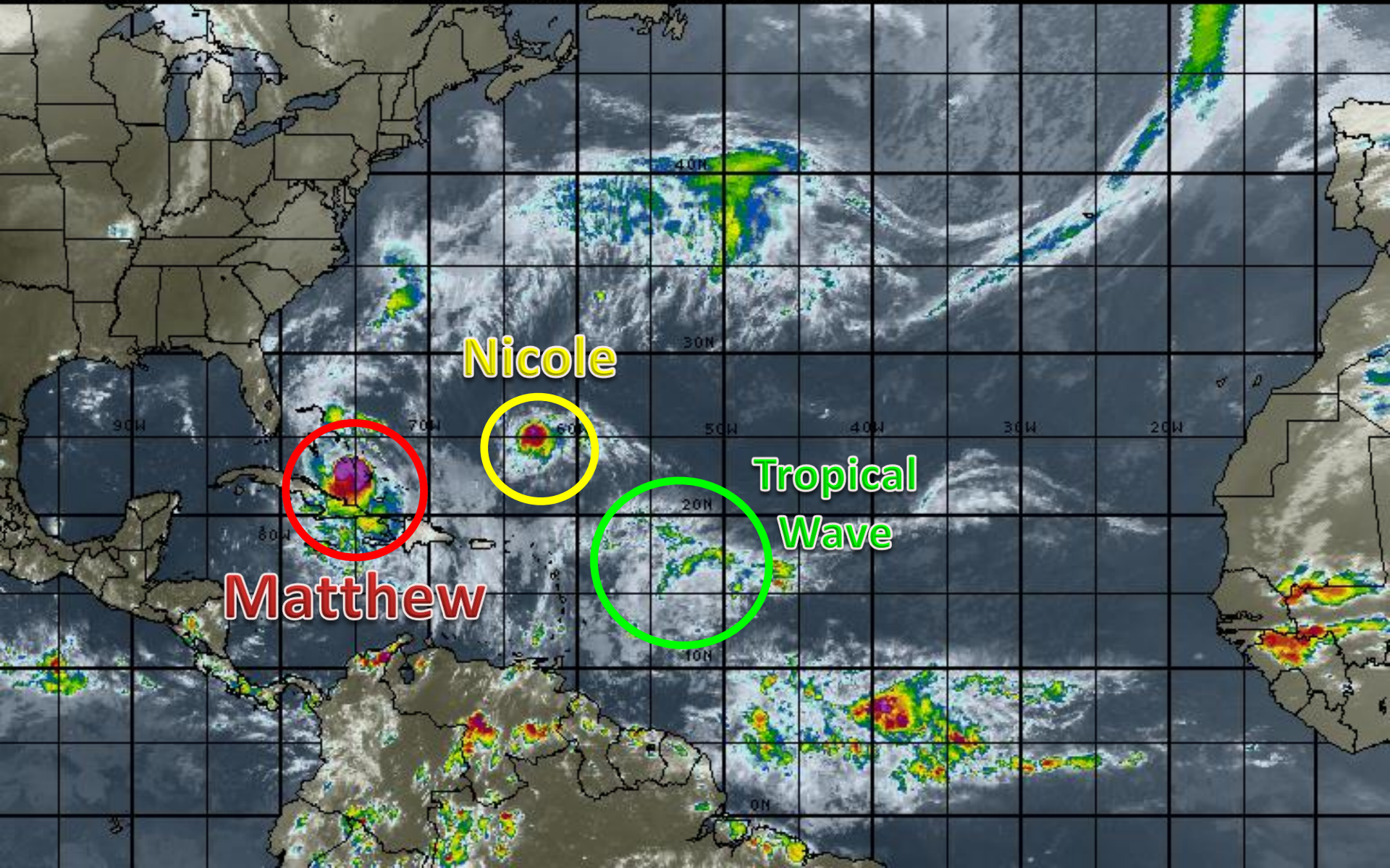
**Wednesday, October 5, 2016**

**Hurricane Matthew &  
Tropical Storm Nicole**

This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an active weather event please contact your County Emergency Management or Public Safety Office, local National Weather Service forecast office or visit the National Hurricane Center website at [www.nhc.noaa.gov](http://www.nhc.noaa.gov).

# Atlantic Basin Satellite Image

21:00 05-OCT-2016 GMT Copyright © 1998-2016 MSI Corporation <http://www.usi.com>







# Two-Day Graphical Tropical Weather Outlook

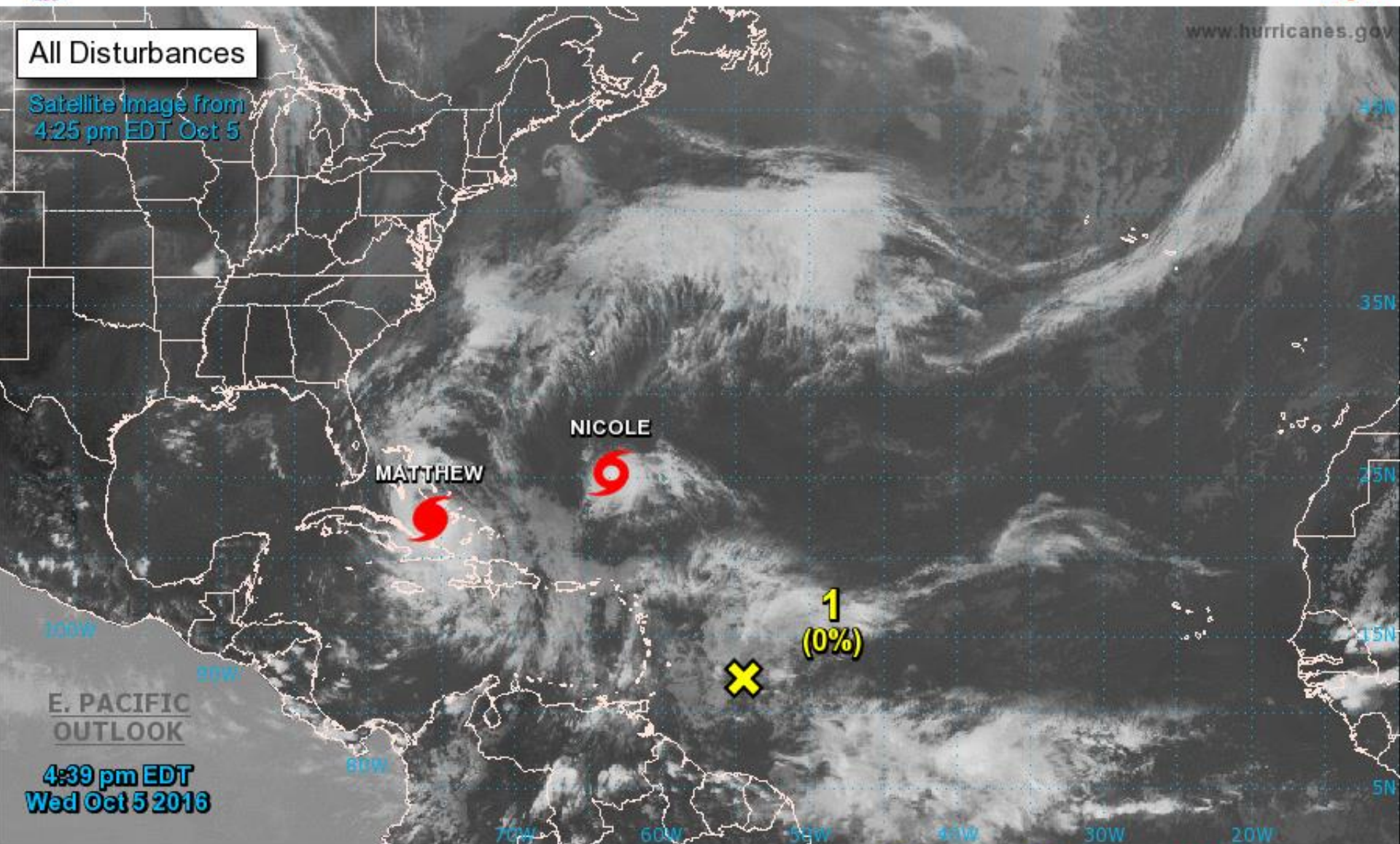
National Hurricane Center Miami, Florida



www.hurricanes.gov

All Disturbances

Satellite Image from  
4:25 pm EDT Oct 5



E. PACIFIC  
OUTLOOK

4:39 pm EDT  
Wed Oct 5 2016

Current Disturbances and Two-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants



# Hurricane Matthew

5 PM EDT Wed Oct 05 2016

Position 22.5 N 75.7 W

Maximum Winds 120 mph

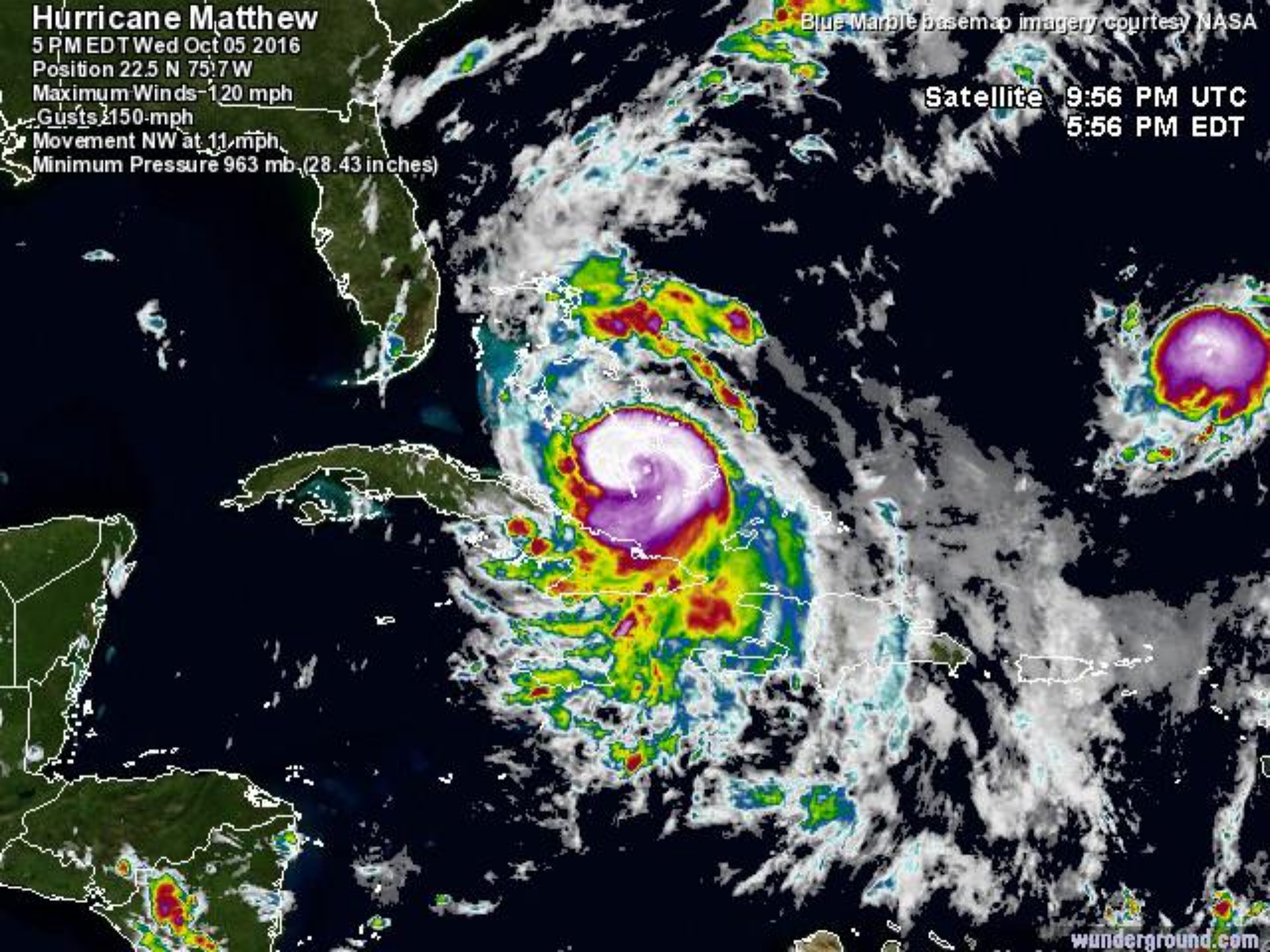
Gusts 150 mph

Movement NW at 11 mph

Minimum Pressure 963 mb (28.43 inches)

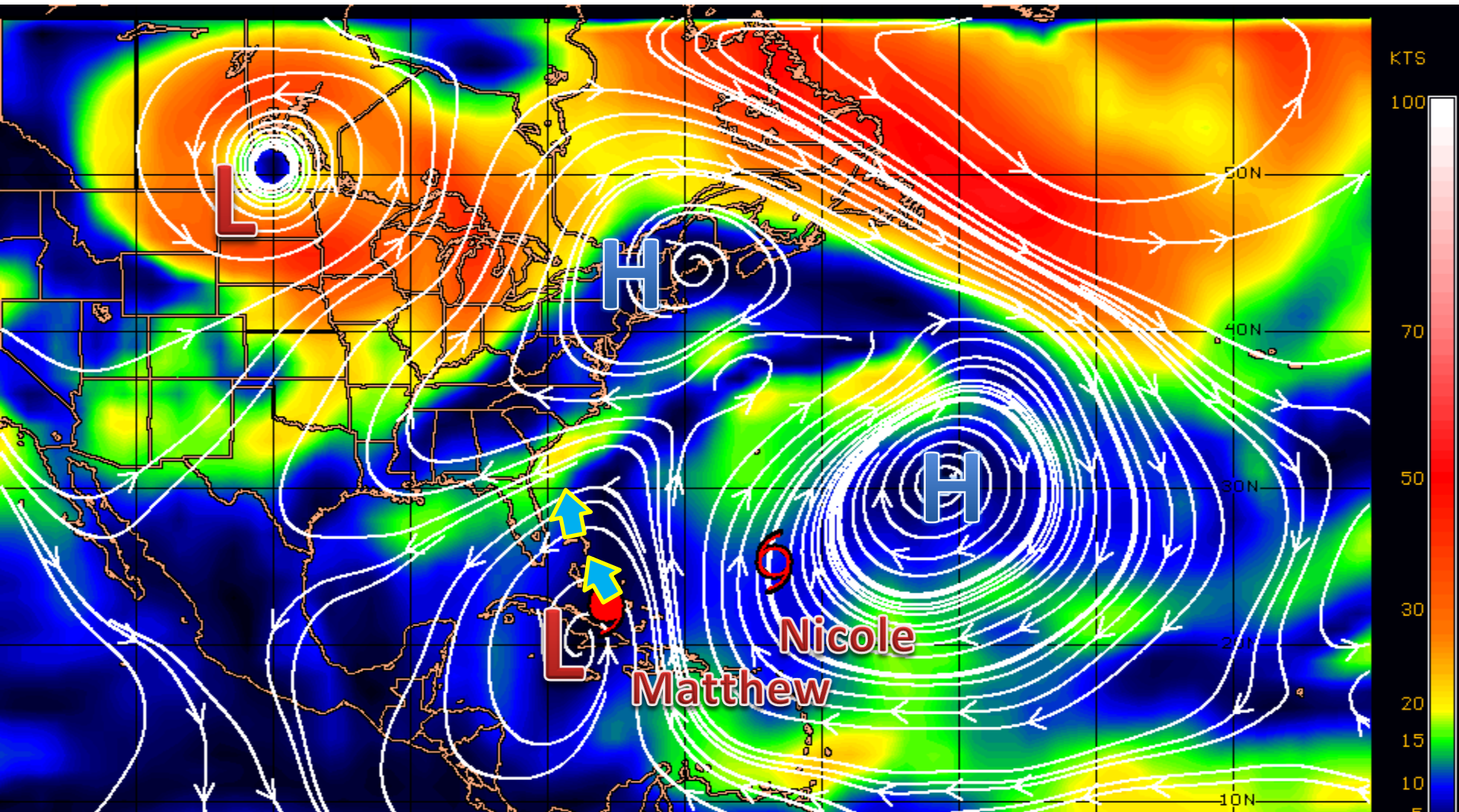
Blue Marble basemap imagery courtesy NASA

Satellite 9:56 PM UTC  
5:56 PM EDT





# Steering Currents



Matthew is being steered north between a high pressure system over the central Atlantic and low pressure over Cuba. Another high pressure ridge is over New England and forecast to build south, causing Matthew to take a NW movement before another low pressure system in the Plains moves to the Eastern U.S. and steers Matthew north to the northeast this weekend.

**Initialized at 18z Oct 05 2016**

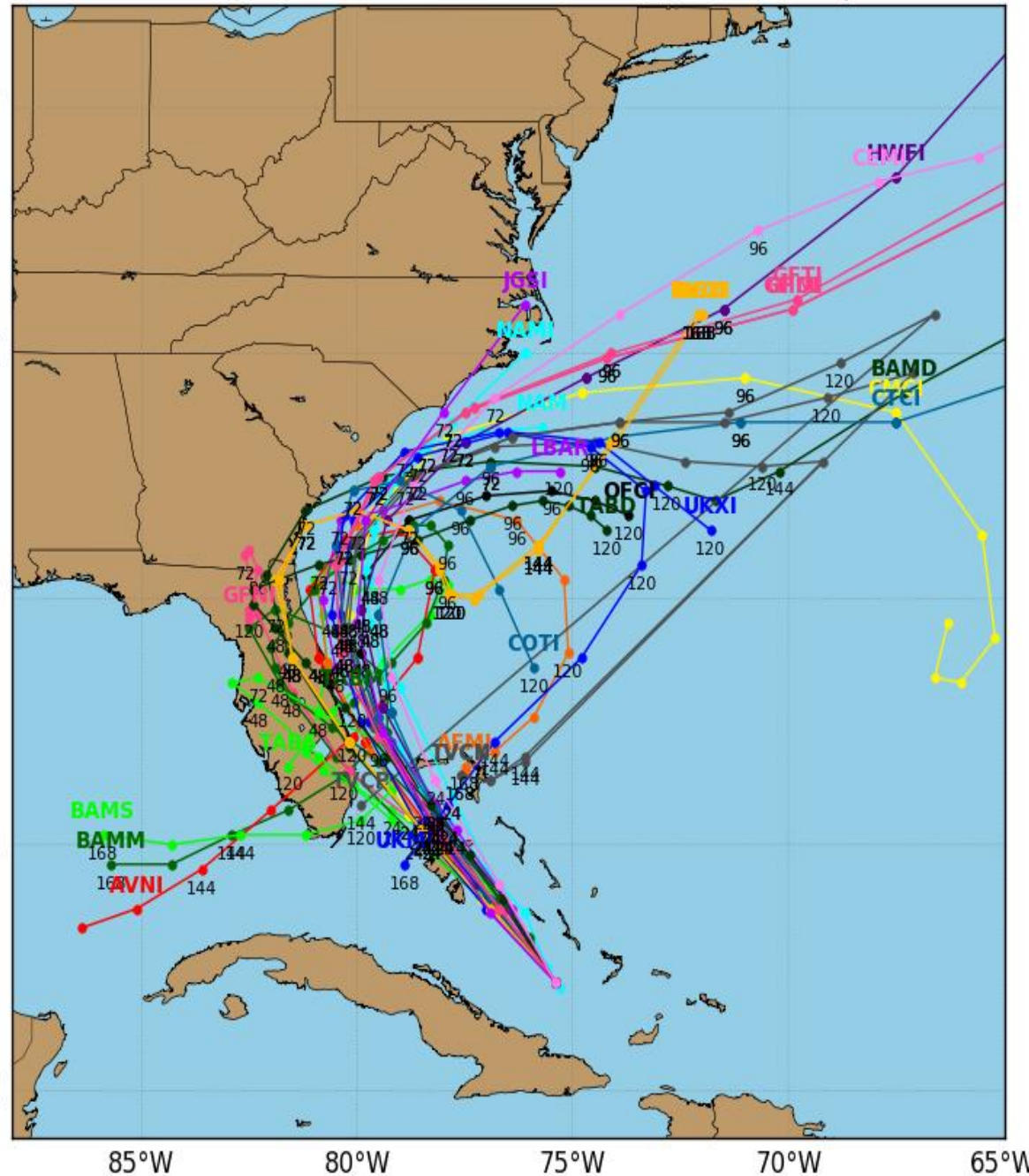
40°N

35°N

30°N

25°N

20°N

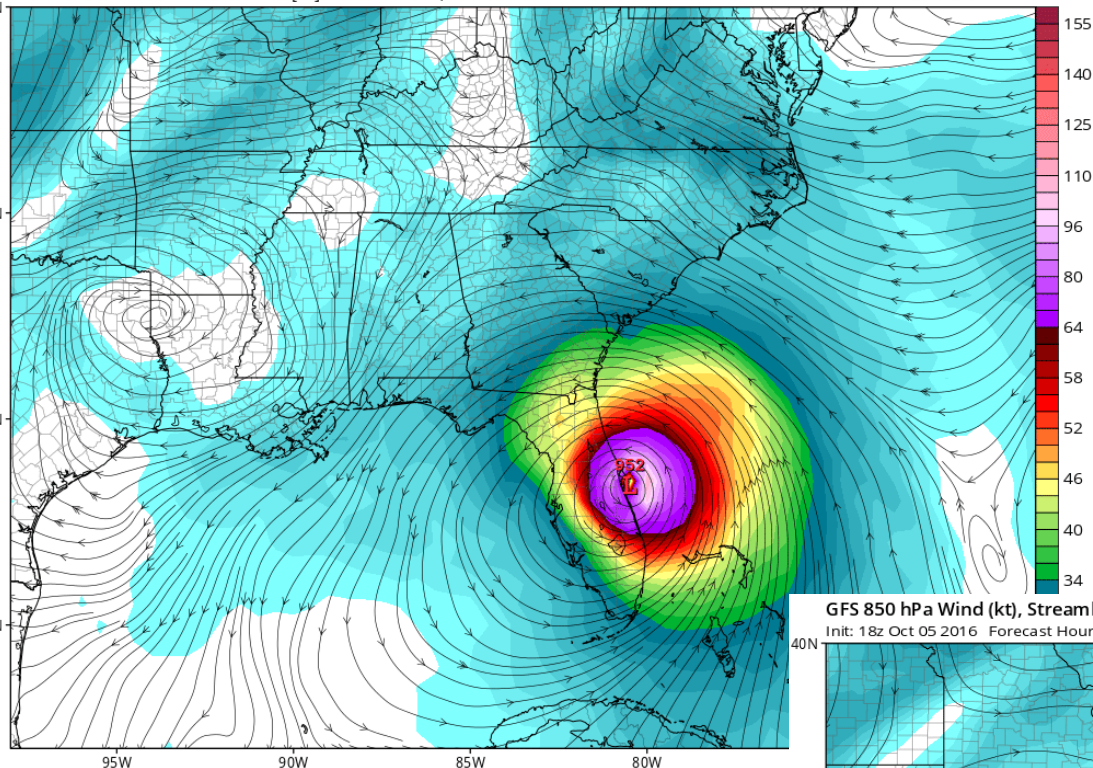


The forecast tracks are in some-what good agreement through the next 24-72 hours, showing a track parallel or over the Florida east coast. However, beyond 72 hours, the models are now showing a big turn to the right at the 96-120 hour, and are not in agreement on their east-southeast track.



ECMWF 850 hPa Wind (kt), Streamlines, MSLP Centers (hPa)  
Init: 12z Oct 05 2016 Forecast Hour: [48] valid at 12z Fri, Oct 07 2016

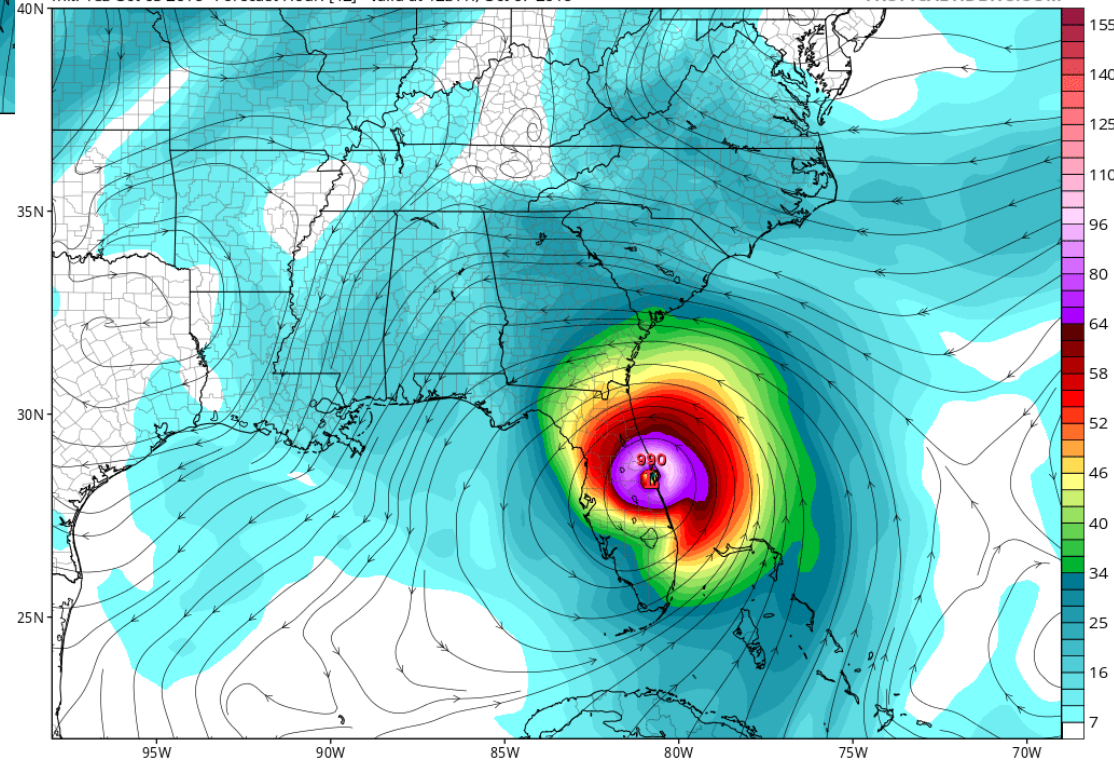
TROPICALTIDBITS.COM



# Euro vs. GFS – 8AM Friday

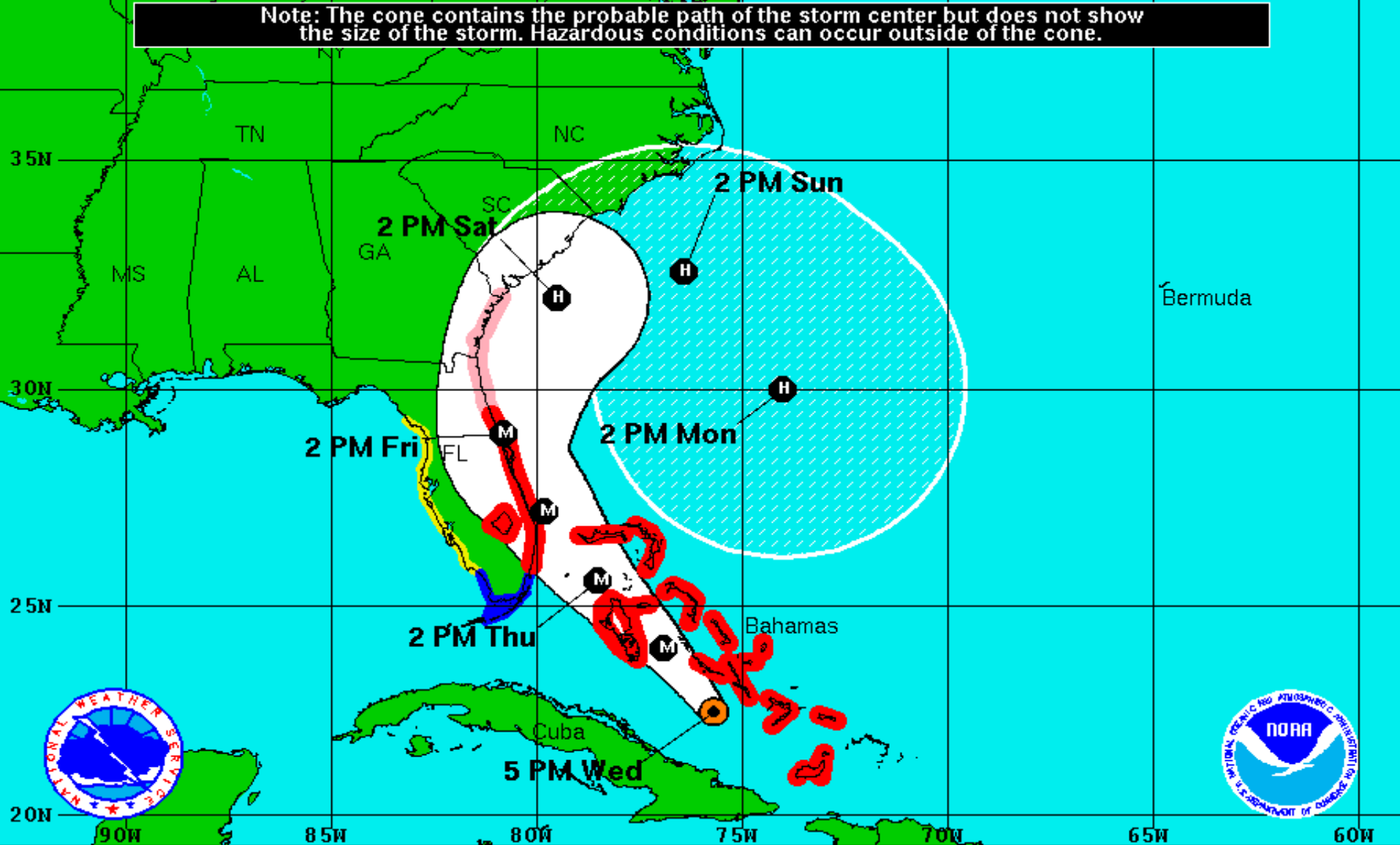
GFS 850 hPa Wind (kt), Streamlines, MSLP Centers (hPa)  
Init: 18z Oct 05 2016 Forecast Hour: [42] valid at 12z Fri, Oct 07 2016

TROPICALTIDBITS.COM



The latest European and GFS models are coming into somewhat better agreement. The European model still has the core of Matthew just on the coast, but the GFS is not that far to the east at 8PM Friday.

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 Matthew**  
 Wednesday October 5, 2016  
 5 PM EDT Advisory 31  
 NWS National Hurricane Center

**Current Information:**   
 Center Location 22.5 N 75.7 W  
 Max Sustained Wind 120 mph  
 Movement NW at 12 mph

**Forecast Positions:**  
 Tropical Cyclone Post-Tropical  
 Sustained Winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110mph

**Potential Track Area:**

Day 1-3 Day 4-5

**Watches:**

Hurricane Trop.Storm

**Warnings:**

Hurricane Trop.Storm



# HURRICANE MATTHEW

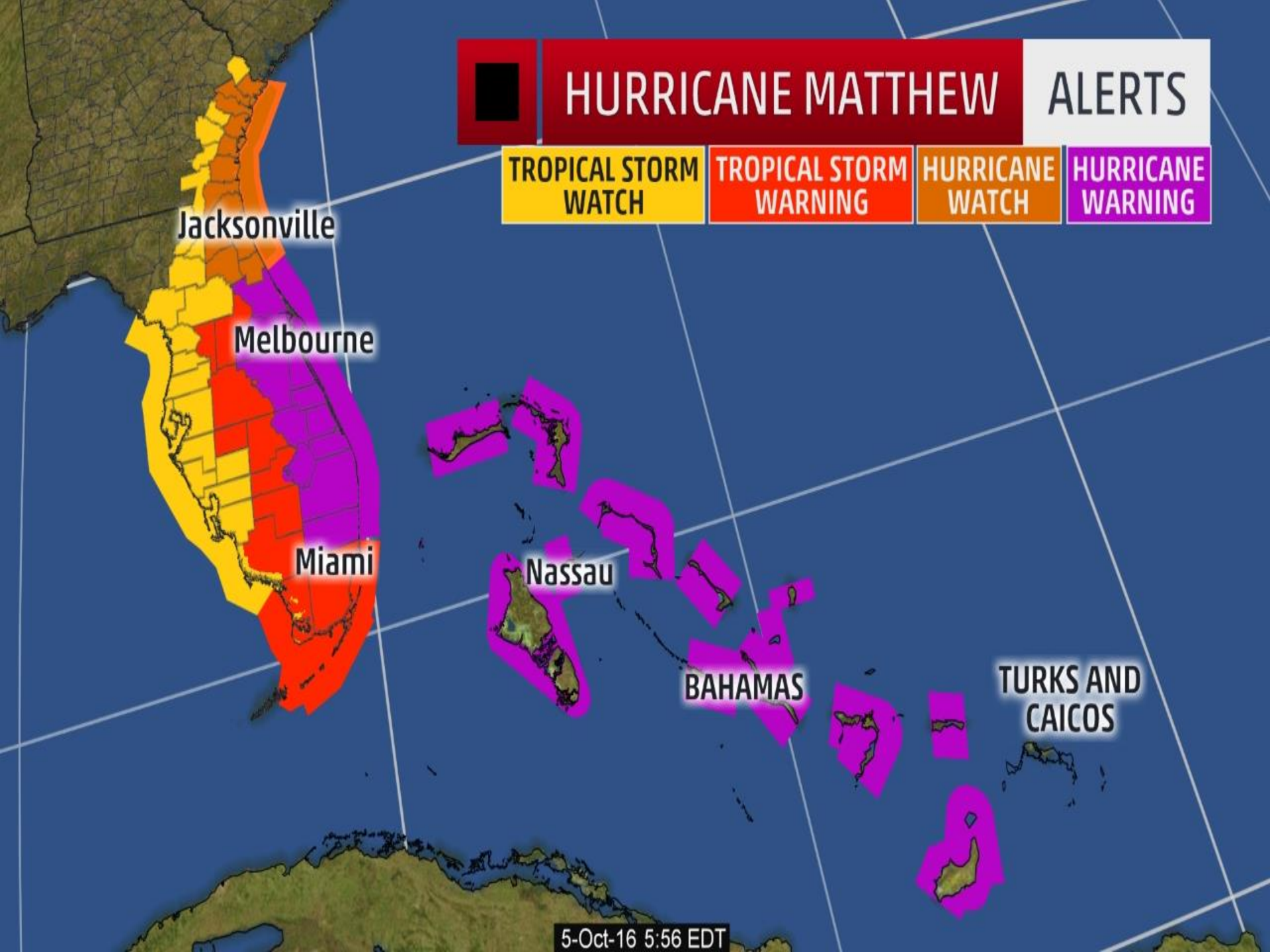
## ALERTS

TROPICAL STORM  
WATCH

TROPICAL STORM  
WARNING

HURRICANE  
WATCH

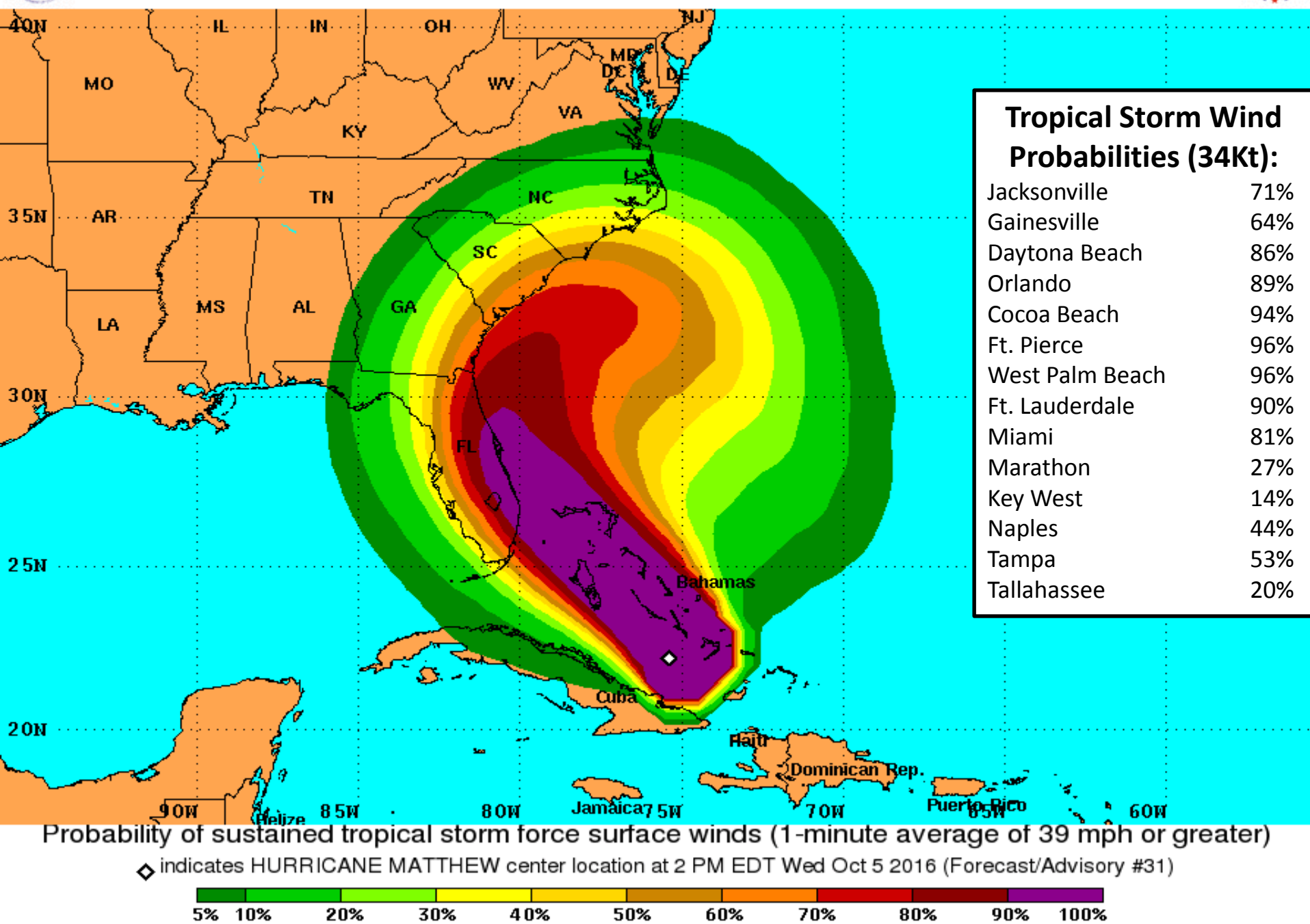
HURRICANE  
WARNING



5-Oct-16 5:56 EDT



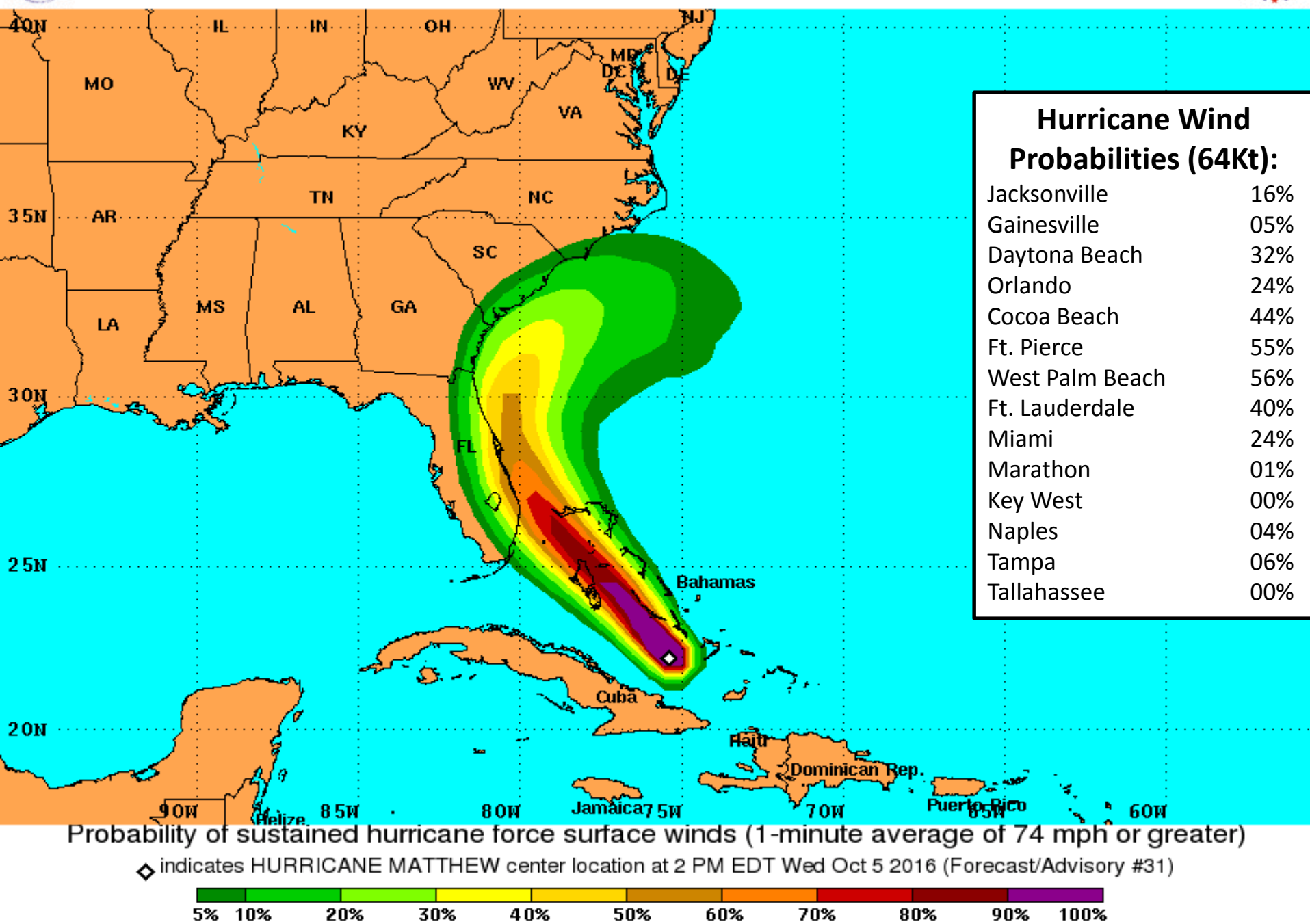
# PRELIMINARY (SINGLE STORM) Tropical Storm Force Wind Speed Probabilities For the 120 hours (5 days) from 2 PM EDT Wed Oct 5 to 2 PM EDT Mon Oct 10



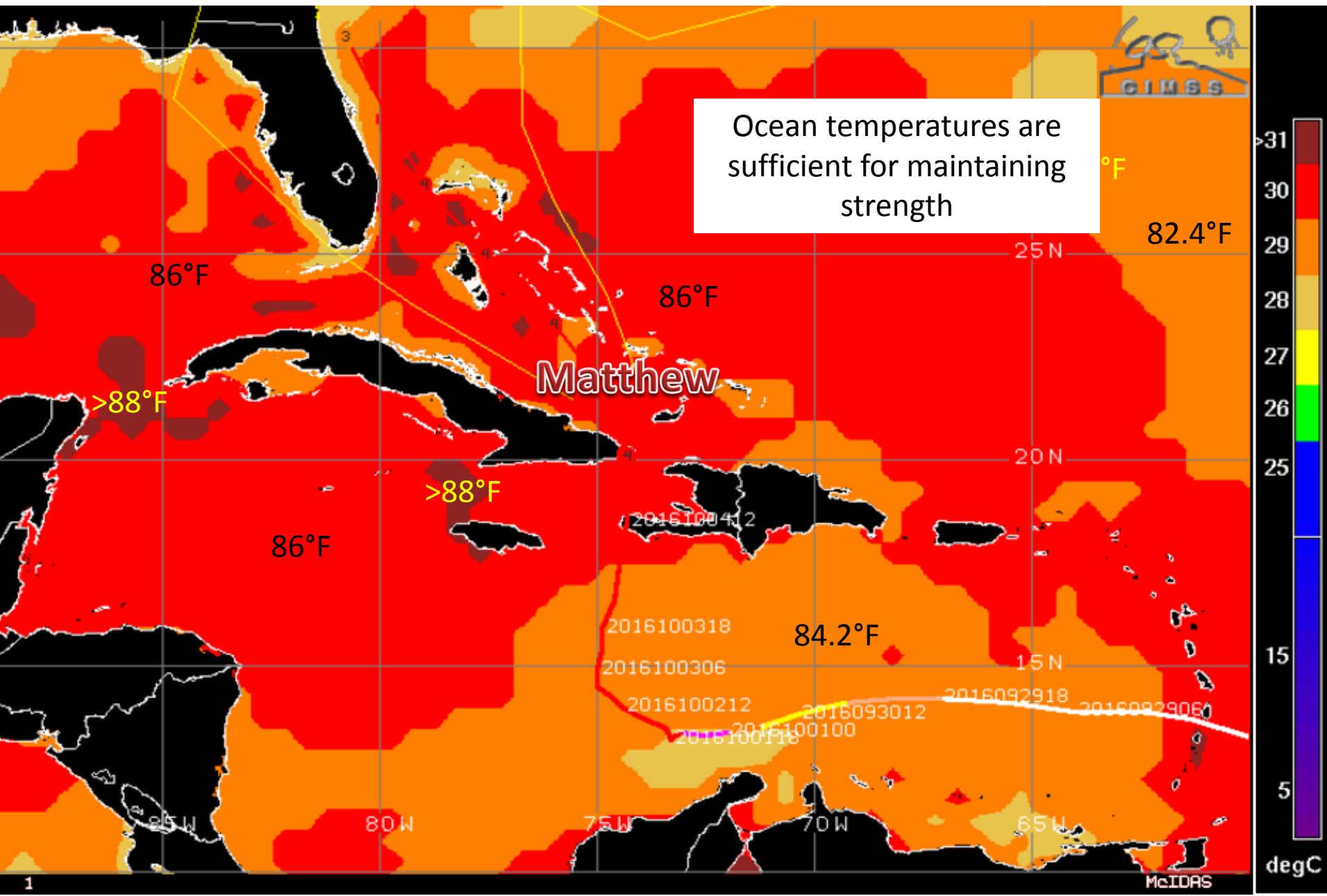




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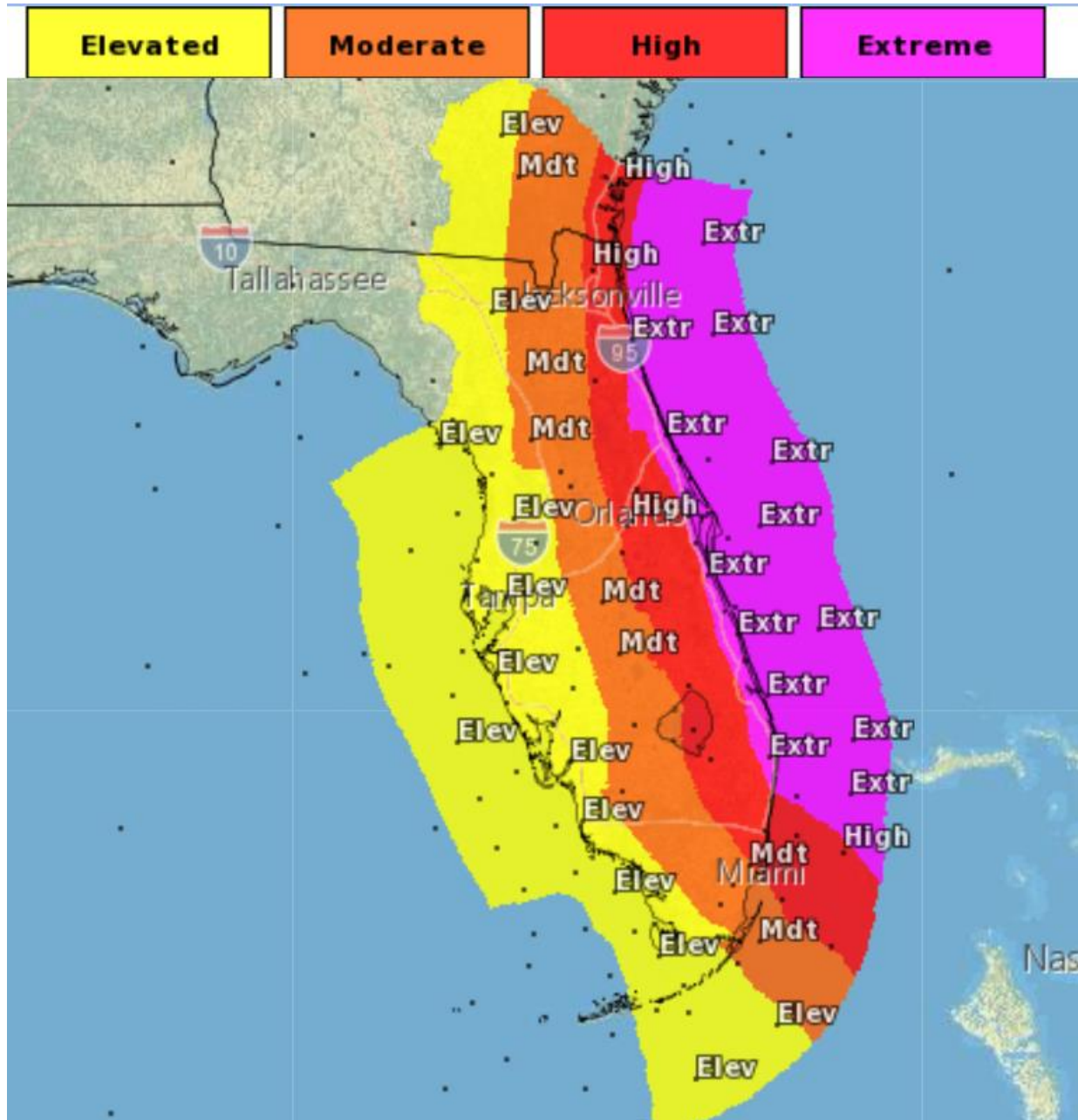


# Sea Surface Temperatures Near Matthew

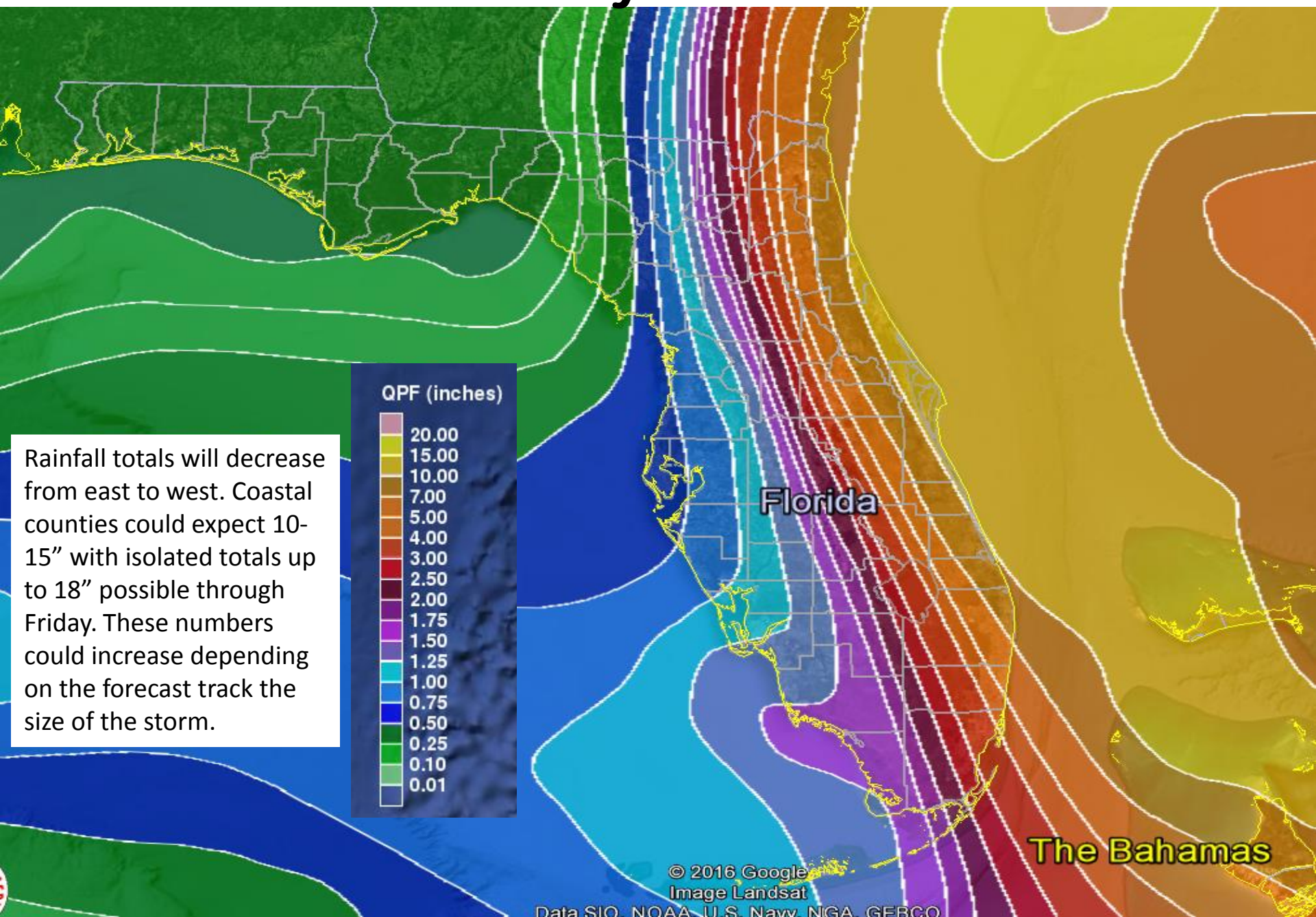




# Hurricane Wind Threat

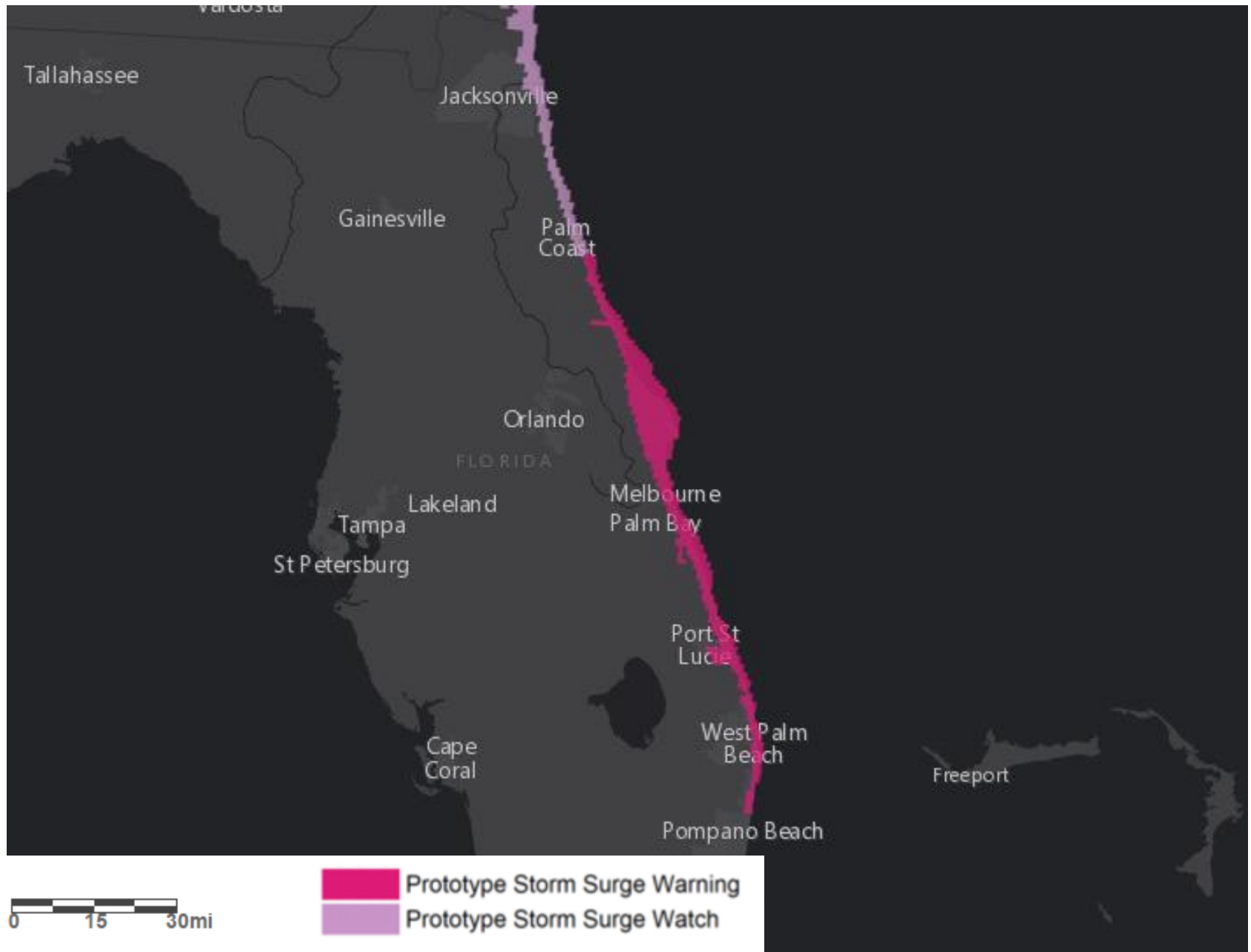


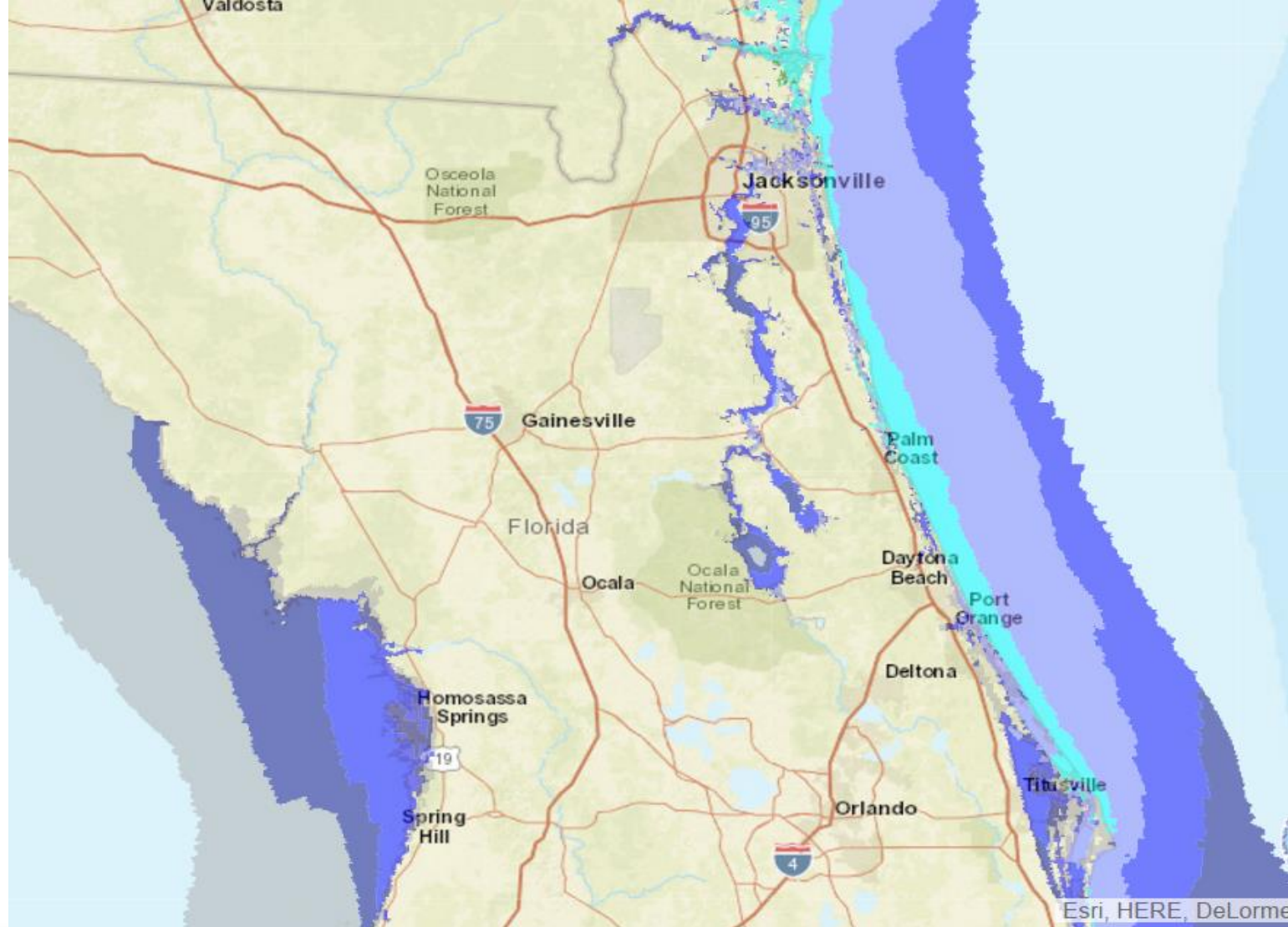
# Next Five Day Rainfall Totals





# Prototype Storm Surge Watches/Warnings



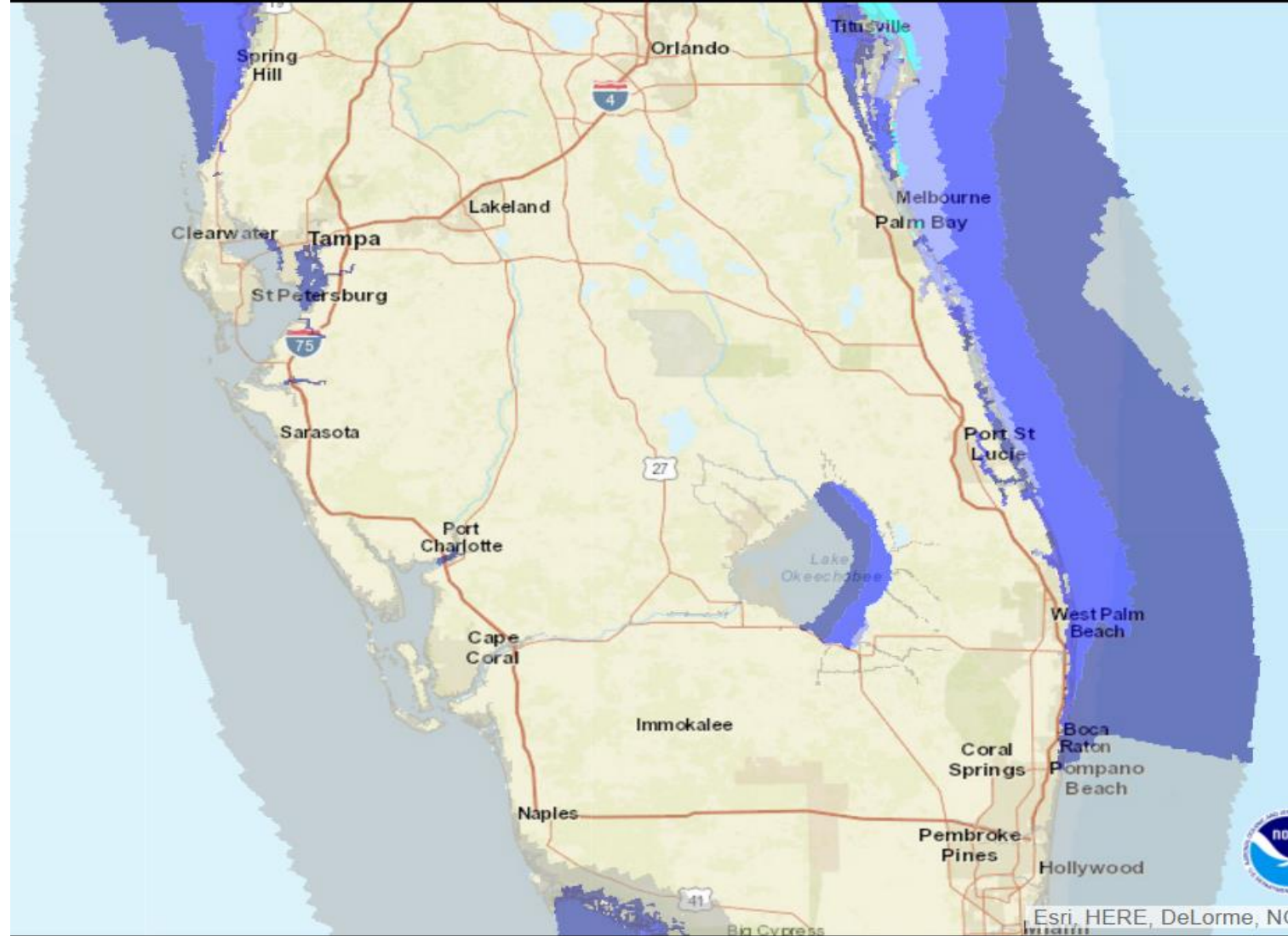


# Legend

Height above ground (feet)		
0 to < 2	11 to < 13	23 to < 25
2 to < 3	13 to < 15	25 to < 27
3 to < 5	15 to < 17	27 to < 29
5 to < 7	17 to < 19	29 to < 36
7 to < 9	19 to < 21	
9 to < 11	21 to < 23	

Tropical Cyclone Storm Surge (with tide) Heights  
That Have a 1 in 10 Chance of Being Exceeded  
Hurricane Matthew (2016) Advisory 28  
For the 77 hours from 11 PM EDT Tue Oct 04 to 04 AM EDT Sat Oct 08





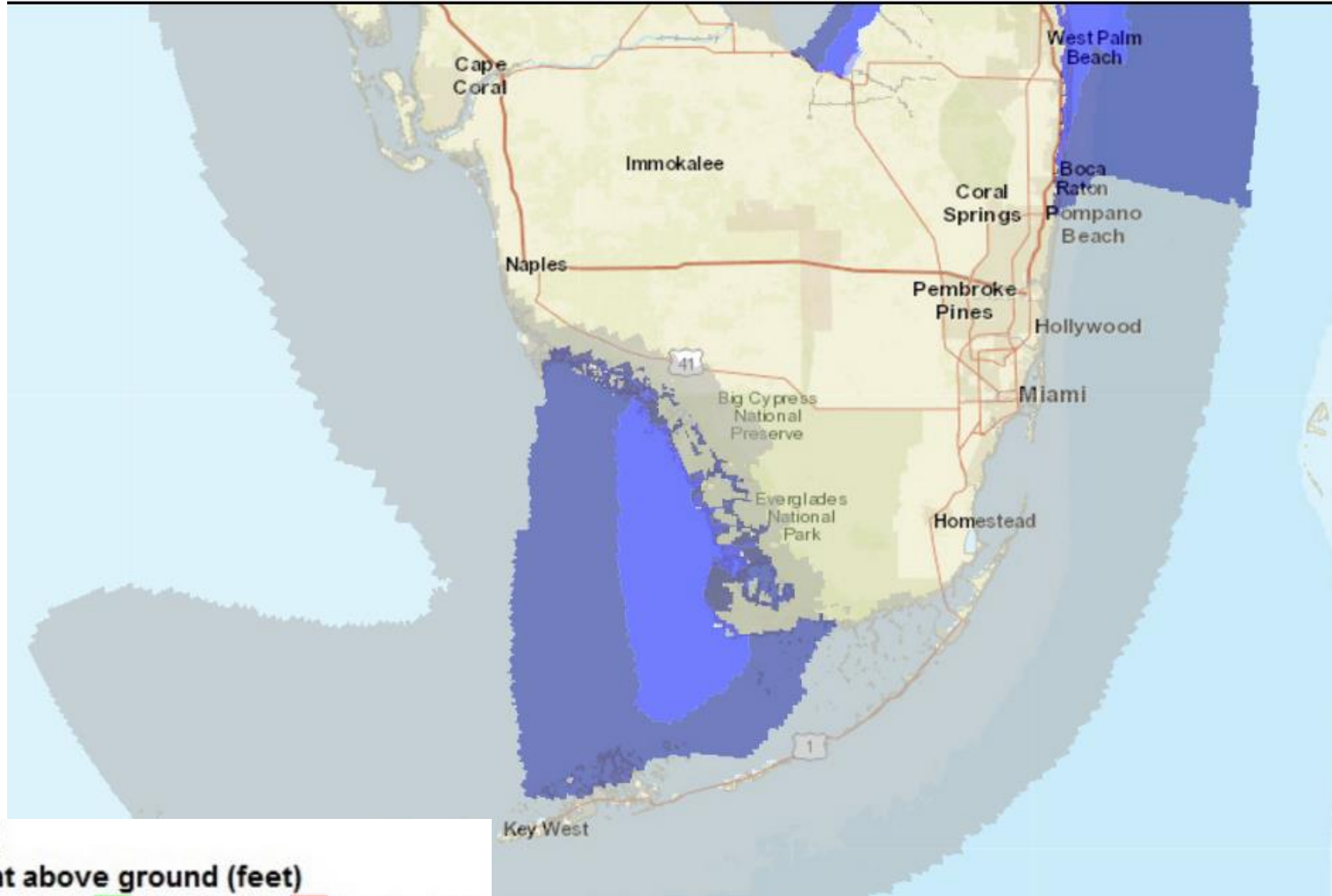
Esri, HERE, DeLorme, NOAA

# Legend

## Height above ground (feet)

0 to < 2	11 to < 13	23 to < 25
2 to < 3	13 to < 15	25 to < 27
3 to < 5	15 to < 17	27 to < 29
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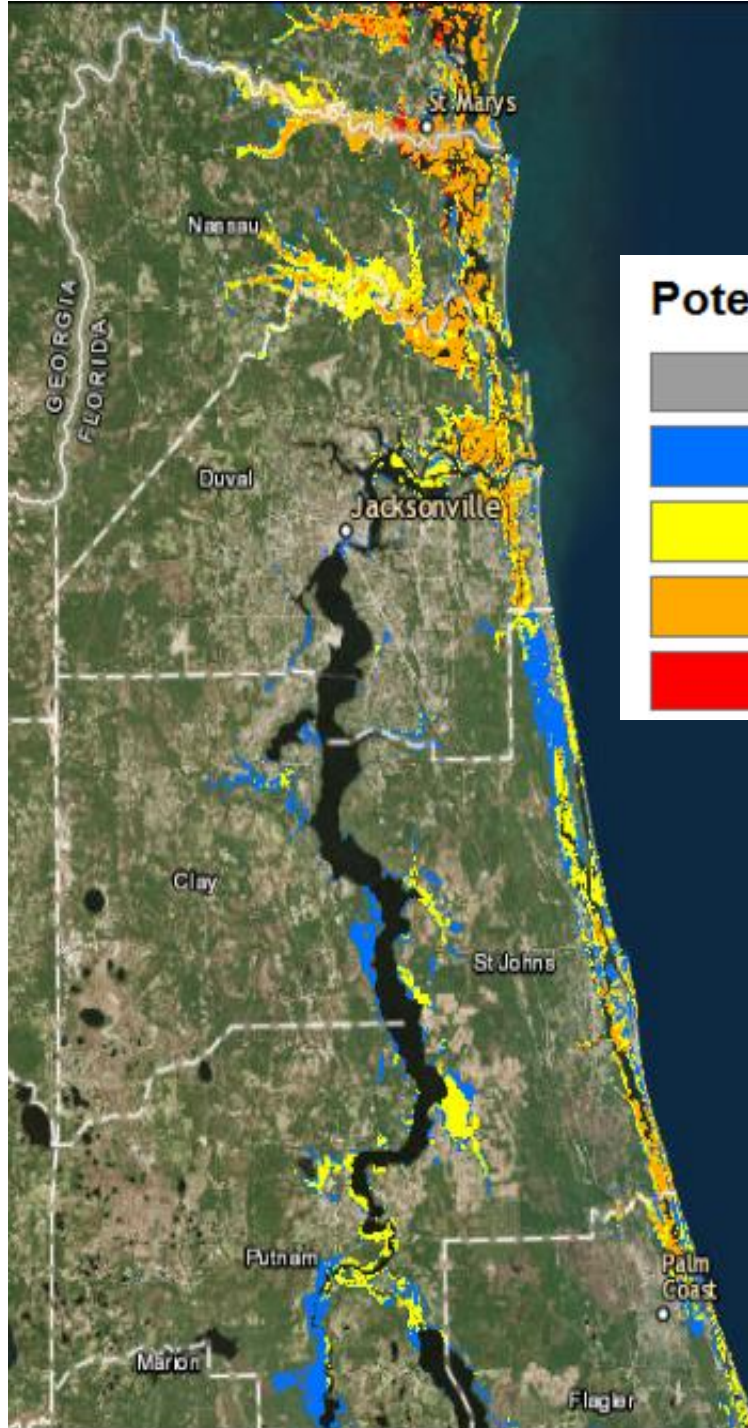
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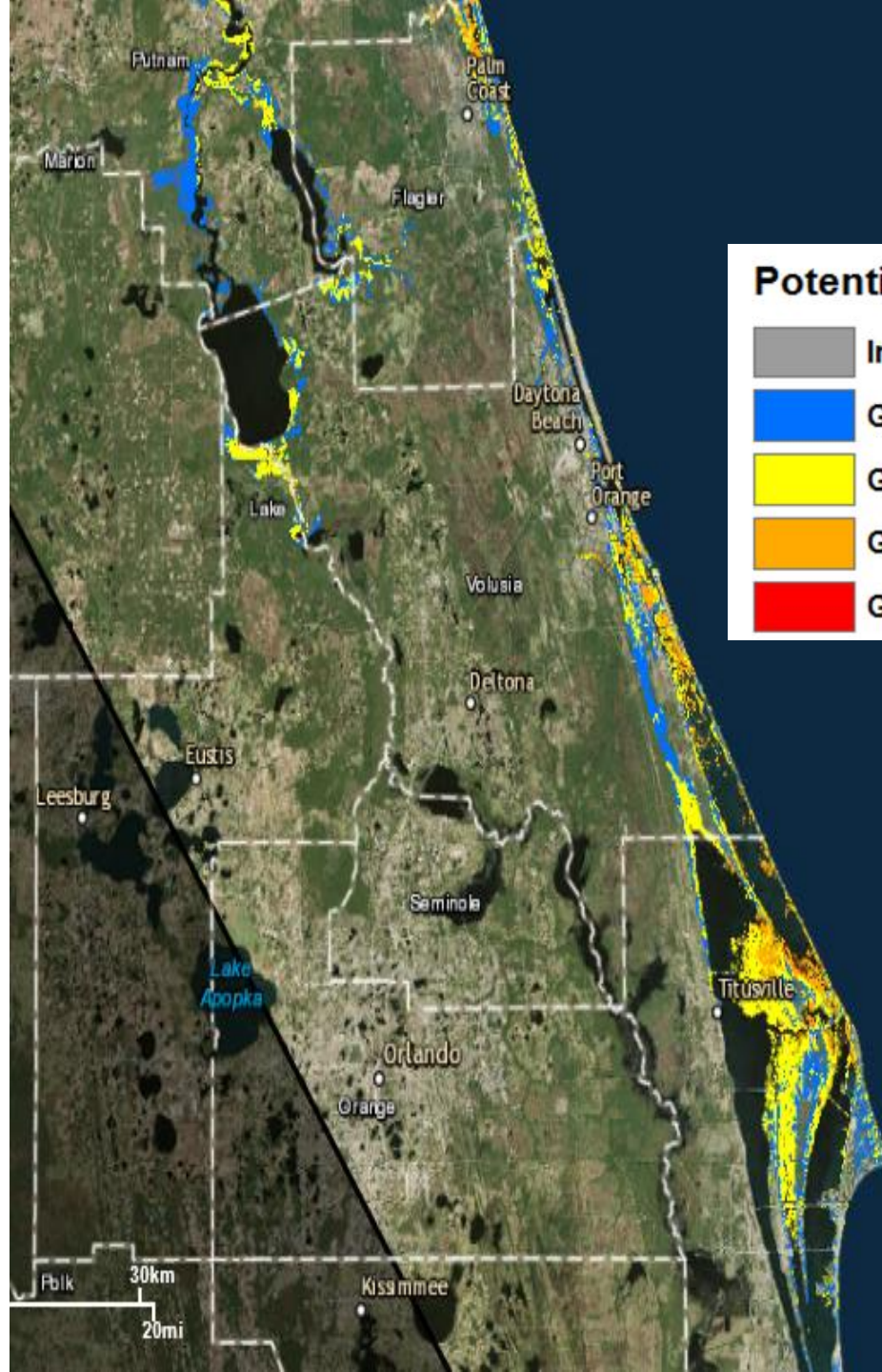




## Potential Storm Surge Flooding\*

- Intertidal Zone/Estuarine Wetland
- Greater than 1 foot above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground



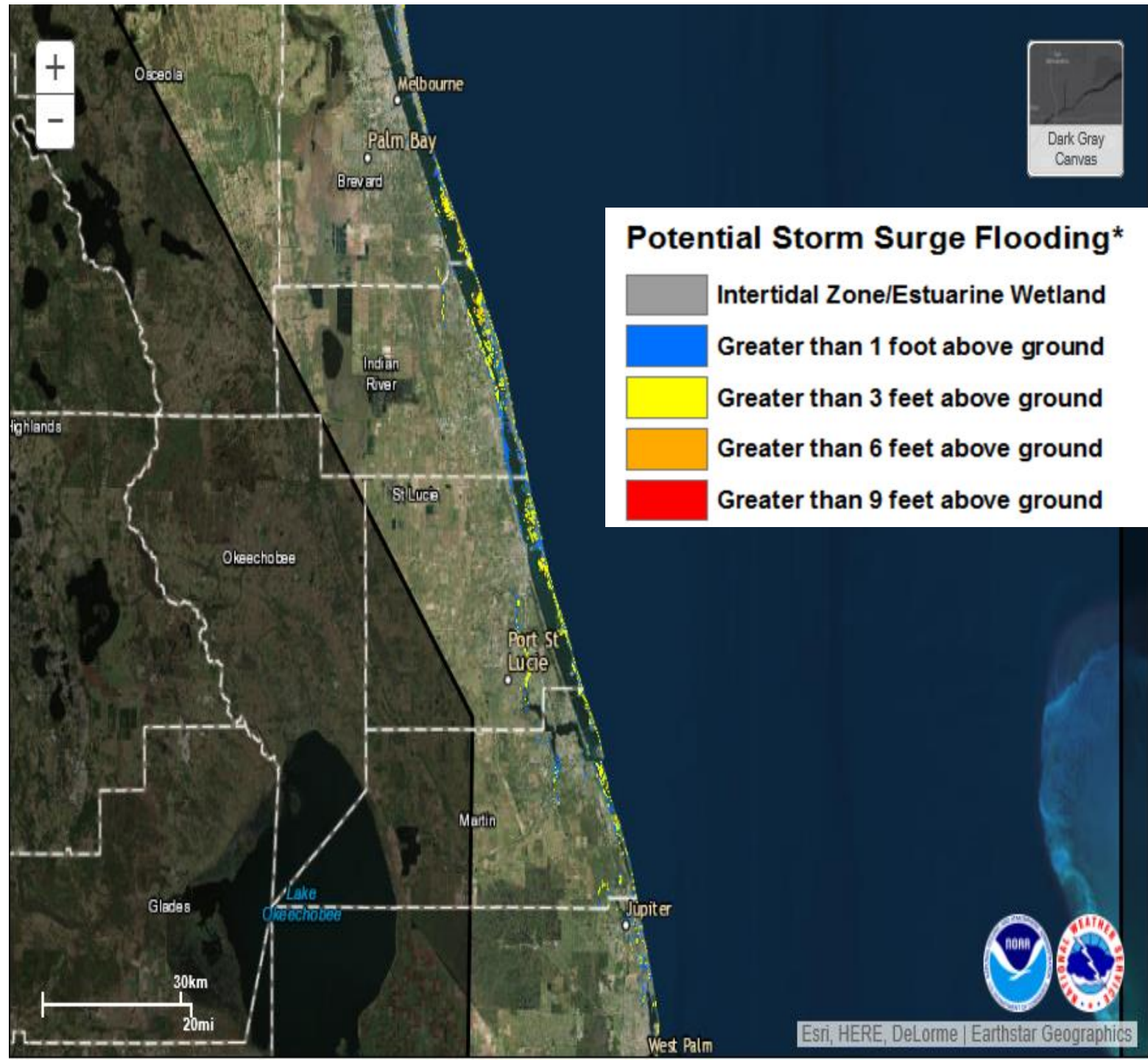


## Potential Storm Surge Flooding\*

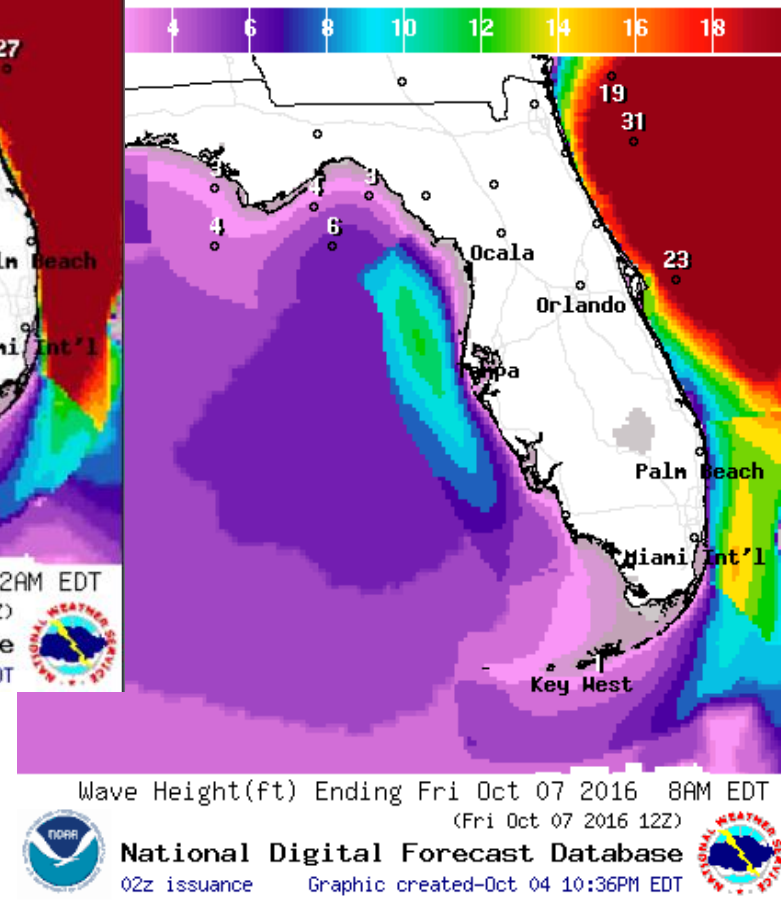
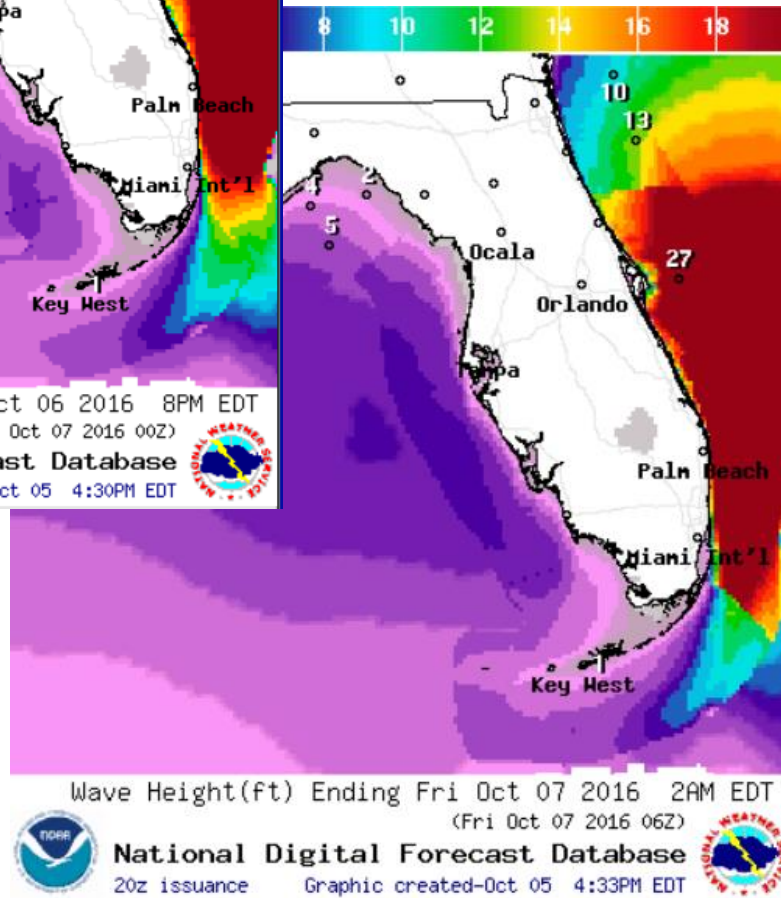
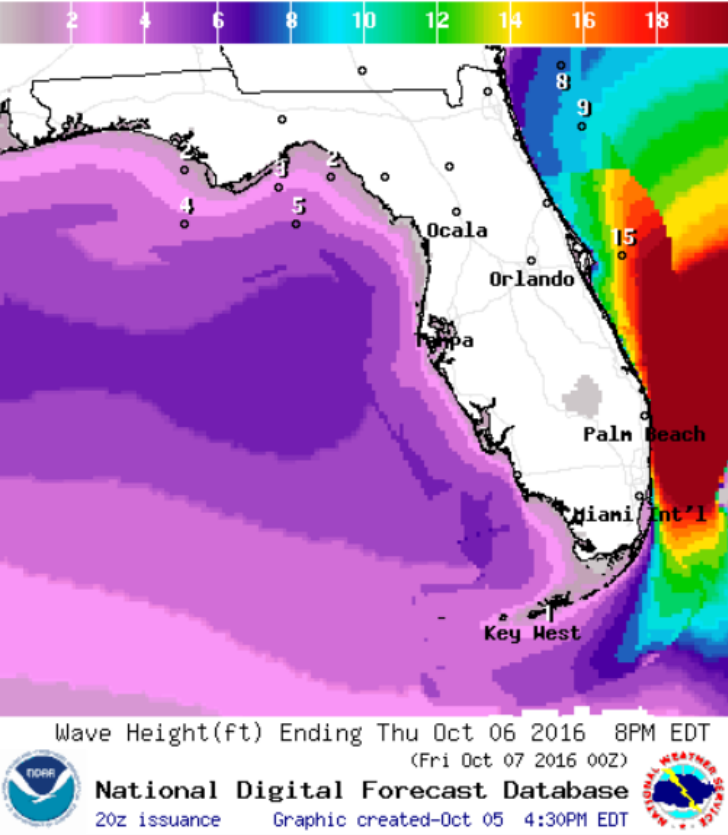
- Intertidal Zone/Estuarine Wetland
- Greater than 1 foot above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground







# Forecast Wave Heights





# Tropical Storm Nicole

5 PM EDT Wed Oct 05 2016

Position 25.3 N 63.5 W

Maximum Winds 60 mph

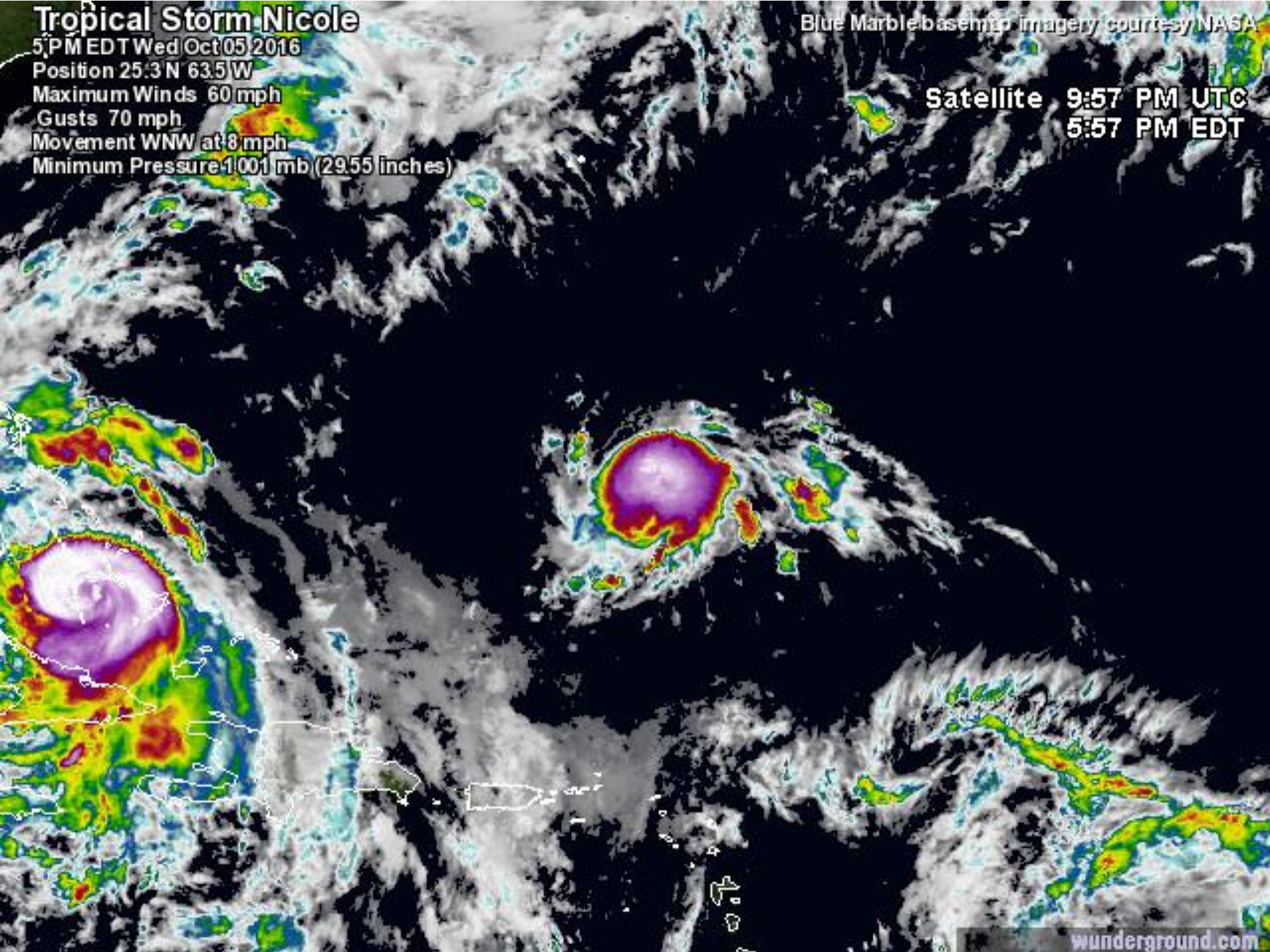
Gusts 70 mph

Movement WNW at 8 mph

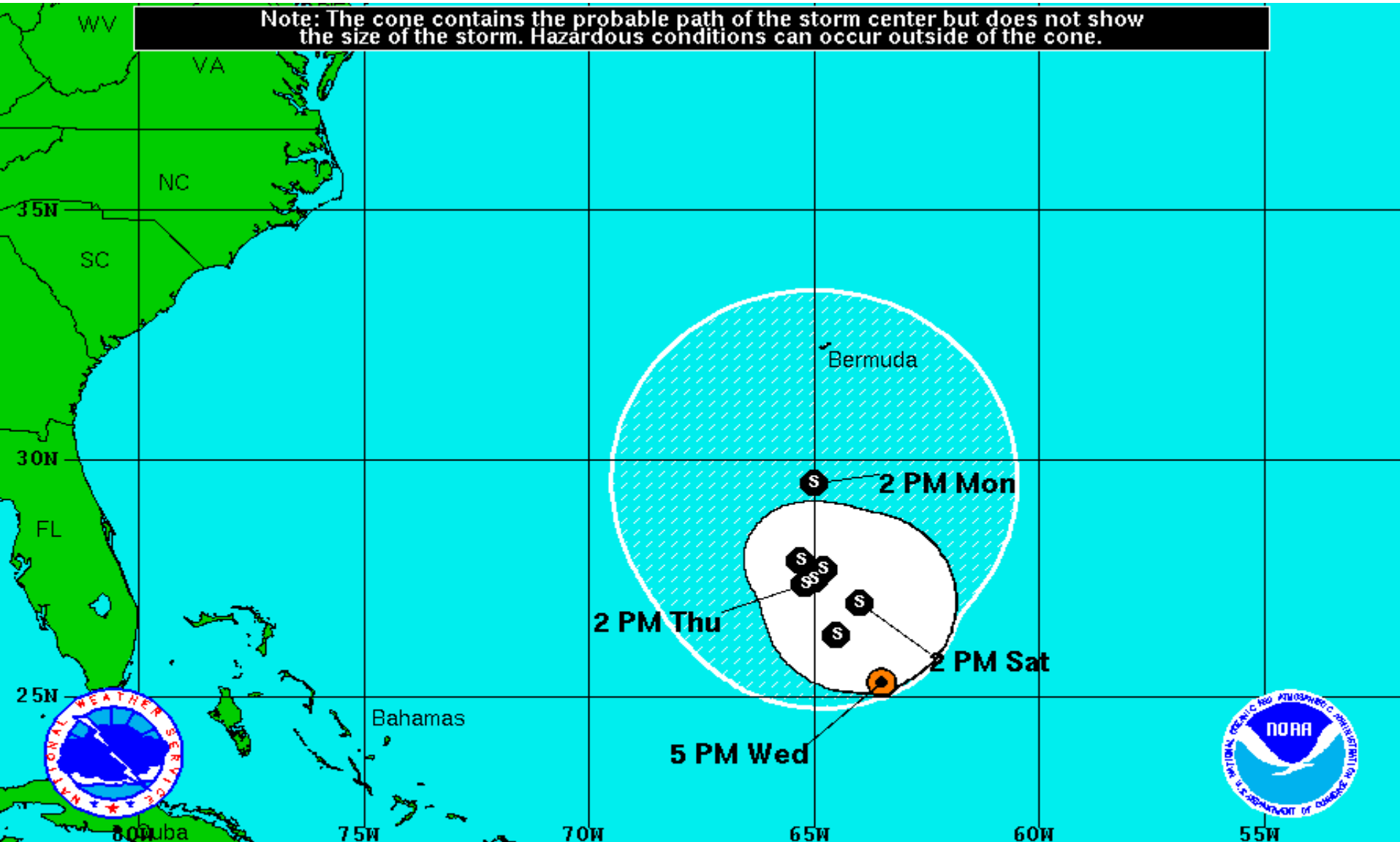
Minimum Pressure 1001 mb (29.55 inches)

Blue Marble baseline imagery courtesy NASA


Satellite 9:57 PM UTC  
5:57 PM EDT





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.



**Tropical Storm Nicole**  
 Wednesday October 5, 2016  
 5 PM EDT Advisory 6  
 NWS National Hurricane Center

**Current Information:**   
 Center Location 25.3 N 63.5 W  
 Max Sustained Wind 60 mph  
 Movement WNW at 8 mph

**Forecast Positions:**  
 Tropical Cyclone  Post-Tropical  
 Sustained Winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110mph

**Potential Track Area:**  
 Day 1-3  Day 4-5

**Watches:**  
 Hurricane  Trop.Storm

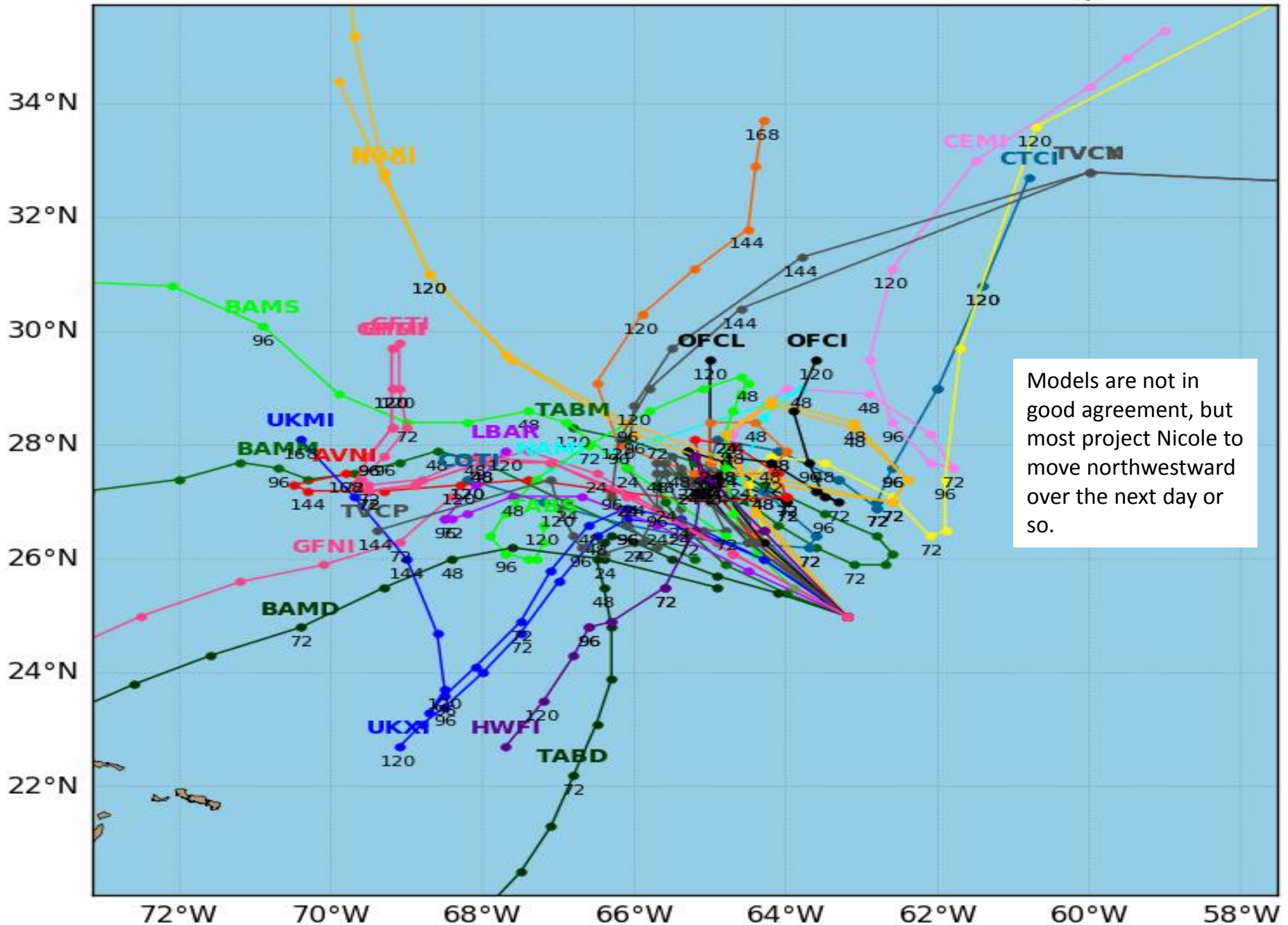
**Warnings:**  
 Hurricane  Trop.Storm



# Tropical Storm NICOLE Model Track Guidance

Initialized at 18z Oct 05 2016

Levi Cowan - [tropicaltidbits.com](http://tropicaltidbits.com)





# Five-Day Graphical Tropical Weather Outlook

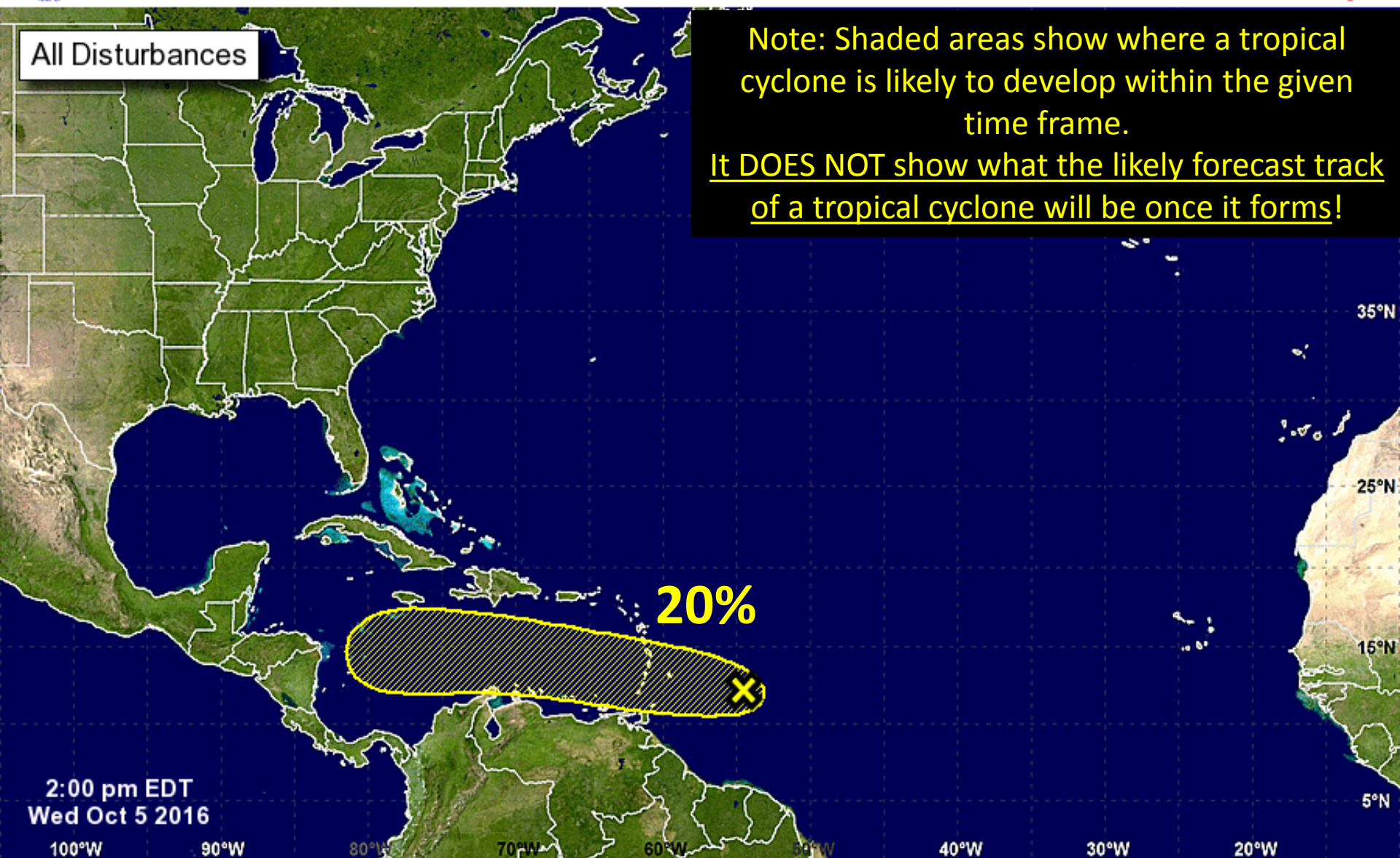
National Hurricane Center Miami, Florida



All Disturbances

Note: Shaded areas show where a tropical cyclone is likely to develop within the given time frame.

It DOES NOT show what the likely forecast track of a tropical cyclone will be once it forms!



2:00 pm EDT  
Wed Oct 5 2016

Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 pm EDT Mon Oct 10 2016

Chance of Cyclone Formation in Five Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%

X indicates current disturbance location; shading indicates potential formation area.



## **Tropical Summary:**

- At 5pm EDT, Hurricane Matthew was located approximately 313 miles southeast of the Miami, Florida.
- Maximum sustained winds are currently 120 mph with higher gusts, making Matthew a Category 3 hurricane on the Saffir-Simpson scale.
- Matthew is moving toward the northwest near 12 mph. The steering currents are still strong and conducive to steering Matthew toward the northwest during the next day or so with no significant changes to forward speed. Matthew will be moving through the Bahamas through Thursday, and is expected to be very near the east coast of Florida by Thursday evening.
- It is important not to focus on the center line of the forecast cone. Only small deviation in the forecast track to the left could bring the core of a major hurricane onshore, while a small deviation to the right could keep all of the hurricane-force winds offshore.
- Matthew remains a large storm, with tropical storm force winds extending 160 miles from the center, and hurricane force winds extending 40 miles from the center.
- Tropical Storm Nicole is approximately located 435 miles north northeast of San Juan, Puerto Rico. Nicole is moving to the west-northwest at 8 mph. A turn toward the northwest is expected later today, followed by a turn toward the north by late Thursday. The system poses no threat to Florida.
- Elsewhere, a tropical wave is producing a large area of disorganized showers and thunderstorms several hundred miles east of the Windward Islands. Development, if any, of this system is expected to be slow to occur while the wave moves westward at 15 mph during the next several days. Regardless of tropical cyclone development, locally heavy rains and gusty winds are possible in the Windward and southern Leeward Islands during the next day or two as the wave moves through the area.
- The system has a 0% (low) chance of development over the next 48 hours, and a 20% (low) chance of development through the next five days.

## Florida Outlook:

- **Hurricane Warning** is in effect for Broward, Palm Beach, Martin, St. Lucie, Indian River, Brevard, Volusia, Osceola, Orange, Seminole, and Okeechobee Counties, along with Lake Okeechobee.
- **Hurricane Watch** is in effect for Nassau, St. Johns, Duval, Flagler, Putnam, and Clay Counties.
- **Tropical Storm Warning** is in effect for Miami-Dade, Inland Monroe, Inland Collier, Hendry, Glades, Lake, Sumter, Polk, Hardee, and Highlands Counties.
- **Tropical Storm Watch** is in effect for Coastal Collier, Charlotte, Sarasota, Manatee, DeSoto, Hillsborough, Pinellas, Pasco, Hernando, Citrus, Levy, Marion, Alachua, Union, Bradford, and Baker Counties.
- All of the eastern Florida peninsula is within the 3-day average error cone.
- Regardless of track, Matthew is a very large storm and it has the potential to generate gusty winds and rough seas long the East Coast of Florida, along with minor coastal flooding, beach erosion, and dangerous rip currents.
- Any additional impacts are dependent on future track and size of the storm, which still remain somewhat uncertain at this moment.
- Areas along the east coast of Florida (from Miami to Jacksonville and inland to Orlando) have a greater than 70% chance of seeing tropical storm force winds within the next three days. Areas from Ft. Pierce to West Palm Beach have a 90% or greater chance of seeing tropical storm force winds.
- Tropical storm force winds could arrive Thursday morning across Southeast Florida and spread from south to north across East Central Florida through the day on Thursday, and into Northeast Florida overnight Thursday into Friday morning.
- Hurricane force winds will be just off the coast of Florida, and any westward deviation of the current track will bring those destructive hurricane force winds onshore.
- The current forecast calls for 4-7" of rain near the I-95 corridor with isolated totals of 10" possible, but it is highly dependent on the track of the storm.
- Storm surge values of 1-3' is possible along the Southeast Florida coast, with storm surge heights of 3-5 feet possible from northern Palm Beach County through Nassau County. A few areas could experience higher values depending on the proximity of the core of the hurricane relative to the coast.
- The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. There is a danger of life-threatening inundation during the next 36 hours along the Florida east coast from North Palm Beach to the Sebastian Inlet.



- There is the possibility of life-threatening inundation during the next 48 hours from Sebastian Inlet to the Flagler/Volusia county line.
- Isolated tornadoes are possible Thursday and Friday.
- Tropical Storm Nicole does not pose a threat to Florida.

Another briefing packet will be issued on Wednesday afternoon. For more information on this system, please visit the NHC website at [www.nhc.noaa.gov](http://www.nhc.noaa.gov)



# **TROPICAL UPDATE**

Created by:

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State Meteorological Support Unit

Florida Division of Emergency  
Management