



# **TROPICAL UPDATE**

**7 AM EDT**

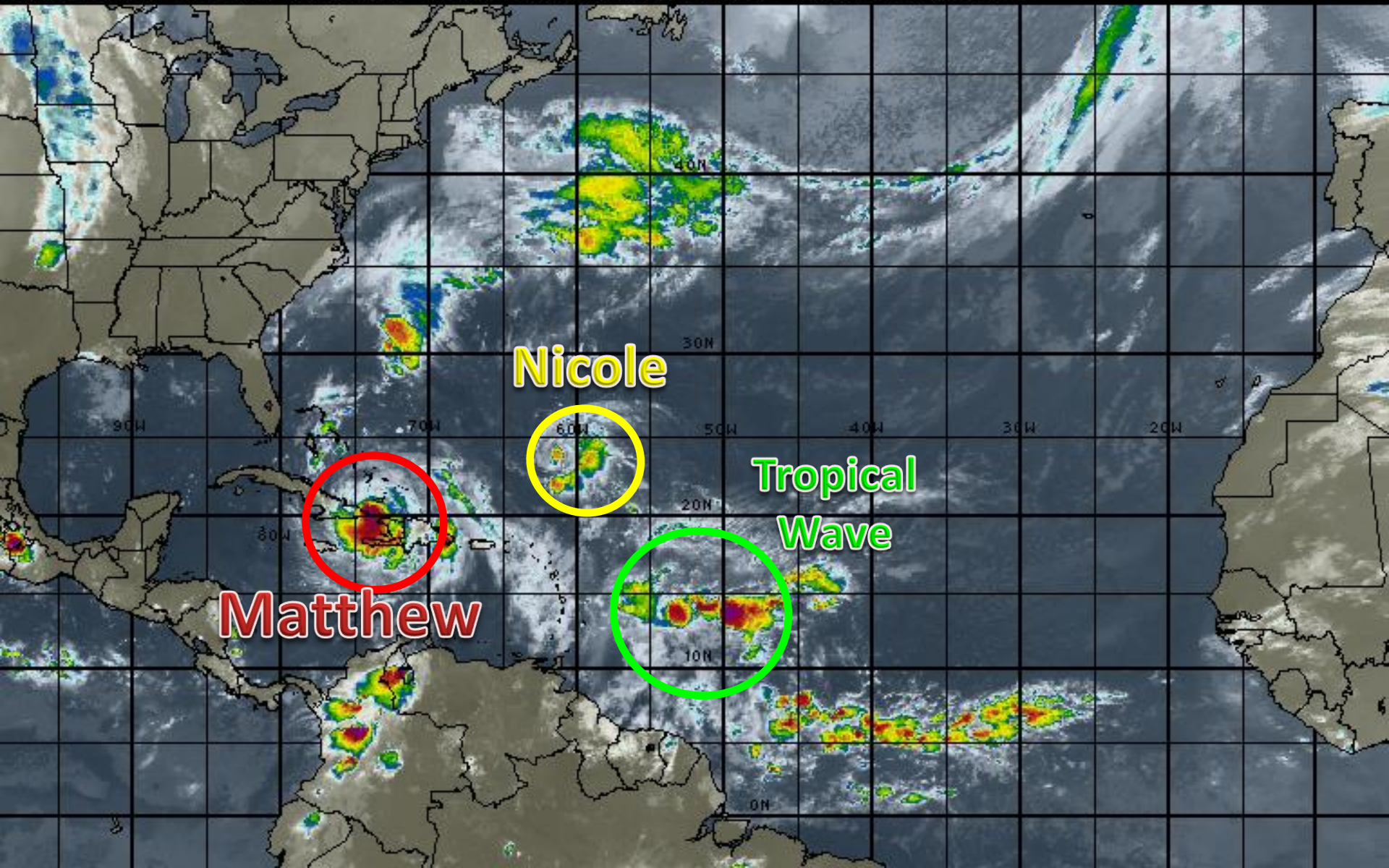
**Wednesday, October 5, 2016**

**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

06:00 05-OCT-2016 GMT Copyright © 1998-2016 MSI Corporation <http://www.usi.com>





⊗ Post-Tropical Cyclone    ✕ Remnants

# Hurricane Matthew

5 AM EDT Wed Oct 05-2016

Position 21.1 N 74.6 W

Maximum Winds 125 mph

Gusts 155 mph

Movement N at 10 mph

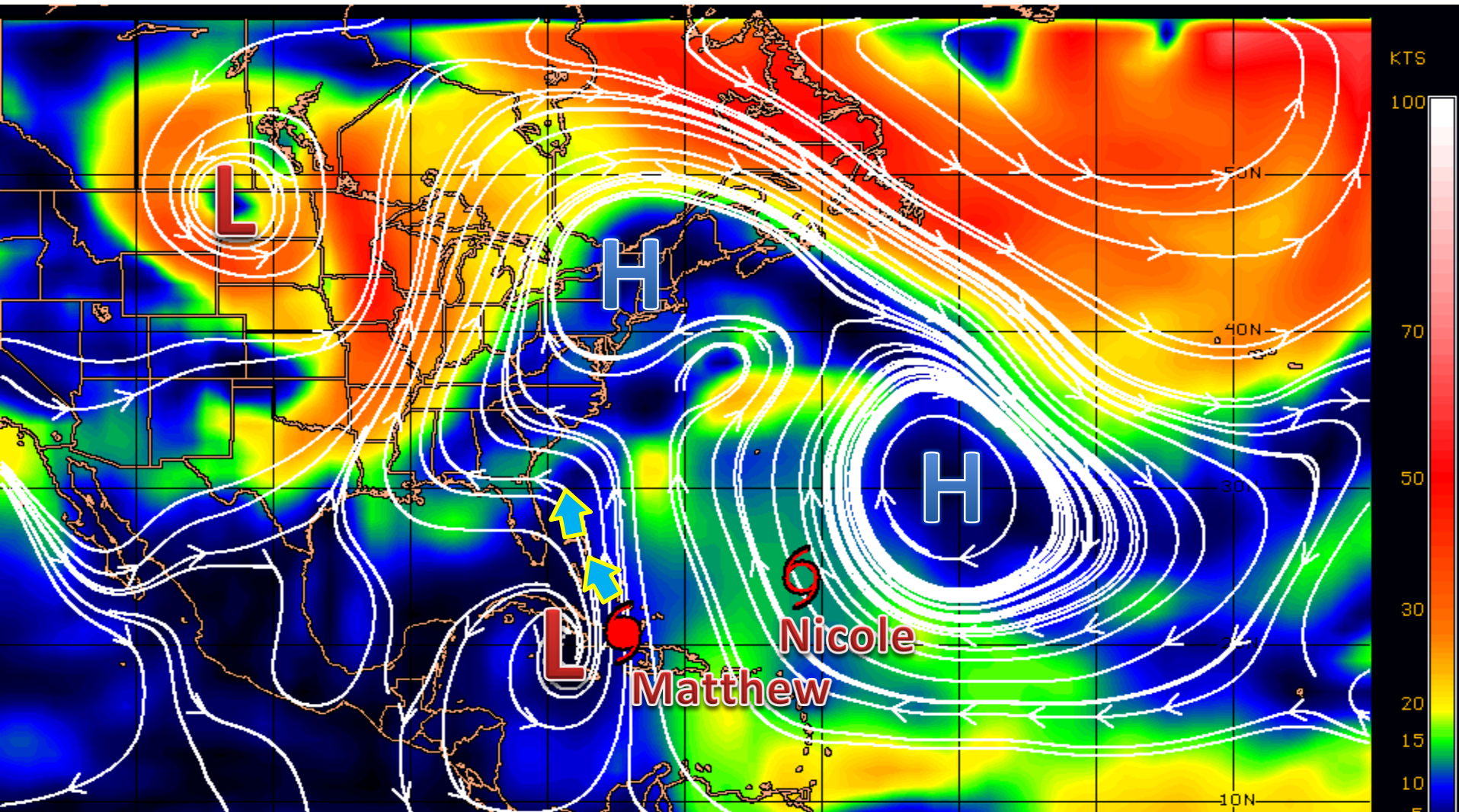
Minimum Pressure 962 mb (28.40 inches)

Blue Marble basemap imagery courtesy NASA

Satellite 8:57 AM UTC  
4:57 AM 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 00z Oct 05 2016

[illegible]

35°N

30°N

25°N

Initialized at 06z Oct 05 2016

Map of the North Atlantic showing various storm tracks. Labels include BAMD, OFCI, GNCI, CEMI, HWFI, COTI, UKXT, OFCL, GFTI, GFTI, TABD, UKMI, UKMI, AVNI, BAMM, TVCP, TVCP, and others. Numbers along the tracks indicate distances or durations.

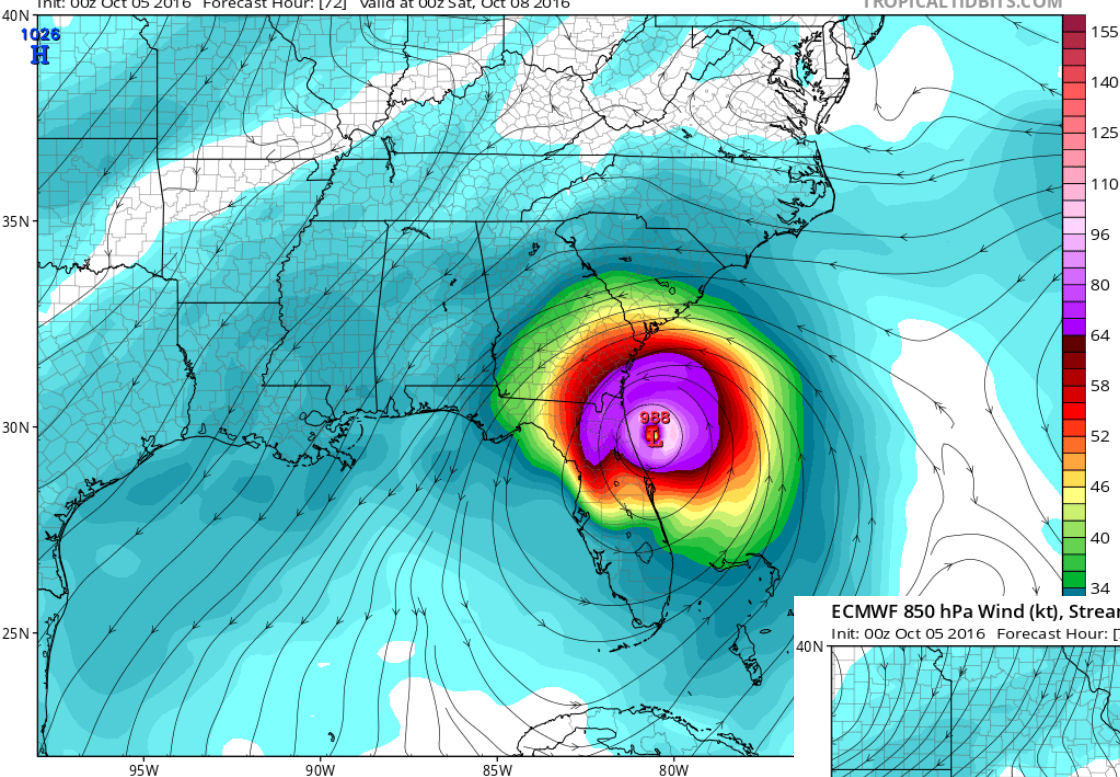
80°W

75°W

70°W

GFS 850 hPa Wind (kt), Streamlines, MSLP Centers (hPa)  
Init: 00z Oct 05 2016 Forecast Hour: [72] valid at 00z Sat, Oct 08 2016

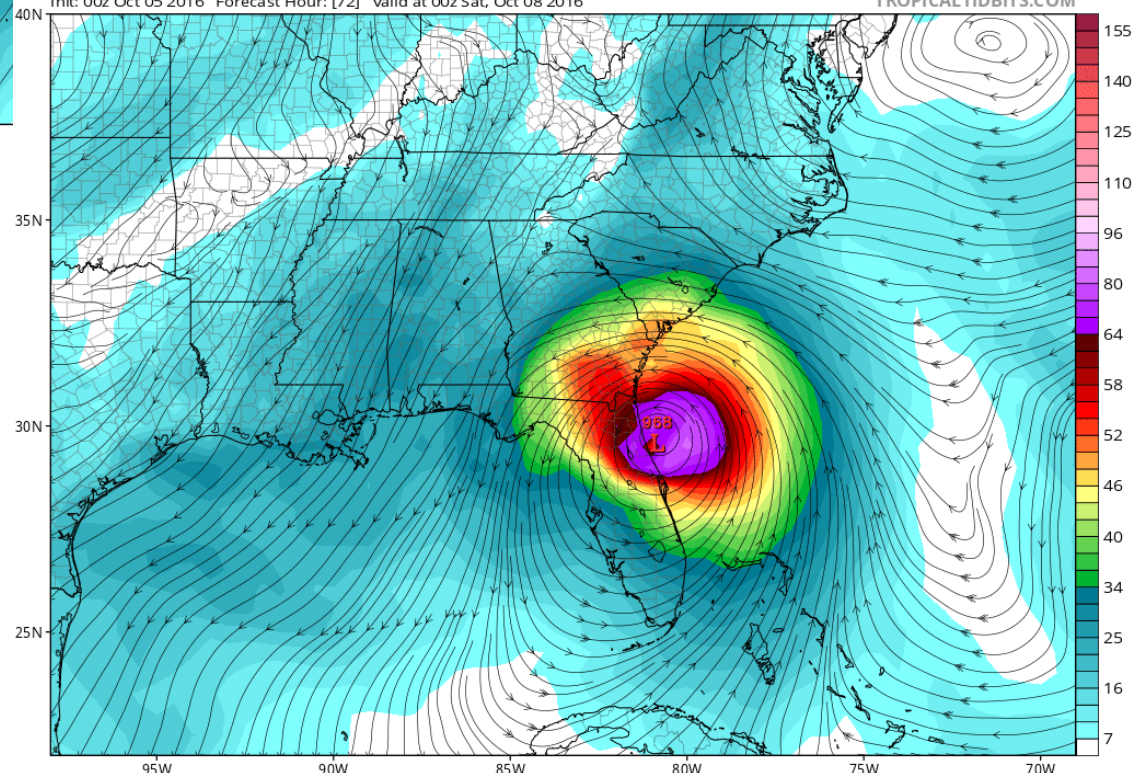
TROPICALTIDBITS.COM



# Euro vs. GFS – 8PM Friday

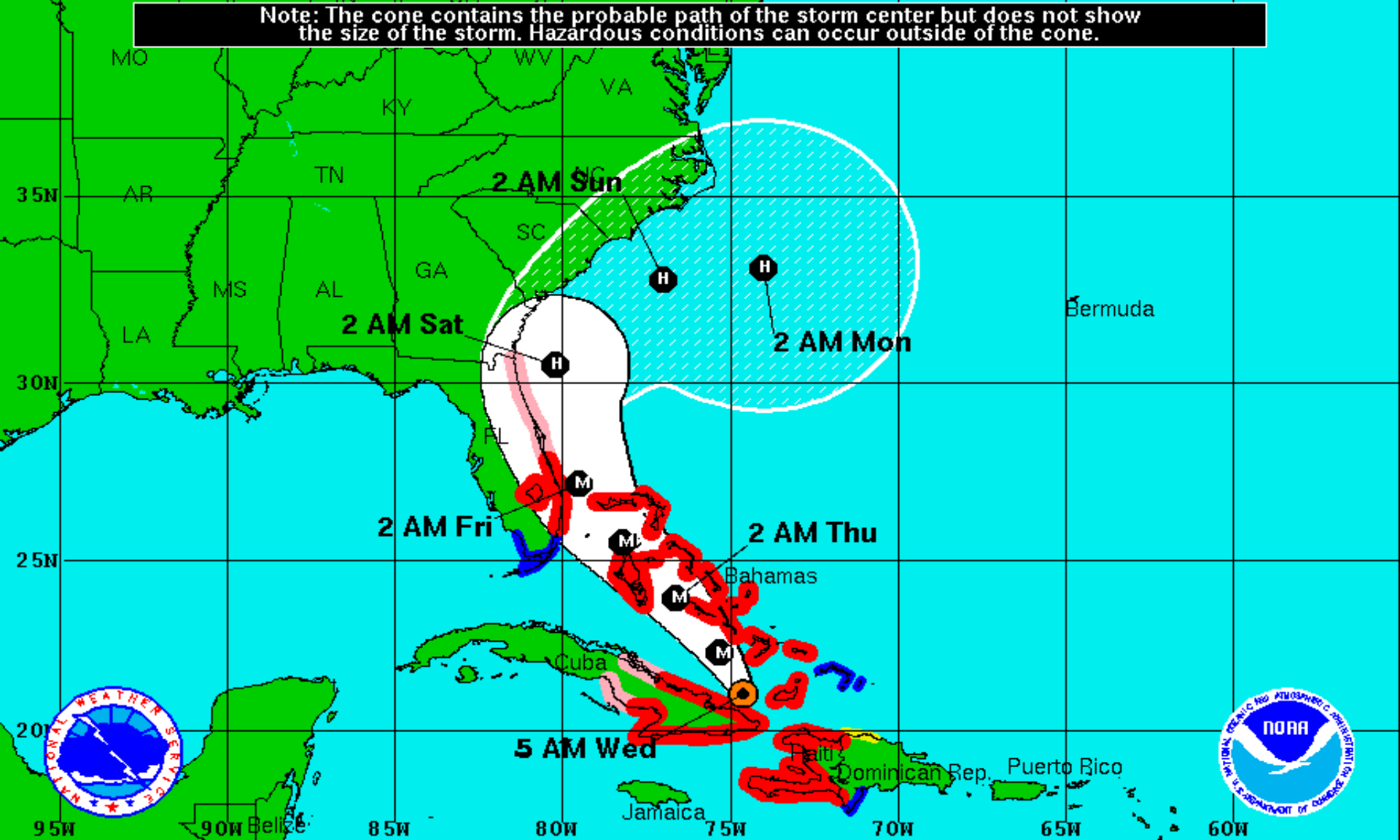
ECMWF 850 hPa Wind (kt), Streamlines, MSLP Centers (hPa)  
Init: 00z Oct 05 2016 Forecast Hour: [72] valid at 00z Sat, Oct 08 2016

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 AM EDT Advisory 29  
 NWS National Hurricane Center

**Current Information:**   
 Center Location 21.1 N 74.6 W  
 Max Sustained Wind 125 mph  
 Movement N at 10 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

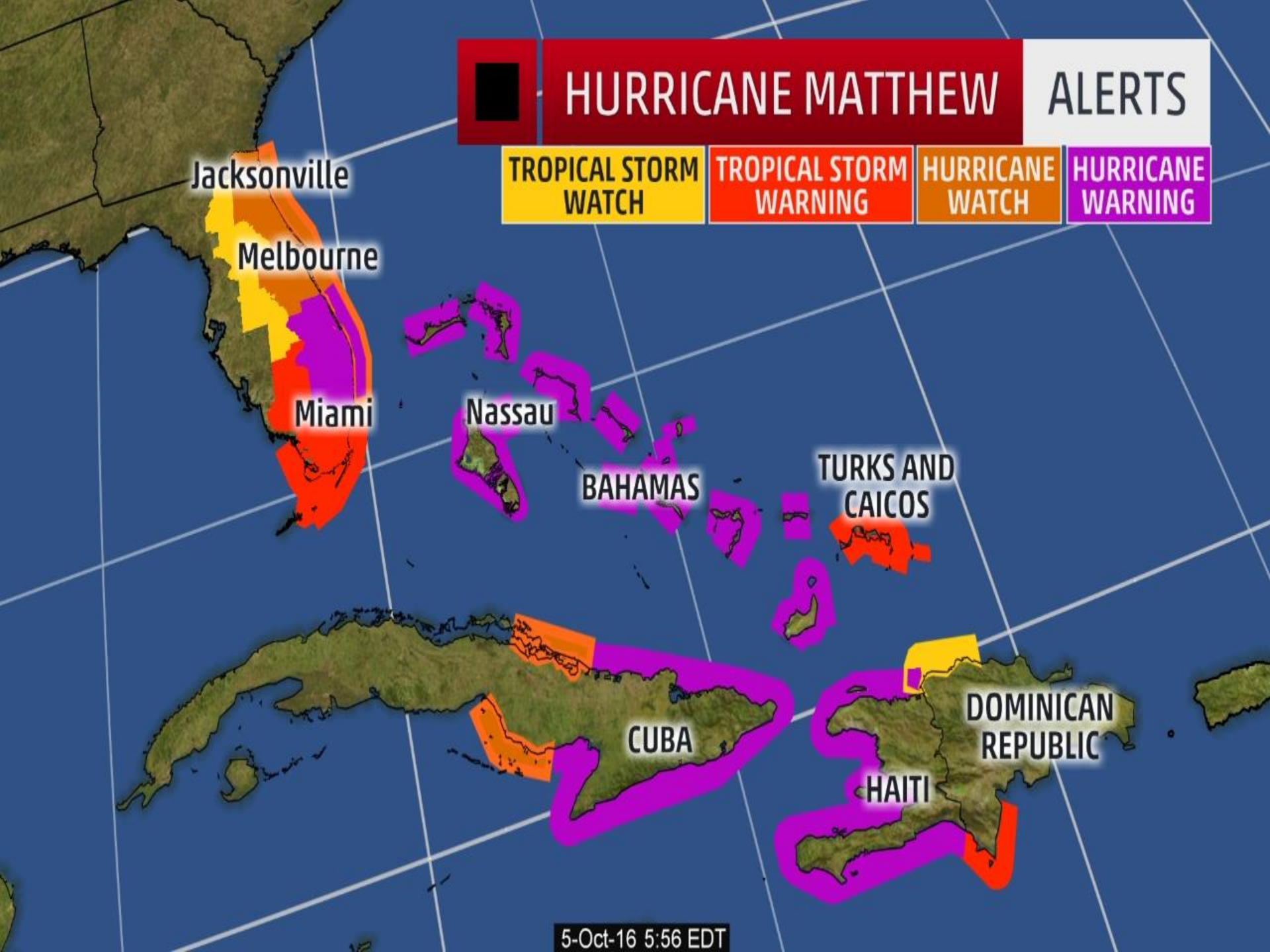
# HURRICANE MATTHEW ALERTS

TROPICAL STORM  
WATCH

TROPICAL STORM  
WARNING

HURRICANE  
WATCH

HURRICANE  
WARNING

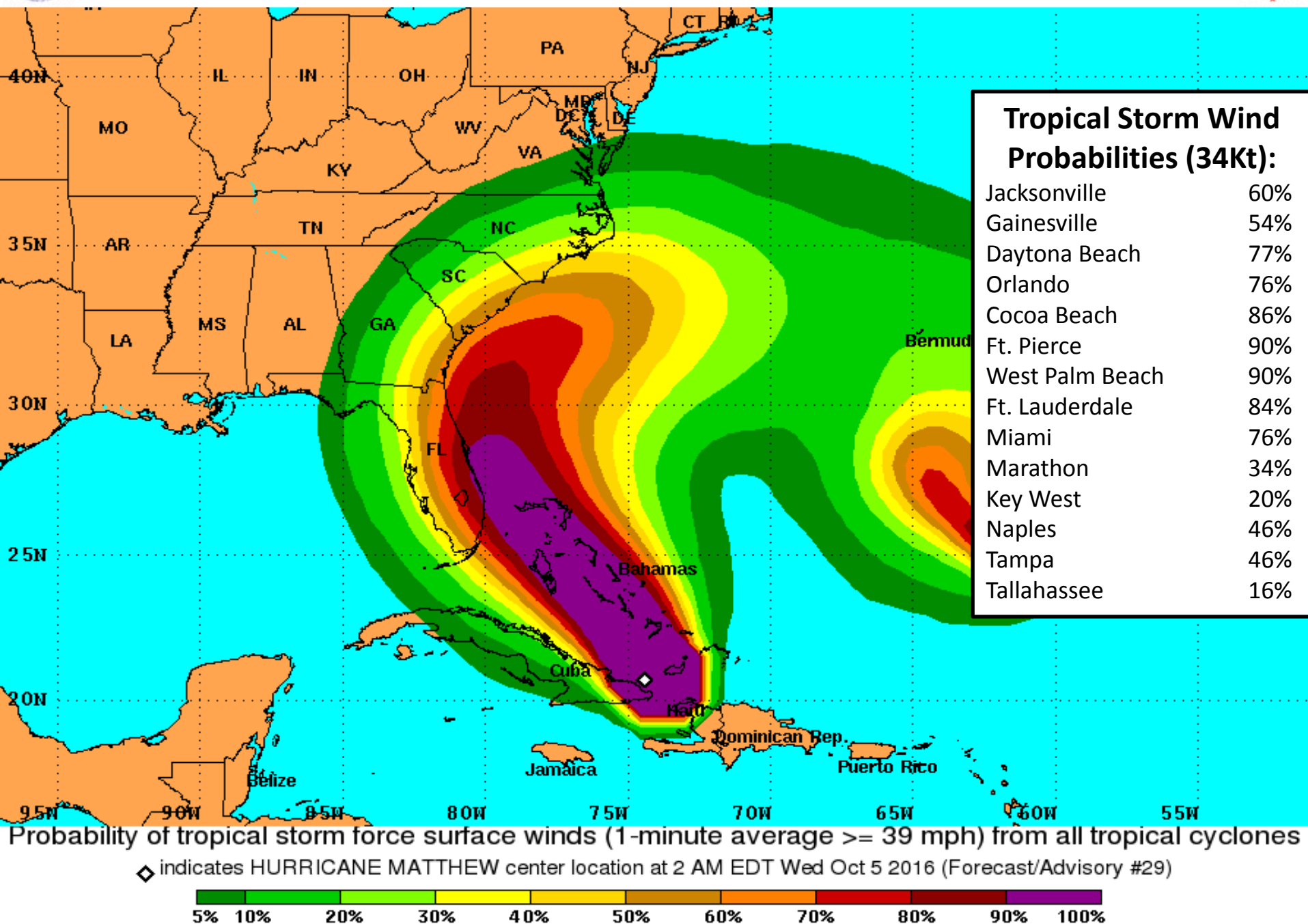


5-Oct-16 5:56 EDT



# Tropical Storm Force Wind Speed Probabilities

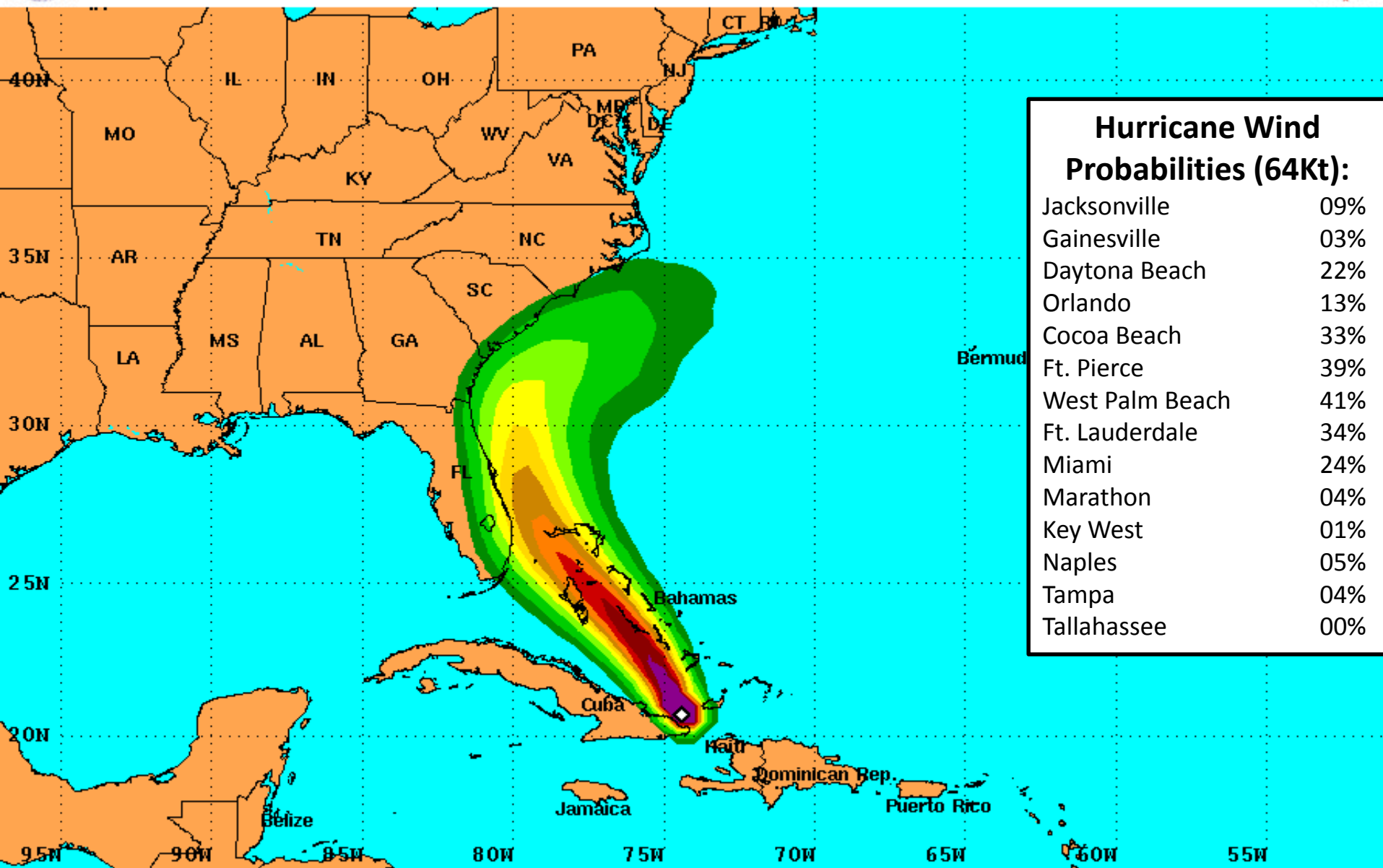
For the 120 hours (5 days) from 2 AM EDT Wed Oct 5 to 2 AM EDT Mon Oct 10





# Hurricane Force Wind Speed Probabilities

For the 120 hours (5 days) from 2 AM EDT Wed Oct 5 to 2 AM EDT Mon Oct 10

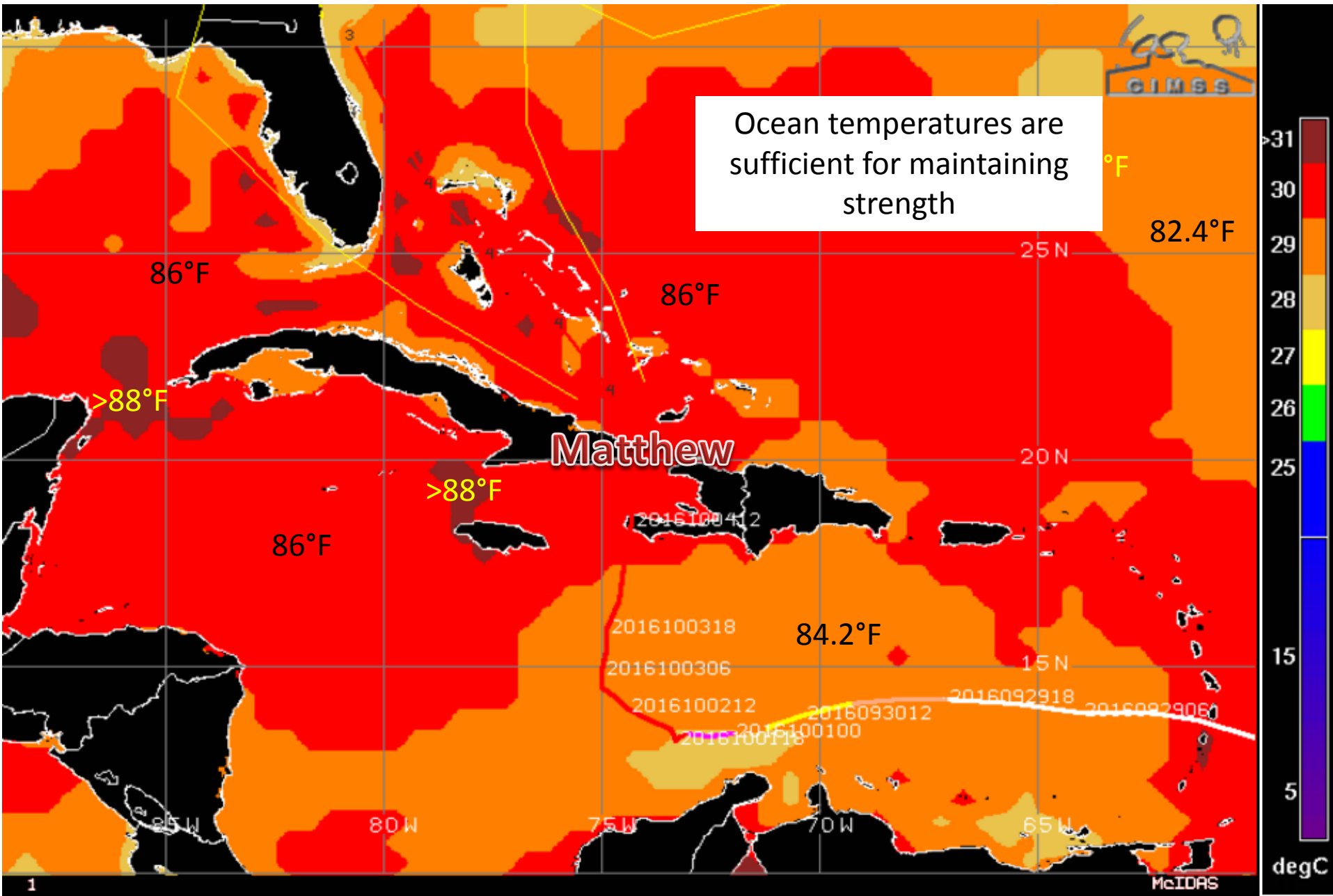


Probability of hurricane force surface winds (1-minute average  $\geq 74$  mph) from all tropical cyclones

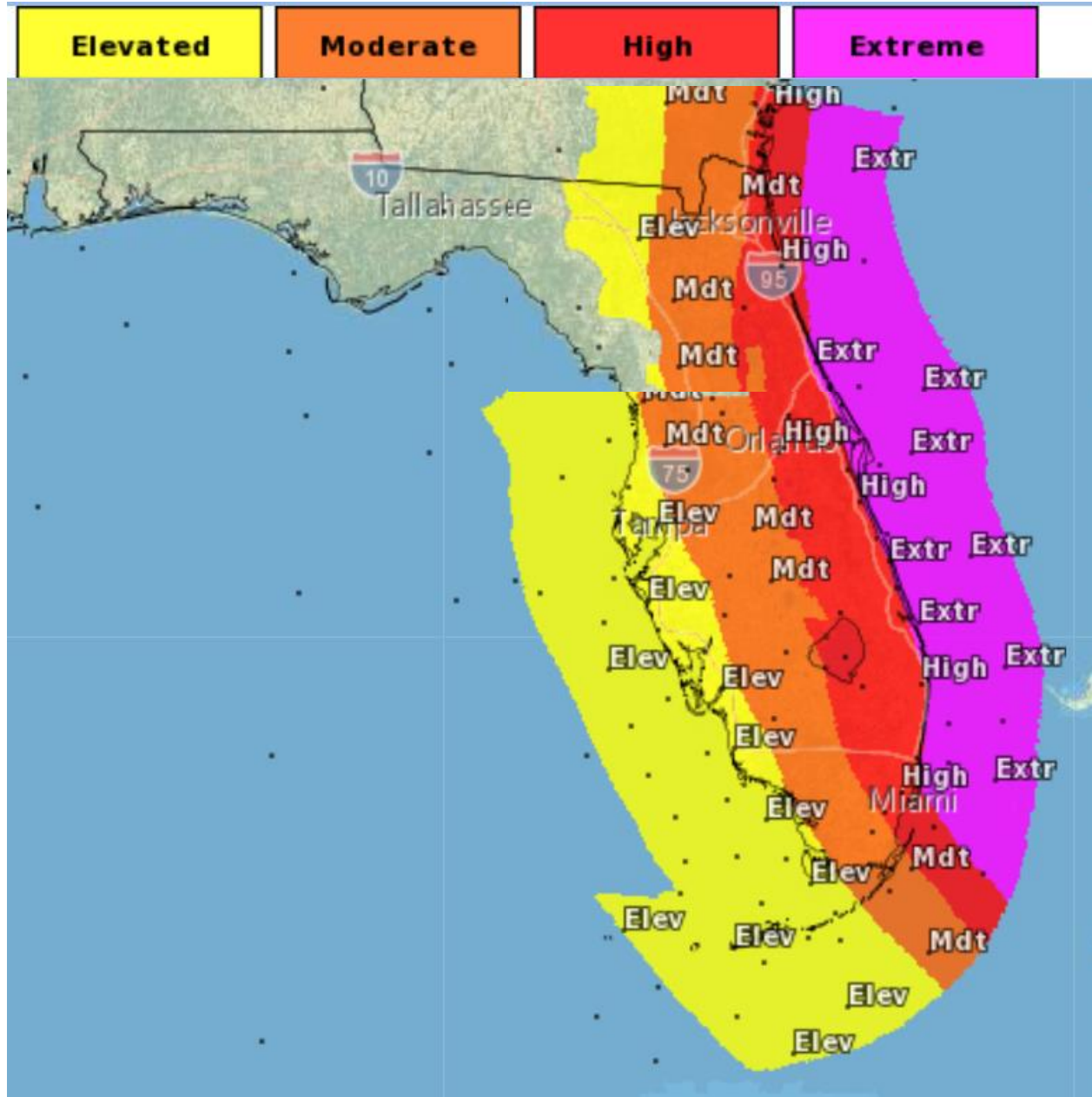
◇ indicates HURRICANE MATTHEW center location at 2 AM EDT Wed Oct 5 2016 (Forecast/Advisory #29)



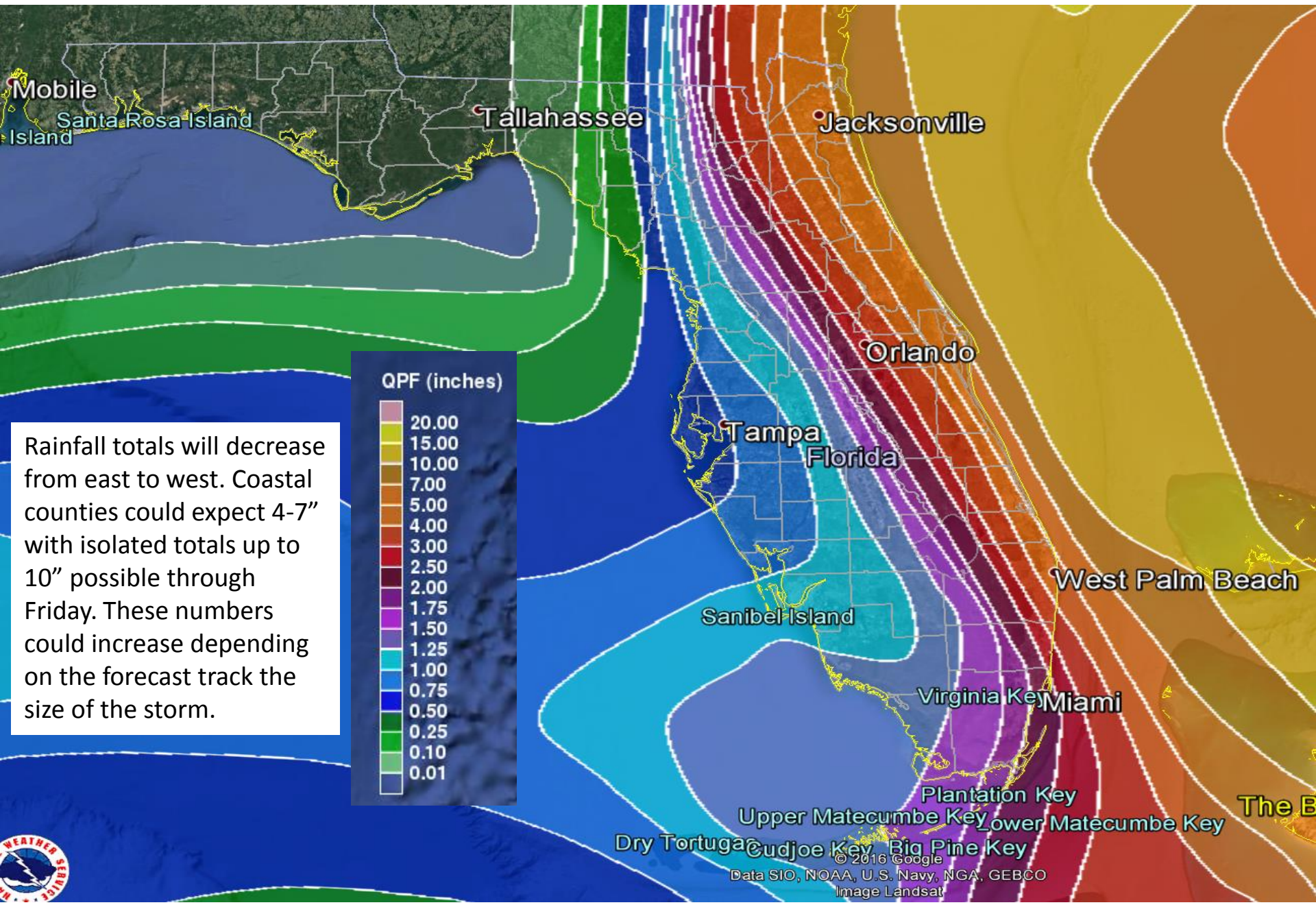
# Sea Surface Temperatures Near Matthew



# Hurricane Wind Threat

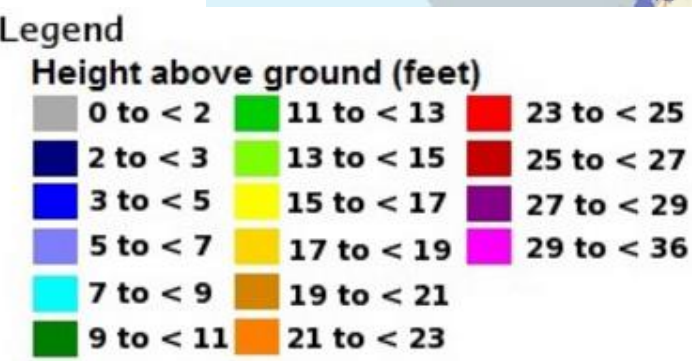
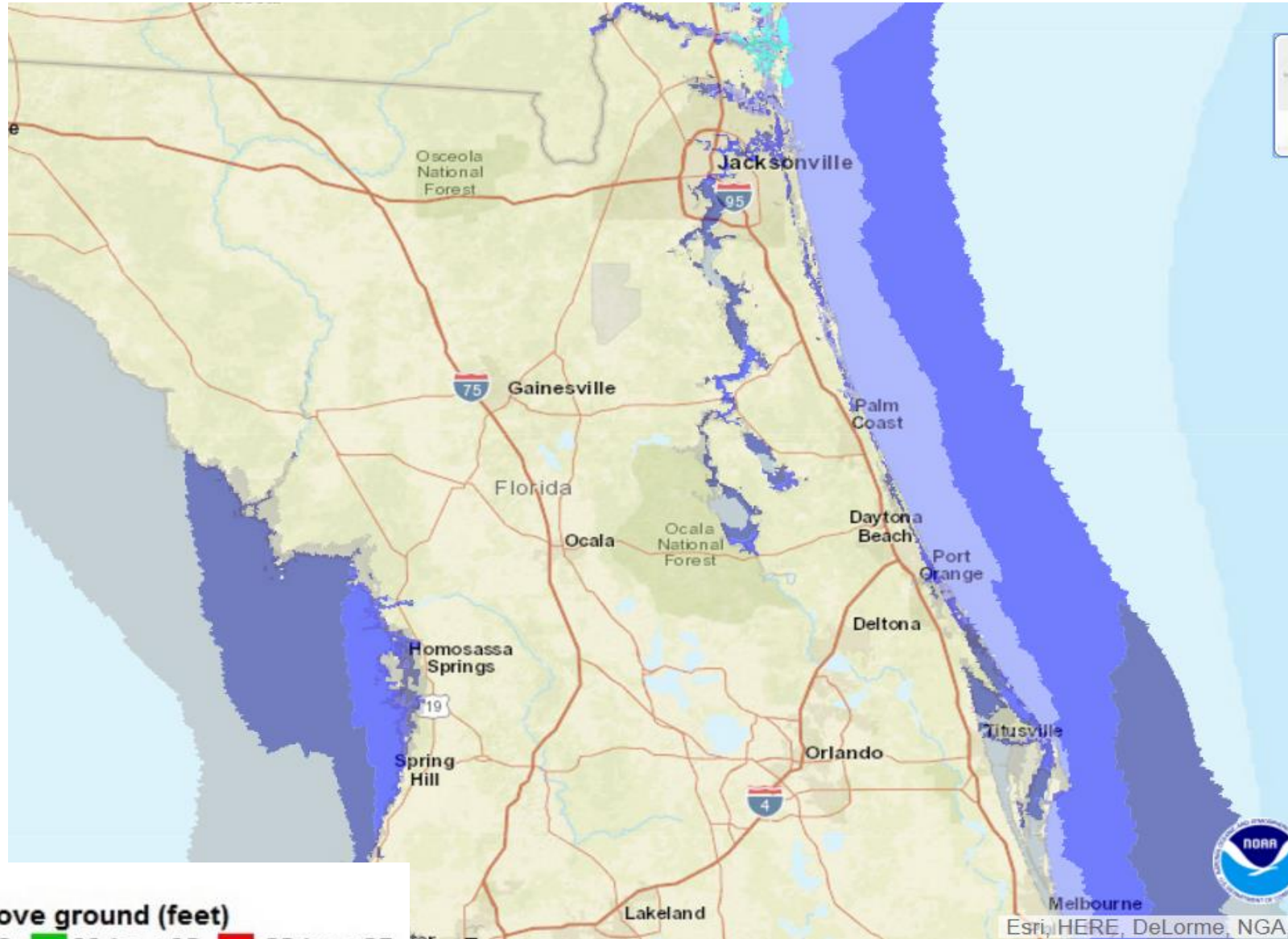


# Next Five Day Rainfall Totals

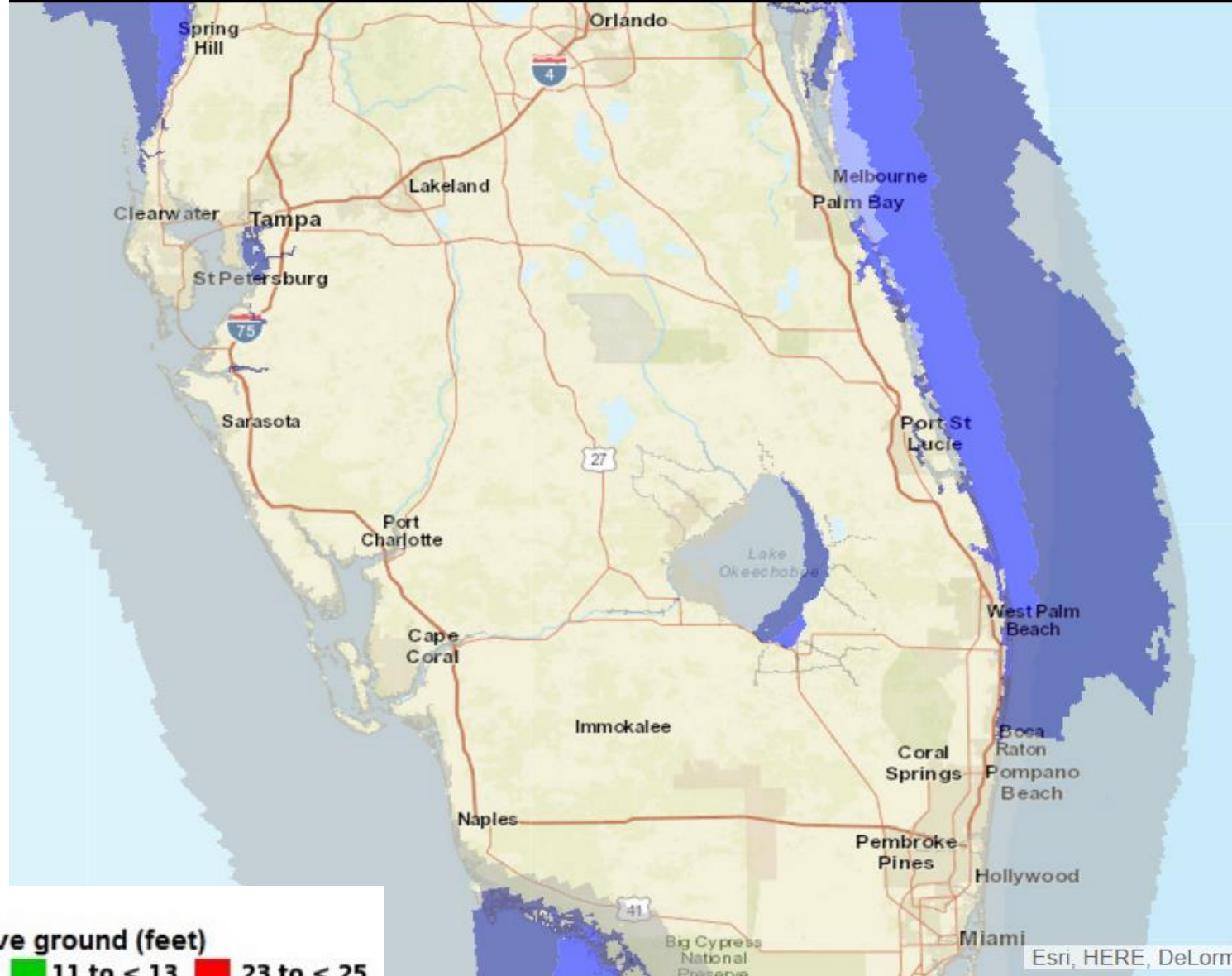


# Prototype Storm Surge Watches/Warnings

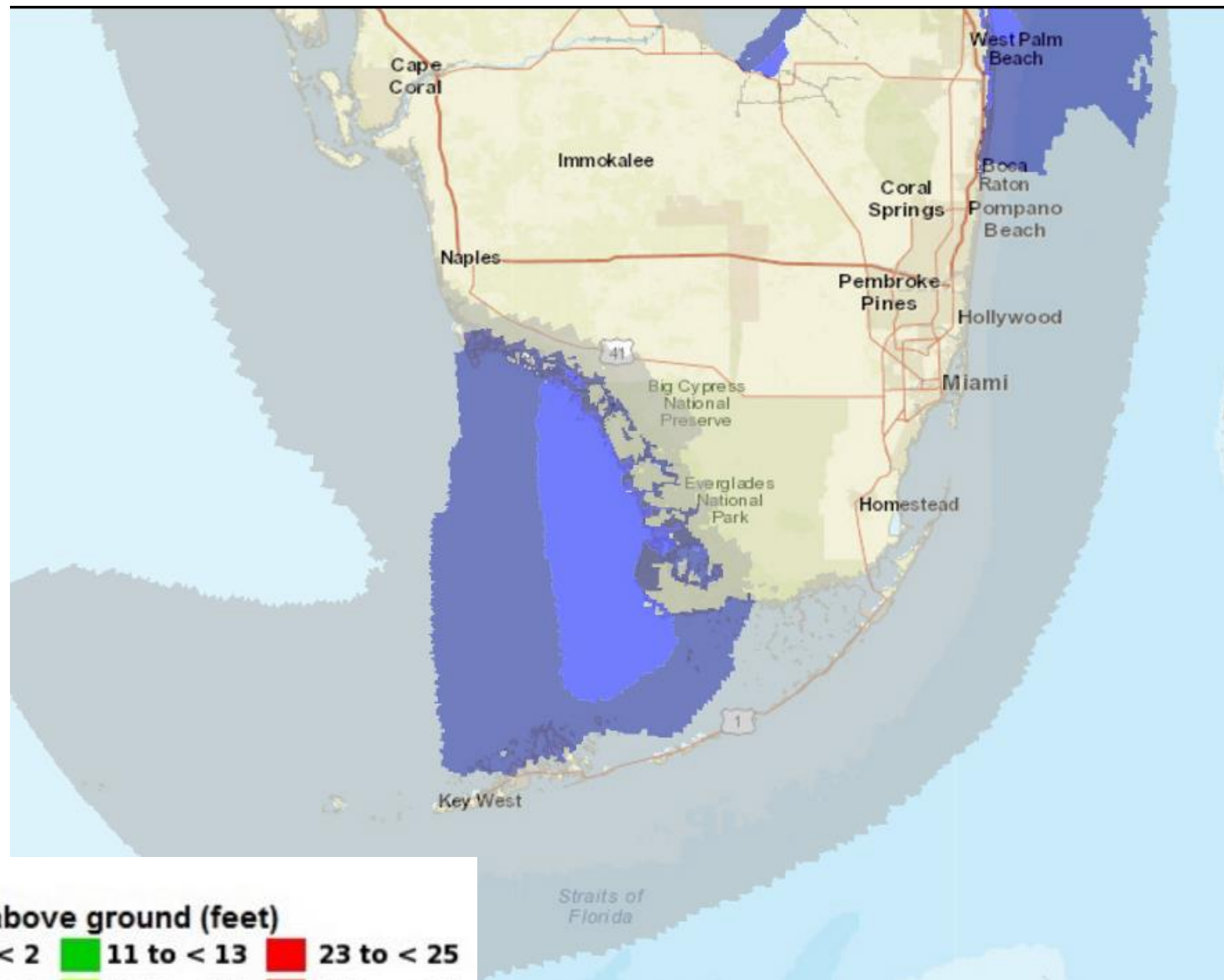




**Tropical Cyclone Storm Surge (with tide) Heights  
That Have a 1 in 10 Chance of Being Exceeded  
Hurricane Matthew (2016) Advisory 28  
For the 77 hours from 11 PM EDT Tue Oct 04 to 04 AM EDT Sat Oct 08**



**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**



## Legend

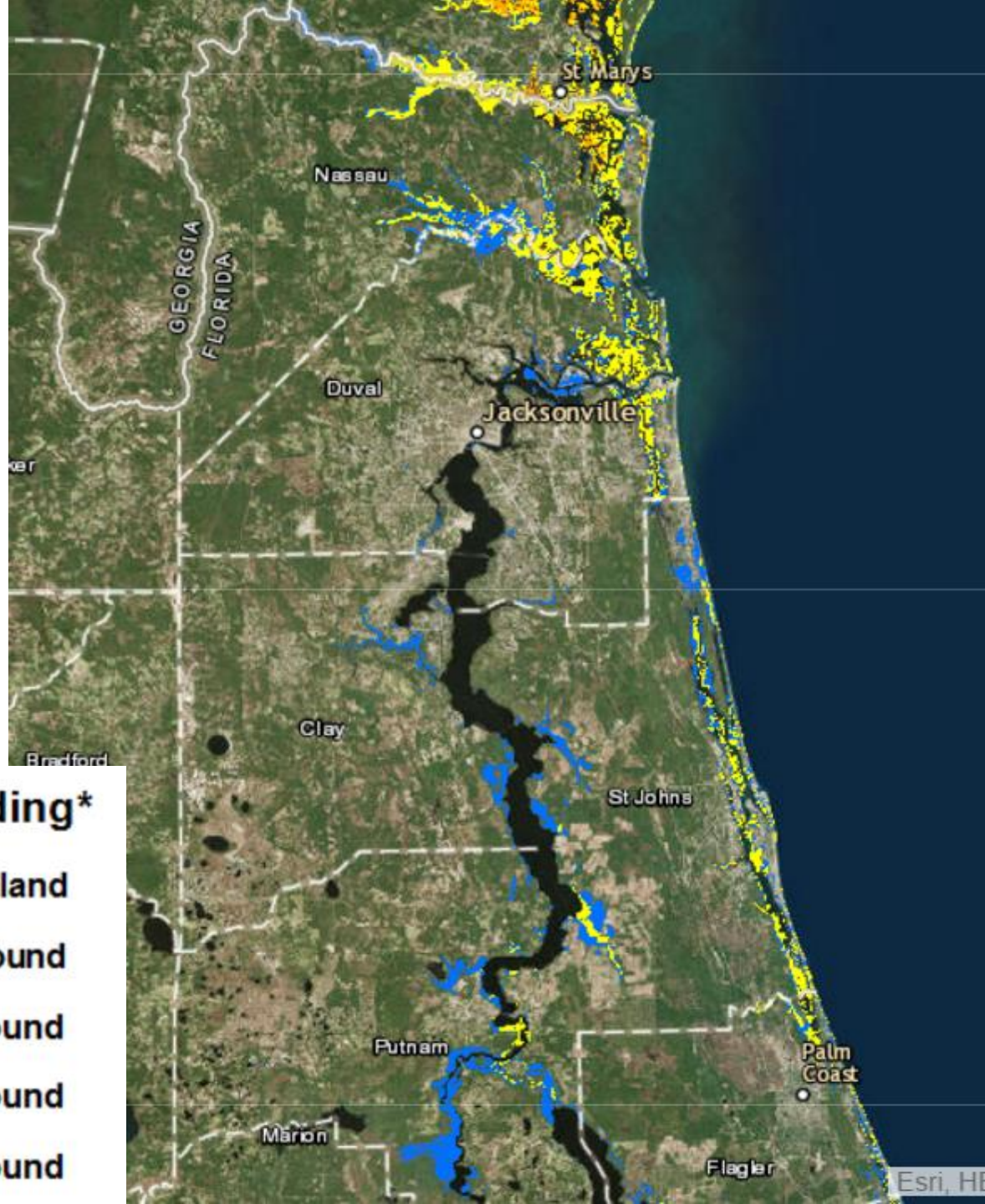
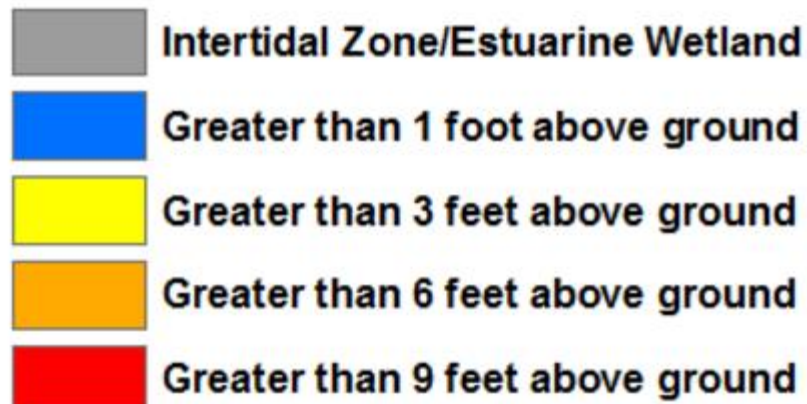
### Height above ground (feet)

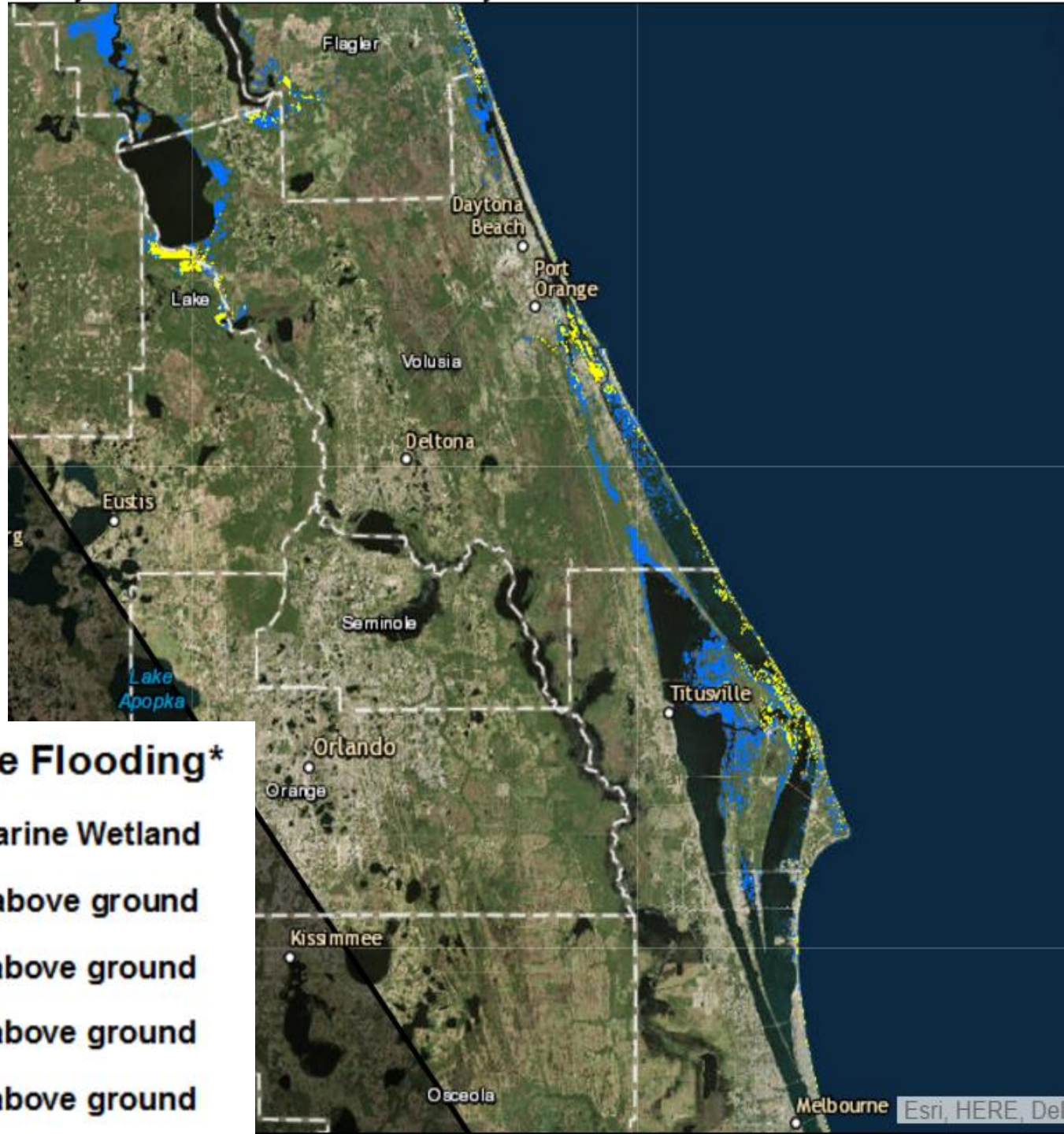
0 to < 2	11 to < 13	23 to < 25
2 to < 3	13 to < 15	25 to < 27
3 to < 5	15 to < 17	27 to < 29
5 to < 7	17 to < 19	29 to < 36
7 to < 9	19 to < 21	
9 to < 11	21 to < 23	

Tropical Cyclone Storm Surge (with tide) Heights  
That Have a 1 in 10 Chance of Being Exceeded  
Hurricane Matthew (2016) Advisory 28

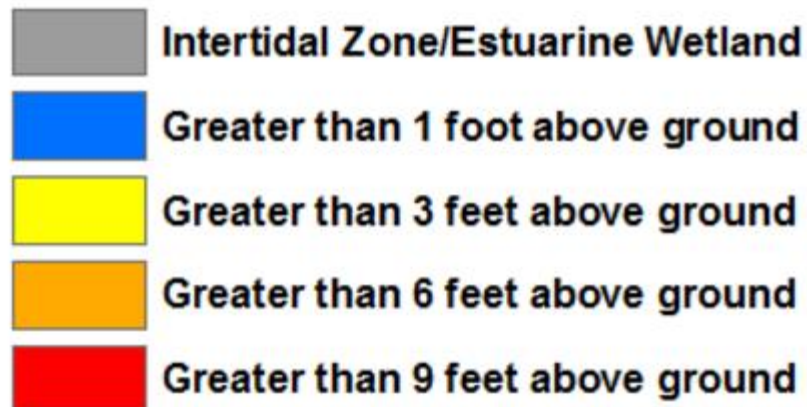
For the 77 hours from 11 PM EDT Tue Oct 04 to 04 AM EDT Sat Oct 08

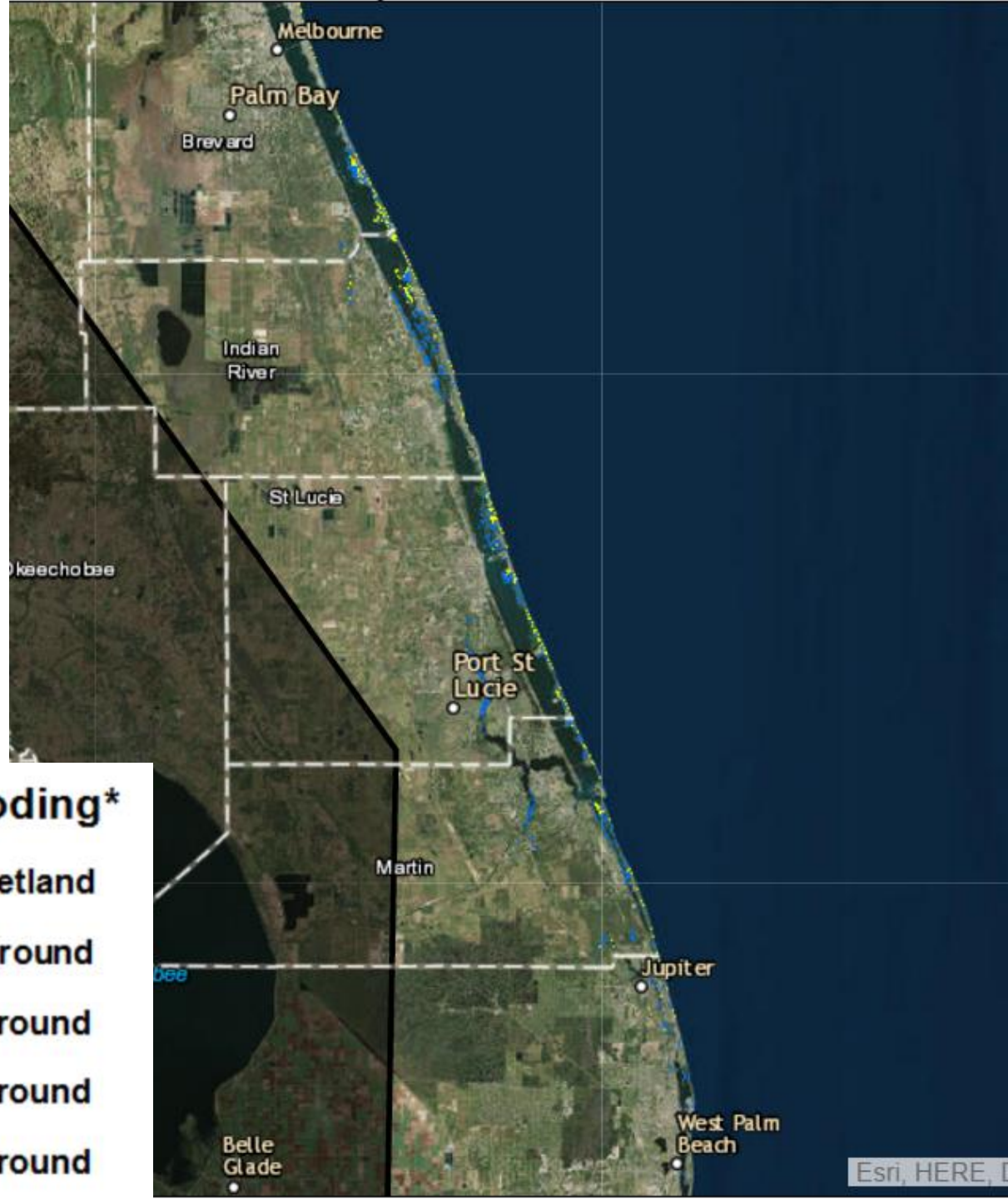
## Potential Storm Surge Flooding\*



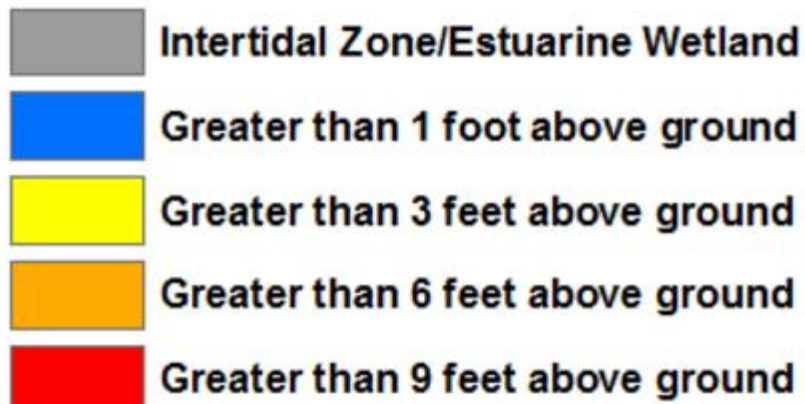


## Potential Storm Surge Flooding\*

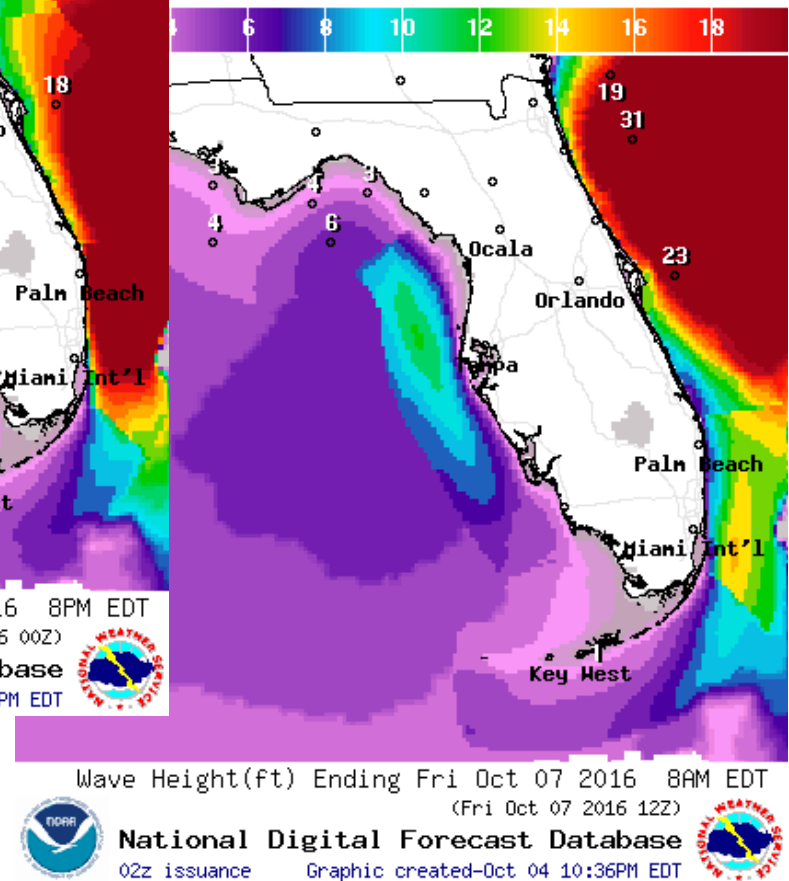
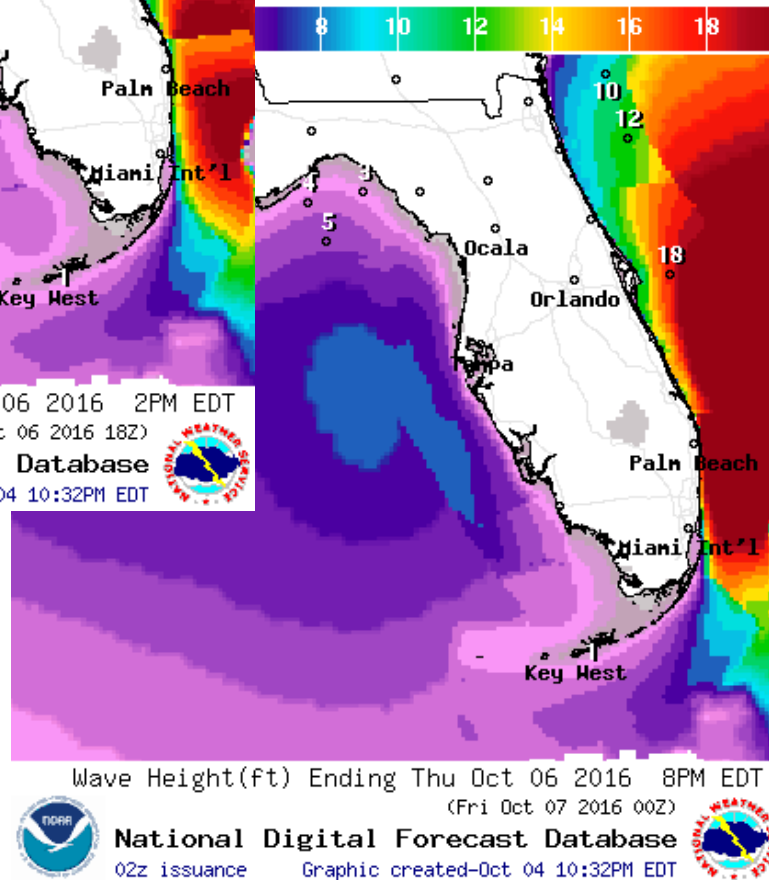
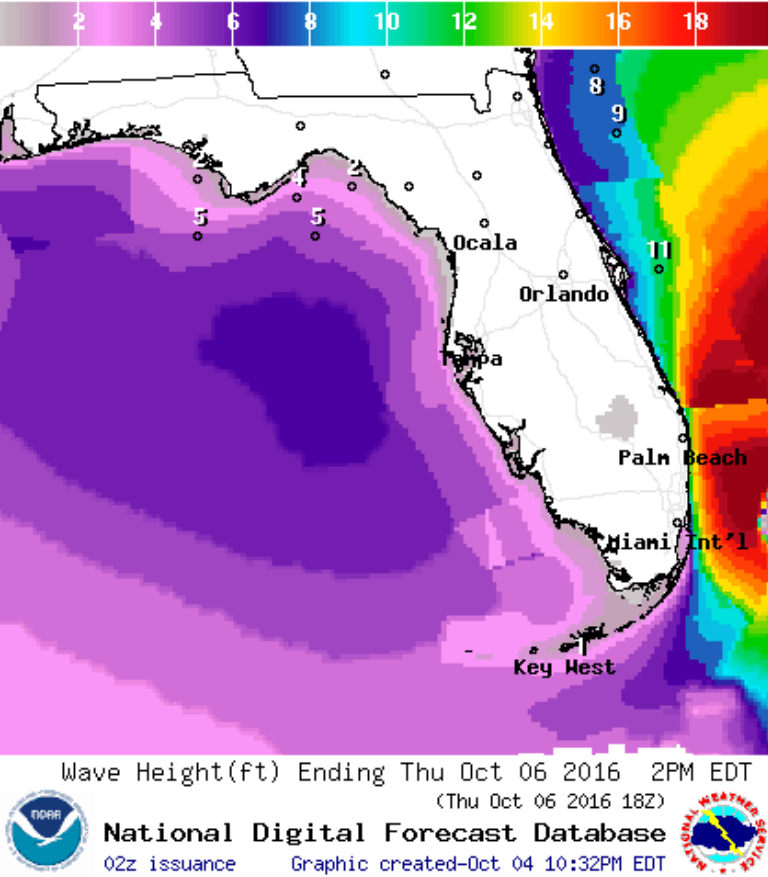




## Potential Storm Surge Flooding\*



# Forecast Wave Heights



# Tropical Storm Nicole

5 AM EDT Wed Oct 05 2016

Position 24.3N 61.8W

Maximum Winds 50 mph

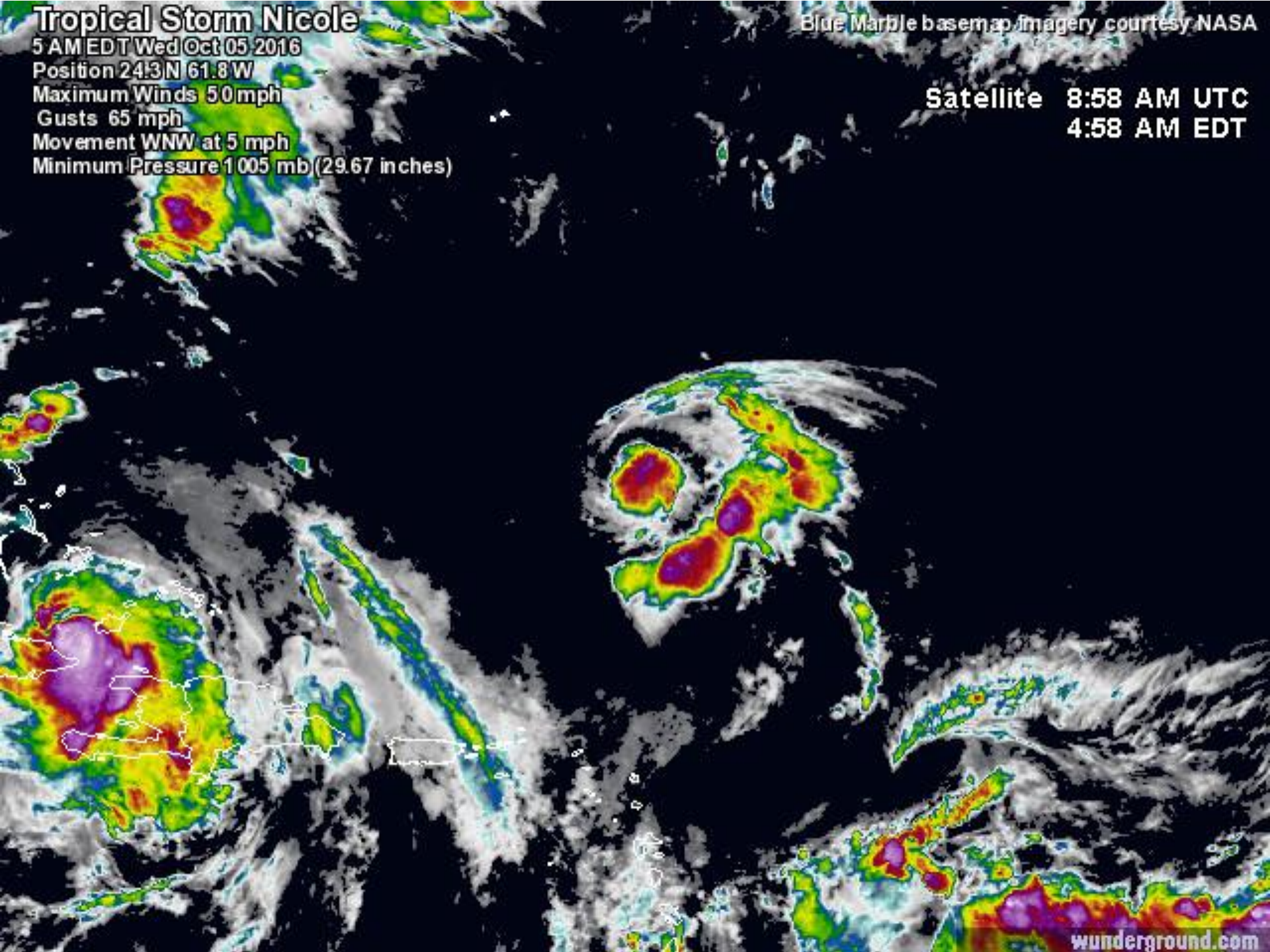
Gusts 65 mph

Movement WNW at 5 mph

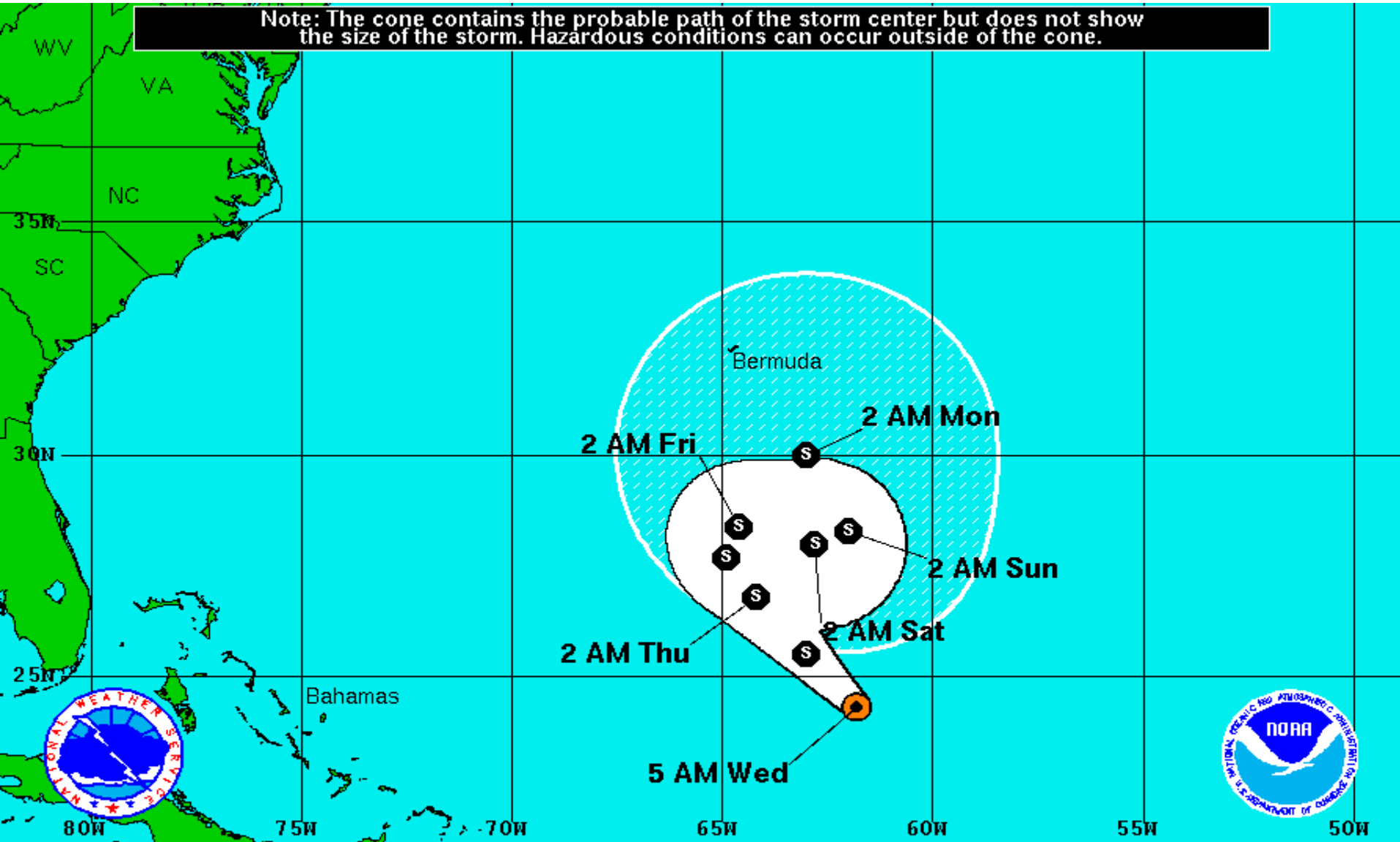
Minimum Pressure 1005 mb (29.67 inches)

Blue Marble basemap imagery courtesy NASA


Satellite 8:58 AM UTC  
4:58 AM 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 AM EDT Advisory 4  
 NWS National Hurricane Center

**Current Information:**   
 Center Location 24.3 N 61.8 W  
 Max Sustained Wind 50 mph  
 Movement WNW at 6 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

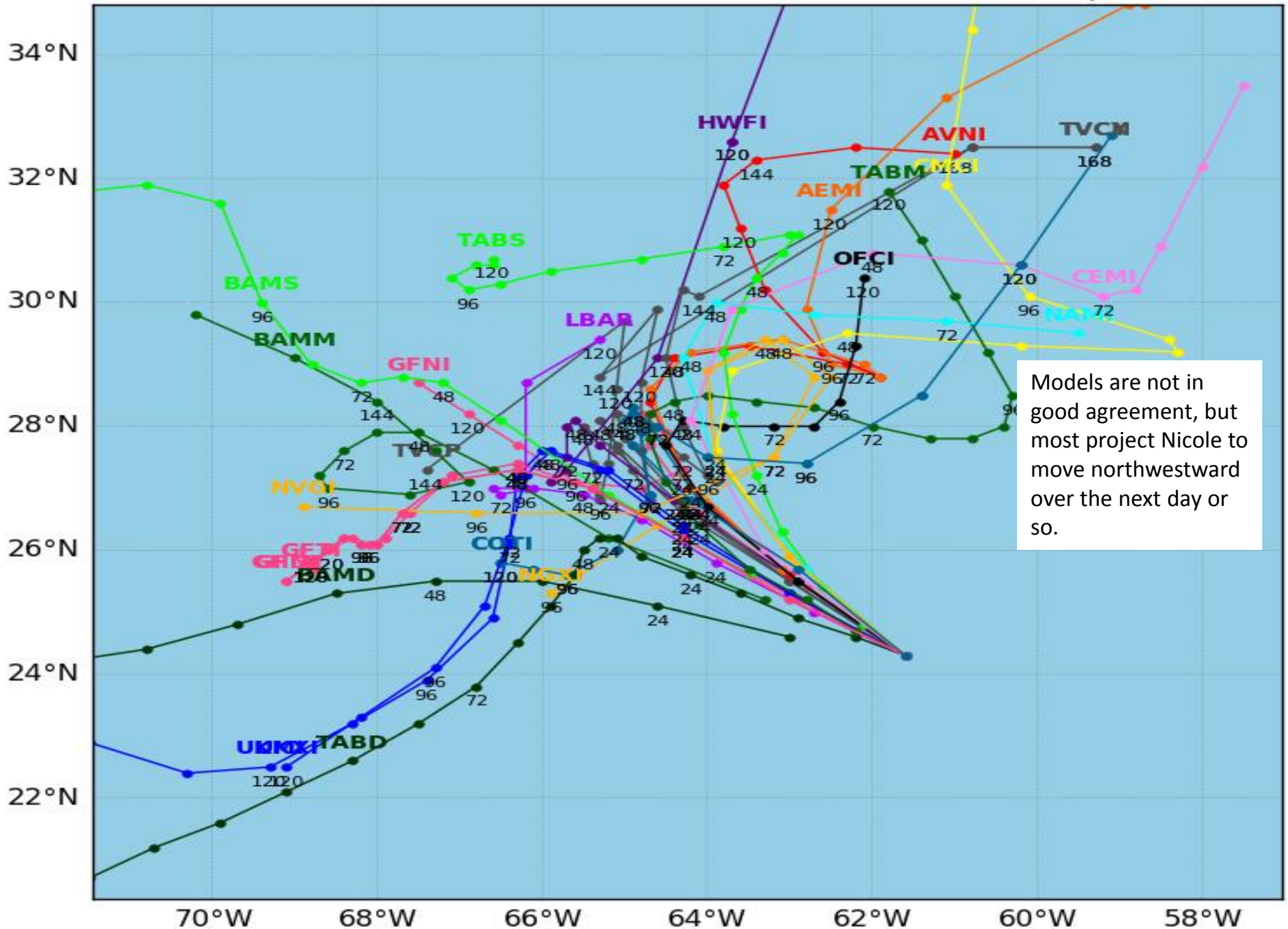
**Watches:**  
 Hurricane  Trop.Storm

**Warnings:**  
 Hurricane  Trop.Storm

# Tropical Storm NICOLE Model Track Guidance

Initialized at 06z Oct 05 2016

Levi Cowan - tropicaltidbits.com





# Five-Day Graphical Tropical Weather Outlook

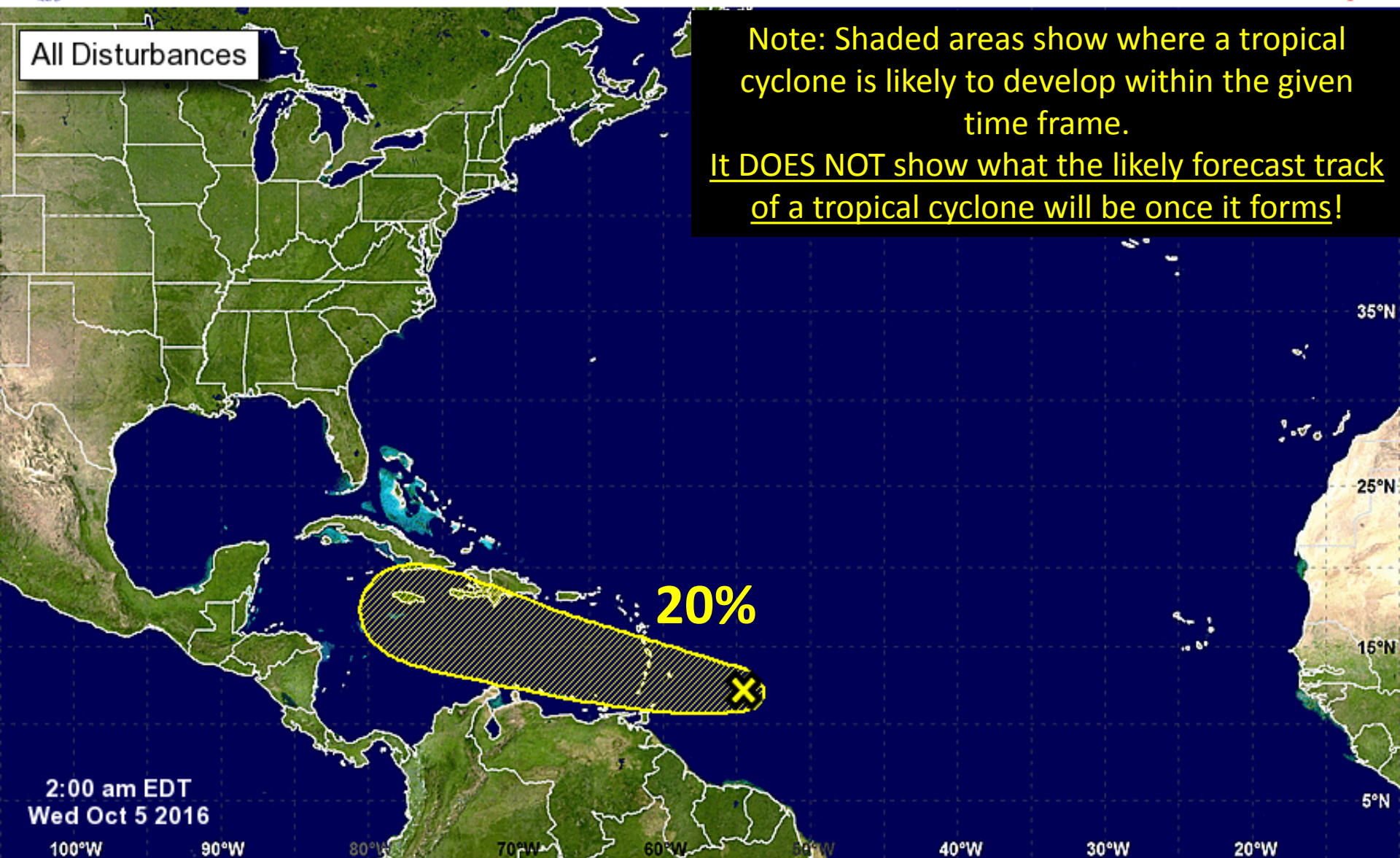
National Hurricane Center Miami, Florida



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!



Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 am 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 5am EDT, Hurricane Matthew was located 65 miles north northwest of the eastern tip of Cuba, or approximately 480 miles southeast of Miami, Florida.
- Maximum sustained winds are currently 125 mph with higher gusts, making Matthew a Category 3 hurricane on the Saffir-Simpson scale.
- Matthew is moving toward the north near 10 mph. A turn toward the north-northwest is expected later today, followed by a northwest turn tonight. 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. It will likely take another day or so for the potential impacts of Matthew in the United States to clarify.
- 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 located 490 miles north northeast of San Juan, Puerto Rico. Nicole is moving to the west-northwest at 6 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 10 to 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 10% (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, and Okeechobee Counties, along with Lake Okeechobee.
- **Hurricane Watch** is in effect for Nassau, Duval, St. Johns, Flagler, Clay, Putnam, Volusia, Brevard, Osceola, Orange, and Seminole Counties.
- **Tropical Storm Warning** is in effect for Miami-Dade, Monroe, Collier, Hendry, and Glades Counties.
- **Tropical Storm Watch** is in effect for Lake, Sumter, Polk, Highlands, Marion, Union, Bradford, Baker, and Alachua 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

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State Meteorological Support Unit

Florida Division of Emergency  
Management