



# **TROPICAL UPDATE**

**6 AM EDT**

**Friday, October 7, 2016**

**Hurricane Matthew & Hurricane 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).

# Hurricane Matthew

5 AM EDT Fri Oct 07 2016

Position 28.2 N 80.0 W

Maximum Winds 120 mph

Gusts 150 mph

Movement NNW at 12 mph

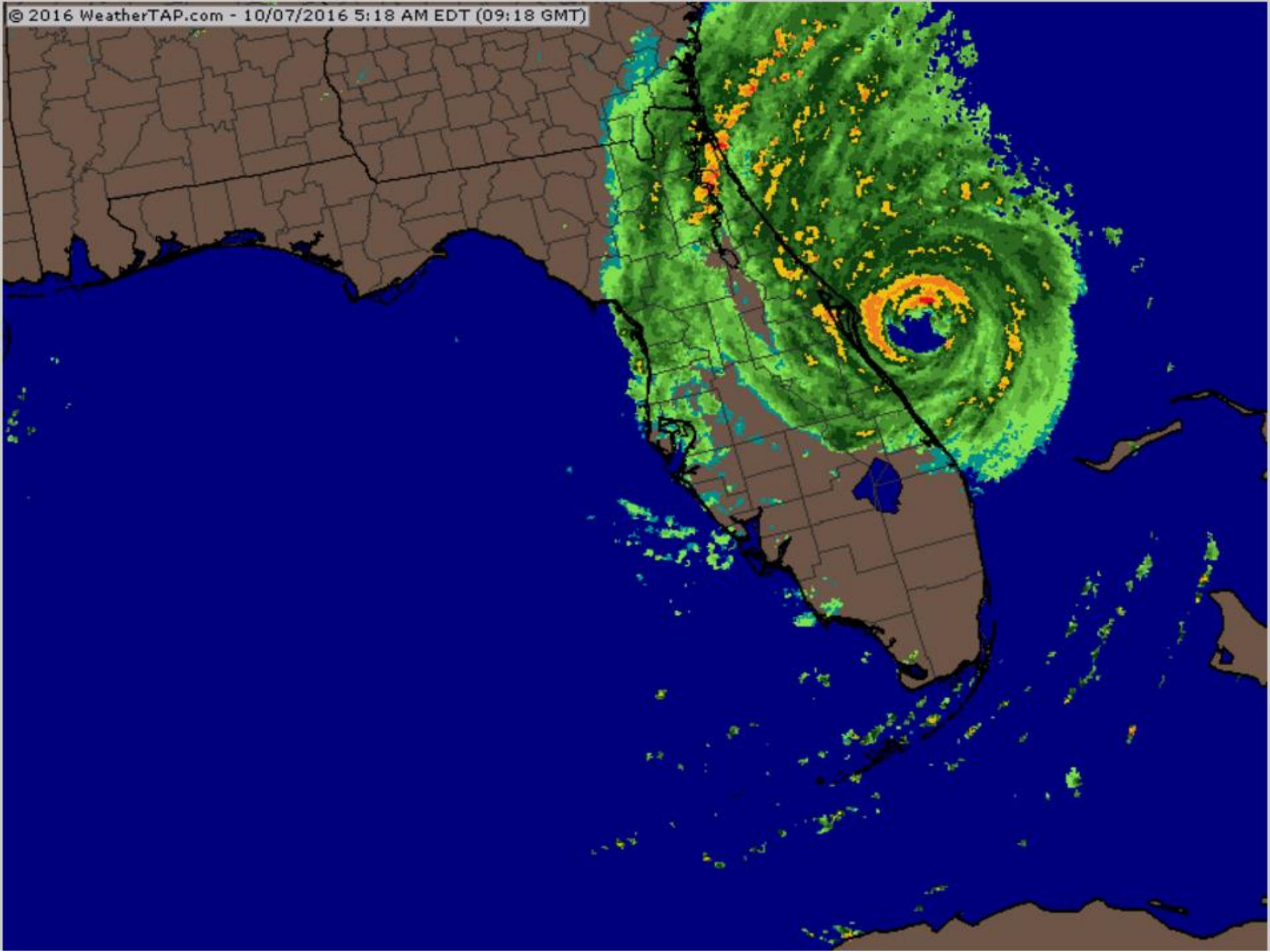
Minimum Pressure 938 mb (27.69 inches)

Blue Marble basemap imagery courtesy NASA

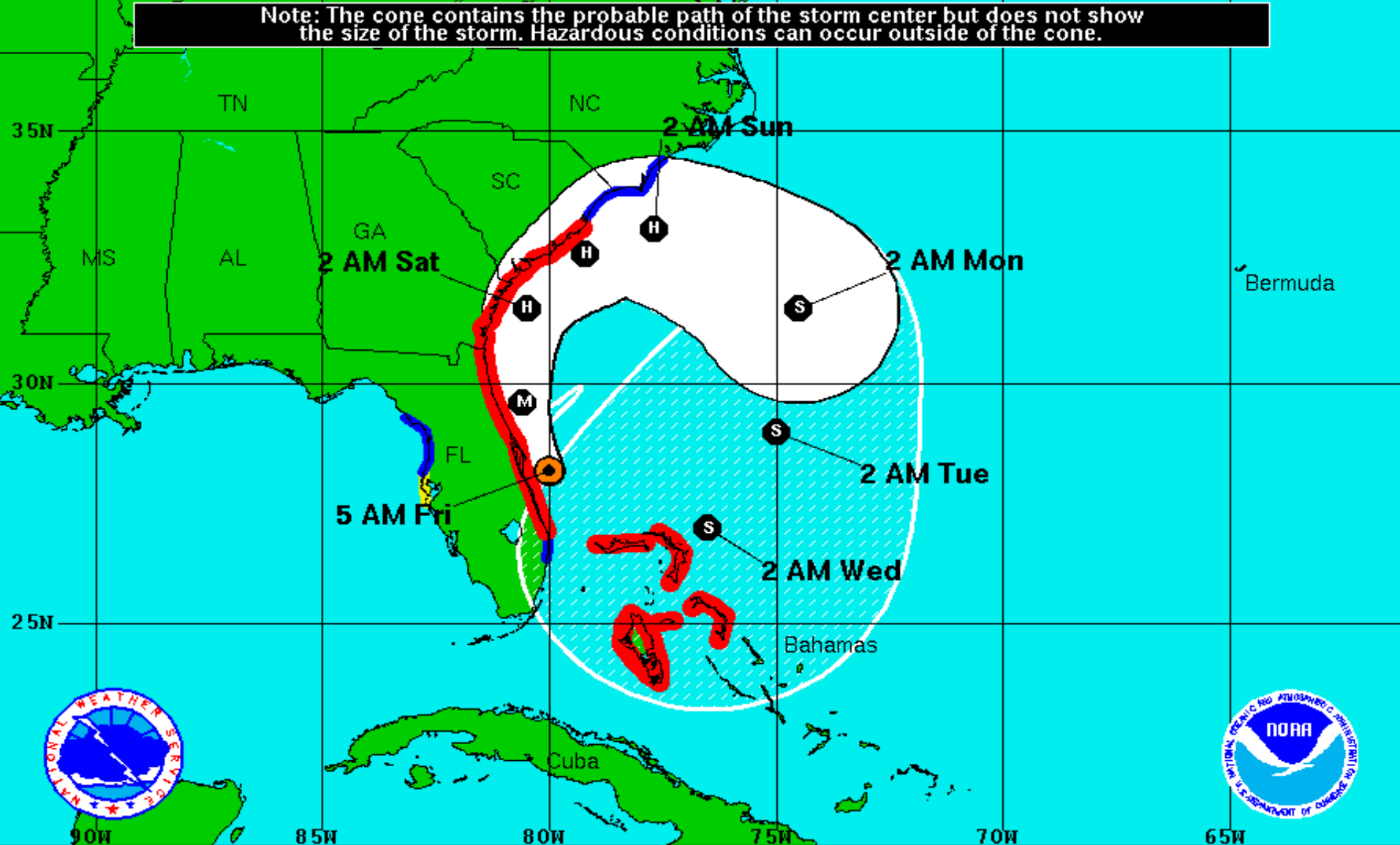
Satellite 8:57 AM UTC  
4:57 AM EDT







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.



## Hurricane Matthew

Friday October 7, 2016

5 AM EDT Advisory 37

NWS National Hurricane Center

## Current Information:

Center Location 28.2 N 80.0 W

Max Sustained Wind 120 mph

Movement NNW at 13 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

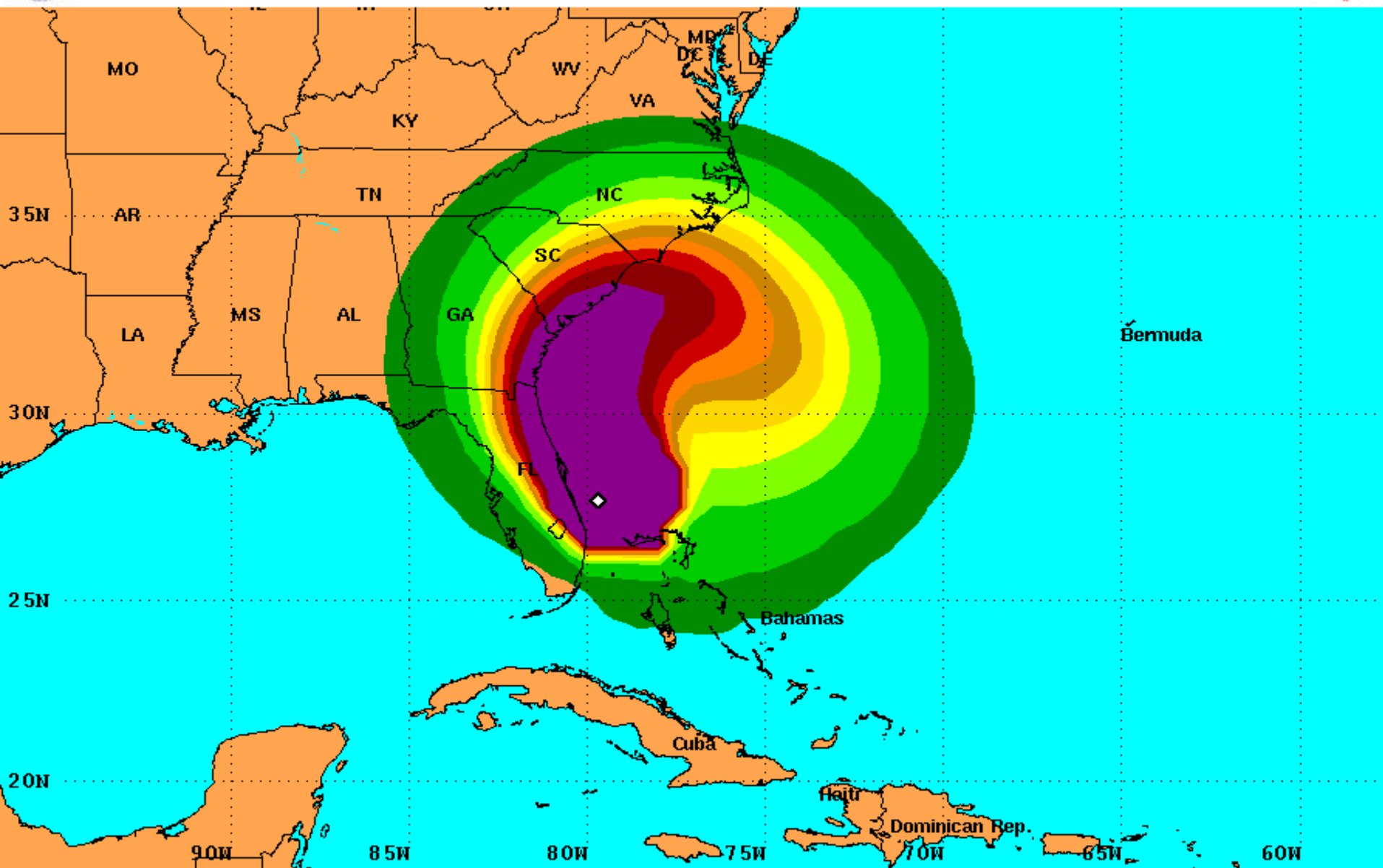
## Warnings:

Hurricane Trop.Storm



# PRELIMINARY (SINGLE STORM) Tropical Storm Force Wind Speed Probabilities

For the 120 hours (5 days) from 2 AM EDT Fri Oct 7 to 2 AM EDT Wed Oct 12



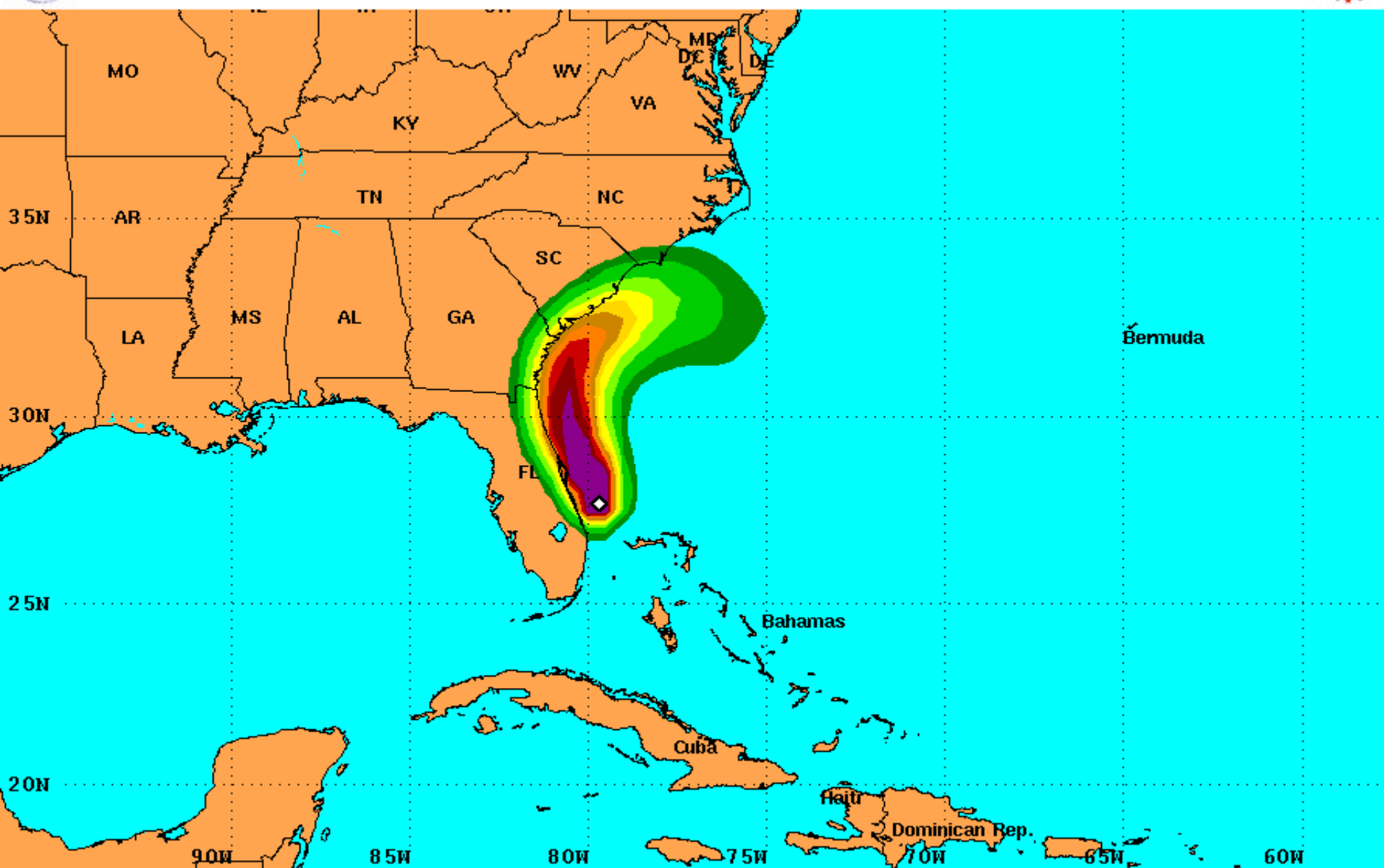
Probability of sustained tropical storm force surface winds (1-minute average of 39 mph or greater)

◇ indicates HURRICANE MATTHEW center location at 2 AM EDT Fri Oct 7 2016 (Forecast/Advisory #37)





# PRELIMINARY (SINGLE STORM) Hurricane Force Wind Speed Probabilities For the 120 hours (5 days) from 2 AM EDT Fri Oct 7 to 2 AM EDT Wed Oct 12



Probability of sustained hurricane force surface winds (1-minute average of 74 mph or greater)

◇ indicates HURRICANE MATTHEW center location at 2 AM EDT Fri Oct 7 2016 (Forecast/Advisory #37)





- 
- Elevated**      **Moderate**      **High**      **Extreme**
- Map of Florida showing projected hurricane damage zones. The map is color-coded into four categories: Elevated (yellow), Moderate (orange), High (red), and Extreme (pink). Major cities like Tallahassee, Jacksonville, Orlando, Tampa, and Miami are labeled. Major highways 10, 95, and 75 are also shown. The damage zones are concentrated along the eastern coast and around major urban areas.

Through: Sun, Oct 9 2016, 8 PM EDT

Issued: Oct 07 at 4 AM EDT

## Onset of Tropical and Hurricane Force Winds by Timing

	Onset of 34mph Winds	Onset of 58mph Winds	Onset of Hurricane Winds	End of Hurricane Winds	End of 58mph Winds	End of 34mph Winds	Estimated Peak Wind and Time
Location	34kt(39mph)	50kt(58mph)	64kt(74mph)	64ktEND(dur)	50ktEND(dur)	34ktEND(dur)	Peak Wind
FL Palm Beach	Existing					10/07 10E [05]	45kt (52mph) 10/07 05E
FL Glades	Existing					10/07 07E [02]	38kt (44mph) 10/07 05E
FL Martin	Existing					10/07 11E [06]	49kt (56mph) 10/07 05E
FL St Lucie	Existing	Existing			10/07 08E [03]	10/07 14E [09]	56kt (64mph) 10/07 05E
FL Okeechobee	Existing					10/07 12E [07]	49kt (56mph) 10/07 05E
FL Highlands	Existing					10/07 10E [05]	42kt (48mph) 10/07 05E
FL Polk	Existing					10/07 12E [07]	44kt (51mph) 10/07 05E
FL Osceola	Existing	Existing			10/07 11E [06]	10/07 18E [13]	63kt (72mph) 10/07 06E
FL Indian River	Existing	Existing			10/07 09E [04]	10/07 15E [10]	63kt (72mph) 10/07 05E
FL Brevard	Existing	Existing	Existing	10/07 13E [08]	10/07 16E [11]	10/07 21E [16]	83kt (96mph) 10/07 07E
FL Orange	Existing	Existing	10/07 07E	10/07 09E [02]	10/07 12E [07]	10/07 19E [14]	64kt (74mph) 10/07 07E
FL Seminole	Existing	Existing			10/07 14E [09]	10/07 20E [15]	62kt (71mph) 10/07 08E
FL Lake	Existing	10/07 08E			10/07 14E [06]	10/07 20E [15]	54kt (62mph) 10/07 10E
FL Marion	Existing					10/07 21E [16]	49kt (56mph) 10/07 11E
FL Flagler	Existing	10/07 08E	10/07 11E	10/07 17E [06]	10/07 20E [12]	10/08 01E [20]	72kt (83mph) 10/07 13E
FL Volusia	Existing	Existing	10/07 06E	10/07 16E [10]	10/07 19E [14]	10/08 00E [19]	81kt (93mph) 10/07 09E
FL St Johns	Existing	10/07 10E	10/07 13E	10/07 19E [06]	10/07 22E [12]	10/08 02E [21]	72kt (83mph) 10/07 17E

Rows in blue indicate the county will only see winds below 50kts (58mph)

Rows in yellow indicate the county will see winds between 50-63kts (59-74mph)

Rows in red indicate the county will see hurricane force winds >64kts (>74mph)



## Onset of Tropical and Hurricane Force Winds by Timing

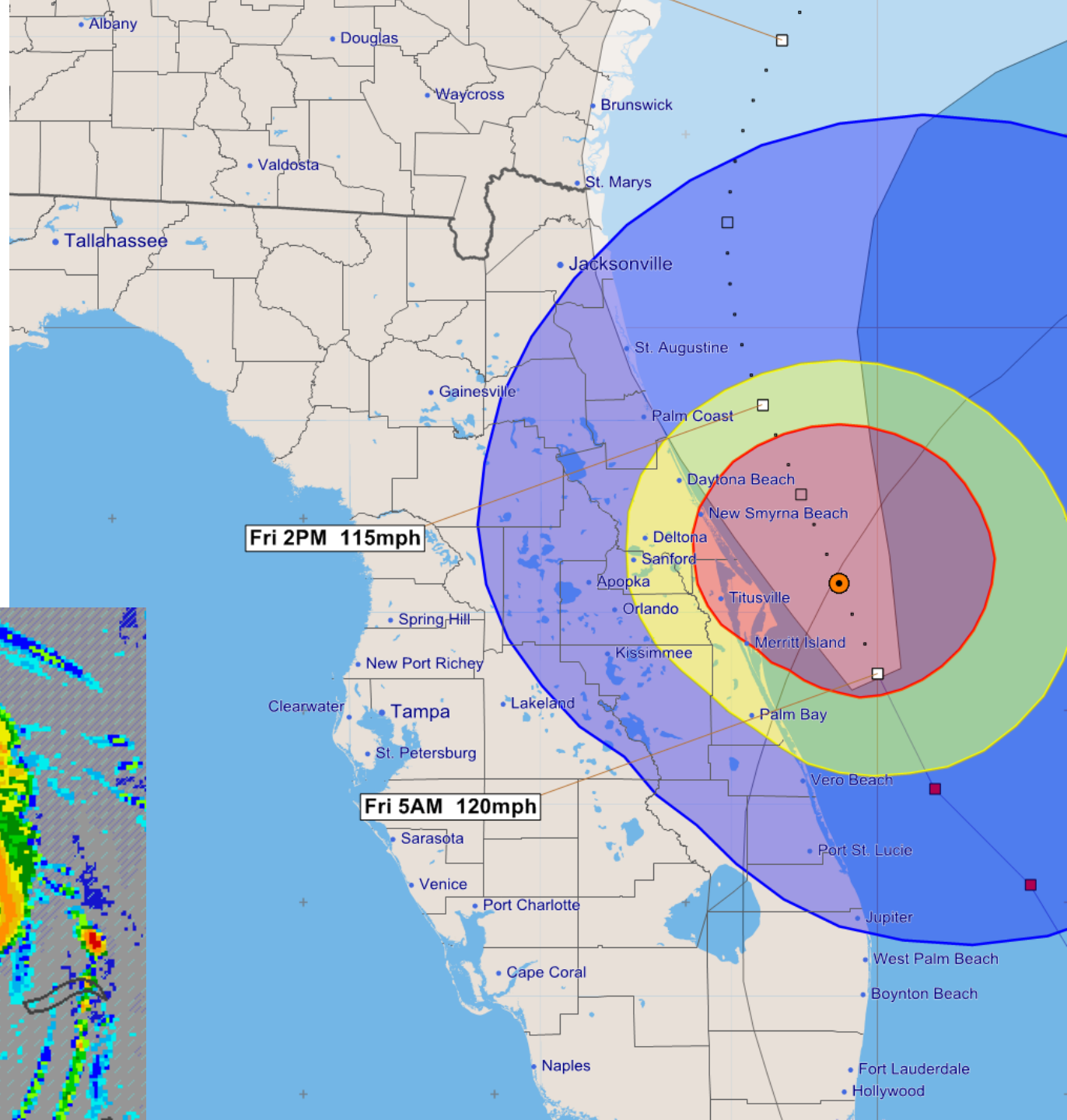
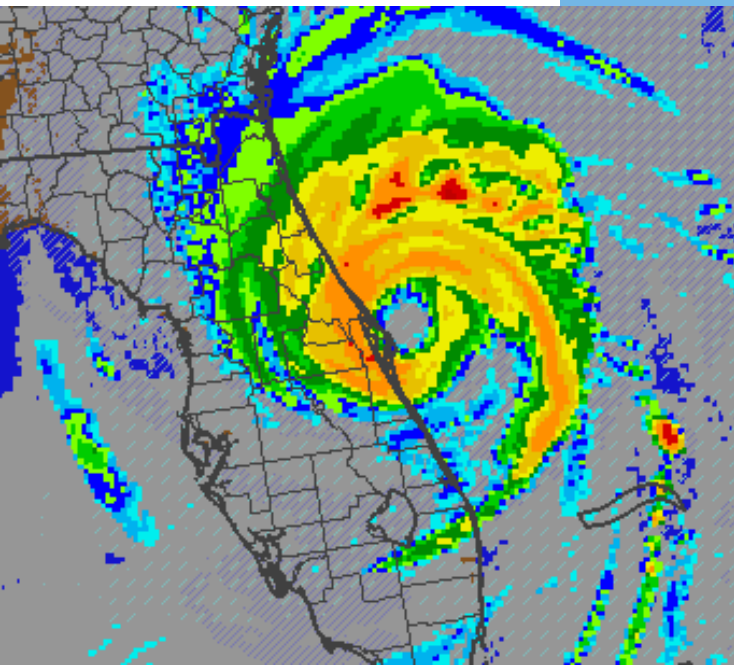
	Onset of 34mph Winds	Onset of 58mph Winds	Onset of Hurricane Winds	End of Hurricane Winds	End of 58mph Winds	End of 34mph Winds	Estimated Peak Wind and Time
Location	34kt(39mph)	50kt(58mph)	64kt(74mph)	64ktEND(dur)	50ktEND(dur)	34ktEND(dur)	Peak Wind
FL Putnam	Existing	10/07 10E			10/07 20E [10]	10/08 00E [19]	59kt (68mph) 10/07 16E
FL Sumter	10/07 07E					10/07 16E [09]	39kt (45mph) 10/07 12E
FL Duval	10/07 07E	10/07 13E	10/07 15E	10/07 21E [06]	10/08 00E [11]	10/08 03E [20]	71kt (82mph) 10/07 17E
FL Clay	10/07 07E	10/07 13E			10/07 21E [08]	10/08 01E [18]	60kt (69mph) 10/07 17E
FL Hernando	10/07 08E					10/07 09E [01]	34kt (39mph) 10/07 08E
FL Bradford	10/07 09E					10/07 23E [14]	48kt (55mph) 10/07 18E
FL Nassau	10/07 09E	10/07 15E	10/07 18E	10/07 22E [04]	10/08 01E [10]	10/08 04E [19]	66kt (76mph) 10/07 18E
FL Alachua	10/07 09E					10/07 21E [12]	44kt (51mph) 10/07 15E
FL Union	10/07 11E					10/07 23E [12]	45kt (52mph) 10/07 16E
FL Baker	10/07 11E					10/08 00E [13]	48kt (55mph) 10/07 18E
FL Levy	10/07 12E					10/07 17E [05]	35kt (40mph) 10/07 14E
FL Columbia	10/07 14E					10/07 23E [09]	40kt (46mph) 10/07 19E
FL Hamilton	10/07 17E					10/07 21E [04]	36kt (41mph) 10/07 18E

Rows in blue indicate the county will only see winds below 50kts (58mph)

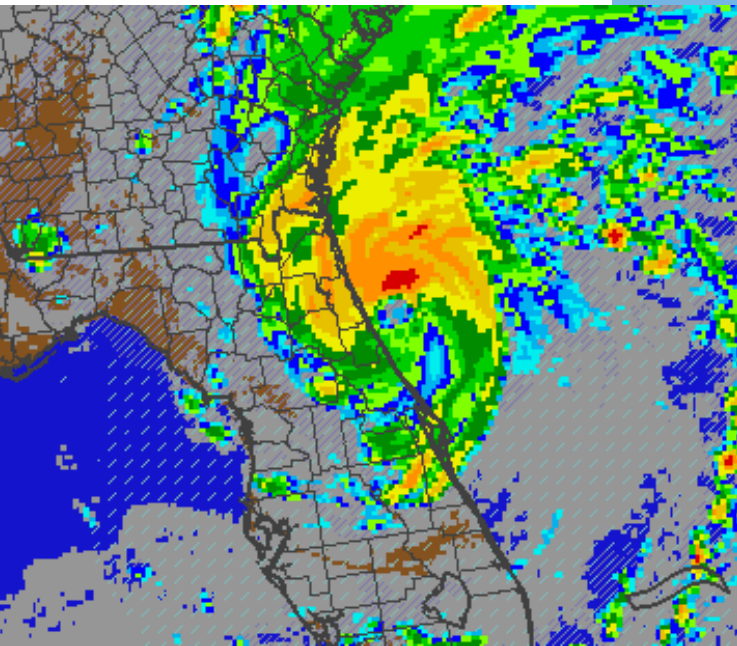
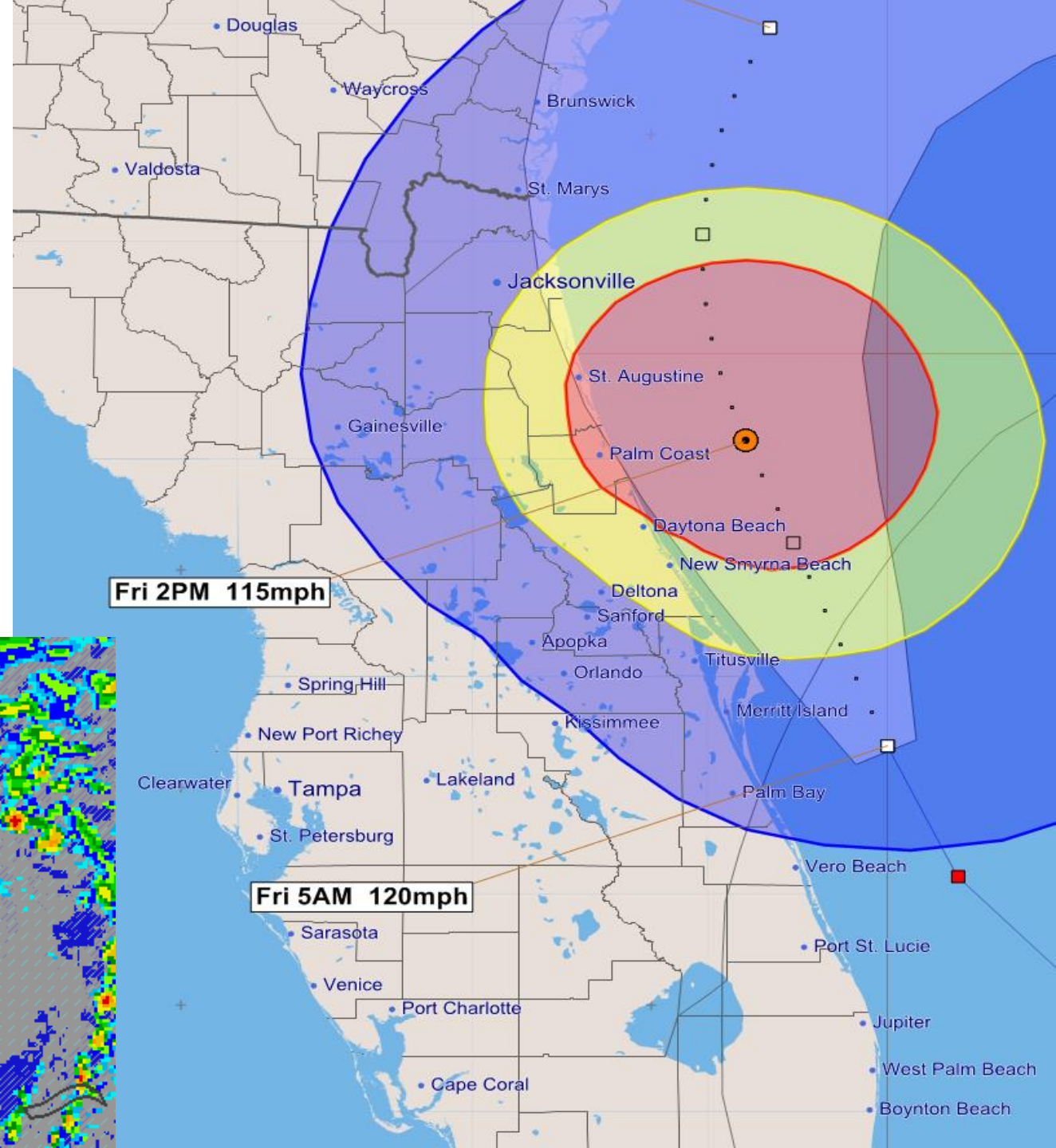
Rows in yellow indicate the county will see winds between 50-63kts (59-74mph)

Rows in red indicate the county will see hurricane force winds >64kts (>74mph)

Friday  
8am



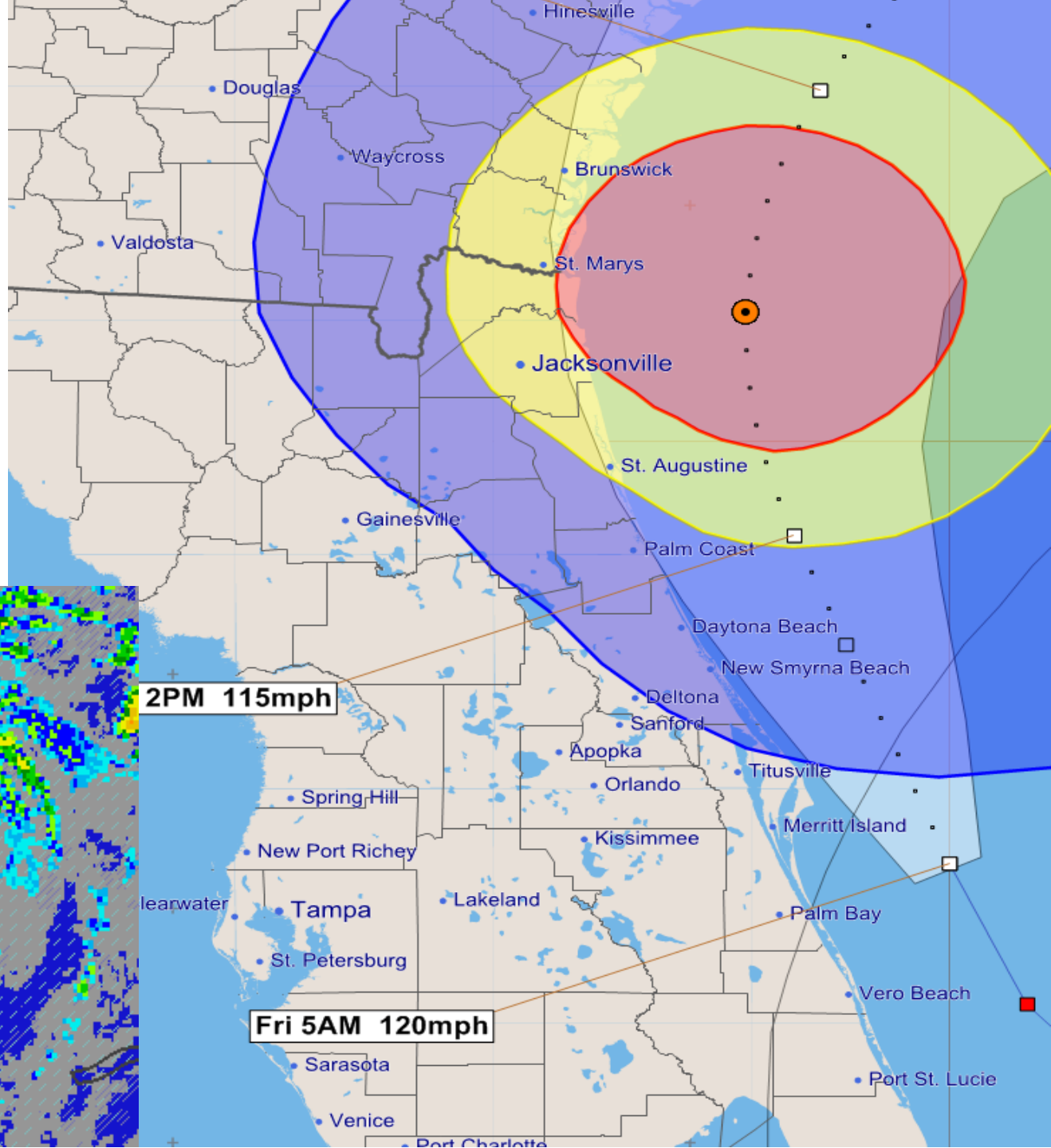
Friday  
2pm



Fri 5AM 120mph



Friday  
8pm

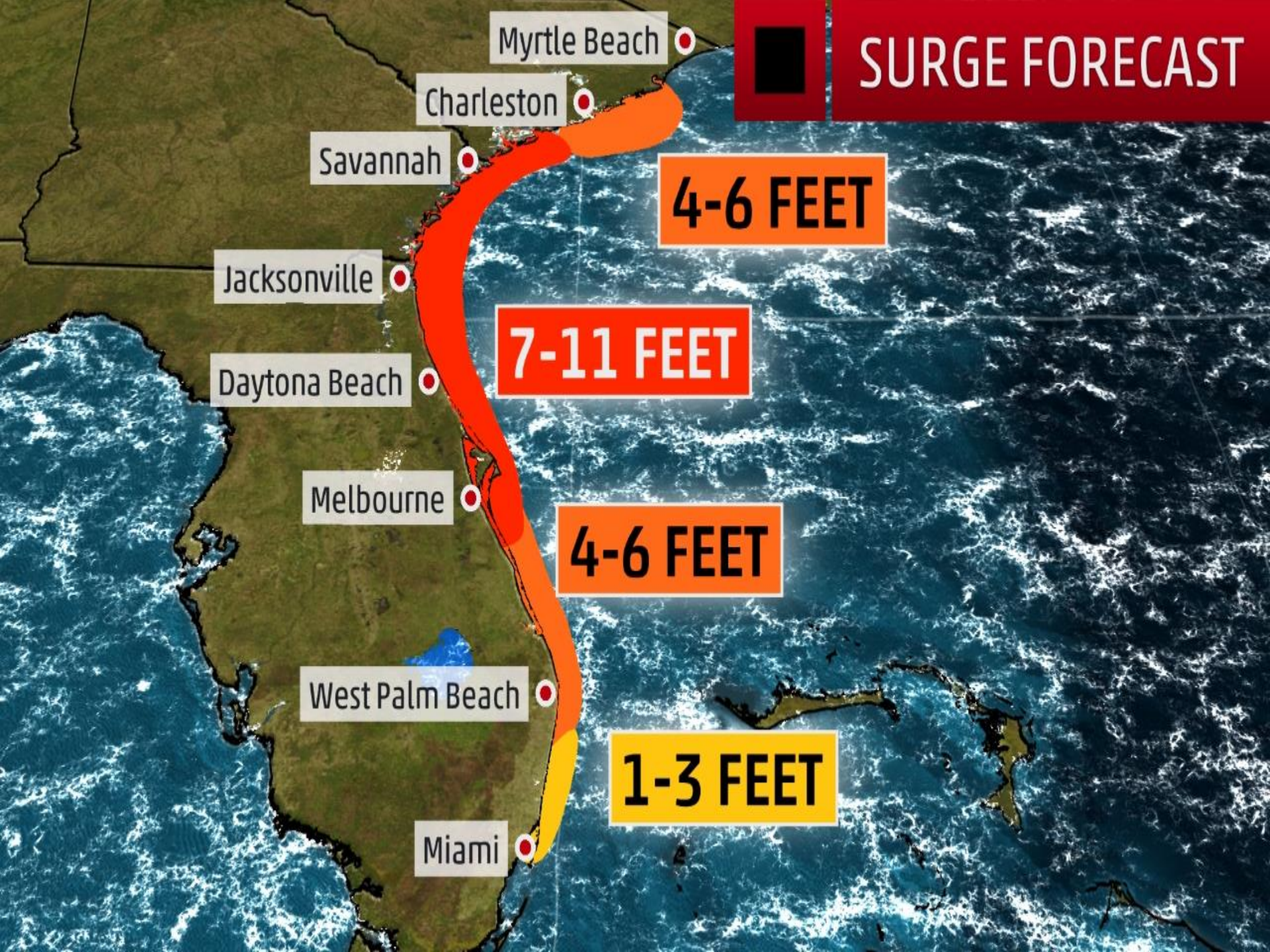




# Prototype Storm Surge Watches/Warnings







Myrtle Beach

Charleston

Savannah

Jacksonville

Daytona Beach

Melbourne

West Palm Beach

Miami



# SURGE FORECAST

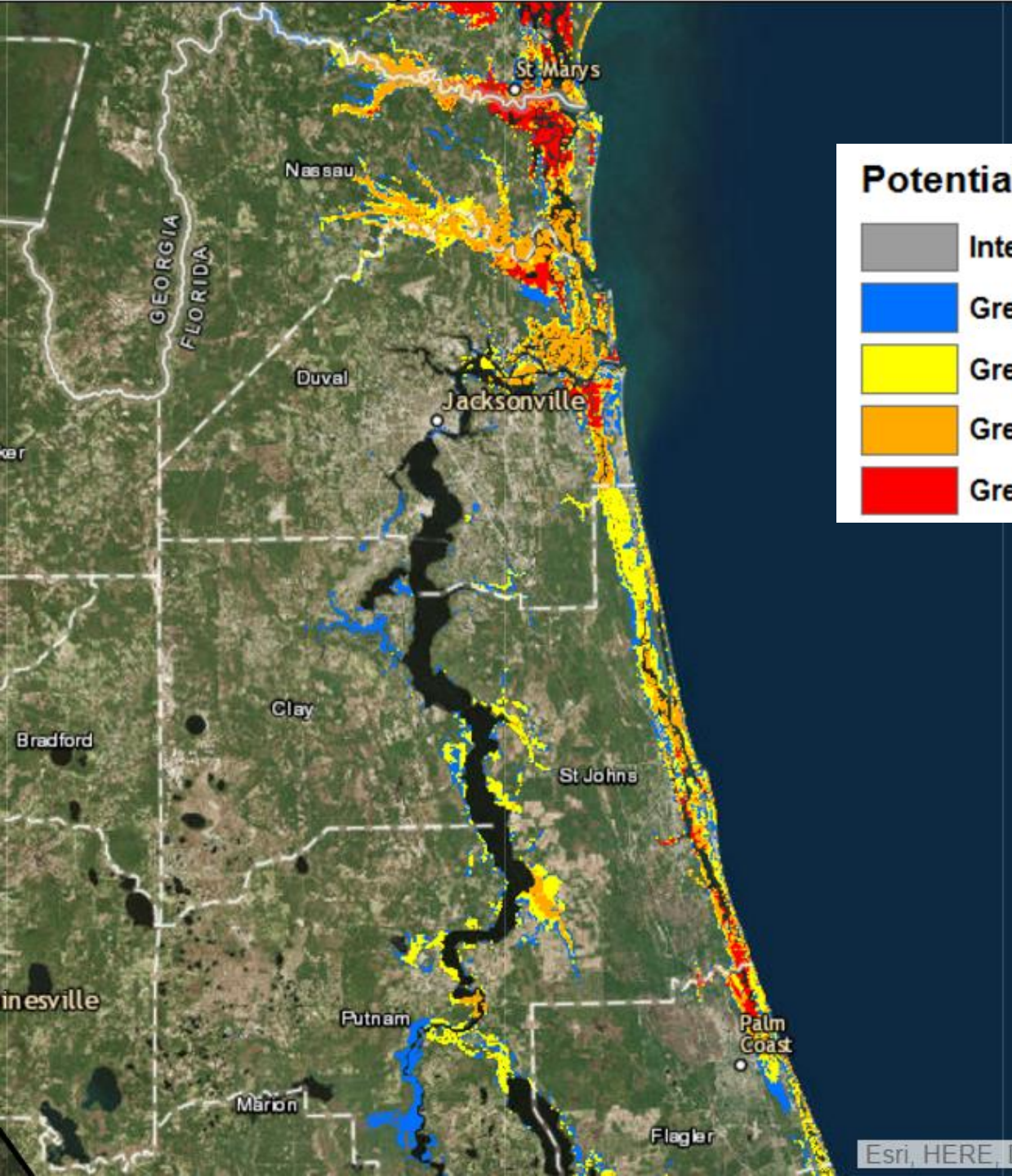
4-6 FEET

7-11 FEET

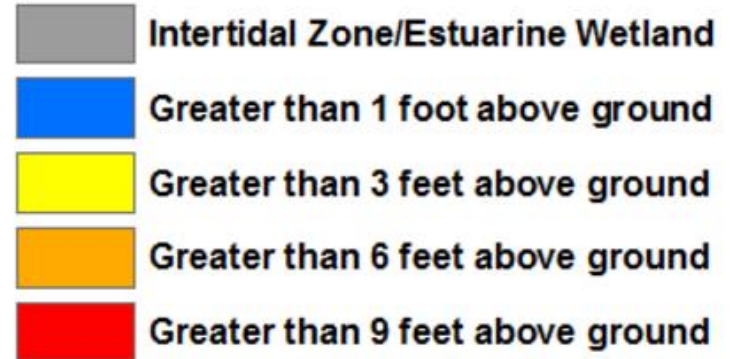
4-6 FEET

1-3 FEET

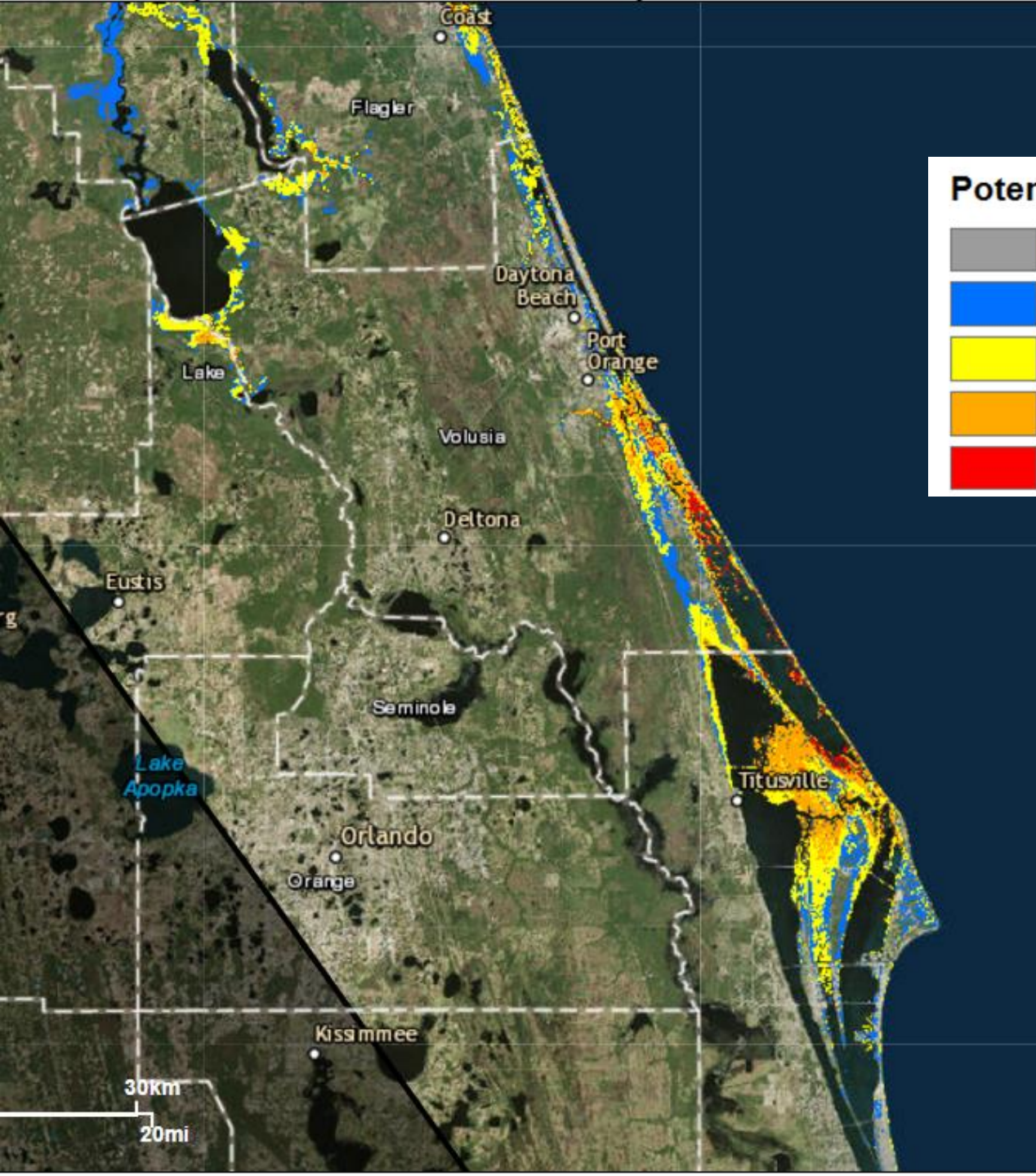




## Potential Storm Surge Flooding\*





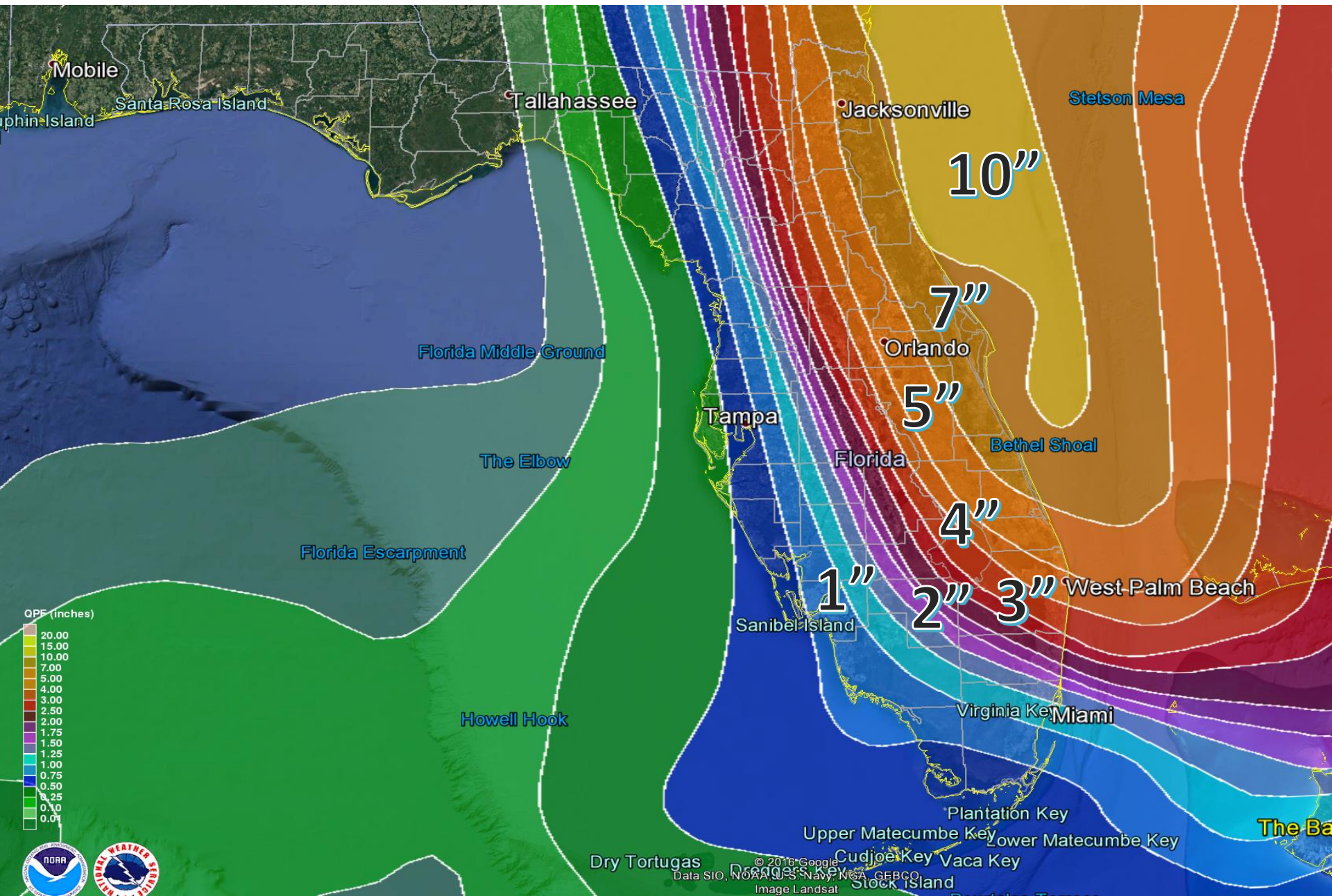


### Potential Storm Surge Flooding\*

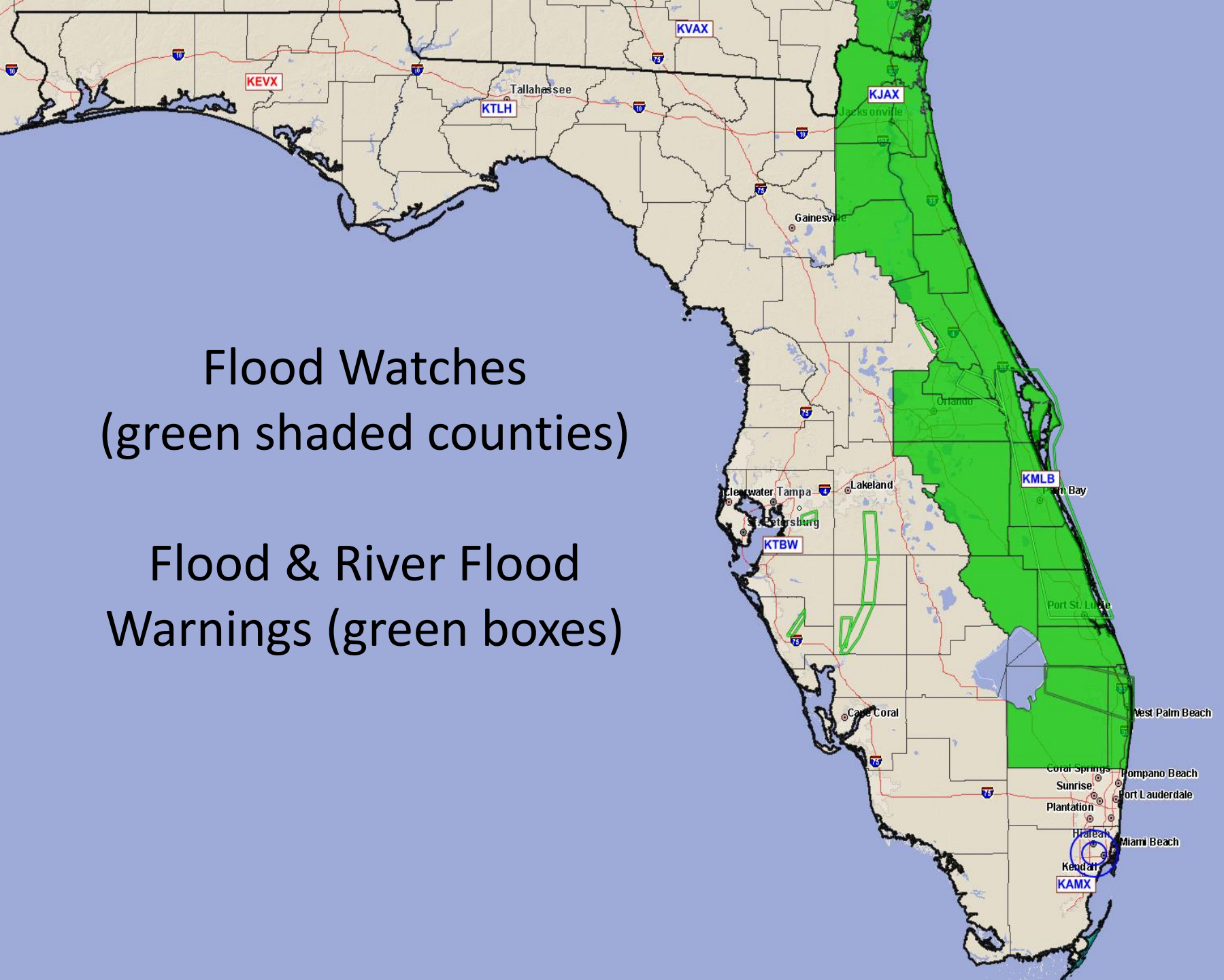
- Intertidal Zone/Estuarine Wetland
- Greater than 1 foot above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground



# Next 5 Day Forecast Rainfall

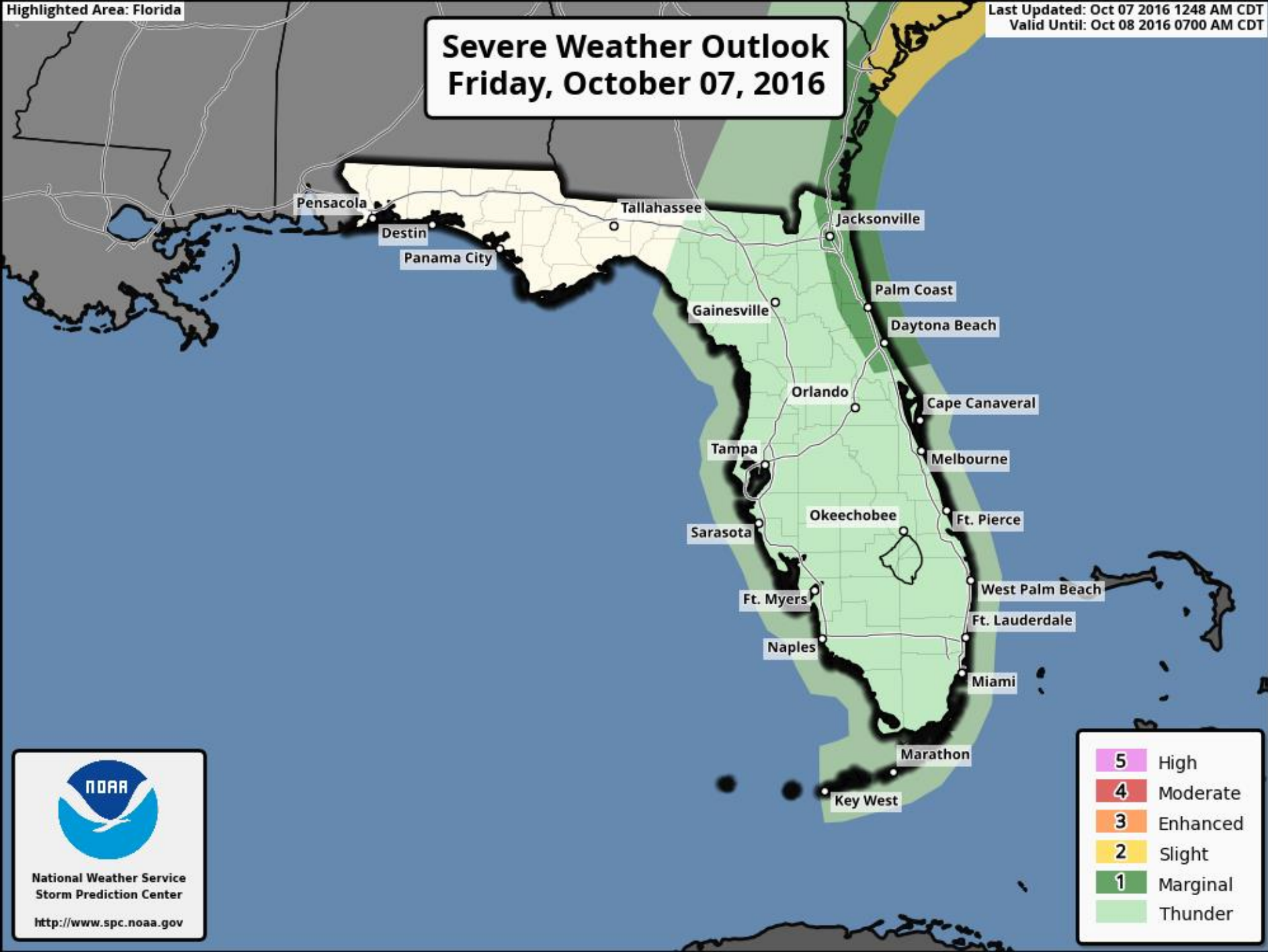


# Flood & River Flood Warnings (green boxes)





# Severe Weather Outlook Friday, October 07, 2016

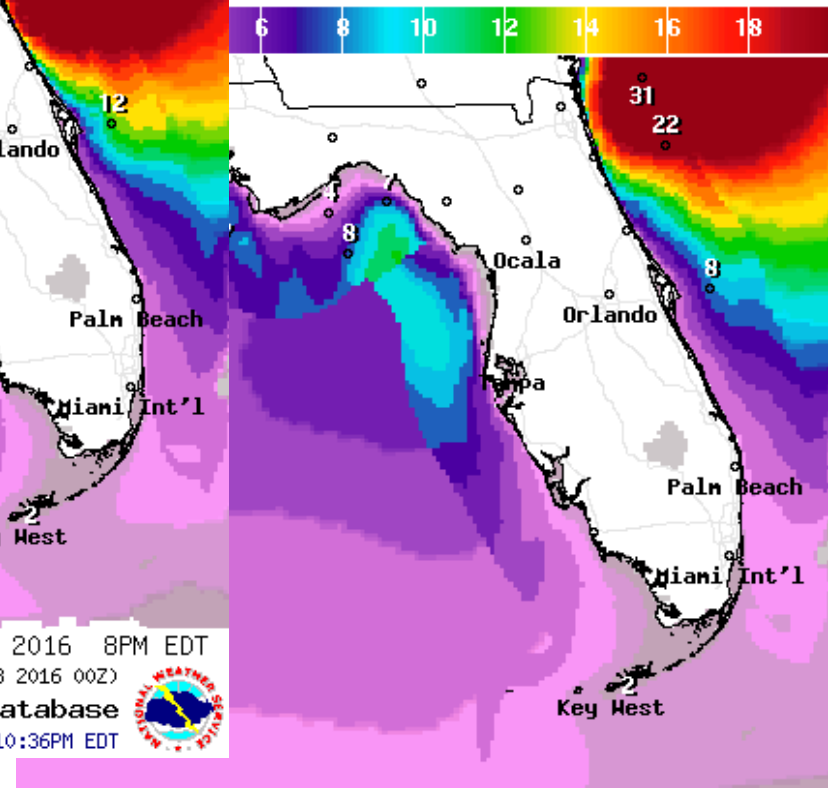
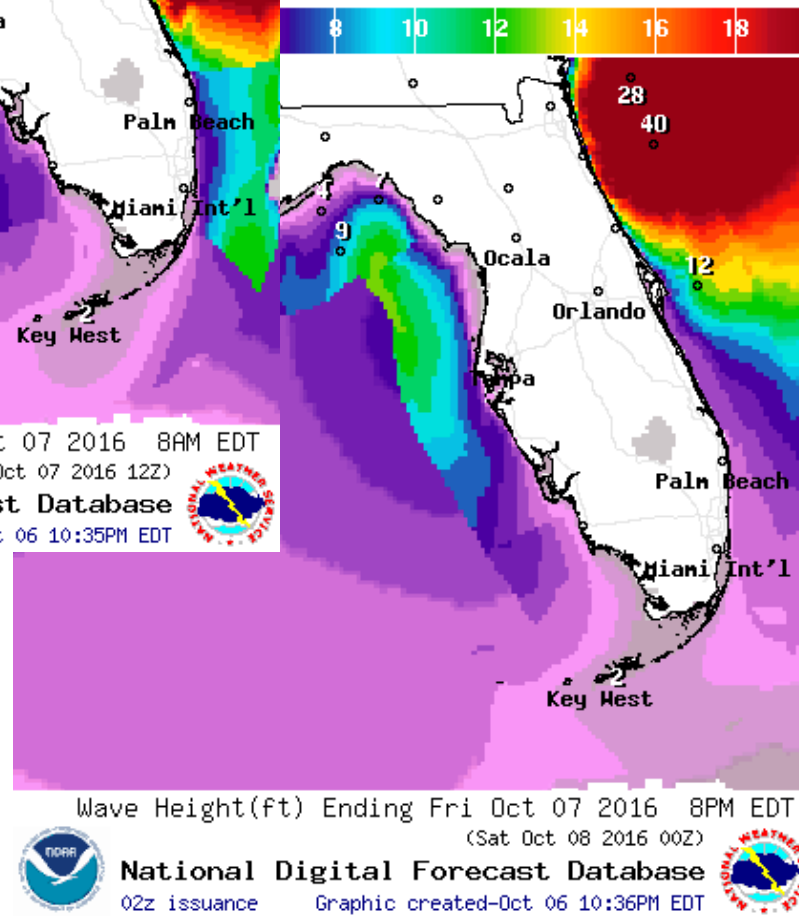
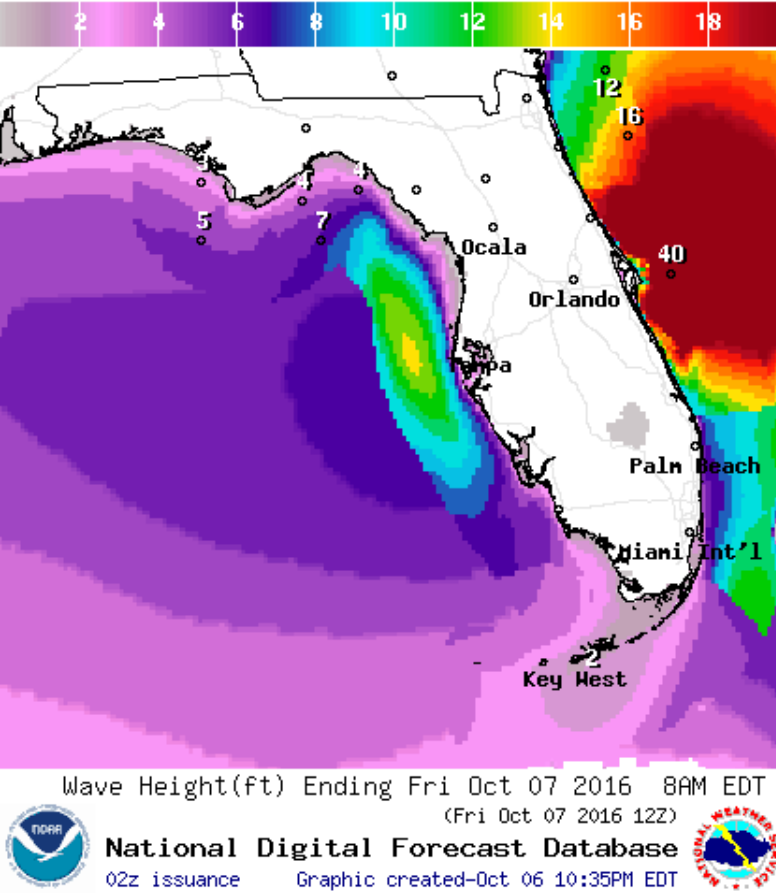


National Weather Service  
Storm Prediction Center

<http://www.spc.noaa.gov>

5	High
4	Moderate
3	Enhanced
2	Slight
1	Marginal
	Thunder

# Forecast Wave Heights







# HURRICANE MATTHEW

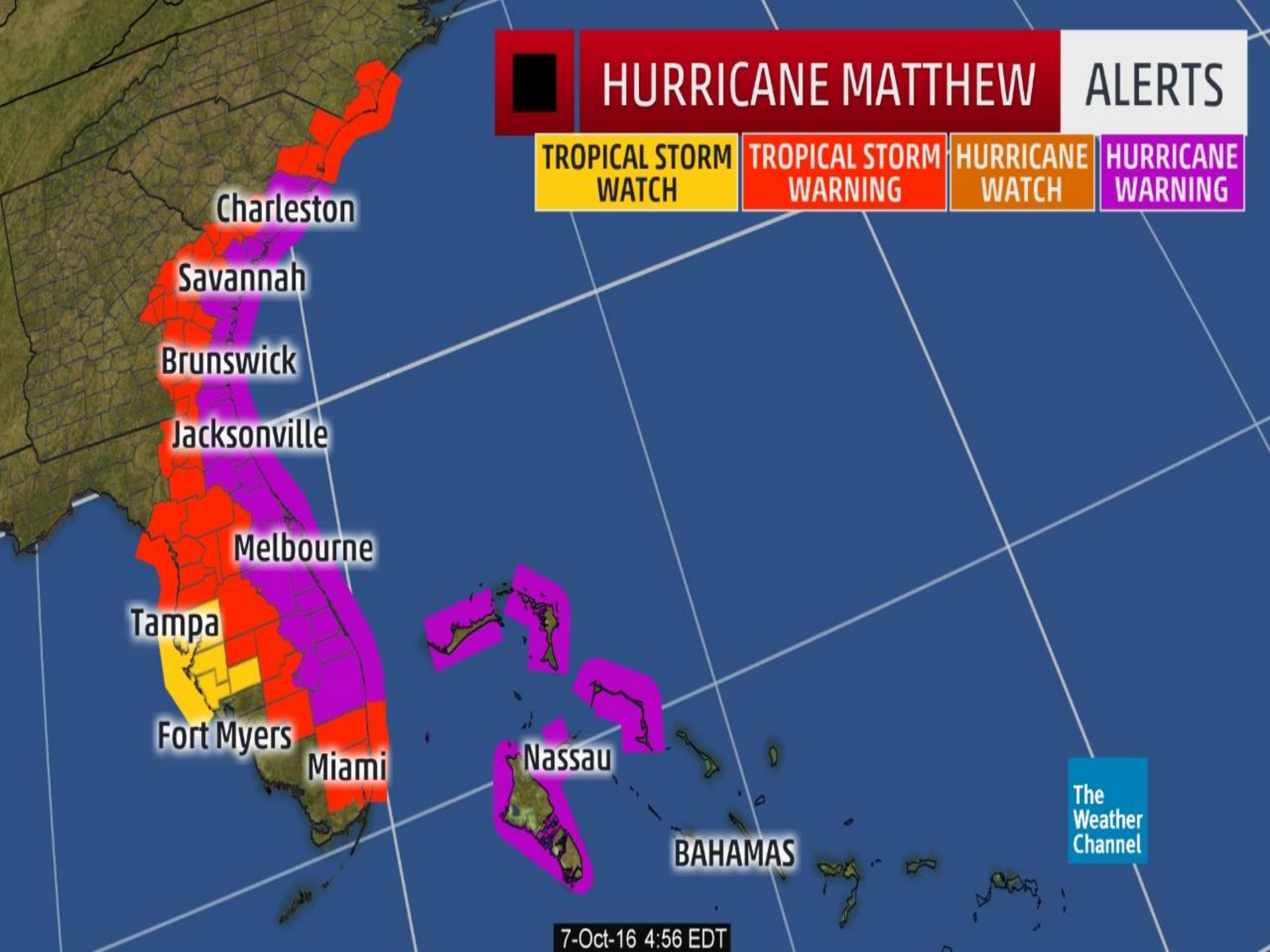
## ALERTS

TROPICAL STORM  
WATCH

TROPICAL STORM  
WARNING

HURRICANE  
WATCH

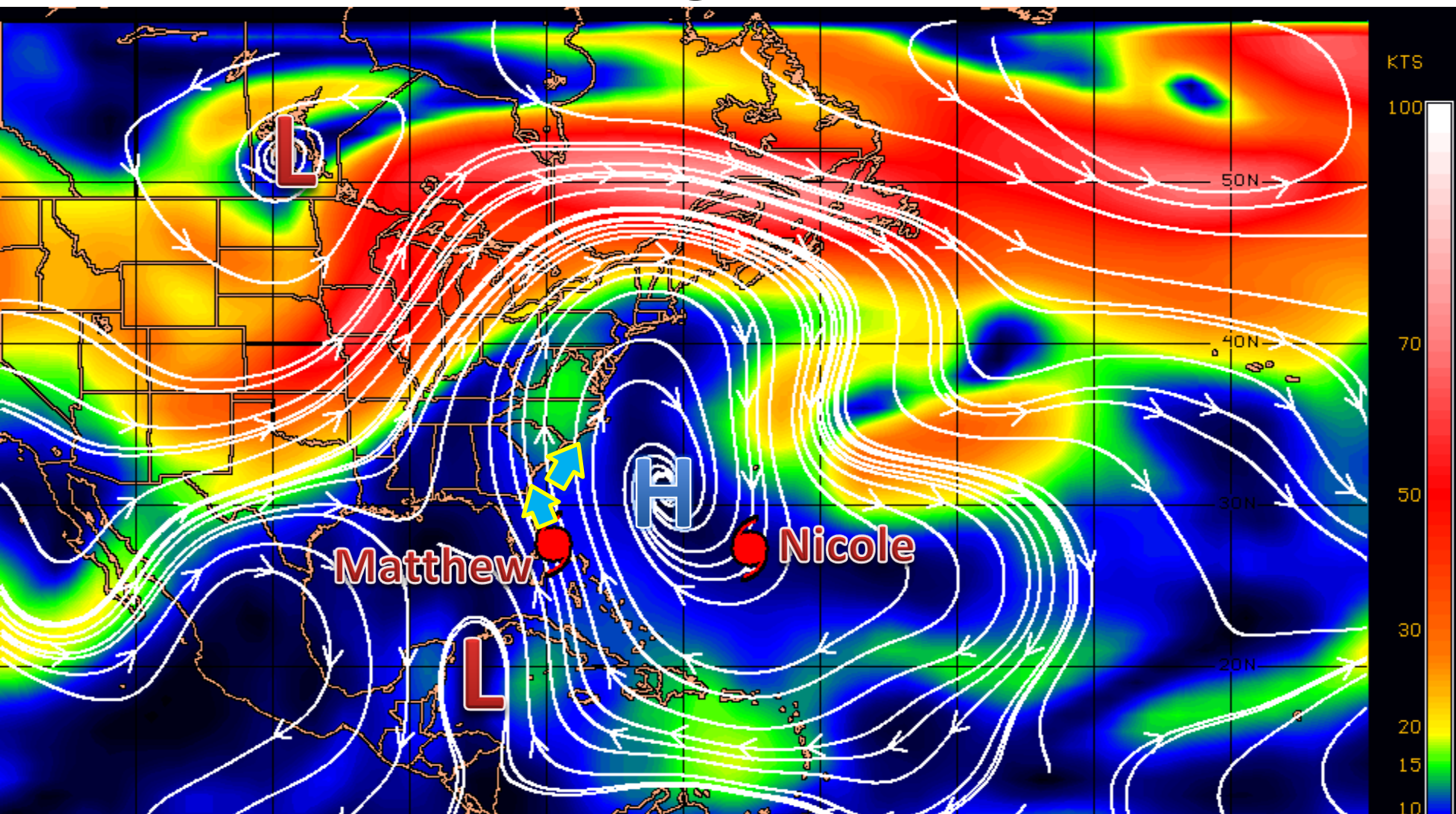
HURRICANE  
WARNING



The  
Weather  
Channel

7-Oct-16 4:56 EDT

# Steering Currents



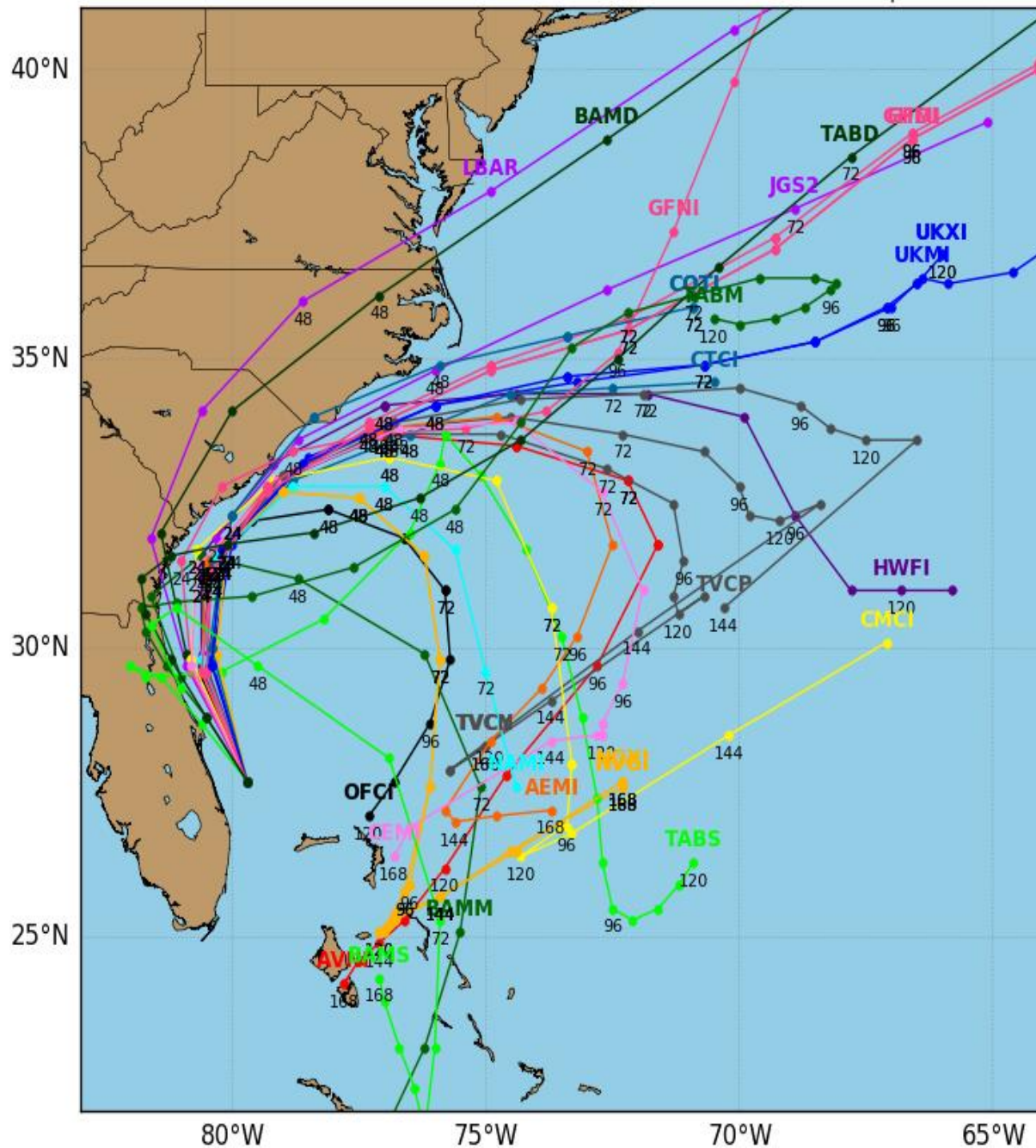
Matthew is currently being steered to the northwest by high pressure to its east and low pressure over the Yucatan Peninsula. Building high pressure over the eastern U.S. is expected to cause Matthew to continue moving north today and then turn northeast this weekend. Nicole is expected to meander this weekend under weak steering currents due to high pressure to its west.



# Hurricane MATTHEW Model Track Guidance

Initialized at 06z Oct 07 2016

Levi Cowan - tropicaltidbits.com

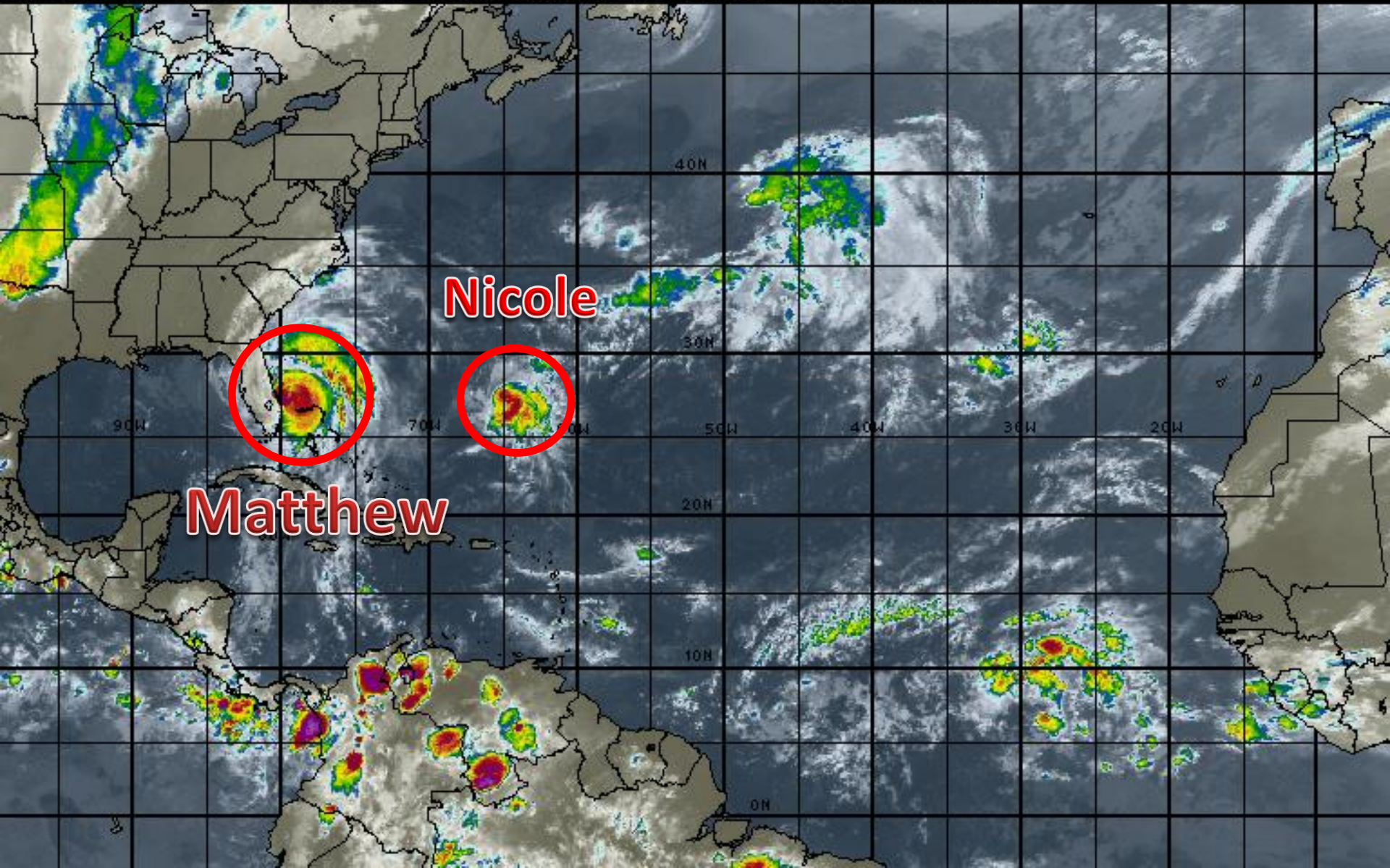


Models are in good agreement on Matthew's track over the next 48 hours, taking it near or over the Northeast Florida coast, followed by a track near Georgia and South Carolina. Beyond 48 hours, most models indicate Matthew making a loop back toward the Bahamas and possibly Florida, with some outliers continuing Matthew's path northeast and into the Atlantic. Matthew's track will need to be watched closely over the next few days.



# Atlantic Basin Satellite Image

06:00 07-OCT-2016 GMT Copyright © 1998-2016 MSI Corporation <http://www.usi.com>





# Hurricane Nicole

5 AM EDT Fri Oct 07 2016

Position 27.3 N 65.2 W

Maximum Winds 100 mph

Gusts 120 mph

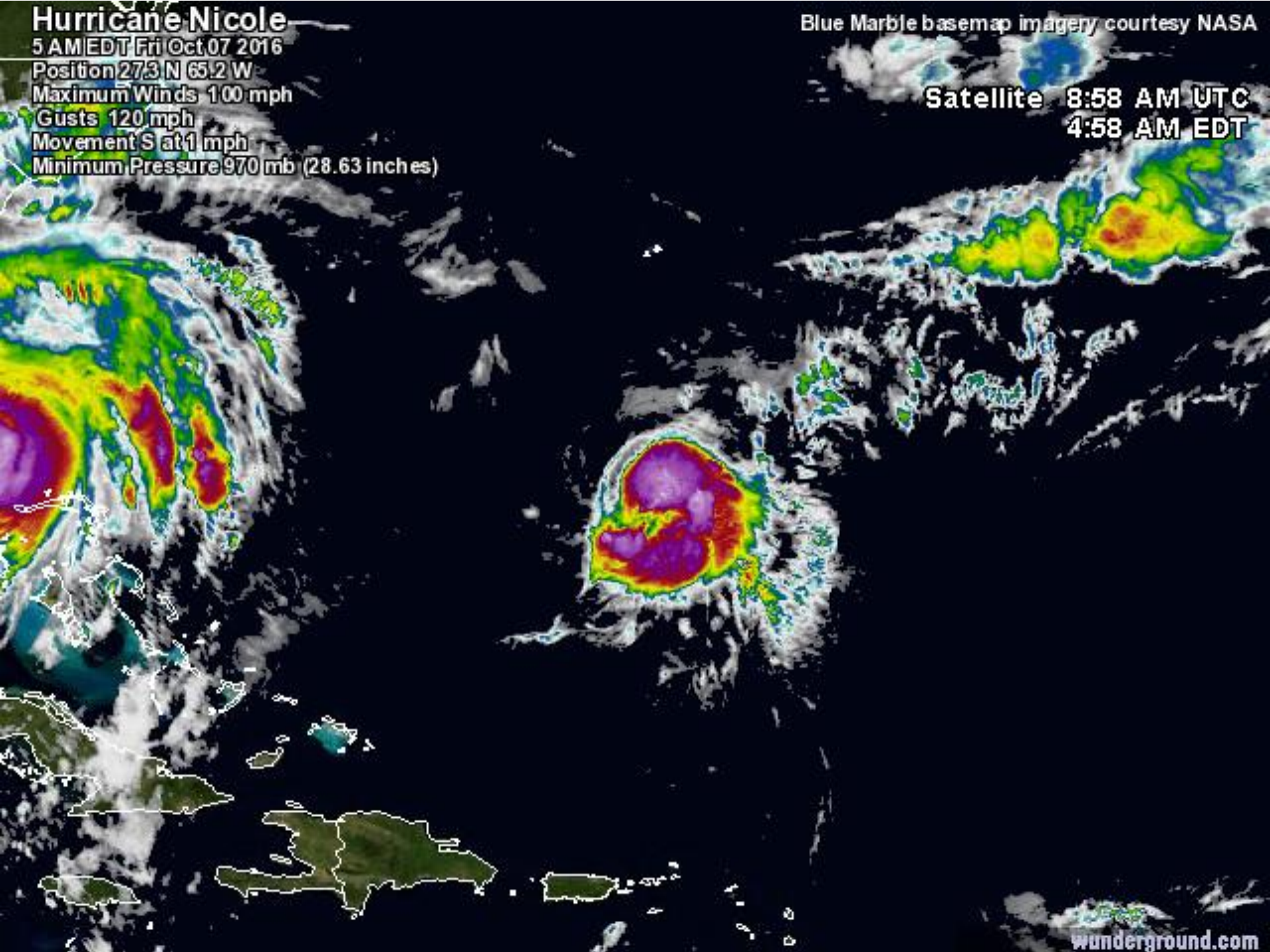
Movement S at 1 mph

Minimum Pressure 970 mb (28.63 inches)

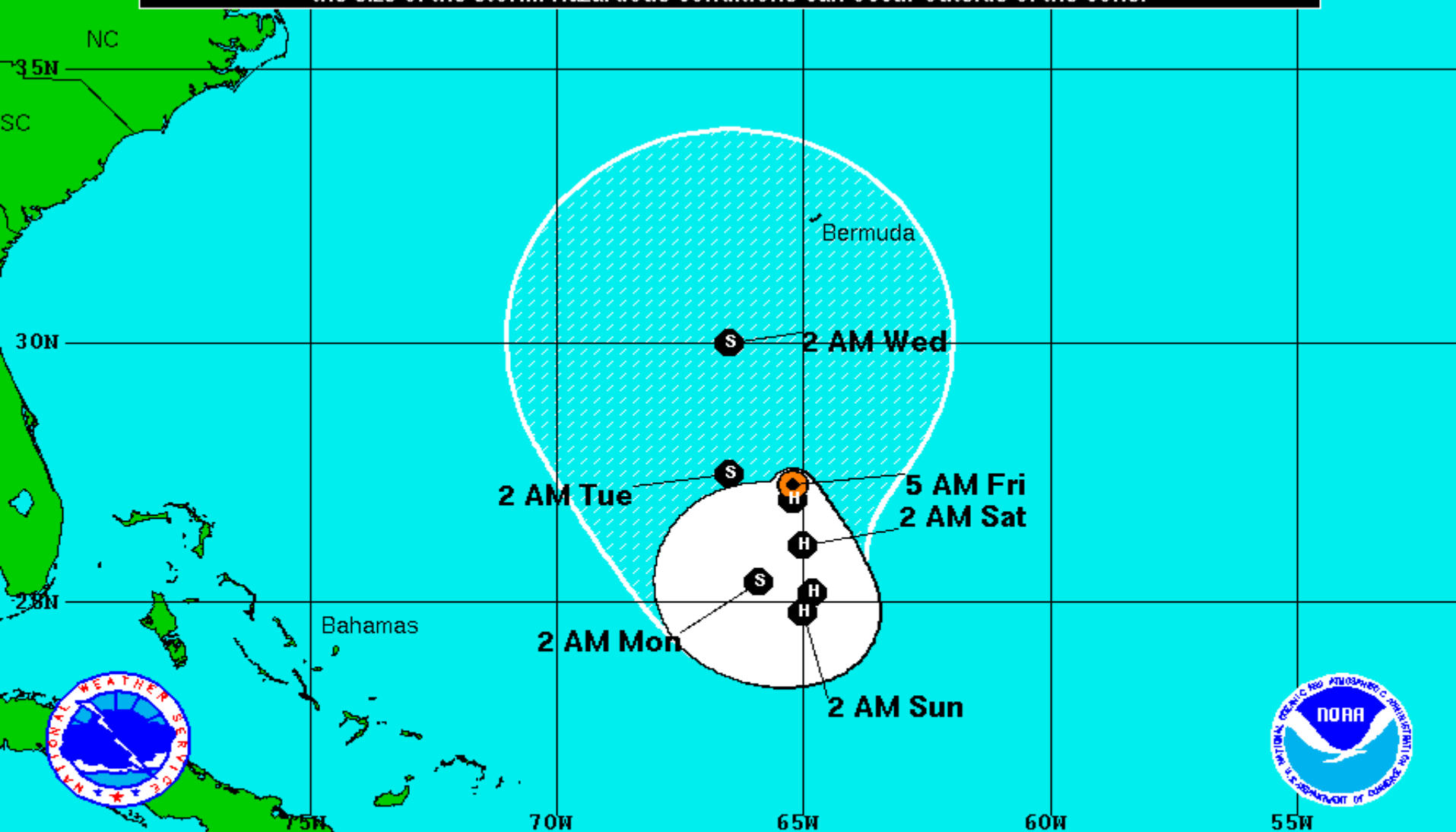
Blue Marble basemap imagery courtesy NASA

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.



**Hurricane Nicole**  
 Friday October 7, 2016  
 5 AM EDT Advisory 13  
 NWS National Hurricane Center

**Current Information:**   
 Center Location 27.3 N 65.2 W  
 Max Sustained Wind 100 mph  
 Movement S at 1 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 Summary:**

- At 5am EDT, Hurricane Matthew is located approximately 40 miles east southeast of Cape Canaveral, FL.
- 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 north northwest at 13 mph, and this general motion is expected to continue today. a turn toward the north-northwest is expected on Friday, and a turn toward the north expected Friday night or Saturday. A turn toward the north is expected tonight or Saturday. On the forecast track, the center of Matthew will be moving near or over the east coast of the Florida peninsula through tonight.
- 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 185 miles from the center, and hurricane force winds extending 60 miles from the center.
- There is uncertainty in the forecast track for Matthew beyond 48 hours. The official forecast calls for Matthew to turn southeast and then southwest, taking Matthew back toward the Bahamas as a tropical storm.
- The latest model track guidance favor this scenario, but this could certainly change over the next few days.
- At 5am EDT, Hurricane Nicole is located is approximately located 345 miles south of Bermuda. Nicole is drifting southward, and a slightly faster southward motion is expected tonight and Saturday. Nicole is a Category 2 hurricane with maximum sustained winds of 100mph.

## Florida Outlook:

- **Hurricane Warning** is in effect for Volusia, Brevard, Orange, Seminole, Osceola, Okeechobee, Indian River, Martin, St. Lucie, Nassau, Duval, St. Johns, Flagler, Putnam, and Clay Counties, including Lake Okeechobee.
- **Tropical Storm Warning** is in effect for Palm Beach, Highlands, Hardee, Polk, Lake, Sumter, Marion, Alachua, Union, Bradford, Baker, Columbia, Levy, Citrus, Hernando, and Pasco Counties.
- **Tropical Storm Watch** is in effect for Hillsborough, Pinellas, Desoto, and Manatee Counties.
- **Flood Watch** is in effect for Baker, Bradford, Union, Nassau, Duval, St. Johns, Flagler, Clay, Putnam, Volusia, Brevard, Indian River, Martin, Okeechobee, Orange, Osceola, Seminole, St. Lucie, and Palm Beach Counties.
- Regardless of track, Matthew is a very large storm and will generate tropical storm force winds and rough seas along the East Coast of Florida, along with minor coastal flooding, beach erosion, and dangerous rip currents.
- Hurricane conditions are currently affecting Brevard County and will continue to move northward along the east coast of Florida. Any deviation from the track could bring these destructive hurricane winds further inland.
- **An Extreme Wind Warning is in effect in Northeast Brevard County for Cape Canaveral until 7:15 AM EDT. Extreme winds associated with the eyewall of Hurricane Matthew are moving onshore and can produce frequent gusts of 115mph or greater. This is an extremely dangerous and life-threatening situation.**
- Tropical storm conditions will continue to spread northward in the warning area along the East Coast and over many inland areas tonight and tomorrow.
- The current forecast calls for 8-12" of rain along the east coast of Florida with isolated totals of 15" possible.
- Storm surge values of 7-11' is possible from Sebastian Inlet north through Nassau County, including the St. Johns River. Storm surge values of 4-6' is also still possible from Sebastian Inlet to Jupiter Inlet.
- 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 24-36 hours along the Florida east coast from Brevard to Nassau County.
- An isolated tornado or two is possible along the East Central Florida coast today.
- Hurricane Nicole does not pose a threat to Florida.

Another briefing packet will be issued on Friday at noon. 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