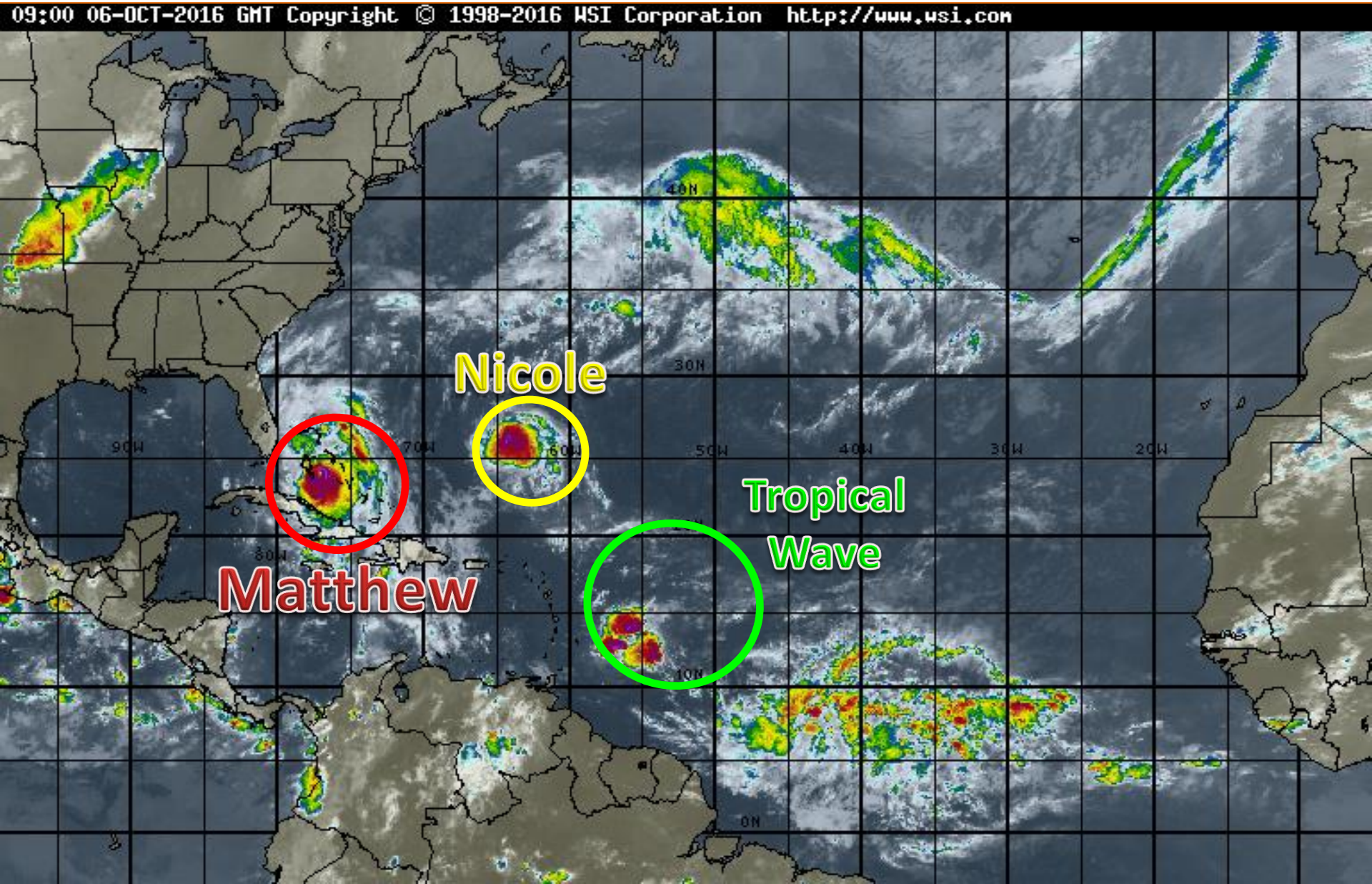
TROPICAL UPDATE

6 AM EDT
Thursday, October 6, 2016
Hurricane Matthew &
Tropical Storm Nicole

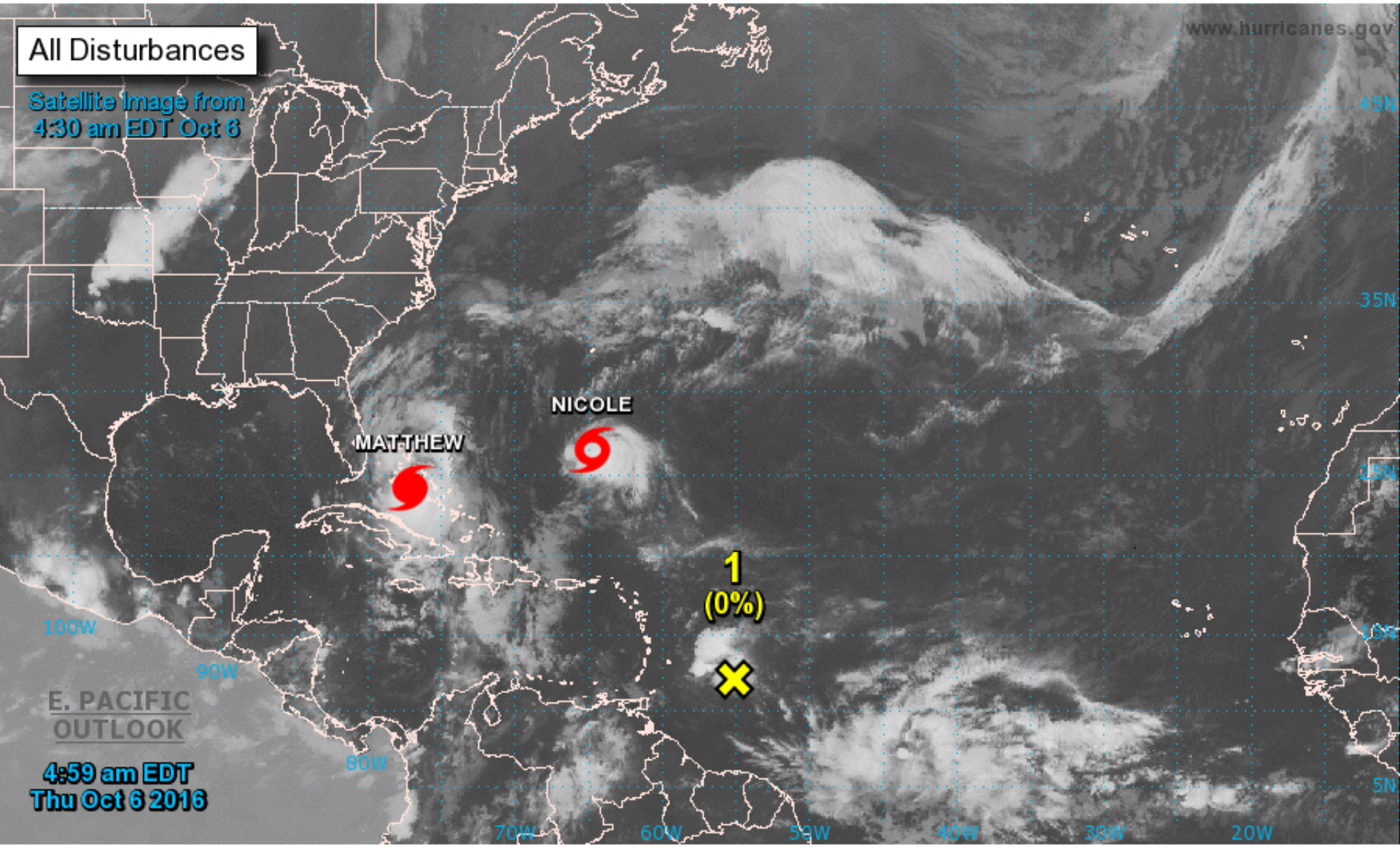
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an 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.

Atlantic Basin Satellite Image



Two-Day Graphical Tropical Weather Outlook

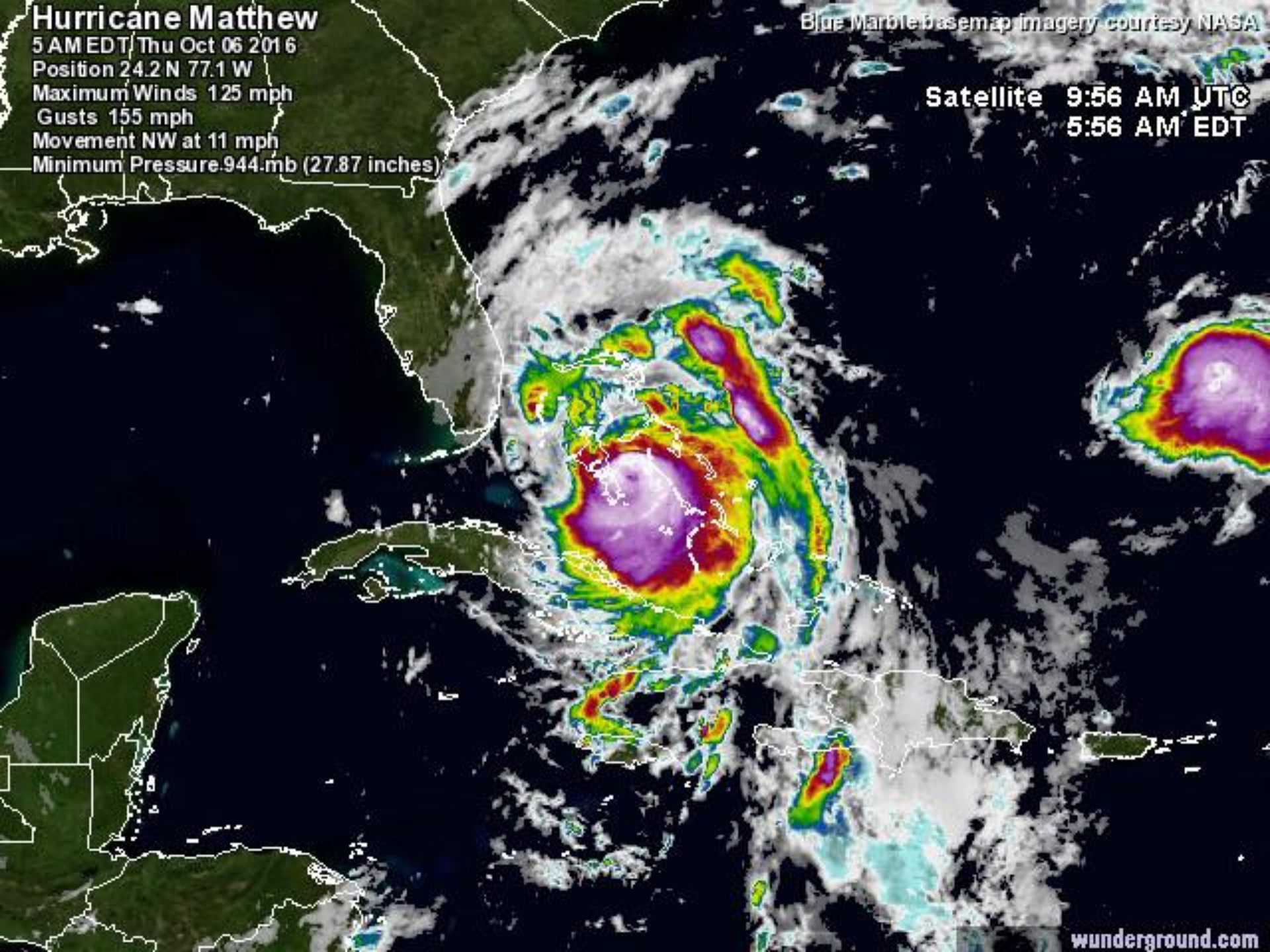
National Hurricane Center Miami, Florida



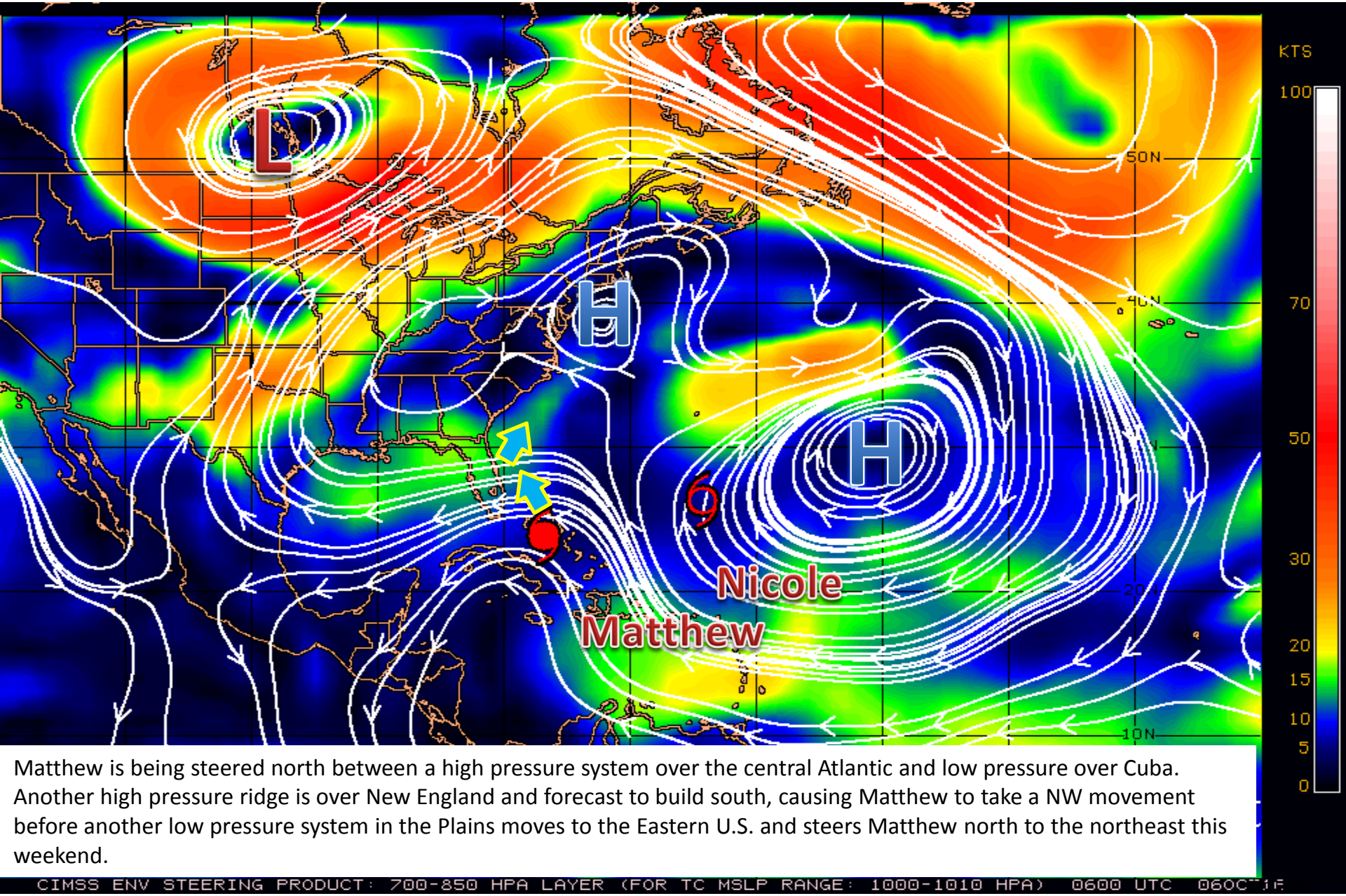
Current Disturbances and Two-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

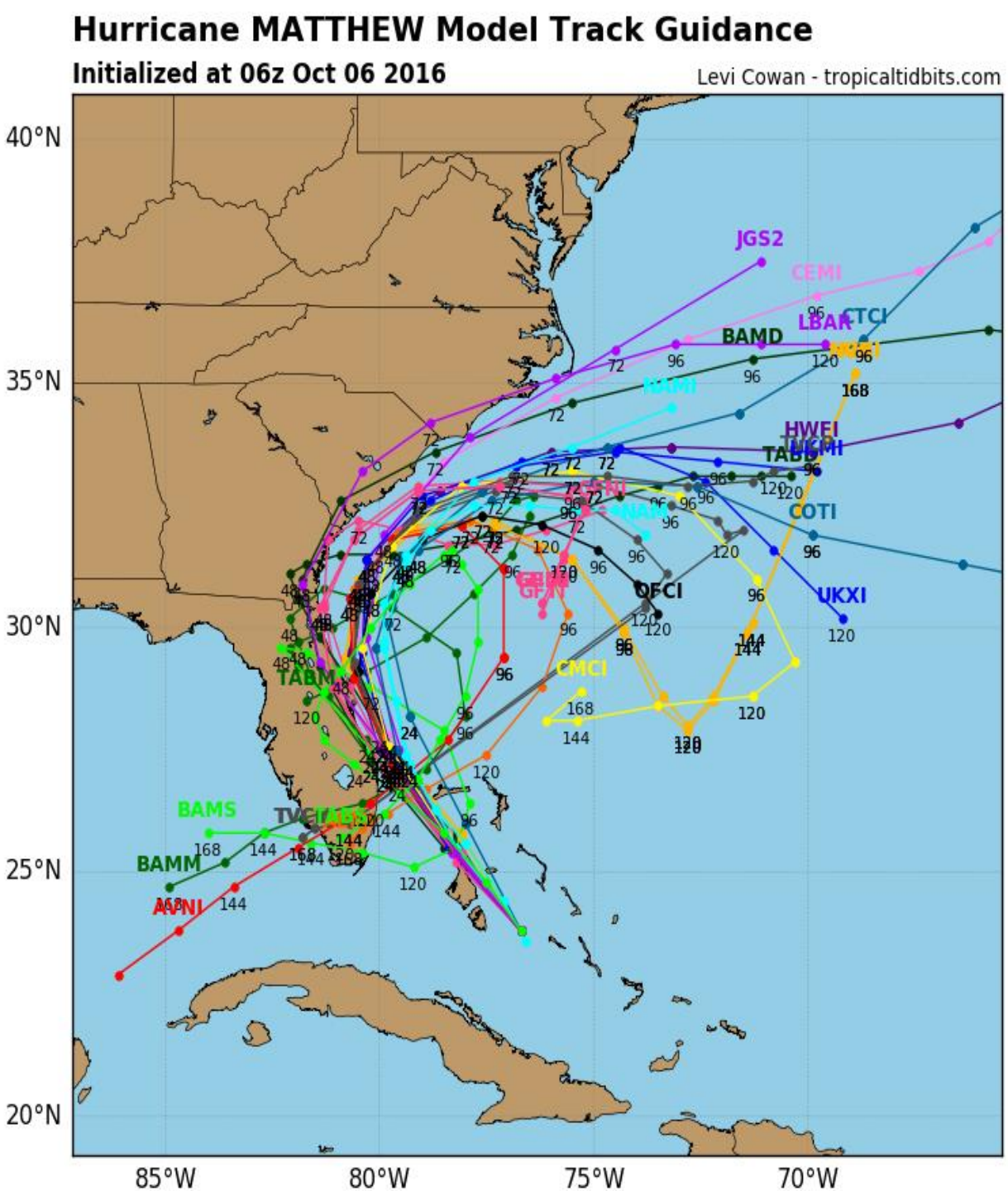
Post-Tropical Cyclone Remnants


Hurricane Matthew
5 AM EDT Thu Oct 06 2016
Position 24.2 N 77.1 W
Maximum Winds 125 mph
Gusts 155 mph
Movement NW at 11 mph
Minimum Pressure 944 mb (27.87 inches)
Blue Marble basemap imagery courtesy NASA
Satellite 9:56 AM UTC
5:56 AM EDT
wunderground.com

Steering Currents

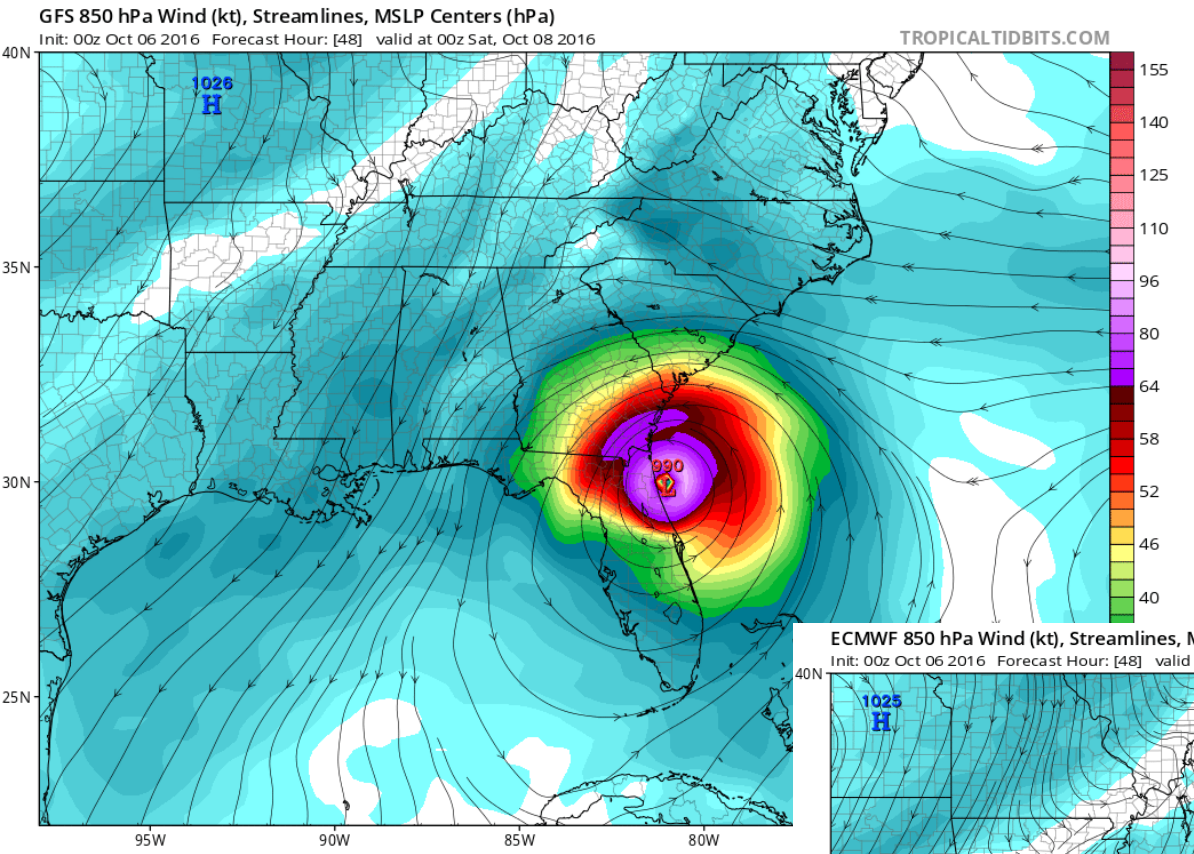


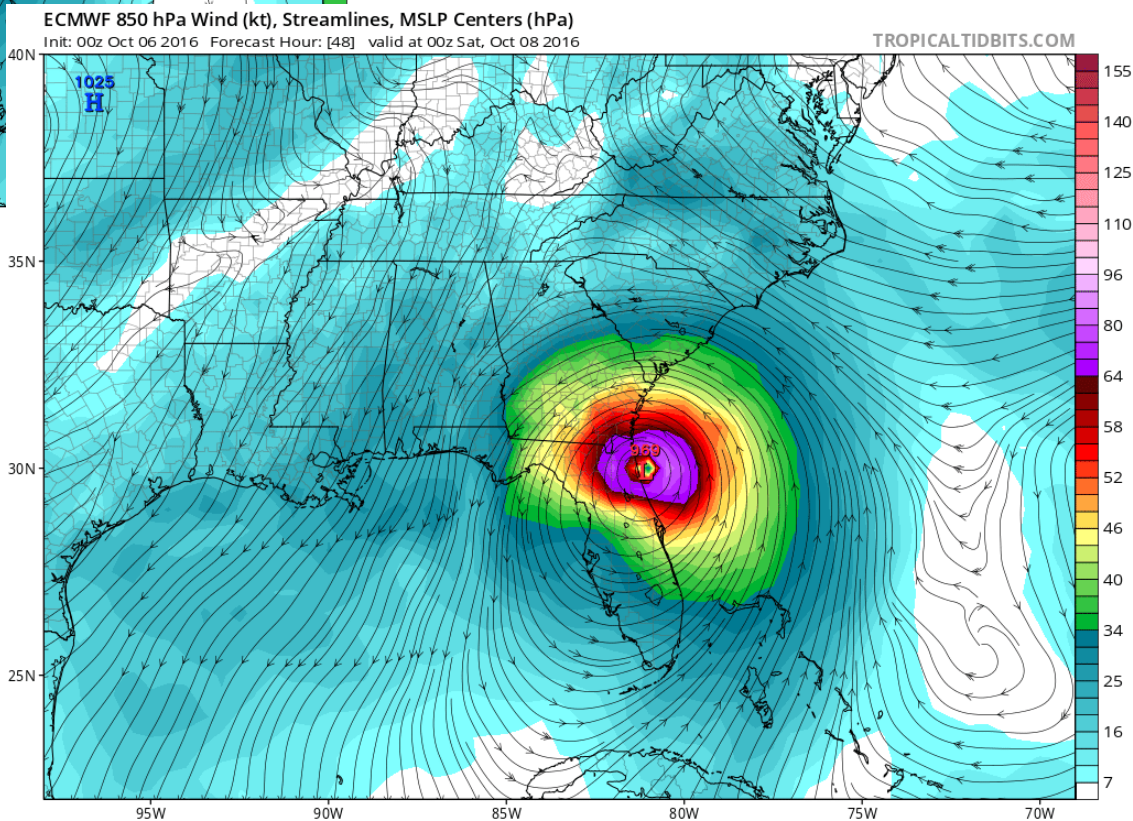
Matthew is being steered north between a high pressure system over the central Atlantic and low pressure over Cuba. Another high pressure ridge is over New England and forecast to build south, causing Matthew to take a NW movement before another low pressure system in the Plains moves to the Eastern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



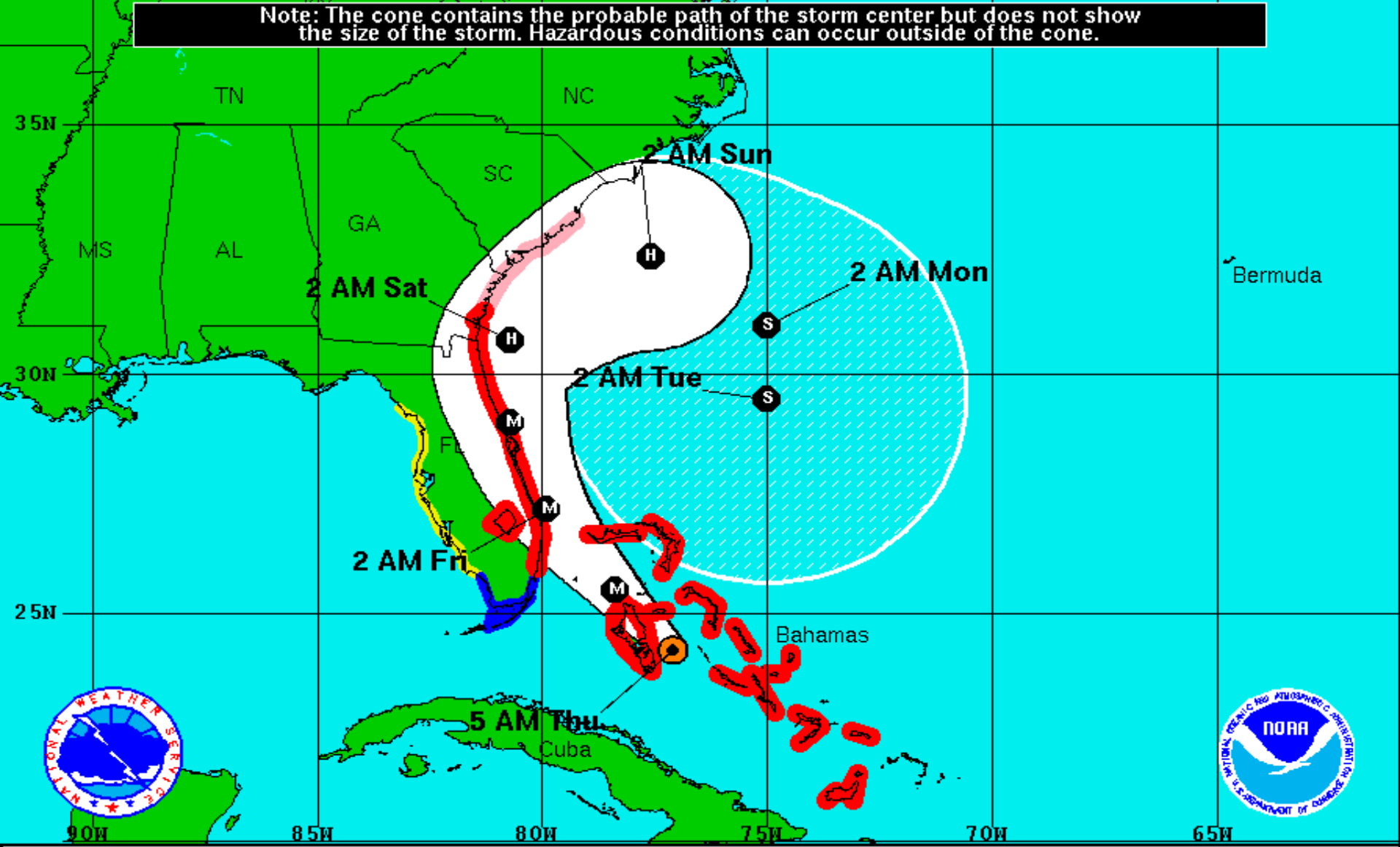
The forecast tracks are in some-what good agreement through the next 24-72 hours, showing a track parallel or over the Florida east coast. However, beyond 72 hours, the models are now showing a big turn to the right at the 96-120 hour, and are not in agreement on their east-southeast track. Matthew's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

Euro vs. GFS – 8PM Friday





The latest European and GFS models are reasonable good agreement on the future track of Matthew in the short term. Both models have the storm making landfall in the Treasure Coast, though the GFS has the storm a bit further inland.



Hurricane Matthew
Thursday October 6, 2016
5 AM EDT Advisory 33
NWS National Hurricane Center

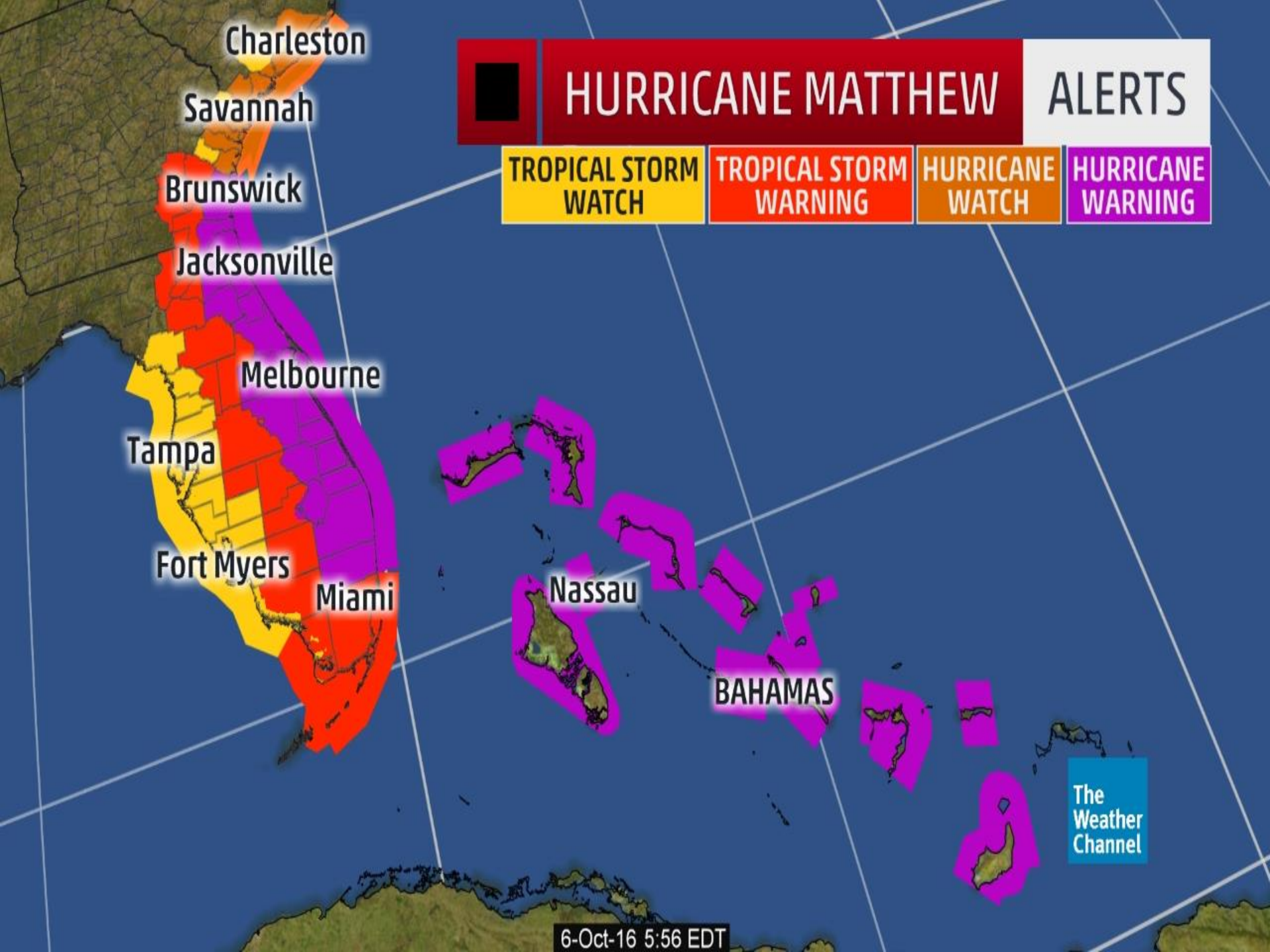
Current Information:
Center Location 24.2 N 77.1 W
Max Sustained Wind 125 mph
Movement NW at 12 mph

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

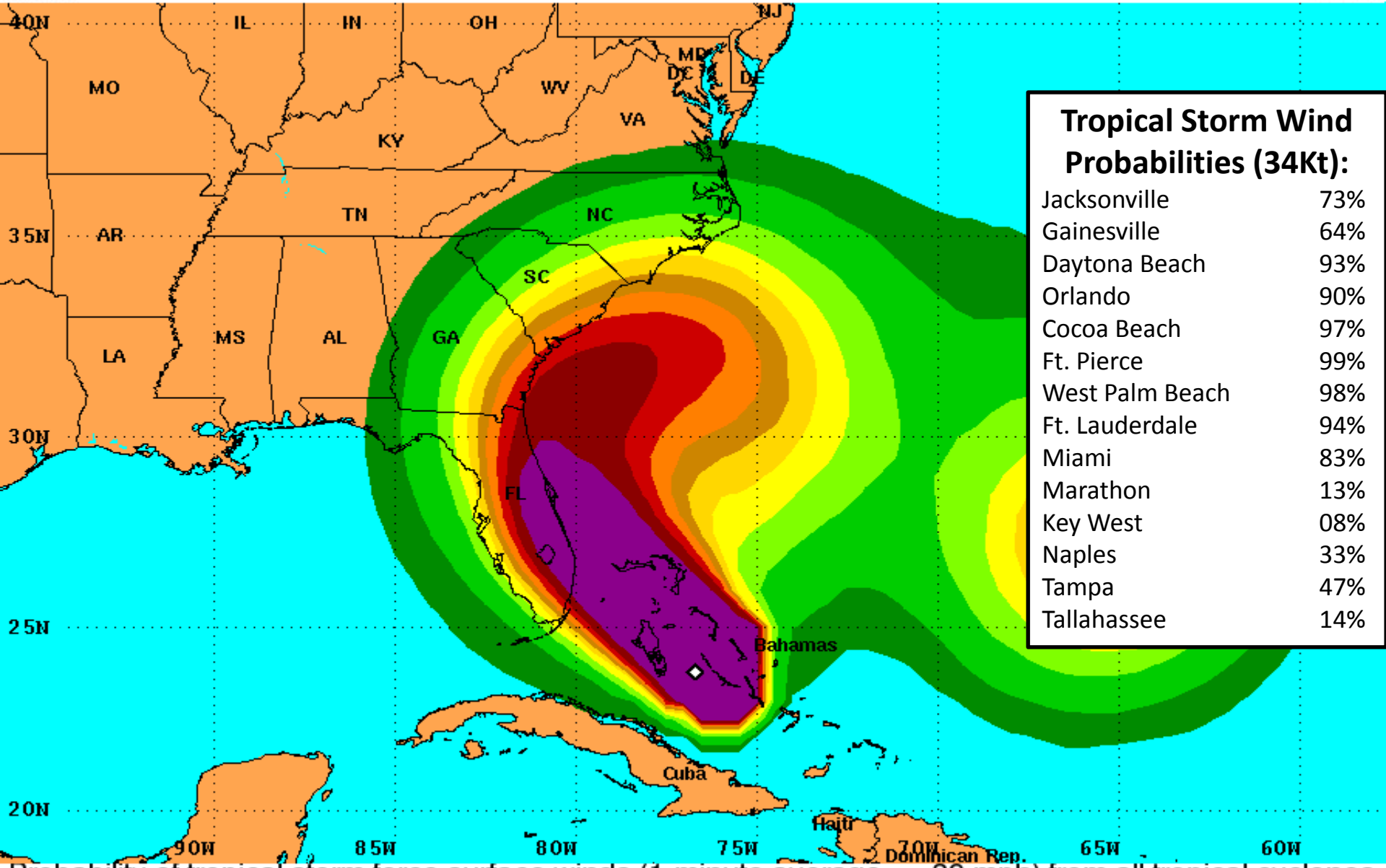
Watches:
Hurricane Trop.Storm

Warnings:
Hurricane Trop.Storm


HURRICANE MATTHEW ALERTS
TROPICAL STORM WATCH
TROPICAL STORM WARNING
HURRICANE WATCH
HURRICANE WARNING
Charleston
Savannah
Brunswick
Jacksonville
Melbourne
Tampa
Fort Myers
Miami
Nassau
BAHAMAS
The Weather Channel
6-Oct-16 5:56 EDT

Tropical Storm Force Wind Speed Probabilities

For the 120 hours (5 days) from 2 AM EDT Thu Oct 6 to 2 AM EDT Tue Oct 11



Tropical Storm Wind Probabilities (34Kt):

Jacksonville	73%
Gainesville	64%
Daytona Beach	93%
Orlando	90%
Cocoa Beach	97%
Ft. Pierce	99%
West Palm Beach	98%
Ft. Lauderdale	94%
Miami	83%
Marathon	13%
Key West	08%
Naples	33%
Tampa	47%
Tallahassee	14%

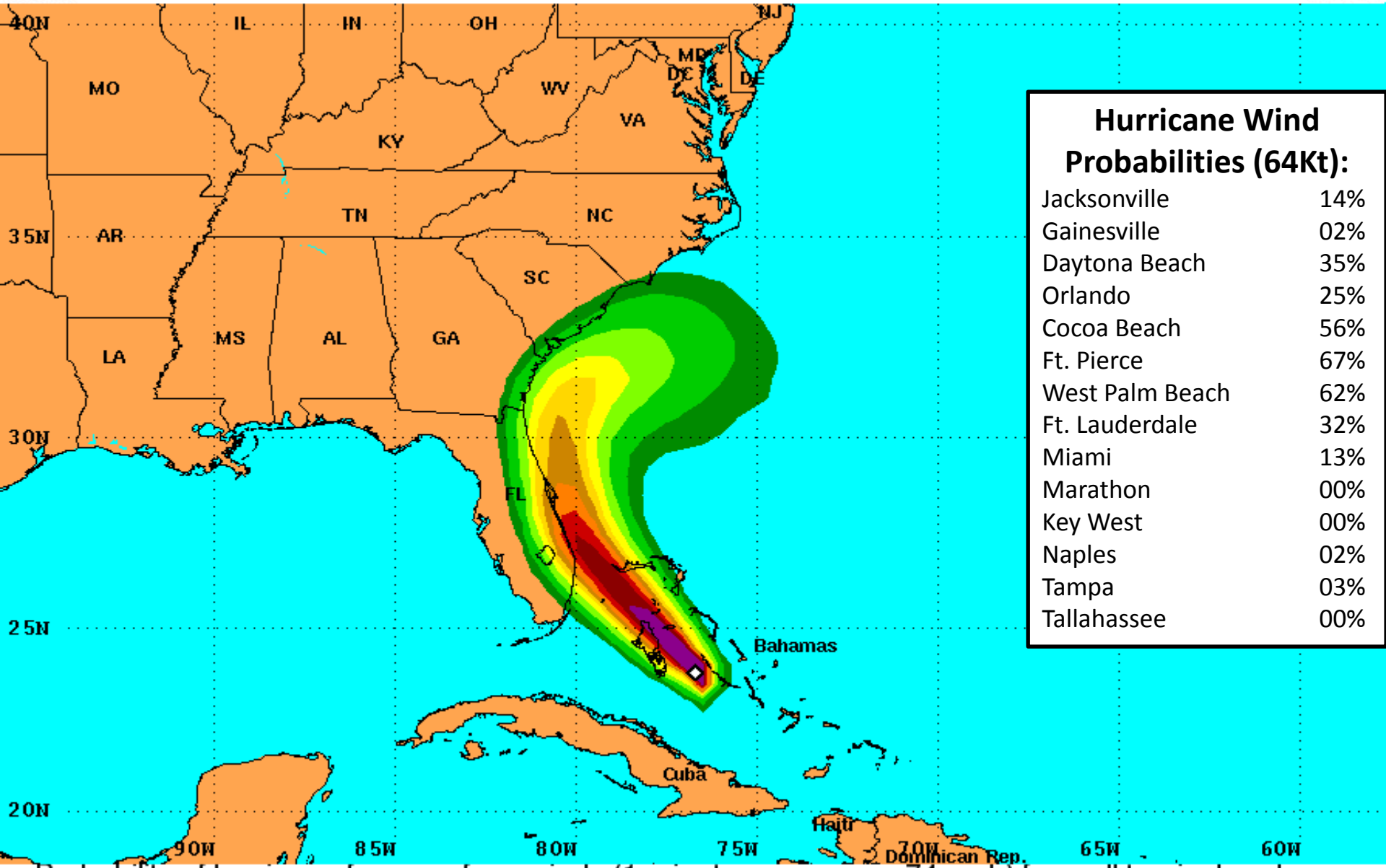
Probability of tropical storm force surface winds (1-minute average >= 39 mph) from all tropical cyclones

◇ indicates HURRICANE MATTHEW center location at 2 AM EDT Thu Oct 6 2016 (Forecast/Advisory #33)

5% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Hurricane Force Wind Speed Probabilities

For the 120 hours (5 days) from 2 AM EDT Thu Oct 6 to 2 AM EDT Tue Oct 11



Hurricane Wind Probabilities (64Kt):

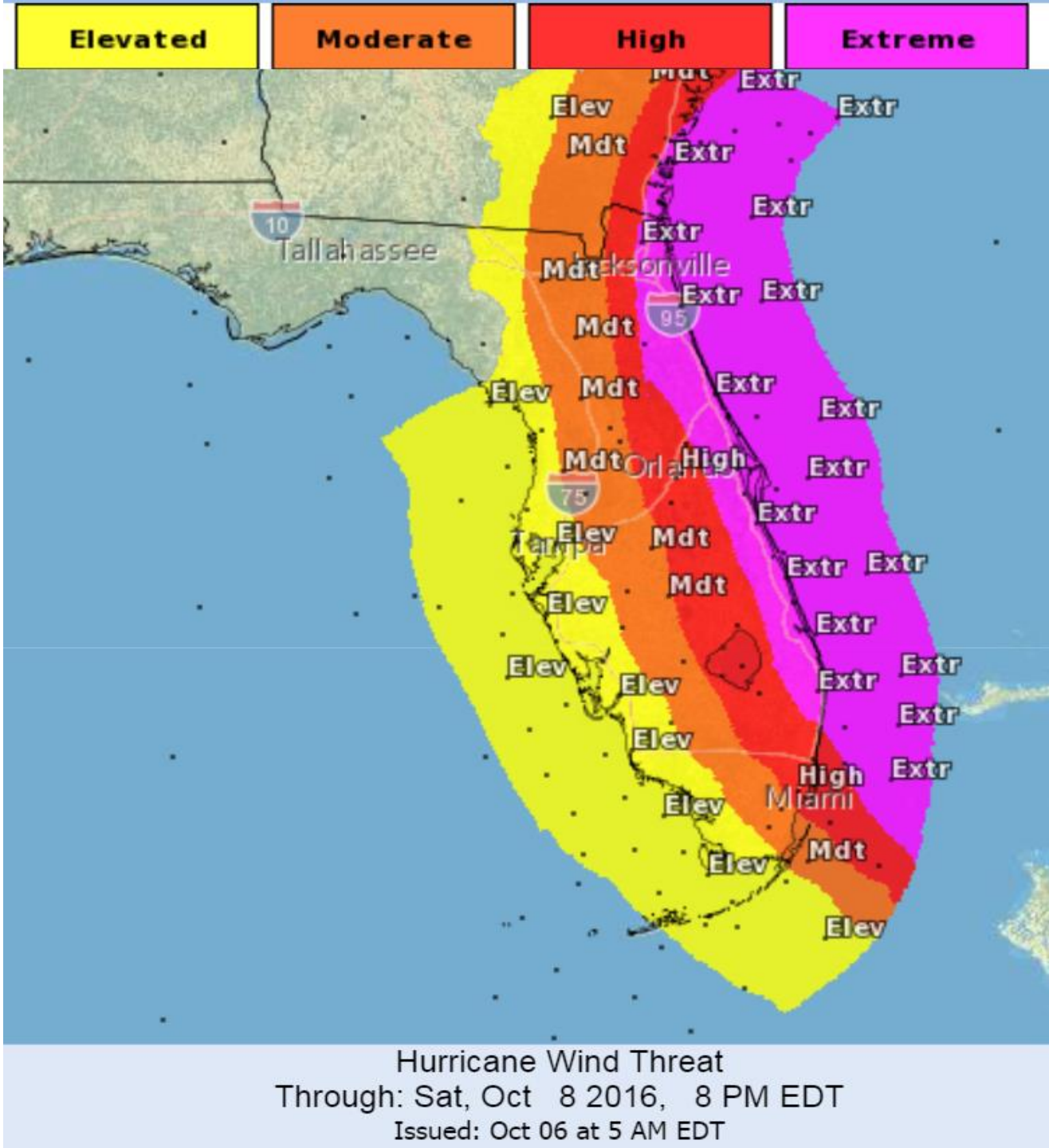
Jacksonville	14%
Gainesville	02%
Daytona Beach	35%
Orlando	25%
Cocoa Beach	56%
Ft. Pierce	67%
West Palm Beach	62%
Ft. Lauderdale	32%
Miami	13%
Marathon	00%
Key West	00%
Naples	02%
Tampa	03%
Tallahassee	00%

Probability of hurricane force surface winds (1-minute average >= 74 mph) from all tropical cyclones

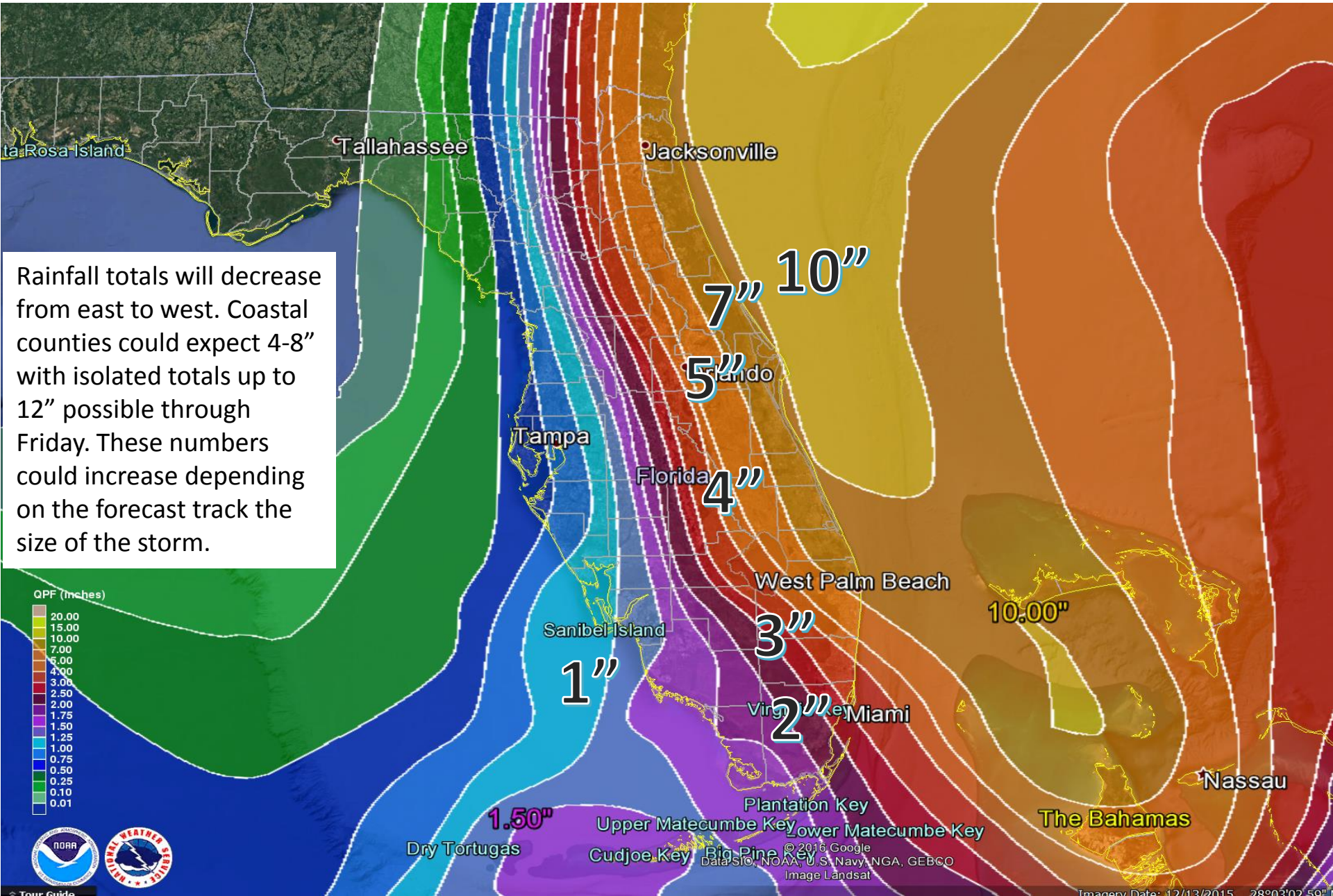
◇ indicates HURRICANE MATTHEW center location at 2 AM EDT Thu Oct 6 2016 (Forecast/Advisory #33)

5% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

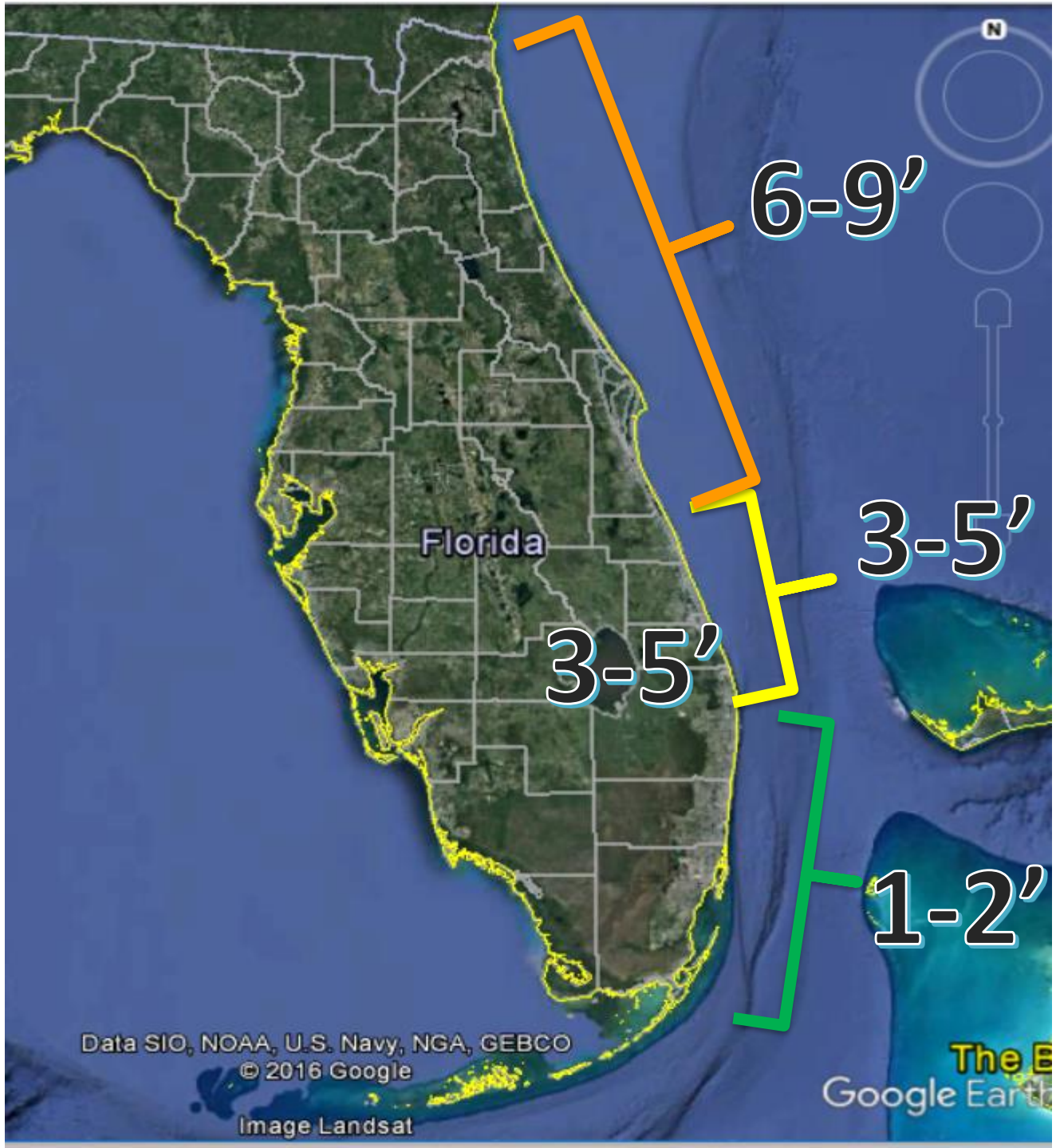
- Elevated - The potential for winds 39 mph - 58 mph.
- Moderate – the potential for winds 58 mph - 74 mph.
- High - potential for winds 74 mph - 111 mph.
- Extreme - the potential for winds greater than 111 mph.



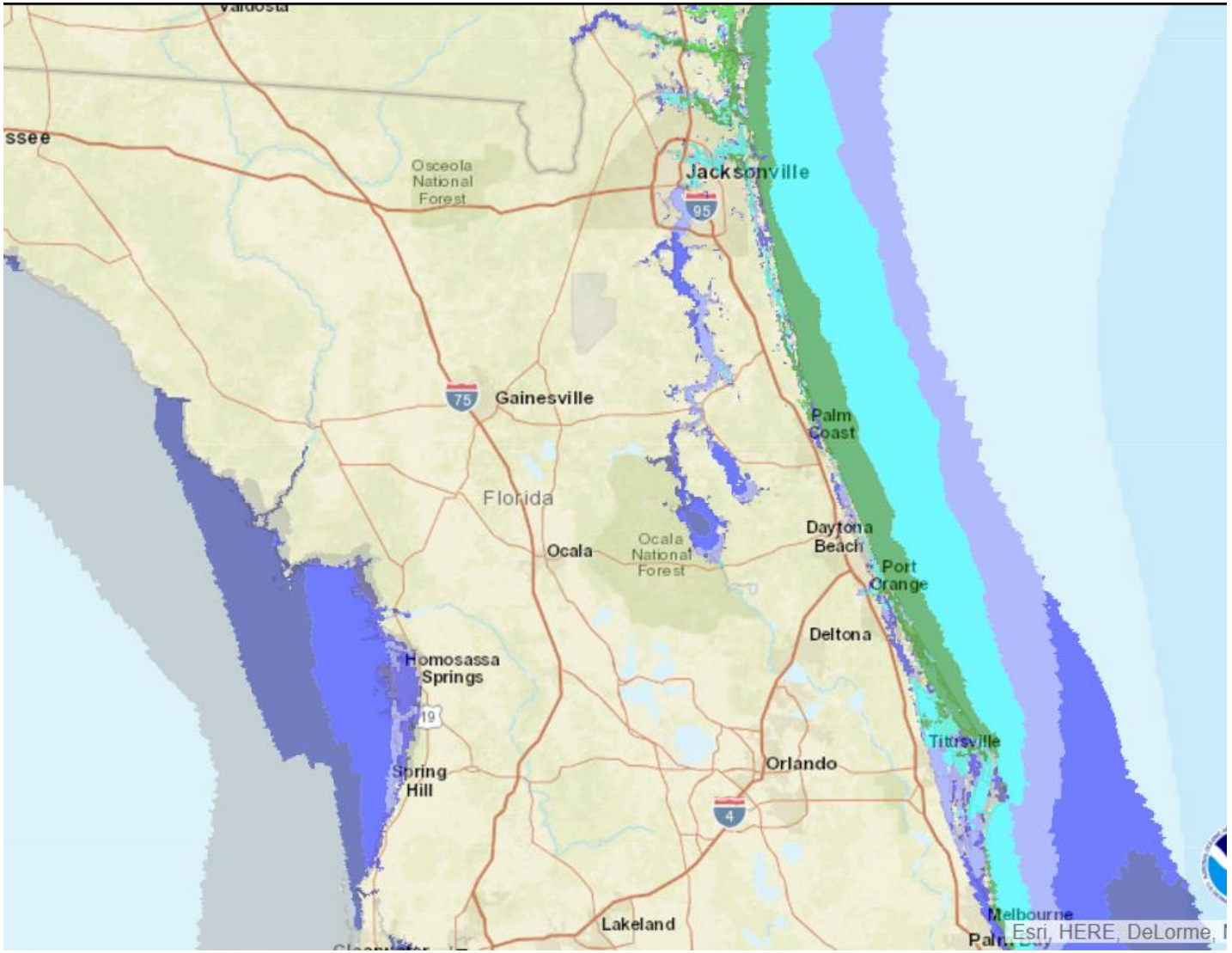
Next 5 Day Forecast Rainfall



Prototype Storm Surge Watches/Warnings



Storm Surge Estimates

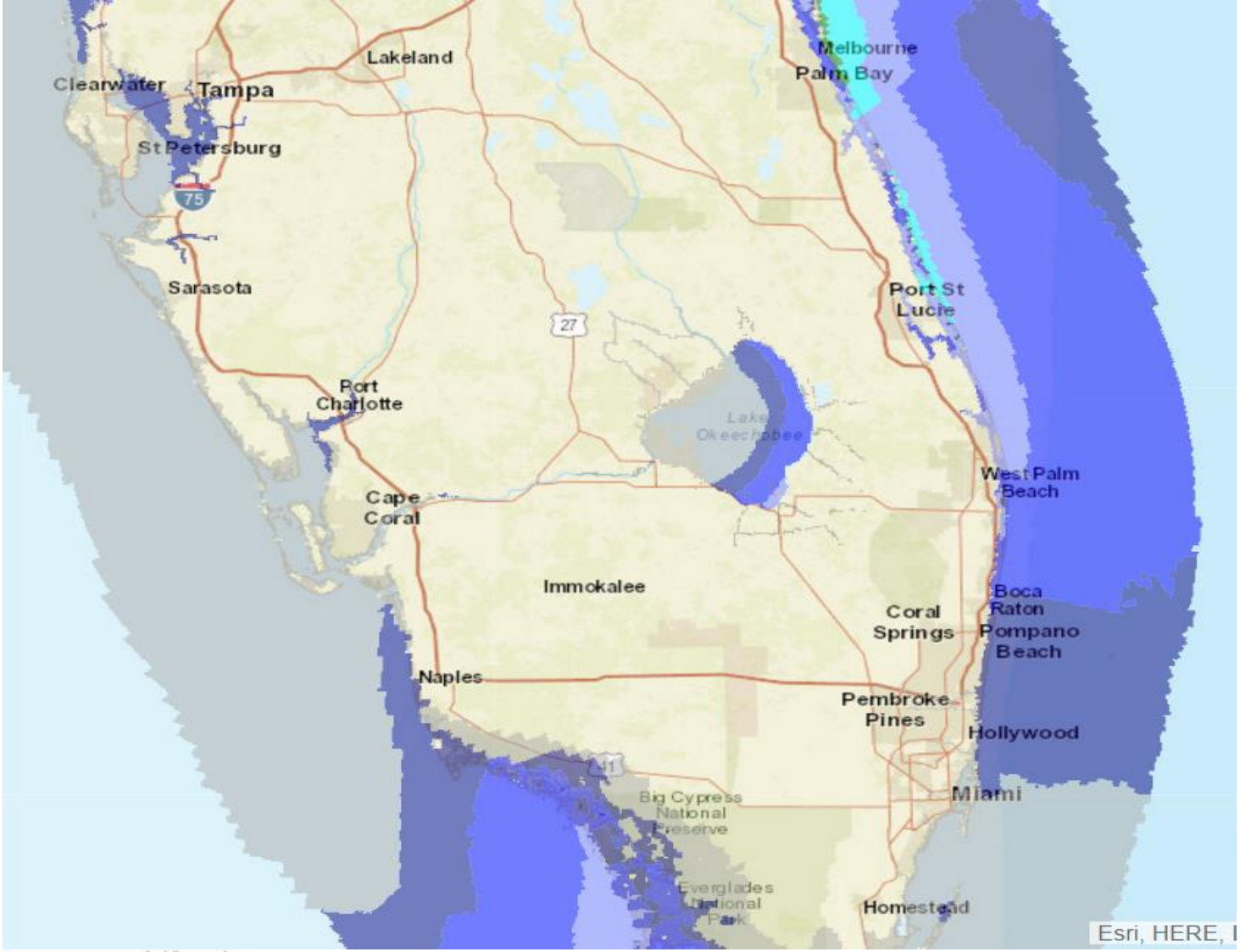


Legend

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 32
For the 77 hours from 11 PM EDT Wed Oct 05 to 04 AM EDT Sun Oct 09



Legend

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0 to < 2	11 to < 13	23 to < 25
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Tropical Cyclone Storm Surge (with tide) Heights
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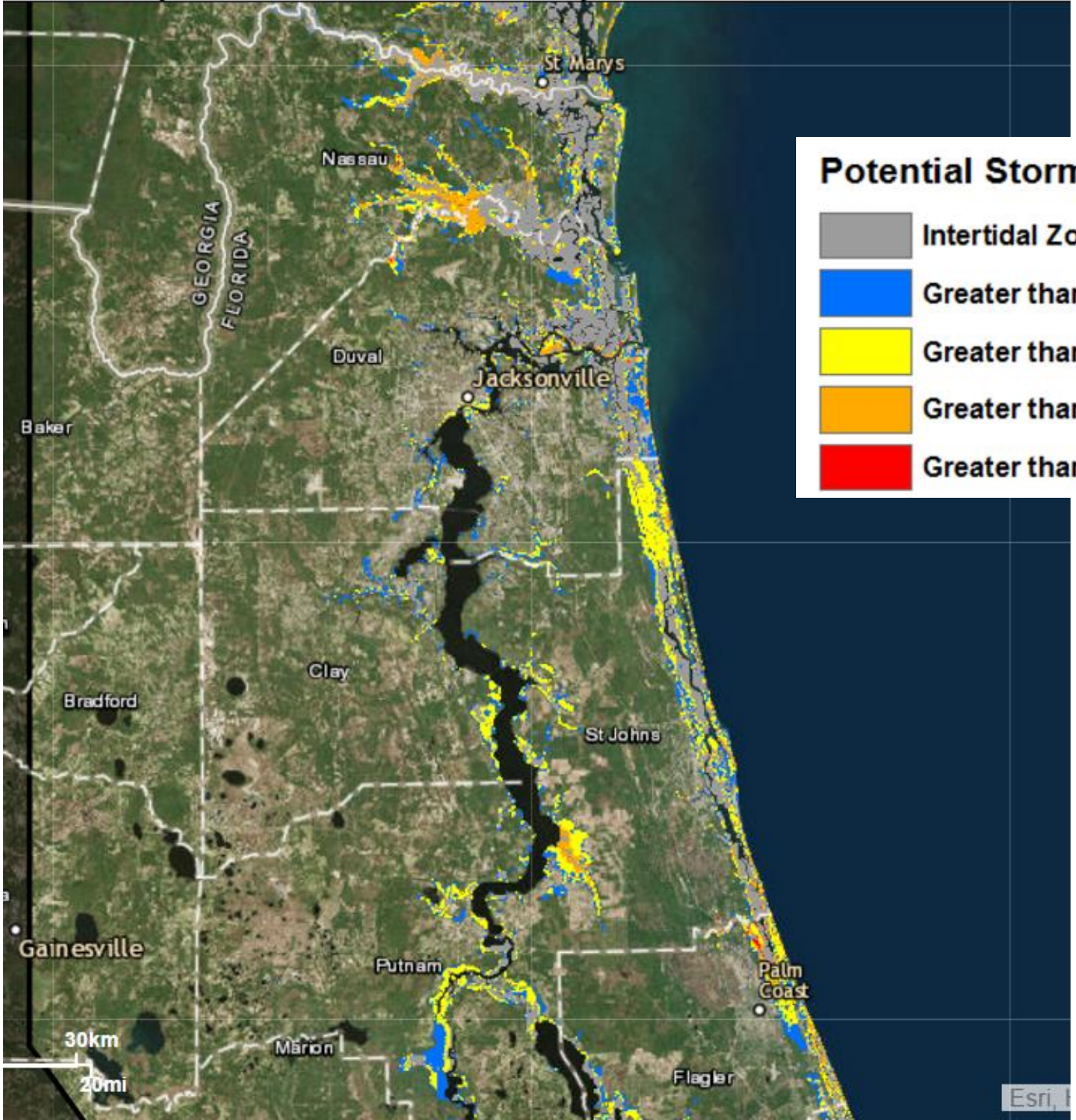
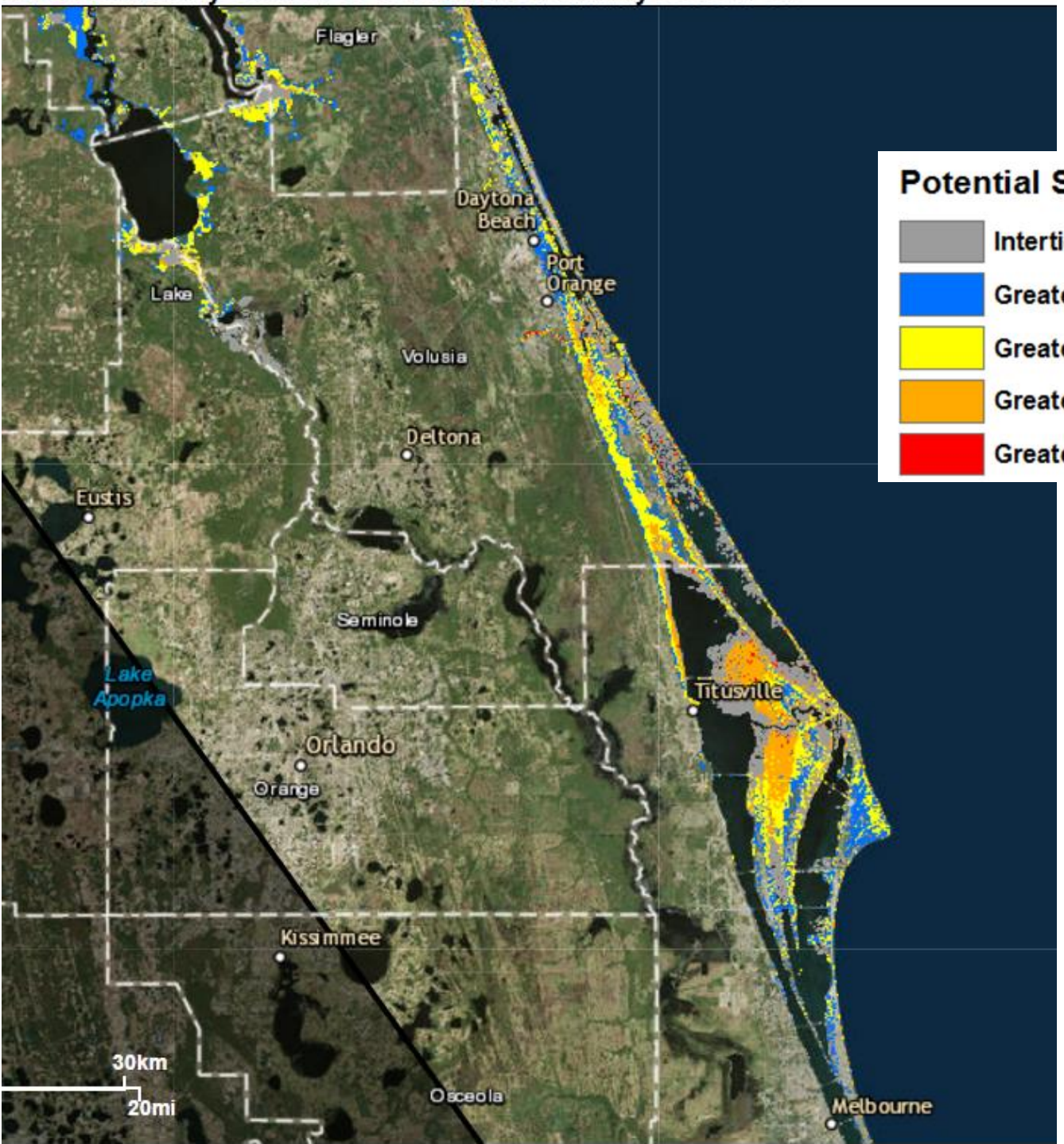
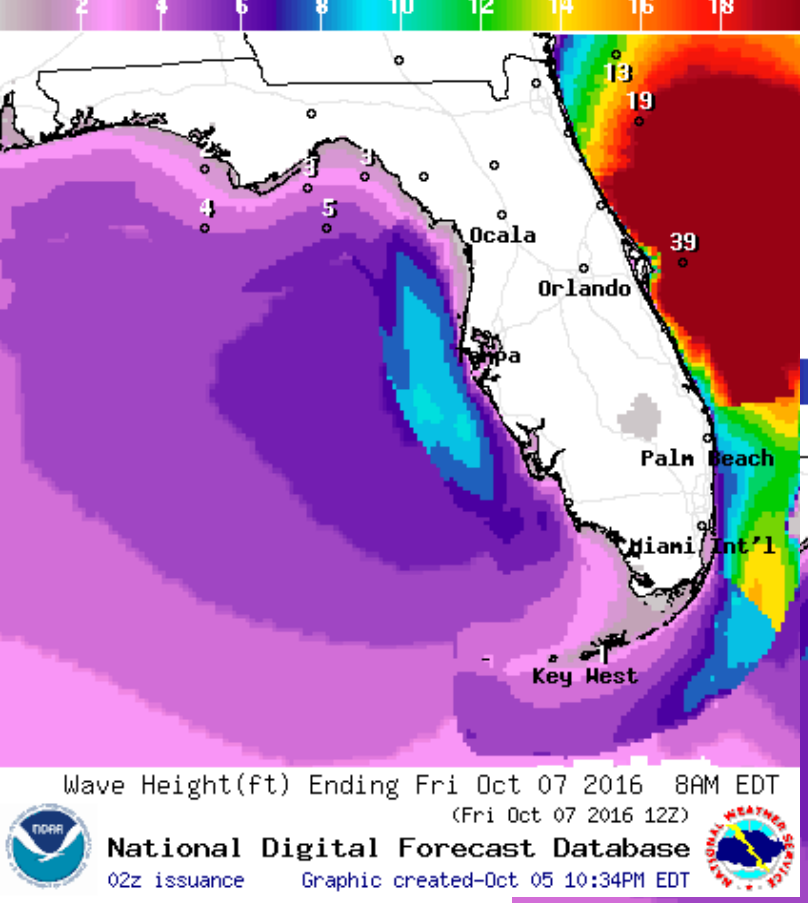


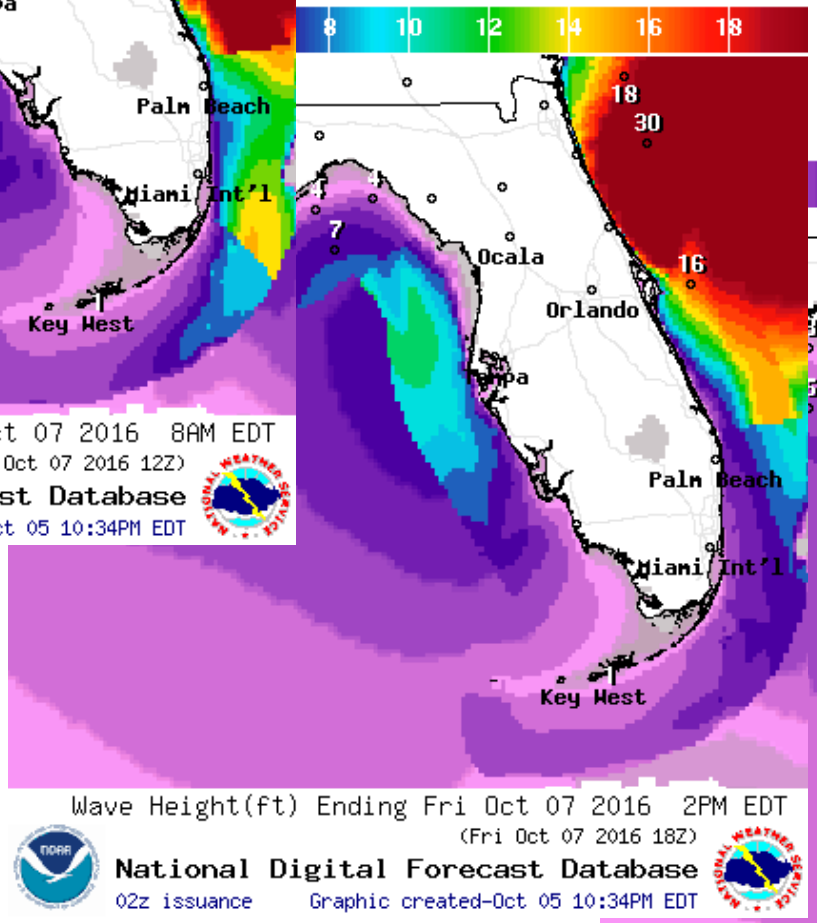
Potential Storm Surge Flooding*

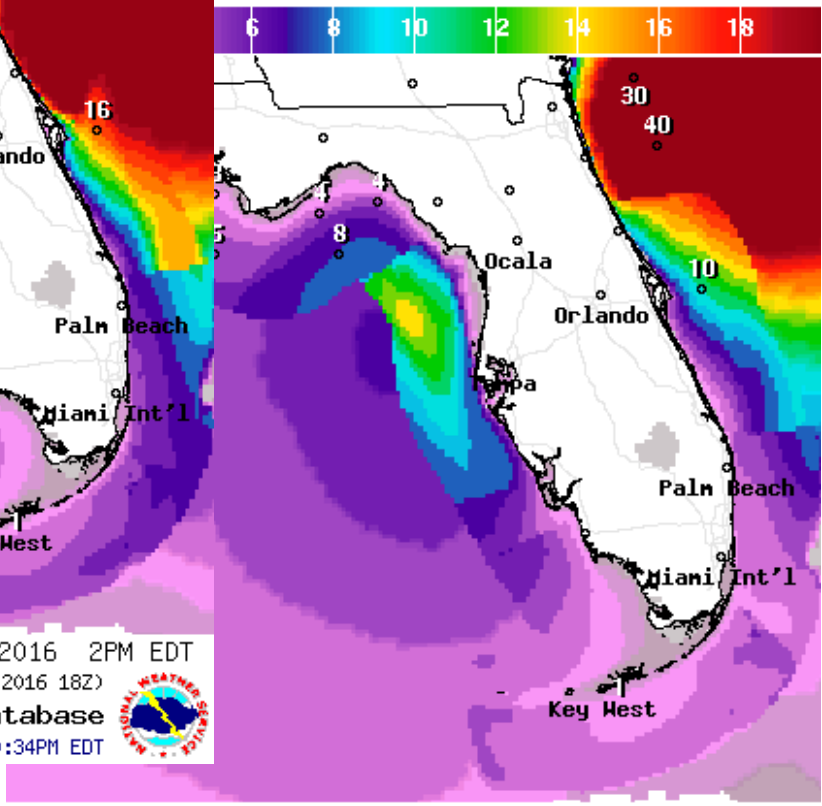
- Intertidal Zone/Estuarine Wetland
- Greater than 1 foot above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground


Flagler
Daytona Beach
Port Orange
Lake
Volusia
Deltona
Eustis
Seminole
Lake Apopka
Orlando
Orange
Titusville
Kissimmee
Osceola
Melbourne
30km
20mi
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







Onset of Tropical and Hurricane Force Winds by Timing

Location	Onset of 34mph Winds 34kt(39mph)	Onset of 58mph Winds 50kt(58mph)	Onset of Hurricane Winds 64kt(74mph)	End of Hurricane Winds 64ktEND(dur)	End of 58mph Winds 50ktEND(dur)	End of 34mph Winds 34ktEND(dur)	Estimated Peak Wind and Time Peak Wind
FL Miami-Dade	10/06 16E					10/07 08E [16]	48kt (55mph) 10/06 21E
FL Broward	10/06 16E	10/06 20E			10/07 03E [07]	10/07 10E [18]	58kt (67mph) 10/06 22E
FL Palm Beach	10/06 16E	10/06 20E	10/06 22E	10/07 05E [07]	10/07 08E [12]	10/07 16E [24]	96kt (110mph) 10/07 02E
FL Martin	10/06 18E	10/06 21E	10/06 23E	10/07 07E [08]	10/07 10E [13]	10/07 18E [24]	106kt (122mph) 10/07 03E
FL St Lucie	10/06 19E	10/06 22E	10/07 00E	10/07 09E [09]	10/07 12E [14]	10/07 20E [25]	107kt (123mph) 10/07 04E
FL Indian River	10/06 20E	10/07 00E	10/07 02E	10/07 11E [09]	10/07 15E [15]	10/07 22E [26]	110kt (127mph) 10/07 07E
FL Glades	10/06 21E	10/07 02E			10/07 07E [05]	10/07 16E [19]	54kt (62mph) 10/07 04E
FL Hendry	10/06 21E					10/07 11E [14]	47kt (54mph) 10/07 02E
FL Collier	10/06 21E					10/07 05E [08]	38kt (44mph) 10/06 23E
FL Okeechobee	10/06 21E	10/07 01E	10/07 04E	10/07 08E [04]	10/07 12E [11]	10/07 20E [23]	79kt (91mph) 10/07 05E
FL Highlands	10/06 22E	10/07 03E			10/07 09E [06]	10/07 18E [20]	54kt (62mph) 10/07 06E
FL Brevard	10/06 22E	10/07 02E	10/07 03E	10/07 17E [14]	10/07 22E [20]	10/08 04E [30]	116kt (133mph) 10/07 10E
FL Osceola	10/06 23E	10/07 03E	10/07 06E	10/07 13E [07]	10/07 18E [15]	10/08 01E [26]	93kt (107mph) 10/07 10E
FL Polk	10/07 00E	10/07 05E			10/07 10E [05]	10/07 22E [22]	54kt (62mph) 10/07 07E
FL Orange	10/07 01E	10/07 05E	10/07 07E	10/07 15E [08]	10/07 19E [14]	10/08 02E [25]	92kt (106mph) 10/07 11E
FL Desoto	10/07 02E					10/07 10E [08]	39kt (45mph) 10/07 04E
FL Charlotte	10/07 02E					10/07 06E [04]	36kt (41mph) 10/07 05E
FL Seminole	10/07 02E	10/07 07E	10/07 09E	10/07 16E [07]	10/07 21E [14]	10/08 03E [25]	89kt (102mph) 10/07 13E
FL Hardee	10/07 02E					10/07 15E [13]	43kt (49mph) 10/07 07E
FL Volusia	10/07 02E	10/07 07E	10/07 09E	10/07 21E [12]	10/08 01E [18]	10/08 06E [28]	115kt (132mph) 10/07 13E
FL Lake	10/07 05E	10/07 10E	10/07 13E	10/07 16E [03]	10/07 22E [12]	10/08 03E [22]	72kt (83mph) 10/07 14E
FL Flagler	10/07 06E	10/07 11E	10/07 13E	10/07 22E [09]	10/08 02E [15]	10/08 07E [25]	92kt (106mph) 10/07 17E
FL Marion	10/07 07E	10/07 12E			10/07 22E [10]	10/08 04E [21]	62kt (71mph) 10/07 16E
FL Putnam	10/07 07E	10/07 12E	10/07 14E	10/07 22E [08]	10/08 02E [14]	10/08 06E [23]	73kt (84mph) 10/07 16E

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

Location	Onset of 34mph Winds (34kt(39mph))	Onset of 58mph Winds (50kt(58mph))	Onset of Hurricane Winds (64kt(74mph))	End of Hurricane Winds (64ktEND(dur))	End of 58mph Winds (50ktEND(dur))	End of 34mph Winds (34ktEND(dur))	Estimated Peak Wind and Time (Peak Wind)
FL Hernando	10/07 08E					10/07 20E [12]	42kt (48mph) 10/07 13E
FL Pasco	10/07 08E					10/07 19E [11]	41kt (47mph) 10/07 14E
FL Sumter	10/07 08E					10/08 00E [16]	49kt (56mph) 10/07 16E
FL St Johns	10/07 08E	10/07 13E	10/07 15E	10/08 00E [09]	10/08 04E [15]	10/08 08E [24]	88kt (101mph) 10/07 18E
FL Hillsborough	10/07 09E					10/07 15E [06]	37kt (43mph) 10/07 11E
FL Citrus	10/07 11E					10/07 22E [11]	42kt (48mph) 10/07 15E
FL Duval	10/07 11E	10/07 15E	10/07 18E	10/08 02E [08]	10/08 05E [14]	10/08 09E [22]	80kt (92mph) 10/07 21E
FL Alachua	10/07 11E	10/07 17E			10/07 23E [06]	10/08 04E [17]	52kt (60mph) 10/07 19E
FL Clay	10/07 11E	10/07 15E	10/07 18E	10/07 23E [05]	10/08 03E [12]	10/08 07E [20]	67kt (77mph) 10/07 21E
FL Bradford	10/07 12E	10/07 18E			10/08 01E [07]	10/08 05E [17]	55kt (63mph) 10/07 21E
FL Nassau	10/07 13E	10/07 18E	10/07 22E	10/08 02E [04]	10/08 06E [12]	10/08 10E [21]	69kt (79mph) 10/07 23E
FL Baker	10/07 13E	10/07 19E			10/08 02E [07]	10/08 06E [17]	55kt (63mph) 10/07 21E
FL Levy	10/07 13E					10/08 01E [12]	43kt (49mph) 10/07 18E
FL Union	10/07 14E	10/07 20E			10/08 00E [04]	10/08 05E [15]	52kt (60mph) 10/07 20E
FL Columbia	10/07 16E					10/08 05E [13]	46kt (53mph) 10/07 21E
FL Gilchrist	10/07 16E					10/08 02E [10]	40kt (46mph) 10/07 20E
FL Hamilton	10/07 18E					10/08 04E [10]	42kt (48mph) 10/07 22E
FL Suwannee	10/07 18E					10/08 03E [09]	39kt (45mph) 10/07 21E
FL Dixie	10/07 20E					10/08 00E [04]	34kt (39mph) 10/07 20E
FL Lafayette	10/07 20E					10/08 00E [04]	35kt (40mph) 10/07 21E

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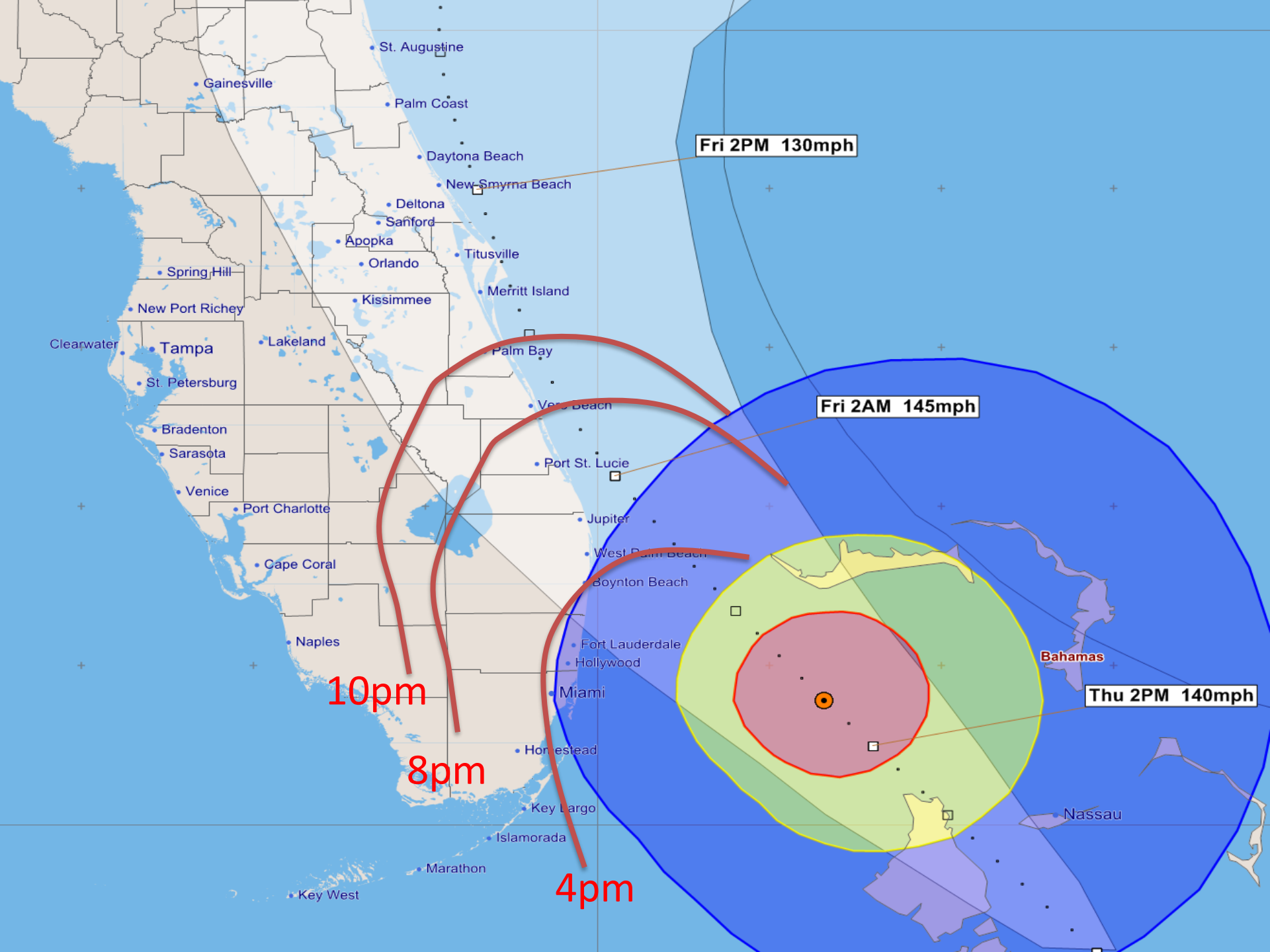
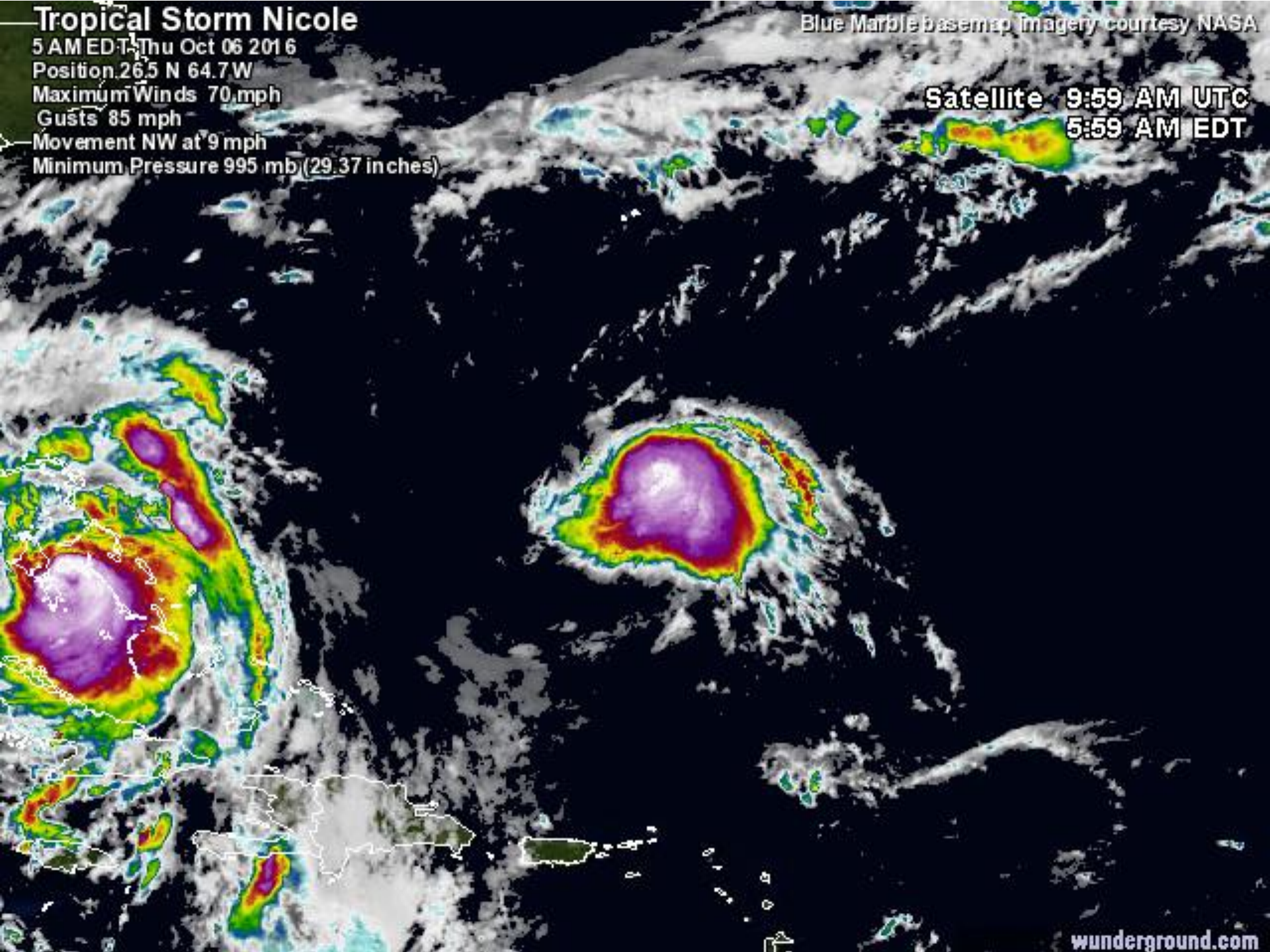
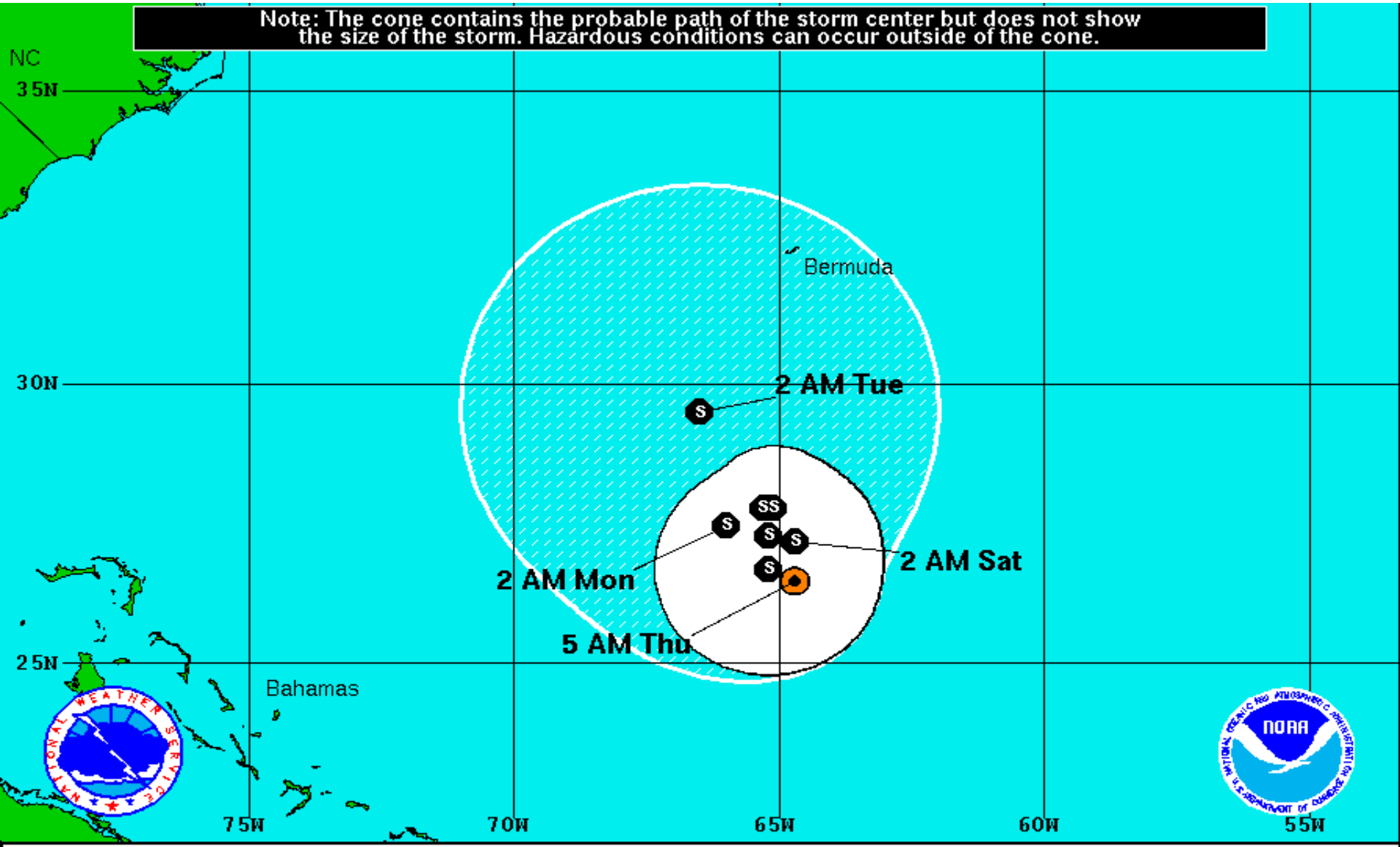
Rows in red indicate the county will see hurricane force winds >64kts (>74mph)


St. Augustine
Gainesville
Palm Coast
Daytona Beach
New Smyrna Beach
Deltona
Sanford
Apopka
Titusville
Orlando
Spring Hill
Merritt Island
Kissimmee
New Port Richey
Clearwater
Tampa
Lakeland
Palm Bay
St. Petersburg
Bradenton
Sarasota
Port St. Lucie
Venice
Port Charlotte
Jupiter
Cape Coral
Boynton Beach
Naples
Fort Lauderdale
Hollywood
Miami
Homestead
Key Largo
Islamorada
Marathon
Key West
Bahamas
Nassau
Fri 2PM 130mph
Fri 2AM 145mph
Thu 2PM 140mph
10pm
8pm
4pm


Tropical Storm Nicole
5 AM EDT Thu Oct 06 2016
Position 26.5 N 64.7 W
Maximum Winds 70 mph
Gusts 85 mph
Movement NW at 9 mph
Minimum Pressure 995 mb (29.37 inches)
Blue Marble basemap imagery courtesy NASA
Satellite 9:59 AM UTC
5:59 AM EDT
wunderground.com



Tropical Storm Nicole
Thursday October 6, 2016
5 AM EDT Advisory 8
NWS National Hurricane Center

Current Information:
Center Location 26.5 N 64.7 W
Max Sustained Wind 70 mph
Movement NW at 9 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:
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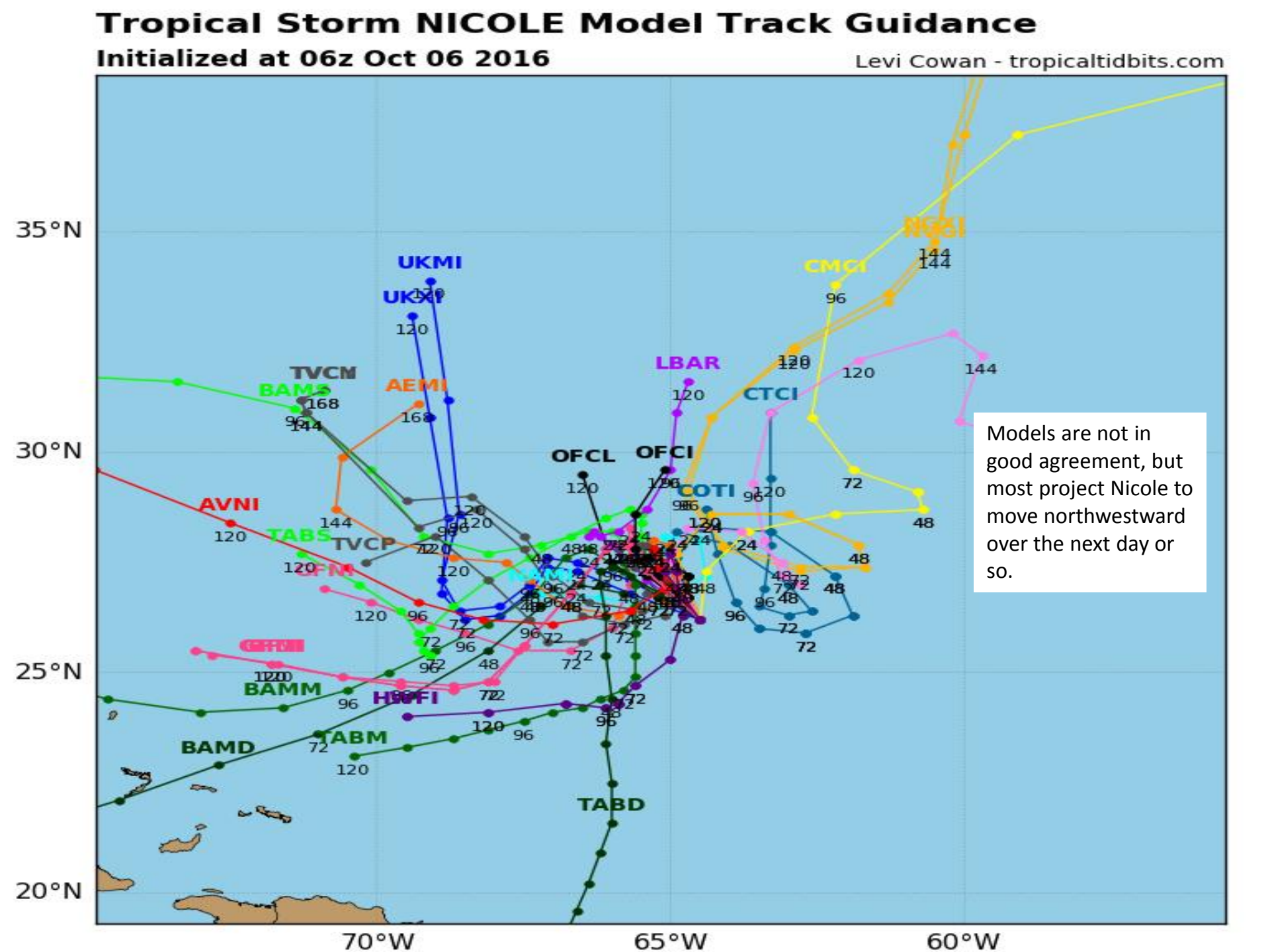
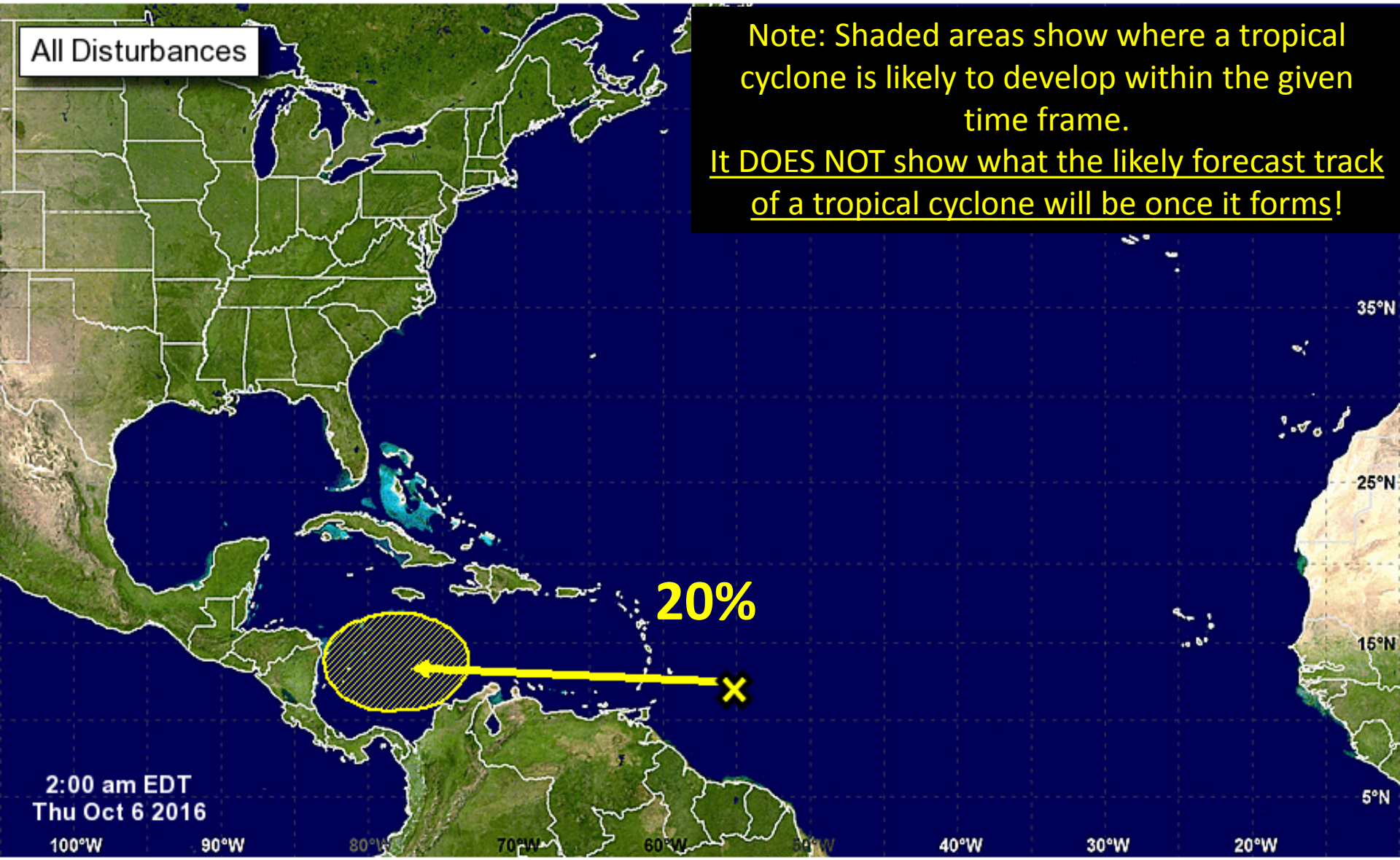

Tropical Storm NICOLE Model Track Guidance
Initialized at 06z Oct 06 2016
Levi Cowan - tropicaltidbits.com
35°N
30°N
25°N
20°N
70°W
65°W
60°W
UKMI
UKXI
TVCM
BAMS
AEMI
LBAR
CMCI
CTCI
OFCL
OFCI
COTI
AVNI
TABS
TVCP
BAMM
HWFI
BAMD
TABM
TABD
Models are not in good agreement, but most project Nicole to move northwestward over the next day or so.

Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 am EDT Tue Oct 11 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 approximately 255 miles southeast of the West Palm Beach, FL.
- 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 northwest near 12 mph, and this general motion is expected to continue today. A turn toward the north-northwest is expected tonight. On the forecast track, the eye of Matthew should pass near Andros Island and New Providence in the northwestern Bahamas early this morning, then pass near Grand Bahama Island late today, and move very close to the east coast of the Florida peninsula tonight through Friday night.
- **Hurricane Matthew has been intensifying overnight and I expect it to continue intensifying over the next 12 hours before it reaches Florida. The pressure has fallen 17mb in the past 12 hours, this could be a sign that Matthew is rapidly intensifying.**
- 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 400 miles south of Bermuda. Nicole is moving to the northwest at 9 mph. A turn toward the north-northwest is expected later today. A slow meandering motion is expected tonight and Friday.
- Elsewhere, a tropical wave located a few hundred miles east of the Lesser Antilles is producing cloudiness and a few showers. Some development of this system is possible when the wave reaches the southwestern Caribbean Sea early next week. 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, Okeechobee, Flagler, Nassau, Duval, St. Johns, Putnam, and Clay Counties, along with Lake Okeechobee.
- **Tropical Storm Warning** is in effect for Miami-Dade, Monroe, Inland Collier, Hendry, Glades, Highlands, Lake, Sumter, Polk, Hardee, Marion, Alachua, Union, Bradford, Columbia, and Baker Counties.
- **Tropical Storm Watch** is in effect for Coastal Collier, Charlotte, Sarasota, Manatee, Desoto, Hillsborough, Pinellas, Pasco, Hernando, Citrus, and Levy Counties.
- **Flood Watch** is in effect for 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 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 West Palm Beach 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 will arrive Thursday afternoon 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 affect the Treasure and Space Coasts, and any westward deviation of the current track will bring those destructive hurricane force winds inland.
- The current forecast calls for 4-8” of rain near the I-95 corridor with isolated totals of 12” 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’ possible from Palm Beach County through Indian River County. The highest surge of 6-9’ will be from Brevard to Nassau County. Some areas may see high surge values depending on the final track of the storm.

- 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 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 36 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 Thursday afternoon. For more information on this system, please visit the NHC website at www.nhc.noaa.gov

TROPICAL UPDATE

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