



# **TROPICAL UPDATE**

**5 PM EDT**

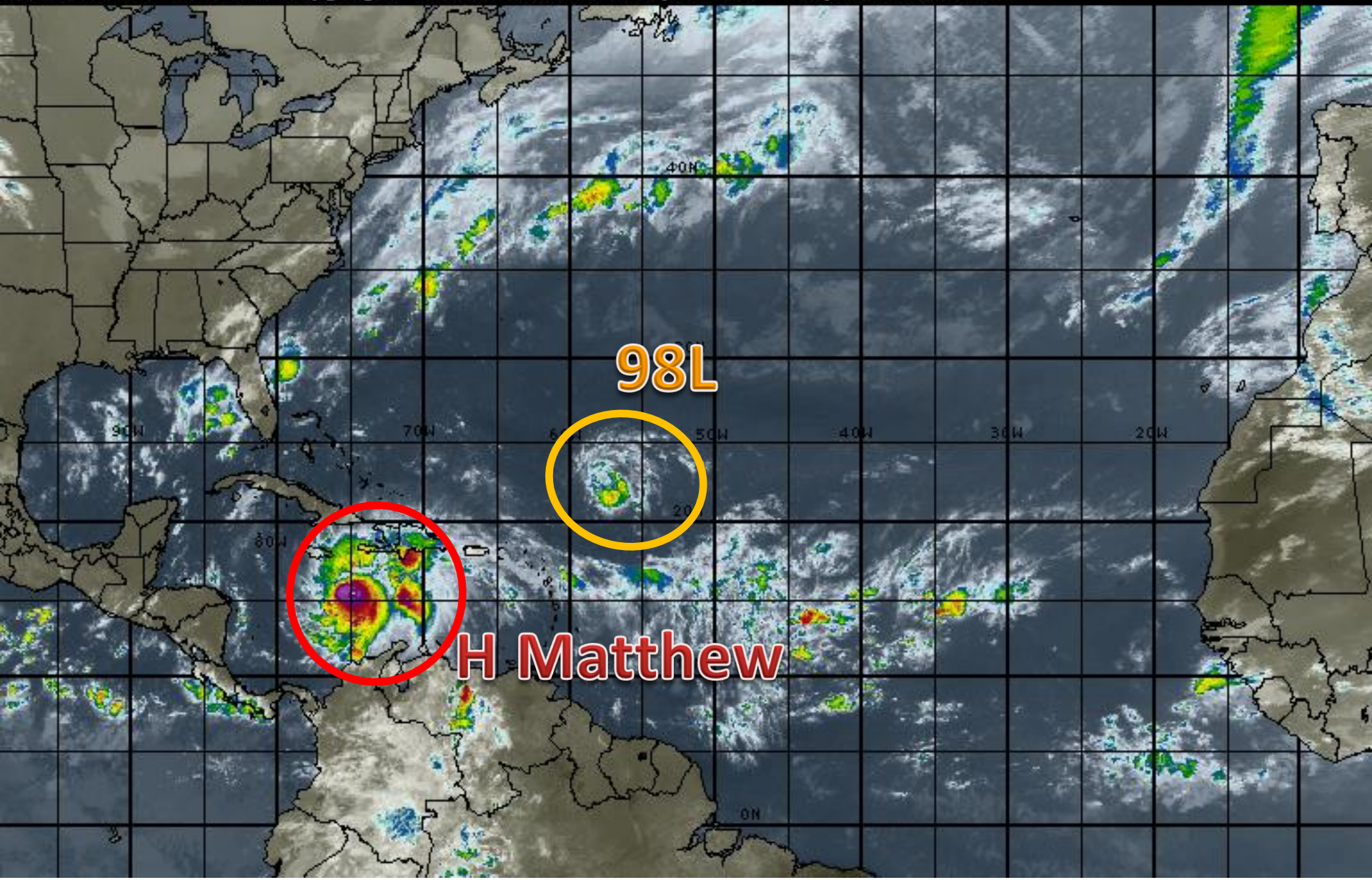
**Monday, October 3, 2016**

**Major Hurricane Matthew and Invest 98L  
(50%)**

**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

15:00 03-OCT-2016 GMT Copyright © 1998-2016 WSI Corporation <http://www.wsi.com>





# Hurricane Matthew

5 PM EDT Mon Oct 03 2016

Position 16.3N 74.7W

Maximum Winds 140 mph

Gusts 165 mph

Movement N at 6 mph

Minimum Pressure 940 mb (27.75-inches)

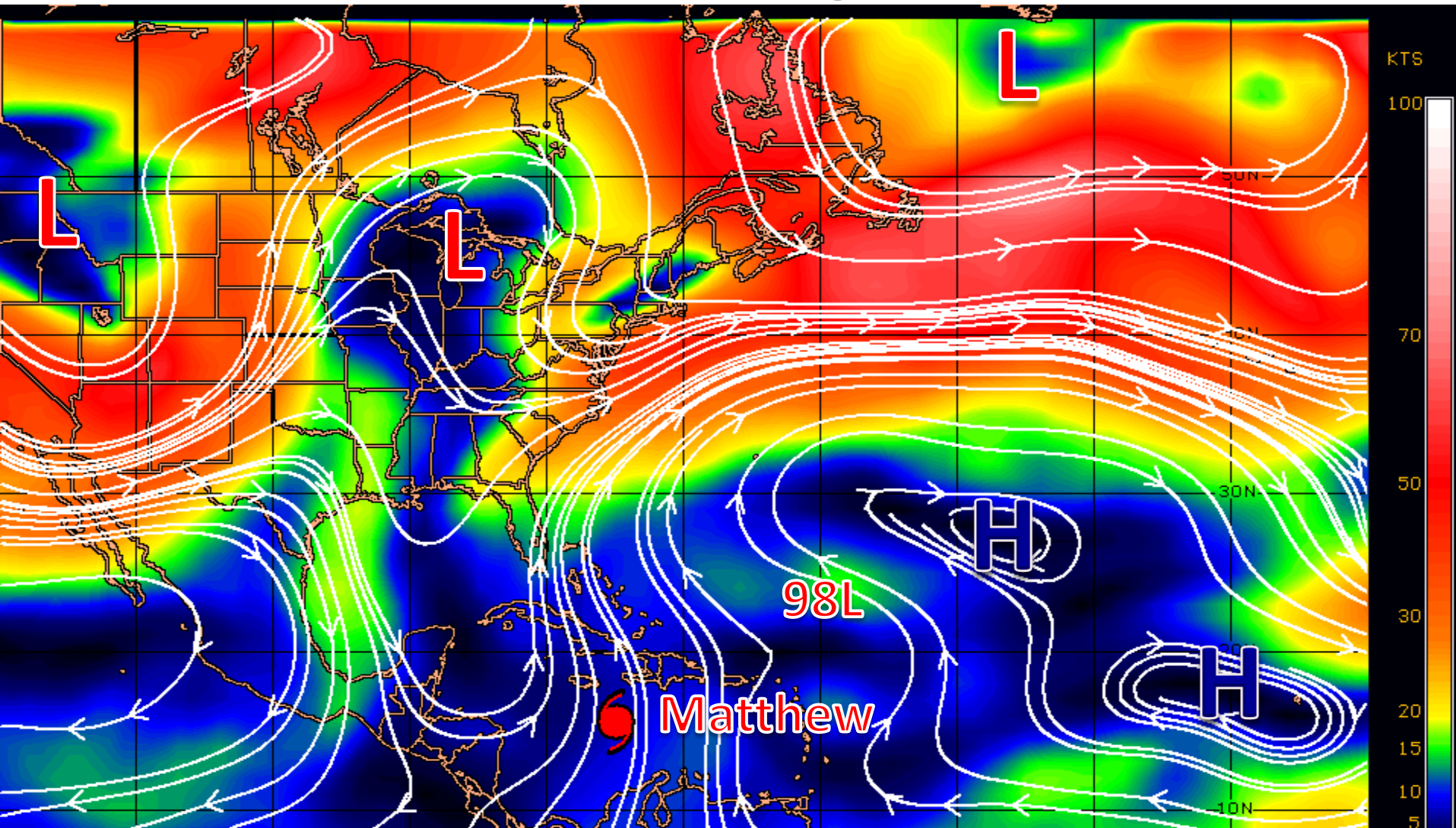
Blue Marble basemap imagery courtesy NASA

Satellite 9:57 PM UTC  
5:57 PM EDT



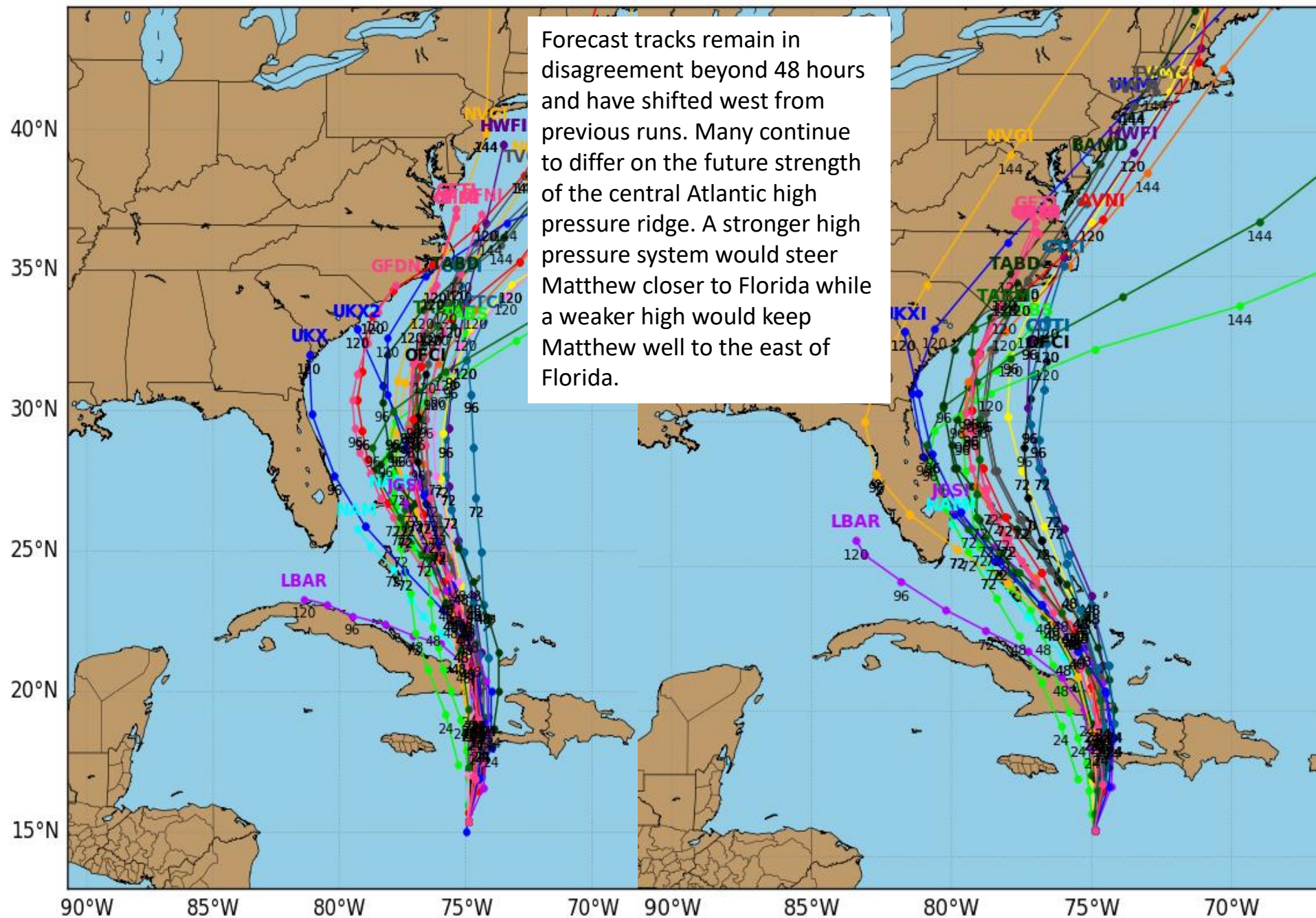


# Current Steering Currents

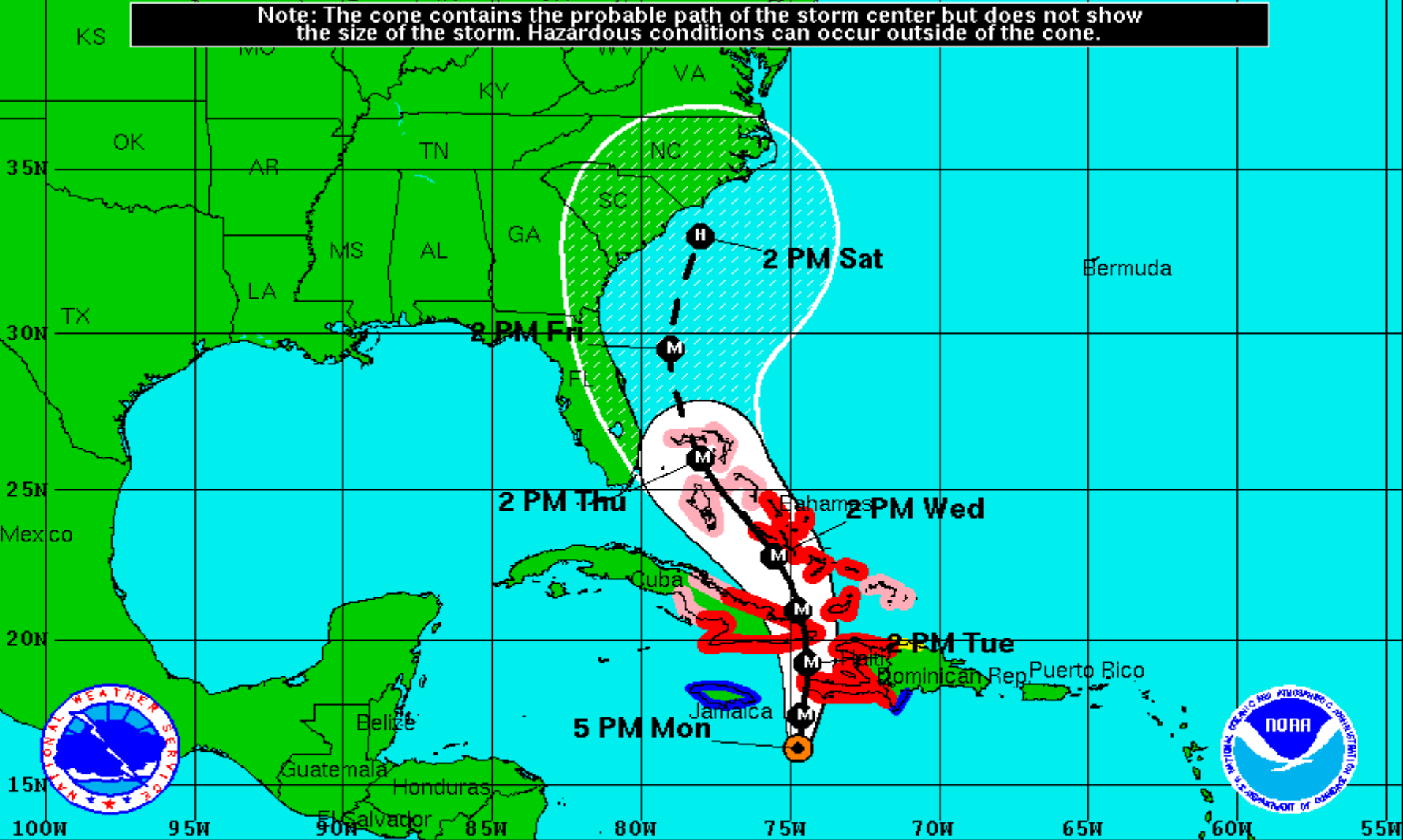


Matthew is being steered slowly north between a high pressure system over the central Atlantic and low pressure extending from the Great Lakes to the Gulf of Mexico. High pressure ridge is forecast to build west later this week, causing a temporary NW movement before another low pressure system in the northern Rockies moves to the Eastern U.S. and steers Matthew north to northeast this weekend.


## Levi Cowan -





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**  
 Monday October 3, 2016  
 5 PM EDT Advisory 23  
 NWS National Hurricane Center

**Current Information:**   
 Center Location 16.3 N 74.7 W  
 Max Sustained Wind 140 mph  
 Movement N at 7 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

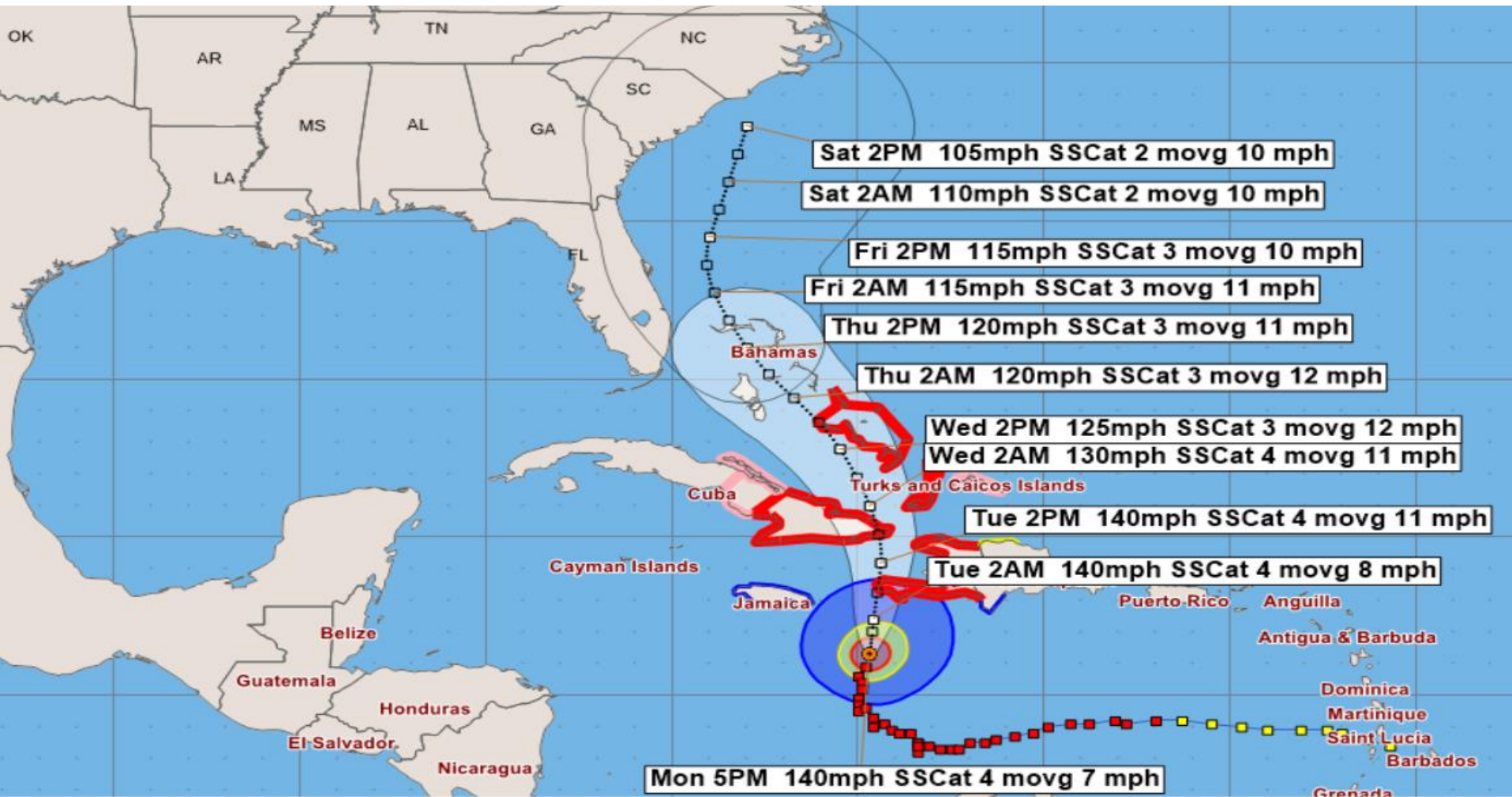
**Watches:**  
 Hurricane  Trop.Storm

**Warnings:**  
 Hurricane  Trop.Storm



## Forecast Error Cone

Note: The forecast cone of error only shows where the center of the storm could be within the next 5 days. It does not account for the size of the storm or any potential impacts. Impacts can and often do occur outside of the cone



### Hurricane Matthew - Monday, October 3, 2016 5 PM EDT Advisory #23

Center Location: 16.3 N 74.7 W Maximum Sustained Winds: 140 mph (Cat 4) Movement: 7 mph N

forecast positions Potential Track Area: day 1-3 day 4-5 Surface Wind Field: at current location

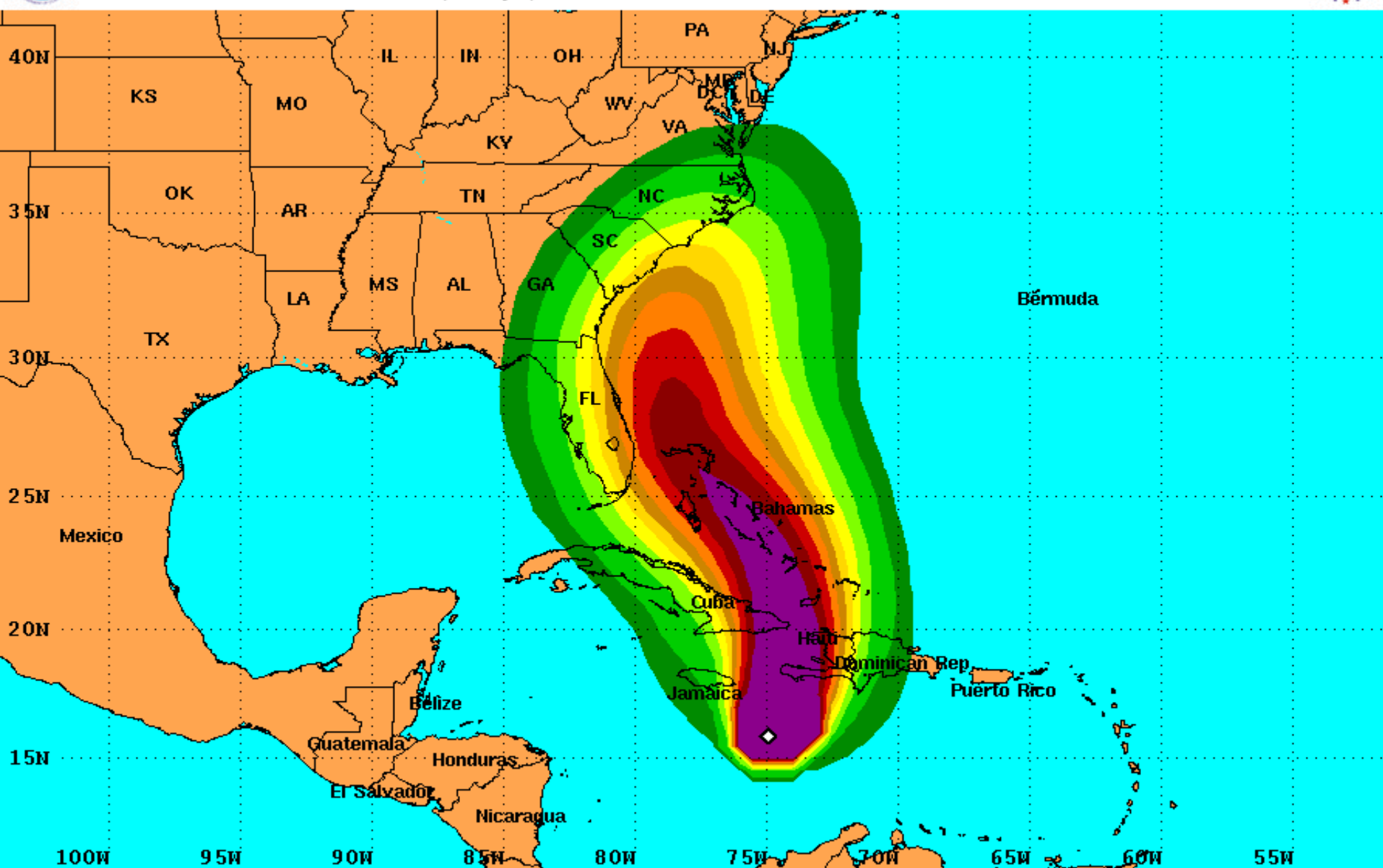
Watches: hurricane tropical storm Warnings: hurricane tropical storm

Sustained Wind Speeds: tropical storm  $\geq 34$ kt/39mph strong tropical storm  $\geq 50$ kt/58mph hurricane  $\geq 64$ kt/74mph



# Tropical Storm Force Wind Speed Probabilities

For the 120 hours (5 days) from 2 PM EDT Mon Oct 3 to 2 PM EDT Sat Oct 8



Probability of tropical storm force surface winds (1-minute average  $\geq 39$  mph) from all tropical cyclones

◊ indicates HURRICANE MATTHEW center location at 2 PM EDT Mon Oct 3 2016 (Forecast/Advisory #23)

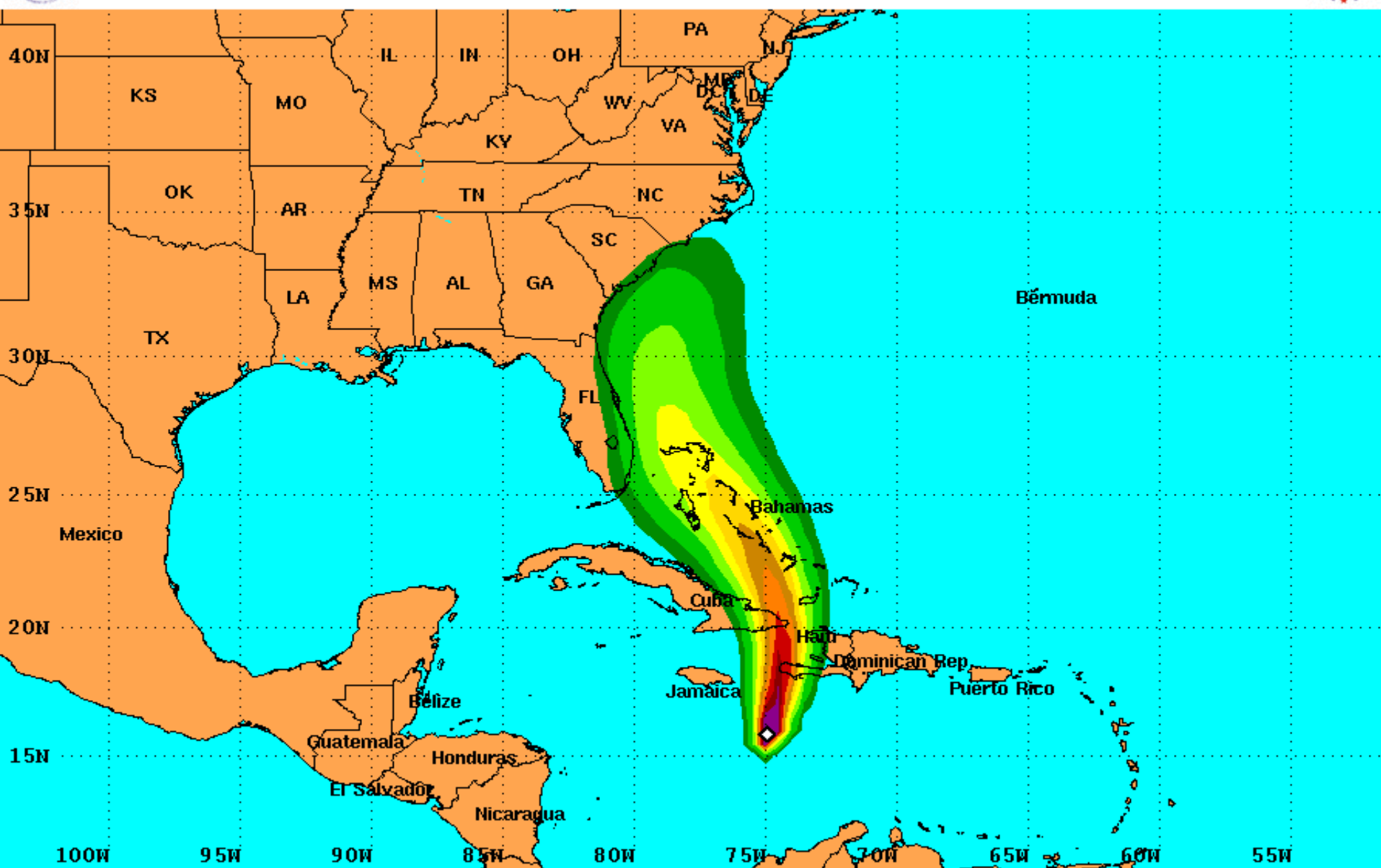






# Hurricane Force Wind Speed Probabilities

For the 120 hours (5 days) from 2 PM EDT Mon Oct 3 to 2 PM EDT Sat Oct 8

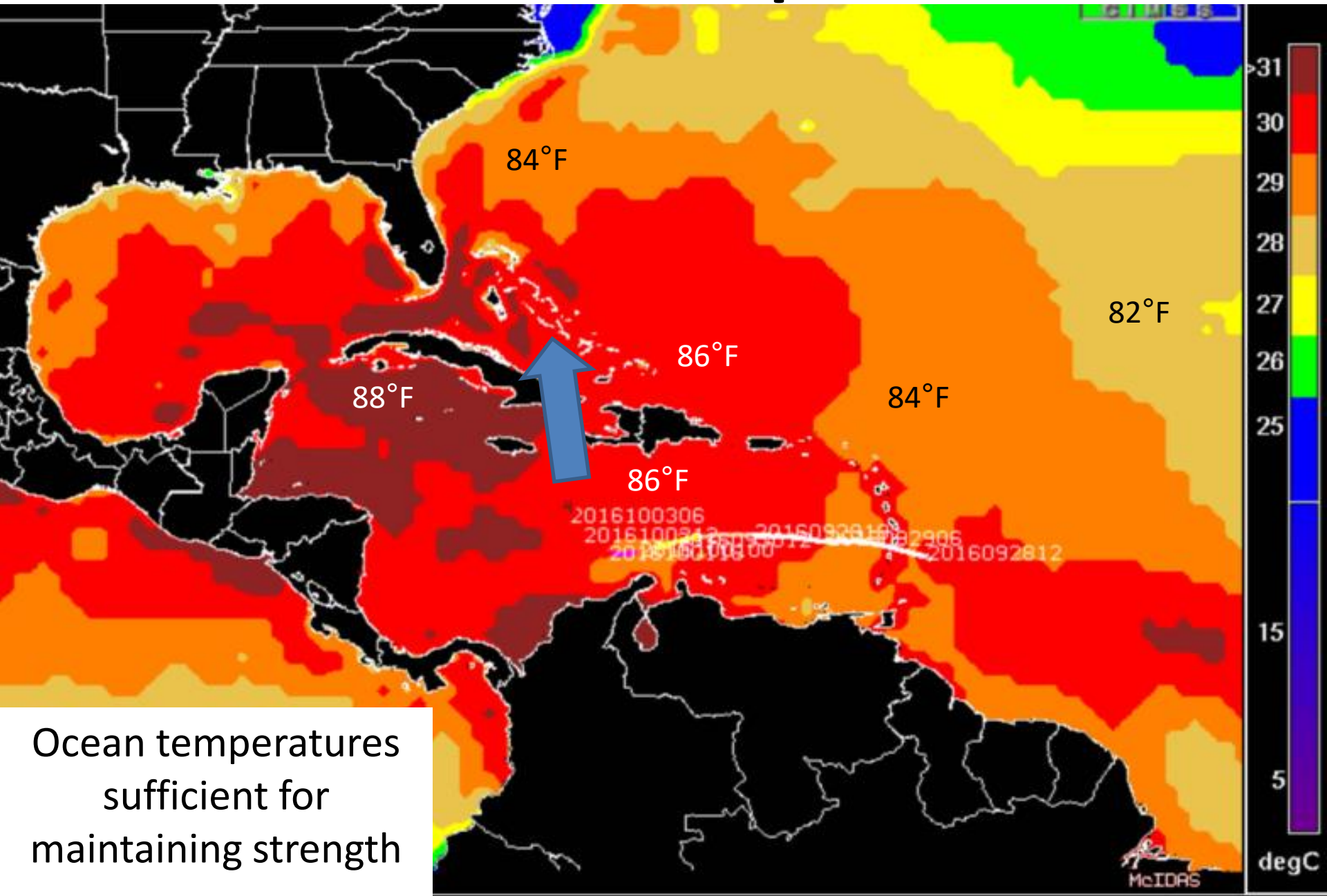


Probability of hurricane force surface winds (1-minute average  $\geq 74$  mph) from all tropical cyclones

◊ indicates HURRICANE MATTHEW center location at 2 PM EDT Mon Oct 3 2016 (Forecast/Advisory #23)



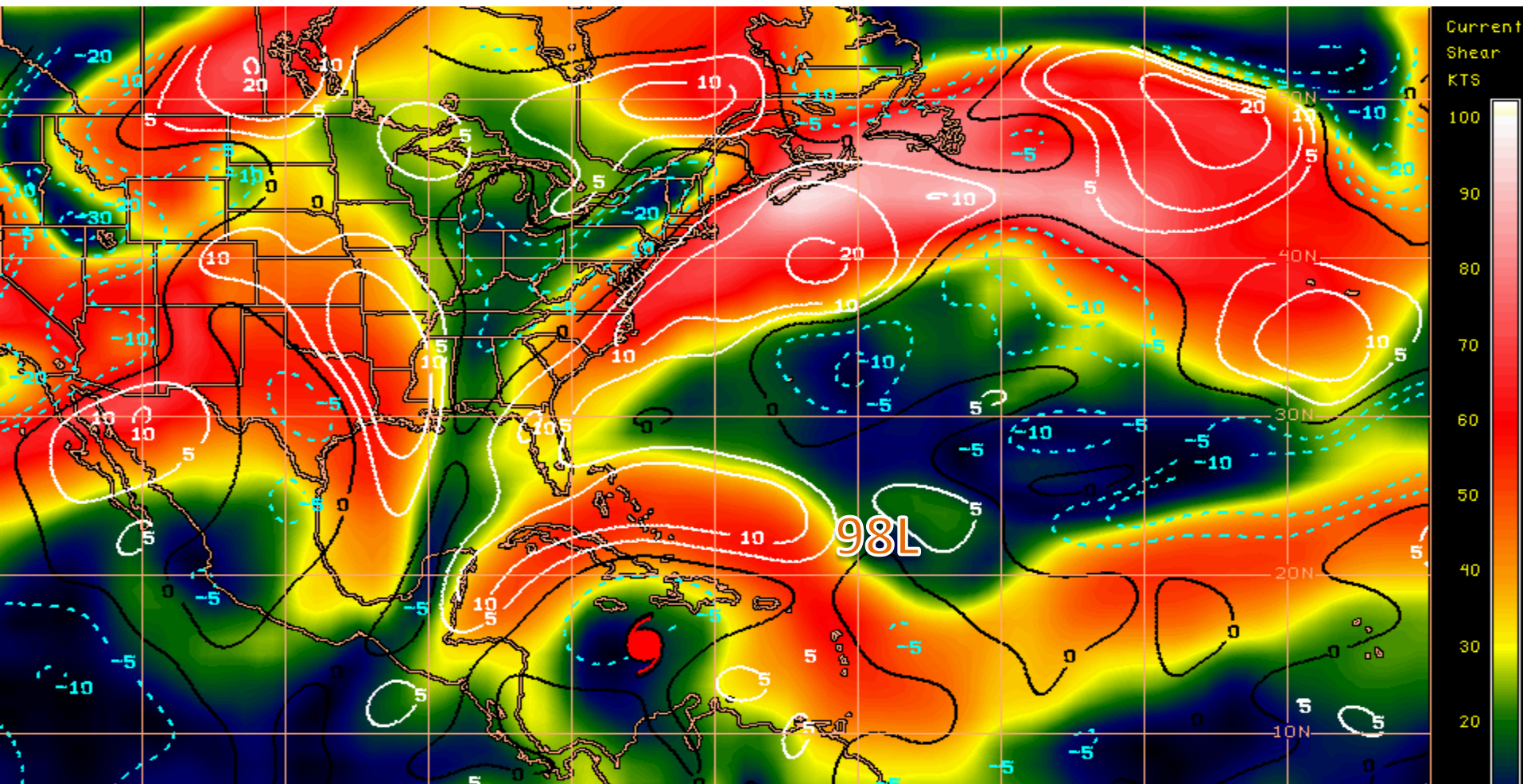
# Sea Surface Temperatures



Ocean temperatures  
sufficient for  
maintaining strength



# Current Wind Shear (shaded) and Shear Tendency (lines)

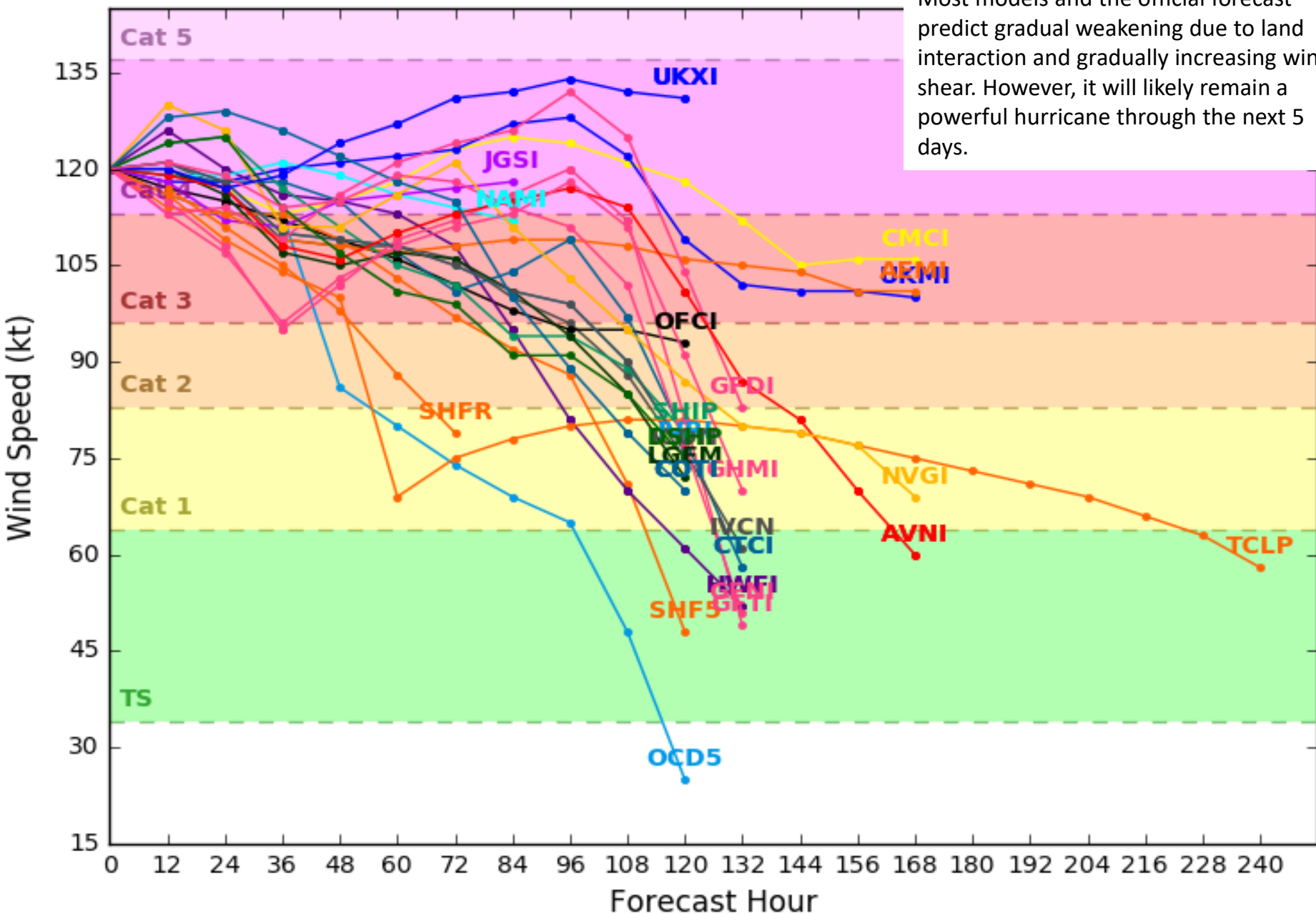


Strong shear is currently to the north of Matthew but may not have much of an impact on weakening the storm. Widespread wind shear is not expected to increase until Friday or Saturday as the next frontal system arrives moves to the U.S. East Coast. Shear to the west of 98L could inhibit significant development.

Shear Tendency (KTS) Over Past 24 Hours: Increasing ——— Decreasing - - - - -

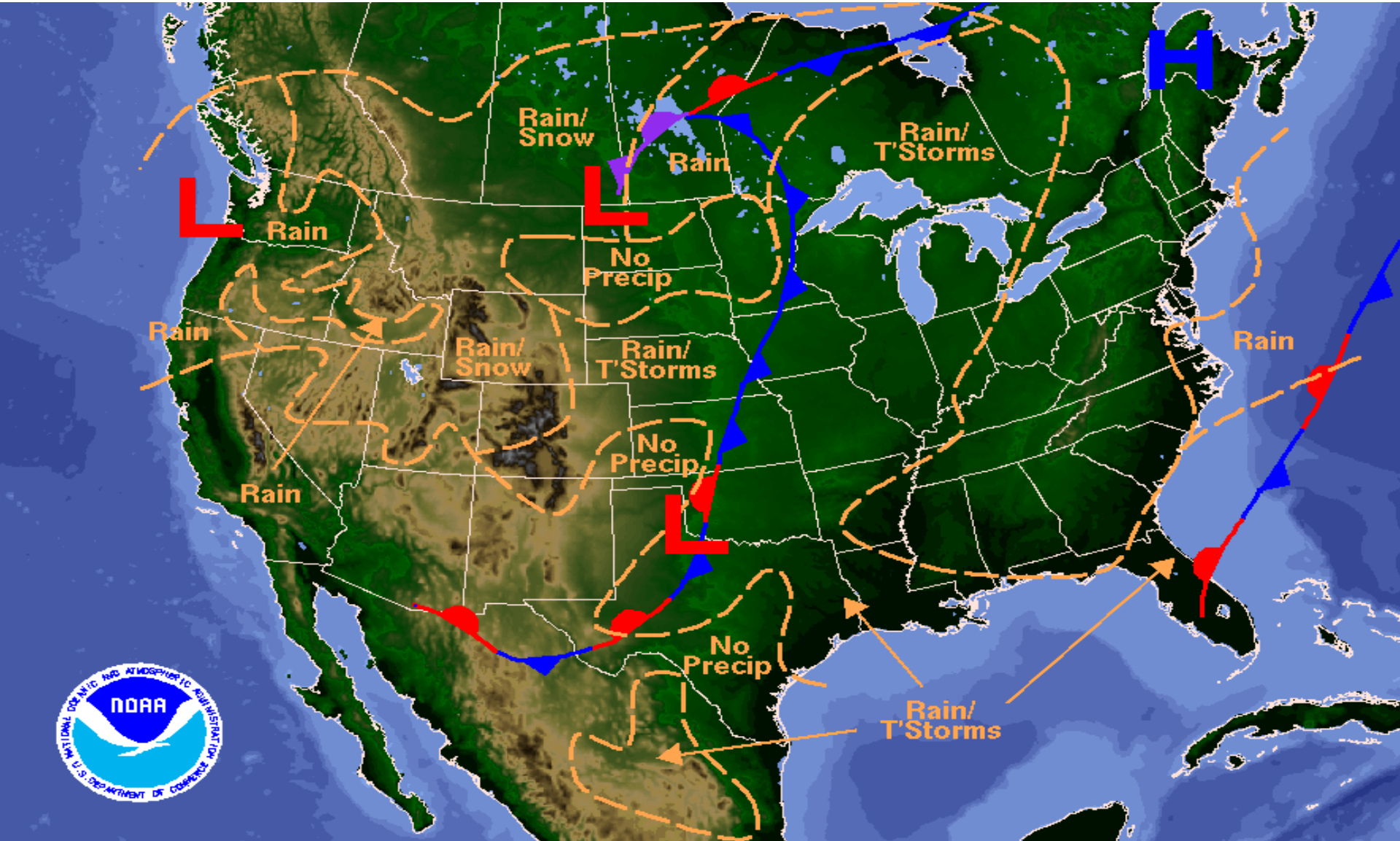
**Initialized at 18z Oct 03 2016**

Most models and the official forecast predict gradual weakening due to land interaction and gradually increasing wind shear. However, it will likely remain a powerful hurricane through the next 5 days.



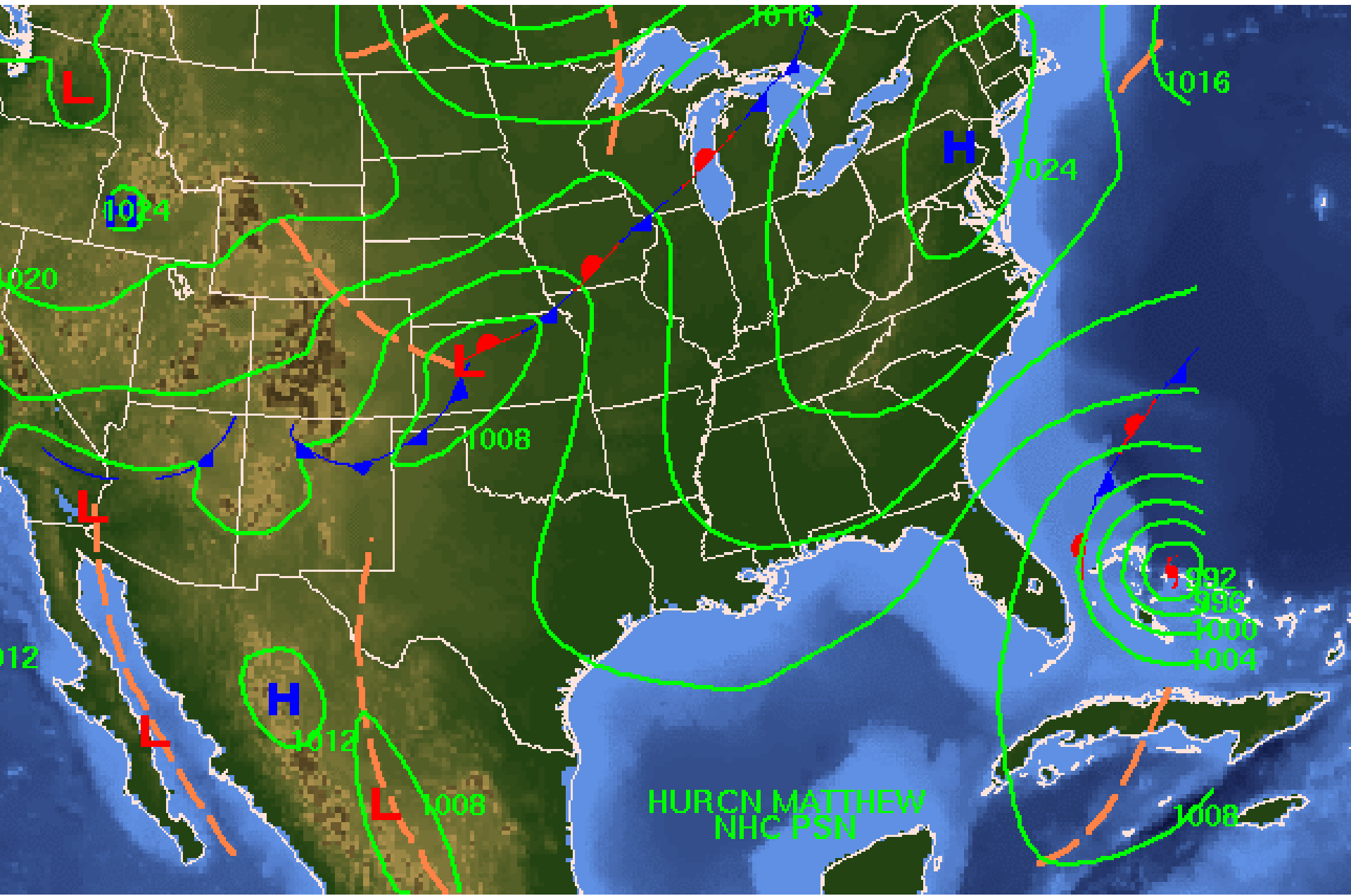


# Forecast Weather Map for Wednesday



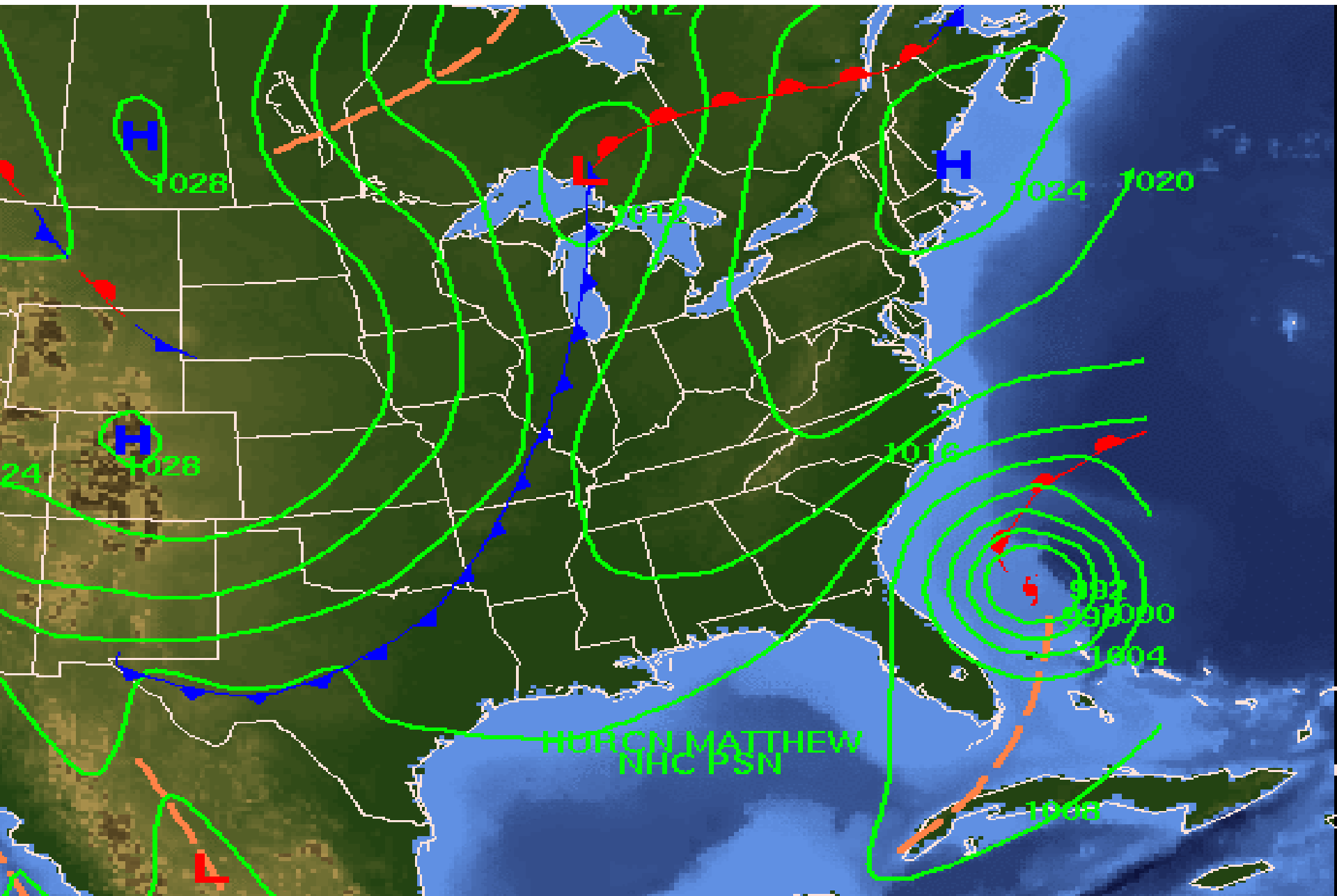
Weather Forecast for Wed, Oct 05, 2016, issued 4:54 AM EDT Mon, Oct 03, 2016  
DOC/NOAA/NWS/NCEP/Weather Prediction Center  
Prepared by McCreynolds based on WPC, SPC and NHC forecasts

# Forecast Weather Map for Thursday

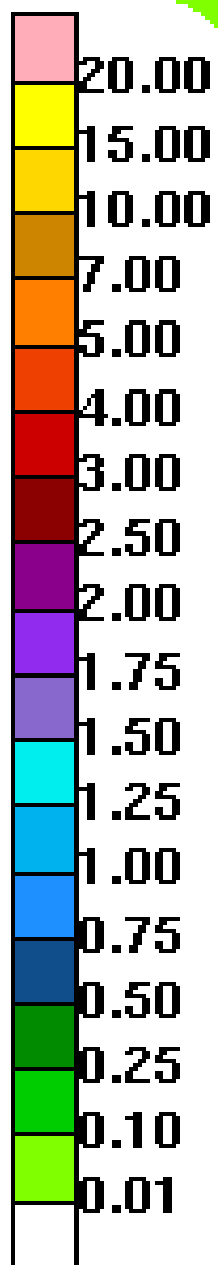




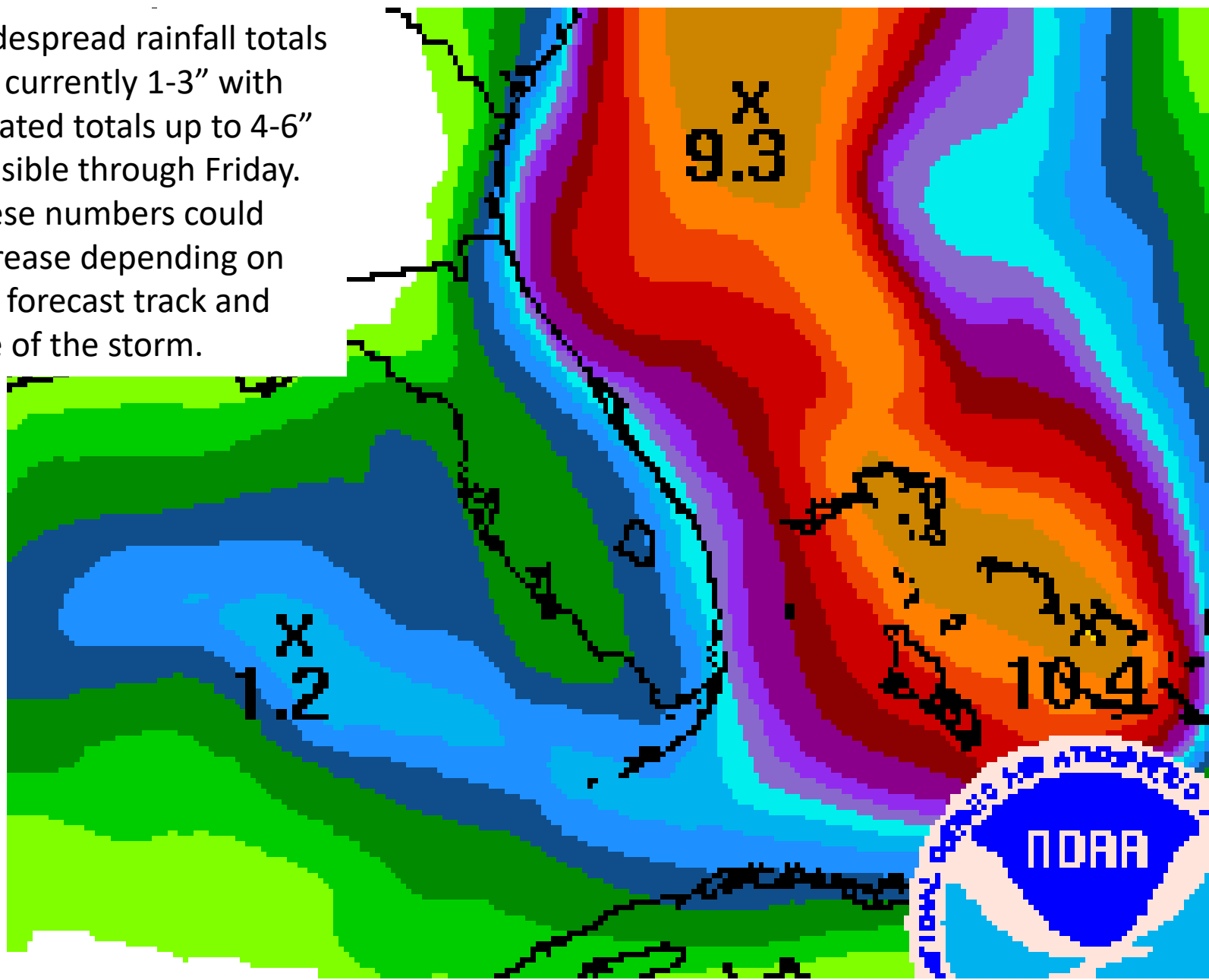
# Forecast Weather Map for Friday



# Next 5 Day Forecast Rainfall

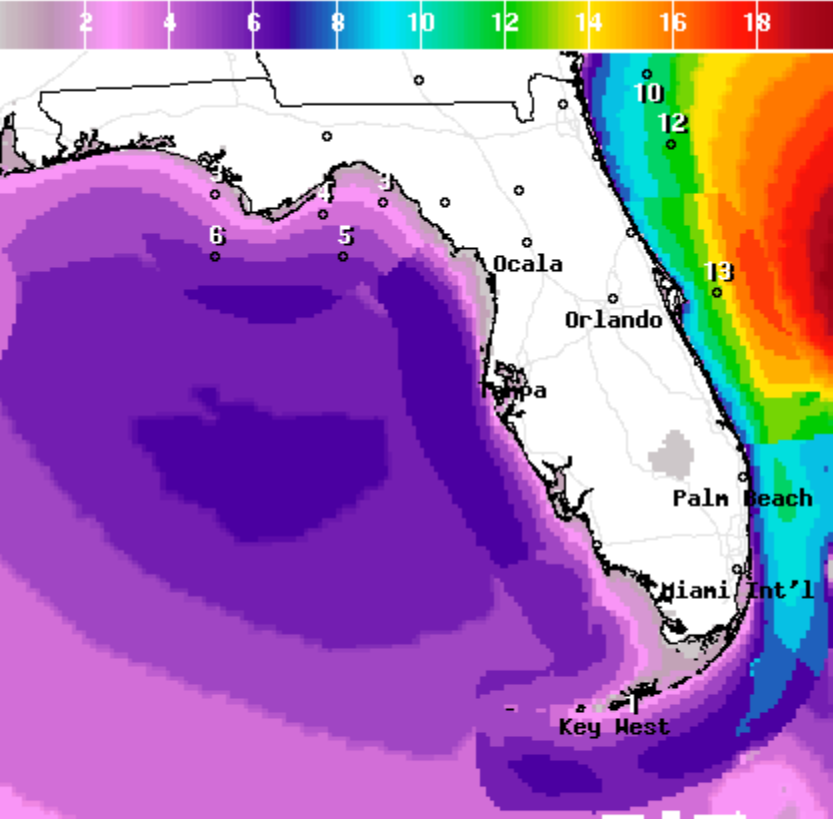


Widespread rainfall totals are currently 1-3" with isolated totals up to 4-6" possible through Friday. These numbers could increase depending on the forecast track and size of the storm.





# Forecast Wave Heights

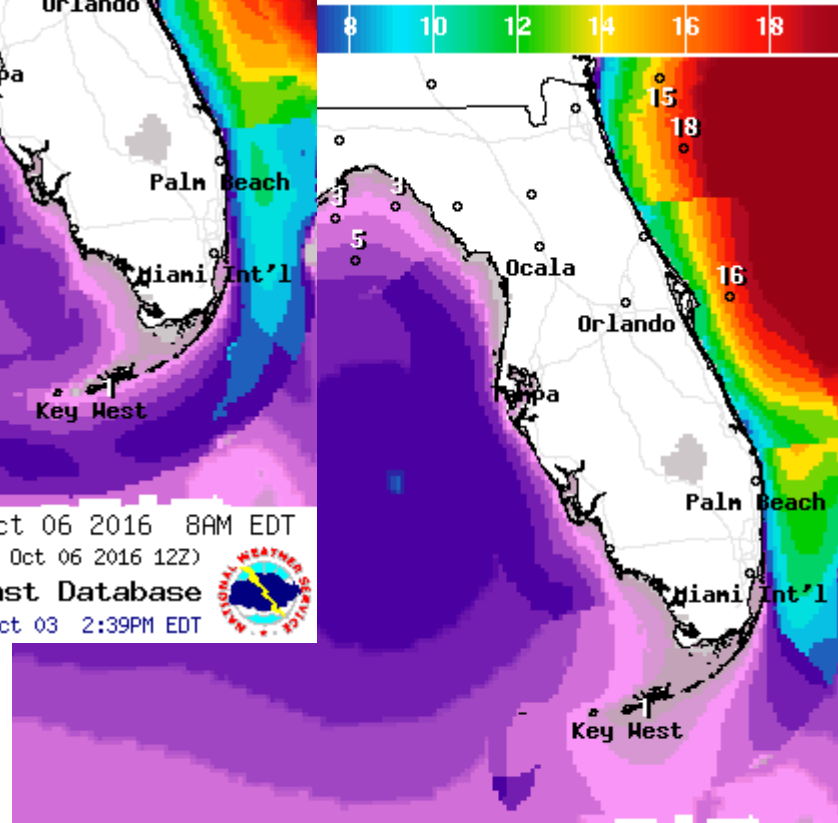


Wave Height(ft) Ending Thu Oct 06 2016 8AM EDT  
(Thu Oct 06 2016 12Z)



**National Digital Forecast Database**

18z issuance      Graphic created-Oct 03 2:39PM EDT

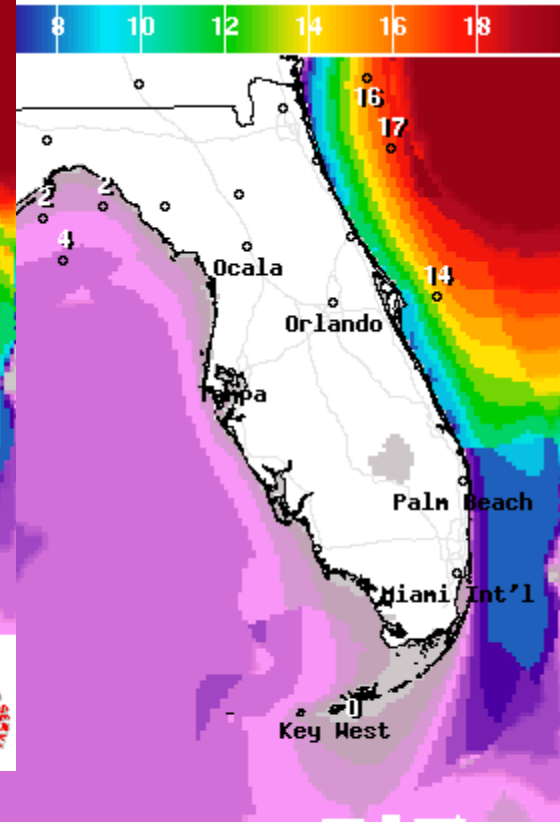


Wave Height(ft) Ending Thu Oct 06 2016 8PM EDT  
(Fri Oct 07 2016 00Z)



**National Digital Forecast Database**

18z issuance      Graphic created-Oct 03 2:38PM EDT



Wave Height(ft) Ending Fri Oct 07 2016 2PM EDT  
(Fri Oct 07 2016 18Z)



**National Digital Forecast Database**





# Two-Day Graphical Tropical Weather Outlook

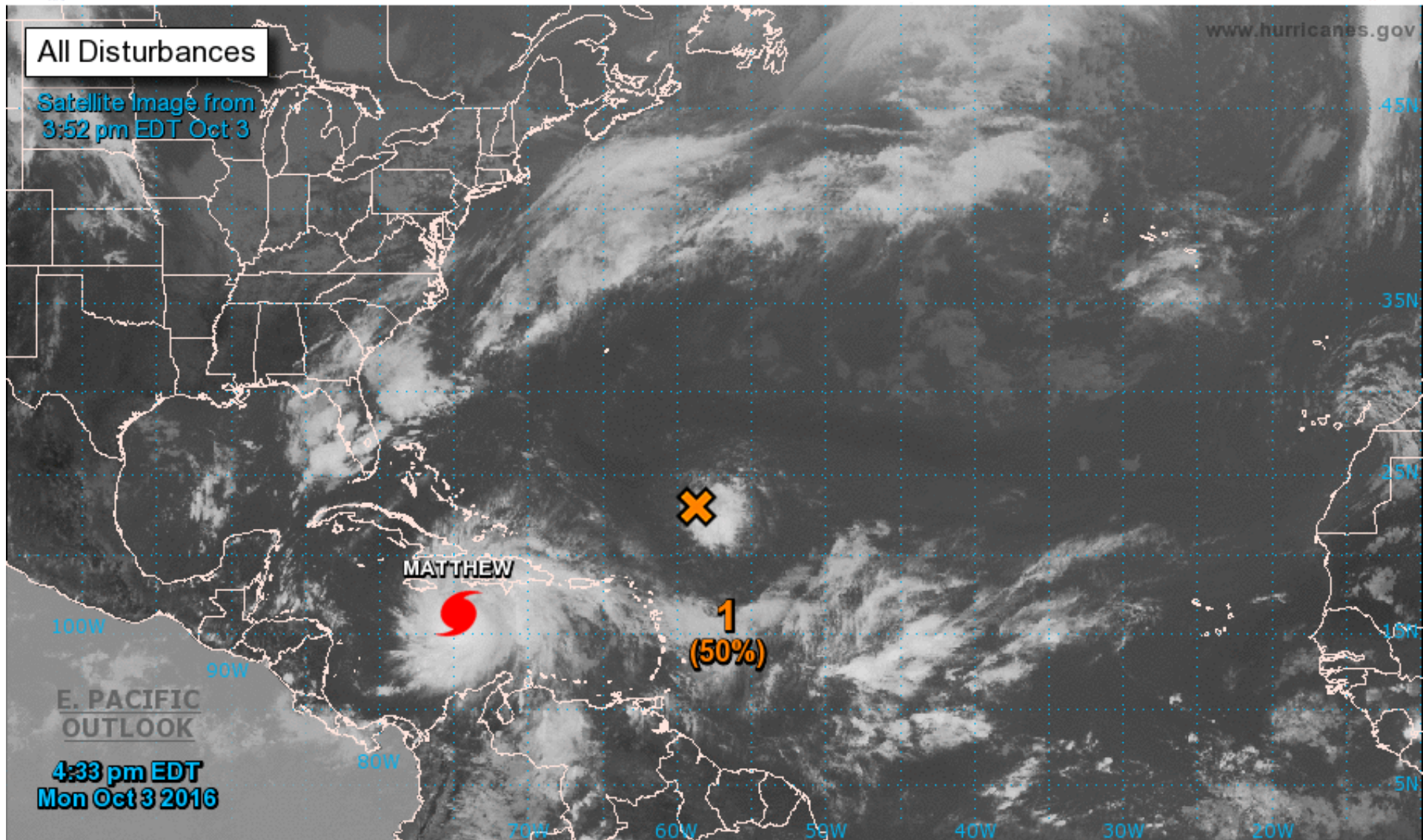
National Hurricane Center Miami, Florida



www.hurricanes.gov

All Disturbances

Satellite Image from  
3:52 pm EDT Oct 3



4:33 pm EDT  
Mon Oct 3 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





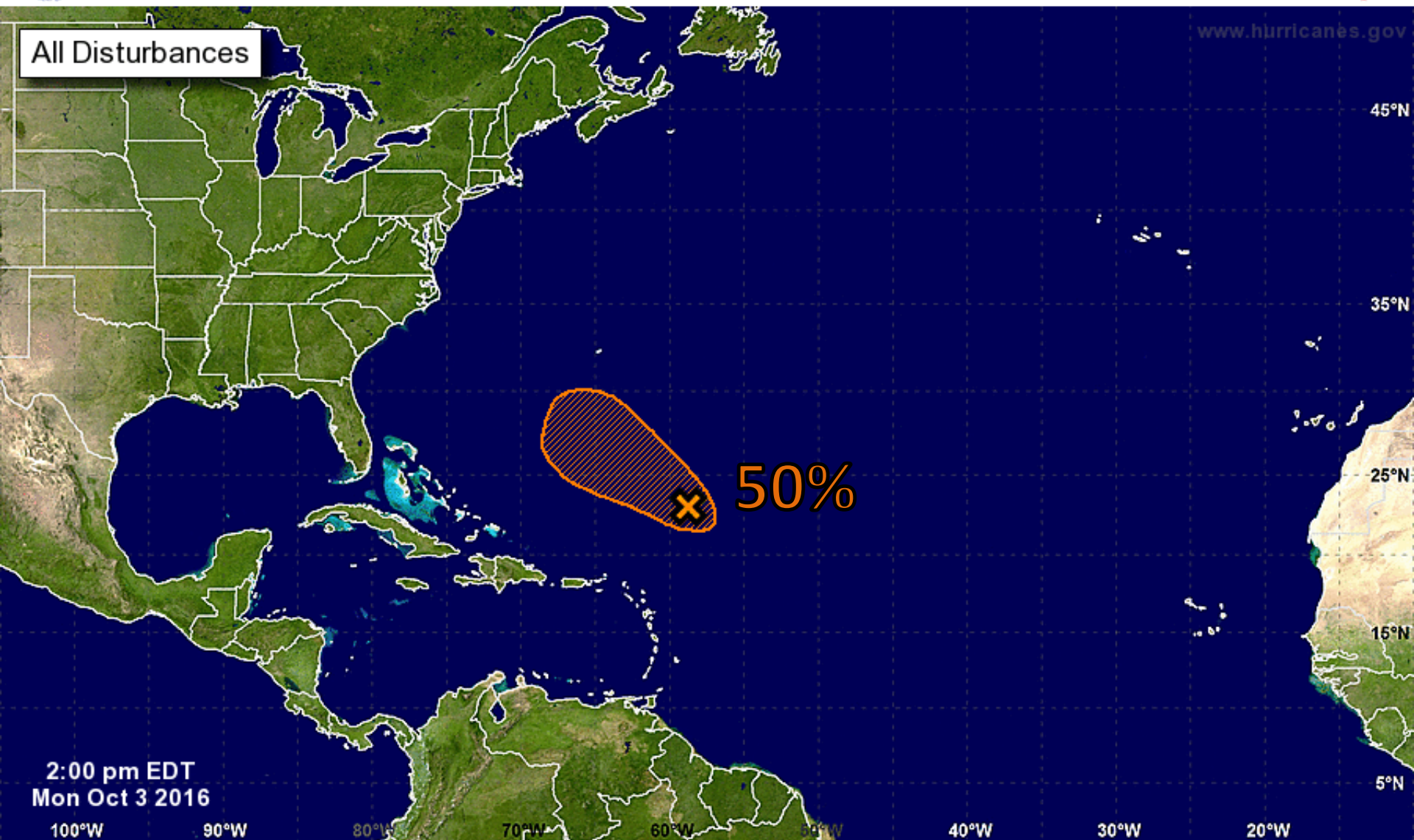
# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



[www.hurricanes.gov](http://www.hurricanes.gov)

All Disturbances



Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 pm EDT Sat Oct 8 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.



**Invest 98L**

2 PM Mon Oct 3 2016

Position 23.0 59.5 W

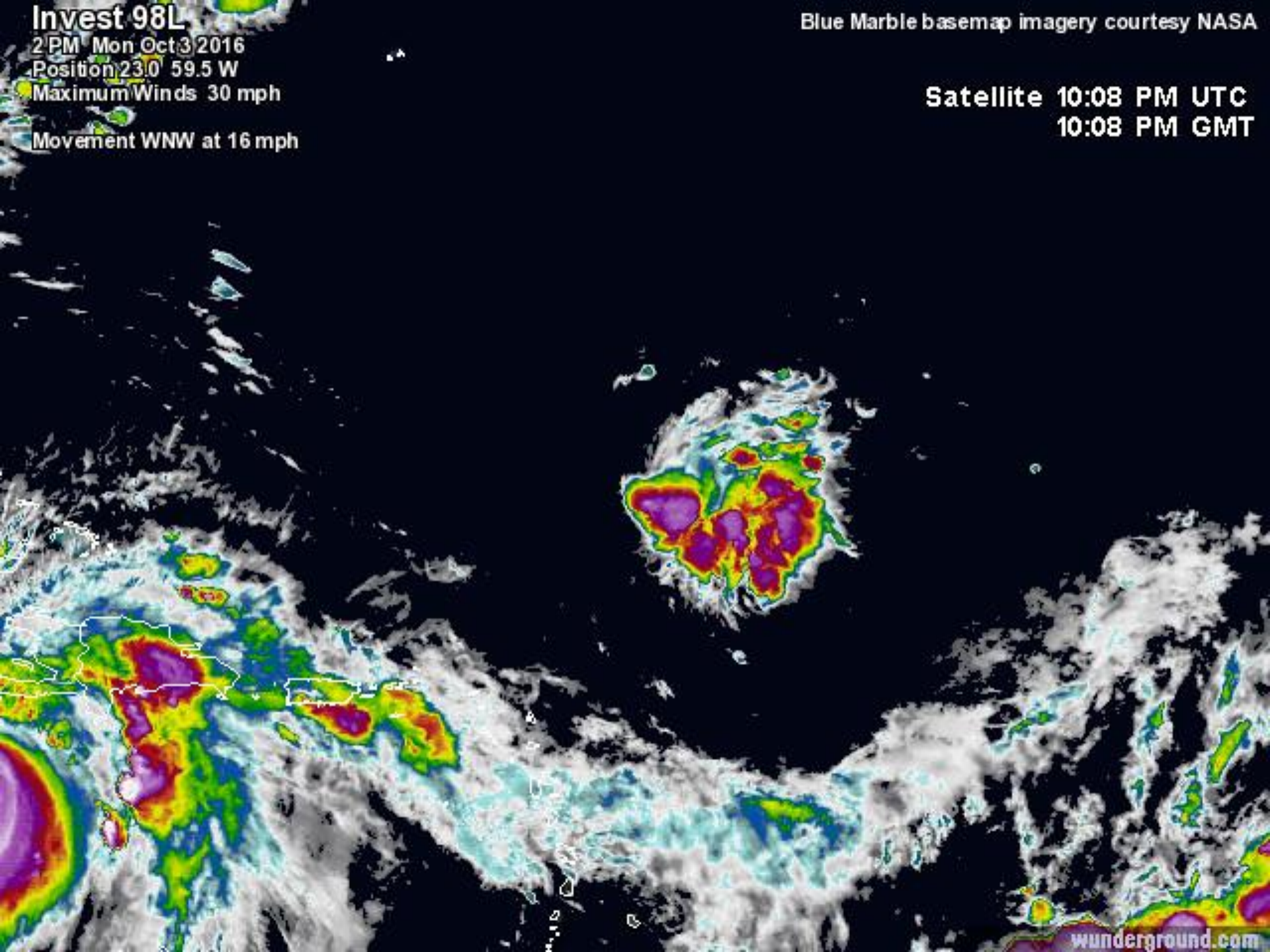
Maximum Winds 30 mph

Movement WNW at 16 mph

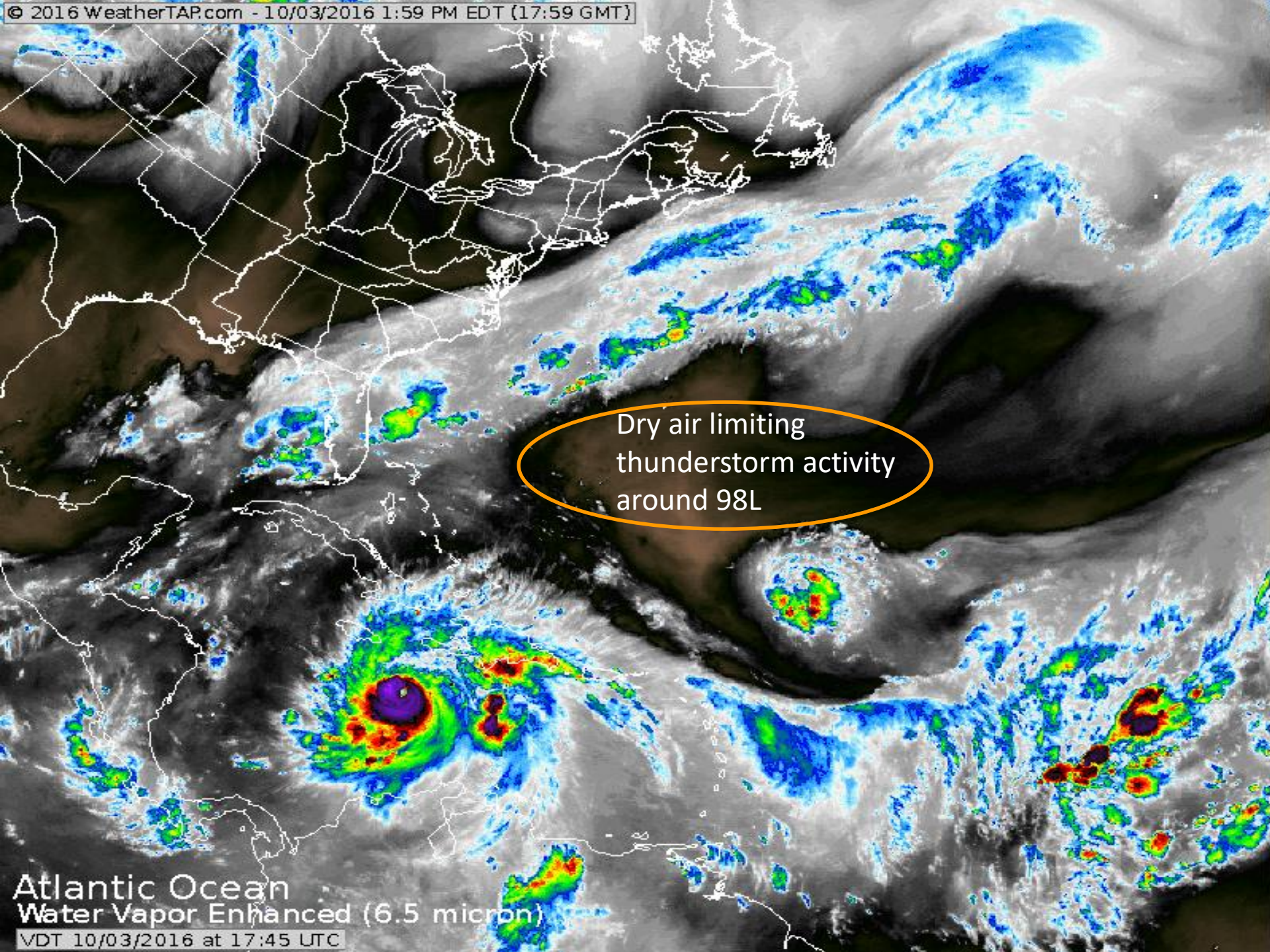
Blue Marble basemap imagery courtesy NASA

Satellite 10:08 PM UTC

10:08 PM GMT







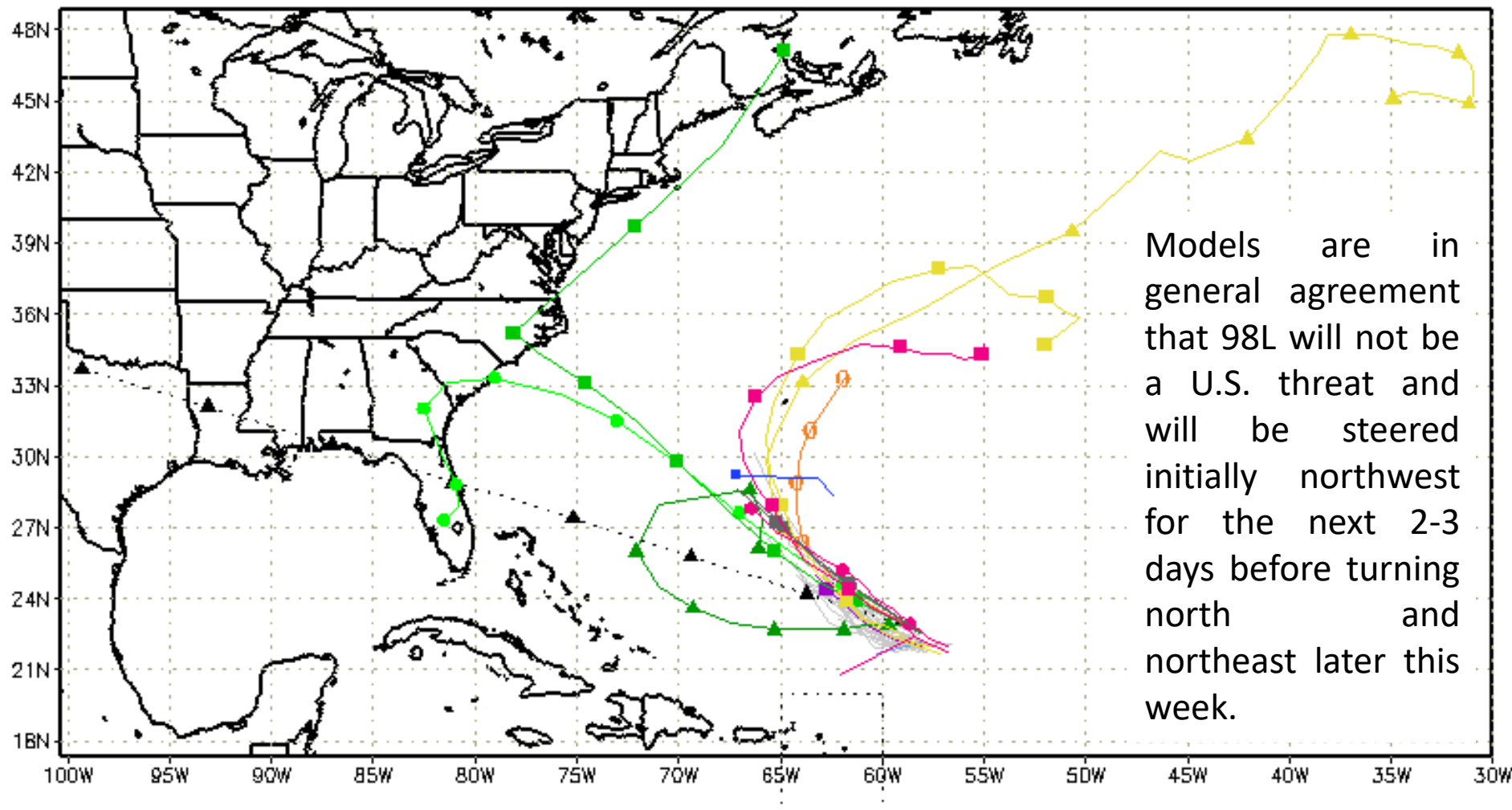
Dry air limiting  
thunderstorm activity  
around 98L

Atlantic Ocean  
Water Vapor Enhanced (6.5 micron)

VDT 10/03/2016 at 17:45 UTC



---▲--- XTRP 03/1200Z	---▲--- BAMD 03/1200Z	---▲--- GFDL 03/1200Z	---▲--- AVNO 03/0600Z	---▲--- CMC 03/0000Z
---■--- TVCN 03/1200Z	---■--- BAMM 03/1200Z	---■--- GFDN 03/0600Z	---■--- AEMN 03/0600Z	---■--- CEMN 03/0000Z
---●--- TVCX 03/1200Z	---●--- BAMS 03/1200Z	---●--- HWRF 03/0600Z	---●--- APxx 03/0600Z	---●--- UKM 03/1200Z
---●--- NHC Not Avail	---●--- NVGM 03/0600Z	---●--- COTC 03/0600Z	---●--- NAM Not Avail	---●--- CLP5 03/1200Z



Models are in general agreement that 98L will not be a U.S. threat and will be steered initially northwest for the next 2-3 days before turning north and northeast later this week.





## Summary:

- At 5pm EDT Monday, Hurricane Matthew was located 225 miles southwest of Port-au-Prince, Haiti, or approximately 750 miles southeast of Miami, Florida.
- Maximum sustained winds have increased to near 140mph, a Category 4 on the Saffir-Simpson Hurricane Wind Scale. Some fluctuations in intensity are possible during the next couple of days, but Matthew is expected to remain a powerful hurricane through Wednesday.
- Matthew is moving toward the north near 7 mph, and this general motion is forecast to continue through Wednesday with an increase in forward speed expected tonight. On the forecast track, the center of Matthew will approach southwestern Haiti tonight, move near eastern Cuba late Tuesday, and move near or over portions of the southeastern and central Bahamas Tuesday night and Wednesday.
- However, there is low confidence in the track forecast beyond the next 48 hours and models have shifted west since this morning.
- Many continue to differ on the future strength of the central Atlantic high pressure ridge. A stronger high pressure system would steer Matthew closer to Florida while a weaker high would keep Matthew well to the east of Florida.
- The average NHC track errors at days 4 and 5 are on the order of 175 miles and 230 miles, respectively, so it is important not to focus on the line in the middle of the forecast track, especially given the high degree of uncertainty in the forecast.
- Matthew remains a large storm, with tropical storm force winds extending out to 185 miles from the circulation in the northwest quadrant (130 miles on the northwest side) and hurricane force winds extending 35 miles from the center.
- Elsewhere, Invest 98L is a broad low pressure system located about 400 miles northeast of the Leeward Islands and continues to produce a small area of showers and thunderstorms. Some development of this system is possible over the next few days before upper-level conditions become unfavorable.
- The system has a 50% (medium) chance of development over the next 48 hours.
- The next name on the 2016 Atlantic storm name list is Nicole.

## Florida Outlook:

- Invest 98L does not pose a threat to Florida.
- Parts of the eastern Florida Peninsula remain within the 5-day average error cone.
- Chances for tropical storm force winds are gradually increasing for Florida. Areas along the east coast of Florida have approximately a 1 in 3 chance of seeing tropical storm force winds sometime within the next five days.
- No tropical storm watches or warnings are currently in effect for Florida, but could be issued on Tuesday if necessary.
- Regardless of track, Matthew is a very large storm and it has the potential to generate gusty winds and rough seas along the East Coast of Florida, along with minor coastal flooding, beach erosion, and dangerous rip currents.
- Any additional impacts are dependent on the future track and size of the storm, which remains uncertain at this time.
- The current forecast is for 1-3" of rain with isolated totals of 4-6" possible.

Another briefing packet will be issued Tuesday morning. 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

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