



# **TROPICAL UPDATE**

**11 AM EDT**

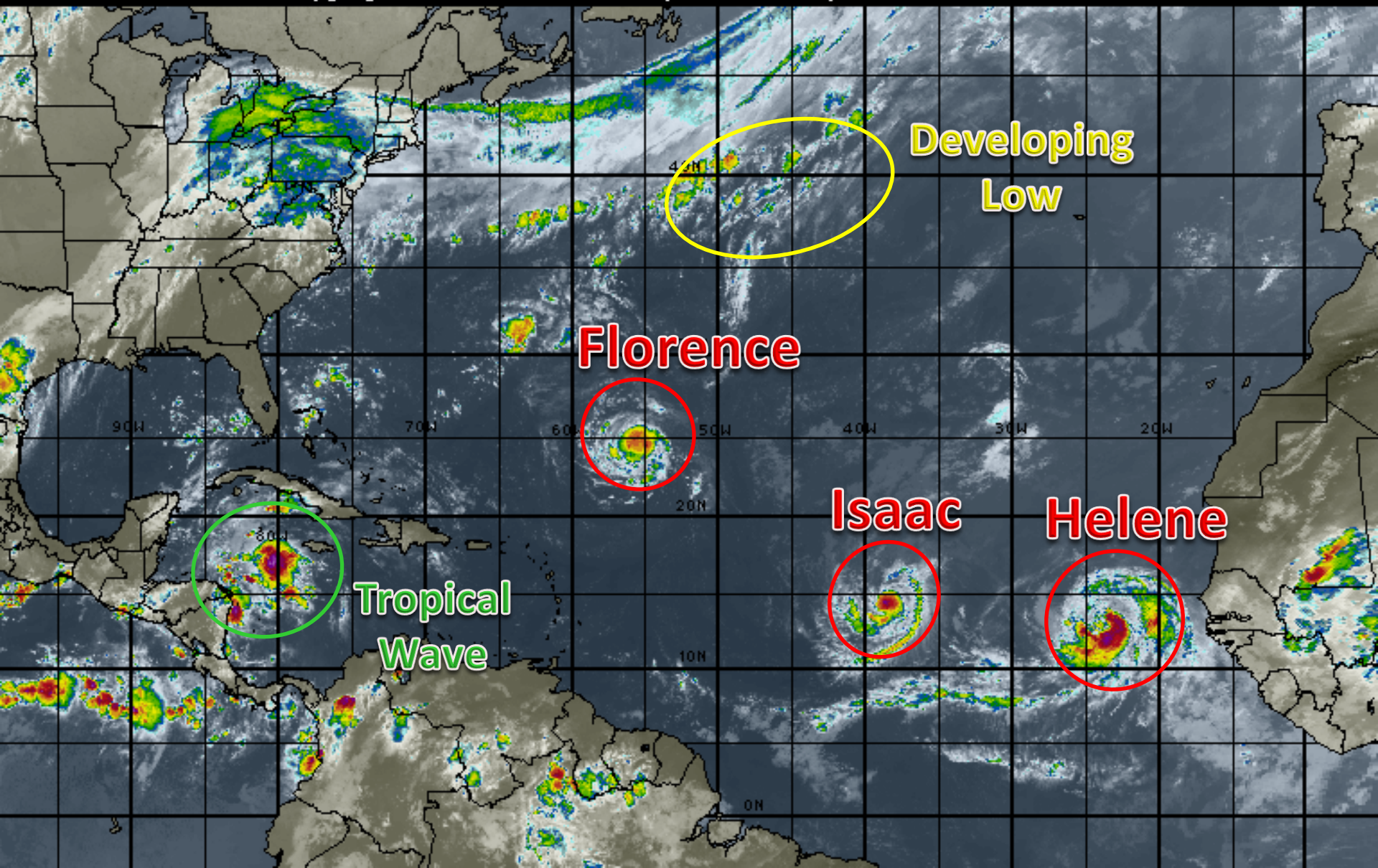
**Sunday, September 9, 2018**

**Hurricane Florence, Tropical Storm Helene,  
Tropical Storm Isaac, North Atlantic Low (30%)**

**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

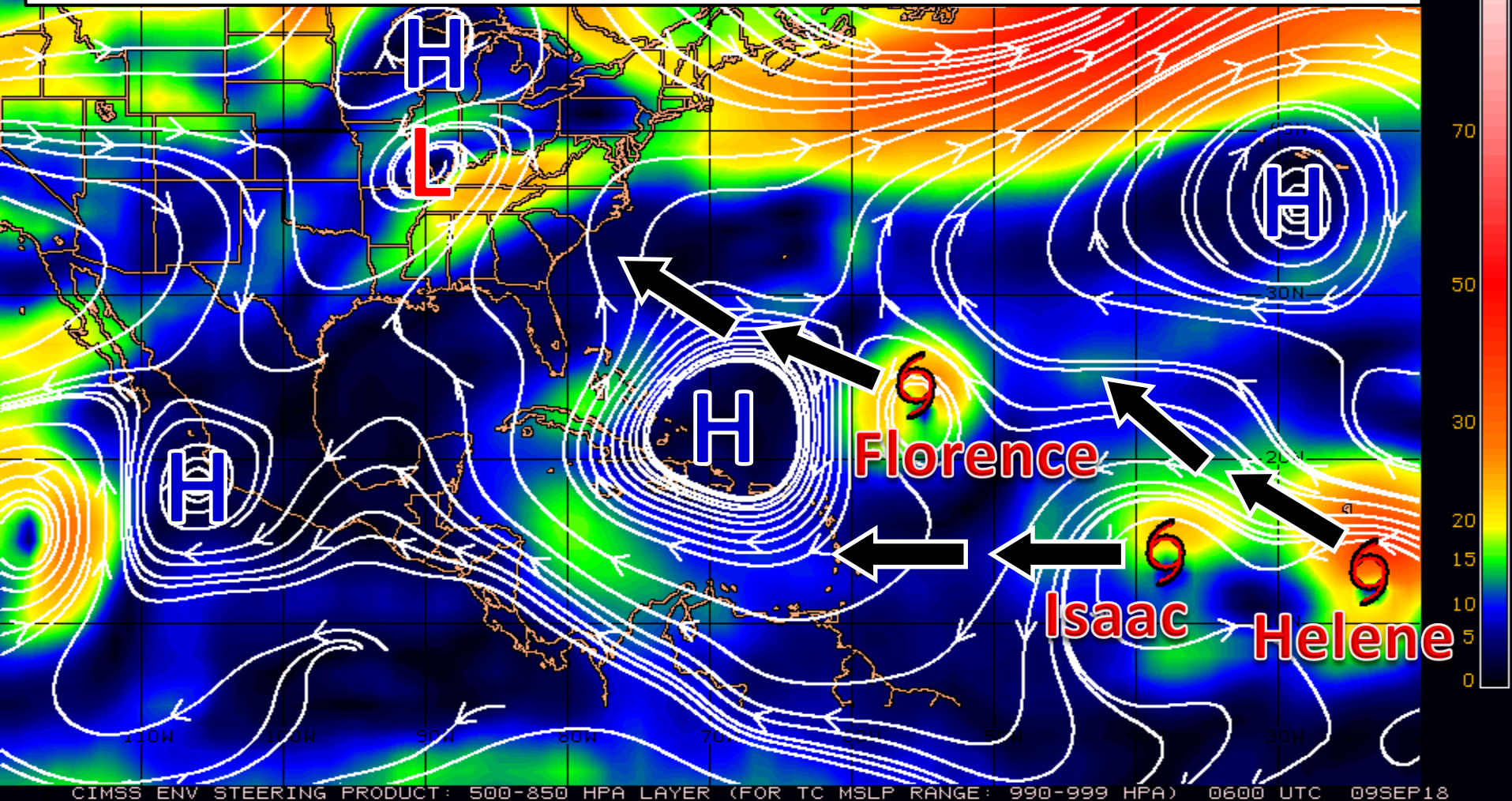
12:00 09-SEP-2018 GMT Copyright © 1998-2018 WSI Corporation <http://www.wsi.com>





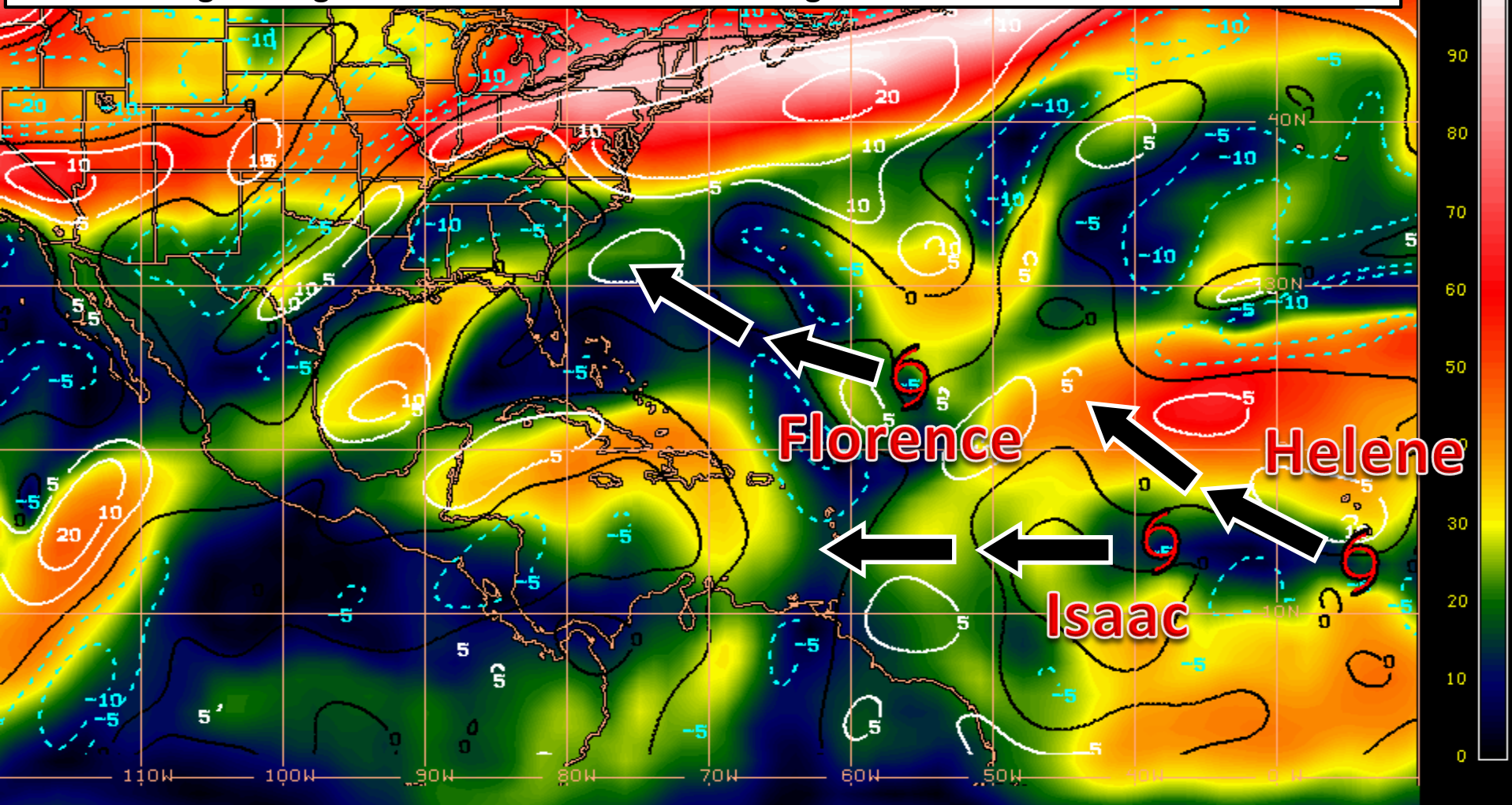
# Steering Currents

Areas of high pressure are steering all of the systems across the Atlantic. The high pressure system driving Florence slowly south is starting to weaken as a near high pressure system develops to the north. This will drive Florence west-northwest. Isaac will continue west as it gets trapped under the high pressure in the Caribbean. Helene will track northwest driven by the large high pressure in the northeastern Atlantic.



# Wind Shear (shaded) and Wind Shear Tendencies (contoured)

Florence will remain in a low wind shear environment which will promote strengthening. Isaac may have occasional moments of wind shear, but should generally promote strengthening. Helene will move into much higher wind shear later this week.



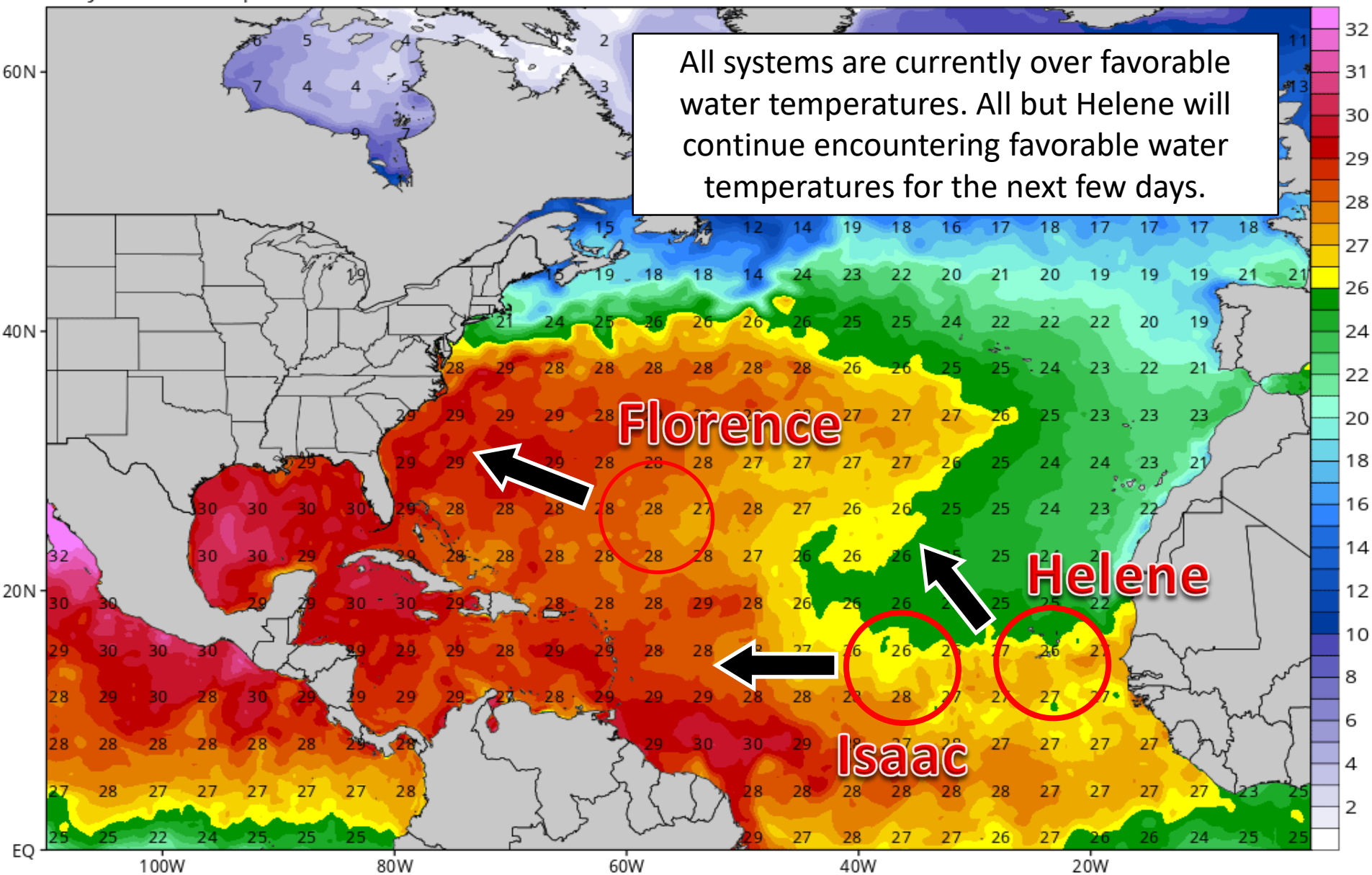
Shear Tendency (KTS) Over Past 24 Hours: Increasing — Decreasing ----

# Water Temperatures

CDAS Sea Surface Temperature (°C)

Analysis Time: 00z Sep 09 2018

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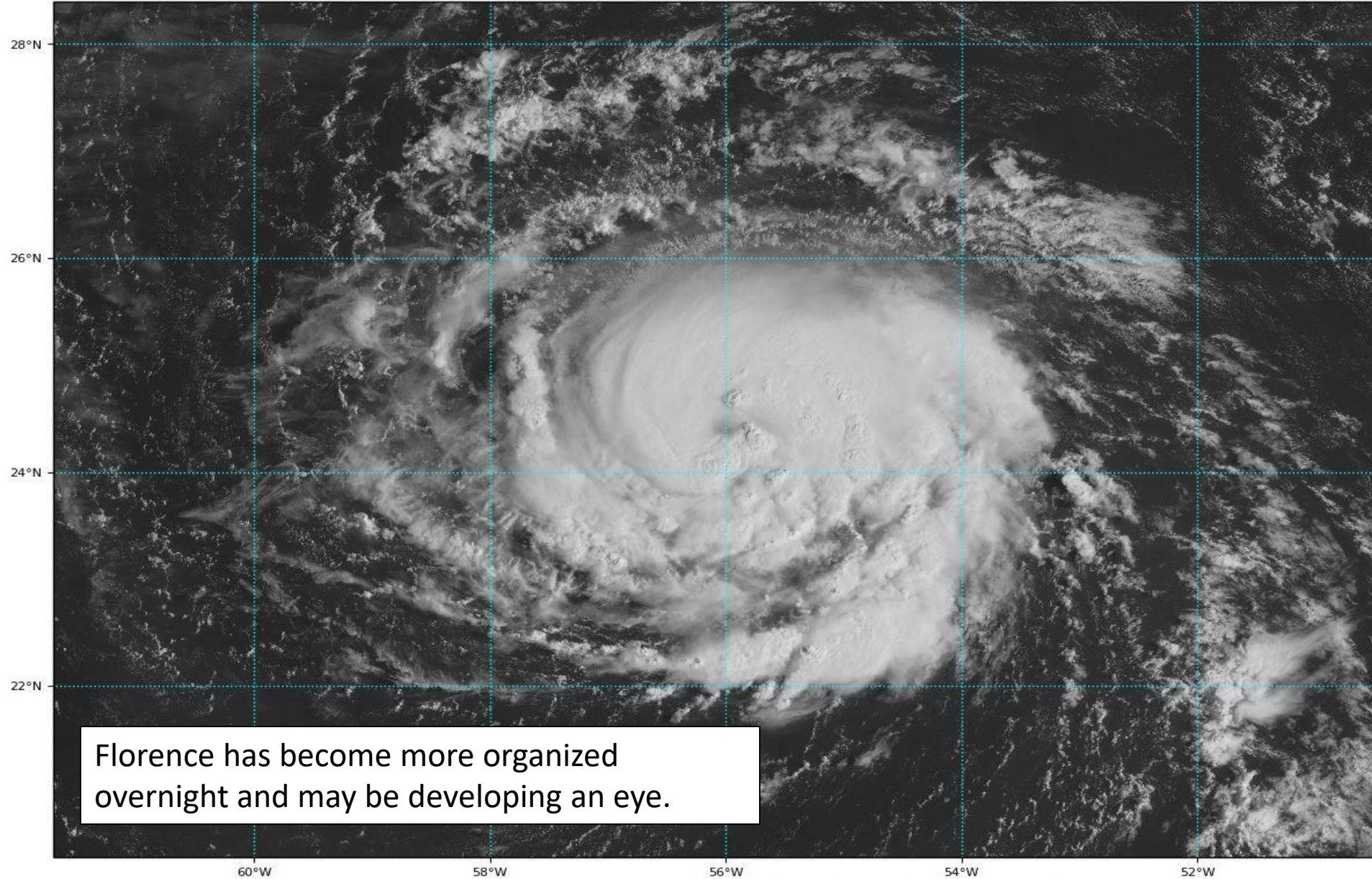




# Hurricane Florence Satellite Image

GOES-16 Channel 2 (visible) Reflectance at 12:35Z Sep 09, 2018

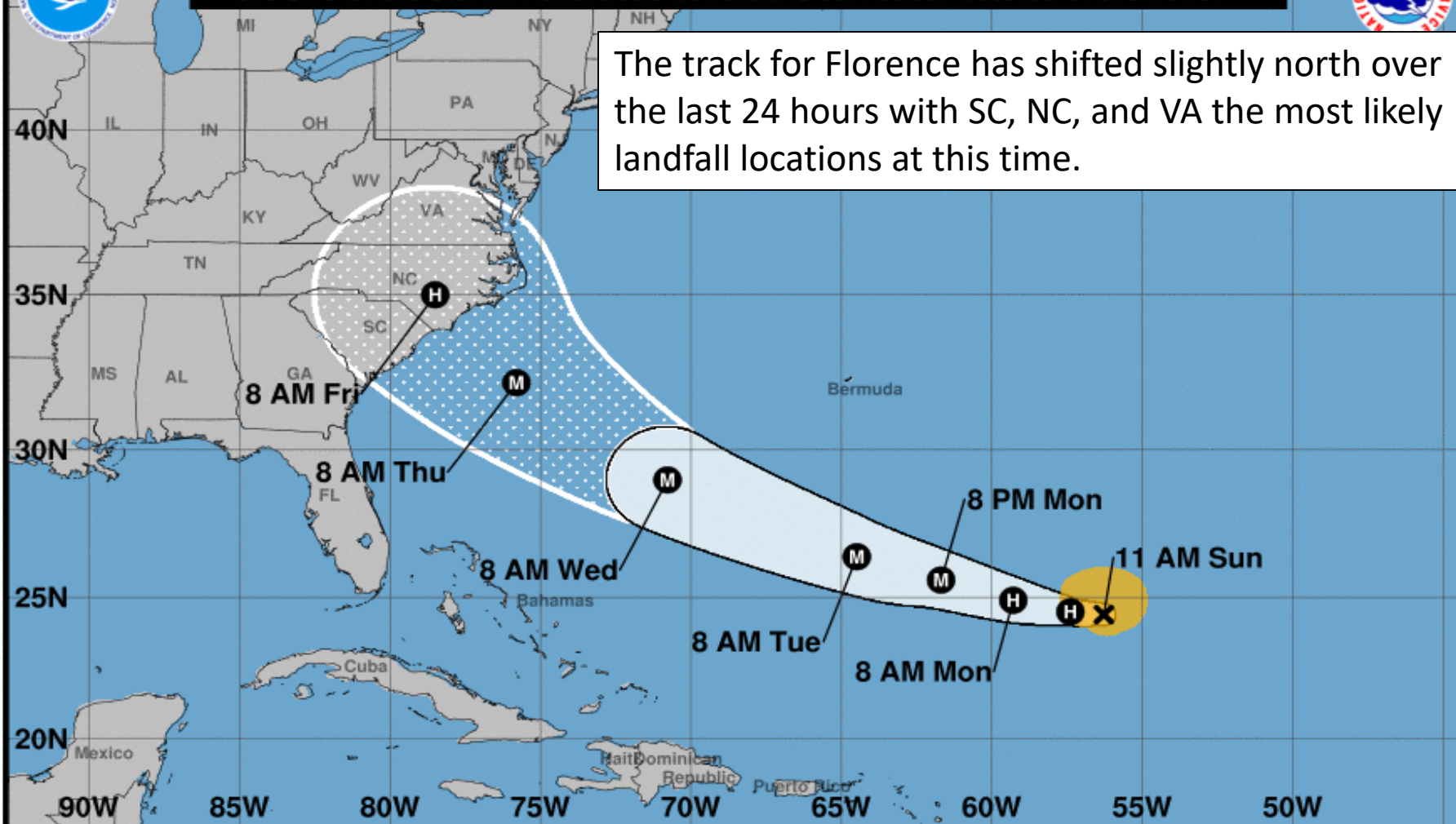
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Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

The track for Florence has shifted slightly north over the last 24 hours with SC, NC, and VA the most likely landfall locations at this time.



### Hurricane Florence

Sunday September 09, 2018

11 AM AST Advisory 41

NWS National Hurricane Center

### Current information: x

Center location 24.4 N 56.3 W

Maximum sustained wind 75 mph

Movement W at 6 mph

### Forecast positions:

● Tropical Cyclone ○ Post/Potential TC

Sustained winds: D < 39 mph

S 39-73 mph H 74-110 mph M > 110 mph

### Potential track area:

Day 1-3 Day 4-5

### Watches:

Hurricane Trop Stm

### Warnings:

Hurricane Trop Stm

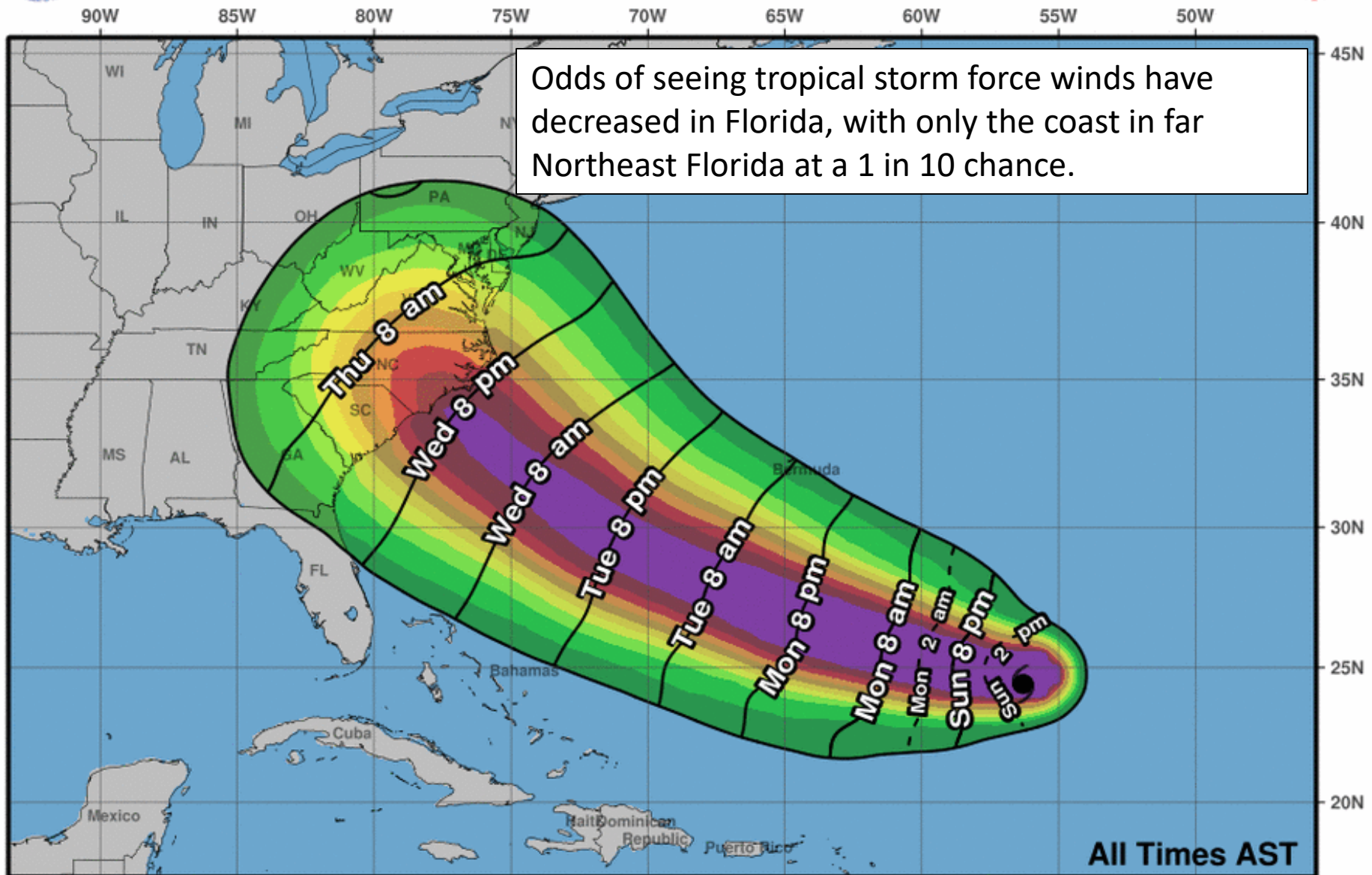
### Current wind extent:

Hurricane Trop Stm





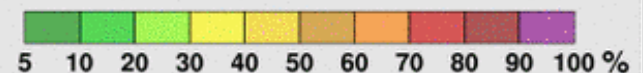
# Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



**Hurricane Florence**  
**Sun. Sep. 9, 2018 11 am AST**  
**Advisory 41**

Storm Location & Wind Speed  
○ < 34 kt (39 mph)  
○ 34-63 kt (39-73 mph)  
● ≥ 64 kt (74 mph)

5-day chance of receiving sustained 34+ kt (39+ mph) winds





# Track Models (Florence)

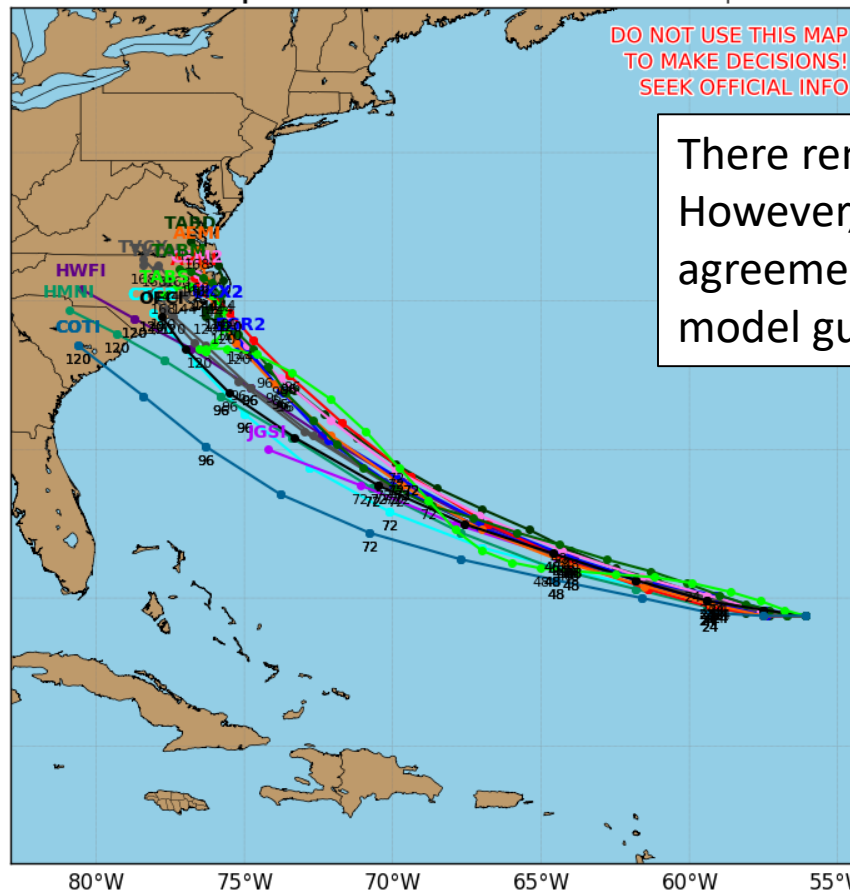
## Hurricane FLORENCE Model Track Guidance

Initialized at 12z Sep 09 2018

Levi Cowan - tropicaltidbits.com

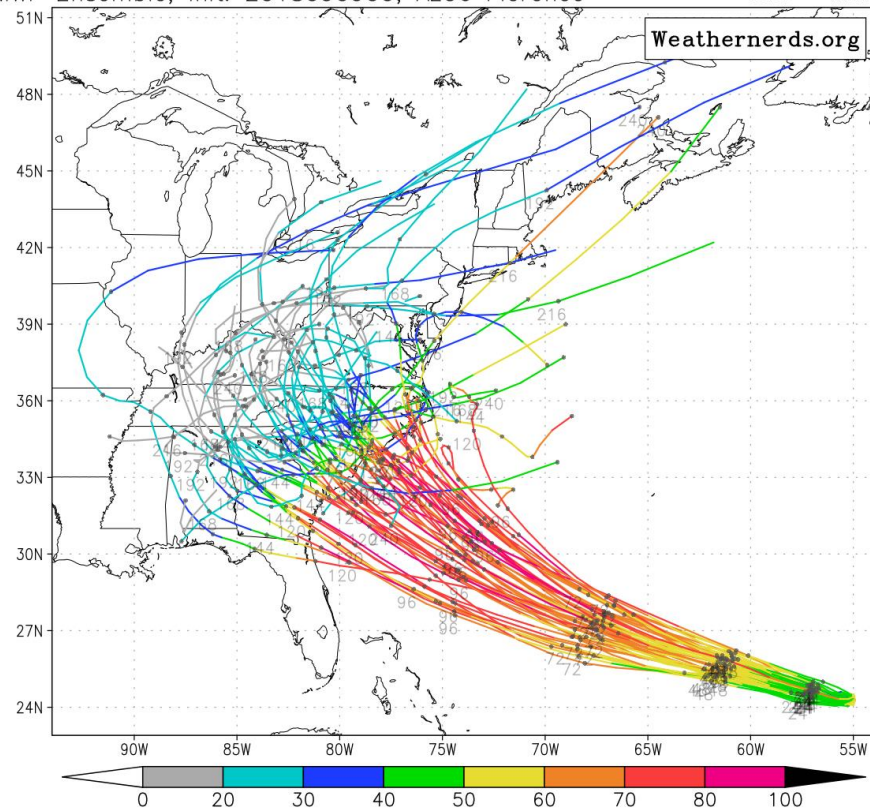
DO NOT USE THIS MAP  
TO MAKE DECISIONS!  
SEEK OFFICIAL INFO

There remains some uncertainty in the track. However, models have come into much better agreement over the last 24 hours. Over 80% of the model guidance is now targeting a Carolina landfall.

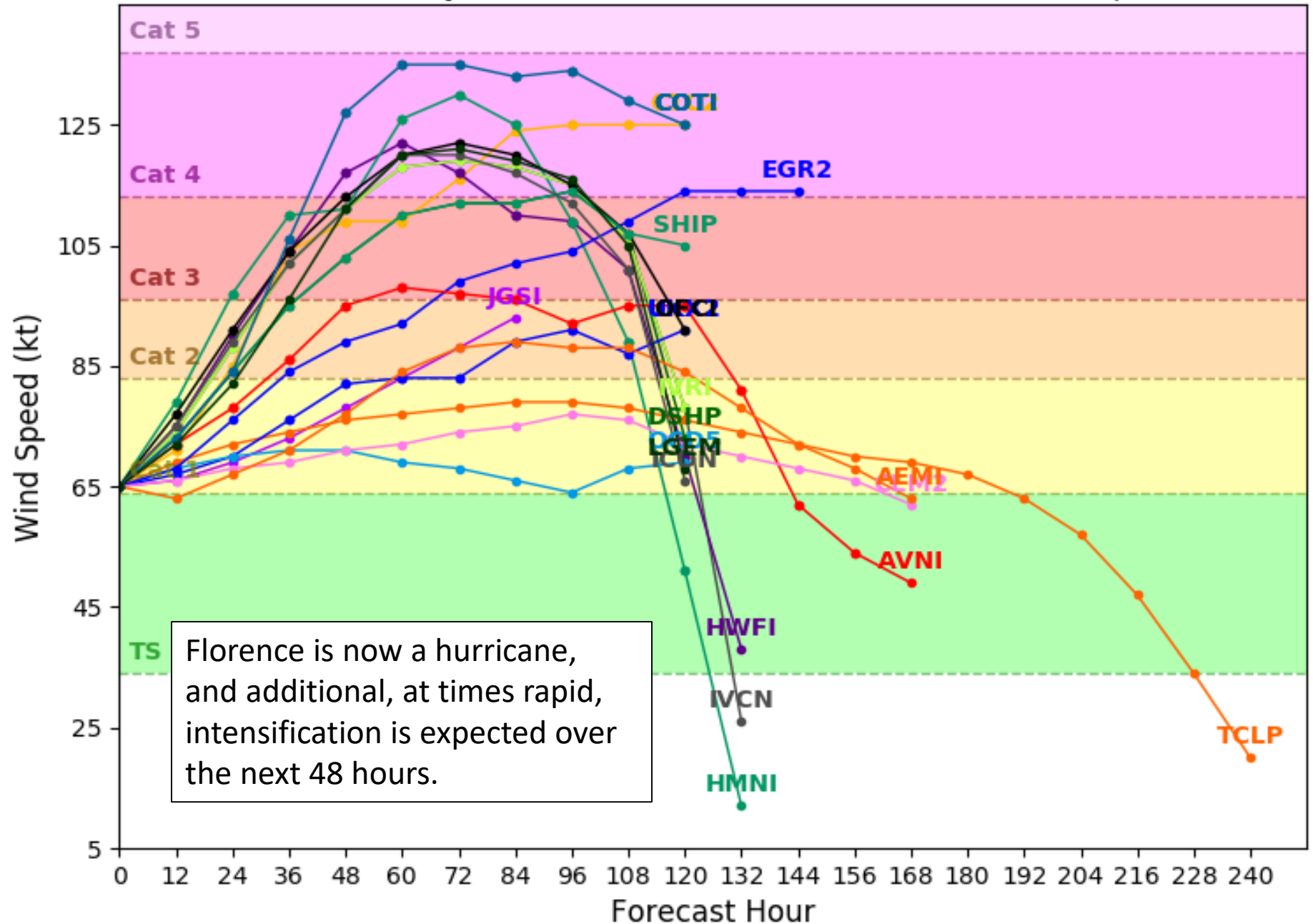


ECMWF Ensemble, init: 2018090900, AL06 Florence

color = max wind (kt)

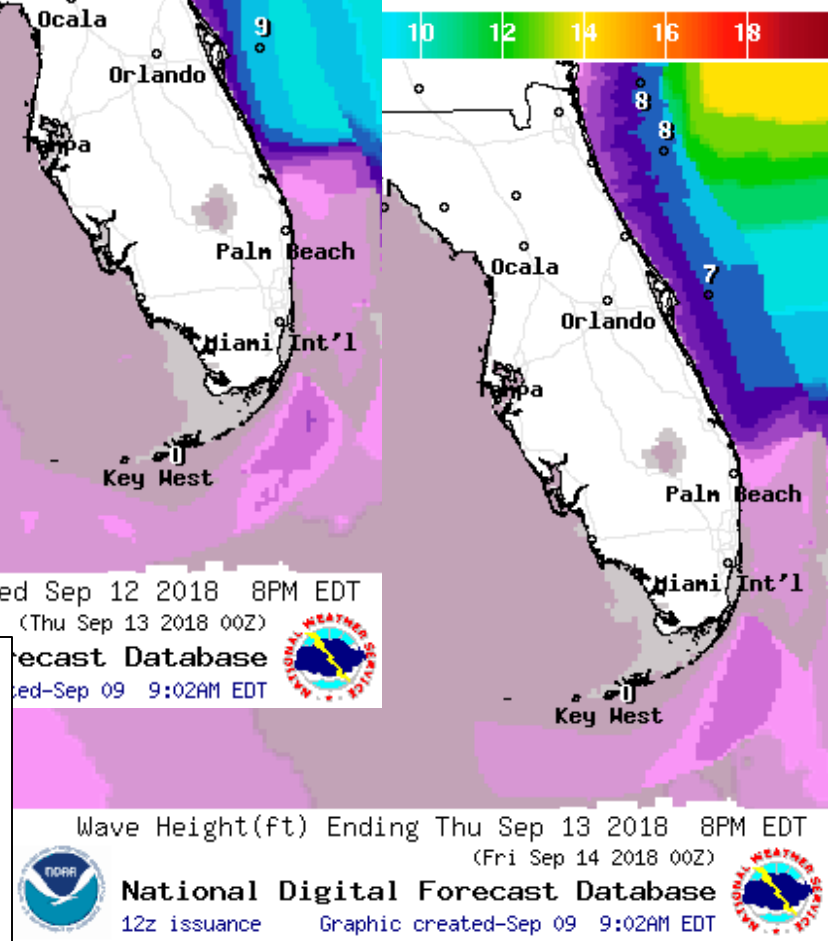
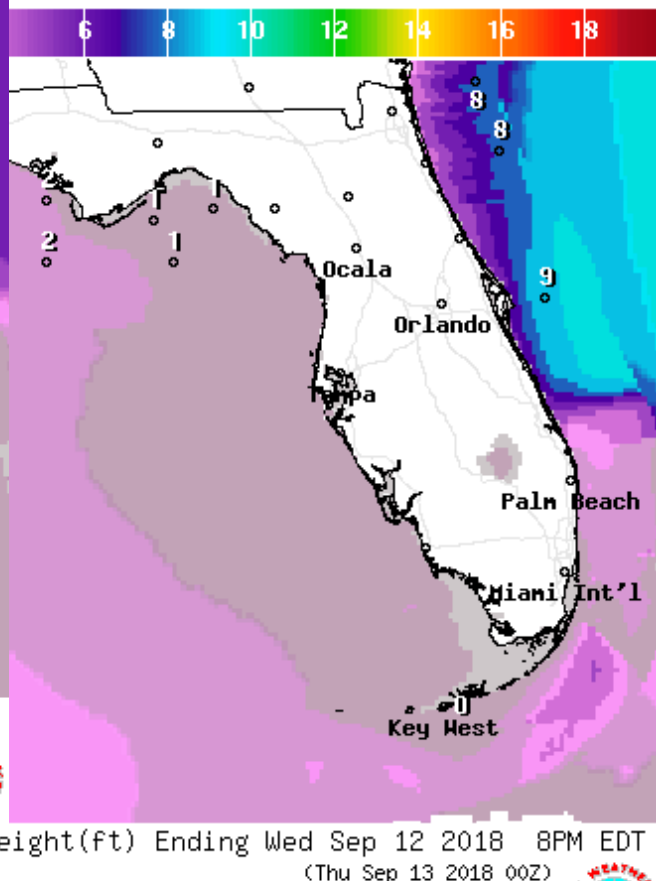
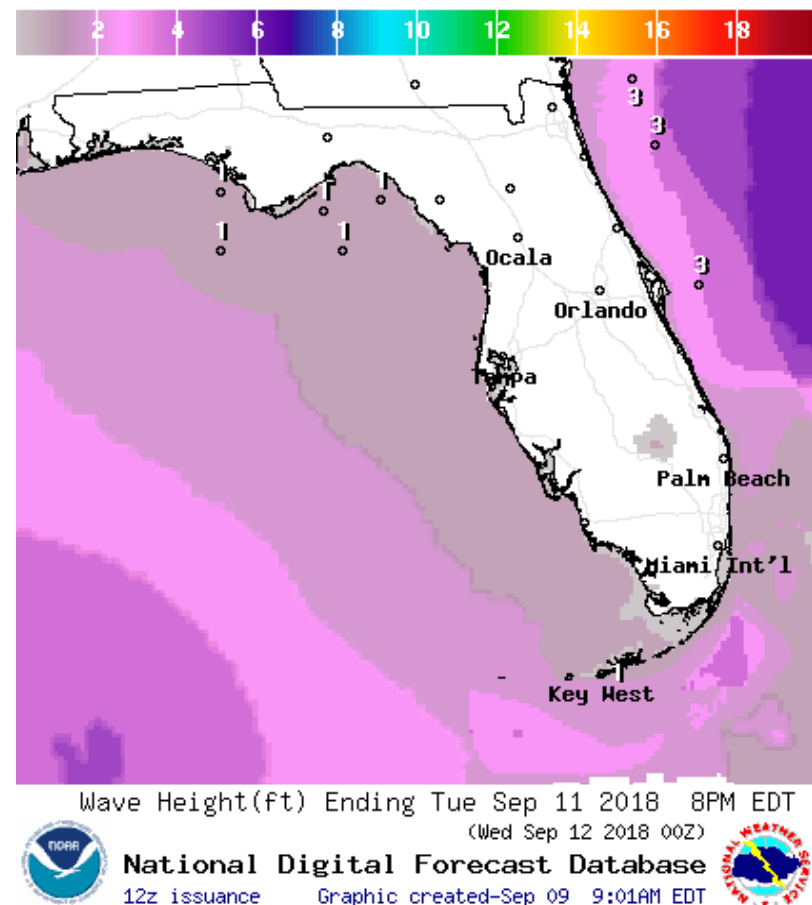


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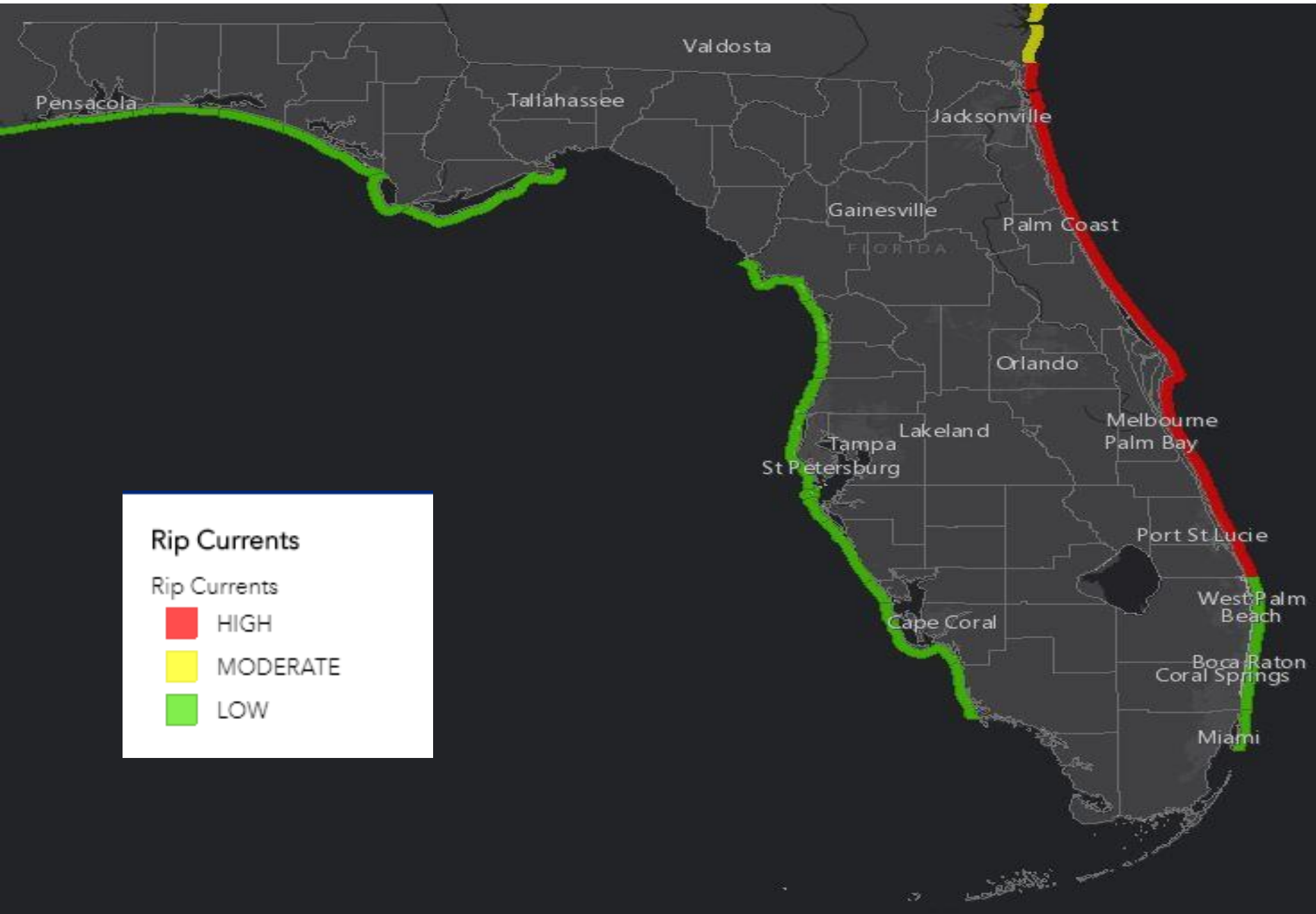


# Forecast Wave Heights (Florence)



Regardless of track, as Florence nears the East Coast later this week, wave heights will increase along the East Coast of Florida. This will result in a high risk of rip currents, minor beach erosion, and some coastal flooding issues.

# Rip Current Forecast







# Key Messages for Tropical Storm Florence

Advisory 40: 5:00 AM AST Sun Sep 09, 2018



1. Florence is forecast to be a dangerous major hurricane near the southeast U.S. coast by late this week, and the risk of direct impacts continues to increase. However, given the uncertainty in track and intensity forecasts at those time ranges, it's too soon to determine the exact timing, location, and magnitude of those impacts.

2. Interests along the U.S. East Coast, particularly from north Florida through North Carolina, should closely monitor the progress of Florence, ensure they have their hurricane plan in place, and follow any advice given by local officials.

3. Large swells affecting Bermuda and portions of the U.S. East Coast will continue this week. These swells will result in life-threatening surf and rip currents.

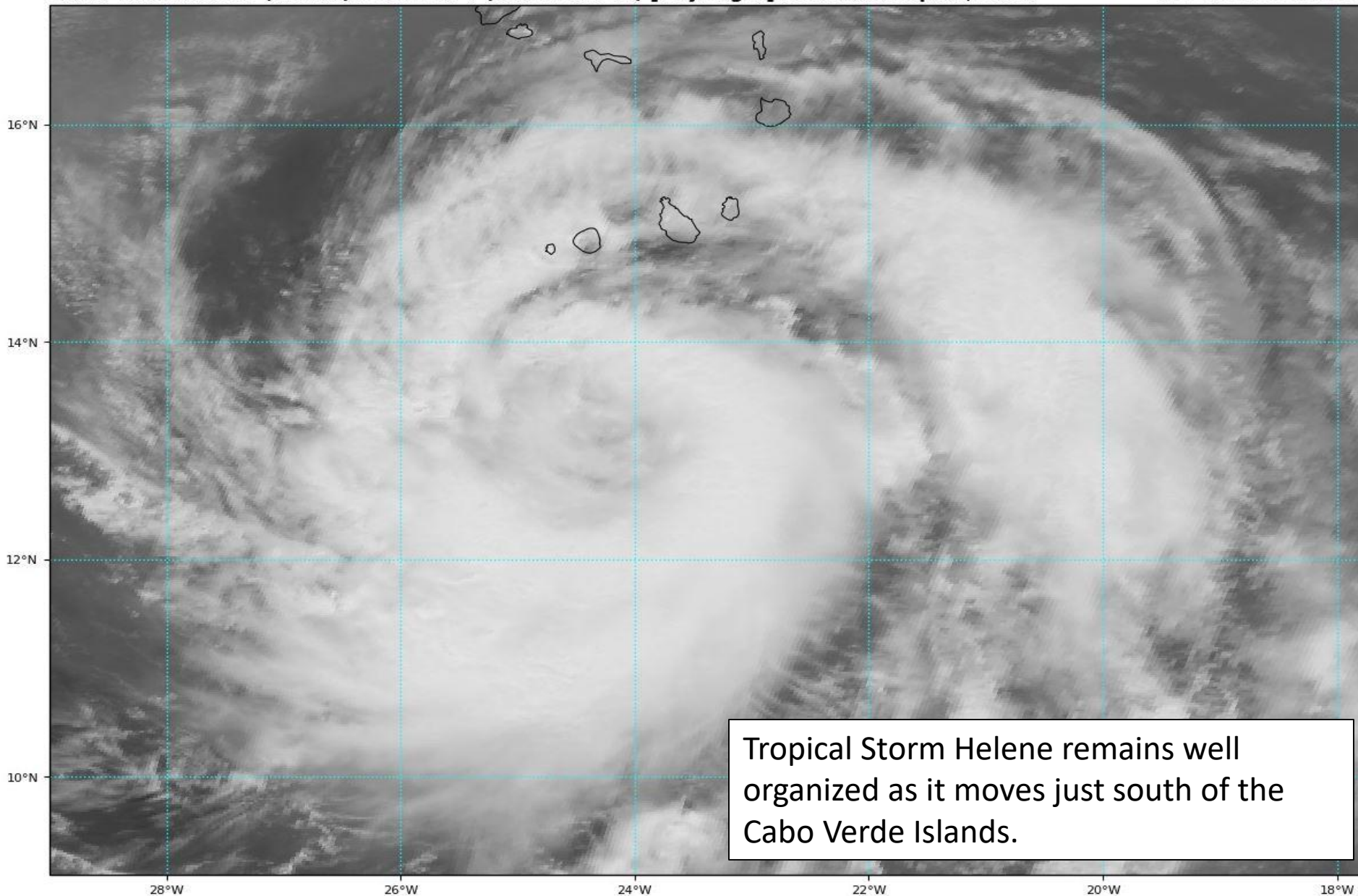


For more information go to [hurricanes.gov](http://hurricanes.gov)

# Tropical Storm Helene Satellite Image

GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 12:35Z Sep 09, 2018

TROPICALTIDBITS.COM



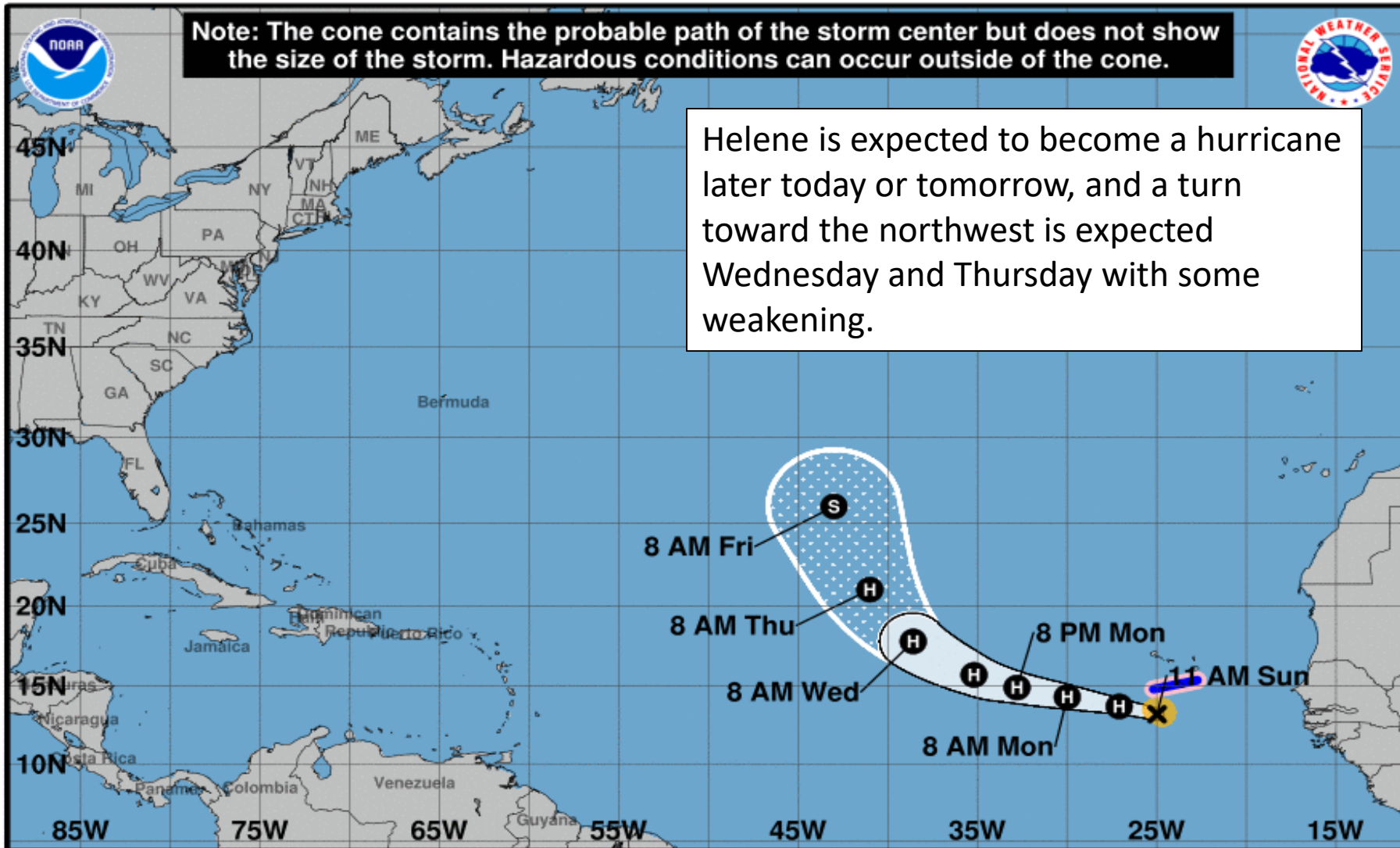




Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Helene is expected to become a hurricane later today or tomorrow, and a turn toward the northwest is expected Wednesday and Thursday with some weakening.



### Tropical Storm Helene

Sunday September 09, 2018

11 AM AST Advisory 9

NWS National Hurricane Center

### Current information: x

Center location 13.2 N 25.0 W

Maximum sustained wind 65 mph

Movement W at 13 mph

### Forecast positions:

● Tropical Cyclone ○ Post/Potential TC  
Sustained winds: D < 39 mph  
S 39-73 mph H 74-110 mph M > 110 mph

### Potential track area:

Day 1-3 Day 4-5

### Watches:

Hurricane Trop Stm

### Warnings:

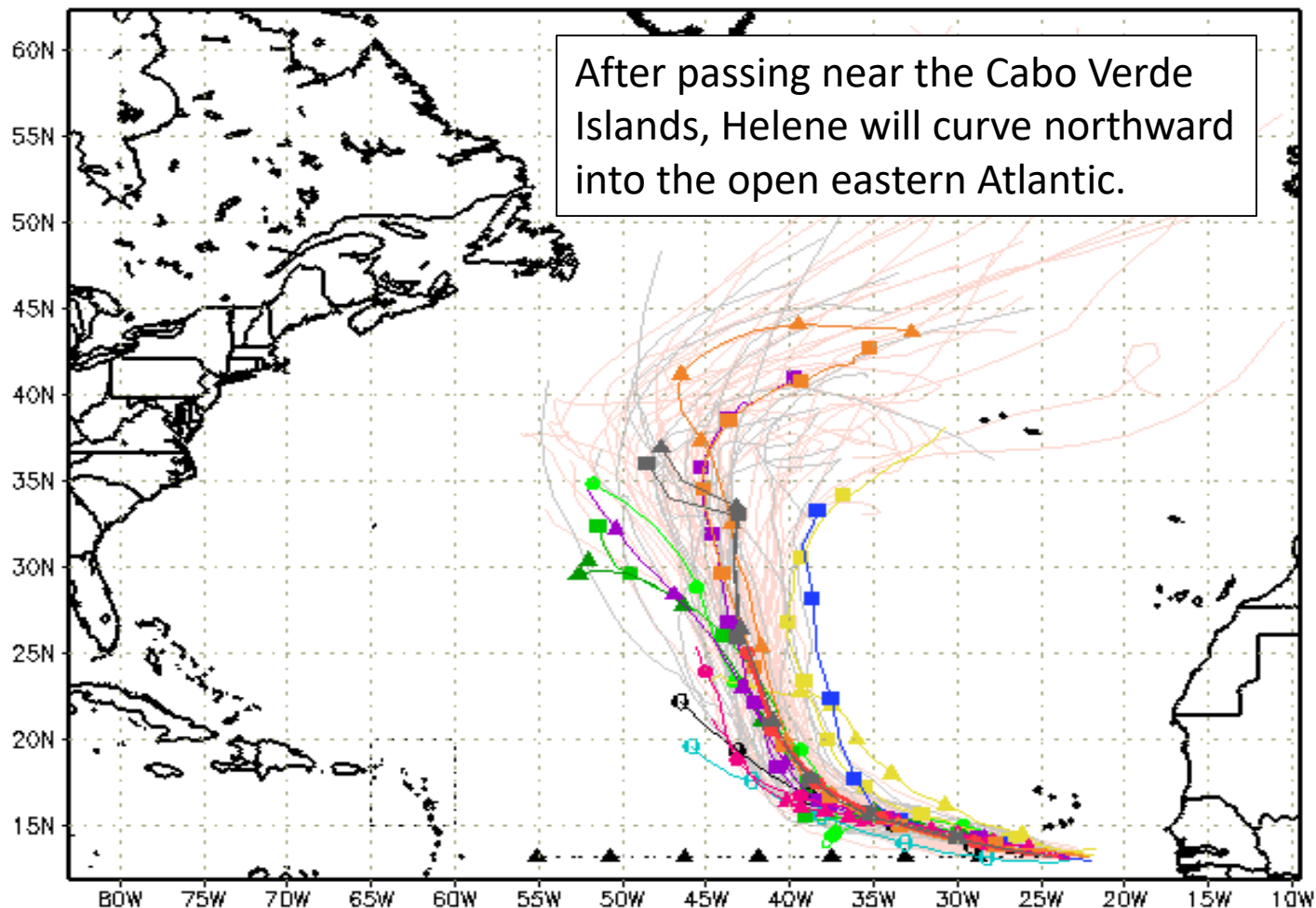
Hurricane Trop Stm

### Current wind extent:

Hurricane Trop Stm

# Track Models (Helene)

--▲-- XTRP 09/1200Z	—●— CLP5 09/1200Z	—▲— HMON 09/0600Z	—▲— AVNO 09/0600Z	—▲— ECMF 09/0000Z
—■— TVCN 09/1200Z	—▲— TABD 09/1200Z	—●— HWRF 09/0600Z	—■— AEMN 09/0600Z	—■— EEMN 09/0000Z
—▲— TVCX 09/1200Z	—■— TABM 09/1200Z	—■— UKM 09/0000Z	—■— APxx 09/0600Z	—■— EExx 09/0000Z
—●— NHC 09/0900Z	—●— TABS 09/1200Z	—●— COTC 09/0600Z	—▲— CMC 09/0000Z	—■— GEMN 09/0000Z



storm\_08

sfwmd.gov

weather@sfwmd.gov  
09-Sep 09:21 EDT

NHC Advisories and County Emergency Management Statements supersede this product. This graphic should complement, not replace, NHC discussions. If anything on this graphic causes confusion, ignore the entire product. For full info, see <http://my.sfwmd.gov/sfwmd/common/images/weather/plots.html>



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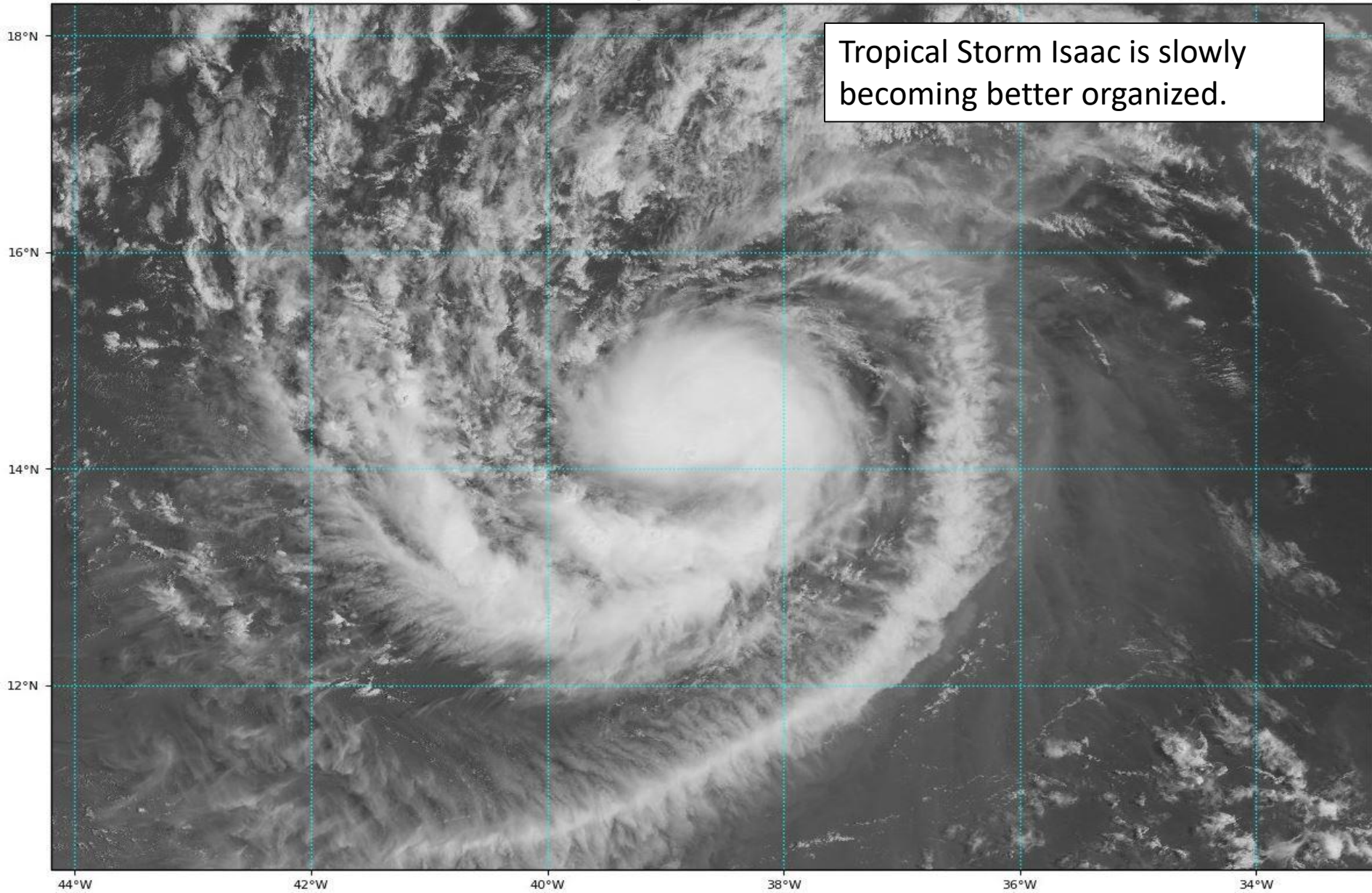
Figure 1 is a line graph showing the forecasted wind speed (kt) versus forecast hour (0 to 240) for various tropical systems. The graph is divided into five horizontal bands: Cat 3 (red), Cat 2 (orange), Cat 1 (yellow), Cat 0 (green), and TS (blue). Helene (red line) is expected to become a hurricane by tonight, followed by weakening in 3-4 days. Other systems include AVNI (red), TCLP (orange), SHF5 (orange), EGR2 (blue), HWFI (blue), UKX2 (blue), AEMI (orange), JG61 (purple), CEM2 (pink), SHIP (green), ICON (green), IVRI (green), VCN (green), LGEM (green), and HMNI (green).



# Tropical Storm Isaac Satellite Image

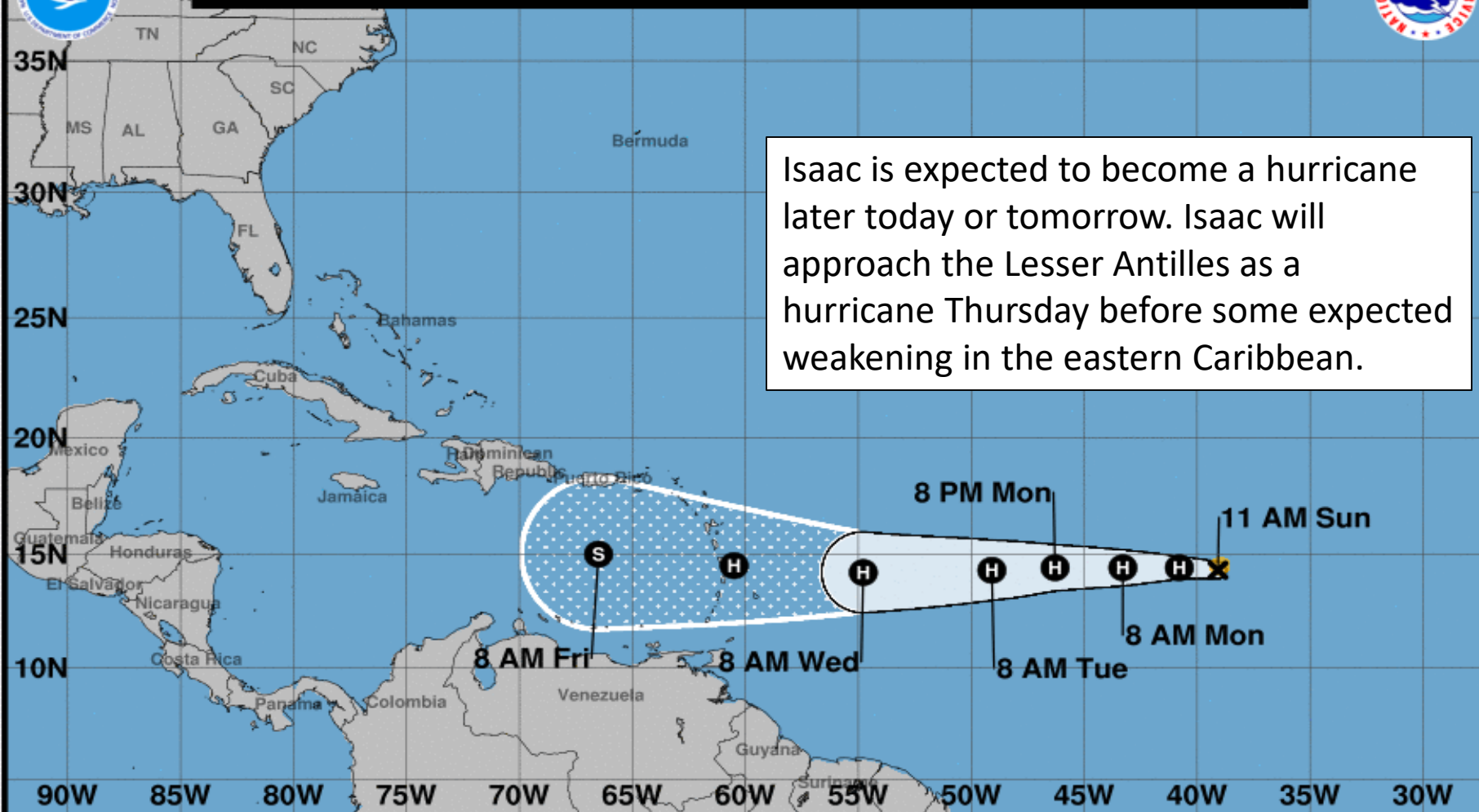
GOES-16 Channel 2 (visible) Reflectance at 12:35Z Sep 09, 2018

TROPICALTIDBITS.COM





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 Isaac

Sunday September 09, 2018  
11 AM AST Advisory 8  
NWS National Hurricane Center

### Current information: x

Center location 14.3 N 39.1 W  
Maximum sustained wind 65 mph  
Movement W at 9 mph

### Forecast positions:

● Tropical Cyclone ○ Post/Potential TC  
Sustained winds: D < 39 mph  
S 39-73 mph H 74-110 mph M > 110 mph

### Potential track area:

Day 1-3 Day 4-5

### Watches:

Hurricane Trop Stm

### Warnings:

Hurricane Trop Stm

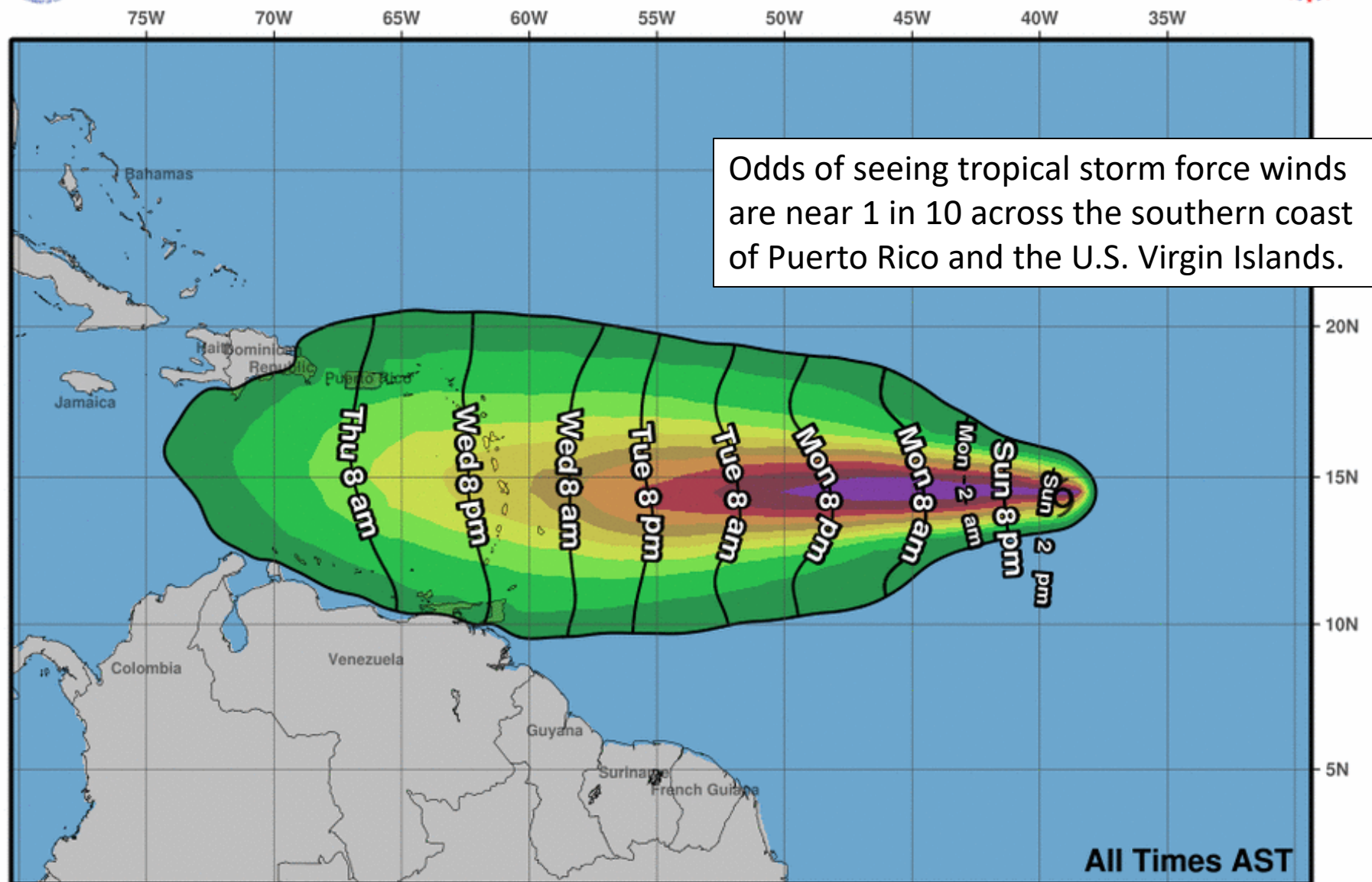
### Current wind extent:

Hurricane Trop Stm





# Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



**Tropical Storm Isaac**  
**Sun. Sep. 9, 2018 11 am AST**  
**Advisory 8**

Storm Location & Wind Speed

- < 34 kt (39 mph)
- 34-63 kt (39-73 mph)
- ≥ 64 kt (74 mph)

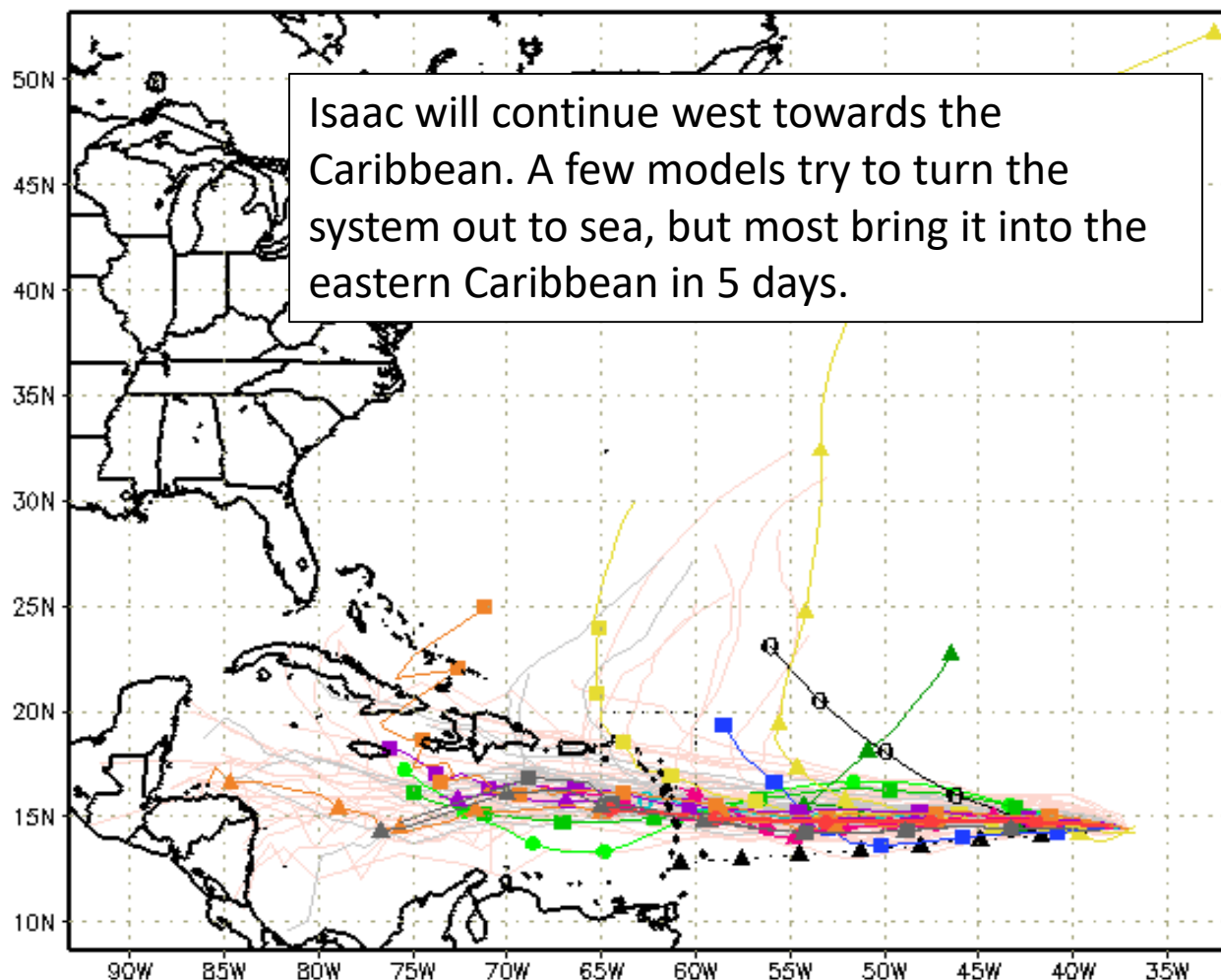
5-day chance of receiving sustained 34+ kt (39+ mph) winds

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



# Track Models (Isaac)

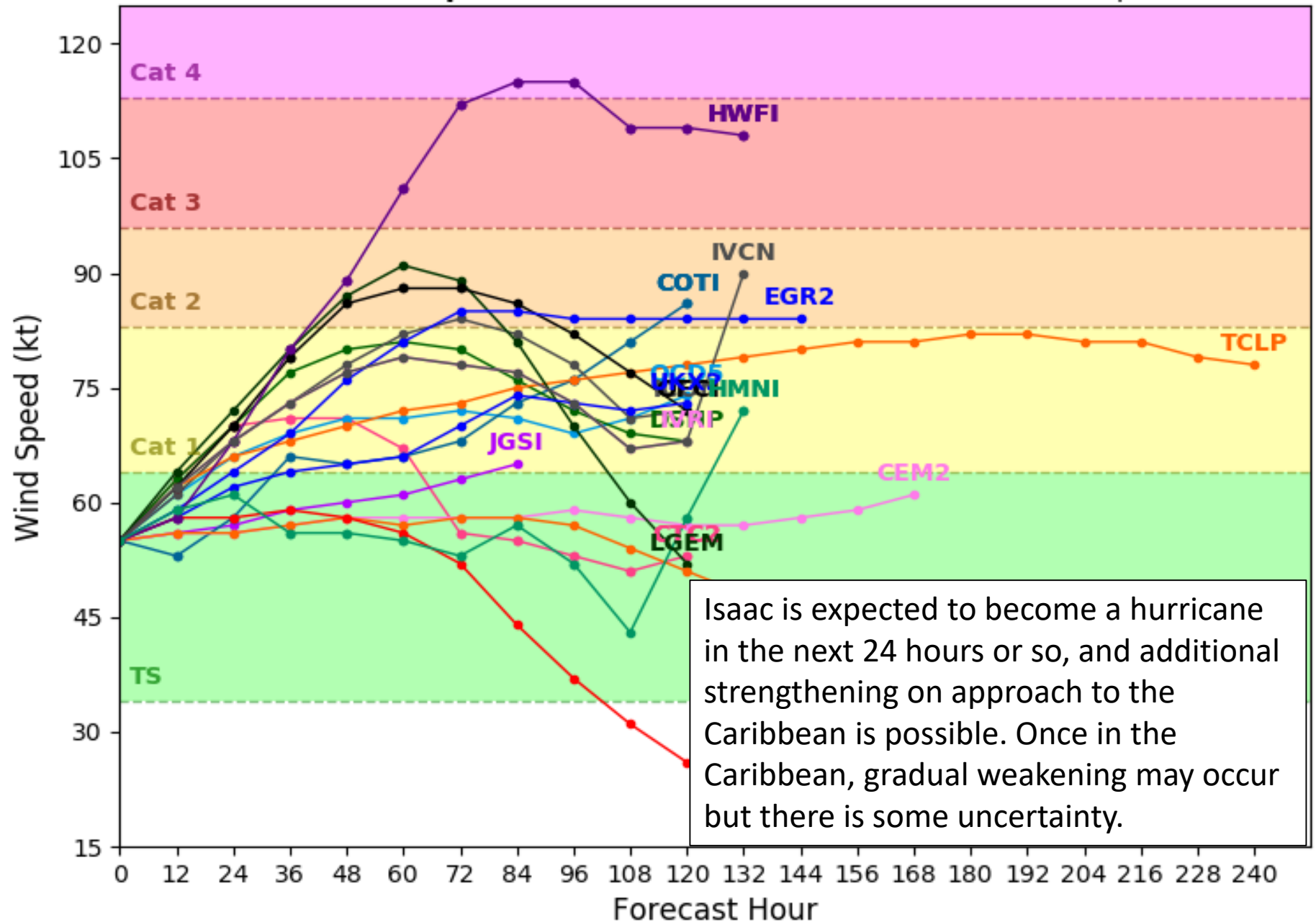
---▲--- XTRP 09/1200Z	---○--- CLP5 09/1200Z	---▲--- HMON 09/0600Z	---▲--- AVNO 09/0600Z	---▲--- ECMF 09/0000Z
---■--- TVCN 09/1200Z	---▲--- TABD 09/1200Z	---●--- HWRF 09/0600Z	---■--- AEMN 09/0600Z	---■--- EEMN 09/0000Z
---▲--- TVCX 09/1200Z	---■--- TABM 09/1200Z	---■--- UKM 09/0000Z	---○--- APxx 09/0600Z	---○--- EExx 09/0000Z
---●--- NHC 09/0900Z	---●--- TABS 09/1200Z	---○--- COTC 09/0600Z	---▲--- CMC 09/0000Z	---■--- GEMN 09/0000Z



# Tropical Storm ISAAC Model Intensity Guidance

Initialized at 12z Sep 09 2018

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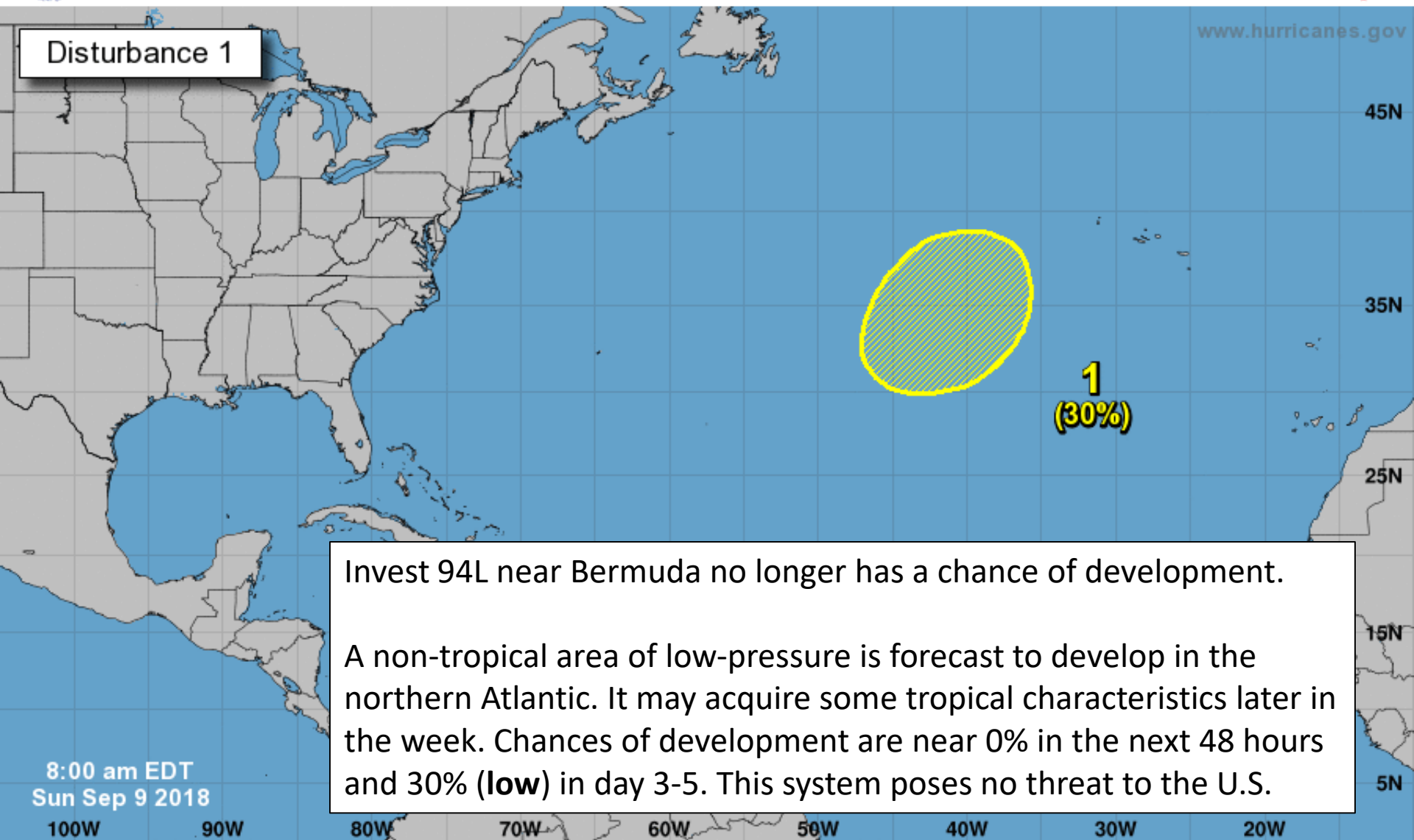
# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

Disturbance 1



Invest 94L near Bermuda no longer has a chance of development.

A non-tropical area of low-pressure is forecast to develop in the northern Atlantic. It may acquire some tropical characteristics later in the week. Chances of development are near 0% in the next 48 hours and 30% (**low**) in day 3-5. This system poses no threat to the U.S.

Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%  
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane  
 Post-Tropical Cyclone or Remnants

8:00 am EDT  
Sun Sep 9 2018



# Summary

- Florence is becoming better organized over the central Atlantic Ocean this morning and is now a Category 1 Hurricane.
- At 11 AM EDT Sunday, Hurricane Florence was located in the central Atlantic Ocean about 750 miles southeast of Bermuda, or approximately 1,450 miles east of Miami, Florida.
- Maximum sustained winds are near 75 mph. Strengthening is forecast and Florence may become a major hurricane by Monday.
- Florence is moving to the west near 6 mph. A slight turn to the west-northwest along with an increase in forward speed is forecast later today. An additional turn to the northwest by the middle of the week is expected.
- Beyond 4-5 days, there is still some disagreement in the computer models on the eventual track of Florence, and will be dependent on the strength of Florence as well as forecast steering currents. However, landfall could occur on Thursday along the Carolina Coast.
- Hurricane Hunters and NOAA research aircraft are investigating the system and the surrounding environment daily.
- As of 11 am EDT Sunday, Tropical Storm Helene is located in the eastern Atlantic Ocean about 120 miles south-southwest of the Cabo Verde Islands with maximum sustained winds of 65 mph.
- Helene has not strengthened much since yesterday. However, strengthening is forecast for the next few days, and Helene could become a hurricane on later today or tomorrow.
- Helene is moving to the west at 13 mph. A turn toward the northwest and north is expected during the middle to end of next week into the open Atlantic.
- Tropical Depression #9 was upgraded to Tropical Storm Isaac overnight. Maximum sustained winds are now near 65 mph.
- As of 11 am EDT Sunday, Isaac is located about 1,470 miles east of the Lesser Antilles and moving west at 9 mph.
- This general motion is expected to continue through the next five days.
- Gradual strengthening is forecast, and Isaac is likely to become a hurricane tonight or tomorrow.
- The forecast track remains uncertain past 5 days as the system may be drawn northward by a trough or continue westward into the Caribbean. Puerto Rico and the U.S. Virgin Islands should continue to monitor the progress of this system.
- Invest 94L, located near Bermuda, no longer has any chance of development.
- A non-tropical area of low-pressure will develop in the northeast Atlantic in the coming days. By the middle to end of the week, it may acquire some tropical characteristics. This system has a 30% (low) chance of development during the next 5 days and is no threat to the U.S.

**Florida Outlook:**

- Over the last 24 hours, chances of direct impacts to Northeast Florida from Florence have decreased – but are still not zero! Northeast Florida should continue to monitor the track of Florence closely during the next few days.
- The odds of seeing tropical storm force winds along the immediate coast of far Northeast Florida are near 1 in 10 and less inland.
- Otherwise, it is too early to speculate exact wind strength, rainfall, and any surge potential in Northeast Florida. Details will become more clear over the next 24-36 hours.
- Regardless of Florence's eventual track, large swells emanating from the storm will reach portions of the Florida East Coast resulting in life-threatening rip currents. Increasing impacts including large breaking waves, erosion, and minor coastal flooding.
- Breaking waves along the beach in Northeast and east-central Florida will peak on Wednesday and Thursday at 6-8'.
- A Coastal Flood Advisory is in effect through this evening for Nassau, Duval, St. Johns, Flagler, and Putnam Counties. Minor coastal flooding at high tide will be possible. This advisory may be extended through the next couple of days.
- Tropical Storm Helene poses no threat to Florida or the U.S.
- Tropical Storm Isaac will need to be monitored over the next 1-2 weeks as it moves into the Caribbean, but is not a direct threat at this time.

Another briefing packet will be issued late this afternoon. For the latest information on the tropics, please visit the National Hurricane Center website at [www.hurricanes.gov](http://www.hurricanes.gov).



# TROPICAL UPDATE

Created by:

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State Meteorological Support Unit

Florida Division of Emergency  
Management

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