



# **TROPICAL UPDATE**

**11 AM EDT**

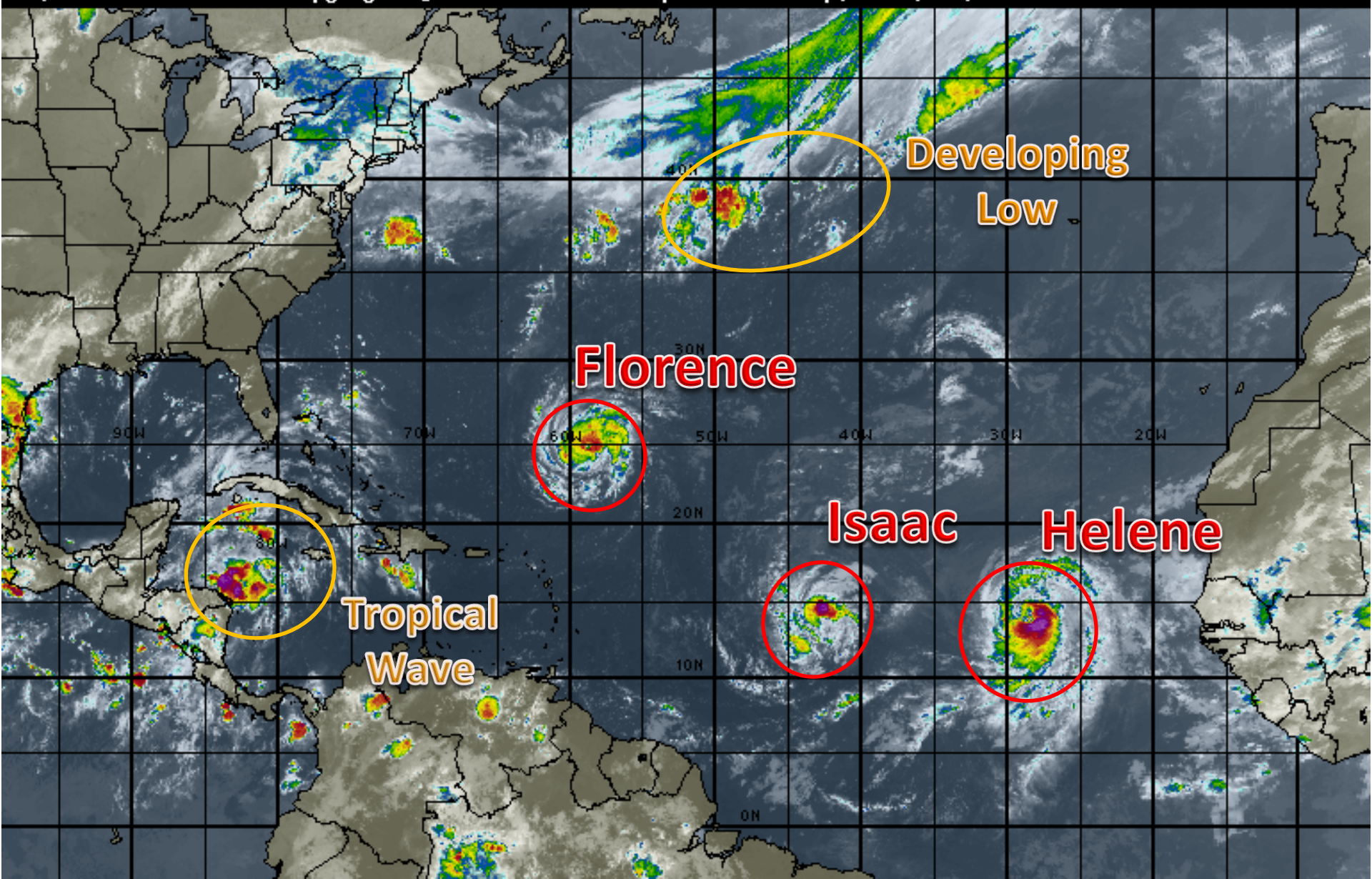
**Monday, September 10, 2018**

**Hurricane Florence, Hurricane Helene, Hurricane Isaac, Caribbean Tropical Wave (40%) & North Atlantic Low (40%)**

**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

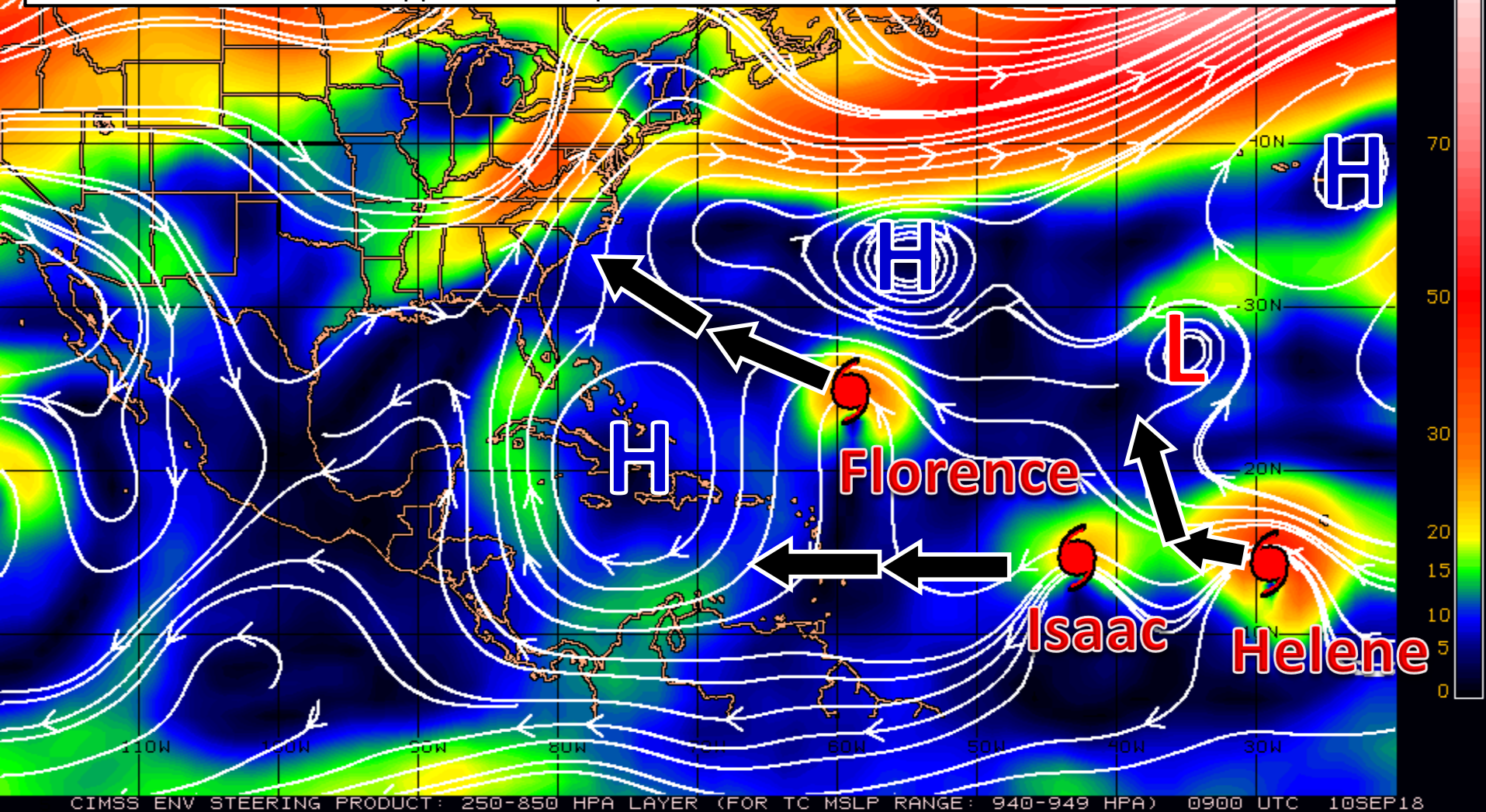
09:00 10-SEP-2018 GMT Copyright © 1998-2018 WSI Corporation <http://www.wsi.com>





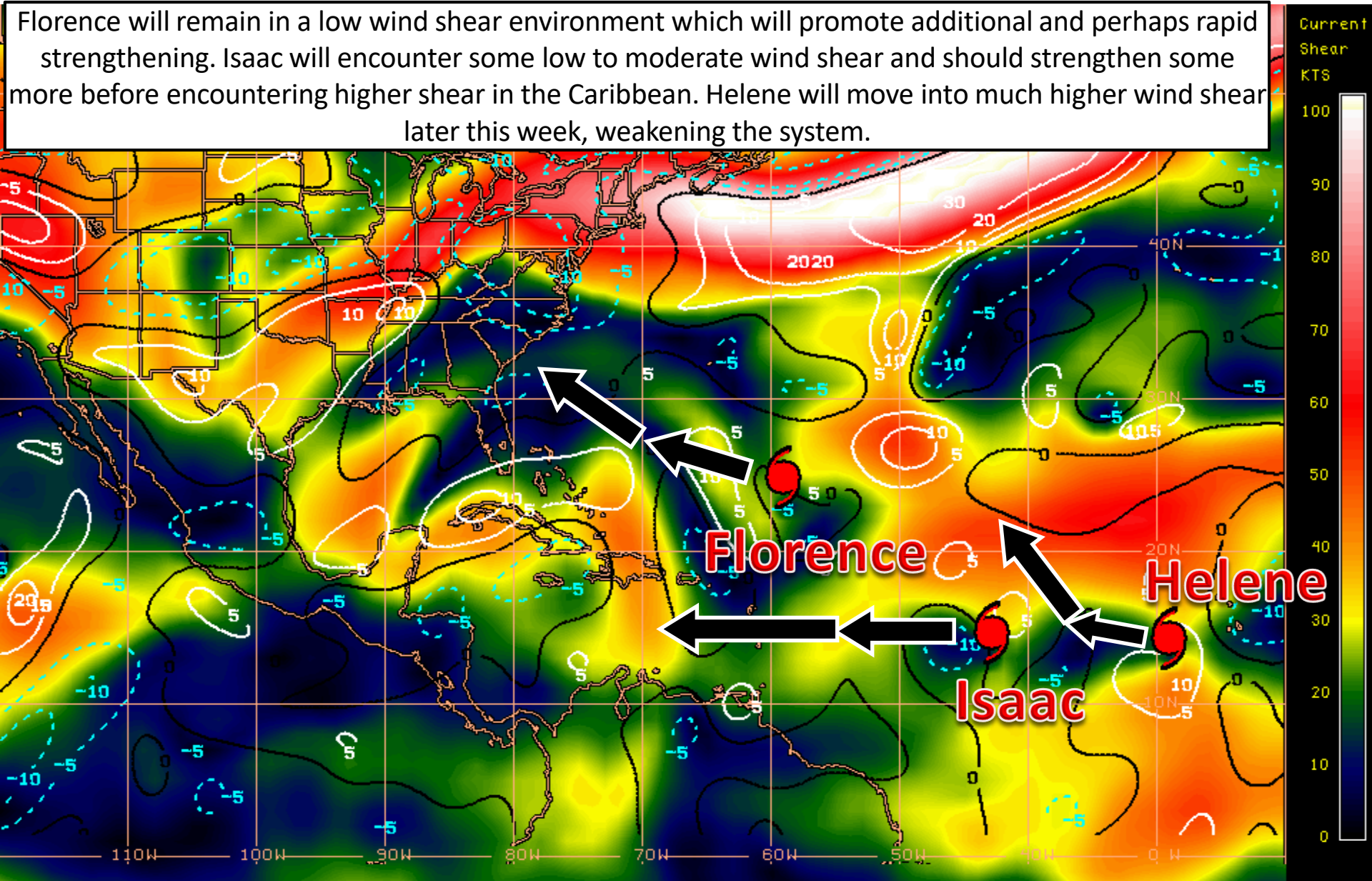
# Steering Currents

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 new high pressure system develops to the north. This will drive Florence west-northwest as early as today or tomorrow. Isaac will continue west as it gets trapped under the high pressure in the Caribbean. Helene will eventually turn north as it gets pulled by an upper level low pressure area in the eastern Atlantic.



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

Florence will remain in a low wind shear environment which will promote additional and perhaps rapid strengthening. Isaac will encounter some low to moderate wind shear and should strengthen some more before encountering higher shear in the Caribbean. Helene will move into much higher wind shear later this week, weakening the system.

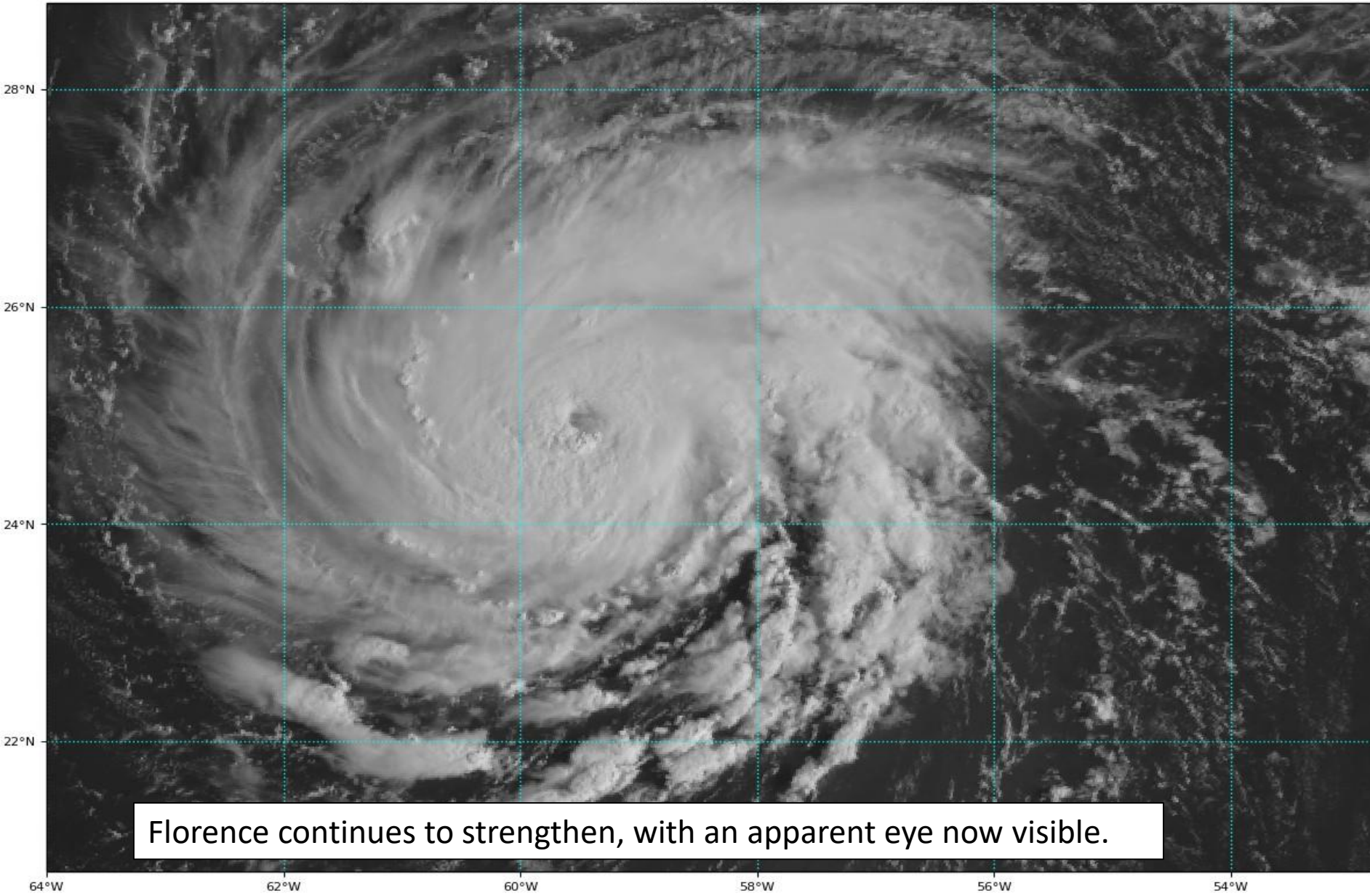




# Hurricane Florence Satellite Image

GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 12:05Z Sep 10, 2018

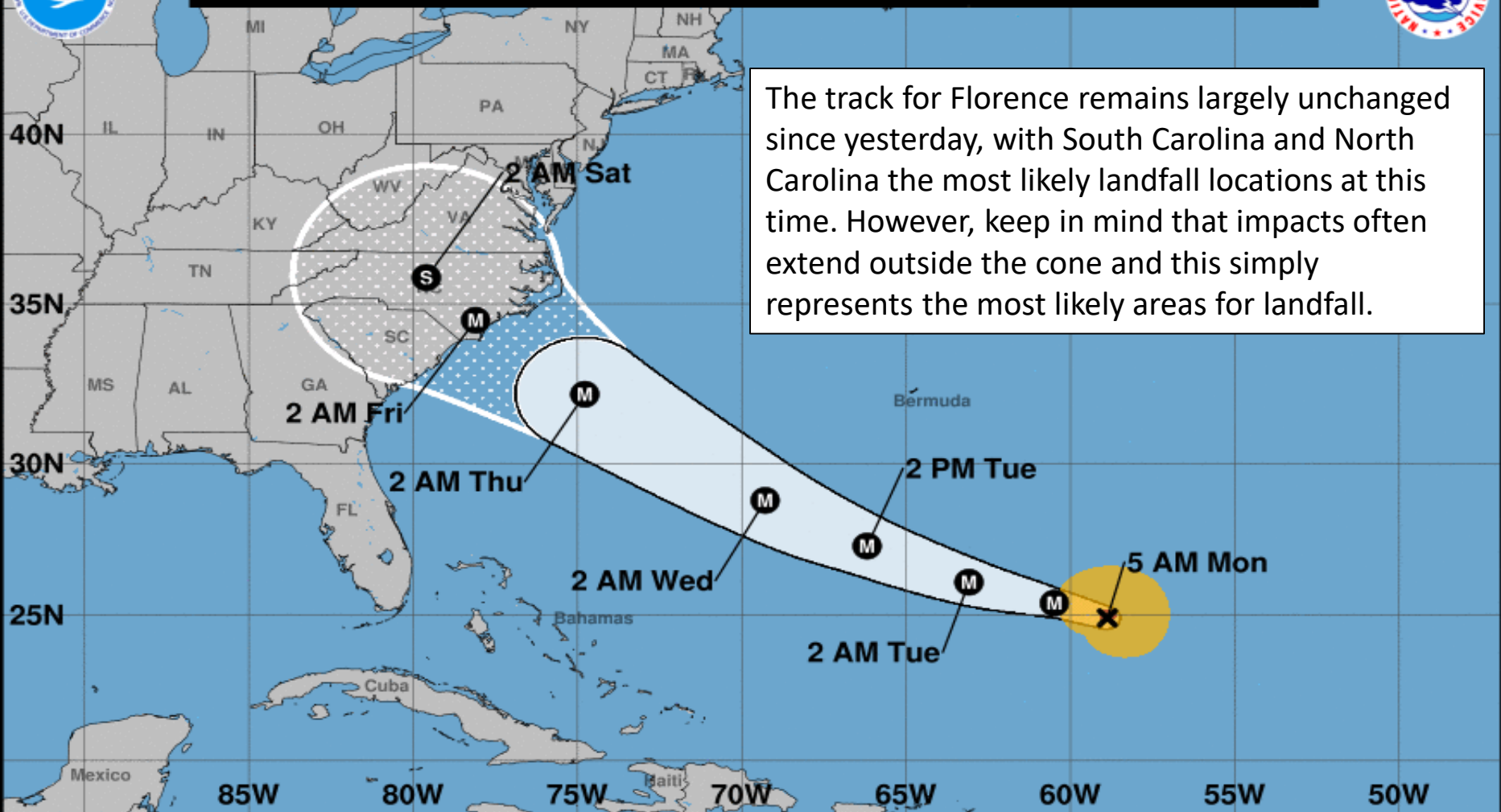
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Florence continues to strengthen, with an apparent eye now visible.



**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 Florence**  
Monday September 10, 2018  
5 AM AST Advisory 44  
NWS National Hurricane Center

**Current information: x**  
Center location 24.9 N 58.9 W  
Maximum sustained wind 105 mph  
Movement WNW at 9 mph

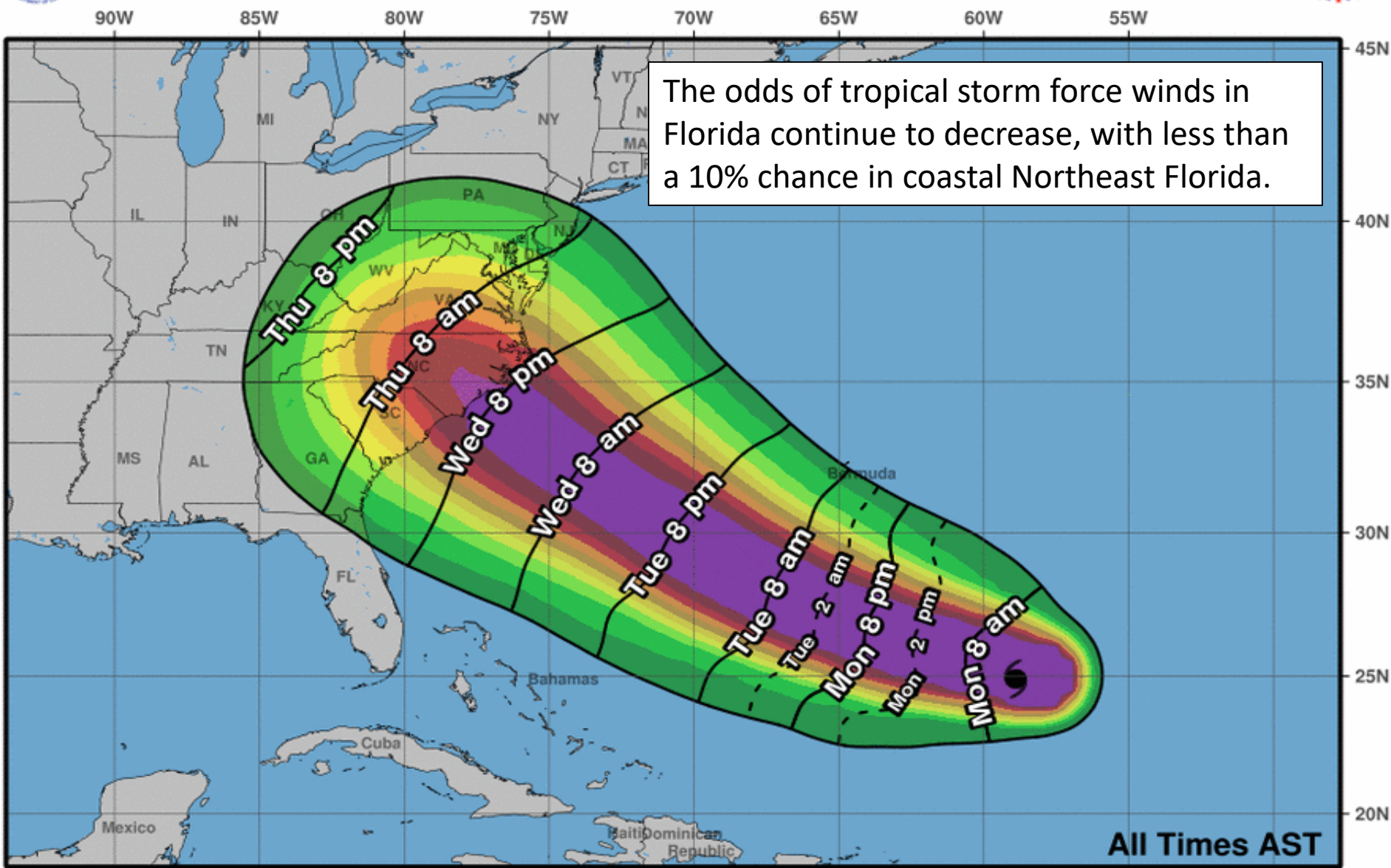
**Forecast positions:**  
● Tropical Cyclone ○ Post/Potential TC  
Sustained winds: D < 39 mph  
S 39-73 mph H 74-110 mph M > 110 mph

<b>Potential track area:</b> Day 1-3 (solid line) Day 4-5 (stippled area)	<b>Watches:</b> Hurricane (pink) Trop Stm (yellow)	<b>Warnings:</b> Hurricane (red) Trop Stm (blue)	<b>Current wind extent:</b> Hurricane (brown) Trop Stm (orange)
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# Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



**Hurricane Florence**  
Mon. Sep. 10, 2018 5 am AST  
Advisory 44

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

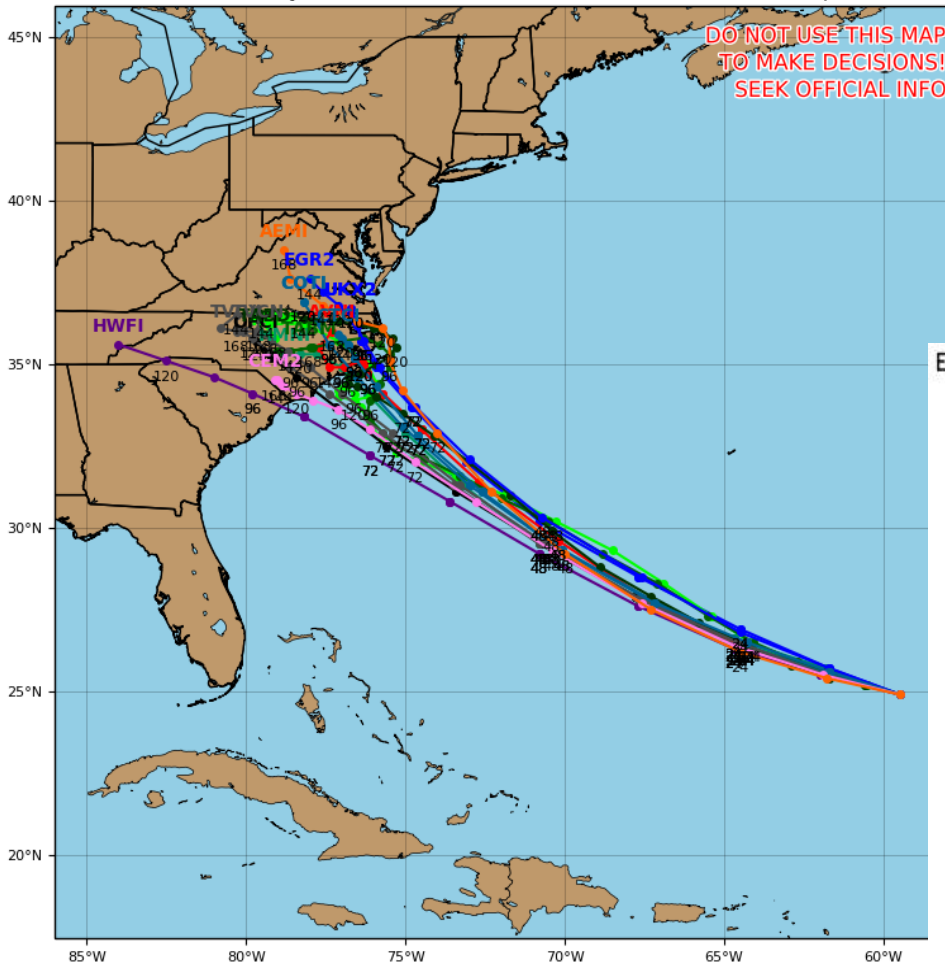
5 10 20 30 40 50 60 70 80 90 100 %

# Track Models (Florence)

## Hurricane FLORENCE Model Track Guidance

Initialized at 12z Sep 10 2018

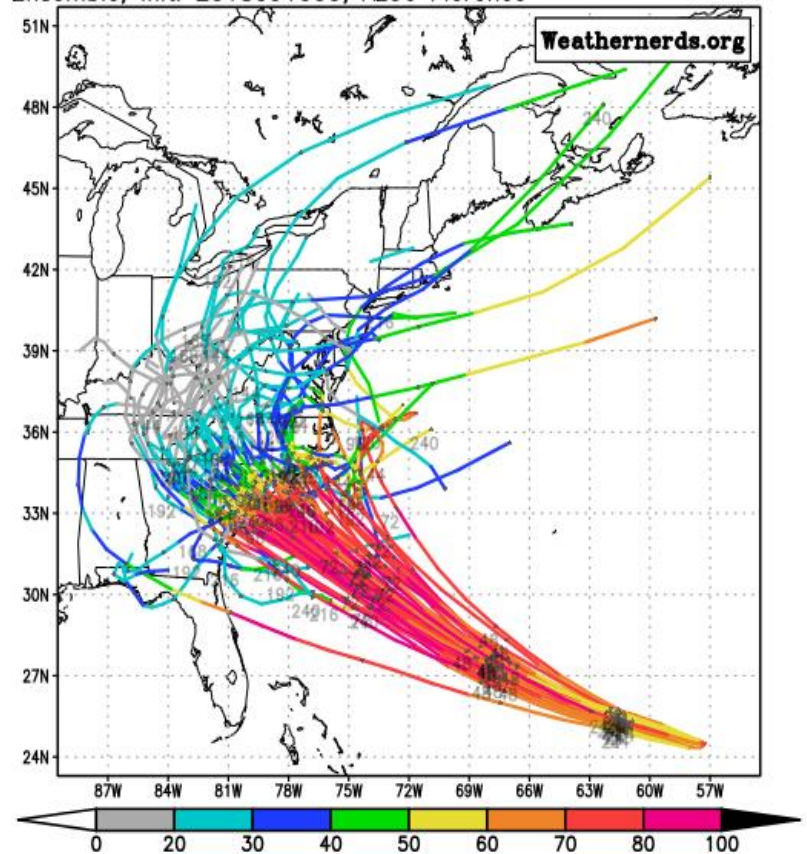
Levi Cowan - tropicaltidbits.com



Models continue to come into better agreement and while nearly all of the operational model guidance is targeting a North Carolina landfall, a track closer to South Carolina or even Georgia is still possible. In general, the stronger Florence is and the faster it intensifies, the further north it will track.

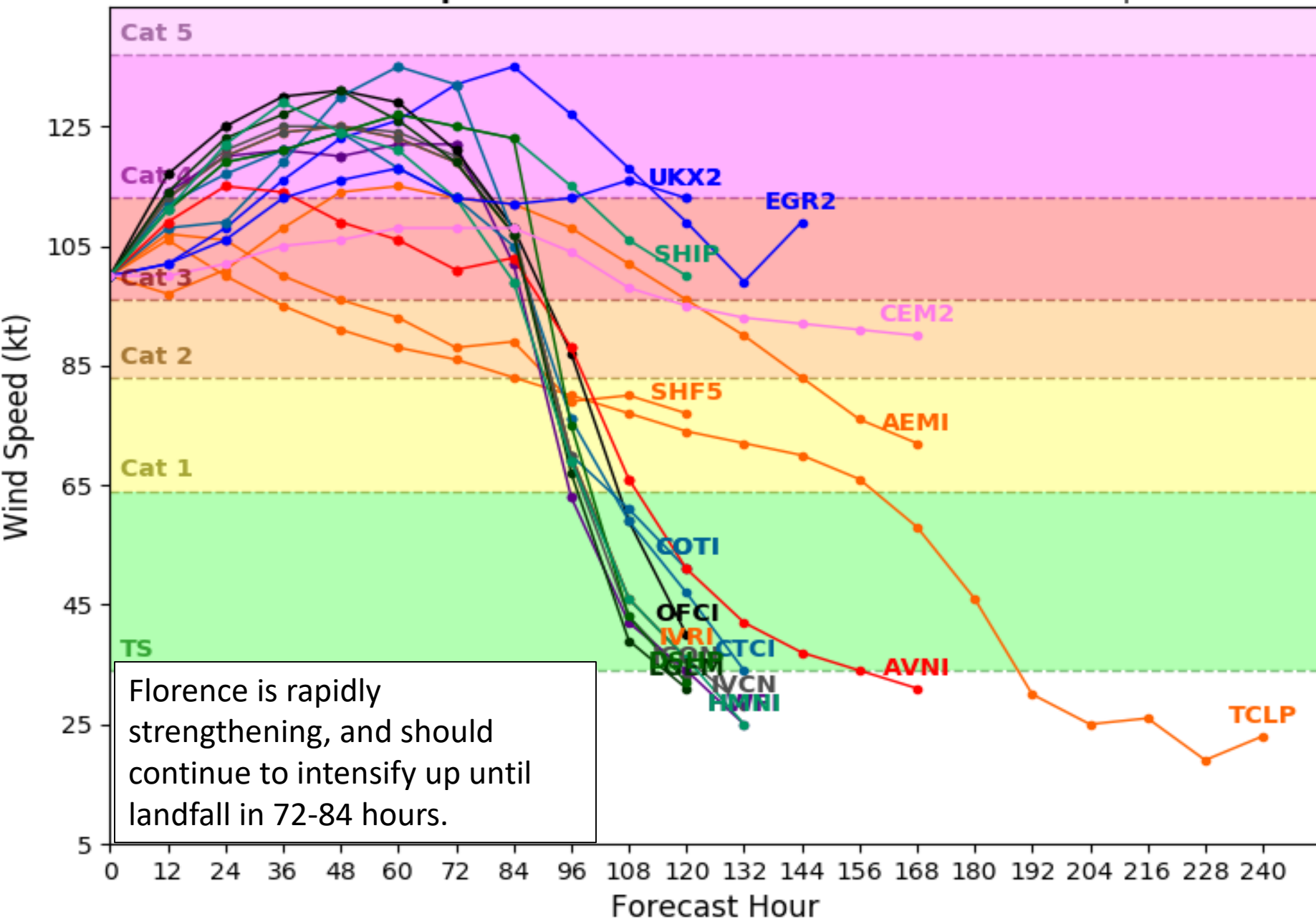
ECMWF Ensemble, init: 2018091000, AL06 Florence

color = max wind (kt)

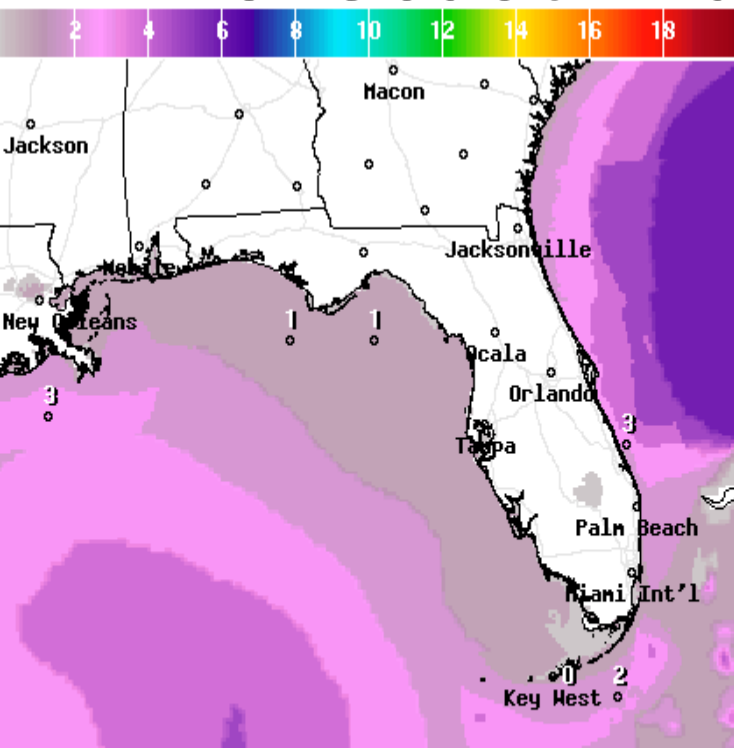




Levi Cowan - [tropicaltidbits.com](http://tropicaltidbits.com)



# Forecast Wave Heights (Florence)



Wave Height(ft) Ending Tue Sep 11 2018 8PM EDT

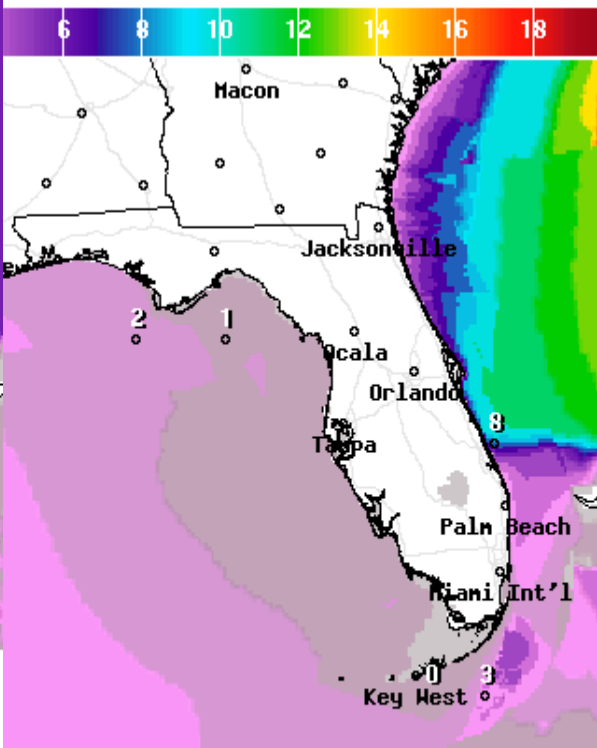
(Wed Sep 12 2018 00Z)



National Digital Forecast Database

11z issuance

Graphic created-Sep 10 7:30AM EDT



Wave Height(ft) Ending Wed Sep 12 2018 8PM EDT

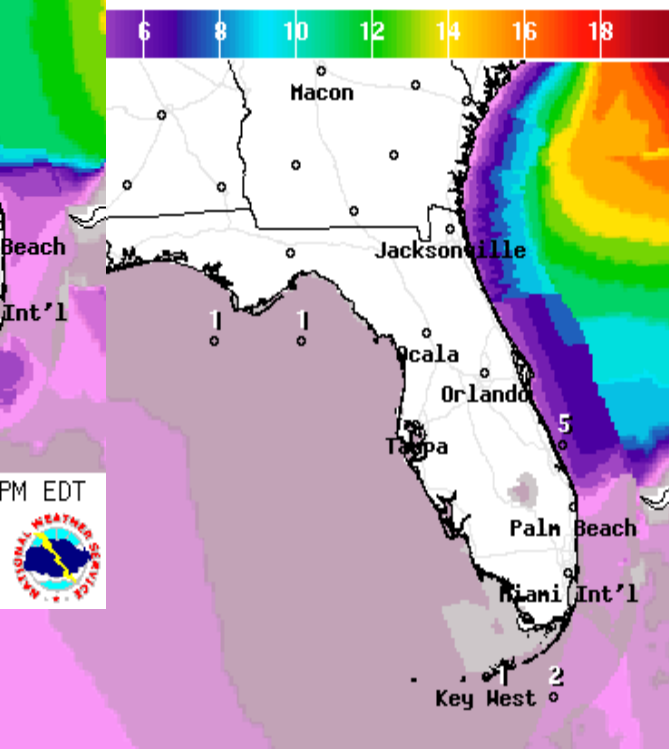
(Thu Sep 13 2018 00Z)



National Digital Forecast Database

11z issuance

Graphic created-Sep 10 7:30AM EDT



Wave Height(ft) Ending Thu Sep 13 2018 8PM EDT

(Fri Sep 14 2018 00Z)



National Digital Forecast Database

06z issuance

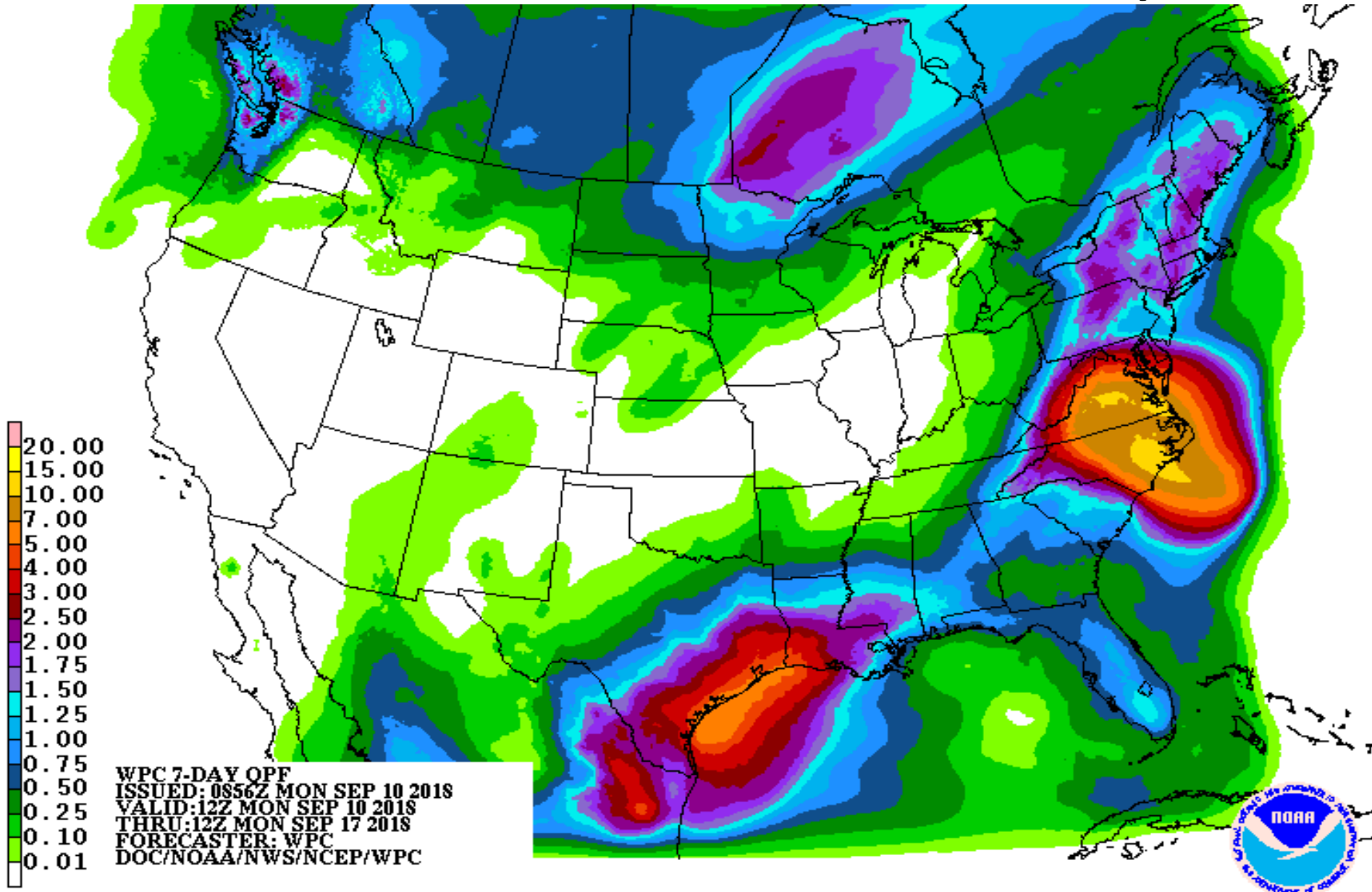
Graphic created-Sep 10 2:50AM EDT



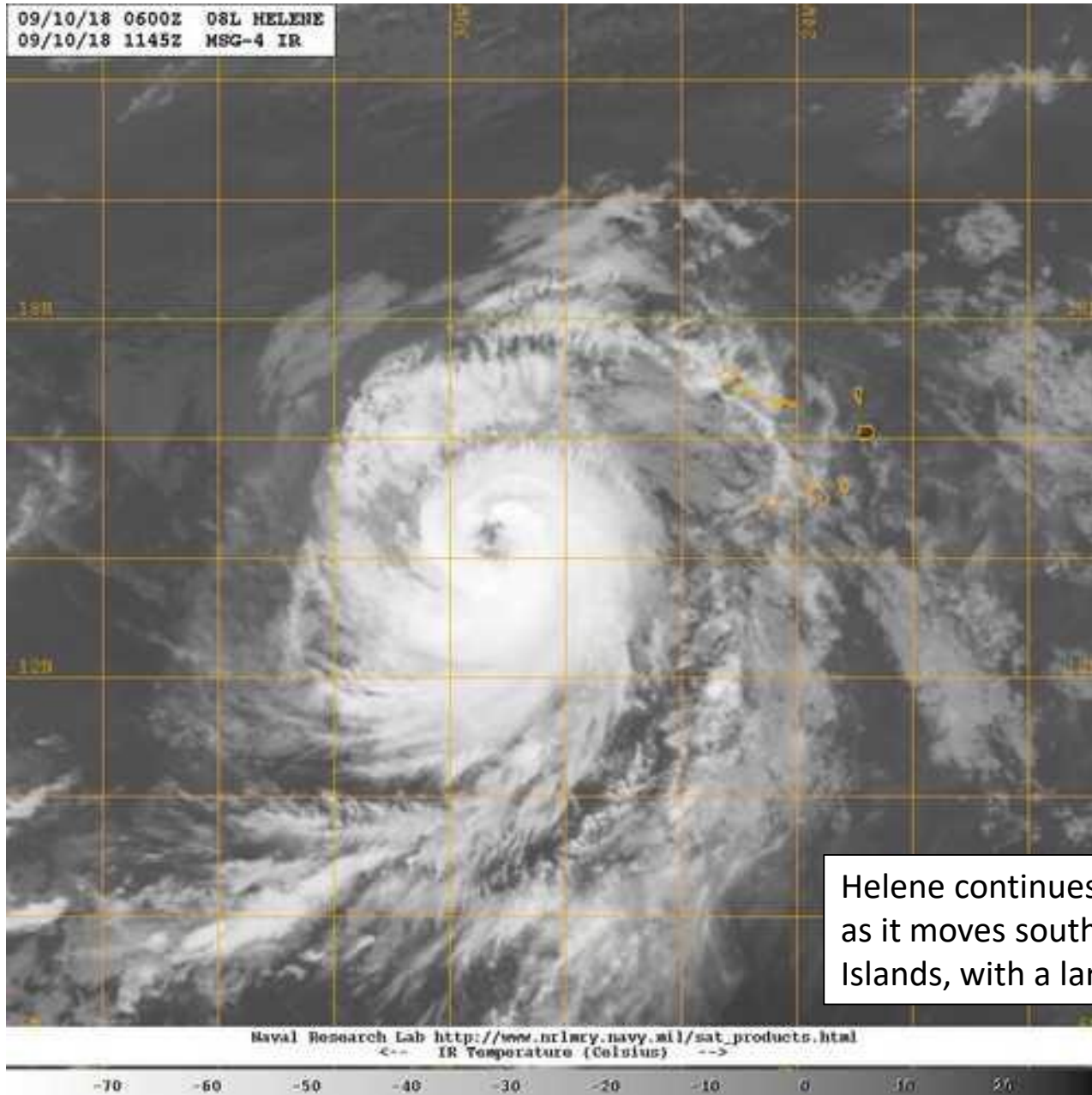
Regardless of track, as Florence nears the Carolina Coast this week, wave heights will increase along the East Coast of Florida. This will result in a high risk of rip currents, minor beach erosion, and some coastal flooding issues. Peak wave action should occur on Wednesday and Thursday.



# Forecast rainfall – Next 7 Days



# Hurricane Helene Satellite Image







**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 should continue strengthening for the next 24-36 hours as it moves west-northwest, but as it turns to the northwest and north later this week, a gradual weakening trend is expected.



## Hurricane Helene

Monday September 10, 2018

5 AM AST Advisory 12

NWS National Hurricane Center

## Current information: x

Center location 14.3 N 28.9 W

Maximum sustained wind 85 mph

Movement WNW at 17 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

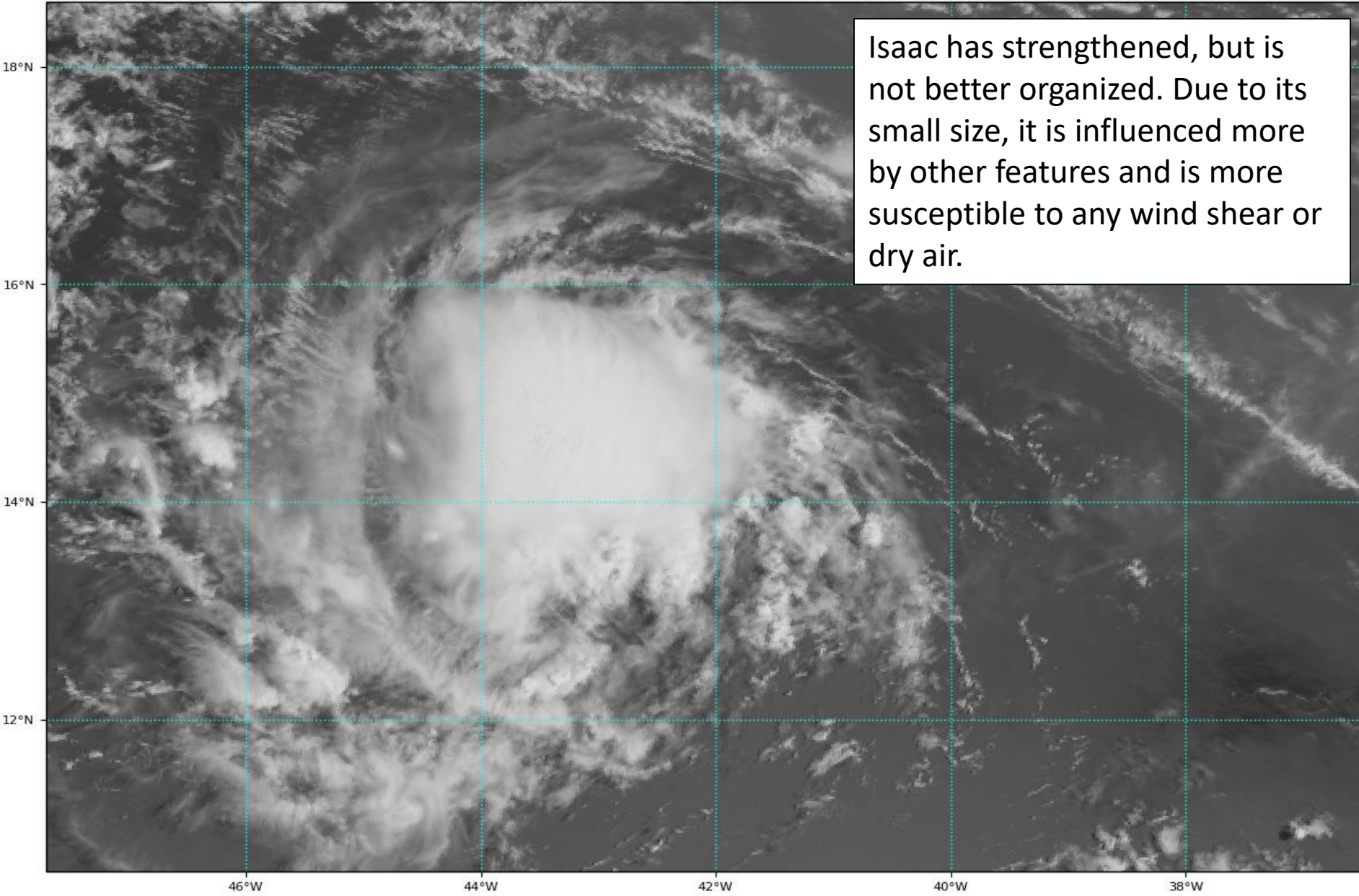
## Current wind extent:

Hurricane Trop Stm

# Hurricane Isaac Satellite Image

GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 12:20Z Sep 10, 2018

TROPICALTIDBITS.COM



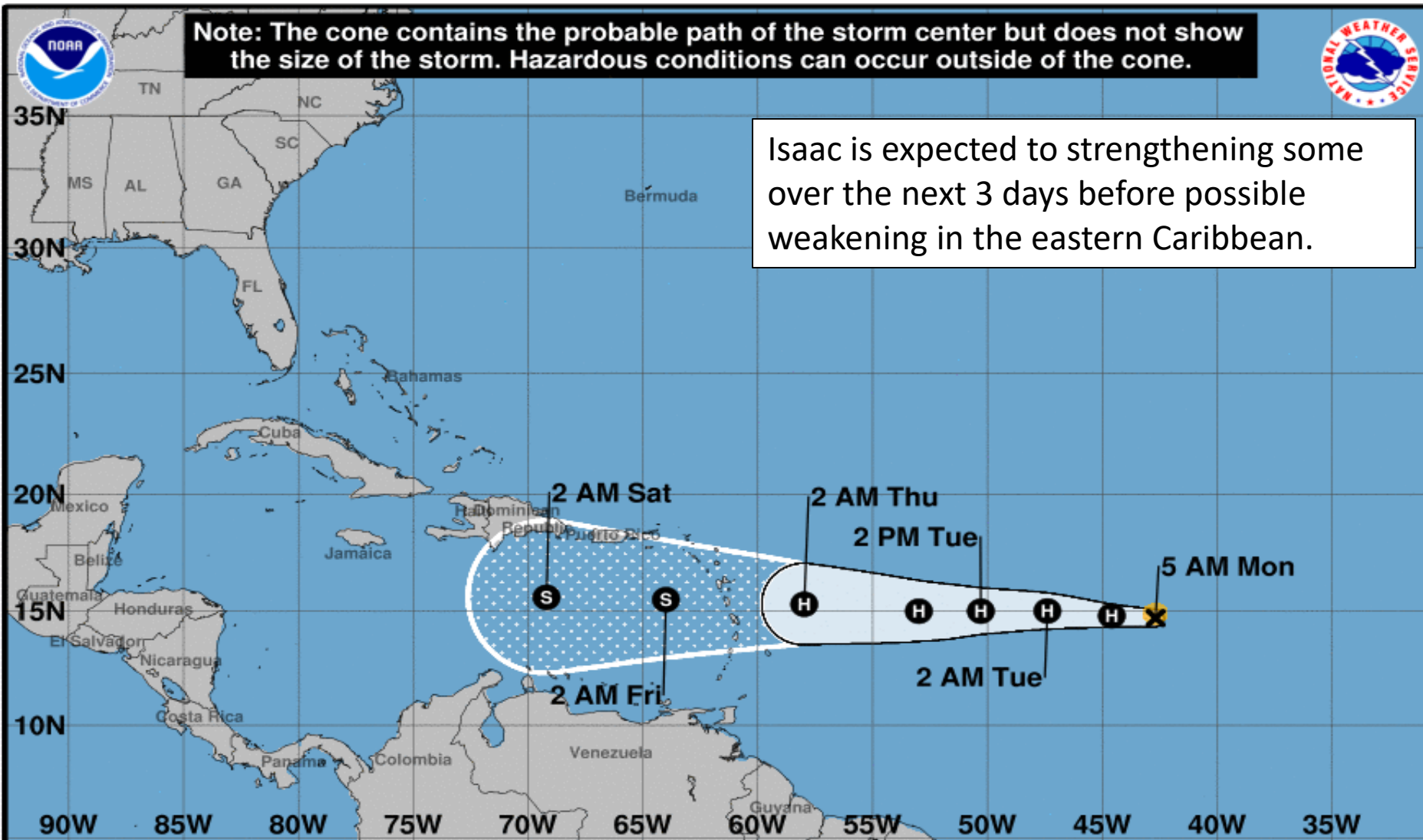
Isaac has strengthened, but is not better organized. Due to its small size, it is influenced more by other features and is more susceptible to any wind shear or dry air.





**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.**

Isaac is expected to strengthening some over the next 3 days before possible weakening in the eastern Caribbean.



**Hurricane Isaac**  
Monday September 10, 2018  
5 AM AST Advisory 11  
NWS National Hurricane Center

**Current information: X**  
Center location 14.7 N 42.7 W  
Maximum sustained wind 75 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:**

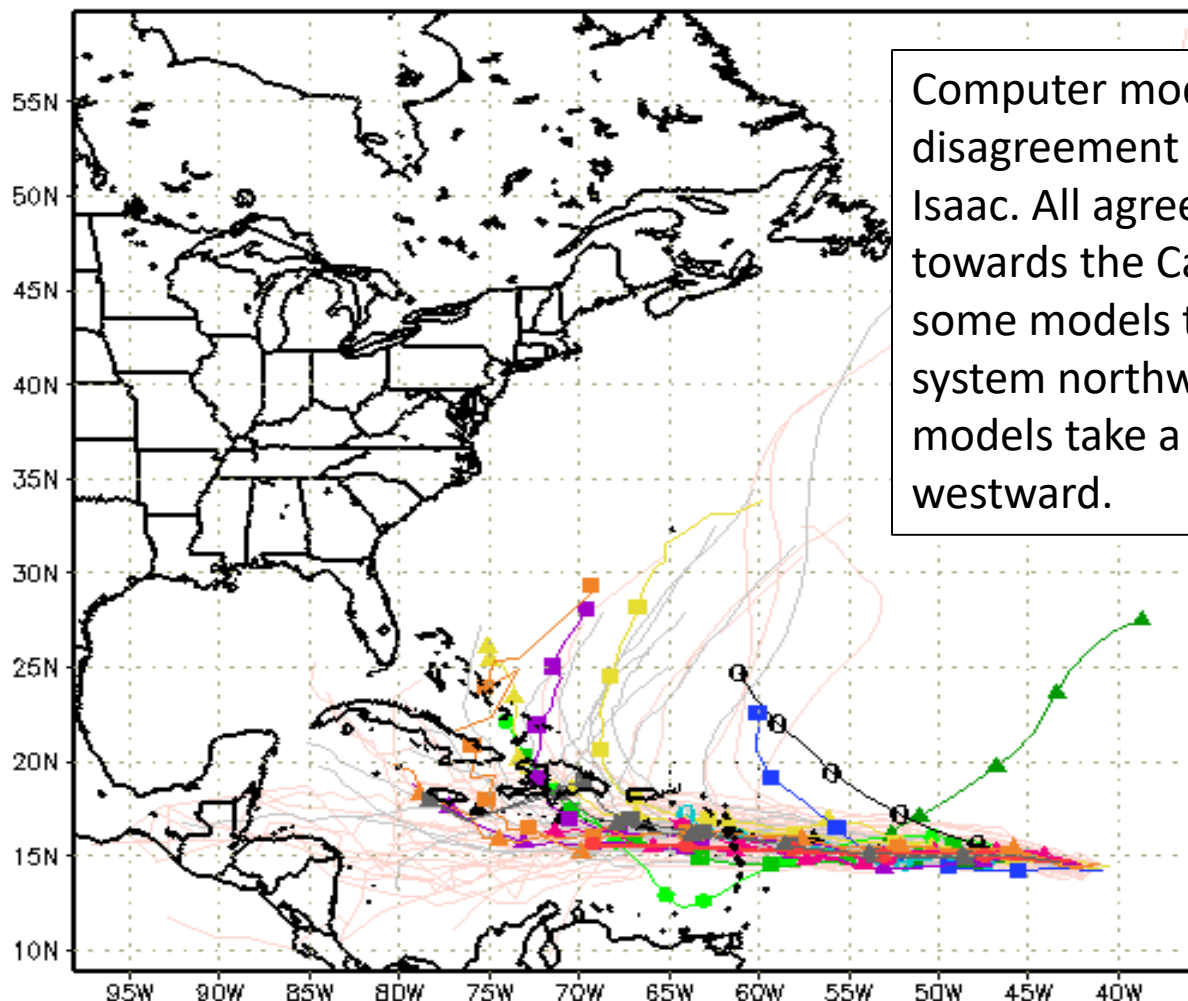
Hurricane Trop Stm

**Current wind extent:**

Hurricane Trop Stm

# Track Models (Isaac)

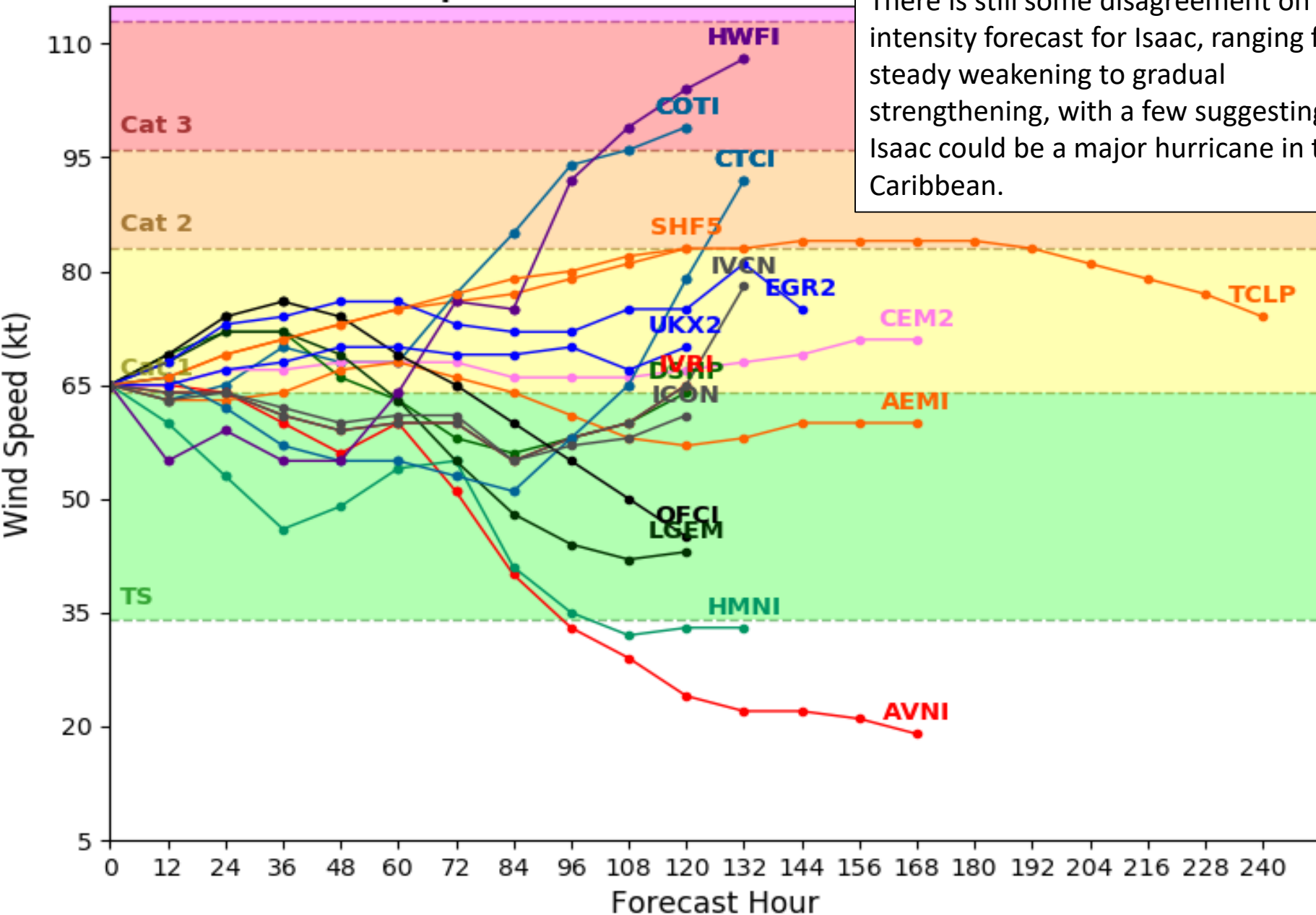
--▲-- XTRP 10/1200Z    ● CLP5 10/1200Z    ▲ HMON 10/0600Z    ▲ AVNO 10/0600Z    ▲ ECMF 10/0000Z  
 ■ TVCN 10/1200Z    ▲ TABD 10/1200Z    ● HWRF 10/0600Z    ■ AEMN 10/0600Z    ■ EEMN 10/0000Z  
 ▲ TVCX 10/1200Z    ■ TABM 10/1200Z    ■ UKM 10/0000Z    — APxx 10/0600Z    — EExx 10/0000Z  
 ● NHC 10/0900Z    ● TABS 10/1200Z    ● COTC 10/0600Z    ▲ CMC 10/0000Z    ■ GEMN 10/0000Z



Computer models are in disagreement on the track of Isaac. All agree on a west track towards the Caribbean, but then some models turn a stronger system northward while other models take a weaker Isaac westward.

**Initialized at 12z Sep 10 2018**

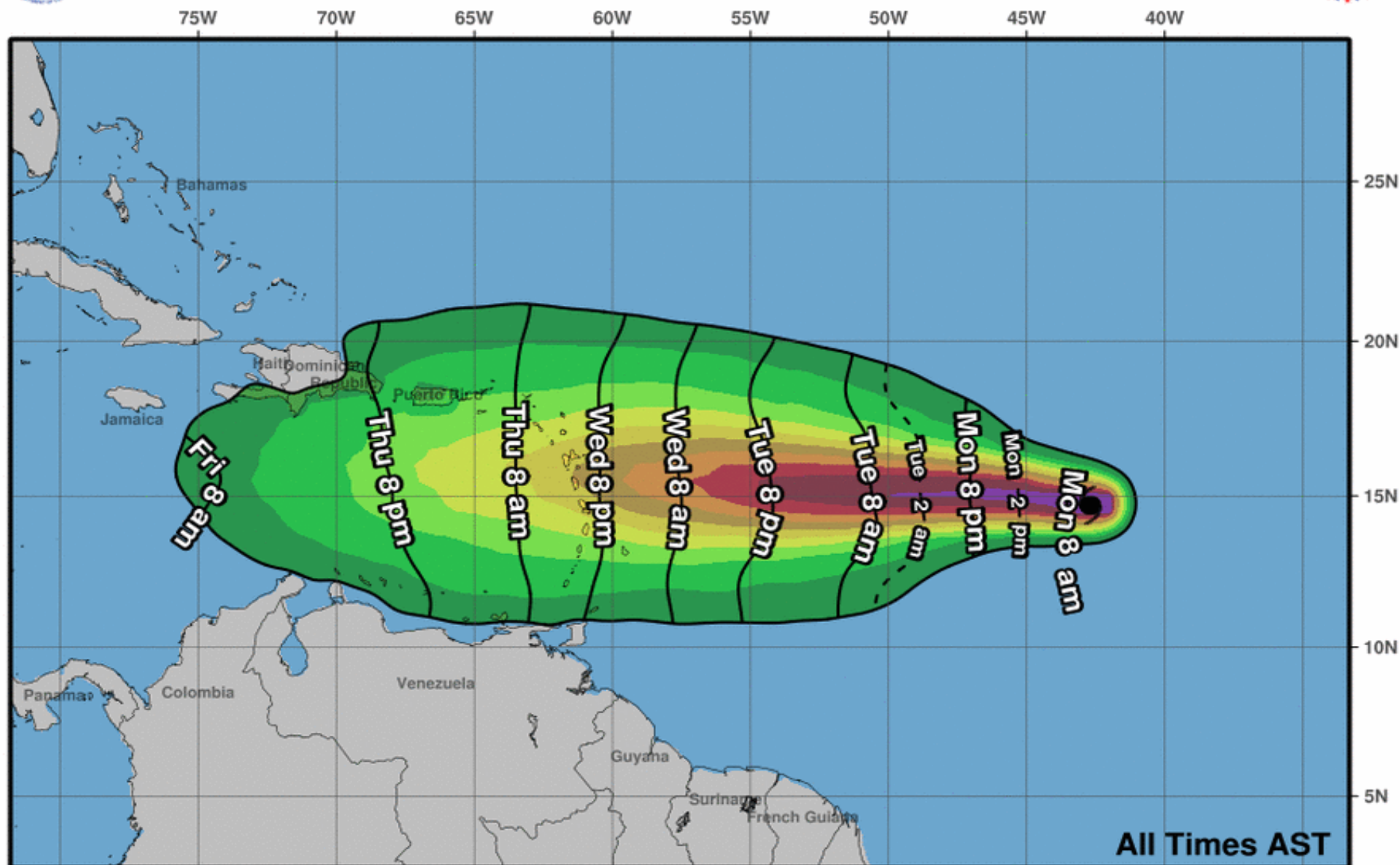
There is still some disagreement on the intensity forecast for Isaac, ranging from steady weakening to gradual strengthening, with a few suggesting Isaac could be a major hurricane in the Caribbean.







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



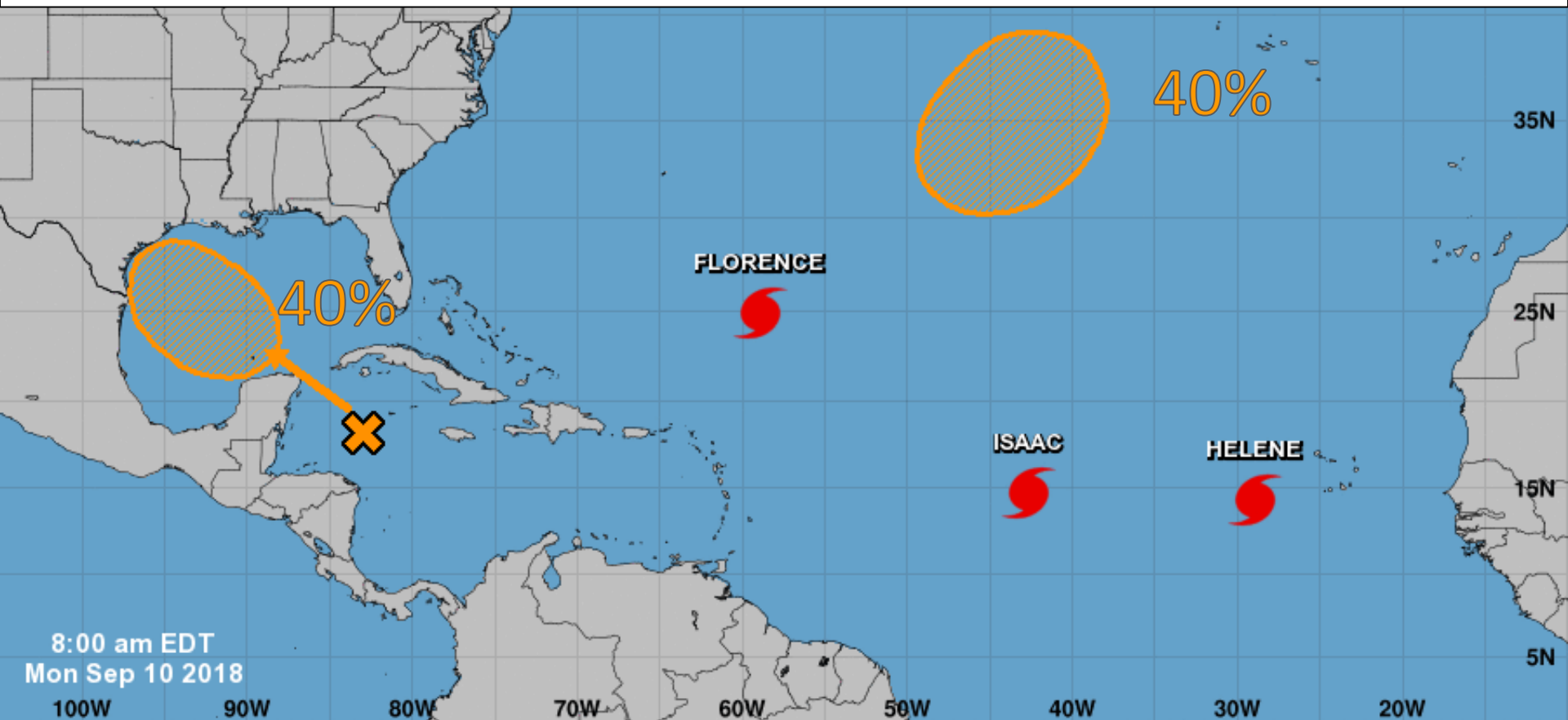
**Hurricane Isaac**  
**Mon. Sep. 10, 2018 5 am AST**  
**Advisory 11**

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



1. A disturbance over the northwestern Caribbean Sea is forecast to move slowly northwestward over the next couple of days with only slow development expected. However, conditions will become more conducive, and a tropical depression could form late this week when the system moves across the western Gulf of Mexico. \* Formation chance through 48 hours...**low**...10 percent. \* Formation chance through 5 days...**medium**...40 percent.
2. A non-tropical area of low pressure is forecast to form in the northeastern Atlantic Ocean in about two days. Some slow tropical or subtropical development is possible by the end of the week while the low moves southwestward. \* Formation chance through 48 hours...**low**...near 0 percent. \* Formation chance through 5 days...**medium**...40 percent.



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

# Summary

- At 5 AM EDT Monday, Hurricane Florence was located in the western Atlantic Ocean about 625 miles southeast of Bermuda, or approximately 1,340 miles east of Miami, Florida.
  - Maximum sustained winds have increased to 105mph, making Florence a Category 2 on the Saffir-Simpson Hurricane Wind Scale.
  - Additional, and perhaps rapid, strengthening is forecast and Florence may become a major hurricane today. Continual strengthening is predicted up until landfall in 3-4 days.
  - Florence is beginning to turn, and now moving to the west-northwest at 9 mph. This motion with an increase in forward speed is expected to occur during the next few days before slowing back down later this week as it approaches the U.S. coast and moves inland.
  - Landfall is becoming increasingly likely along the Carolina coast Thursday or Friday as a major hurricane.
  - Hurricane Hunters and NOAA research aircraft are investigating the system and the surrounding environment daily.
- 
- At 5 AM EDT Monday, Hurricane Helene was located in the eastern Atlantic Ocean about 305 miles southwest of the Cabo Verde Islands.
  - Maximum sustained winds have increased to near 85 mph, making Helene a Category 1 on the Saffir-Simpson Hurricane Wind Scale.
  - Additional strengthening is forecast for the next few days and it moves quickly west-northwest near 17 mph. A turn to the northwest is forecast to occur on Wednesday and should induce a gradual weakening trend through the weekend in the open Atlantic.
- 
- Isaac became the 5<sup>th</sup> hurricane of the 2018 season late Sunday night.
  - At 5 AM EDT Monday, Hurricane Isaac was located about 1,300 miles east of the Windward Islands and moving west at 14 mph. This general motion with an increase in forward speed is expected to continue through the next five days and Isaac should move into the eastern Caribbean Sea on Wednesday night or Thursday.
  - Maximum sustained winds are now near 75 mph, making Isaac a Category 1 on the Saffir-Simpson Hurricane Wind Scale.
  - Some strengthening is possible over the next 3 days before a possible weakening trend occurs later this week when it reaches the Caribbean Sea.
  - The forecast track remains uncertain past 5 days as the system may be drawn northward by a trough or continue westward into the central and western Caribbean. Puerto Rico and the U.S. Virgin Islands should continue to monitor the progress of this system.
- 
- A non-tropical area of low-pressure will develop in the northeast Atlantic in the coming days. There is a 40% (medium) chance of it acquiring some tropical characteristics later this week, but this system poses no threat to the U.S.
- 
- A tropical wave will be moving into the southwestern Gulf of Mexico by the middle of the week and has a 40% (medium) chance of development during the next 5 days.
  - Regardless of development, this system is likely to bring increased rain chances to Texas later this week.



## Florida Outlook:

- Over the last 24 hours, chances of direct impacts to Northeast Florida from Florence have decreased. 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 have decreased and are 5% or less.
- 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 include 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 as high as 8-12'.
- A Coastal Flood Statement is in effect through the next few days for Nassau, Duval, St. Johns, Flagler, and Putnam Counties. Minor coastal flooding at high tide will be possible. Tides along much of the east coast may run 1-1.5' above normal later this week.
- Hurricane Helene poses no threat to land.
- Hurricane Isaac will need to be monitored over the next 7-10 days as it moves into the Caribbean, but is not a direct threat at this time.
- There is higher than usual uncertainty about track and intensity of Isaac once in the Caribbean.
- The chance of tropical storm force winds along the southern coast of Puerto Rico is near 1 in 10 (10%) and less inland. Odds are slightly higher across the U.S. Virgin Islands near 1 in 4 (25%).
- The tropical wave moving into the western Gulf of Mexico does not pose a direct threat to Florida at this time, but should be monitored.

Another briefing packet will be issued later 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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