



# **TROPICAL UPDATE**

**9 AM EDT**

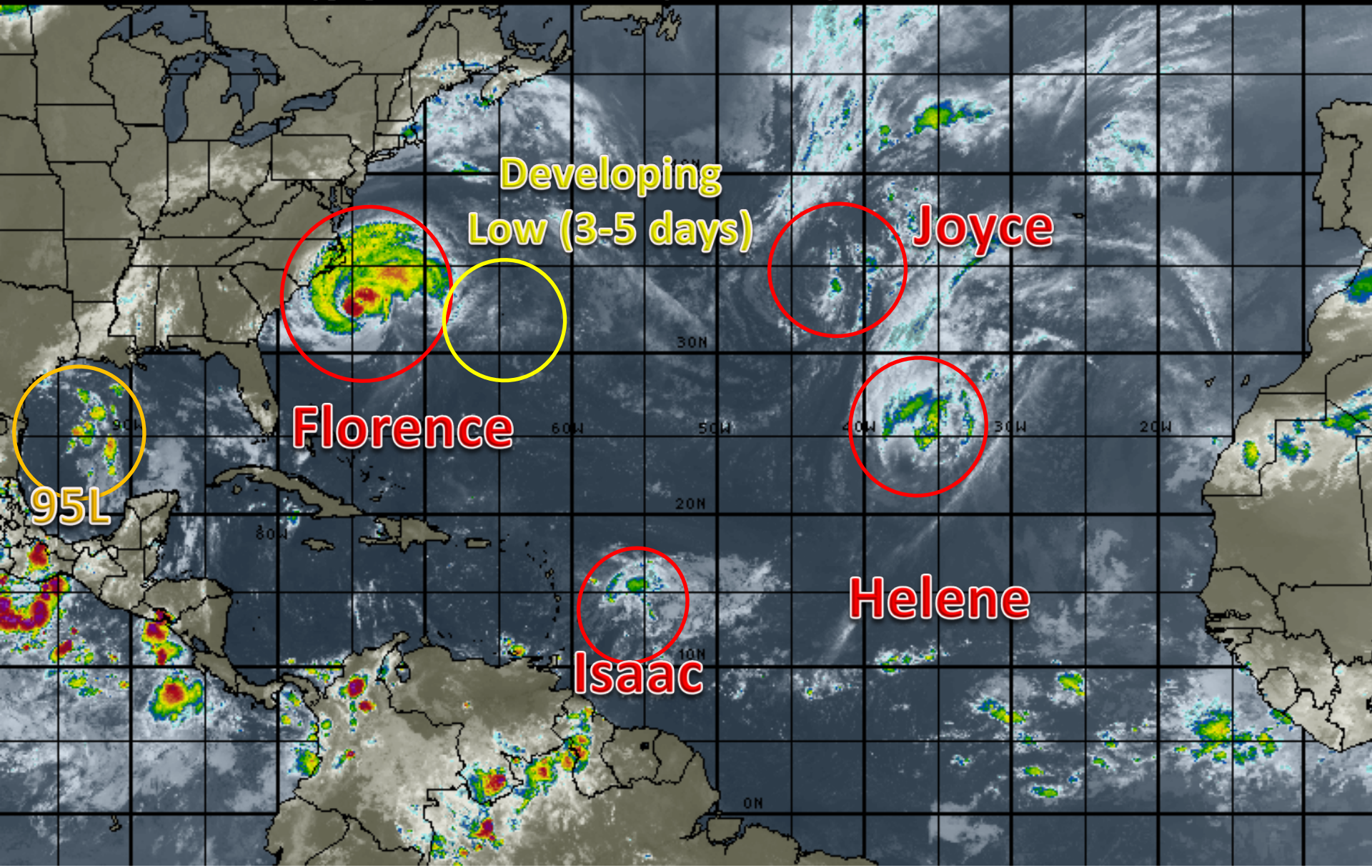
**Thursday, September 13, 2018**

**Hurricane Florence, Hurricane Helene, Tropical Storm Isaac, Subtropical Storm Joyce, Invest 95L (50%) & Bermuda Low (20%)**

**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

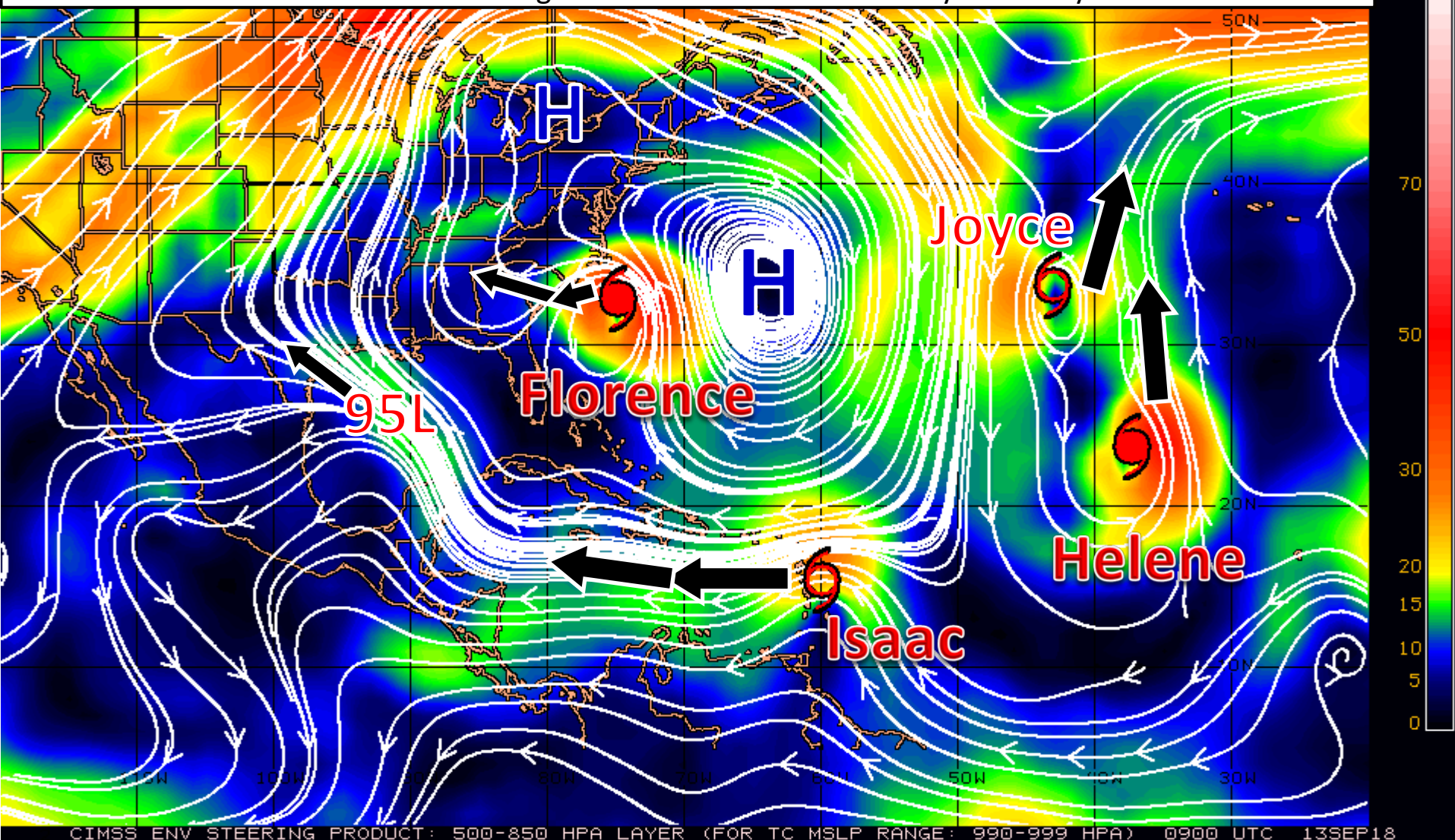
09:00 13-SEP-2018 GMT Copyright © 1998-2018 WSI Corporation <http://www.wsi.com>





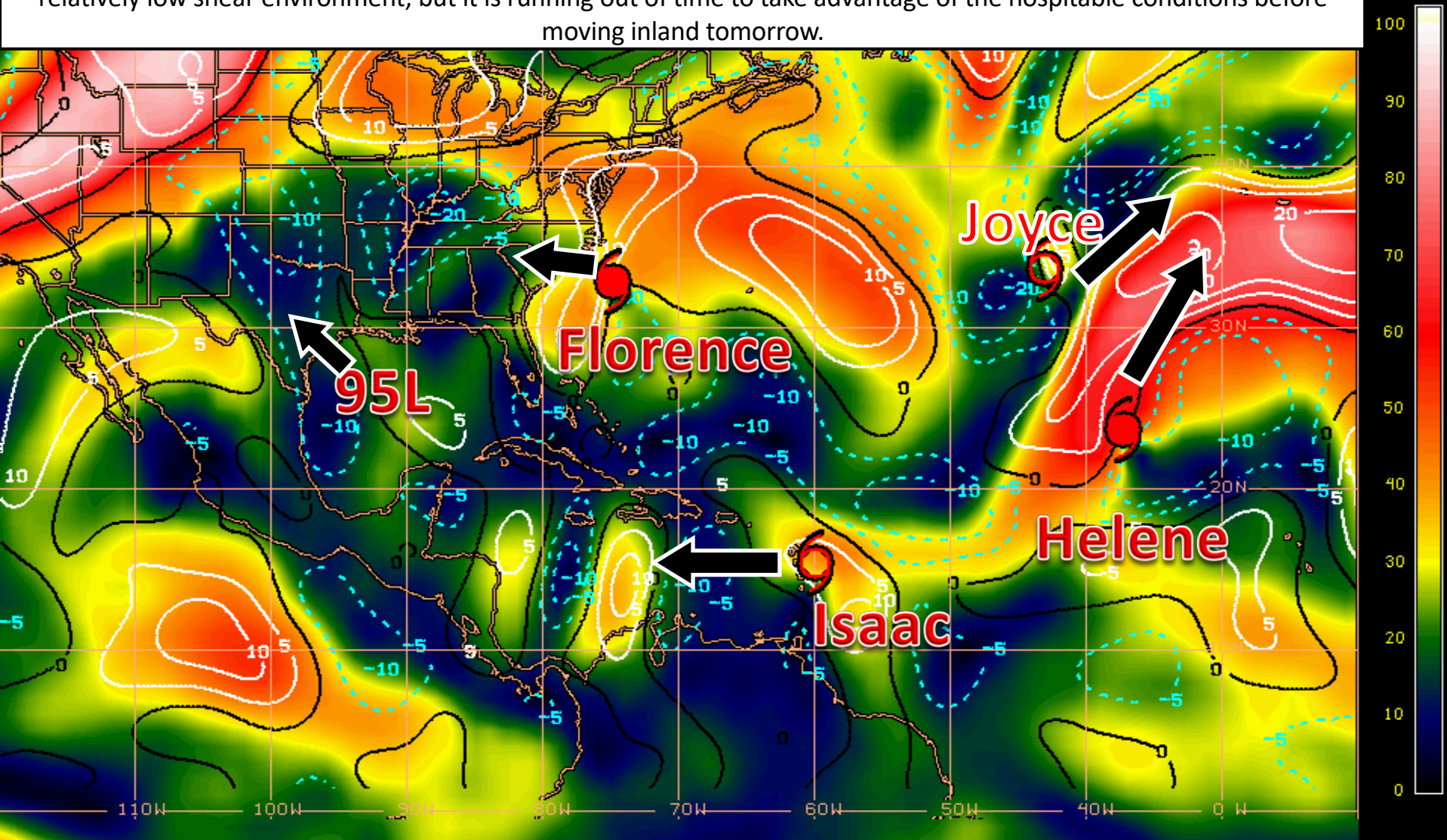
# Steering Currents

A large and strong high pressure system in the western Atlantic will steer Florence, Isaac, and 95L while an area of high pressure in the eastern Atlantic pulls Helene and Joyce northward. Weaker steering flow (larger spaces between the streamlines) will be responsible for the slow westward drift of Florence until it reaches better steering flow near the Tennessee Valley in 3-4 days.



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

A small pocket of wind shear is near Florence, but should not cause any significant weakening. Isaac will encounter some pockets of low to moderate wind shear over the next 4 days and may cause fluctuations in intensity. 95L in the Gulf is in a relatively low shear environment, but it is running out of time to take advantage of the hospitable conditions before moving inland tomorrow.

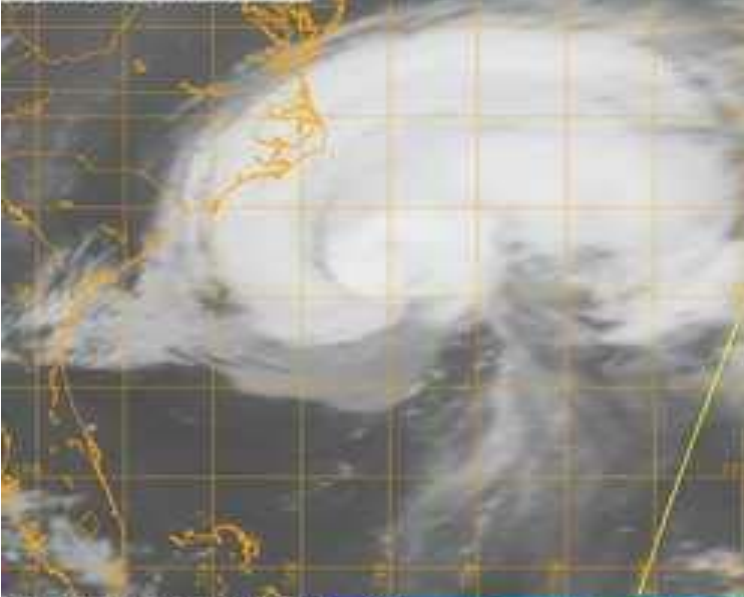


Shear Tendency (KTS) Over Past 24 Hours: Increasing — Decreasing ----

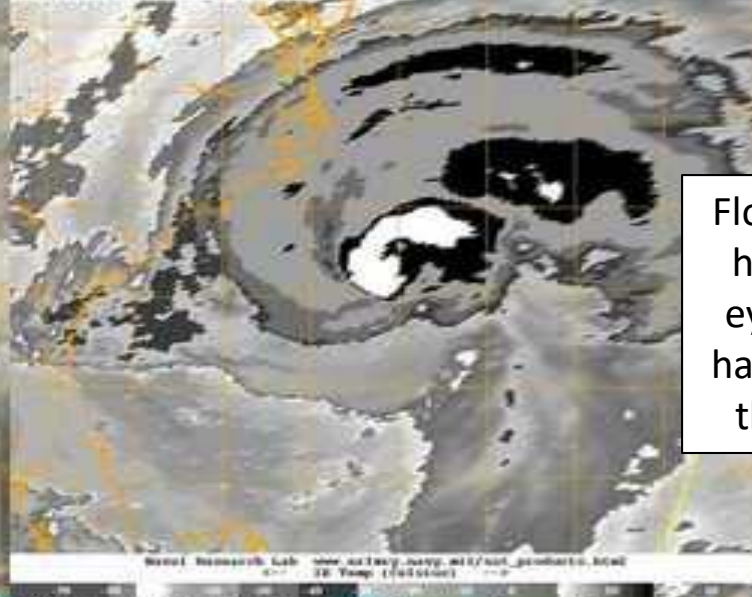


# Hurricane Florence Satellite Image

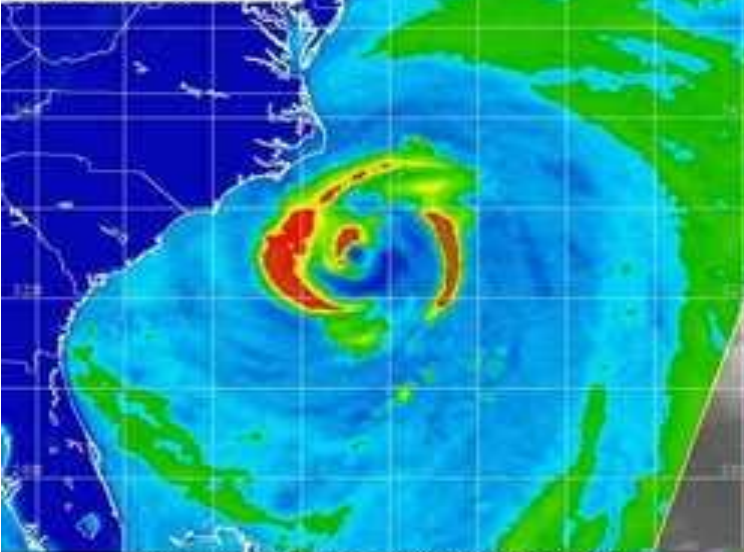
09/13/18 0600Z OGL FLORENCE  
09/13/18 0915Z F-15 OVERPASS  
09/13/18 0900Z GOES-15 IR



09/13/18 0600Z OGL FLORENCE  
09/13/18 0915Z F-15 OVERPASS  
09/13/18 0900Z GOES-15 IR-EO



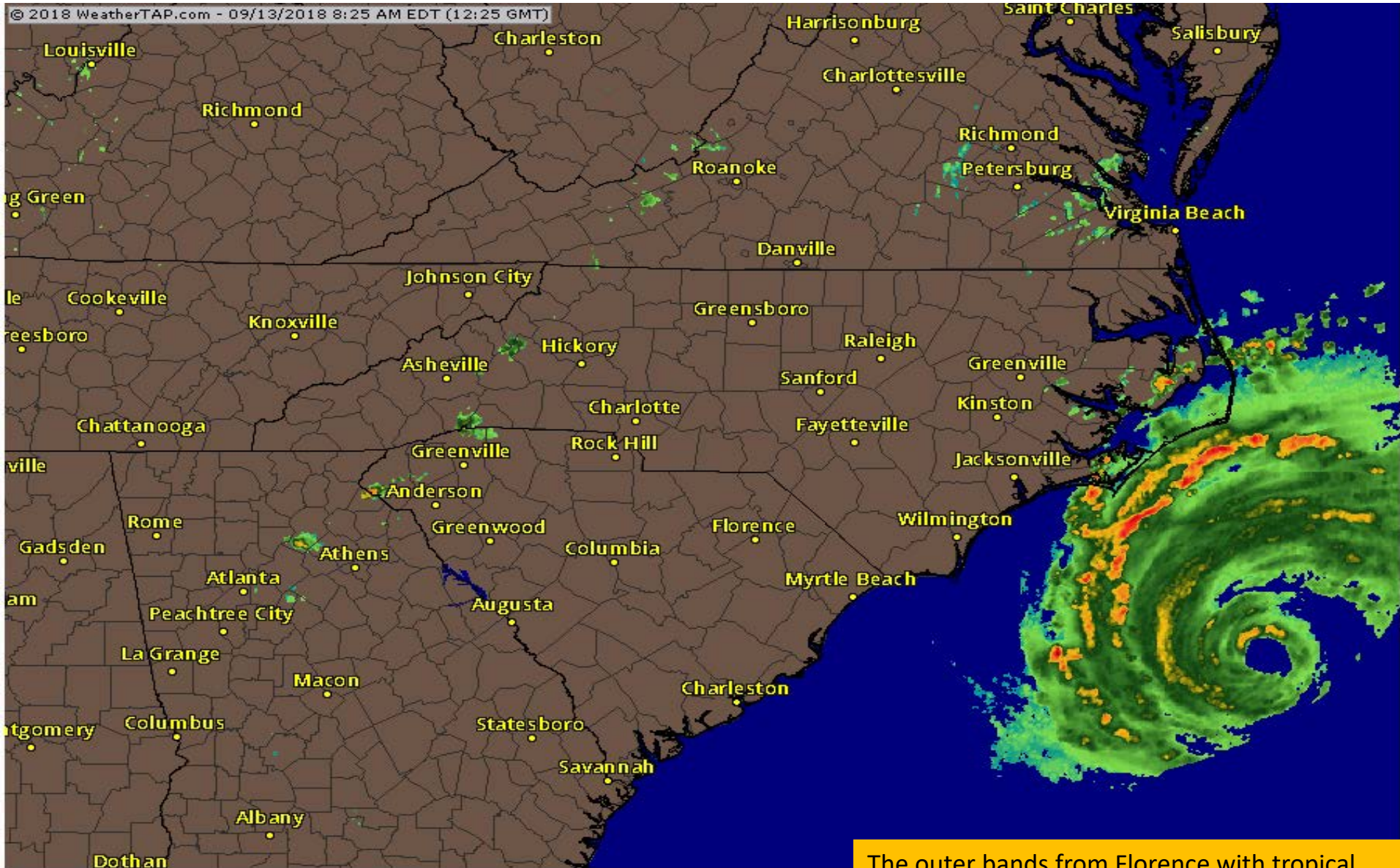
09/13/18 0600Z OGL FLORENCE  
09/13/18 0915Z F-15 FIM  
09/13/18 0900Z GOES-15 IR



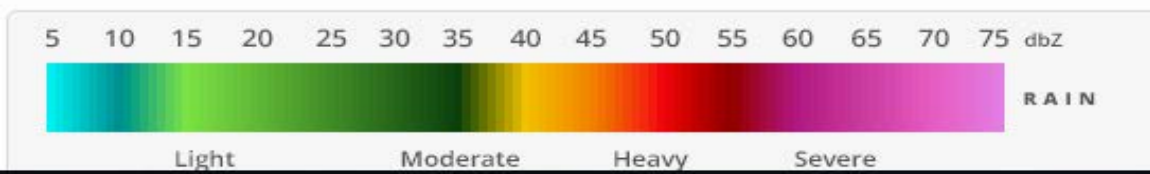
09/13/18 0600Z OGL FLORENCE  
09/13/18 0915Z F-15 COMPOSITE  
09/13/18 0900Z GOES-15 IR





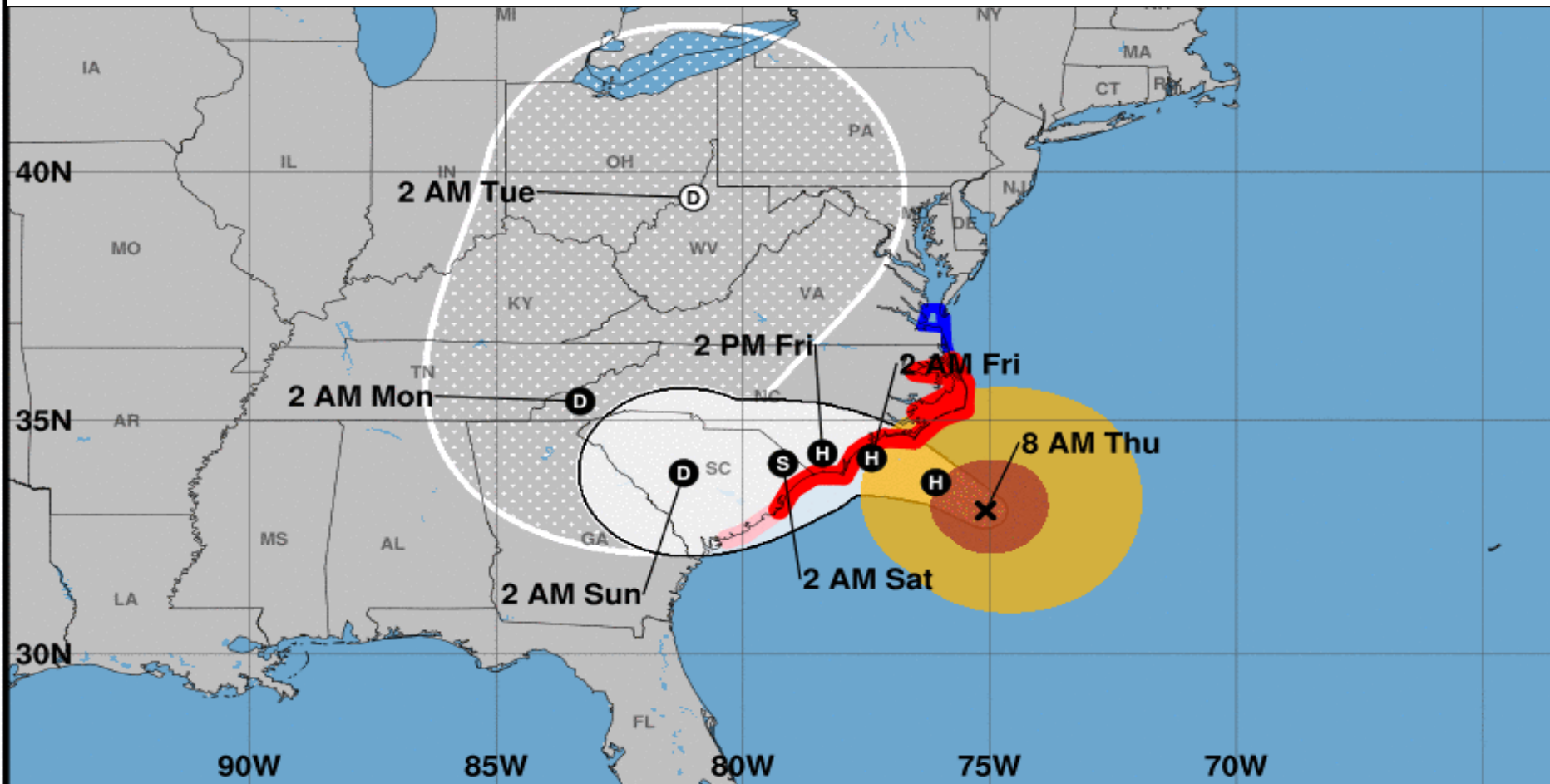


[Click on the map to access the closest NEXRAD site](#)



The outer bands from Florence with tropical storm winds have reached the outer banks of North Carolina. The eye is visible on radar, but there appears to be some dry air to the east of the eye and could influence the strength of the storm.

Confidence is increasing in the track through the next 3 days and has shifted a little north since yesterday afternoon. Florence is expected to make landfall near Wilmington, North Carolina overnight and move slowly westward into the Piedmont of South Carolina this weekend before finally being pulled northward on Monday.



### Hurricane Florence

Thursday September 13, 2018  
8 AM EDT Intermediate Advisory 56A  
NWS National Hurricane Center

### Current information: x

Center location 33.1 N 75.1 W  
Maximum sustained wind 110 mph  
Movement NW at 12 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

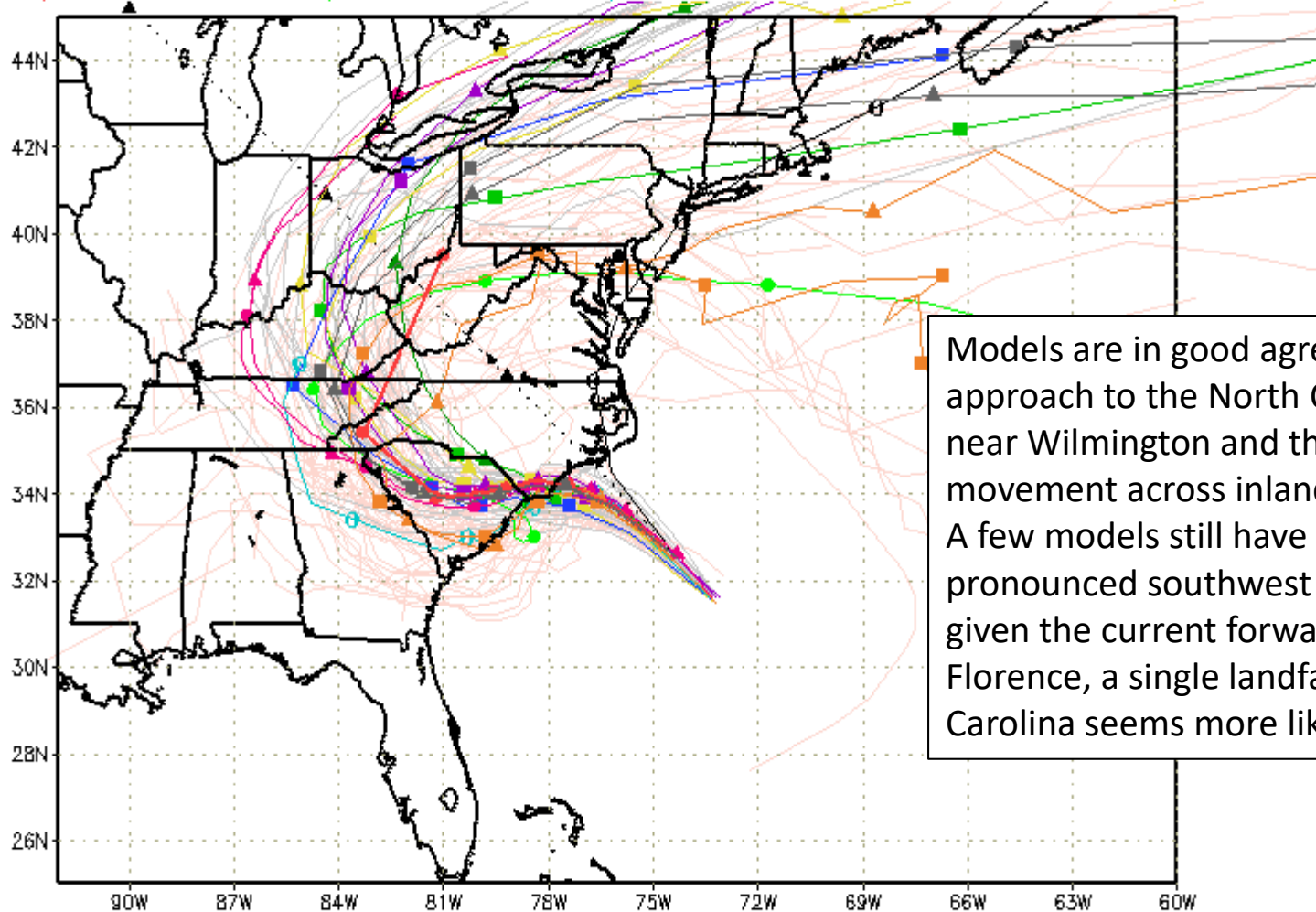
### Current wind extent:

Hurricane Trop Stm



# Track Models (Florence)

--▲-- XTRP 13/0600Z    --○-- CLP5 13/0600Z    --▲-- HMON 13/0000Z    --▲-- AVNO 13/0000Z    --▲-- ECMF 13/0000Z  
 --■-- TVCN 13/0600Z    --▲-- TABD 13/0600Z    --●-- HWRF 13/0600Z    --■-- AEMN 13/0000Z    --■-- EEMN 13/0000Z  
 --▲-- TVCX 13/0600Z    --■-- TABM 13/0600Z    --■-- UKM 13/0000Z    --■-- APxx 13/0000Z    --■-- EExx 13/0000Z  
 --●-- NHC 13/0900Z    --●-- TABS 13/0600Z    --○-- COTC 13/0000Z    --▲-- CMC 13/0000Z    --■-- GEMN 13/0000Z



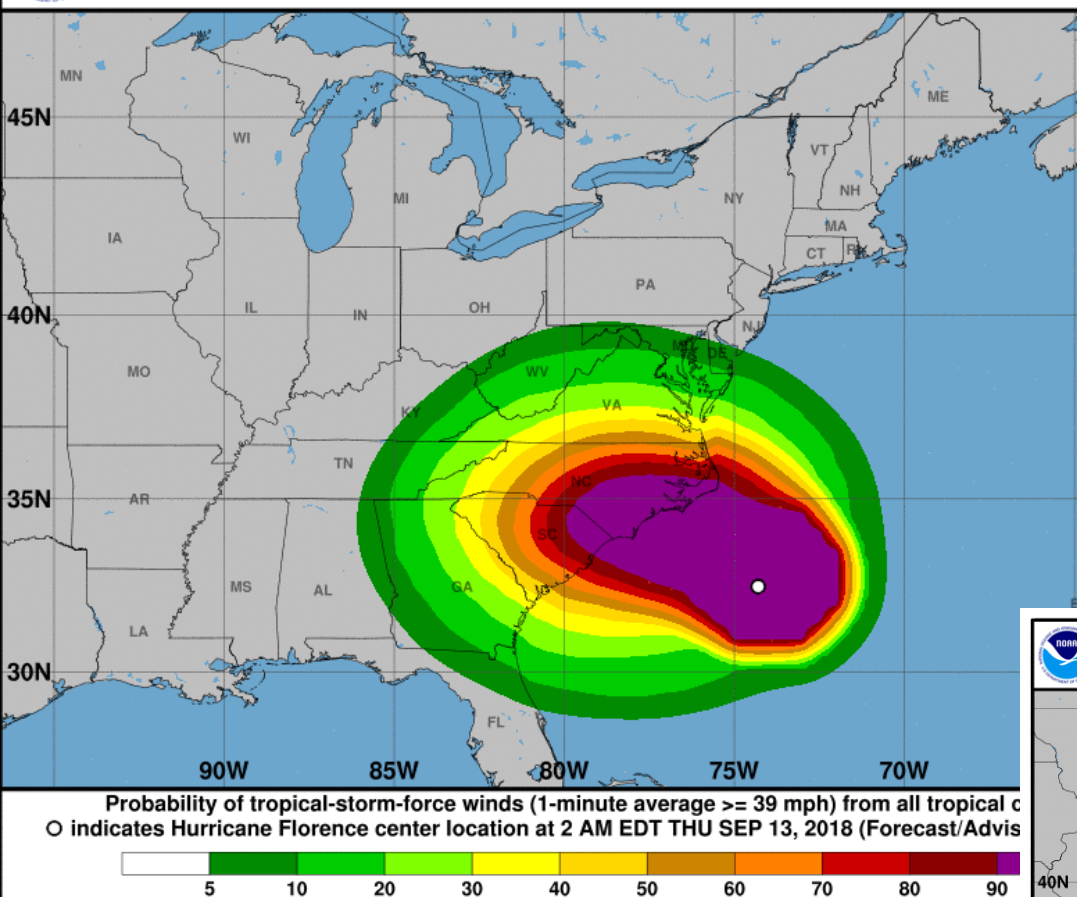
Models are in good agreement on approach to the North Carolina coast near Wilmington and then westward movement across inland South Carolina. A few models still have a more pronounced southwest movement, but given the current forward speed of Florence, a single landfall in North Carolina seems more likely.





## Tropical-Storm-Force Wind Speed Probabilities

For the 120 hours (5.00 days) from 2 AM EDT THU SEP 13 to 2 AM EDT TUE SEP 18

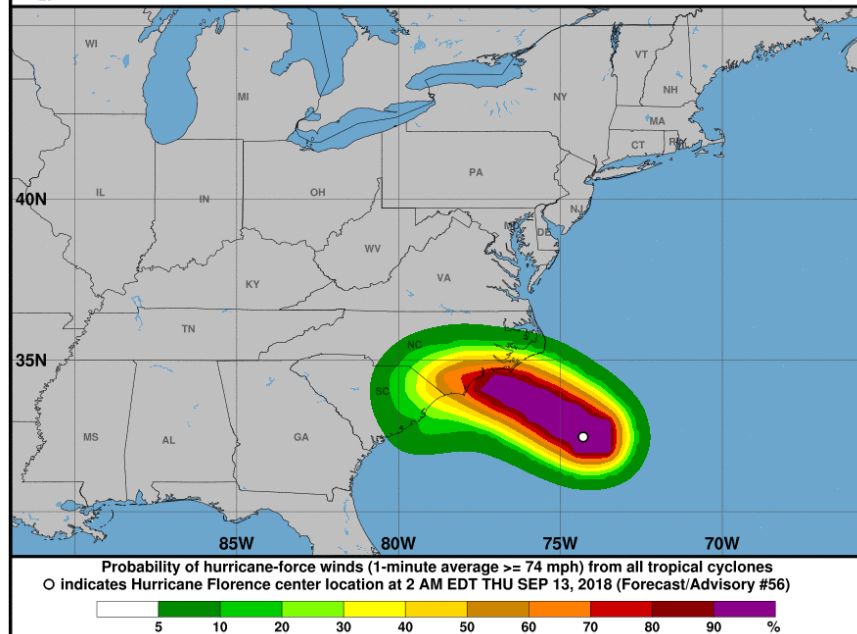


The odds of sustained tropical storm force winds have decreased for **Northeast Florida**. This is due to the slight northward shift in the track and more model confidence in keeping Florence away from Florida. Odds in Nassau and coastal Duval County are near 15%. There continues to be no chance of hurricane force winds in Florida.



## Hurricane-Force Wind Speed Probabilities

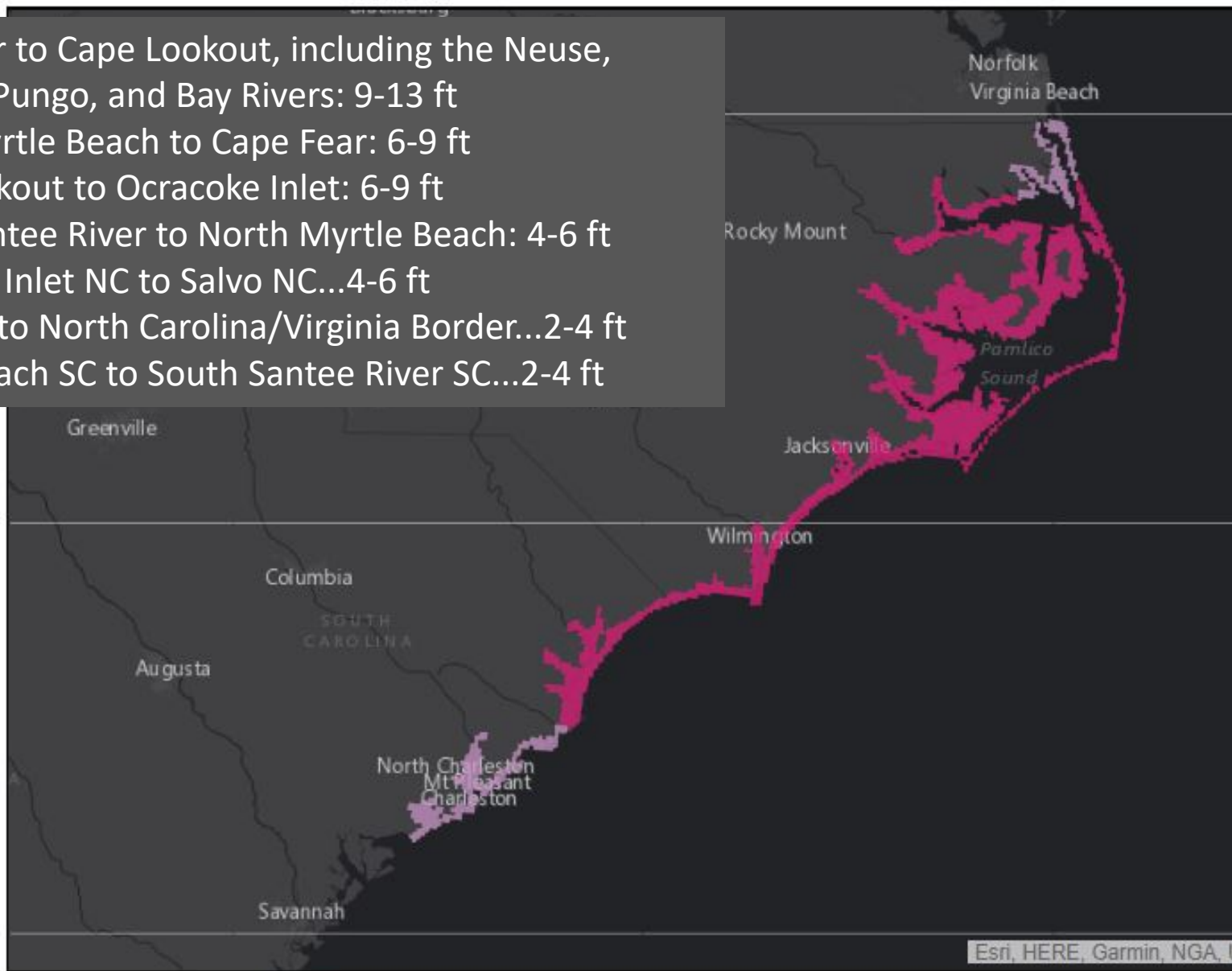
For the 120 hours (5.00 days) from 2 AM EDT THU SEP 13 to 2 AM EDT TUE SEP 18



## Hurricane Florence

Advisory 052 Issued: 5:00 AM EDT Wed Sep 12

- Cape Fear to Cape Lookout, including the Neuse, Pamlico, Pungo, and Bay Rivers: 9-13 ft
- North Myrtle Beach to Cape Fear: 6-9 ft
- Cape Lookout to Ocracoke Inlet: 6-9 ft
- South Santee River to North Myrtle Beach: 4-6 ft
- Ocracoke Inlet NC to Salvo NC...4-6 ft
- Salvo NC to North Carolina/Virginia Border...2-4 ft
- Edisto Beach SC to South Santee River SC...2-4 ft

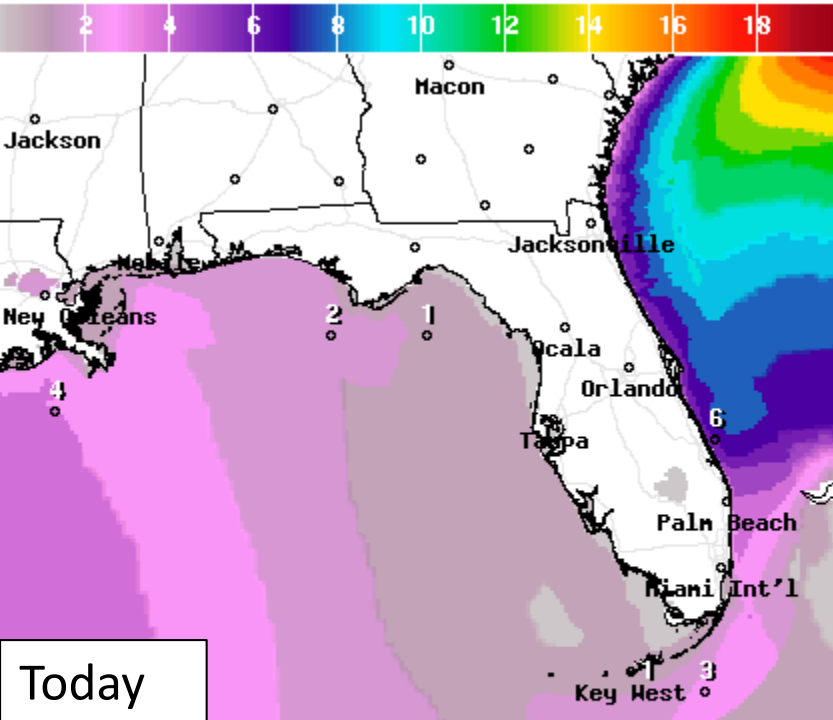


0 30 60mi

Storm Surge Warning  
 Storm Surge Watch



# Forecast Wave Heights



Wave Height(ft) Ending Thu Sep 13 2018 2PM EDT  
(Thu Sep 13 2018 18Z)

**National Digital Forecast Database**

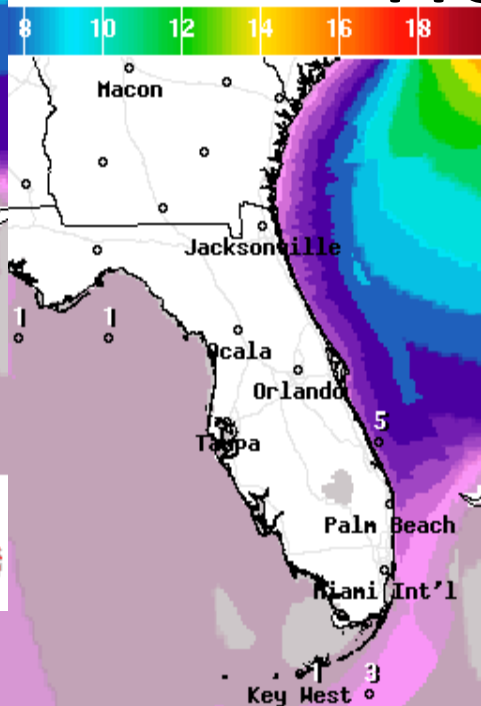
11z issuance Graphic created-Sep 13 7:46AM EDT

**Tonight**

Wave Height(ft) Ending Thu Sep 13 2018 8PM EDT  
(Fri Sep 14 2018 00Z)

**National Digital Forecast Database**

11z issuance Graphic created-Sep 13 7:46AM EDT

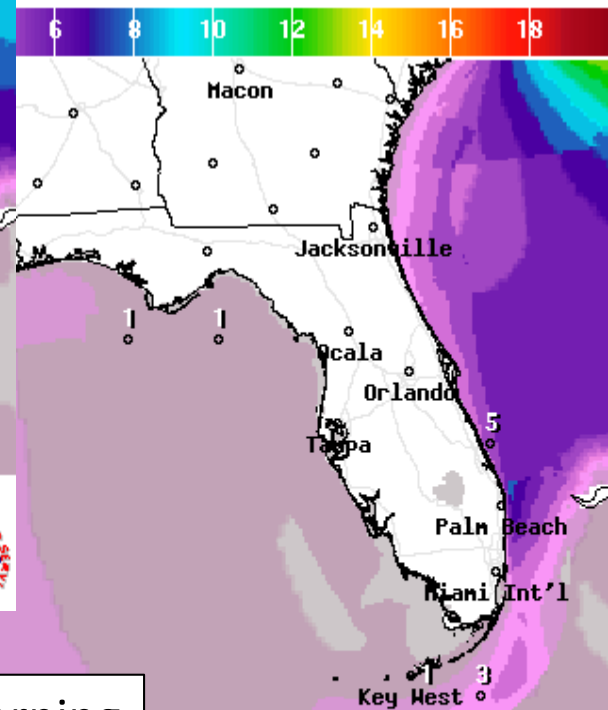


**Friday morning**

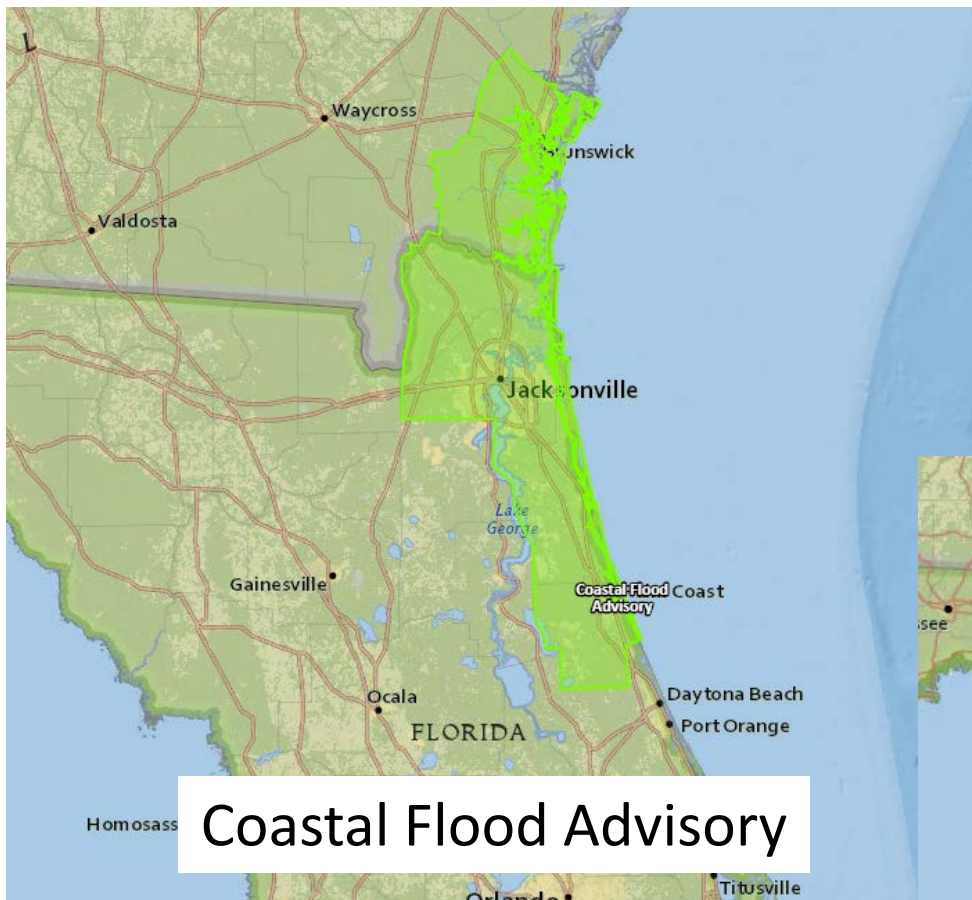
Wave Height(ft) Ending Fri Sep 14 2018 8AM EDT  
(Fri Sep 14 2018 12Z)

**National Digital Forecast Database**

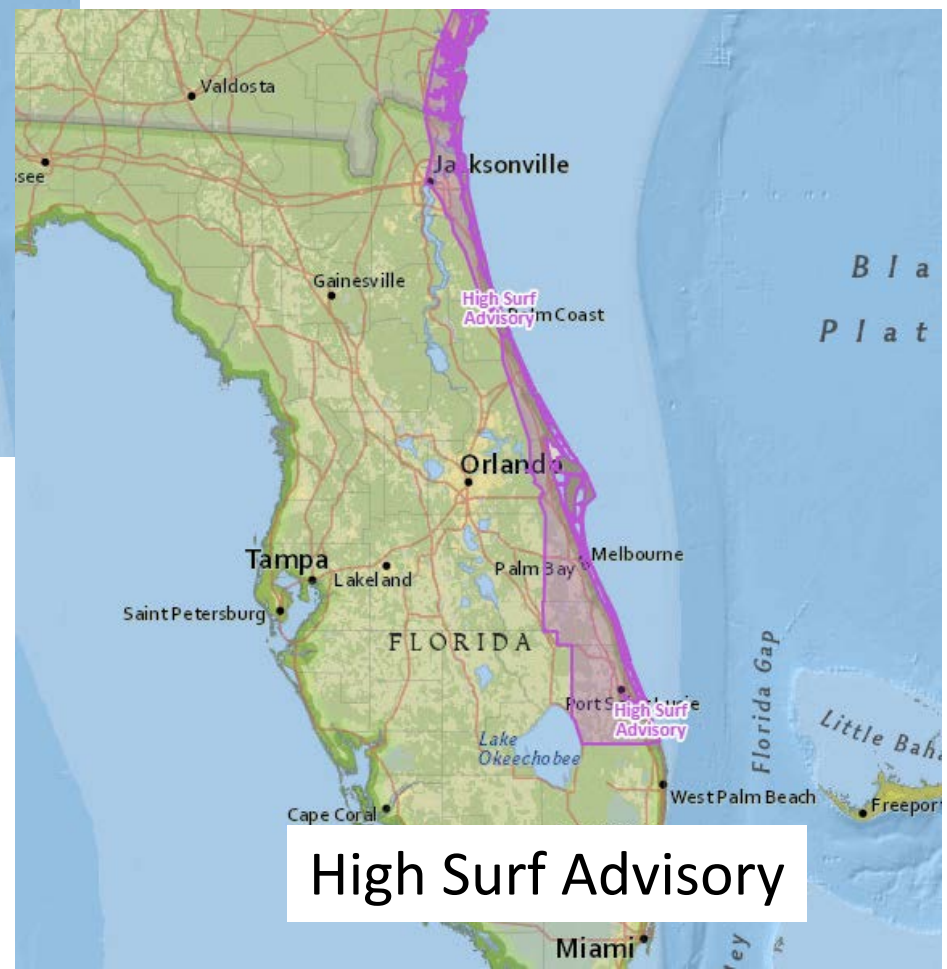
11z issuance Graphic created-Sep 13 7:46AM EDT



Wave heights will peak today before beginning to decrease tonight into Friday. This will result in a high risk of rip currents, minor beach erosion, and possible coastal flooding issues during high tide.



## Coastal Flood Advisory



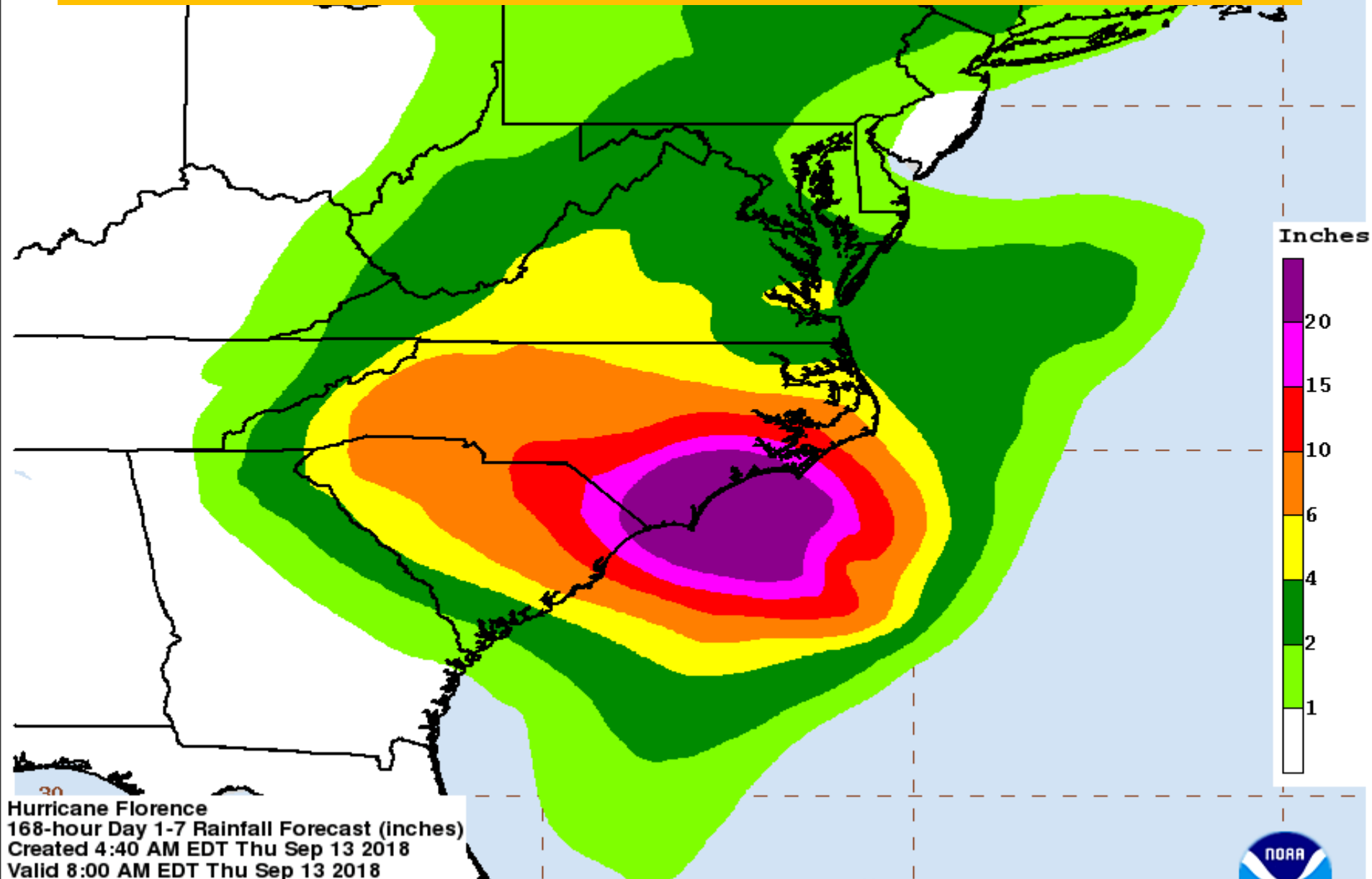
## High Surf Advisory



# Rip Current Forecast Today



# Forecast rainfall – Next 7 Days



Hurricane Florence  
168-hour Day 1-7 Rainfall Forecast (inches)  
Created 4:40 AM EDT Thu Sep 13 2018  
Valid 8:00 AM EDT Thu Sep 13 2018  
through 8:00 AM EDT Thu Sep 20 2018  
NOAA/NWS/NCEP/WPC

Local point maximum rainfall may be higher than shown.  
See the NHC public advisories for the latest tropical cyclone information.

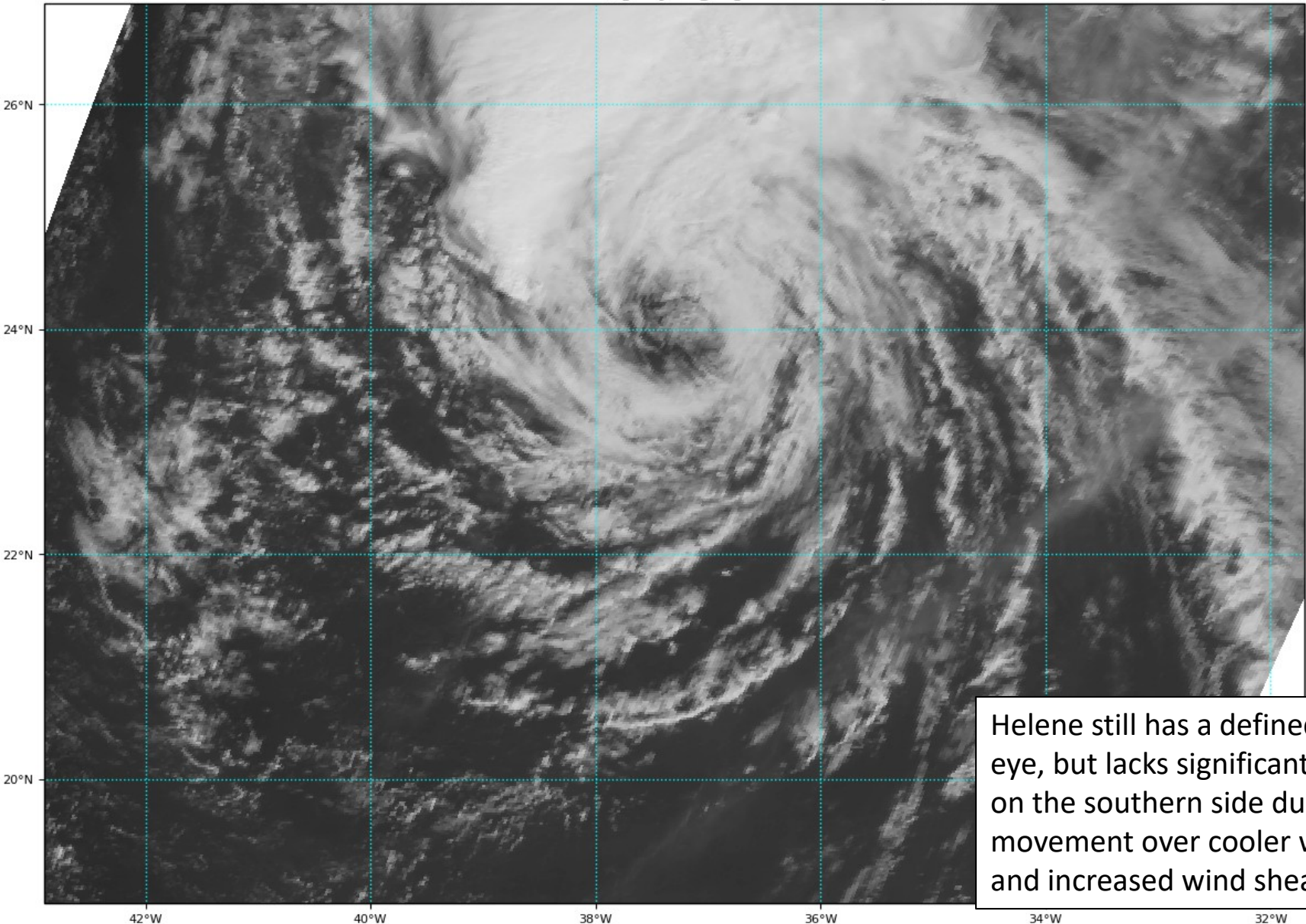




# Hurricane Helene Satellite Image

GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 12:35Z Sep 13, 2018

TROPICALTIDBITS.COM

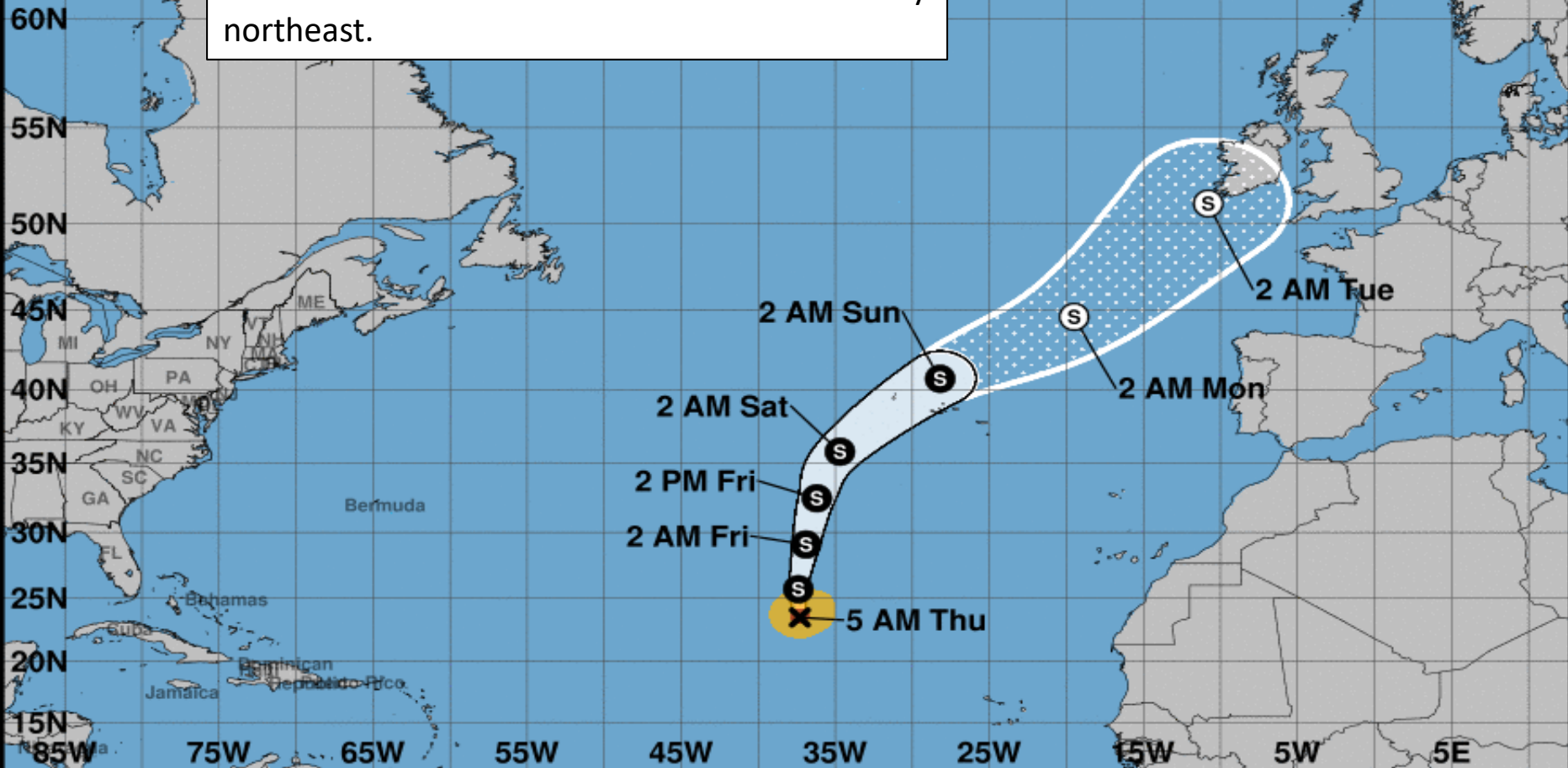


Helene still has a defined large eye, but lacks significant storms on the southern side due to its movement over cooler waters and increased wind shear.



**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 will continue to the north and eventually northeast.



### Hurricane Helene

Thursday September 13, 2018

5 AM AST Advisory 24

NWS National Hurricane Center

### Current information: x

Center location 23.5 N 37.3 W

Maximum sustained wind 75 mph

Movement N at 14 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:

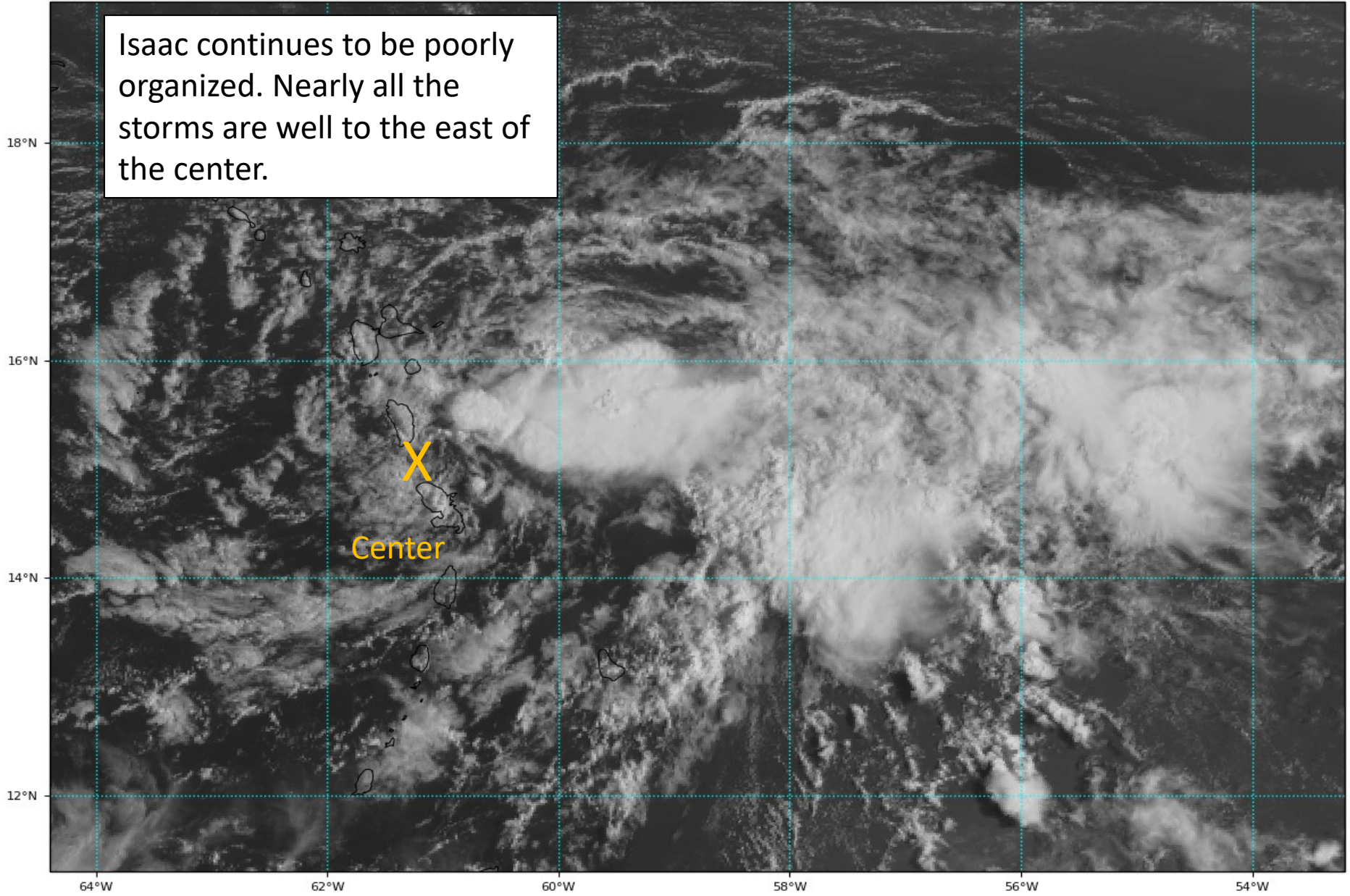
Hurricane Trop Stm



# Tropical Storm Isaac Satellite Image

GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 12:35Z Sep 13, 2018

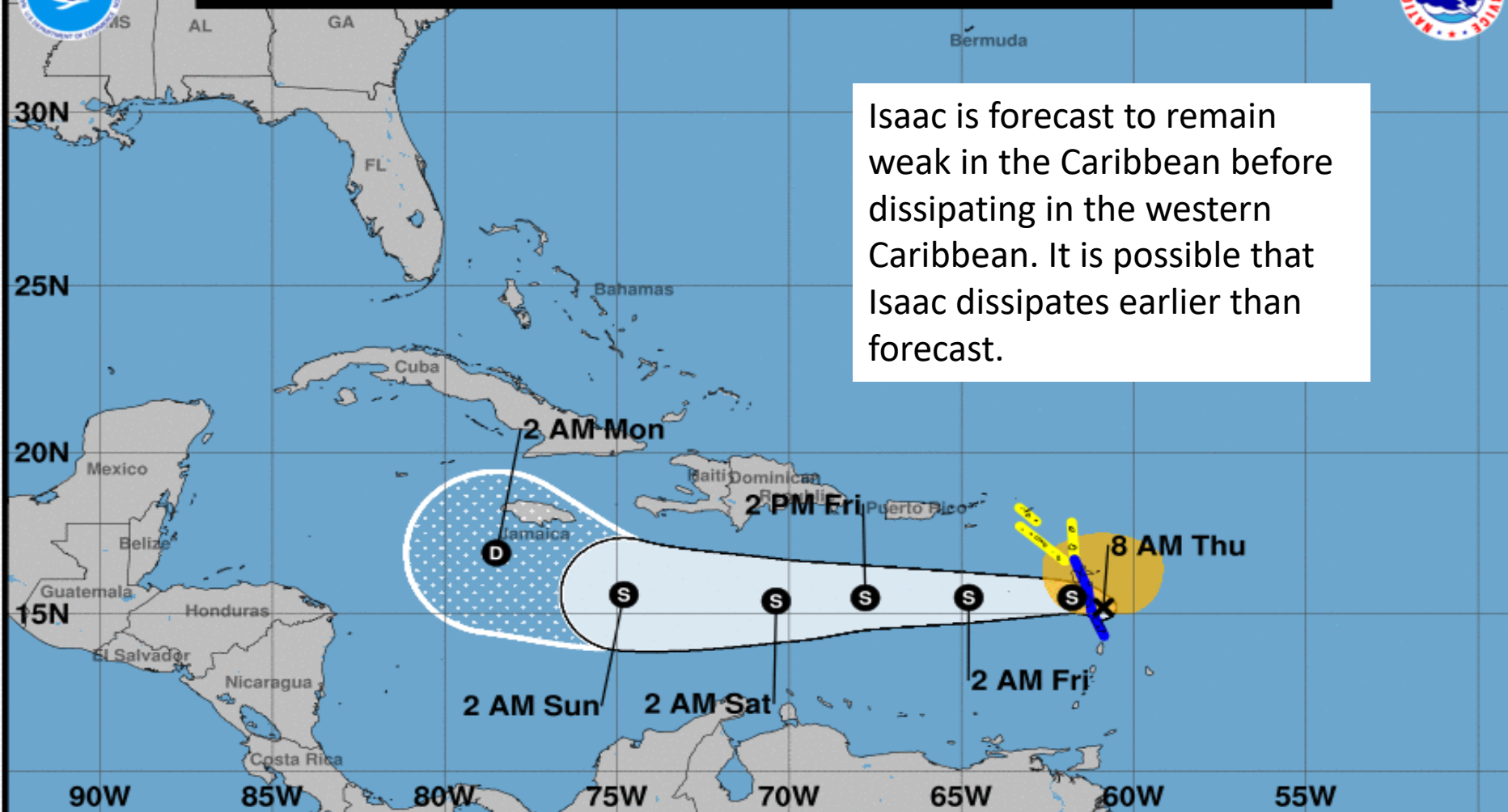
TROPICALTIDBITS.COM







**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.**



Isaac is forecast to remain weak in the Caribbean before dissipating in the western Caribbean. It is possible that Isaac dissipates earlier than forecast.

**Tropical Storm Isaac**  
Thursday September 13, 2018  
8 AM AST Intermediate Advisory 23A  
NWS National Hurricane Center

**Current information: X**  
Center location 15.2 N 60.9 W  
Maximum sustained wind 45 mph  
Movement W at 21 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>	<b>Watches:</b>	<b>Warnings:</b>	<b>Current wind extent:</b>
Day 1-3    Day 4-5	Hurricane    Trop Stm	Hurricane    Trop Stm	Hurricane    Trop Stm

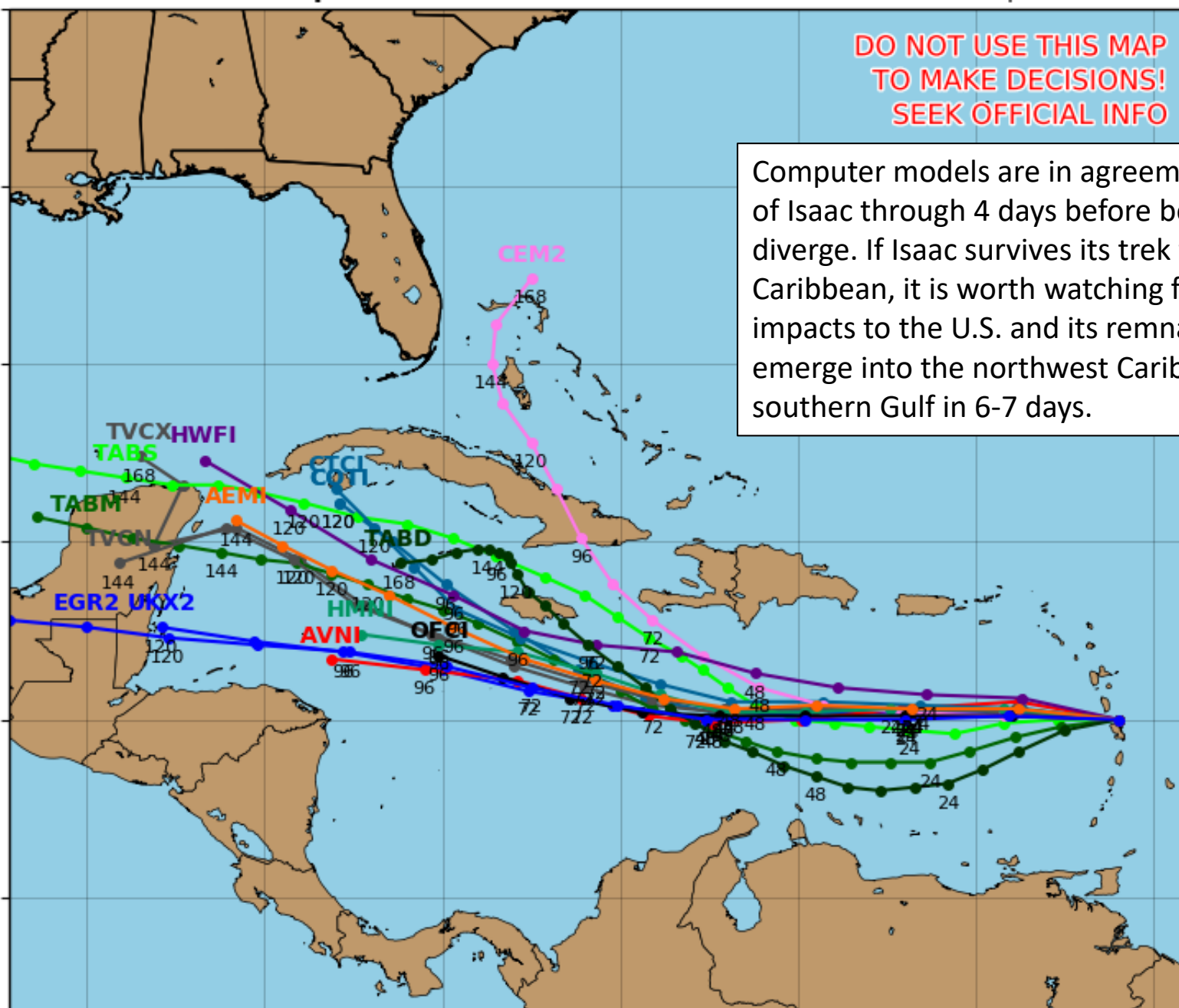
# Tropical Storm ISAAC Model Track Guidance

Initialized at 12z Sep 13 2018

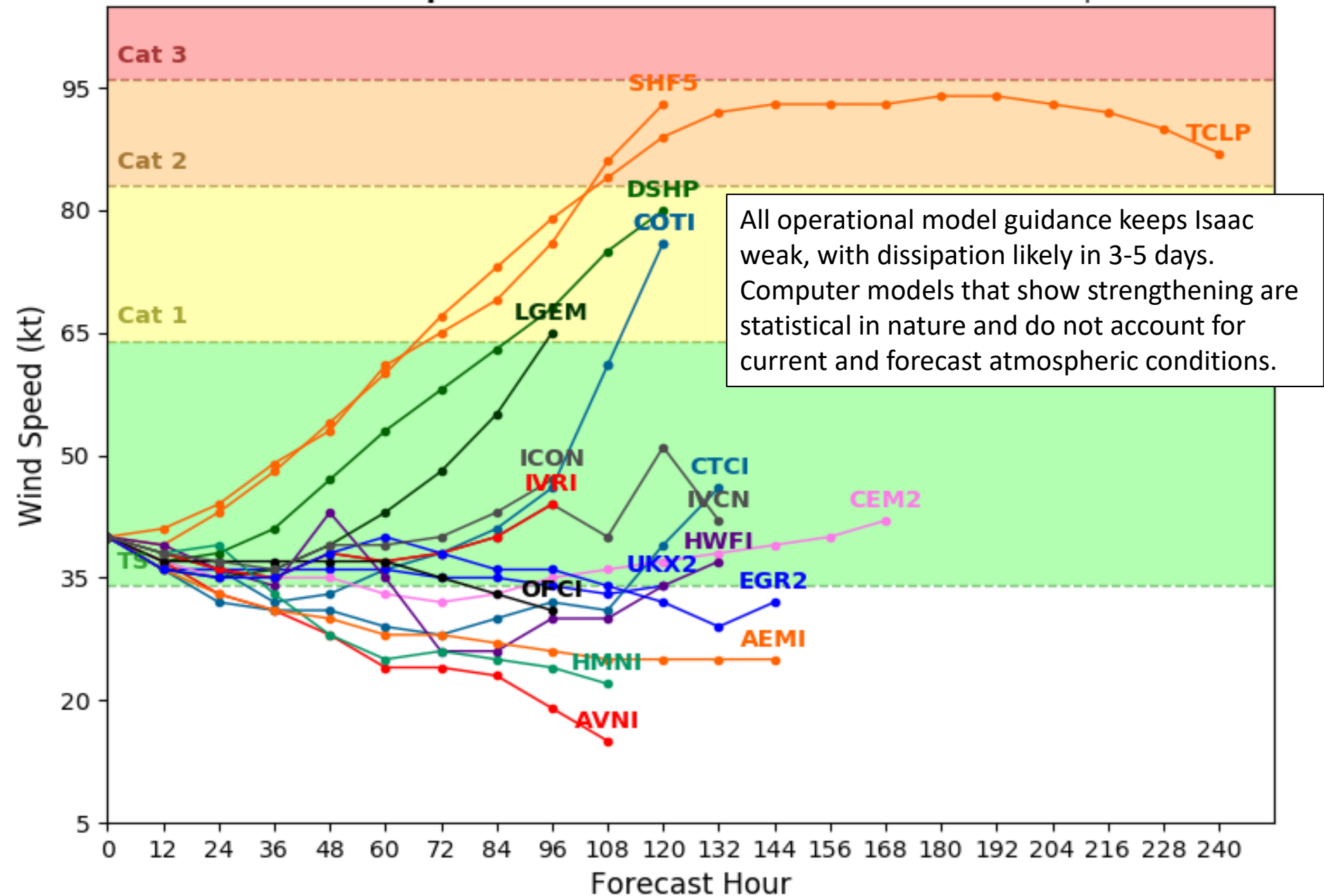
Levi Cowan - [tropicaltidbits.com](http://tropicaltidbits.com)

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

Computer models are in agreement on the track of Isaac through 4 days before beginning to diverge. If Isaac survives its trek through the Caribbean, it is worth watching for potential impacts to the U.S. and its remnants could emerge into the northwest Caribbean or southern Gulf in 6-7 days.



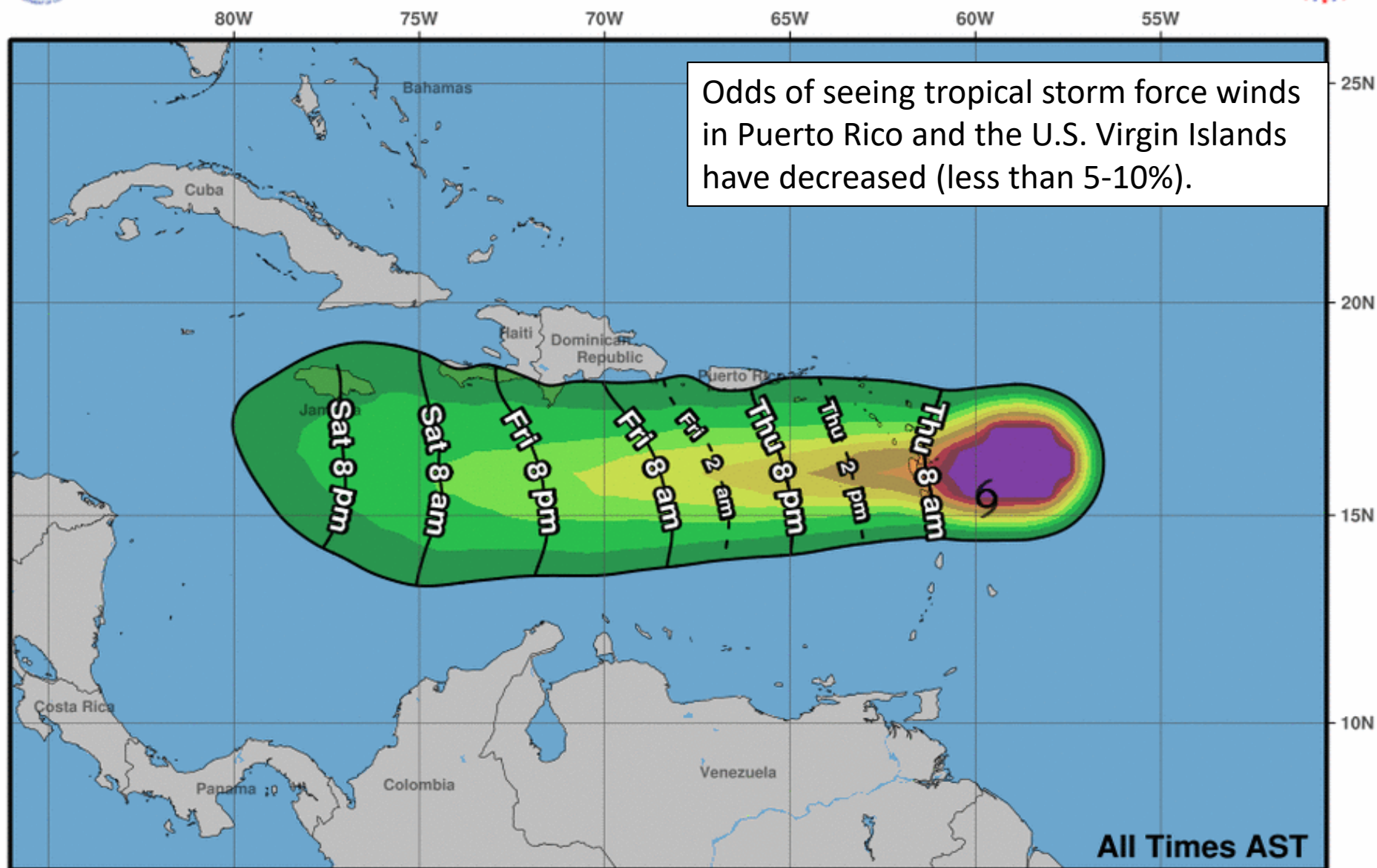
Levi Cowan - [tropicaltidbits.com](http://tropicaltidbits.com)







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

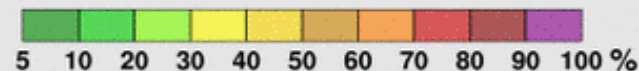


**Tropical Storm Isaac**  
**Thu. Sep. 13, 2018 5 am AST**  
**Advisory 23**

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

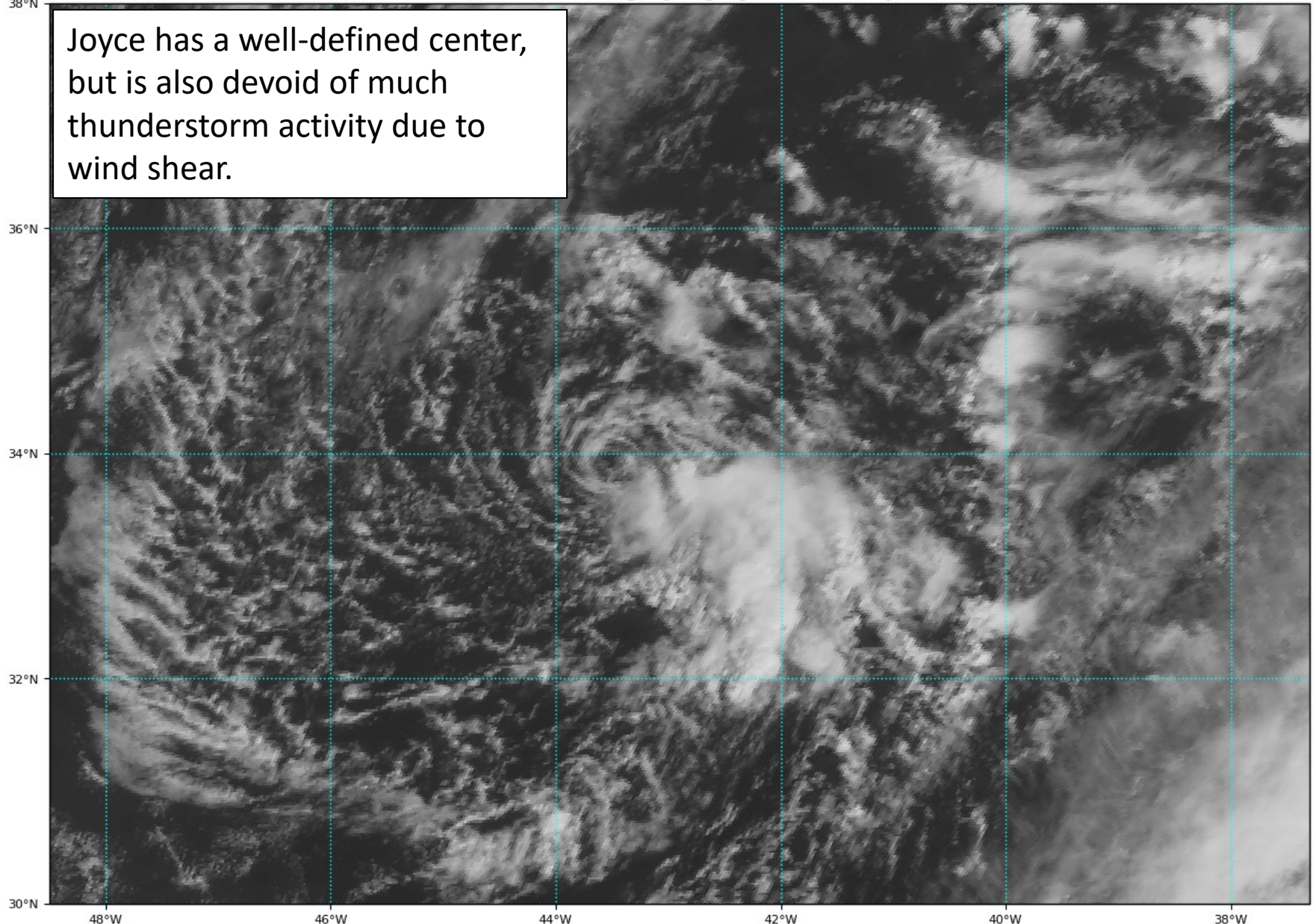


# Sub-tropical Storm Joyce Satellite Image

GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 12:35Z Sep 13, 2018

TROPICALTIDBITS.COM

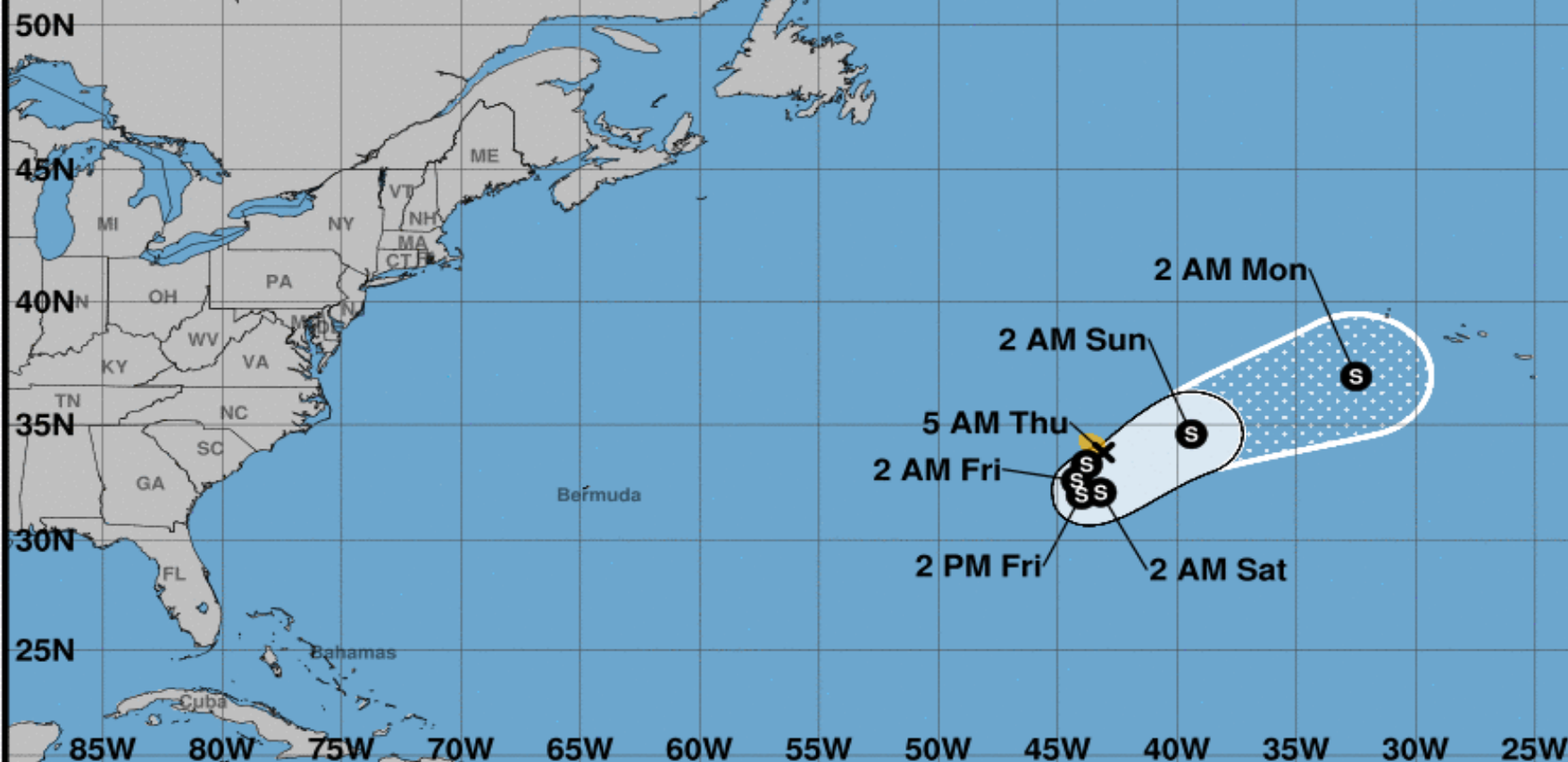
Joyce has a well-defined center, but is also devoid of much thunderstorm activity due to wind shear.







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.



### Subtropical Storm Joyce

Thursday September 13, 2018

5 AM AST Advisory 3

NWS National Hurricane Center

### Current information: x

Center location 33.8 N 43.1 W

Maximum sustained wind 45 mph

Movement SW 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:

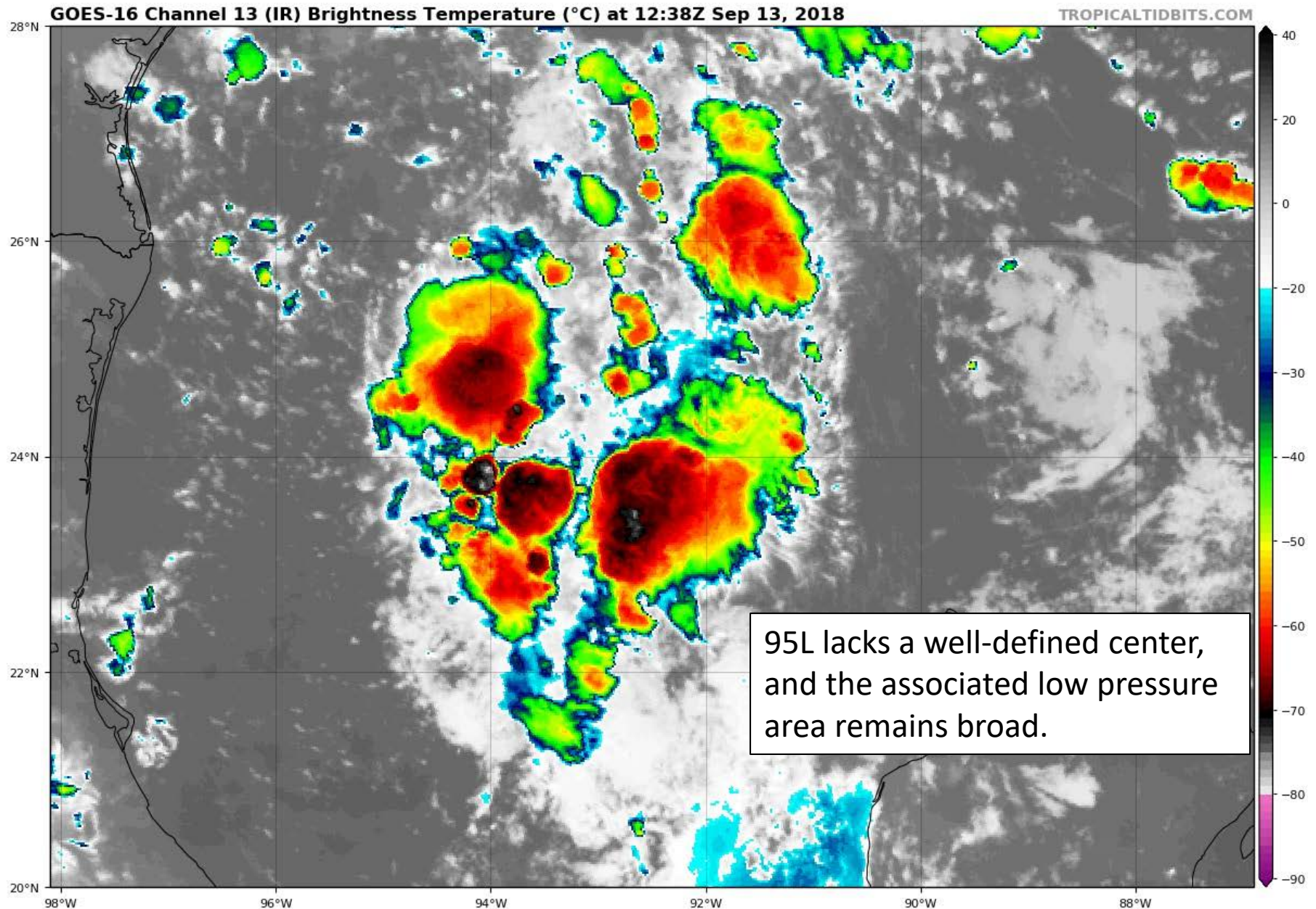
Hurricane Trop Stm

### Current wind extent:

Hurricane Trop Stm



# Invest 95L Satellite Image





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



1. An area of broad low pressure in the western Gulf of Mexico is producing disorganized showers and thunderstorms. While upper-level winds are conducive for the development of a tropical depression, the system only has about a day before it reaches the western Gulf coast.

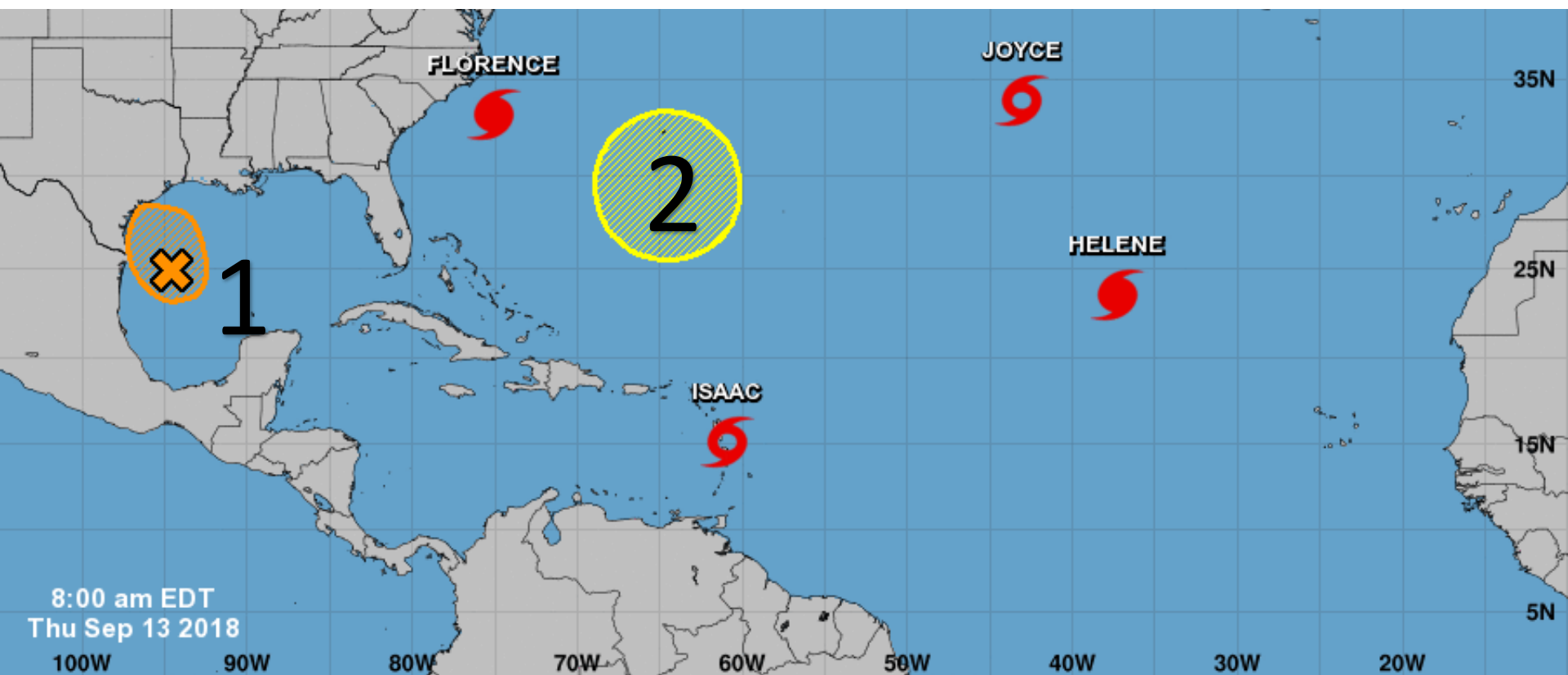
\* Formation chance through 48 hours...**medium**...50 percent.

\* Formation chance through 5 days...**medium**...50 percent.

2. An area of low pressure is expected to develop near Bermuda late this weekend or early next week. Some gradual development is possible after that time while the system drifts westward over the western Atlantic.

\* Formation chance through 48 hours...**low**...near 0 percent.

\* Formation chance through 5 days...**low**...20 percent.



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

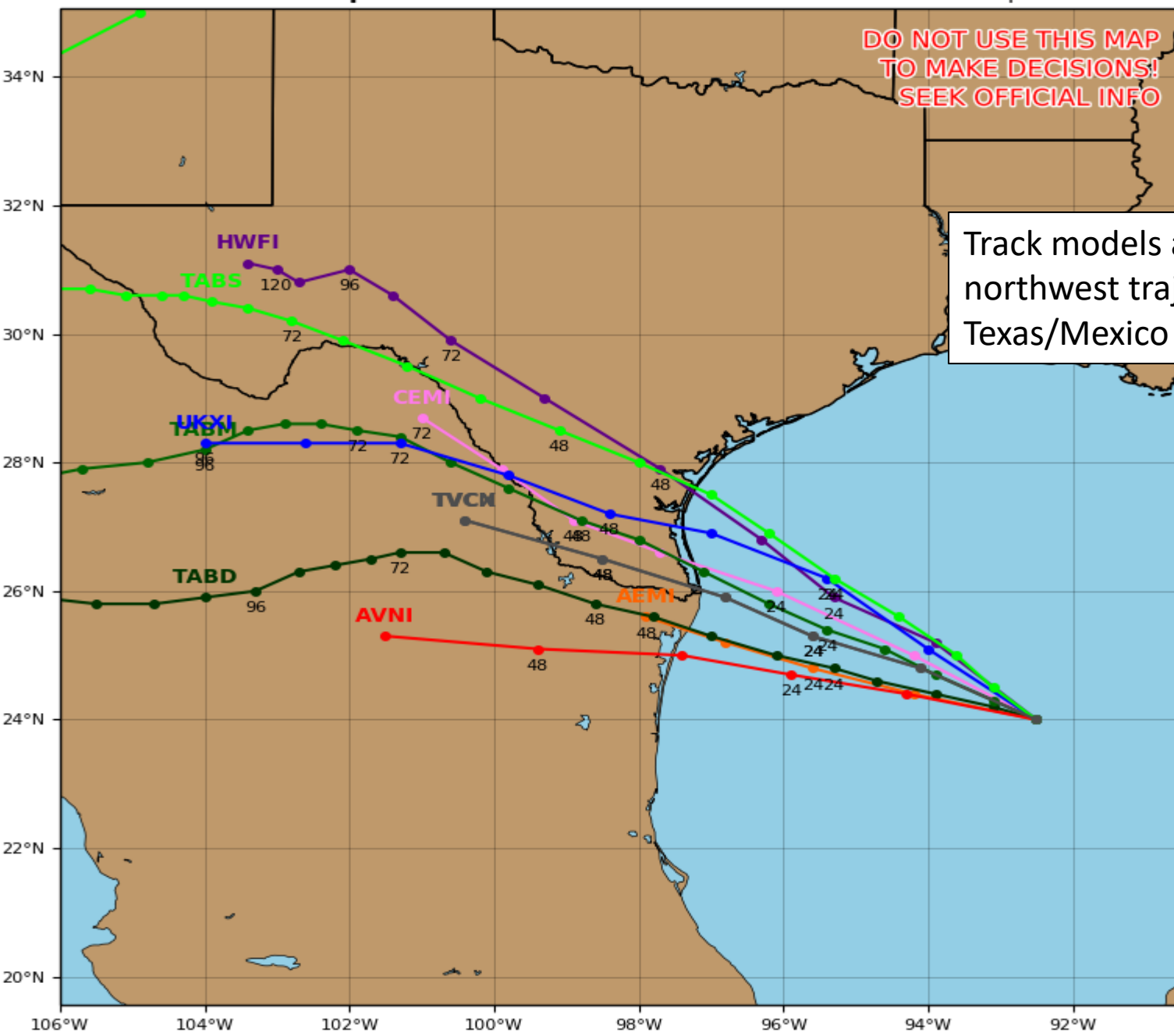
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

# Invest 95L Model Track Guidance

Initialized at 06z Sep 13 2018

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

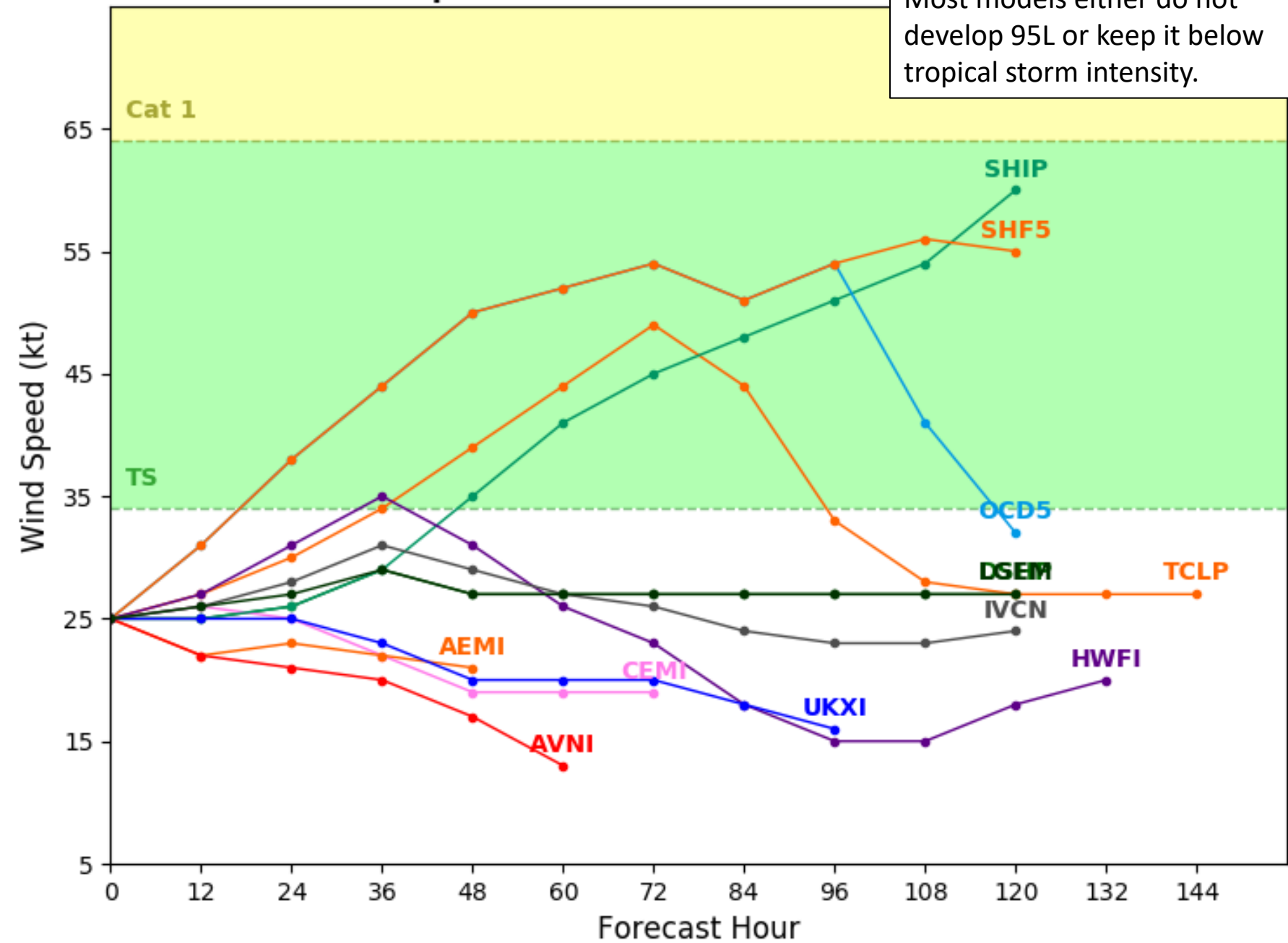


DO NOT USE THIS MAP  
TO MAKE DECISIONS!  
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Track models are confident on a  
northwest trajectory toward the  
Texas/Mexico border in 1-2 days.



Most models either do not develop 95L or keep it below tropical storm intensity.



# Summary

- At 9 AM EDT Thursday, Hurricane Florence was located in the western Atlantic Ocean about 215 miles east of Myrtle Beach, South Carolina, or approximately 430 miles east-northeast of Jacksonville, Florida.
- Maximum sustained winds have decreased to 110 mph, making Florence a Category 2 on the Saffir-Simpson Hurricane Wind Scale.
- Some intensity fluctuations are possible through tomorrow, and although some slow weakening is expected as it nears the Carolina coast, Florence is expected to remain a large and dangerous hurricane through landfall.
- Currently, tropical storm force winds extend out 195 miles from the center and hurricane force winds 80 miles.
- Florence is moving to the northwest at 12 mph, and this motion will continue with a substantial decrease in speed through this afternoon. Florence will then slowly drift west or southwest through Saturday under very light steering currents.
- Landfall is likely near the NC/SC border sometimes Friday as a Category 2 hurricane. Afterwards, Florence may linger across the Carolinas through the weekend before being pulled north.
  
- At 5 AM EDT Thursday, Hurricane Helene was located in the eastern Atlantic Ocean with maximum sustained winds near 75 mph and moving quickly north at 14 mph.
  
- At 8 AM EDT Thursday, Tropical Storm Isaac was located about 25 miles east of Dominica, or about 410 miles southeast of San Juan, Puerto Rico and moving quickly west at 21 mph.
- This motion is expected to continue through the next five days and Isaac should move into the eastern Caribbean Sea later today.
- Maximum sustained winds have decreased 45 mph, and little change in strength is forecast.
- Once in the western Caribbean early next week, models disagree on the eventual track and strength of the system. An eventual turn towards the north and reorganization of the system is still possible but not currently reflected in the official forecast.
- The chance of tropical storm force winds in Puerto Rico remain at less than 10%, with about a 10% chance in the Virgin Islands. Increased rain chances on the islands can still be expected Thursday night and Friday as Isaac tracks south of the islands.
  
- Subtropical Storm Joyce is located in the far north central Atlantic with maximum sustained winds of 45 mph.
- Joyce will meander in the north central Atlantic before moving toward the northeast early next week.

- A tropical disturbance, designated as invest 95L, has a 50% (medium) chance of becoming a tropical depression before reaching the Texas coast in 24-36 hours. Regardless of development, this system will bring increased rain chances to Texas and Louisiana later this week and into the weekend.
- A NOAA hurricane hunter reconnaissance aircraft is scheduled to investigate the system this afternoon if necessary.
- A low-pressure system is expected to develop near Bermuda later this week in the wake of Florence. This system will meander near Bermuda and has a 20% (low) chance of tropical development during the next five days.
- The next names on the list are Kirk and Leslie, or number 11 and 12 if first designated a Potential Tropical Cyclone or Tropical Depression.
- **Florida Outlook:**
- Chances of direct impacts to Northeast Florida from Florence are very low.
- The odds of seeing tropical storm force winds along the immediate coast of far Northeast Florida are near 1 in 10 (10%).
- This assumes a southern track and current official forecast winds are expected to be less than 20mph.
- Large swells emanating from the storm will continue to impact the Florida East Coast throughout the end of the week, resulting in life-threatening rip currents.
- A Coastal Flood Advisory is in effect through Friday for Nassau, Duval, St. Johns, and Flagler Counties. Minor coastal flooding at high tide will be possible.
- Tropical Storm Isaac should continue to be monitored over the next 5-10 days as it moves through the Caribbean, but is not a direct threat to Florida at this time.
- Hurricane Helene, Sub-tropical Storm Joyce, Invest 95L in the Gulf and the developing low near Bermuda pose no threat to the Florida at this time.

Another briefing packet will be issued Thursday evening. 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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Cameron Young, Assistant State Meteorologist

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State Meteorological Support Unit

Florida Division of Emergency Management

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