



# **TROPICAL UPDATE**

**5 PM EDT**

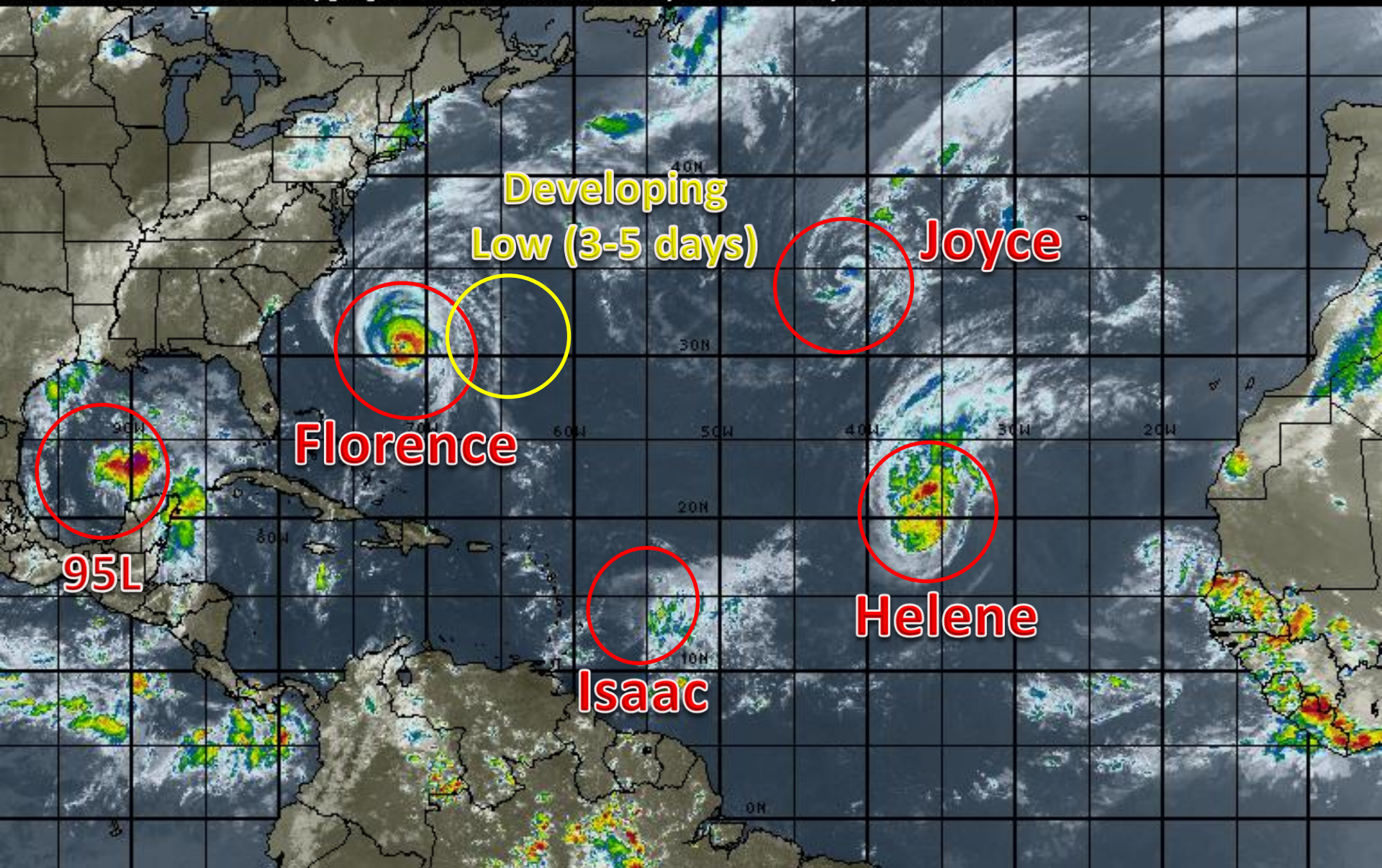
**Wednesday, September 12, 2018**

**Major Hurricane Florence, Hurricane Helene,  
Tropical Storm Isaac, Subtropical Storm Joyce,  
Invest 95L (70%) & 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).**

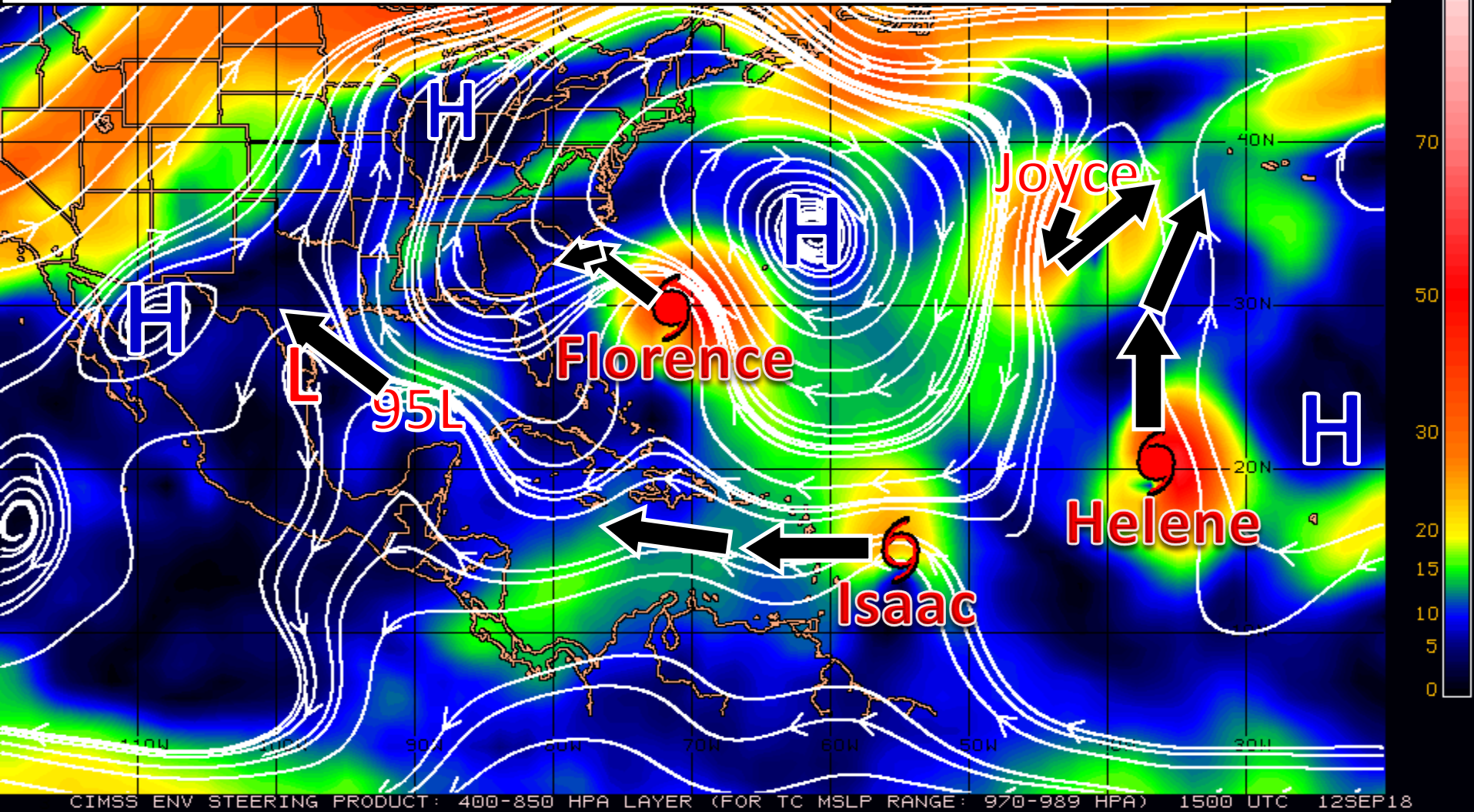
# Atlantic Basin Satellite Image

18:00 12-SEP-2018 GMT Copyright © 1998-2018 MSI Corporation <http://www.usi.com>



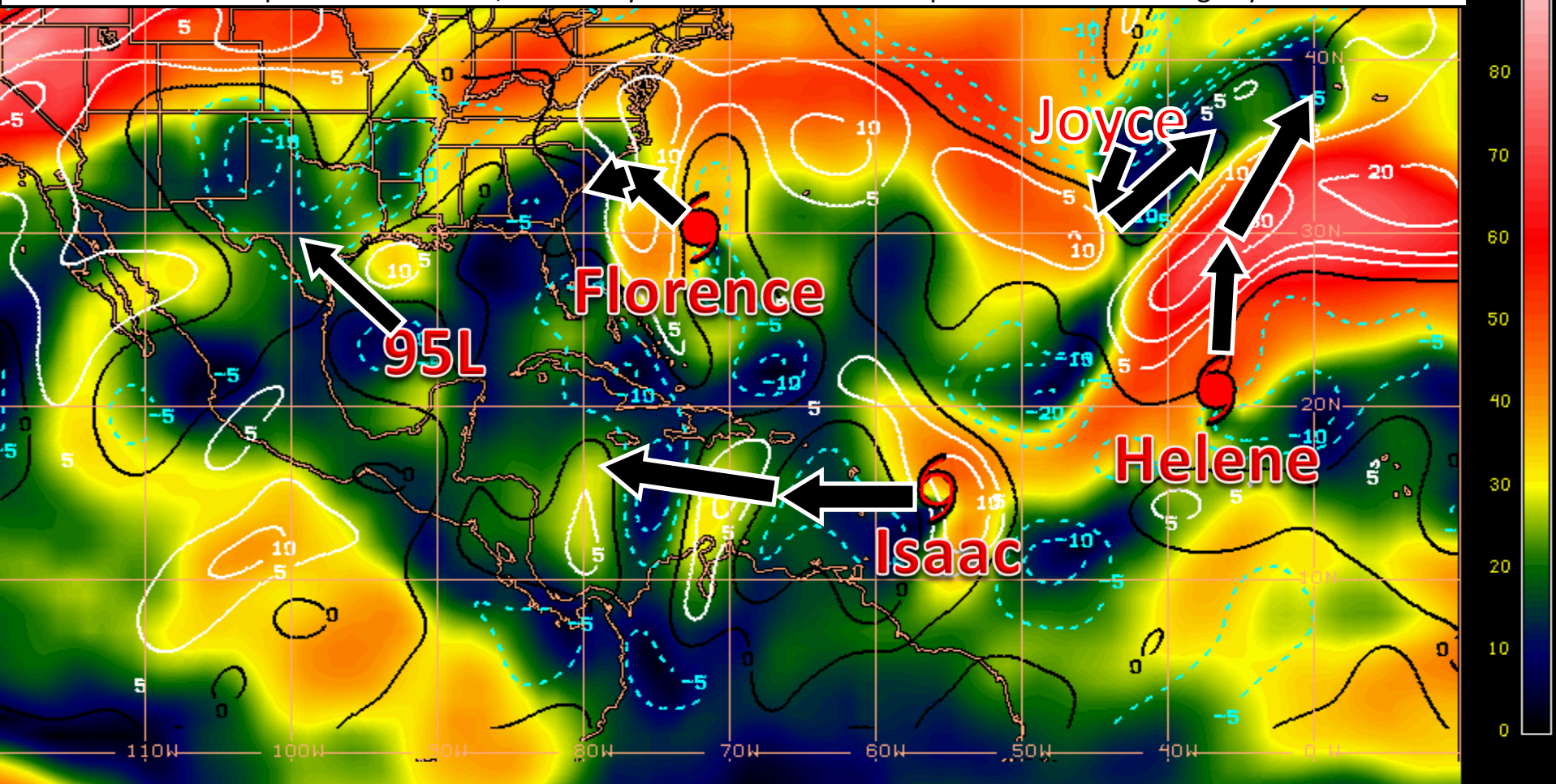
# Steering Currents

A large and strong high pressure system in the western Atlantic (plus a developing high pressure system near the Great Lakes) will steer Florence, Isaac, and 95L while an area of low pressure in the eastern Atlantic pulls Helene northward. The high over the Great Lakes will slowly move towards New England and will be responsible for “blocking” Florence from moving too far inland after landfall or even from making landfall in North Carolina and promoting a slow west or southwest movement in 3-5 days.

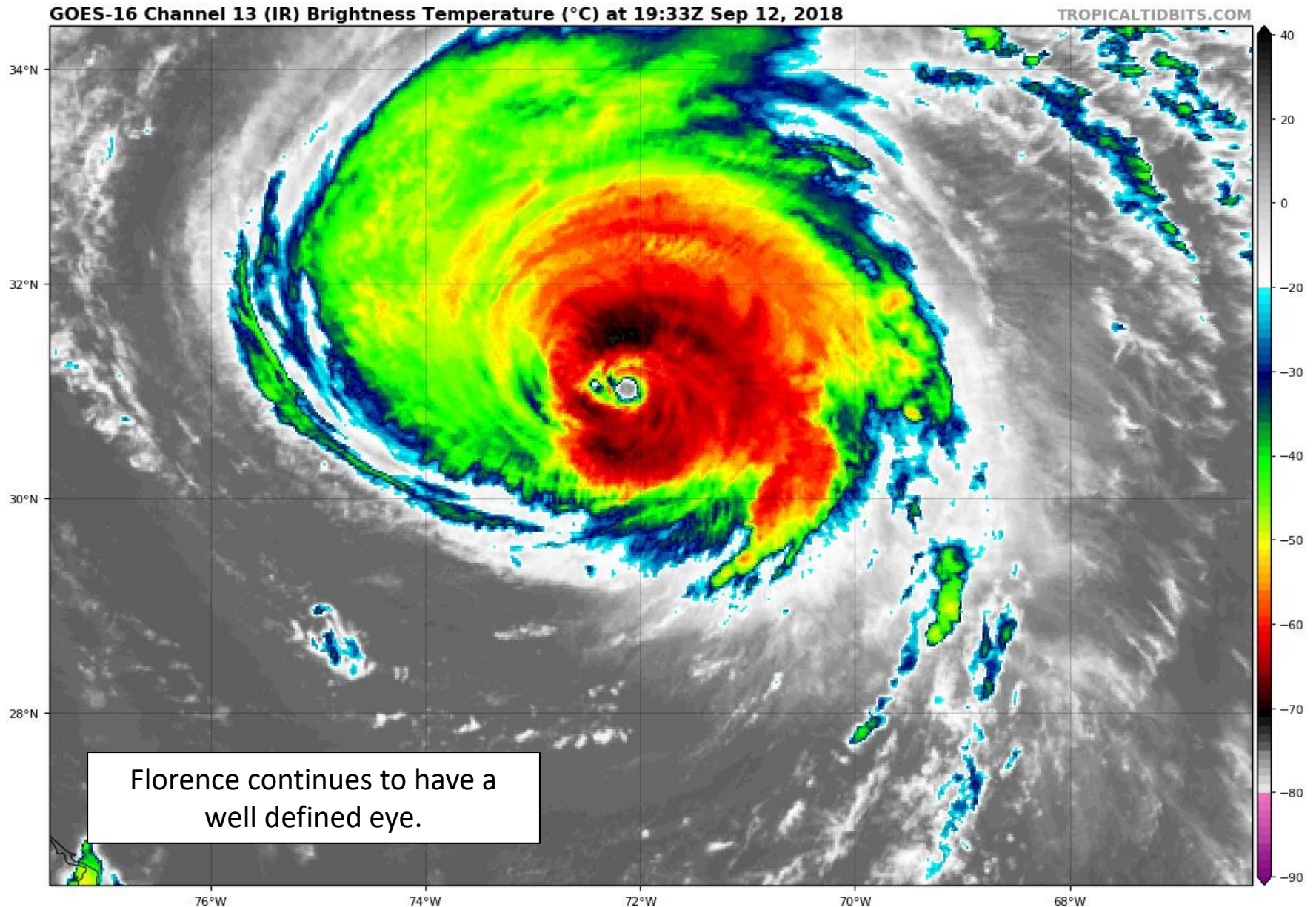


# Wind Shear (shaded) and Wind Shear Tendencies (contoured)

A small pocket of wind shear is near Florence, but should not cause any significant weakening. Low shear near the Carolina coast will promote strengthening up until landfall. Isaac will encounter some pockets of low to moderate wind shear and may strengthen again before encountering higher shear in the central Caribbean. Helene will move into much higher wind shear this week, gradually weakening the system. 95L in the Gulf will experience some moderate wind shear in the southern Gulf of Mexico, but low shear near the Texas coast may allow it to develop just before moving inland. 96L is in a pocket of low shear, which may allow for further development over the coming days.

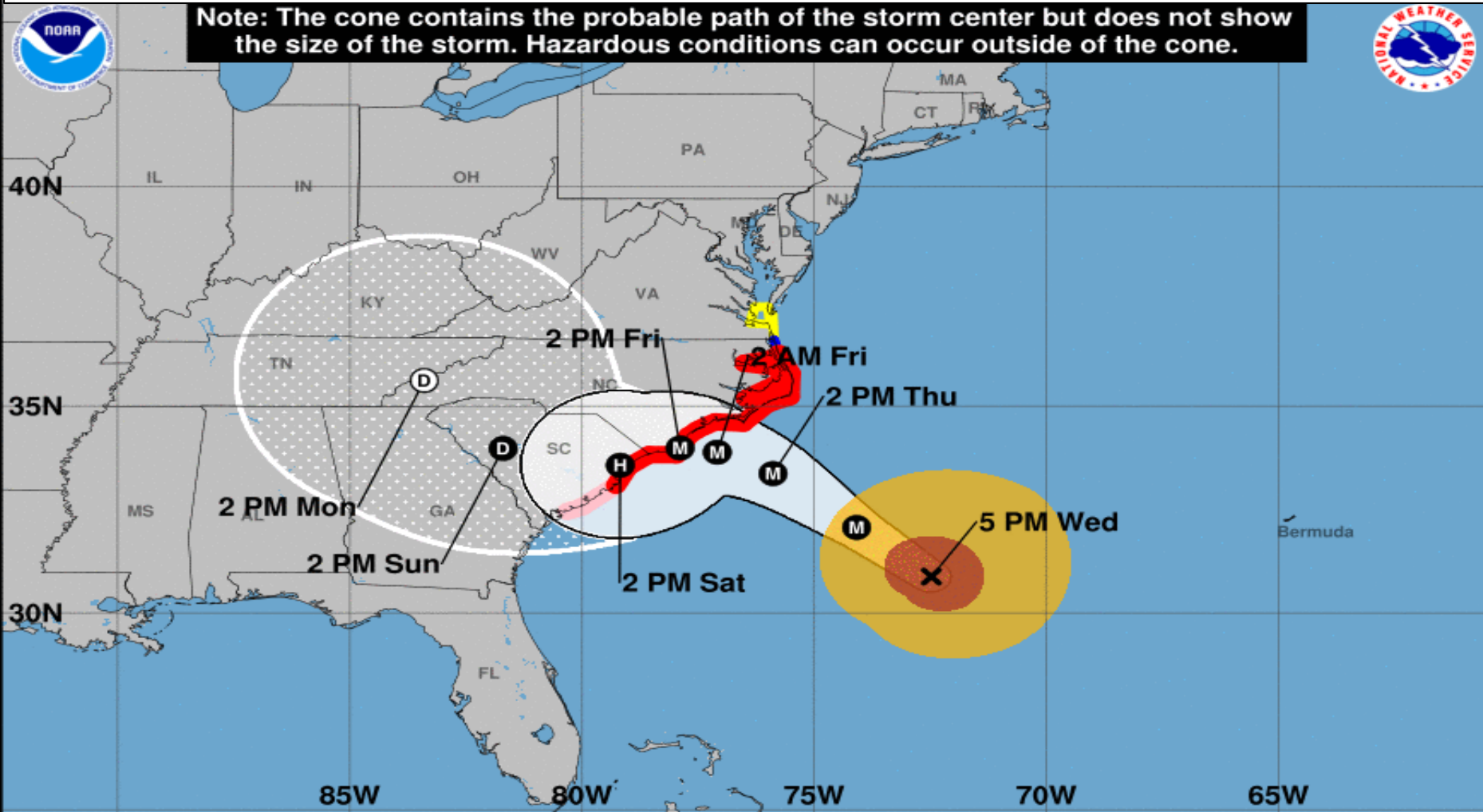


# Hurricane Florence Satellite Image



Florence will remain a major hurricane until it nears landfall. The track for Florence remains largely unchanged from earlier today and confidence is increasing in the track through the next 4 days.

**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

Wednesday September 12, 2018  
5 PM EDT Advisory 54  
NWS National Hurricane Center

### Current information: x

Center location 30.9 N 72.5 W  
Maximum sustained wind 120 mph  
Movement NW at 16 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

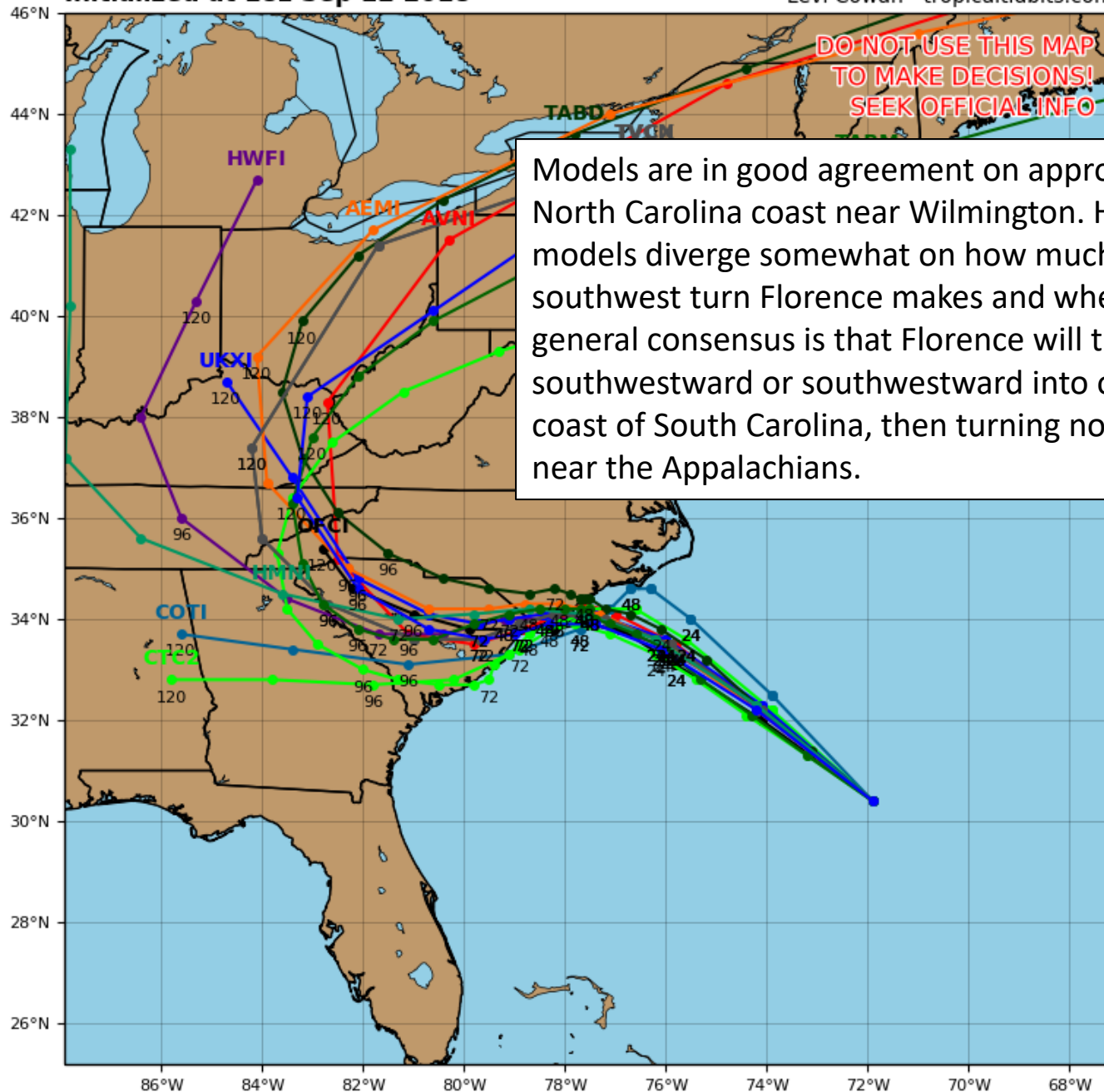
### Current wind extent:

Hurricane Trop Stm

# Hurricane FLORENCE Model Track Guidance

Initialized at 18z Sep 12 2018

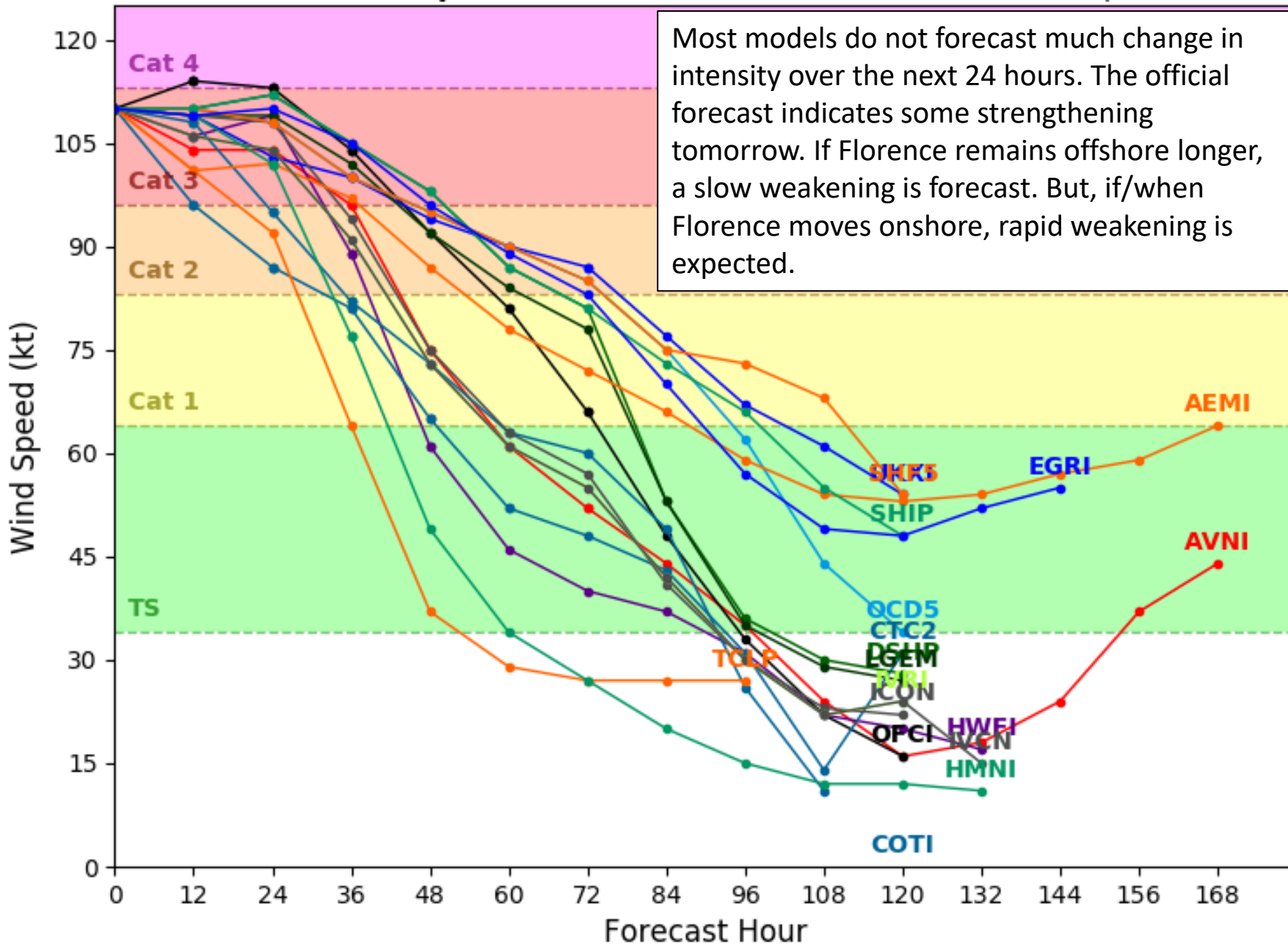
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Models are in good agreement on approach to the North Carolina coast near Wilmington. However, models diverge somewhat on how much of a southwest turn Florence makes and when. The general consensus is that Florence will turn west-southwestward or southwestward into or along the coast of South Carolina, then turning northwestward near the Appalachians.

**Initialized at 18z Sep 12 2018**

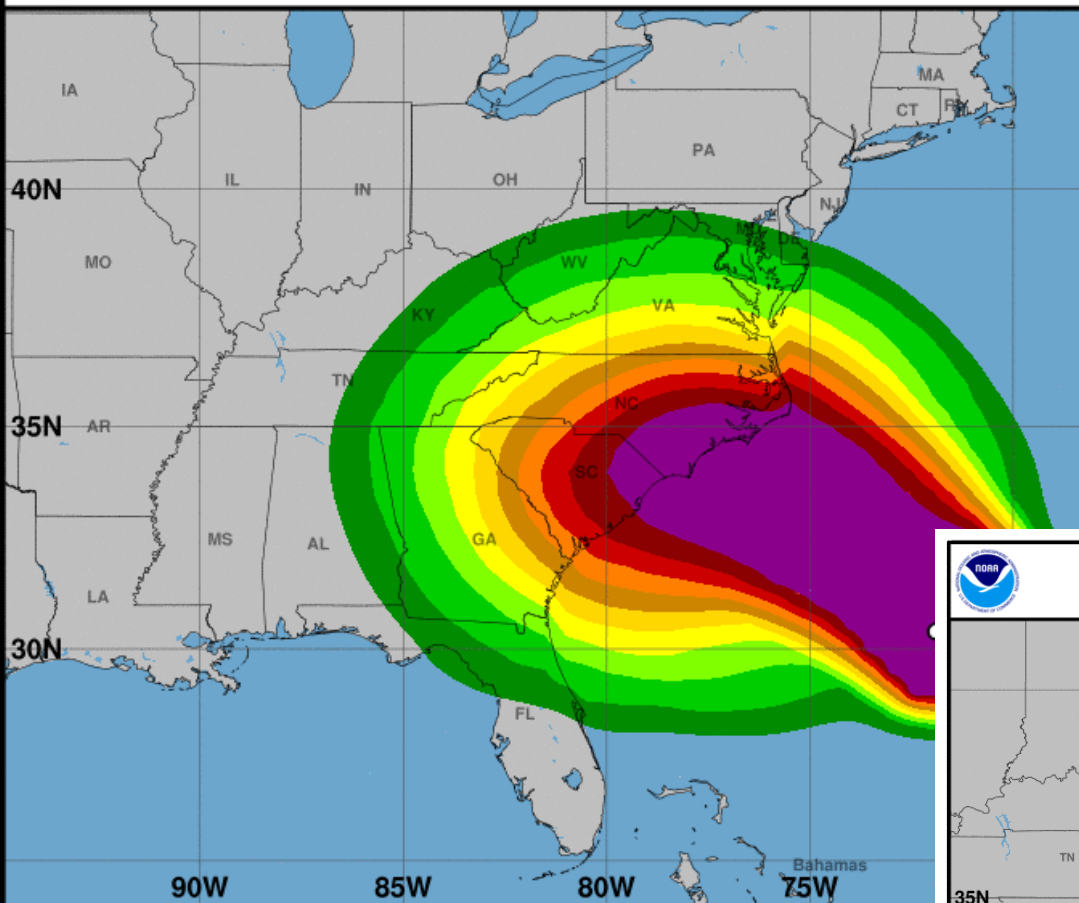
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## Tropical-Storm-Force Wind Speed Probabilities (Preliminary)

For the 120 hours (5.0 days) from 2 PM EDT WED SEP 12 to 2 PM EDT MON SEP 17



Probability of tropical-storm-force winds (1-minute average  $\geq 39$  mph)  
O indicates Hurricane Florence center location at 2 PM EDT WED SEP 12,

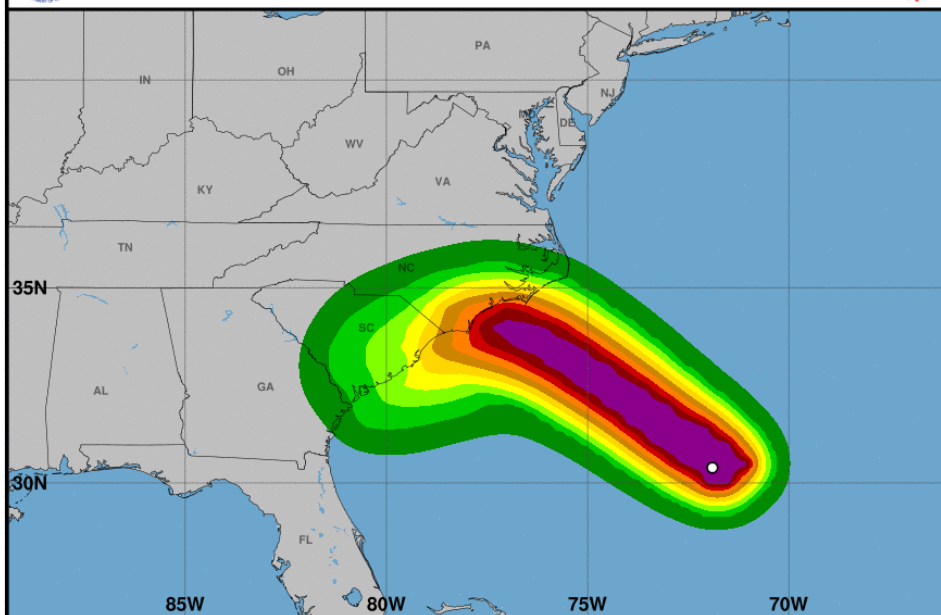


The odds of sustained tropical storm force winds remain the same for **Northeast Florida**. Odds in Nassau and coastal Duval County are near 25% (1 in 4). Across interior Northeast Florida, odds are 10% (1 in 10), and less than 10% across the Big Bend. There continues to be no chance of hurricane force winds in Florida.



## Hurricane-Force Wind Speed Probabilities

For the 120 hours (5.0 days) from 2 PM EDT WED SEP 12 to 2 PM EDT MON SEP 17



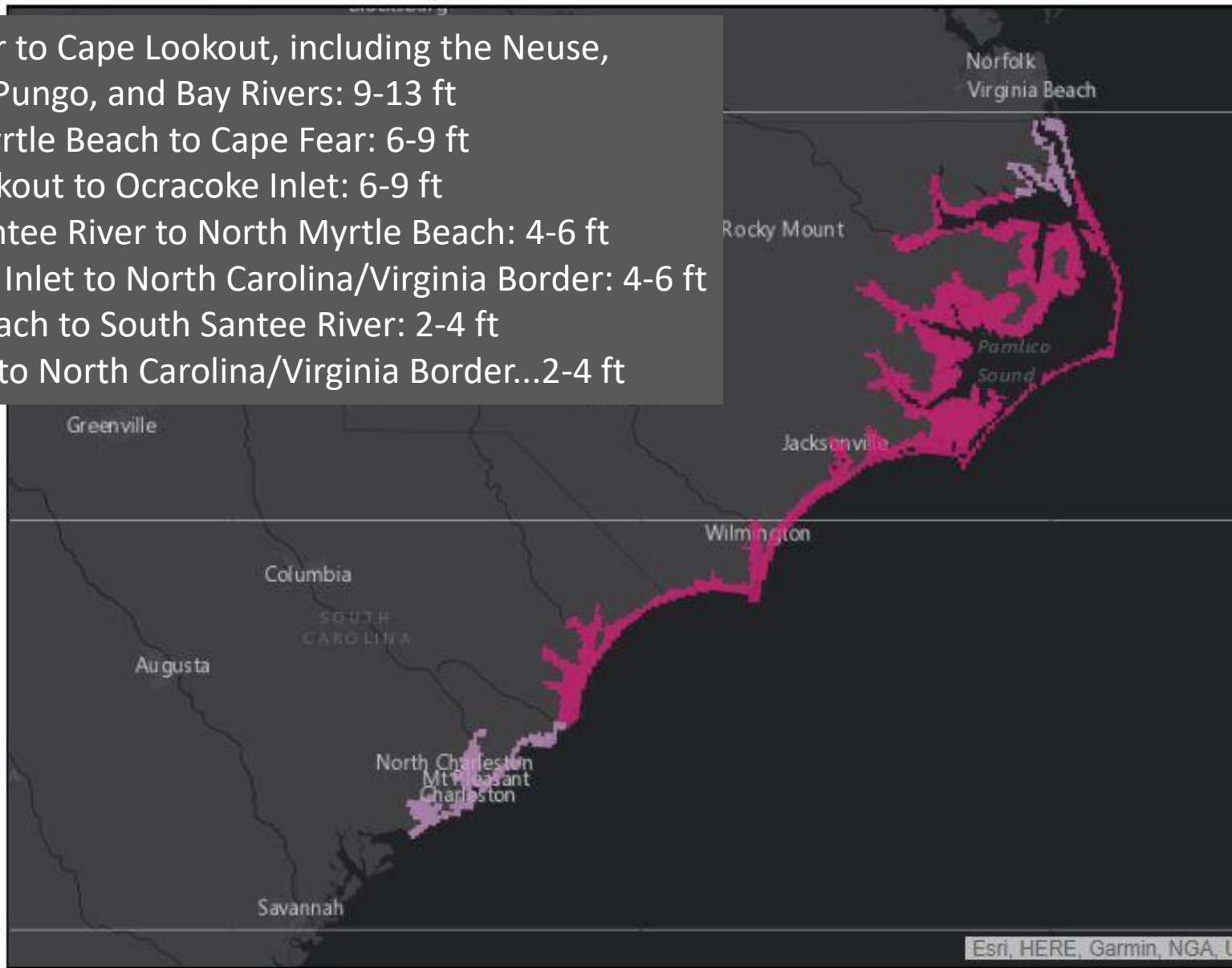
Probability of hurricane-force winds (1-minute average  $\geq 74$  mph) from all tropical cyclones  
O indicates Hurricane Florence center location at 2 PM EDT WED SEP 12, 2018 (Forecast/Advisory #54)



## Hurricane Florence

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

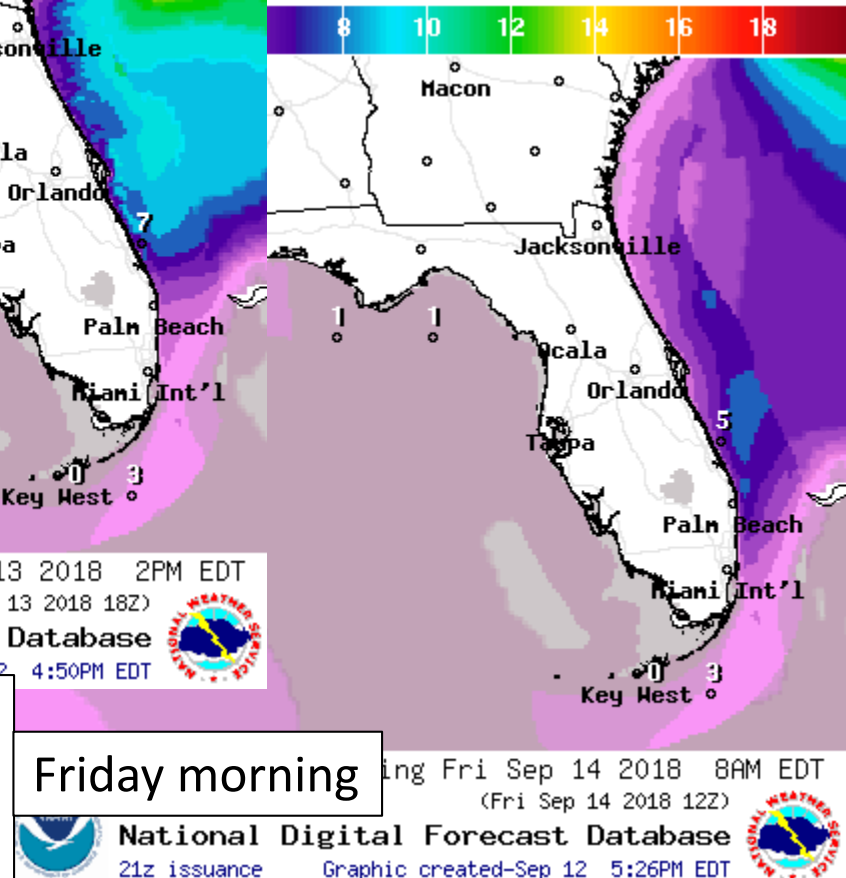
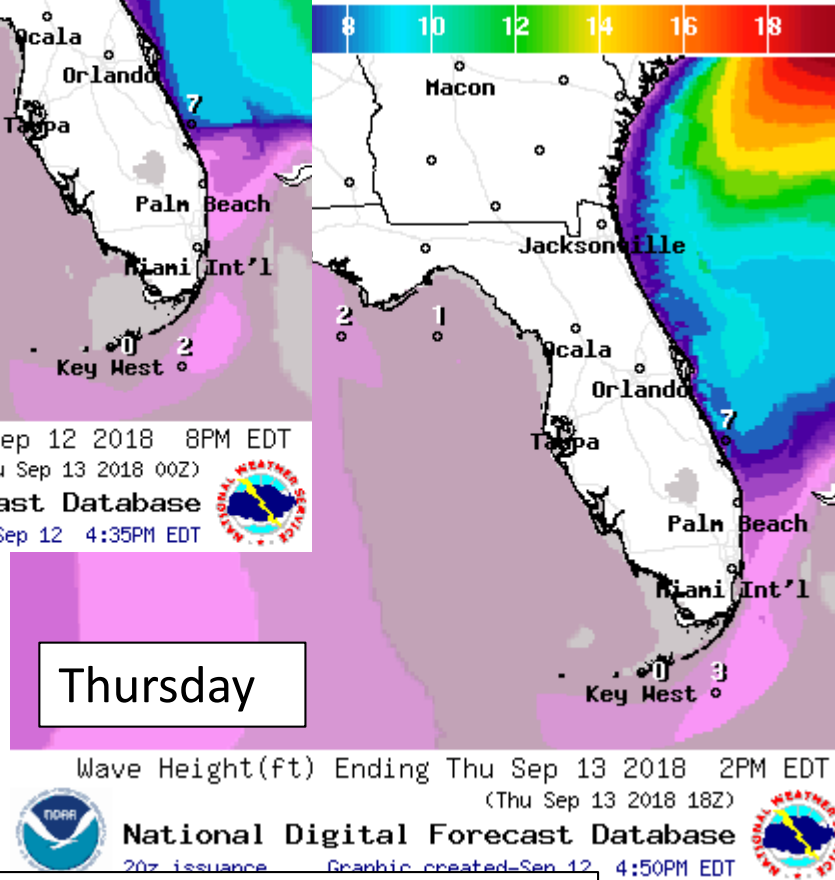
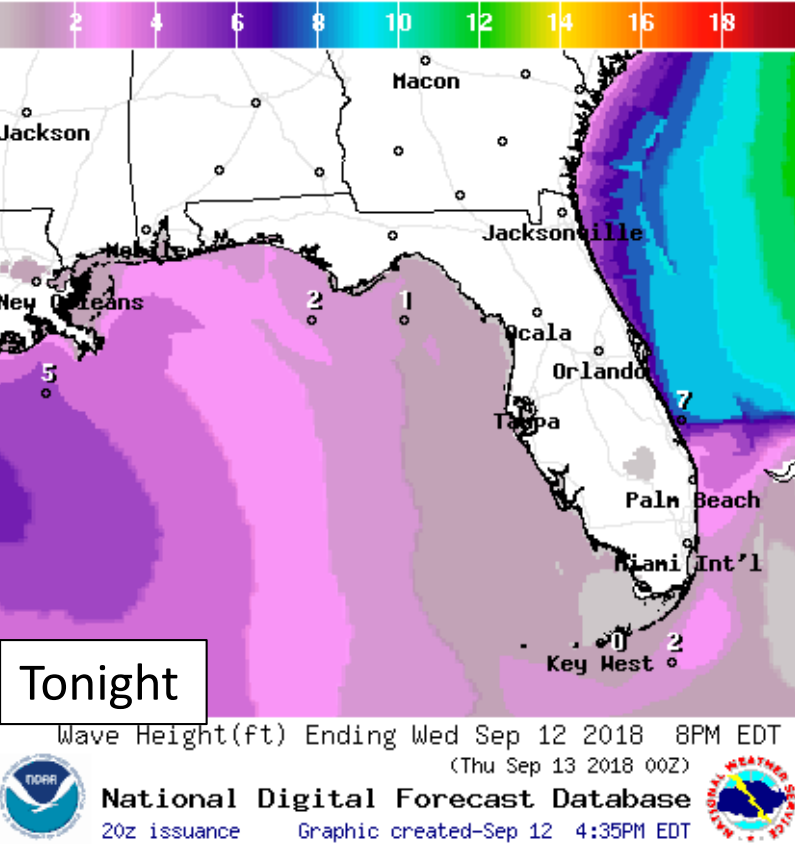
- Cape Fear to Cape Lookout, including the Neuse, Pamlico, Pungo, and Bay Rivers: 9-13 ft
- North Myrtle Beach to Cape Fear: 6-9 ft
- Cape Lookout to Ocracoke Inlet: 6-9 ft
- South Santee River to North Myrtle Beach: 4-6 ft
- Ocracoke Inlet to North Carolina/Virginia Border: 4-6 ft
- Edisto Beach to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



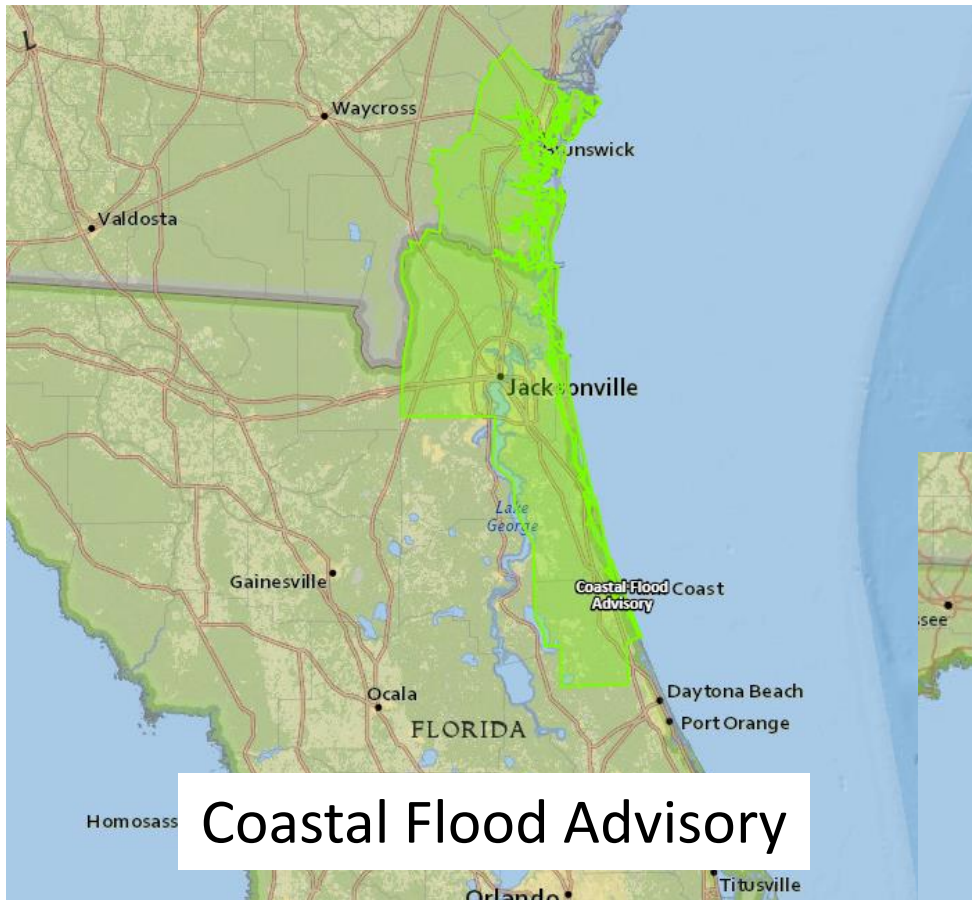
0 30 60mi

Storm Surge Warning  
Storm Surge Watch

# Forecast Wave Heights



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



Coastal Flood Advisory

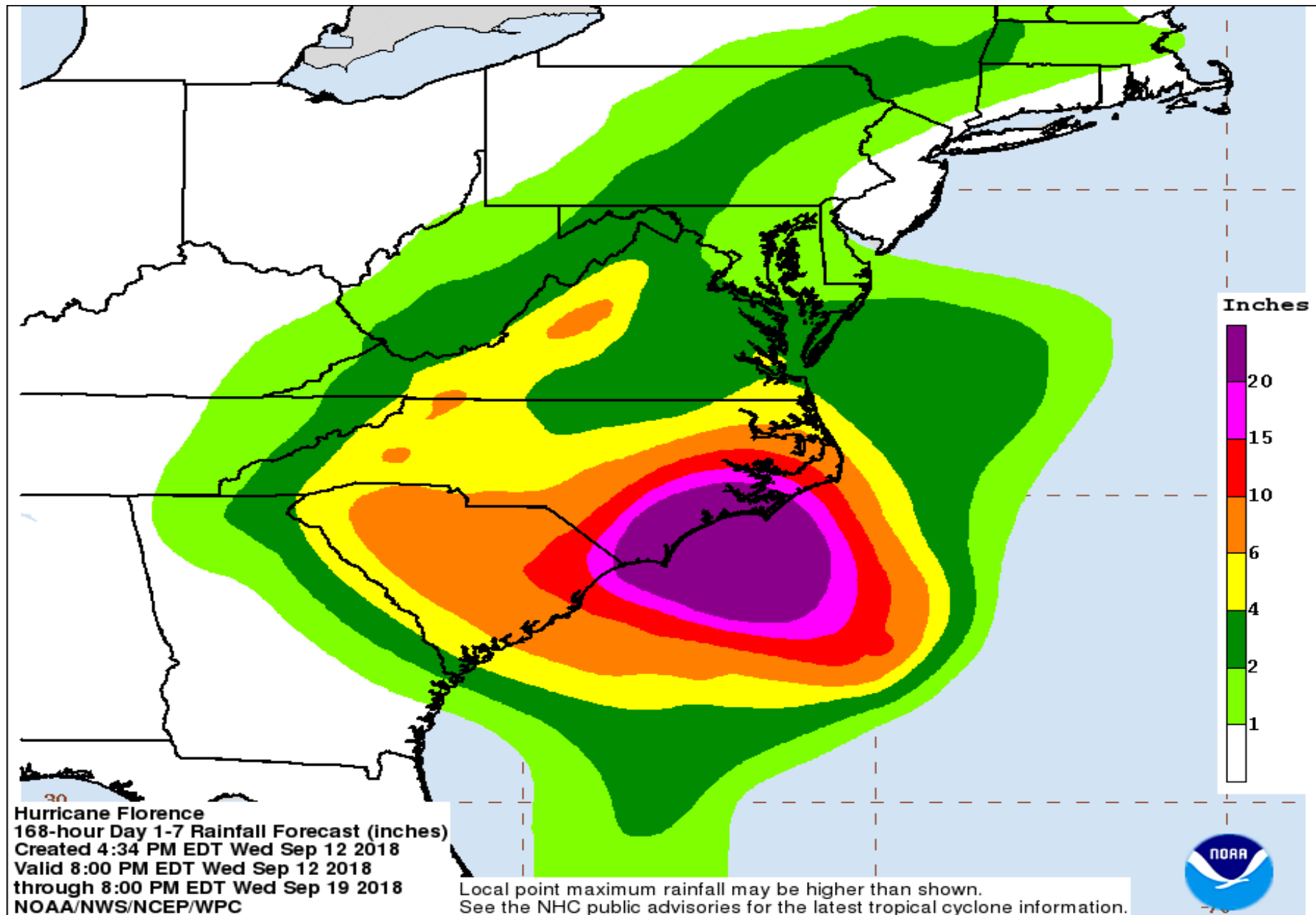


High Surf Advisory

# Rip Current Forecast Today



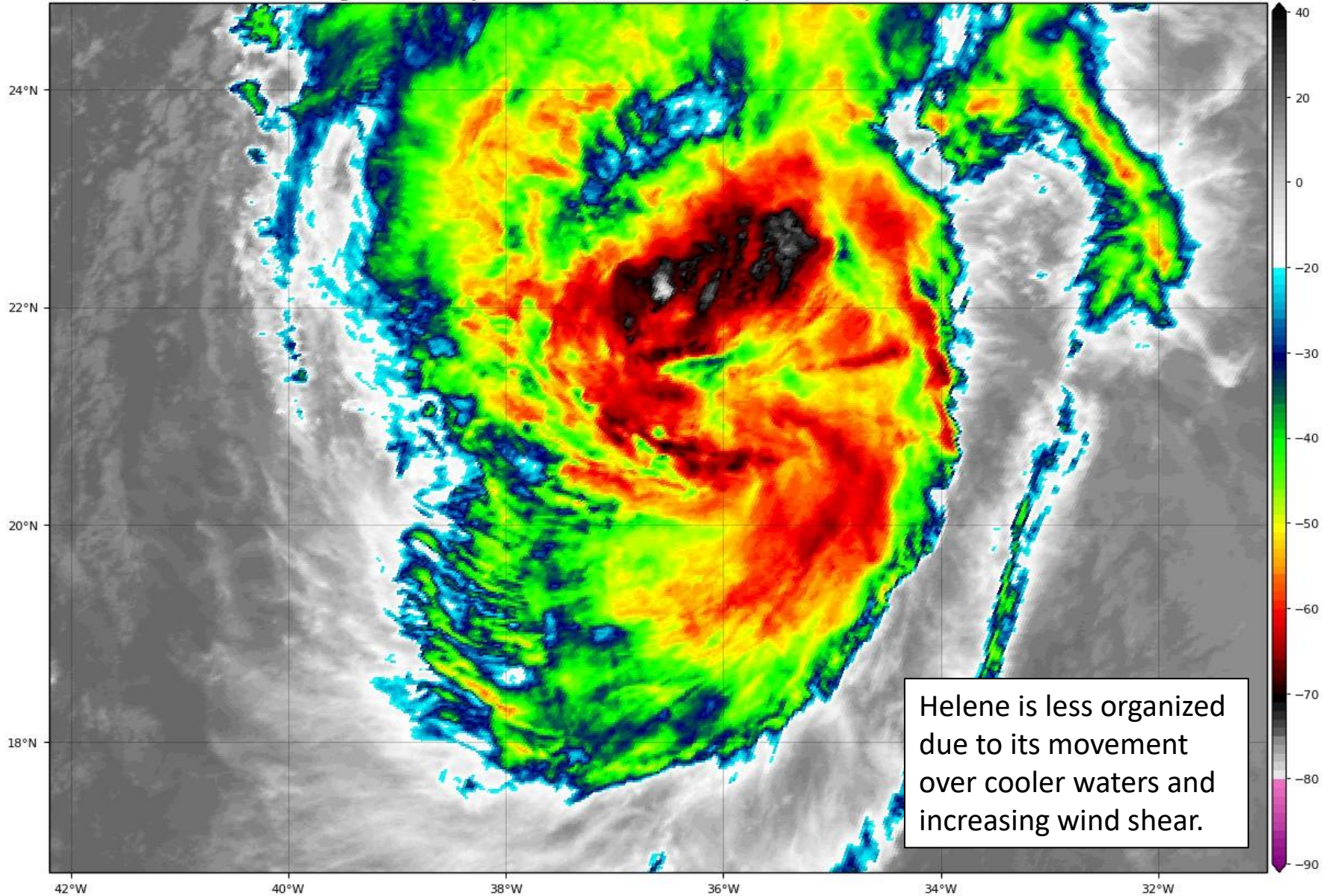
# Forecast rainfall – Next 7 Days



# Hurricane Helene Satellite Image

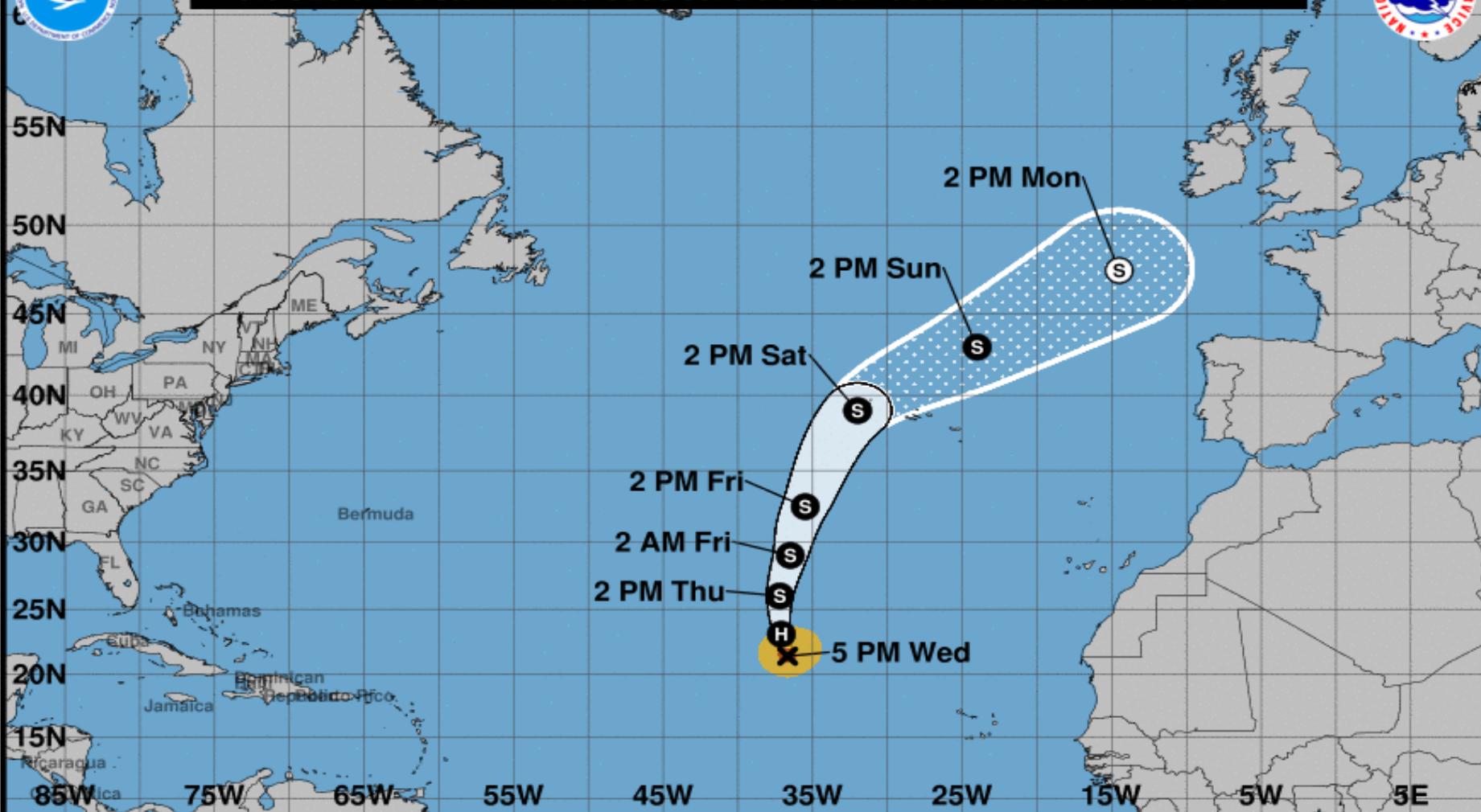
GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 19:20Z Sep 12, 2018

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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.



## Hurricane Helene

Wednesday September 12, 2018

5 PM AST Advisory 22

NWS National Hurricane Center

## Current information: x

Center location 21.4 N 36.7 W

Maximum sustained wind 85 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

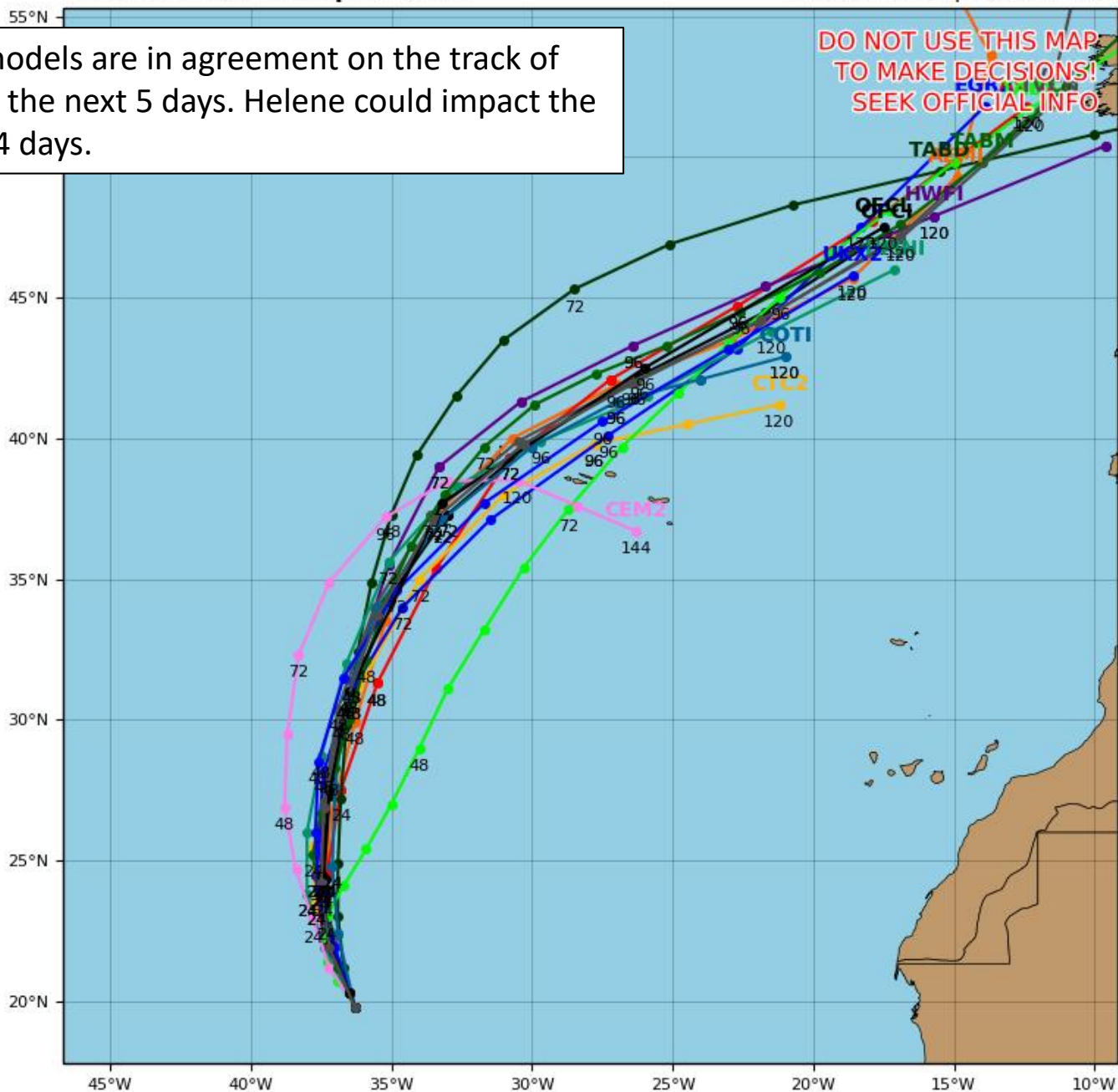
## Current wind extent:

Hurricane Trop Stm

**Initialized at 12z Sep 12 2018**

Computer models are in agreement on the track of Helene over the next 5 days. Helene could impact the Azores in 3-4 days.

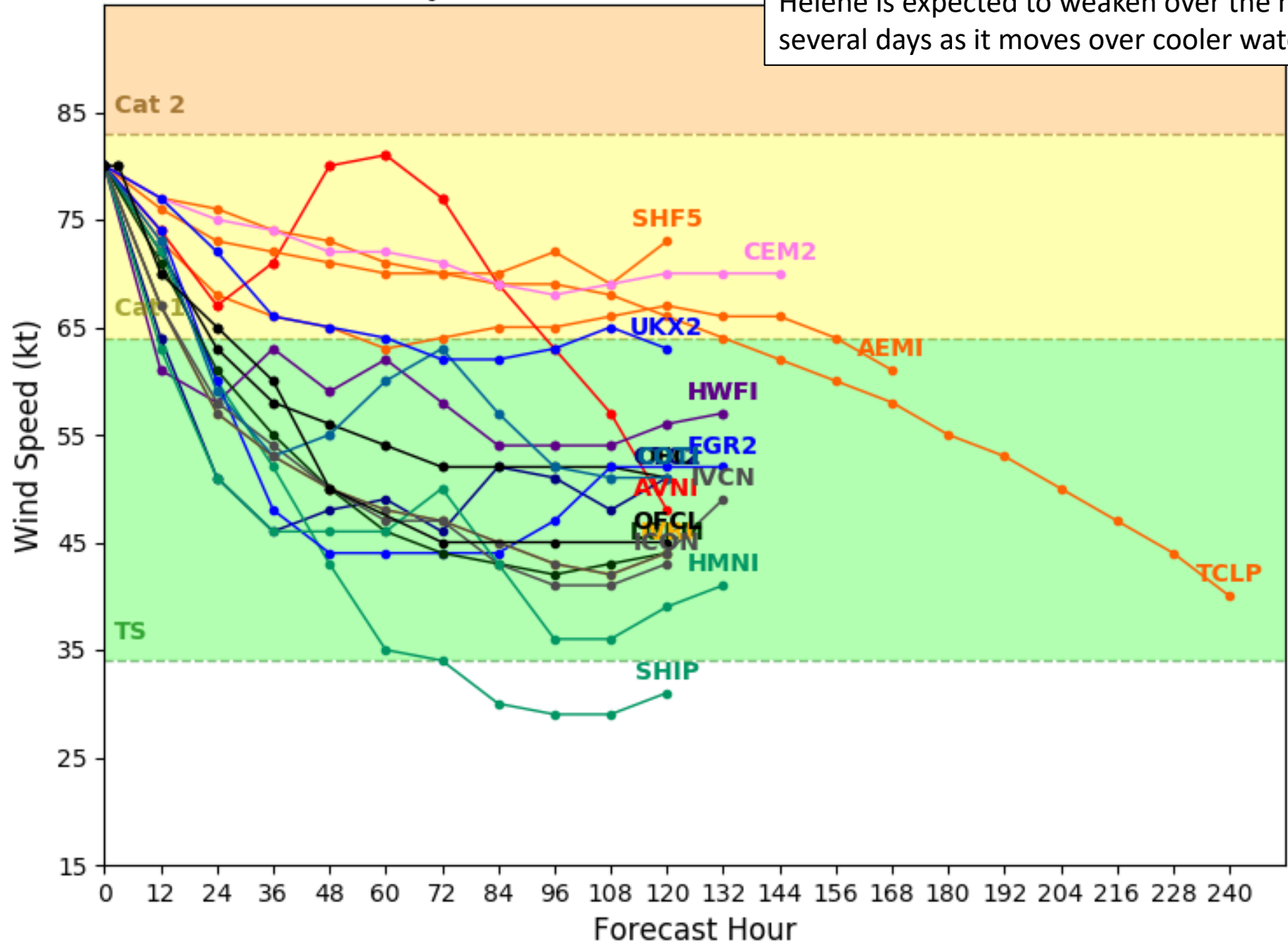
**DO NOT USE THIS MAP  
TO MAKE DECISIONS!  
SEEK OFFICIAL INFO**



# Hurricane HELENE Model Intensity Guidance

Initialized at 12z Sep 12 2018

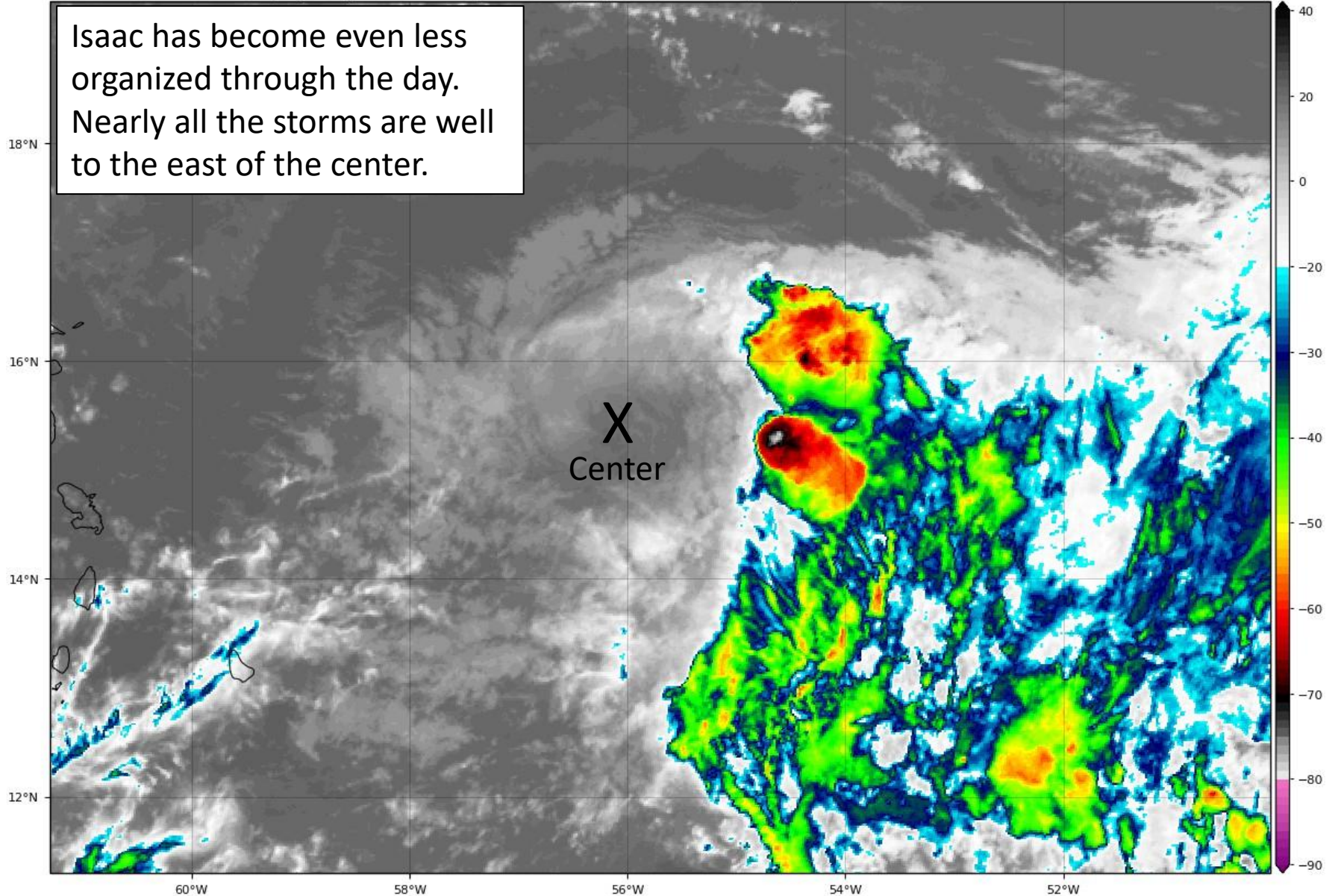
Helene is expected to weaken over the next several days as it moves over cooler waters.



# Tropical Storm Isaac Satellite Image

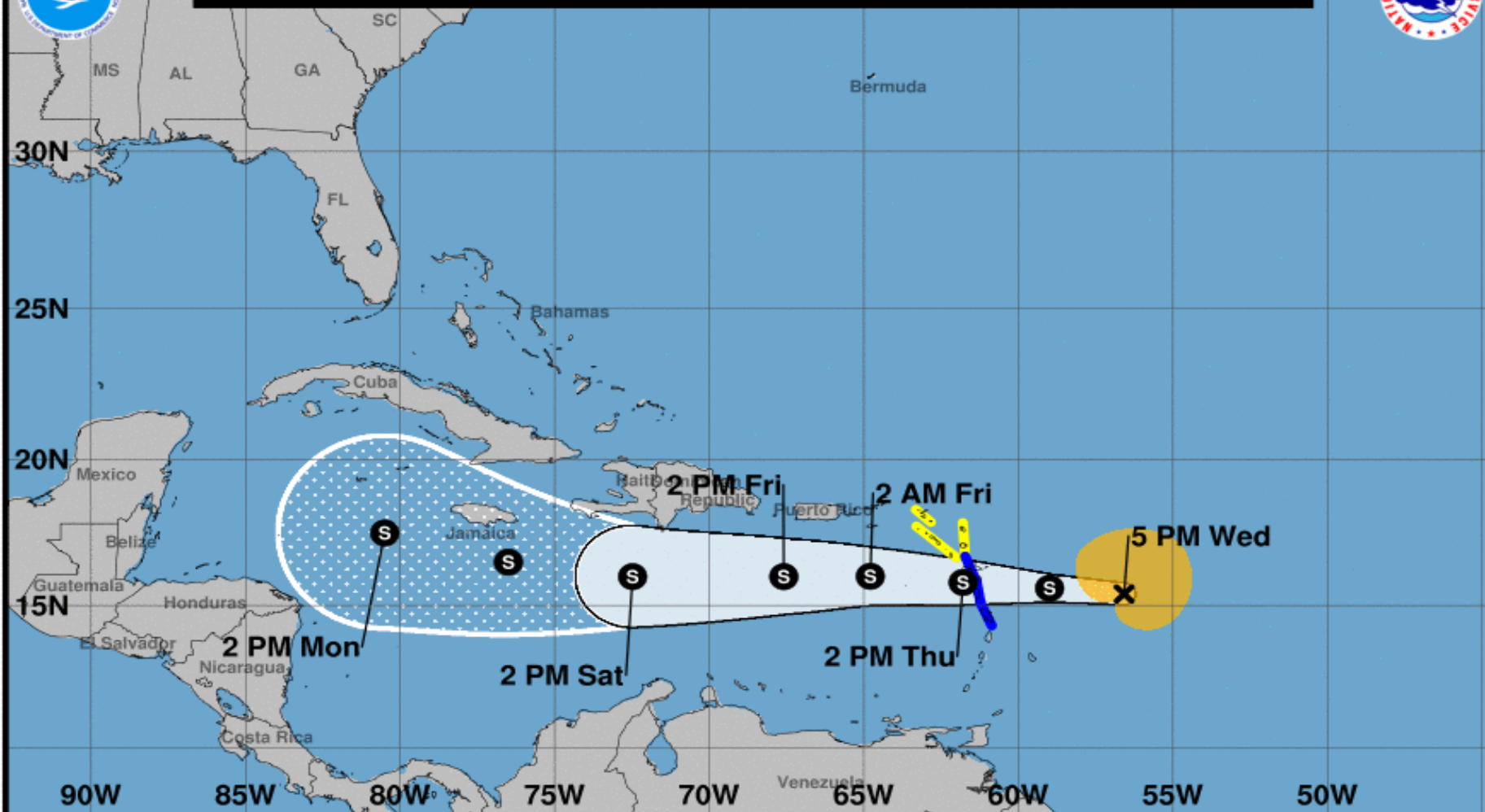
GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 19:35Z Sep 12, 2018

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

Wednesday September 12, 2018  
5 PM AST Advisory 21  
NWS National Hurricane Center

### Current information: x

Center location 15.4 N 56.6 W  
Maximum sustained wind 60 mph  
Movement W at 20 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

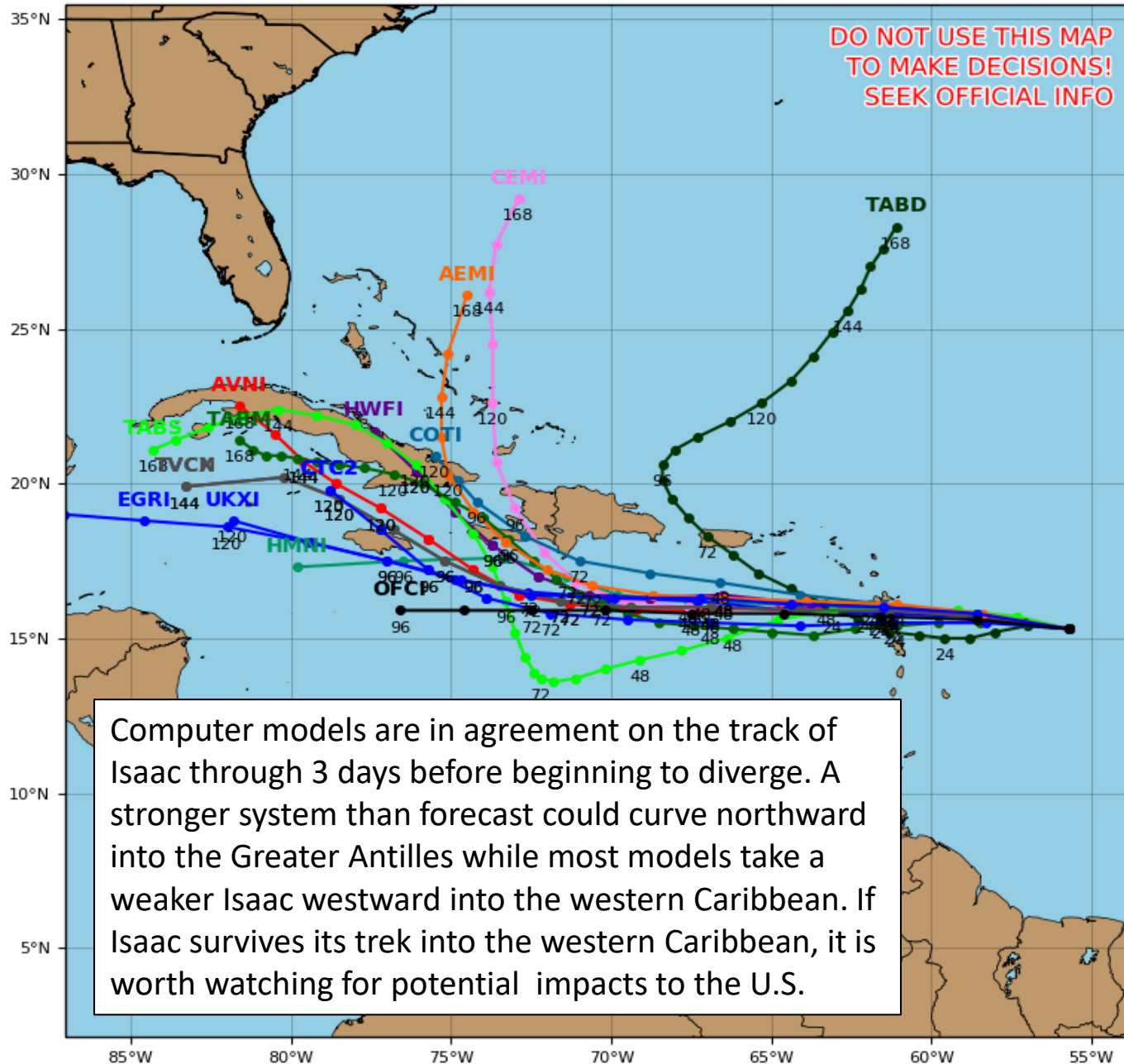
### Current wind extent:

Hurricane Trop Stm

# Tropical Storm ISAAC Model Track Guidance

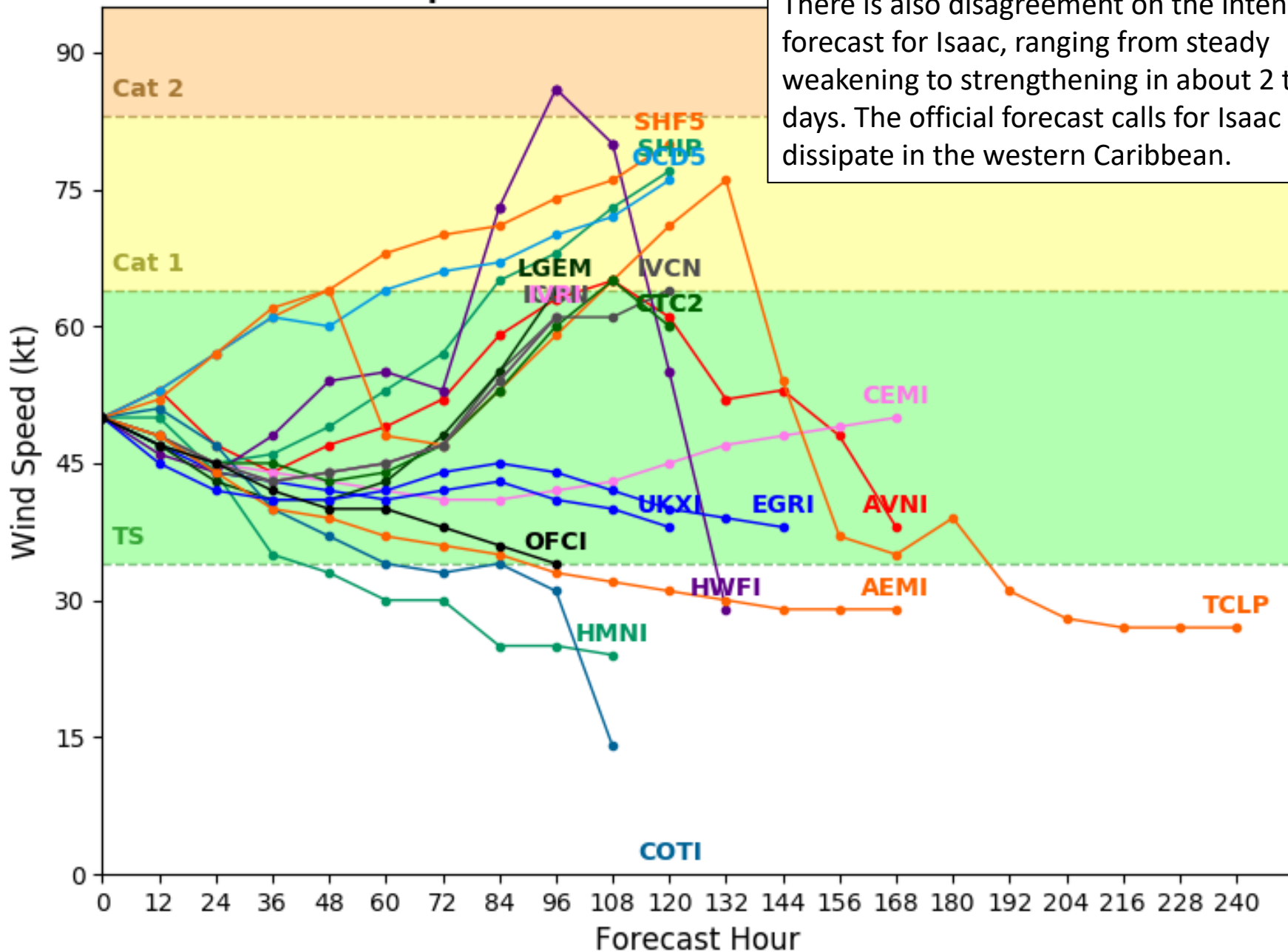
Initialized at 18z Sep 12 2018

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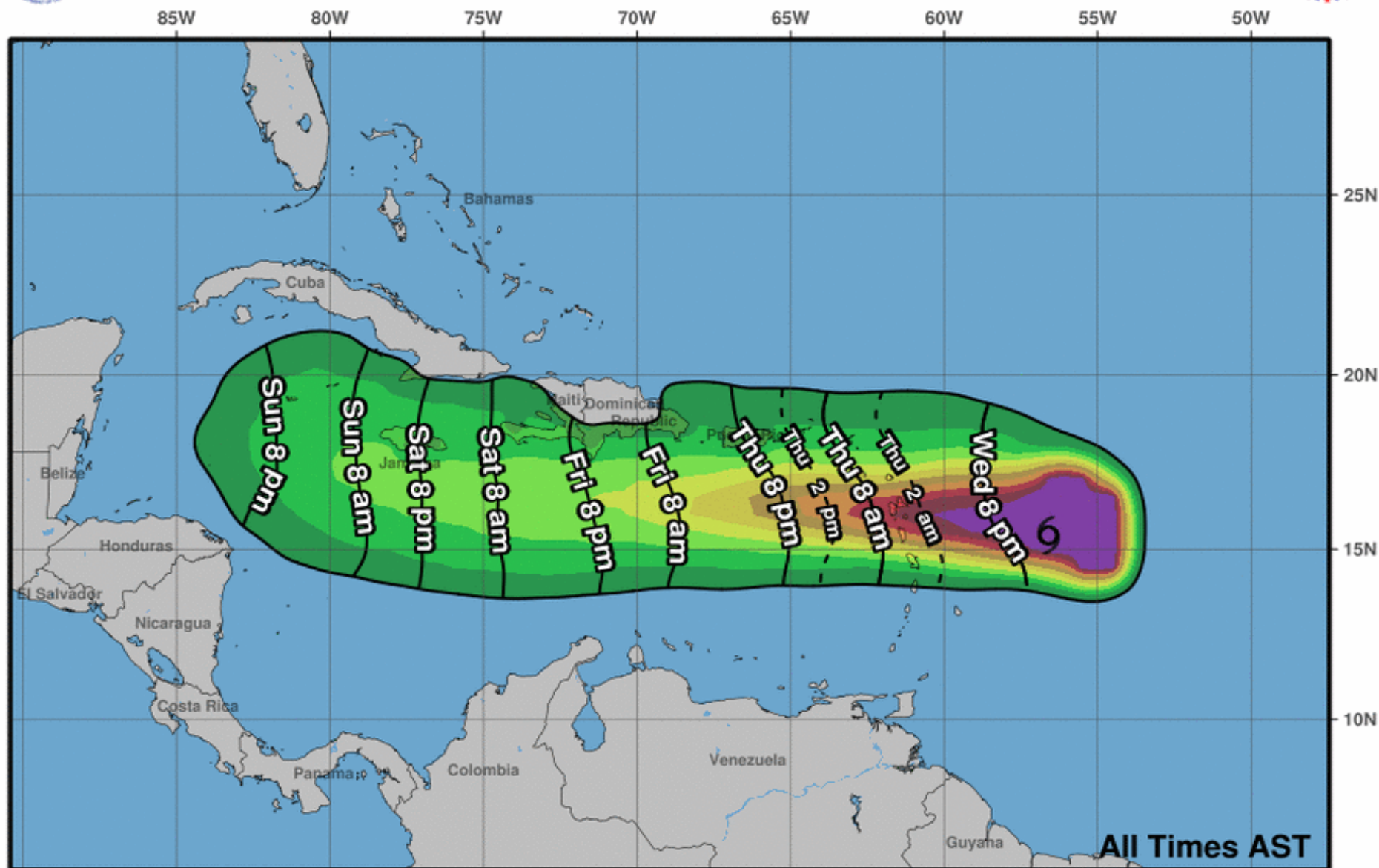
**Initialized at 18z Sep 12 2018**

There is also disagreement on the intensity forecast for Isaac, ranging from steady weakening to strengthening in about 2 to 3 days. The official forecast calls for Isaac to dissipate in the western Caribbean.





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



**Tropical Storm Isaac**  
**Wed. Sep. 12, 2018 5 pm AST**  
**Advisory 21**

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

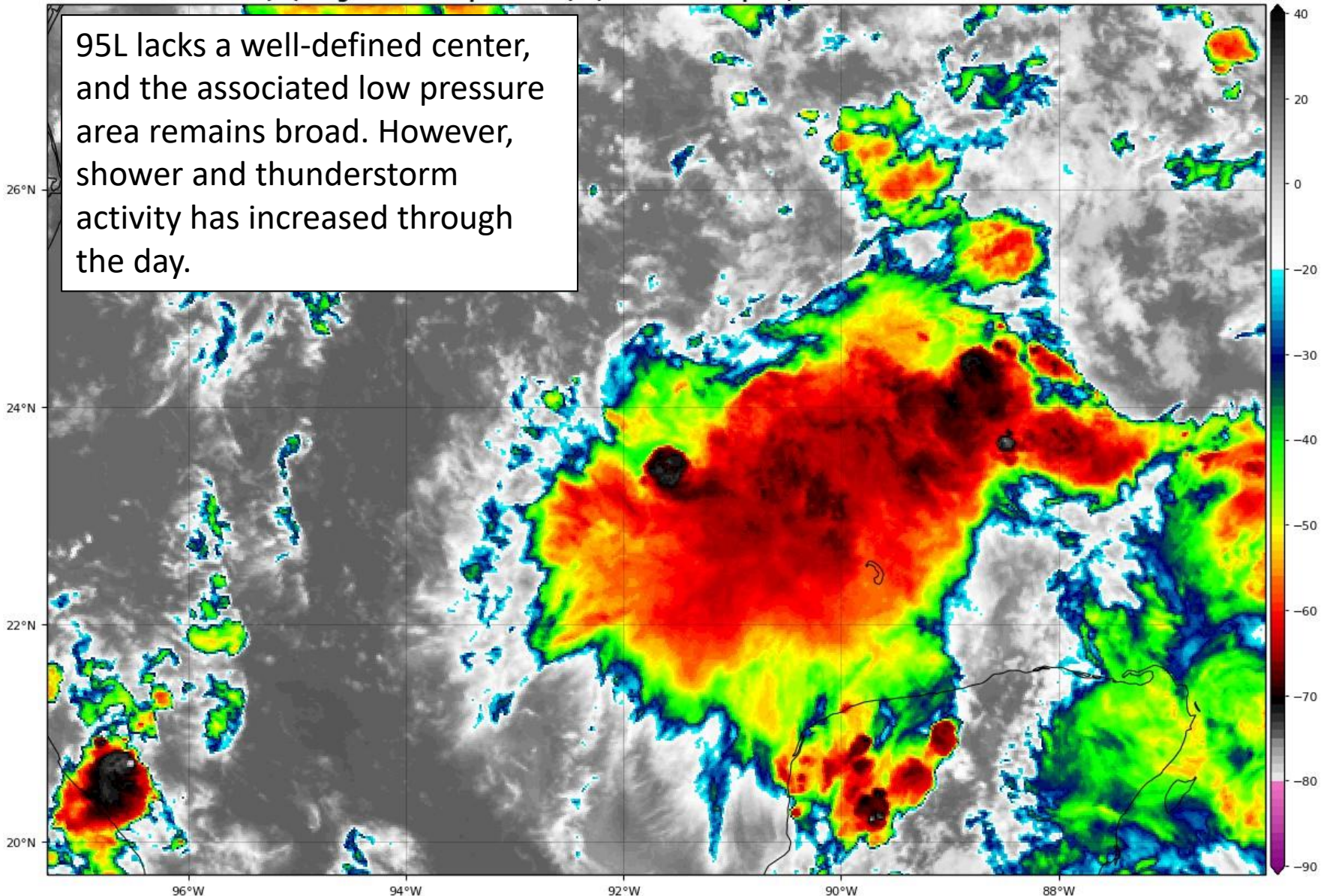


# Invest 95L Satellite Image

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 20:03Z Sep 12, 2018

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95L lacks a well-defined center, and the associated low pressure area remains broad. However, shower and thunderstorm activity has increased through the day.





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

Disturbance 1

Satellite images and surface observations indicate that a broad area of low pressure has formed in the central Gulf of Mexico. Although the shower activity is still disorganized, upper-level winds are forecast to become more conducive for development, and **it is likely that a tropical depression will form on Thursday**, before the system reaches the western Gulf Coast. Another reconnaissance plane is scheduled to investigate the disturbance tomorrow. Regardless of development, heavy rainfall and gusty winds are expected across portions of northeastern Mexico, Texas, and Louisiana late this week, and interests there should monitor the progress of this system, and refer to products from their local weather office.

\*Formation chance through 48 hours: **high (70%)**

\*Formation chance through 5 days: **high (70%)**

1  
(70%)

2:00 pm EDT  
Wed Sep 12 2018

100W 90W 80W 70W 60W 50W 40W 30W 20W

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

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

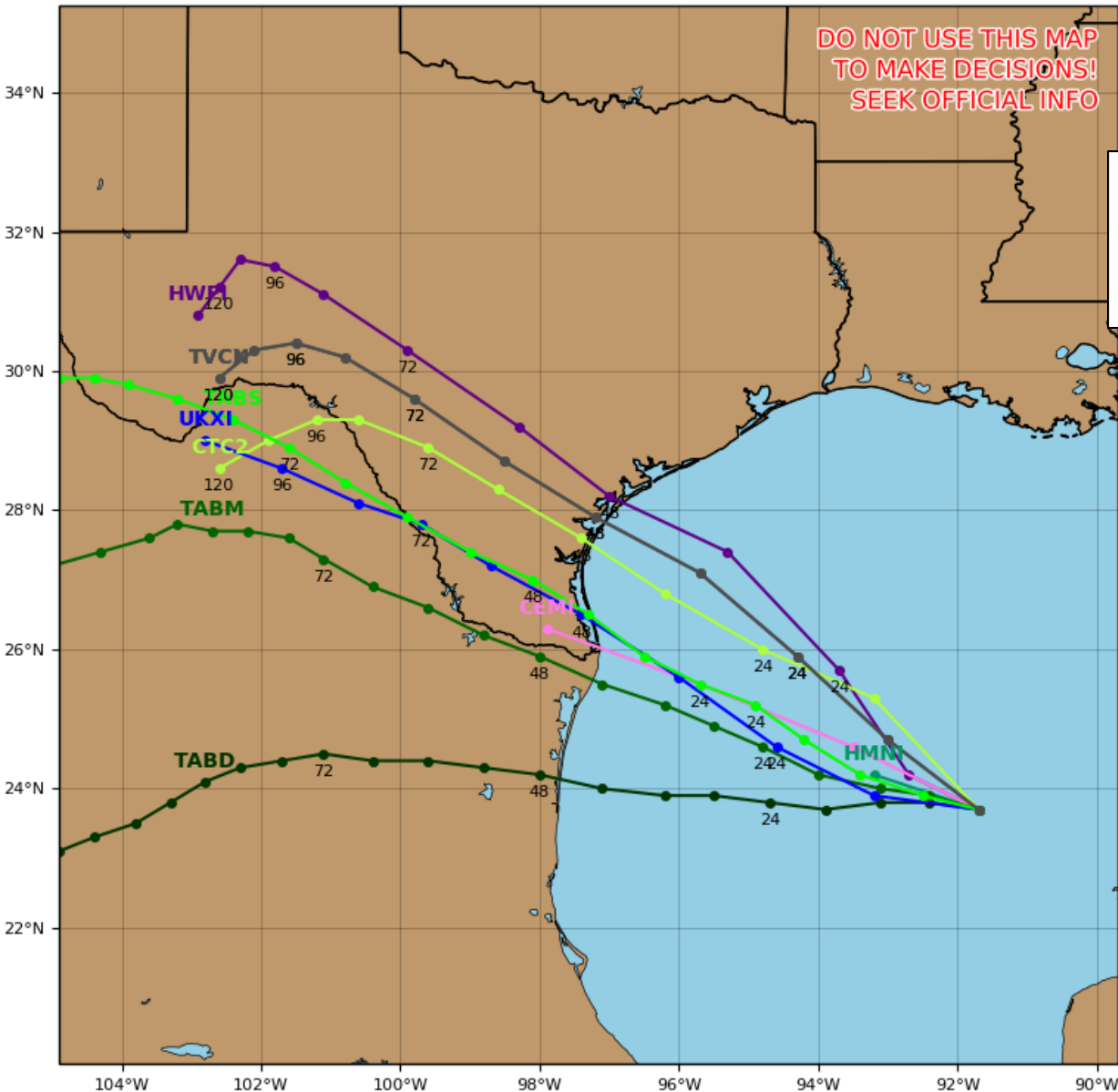
Post-Tropical Cyclone or Remnants

# Track Models (95L)

## Invest 95L Model Track Guidance

Initialized at 18z Sep 12 2018

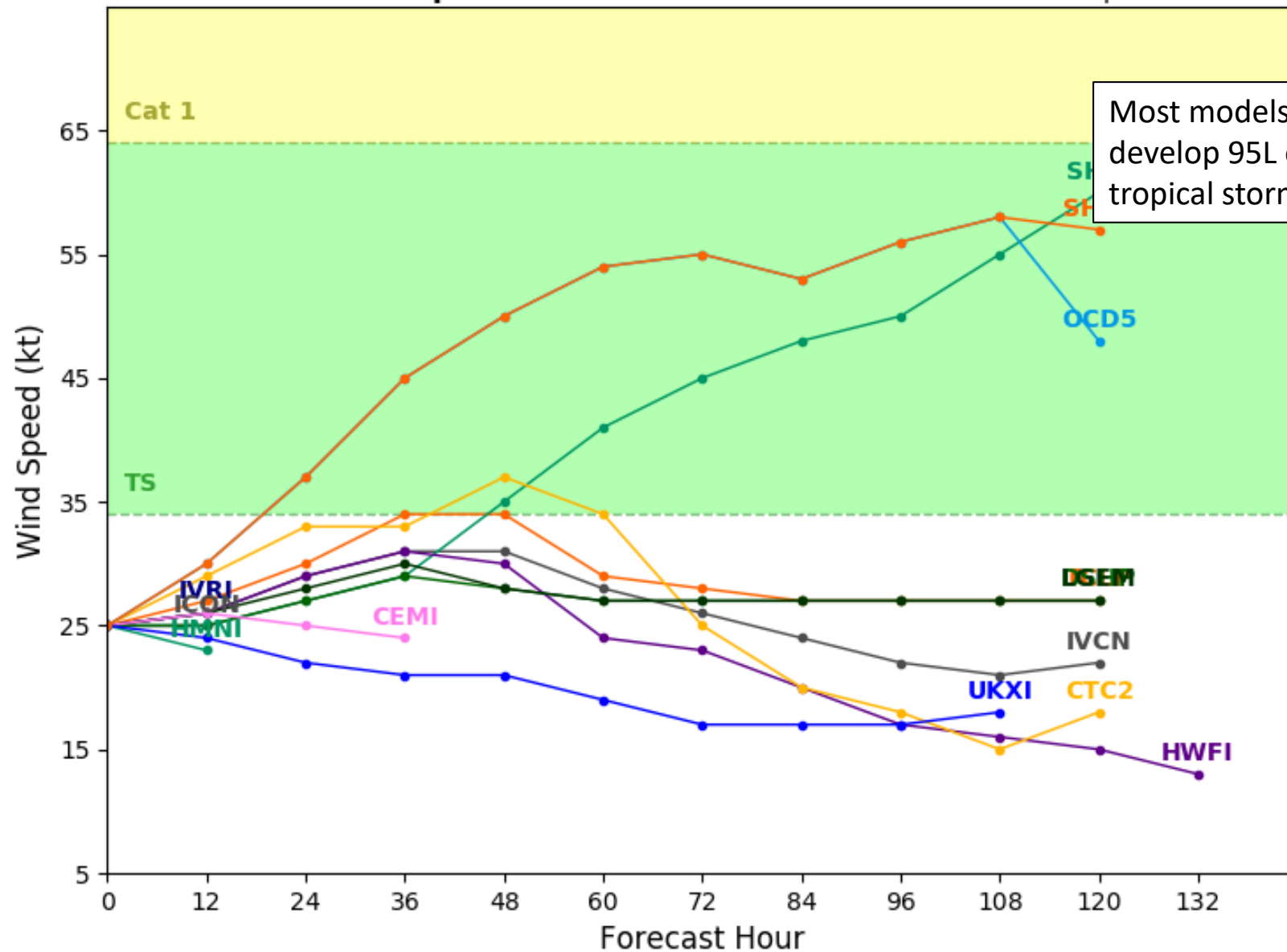
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# Invest 95L Model Intensity Guidance

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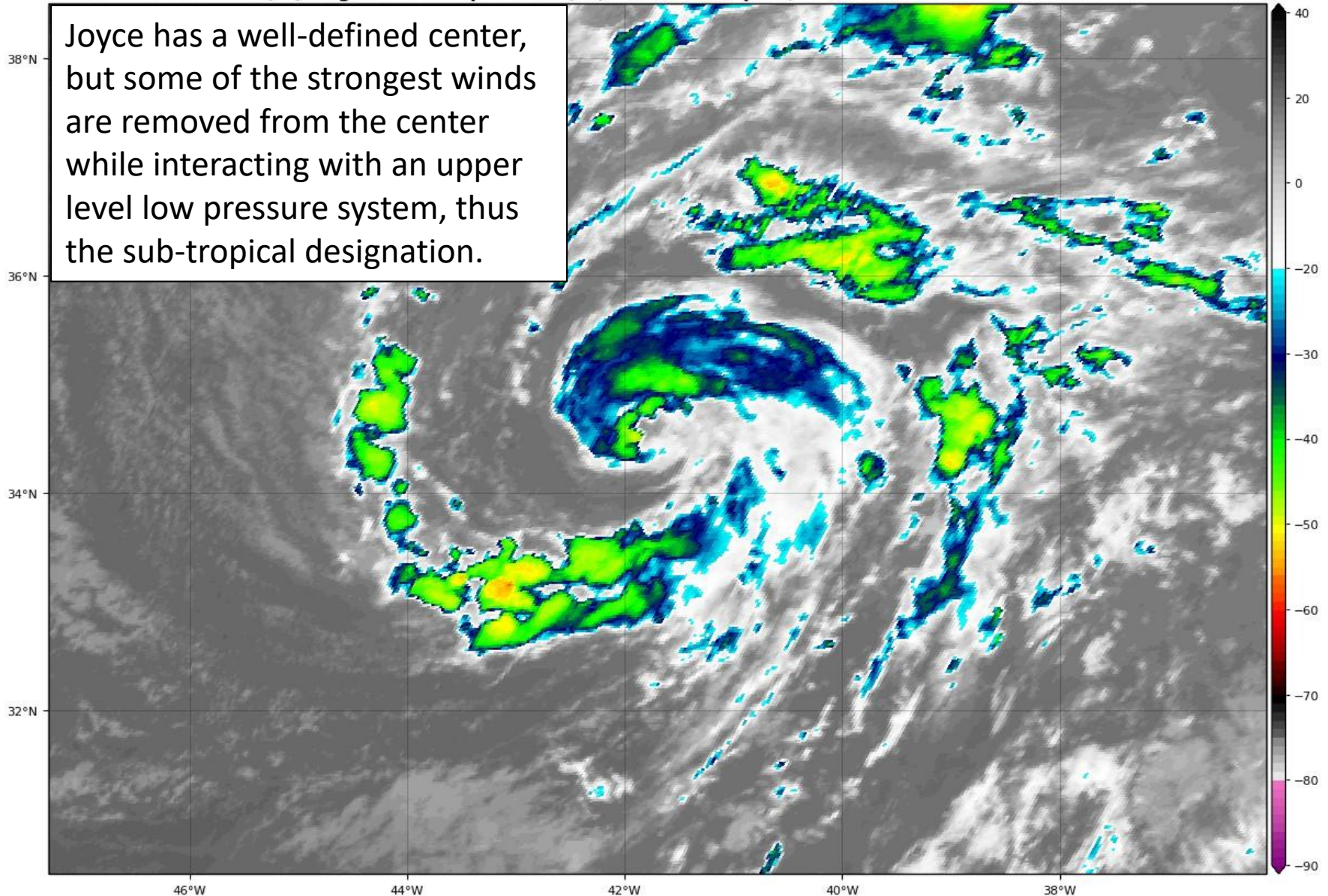


Most models either do not develop 95L or keep it below tropical storm intensity.

# Sub-tropical Storm Joyce Satellite Image

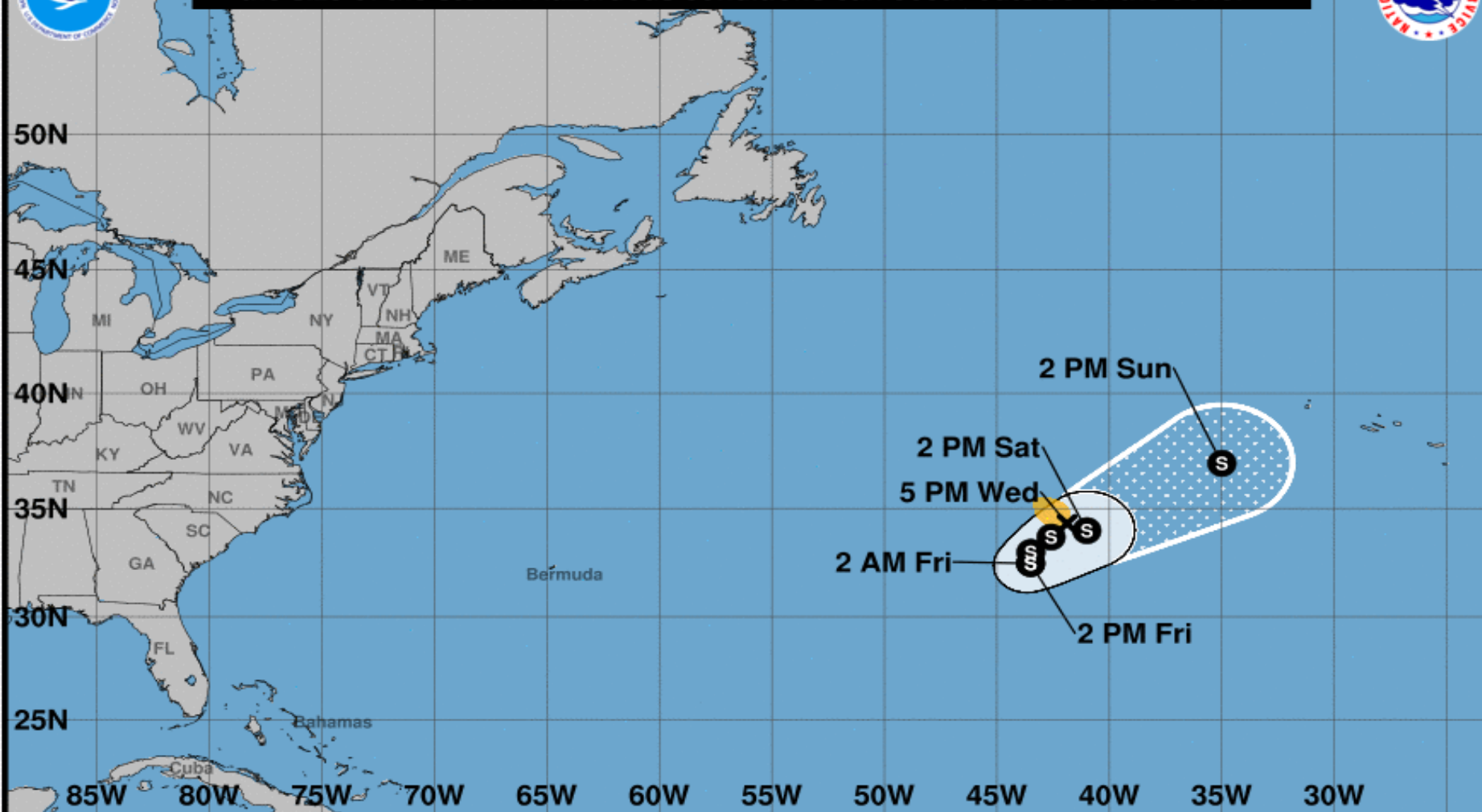
GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 19:35Z Sep 12, 2018

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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.



### Subtropical Storm Joyce

Wednesday September 12, 2018

5 PM AST Advisory 1

NWS National Hurricane Center

### Current information: x

Center location 34.3 N 41.9 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:

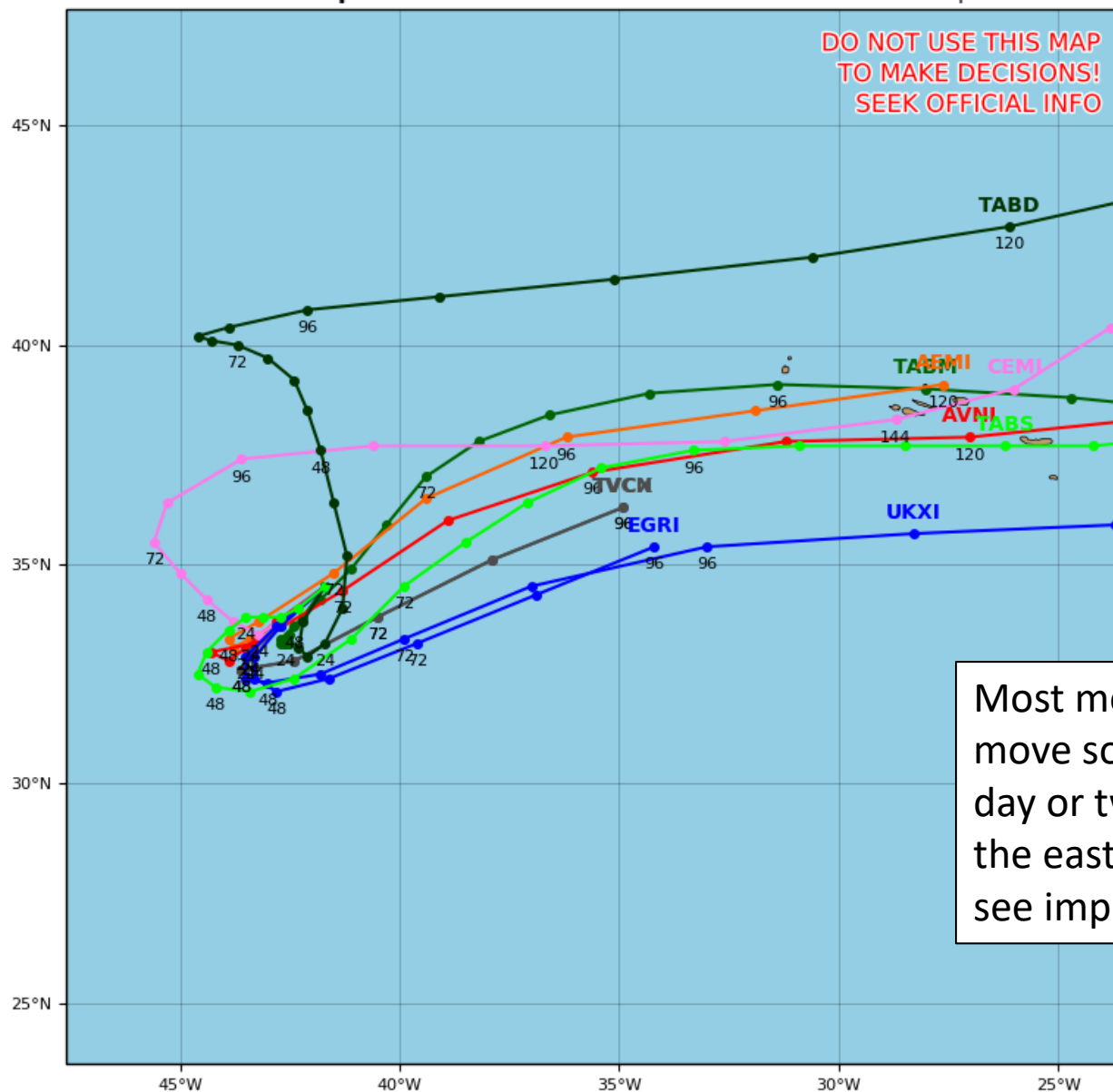
Hurricane Trop Stm

# Track Models (Joyce)

## Invest 96L Model Track Guidance

Initialized at 18z Sep 12 2018

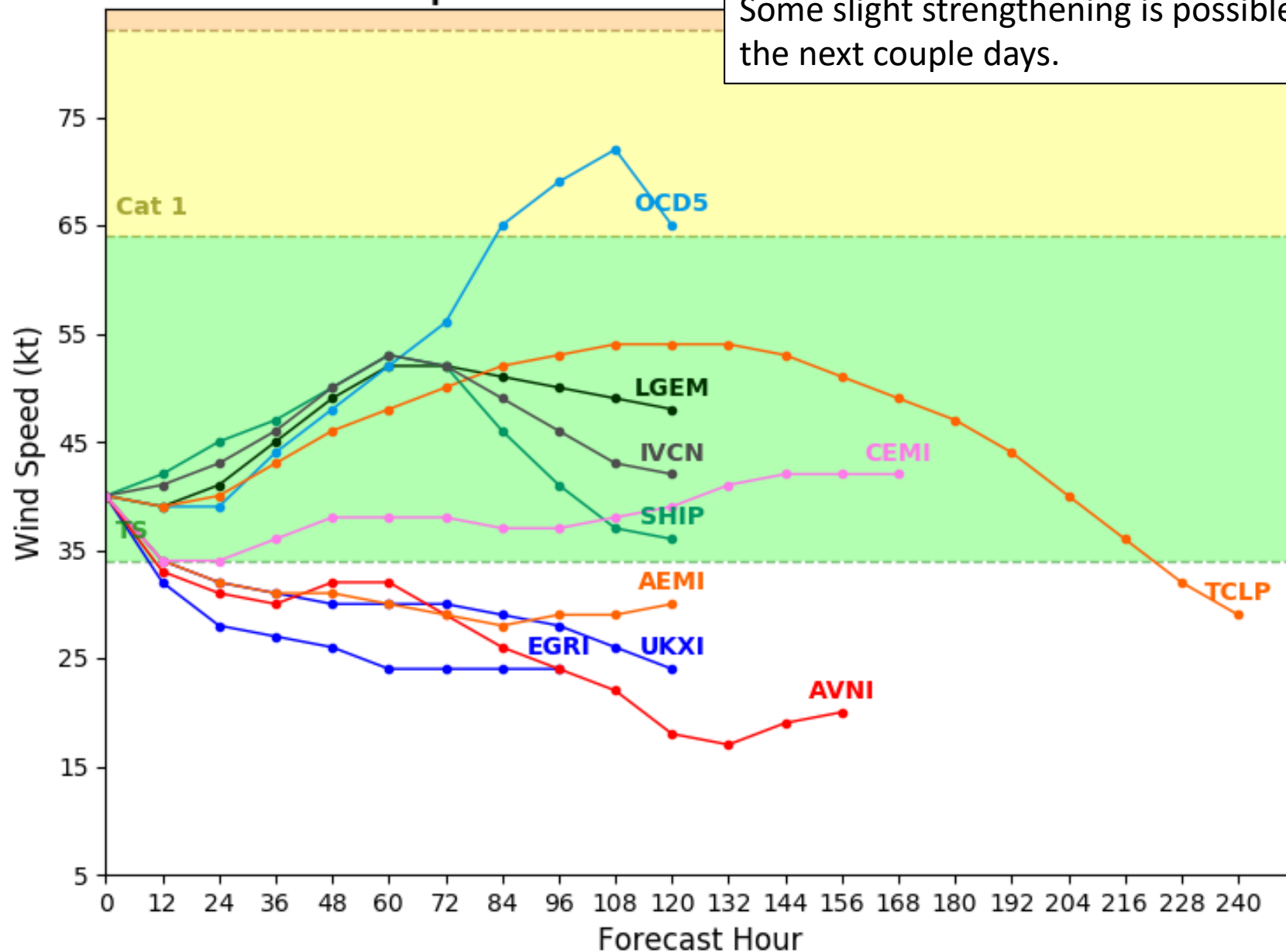
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# Invest 96L Model Intensity Guidance

Initialized at 18z Sep 12 2018

Some slight strengthening is possible over the next couple days.



# Summary

- At 5 PM EDT Wednesday, Hurricane Florence was located in the western Atlantic Ocean about 385 miles southeast of Cape Fear, North Carolina, or approximately 545 miles east-northeast of Jacksonville, Florida.
  - Maximum sustained winds have decreased to 120 mph, making Florence a Category 3 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 70 miles.
  - Florence is moving to the northwest at 16 mph, and this motion will continue through tomorrow before Florence rapidly decelerates as it approached the NC coast Thursday night. 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 major hurricane and may make 2 landfalls. Afterwards, Florence may linger across the Carolinas through Monday before being pulled north.
- 
- At 5 PM EDT Wednesday, Hurricane Helene was located in the eastern Atlantic Ocean with maximum sustained winds near 85 mph and moving quickly north at 14 mph.
- 
- At 5 PM EDT Wednesday, Tropical Storm Isaac was located about 310 miles east of Dominica, or about 660 miles southeast of San Juan, Puerto Rico and moving quickly west at 20 mph.
  - This motion is expected to continue through the next five days and Isaac should move into the eastern Caribbean Sea on Thursday night.
  - Maximum sustained winds remain near 60 mph, but steady weakening 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 15%, with about a 10-20% 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.
- 
- At 5 PM EDT Wednesday, Invest area 96L in the north-central Atlantic Ocean was upgraded to Sub-Tropical Storm Joyce with maximum sustained winds near 45mph.
  - Joyce could transition to a fully tropical system while moving southwest over the next few days, but is expected to eventually move northeast this weekend.

- A tropical disturbance, designated as Invest 95L, has a 70% (high) chance of becoming a tropical depression before reaching the Texas coast on Friday. 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 tomorrow.
- 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 remain unchanged from this morning.
- The odds of seeing tropical storm force winds along the immediate coast of far Northeast Florida are near to 25% (1 in 4). Odds across interior Northeast Florida are 1 in 10 (10%) and less than 10% across the Big Bend.
- This assumes a southern track and current official forecast winds are expected to be less than 20mph.
- Regardless of Florence's eventual track, large swells emanating from the storm will continue to impact the Florida East Coast throughout this week, resulting in life-threatening rip currents. Breaking waves at the beach will peak at 6-8' and as high as 12' offshore tomorrow.
- 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. Tides along much of the east coast may run 1-1.5' above normal for the next few days.
- Tropical Storm Isaac should continue to be monitored over the next 5-10 days as it moves into the Caribbean, but is not a direct threat to Florida at this time. There is higher than usual uncertainty about track and intensity of Isaac once in the Caribbean.
- 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 morning. For the latest information on the tropics, please visit the National Hurricane Center website at [www.hurricanes.gov](http://www.hurricanes.gov).



# TROPICAL UPDATE

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State Meteorological Support Unit

Florida Division of Emergency  
Management

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