



TROPICAL UPDATE

9 AM EDT

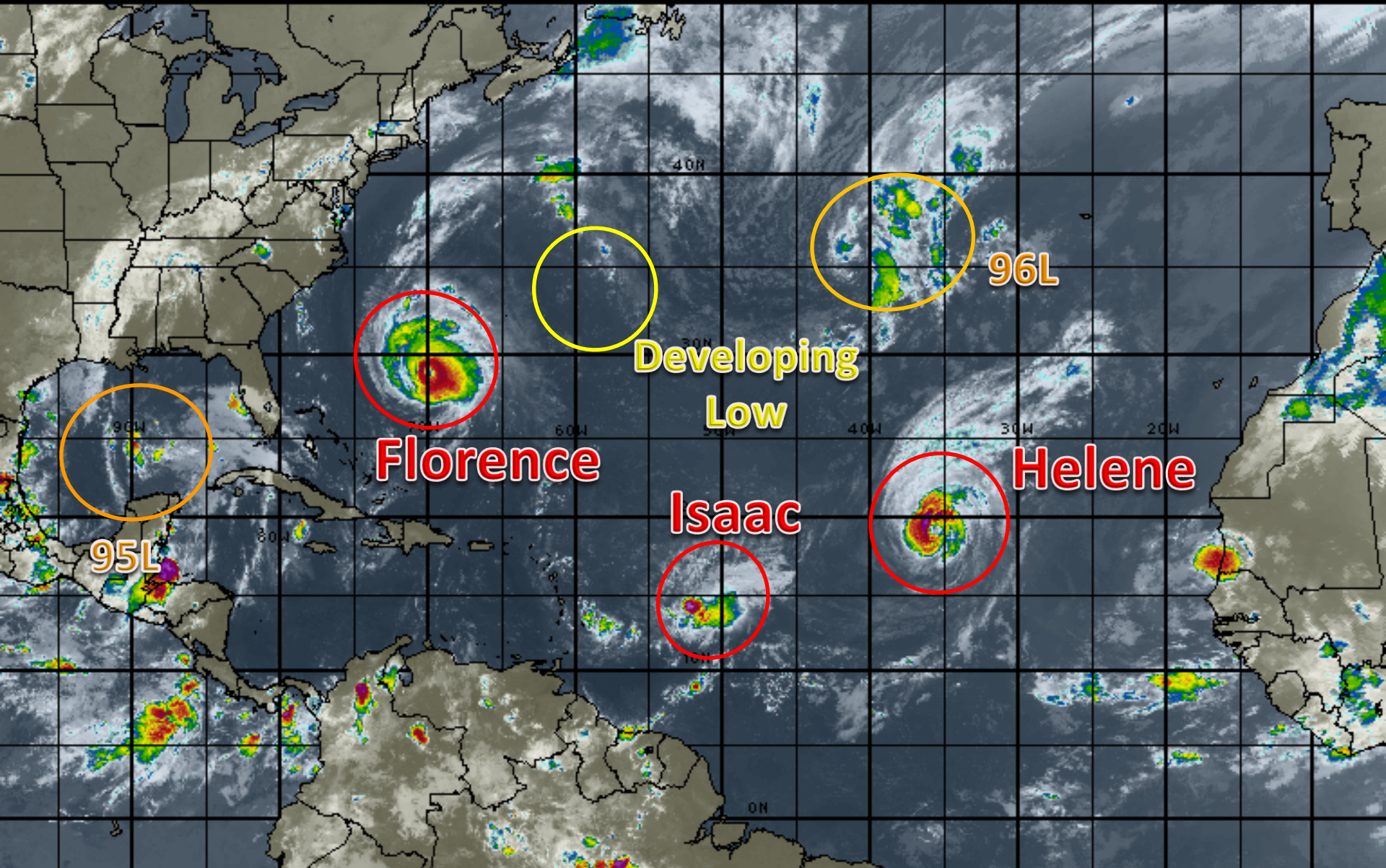
Wednesday, September 12, 2018

**Major Hurricane Florence, Hurricane Helene,
Tropical Storm Isaac, Invest 95L (60%), Invest 96L
(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.

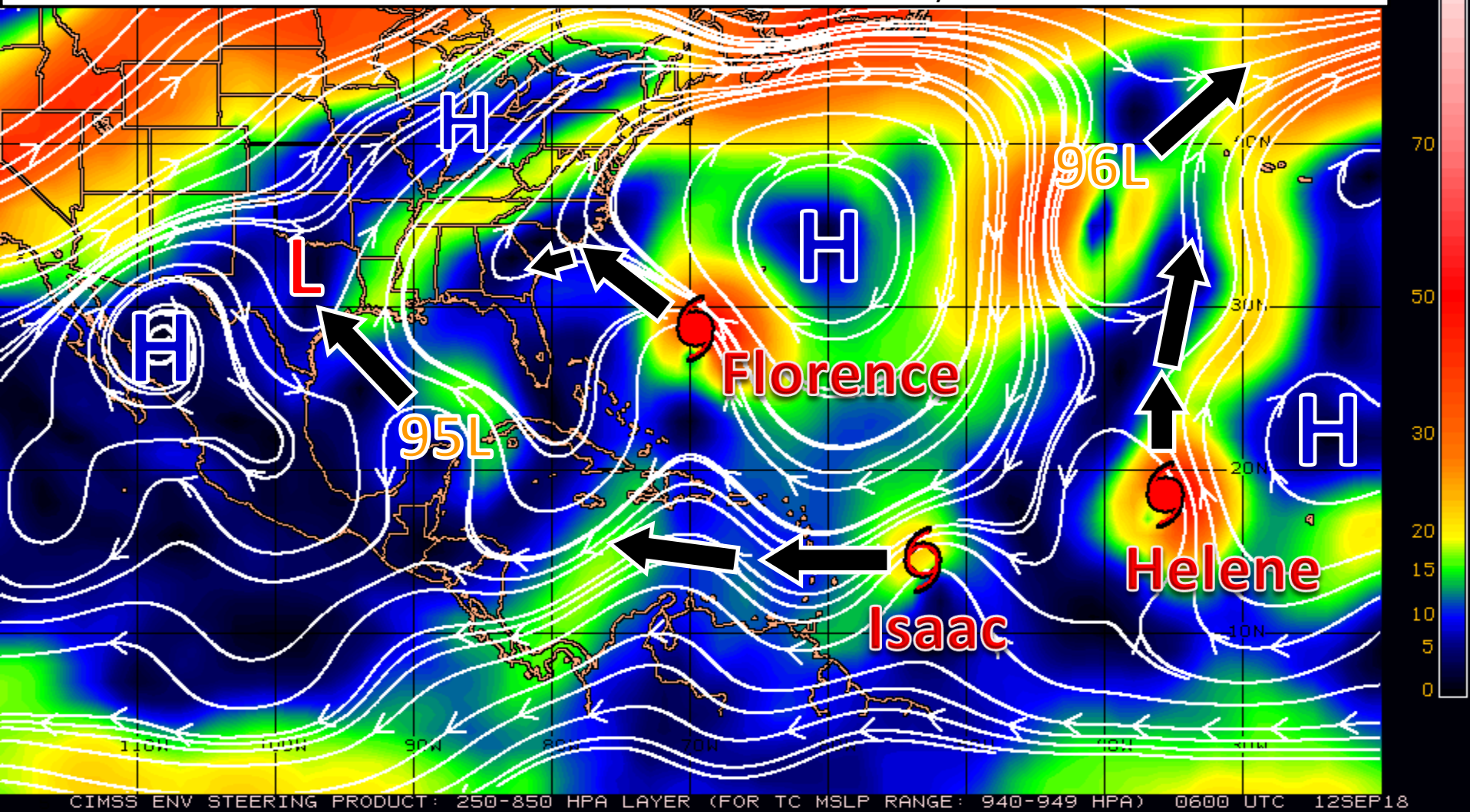
Atlantic Basin Satellite Image

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



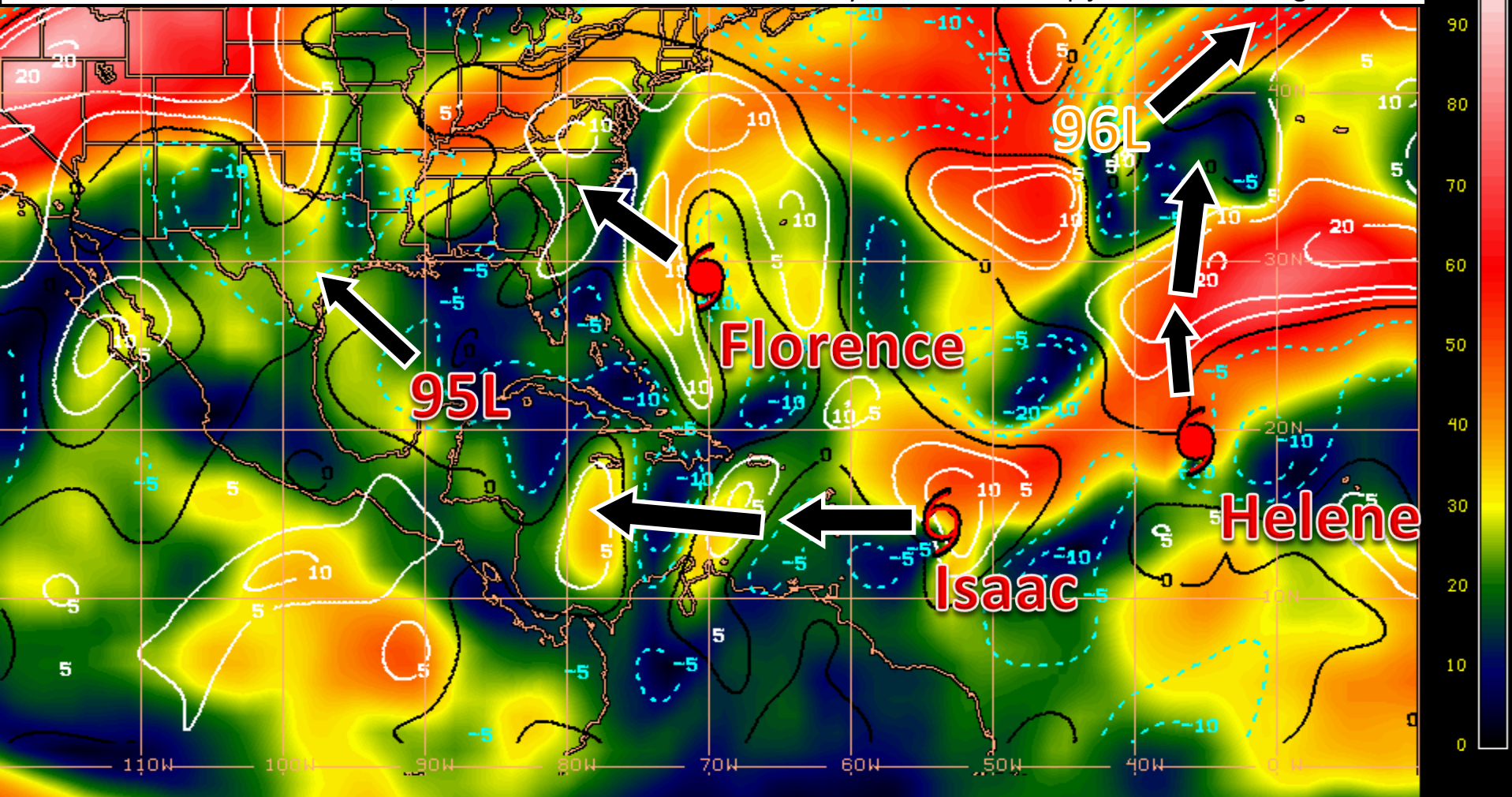
Steering Currents

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 and promoting a slow west or southwest movement in 3-5 days.



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

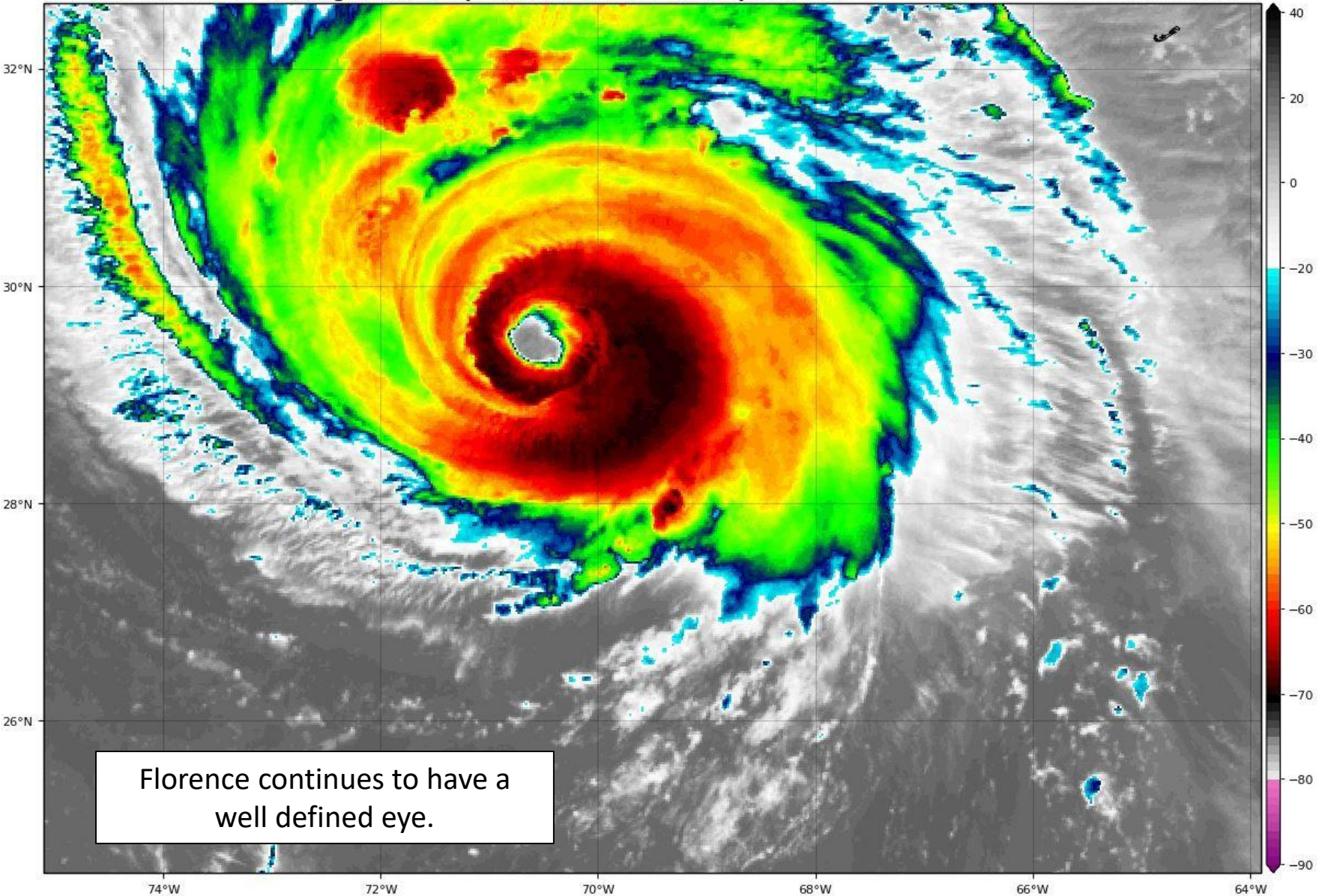
A small pocket of wind shear is near Florence, but should not cause any significant weakening. Low shear near the Carolina coast will promote strengthening up until landfall. Isaac will encounter some pockets of low to moderate wind shear and may strengthen again before encountering higher shear in the 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.



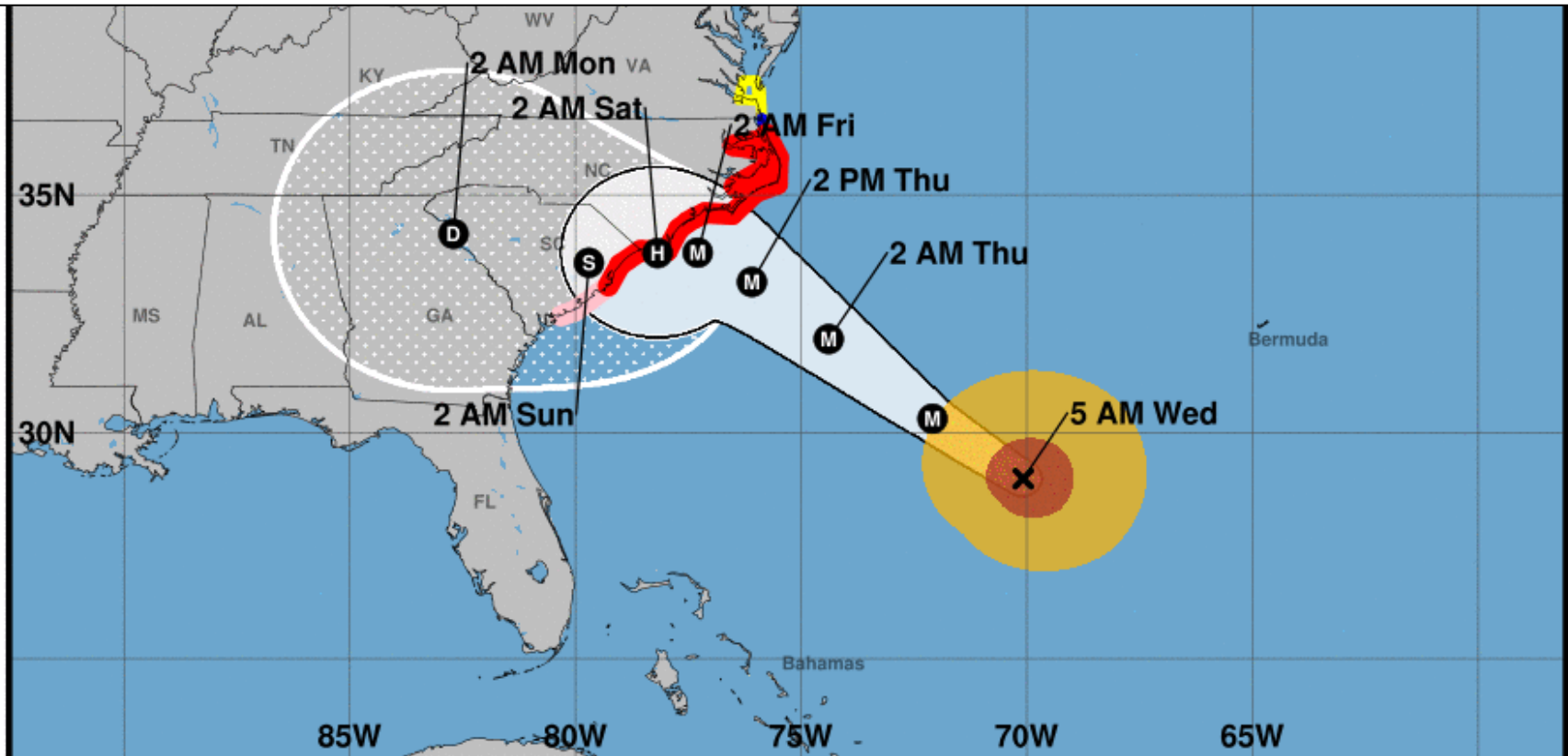
Hurricane Florence Satellite Image

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 11:38Z Sep 12, 2018

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Florence will remain a major hurricane until it nears landfall. The track for Florence through the next 72 hours remains largely unchanged, but there is some considerable uncertainty and shifts in the track overnight. After Florence nears the coast, a slow drift west or southwest is possible. If the storm makes it inland before doing so, little change in expected impacts to Georgia and Florida is expected. If the system remains offshore while drifting to the southwest, it will remain more organized and could bring some direct impacts to Georgia and far Northeast Florida. Keep in mind that impacts often extend outside the cone.



Hurricane Florence

Wednesday September 12, 2018
5 AM EDT Advisory 52
NWS National Hurricane Center

Current information: x

Center location 29.0 N 70.1 W
Maximum sustained wind 130 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:

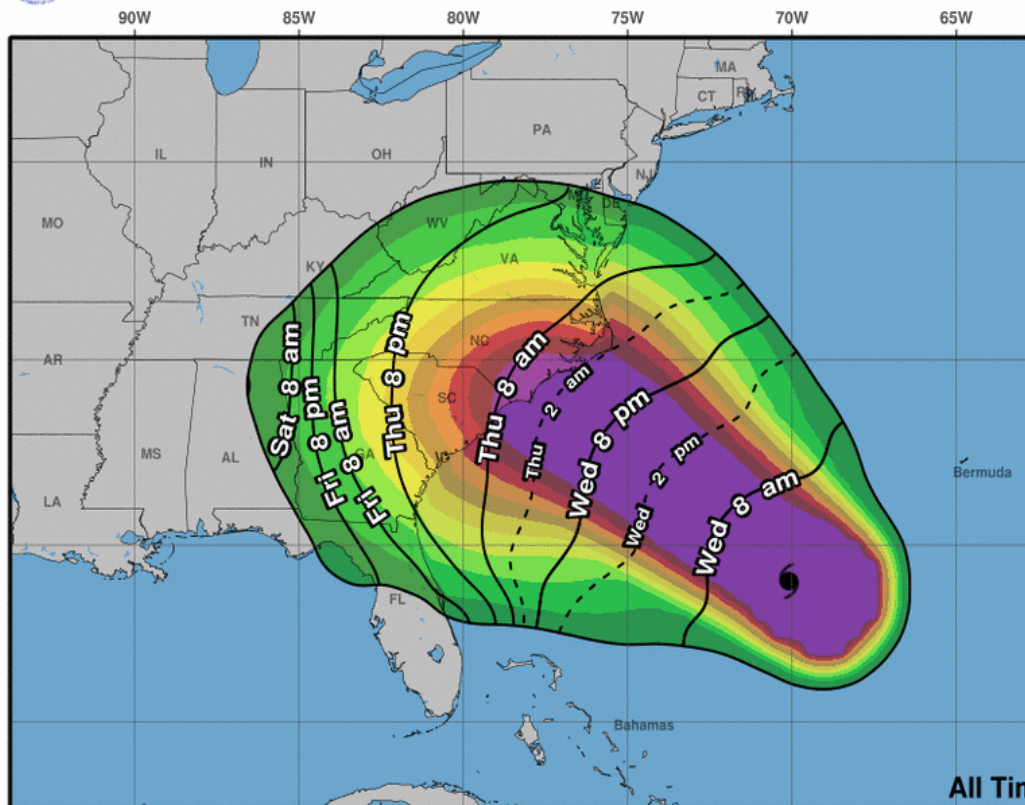
Hurricane Trop Stm

Current wind extent:

Hurricane Trop Stm



Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



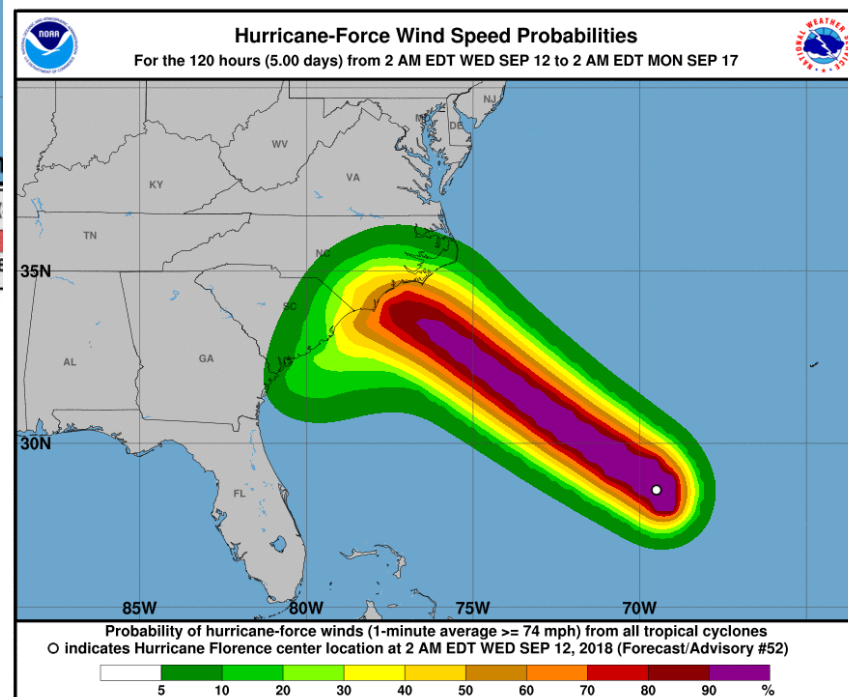
Hurricane Florence
Wed. Sep. 12, 2018 5 am EDT
Advisory 52

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 ()

5 10 20 30 40 50 60 70 80

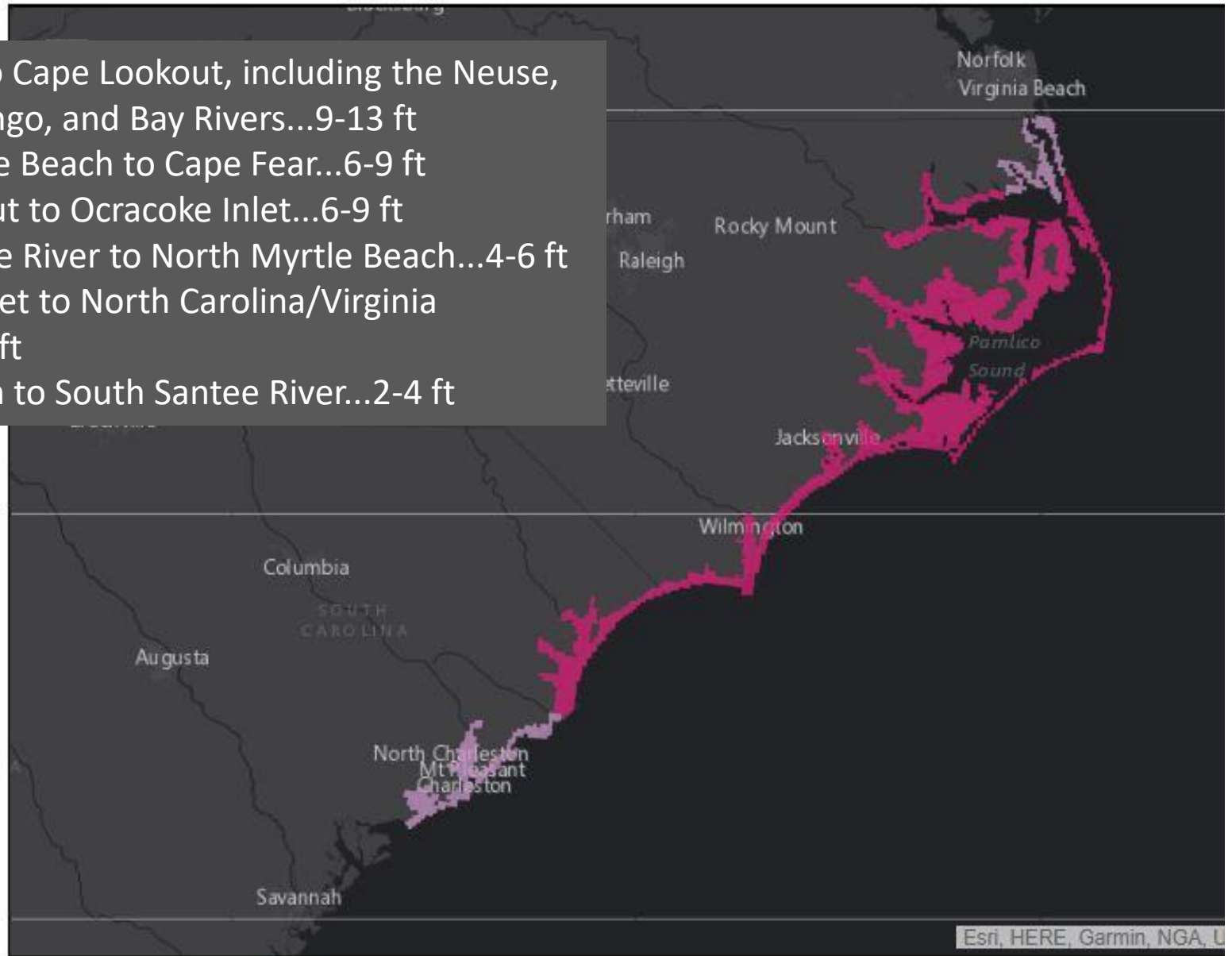
The odds of sustained tropical storm force winds have increased for **Northeast Florida**. Odds in Nassau and coastal Duval County are now near 25% (1 in 4). Across interior Northeast Florida, odds are 10% (1 in 10), and less than 10% across the Big Bend. There continues to be no chance of hurricane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



Hurricane Florence

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

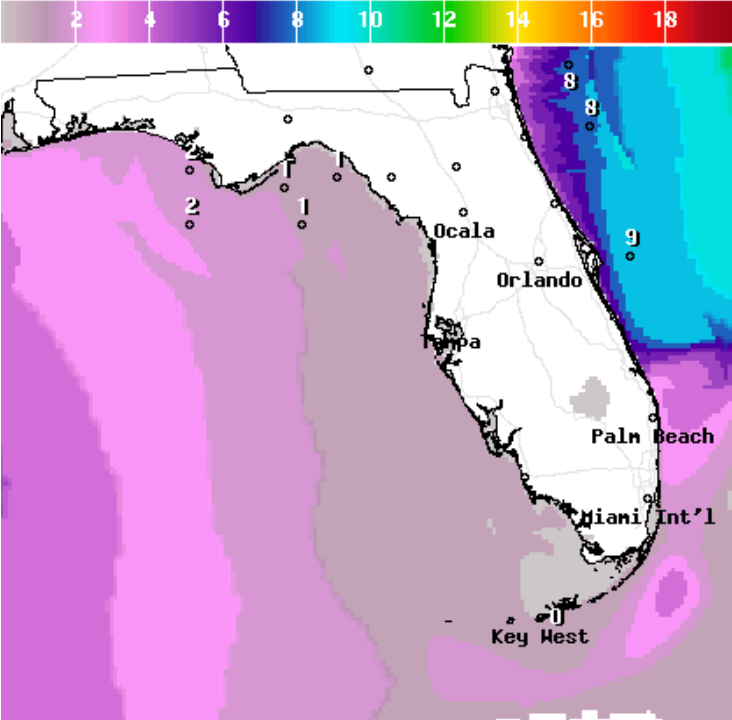
Cape Fear to Cape Lookout, including the Neuse,
Pamlico, Pungo, and Bay Rivers...9-13 ft
North Myrtle Beach to Cape Fear...6-9 ft
Cape Lookout to Ocracoke Inlet...6-9 ft
South Santee River to North Myrtle Beach...4-6 ft
Ocracoke Inlet to North Carolina/Virginia
Border...4-6 ft
Edisto Beach to South Santee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



0 30 60mi

Storm Surge Warning
Storm Surge Watch

Forecast Wave Heights

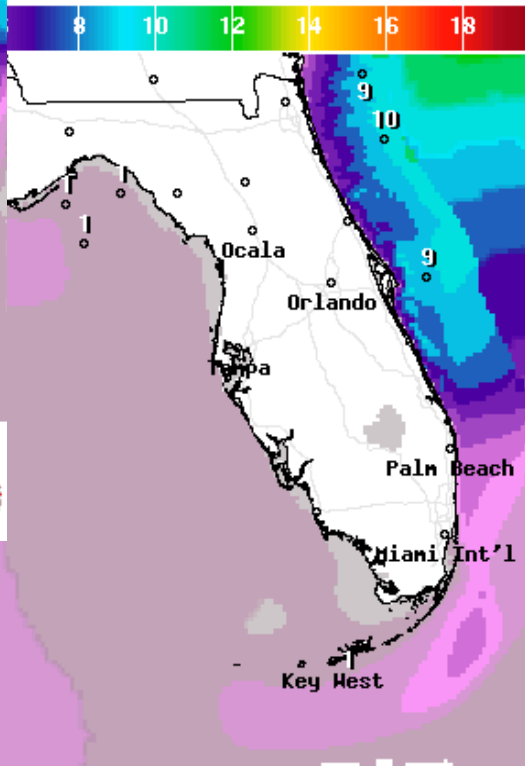


Wave Height(ft) Ending Wed Sep 12 2018 8PM EDT

(Thu Sep 13 2018 00Z)

National Digital Forecast Database

10z issuance Graphic created-Sep 12 6:41AM EDT

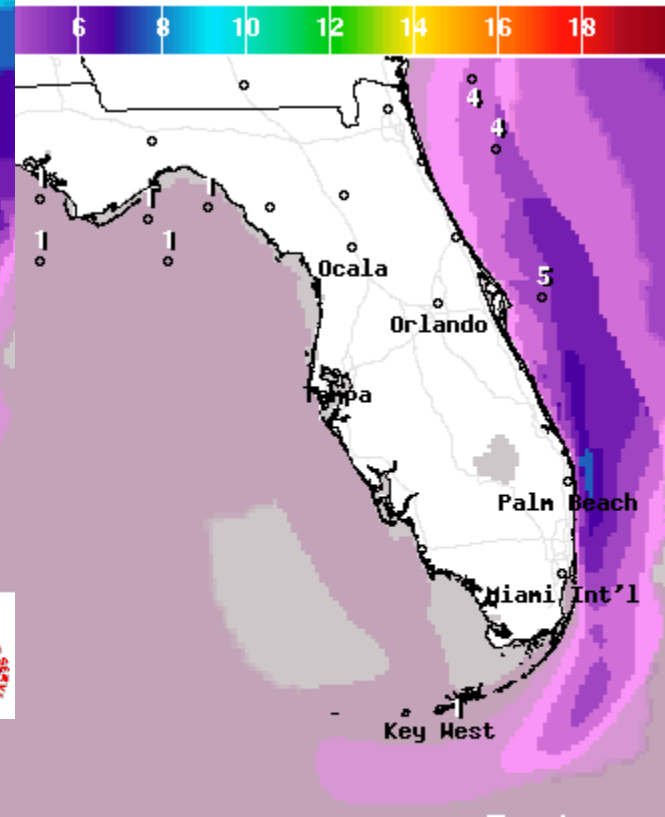


Wave Height(ft) Ending Thu Sep 13 2018 2PM EDT

(Thu Sep 13 2018 18Z)

National Digital Forecast Database

8AM EDT



Wave Height(ft) Ending Fri Sep 14 2018 2PM EDT

(Fri Sep 14 2018 18Z)

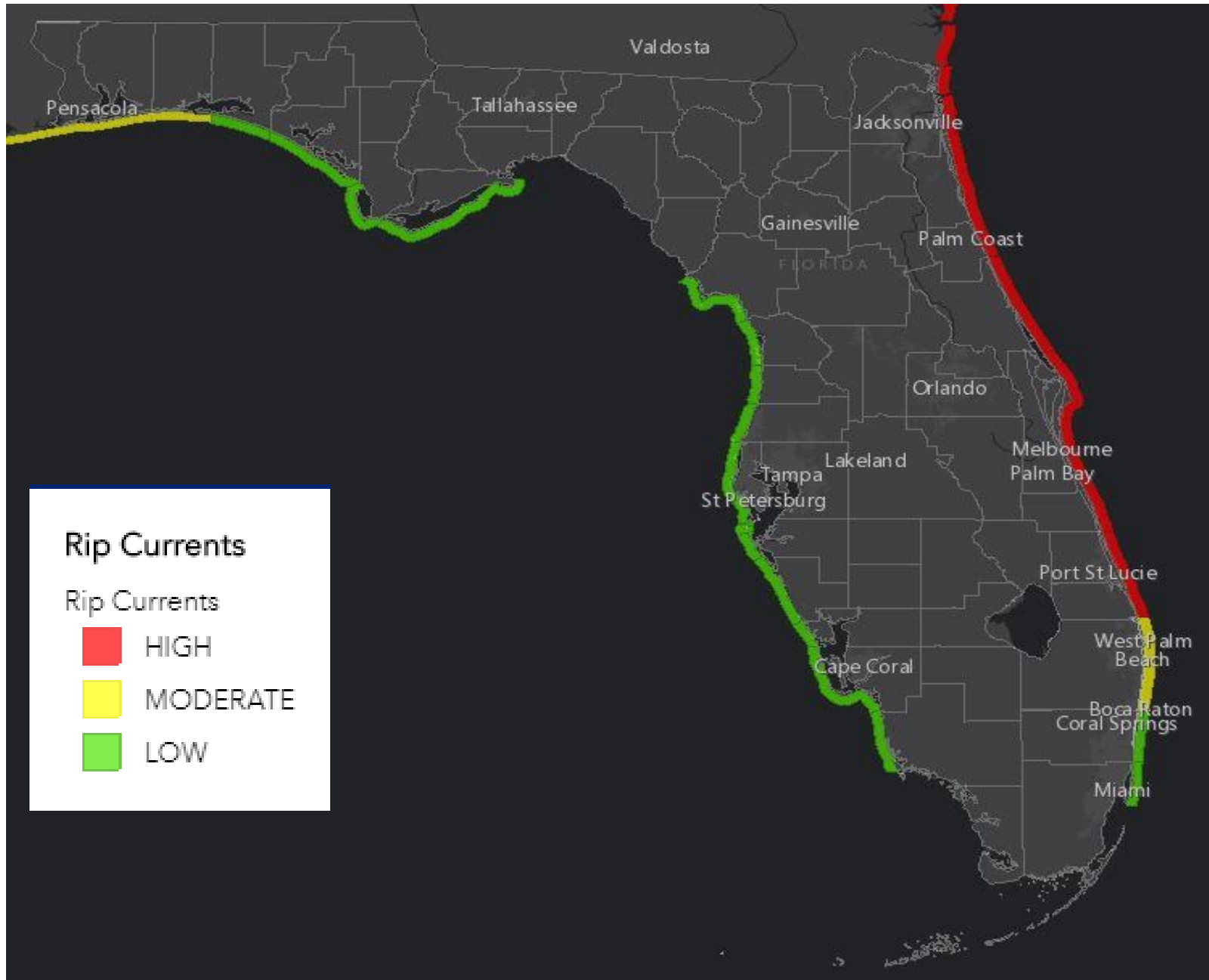
National Digital Forecast Database

11z issuance Graphic created-Sep 12 7:49AM EDT

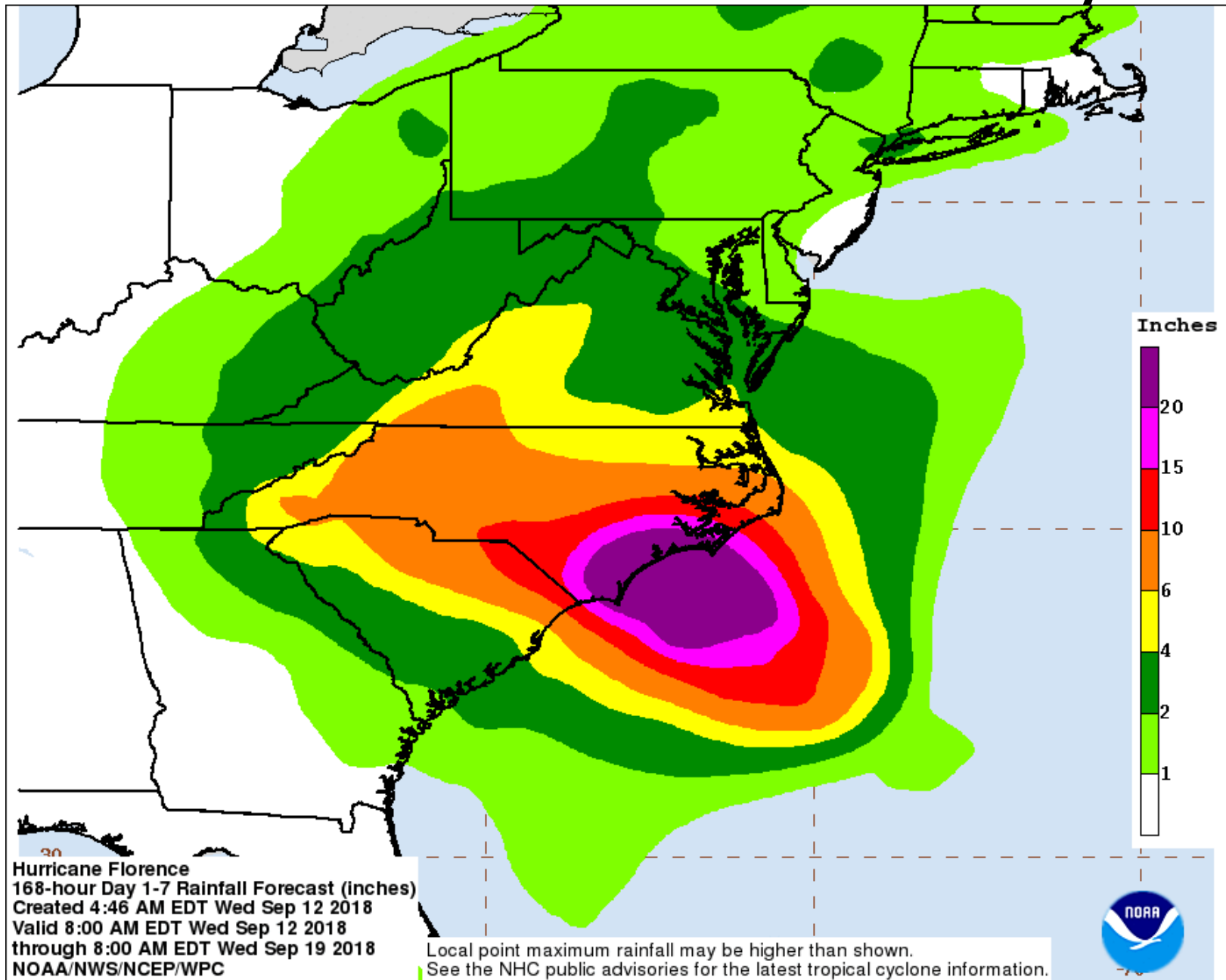


Wave heights will increase along the East Coast of Florida today and peak tomorrow before beginning to decrease on Friday. This will result in a high risk of rip currents, minor to moderate beach erosion, and possible coastal flooding issues during high tide.

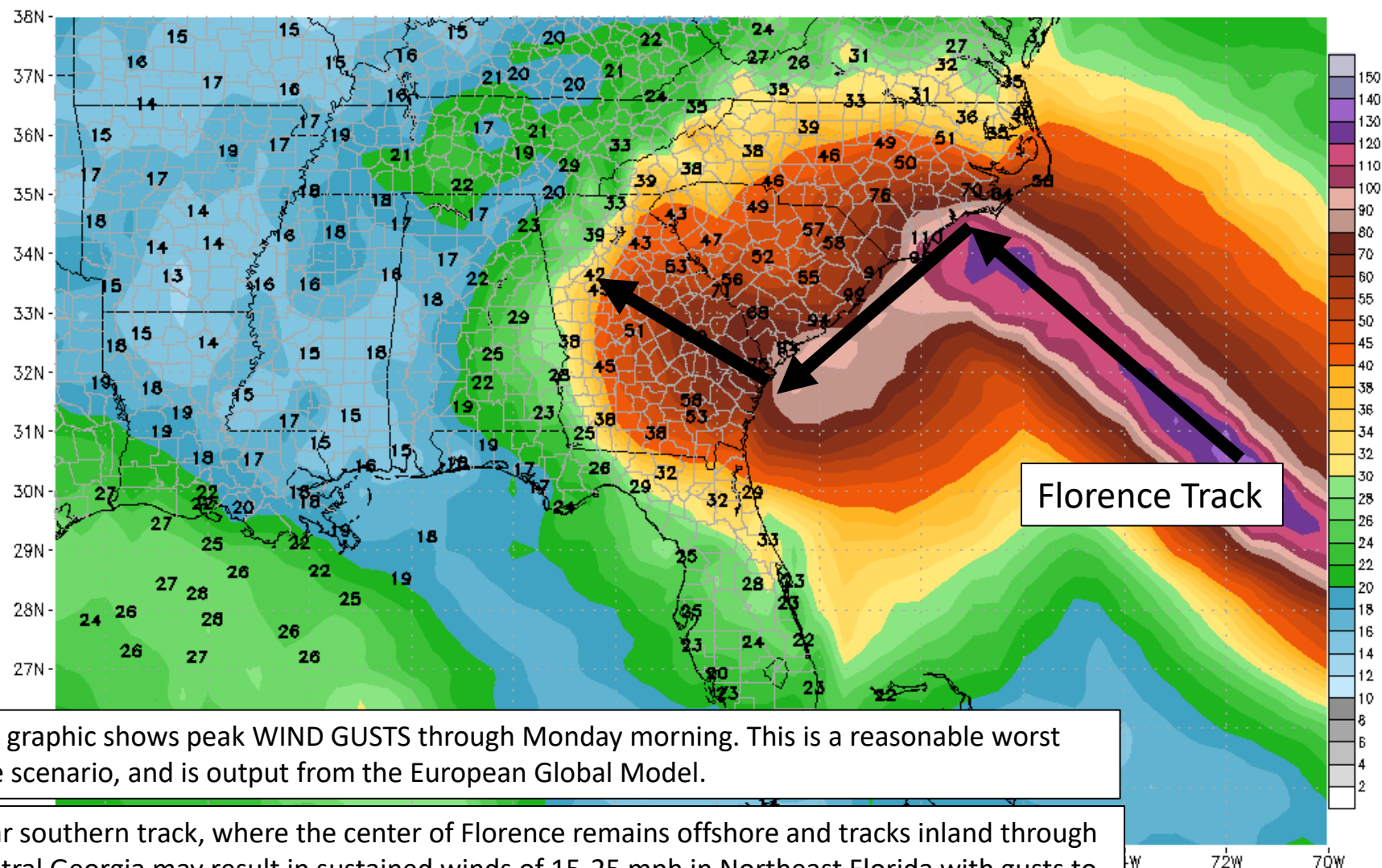
Rip Current Forecast Today



Forecast rainfall – Next 7 Days



10m Wind Gusts (kts) Max to Forecast Hour
 132 hour forecast valid 12Z Mon, SEP 17, 2018
 ECMWF Deterministic initialized 00Z Wed, SEP 12, 2018



This graphic shows peak WIND GUSTS through Monday morning. This is a reasonable worst case scenario, and is output from the European Global Model.

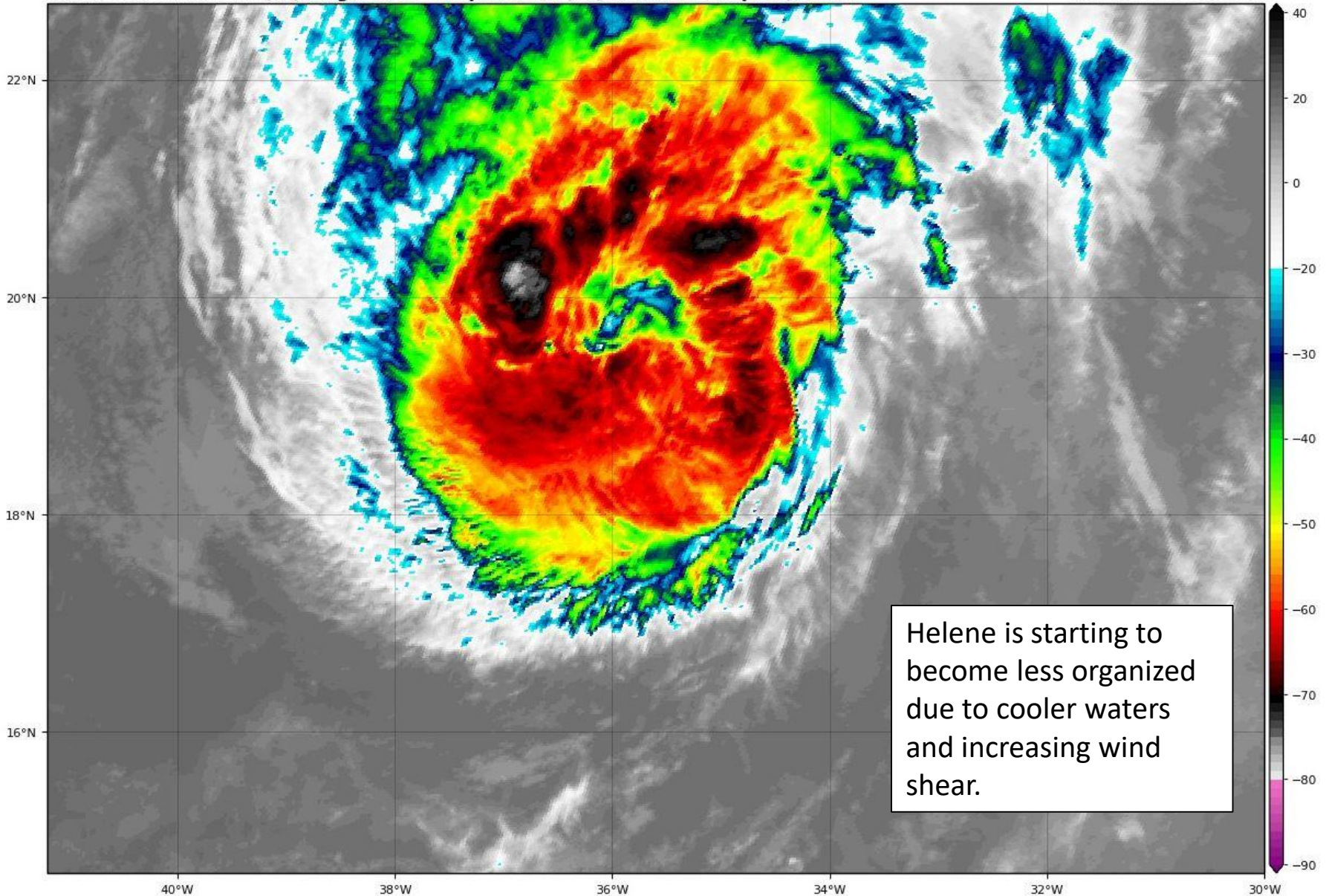
A far southern track, where the center of Florence remains offshore and tracks inland through Central Georgia may result in sustained winds of 15-25 mph in Northeast Florida with gusts to 40 mph (tropical storm force) on Sunday and into Monday morning. Florida will remain on the dry side of the system so rainfall would be limited. While surf and tides will remain elevated, winds will be offshore helping to limit any storm surge.

Peak: 134 kts (154 mph)

Hurricane Helene Satellite Image

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 11:35Z Sep 12, 2018

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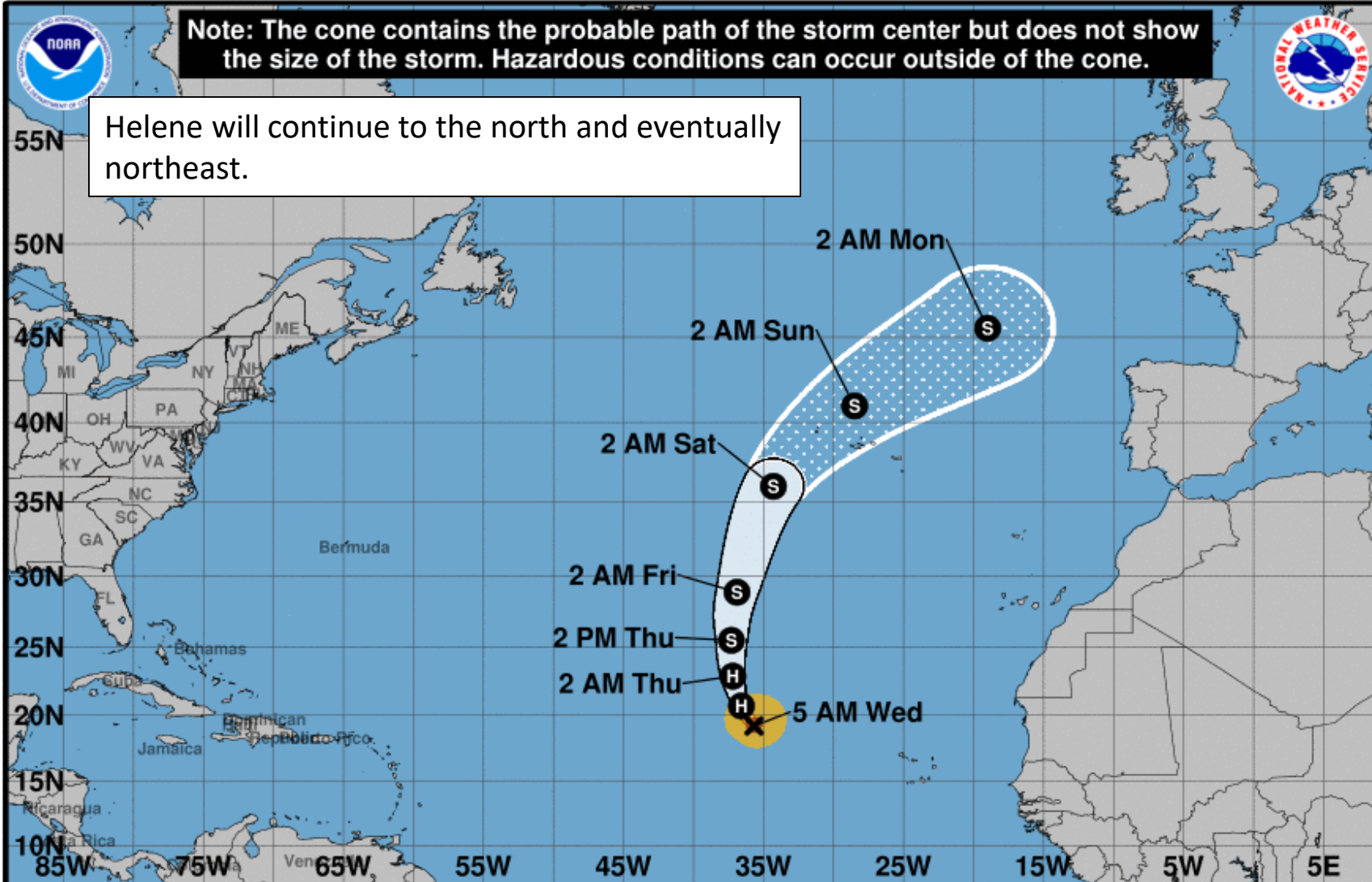




Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Helene will continue to the north and eventually northeast.



Hurricane Helene

Wednesday September 12, 2018

5 AM AST Advisory 20

NWS National Hurricane Center

Current information: x

Center location 19.2 N 35.7 W

Maximum sustained wind 90 mph

Movement NNW 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:

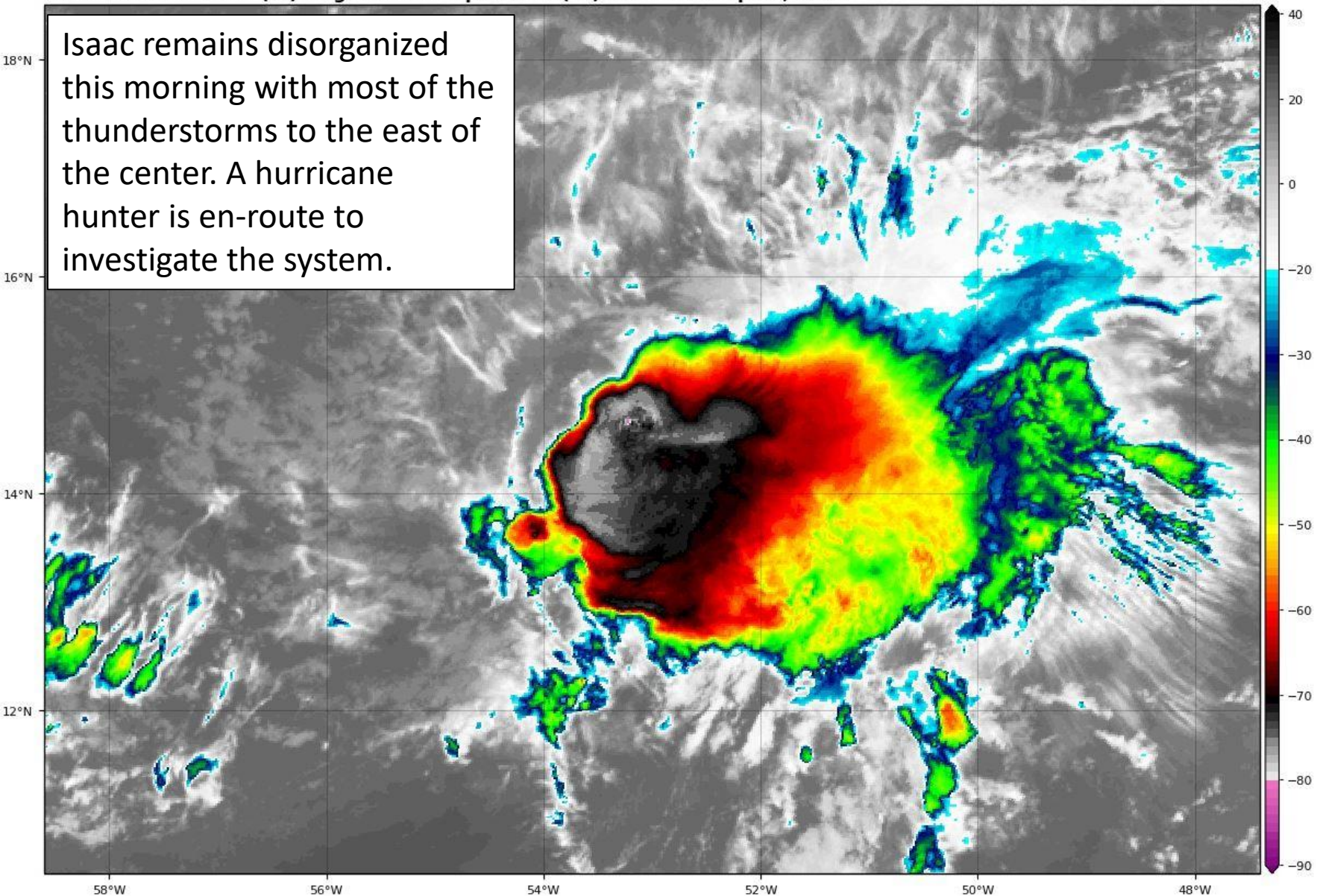
Hurricane Trop Stm

Tropical Storm Isaac Satellite Image

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 11:35Z Sep 12, 2018

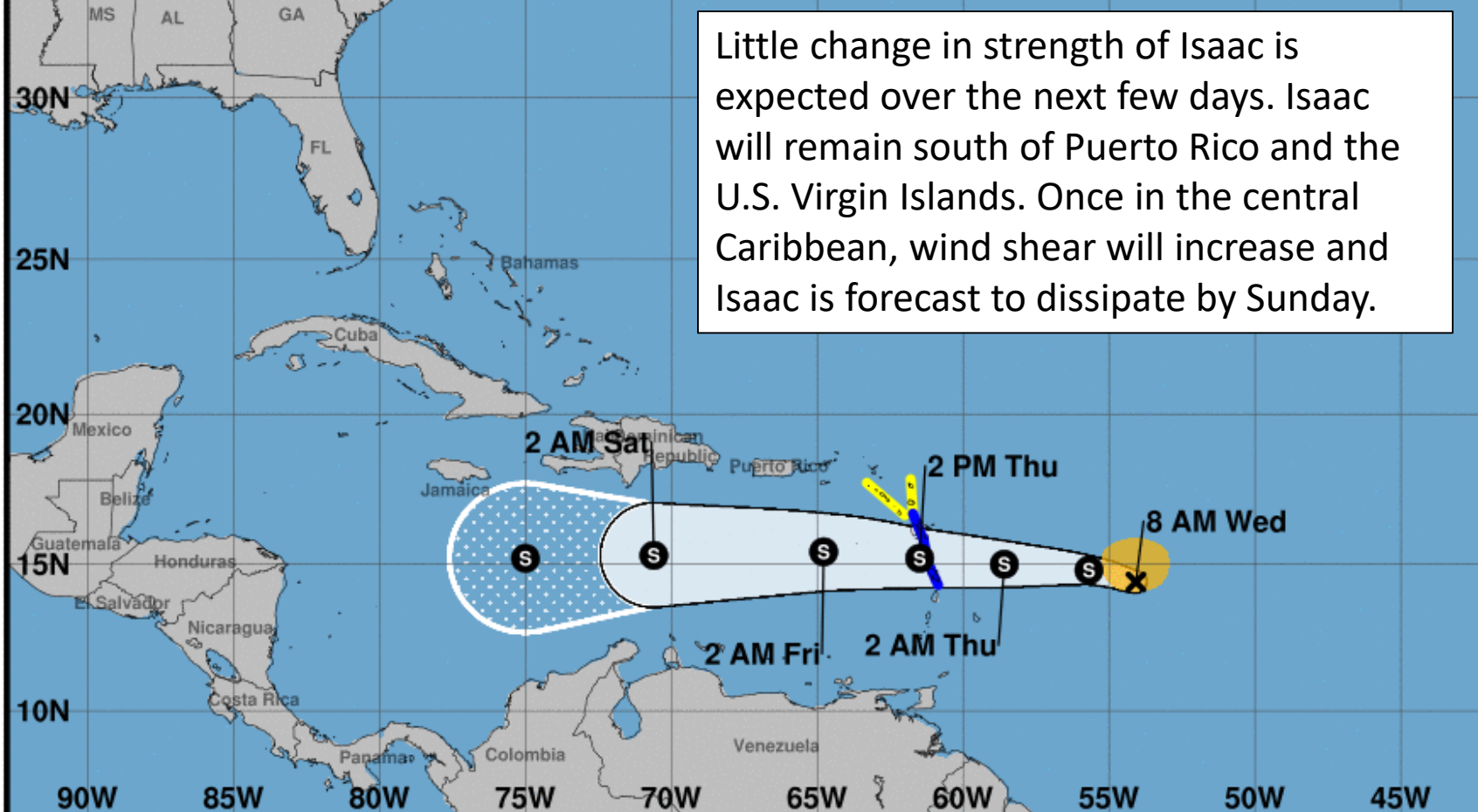
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Isaac remains disorganized this morning with most of the thunderstorms to the east of the center. A hurricane hunter is en-route to investigate the system.





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

8 AM AST Intermediate Advisory 19A

NWS National Hurricane Center

Current information: x

Center location 14.4 N 54.1 W

Maximum sustained wind 60 mph

Movement W at 15 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



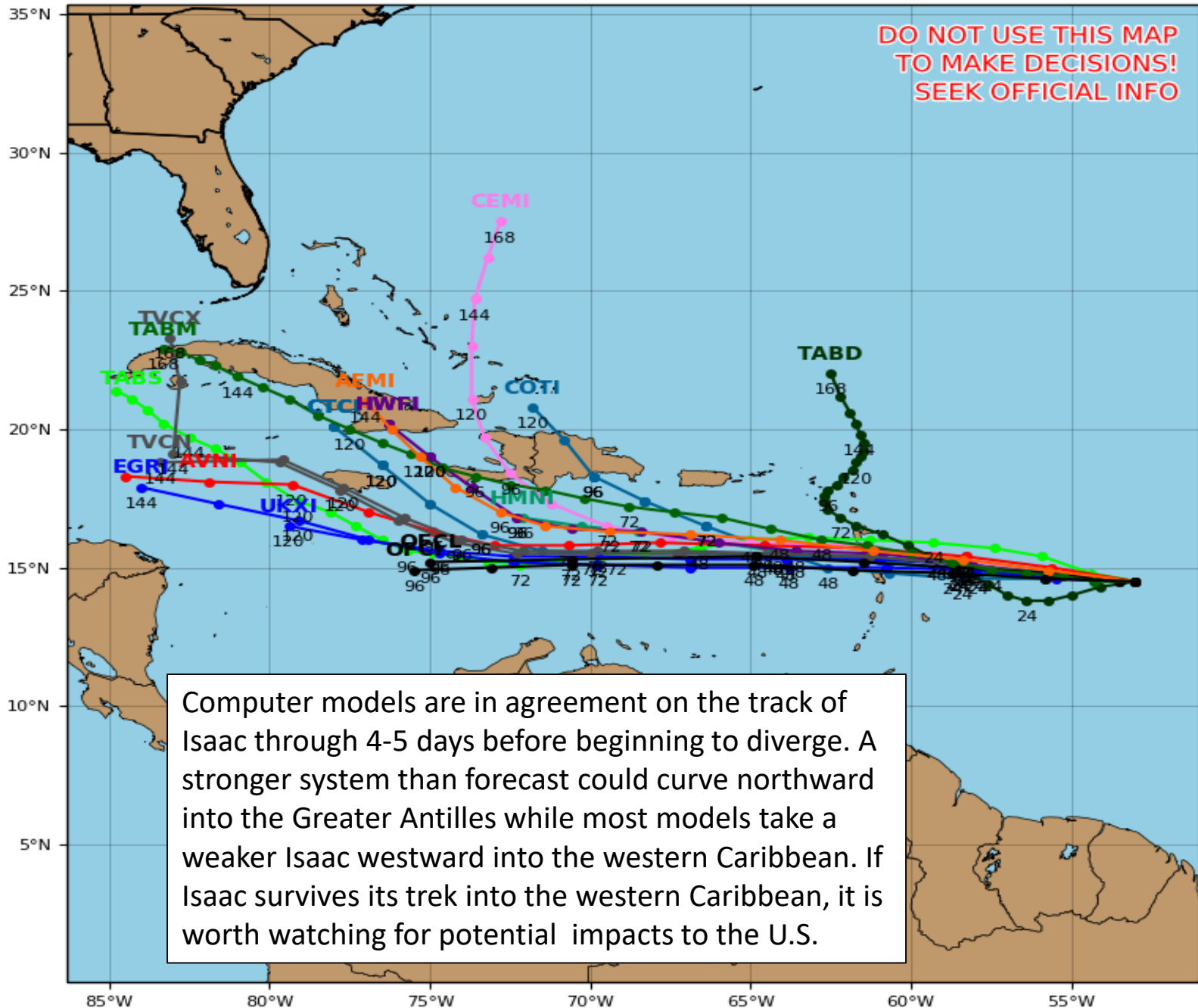
Trop Stm

Tropical Storm Isaac Model Track Analysis

Initialized at 06z Sep 12 2018

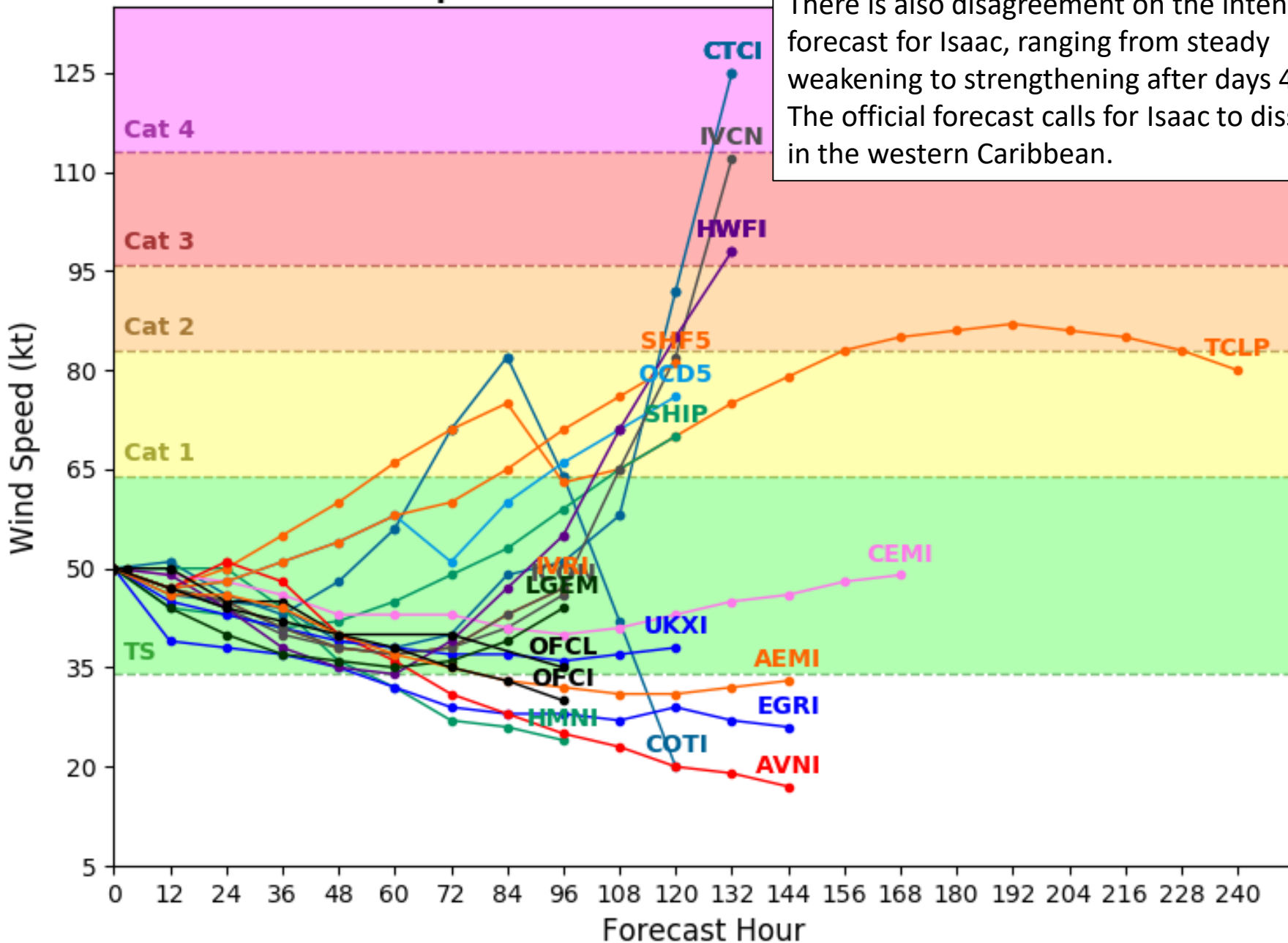
Levi Cowan - tropicaltidbits.com

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



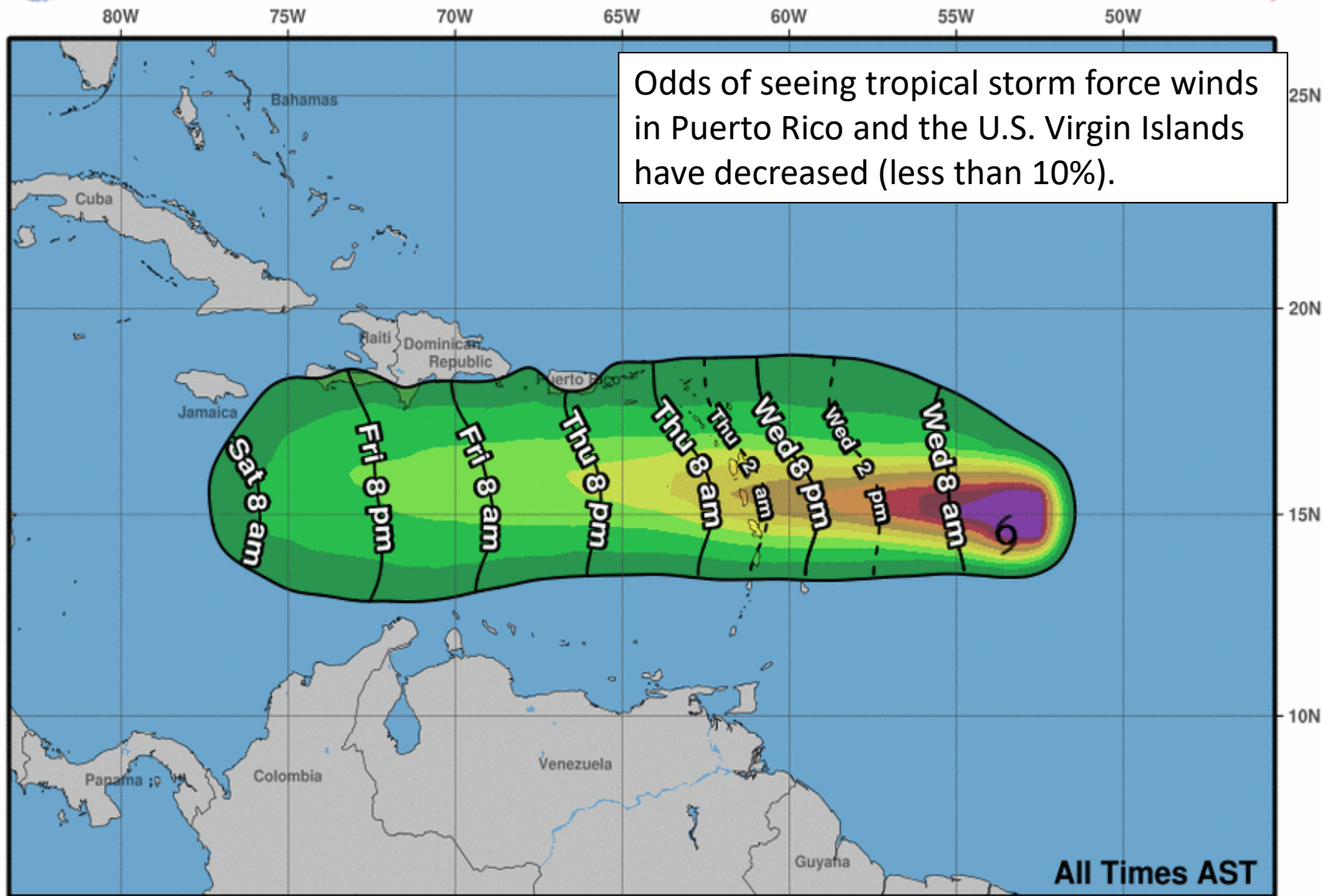
Initialized at 06z Sep 12 2018

There is also disagreement on the intensity forecast for Isaac, ranging from steady weakening to strengthening after days 4 and 5. The official forecast calls for Isaac to dissipate in the western Caribbean.





Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds

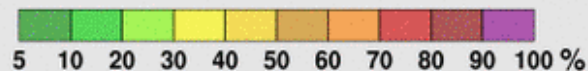


Tropical Storm Isaac
Wed. Sep. 12, 2018 5 am AST
Advisory 19

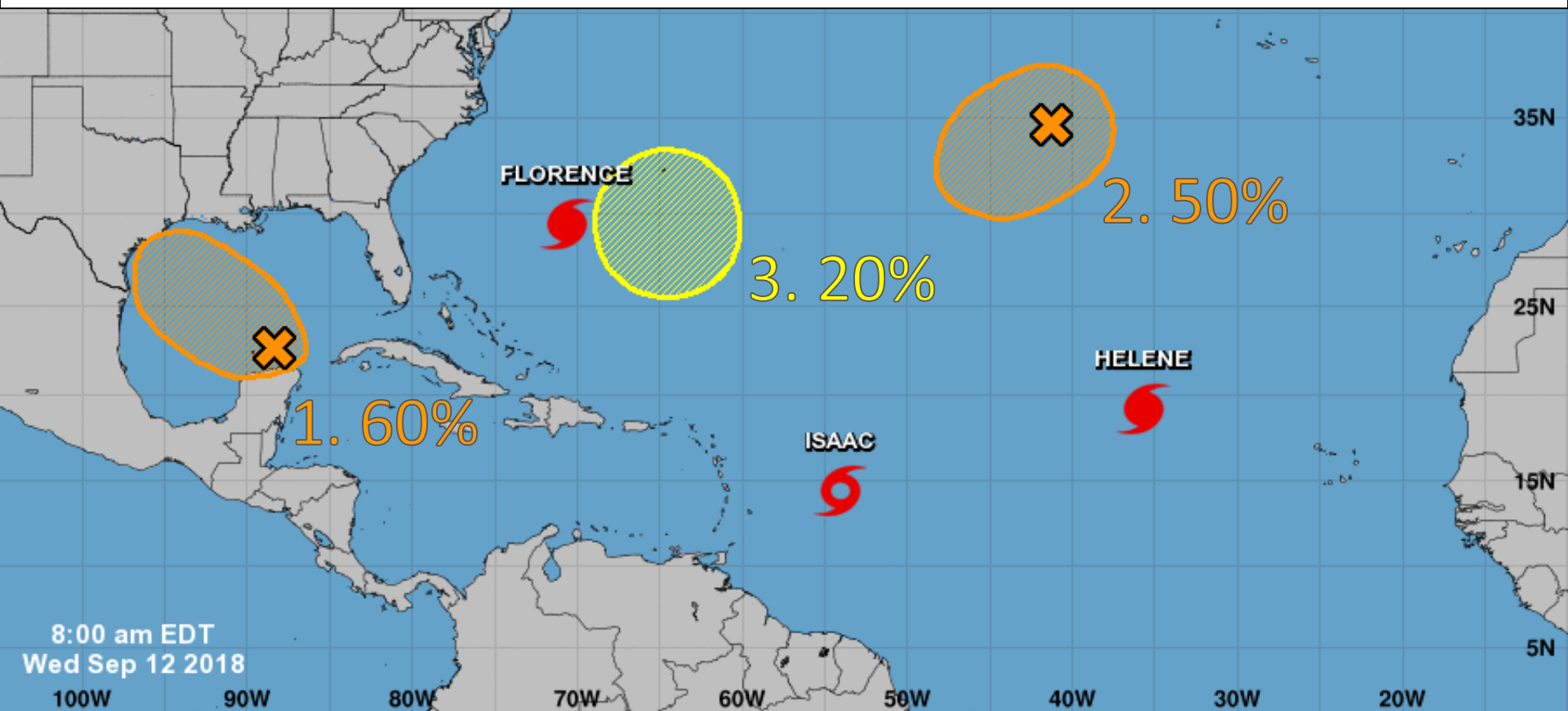
Storm Location & Wind Speed

- < 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. Cloudiness and showers associated with a trough of low pressure over the south-central Gulf of Mexico have decreased since yesterday. However, upper-level winds are forecast to become a little more conducive for development, and a tropical depression could still form Thursday or Friday before the system reaches the western Gulf Coast * Formation chance through 48 hours...**medium**...60%. * Formation chance through 5 days...**medium**...60%.
2. A non-tropical area of low pressure located several hundred miles west-southwest of the Azores is producing a large area of showers and thunderstorms and gale-force winds. This system could gradually acquire tropical or subtropical characteristics during the next couple of days while it meanders over the northeastern Atlantic Ocean. * Formation chance through 48 hours...**medium**...40 percent. * Formation chance through 5 days...**medium**...50 percent.
3. 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.

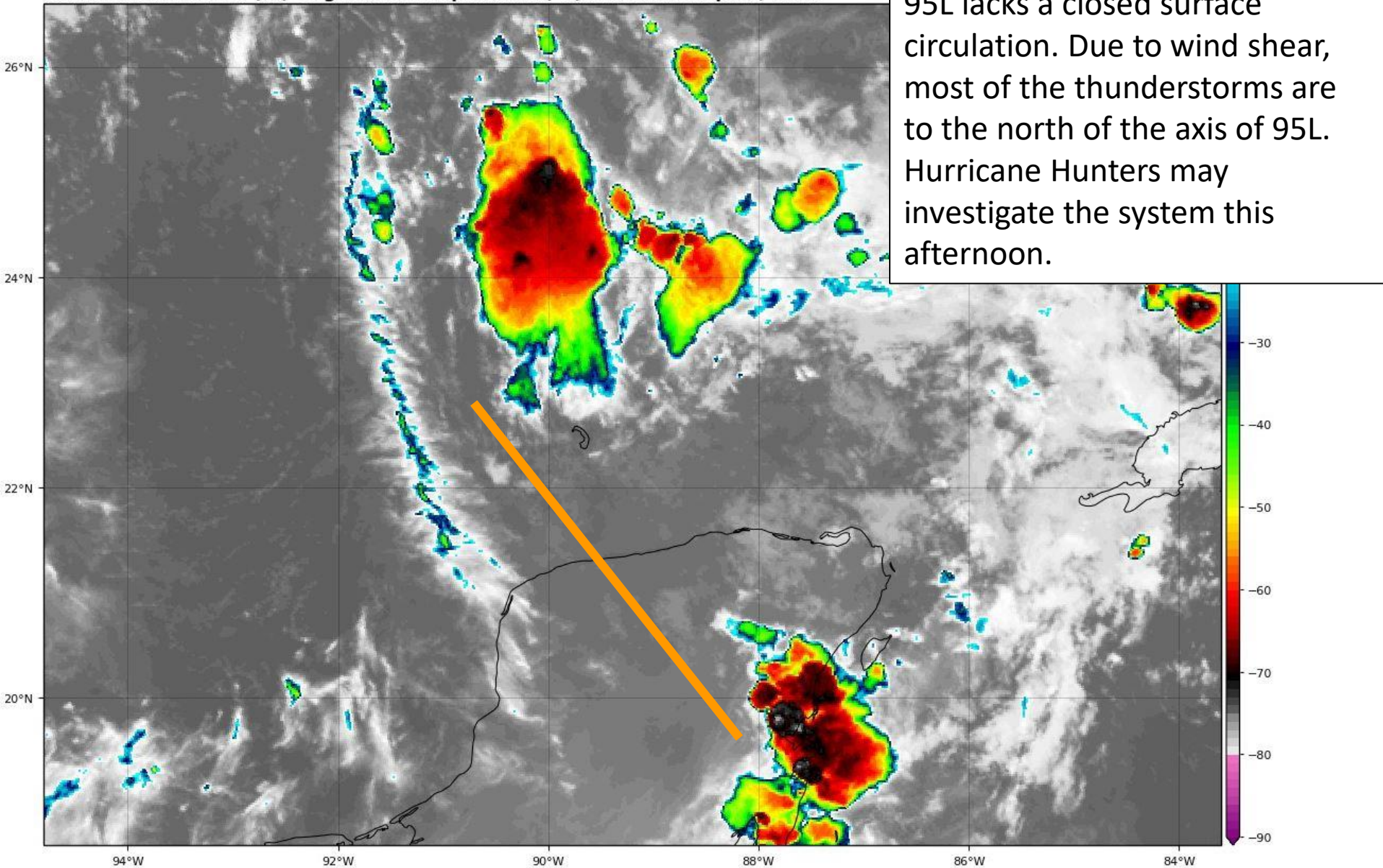


8:00 am EDT
Wed Sep 12 2018

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 Satellite Image

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 09:28Z Sep 12, 2018

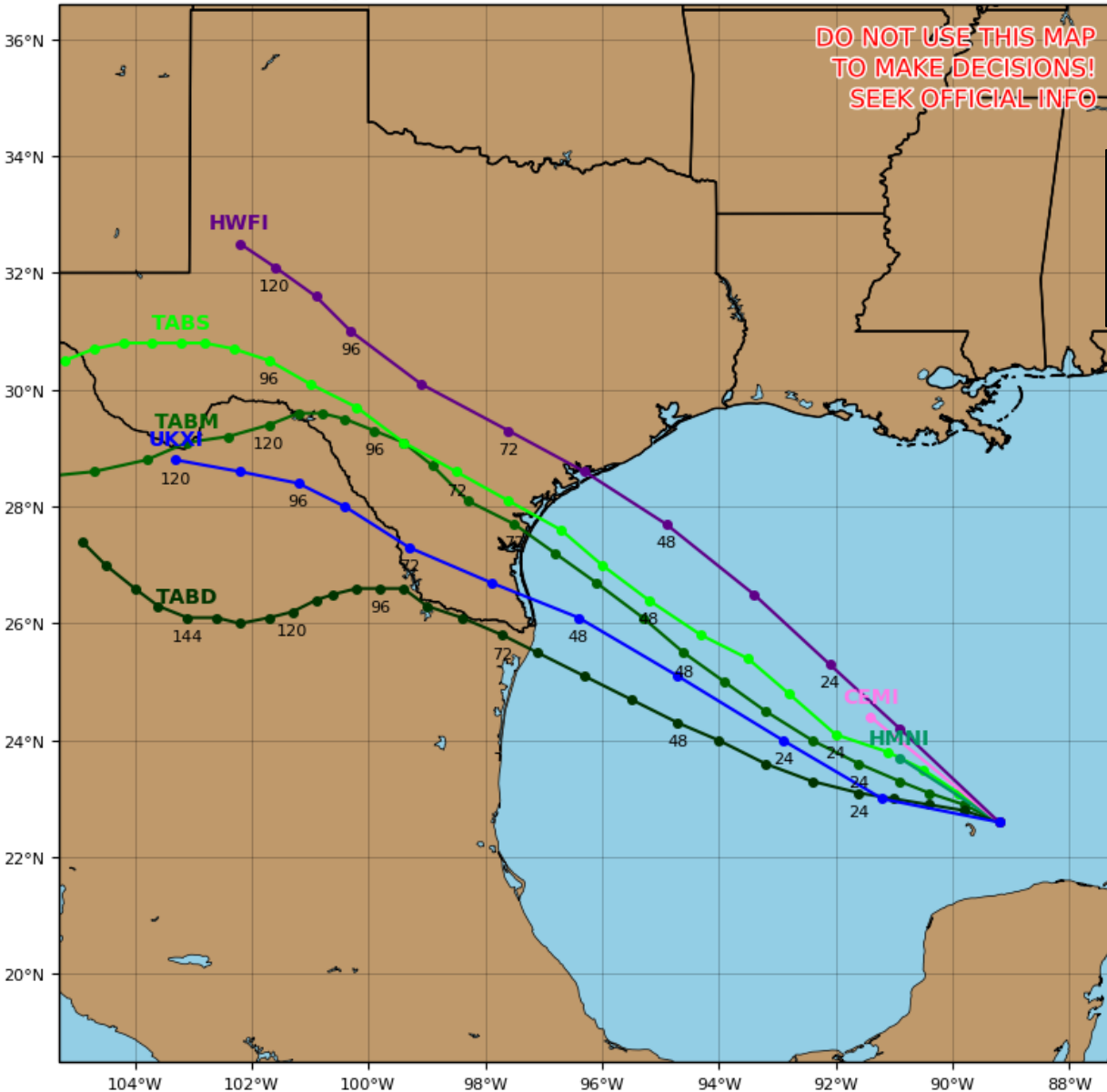


Track Models (95L)

Invest 95L Model Track Guidance

Initialized at 06z Sep 12 2018

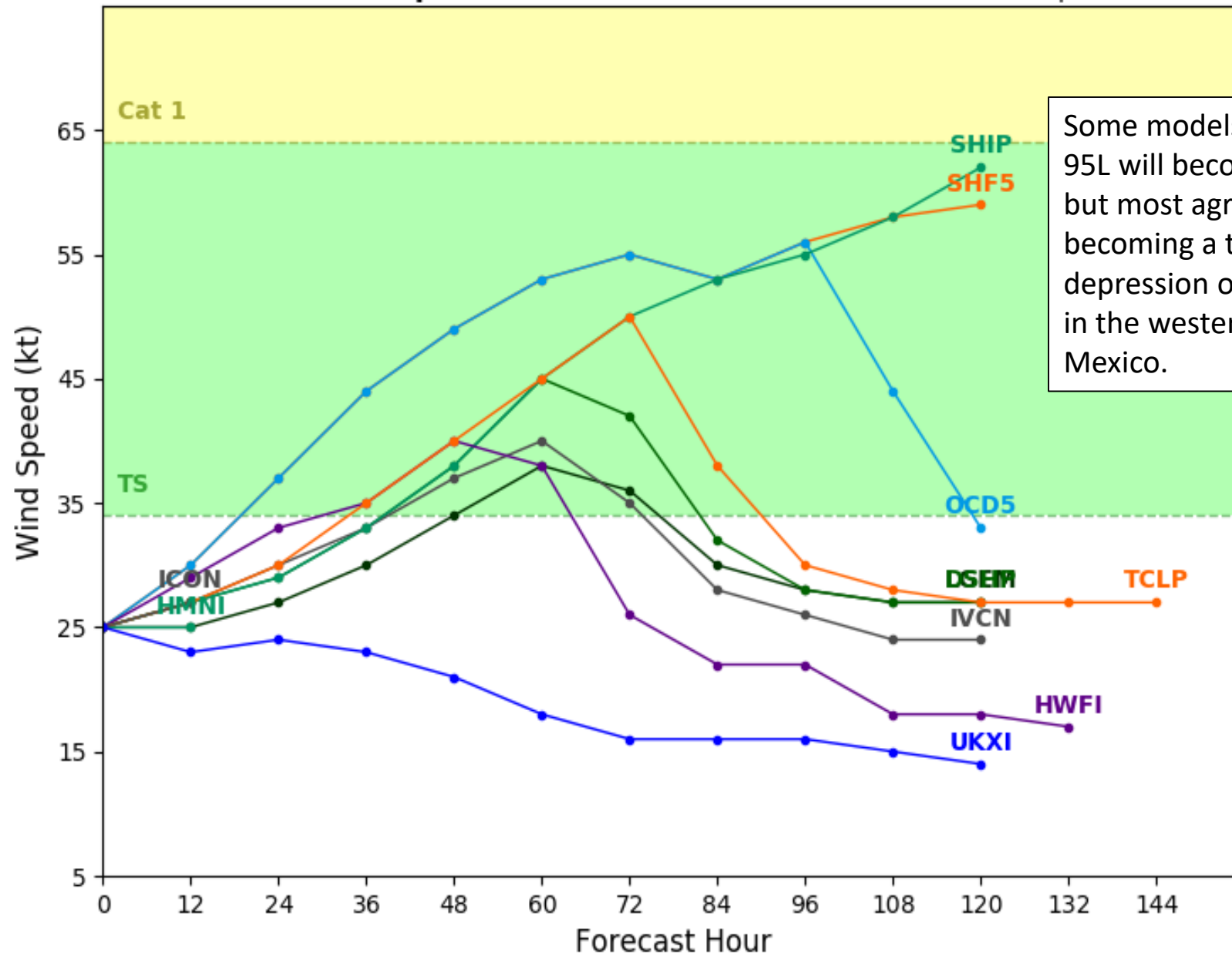
Levi Cowan - tropicaltidbits.com



Track models are confident on a northwest trajectory toward the Texas coast in 2-3 days.

Initialized at 06z Sep 12 2018

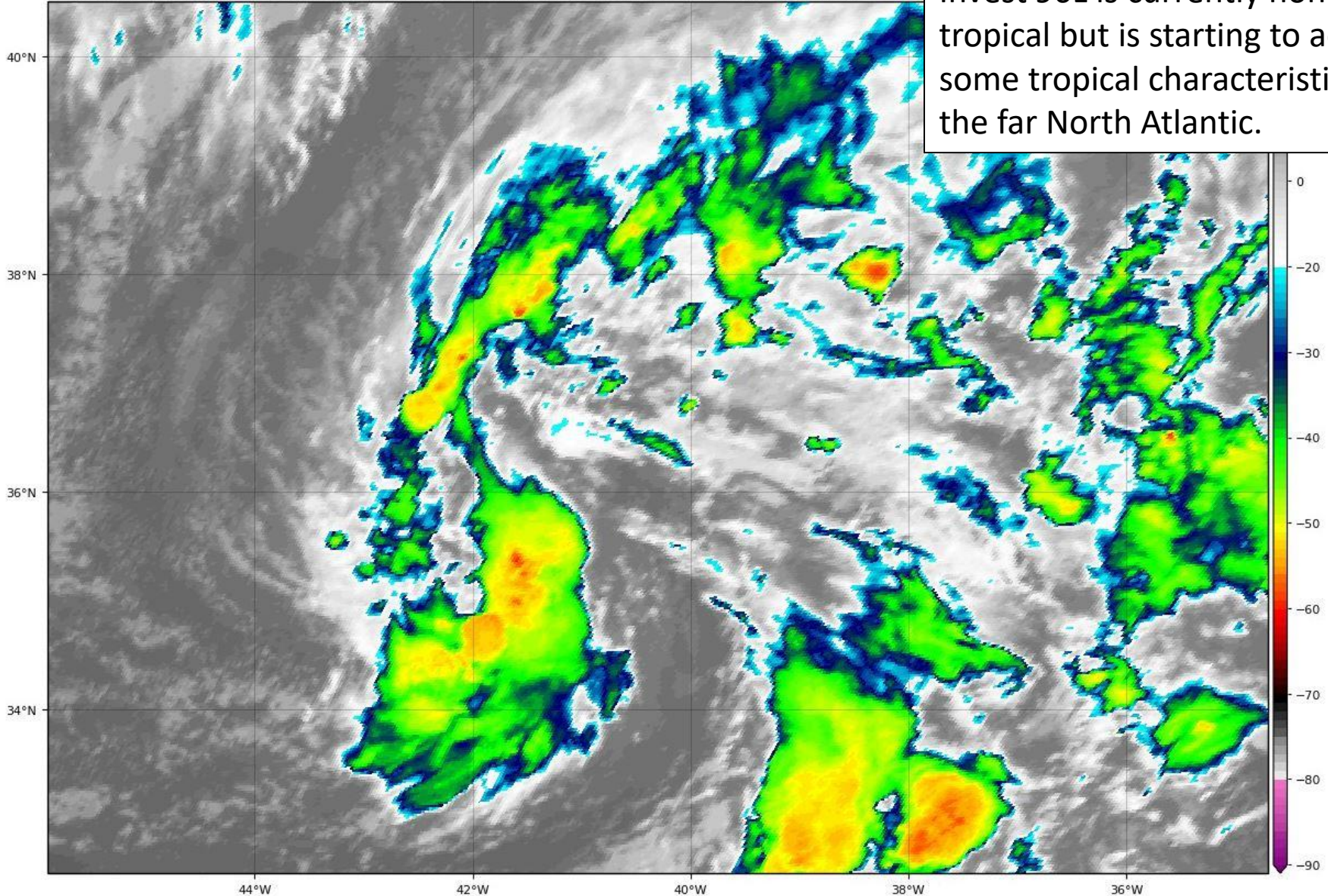
Some models do not think 95L will become a cyclone, but most agree on 95L becoming a tropical depression or tropical storm in the western Gulf of Mexico.



Invest 96L Satellite Image

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

Invest 96L is currently non-tropical but is starting to acquire some tropical characteristics in the far North Atlantic.

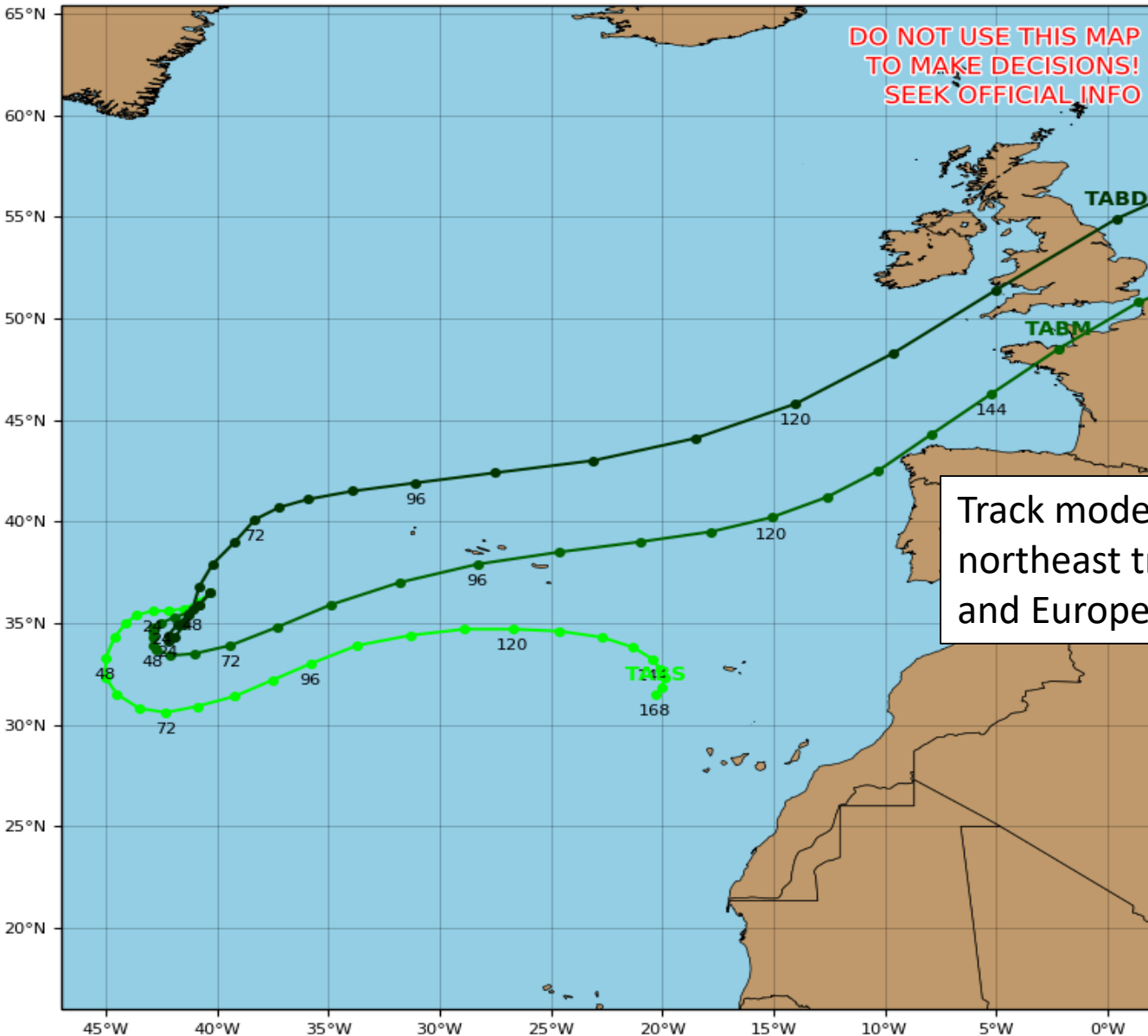


Track Models (96L)

Invest 96L Model Track Guidance

Initialized at 06z Sep 12 2018

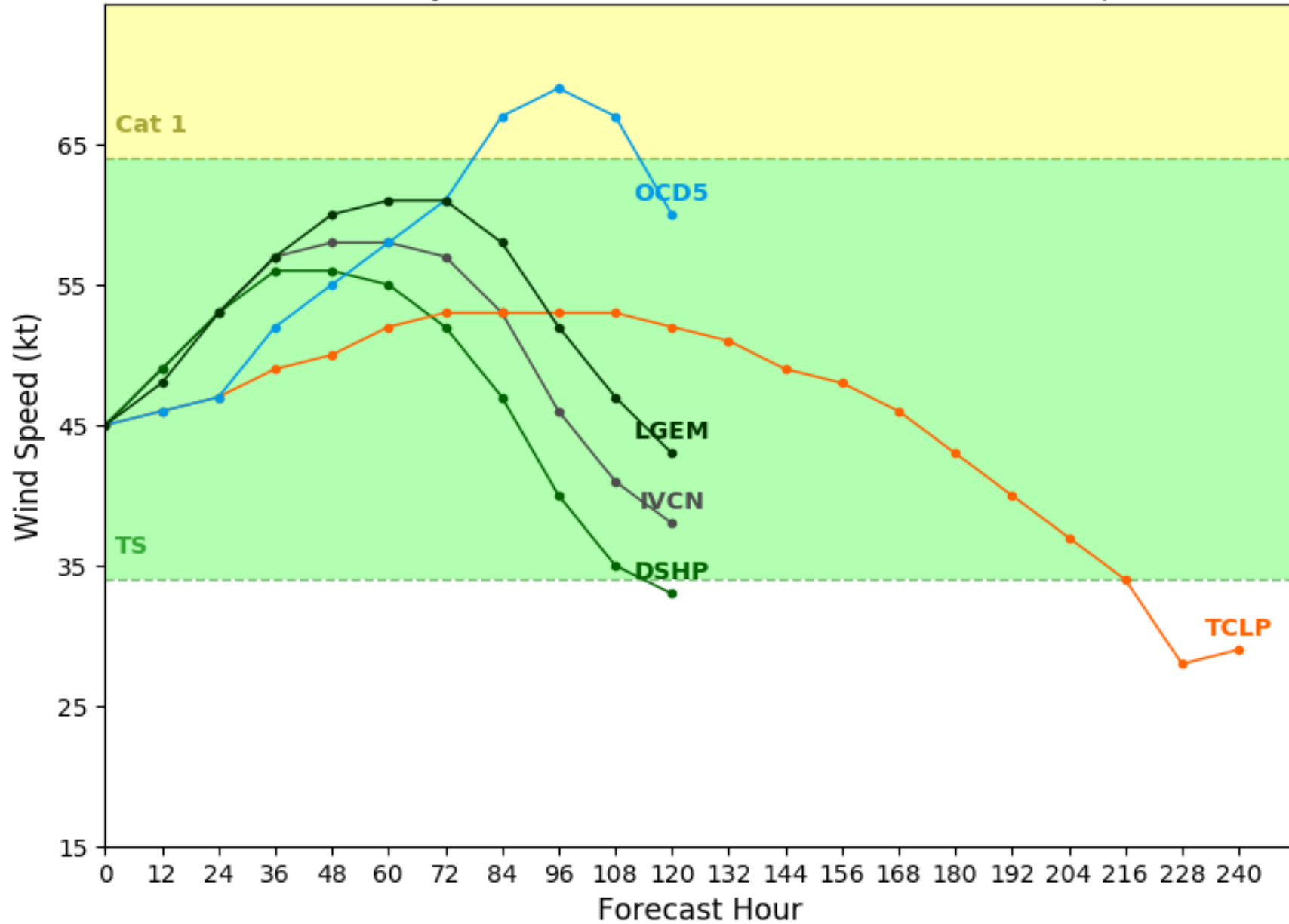
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Invest 96L Model Intensity Guidance

Initialized at 06z Sep 12 2018

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Summary

- At 8 AM EDT Wednesday, Hurricane Florence was located in the western Atlantic Ocean about 530 miles east-southeast of Cape Fear, North Carolina, or approximately 650 miles east of Jacksonville, Florida.
 - Maximum sustained winds have decreased to 130 mph but Florence remains a Category 4 on the Saffir-Simpson Hurricane Wind Scale.
 - Florence will largely maintain strength until landfall. Some additional intensity fluctuations are possible due to eyewall replacement cycles until landfall. These cycles also act to increase the size of the wind field of the storm.
 - Currently, tropical storm force winds extend out 175 miles from the center and hurricane force winds 70 miles.
 - Florence is moving fast to the west-northwest at 17 mph. This motion will continue through tomorrow before Florence decelerates along the NC coast Friday. Florence will then slowly drift west or southwest this weekend under very light steering currents.
 - Landfall is likely near the NC/SC border sometimes Friday as a major hurricane. However, the system may drift southwest before making landfall. There is increased uncertainty in the track this weekend. Florence may linger across the Southeast into early next week.
 - If the system drifts southwest while still over water, more wind impacts are likely to South Carolina and possibly Georgia and far Northeast Florida. Should the system make landfall and then drift southwest rapidly weakening, wind impacts will be little to none to GA and NE FL.
 - Hurricane Hunters and NOAA research aircraft are investigating the system and the surrounding environment daily.
-
- At 5 AM EDT Wednesday, Hurricane Helene was located in the eastern Atlantic Ocean about 1,400 miles south of the Azores.
 - Maximum sustained winds have decreased to 90 mph, making Helene a Category 1 on the Saffir-Simpson Hurricane Wind Scale.
 - Helene will continue north and make a turn to the northeast, now moving quickly north-northwest at 13 mph.
 - Wind shear is expected to increase on today and tomorrow and the system will move over cooler water temperatures resulting in a gradual weakening trend through the weekend in the open Atlantic.
-
- At 8 AM EDT Wednesday, Tropical Storm Isaac was located about 450 miles east of Martinique, or about 1,900 miles southeast of Miami, FL and moving west at 15 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 have decreased to 60 mph. Little change in strength of the system is expected as it moves into the Caribbean. By this weekend, wind shear will increase and Isaac is forecast to dissipate by Sunday.
 - Tropical storm force winds extend outward up to 105 miles from the center.
 - 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.
 - The chance of tropical storm force winds in Puerto Rico and the U.S. Virgin Islands has decreased and is now less than 10%. Increased rain chances on the islands can still be expected Thursday night and Friday as Isaac tracks south of the islands.

- A tropical wave, designated as Invest 95L, is emerging into the Gulf of Mexico off the Yucatan Peninsula. While the system is less organized this morning, a tropical depression could still form Thursday or Friday near the Texas coast. The system has a 60% (medium) chance.
- Regardless of development, this system will bring increased rain chances to Texas and Louisiana later this week and into the weekend.
- A non-tropical area of low-pressure has developed in the NE Atlantic and is now designated Invest 96L. There is a 50% (medium) chance of it acquiring some tropical characteristics later this week, but this system poses no threat to the U.S as it meanders over the open waters.
- 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 Joyce and Kirk, or number 10 and 11 if first designated a Potential Tropical Cyclone or Tropical Depression.

Florida Outlook:

- Chances of direct impacts to Northeast Florida from Florence increased overnight. Northeast Florida should continue to monitor the track of Florence closely during the next few days as any further southward shift in the track could bring more impacts Sunday and Monday.
- The odds of seeing tropical storm force winds along the immediate coast of far Northeast Florida have increased to 25% (1 in 4). Odds across interior Northeast Florida are 1 in 10 (10%) and less than 10% across the Big Bend.
- Regardless of Florence's eventual track, large swells emanating from the storm will impacts portions of the Florida East Coast throughout this week, resulting in life-threatening rip currents. Increasing impacts include large breaking waves, erosion, and minor coastal flooding during high tide. The high rip current risk will continue through this weekend. Breaking waves at the beach will peak at 6-8' and as high as 12' offshore.
- 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.
- Hurricane 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.
- The tropical wave moving into the western Gulf of Mexico does not pose a direct threat to Florida at this time, but may increase the rip current risk in the western Panhandle today and tomorrow. Wave heights will be 1-3'.
- Hurricane Helene, Invest 96L in the far northeast Atlantic, and the developing low near Bermuda pose no threat to the U.S. or the Caribbean Islands at this time.

Another briefing packet will be issued this afternoon. For the latest information on the tropics, please visit the National Hurricane Center website at www.hurricanes.gov.



TROPICAL UPDATE

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State Meteorological Support Unit

Florida Division of Emergency
Management

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