TROPICAL UPDATE

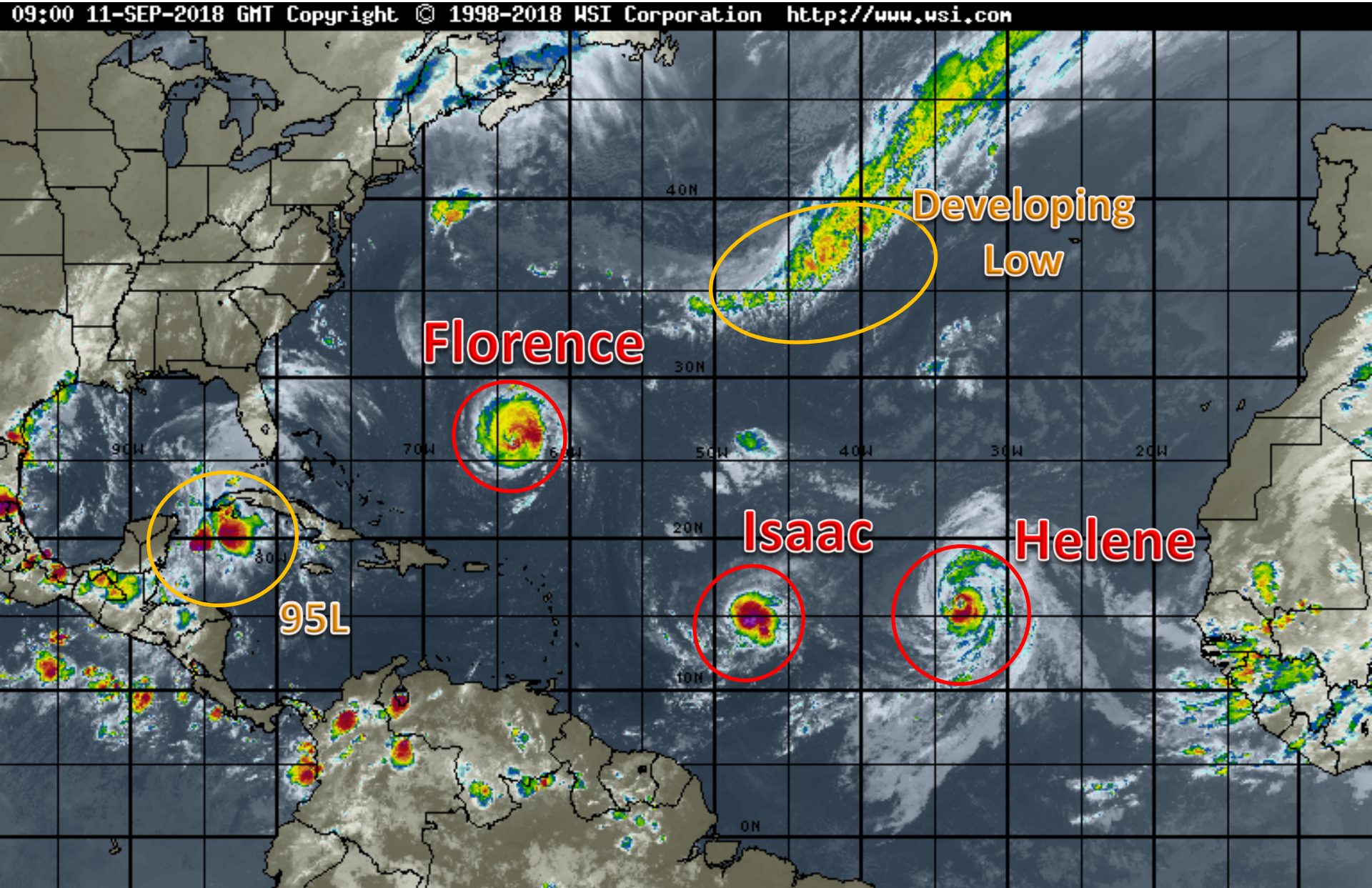
9 AM EDT

Tuesday, September 11, 2018

Major Hurricane Florence, Hurricane Helene, Tropical Storm Isaac, Invest 95L (60%), & North Atlantic Low (50%)

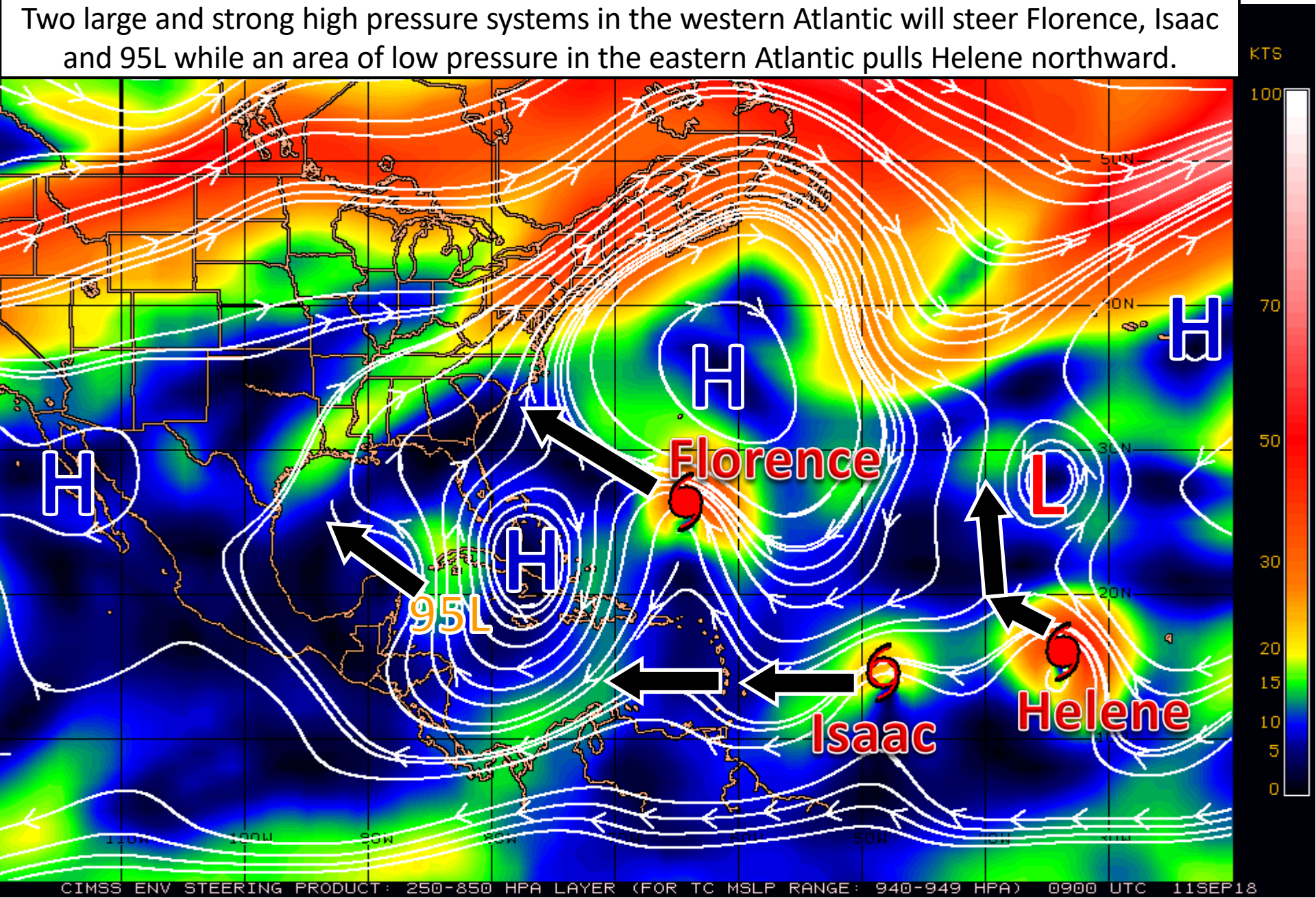
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an 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



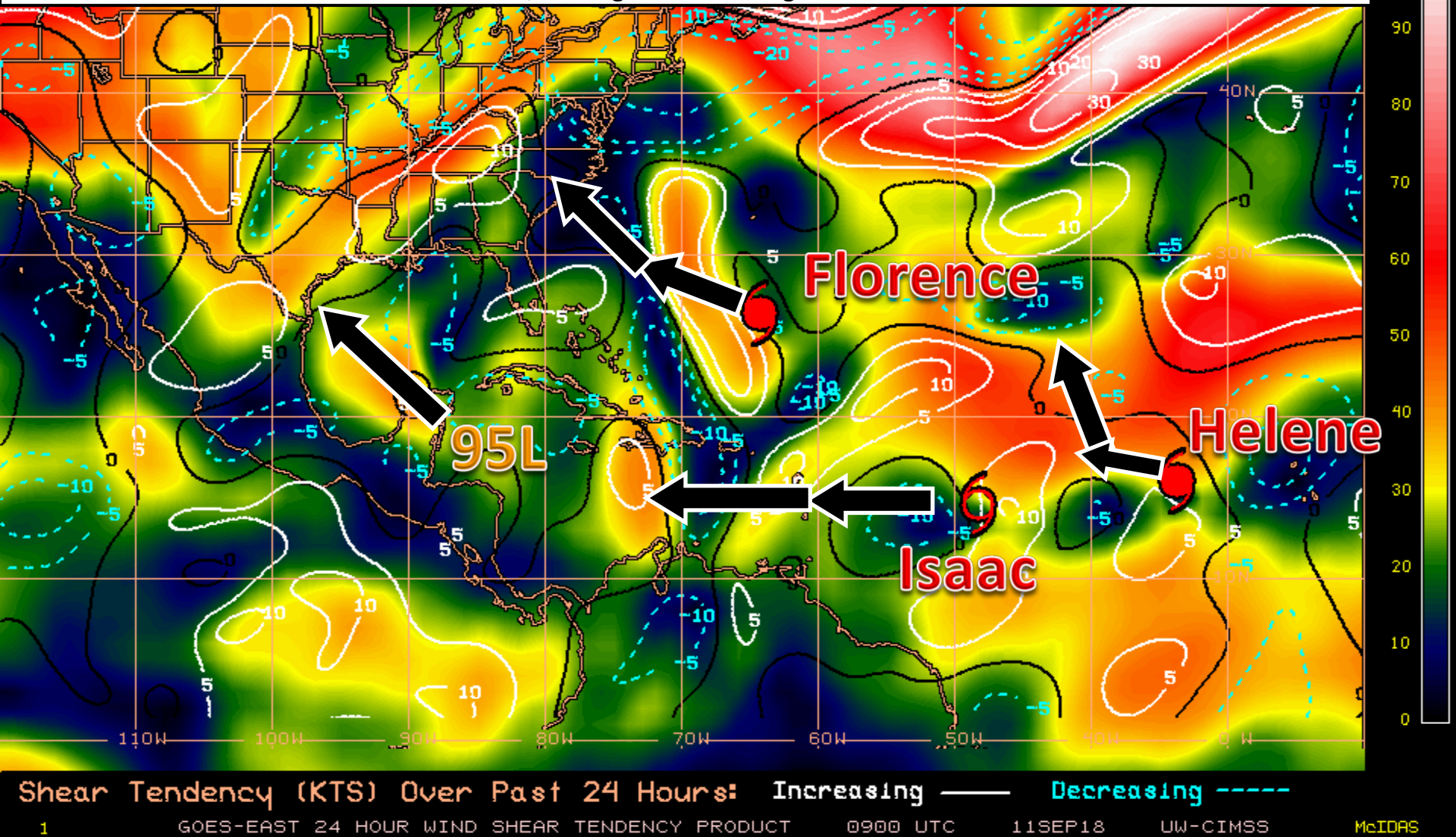
Steering Currents

Two large and strong high pressure systems in the western Atlantic will steer Florence, Isaac and 95L while an area of low pressure in the eastern Atlantic pulls Helene northward.

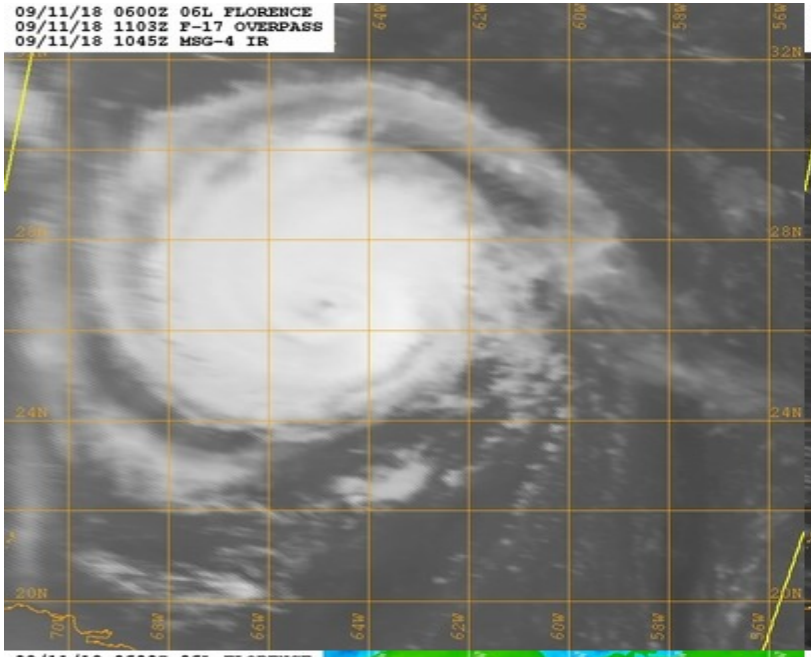


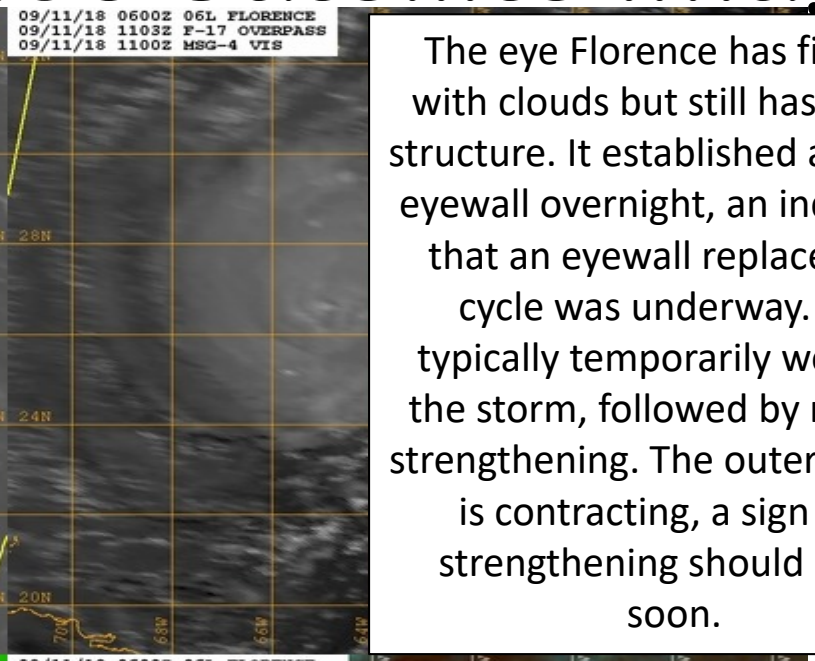
Wind Shear (shaded) and Wind Shear Tendencies (contoured)

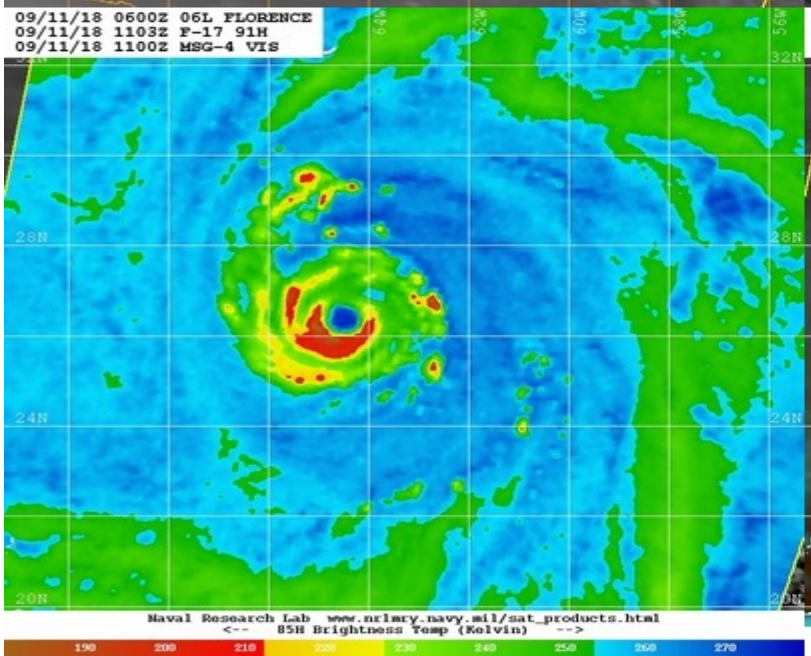
A small pocket of wind shear is near Florence, but should not cause any significant weakening. Low shear near the Carolina coast will promote strengthening up until landfall. Isaac will encounter some low to moderate wind shear and may strengthen again before encountering higher shear in the eastern Caribbean. Helene will move into much higher wind shear this week, gradually weakening the system. 95L in the Caribbean will experience some moderate wind shear in the Gulf of Mexico, limiting chances for significant intensification.

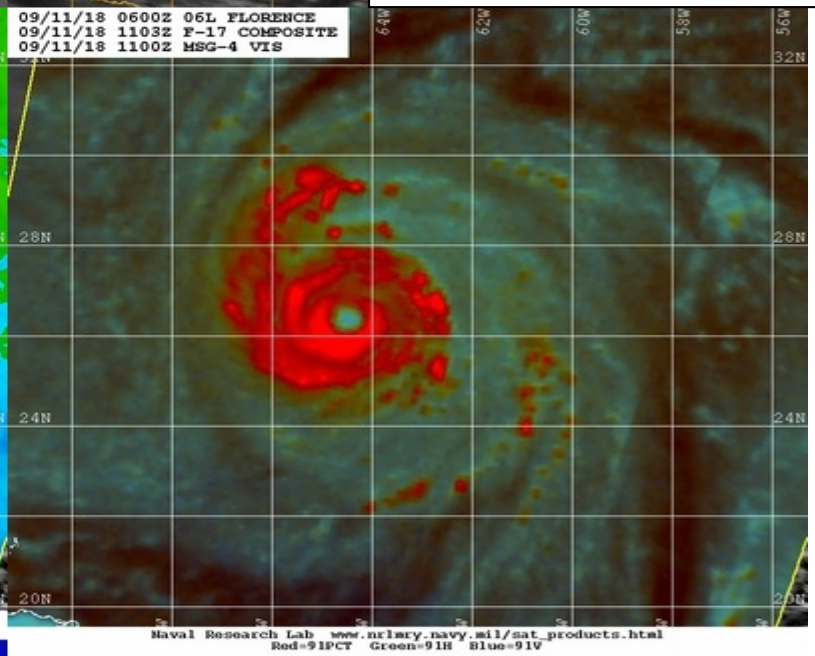


Hurricane Florence Satellite Image

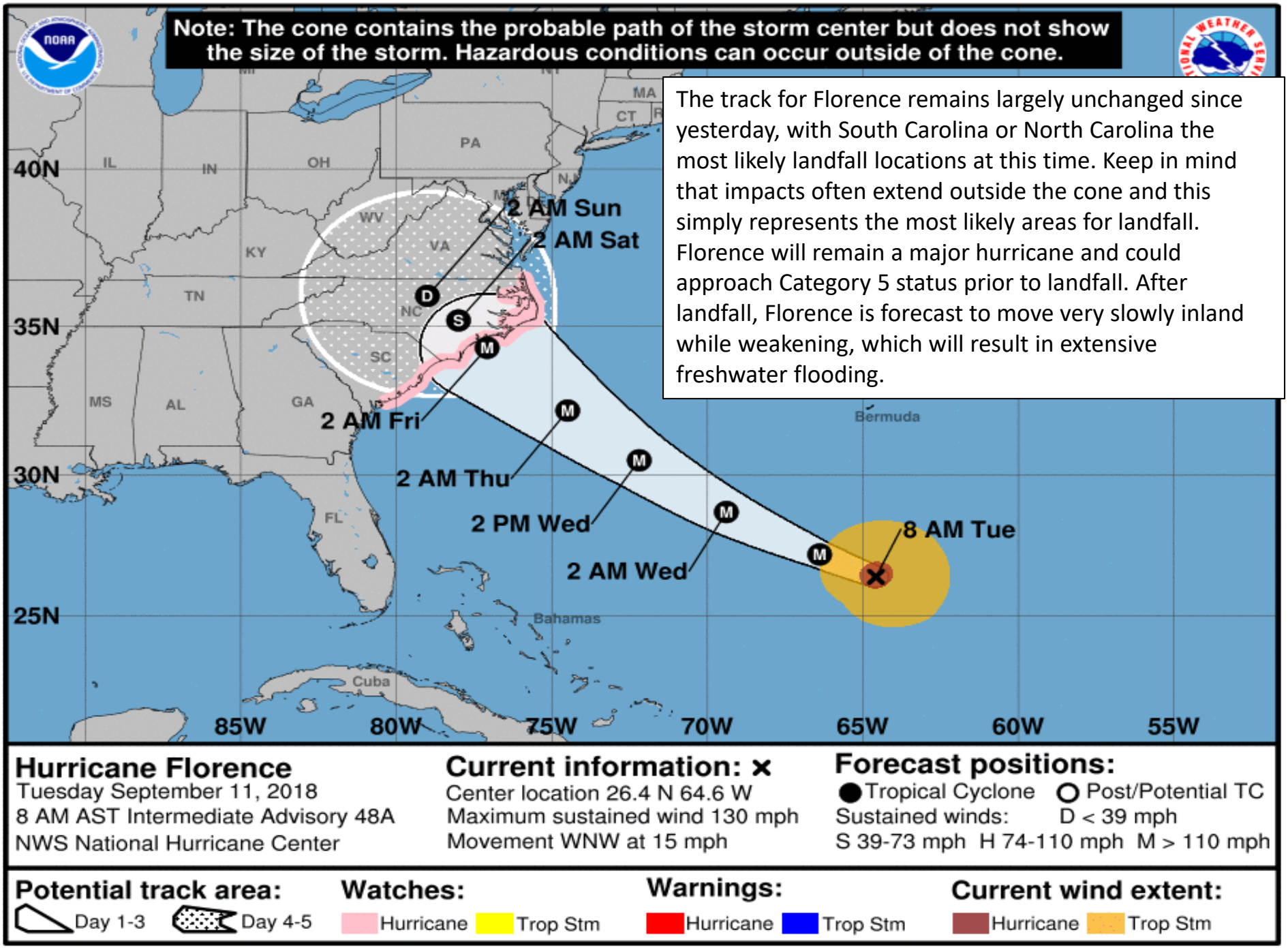




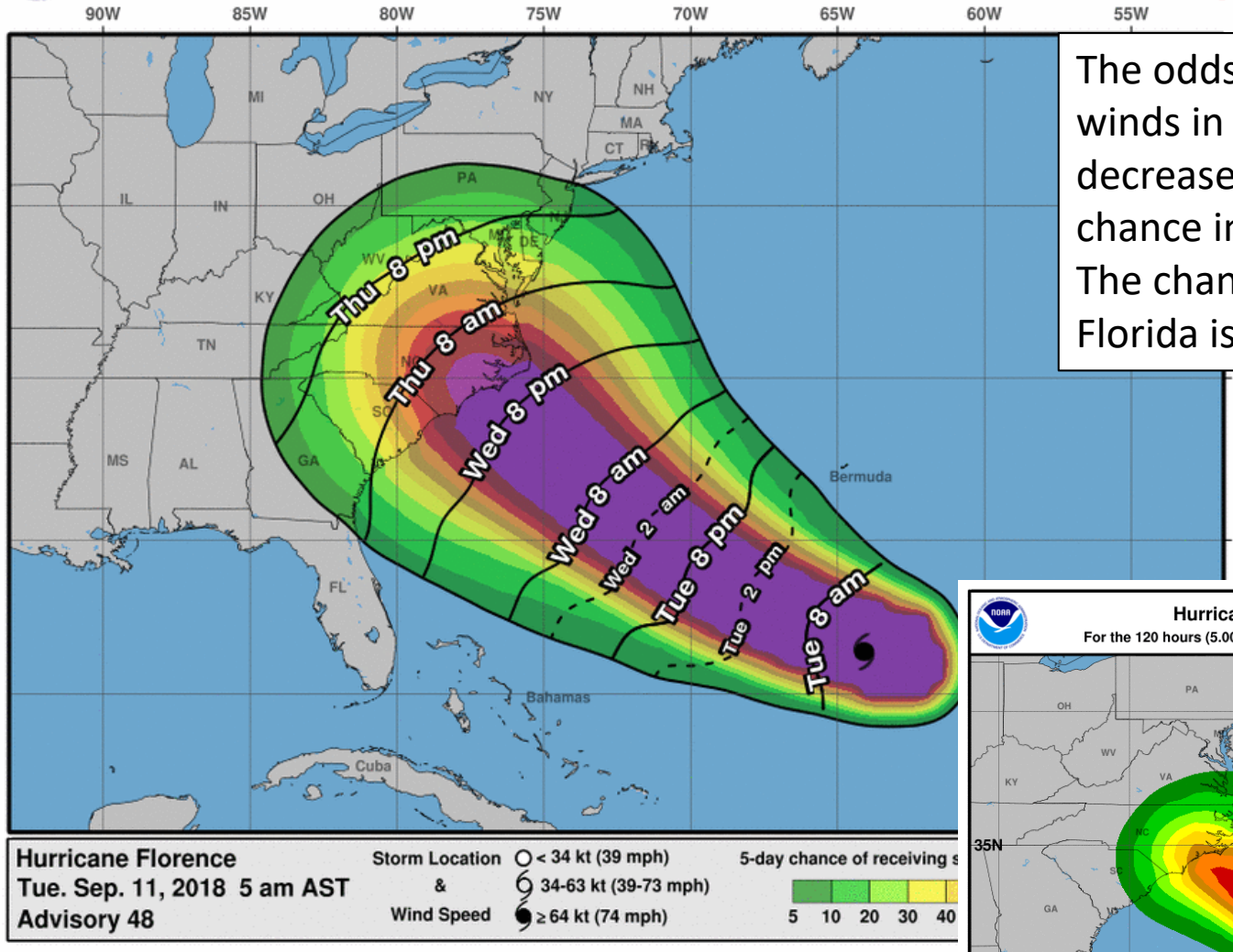




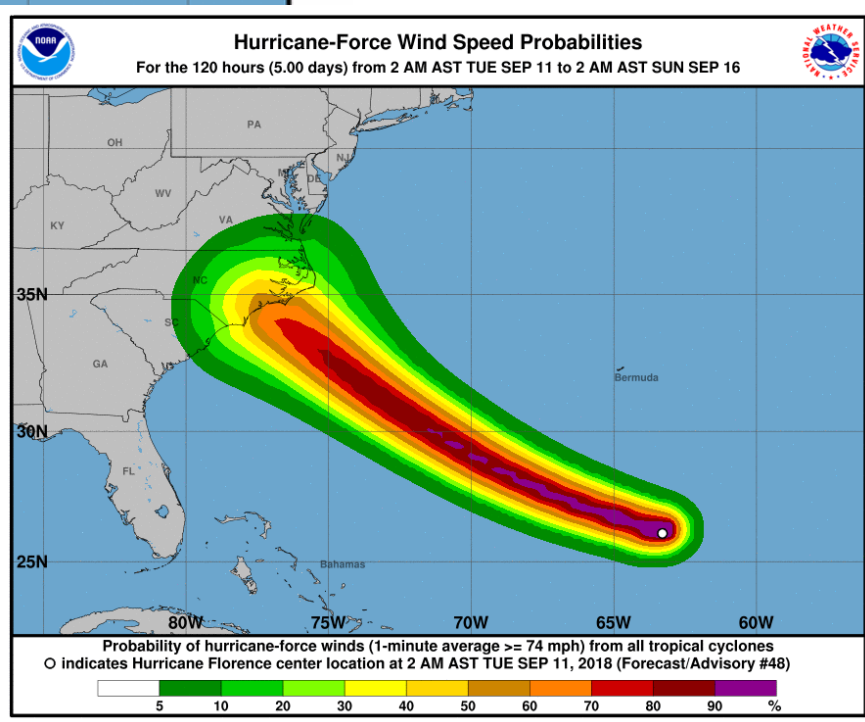
The eye Florence has filled in with clouds but still has a solid structure. It established a second eyewall overnight, an indication that an eyewall replacement cycle was underway. This typically temporarily weakens the storm, followed by modest strengthening. The outer eyewall is contracting, a sign that strengthening should occur soon.


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 remains largely unchanged since yesterday, with South Carolina or North Carolina the most likely landfall locations at this time. Keep in mind that impacts often extend outside the cone and this simply represents the most likely areas for landfall. Florence will remain a major hurricane and could approach Category 5 status prior to landfall. After landfall, Florence is forecast to move very slowly inland while weakening, which will result in extensive freshwater flooding.
2 AM Sun
2 AM Sat
2 AM Fri
2 AM Thu
2 PM Wed
2 AM Wed
8 AM Tue
Bermuda
Bahamas
Cuba
40N
35N
30N
25N
85W
80W
75W
70W
65W
60W
55W
Hurricane Florence
Tuesday September 11, 2018
8 AM AST Intermediate Advisory 48A
NWS National Hurricane Center
Current information:
Center location 26.4 N 64.6 W
Maximum sustained wind 130 mph
Movement WNW 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

Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds

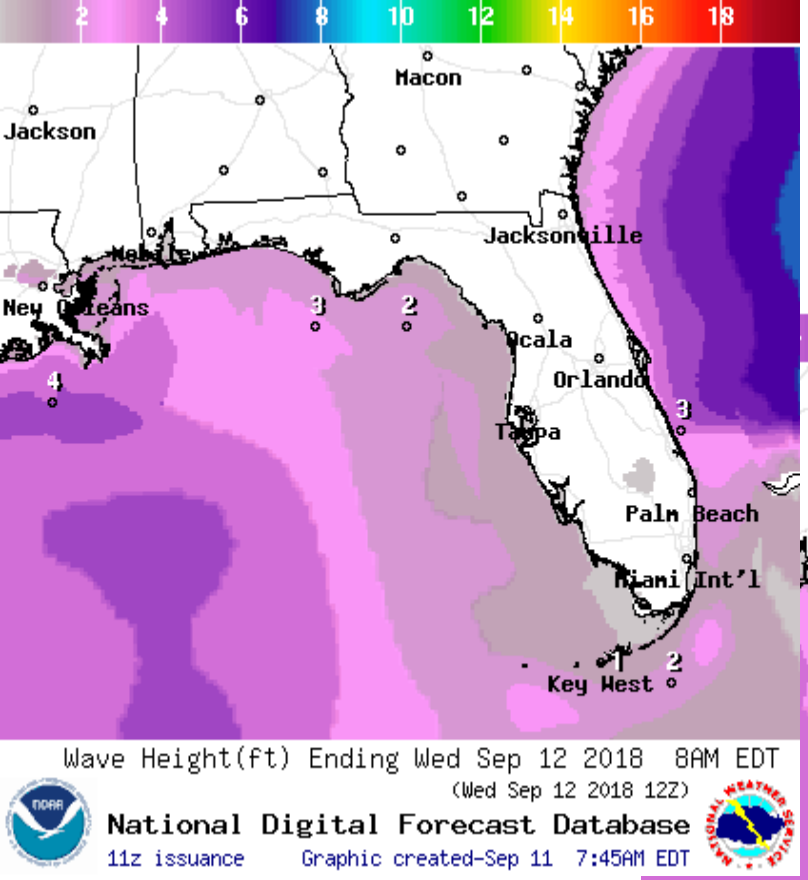


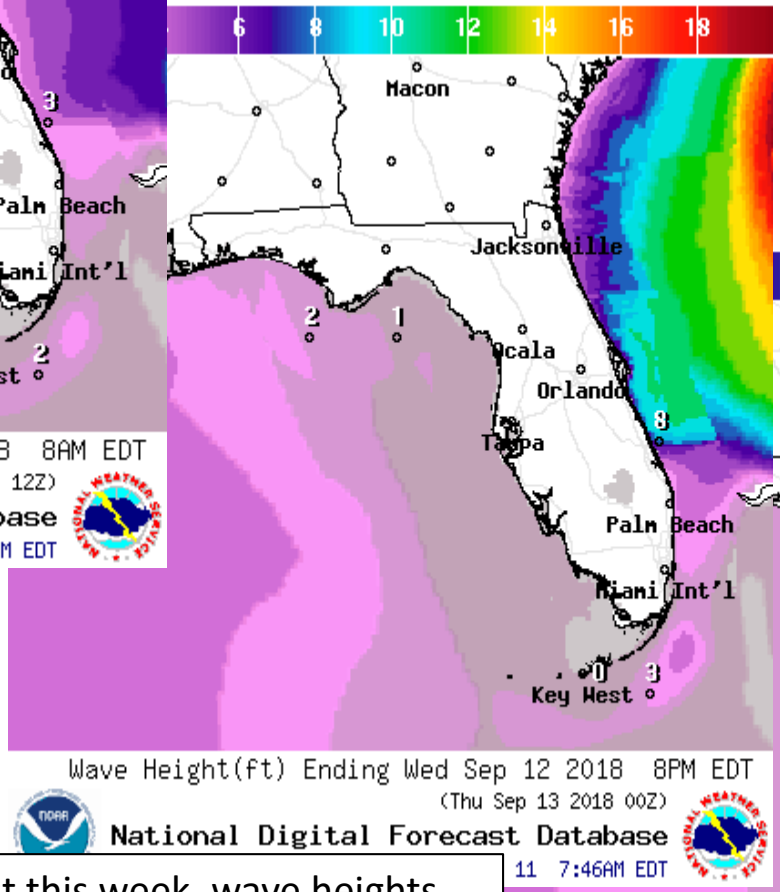
The odds of tropical storm force winds in Florida continue to decrease, with less than a 10% chance in coastal Northeast Florida. The chance for hurricane winds in Florida is 0%.

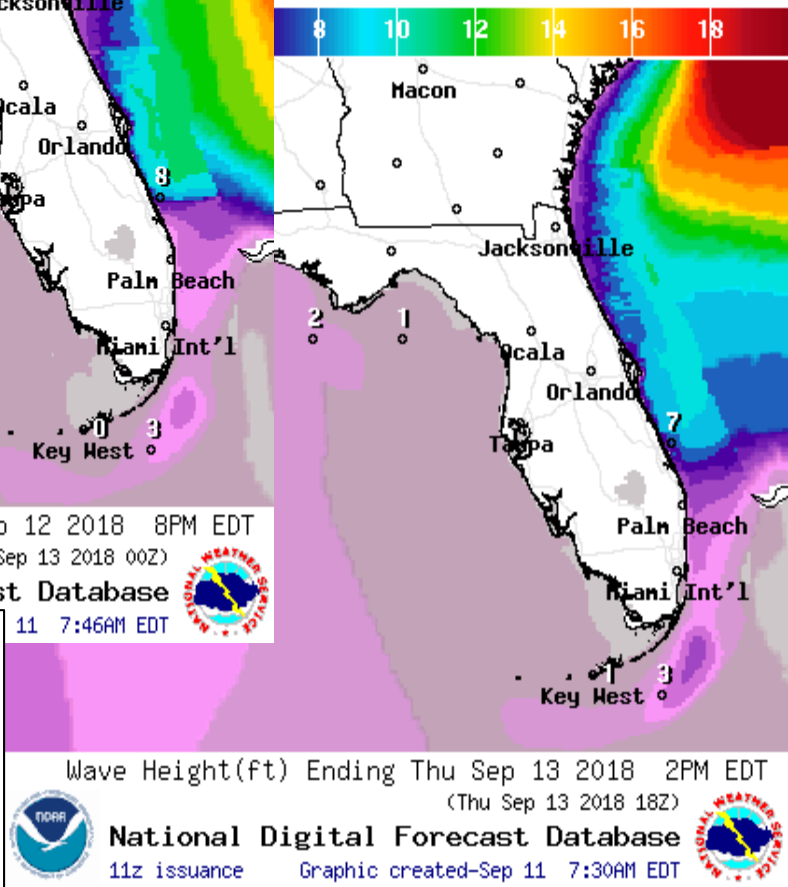



Edisto Beach to Murrells Inlet...2-4 ft
Murrells Inlet to Cape Fear...4-6 ft
Cape Fear to Cape Lookout including
The Neuse and Pamlico
River...6-12 ft
Cape Lookout to Ocracoke Inlet...5-8 ft
Ocracoke Inlet to North
Carolina/Virginia Border...3-5 ft
Annapolis
Dover
Washington
Louisville
Richmond
Norfolk
Raleigh
Charlotte
Greenville
Columbia
Atlanta
Tallahassee
Jacksonville
Esri, HERE, NPS | E
Storm Surge Warning
Storm Surge Watch

Forecast Wave Heights

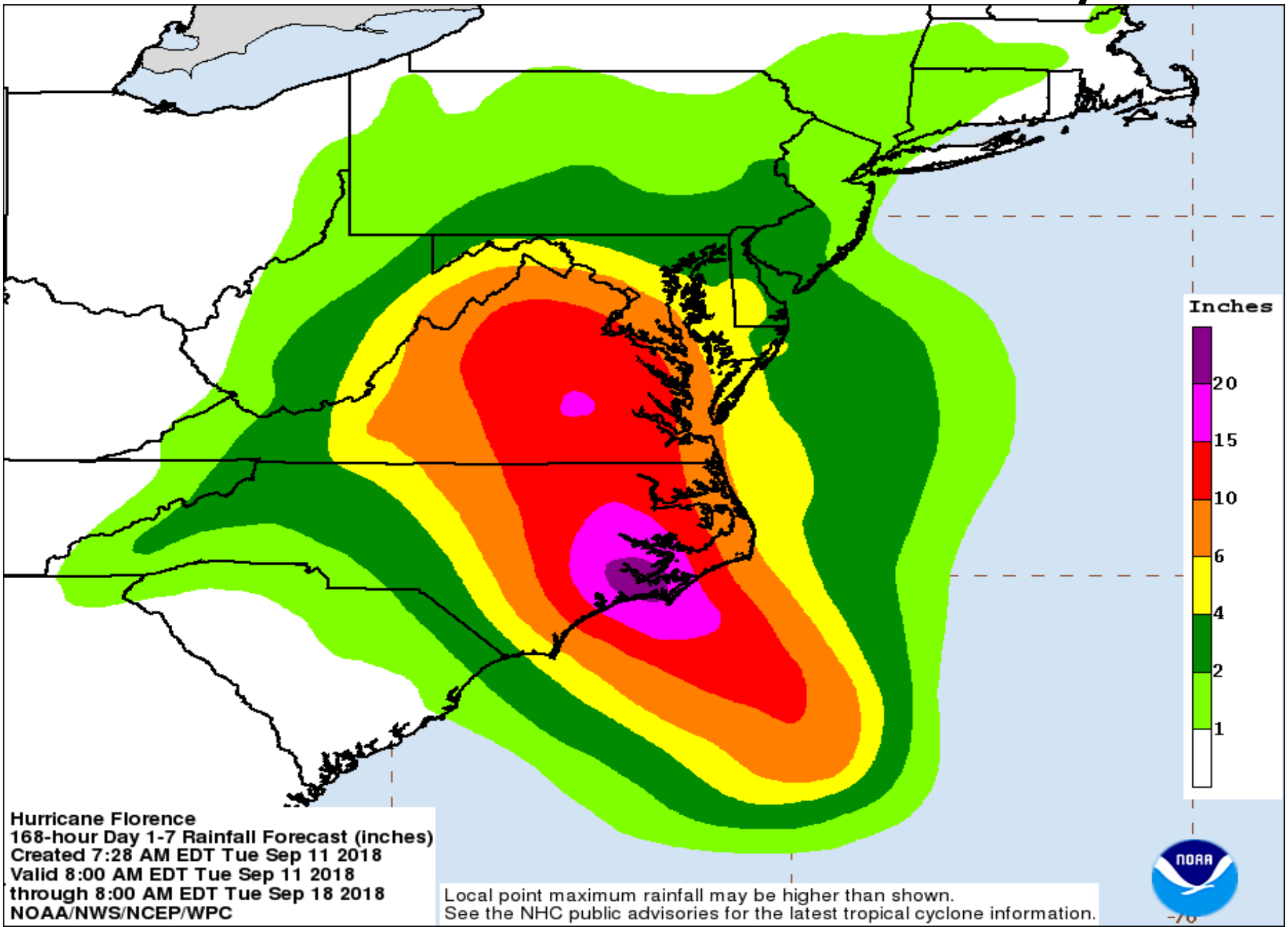




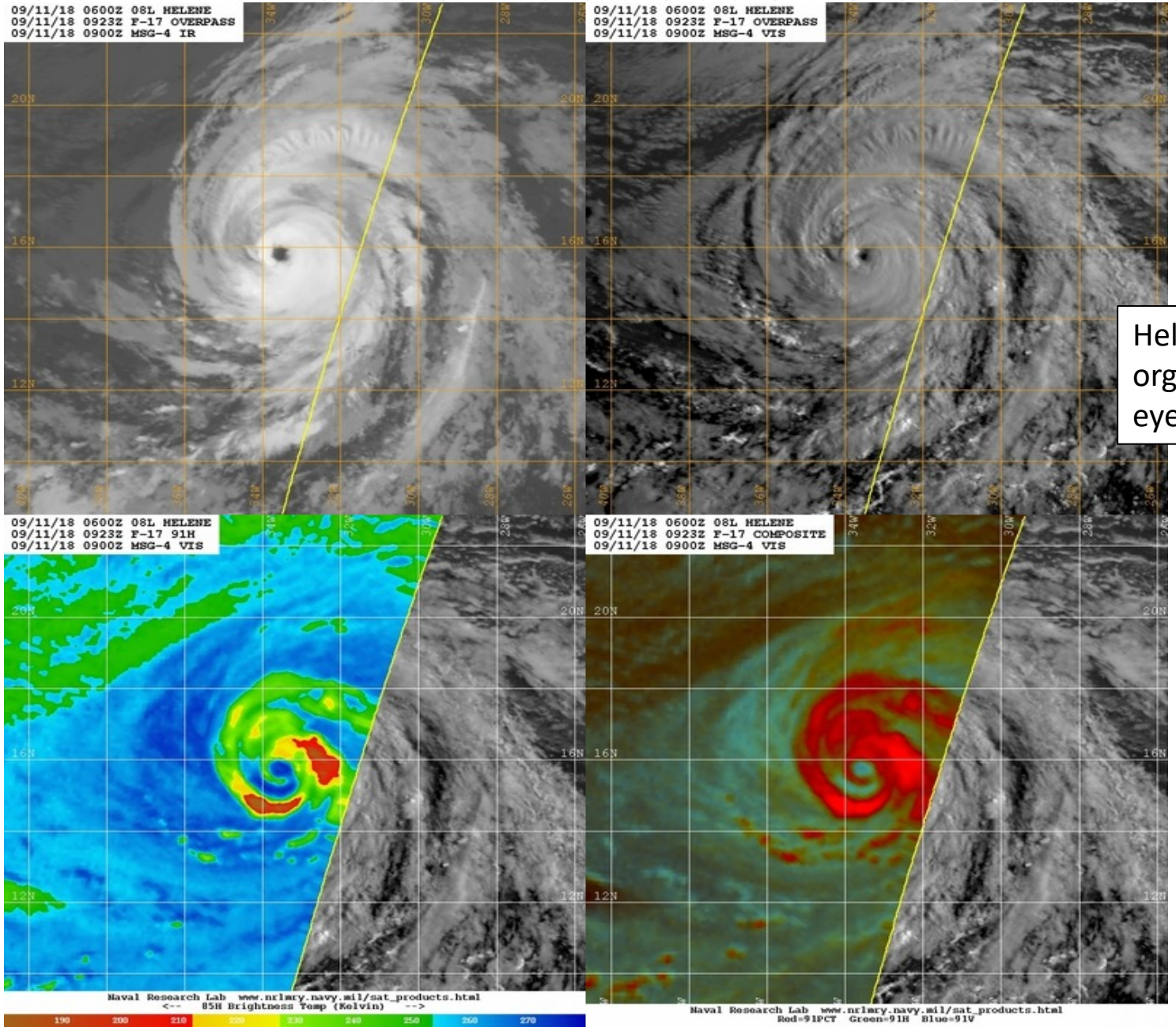


As Florence nears the Carolina Coast this week, wave heights will increase along the East Coast of Florida. This will result in a high risk of rip currents, minor beach erosion, and possible coastal flooding issues. Peak wave action should occur on Wednesday and Thursday before decreasing on Friday

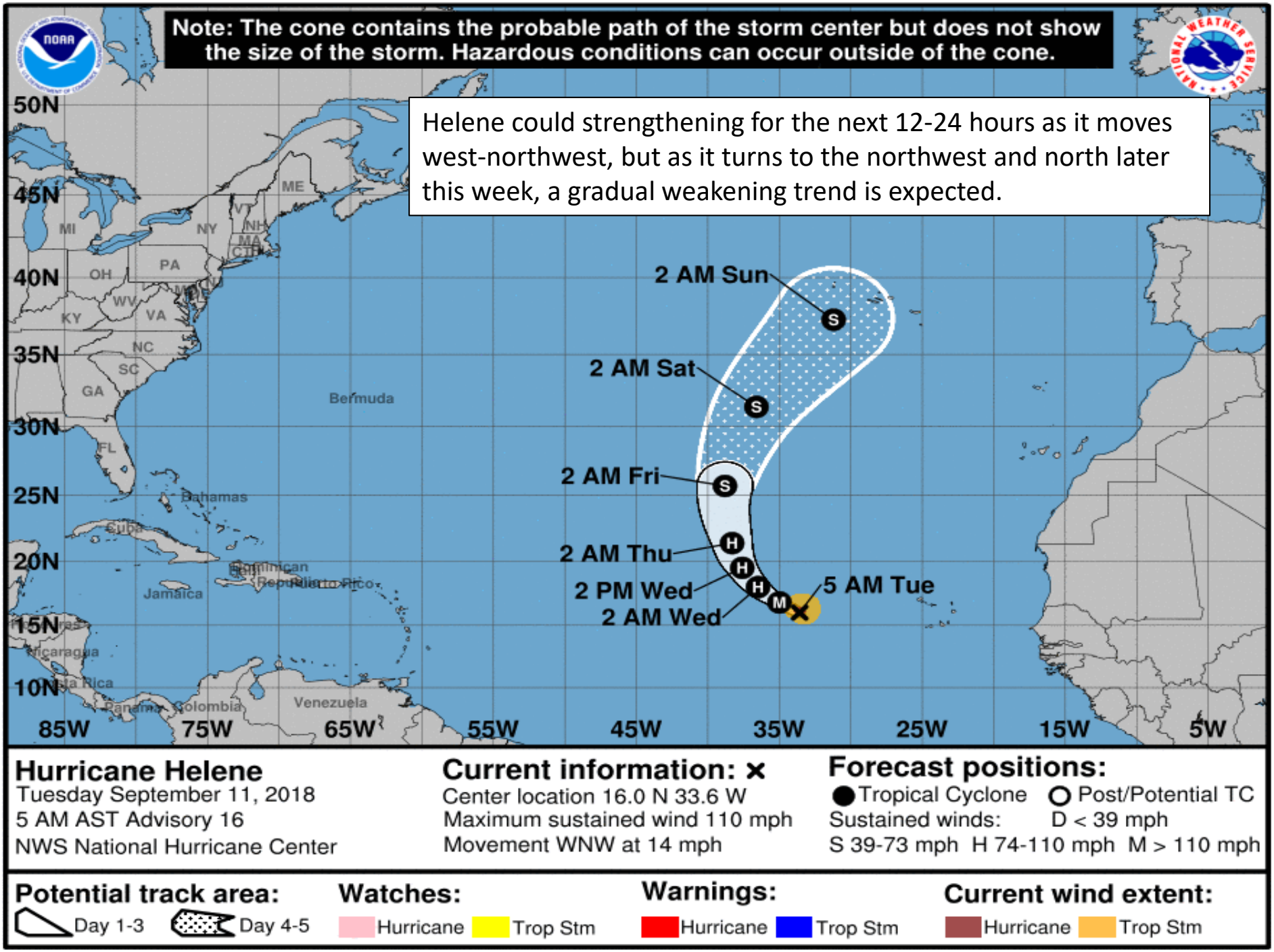
Forecast rainfall – Next 7 Days



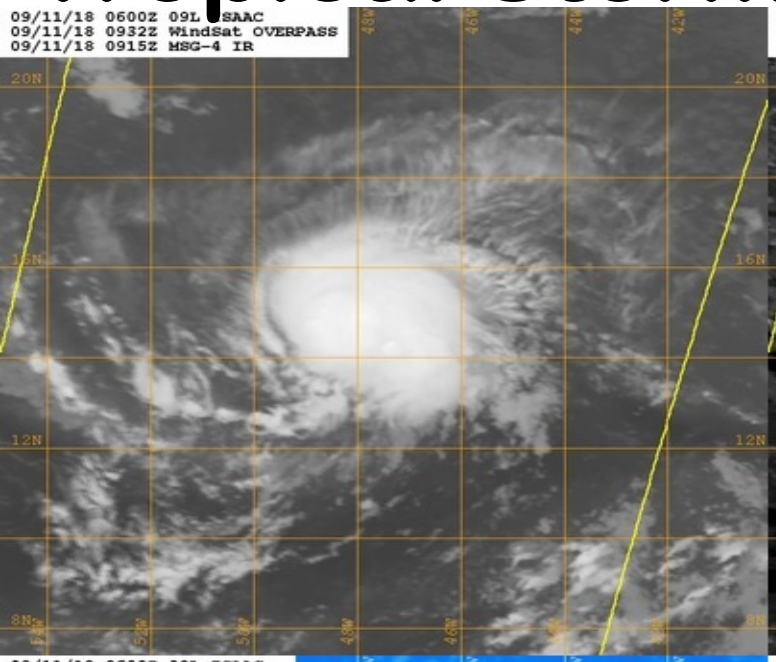
Hurricane Helene Satellite Image

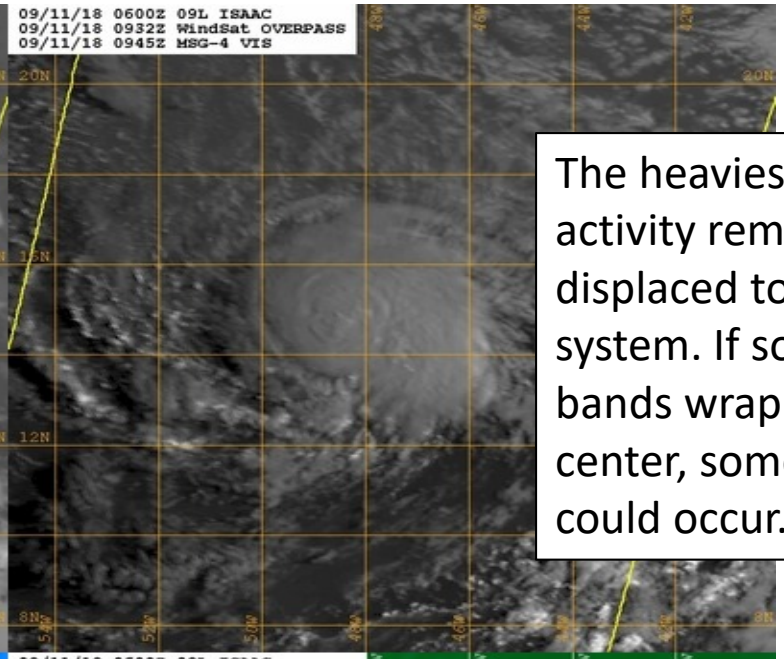


Helene remains well organized with a large eye remaining visible.

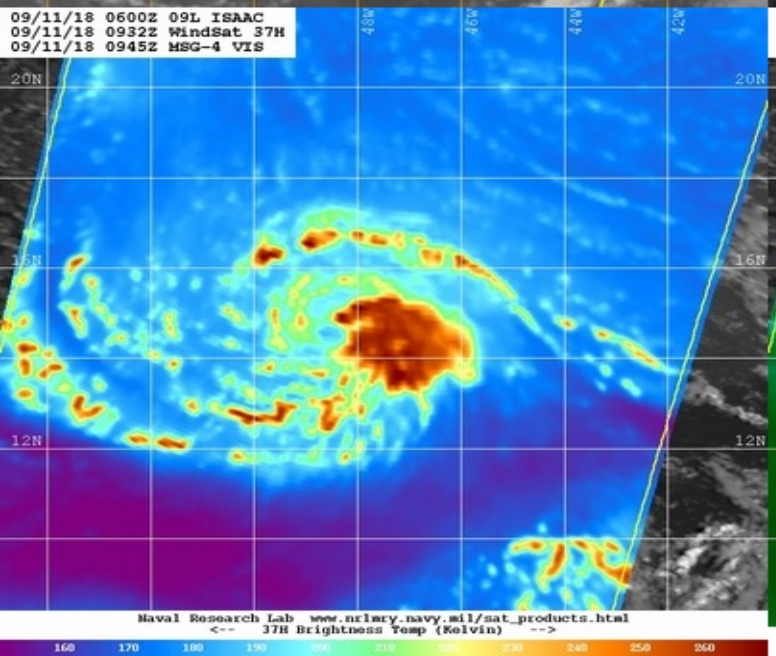

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.
Helene could strengthening for the next 12-24 hours as it moves west-northwest, but as it turns to the northwest and north later this week, a gradual weakening trend is expected.
2 AM Sun
2 AM Sat
2 AM Fri
2 AM Thu
2 PM Wed
2 AM Wed
5 AM Tue
50N
45N
40N
35N
30N
25N
20N
15N
10N
85W
75W
65W
55W
45W
35W
25W
15W
5W
Bermuda
Bahamas
Jamaica
Venezuela
Colombia
Panama
Nicaragua
Costa Rica
Puerto Rico
Hurricane Helene
Tuesday September 11, 2018
5 AM AST Advisory 16
NWS National Hurricane Center
Current information:
Center location 16.0 N 33.6 W
Maximum sustained wind 110 mph
Movement WNW 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

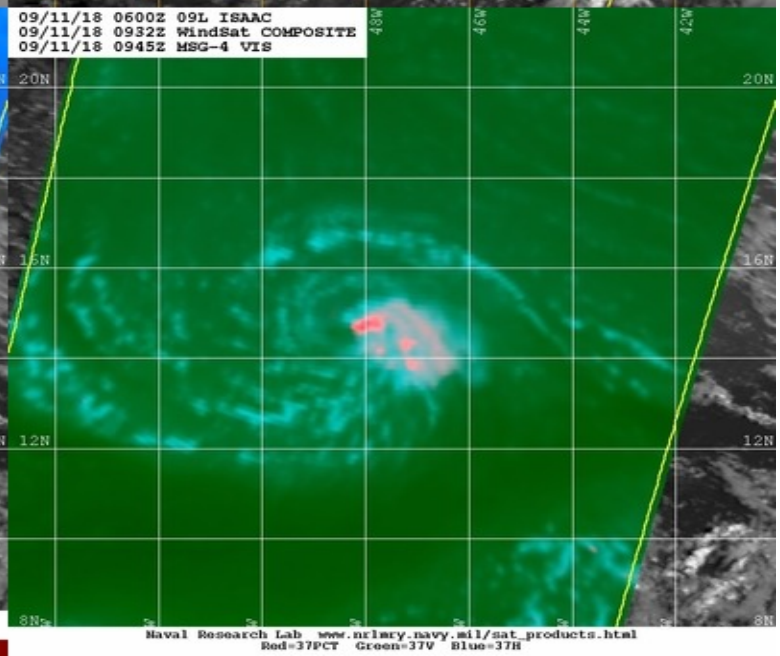
Tropical Storm Isaac Satellite Image

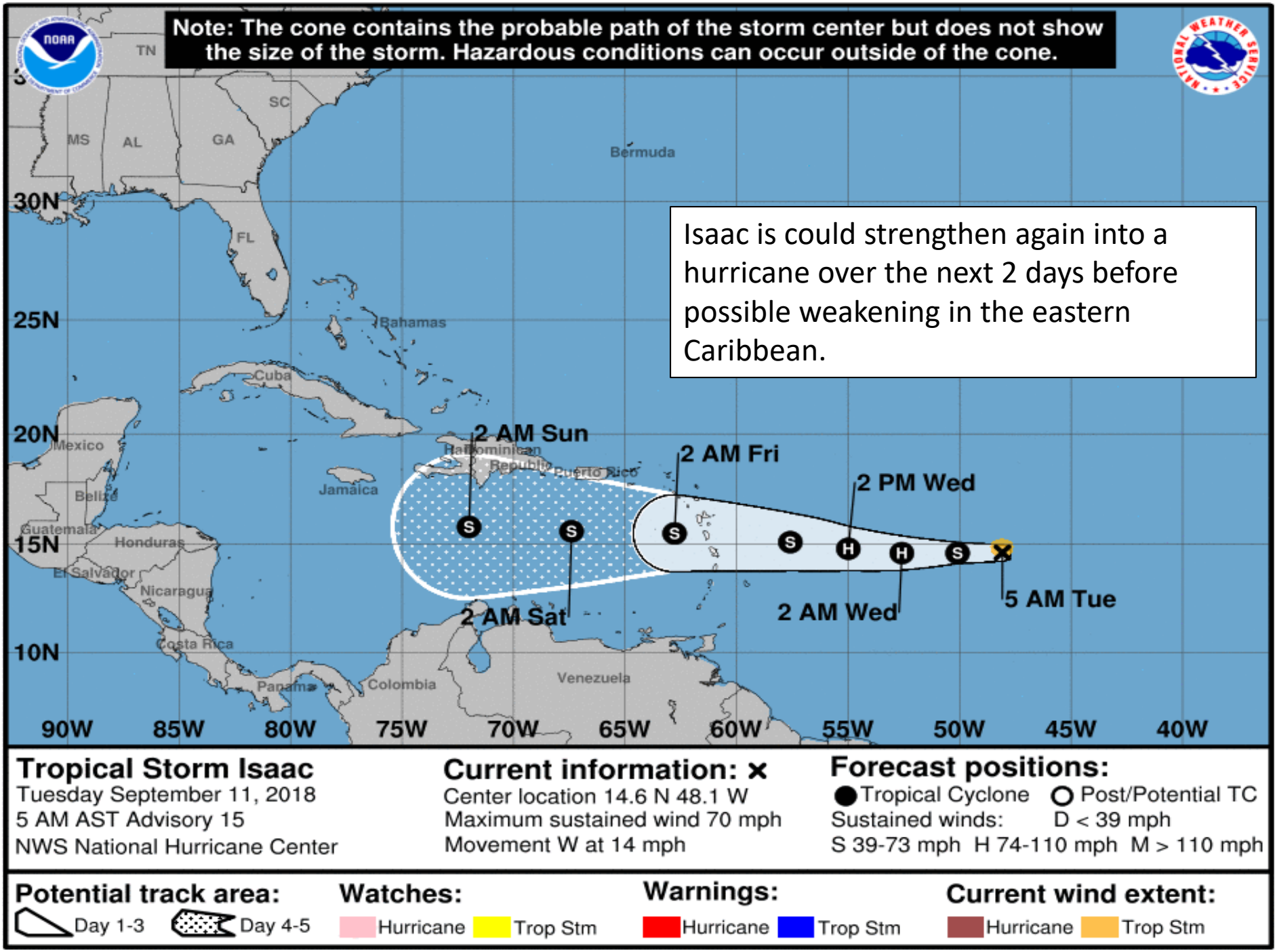




The heaviest thunderstorm activity remains mostly displaced to the east of the system. If some strong rain bands wrap around the center, some strengthening could occur.







Tropical Storm Isaac

Tuesday September 11, 2018
5 AM AST Advisory 15
NWS National Hurricane Center

Current information:

Center location 14.6 N 48.1 W
Maximum sustained wind 70 mph
Movement W 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

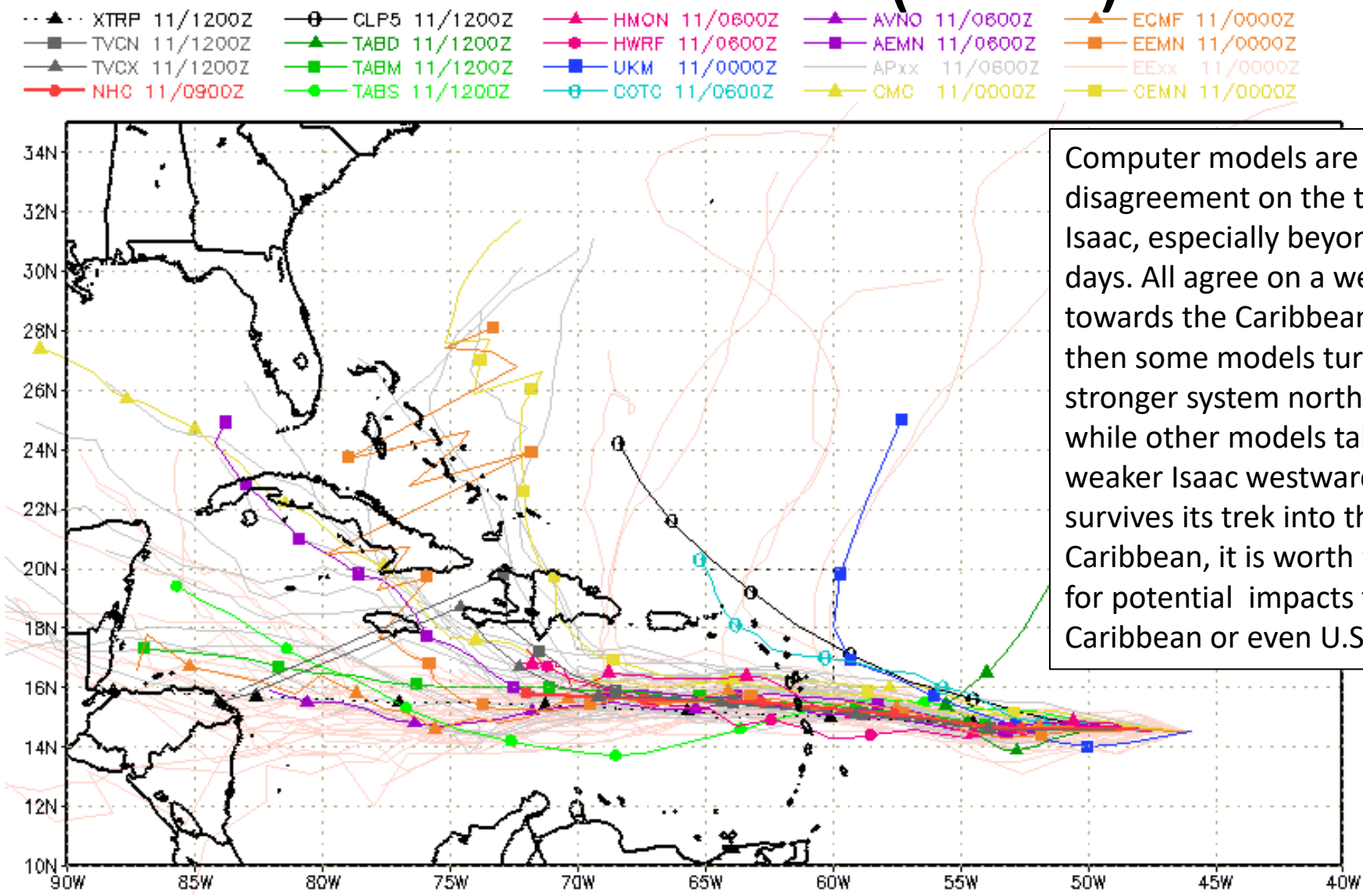
Potential track area: Day 1-3, Day 4-5

Watches: Hurricane, Trop Stm

Warnings: Hurricane, Trop Stm

Current wind extent: Hurricane, Trop Stm

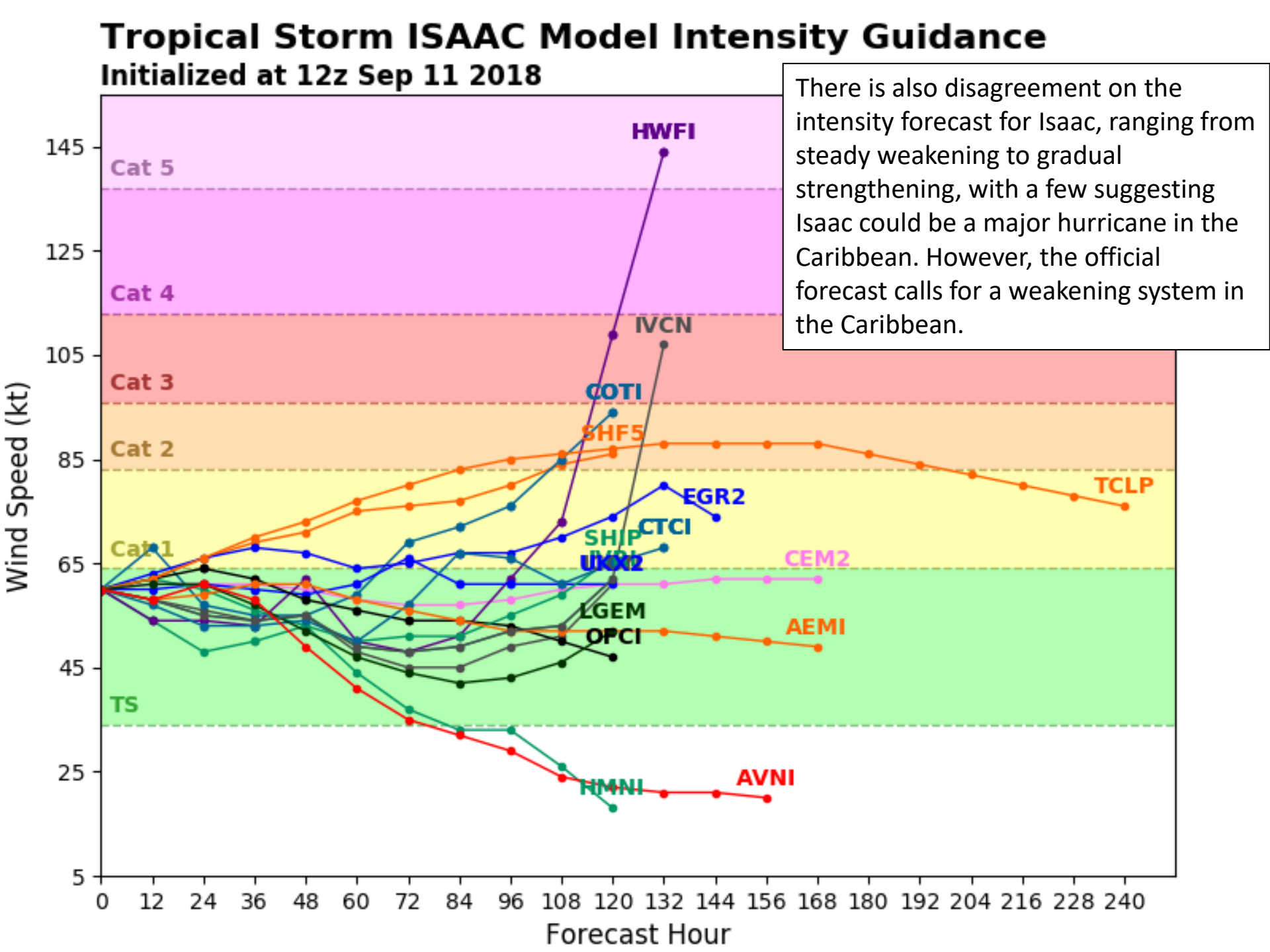
Track Models (Isaac)



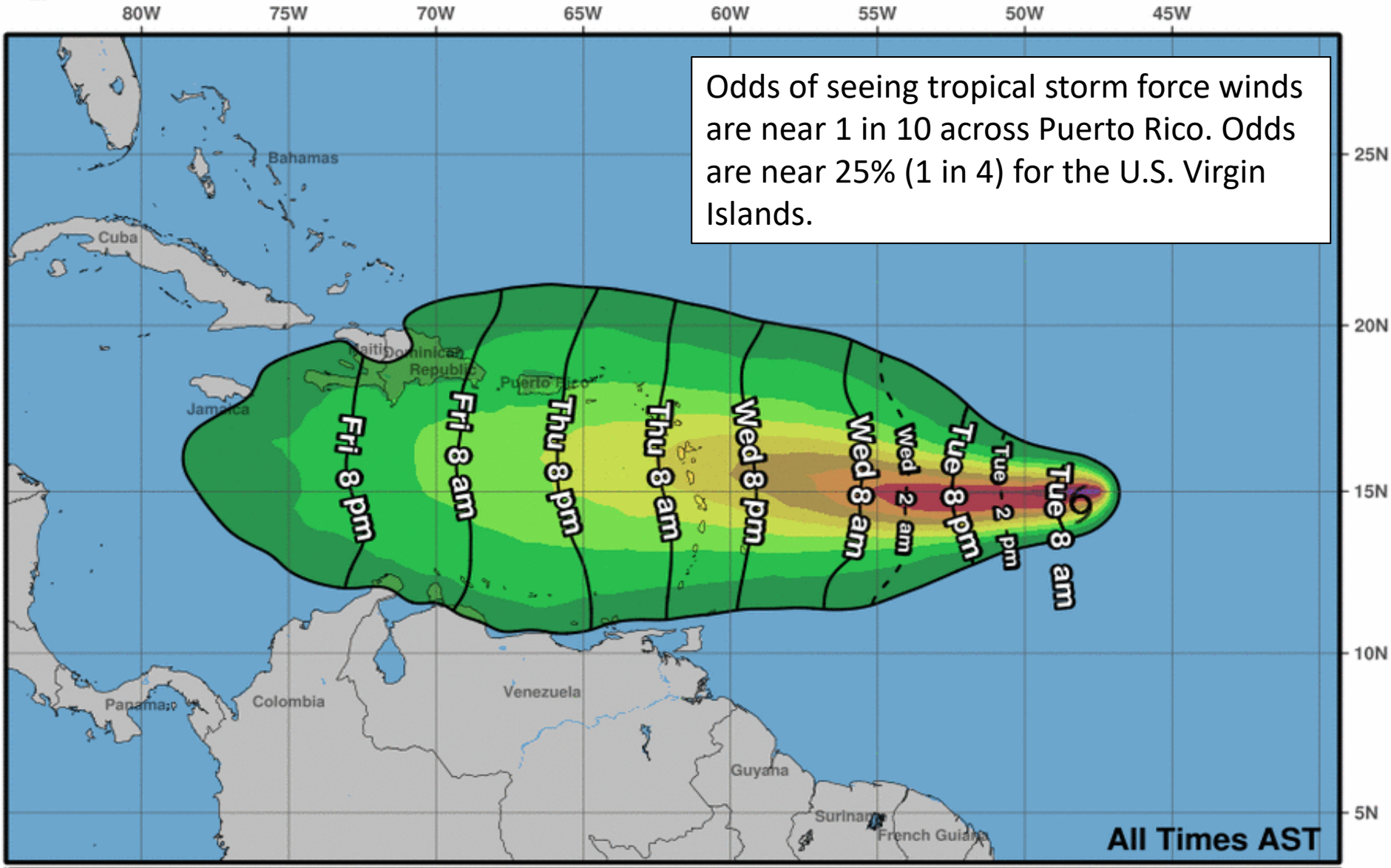
Computer models are in disagreement on the track of Isaac, especially beyond 4-5 days. All agree on a west track towards the Caribbean, but then some models turn a stronger system northward while other models take a weaker Isaac westward. If Isaac survives its trek into the Caribbean, it is worth watching for potential impacts to the Caribbean or even U.S.

storm_09
sfwmd.gov
weather@sfwmd.gov
11-Sep 08:52EDT

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


Tropical Storm ISAAC Model Intensity Guidance
Initialized at 12z Sep 11 2018
There is also 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. However, the official forecast calls for a weakening system in the Caribbean.
Cat 5
Cat 4
Cat 3
Cat 2
Cat 1
TS
HWFI
IVCN
COTI
SHF5
TCLP
EGR2
CTCI
SHIP
CEM2
UKX2
LGEM
AEMI
OPCI
HMNI
AVNI
Wind Speed (kt)
Forecast Hour
5
25
45
65
85
105
125
145
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
192
204
216
228
240

Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



Odds of seeing tropical storm force winds are near 1 in 10 across Puerto Rico. Odds are near 25% (1 in 4) for the U.S. Virgin Islands.

Tropical Storm Isaac
Tue. Sep. 11, 2018 5 am AST
Advisory 15

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

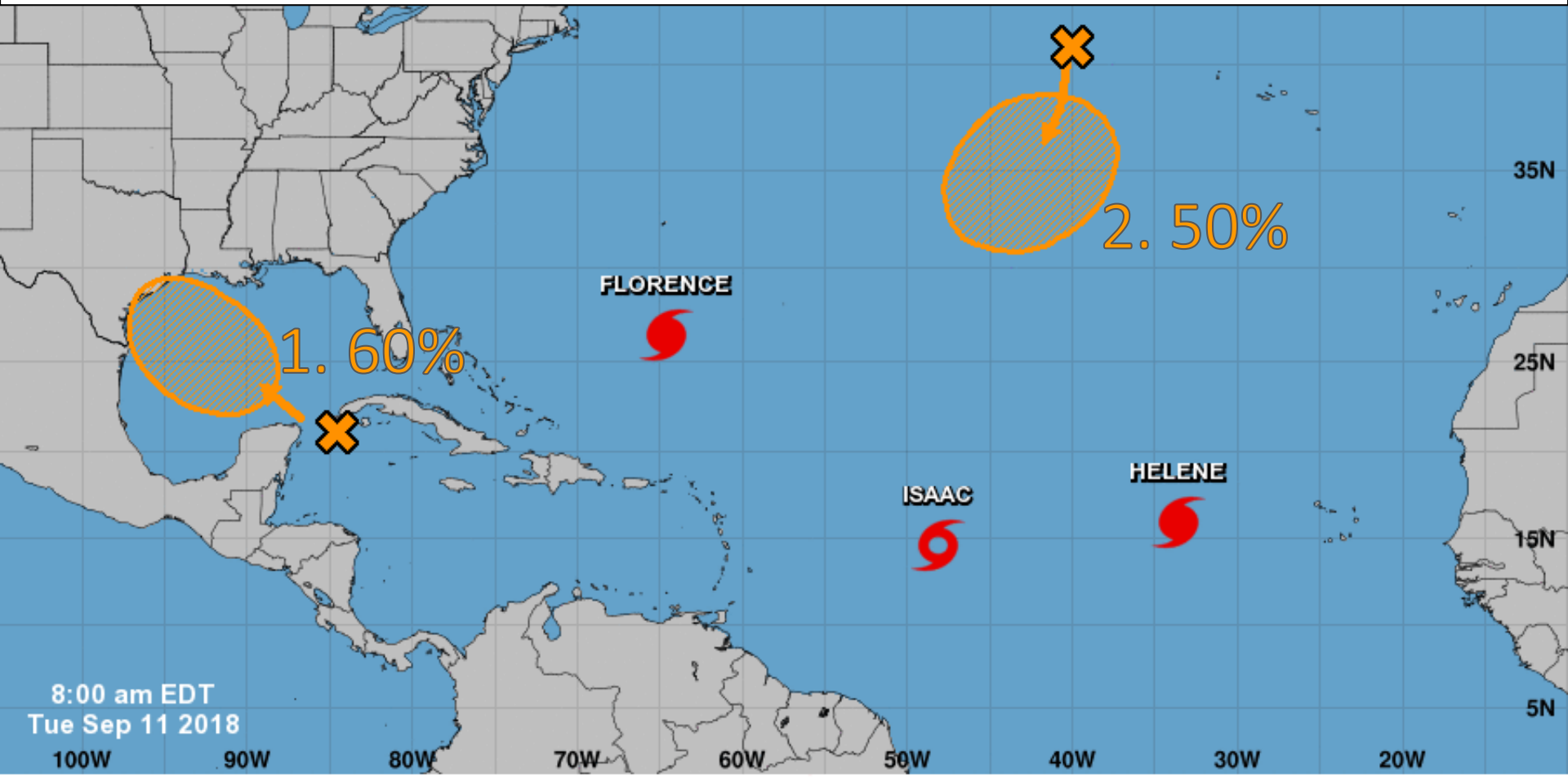
5-day chance of receiving sustained 34+ kt (39+ mph) winds

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

Five-Day Graphical Tropical Weather Outlook

1. A large disturbance in the extreme northwestern Caribbean Sea is showing signs of organization, but there are no signs of a surface circulation. Limited development is anticipated today, but upper-level winds are forecast to become more conducive, and a tropical depression could form by Friday while it moves across the western Gulf of Mexico. * Formation chance through 48 hours...**low**...30 percent. * Formation chance through 5 days...**medium**...60 percent.

2. An area of low pressure is forecast to form over the northeastern Atlantic Ocean and a tropical or subtropical depression could form by the end of the week while the low meanders over the northeastern Atlantic Ocean. * Formation chance through 48 hours...**low**...10 percent. * Formation chance through 5 days...**medium**...50 percent.

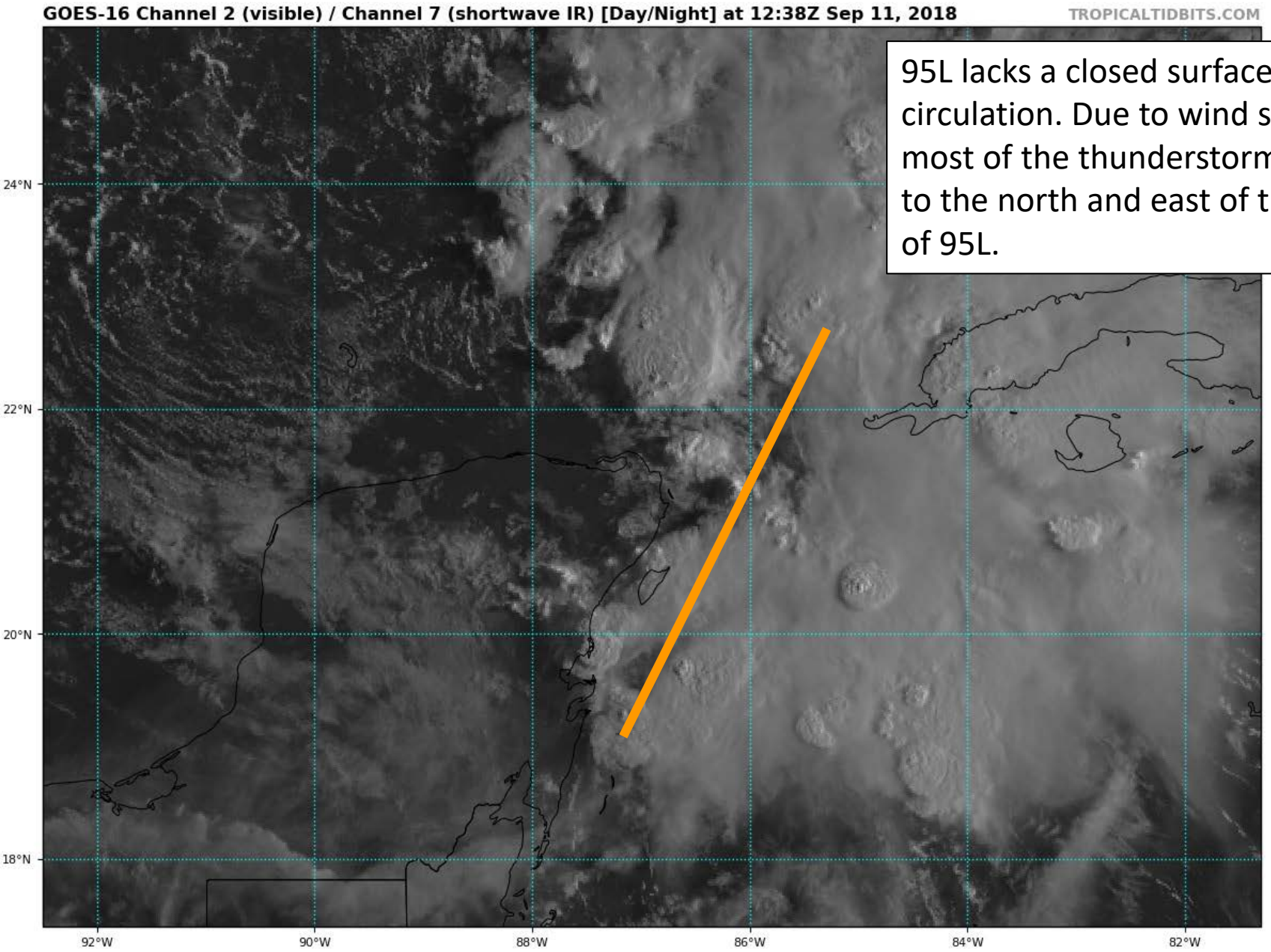


Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

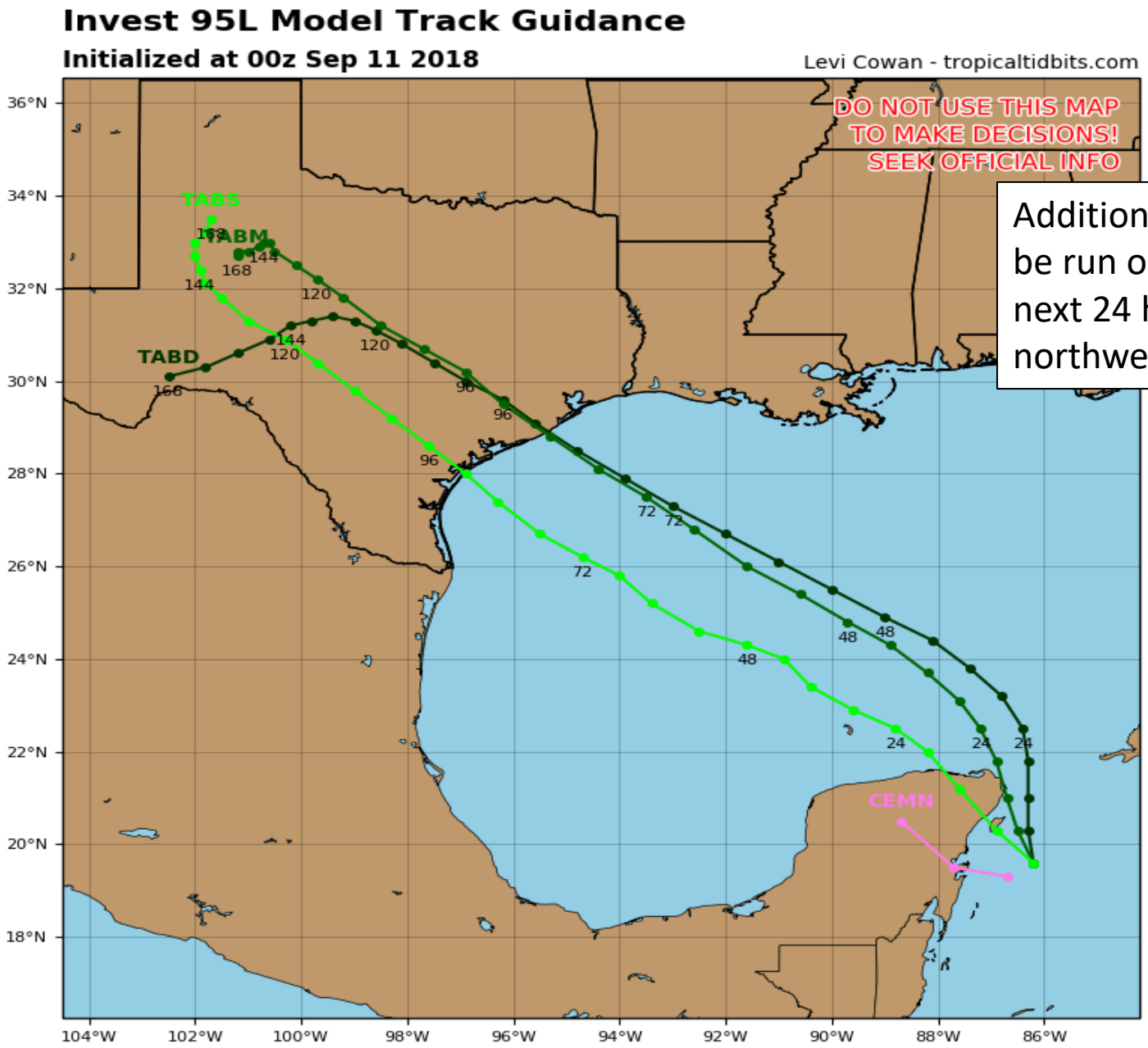
Post-Tropical Cyclone or Remnants

Invest 95L Satellite Image

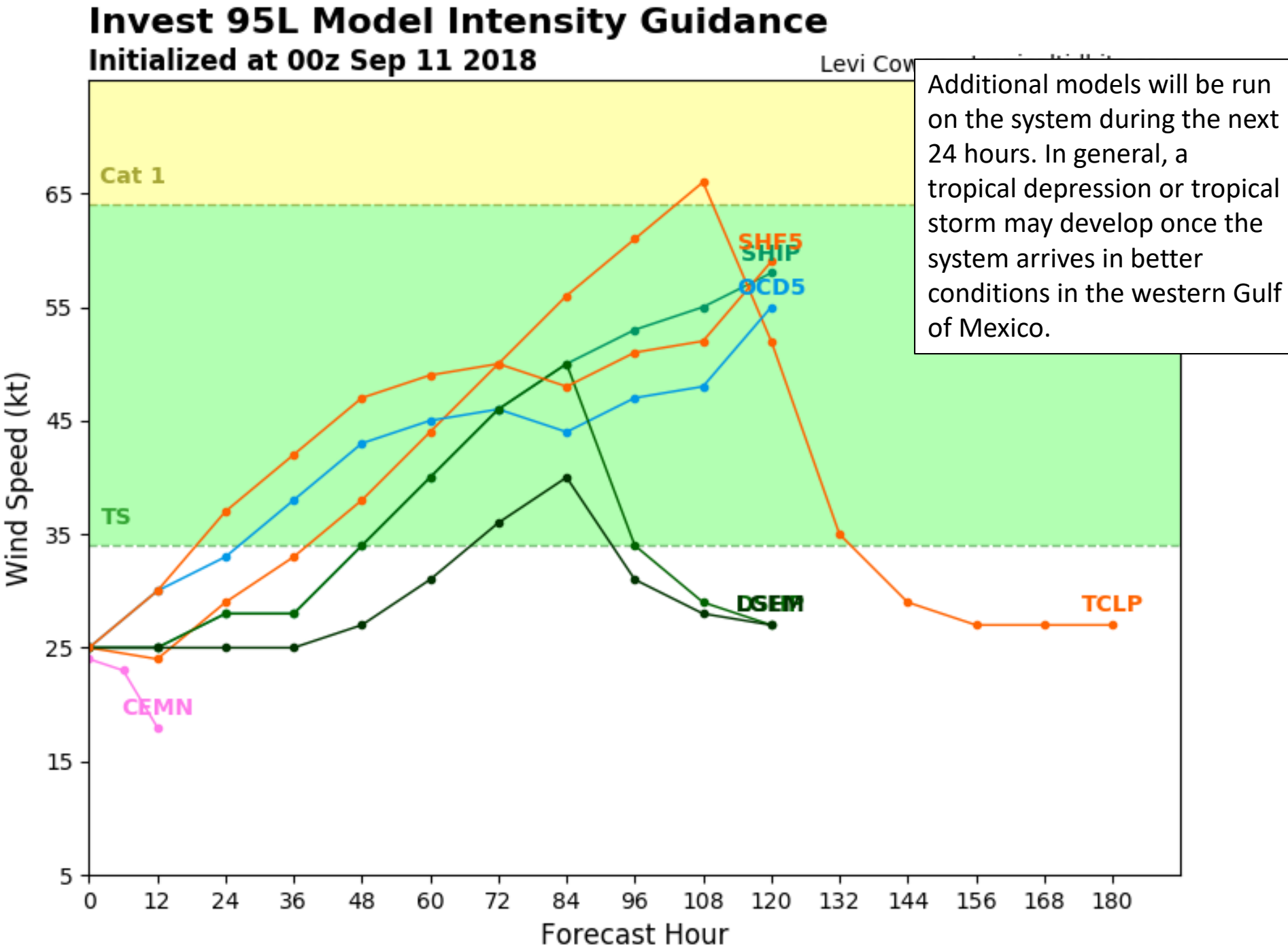


95L lacks a closed surface circulation. Due to wind shear, most of the thunderstorms are to the north and east of the axis of 95L.

Track Models (95L)



Additional computer models will be run on the system during the next 24 hours, but a track to the northwest is expected.



Additional models will be run on the system during the next 24 hours. In general, a tropical depression or tropical storm may develop once the system arrives in better conditions in the western Gulf of Mexico.

Summary

- At 8 AM EDT Tuesday, Hurricane Florence was located in the western Atlantic Ocean about 950 miles east-southeast of Cape Fear, North Carolina, or approximately 960 miles east of Boynton Beach, Florida.
- Maximum sustained winds have decreased to 130 mph due to an eyewall replacement cycle, but Florence remains a Category 4 on the Saffir-Simpson Hurricane Wind Scale.
- Strengthening is forecast and Florence may approach category 5 status tomorrow. Some additional intensity fluctuations are possible due to any other eyewall replacement cycles until landfall. These cycles also act to increase the size of the wind field of the storm.
- Florence is beginning to accelerate, now moving to the west-northwest at 15 mph. This motion with a further 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.
- The forecast track beyond landfall is still somewhat uncertain and the remnants of Florence could stall or meander around the southern Appalachians through early next week.
- Hurricane Hunters and NOAA research aircraft are investigating the system and the surrounding environment daily.

- At 5 AM EDT Tuesday, Hurricane Helene was located in the eastern Atlantic Ocean about 620 miles west of the Cabo Verde Islands.
- Maximum sustained winds have increased to near 110 mph, making Helene a Category 2 on the Saffir-Simpson Hurricane Wind Scale.
- Helene could become a major hurricane today as it moves quickly west-northwest near 14 mph.
- A turn to the north is forecast to occur on Wednesday and should induce a gradual weakening trend through the weekend in the open Atlantic.

- Isaac weakened to a tropical storm overnight.
- At 5 AM EDT Tuesday, Tropical Storm Isaac was located about 880 miles east of the Windward Islands, or about 2,200 miles southeast of Miami, FL and moving west at 14 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 are near 70 mph. Isaac could once again become a hurricane over the days or so before a possible weakening trend occurs later this week when as it approached the Leeward Islands and eastern Caribbean Sea.
- The forecast track past 5 days remains uncertain 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 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 of over the open waters.

- A tropical wave, designated as invest 95L, will be moving into the southwestern Gulf of Mexico over the next day or so and has a 60% (medium) chance of becoming a depression or storm before reaching the Texas coast in 4 days.
- Regardless of development, this system is likely to bring increased rain chances to Texas and Louisiana later this week.

- The next names on the list are Joyce and Kirk, or number 10 and 11 if first designated a PTC or Tropical Depression.

Florida Outlook:

- Chances of direct impacts to Northeast Florida from Florence continue to decrease, 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 have decreased and are less than 10%.
- 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.
- Breaking waves along the beach in Northeast and east-central Florida will peak on Wednesday and Thursday as high as 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 later this week.

- 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 at 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.

- Hurricane Helene poses no threat to the U.S. or Caribbean Islands.
- The non-tropical low developing in the northeast Atlantic poses no threat to the U.S. or Caribbean Islands.

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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