TROPICAL UPDATE

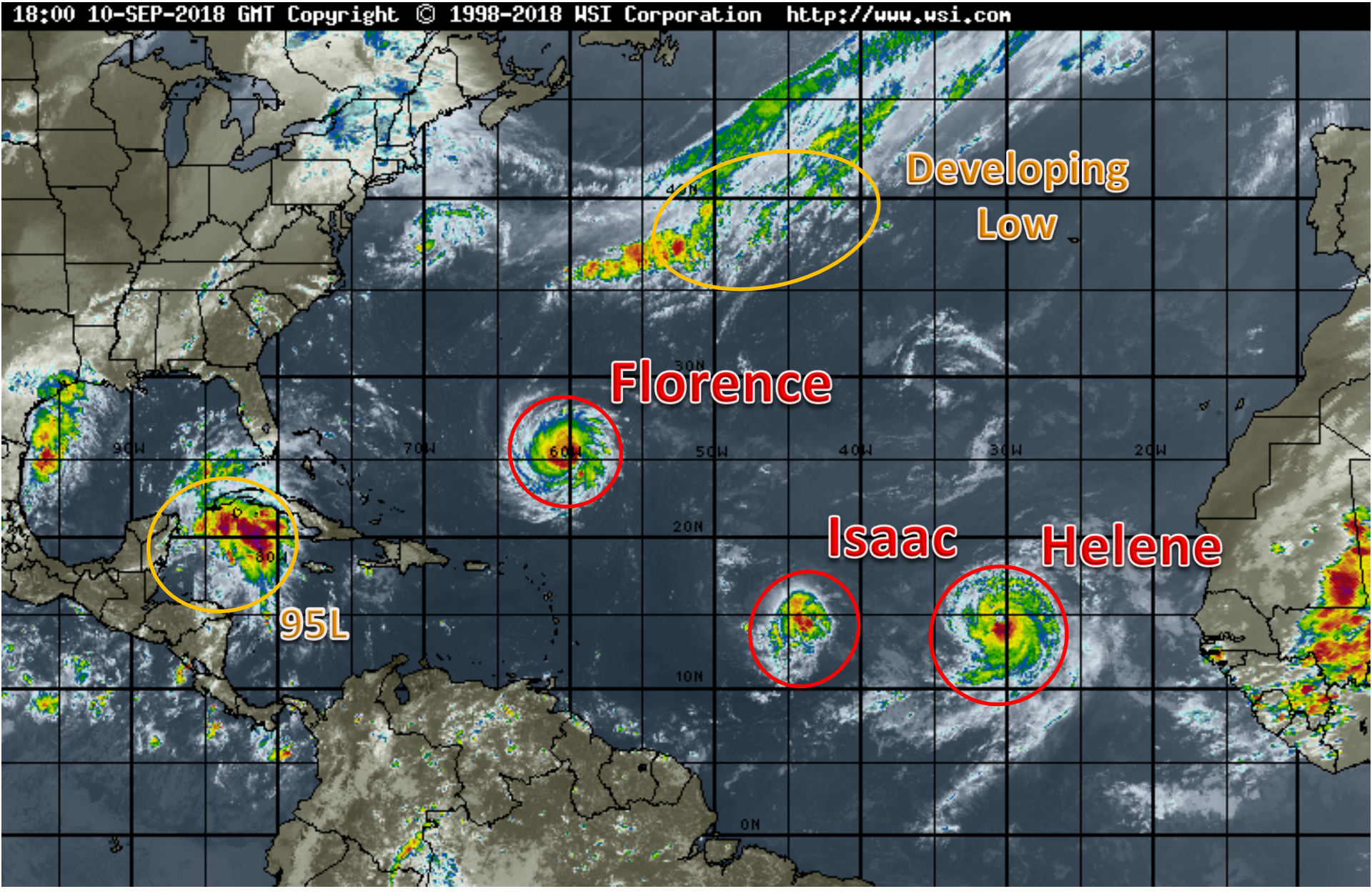
5 PM EDT

Monday, September 10, 2018

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

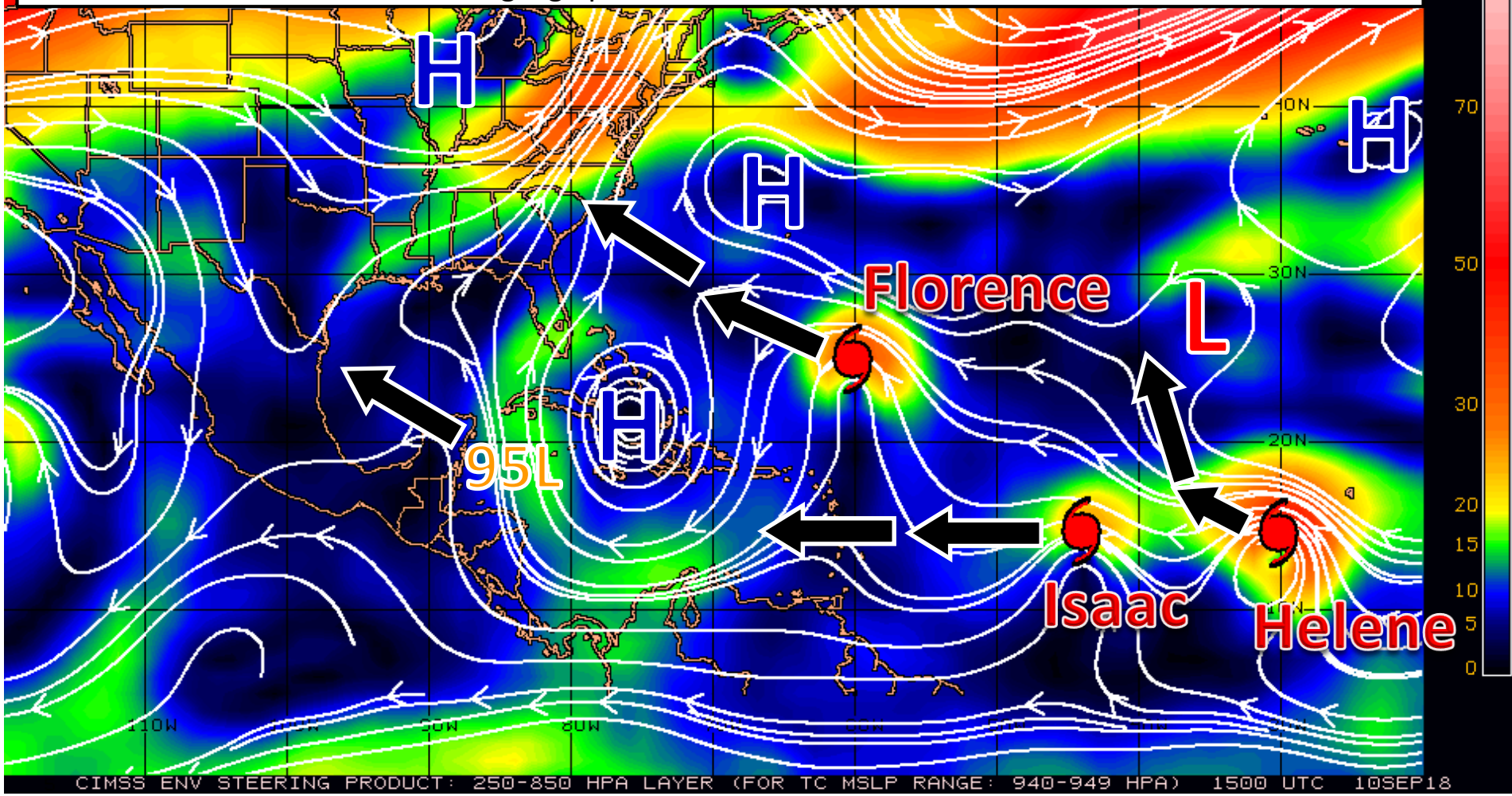
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an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



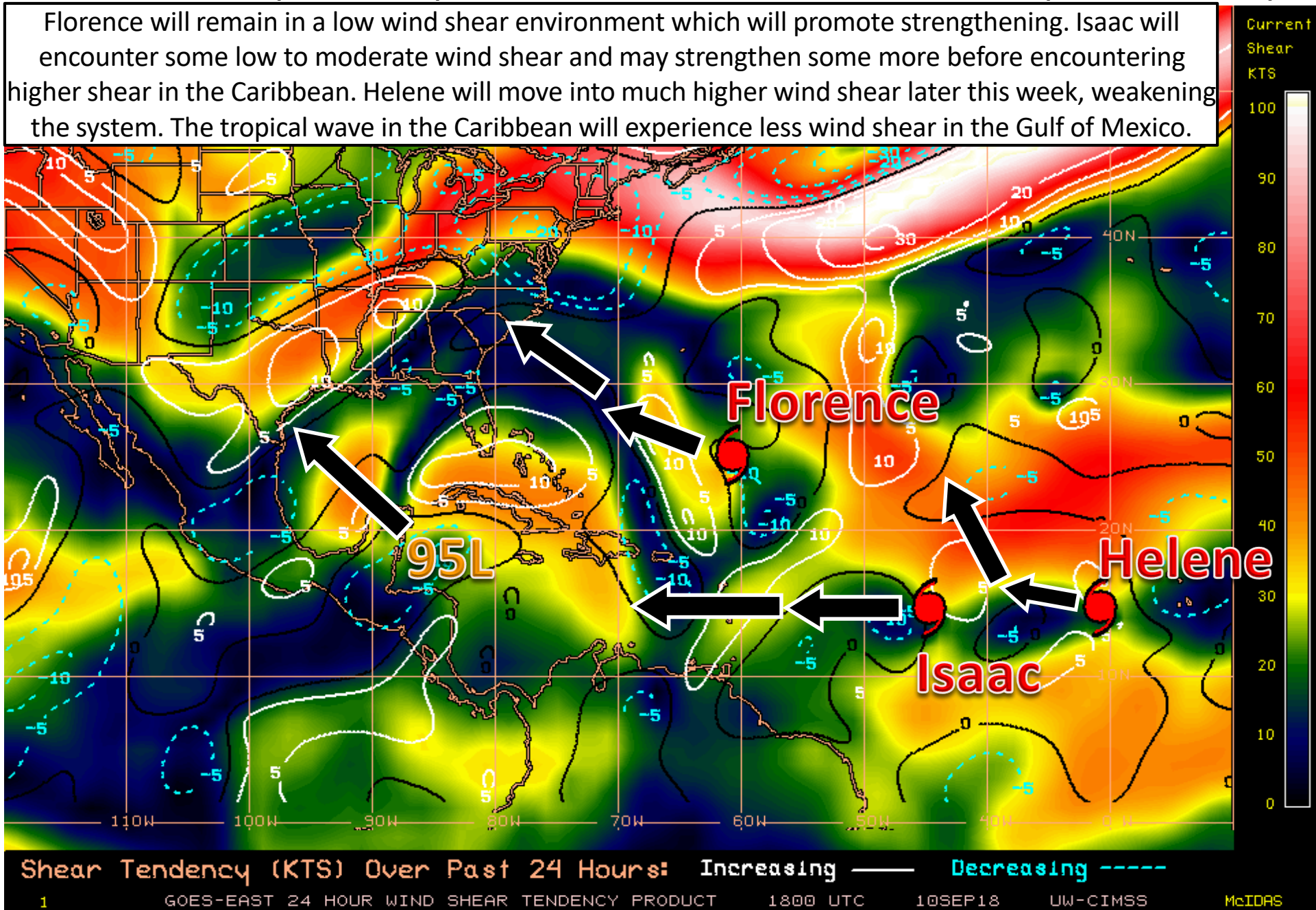
Steering Currents

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 continue to drive Florence west-northwest and eventually northwest. 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. The tropical wave will track northwest under the building high pressure in the Northeastern United States.

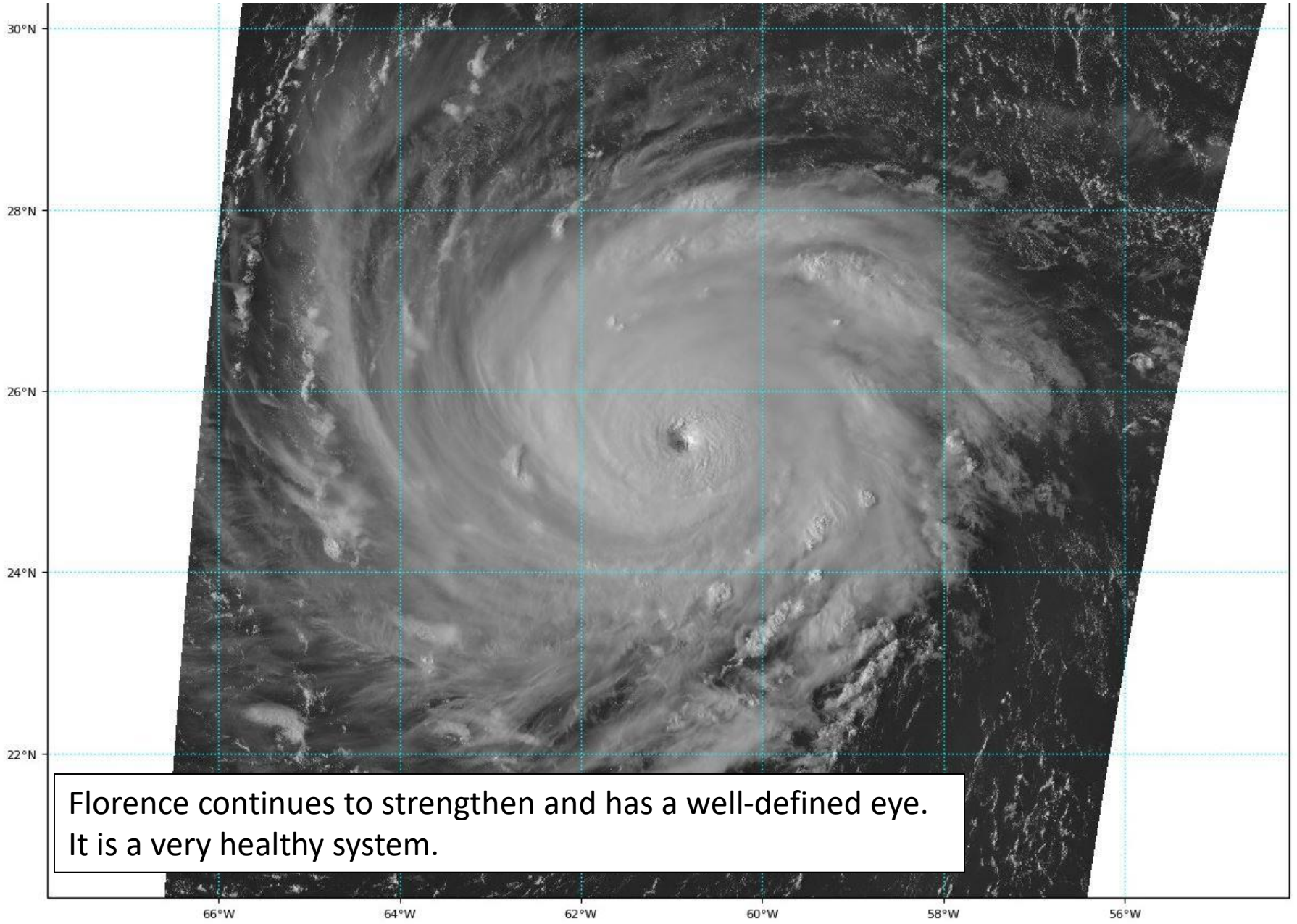


Wind Shear (shaded) and Wind Shear Tendencies (contoured)

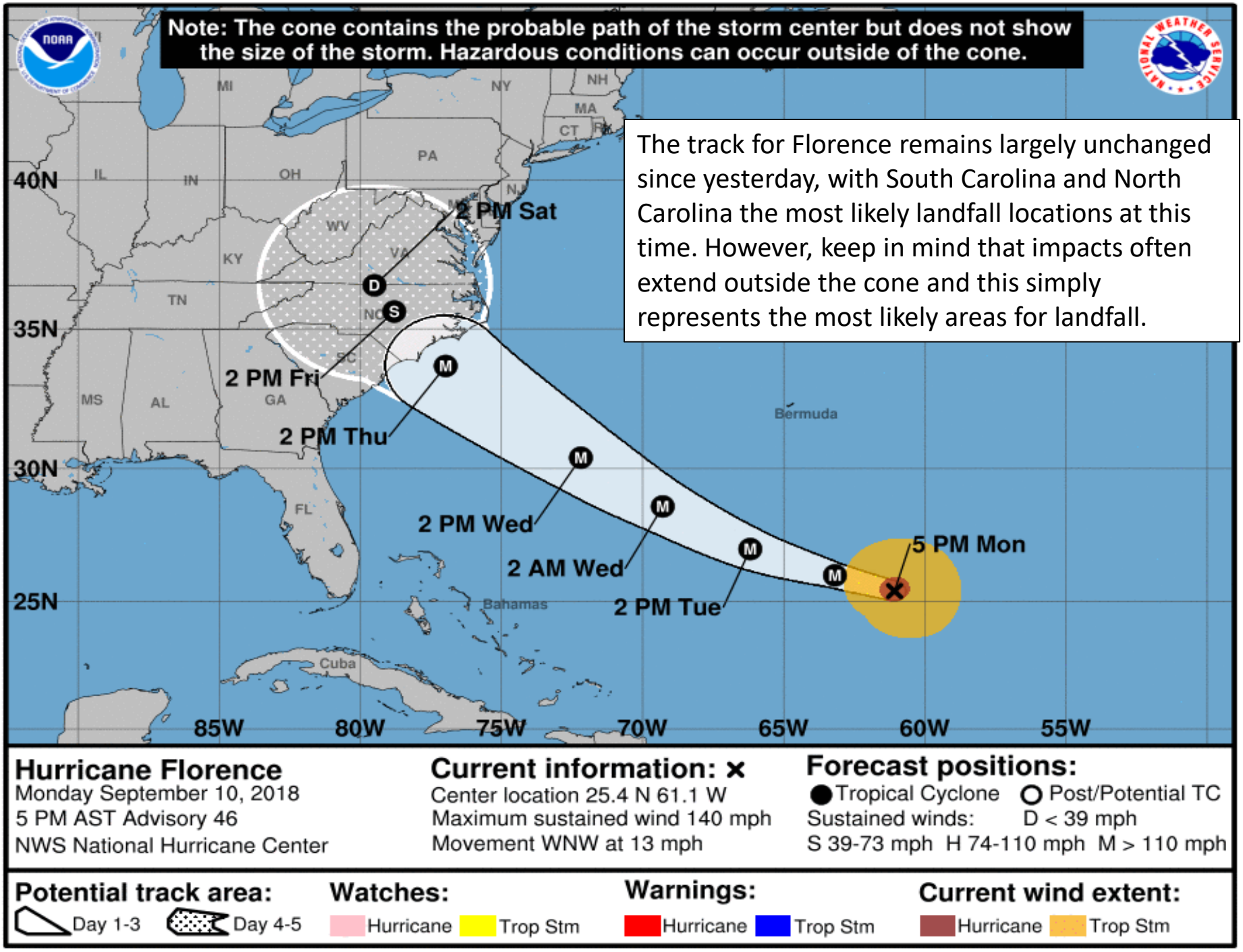
Florence will remain in a low wind shear environment which will promote strengthening. Isaac will encounter some low to moderate wind shear and may strengthen some more before encountering higher shear in the Caribbean. Helene will move into much higher wind shear later this week, weakening the system. The tropical wave in the Caribbean will experience less wind shear in the Gulf of Mexico.



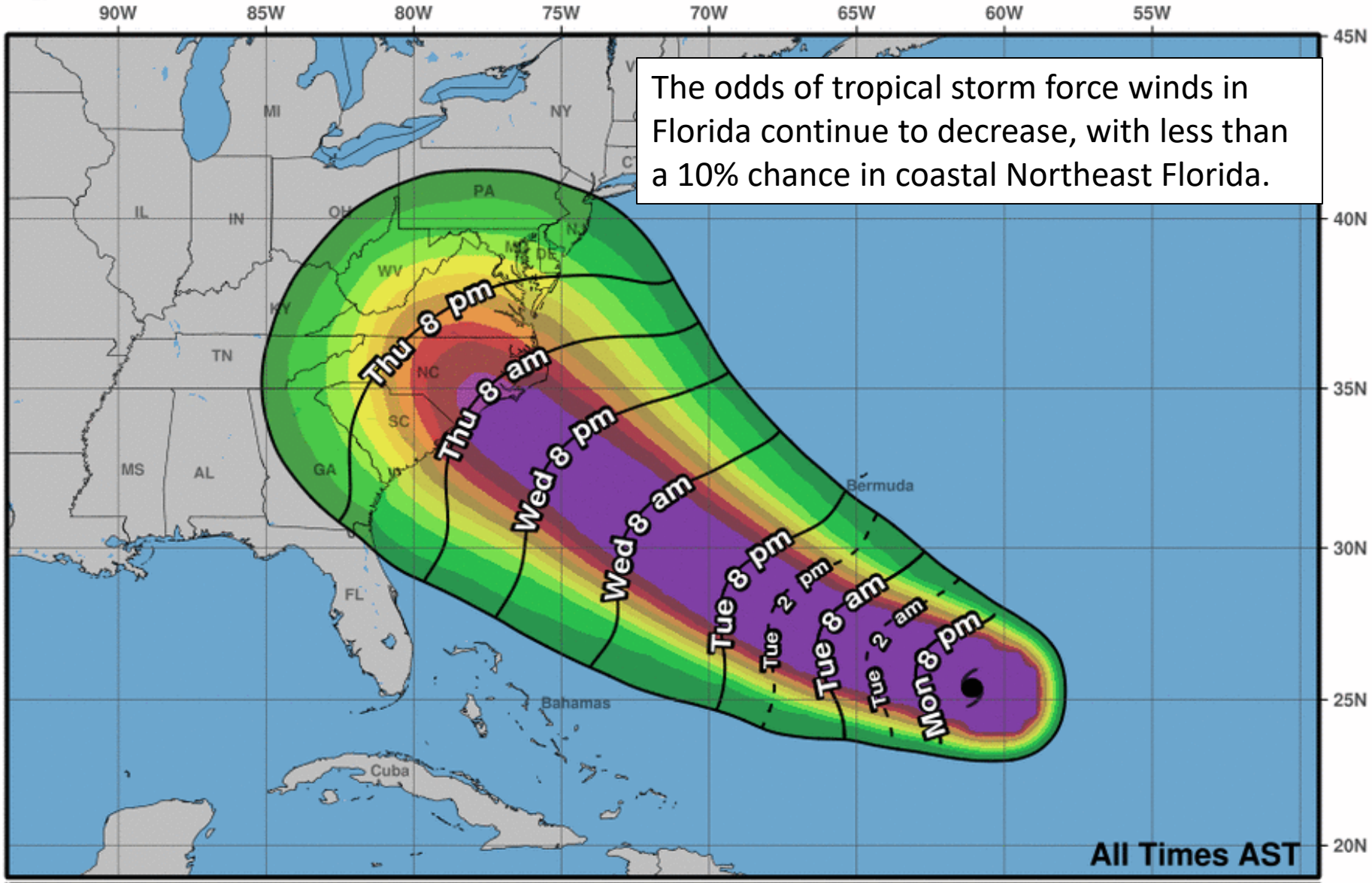
Hurricane Florence Satellite Image



Florence continues to strengthen and has a well-defined eye.
It is a very healthy 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.
The track for Florence remains largely unchanged since yesterday, with South Carolina and North Carolina the most likely landfall locations at this time. However, keep in mind that impacts often extend outside the cone and this simply represents the most likely areas for landfall.
2 PM Sat
2 PM Fri
2 PM Thu
2 PM Wed
2 AM Wed
2 PM Tue
5 PM Mon
Bermuda
Bahamas
Cuba
40N
35N
30N
25N
85W
80W
75W
70W
65W
60W
55W
Hurricane Florence
Monday September 10, 2018
5 PM AST Advisory 46
NWS National Hurricane Center
Current information:
Center location 25.4 N 61.1 W
Maximum sustained wind 140 mph
Movement WNW 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

Most Likely 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.

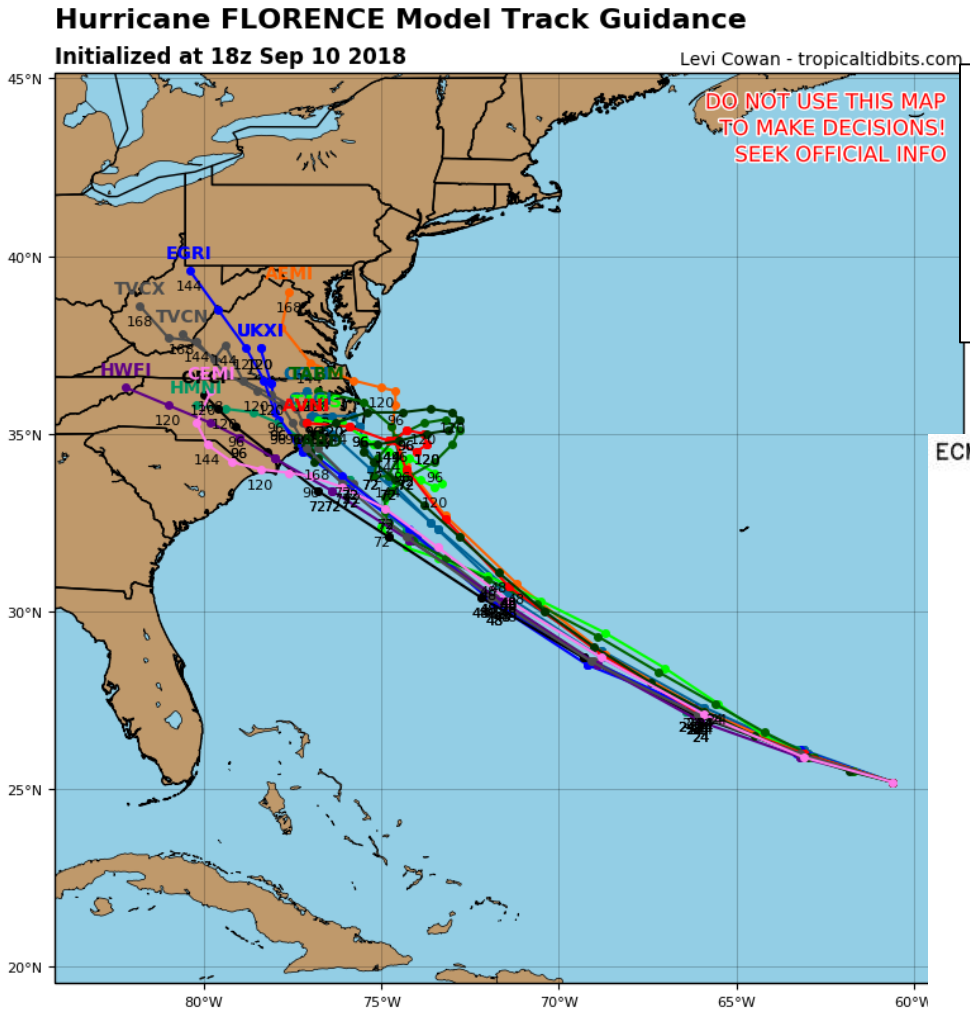
Hurricane Florence
Mon. Sep. 10, 2018 5 pm AST
Advisory 46

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

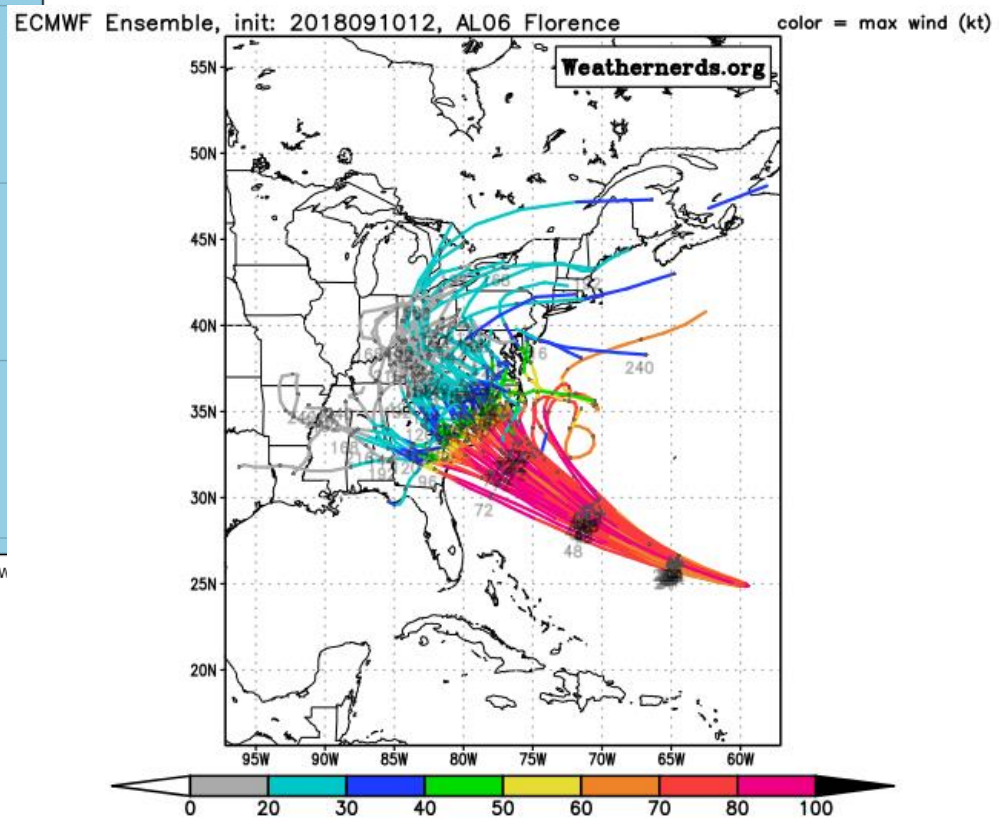
5-day chance of receiving sustained 34+ kt (39+ mph) winds

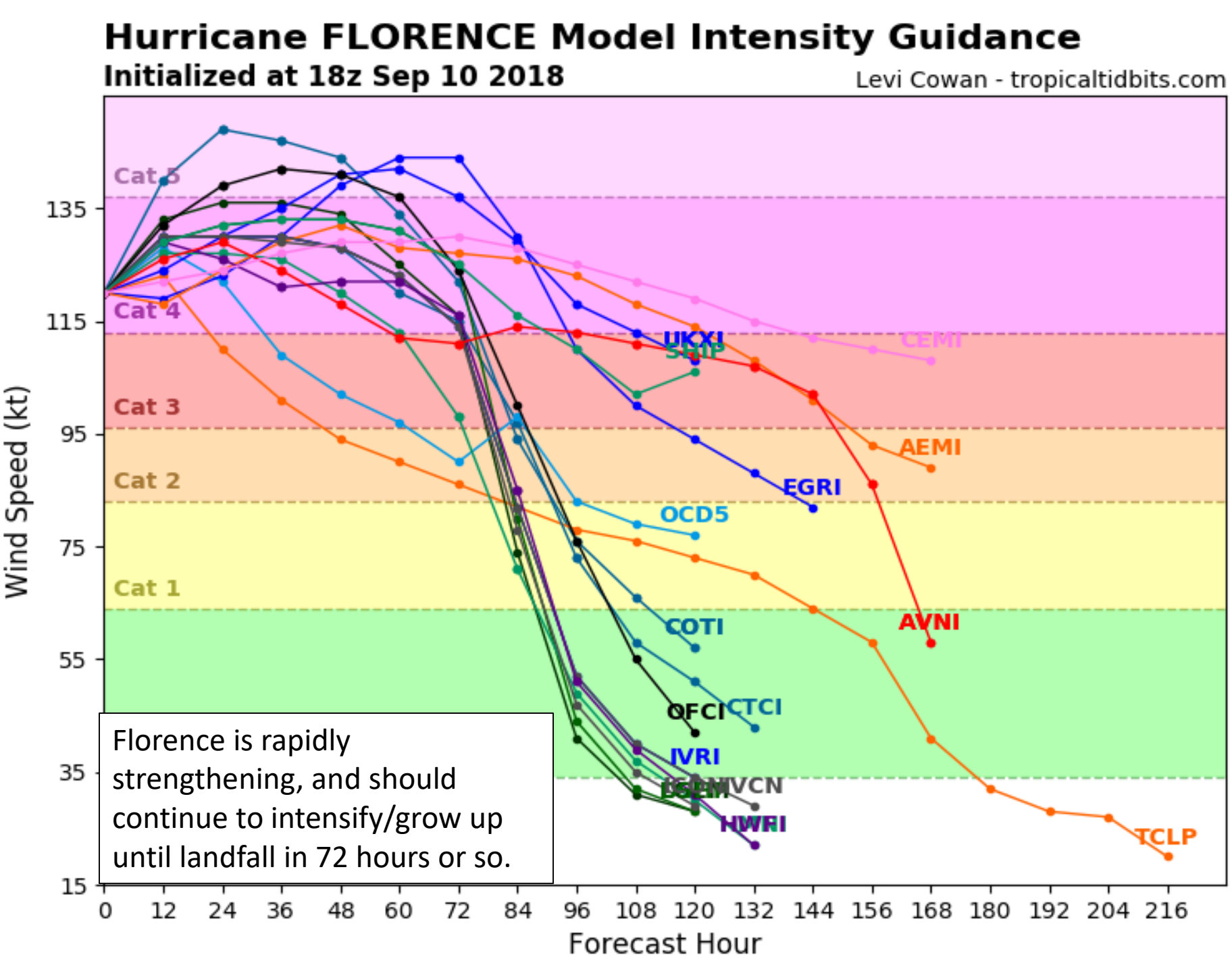
5 10 20 30 40 50 60 70 80 90 100 %

Track Models (Florence)

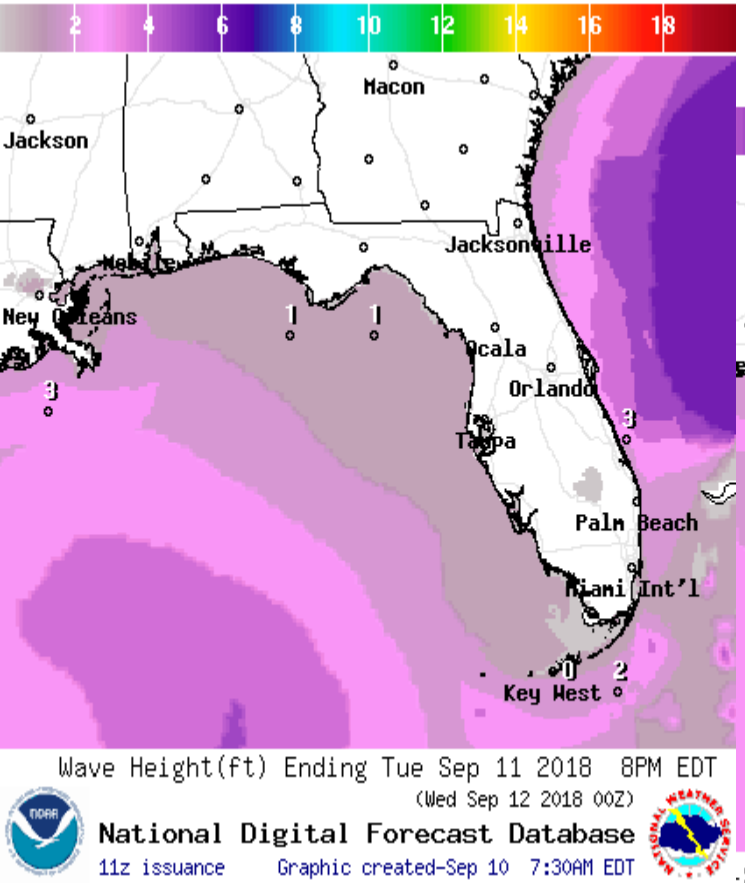


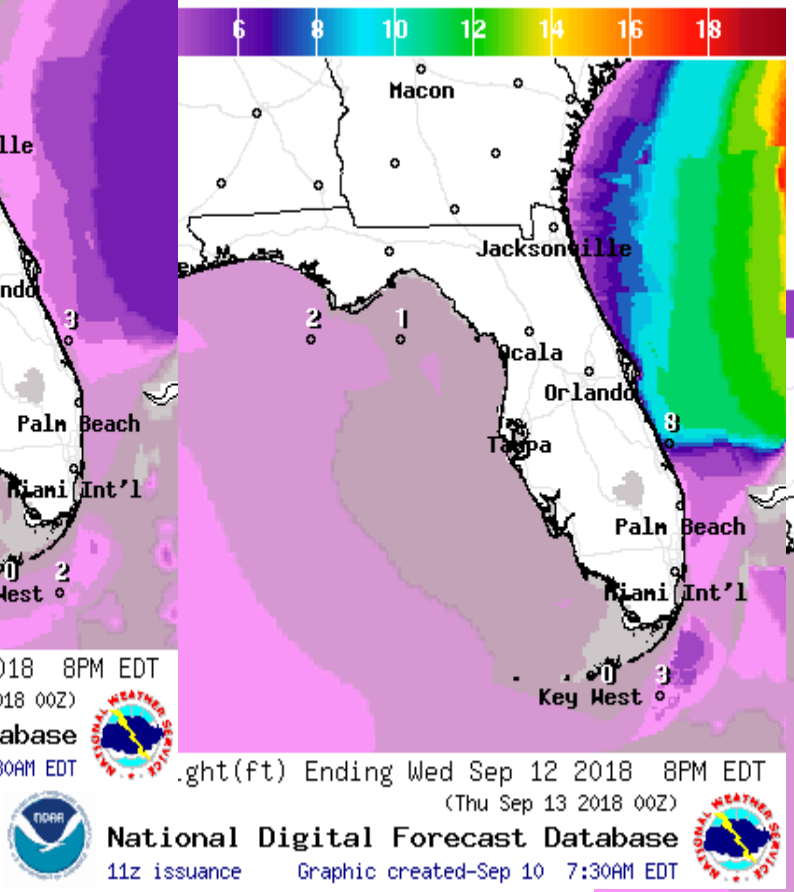
Models continue to come into better agreement and while nearly all of the operational model guidance is targeting a North Carolina landfall, a track closer to South Carolina or even Georgia is still possible.

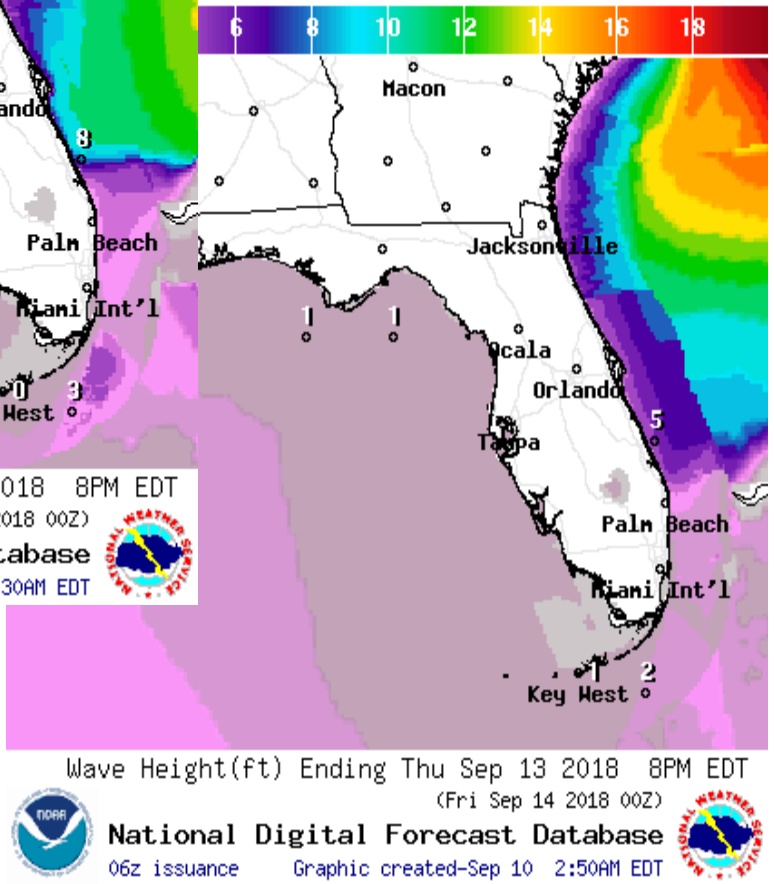



Hurricane FLORENCE Model Intensity Guidance
Initialized at 18z Sep 10 2018
Levi Cowan - tropicaltidbits.com
Cat 5
Cat 4
Cat 3
Cat 2
Cat 1
Wind Speed (kt)
135
115
95
75
55
35
15
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
192
204
216
Forecast Hour
UKXI
SHIP
CEMI
AEMI
EGRI
OCD5
AVNI
COTI
CTCI
OFCI
IVRI
VCN
HWRI
TCLP
Florence is rapidly strengthening, and should continue to intensify/grow up until landfall in 72 hours or so.

Forecast Wave Heights (Florence)

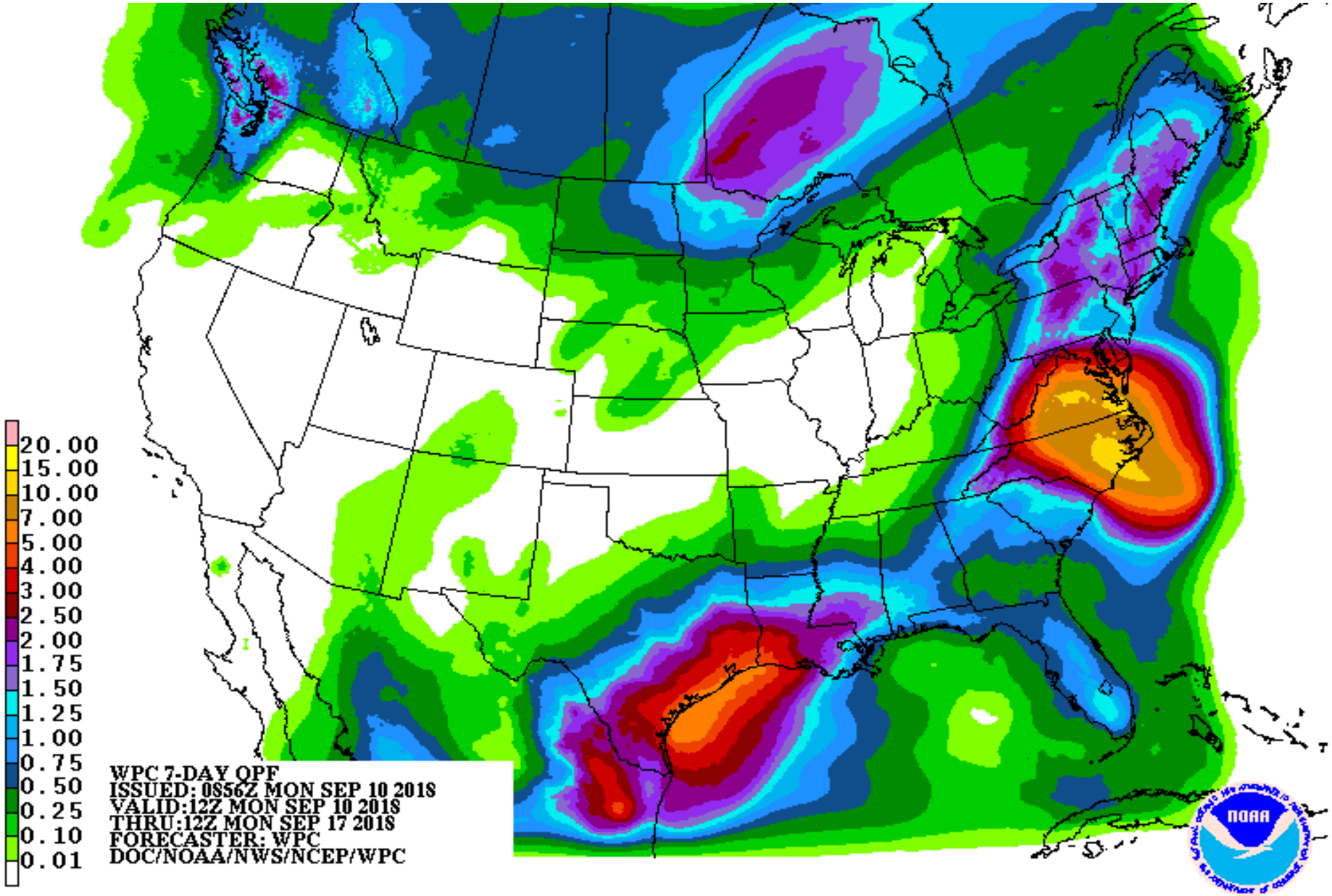




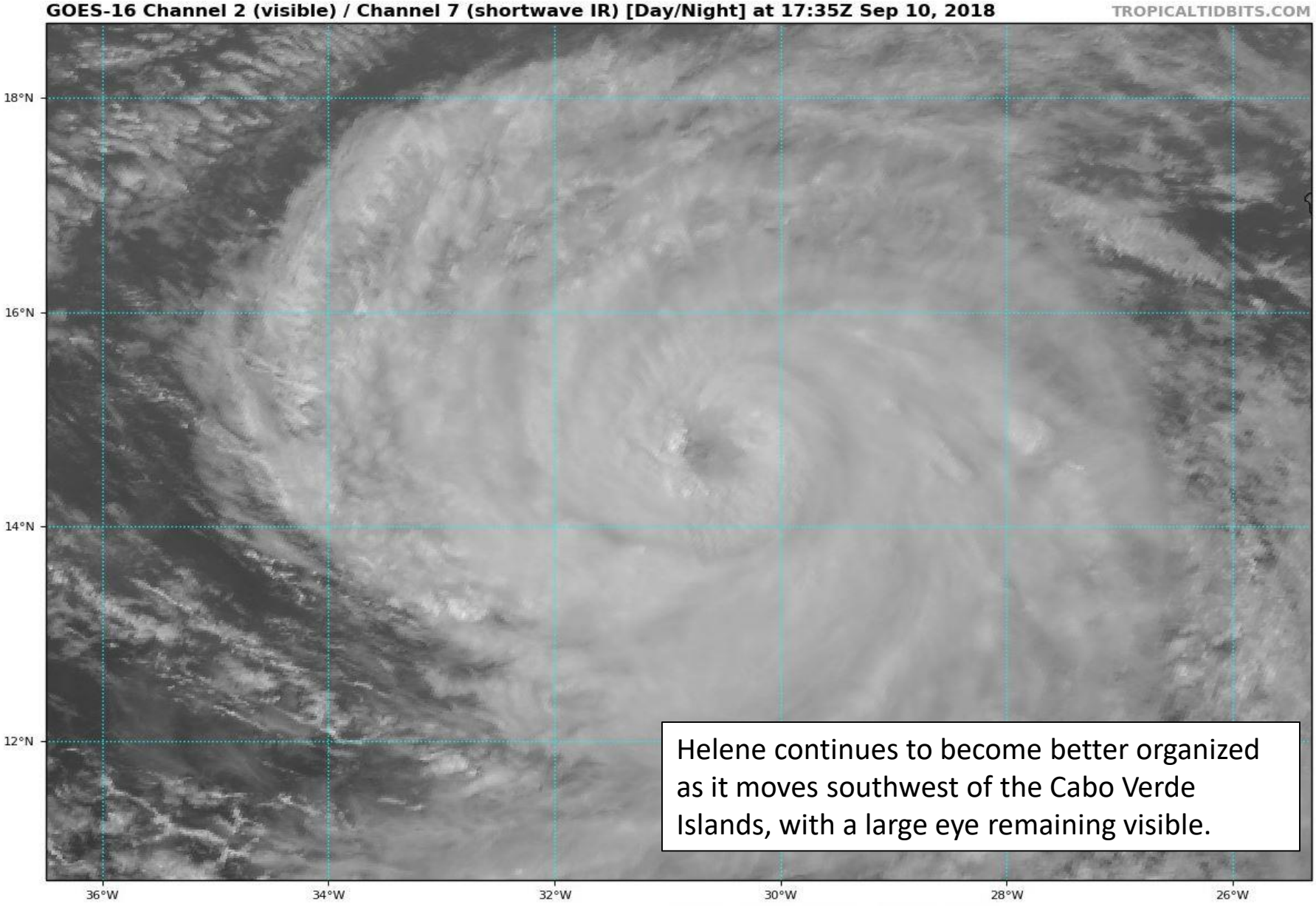


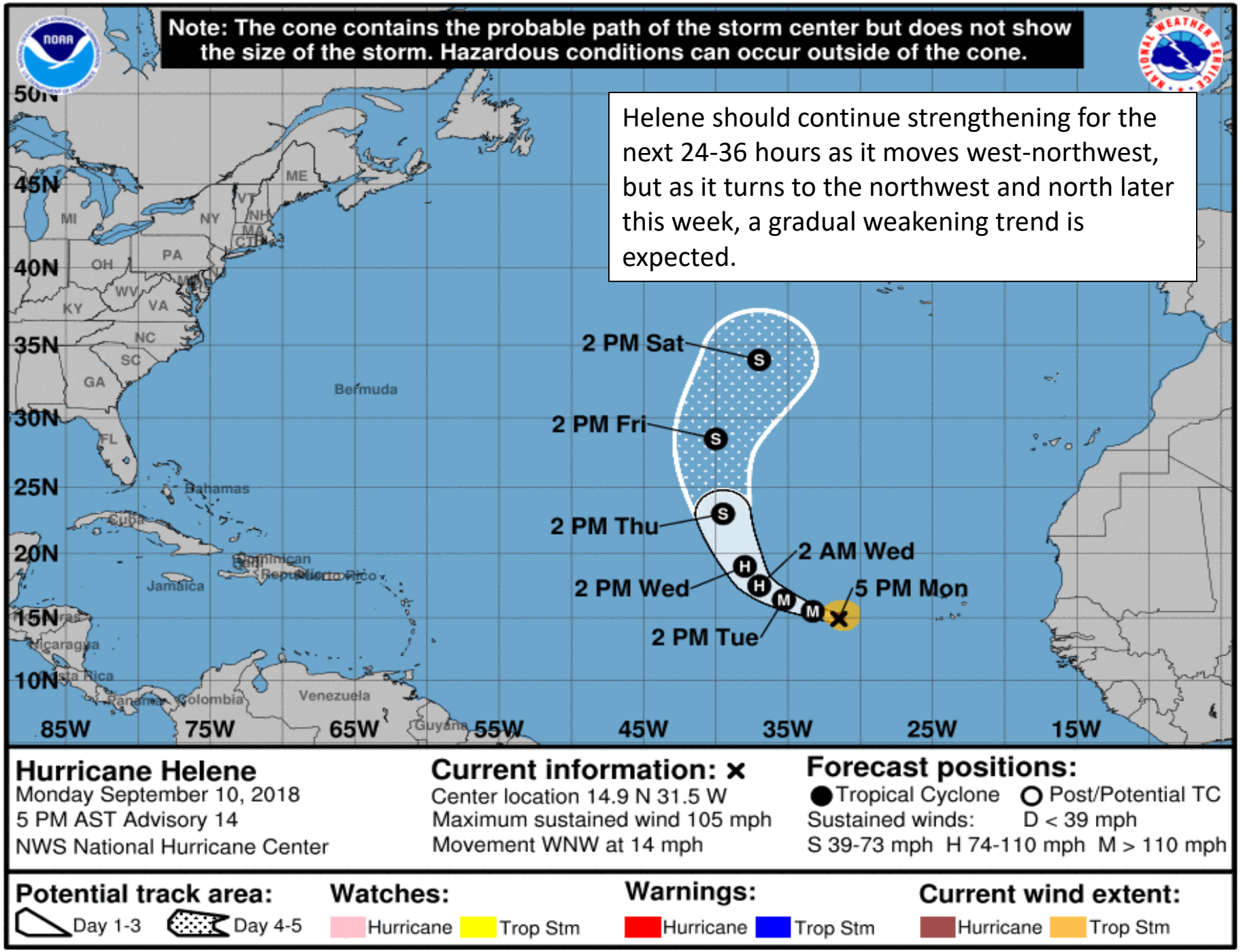
Regardless of track, as Florence nears the Carolina Coast this week, wave heights will increase along the East Coast of Florida. This will result in a high risk of rip currents, minor beach erosion, and some coastal flooding issues. Peak wave action should occur on Wednesday and Thursday.

Forecast rainfall – Next 7 Days

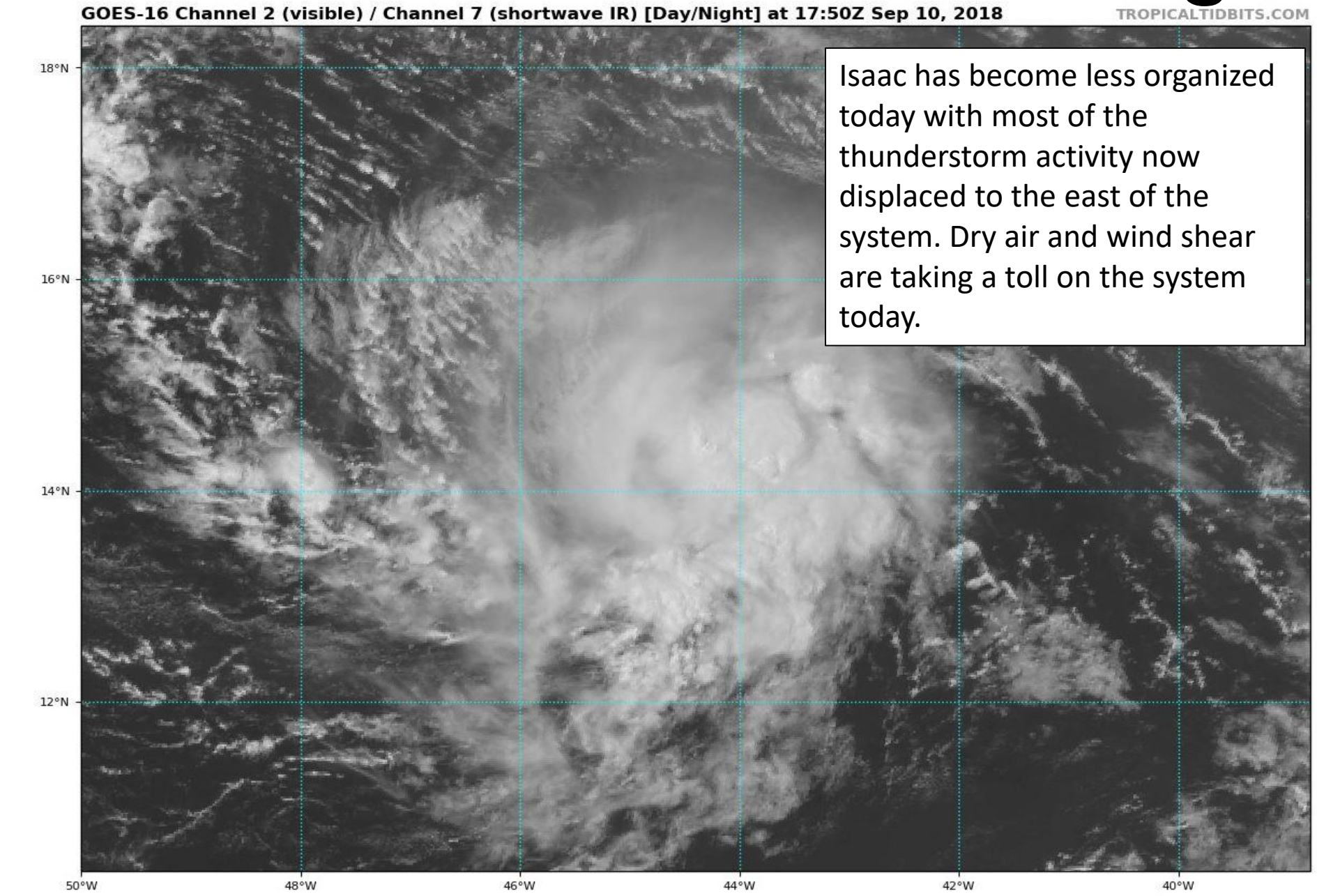


Hurricane Helene Satellite Image

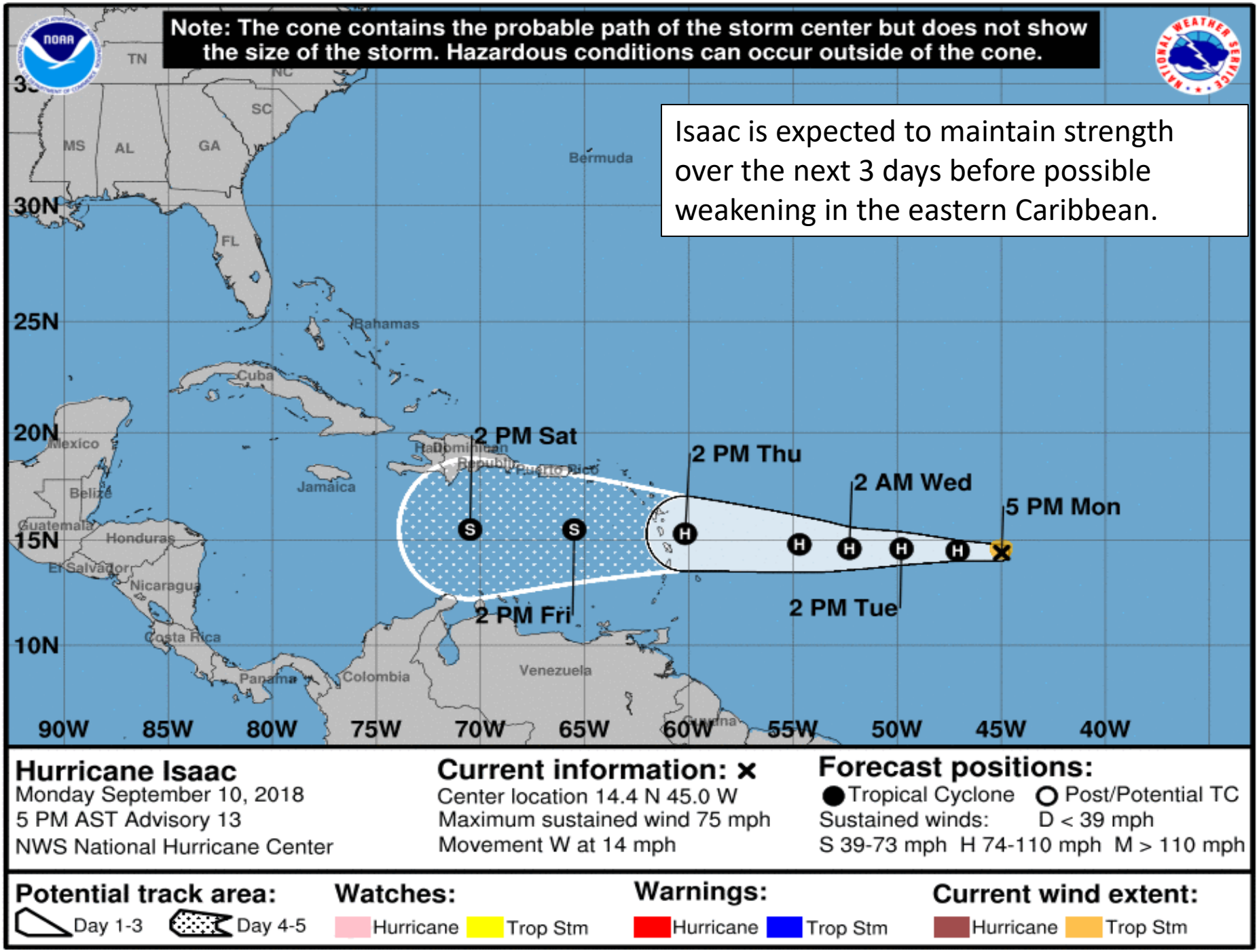



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.
Helene should continue strengthening for the next 24-36 hours as it moves west-northwest, but as it turns to the northwest and north later this week, a gradual weakening trend is expected.
2 PM Sat
2 PM Fri
2 PM Thu
2 PM Wed
2 PM Tue
2 AM Wed
5 PM Mon
50N
45N
40N
35N
30N
25N
20N
15N
10N
85W
75W
65W
55W
45W
35W
25W
15W
ME
VT
NH
MA
CT
NY
MI
OH
PA
WV
VA
KY
NC
SC
GA
FL
Bermuda
Bahamas
Cuba
Jamaica
Nicaragua
Costa Rica
Panama
Colombia
Venezuela
Guyana
Hurricane Helene
Monday September 10, 2018
5 PM AST Advisory 14
NWS National Hurricane Center
Current information:
Center location 14.9 N 31.5 W
Maximum sustained wind 105 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

Hurricane Isaac Satellite Image



Isaac has become less organized today with most of the thunderstorm activity now displaced to the east of the system. Dry air and wind shear are taking a toll on the system today.



Hurricane Isaac
Monday September 10, 2018
5 PM AST Advisory 13
NWS National Hurricane Center

Current information: ×
Center location 14.4 N 45.0 W
Maximum sustained wind 75 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

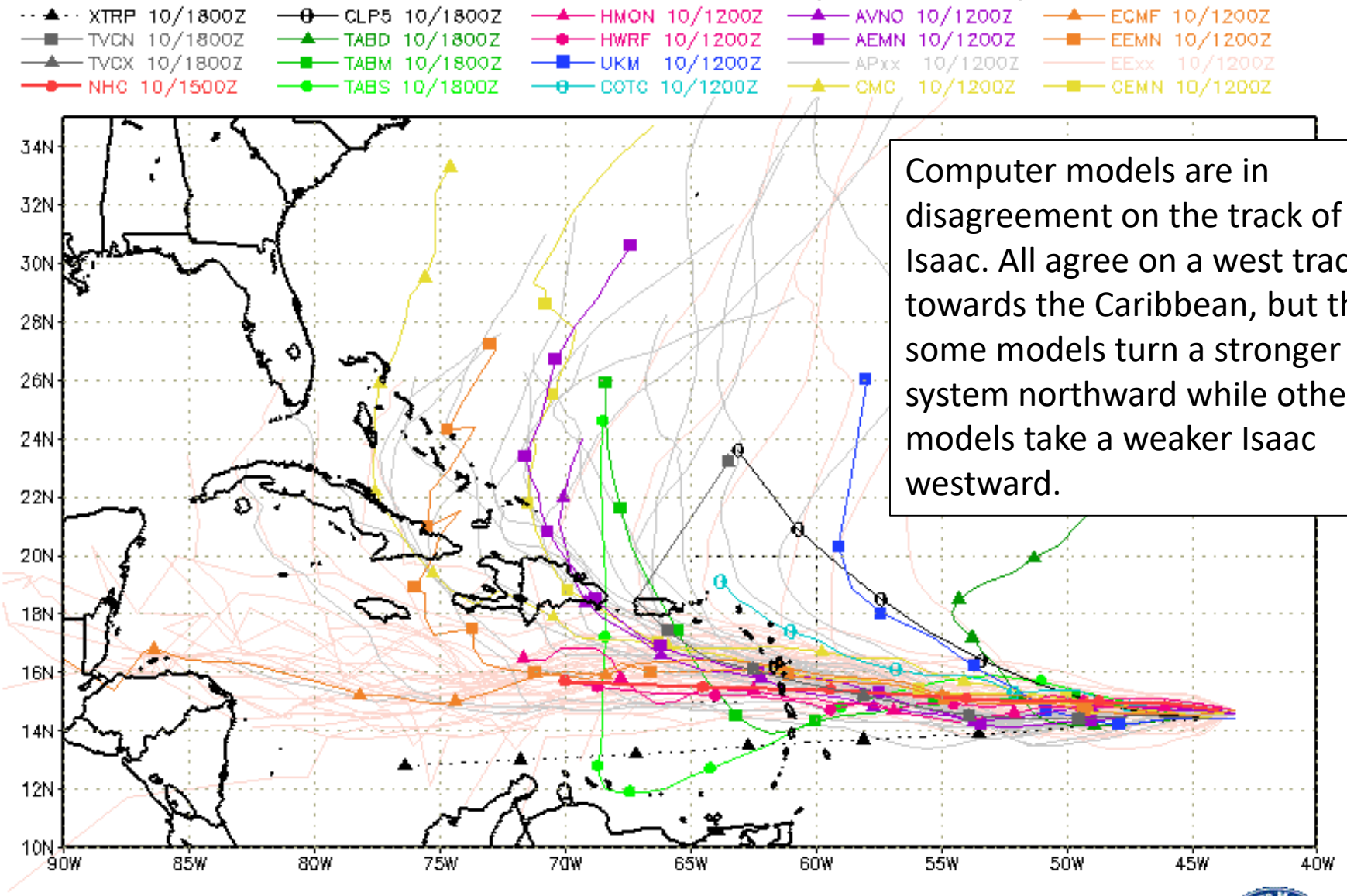
Potential track area: Day 1-3, Day 4-5

Watches: Hurricane, Trop Stm

Warnings: Hurricane, Trop Stm

Current wind extent: Hurricane, Trop Stm

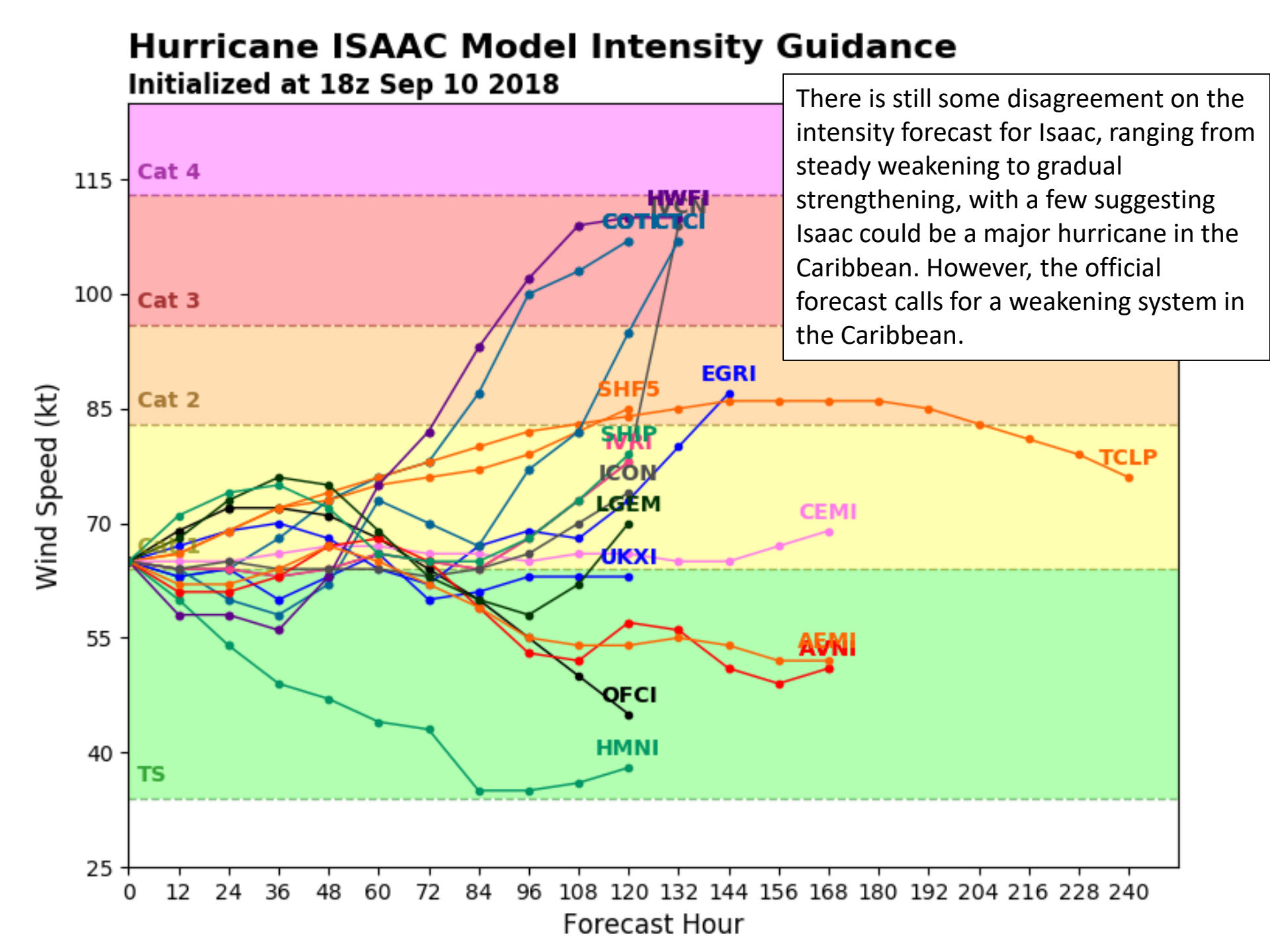
Track Models (Isaac)



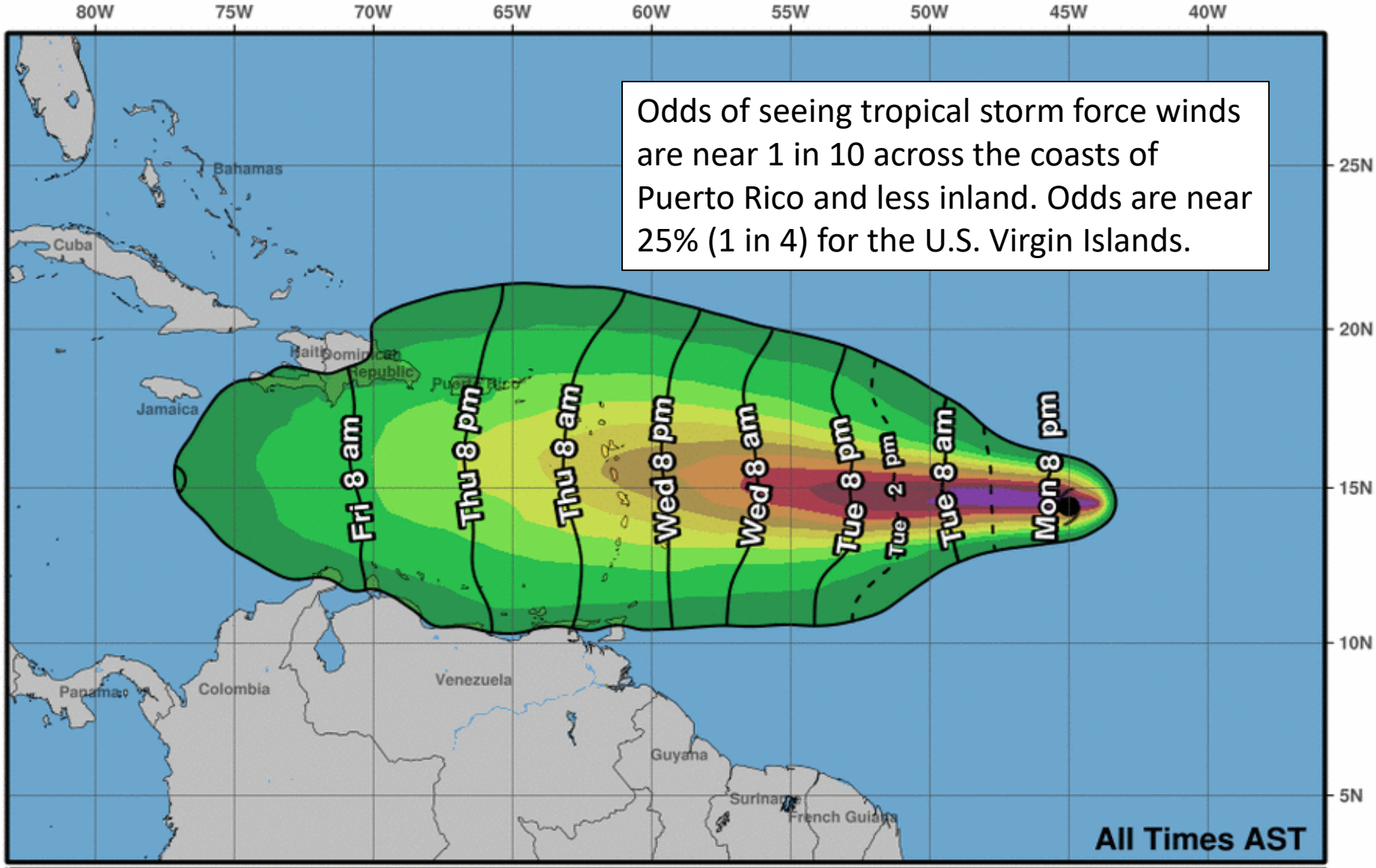
Computer models are in disagreement on the track of Isaac. All agree on a west track towards the Caribbean, but then some models turn a stronger system northward while other models take a weaker Isaac westward.

storm_09
sfwmd.gov
weather@sfwmd.gov
10-Sep 16:07EDT

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


Hurricane ISAAC Model Intensity Guidance
Initialized at 18z 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. However, the official forecast calls for a weakening system in the Caribbean.
Cat 4
Cat 3
Cat 2
TS
HWFI
IVCN
COTC
CTCI
EGRI
SHF5
SHIP
IVKI
ICON
LGEM
CEMI
UKXI
AEMI
AVNI
QFCI
HMNI
TCLP
Wind Speed (kt)
Forecast Hour
25
40
55
70
85
100
115
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 the coasts of Puerto Rico and less inland. Odds are near 25% (1 in 4) for the U.S. Virgin Islands.

Hurricane Isaac
Mon. Sep. 10, 2018 5 pm AST
Advisory 13

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

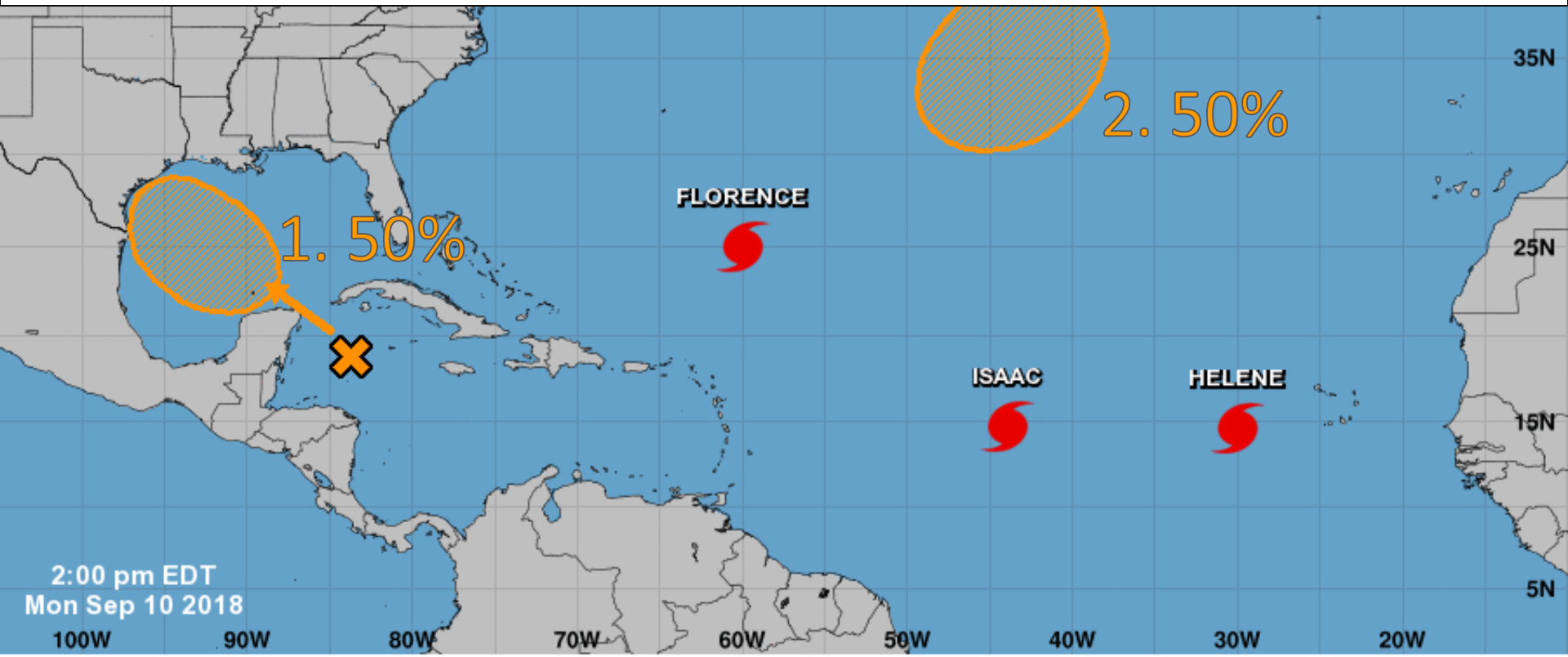
5-day chance of receiving sustained 34+ kt (39+ mph) winds

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

Five-Day Graphical Tropical Weather Outlook

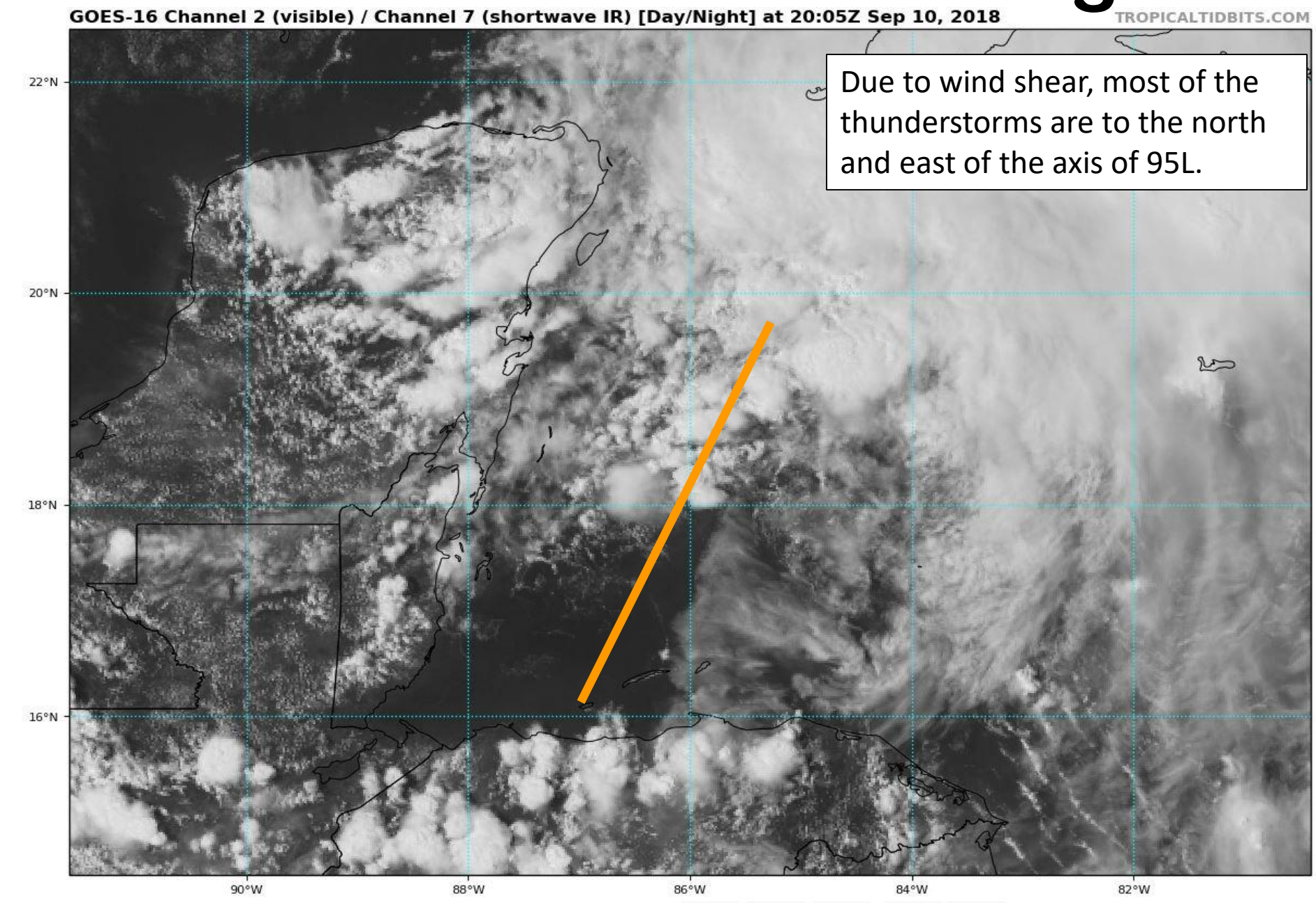
1. Showers and thunderstorms over the northwestern Caribbean Sea and western Cuba, associated with a surface trough, are showing some signs of organization. This system is forecast to move slowly northwestward near the Yucatan Peninsula on Tuesday with limited development. Upper-level winds are forecast to become more conducive for development on Wednesday when the system moves over the southern Gulf of Mexico, and a tropical depression could form on Thursday or Friday while the disturbance moves across the western Gulf of Mexico.* Formation chance through 48 hours...**low**...30 percent. * Formation chance through 5 days...**medium**...50 percent.

2. A non-tropical area of low pressure is forecast to form in the northeastern Atlantic Ocean several hundred miles west-southwest of the Azores in about two days. Environmental conditions are conducive for some development, and a tropical or subtropical depression could form by the end of the week while the low moves erratically over the northeastern Atlantic Ocean.* Formation chance through 48 hours...**low**...near 0 percent. * Formation chance through 5 days...**medium**...50 percent.

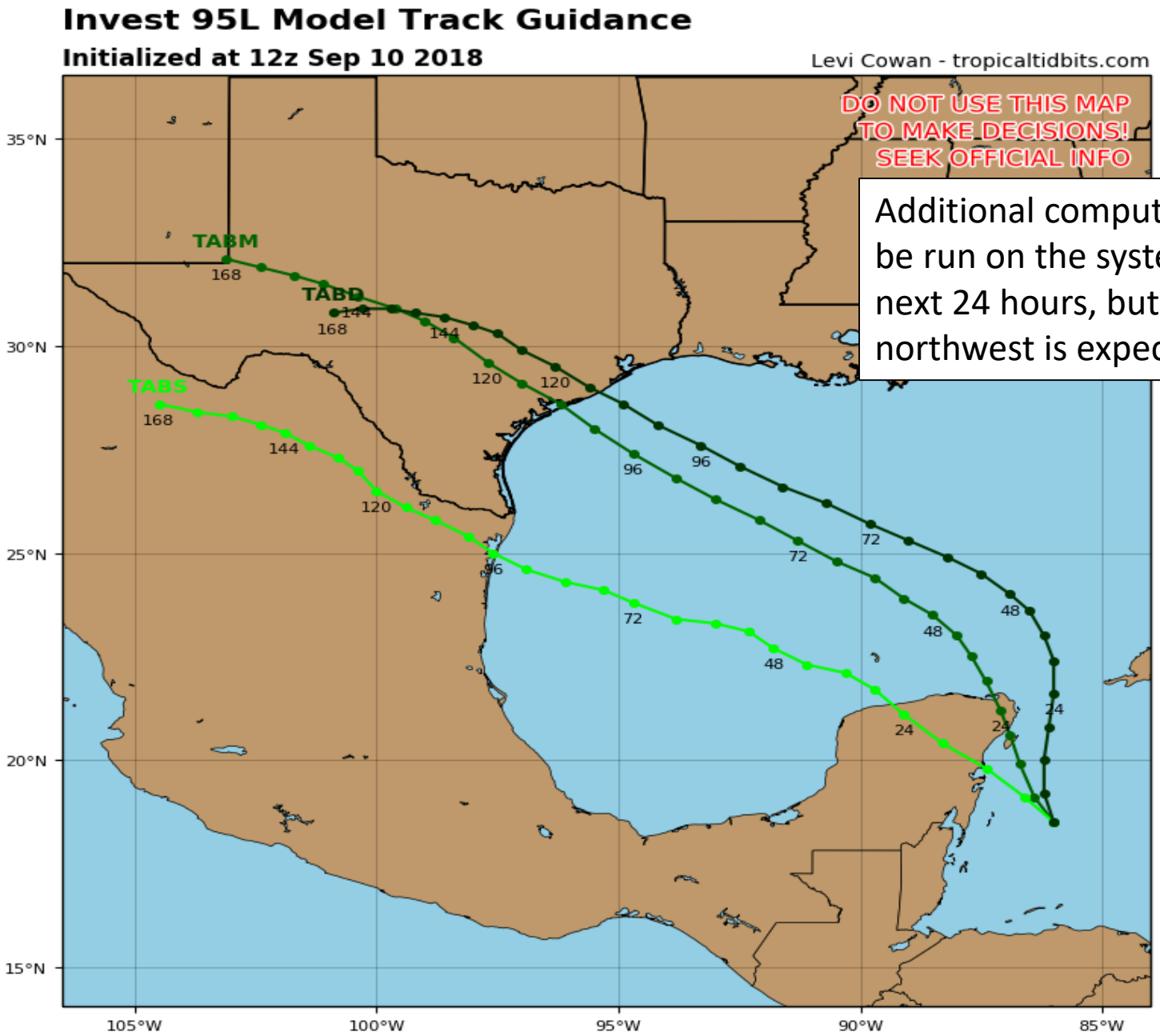


Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
Post-Tropical Cyclone or Remnants

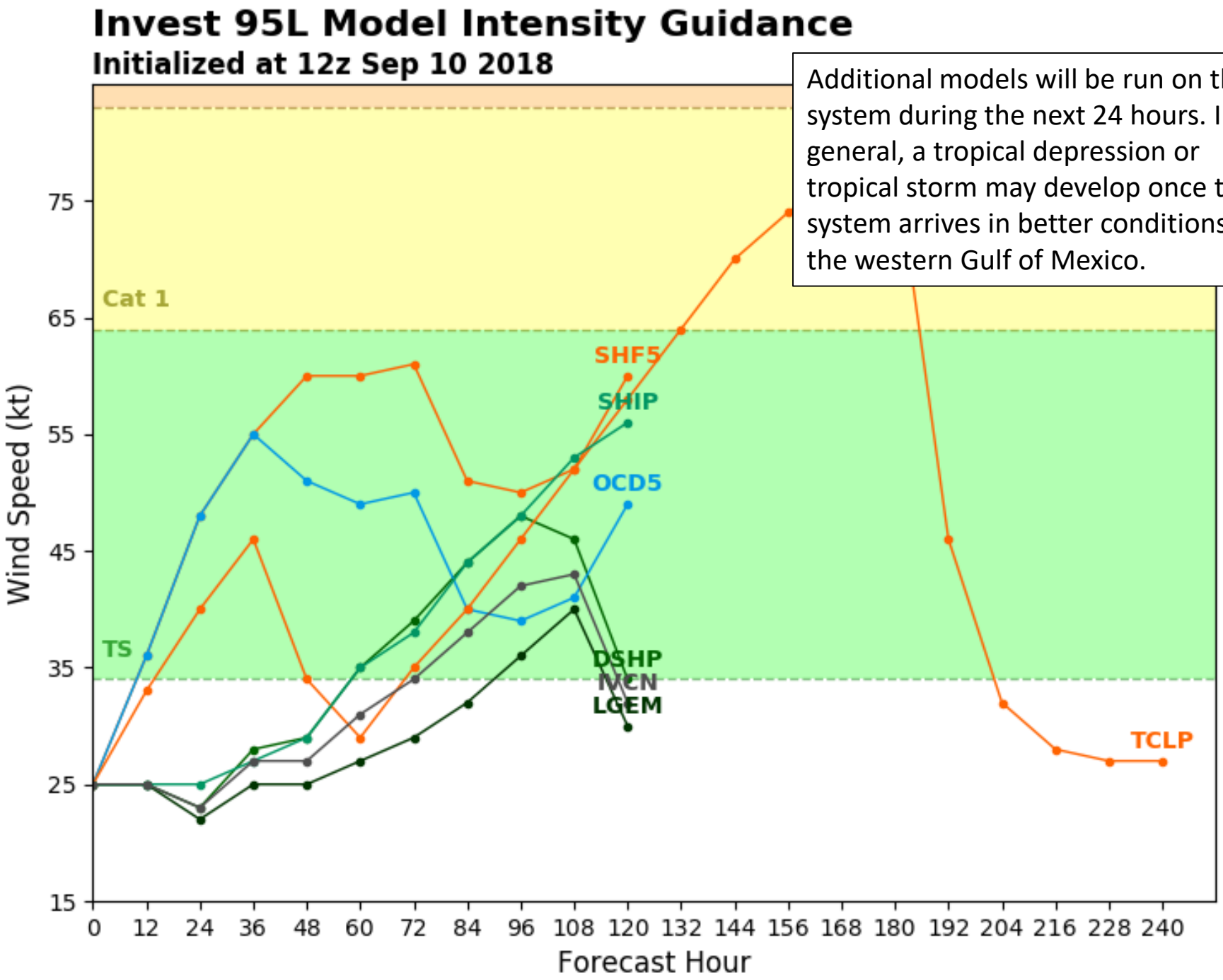
Invest 95L Satellite Image



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.


Invest 95L Model Intensity Guidance
Initialized at 12z Sep 10 2018
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.
Cat 1
TS
SHF5
SHIP
OCD5
DSHP
IVCN
LGEM
TCLP
Wind Speed (kt)
Forecast Hour
15
25
35
45
55
65
75
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
192
204
216
228
240

Summary

- At 5 PM EDT Monday, Hurricane Florence was located in the western Atlantic Ocean about 525 miles south-southeast of Bermuda, or approximately 1,170 miles east-southeast of Cape Fear, North Carolina.
- Maximum sustained winds have increased to 140 mph, making Florence a Category 4 on the Saffir-Simpson Hurricane Wind Scale.
- Additional, and perhaps rapid, strengthening is forecast and Florence may approach category 5 status tonight or tomorrow. Some intensity fluctuations are possible due to eye-wall replacement cycles which increase the size of the wind field of the storm.
- Florence is beginning to turn and accelerate, and now moving to the west-northwest at 13 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.
- Hurricane Watches and Storm Surge Watches are likely to be issued for the Carolinas and possible Virginia tomorrow morning.
- Hurricane Hunters and NOAA research aircraft are investigating the system and the surrounding environment daily.

- At 5 PM EDT Monday, Hurricane Helene was located in the eastern Atlantic Ocean about 475 miles west of the Cabo Verde Islands.
- Maximum sustained winds have increased to near 105 mph, making Helene a Category 2 on the Saffir-Simpson Hurricane Wind Scale.
- Additional strengthening is forecast for the next few days to a major hurricane 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.

- At 5 PM EDT Monday, Hurricane Isaac was located about 1,090 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 remain 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 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 will be moving into the southwestern Gulf of Mexico by the middle of the week and has a 50% (medium) chance of development during the next 5 days.
- This system is now designated Invest 95L and additional computer models will be run overnight.
- 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 Depressions.

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 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 6-8’ and as high as 12’ offshore.
- A Coastal Flood Advisory is in effect through the next few days 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 tomorrow morning. For the latest information on the tropics, please visit the National Hurricane Center website at www.hurricanes.gov.

TROPICAL UPDATE

Created by:

Michael Spagnolo, Deputy State Meteorologist

Michael.Spagnolo@em.myflorida.com

State Meteorological Support Unit

Florida Division of Emergency Management

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