



# TROPICAL UPDATE



5 PM EDT

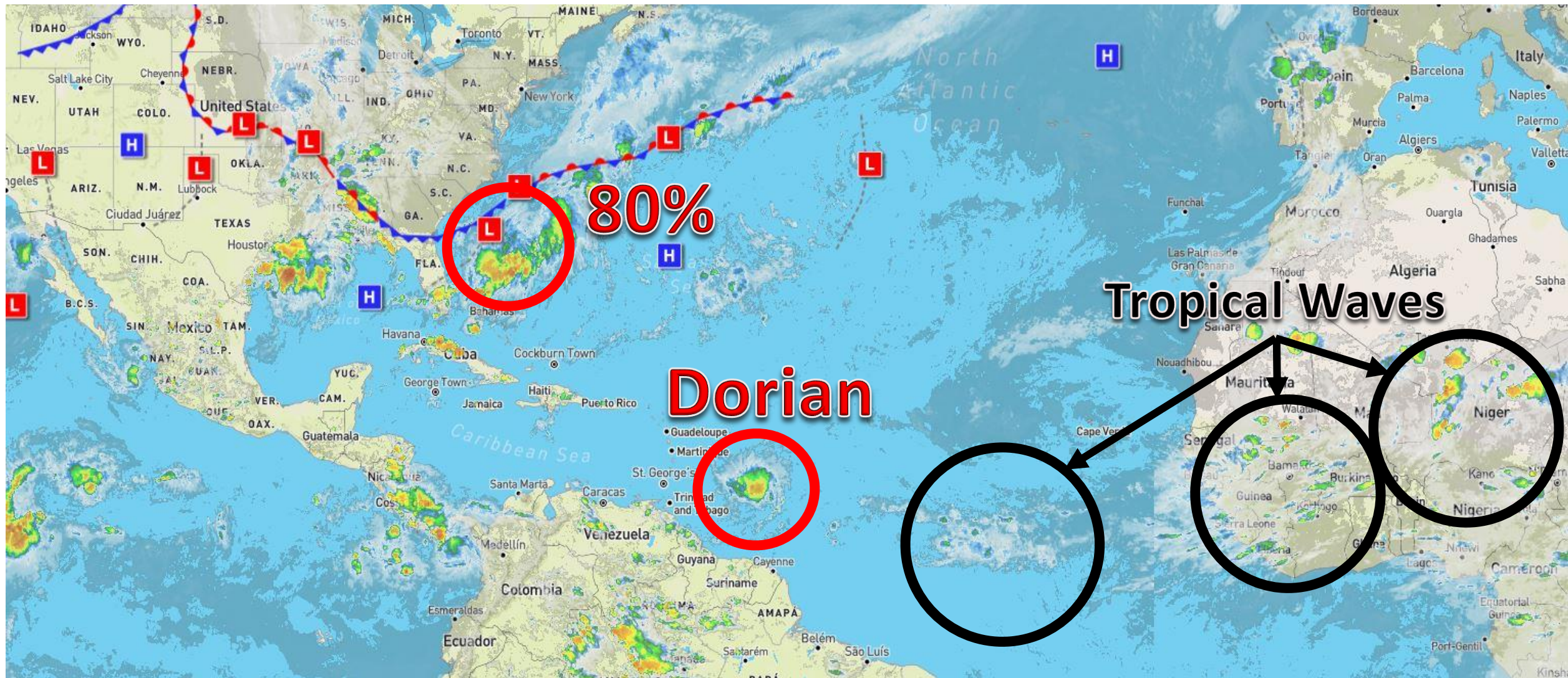
Sunday, August 25, 2019

Tropical Storm Dorian  
& Invest 98L (80%)

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.hurricanes.gov](http://www.hurricanes.gov).

# Atlantic Basin Satellite Image

Chance of development: — None    — Low    — Medium    — High







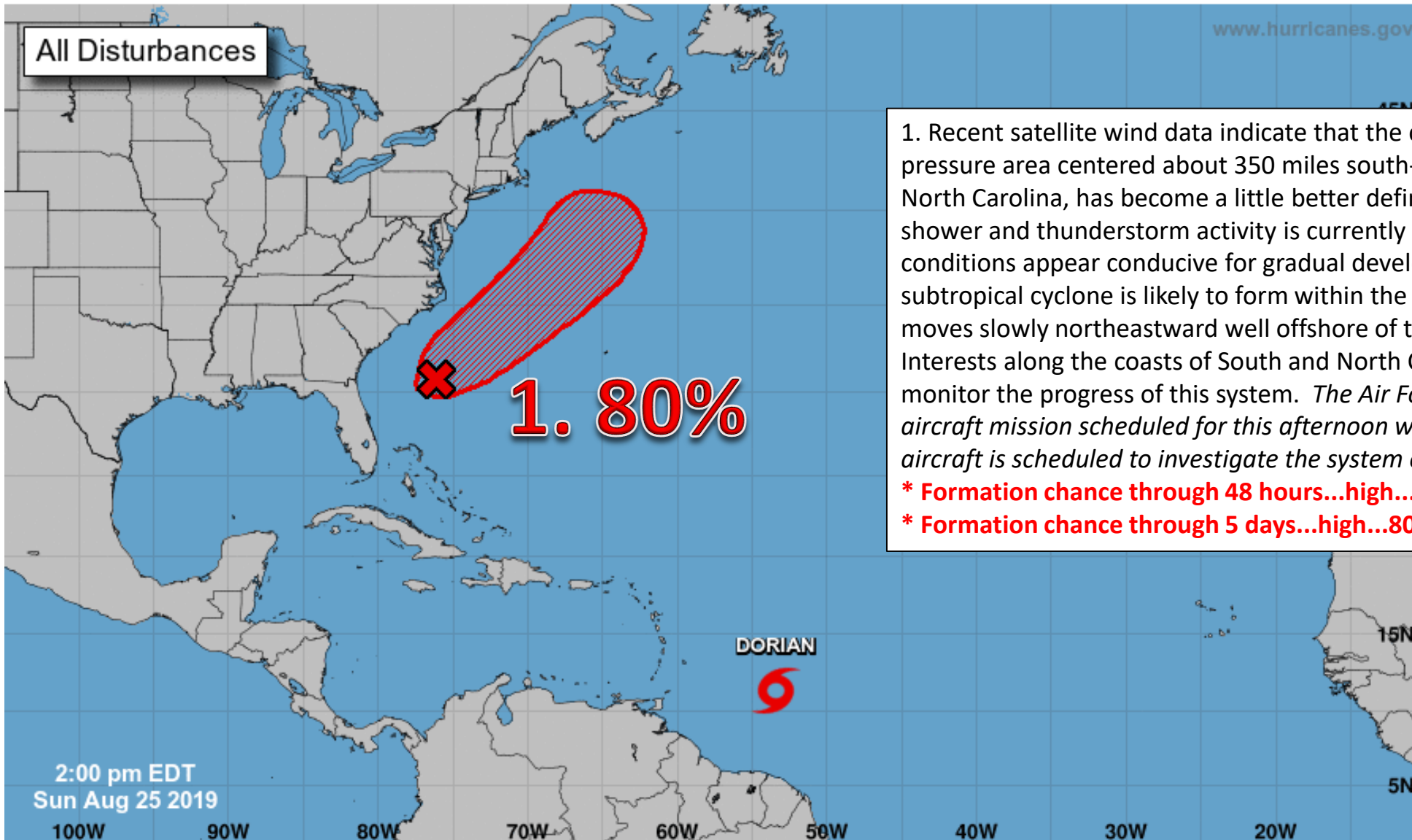
# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

All Disturbances



1. Recent satellite wind data indicate that the circulation of an elongated low pressure area centered about 350 miles south-southwest of Cape Hatteras, North Carolina, has become a little better defined. While the associated shower and thunderstorm activity is currently poorly organized, environmental conditions appear conducive for gradual development, and a tropical or subtropical cyclone is likely to form within the next few days while the system moves slowly northeastward well offshore of the southeastern United States. Interests along the coasts of South and North Carolina should continue to monitor the progress of this system. *The Air Force Reserve Hurricane Hunter aircraft mission scheduled for this afternoon was canceled. However, another aircraft is scheduled to investigate the system on Monday, if necessary.*

\* **Formation chance through 48 hours...high...70 percent.**

\* **Formation chance through 5 days...high...80 percent.**

Current Disturbances and Five-Day Cyclone Formation Chance:

✕ < 40%

✕ 40-60%

✕ > 60%

Tropical or Sub-Tropical Cyclone:

○ Depression

⚡ Storm

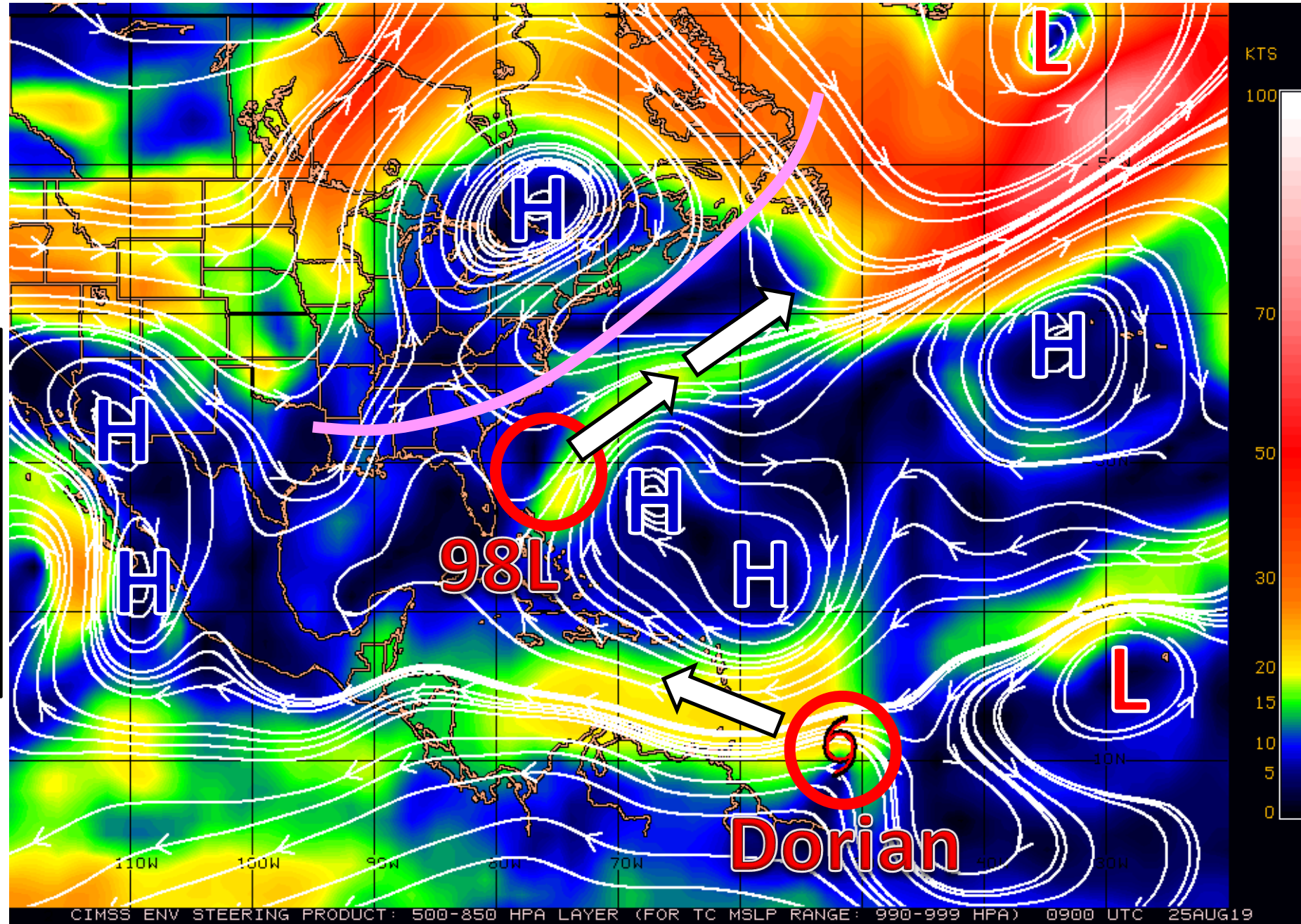
⚡ Hurricane

⊗ Post-Tropical Cyclone or Remnants

# Steering Currents

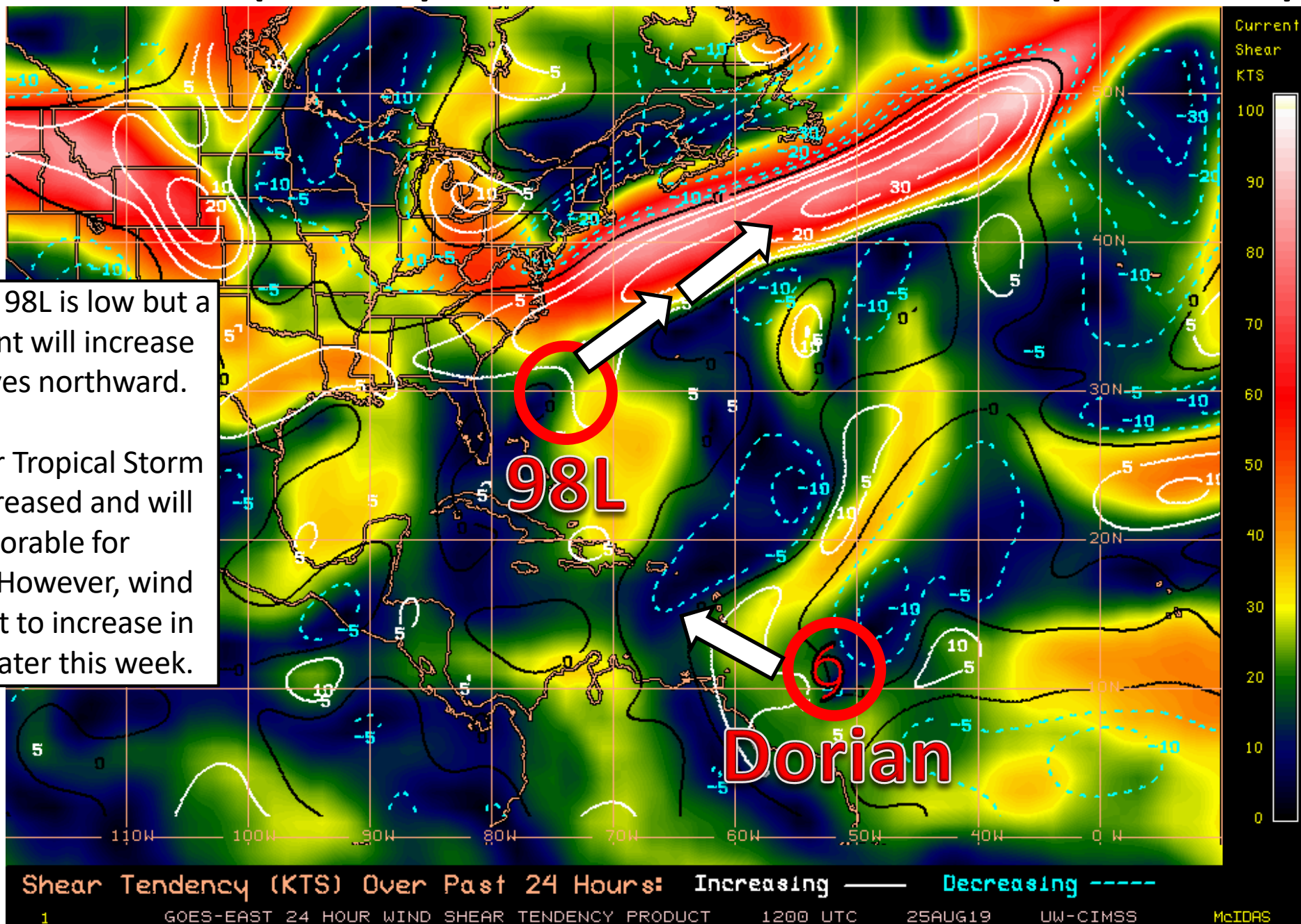
Invest 98L, well offshore of the FL East Coast, will move northeastward ahead of a cold front (pink line).

Dorian will move west-northwestward around the southern edge of a large Atlantic high pressure system.



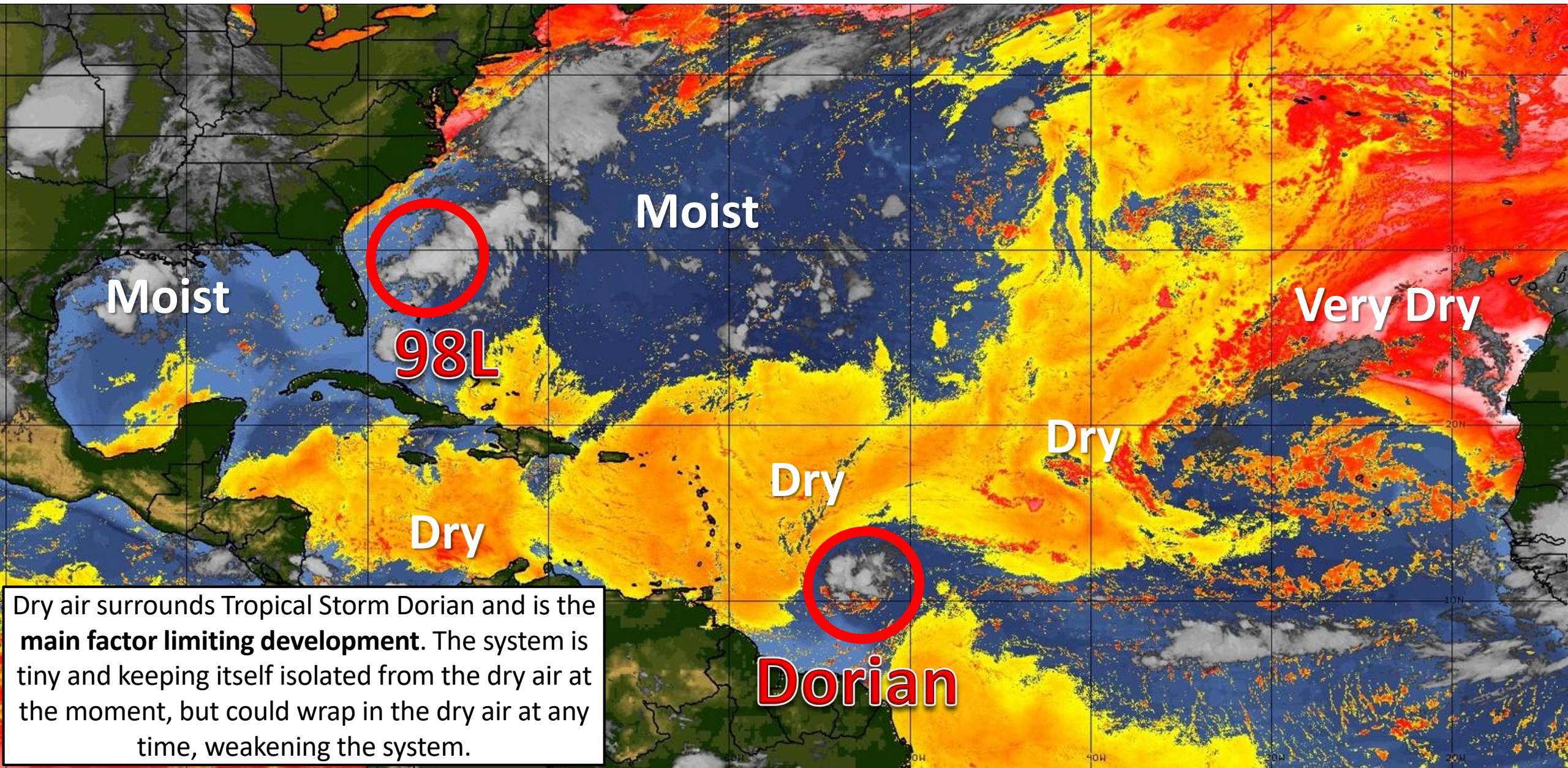


# Wind Shear (shaded) and Wind Shear Tendencies (contoured)





# Dry Air & Saharan Dust



Moist

Moist

Very Dry

98L

Dry

Dry

Dry

Dorian

Dry air surrounds Tropical Storm Dorian and is the **main factor limiting development**. The system is tiny and keeping itself isolated from the dry air at the moment, but could wrap in the dry air at any time, weakening the system.

LESS <----- DRY AIR (LOW/MID-LEVEL) AND/OR DUSTY SAL AIRMASS -----> MORE

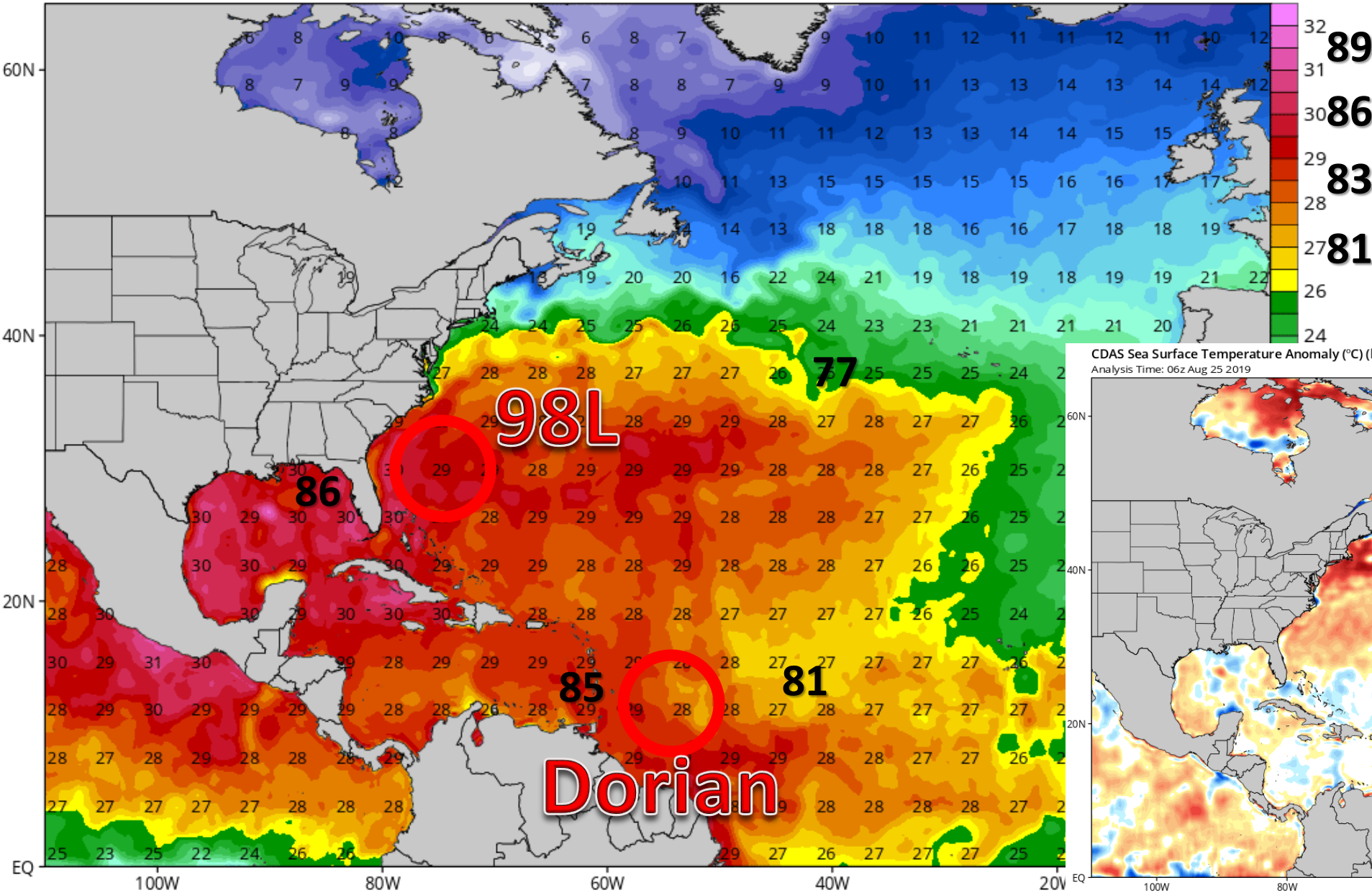


# North Atlantic Sea Surface Temperatures and Anomalies

CDAS Sea Surface Temperature (°C)

Analysis Time: 06z Aug 25 2019

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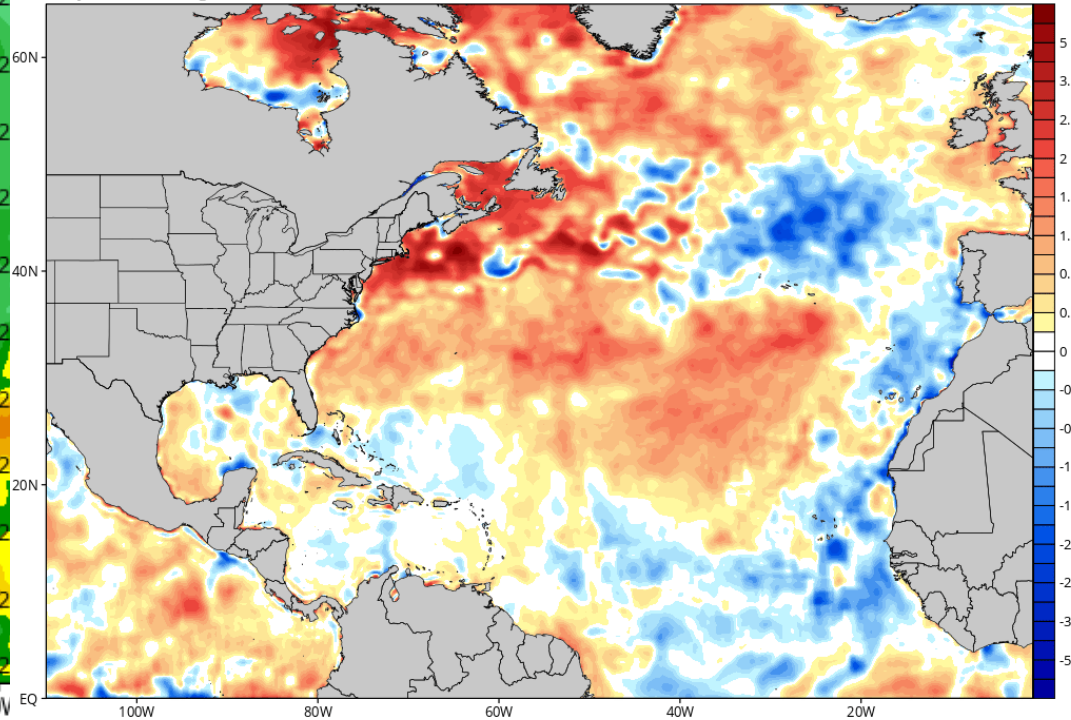


Water temperatures near and ahead of 98L and Dorian are warm enough to support tropical development. Water temperatures will be warming as Dorian travels west. Temperatures are near normal in the Caribbean.

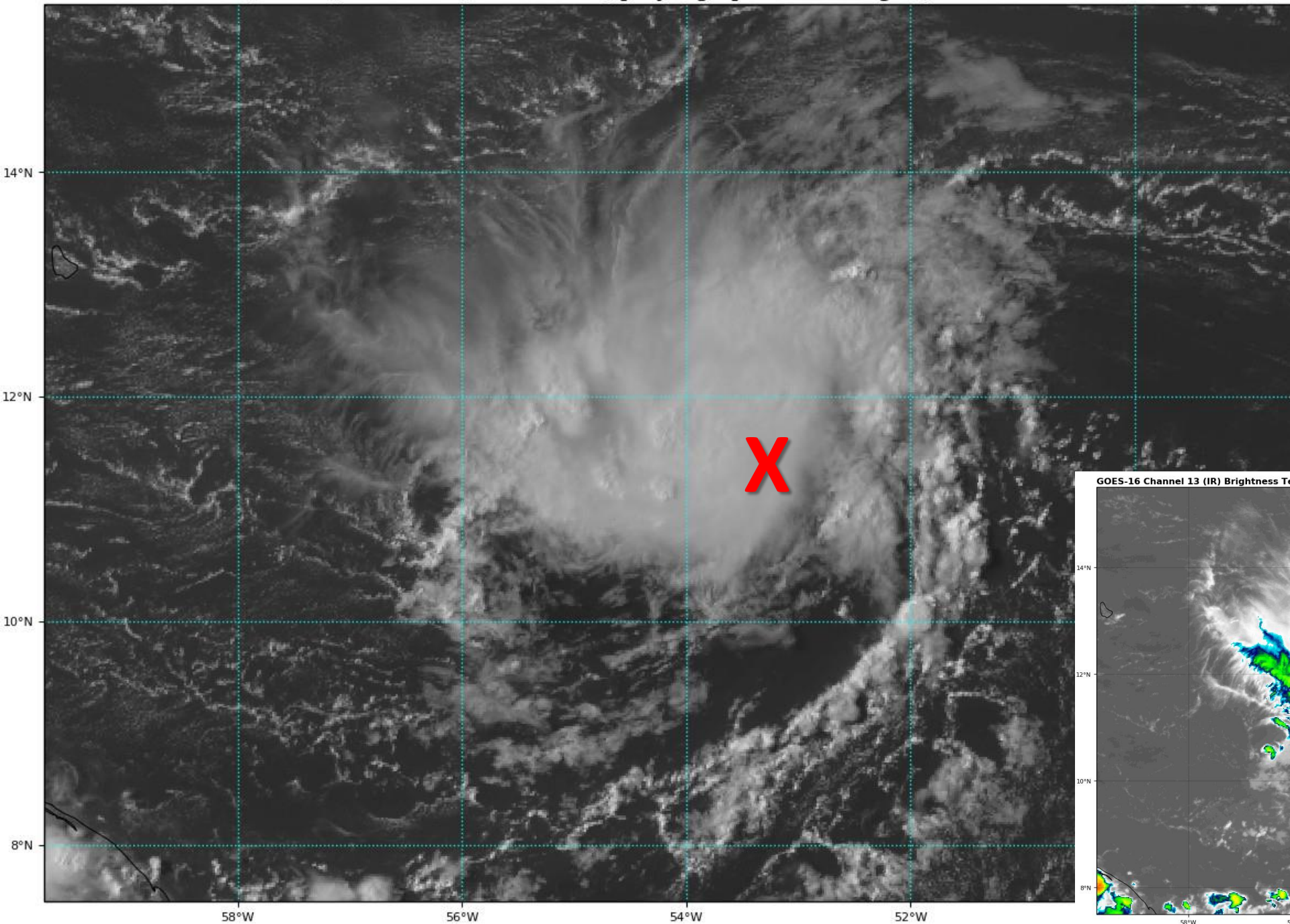
CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)

Analysis Time: 06z Aug 25 2019

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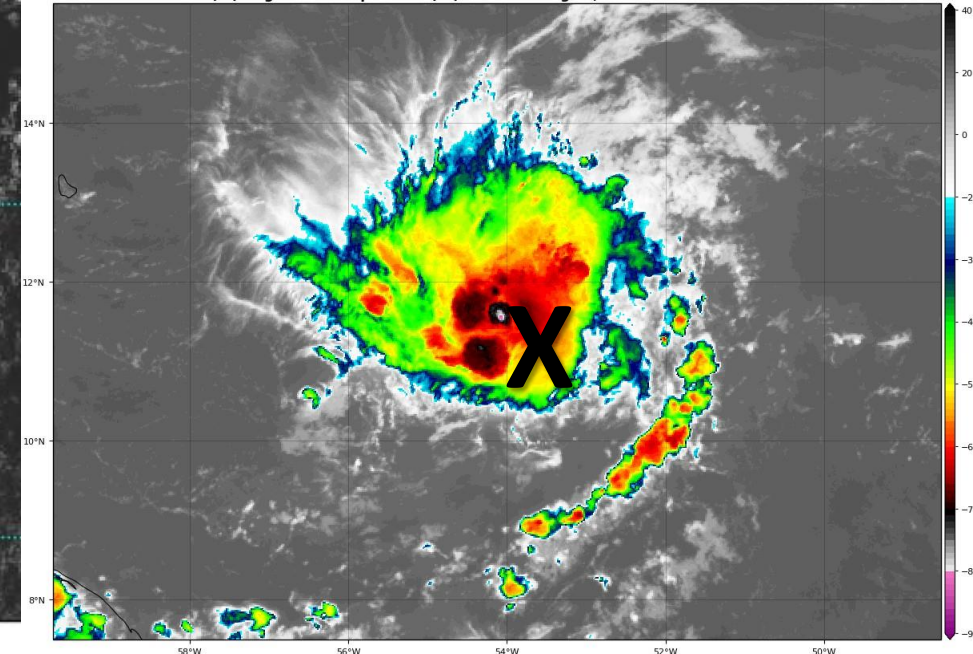


# Tropical Storm Dorian Satellite Image

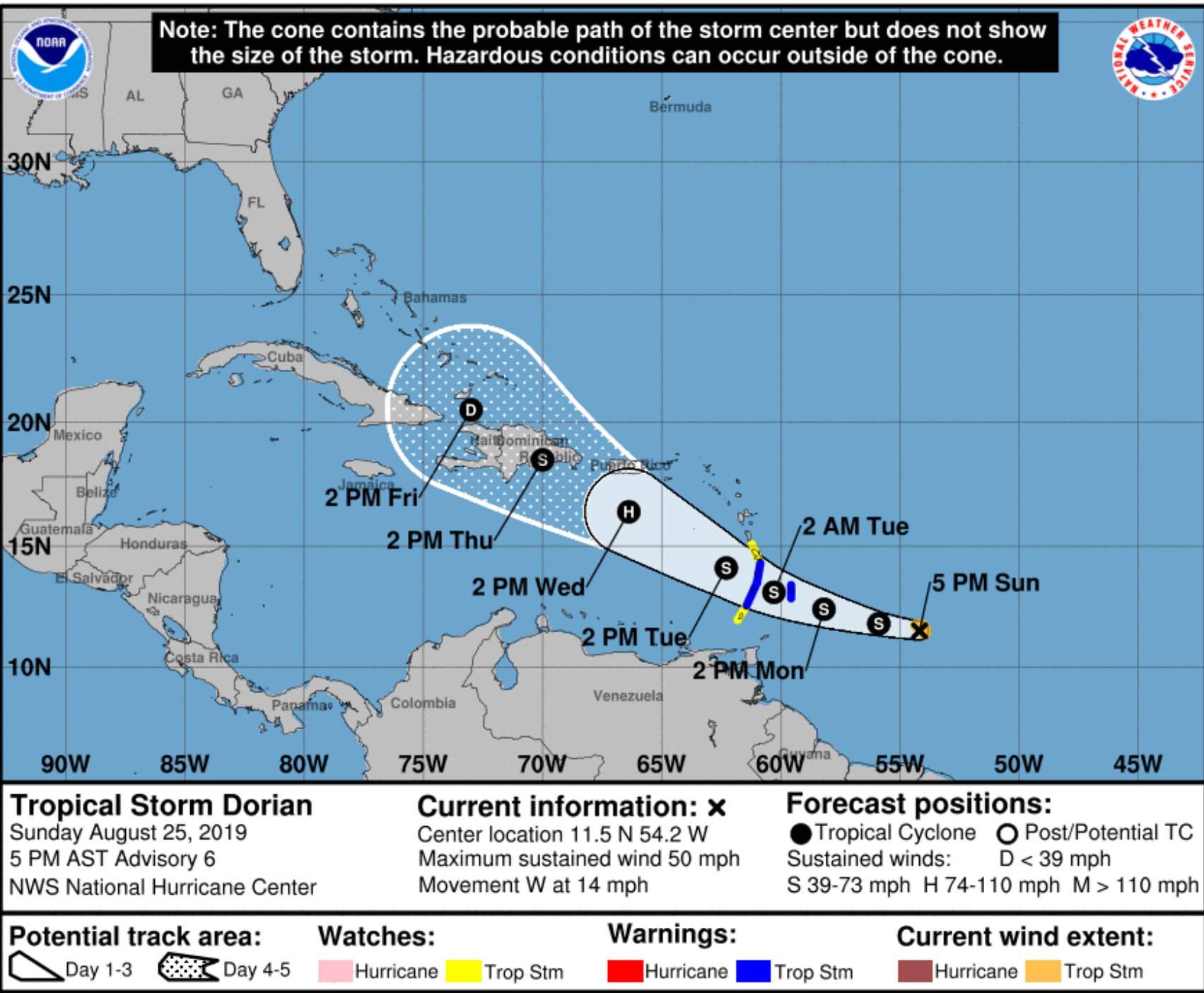
Tropical Storm Dorian organized today with shower and thunderstorms attempting to wrap around the center. Most of the clouds remain to the north and west of the center.

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 20:35Z Aug 25, 2019

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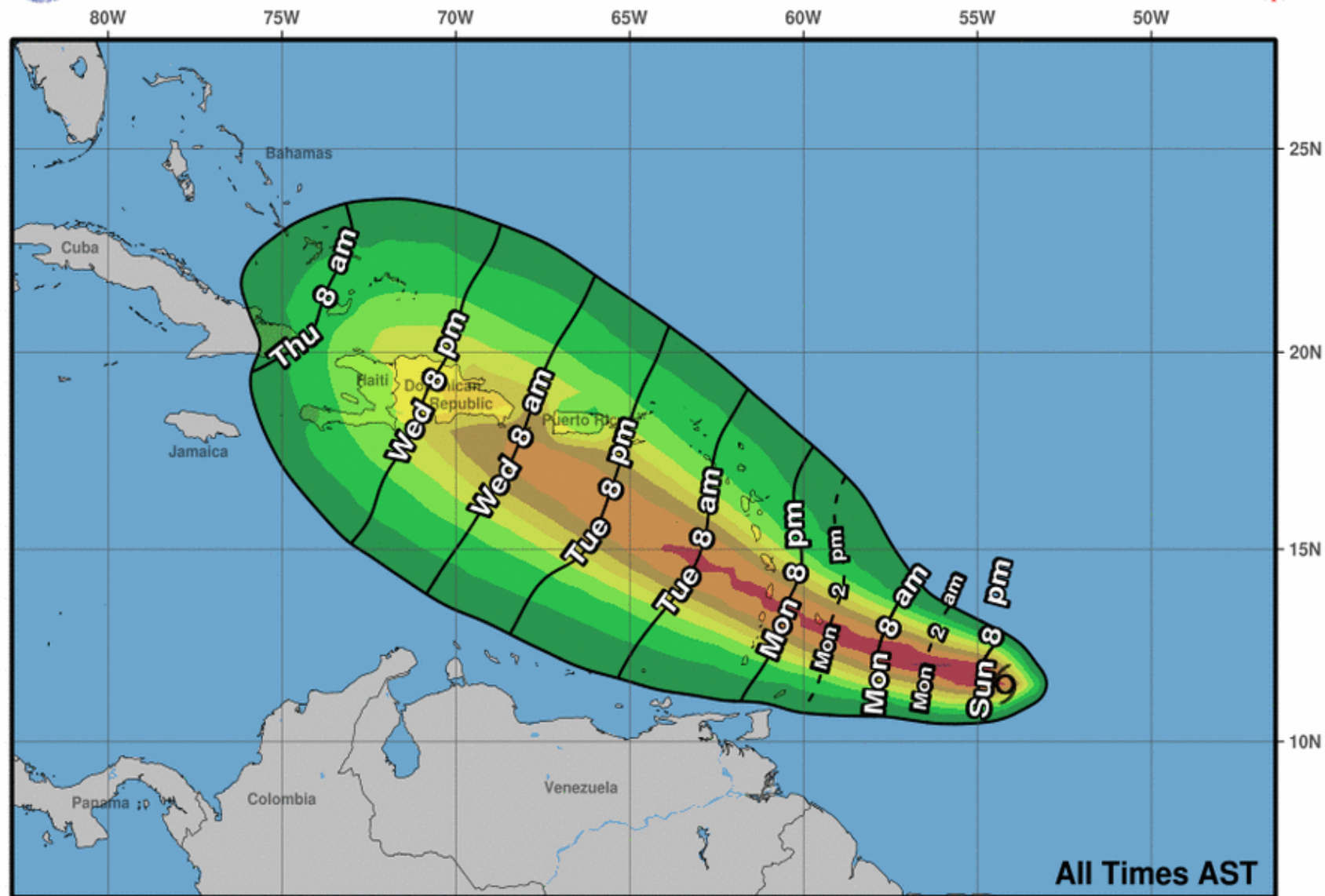
# Tropical Storm Dorian Forecast Track

Tropical Storm Dorian is located about 375 miles east-southeast of Barbados, moving west at about 14 mph. Dorian is expected to turn toward the west-northwest by Monday. Maximum sustained winds have increased to 50 mph. Further strengthening is forecast, and Dorian is forecast to become a hurricane by Wednesday in the eastern Caribbean. Land interaction and unfavorable upper-level winds will likely weaken or dissipate the system thereafter.





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



Puerto Rico and the United States Virgin Islands have a 1 in 5 to 1 in 3 chance of seeing tropical storm force winds.

**Tropical Storm Dorian**  
**Sun. Aug. 25, 2019 5 pm AST**  
**Advisory 6**

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 %



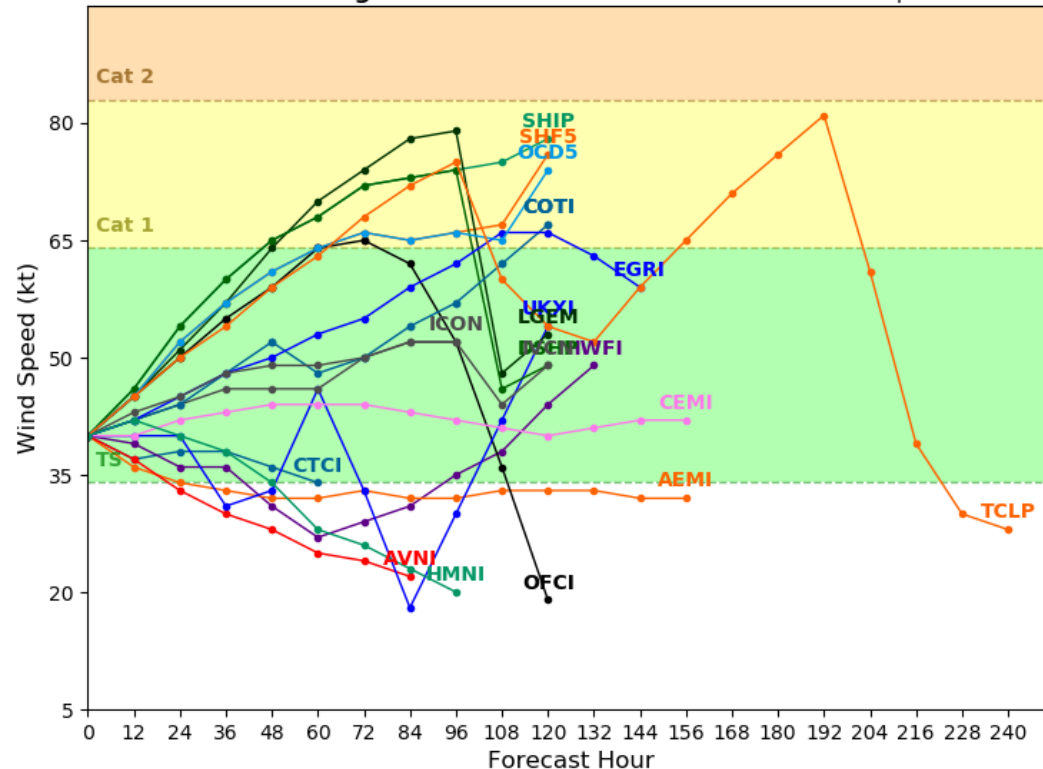
# T.S. Dorian Model Guidance

- The models are in good agreement on the track for Dorian, with most models having Dorian near Puerto Rico or Hispaniola in about 4 days.
- Intensity remains more uncertain as there is a wide spread in the model guidance. The uncertainty in the intensity forecast is due to the small size of Dorian and land interaction later this week with Hispaniola.

## Tropical Storm DORIAN Model Intensity Guidance

Initialized at 18z Aug 25 2019

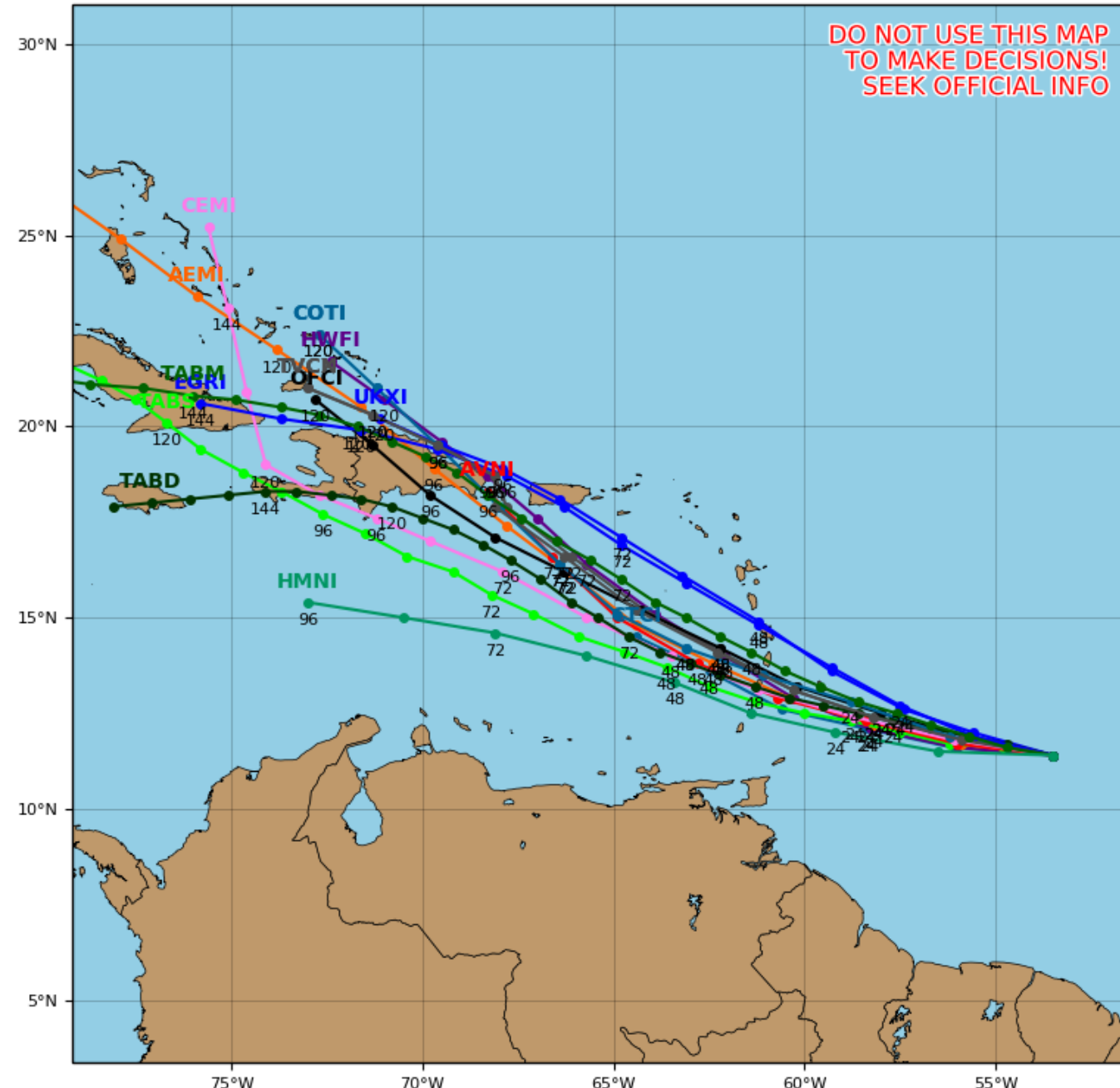
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## Tropical Storm DORIAN Model Track Guidance

Initialized at 18z Aug 25 2019

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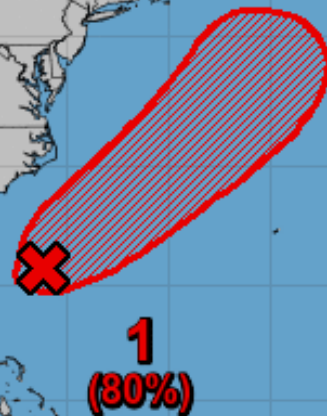
# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

Disturbance 1



1. Recent satellite wind data indicate that the circulation of an elongated low pressure area centered about 350 miles south-southwest of Cape Hatteras, North Carolina, has become a little better defined. While the associated shower and thunderstorm activity is currently poorly organized, environmental conditions appear conducive for gradual development, and a tropical or subtropical cyclone is likely to form within the next few days while the system moves slowly northeastward well offshore of the southeastern United States. Interests along the coasts of South and North Carolina should continue to monitor the progress of this system. *The Air Force Reserve Hurricane Hunter aircraft mission scheduled for this afternoon was canceled. However, another aircraft is scheduled to investigate the system on Monday, if necessary.*

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\* **Formation chance through 5 days...high...80 percent.**

2:00 pm EDT  
Sun Aug 25 2019

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

15N

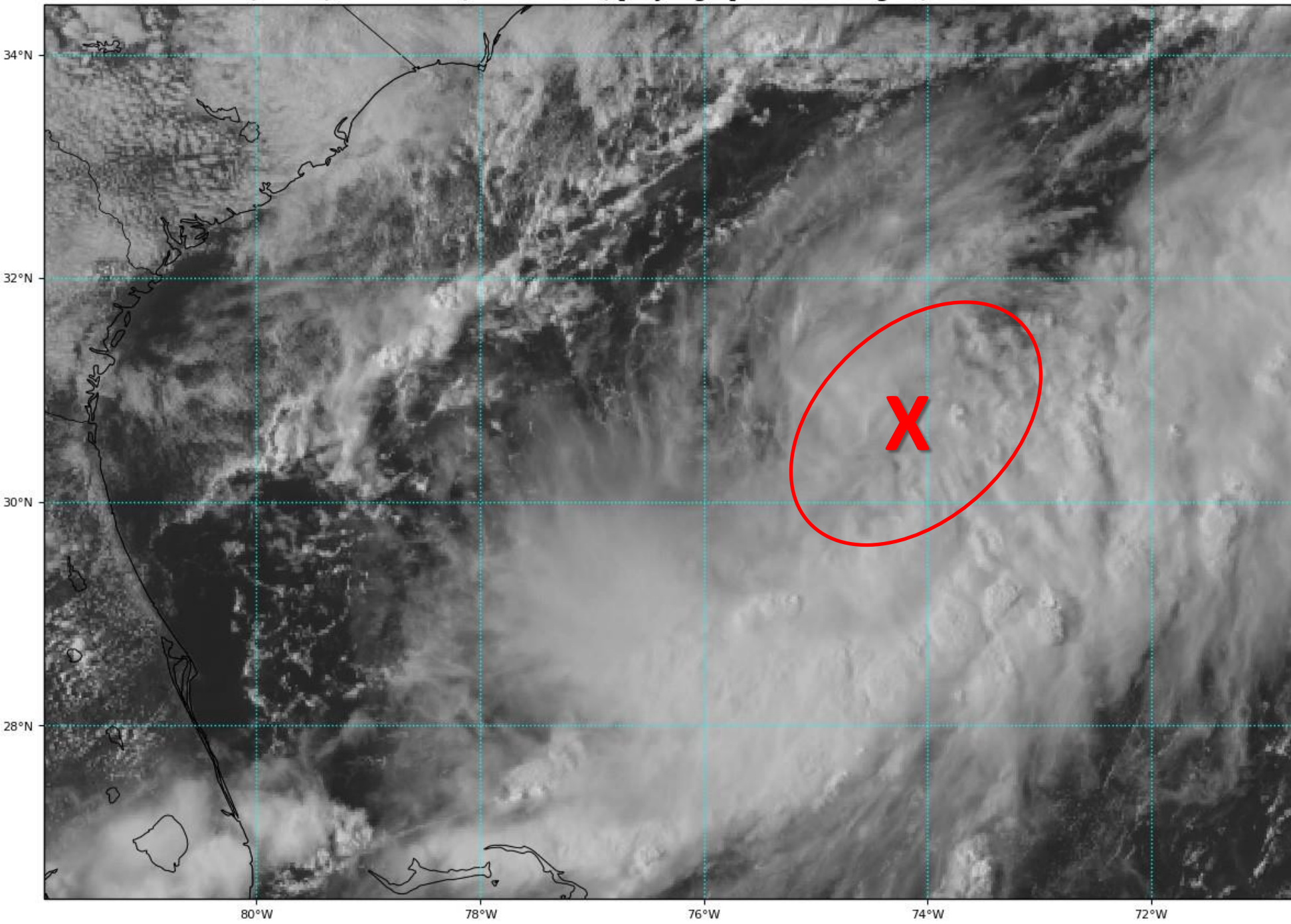
5N

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 98L Satellite Image

The center of 98L is broad and unorganized, but strong thunderstorms are numerous. The system will slowly organize over the next few days as it moves northeast, away from land.

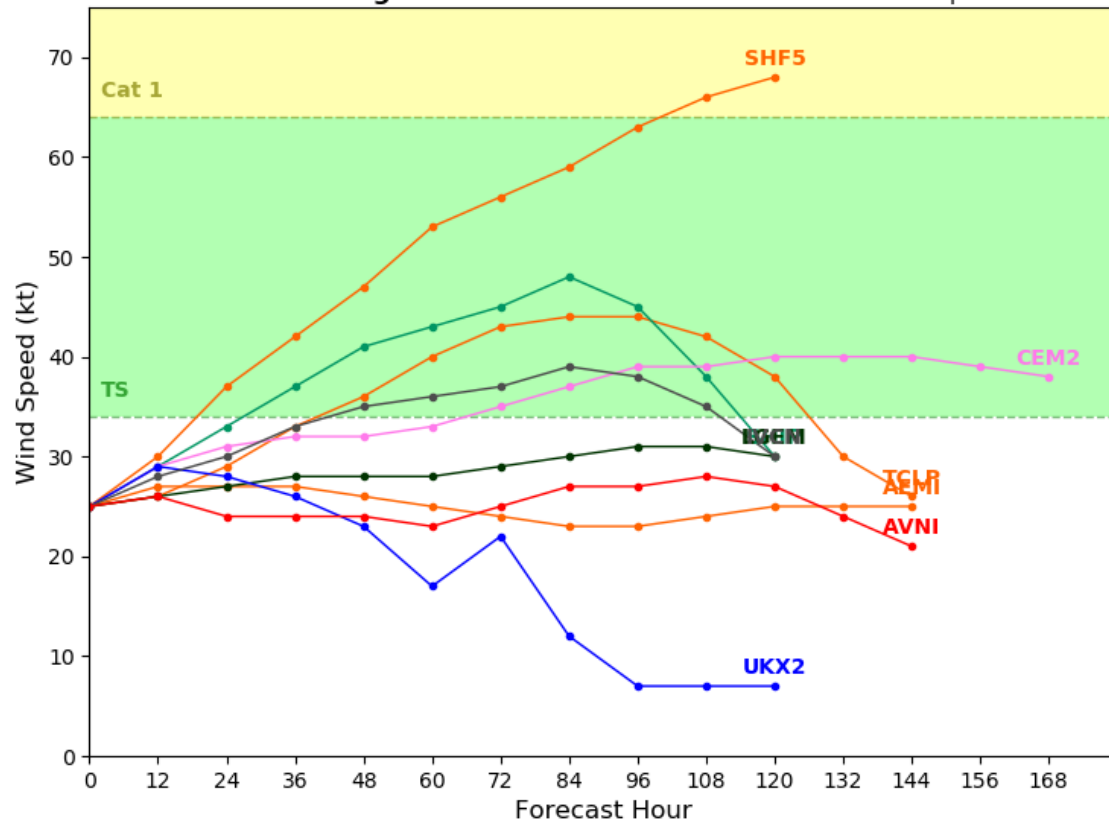
# Invest 98L Model Guidance

98L will move northeastward today and through the next several days. Models keep the storm well away from the U.S. East Coast. 98L will likely stay weak.

## Invest 98L Model Intensity Guidance

Initialized at 12z Aug 25 2019

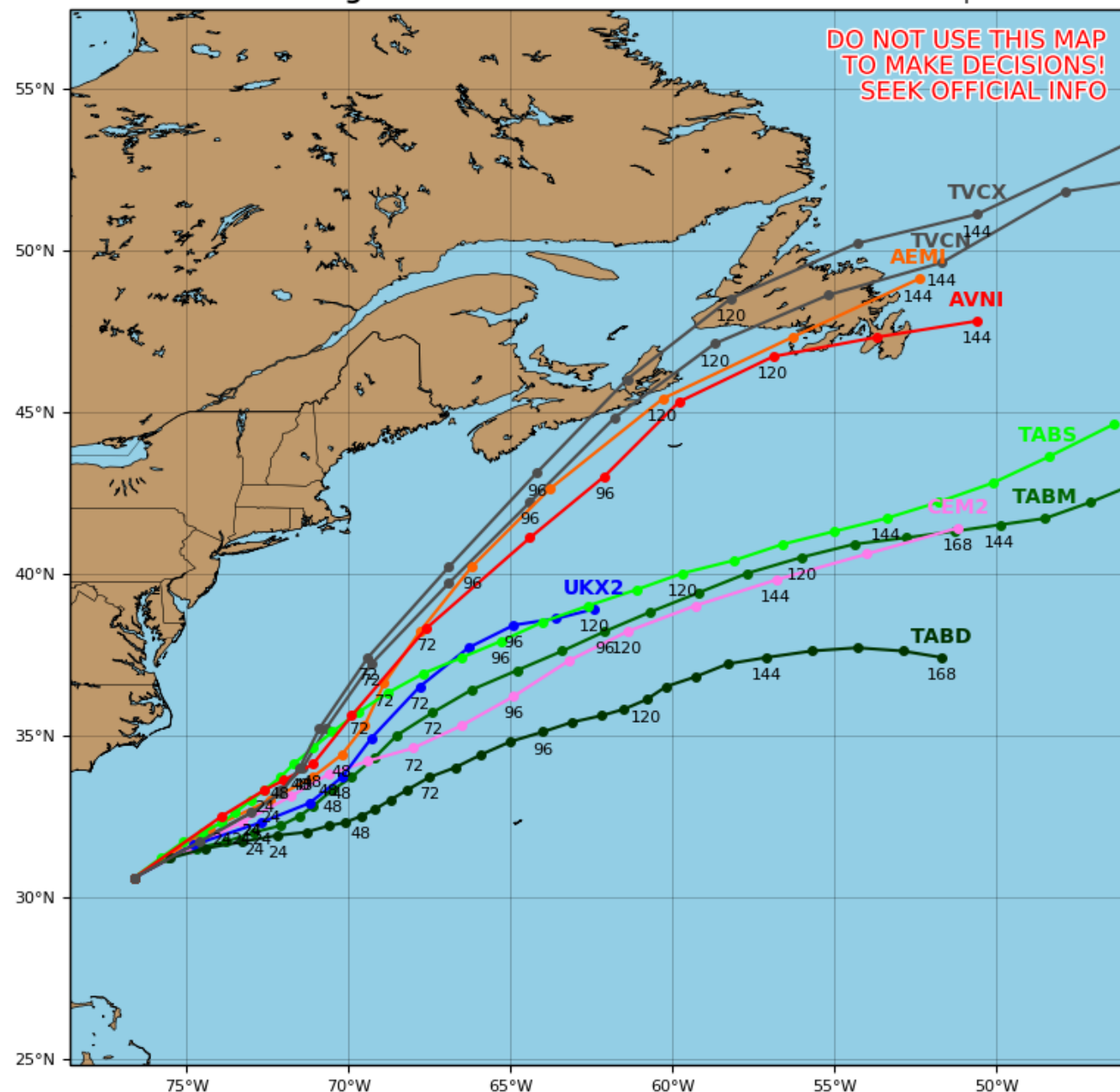
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## Invest 98L Model Track Guidance

Initialized at 12z Aug 25 2019

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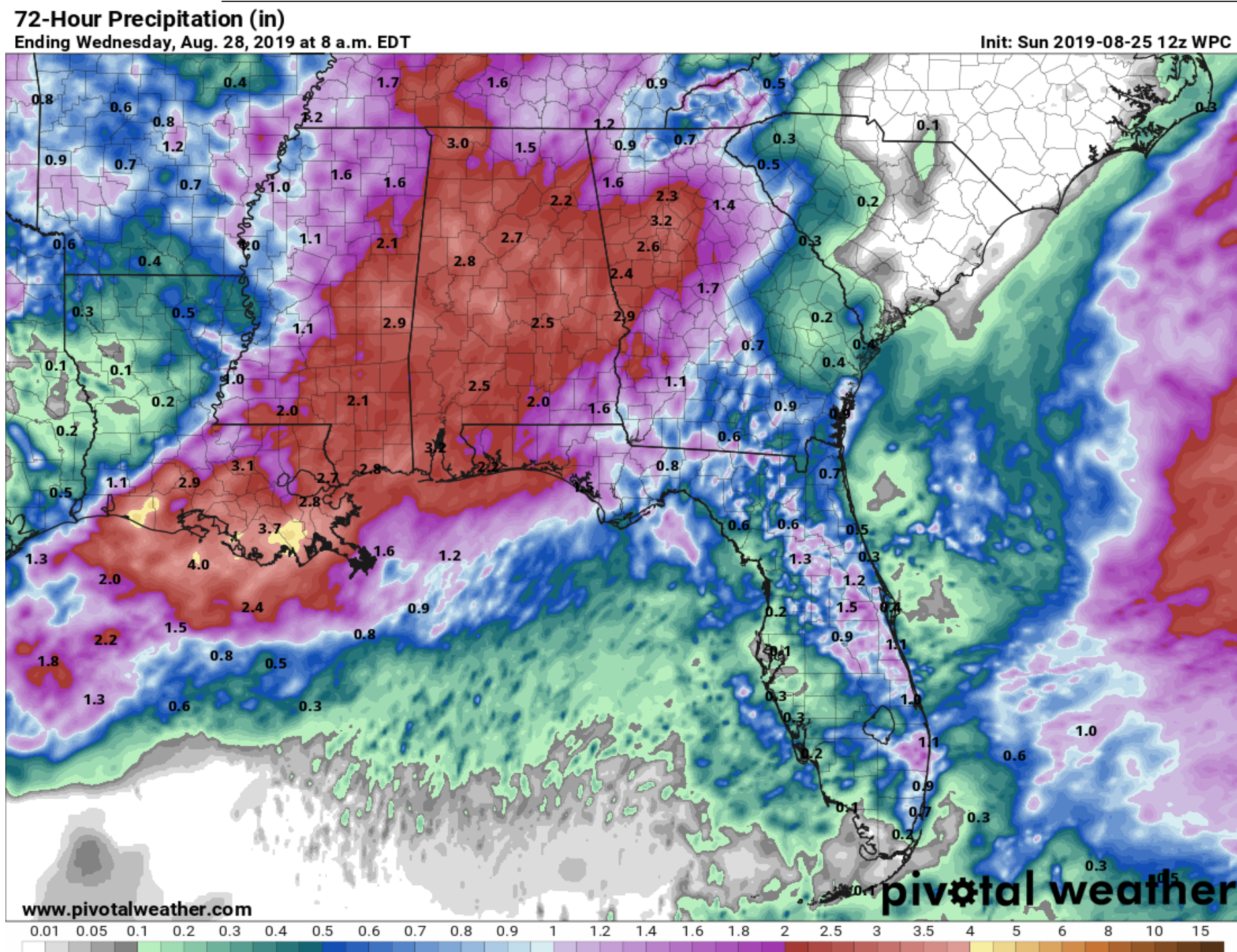
# Rainfall Totals Next 3 Days

A cold front in North Florida will increase rain chances through Tuesday, with some areas of the Panhandle receiving a widespread 2-3".

Increased rain chances are forecast for South Florida today before returning to a seasonable weather pattern.

**These rainfall totals are not expected to impact river levels.**

*Ponding of water on roadways is possible in the afternoon.*





Sunday



Monday

# Flash Flood Outlooks

A stalling cold front across North Florida will increase rain chances for the next couple of days. Recent dry conditions inland will limit the flood threat. The most susceptible area for flooding based on recent rainfall is Bay and Gulf County along with the Pensacola metro area.

**Minor street flooding will be the primary impact.**

**MARGINAL  
(MRGL)**

**Isolated flash  
floods possible**

Localized and  
primarily affecting  
places that can  
experience rapid  
runoff with heavy  
rainfall.

**SLIGHT  
(SLGT)**

**Scattered flash  
floods possible**

Mainly localized. Most  
vulnerable are urban  
areas, roads, small  
streams and washes.  
Isolated significant  
flash floods possible.



Tuesday



# Summary

## **Tropical Storm Dorian**

- Tropical Storm Dorian has become better organized today with more persistent shower and thunderstorm activity.
- Maximum sustained winds increased to 50 mph, and slow but steady strengthening is forecast to continue for the next couple of days. The tropical storm may become a hurricane Tuesday or Wednesday in the eastern Caribbean Sea.
- Dorian is located about 375 miles east-southeast of Barbados and is moving to the west at 14 mph.
- A slight turn to the west-northwest is expected over the next day or so and the northwest. It should reach the Lesser Antilles by Tuesday morning and Hispaniola by Thursday morning.
- Beyond 5 days, it is uncertain where Dorian will continue to move or how strong it will be. Small systems such as Dorian are more susceptible to surrounding atmospheric conditions, which could lead to fluctuations in intensity and track.
- Any land interaction with Hispaniola is likely to greatly weaken the system or dissipate it entirely. For the system to be a threat in the Bahamas this weekend, it will need to avoid the mountainous islands, ingest little dry air, and fight off increasing wind shear.

## **Invest 98L**

- Invest 98L is well off the East Coast of Florida and will continue to move northeastward away from land.
- 98L is likely to become a tropical or subtropical depression over the next few days.
- This system has a 70% (high) chance of formation during the next 48 hours and a 80% (high) chance of formation during the next 5 days.

## Florida Outlook:

- Locally heavy rainfall is possible across South Florida today and the Panhandle Monday and Tuesday.
- Seasonable rain chances are expected across the rest of the state this week.
- Current rainfall totals across the Panhandle are 1-3” through Tuesday with locally higher totals of 4-5” possible, mainly near the coast.
- Dry conditions across the inland Panhandle will limit the flood threat, but the urban areas near the coast are more saturated. Minor flooding during periods of heavy rainfall is possible Monday and Tuesday.
- Only one river flood warning is in effect (Peace River at Arcadia). All other rivers have fallen below flood stage.
- Tropical Storm Dorian poses no threat to Florida over the next 5 days. **However, it should continue to be monitored.**
- *On the current most-likely forecast, land interaction and wind shear will weaken/dissipate the system later this week. To pose a significant threat to Florida, Dorian will need to reach the Bahamas with minimal land interaction, which will be difficult to do based on its current location and movement. In addition, upper-level winds and dry air are forecast to be unfavorable.*

The next tropics packet will be issued Monday morning. For the latest information on the tropics, please visit the National Hurricane Center website at [www.hurricanes.gov](http://www.hurricanes.gov). For the latest flood updates, see the latest products from your local National Weather Service, the [Southeast River Forecast Center](#), and the [Weather Prediction Center](#).





# TROPICAL UPDATE



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State Meteorological Support Unit

Florida Division of Emergency Management

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