



TROPICAL UPDATE



11 AM EDT

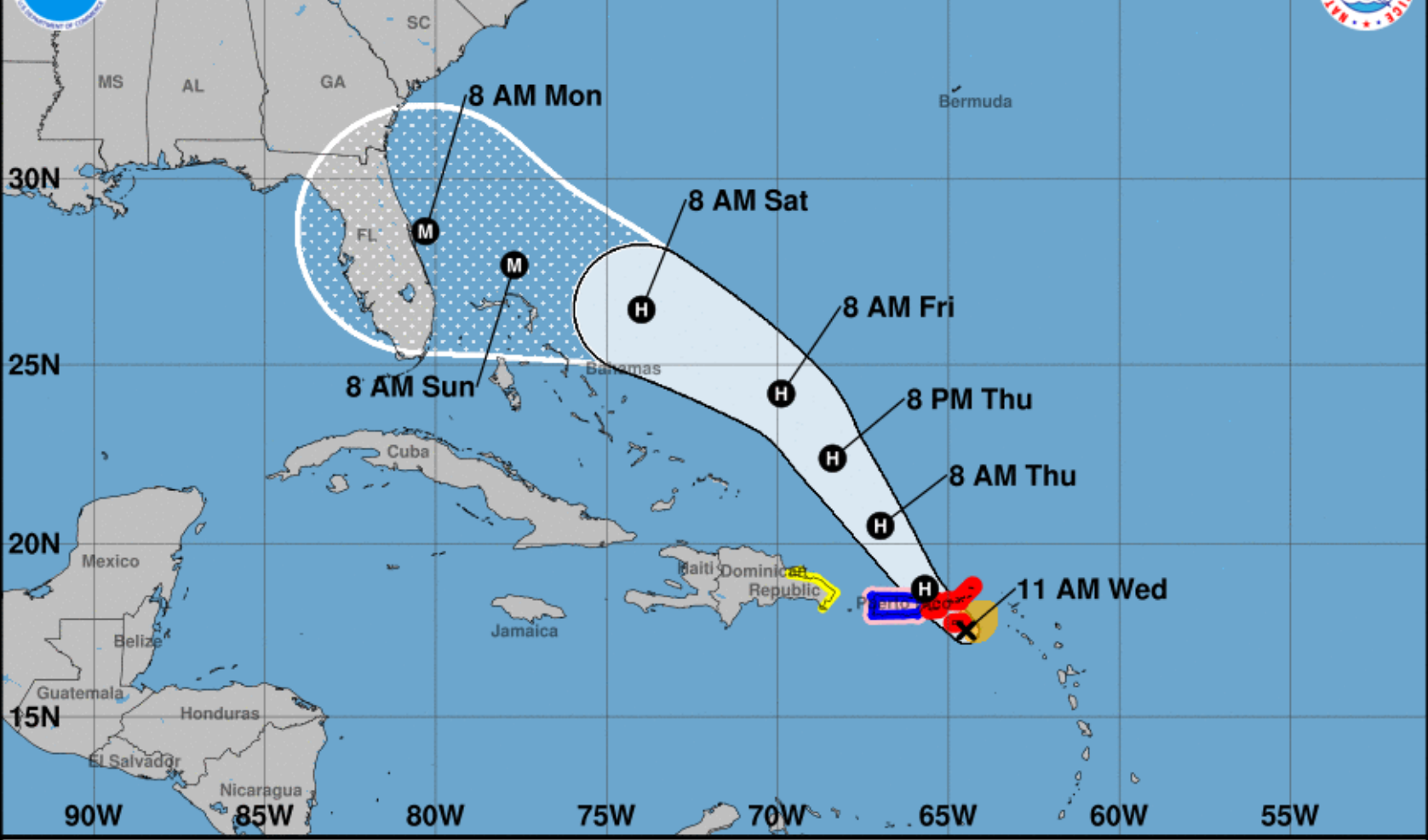
Wednesday, August 28, 2019

Tropical Storm Dorian
& Tropical Depression Erin

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.



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.



Significant Changes from Yesterday

NHC is now forecasting a landfalling Category 3 Hurricane somewhere along the Florida East Coast by late this weekend or early next week.

Dorian will move over the Virgin Islands or eastern Puerto Rico today and tonight.

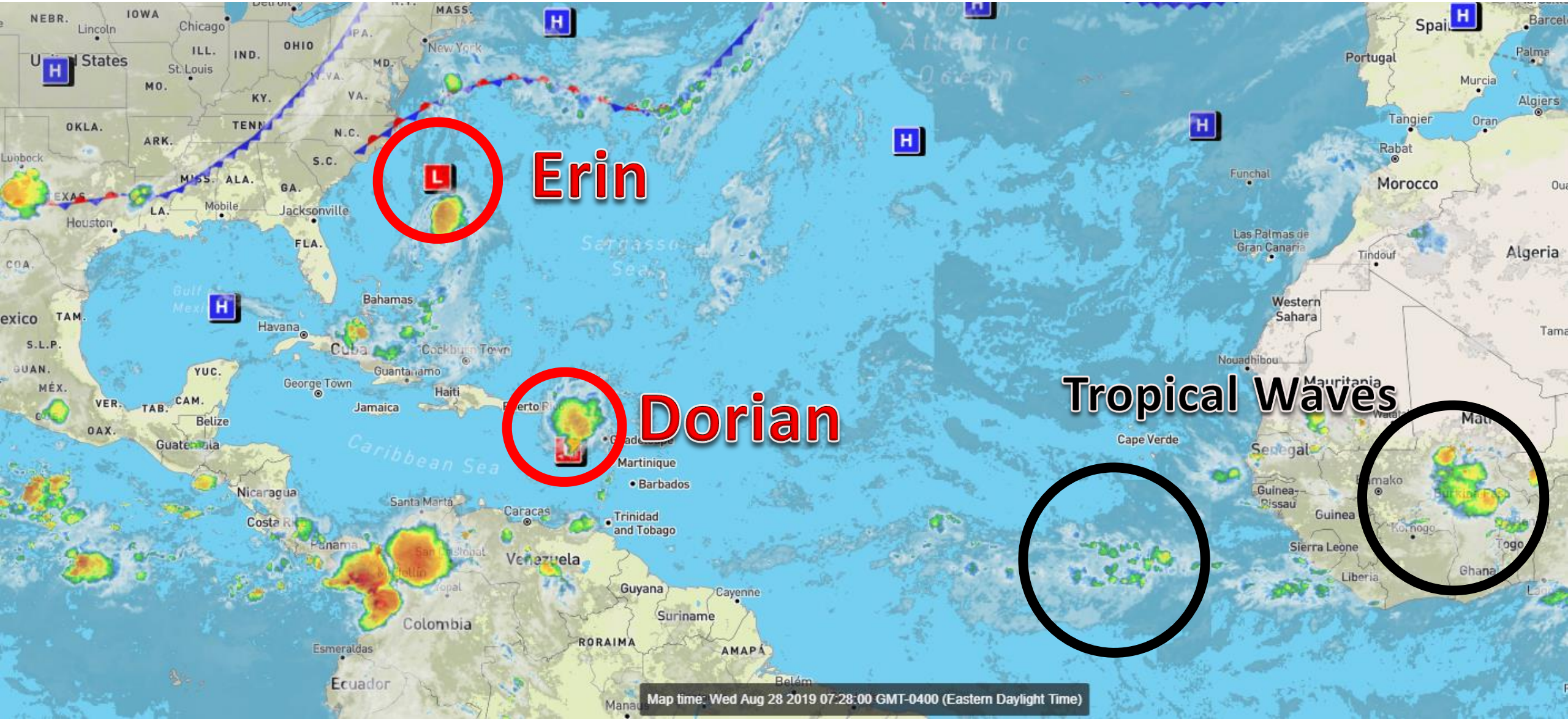
There remains the possibility that the intensity forecast may increase if environmental conditions continue to appear conducive for strengthening.

Tropical Storm Dorian Wednesday August 28, 2019 11 AM AST Advisory 17 NWS National Hurricane Center	Current information: x Center location 17.5 N 64.5 W Maximum sustained wind 70 mph Movement NW 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
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Potential track area: Day 1-3 (solid line) Day 4-5 (dotted line)	Watches: Hurricane (pink) Trop Stm (yellow)	Warnings: Hurricane (red) Trop Stm (blue)	Current wind extent: Hurricane (brown) Trop Stm (orange)
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Atlantic Basin Satellite Image

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



Erin

Dorian

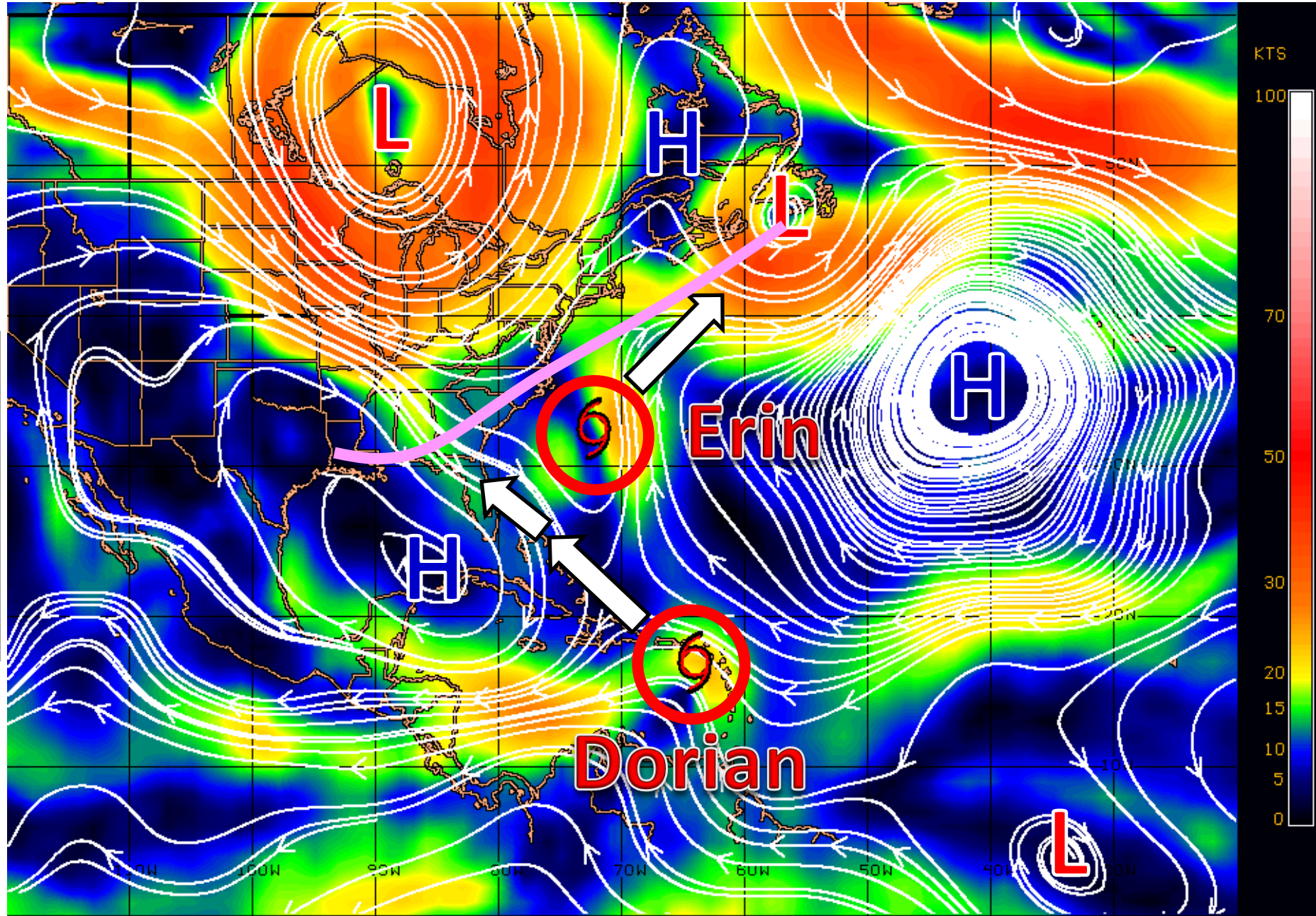
Tropical Waves

Map time: Wed Aug 28 2019 07:28:00 GMT-0400 (Eastern Daylight Time)

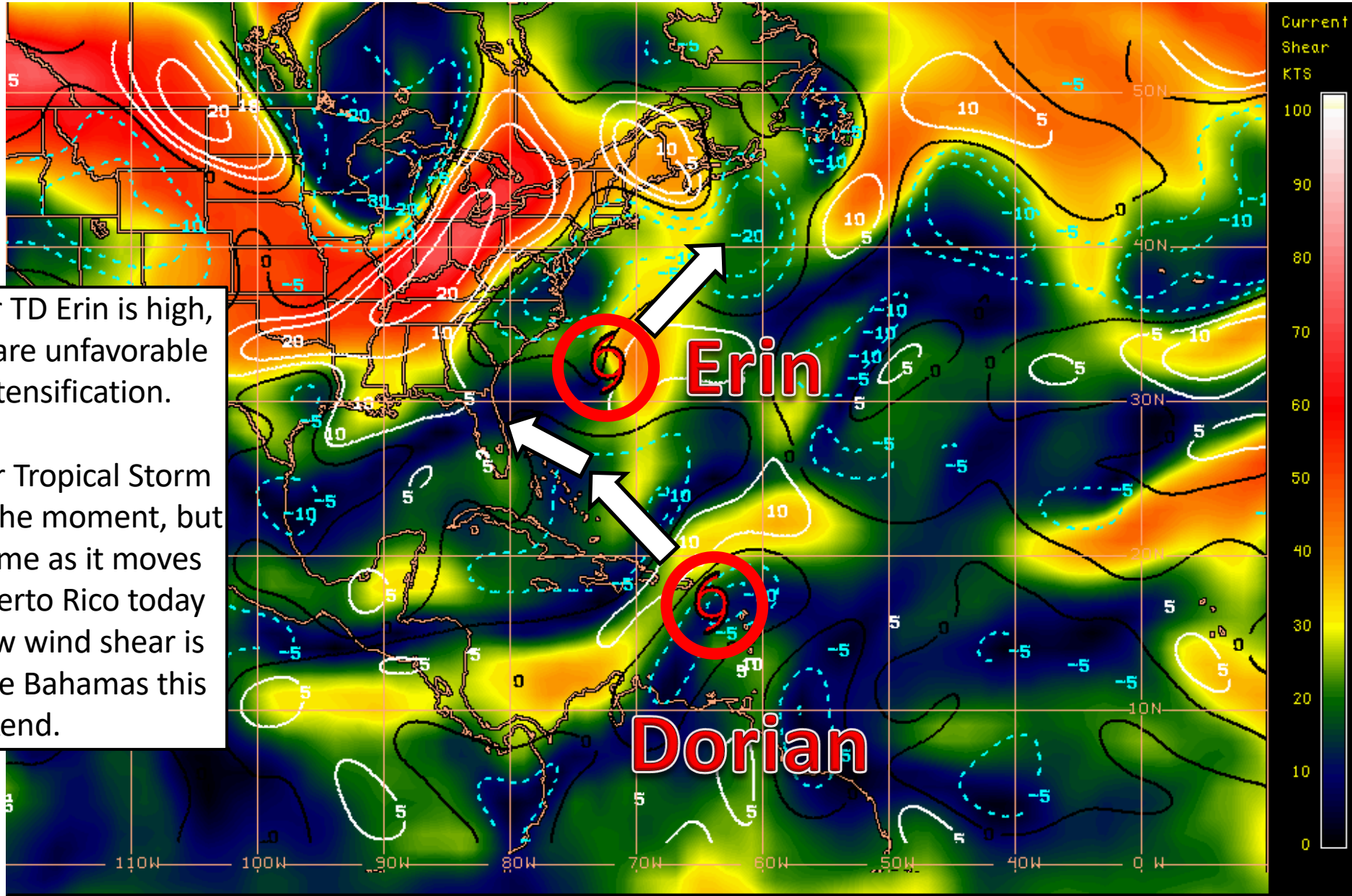
Steering Currents

Tropical Depression Erin, well offshore of the North Carolina Coast, will move northeastward ahead of a cold front (pink line).

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



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



HIGH Shear
(Unfavorable)

HIGH Shear
(Unfavorable)

MODERATE
Shear
(Unfavorable)

LOW Shear
(Favorable)

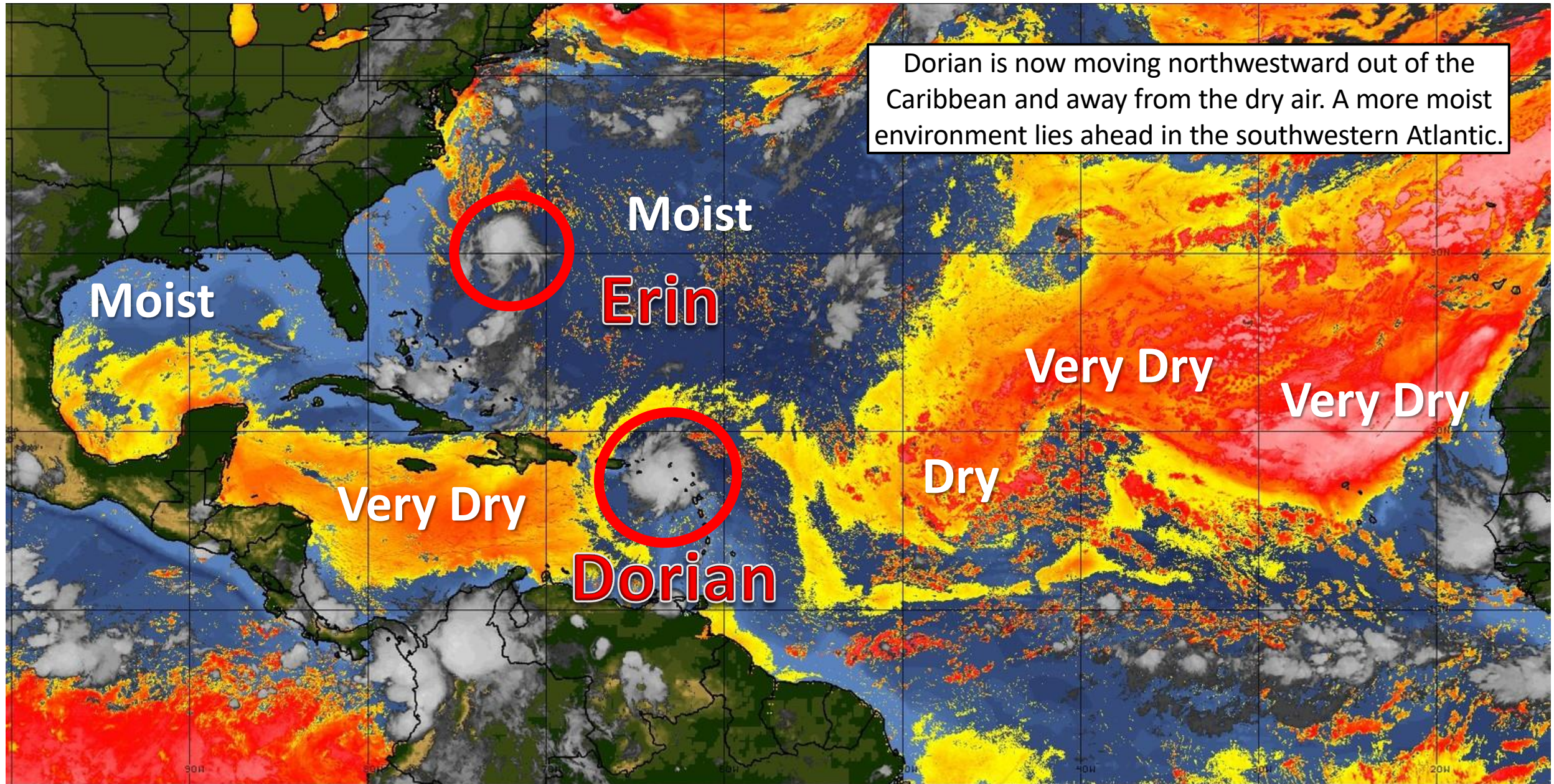
Wind shear over TD Erin is high, and conditions are unfavorable for further intensification.

Wind shear near Tropical Storm Dorian is low at the moment, but will increase some as it moves near or over Puerto Rico today and tonight. Low wind shear is forecast over the Bahamas this weekend.

Shear Tendency (KTS) Over Past 24 Hours: Increasing — Decreasing - - - -

Dry Air & Saharan Dust

Dorian is now moving northwestward out of the Caribbean and away from the dry air. A more moist environment lies ahead in the southwestern Atlantic.



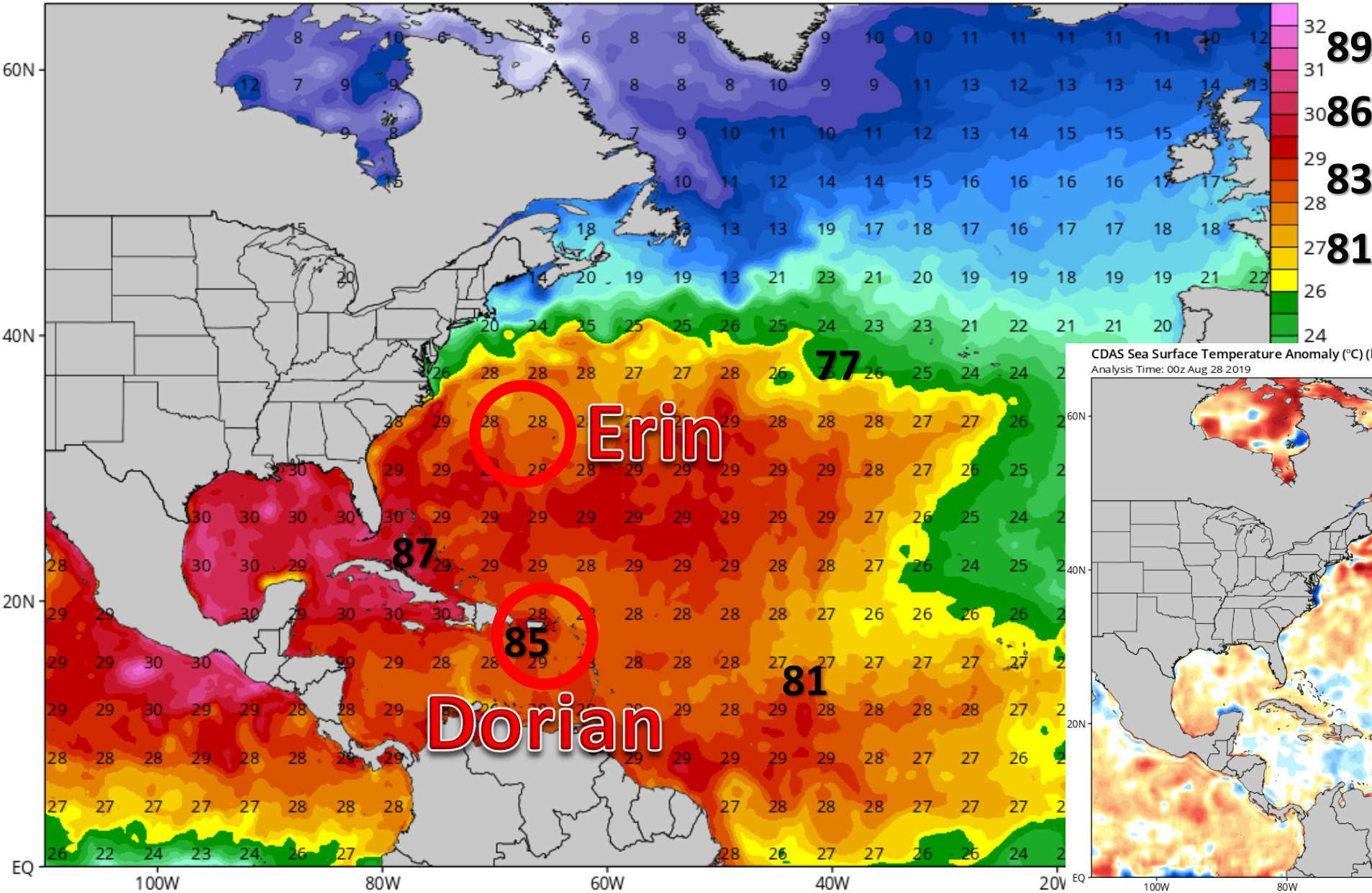
LESS <---- DRY AIR (LOW/MID-LEVEL) AND/OR DUSTY SAL AIRMASS ----> MORE

North Atlantic Sea Surface Temperatures and Anomalies

CDAS Sea Surface Temperature (°C)

Analysis Time: 00z Aug 28 2019

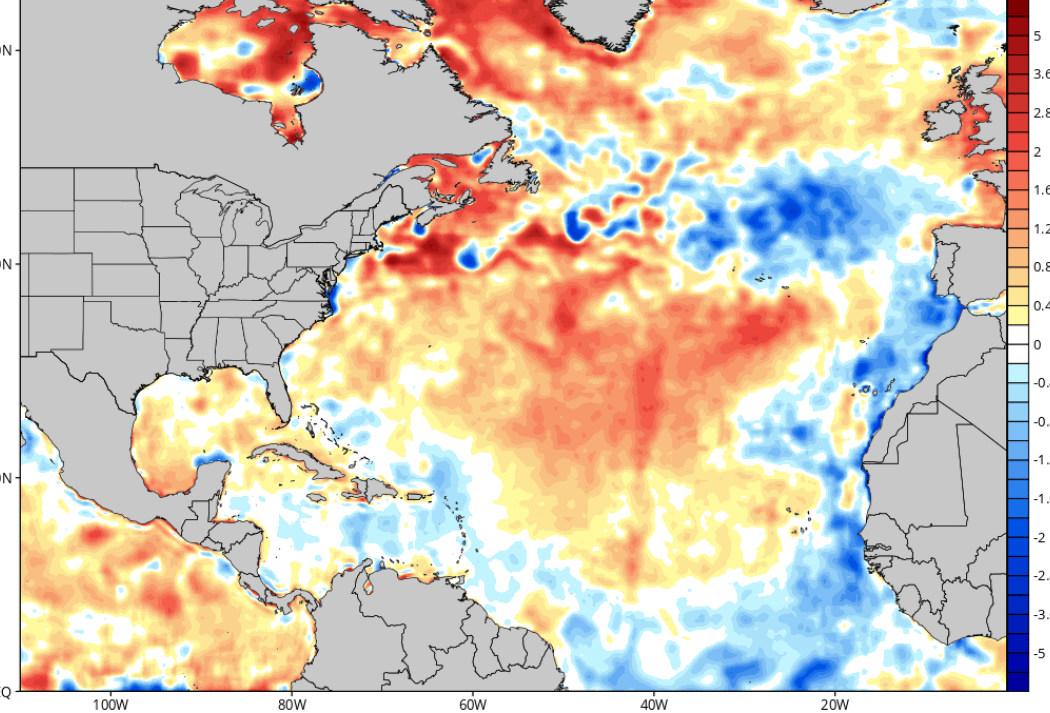
TROPICALTIDBITS.COM

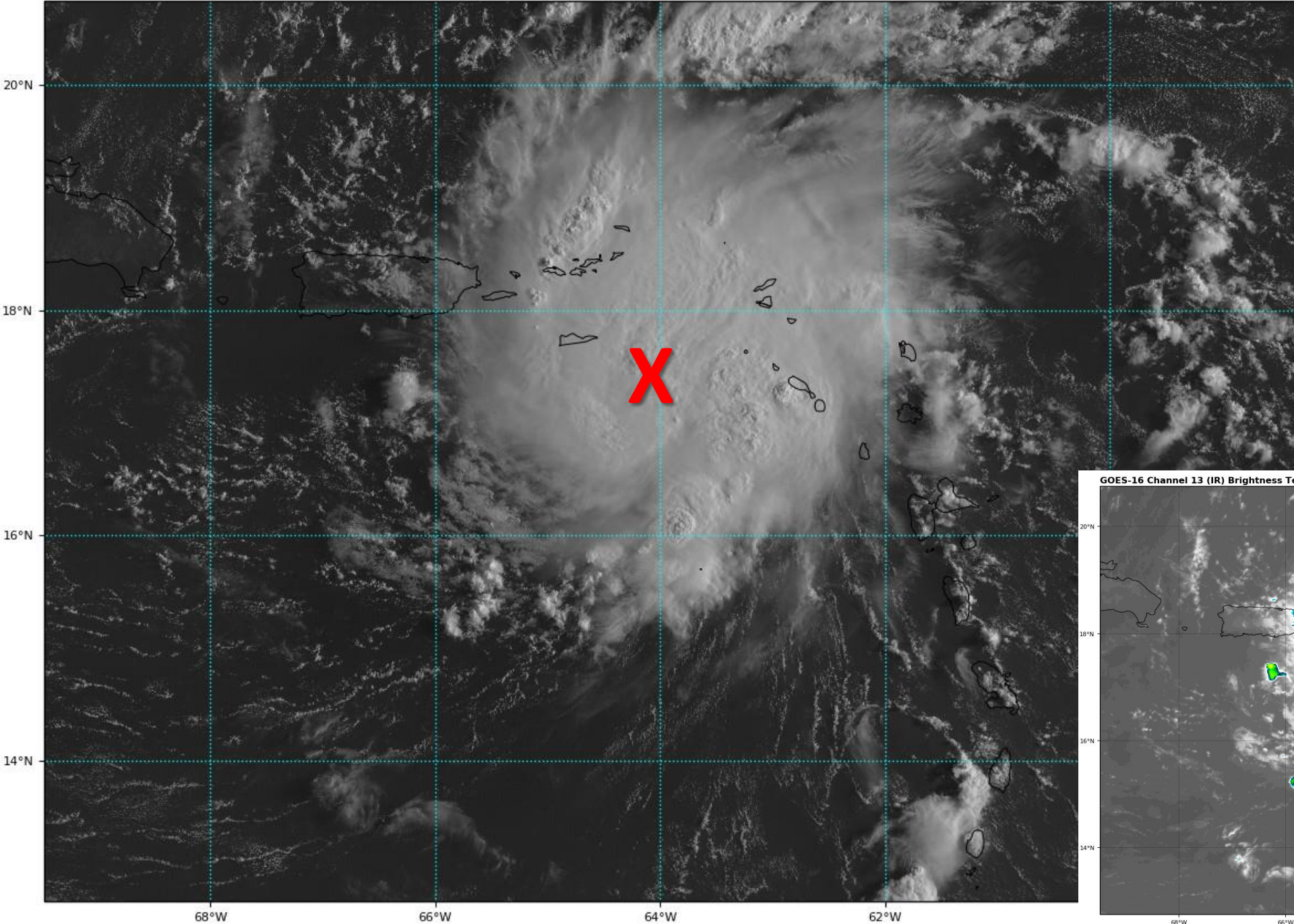


Water temperatures near and ahead of Erin and Dorian are plenty warm enough to support intensification. Water temperatures will be warming as Dorian travels northwest. Temperatures are near normal for this time of year in the Caribbean & Bahamas.

CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)
Analysis Time: 00z Aug 28 2019

TROPICALTIDBITS.COM

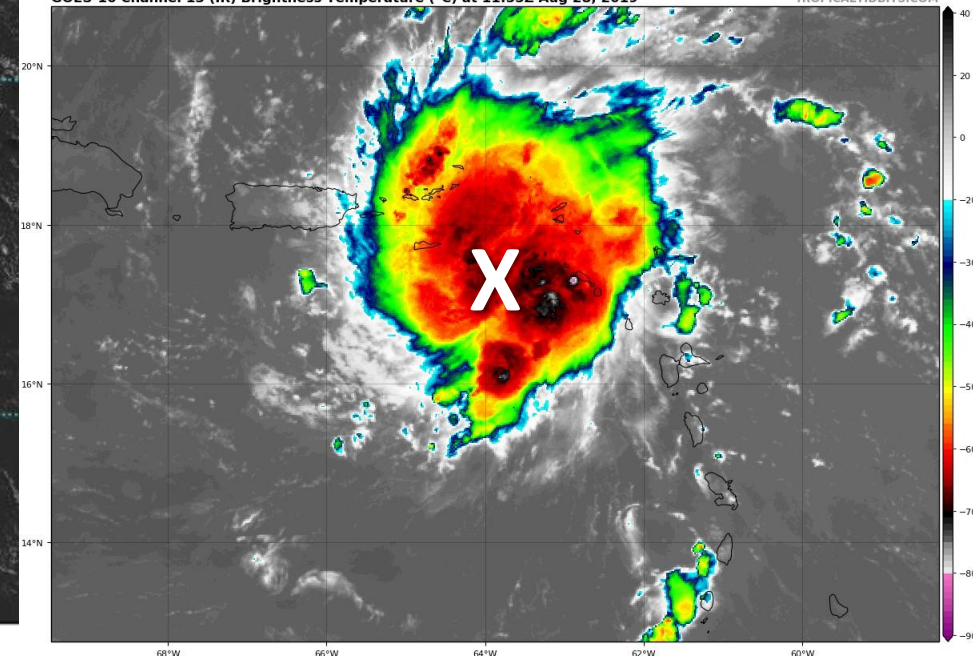




Tropical Storm Dorian Satellite Image

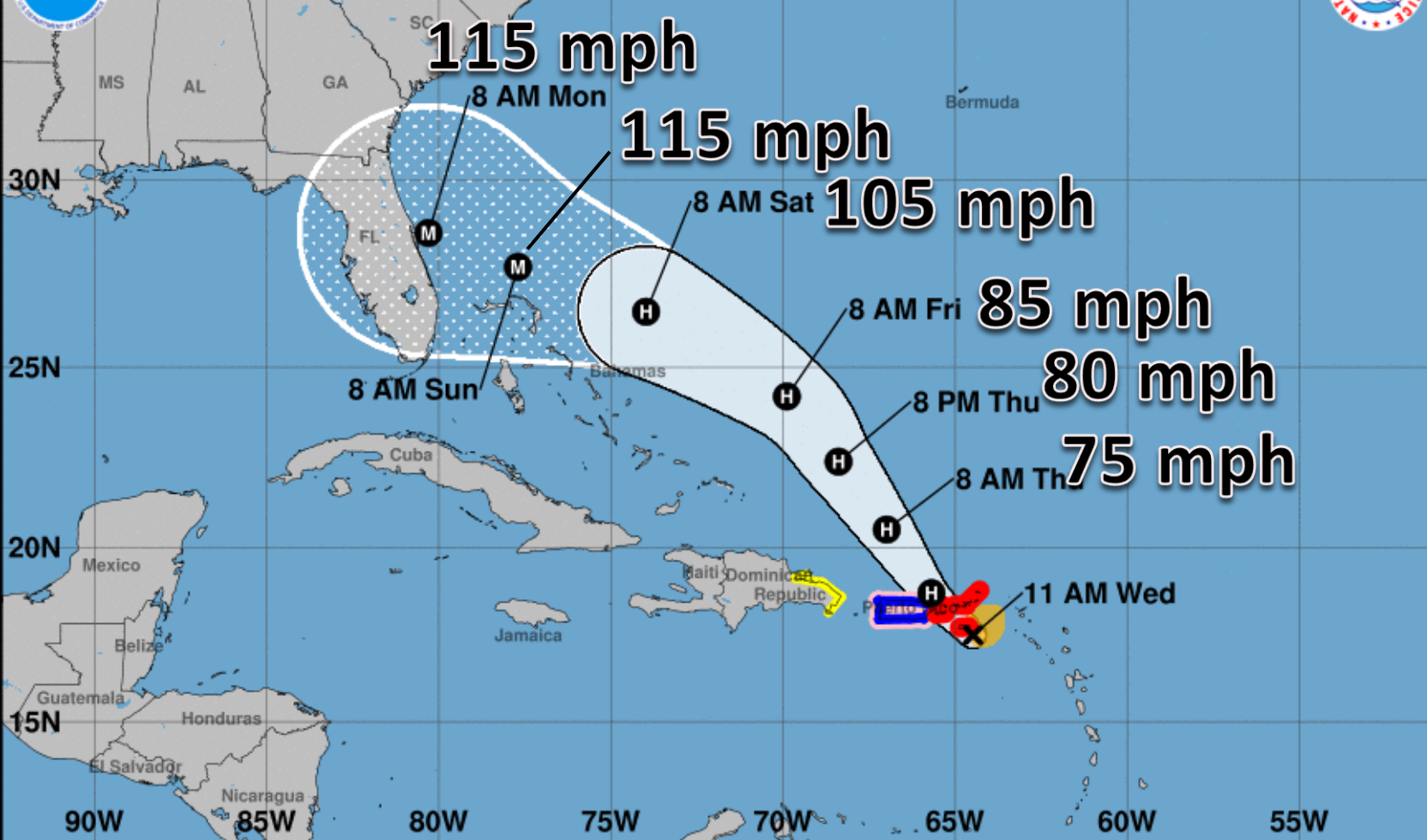
As Dorian moves away from the dry air, the environment is becoming more favorable. Dorian has become better organized over the last 24 hours with a more symmetric look.

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 11:55Z Aug 28, 2019





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 Dorian Forecast Track

Tropical Storm Dorian, located near St. Croix, continues to moving northwest at 13 mph. Maximum sustained winds have increased to 70 mph.

With less land interaction, steady strengthening is forecast.

Environmental conditions will become more favorable as it moves north of the Caribbean.

Dorian is forecast to be at **MAJOR HURRICANE** strength as it approaches Florida on Sunday.

Tropical Storm Dorian
 Wednesday August 28, 2019
 11 AM AST Advisory 17
 NWS National Hurricane Center

Current information: x
 Center location 17.5 N 64.5 W
 Maximum sustained wind 70 mph
 Movement NW 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:

Watches:

Warnings:

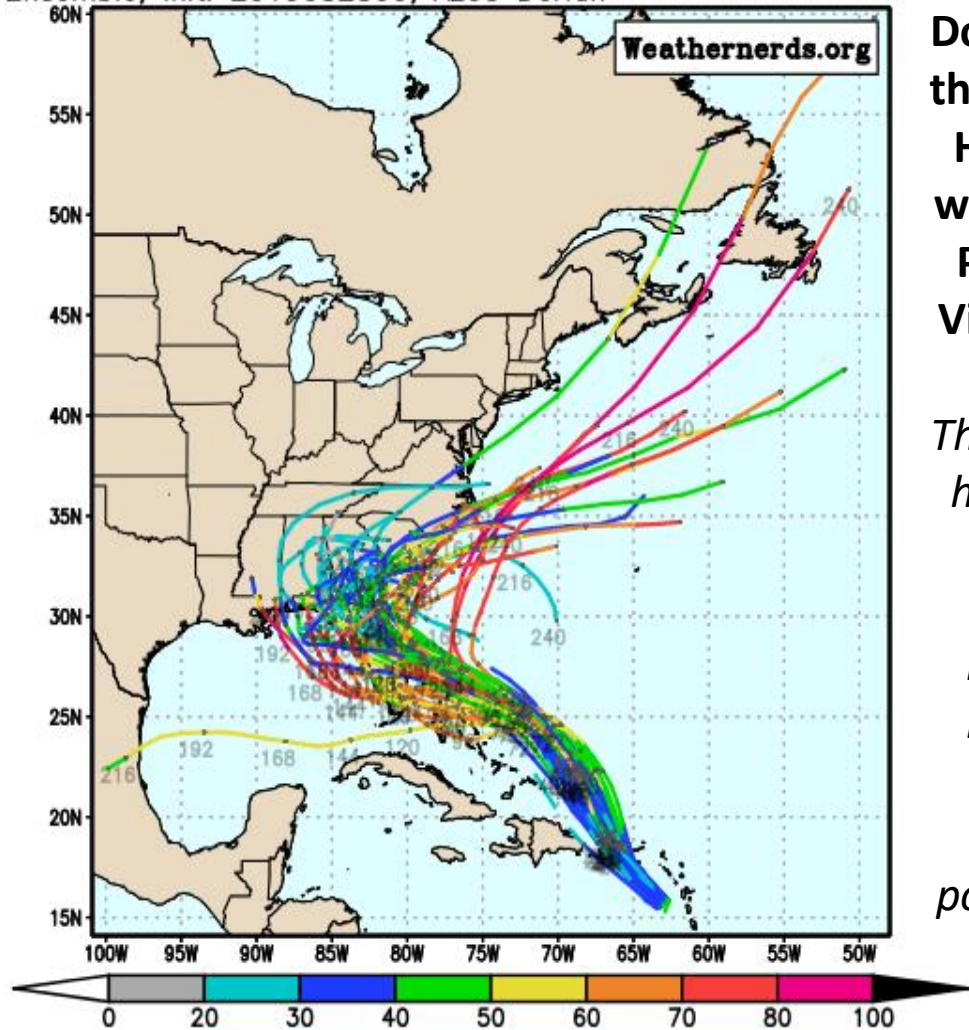
Current wind extent:

Day 1-3
 Day 4-5
 Hurricane
 Trop Stm
 Hurricane
 Trop Stm
 Hurricane
 Trop Stm

Current Forecast Ensemble Model Guidance

There is a wide spread in solutions for the track and strength of Dorian later this week. With Dorian missing the highest mountains in the Caribbean, a strong storm is now forecast in the Bahamas. Each line is a possible model solution, with the color representing wind speed.

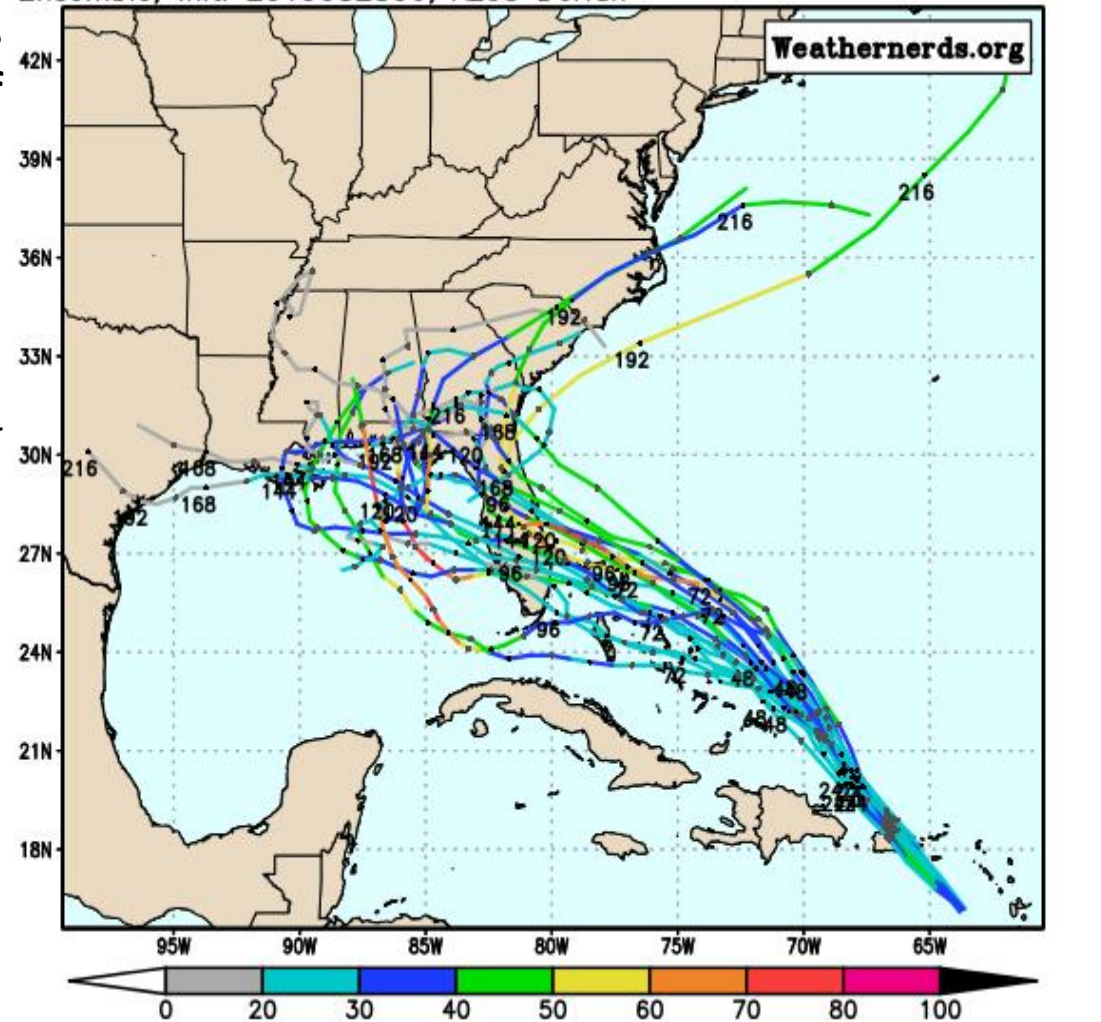
ECMWF Ensemble, init: 2019082800, AL05 Dorian color = max wind (kt)



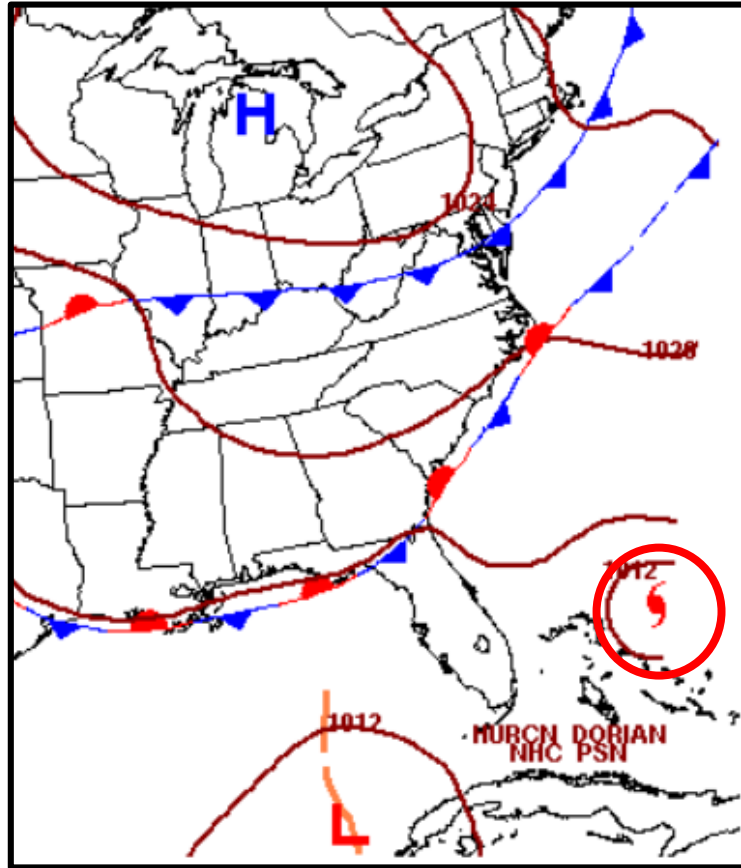
Dorian will now miss the tall mountains of Hispaniola. Dorian will likely move over Puerto Rico or the Virgin Islands today.

The intensity forecast has increased since yesterday. The possibility of a hurricane making landfall along the East Coast is increasing. The potential for a major hurricane is also increasing.

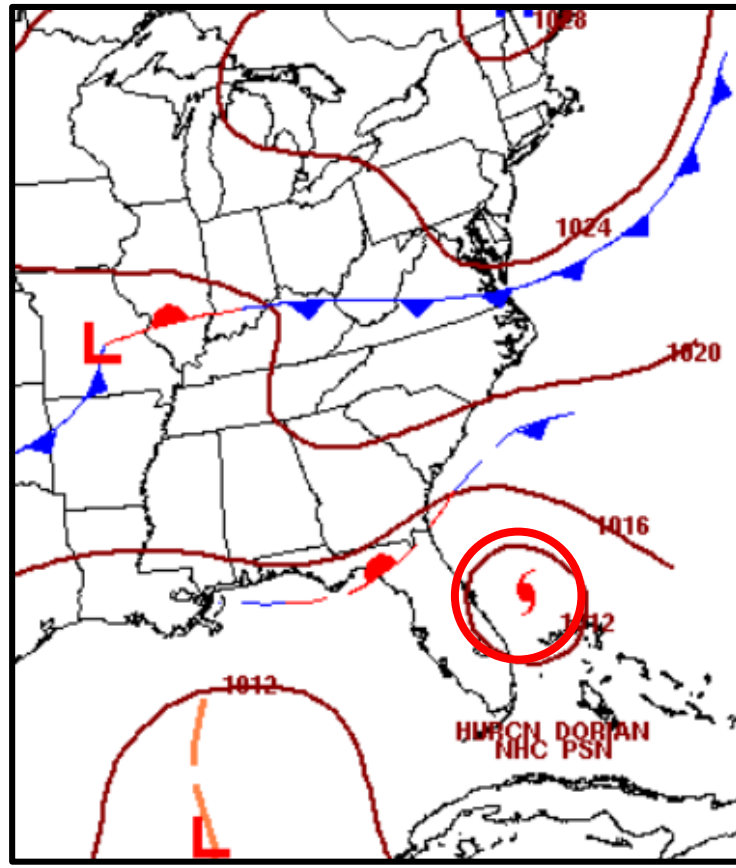
GFS Ensemble, init: 2019082806, AL05 Dorian color = max wind (kt)



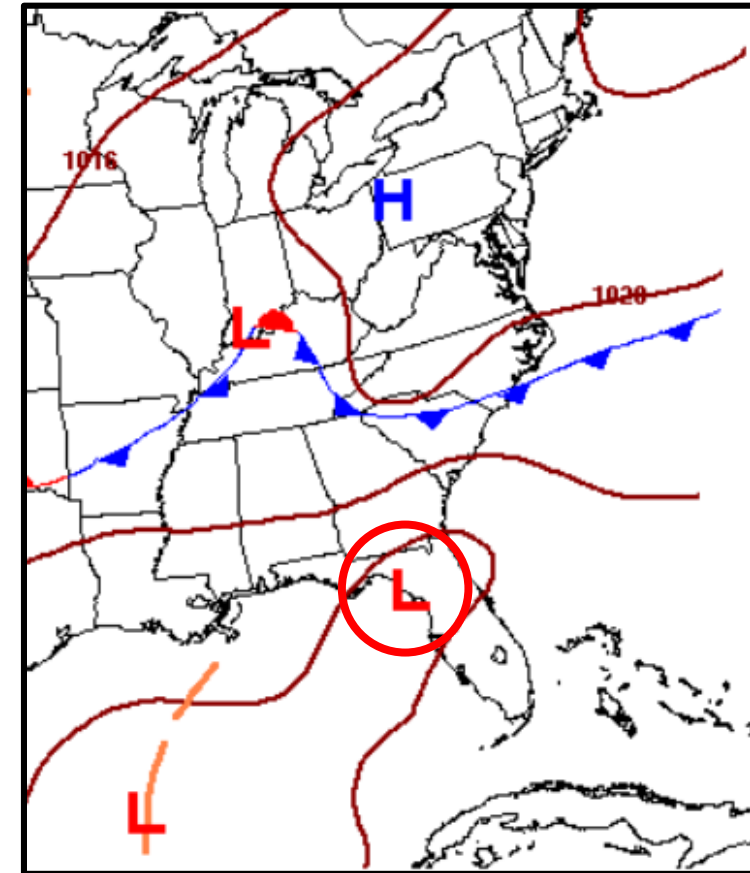
Forecast Weather Maps with Fronts



Saturday AM



Sunday AM



Monday AM

Tropical Storm Dorian will track through the Bahamas as a hurricane on Friday and Saturday, approaching the Florida Peninsula Saturday night and Sunday. Dorian may then move into the eastern Gulf of Mexico by Labor Day.

Regardless of the strength of Dorian, increased rain chances and heavy rainfall are expected statewide for Labor Day weekend.



Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds

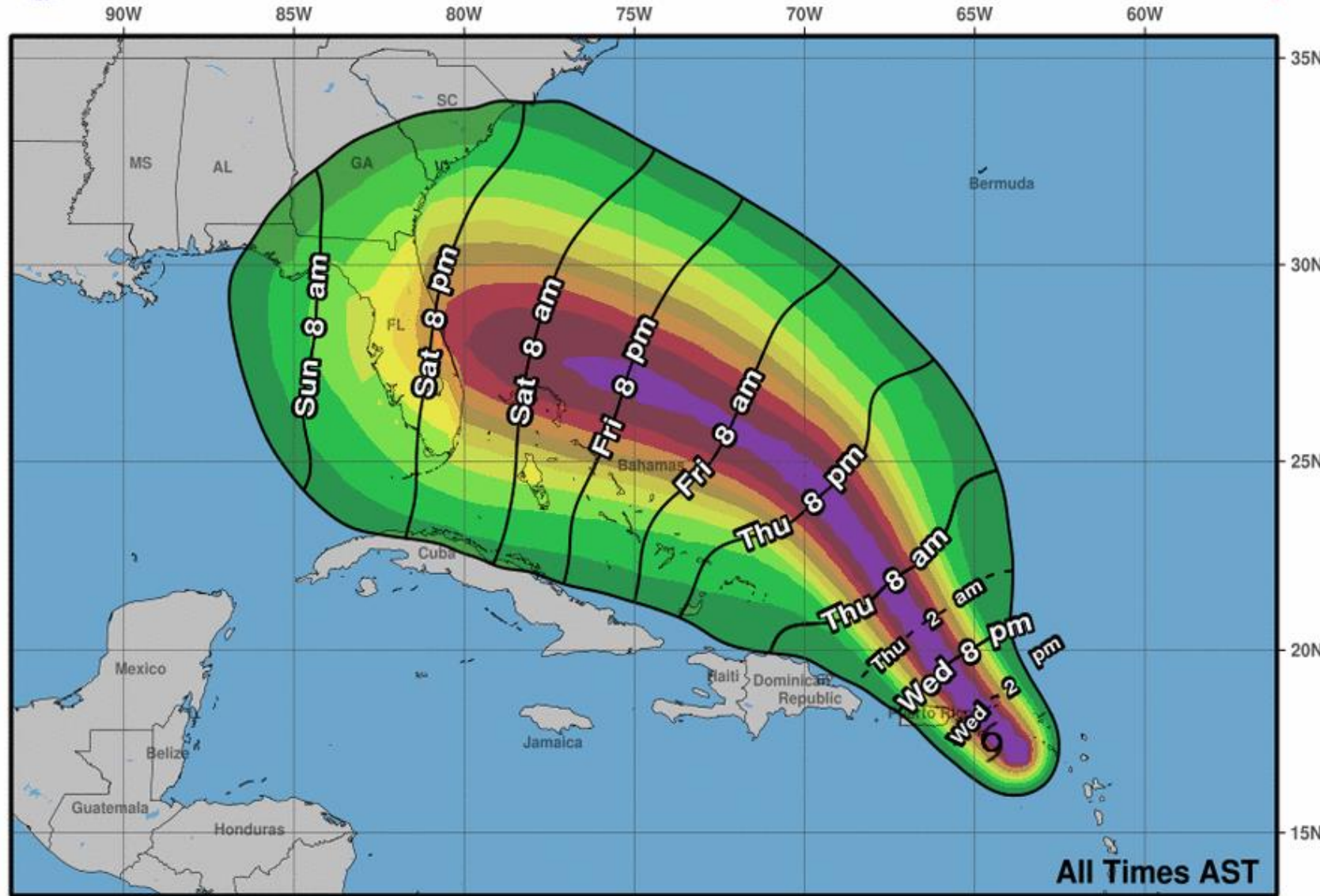


Tropical Storm and Hurricane Warnings have been issued for Puerto Rico and the US Virgin Islands.

There are no watches or warnings for Florida, but could be issued as early as Thursday.

Chance of tropical storm forces winds have increased today for all of Florida:

- Tallahassee: 13%**
- Jacksonville: 30%**
- Orlando: 52%**
- Cocoa Beach: 75%**
- West Palm Beach: 63%**
- Ft. Lauderdale: 51%**
- Miami: 32%**
- Naples: 25%**
- Marathon: 23%**



All Times AST

Tropical Storm Dorian

Wed. Aug. 28, 2019 11 am AST

Advisory 17

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



Key Messages for Tropical Storm Dorian



Advisory 17: 11:00 AM AST Wed Aug 28, 2019

1. Hurricane conditions are expected in the U.S. and British Virgin Islands, Culebra, and Vieques today. Tropical storm conditions are expected in Puerto Rico today with hurricane conditions possible.

2. Heavy rainfall over portions of Puerto Rico and the U.S. and British Virgin Islands could produce flash flooding during the next couple of days. Heavy rains are expected to occur over portions of the Bahamas, Florida, and elsewhere in the southeastern United States later this week and into early next week.

3. The risk of dangerous storm surge and hurricane-force winds is increasing in the central and northwestern Bahamas and along the Florida east coast, although it is too soon to determine where these hazards will occur. Residents in these areas should ensure that they have their hurricane plan in place and not focus on the exact forecast track of Dorian's center.

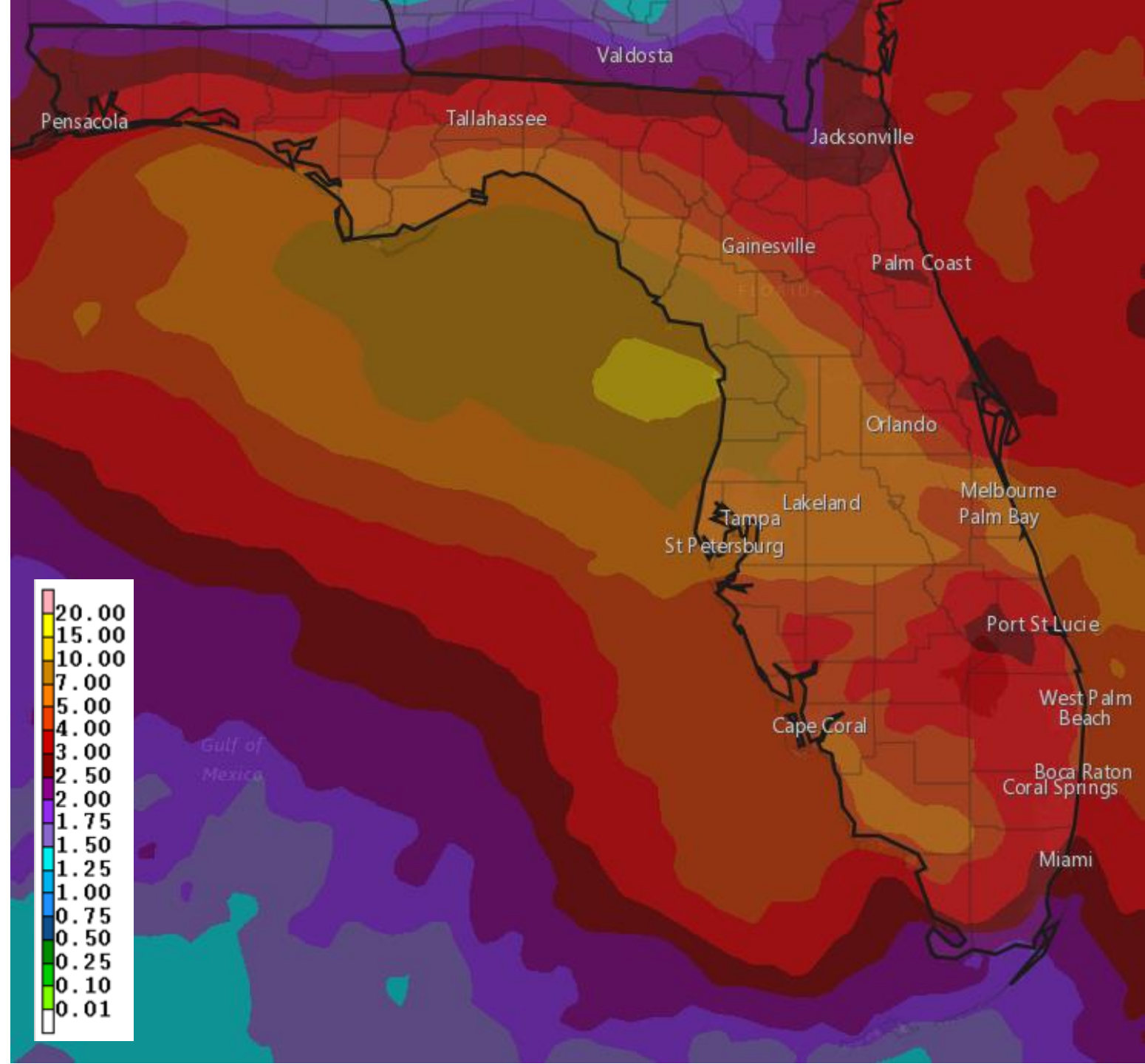


For more information go to hurricanes.gov

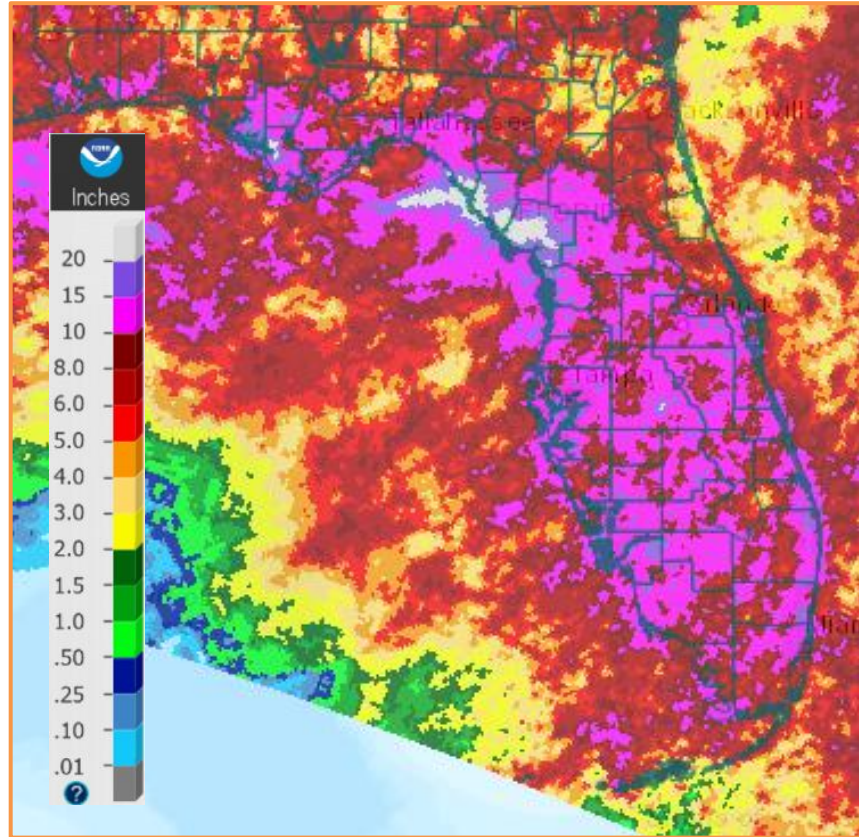
Rainfall Totals Next 7 Days

Given the recent stretch of wet weather, these rainfall amounts may create additional river flooding and areal flooding in urban and low-lying areas.

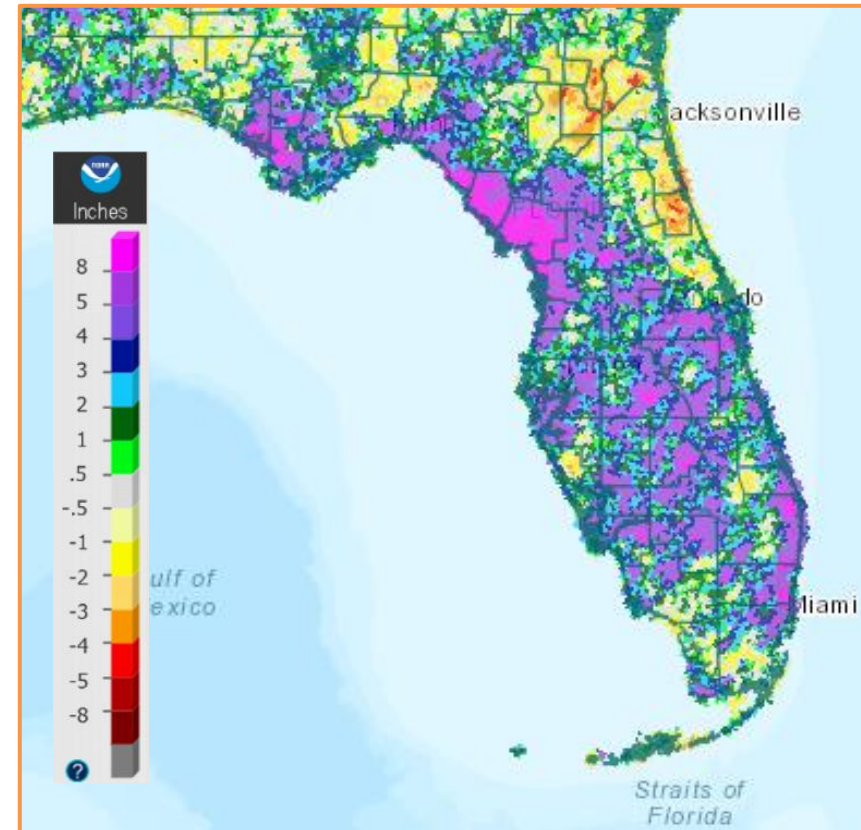
*These rainfall forecasts are track-dependent and will likely change with subsequent forecasts. **Wherever Dorian tracks, the heaviest rainfall totals will follow the track.** However, a widespread 5-8" of rain is expected across much of the state. Locally higher totals are possible, but it is too early to give specifics on rainfall totals.*



Estimated 30 Day Rainfall



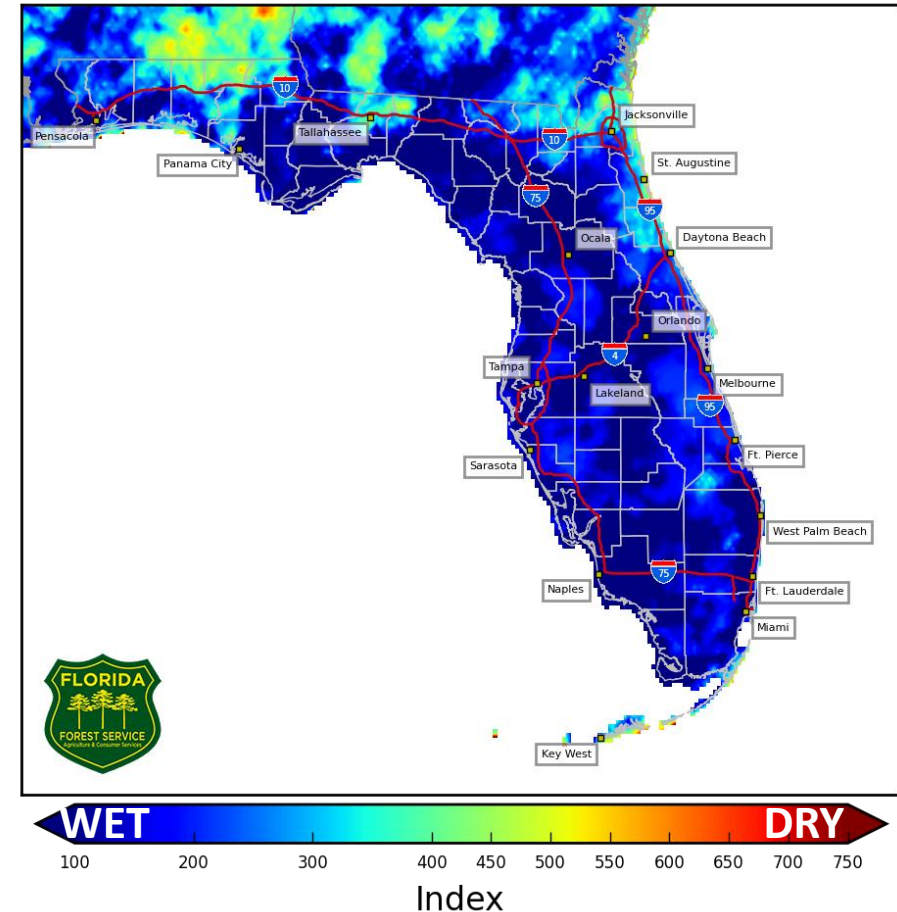
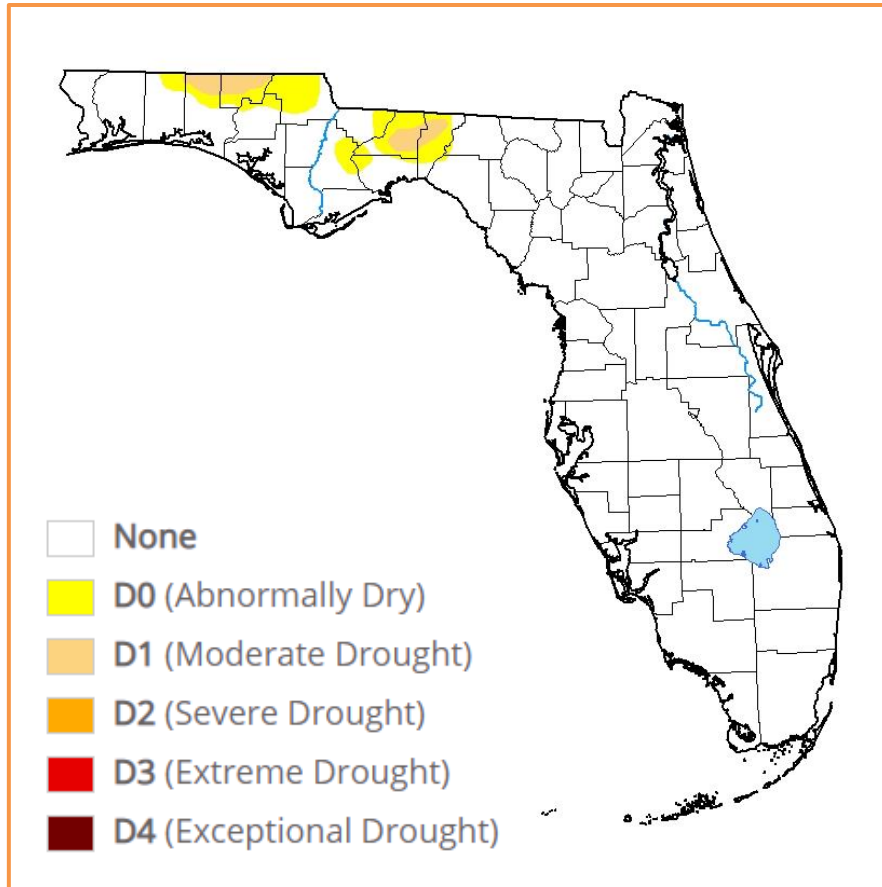
30 Day Rainfall Departures



Rainfall over the last 30 days has been very abundant across the Peninsula with most areas seeing 10-15 inches of rain. Localized areas in the Peninsula have seen 15-20"+, which is about 4-8"+ above average. This is also about 150-300% of normal rainfall. Rainfall in the Panhandle is about 1-3" below average for the last 30 days.

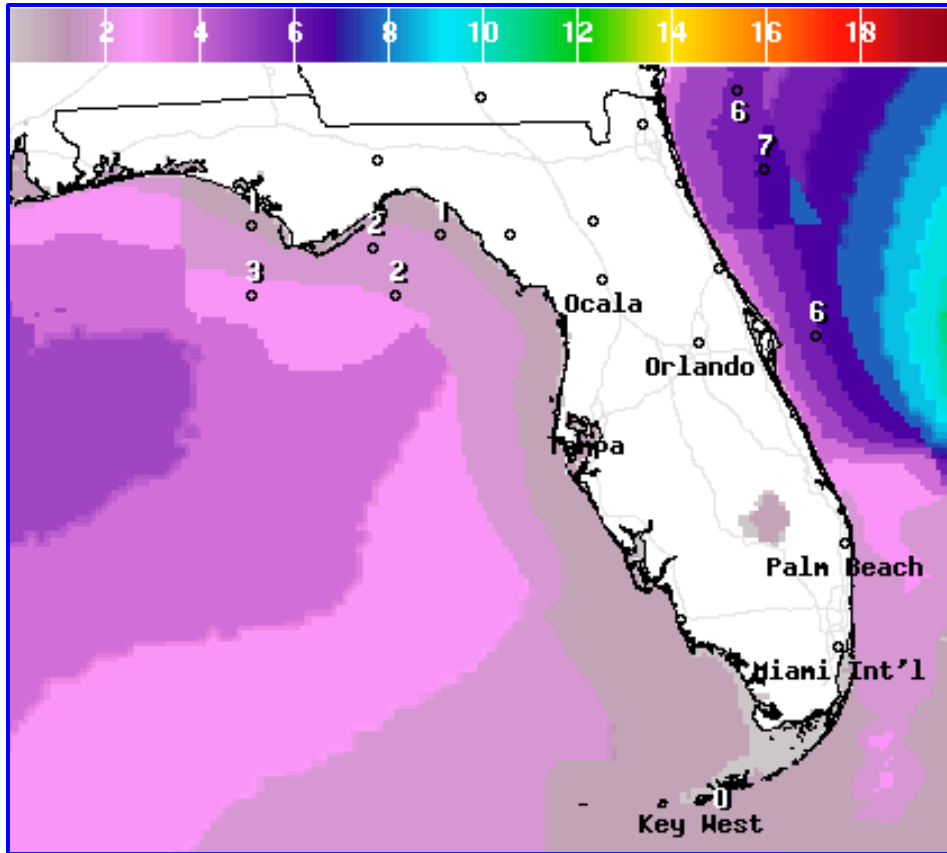
Current Drought Monitor and Keetch-Byram Drought Index

4 km Resolution KBDI
Statewide
August 27, 2019

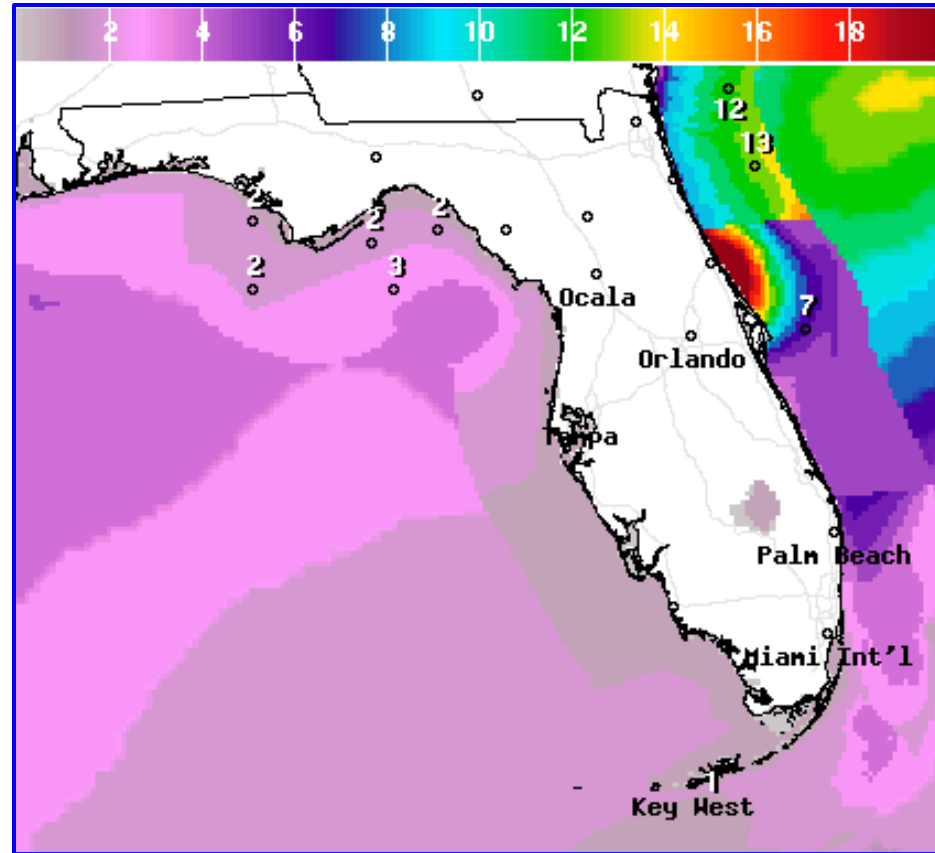


Soils are very saturated across nearly all of the Peninsula, and the additional rainfall is not needed and may lead to additional flooding concerns. However, parts of the inland Panhandle and Big Bend are still in moderate drought, and the rainfall would be welcome in those areas.

Forecast Wave Heights This Weekend



Saturday

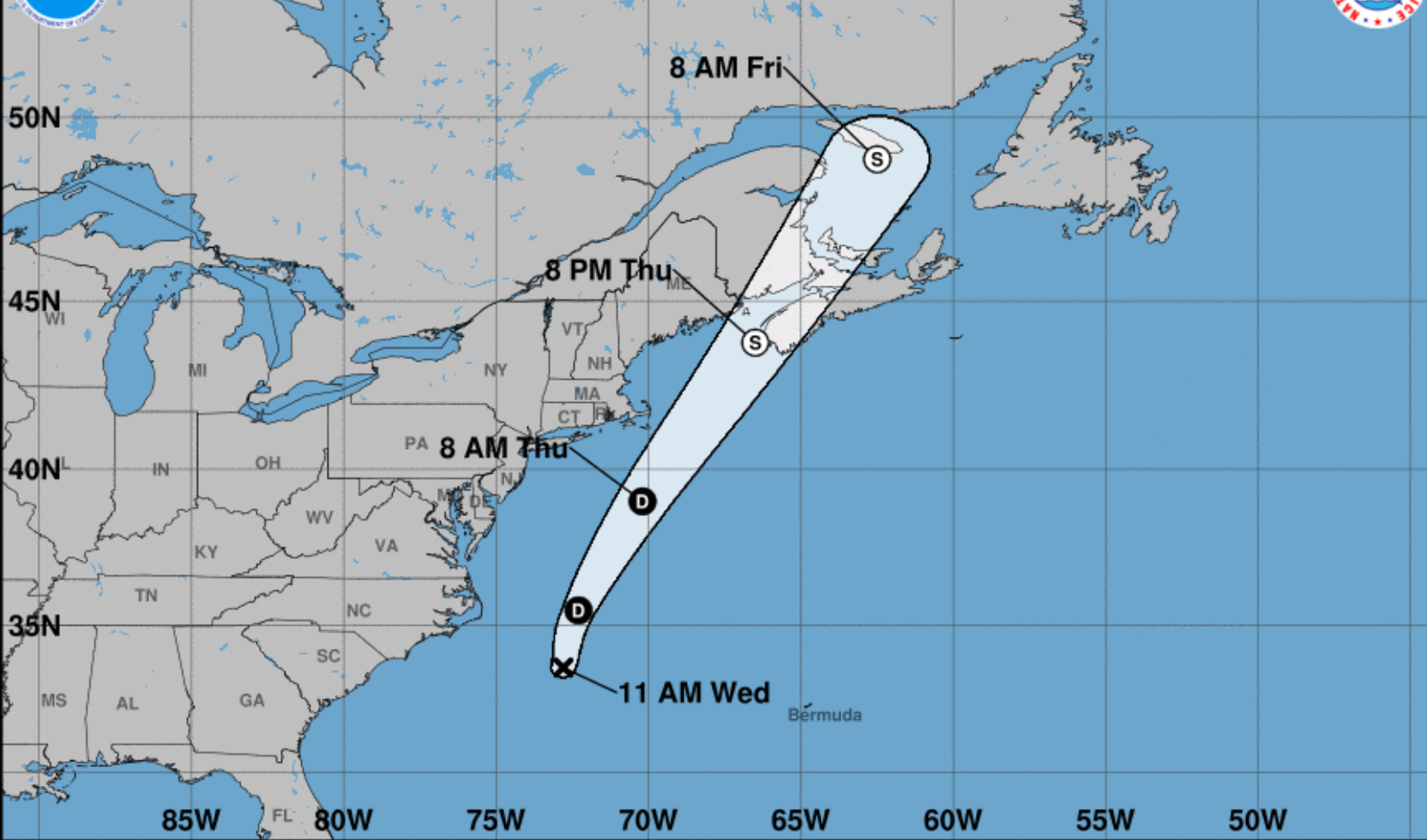


Sunday

Depending on the exact track and intensity of Dorian, these forecast wave heights will increase or decrease. **Regardless, dangerous rip currents are expected at all East Coast beaches this weekend into early next week.** Additionally, with the new moon, tides will already be running above normal along the East Coast this week, which could result in minor flooding alone. Additional water rises could cause more flooding.



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 Depression Erin Forecast Track

Tropical Depression Erin is forecast to begin accelerating northeast into southeastern Canada.

This system poses no threat to Florida.

Tropical Depression Erin
 Wednesday August 28, 2019
 11 AM EDT Advisory 8
 NWS National Hurricane Center

Current information: x
 Center location 33.6 N 72.8 W
 Maximum sustained wind 35 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:	Watches:	Warnings:	Current wind extent:
Day 1-3 Day 4-5	Hurricane Trop Stm	Hurricane Trop Stm	Hurricane Trop Stm

Summary

Tropical Storm Dorian

- As of the 11 AM ET advisory, Tropical Storm Dorian was located 40 miles southeast of St. Croix and moving to the northwest at 13 mph. Maximum sustained winds have increased to 60 mph.
- Hurricane Hunters found Dorian more organized this morning and strengthening as approach to Puerto Rico and the Virgin Islands.
- Dorian has tracked further northeast than forecast, missing Hispaniola entirely and potentially missing even the smaller mountains of Puerto Rico. A well defined system is expected to emerge into the southwest Atlantic Thursday.
- Conditions will be favorable for strengthening near the Bahamas Thursday night, Friday, and Saturday as the system tracks northwest towards the Florida Peninsula.
- Dorian is forecast to be a MAJOR HURRICANE as it approaches Florida on Sunday.
- The exact track is unknown after Day 4. The system could turn northeast towards the Carolinas, dissipate inland over Northeast Florida, or cross the Peninsula into the Gulf of Mexico.
- Hurricane Hunters will continue to investigate the system regularly over the next few days.

Tropical Depression Erin

- Tropical Depression Six strengthened slightly overnight and become Tropical Storm Erin. Weakening has occurred since, and it is once again a tropical depression.
- As of 11 AM ET, the center of Tropical Depression Erin is located about 190 miles southeast of Cape Hatteras, NC and moving to the north-north-northwest at 13 mph.
- Erin will begin accelerating to the northeast later today before becoming non-tropical over the colder waters of the North Atlantic.
- There are no areas being monitored for new tropical development over the next 5 days.

Florida Outlook:

- Tropical Depression Erin well off the East Coast of the United States poses no threat to Florida.
- Tropical Storm Dorian does not pose a threat to Florida until Saturday morning, at the earliest.
- The entire Florida Peninsula, Northeast Florida, and the Big Bend are included in the 5-day forecast cone.
- There are no watches or warnings in effect, but tropical storm or hurricane watches could be issued on Thursday.
- Dorian is forecast to be a Major Hurricane (Category 3) as it approaches Florida on Sunday (Northeast Florida, Central Florida, and/or South Florida).
- After Sunday, Dorian could re-emerge over the eastern Gulf of Mexico should it track over Central or South Florida, or could move northward towards Georgia and the Carolinas.
- The Rip Current Risk will be dangerously high for the holiday weekend at all Florida beaches.
- **Damaging winds, flash flooding, river flooding, storm surge, and isolated tornadoes are all possible this weekend in the Florida Peninsula.**
- **Confidence has increased in the intensity forecast this weekend, but the track is uncertain.**
- **All locations in Florida should continue to monitor Dorian for possible impacts over the Labor Day Weekend.**

The next tropics packet will be issued Wednesday afternoon. For the latest information on the tropics, please visit the National Hurricane Center website at 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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