



TROPICAL UPDATE



11 AM EDT

Thursday, August 29, 2019

Hurricane Dorian

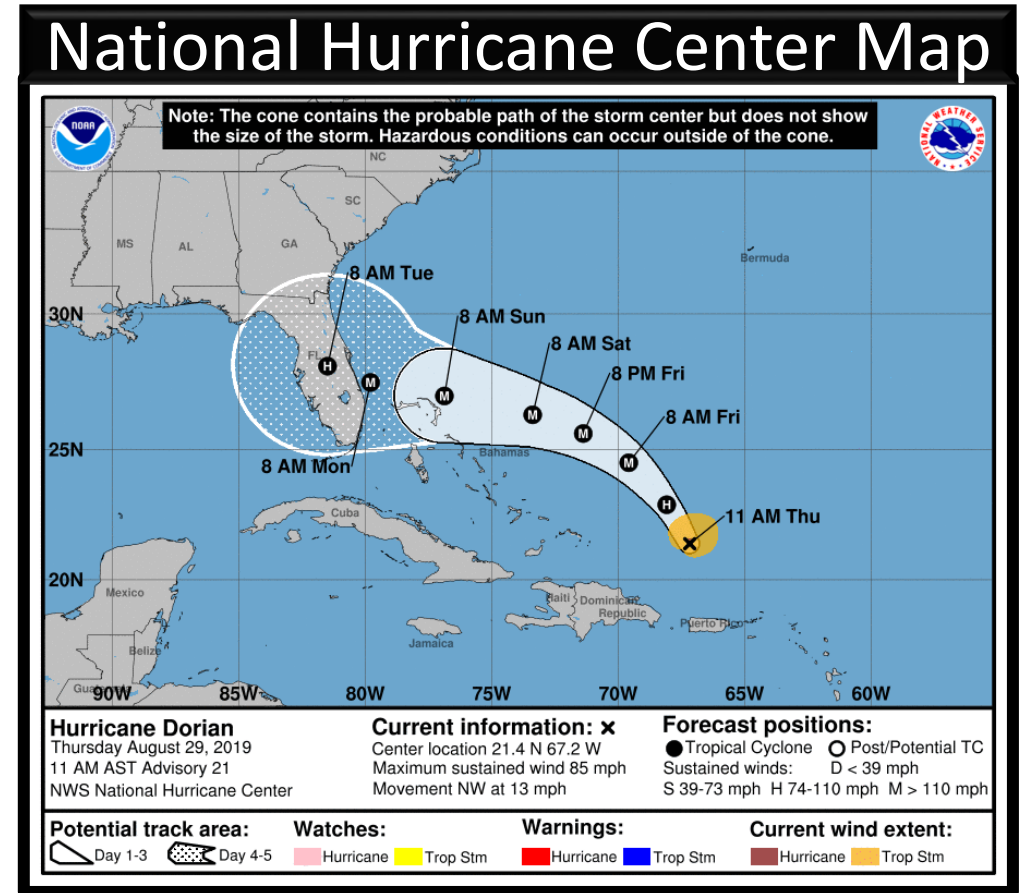
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an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

Hurricane Dorian

Thursday, August 29, 11 AM ET

	MINIMAL	Low	MODERATE	HIGH	EXTREME
 WINDS					
 STORM SURGE					
 FLASH FLOODING					
 TORNADOES					

	Low	MODERATE	HIGH
 RIP CURRENTS			



Changes from Yesterday:

Dorian continues to intensify with winds of 85 mph. The forecast now calls for Dorian to make landfall somewhere along the East Coast of Florida on Monday as an upper-end Category 3 Hurricane with winds of 125 mph. Also, a slower movement is now forecast after landfall, which may increase rain/flood impacts.

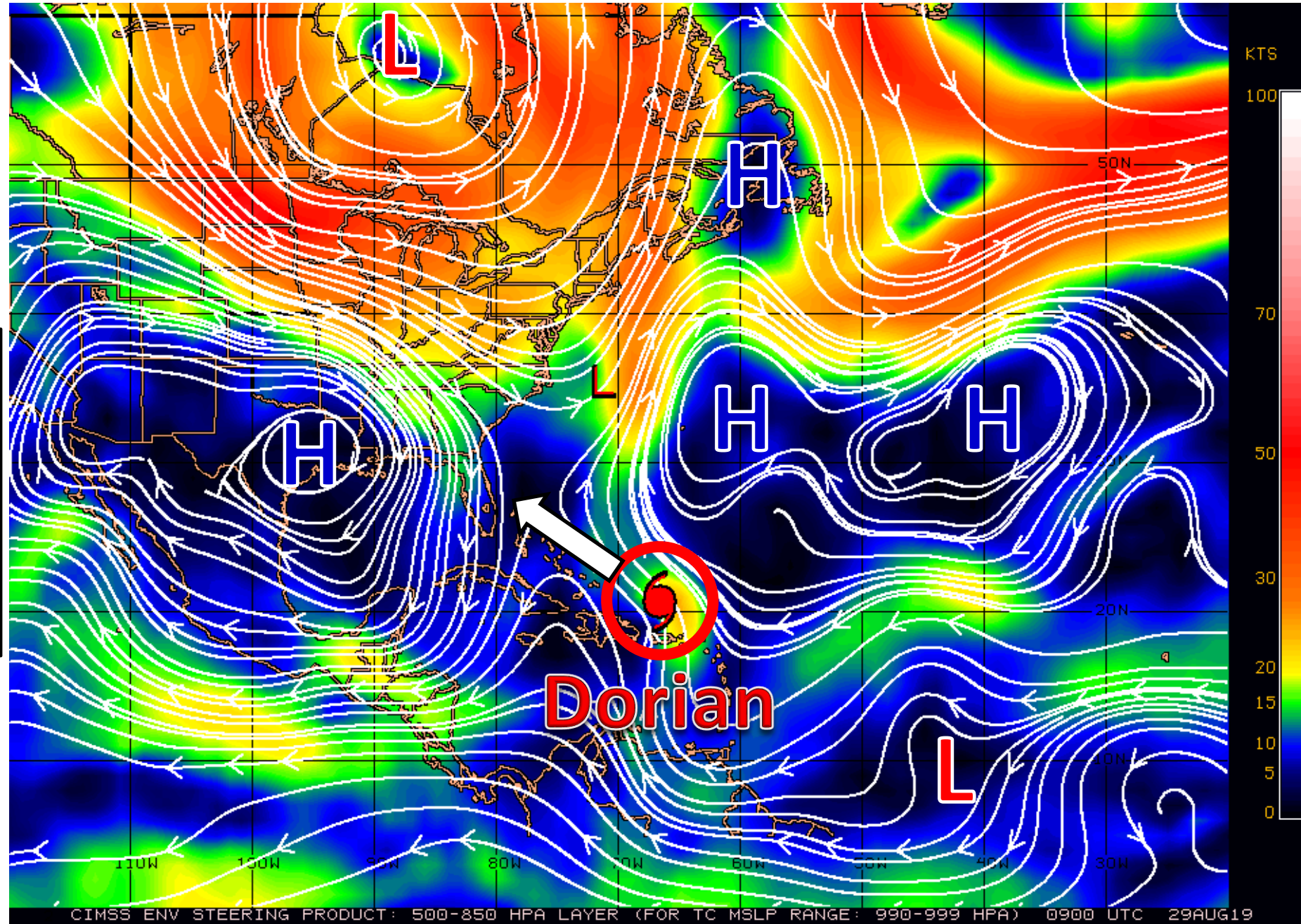
Atlantic Basin Satellite Image

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

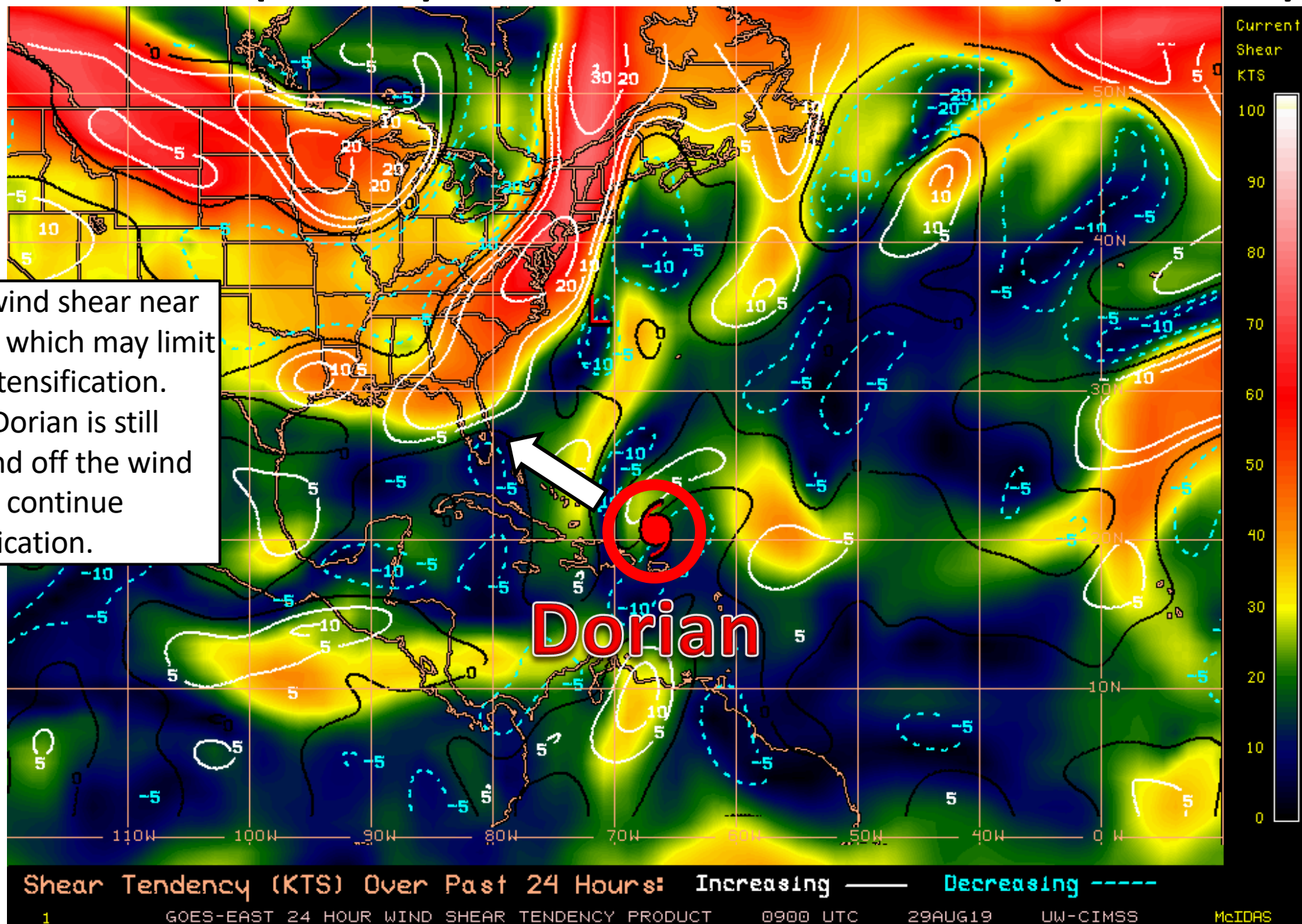


Steering Currents

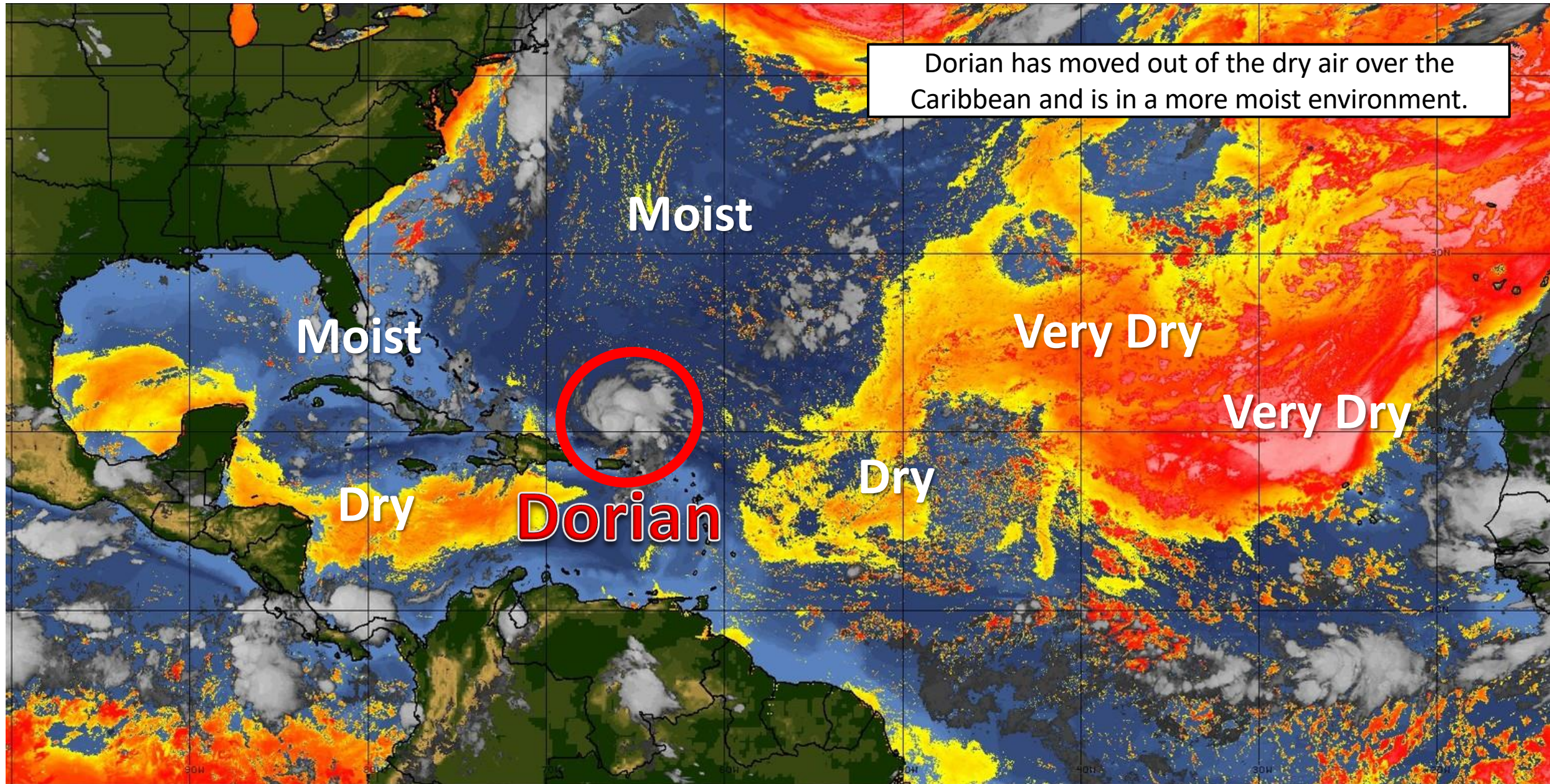
Hurricane Dorian continues northwestward around the southern edge of a large Atlantic high pressure system. The high is expected to build westward across the state, which will continue moving Dorian off to the west-northwest or even westward.



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



Dry Air & Saharan Dust



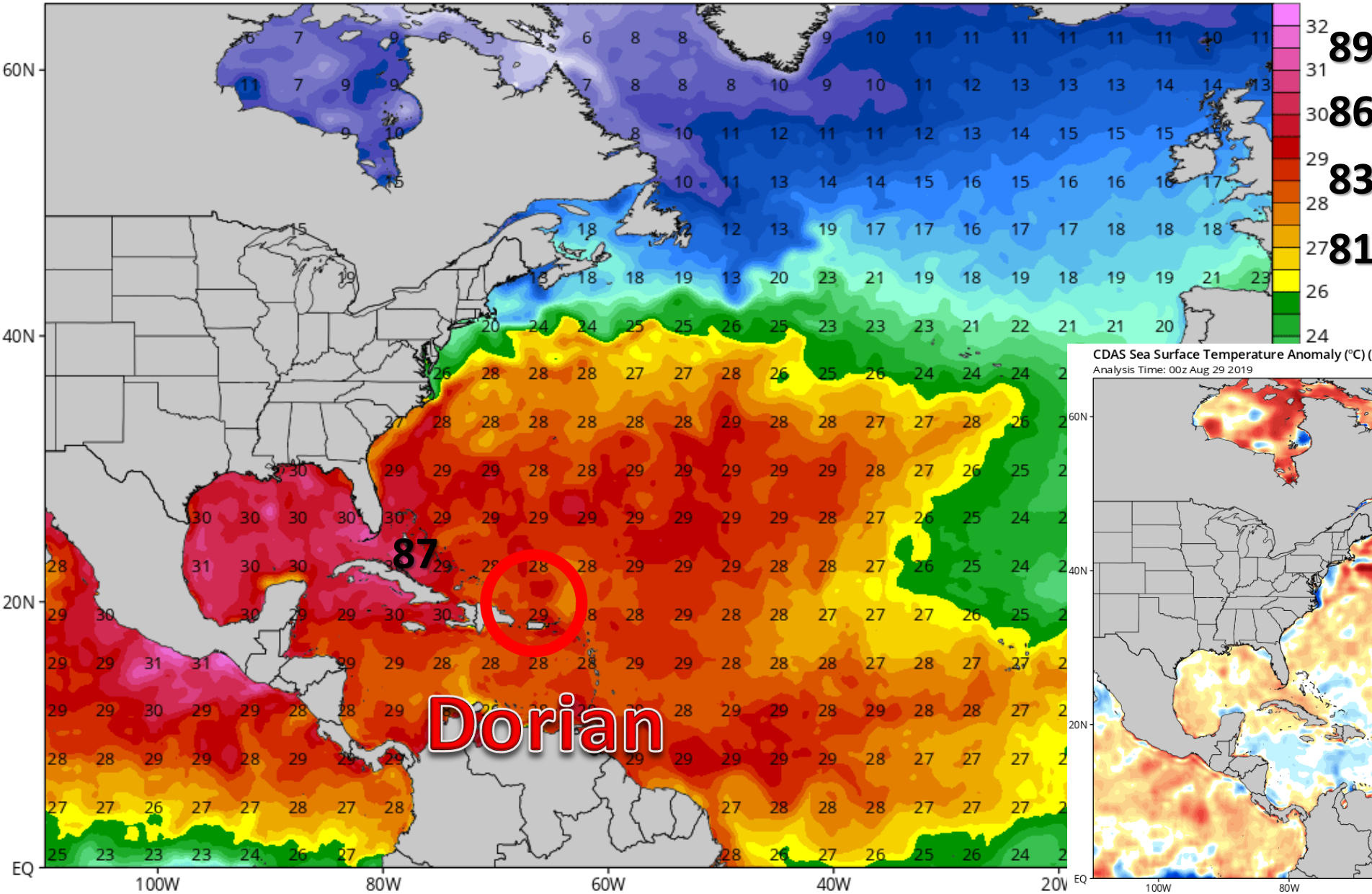
LESS <---- DRY AIR (LOW/MID-LEVEL) AND/OR DUSTY SAL AIRMASS ----> MORE

North Atlantic Sea Surface Temperatures and Anomalies

CDAS Sea Surface Temperature (°C)

Analysis Time: 00z Aug 29 2019

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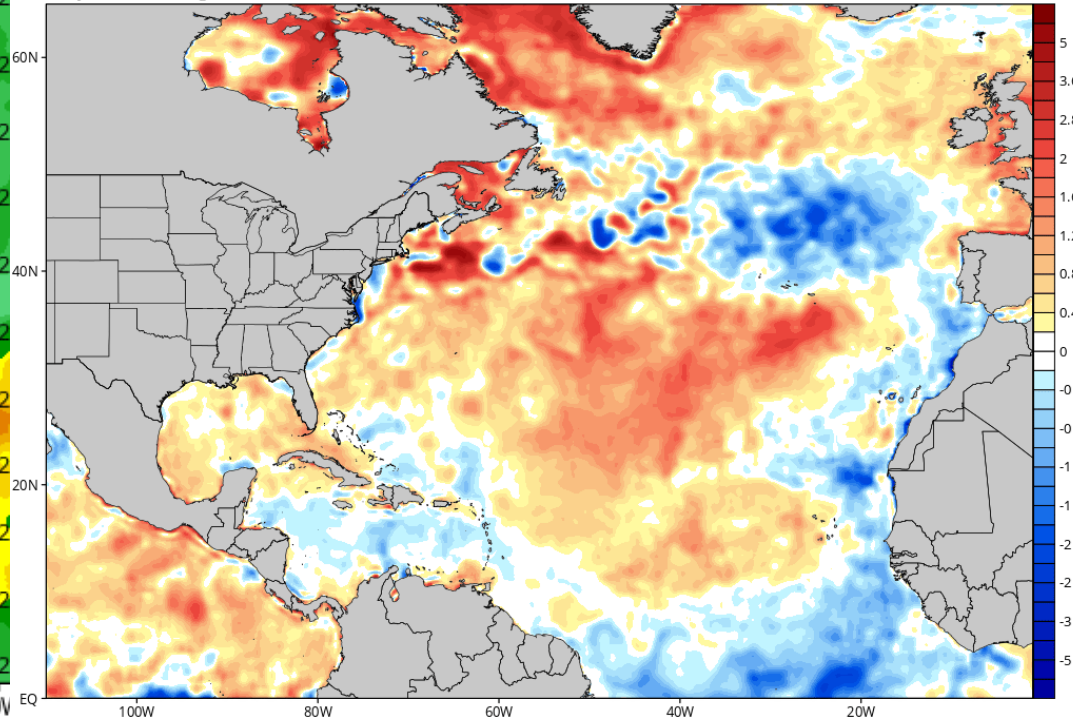


Water temperatures ahead of Dorian are plenty warm enough to support intensification. Water temperatures will be warming as Dorian travels northwest. Temperatures are near normal for this time of year in the Caribbean & Bahamas.

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

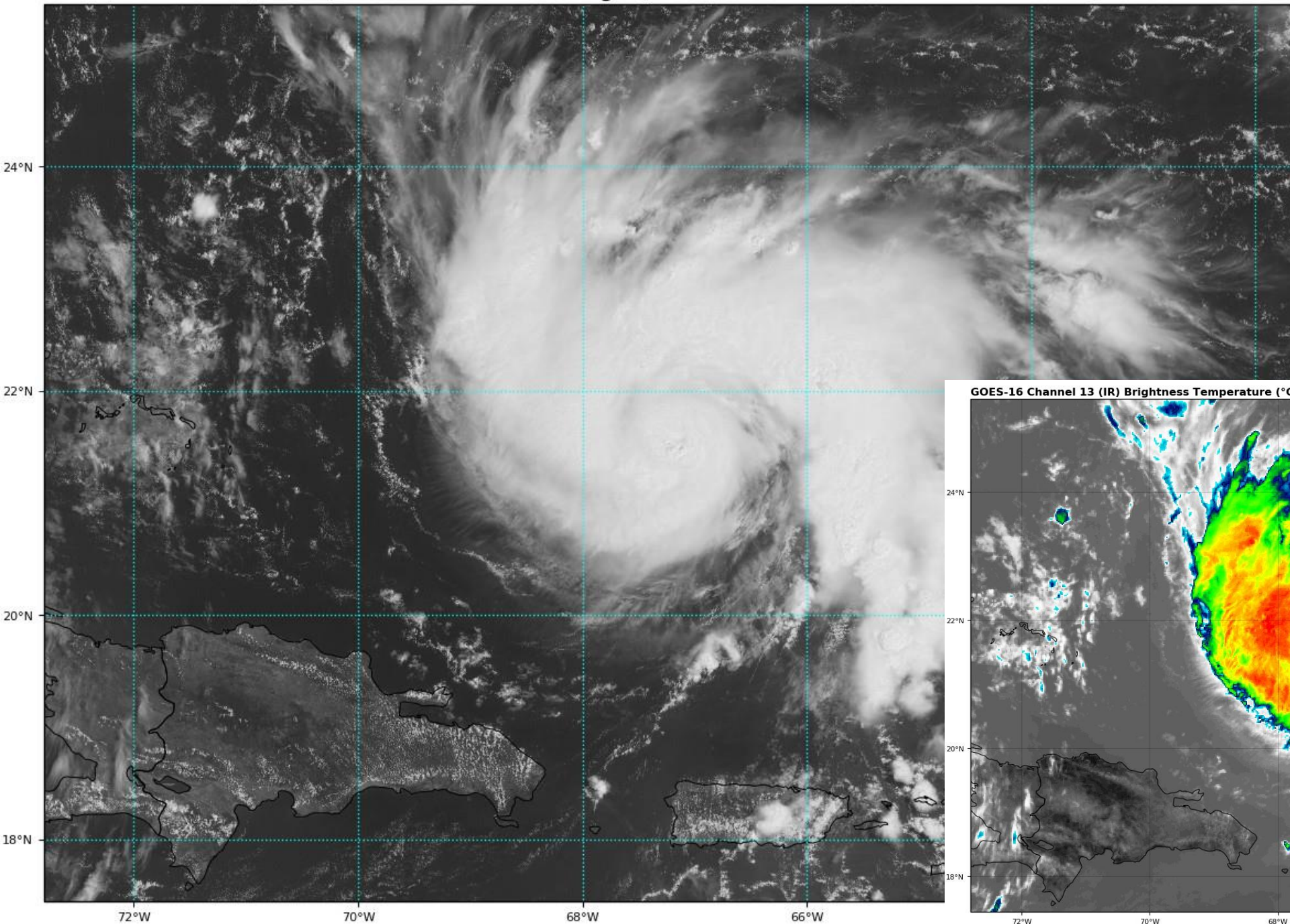
Analysis Time: 00z Aug 29 2019

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GOES-16 Channel 2 (visible) Reflectance at 15:02Z Aug 29, 2019

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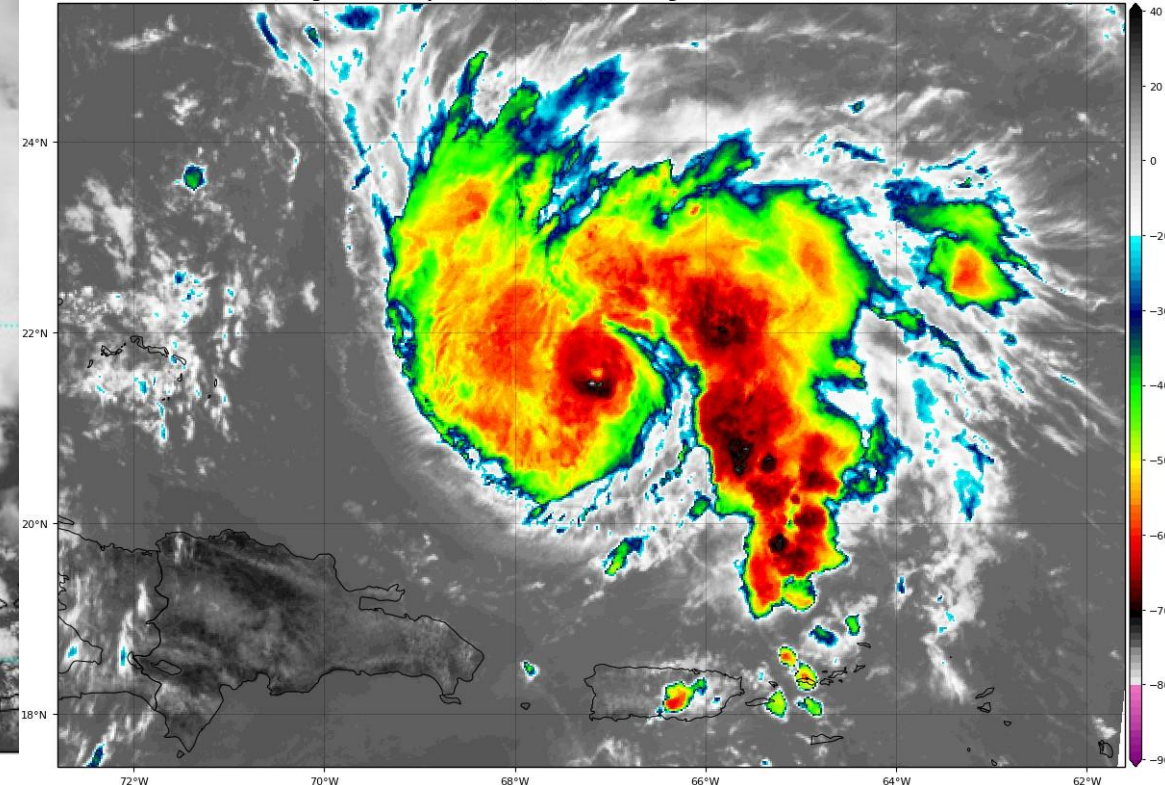


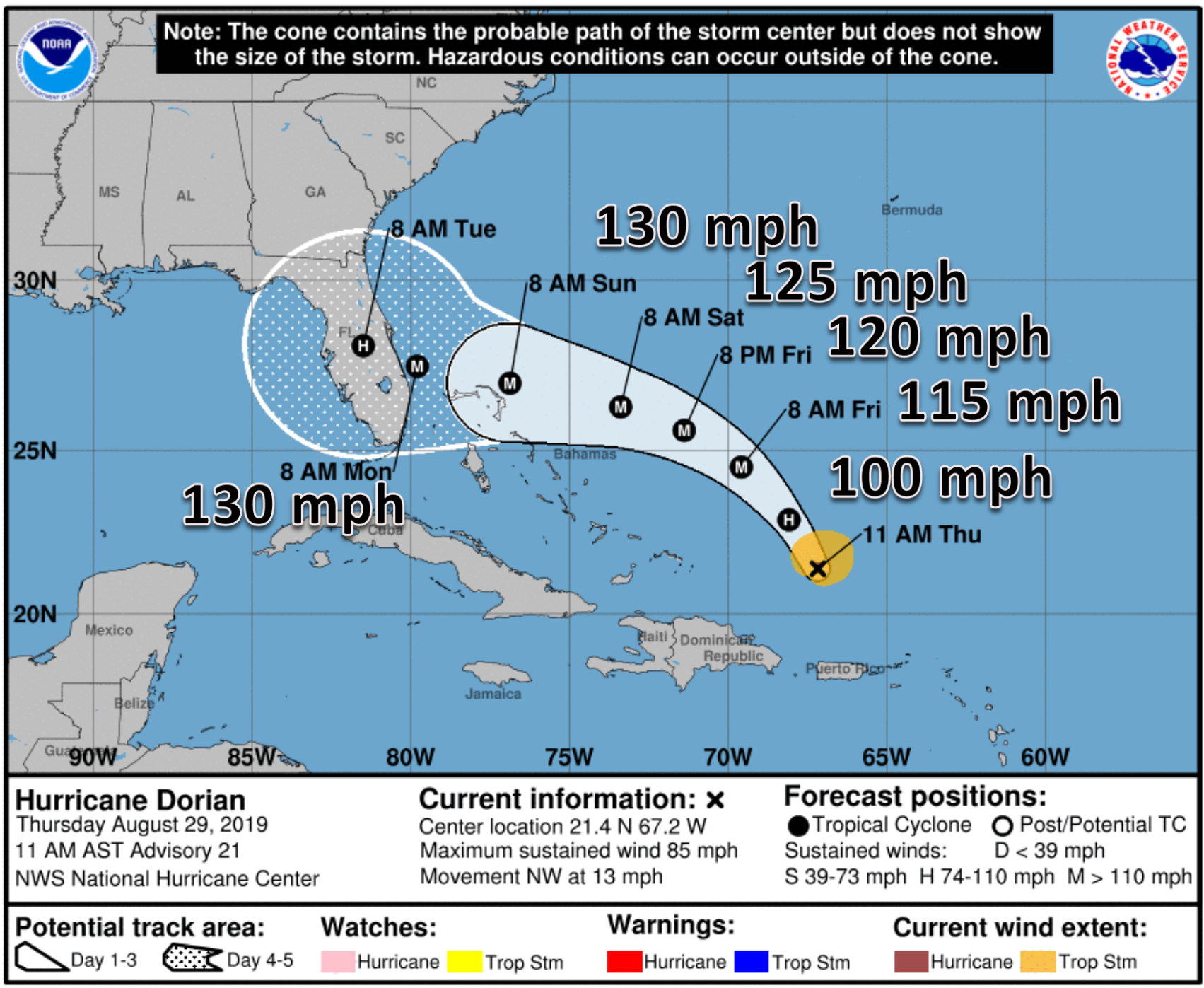
Hurricane Dorian Satellite Image

Dorian is still increasing in organization. While the eye is still clouded over, it is becoming more visible on the infrared image.

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 15:02Z Aug 29, 2019

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Hurricane Dorian Forecast Track

Hurricane Dorian, located 220 miles north-northwest of San Juan, Puerto Rico, continues to move northwest at 13 mph. Maximum sustained winds remain near 85 mph (Category 1).

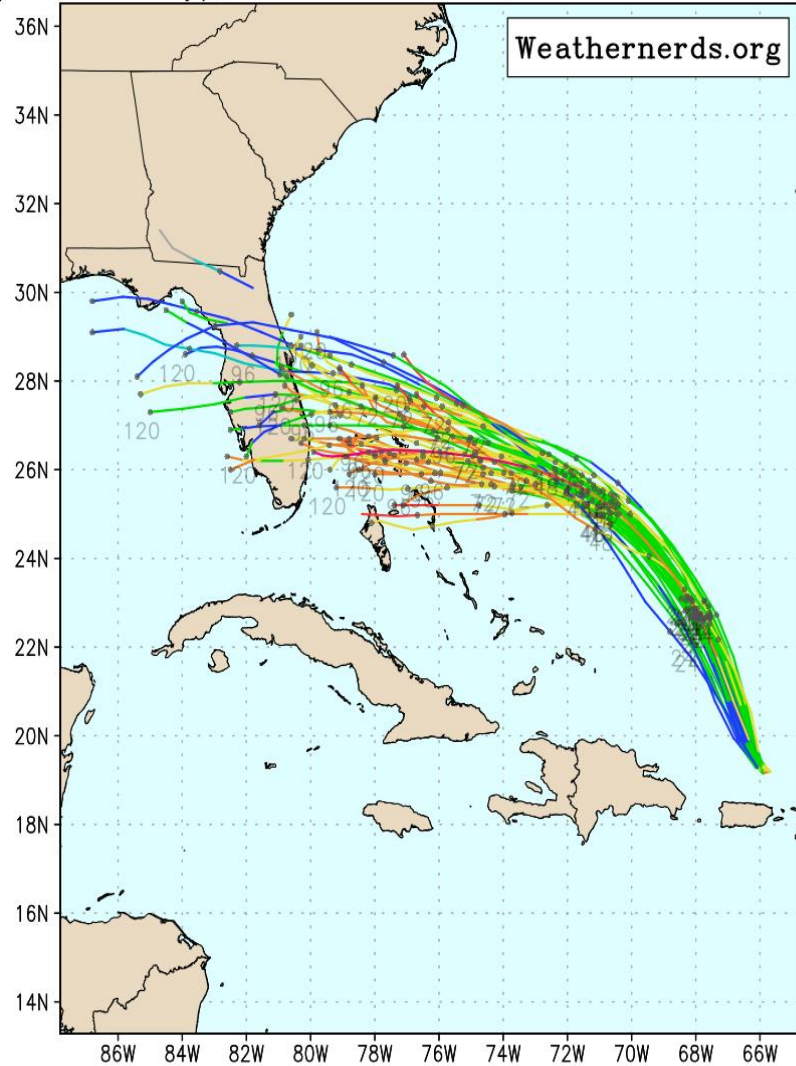
Conditions are favorable for continued intensification over the next several days. Rapid intensification also remains a possibility.

Dorian is forecast to become a major hurricane tomorrow. Dorian is forecast to be at **MAJOR HURRICANE** strength as it approaches Florida Sunday night and Monday.

Current Forecast Ensemble Model Guidance

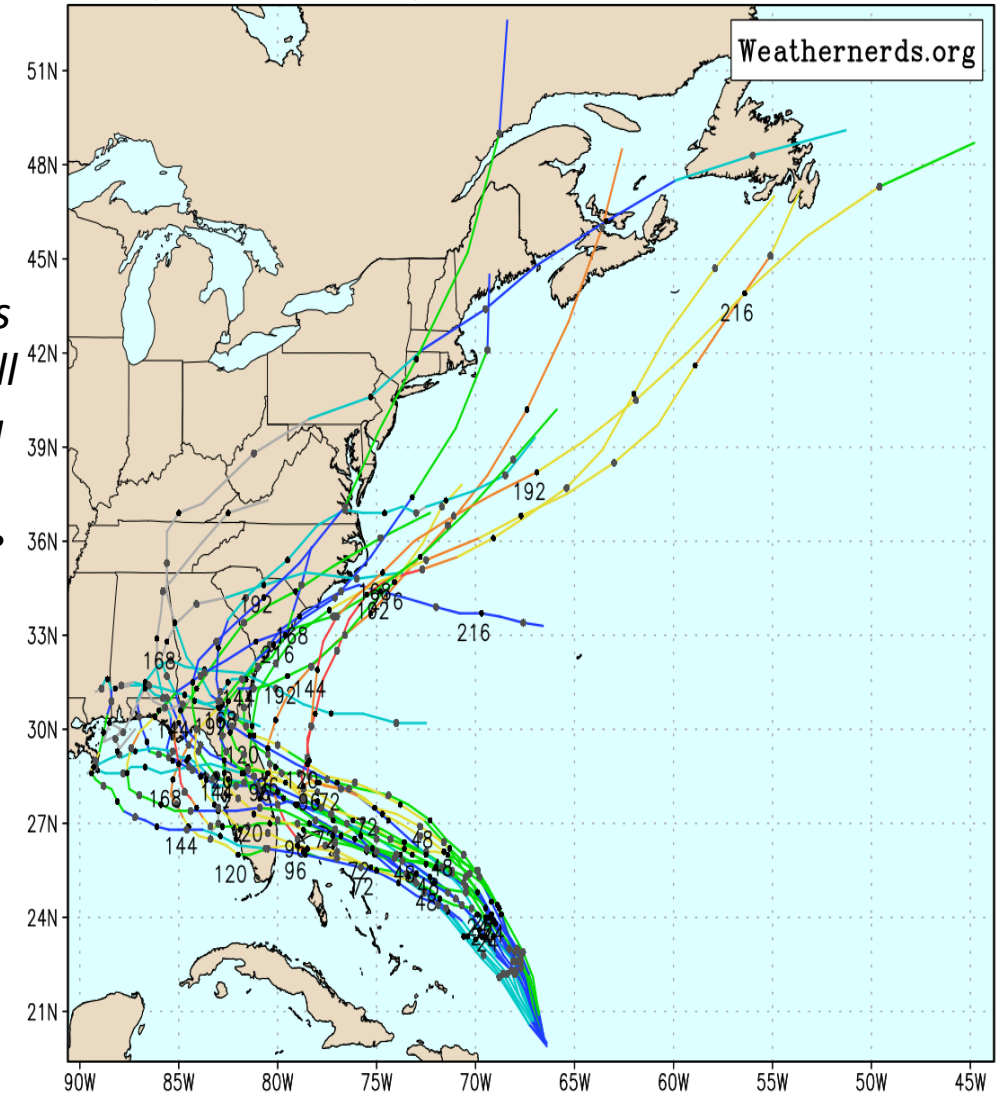
There is a wide spread in solutions for the track of Dorian this weekend into early next week. With Dorian missing the highest mountains in the Caribbean, a major hurricane is now forecast in the Bahamas.

ECMWF Ens. (0–120h only), init: 2019082900, AL05 Dorian color = max wind (kt)



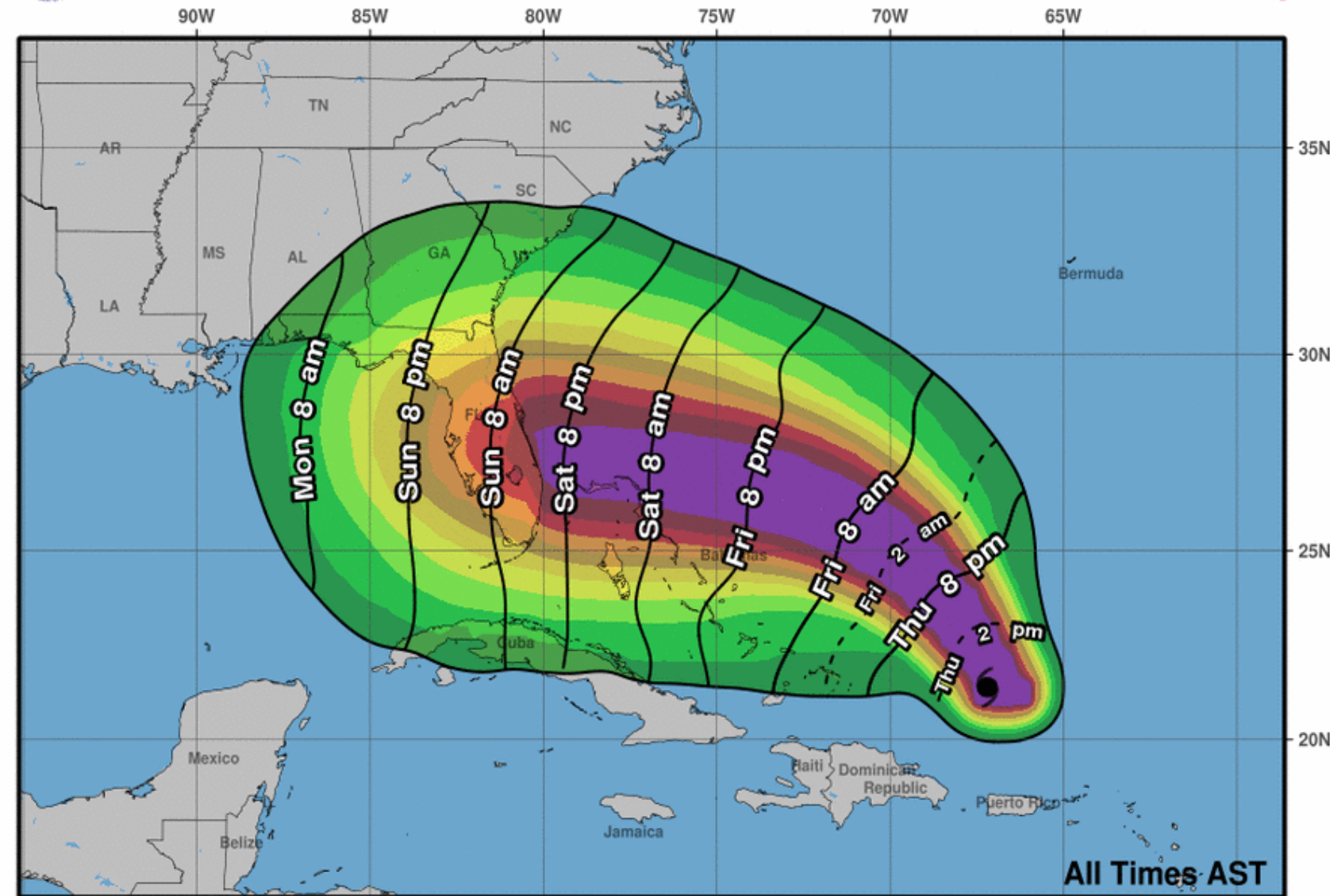
There are still uncertainties in where Dorian will ultimately track. It is likely that Dorian will make landfall along the Florida East Coast, but its future thereafter is uncertain.

GFS Ensemble, init: 2019082906, AL05 Dorian color = max wind (kt)





Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



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

Chance of TROPICAL STORM FORCE WINDS (>39 mph) have increased today for all of Florida:

Jacksonville: 40%
Orlando: 75%
Cocoa Beach: 89%
West Palm Beach: 89%
Ft. Lauderdale: 81%
Miami: 62%
Naples: 58%
Marathon: 40%
Key West: 34%
Tallahassee: 25%
Panama City: 24%
Pensacola: 7%

Chances in Marathon and Jacksonville are similar!

Hurricane Dorian
Thu. Aug. 29, 2019 11 am AST
Advisory 21

Storm Location &
Wind Speed

○ < 34 kt (39 mph)
○ 34-63 kt (39-73 mph)
● ≥ 64 kt (74 mph)

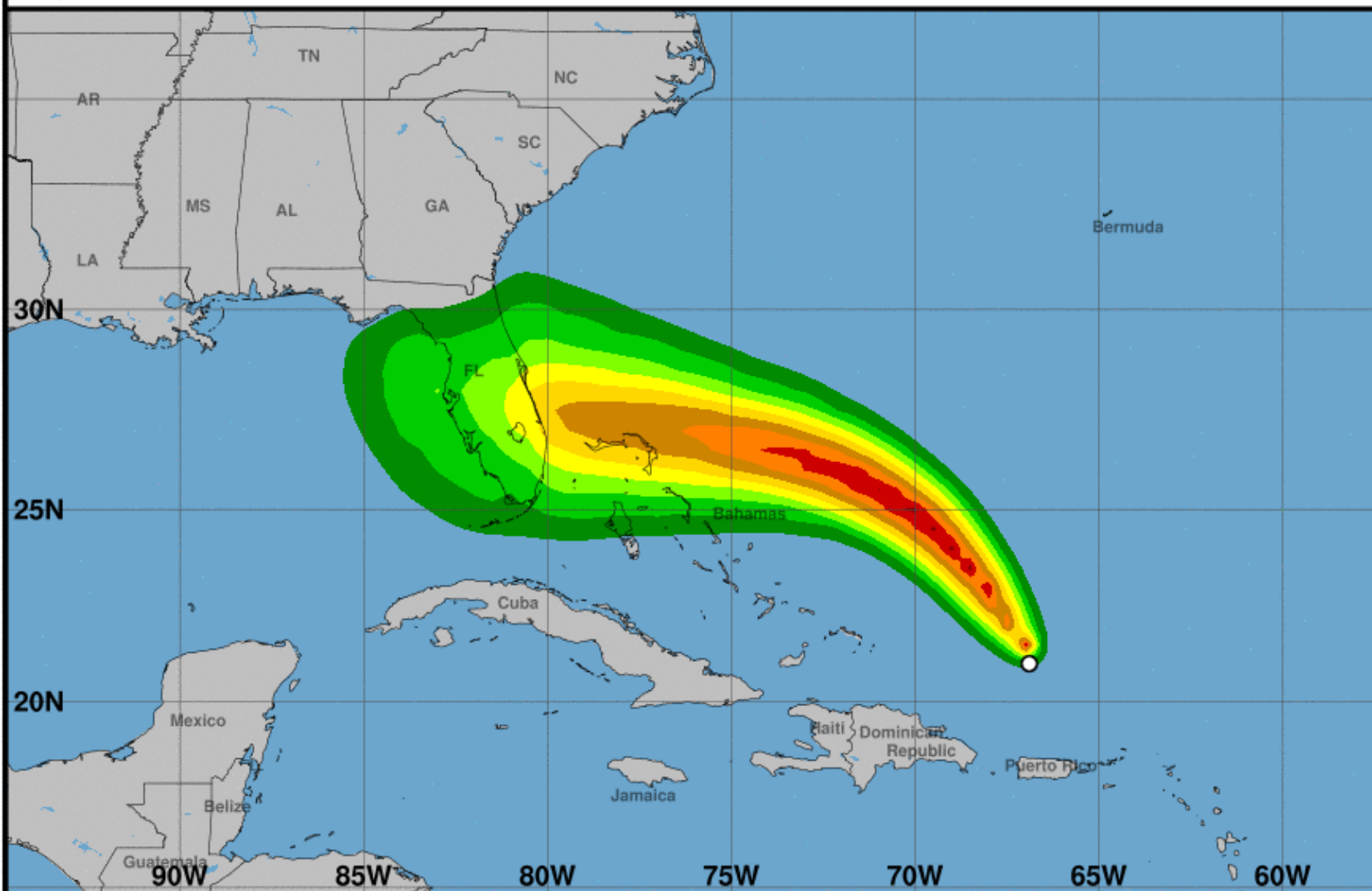
5-day chance of receiving sustained 34+ kt (39+ mph) winds

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



Hurricane-Force Wind Speed Probabilities (Preliminary)

For the 120 hours (5.0 days) from 8 AM AST THU AUG 29 to 8 AM AST TUE SEP 03



Probability of hurricane-force winds (1-minute average ≥ 74 mph) from Hurricane Dorian

○ indicates Hurricane Dorian center location at 8 AM AST THU AUG 29, 2019 (Forecast/Advisory #21)



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

Chance of HURRICANE FORCE WINDS (>74 mph) have increased today for all of Florida:

Jacksonville: 4%

Orlando: 25%

Cocoa Beach: 36%

West Palm Beach: 40%

Ft. Lauderdale: 27%

Miami: 17%

Naples: 11%

Marathon: 7%

Key West: 5%

Tallahassee: 2%

Panama City: 3%



Key Messages for Hurricane Dorian

Advisory 21: 11:00 AM AST Thu Aug 29, 2019



1. The risk of life-threatening storm surge and hurricane-force winds this weekend continues to increase in the northwestern Bahamas, and hurricane watches could be issued there tonight or Friday. Residents should have their hurricane plan in place and listen to advice given by local emergency officials.

2. There is an increasing likelihood of life-threatening storm surge along portions of the Florida east coast late this weekend or early next week, although it is too soon to determine where the highest storm surge will occur. Residents should have their hurricane plan in place, know if they are in a hurricane evacuation zone, and listen to advice given by local emergency officials.

3. The risk of devastating hurricane-force winds along the Florida east coast and peninsula late this weekend and early next week continues to increase, although it is too soon to determine where the strongest winds will occur.

4. Regardless of the exact track of Dorian, heavy rains are expected to occur over portions of the Bahamas, Florida, and elsewhere in the southeastern United States this weekend and into the middle of next week.

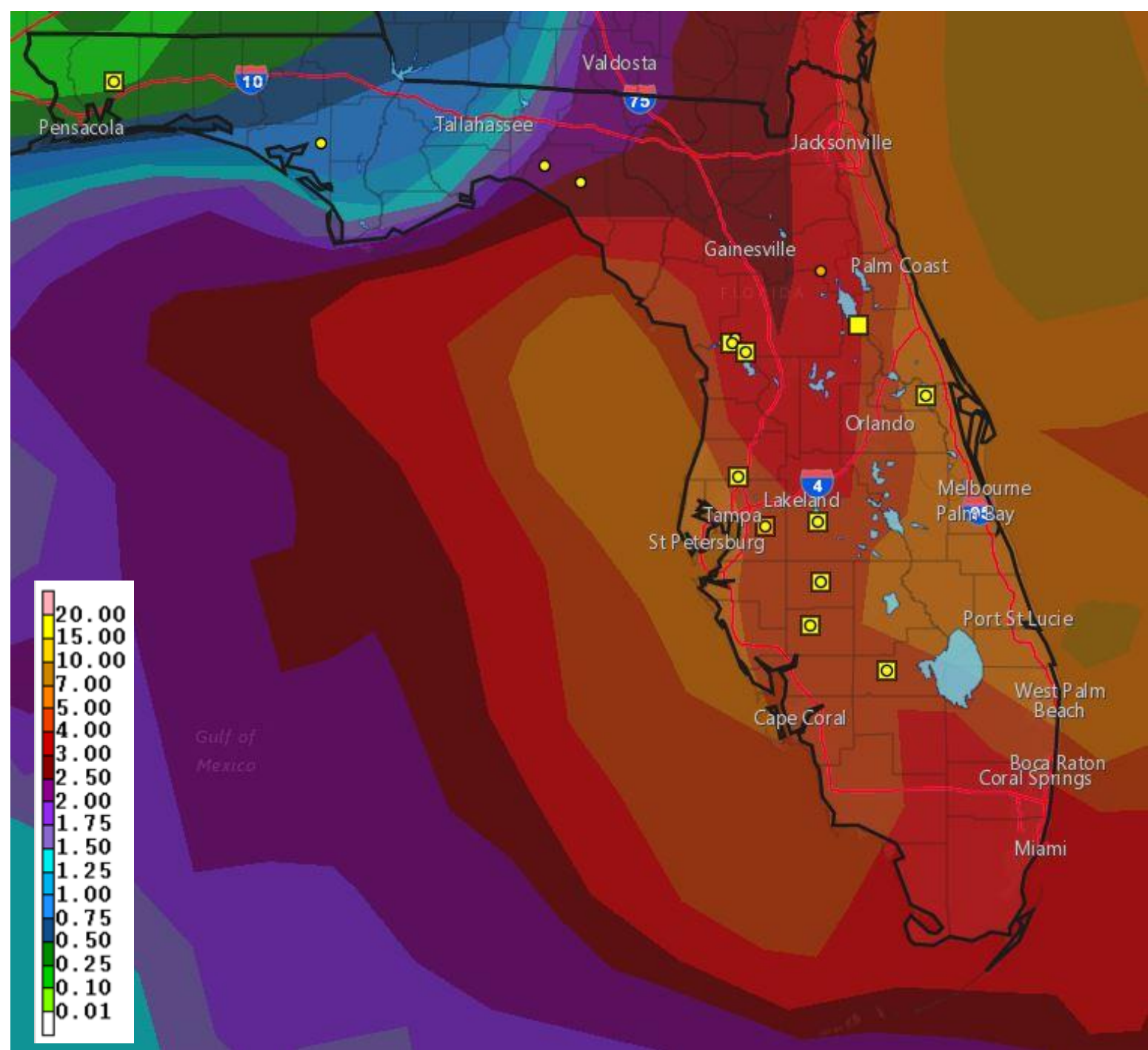


For more information go to hurricanes.gov

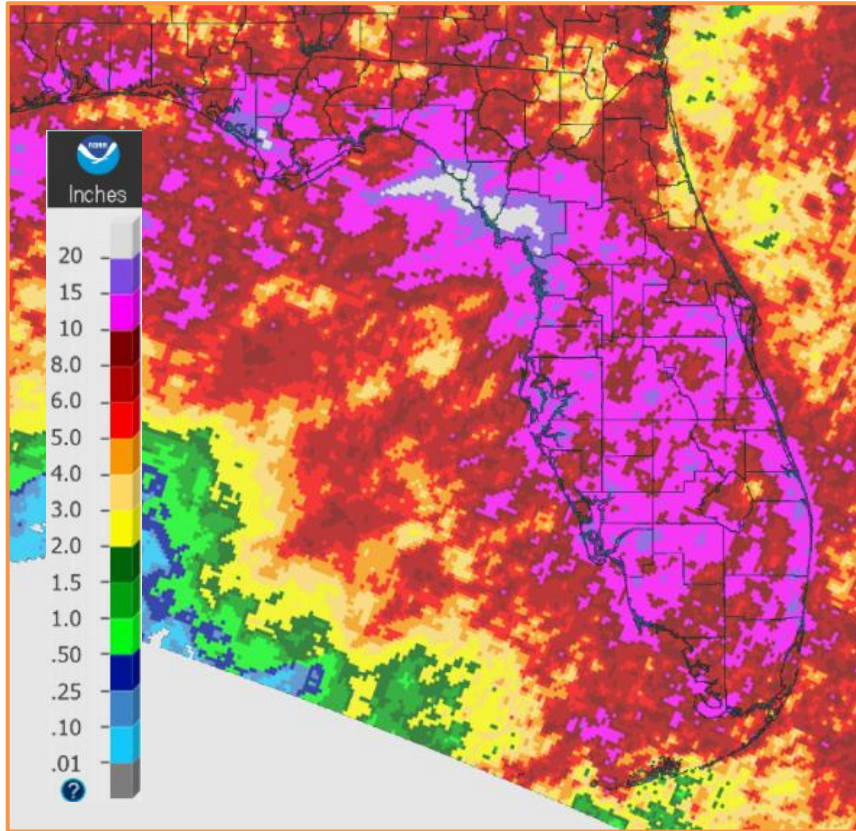
Rainfall Totals Next 7 Days

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

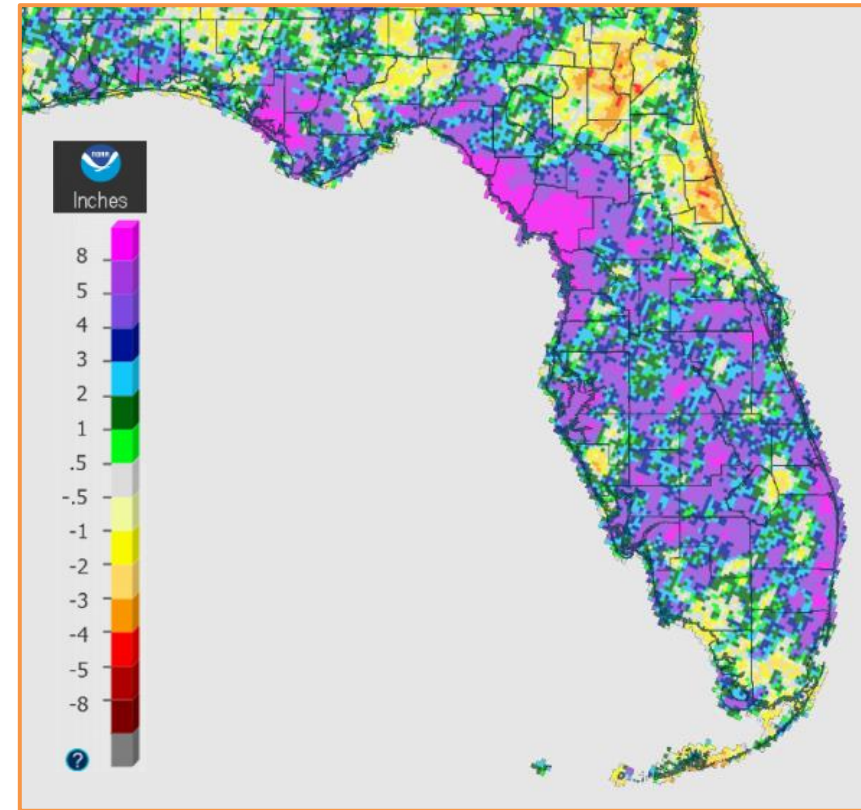
*These rainfall forecasts are track-dependent and will likely change with subsequent forecasts. **Wherever Dorian tracks, the heaviest rainfall totals will follow the track.** However, a widespread 5-8" of rain is expected across much of the state. Locally higher totals are possible, but it is too early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



Estimated 30 Day Rainfall

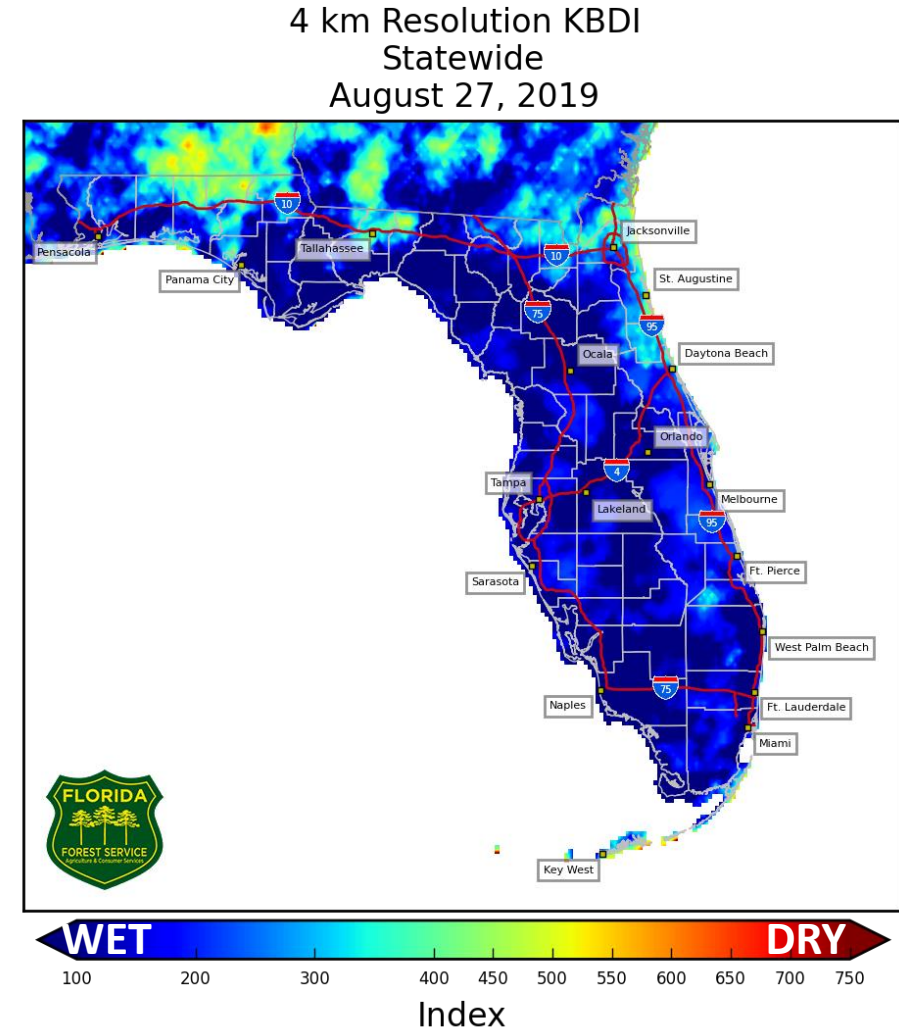
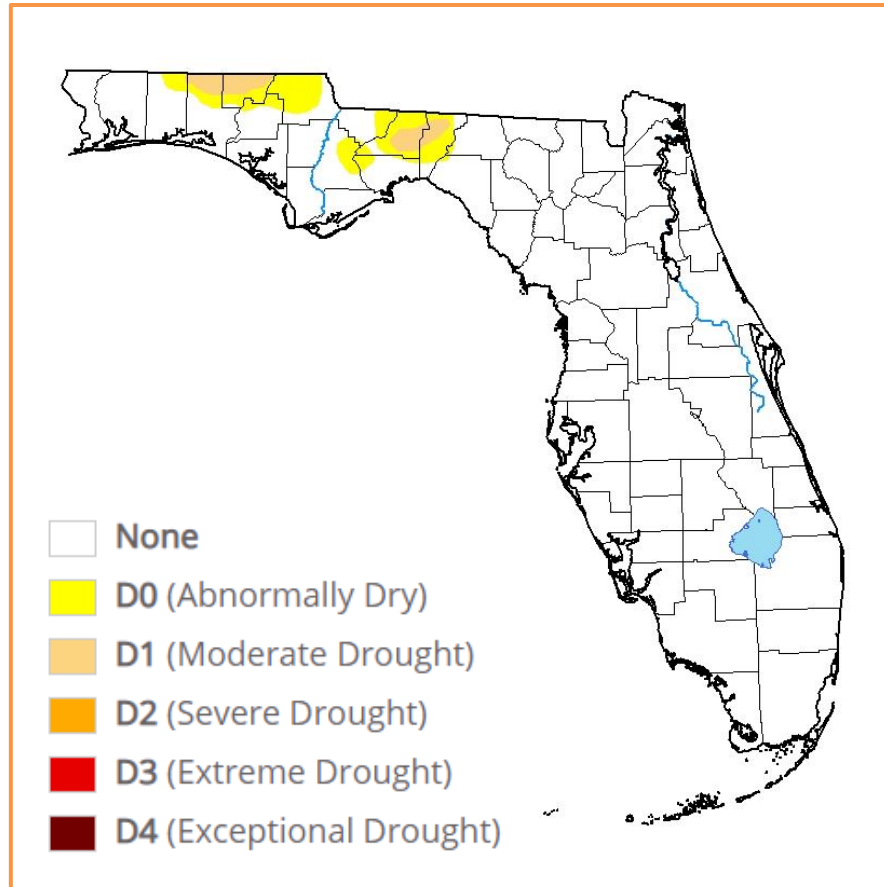


30 Day Rainfall Departures



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



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.

Current River Conditions

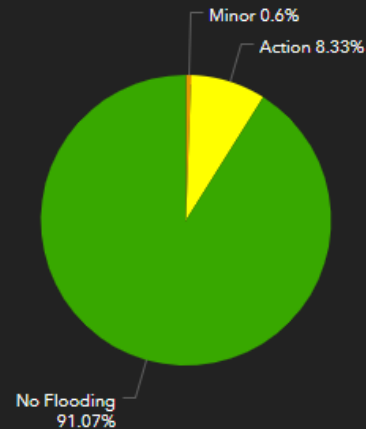
River Gauges in Flood Stage

1

Includes gauges in Minor, Moderate, & Major Flood Stage

Last update: a few seconds ago

River Gauge Conditions by Status



Last update: a few seconds ago

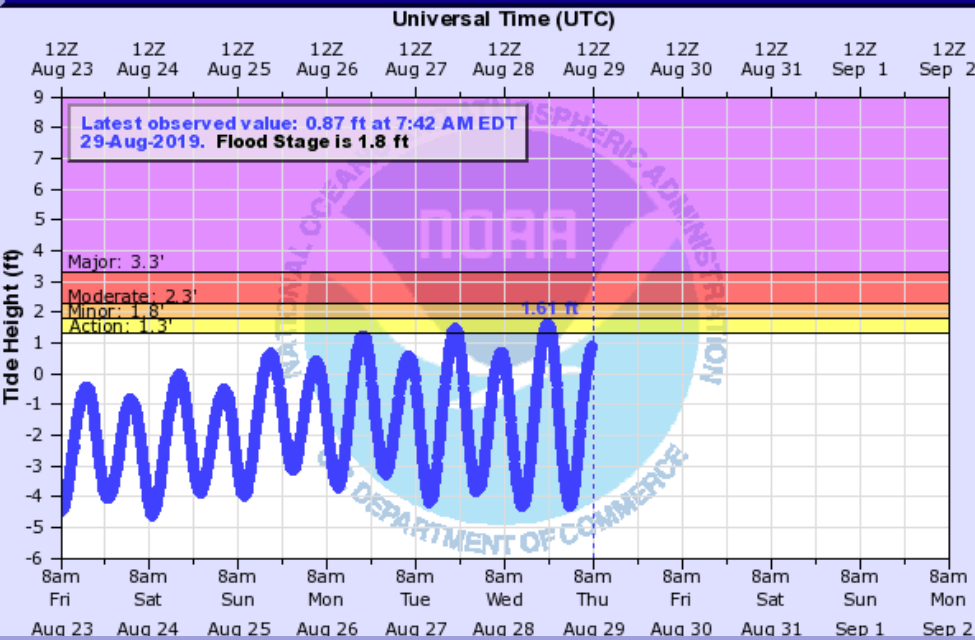
Many rivers have fallen below flood stage after the last heavy rainfall event. The only river in minor flood stage right now is the Ocklawaha River at Rodman Dam.

Rivers

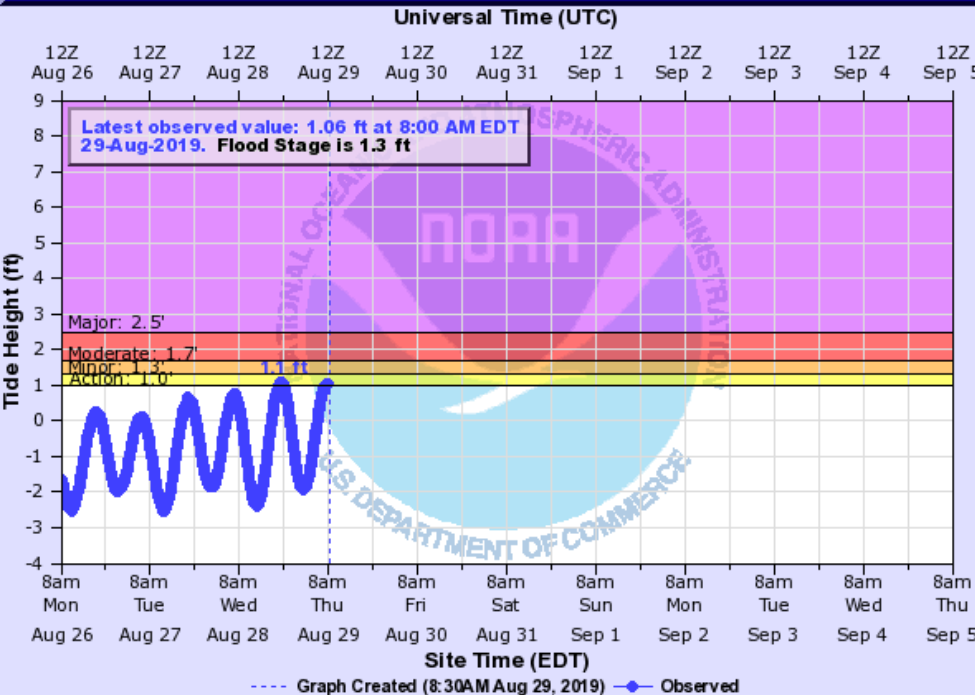
- Major Flooding
- Moderate Flooding
- Minor Flooding
- Action Stage
- Normal
- Low Threshold



ST. JOHNS RIVER AT MAYPORT (IN MHHW)



ATLANTIC OCEAN TIDE GAUGE AT SOUTH PORT EVERGLADES



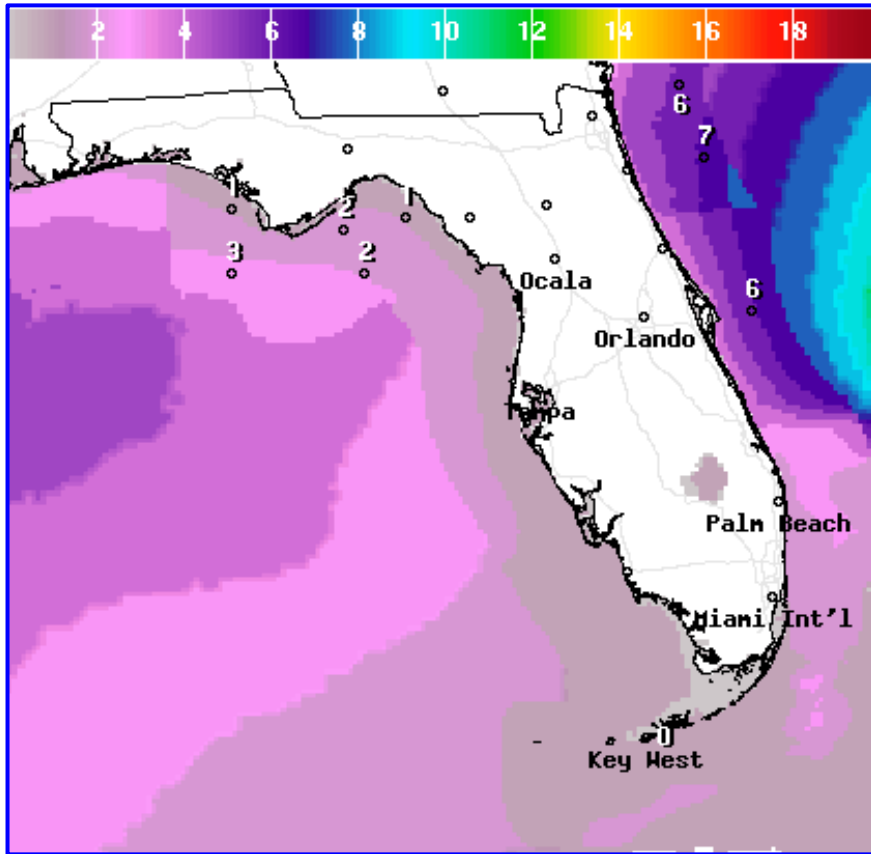
PEGF1(plotting HMIRG) "Gage 0" Datum: r/a



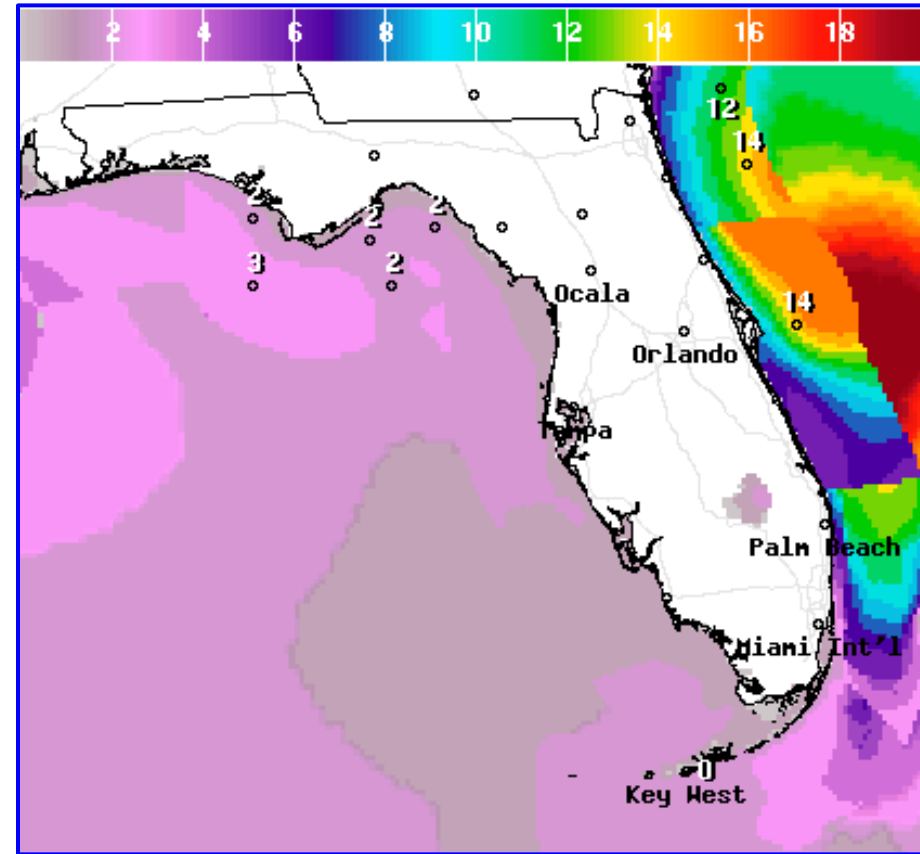
Coastal Flooding Along the East Coast

With King Tides beginning with the new moon, tides are running about 1-2' above normal already, resulting in some minor coastal flooding. Coastal Flood Advisories are in effect for Northeast Florida. These may be upgraded to Coastal Flood Warnings. Coastal Flood Statements are in effect for Southeast Florida. It remains too early to give details about potential storm surge.

Forecast Wave Heights This Weekend



Saturday



Sunday

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.

Summary

Hurricane Dorian

- As of the 11 AM ET advisory, Hurricane Dorian was located 220 miles north-northwest of San Juan, Puerto Rico, and moving to the northwest at 13 mph. Maximum sustained winds remain near 85 mph, which is a Category 1 Hurricane.
- Dorian has tracked further northeast than forecast, Dorian will continue moving northwestward over the next couple days before turning more west-northwestward or westward over the weekend.
- ***Conditions are favorable for continued organization and strengthening over the next few days. Rapid intensification is within the realm of possibility.***
- Dorian is forecast to be an extremely dangerous MAJOR HURRICANE (lower-end Category 4) as it approaches Florida on Sunday and Monday.
- The exact track is unknown after Day 4. However, a slower movement is expected near landfall as it moves near and over Florida. A slower movement will increase the heavy rainfall and flash flood/river flood threat.
- Dorian could also expand in size as it moves toward the Florida Peninsula.
- Hurricane Hunters will continue to investigate the system regularly over the next few days.
- There are no areas being monitored for new tropical development over the next 5 days.

Florida Outlook:

- Hurricane Dorian does not pose a threat to Florida until Saturday night, at the earliest.
- The entire Florida Peninsula, Northeast Florida, and the Big Bend are included in the 5-day forecast cone.
- There are no tropical watches or warnings in effect, but tropical storm or hurricane watches could be issued as early as tonight.
- Dorian is forecast to be a Major Hurricane (lower-end Category 4) as it approaches Florida on Sunday through Tuesday (Northeast Florida, Central Florida, and/or South Florida).
- Early next week, Dorian could slow and make a sharp turn to the north. However, where that turn occurs remains uncertain.
- The rip current risk will be dangerously high for the holiday weekend at all Florida beaches.
- Minor coastal flooding from the ongoing King Tides is possible along the Florida East Coast with tides running 1-2' above normal. Coastal Flood Advisories are in effect for Northeast Florida and Coastal Flood Statements for Southeast Florida.
- **Damaging winds, flash flooding, river flooding, storm surge, and isolated tornadoes are all possible later this weekend in the Florida Peninsula. However, it is still too early to give specifics on these threats.**
- **Confidence has increased in the intensity forecast this weekend, but the track is uncertain early next week.**
- **All locations in Florida should continue to monitor Dorian for possible impacts over the Labor Day Weekend.**

The next tropics packet will be issued Thursday evening. 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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