



TROPICAL UPDATE



8:00 AM EDT

Wednesday, August 11, 2021

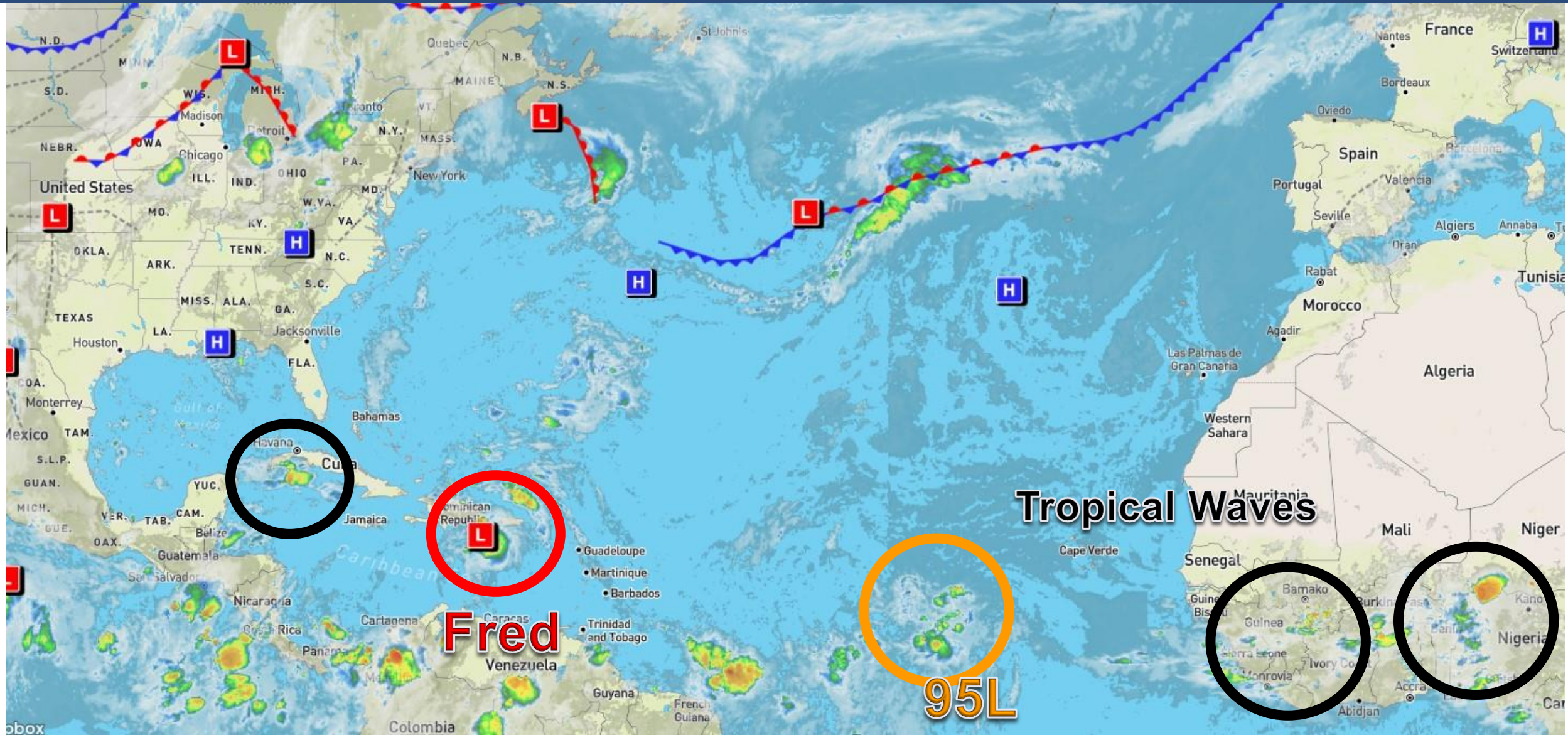
Tropical Storm Fred
& Invest 95L (40%)

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.



Atlantic Basin Satellite Image

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



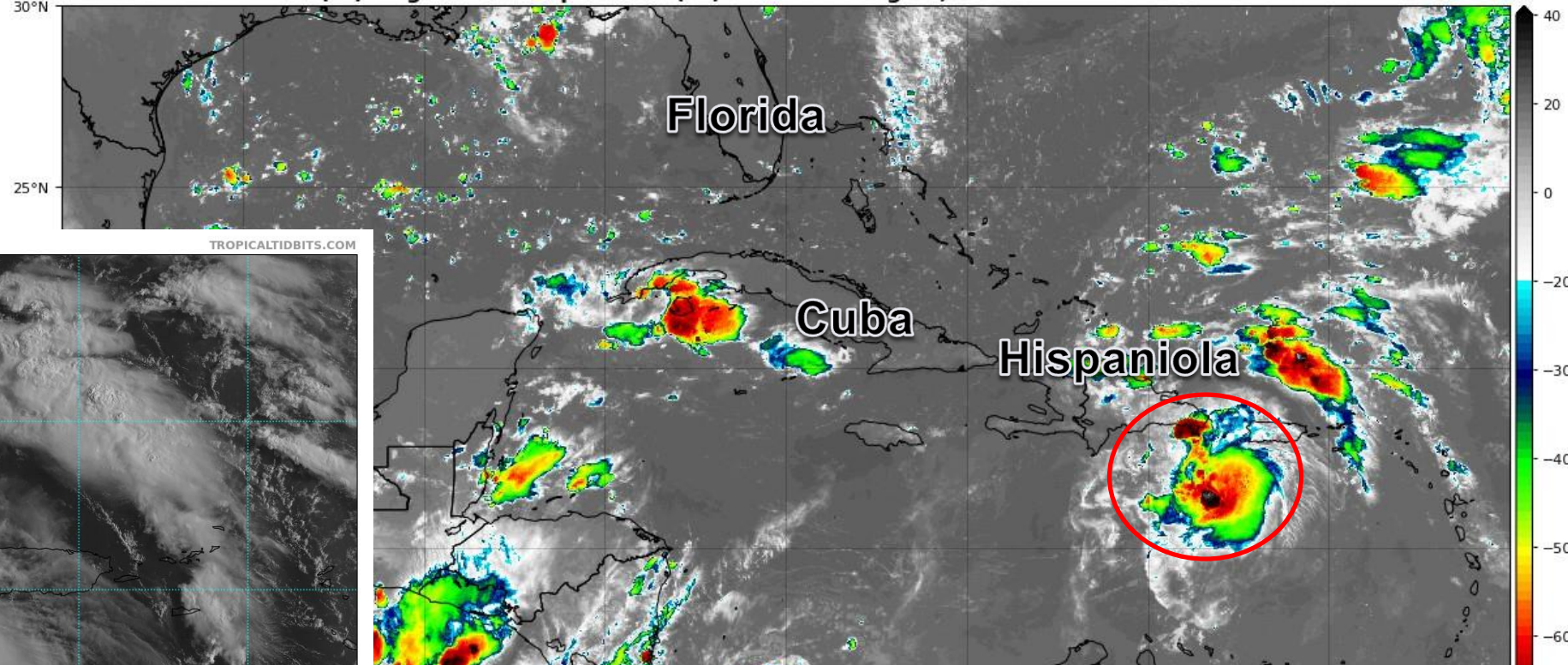


Satellite Imagery

Central Atlantic – Tropical Storm Fred

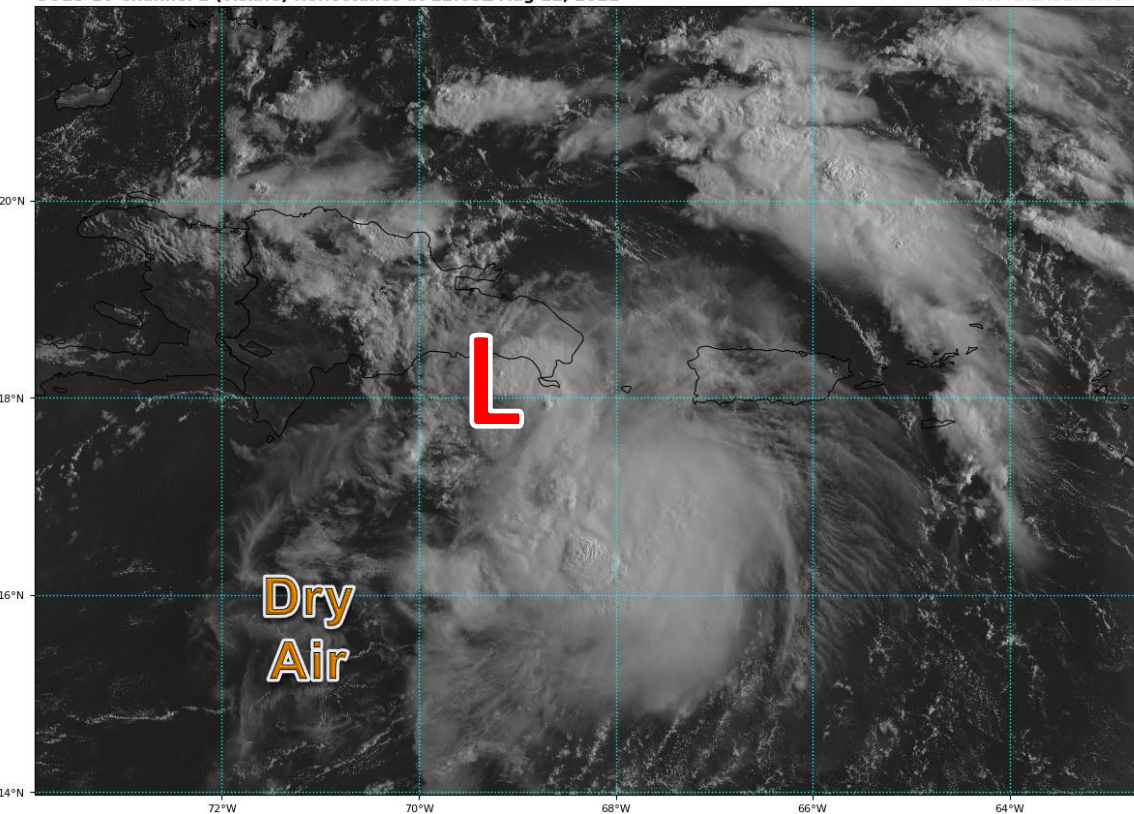
GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 12:05Z Aug 11, 2021

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GOES-16 Channel 2 (visible) Reflectance at 12:05Z Aug 11, 2021

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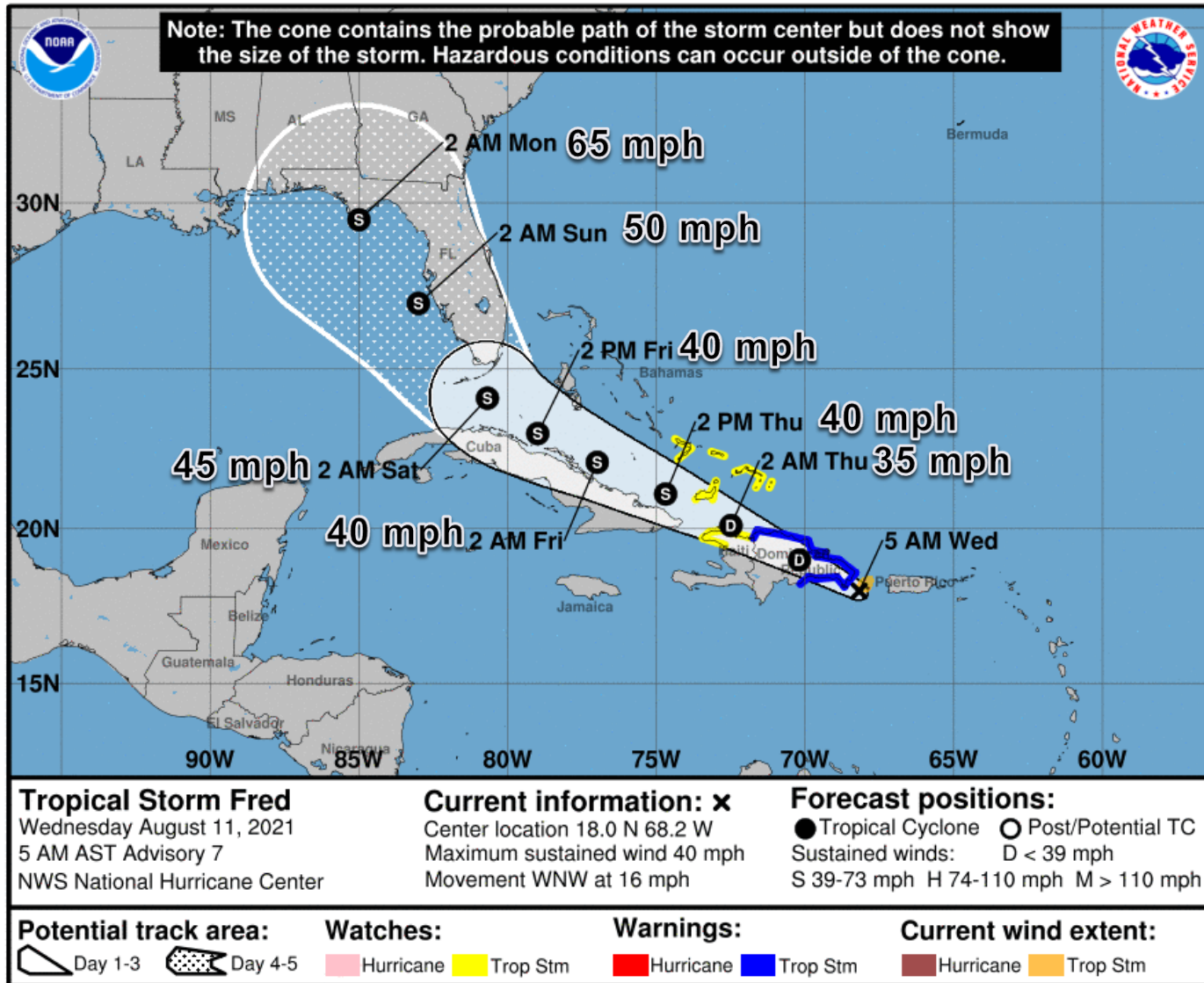


The system finally developed a closed circulation overnight and become Tropical Storm Fred. The showers and thunderstorms remain offset from the center due to dry air on the western half of the storm. Fred will move over the mountainous terrain of Hispaniola today.



Official Forecast Track

From the National Hurricane Center



- Potential Tropical Cyclone Six developed a closed circulation overnight and was designated Tropical Storm Fred.
- The center of Fred is located about 50 miles southeast of Santo Domingo, Dominican Republic, or about 880 miles southeast of Miami, Florida.
- Fred currently has maximum sustained winds around 40 mph. It will move over Hispaniola and weaken today due to the mountainous terrain.
- Fred is moving west-northwest at 16 mph and this general motion will continue over the next few days. This weekend, a northward turn is expected over the eastern Gulf of Mexico.
- On Thursday, Fred will move over Cuba or just offshore and will gradually reorganize as it approaches South Florida.
- No major changes to the track overnight.

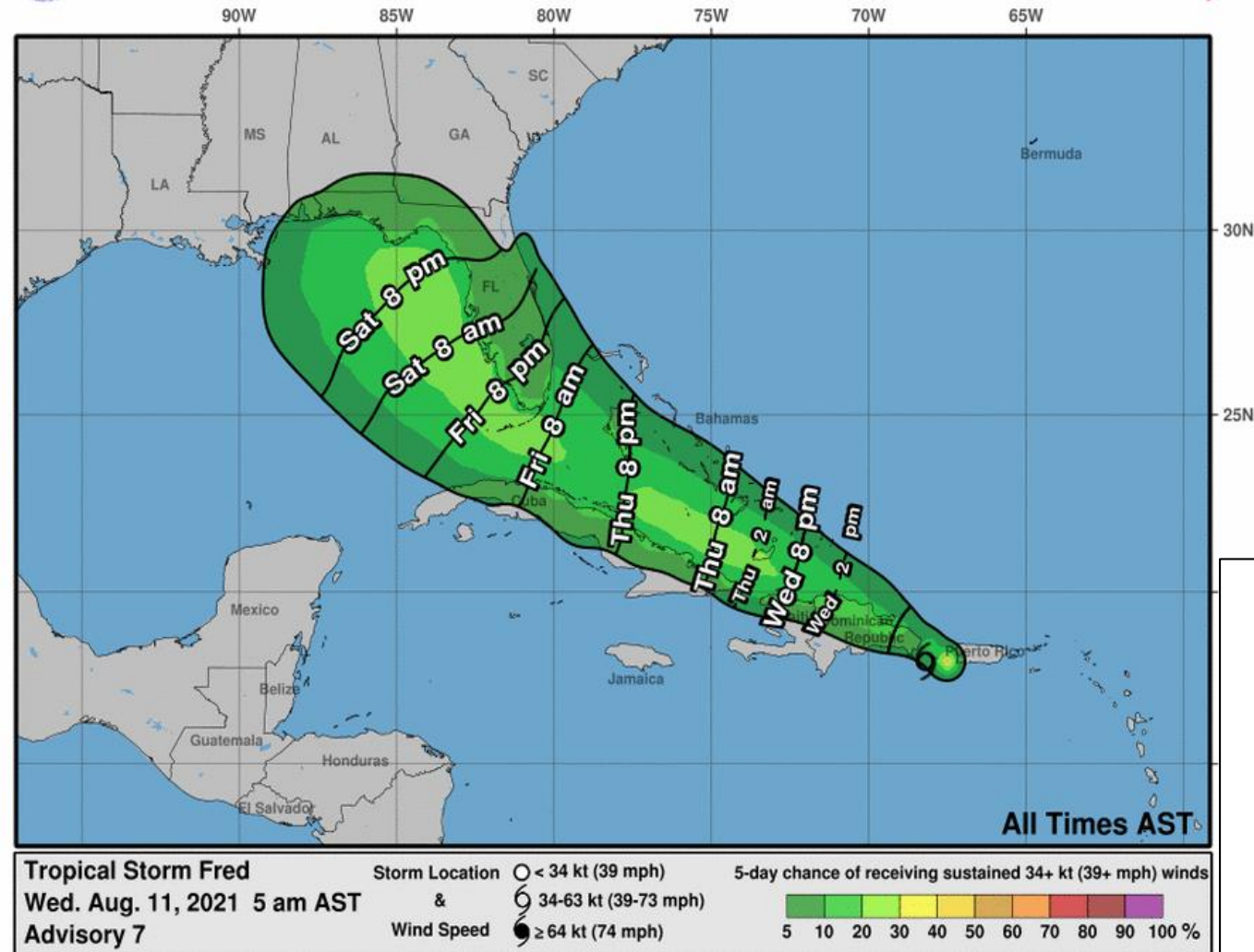


Time of Arrival & Wind Speed Probabilities

EARLIEST REASONABLE Time of Arrival of Tropical Storm Force Winds (>39 mph)



Earliest Reasonable Arrival Time of Tropical-Storm-Force Winds



City

Chance for
TS Winds

Changes Since
Last Packet

West Palm Beach

11%

+2%

Miami

9%

+3%

Key West

20%

+7%

Naples

21%

+7%

Ft. Myers

10%

+3%

Tampa

17%

+6%

Cedar Key

16%

+5%

Tallahassee

10%

+4%

Apalachicola

18%

+7%

Panama City

16%

+6%

Pensacola

6%

+2%

There is a 20% or 1 in 5 chance of tropical storm force winds for the Florida Keys with about a 10% or 1 in 10 chance in Southeast Florida and along the Gulf Coast. The earliest reasonable arrival time of tropical storm force winds in South Florida is Friday morning. They are most likely to begin Friday night or early Saturday morning. Winds arrive on Saturday/Sunday elsewhere.



Key Messages

From the National Hurricane Center



Key Messages for Tropical Storm Fred

Advisory 7: 5:00 AM AST Wed Aug 11, 2021

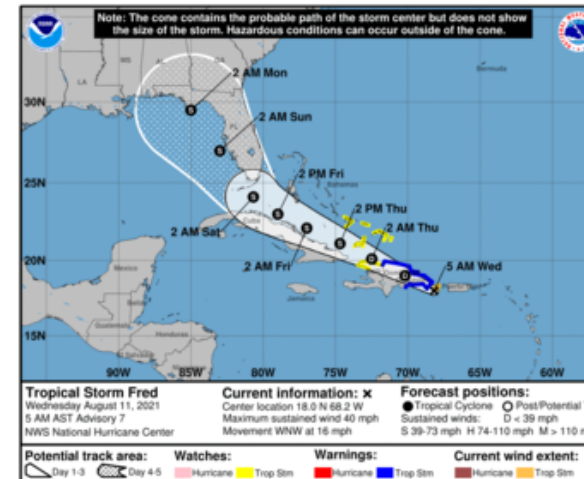


1. Tropical storm conditions are expected to begin in portions of the Dominican Republic this morning. Tropical storm conditions are possible in northern Haiti and the southeastern Bahamas by late today.

2. Heavy rainfall could lead to flash, urban, and small stream flooding, along with possible rapid river rises and the potential for mudslides across the U.S. Virgin Islands, Puerto Rico, and the Dominican Republic. The greatest threat for flooding impacts will be across eastern and southern Puerto Rico.

3. There is a risk of wind and rainfall impacts elsewhere in portions of Hispaniola, the Bahamas, and Cuba during the next few days, although the forecast is more uncertain than usual since Fred is forecast to interact with Hispaniola today. Interests in these areas should monitor Fred's progress and updates to the forecast.

4. There is a risk of wind and rainfall impacts in Florida beginning Friday in the Keys and spreading northward through portions of the Peninsula and the Panhandle this weekend. However, it is too soon to determine the exact timing, location, and magnitude of any potential impacts. Interests throughout Florida should monitor Fred's progress and check updates to the forecast.



For more information go to hurricanes.gov



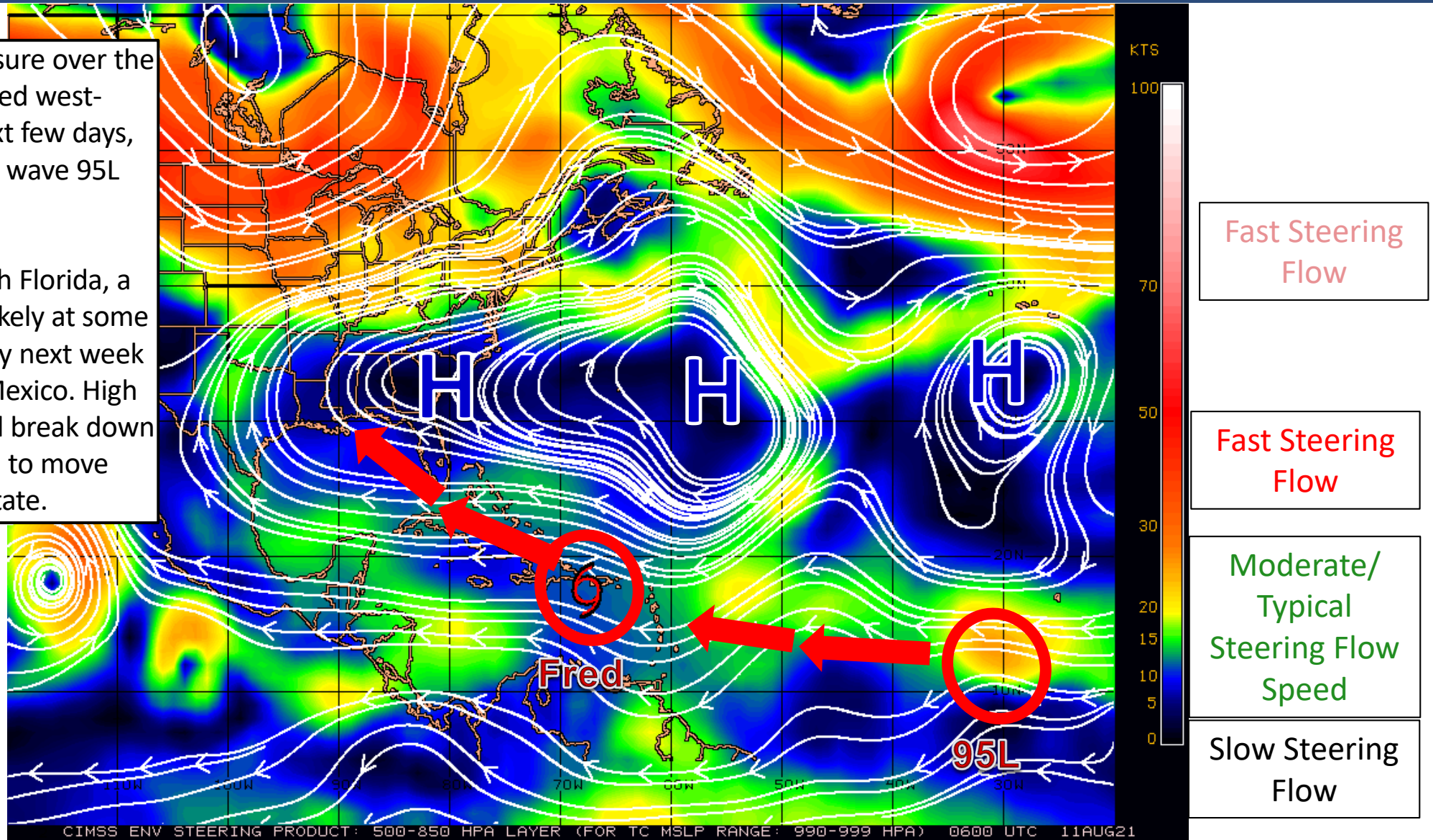
Steering Currents

What is Moving the System?

Color denotes the movement speed through the atmosphere and thin white lines denote direction. Tightly clustered white lines represent faster movement as well.

A large area of high pressure over the Atlantic will move Fred west-northwest over the next few days, and the other tropical wave 95L westward.

Once Fred is near South Florida, a northward turn seems likely at some point this weekend/early next week in the eastern Gulf of Mexico. High pressure over Florida will break down and allow the system to move near/over the state.





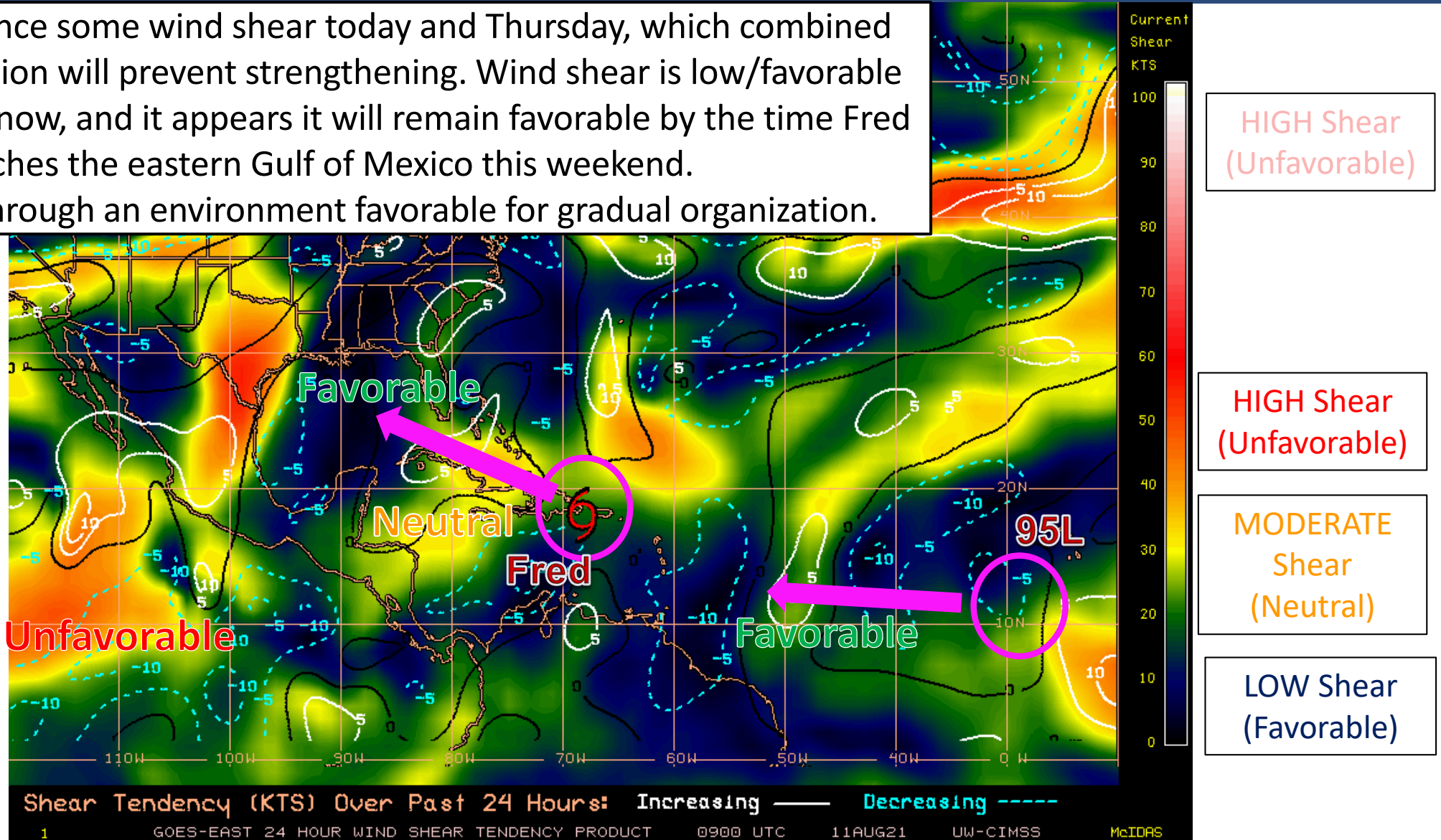
Wind Shear

Is the environment favorable for the system?

Color denotes the amount of wind shear and the lines denote how it have changed over the last 24 hours (dotted lines show decreasing shear and solid lines show increasing).

Fred will experience some wind shear today and Thursday, which combined with land interaction will prevent strengthening. Wind shear is low/favorable near Florida right now, and it appears it will remain favorable by the time Fred reaches the eastern Gulf of Mexico this weekend.

95L will move through an environment favorable for gradual organization.



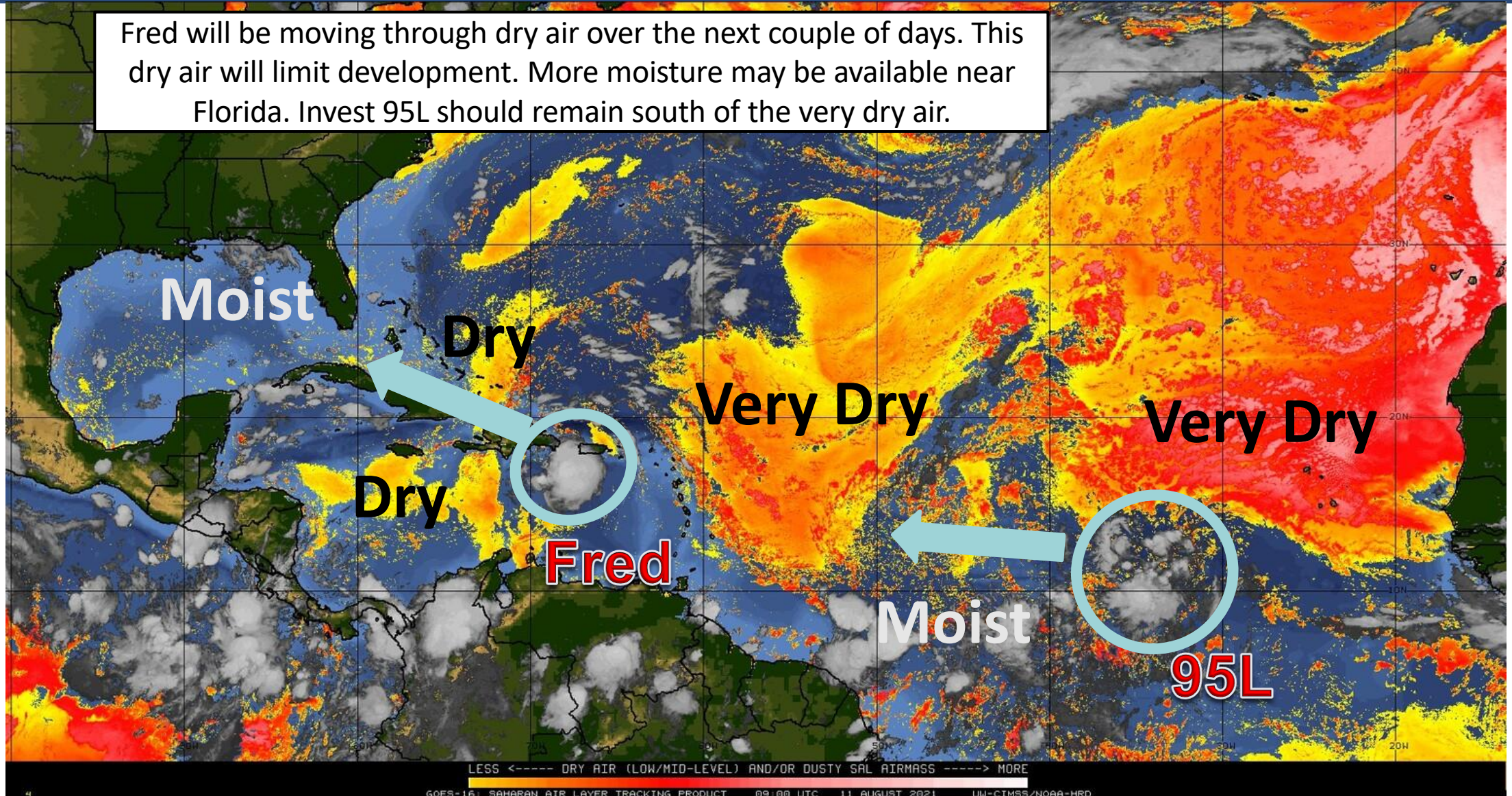


Dry Air & Saharan Dust

Is the environment favorable for the system?

Color denotes concentration of Saharan Dust or dry, stable air.

Fred will be moving through dry air over the next couple of days. This dry air will limit development. More moisture may be available near Florida. Invest 95L should remain south of the very dry air.





Sea Surface Temperatures & Anomalies

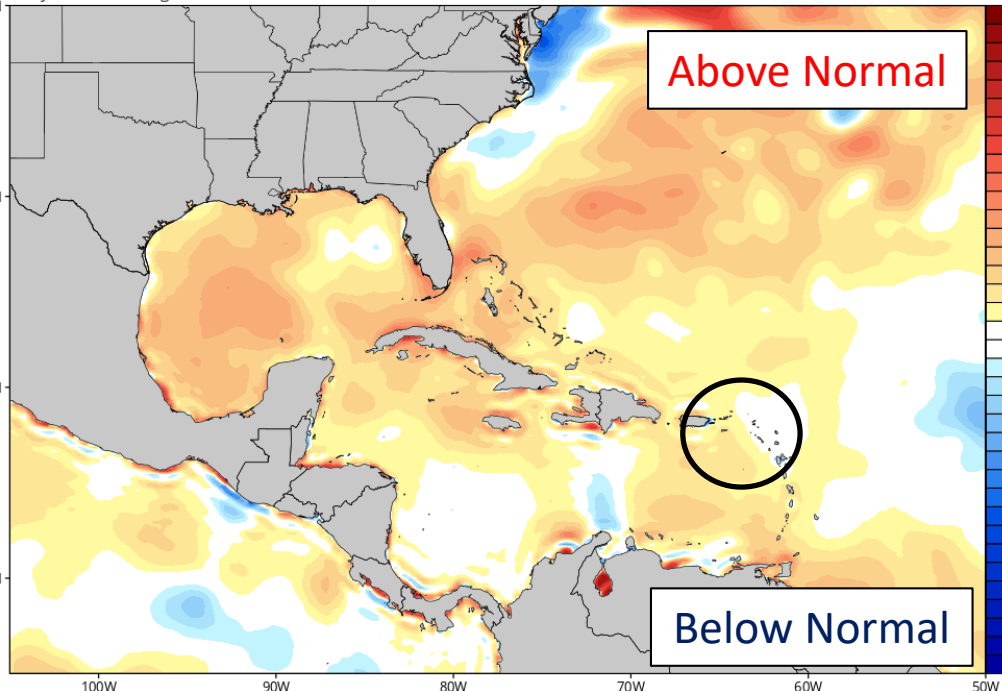
Is the ocean favorable for the system?

Water temperatures across much of the Caribbean, southwest Atlantic, and Gulf of Mexico are above normal and will support a hurricane. Water temperatures will become more favorable for development as Fred & Invest 95L move northwest.

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

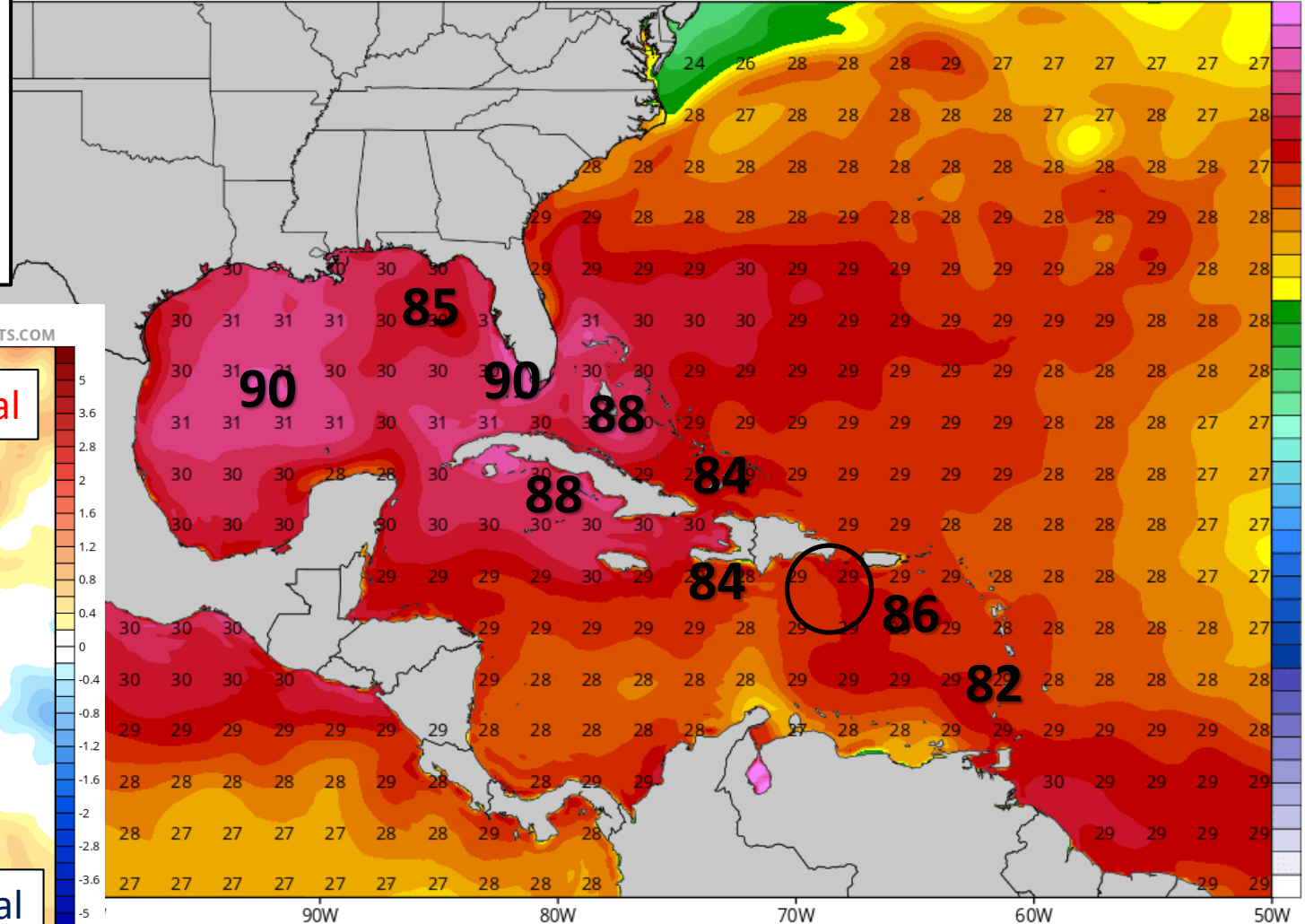
Analysis Time: 00z Aug 11 2021

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Sea Surface Temperature (°C)
Analysis Time: 00z Aug 11 2021

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°F
90
88
86
84
82
81
79
75
72



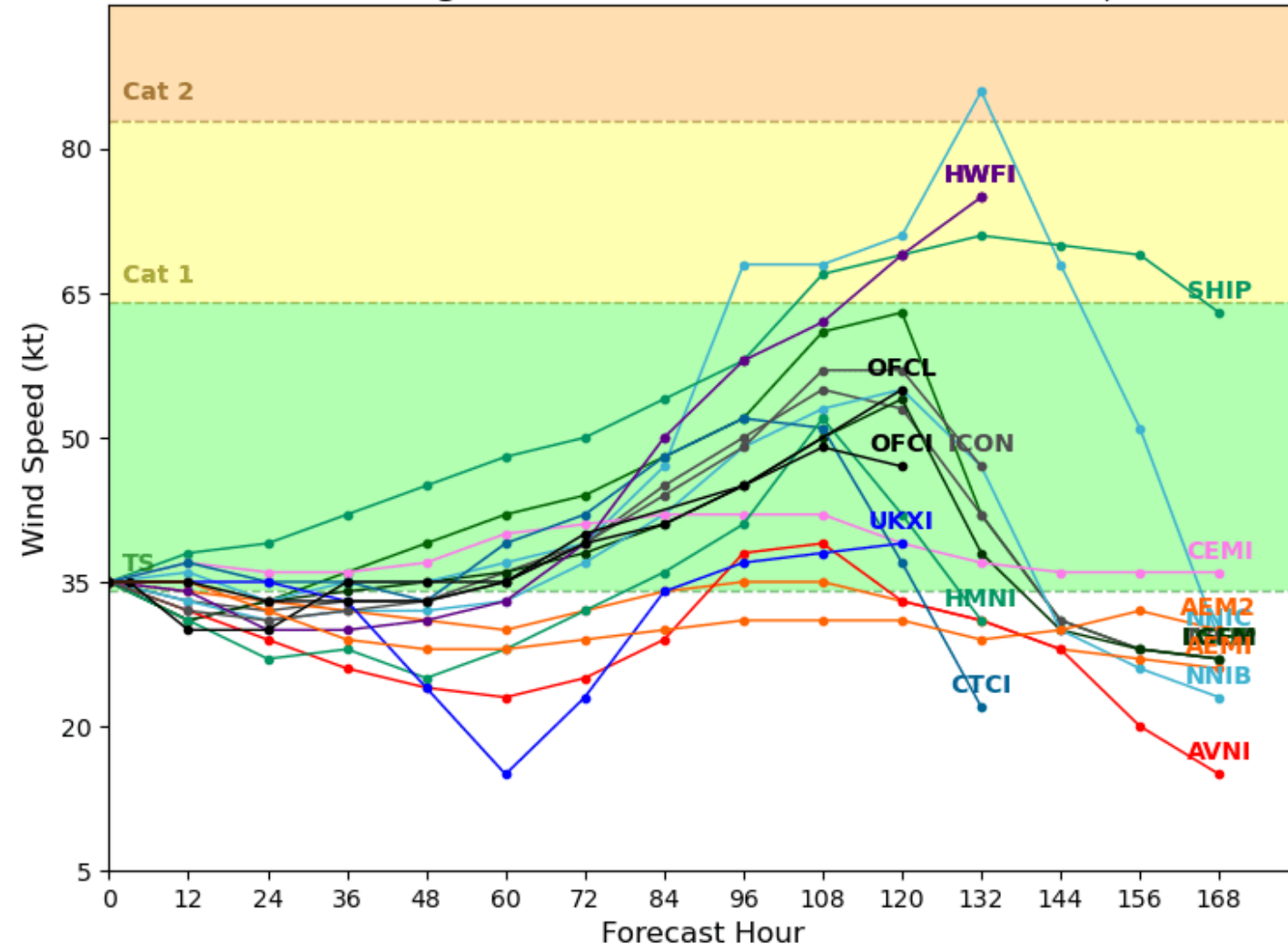
Model Forecast Intensity

Dynamical and Statistical Models – Tropical Storm Fred

Tropical Storm FRED Model Intensity Guidance

Initialized at 06z Aug 11 2021

Levi Cowan - tropicaltidbits.com



Land interaction, some dry air, and wind shear will keep Fred weak today and tomorrow.

By Friday (~60 hours), some gradual strengthening is possible as the system moves into a more favorable environment near South Florida. If Fred moves far enough off the West Coast of Florida in the Gulf of Mexico, it could near hurricane intensity before landfall on the northern Gulf Coast on Sunday.



Long-Range Flood Outlook

Next 7 Days – Ending Tuesday, August 17



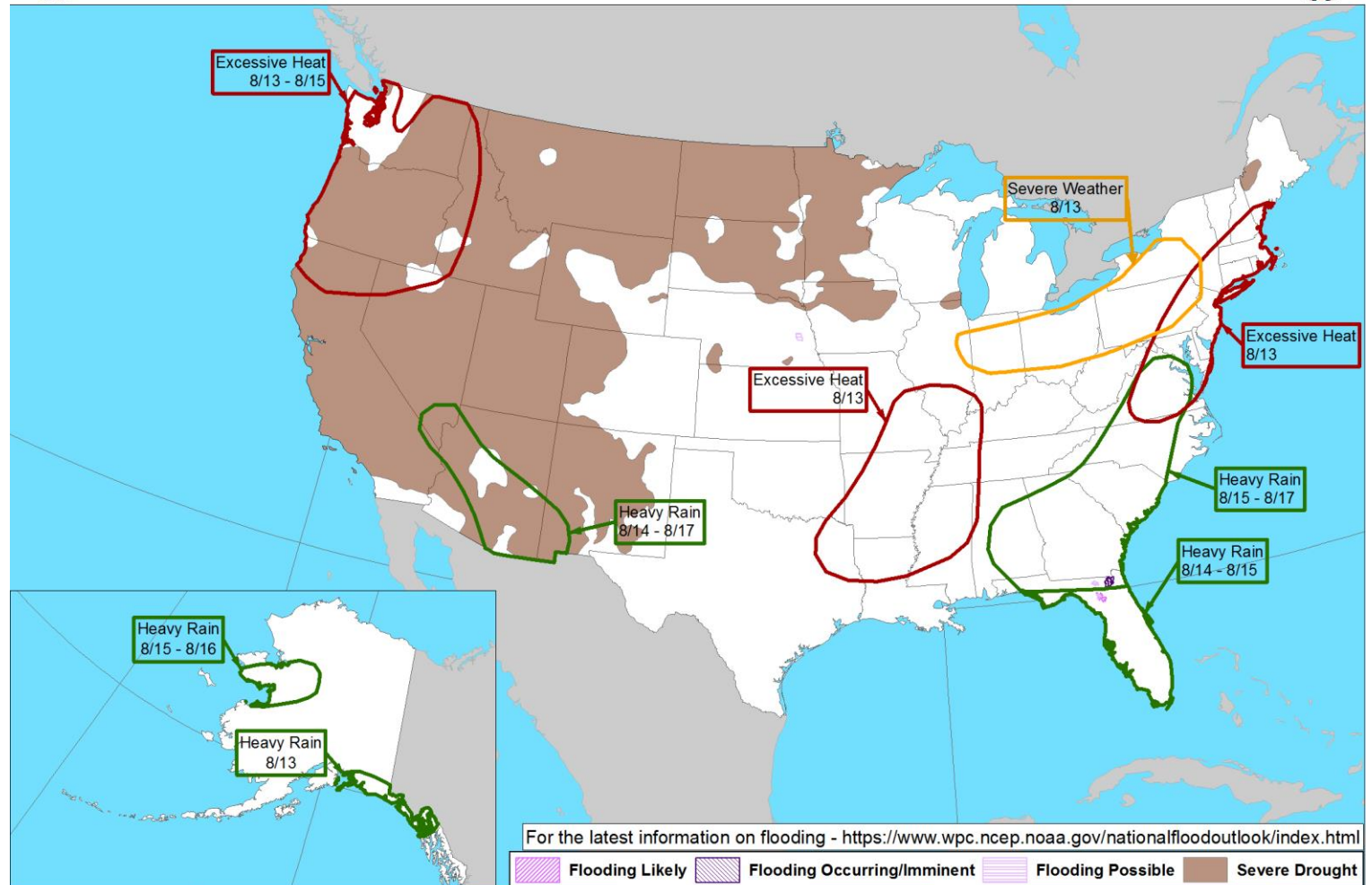
Day 3-7 U.S. Hazards Outlook
Valid: 08/13/2021-08/17/2021



Heavy rainfall will be possible across the entire state this weekend, and continue across North Florida into early next week.

Rivers across Northeast Florida are saturated and this region will be the most susceptible to additional flooding this weekend.

It is too early to determine exact rainfall totals.



Weather Prediction Center

Made: 08/10/2021 3PM EDT

Follow us:

www.wpc.ncep.noaa.gov

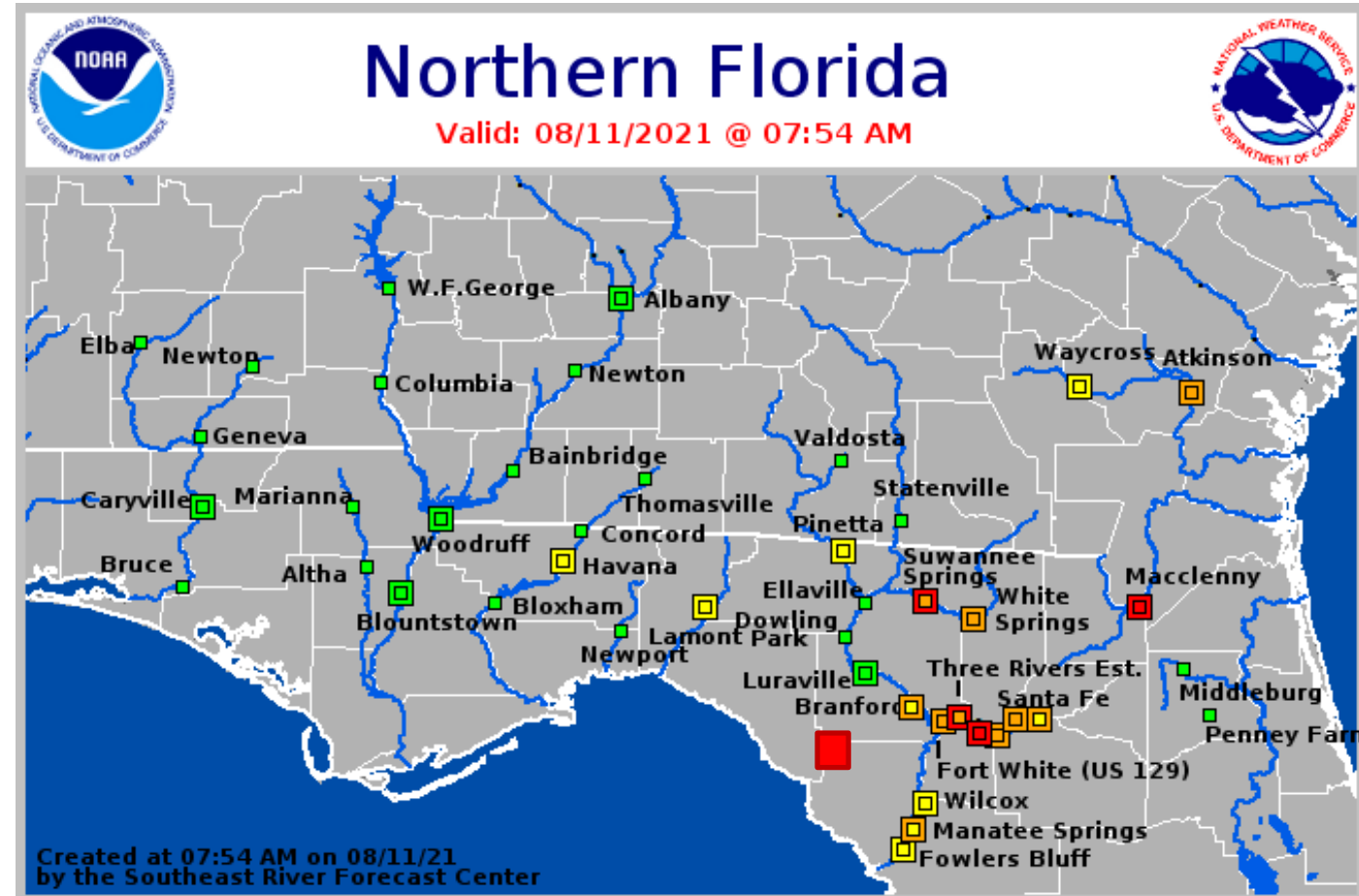
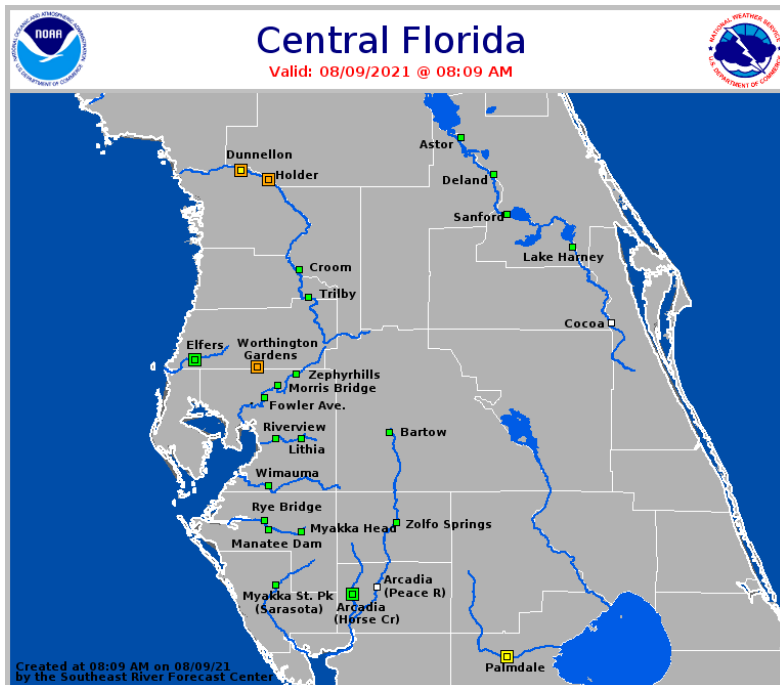


Current & Forecast River Flooding

North Florida – Southeast River Forecast Center

Extensive river flooding will continue across Northeast Florida this week.

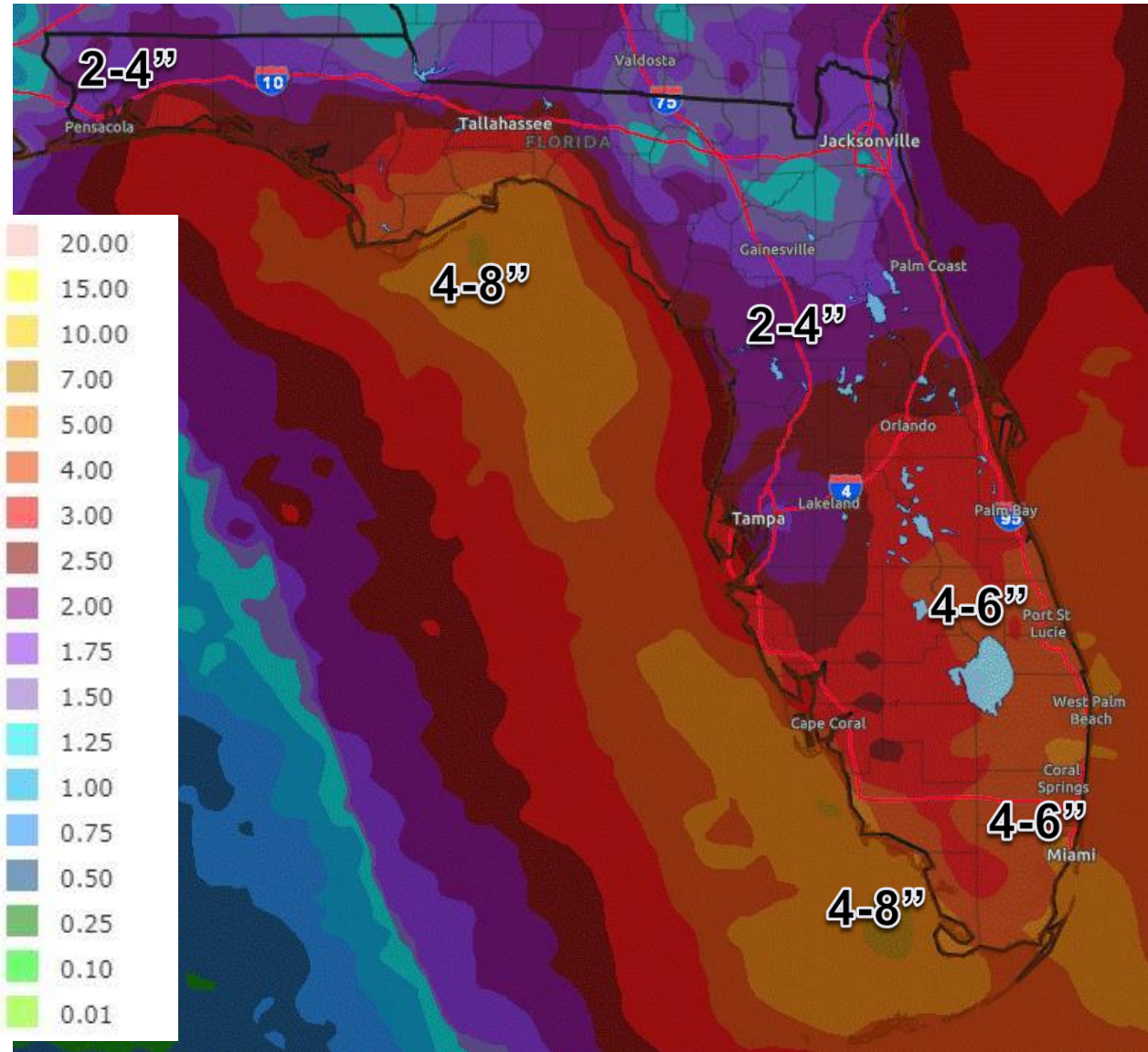
More details on river levels available at the [Southeast River Forecast Center website](https://www.srfc.noaa.gov/).





Rainfall Totals Next 7 Days

Ending 8 PM ET Tuesday



Heavy rainfall will be possible across the Peninsula starting on Friday and continuing into the weekend.

The heavy rain threat will then move into North Florida early next week.

***Exact rainfall totals WILL CHANGE as the forecast track and intensity is fine tuned. These are first guess totals based on the current NHC forecast. ***



Tropical Weather Outlook

Possible Areas of Development During the Next 5 Days ([LINK](#)) – Invest 95L



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

Disturbance 1

1
(40%)



8:00 am EDT
Wed Aug 11 2021

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

A tropical wave located over the eastern tropical Atlantic several hundred miles west-southwest of the Cabo Verde Islands continues to produce disorganized showers and thunderstorms. Some gradual development of this system is possible, and a tropical depression could form by early next week while moving generally westward across the tropical Atlantic near 20 mph.

This system could reach portions of the Leeward Islands by late Saturday, following in a similar path as PTC #6/Fred.

***Formation chance through 48 hours...low...20%**

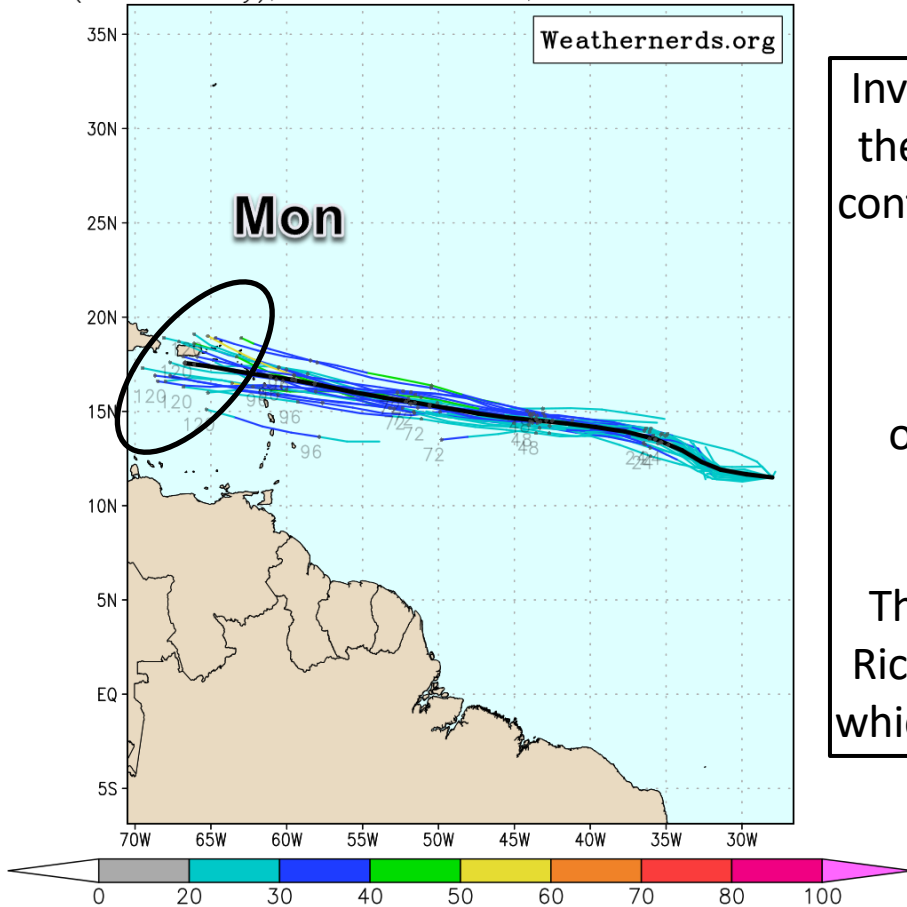
***Formation chance through 5 days...medium...40%**



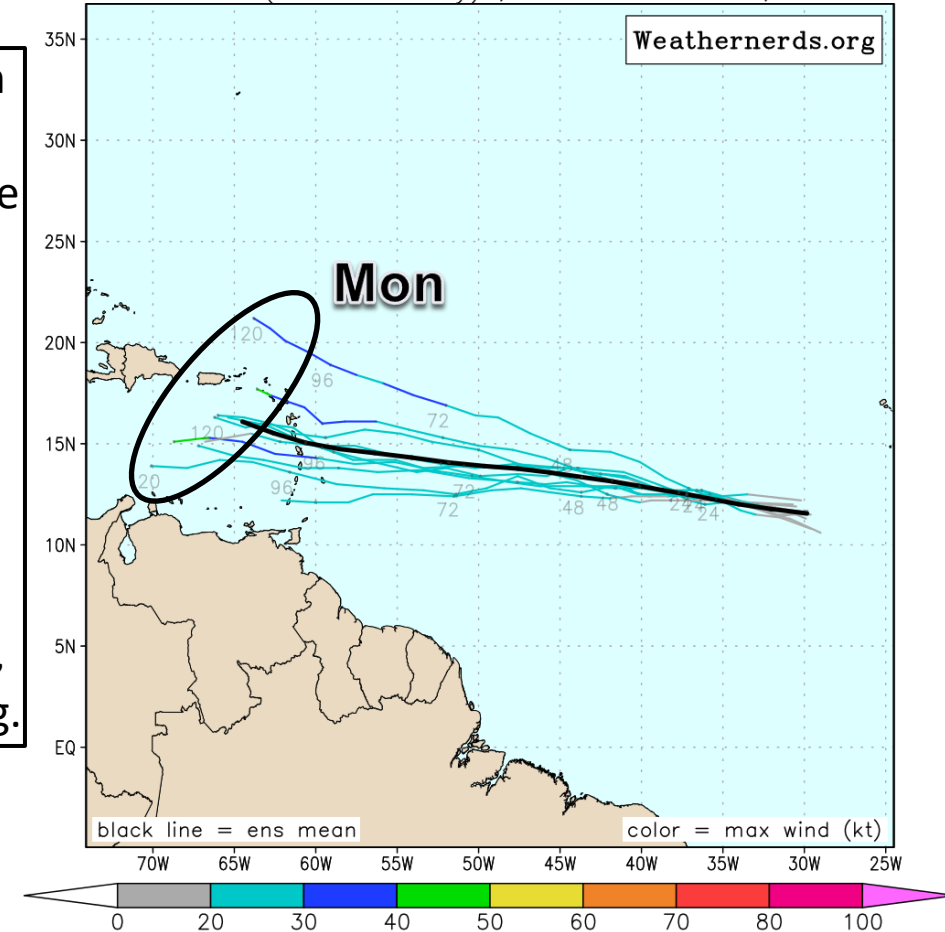
Model Forecasts

Ensembles, Dynamical, and Statistical Models – Invest 95L

ECMWF Ens. (0–120h only), init: 2021081100, AL95 Invest color = max wind (kt)



GEFS Ensemble (0–120 h only) , init: 2021081106, AL95 Invest





Overall Summary

Tropical Storm Fred (Formerly Potential Tropical Cyclone Six)

- Potential Tropical Cyclone Six developed a closed circulation overnight and was designated Tropical Storm Fred.
- The center of Fred is located about 50 miles southeast of Santo Domingo, Dominican Republic, or about 880 miles southeast of Miami, Florida.
- Fred currently has maximum sustained winds around 40 mph. It will move over Hispaniola and weaken today due to the mountainous terrain.
- Fred is moving west-northwest at 16 mph and this general motion will continue over the next few days.
- No major changes to the track or intensity forecast overnight.
- On Thursday, Fred will move over Cuba or just offshore and will gradually reorganize as it approaches South Florida on Friday. This weekend, a northward turn is expected over the eastern Gulf of Mexico. Additional strengthening is possible in the eastern Gulf of Mexico to near hurricane strength.

Invest 95L

- A tropical wave located over 1,500 miles east of the Lesser Antilles is associated with a tropical wave. Some gradual development of this system is possible over the next several days as it continues west to west-northwest.
- NHC has the odds of development 20% (low) over the next 48 hours and 40% (medium) over the next 5 days.

Florida Outlook:

- Tropical Storm Fred will bring increased rain chances and gusty winds to South Florida on Friday and Saturday and other regions of the state this weekend and into early next week.
- The entire state is in the 5-day forecast cone for where the center of the storm is most likely to travel.
- **It is too early to determine any other impacts to the state!!**
- Some wind, surge, and tornado impacts are possible along the Gulf Coast, particularly in the Panhandle/Big Bend if the system remains over the Gulf of Mexico far enough off the West Coast of Florida.
- Widespread minor to moderate river flooding will continue this week in Northeast Florida. Heavy rainfall may continue or worsen flooding.

Another briefing packet will be issued this afternoon with the 5pm advisory. 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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