



TROPICAL UPDATE



9:00 AM EDT

Thursday, August 12, 2021

Tropical Depression Fred

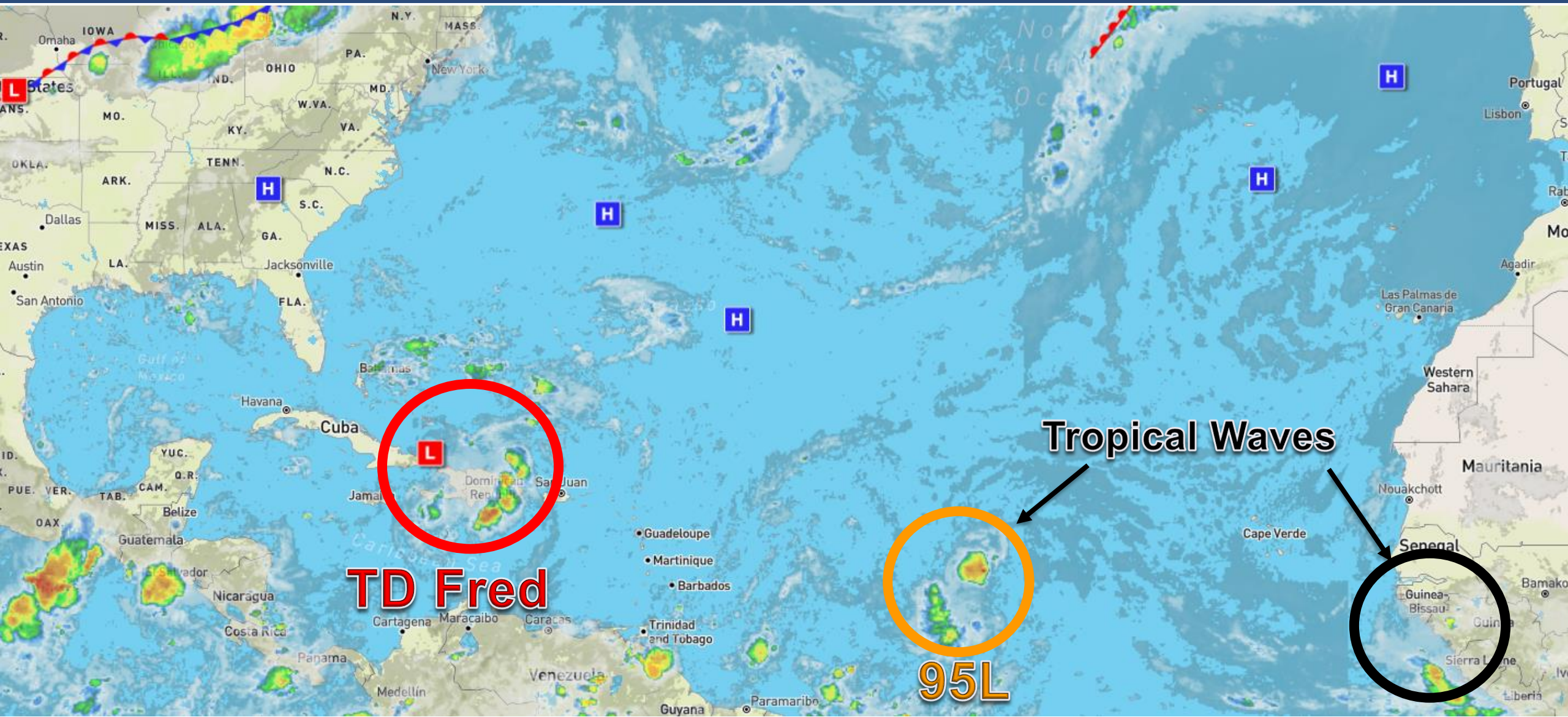
& Invest 95L (60%)

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

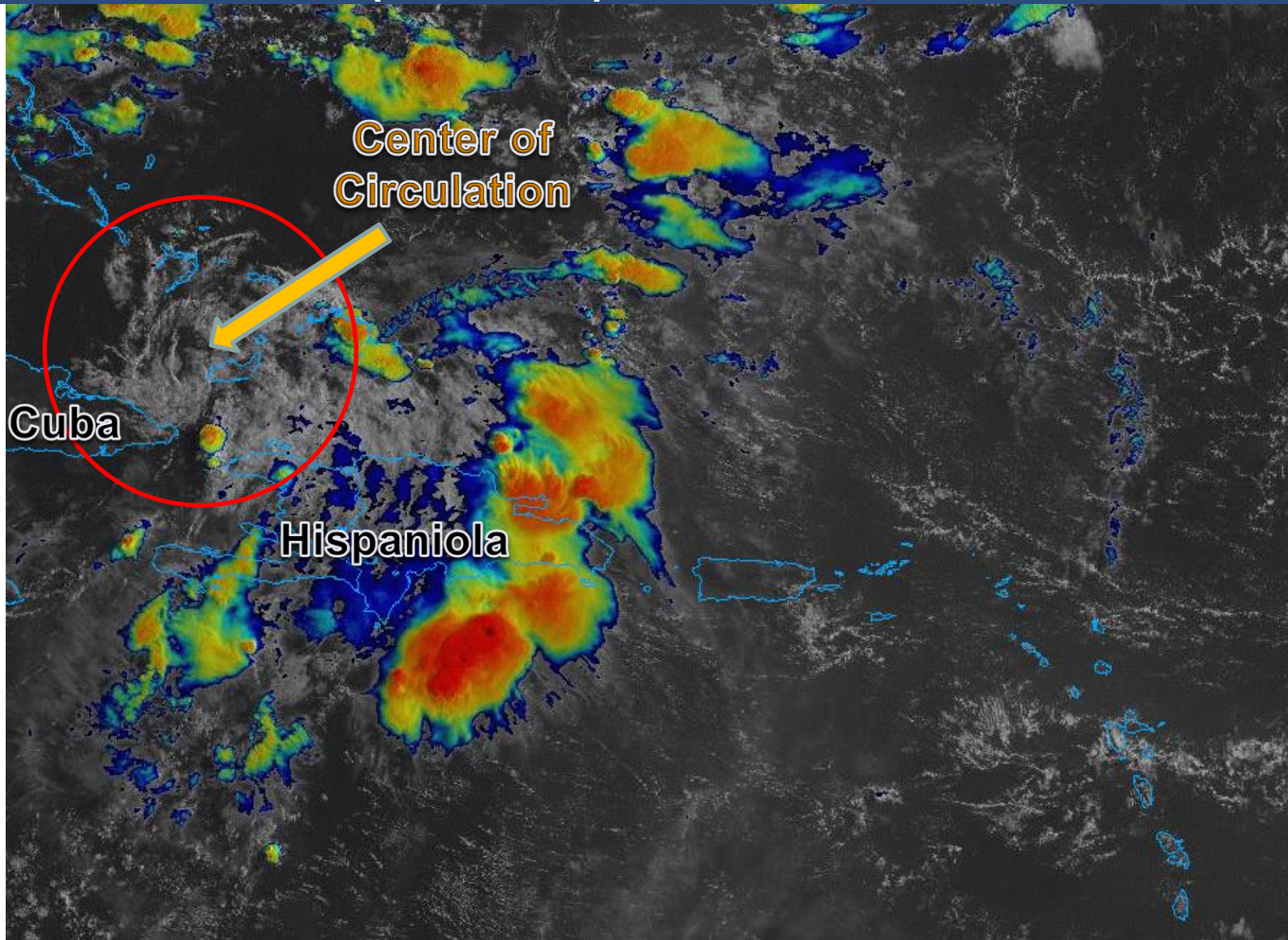
Chance of development: — None — Low — Medium — High





Satellite Imagery

Tropical Depression Fred

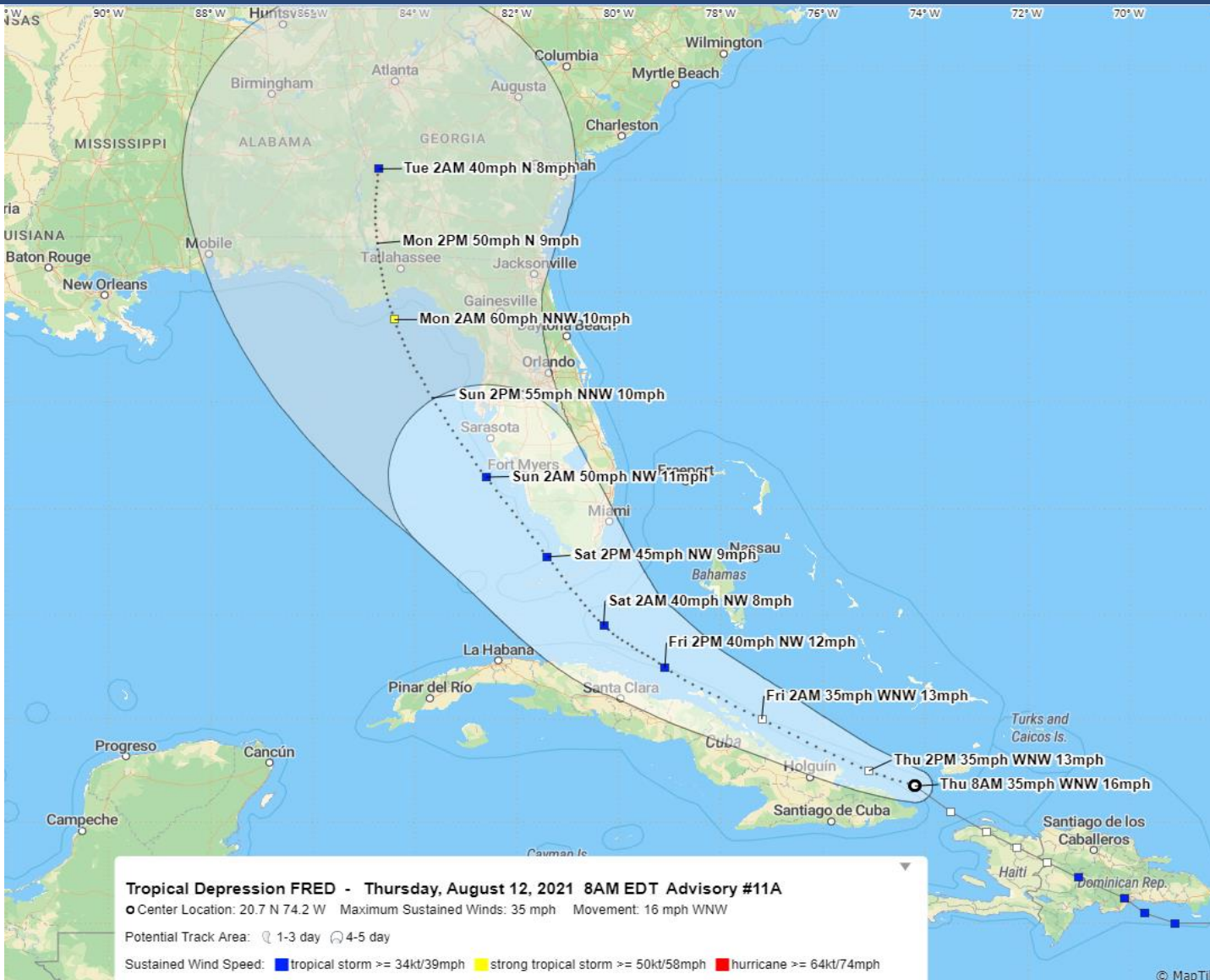


The center of Fred emerged from Haiti last night and is passing between the southeastern Bahamas and eastern Cuba this morning. Strong thunderstorm activity is displaced from the center, but as Fred moves toward the Florida Straits, more organized storm activity should begin to concentrate again near the center and allow it to slowly strengthen.



Official Forecast Track

From the National Hurricane Center

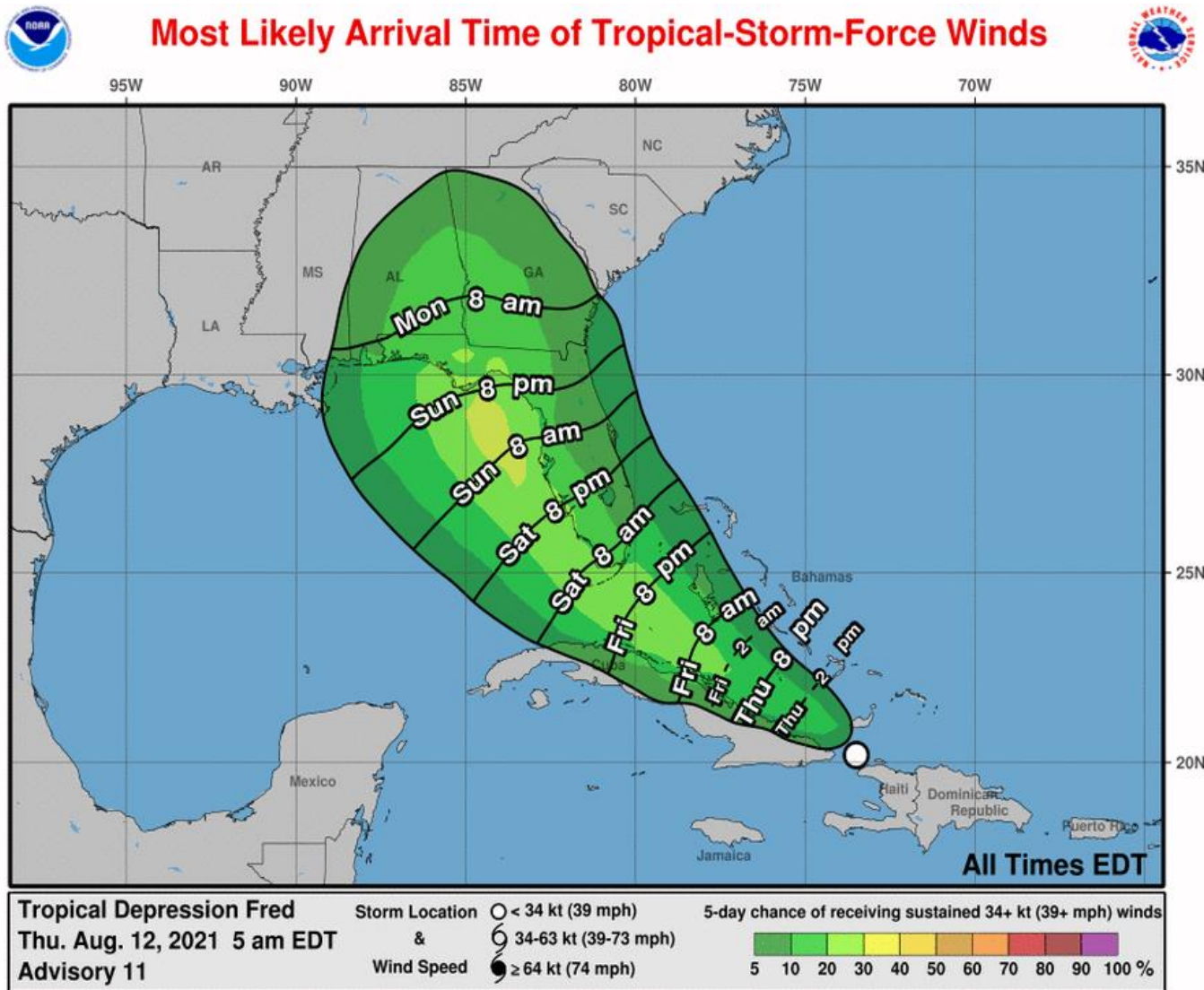


- The center of Fred is located near Great Inagua Island in the southeastern Bahamas, or about 515 miles southeast of Miami, Florida.
- Maximum sustained winds are around 35 mph. Little change in strength is forecast today, but slow strengthening is expected Friday and this weekend.
- Fred is moving west-northwest at 16 mph, and this motion with a decrease in forward speed is expected during the next couple of days, followed by a turn to the northwest.
- On the forecast track, Fred is expected to move across the southeastern Bahamas today, move along or just north of Cuba today and Friday, and be near the Florida Keys and South Florida on Saturday.
- A second landfall is expected along the Florida Panhandle or Big Bend coast early Monday morning.



Time of Arrival & Wind Speed Probabilities

Most Likely Time of Arrival of Tropical Storm Force Winds (>39 mph)



City	Chance for TS Winds	Changes Since Last Packet
West Palm Beach	12%	+1%
Miami	11%	+2%
Key West	23%	+1%
Naples	25%	+2%
Ft. Myers	13%	+2%
Tampa	23%	+1%
Cedar Key	23%	+2%
Tallahassee	17%	-2%
Apalachicola	25%	+0%
Panama City	22%	+0%
Pensacola	9%	-2%
Orlando	9%	+1%

There is a near 25% or 1 in 4 chance of tropical storm force winds for the Florida Keys and coastal areas along the Florida West Coast and Big Bend, with about a 10% or 1 in 10 chance in Southeast Florida and across inland areas. The earliest reasonable arrival time of tropical storm force winds in South Florida is Friday evening, but are most likely to begin late Friday night through Saturday. Winds arrive on Saturday night/Sunday elsewhere.



Key Messages

From the National Hurricane Center



Key Messages for Tropical Depression Fred

Advisory 11: 5:00 AM EDT Thu Aug 12, 2021



1. Continued heavy rainfall today could lead to flash, urban, and small stream flooding, along with possible rapid river rises and potential mudslides in the Dominican Republic and Haiti.

2. Tropical storm conditions are possible in northern Haiti and the southeastern Bahamas this morning, and in portions of Cuba later today.

3. Beginning Friday, heavy rainfall could lead to areal, urban, and small stream flooding, and possible rapid river rises across southern Florida. Heavy rainfall associated with Fred will impact the remainder of Florida and parts of the Southeast this weekend and into next week.

4. There is a risk of tropical storm conditions beginning early Saturday in the Florida Keys and south Florida. These conditions are expected to spread northward along portions of the Florida west coast and the Florida Panhandle through Monday.



For more information go to hurricanes.gov



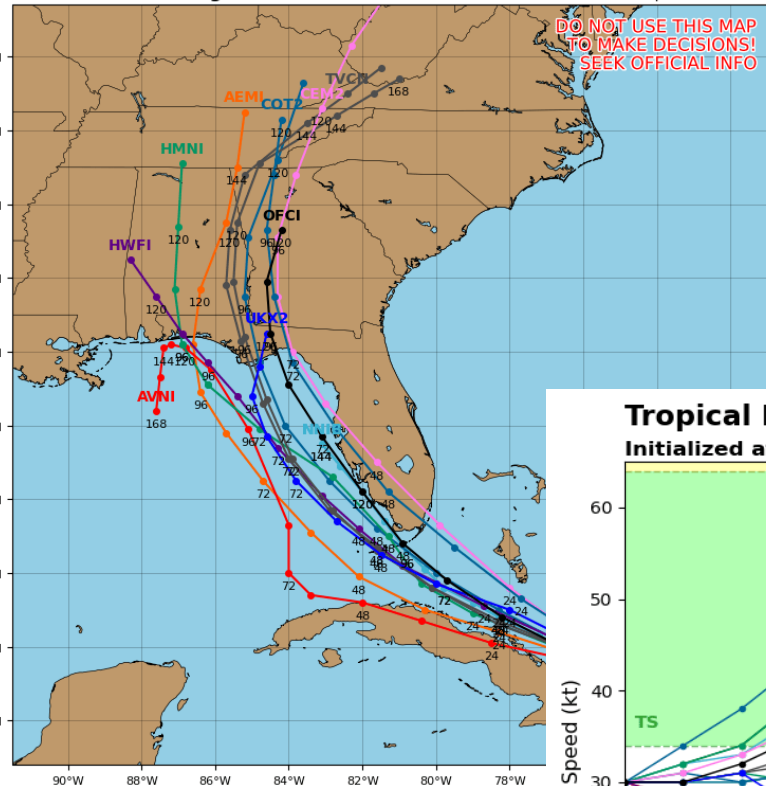
Model Forecast Tracks & Intensity

Dynamical and Statistical Models – Tropical Storm Fred

Tropical Depression 06L Model Track Guidance

Initialized at 12z Aug 12 2021

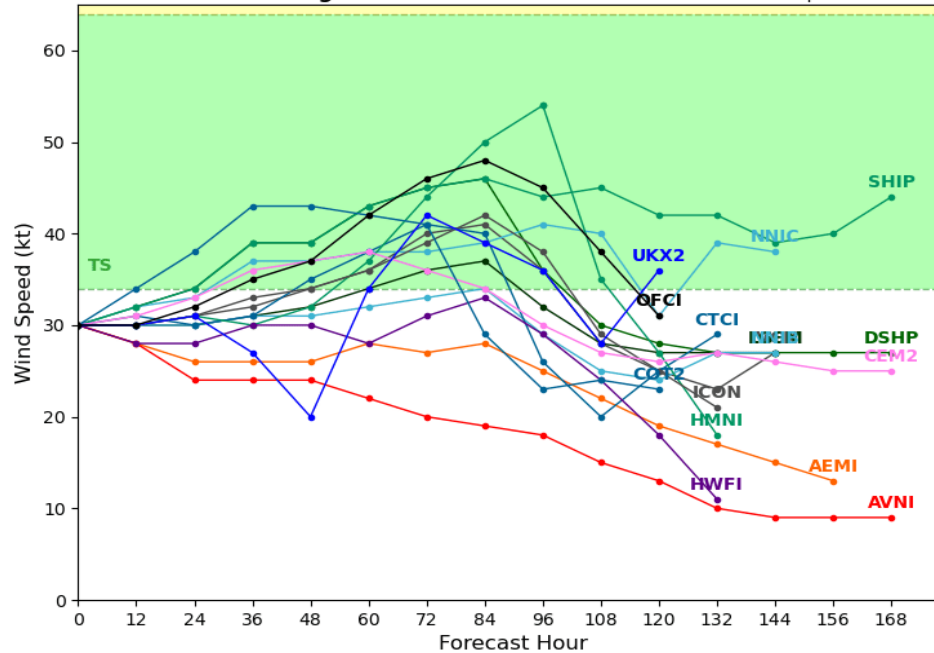
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Tropical Depression 06L Model Intensity Guidance

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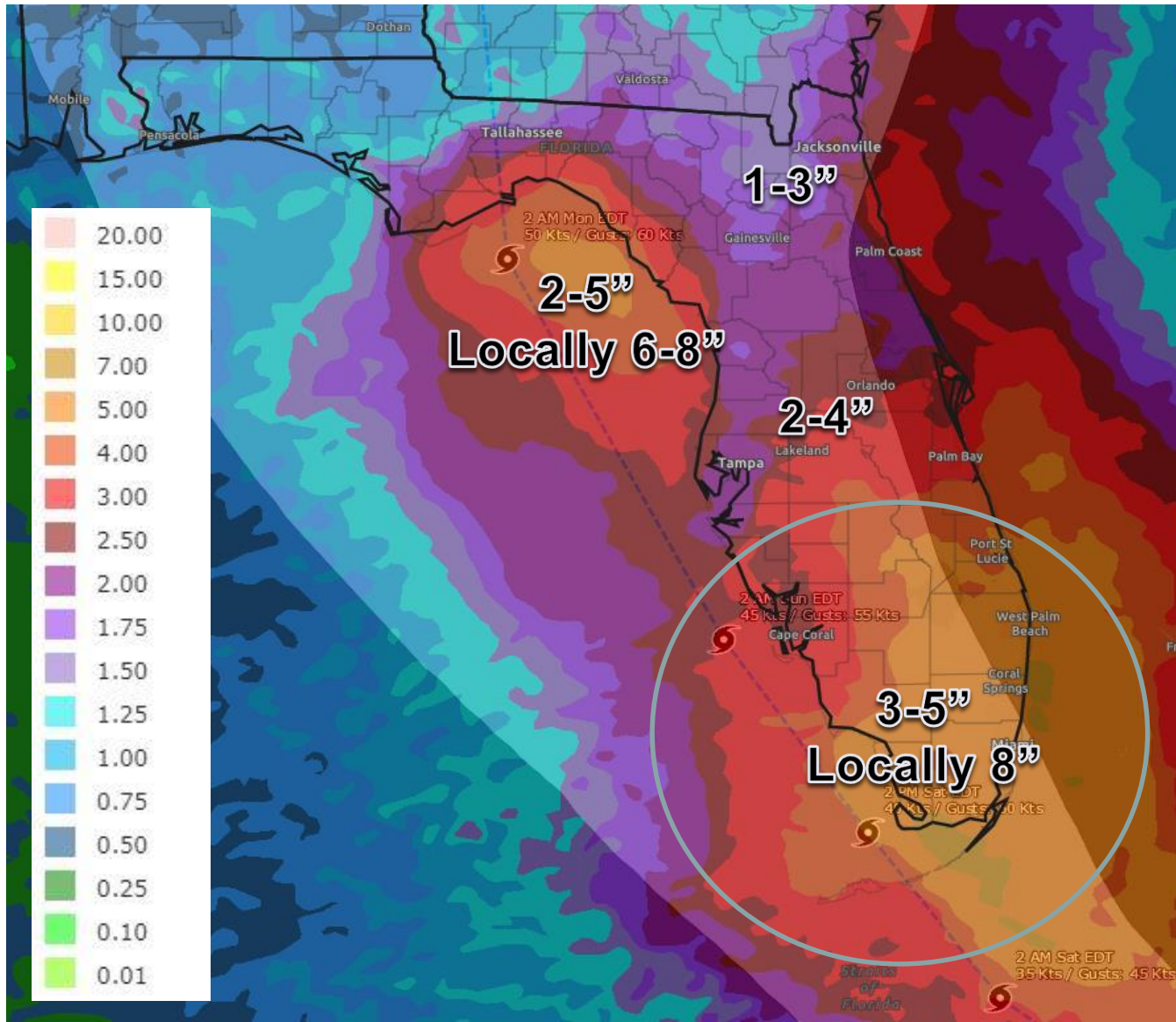
There still remains some uncertainty in regards to the forecast track and intensity for Fred. Minor adjustments to the forecast track may continue to occur and all within the cone of error should continue to closely monitor the forecast.

Many computer models are indicating that Fred is likely to strengthen, but remain a tropical storm through landfall due to land interaction, some dry air, and wind shear. If Fred moves far enough off the West Coast of Florida in the Gulf of Mexico, it could strengthen more than currently indicated, but tropical storm impacts are still expected to affect much of the Florida Gulf Coast through Monday.



Rainfall Totals Next 7 Days

Ending 8 PM ET Tuesday



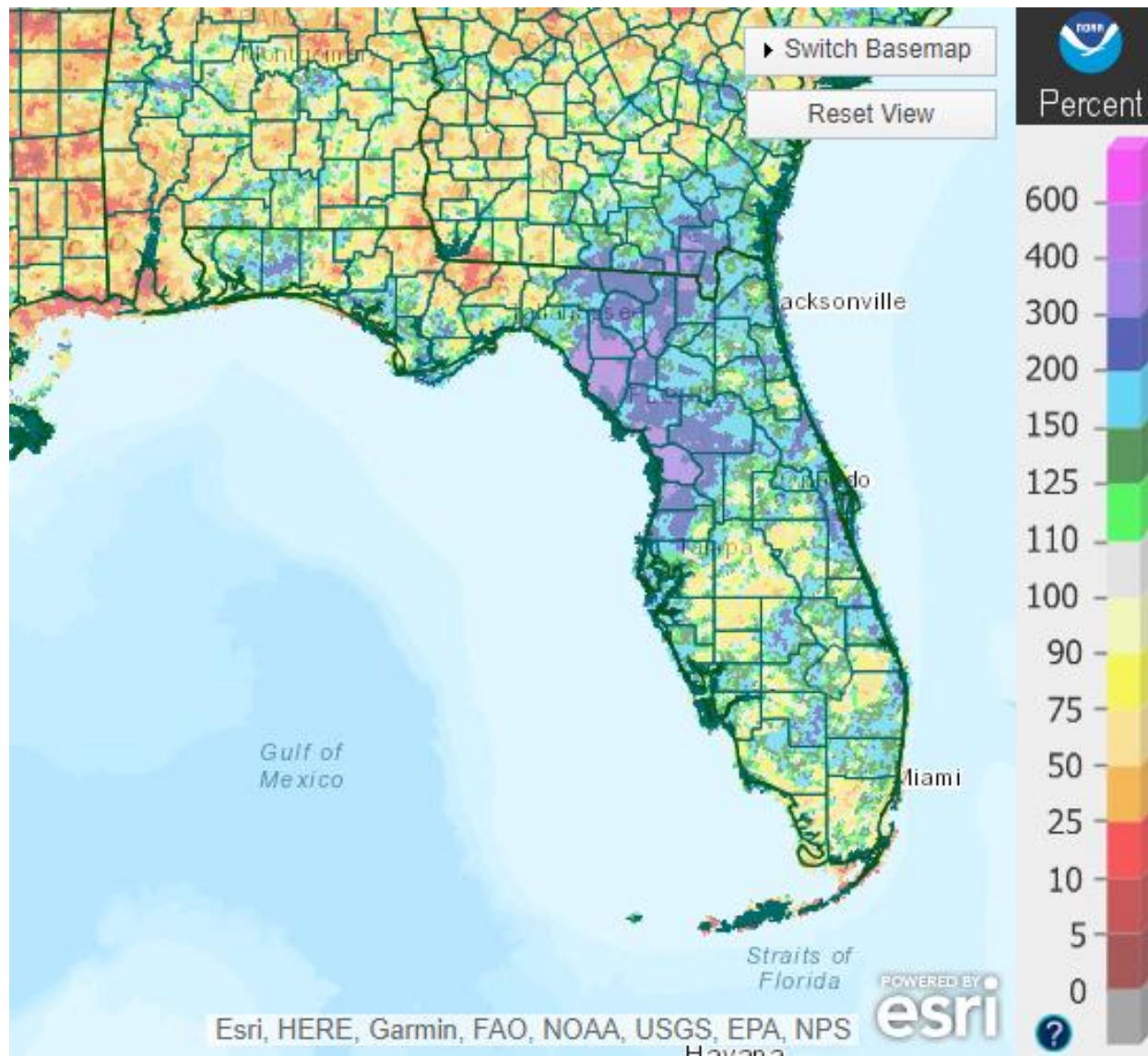
One of the main threats to Florida from Fred will be heavy rainfall, first affecting much of South Florida starting on Friday and continuing into the weekend. The heavy rain threat will then move into North Florida Sunday and Monday.

A widespread 3-5" of rain is expected near and south of Lake Okeechobee (including the Keys) with localized totals of 8".

Exact rainfall totals across North Florida WILL CHANGE as the forecast track and intensity is fine tuned. These are first guess totals based on the current NHC forecast and do not account for isolated higher totals that are possible.



Rainfall Anomaly – Soil Moisture

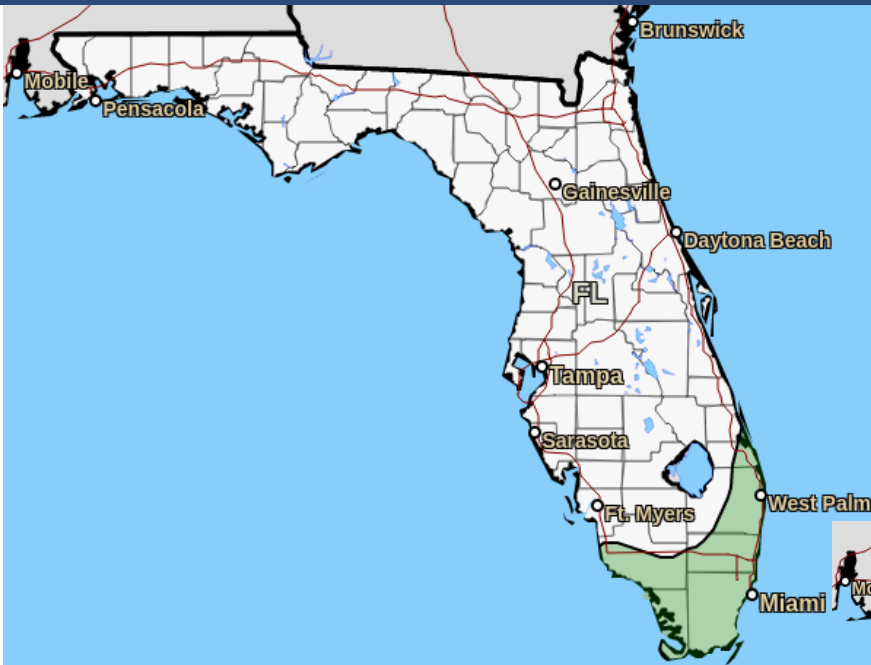


The areas in **BLUE & PURPLE** have seen double to quadruple the normal rainfall over the last 2 weeks (6-10" above normal). These areas are very susceptible to flash flood and river flooding.



Flash Flood Outlook for Friday-Saturday

From the Weather Prediction Center ([LINK](#))



Probability of excessive rainfall leading to rapid onset flooding.*

- High Risk: >50%
- Moderate Risk: 20-50%
- Slight Risk: 10-20%
- Marginal Risk: 5-10%

* Within 25 miles of a point.
May not represent localized flooding threat over burn scars.



Understanding WPC Excessive Rainfall Risk Categories

No Area/Label

Flash floods are generally not expected.

www.wpc.ncep.noaa.gov
@NWSWPC

Flash flooding near me?

Flash Flooding
NO Flash Flooding

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.

MODERATE (MDT)

Numerous flash floods likely

Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers.

HIGH (HIGH)

Widespread flash floods expected

Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.



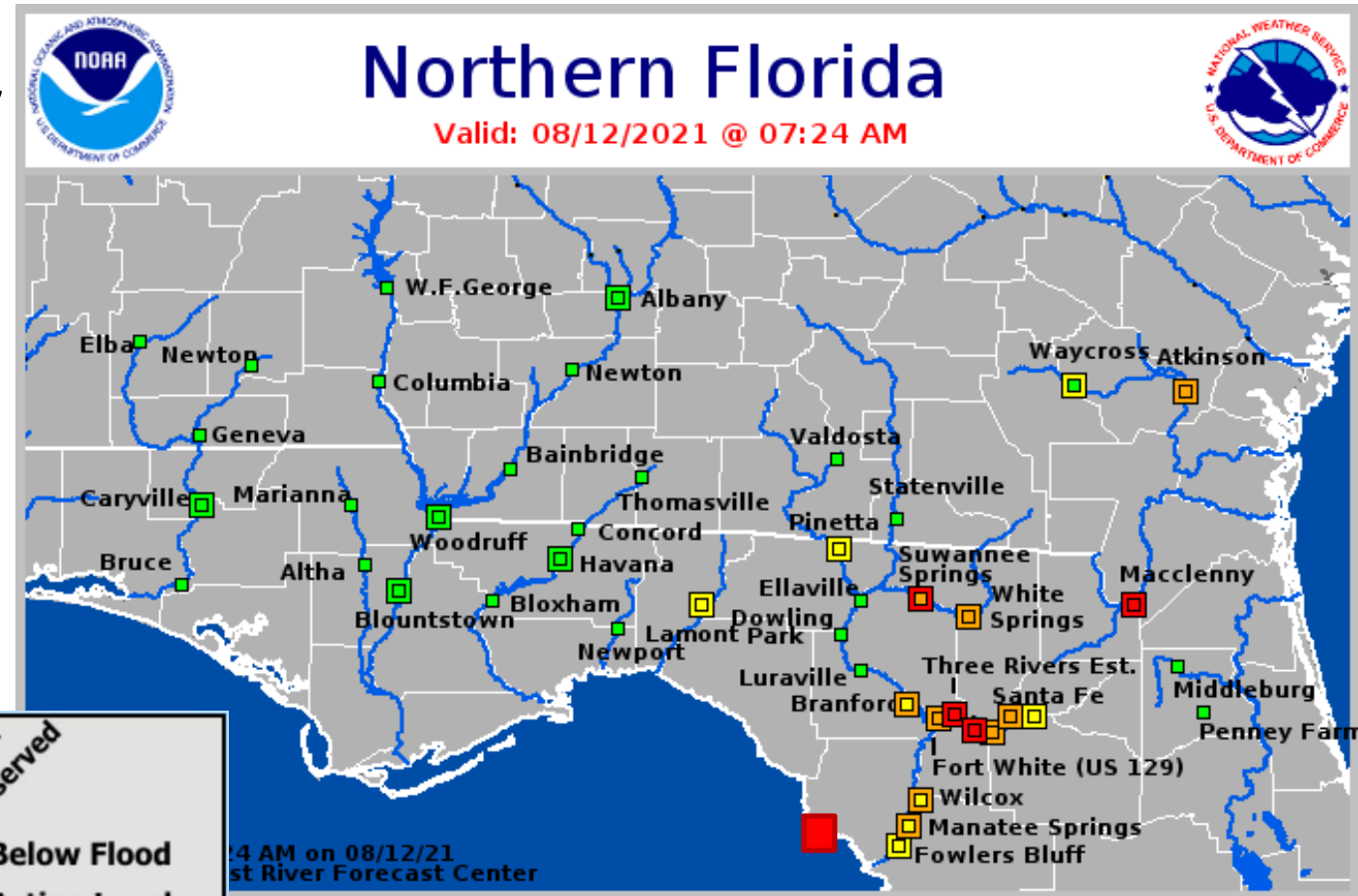
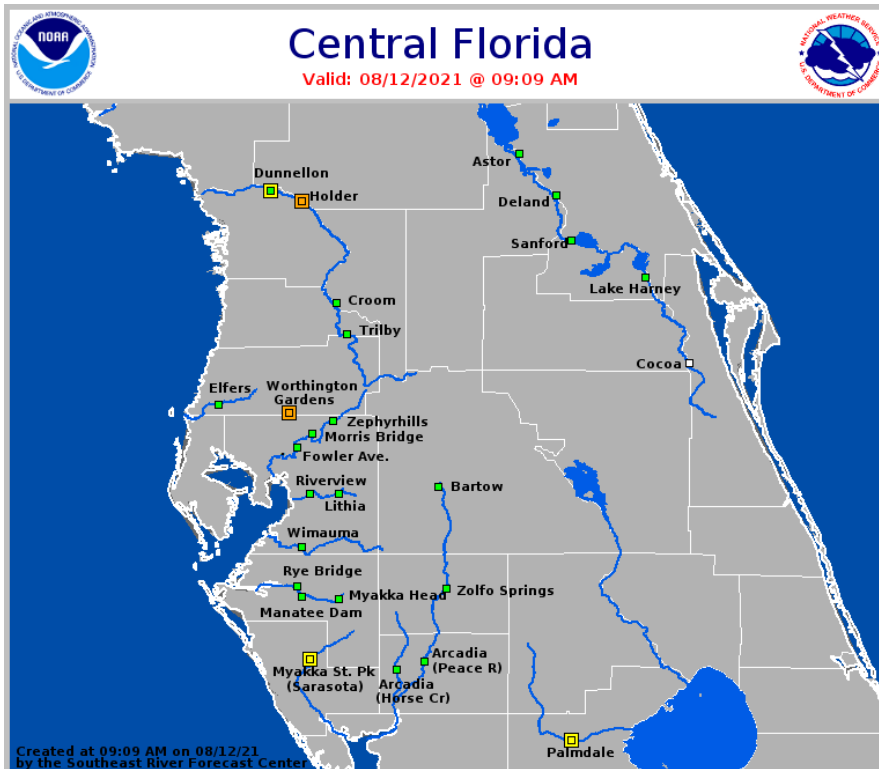
Rain bands will begin to arrive in Southeast Florida later on Friday afternoon and continue into Saturday. Isolated flash flooding will be possible, especially in urban and low-lying areas.



Current & Forecast River Flooding

North Florida – Southeast River Forecast Center

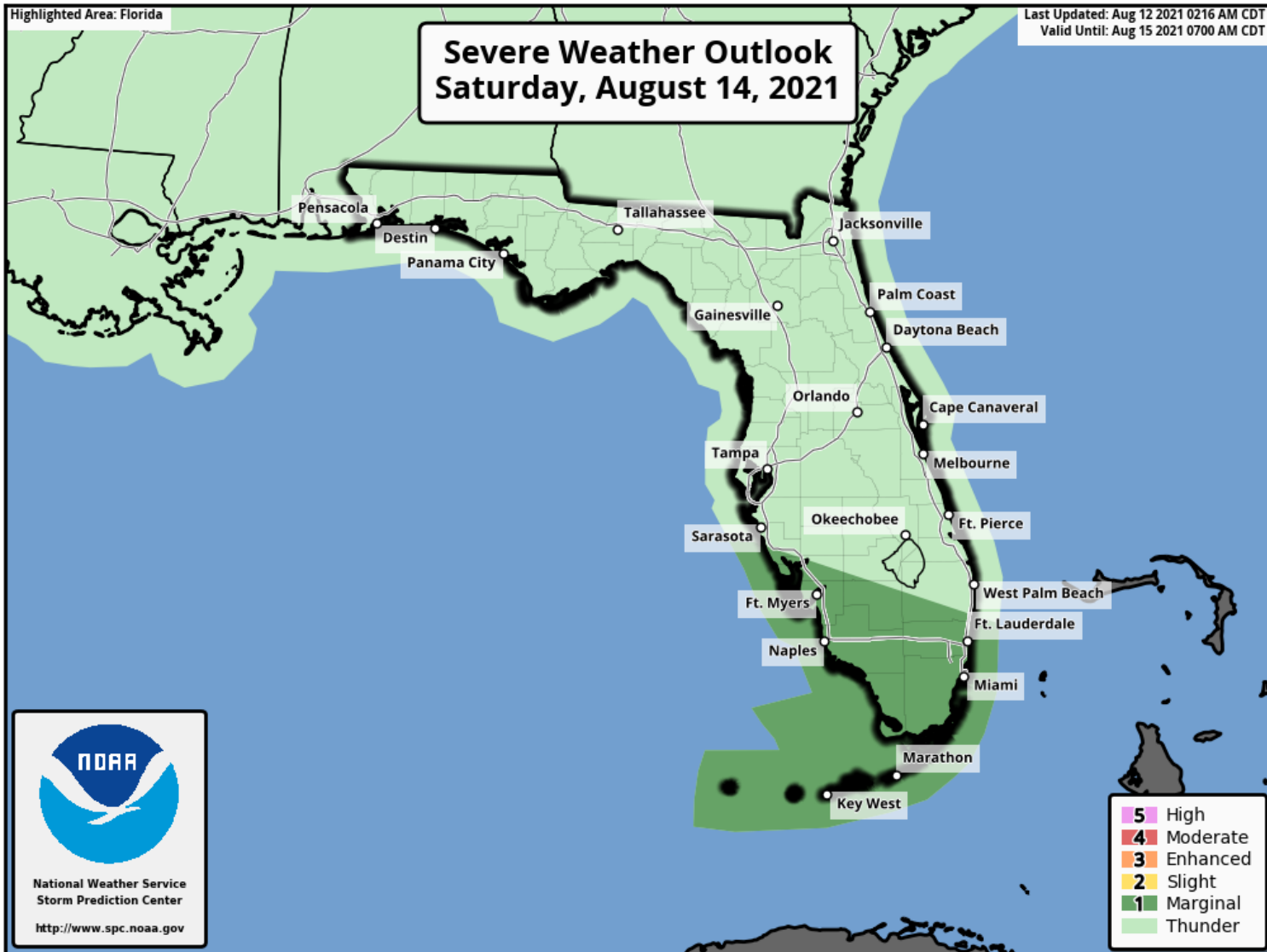
Extensive river flooding will continue across Northeast Florida this week. Heavy rain could fall on rivers already in moderate flood stage which could result in additional, significant flooding.



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



Tornado Risk - Saturday



Isolated tornadoes will be possible in the outer band of Fred as it passes South Florida on Saturday.

The threat will expand northward along the Gulf Coast into Sunday and Monday.



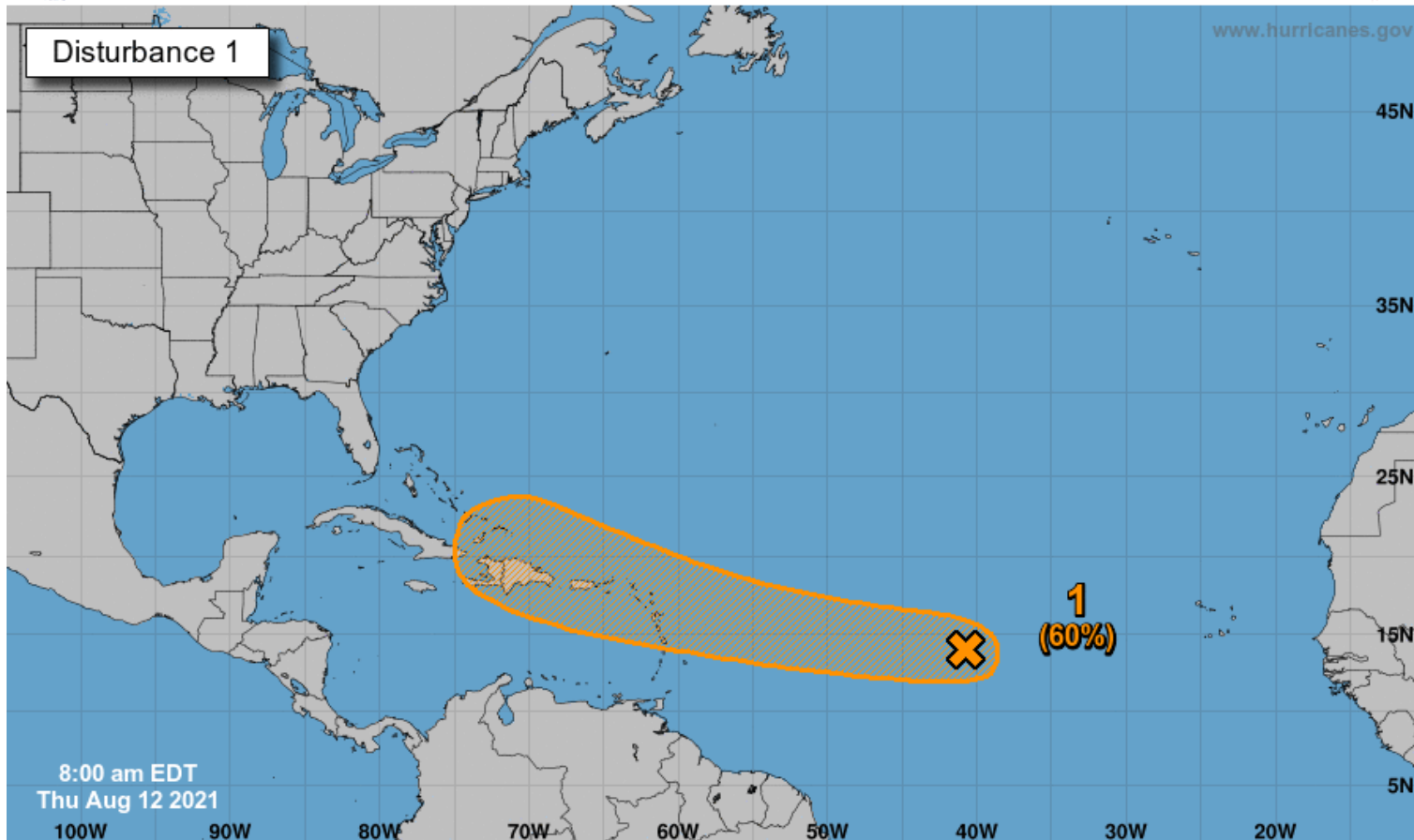
Tropical Weather Outlook

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



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

Showers and thunderstorms remain disorganized in association with a tropical wave located about 1400 miles east of the Lesser Antilles. Environmental conditions are expected to gradually become more conducive for development, and a tropical depression could form by early next week while the system moves generally westward at about 20 mph across the tropical Atlantic. This system is expected to reach portions of the Leeward Islands late Saturday or early Sunday, following in a similar path as Fred. Development chances have increased.

***Formation chance through 48 hours...low...30%**

***Formation chance through 5 days...medium...60%**

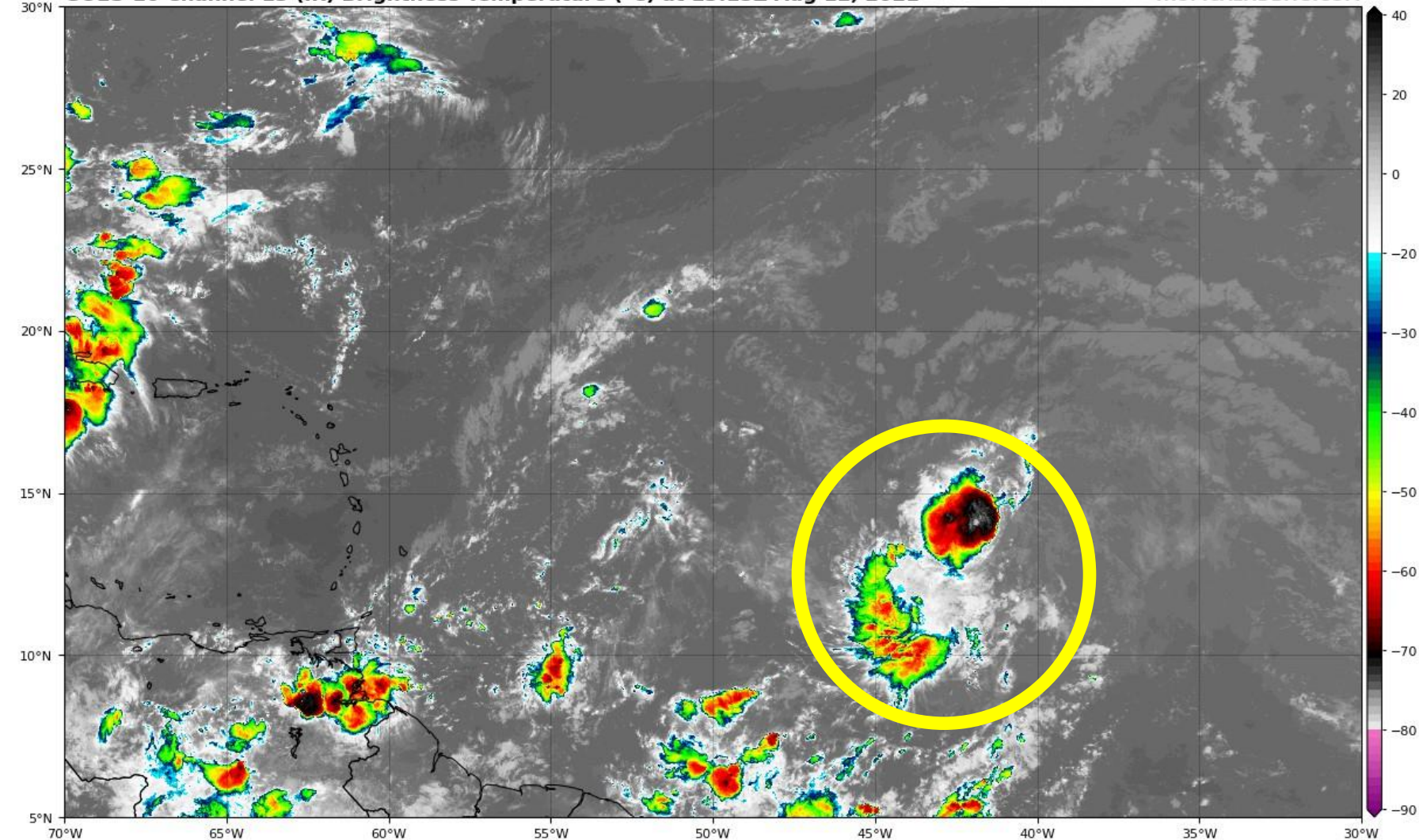


Satellite Imagery

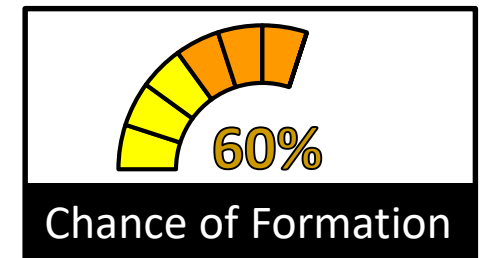
Central Atlantic Wave – 95L

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 13:15Z Aug 12, 2021

TROPICALTIDBITS.COM



Development chances have increased for 95L as it appears that it is becoming better organized with a broad center of low pressure.





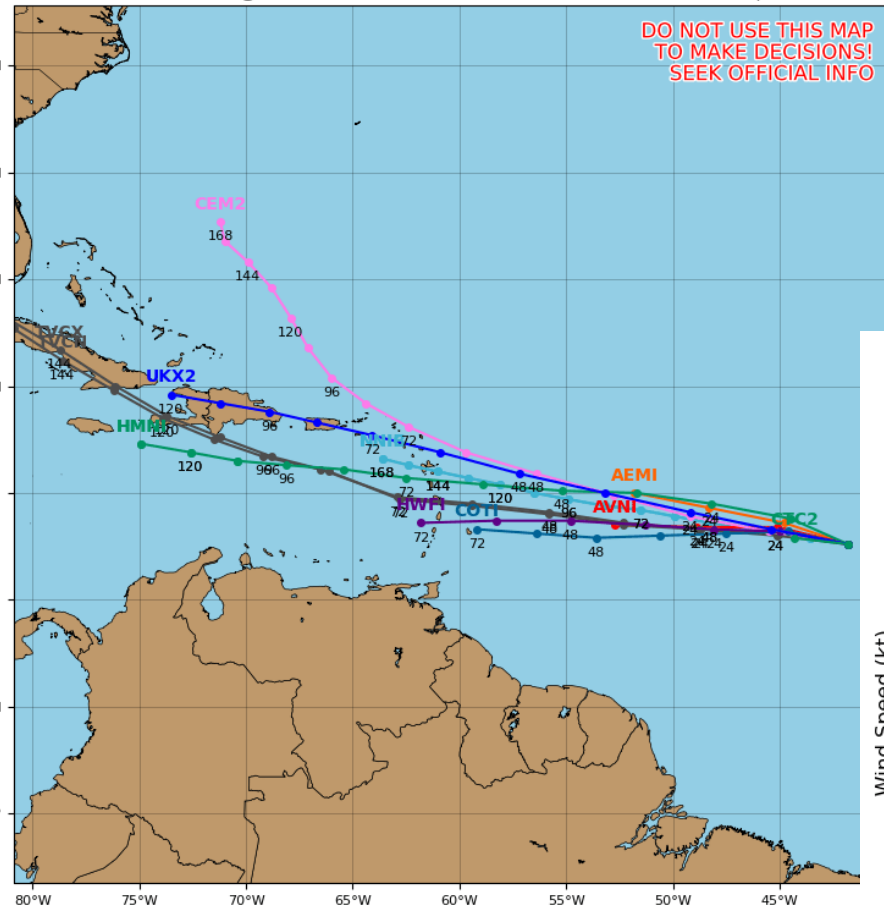
Model Forecasts

Ensembles, Dynamical, and Statistical Models – Invest 95L

Invest 95L Model Track Guidance

Initialized at 12z Aug 12 2021

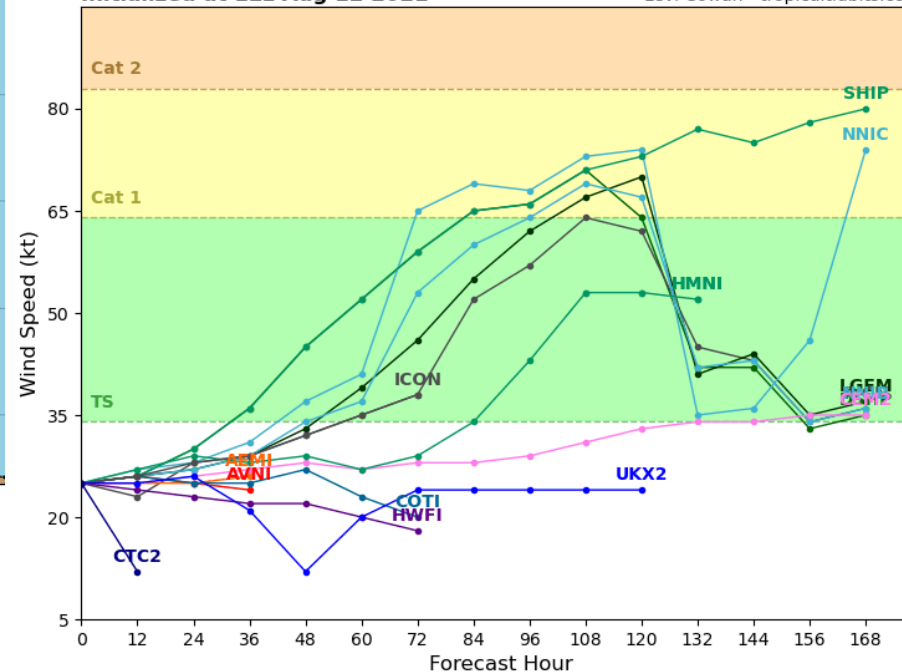
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Invest 95L Model Intensity Guidance

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Computer models are split on track and intensity for 95L, which is common in weak and developing systems. Many keep the system weak and eventually dissipate the system near the Lesser Antilles or Hispaniola while others show a possibility for a stronger storm moving towards the Bahamas and curving northward just east of Florida.



Overall Summary

Tropical Depression Fred:

- The center of Fred is located off the northeastern coast of Cuba, about 515 miles southeast of Miami, Florida.
- Fred currently has maximum sustained winds around 35 mph, but slow strengthening is expected over the next 72 hours.
- Fred is moving west-northwest at 16 mph and this general motion will continue over the next few days. This weekend, a northwest turn is expected over the eastern Gulf of Mexico.
- On the forecast track, Fred is expected to move across the southeastern Bahamas today, move along or just north of Cuba today and Friday, and be near the Florida Keys and South Florida on Saturday.
- A second landfall is expected along the Florida Panhandle or Big Bend coast early Monday morning.

Invest 95L

- A tropical wave located over the eastern tropical Atlantic 1,400 miles east of the Lesser Antilles has a 60% chance of becoming a tropical depression by early next week while moving generally westward across the tropical Atlantic near 20 mph.

Florida Outlook:

- Tropical Depression 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.
- Much of Florida remains within the 5-day forecast cone for where the center of the storm is most likely to travel.
- There are currently no tropical storm watches for Florida, but they are likely to be issued later this morning and this afternoon for portions of South Florida.
- One of the main threats to Florida from Fred is heavy rainfall. A widespread 3-5" of rain with localized totals of 8" are anticipated across the Florida Keys and South Florida (generally south of Lake Okeechobee).
- The heavy rain threat will extend northward along the Nature Coast and Florida Big Bend later in the weekend.
- Widespread minor to moderate river flooding will continue this week in Northeast Florida. Heavy rainfall may continue or worsen flooding.
- Isolated tornadoes are also possible in South Florida and the Keys on Friday and Saturday.
- It is too early to determine storm surge impacts, but is anticipated to be minimal at this time for South Florida. A more minor to moderate threat may exist for portions of Apalachee Bay.

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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Florida Division of Emergency Management

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