



# TROPICAL UPDATE



8:00 AM EDT

Saturday, August 14, 2021

Tropical Depression Fred &  
Tropical Storm Grace

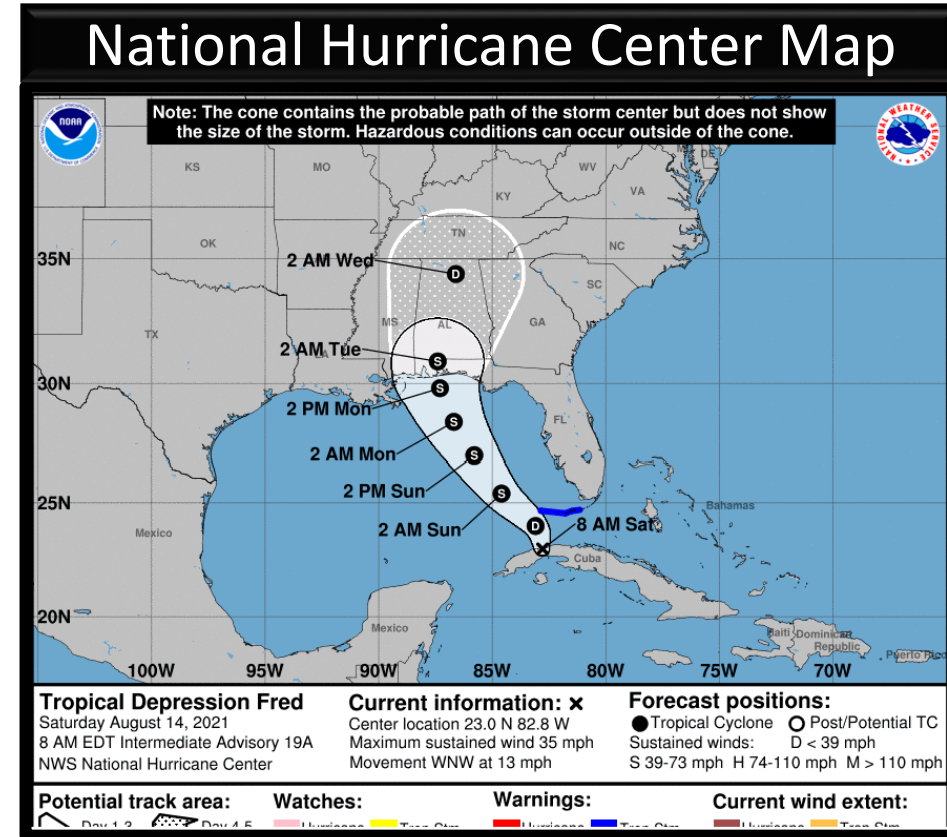
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an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



# Tropical Depression Fred

8 AM ET Saturday: Florida Threats & Changes Since Last Packet

	MINIMAL	LOW	MODERATE	HIGH	EXTREME
WINDS					
STORM SURGE					
FLASH FLOODING					
TORNADOES					
	LOW		MODERATE		HIGH
RIP CURRENTS					



## Overview/Recent Changes:

The track has shifted west overnight.

Fred remains weak and disorganized, but is still expected to strengthen tomorrow as it moves northward over the Gulf of Mexico.

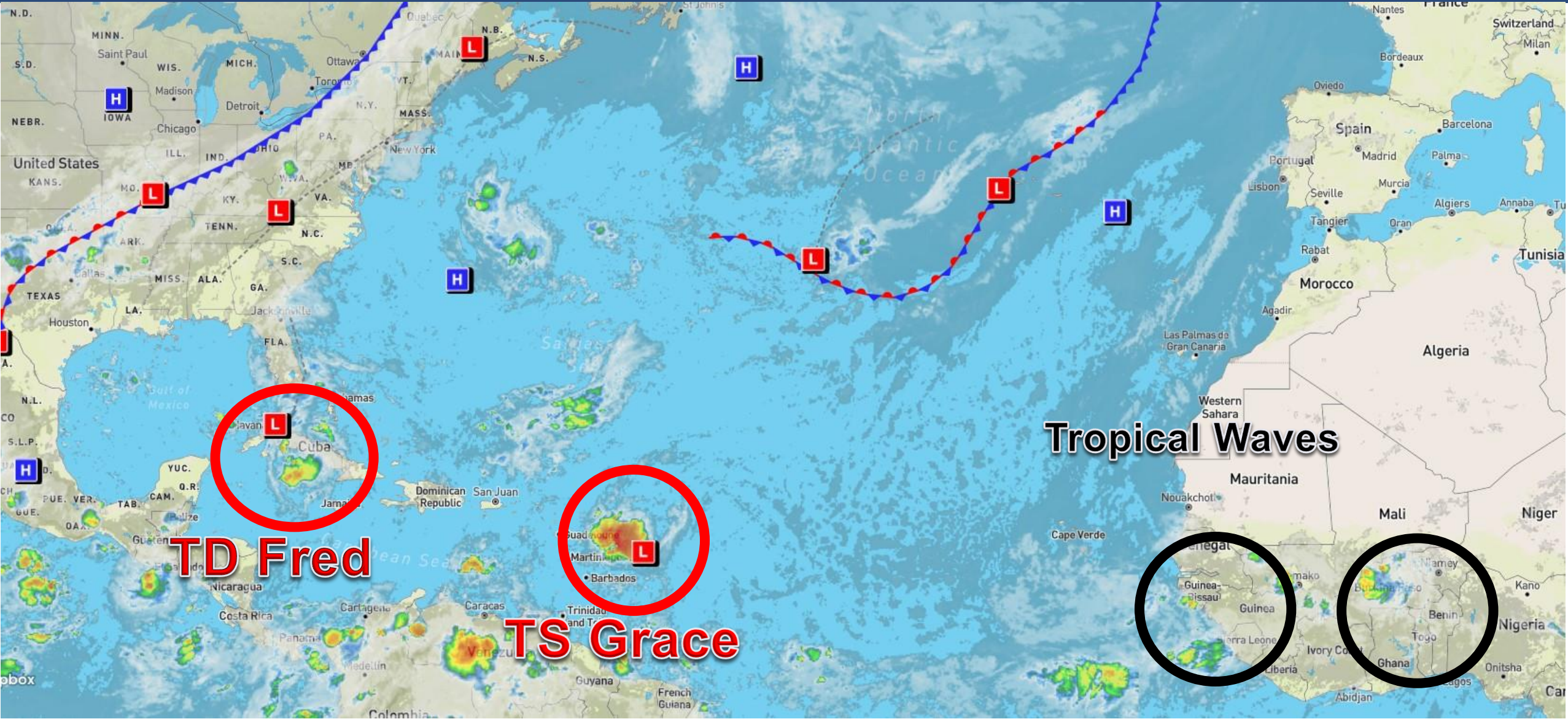
Tropical Storm Watches cancelled for Southwest Florida.





# Atlantic Basin Satellite Image

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





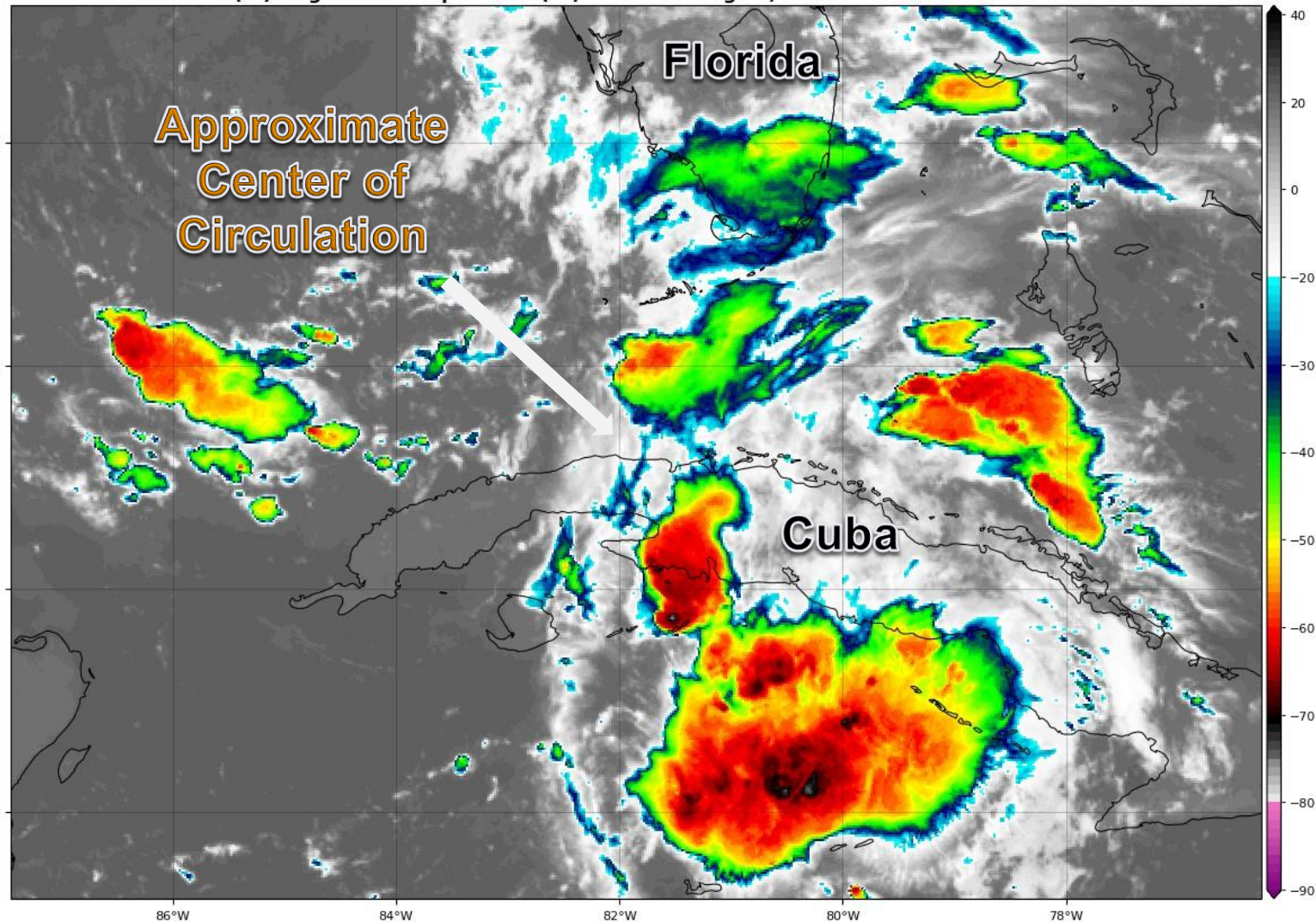


# Satellite Imagery

## Tropical Depression Fred

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 11:12Z Aug 14, 2021

TROPICALTIDBITS.COM

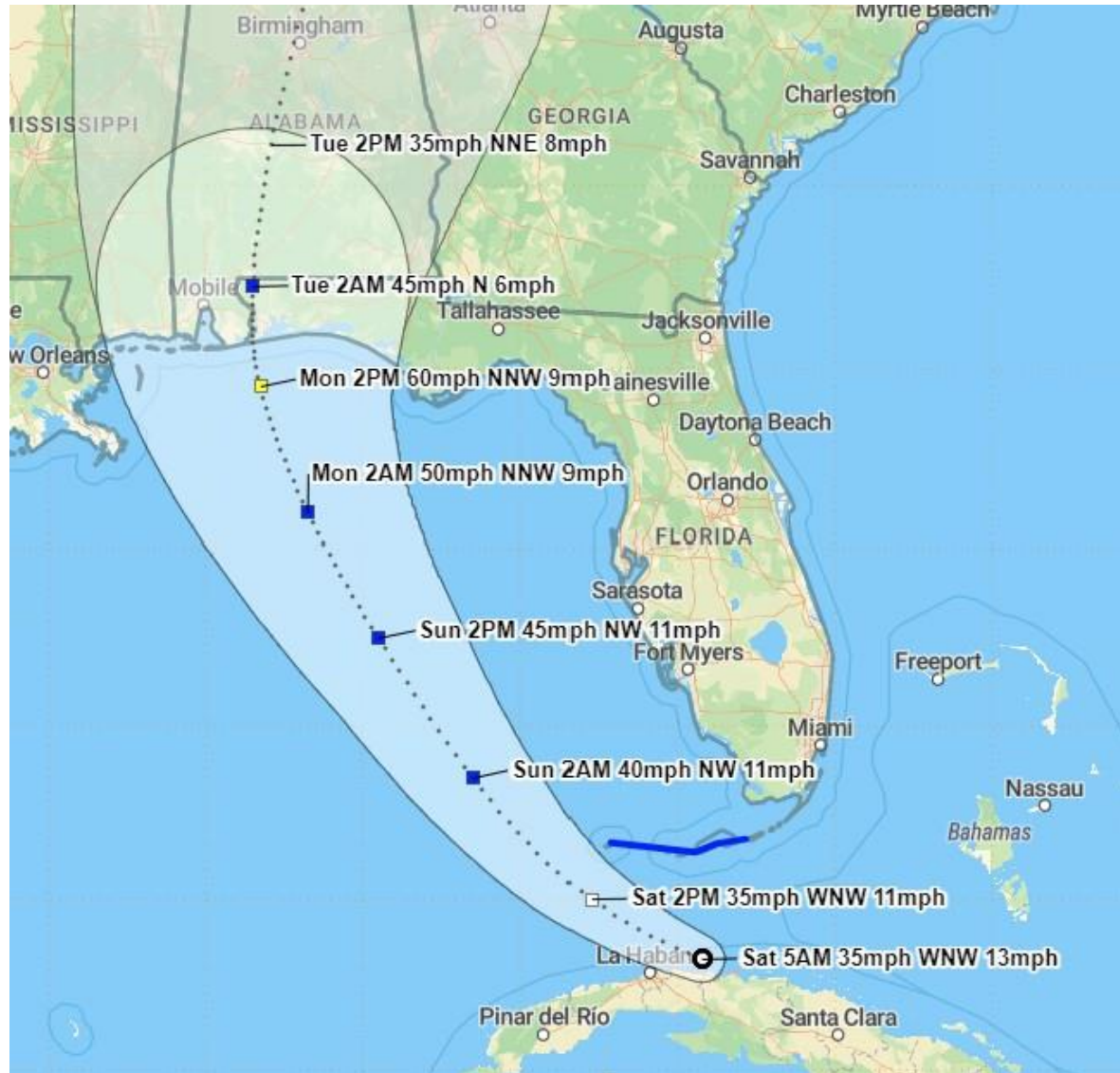


It is difficult to determine the exact center of Fred this morning, as it is likely located near the north side of Cuba, away from where all of the thunderstorms are located. Hurricane Hunters are enroute to investigate and to determine if Fred has a center and if so, where it is.



# Official Forecast Track

From the National Hurricane Center



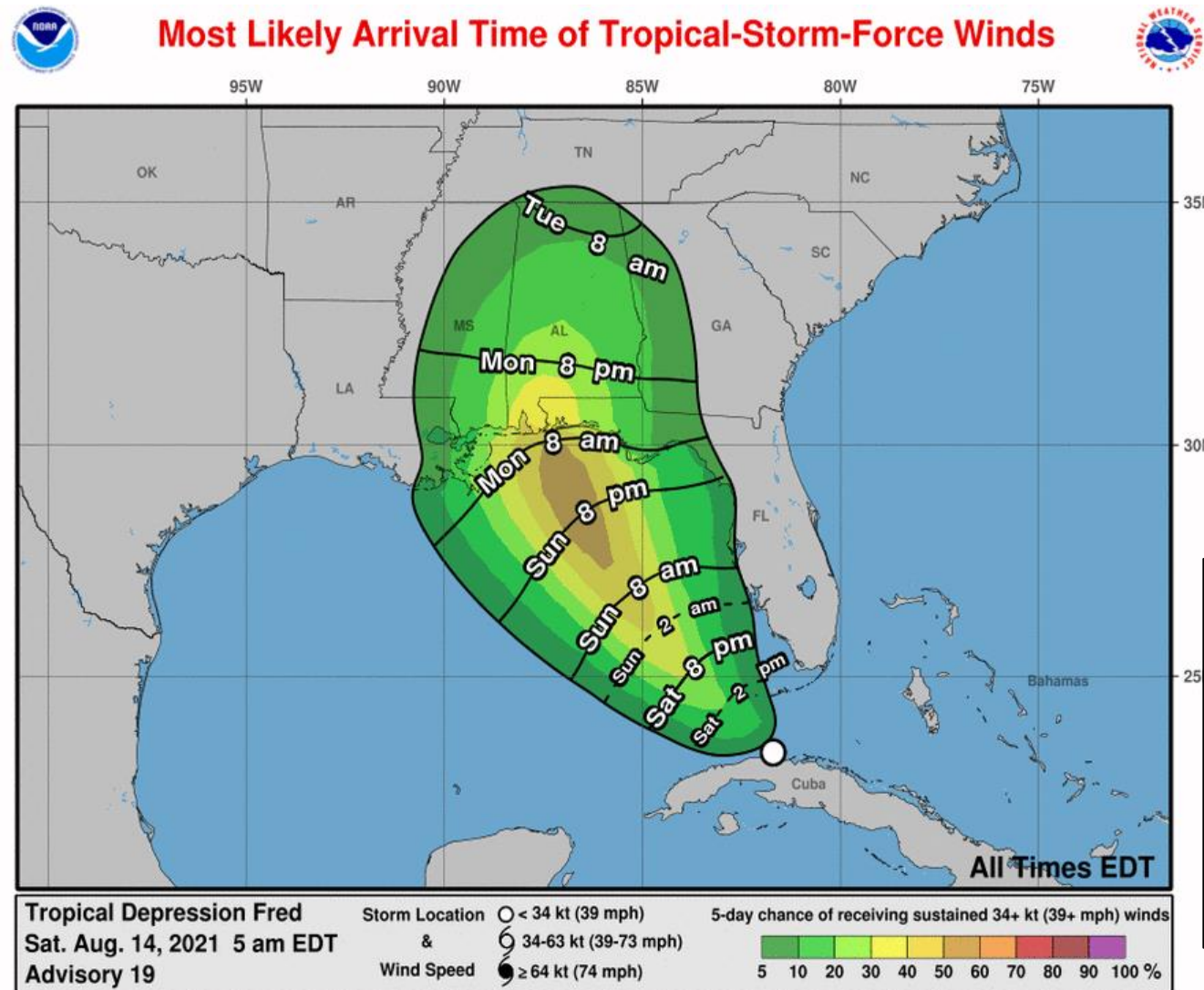
- The “center” of Fred is located along the north coast of Cuba, or about 90 miles south of Key West, Florida.
- Maximum sustained winds remain around 35 mph. Little change in strength is expected today. Starting tonight, slow strengthening is forecast, and Fred could become a tropical storm again on Sunday.
- Fred is moving west-northwest at 13 mph, and a more northwest to northward turn is expected by tomorrow.
- The track has shifted west again overnight quite significantly, which is now expected to keep the worst of the impacts over the Gulf of Mexico and away from the West Coast and eastern Big Bend.
- Fred is forecast to make landfall in the western Florida Panhandle Monday evening.





# 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
Key West	5%	-22%
Naples	4%	-7%
Tampa	6%	-6%
Cedar Key	9%	-7%
Tallahassee	9%	-6%
Apalachicola	26%	-7%
Panama City	34%	+/-0%
Destin	28%	+8
Pensacola	29%	+11%

The chances of tropical storm force winds across the Florida Keys and West Coast have dropped below 10%. However, they have increased in the western Panhandle. There is now almost a 1 in 3 chance of tropical storm force winds for Pensacola. Winds arrive on Sunday night and Monday morning in the Panhandle, but could occur as early as Sunday evening.



# Active Tropical Watches/Warnings



## WATCH

Tropical storm and/or hurricane conditions are POSSIBLE in the "watch area"

Issued up to 48 hours in advance of the onset of tropical storm force winds

## WARNING

Tropical storm and/or hurricane conditions are EXPECTED in the "warning area"

Issued up to 36 hours in advance of the onset of tropical storm force winds

- Additional watches likely to be issued for the Panhandle later today.
- **Tropical Storm Warning** in effect for the Florida Keys from Dry Tortugas to 7-Mile Bridge
  - Counties: Monroe
- Tropical Storm Watches have been cancelled.

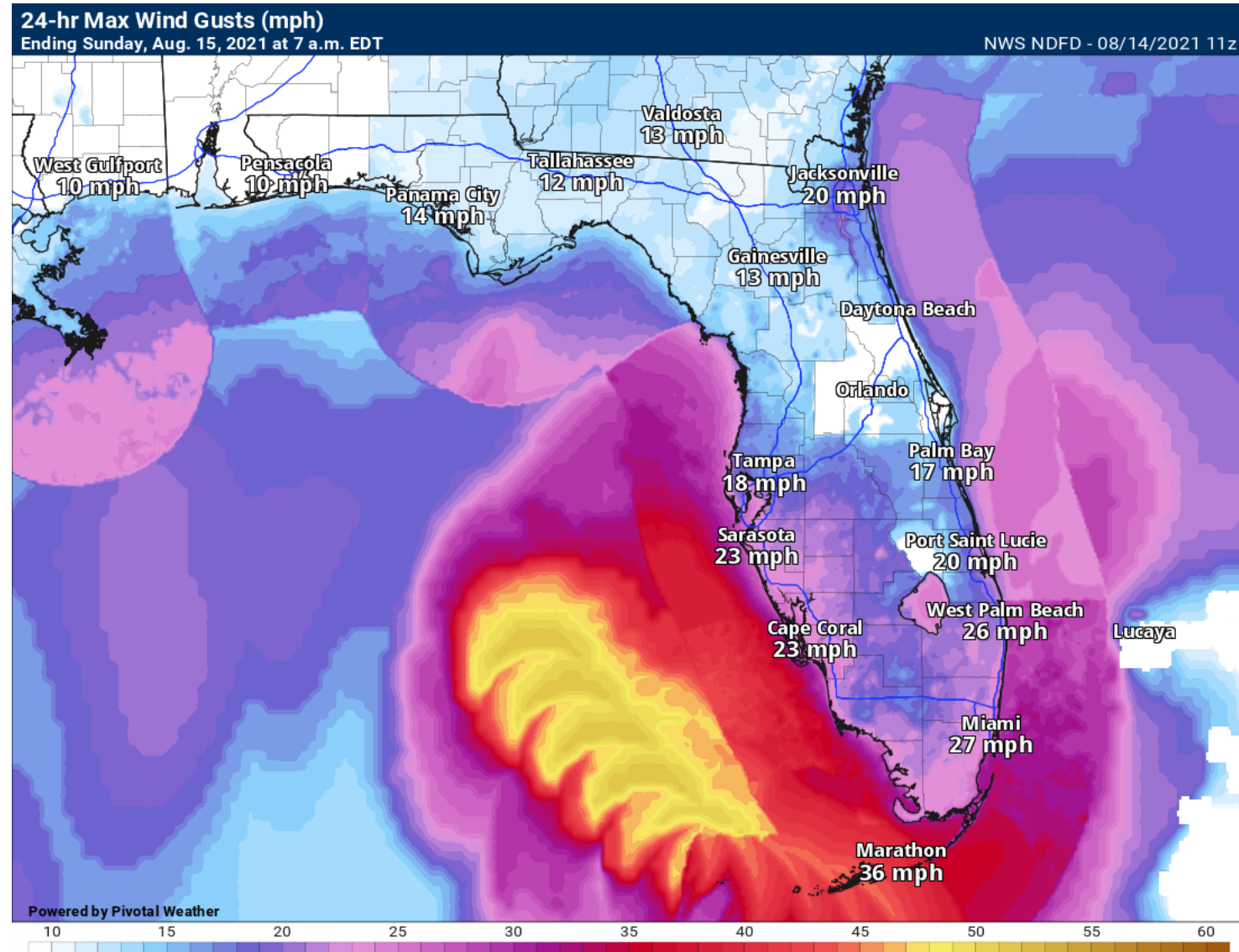


# Maximum Wind Gusts

Next 24 Hours

Wind gusts to 40 mph are possible today across the Keys with lighter winds elsewhere.

However, **higher wind gusts are possible in any thunderstorms today.**



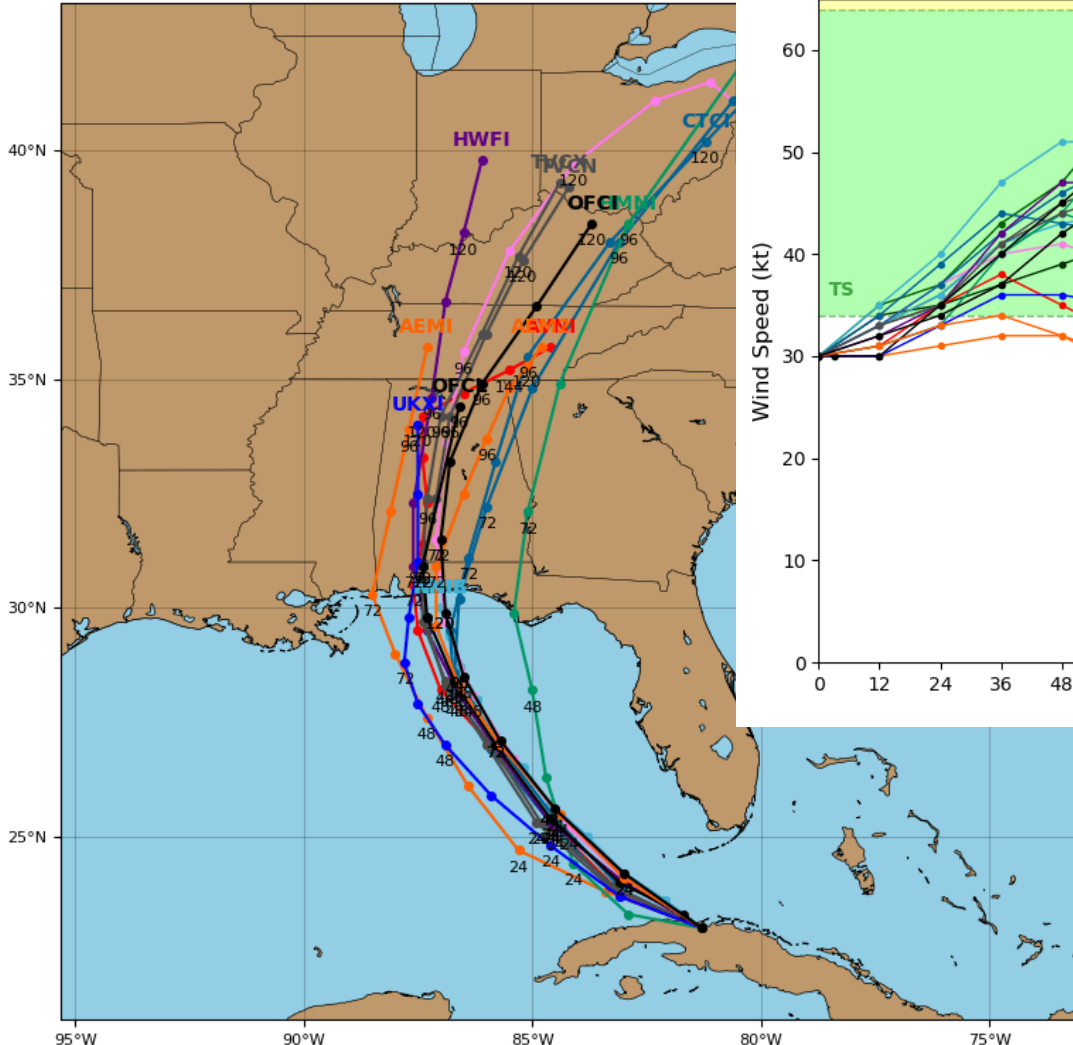




# Model Forecast Tracks & Intensity

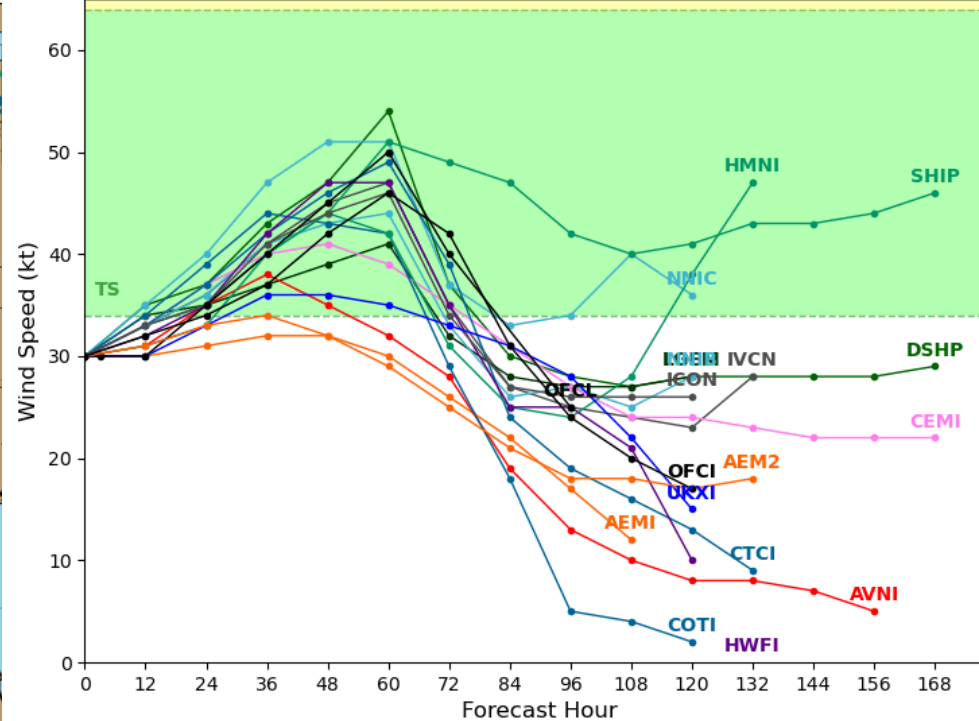
Dynamical and Statistical Models – T.D. Fred

**Tropical Depression 06L Model Track C**  
Initialized at 06z Aug 14 2021



**Tropical Depression 06L Model Intensity Guidance**  
Initialized at 06z Aug 14 2021

Levi Cowan - tropicaltidbits.com



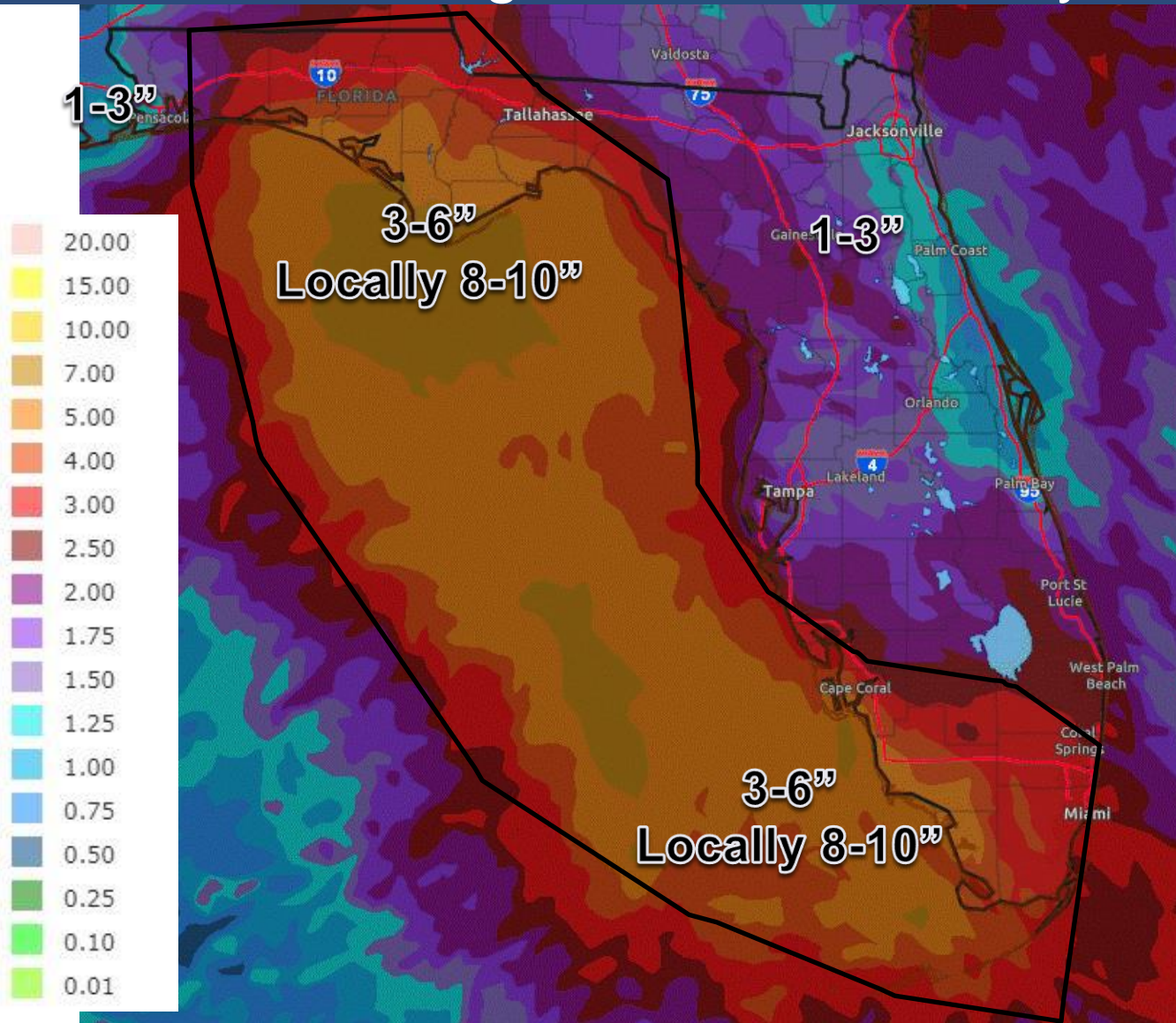
Due to Fred's westward motion again overnight, computer models have shifted westward, with a potential track now well west of the Peninsula with landfall in the central or western Florida Panhandle.

Given the increased land interaction with Cuba, Fred is likely to remain weak but intensify into a tropical storm during the 48 hours it moves northward over the Gulf.



# Rainfall Totals Next 5 Days

Ending 8 AM ET Thursday



The main threat to Florida from Fred will be heavy rainfall. The shift in the track west has shifted most of the heavy rainfall over the Gulf of Mexico, but regions of Southwest Florida are still expected to receive 3-6" of rain this weekend.

The heavy rain threat will then move into the Panhandle and Big Bend on Sunday and Monday.

Isolated totals in the Panhandle could be as high as 10".

Given saturated soil conditions, these amounts may lead to flash flooding, riverine flooding, and any gusty winds may allow for shallow-rooted or weak trees to fall.

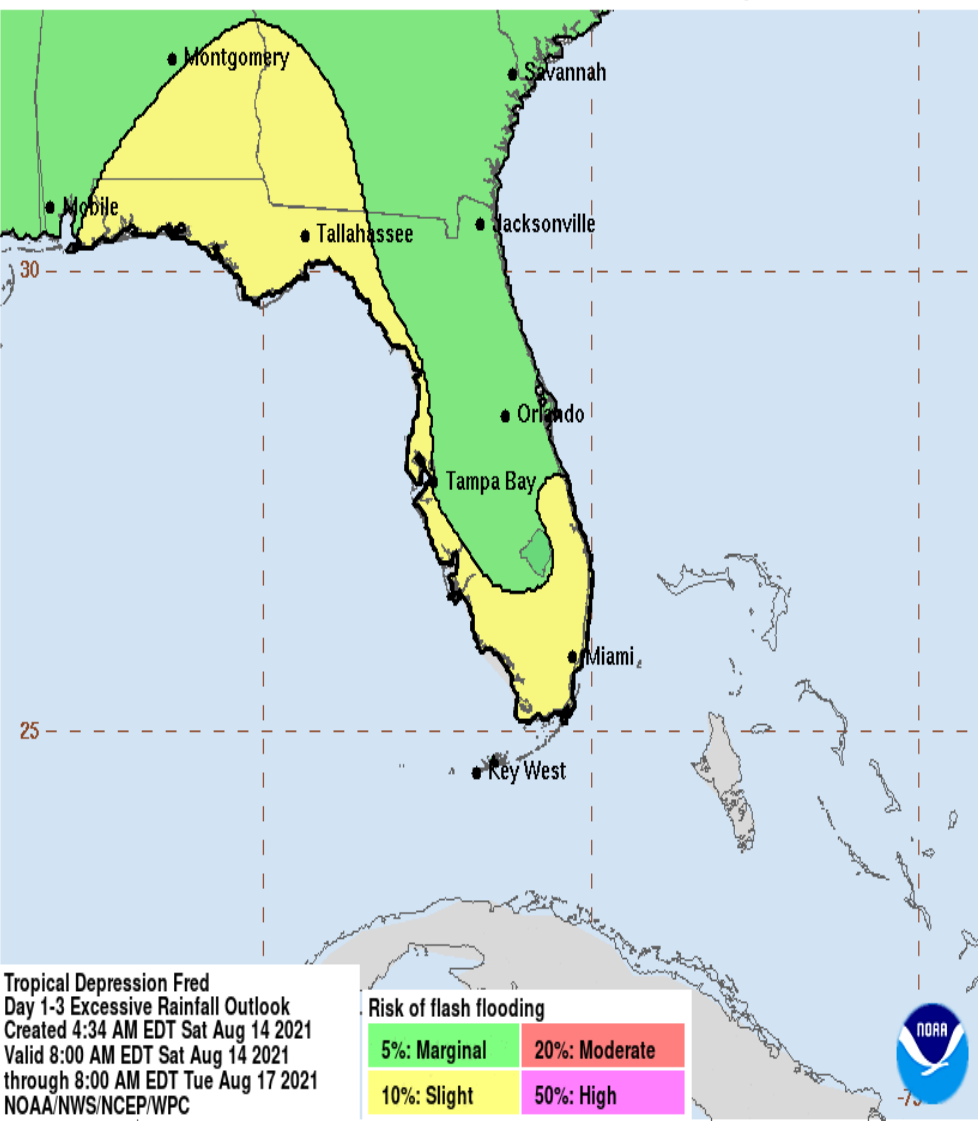




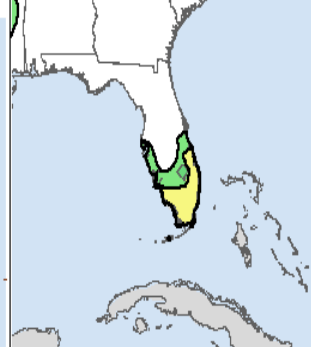
# Flash Flood Outlook for Friday-Saturday

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

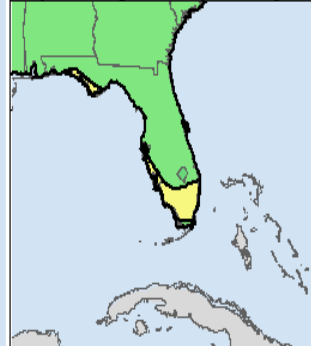
Greatest Flash Flood Risk Over the Next 3 Days



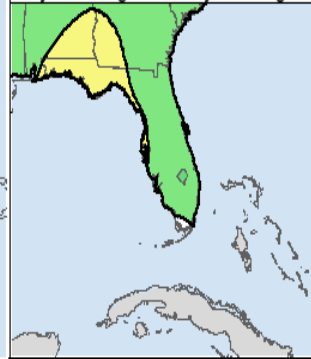
Day 1 Through Sunday morning








Day 2 Through Monday morning



Day 3 Through Tuesday morning



## Understanding WPC Excessive Rainfall Risk Categories

No Area/Label	MARGINAL (MRGL)	SLIGHT (SLGT)	MODERATE (MDT)	HIGH (HIGH)
Flash floods are generally not expected.	Isolated flash floods possible	Scattered flash floods possible	Numerous flash floods likely	Widespread flash floods expected
<a href="http://www.wpc.ncep.noaa.gov">www.wpc.ncep.noaa.gov</a> @NWSWPC	Localized and primarily affecting places that can experience rapid runoff with heavy rainfall.	Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible.	Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers.	Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.
Flash flooding near me?	Flash Flooding			
	NO Flash Flooding			
 WEATHER PREDICTION CENTER				

Rain bands will continue in South Florida today. Isolated flash flooding will be possible, especially in urban and low-lying areas. Flash flood risk will be the greatest on Sunday in South Florida and greatest in Northwest Florida on Monday.

Tropical Depression Fred  
Day 1-3 Excessive Rainfall Outlook  
Created 4:34 AM EDT Sat Aug 14 2021  
Valid 8:00 AM EDT Sat Aug 14 2021  
through 8:00 AM EDT Tue Aug 17 2021  
NOAA/NWS/NCEP/WPC

Risk of flash flooding

5%: Marginal	20%: Moderate
10%: Slight	50%: High



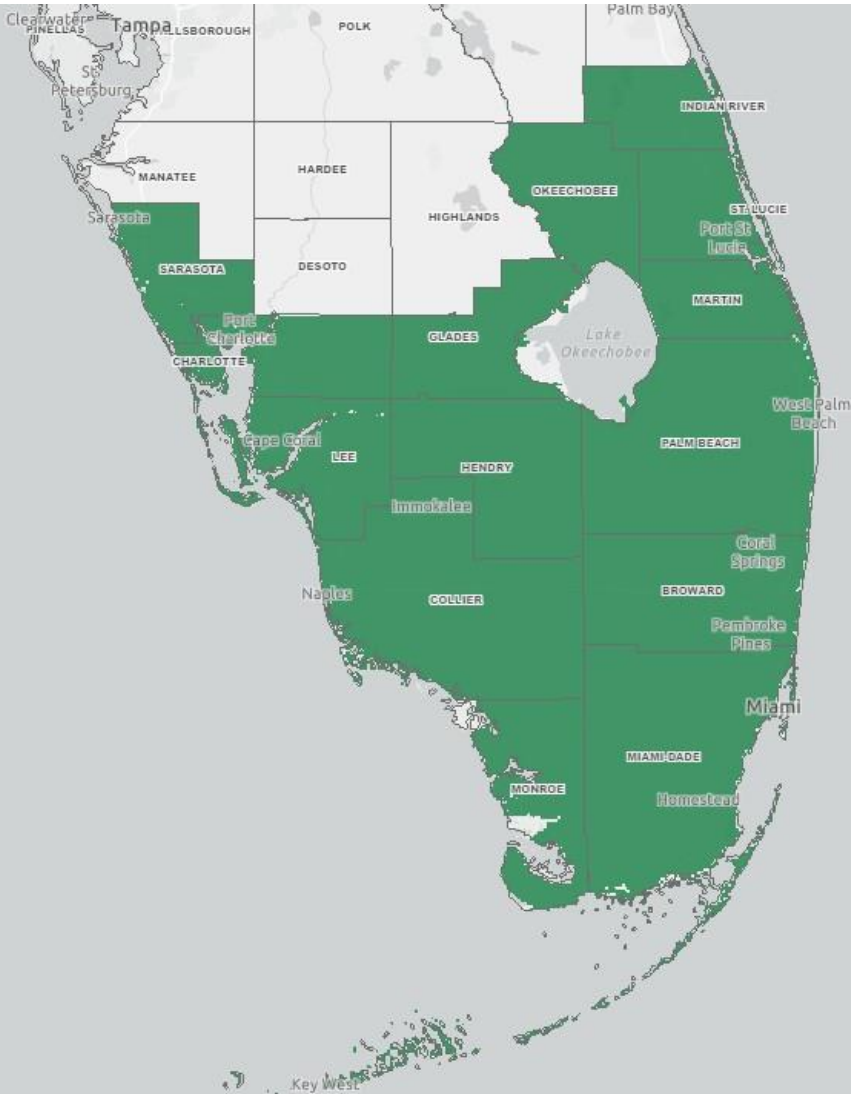


# Active Flood Watches - NWS

- Areal Flood Watch until 8 PM Sunday

Counties:

Indian River, St. Lucie, Okeechobee, Martin, Palm Beach, Broward, Miami-Dade, Monroe, Collier, Hendry, Glades, Charlotte, Lee, Sarasota



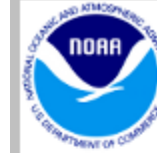
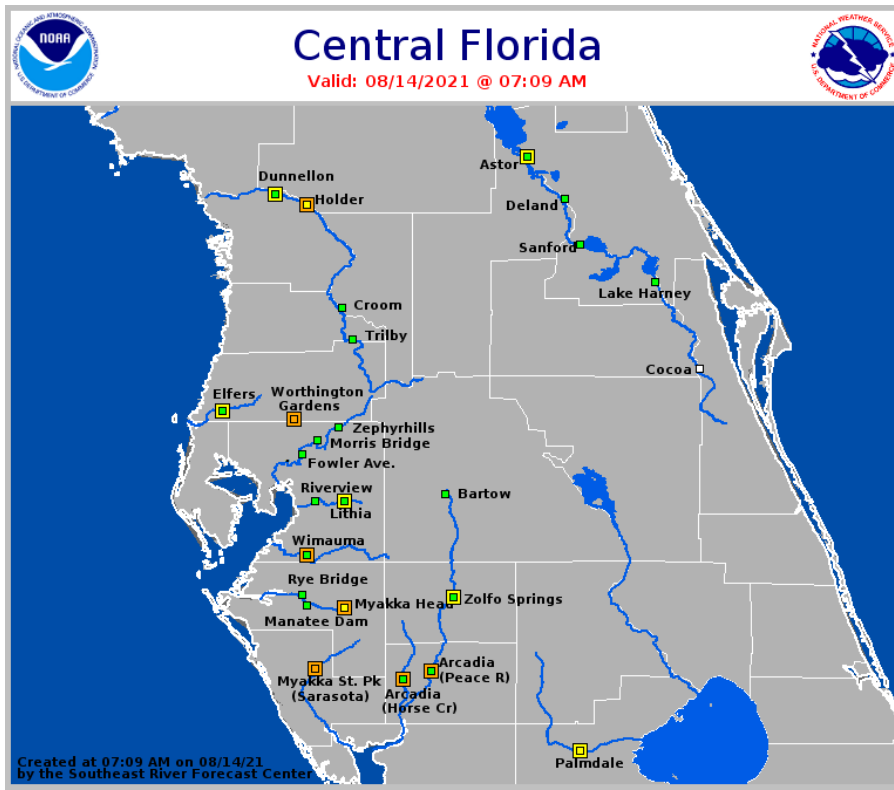




# Current & Forecast River Flooding

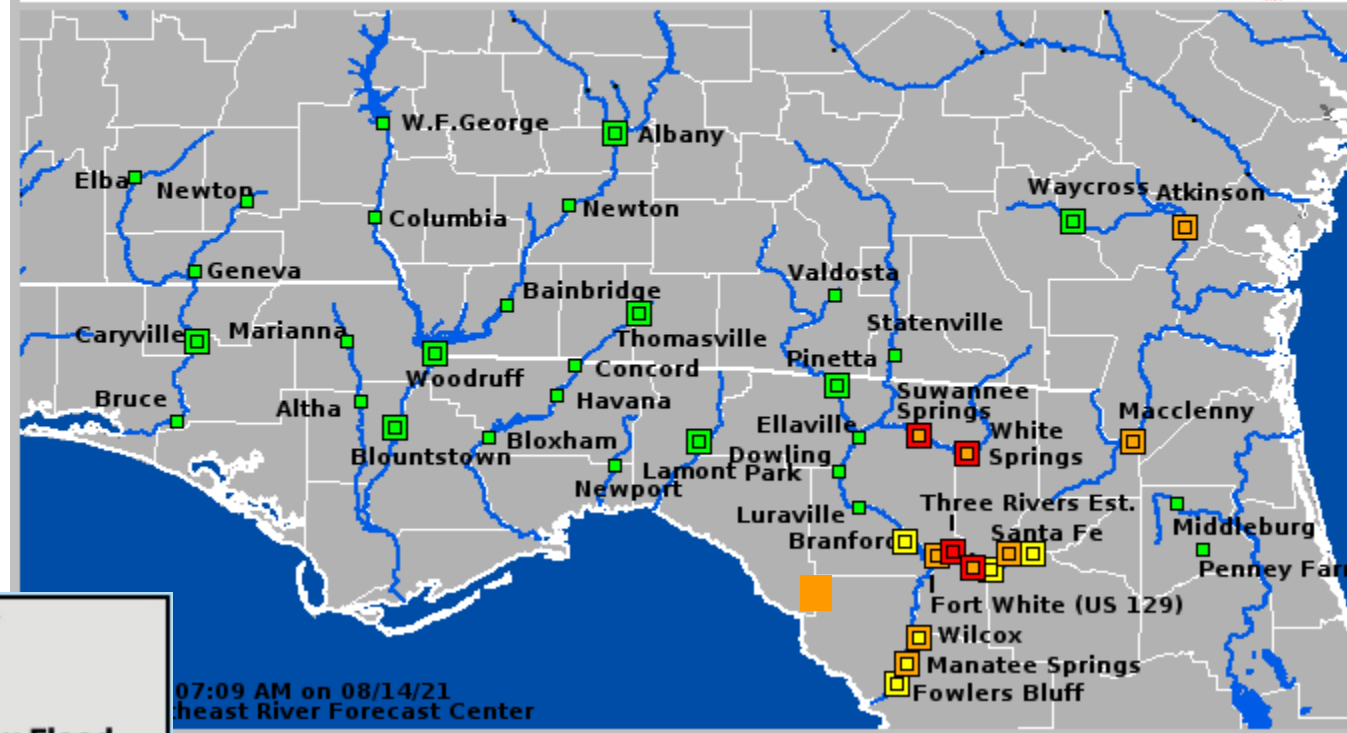
## Southeast River Forecast Center

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. Minor flooding is expected in Southwest Florida with the forecasted rain amounts. Minor flooding is also possible in the Panhandle.



## Northern Florida

Valid: 08/14/2021 @ 07:09 AM

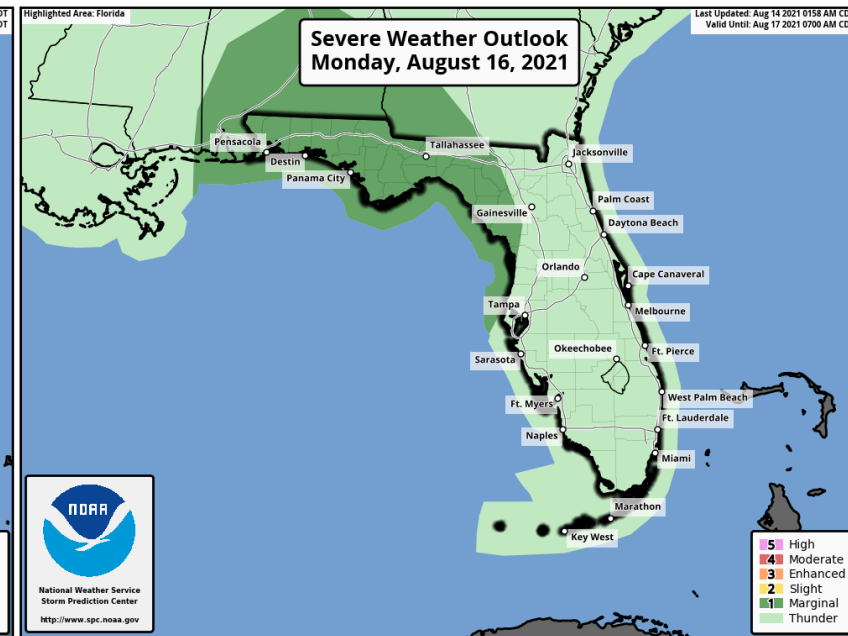
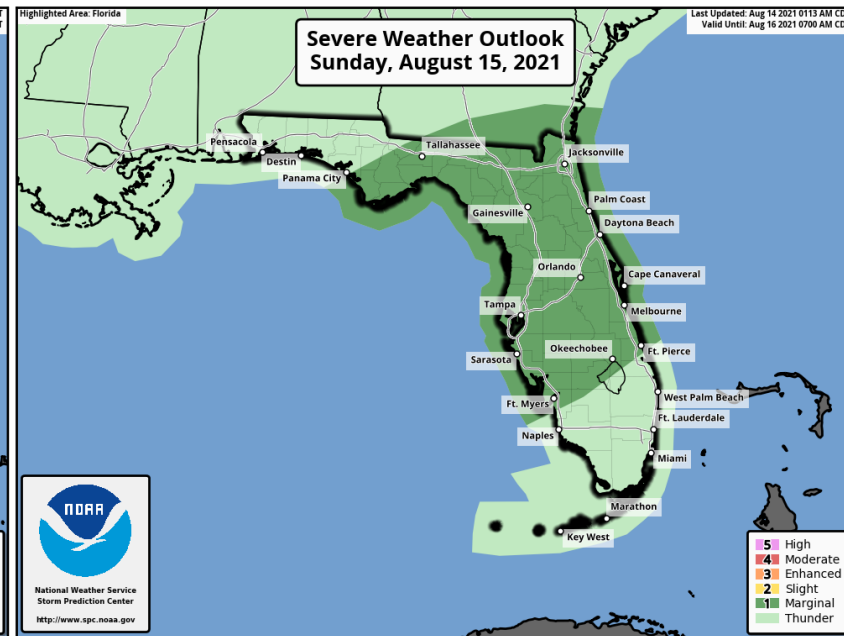
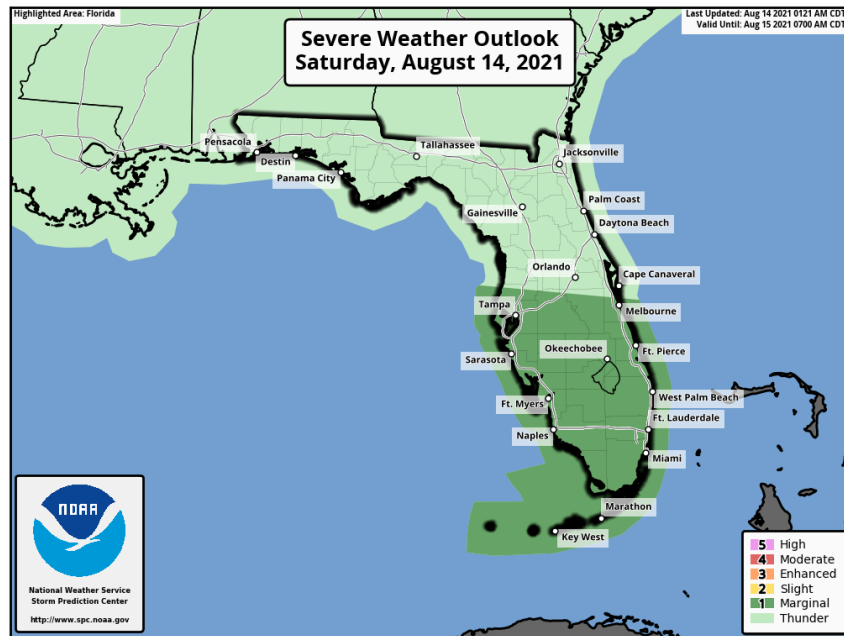


More details on river levels available at the [Southeast River Forecast Center website](https://www.southeastriverforecastcenter.com/).



# Severe Weather Outlooks

## From the Storm Prediction Center



Isolated tornadoes will be possible in the outer bands of Fred in South Florida today. The threat will expand northward into North and Central Florida Sunday, and into the Panhandle on Monday.

## Understanding Severe Thunderstorm Risk Categories

THUNDERSTORMS (no label)	1 - MARGINAL (MRGL)	2 - SLIGHT (SLGT)	3 - ENHANCED (ENH)	4 - MODERATE (MDT)	5 - HIGH (HIGH)
No severe* thunderstorms expected	Isolated severe thunderstorms possible	Scattered severe storms possible	Numerous severe storms possible	Widespread severe storms likely	Widespread severe storms expected
Lightning/flooding threats exist with <u>all</u> thunderstorms	Limited in duration and/or coverage and/or intensity	Short-lived and/or not widespread, isolated intense storms possible	More persistent and/or widespread, a few intense	Long-lived, widespread and intense	Long-lived, very widespread and particularly intense





# Storm Surge Threat Overview

## Tropical Depression Fred

Storm surge impacts are expected to be low, with values less than 3' as this time.

Building swells and beach erosion in the Panhandle will still be possible tomorrow and Monday.

[https://www.weather.gov/srh/tropical?  
office=mfl](https://www.weather.gov/srh/tropical?office=mfl)

Click on "Threats and Impacts" Tab



[\[Download KML\]](#)

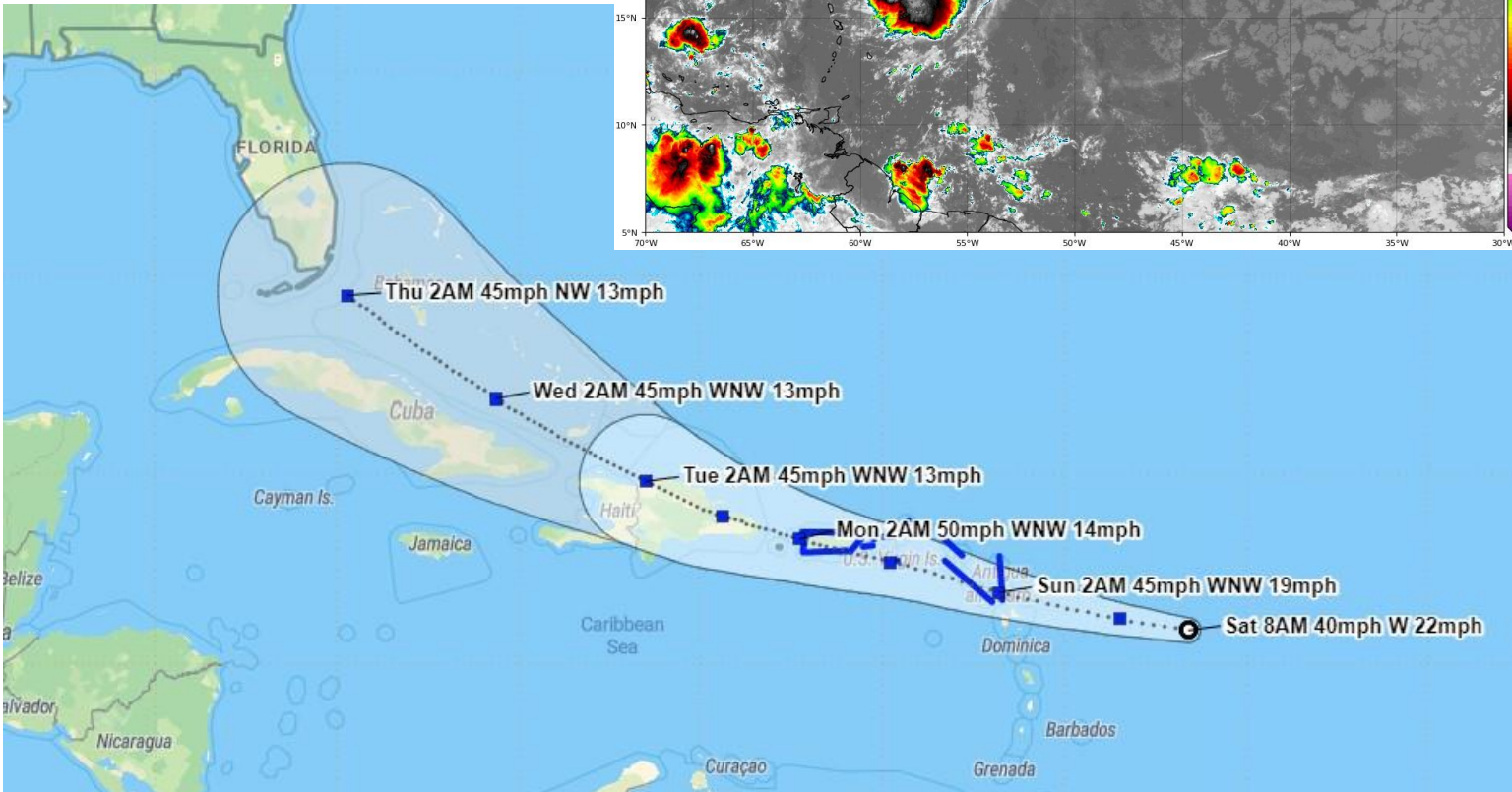
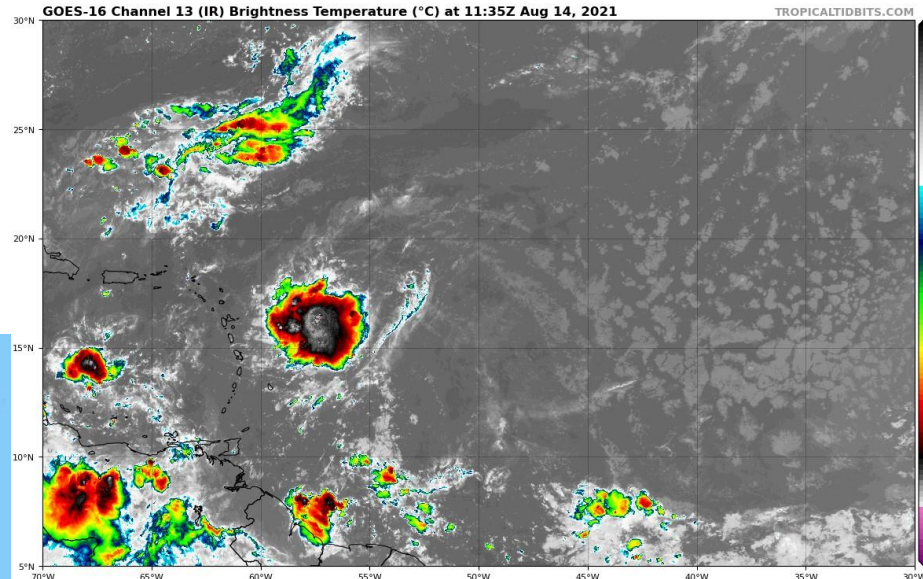
[\[Download Image\]](#)

Storm Surge Threat
Potential for storm surge flooding greater than 9 ft above ground
Potential for storm surge flooding greater than 6 ft above ground
Potential for storm surge flooding greater than 3 ft above ground
Potential for storm surge flooding greater than 1 ft above ground
Little to no storm surge flooding



# Official Forecast Track

From the National Hurricane Center



- Tropical Depression Seven strengthened overnight into Tropical Storm Grace.
- The center of Grace is located about 355 miles east of the Leeward Islands, or about 1,650 miles southeast of Miami, Florida.
- Maximum sustained winds are around 40 mph. Some strengthening is forecast as it approaches Puerto Rico and Hispaniola.
- Tropical Storm Grace is moving toward the west at 22 mph. A motion toward the west or west-northwest with a gradual decrease in forward speed is expected during the next few days.
- On the forecast track, the center of the depression is forecast to move over the Leeward Islands Saturday night, over the Virgin Islands and Puerto Rico on Sunday, and then over the Dominican Republic on Monday.
- Grace could approach South Florida Wednesday night or Thursday.
- Land Interaction makes the forecast uncertain!





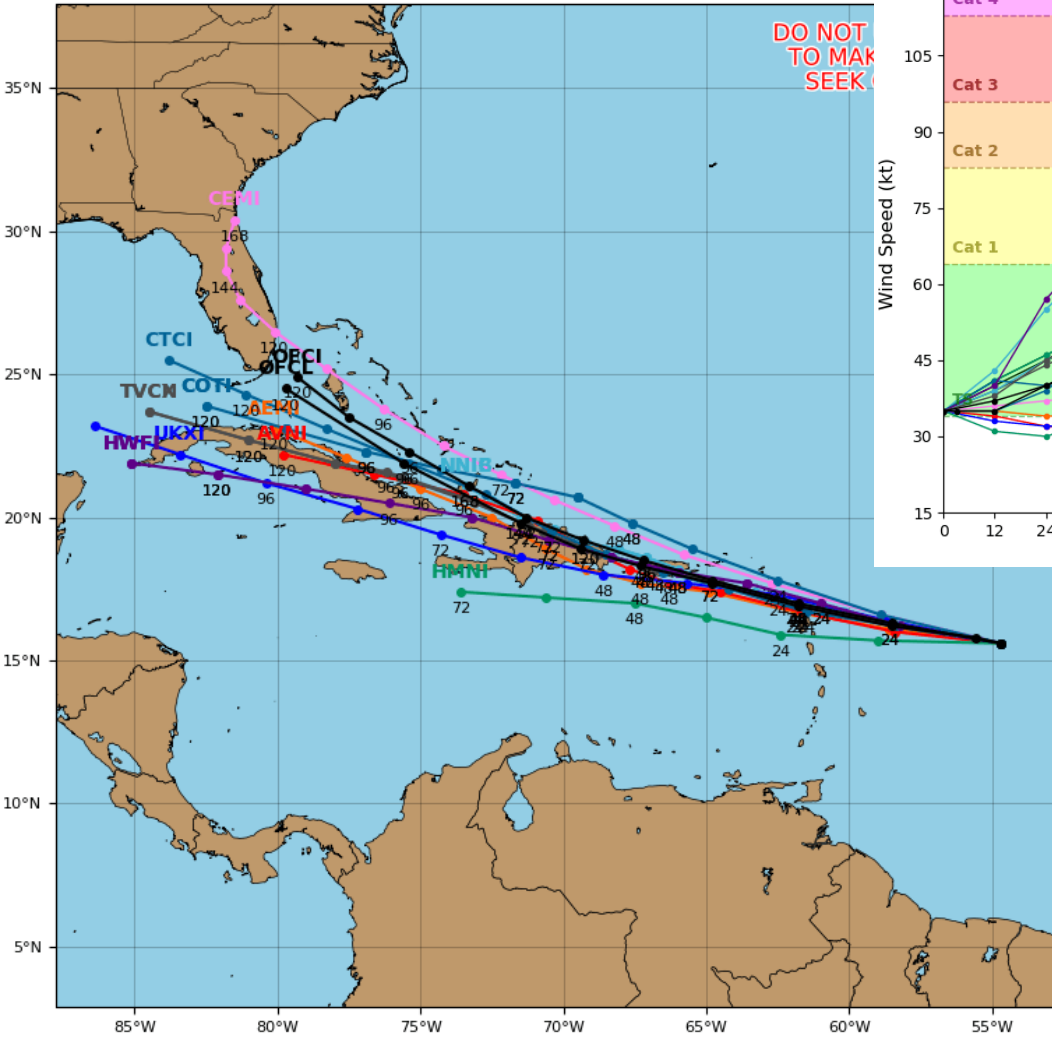
# Model Forecasts

## Ensembles, Dynamical, and Statistical Models – Grace

### Tropical Storm SEVEN Model Track Guidance

Initialized at 06z Aug 14 2021

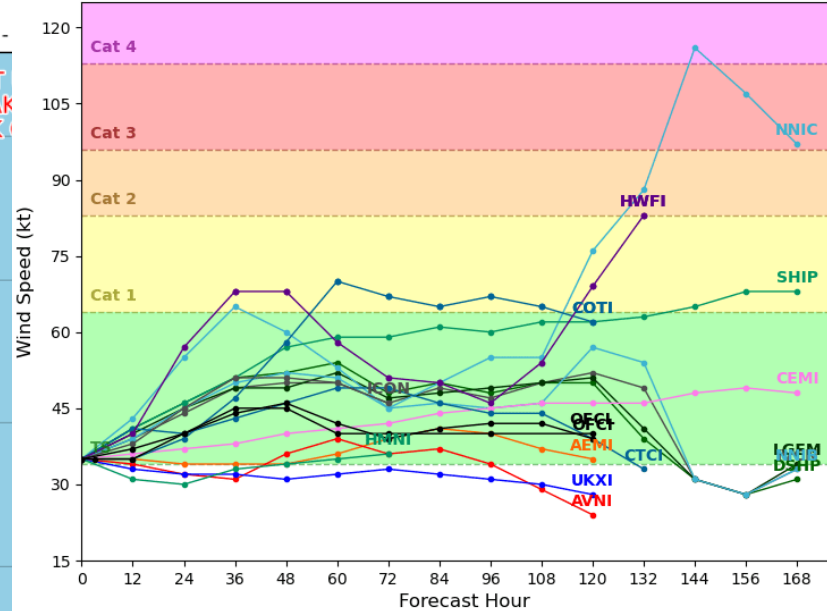
Levi Cowan -



### Tropical Storm SEVEN Model Intensity Guidance

Initialized at 06z Aug 14 2021

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With Grace forecast to move near the mountainous Greater Antilles, it once again makes the intensity forecast uncertain. In general, land interaction will keep the system weak, but if it avoids land interaction a stronger storm is possible.

Grace will be near the Bahamas or Cuba in 5 days.



# Key Messages

## From the National Hurricane Center

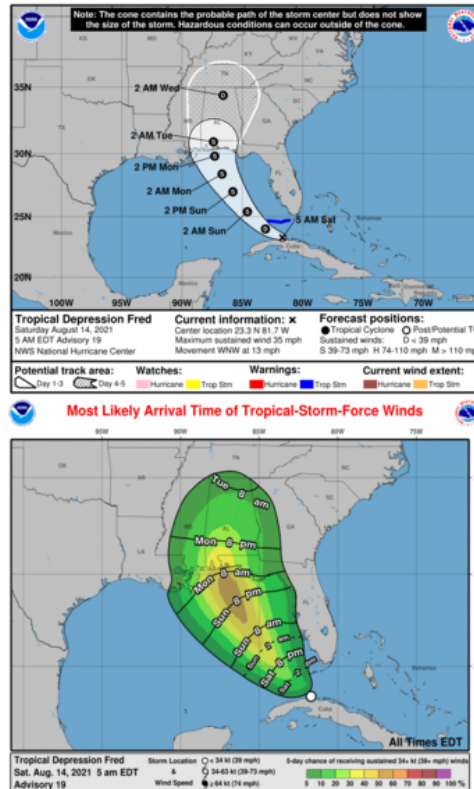


### Key Messages for Tropical Depression Fred Advisory 19: 5:00 AM EDT Sat Aug 14, 2021

1. Today through Monday, heavy rainfall could lead to areal, urban, and small stream flooding impacts, and cause new and renewed river flooding, across southern Florida, the Big Bend, and Panhandle. From Monday onward, heavy rain and flood impacts could extend into other portions of the Southeast and into the southern and central Appalachians and Piedmont as Fred interacts with a front in the area.

2. Tropical storm conditions are expected in portions of the Lower Florida Keys later today, where a Tropical Storm Warning is in effect.

3. There is a risk of tropical storm conditions in the Florida Panhandle and coastal Alabama beginning on Monday. Watches may be required for a portion of this area later today.



For more information go to [hurricanes.gov](https://hurricanes.gov)

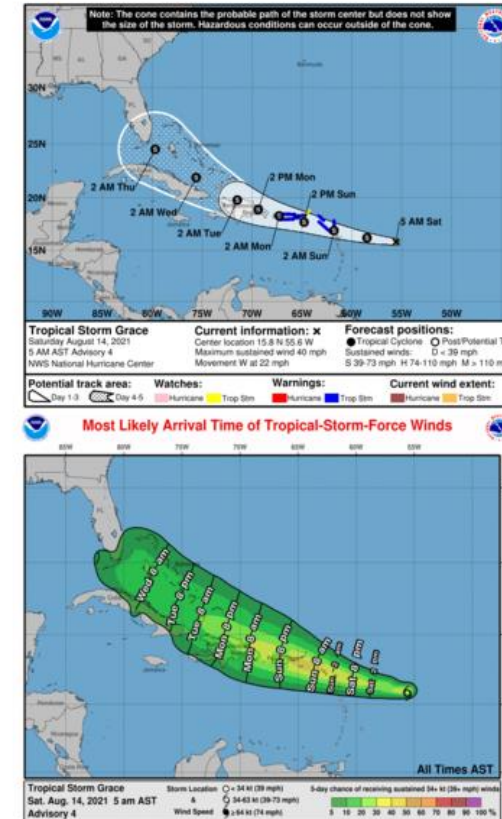


### Key Messages for Tropical Storm Grace Advisory 4: 5:00 AM AST Sat Aug 14, 2021

1. Tropical storm conditions are expected in portions of the Leeward Islands by tonight or early Sunday, and the U.S. Virgin Islands and Puerto Rico on Sunday. Tropical storm conditions are also possible over the British Virgin Islands on Sunday. The risk of strong winds will then spread westward to the Dominican Republic Sunday night and Monday.

2. Heavy rainfall could lead to flash and urban flooding over the Leeward and Virgin Islands. Across Puerto Rico, heavy rainfall may lead to flash, urban and small stream flooding, along with the potential for mudslides.

3. There is a risk of wind and rainfall impacts across Haiti, the Turks and Caicos Islands, the southeastern Bahamas, Cuba, and Florida next week, and interests in those areas should monitor the progress of this system.



For more information go to [hurricanes.gov](https://hurricanes.gov)



# Overall Summary

## **Tropical Depression Fred:**

- The center of Fred is located near the north coast of Cuba, or about 90 miles south of Key West, Florida.
- Maximum sustained winds remain around 35 mph. Fred could become a tropical storm if it reorganizes as it moves northward over the Gulf.
- Fred is moving west-northwest at 12 mph, and a turn toward the northwest is expected by tomorrow.
- On the forecast track, Fred is expected to be in the eastern Gulf of Mexico Sunday and make landfall in the western Panhandle on Monday.

## **Tropical Storm Grace (formerly TD 7):**

- Tropical Depression Seven strengthened overnight into Tropical Storm Grace.
- Grace is located about 355 miles east of the Leeward Islands, or about 1,650 miles southeast of Miami, Florida.
- Maximum sustained winds are around 40 mph, and gradual strengthening is expected over the next 48 hours.
- On the forecast track, the center of Grace is forecast to move over the Leeward Islands tonight, over the Virgin Islands and Puerto Rico on Sunday, and then over the Dominican Republic on Monday.
- Grace could approach South Florida on Thursday, but land interaction will have a major factor in the strength and exact track of Grace later this week.

## **Florida Outlook:**

- Tropical Storm Watches have been cancelled for Southwest Florida. Watches could be issued later today for parts of the Panhandle.
- Tropical Storm Warning is in effect for the Florida Keys from Dry Tortugas to the 7-Mile Bridge.
- The main threat to Florida from Fred is heavy rainfall. A widespread 3-6" of rain with localized totals of 8-10" are anticipated across South Florida as well as portions of the Florida Panhandle. Rainfall amounts of decrease for the West Coast/eastern Big Bend with the track shifting west.
- **Flood Watches** are in effect for South Florida and the Treasure Coast. Additional watches for portions of North Florida are likely to be issued later today.
- 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 today, with a tornado threat for Northeast and Central Florida on Sunday, and the Panhandle & Big Bend on Monday.
- A minor coastal flood/storm surge threat may exist for portions of Apalachee Bay as Fred approaches.
- It is too early to determine what, if any, impacts Florida may experience from Grace, but it should be monitored.

Another briefing packet will be issued this afternoon with the 5 PM advisory. For the latest information on the tropics, please visit the National Hurricane Center website at [www.hurricanes.gov](http://www.hurricanes.gov).





# TROPICAL UPDATE



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State Meteorological Support Unit

Florida Division of Emergency Management

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