



TROPICAL UPDATE



10:00 AM EDT

Sunday, July 25, 2021

Invest 90L (50%) – Florida East Coast

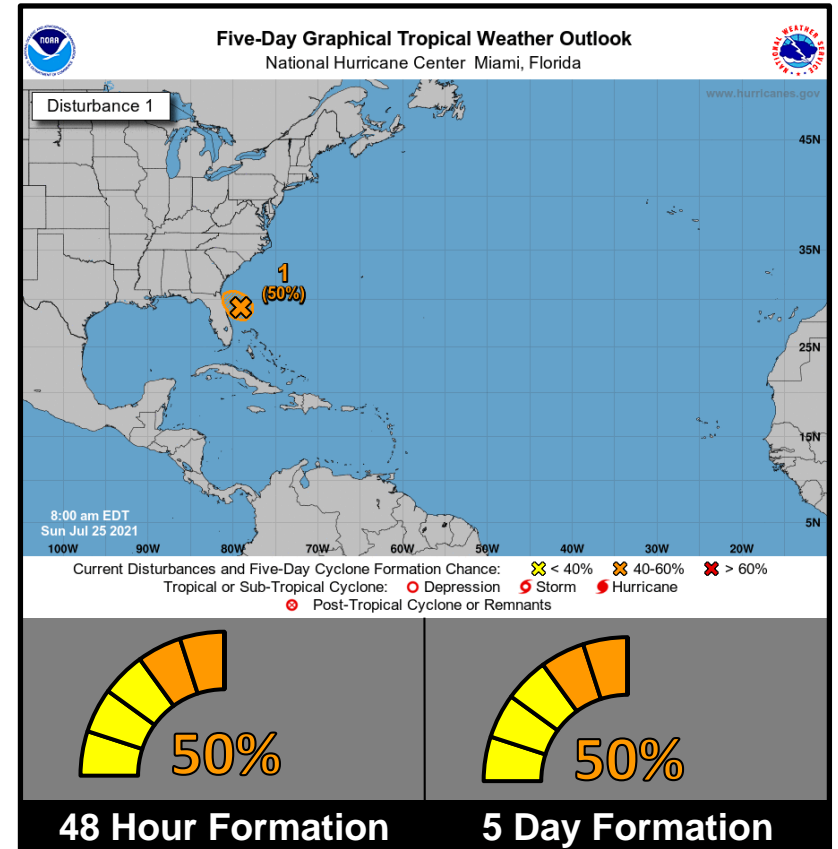
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an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



Invest 90L

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

	MINIMAL	Low	MODERATE	HIGH	EXTREME
WINDS					
STORM SURGE					
FLASH FLOODING	NE/CENTRAL FLORIDA		SOUTH FL		
TORNADOES					
	Low		MODERATE	HIGH	
RIP CURRENTS					



Overview/Recent Changes:

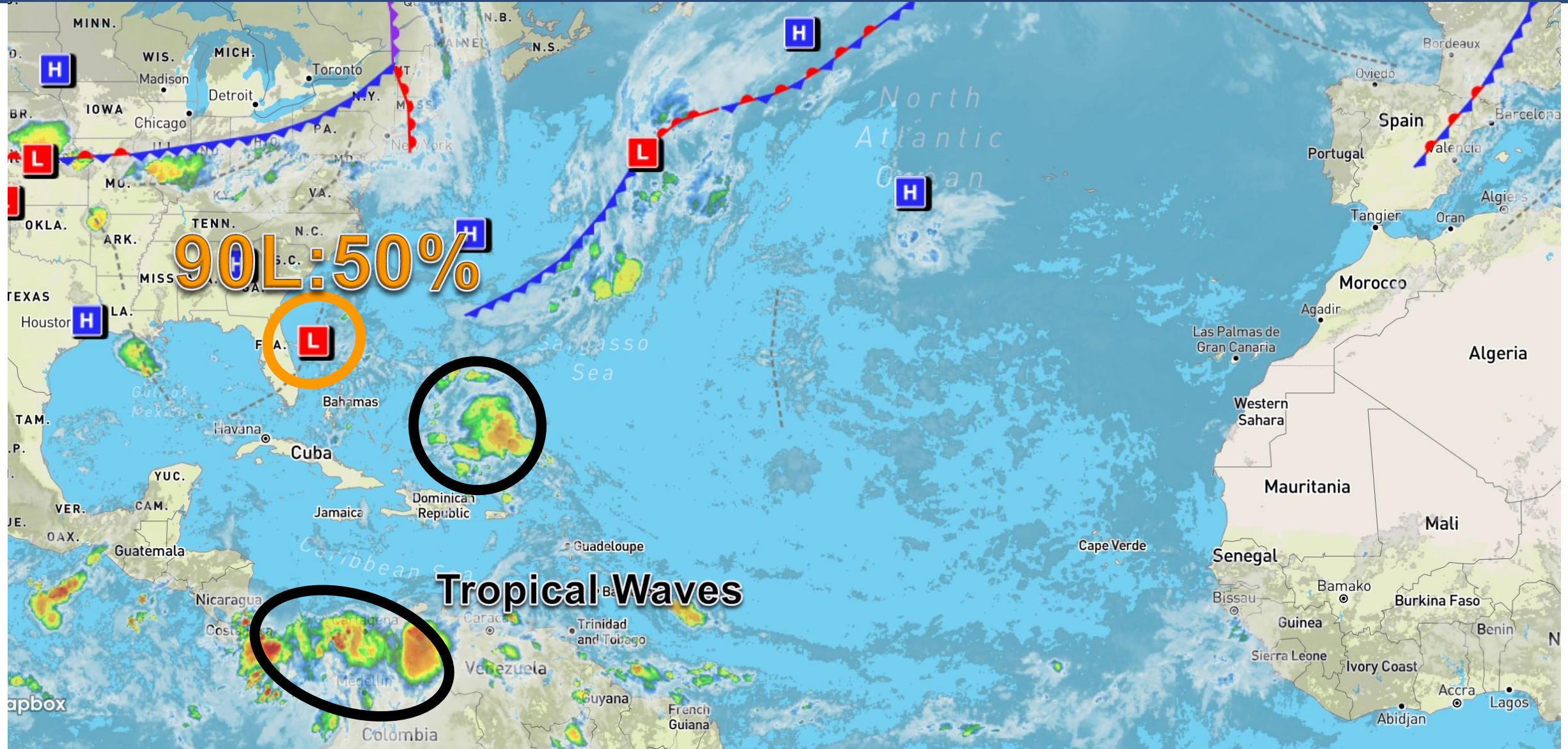
Hurricane hunters investigated the system yesterday and found a well-defined circulation that lacked showers/thunderstorms. Thus, development chances were lowered slightly. However, hurricane hunters will revisit the system this afternoon.

The low is now expected to move westward toward Northeast Florida over the next 24-48 hours. If this system develops, it is not expected to strengthen significantly and will pose a minimal wind, surge, and tornado threat.



Atlantic Basin Satellite Image

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





Tropical Weather Outlook

Possible Area of Development During the Next 5 Days ([LINK](#)) – Invest 90L



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

Disturbance 1

1
(50%)

8:00 am EDT
Sun Jul 25 2021

100W 90W 80W 70W 60W 50W 40W 30W 20W

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

From NHC: A well-defined low pressure area located about 160 miles east of Daytona Beach, Florida, continues to produce disorganized shower and thunderstorm activity mainly to the east and southeast of the center. Environmental conditions are expected to be marginally conducive for development, and a tropical depression could still form later today or early Monday while the system drifts westward toward the east coast of Florida. An Air Force Reserve reconnaissance aircraft is scheduled to investigate the low this afternoon, if necessary. Interests in Florida should continue to monitor the progress of this system.

***Formation chance through 48 hrs...medium...50%**

***Formation chance through 5 days...medium...50%**

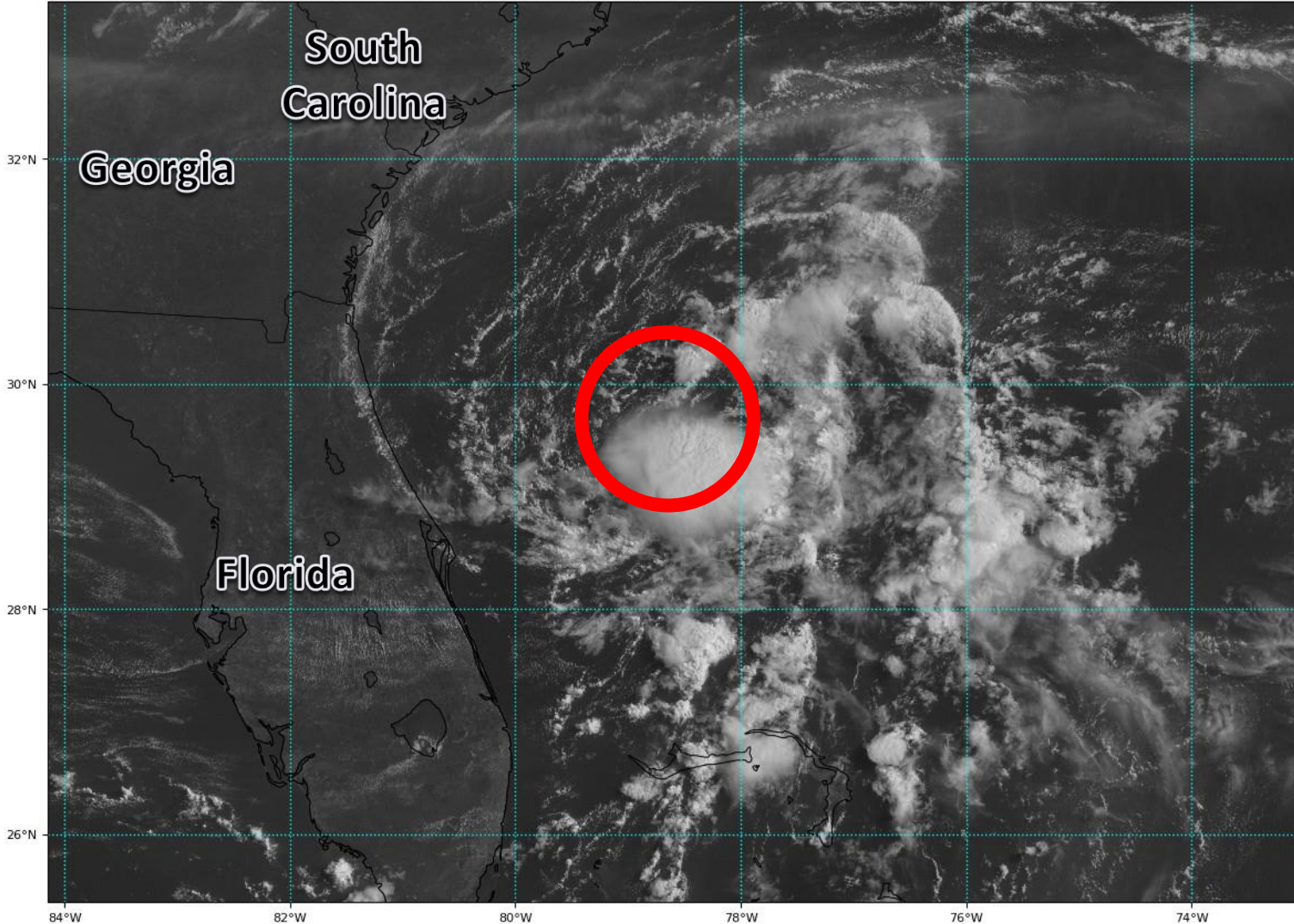


Satellite Imagery

Invest 90L – Southeast US

GOES-16 Channel 2 (visible) Reflectance at 13:27Z Jul 25, 2021

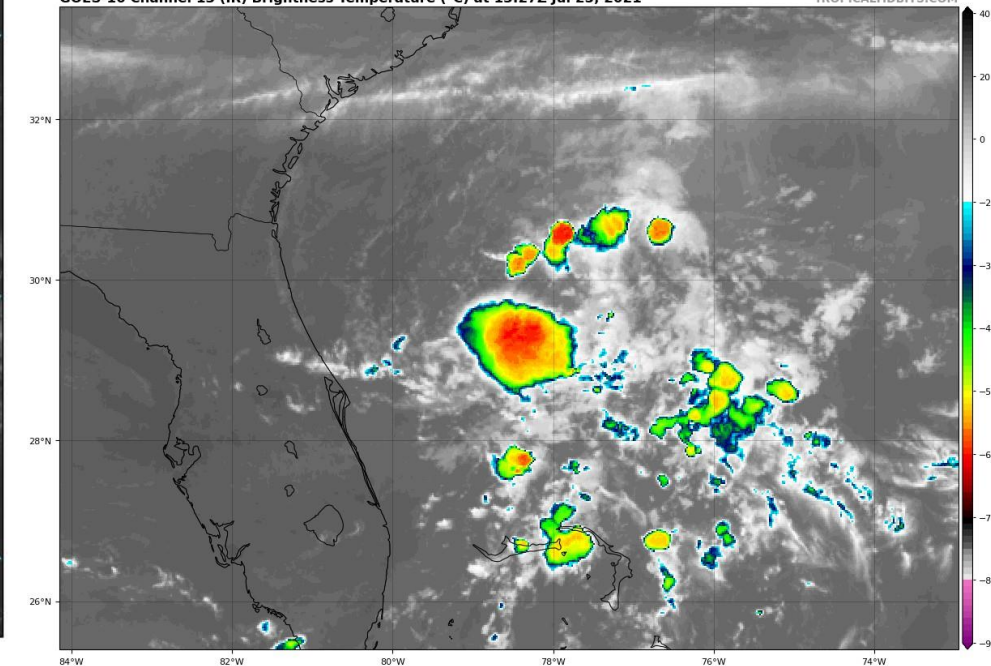
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Invest 90L remains disorganized as it battles wind shear and dry air. Only slow organization is expected. The “center” is located near the red circle with little in the way of showers and thunderstorms around the system.

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 13:27Z Jul 25, 2021

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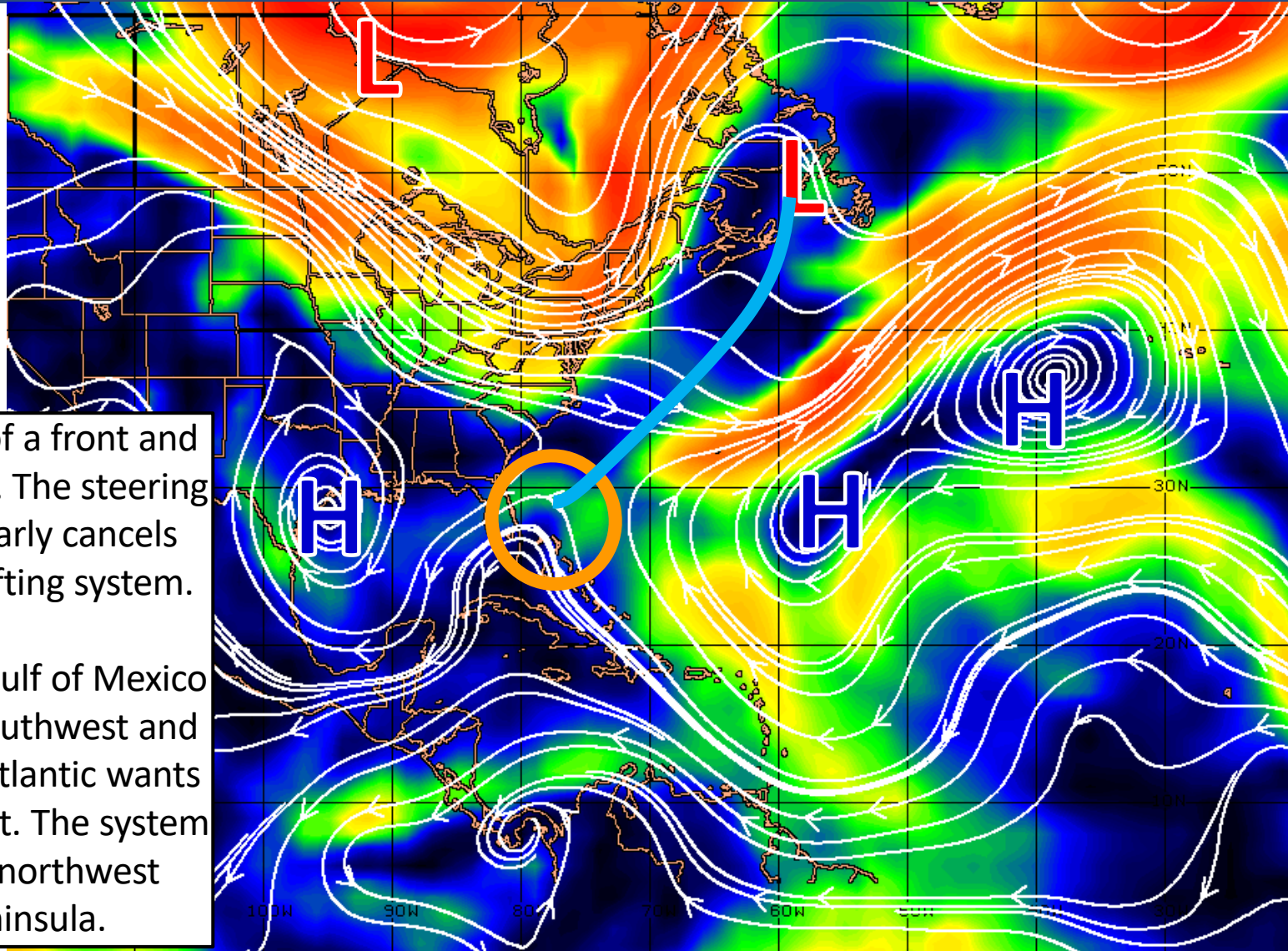




Steering Currents

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.



KTS

100

70

50

30

20

15

10

5

0

Fast Moving Storm

Fast Moving Storm

Typical Moving Storm

Slow Moving Storm

Invest 90L is at the tail end of a front and is caught between two highs. The steering flow between the highs nearly cancels out, resulting in a slowly drifting system.

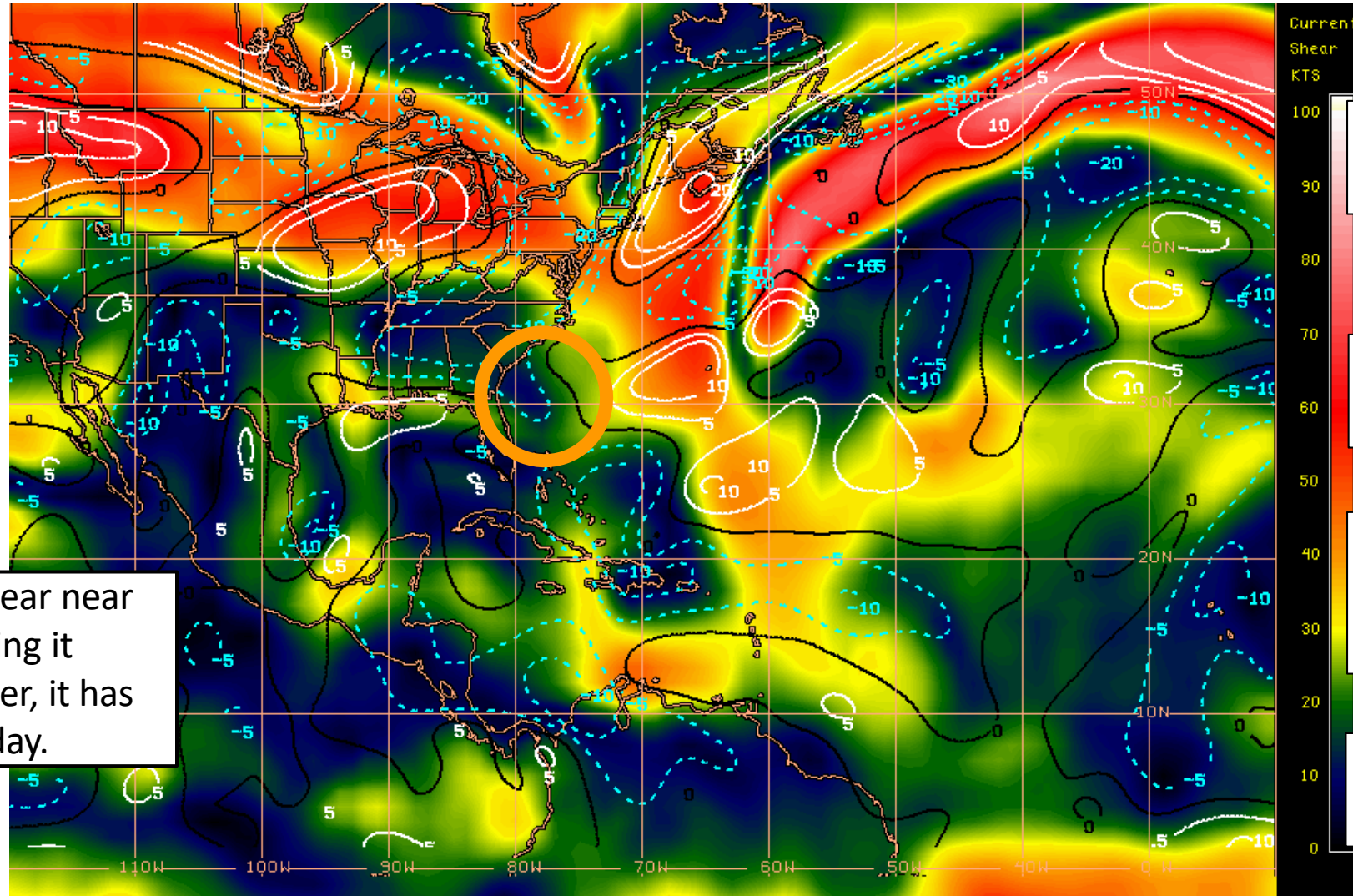
The high pressure over the Gulf of Mexico wants to push the system southwest and the high pressure over the Atlantic wants to push the system northwest. The system looks to continue drifting northwest toward the Florida Peninsula.



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).



HIGH Shear
(Unfavorable)

HIGH Shear
(Unfavorable)

MODERATE
Shear
(Neutral)

LOW Shear
(Favorable)

There remains some wind shear near Invest 90L, which is keeping it disorganized for now. However, it has decreased since yesterday.

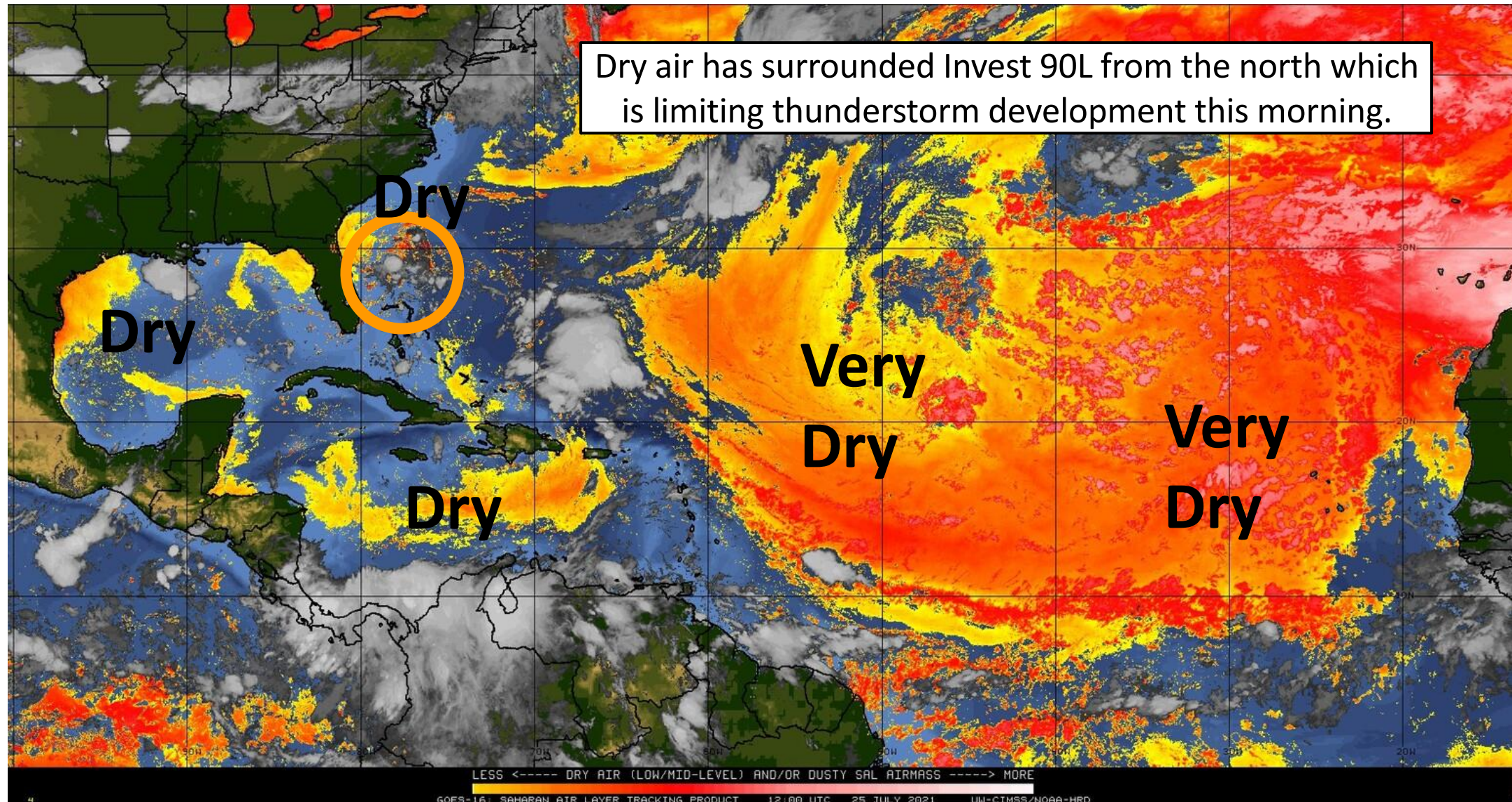
Shear Tendency (KTS) Over Past 24 Hours: Increasing — Decreasing ----



Dry Air & Saharan Dust

Is the environment favorable for the system?

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





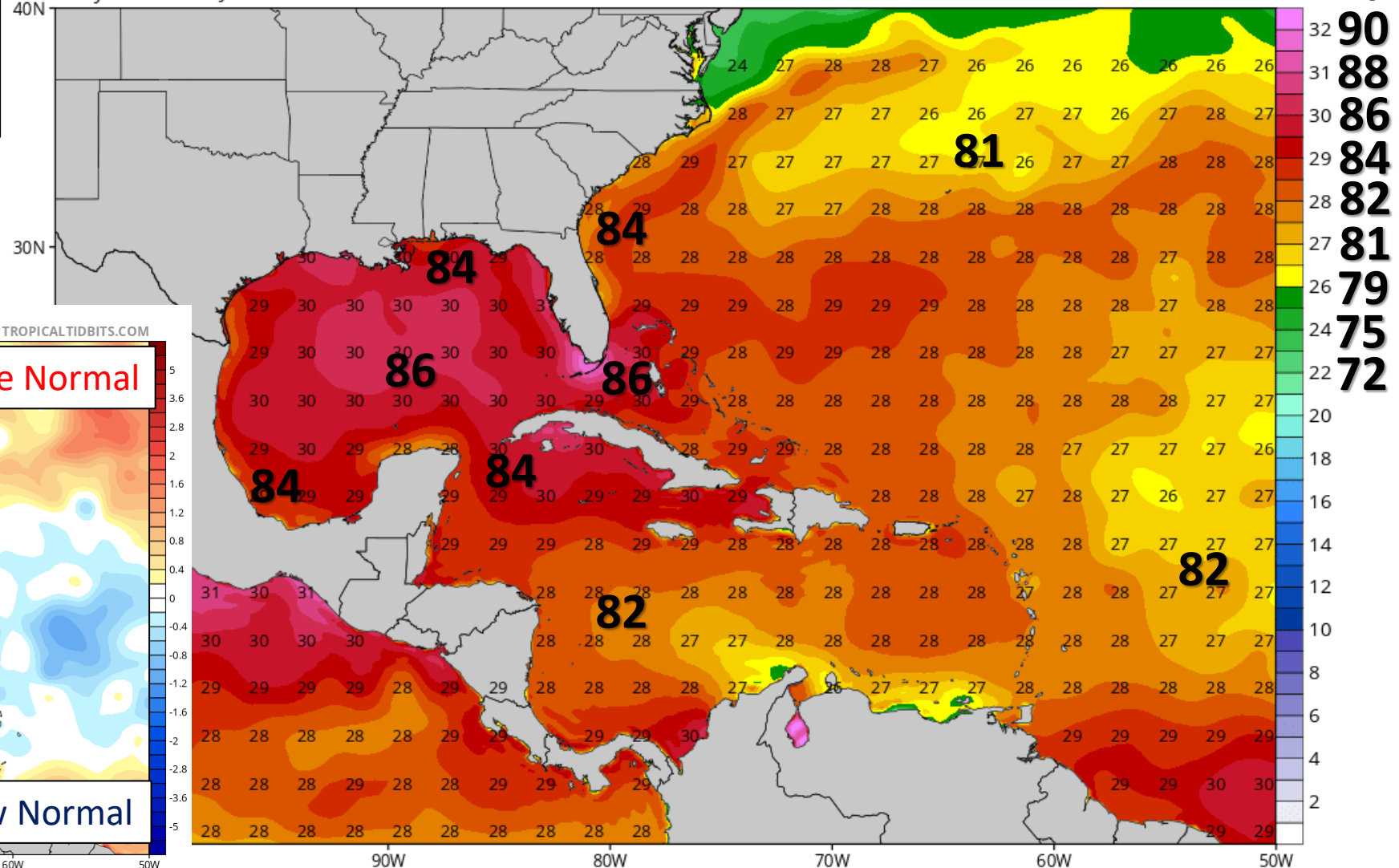
Sea Surface Temperatures & Anomalies

Is the ocean favorable for the system?

Water temperatures are near normal for this time of year and warm enough to support tropical development.

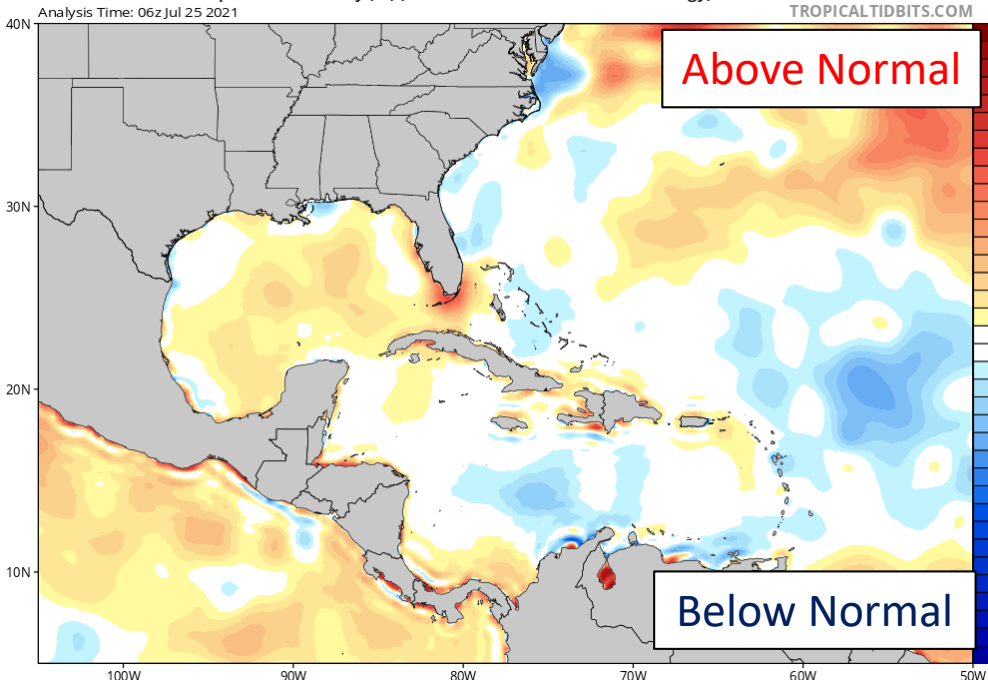
CDAS Sea Surface Temperature (°C)

Analysis Time: 06z Jul 25 2021



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

Analysis Time: 06z Jul 25 2021





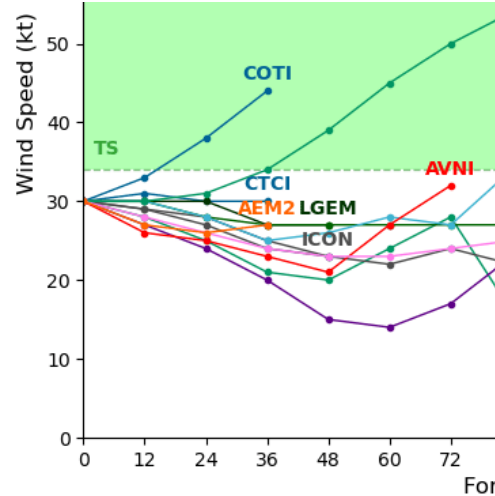
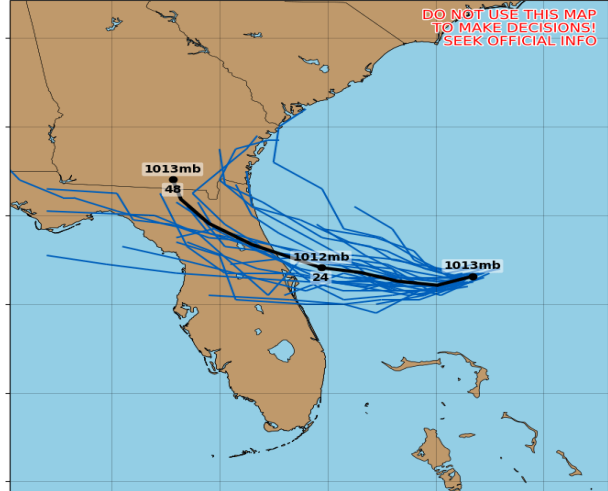
Model Forecast Tracks

Ensemble, Dynamical, and Statistical Models

Invest 90L GEFS Tracks & Min. MSLP (mb)

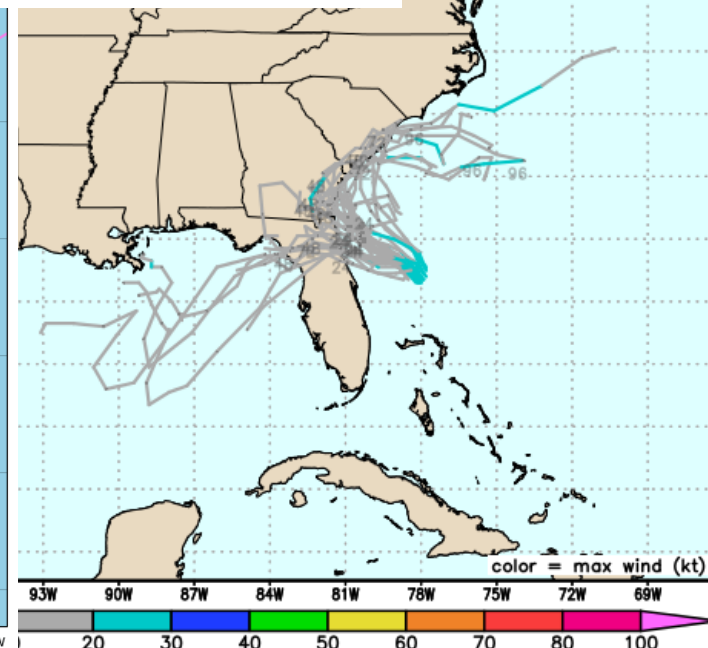
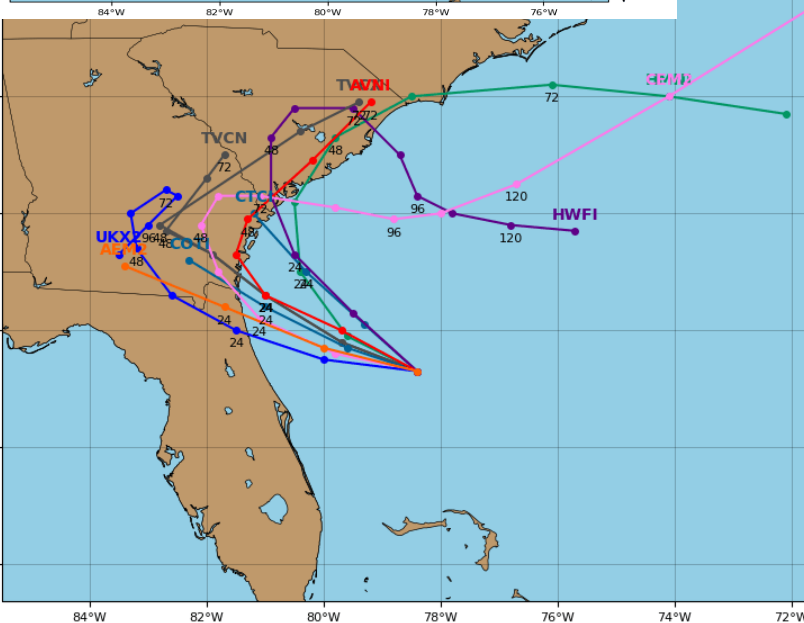
Initialized at 00z Jul 25 2021

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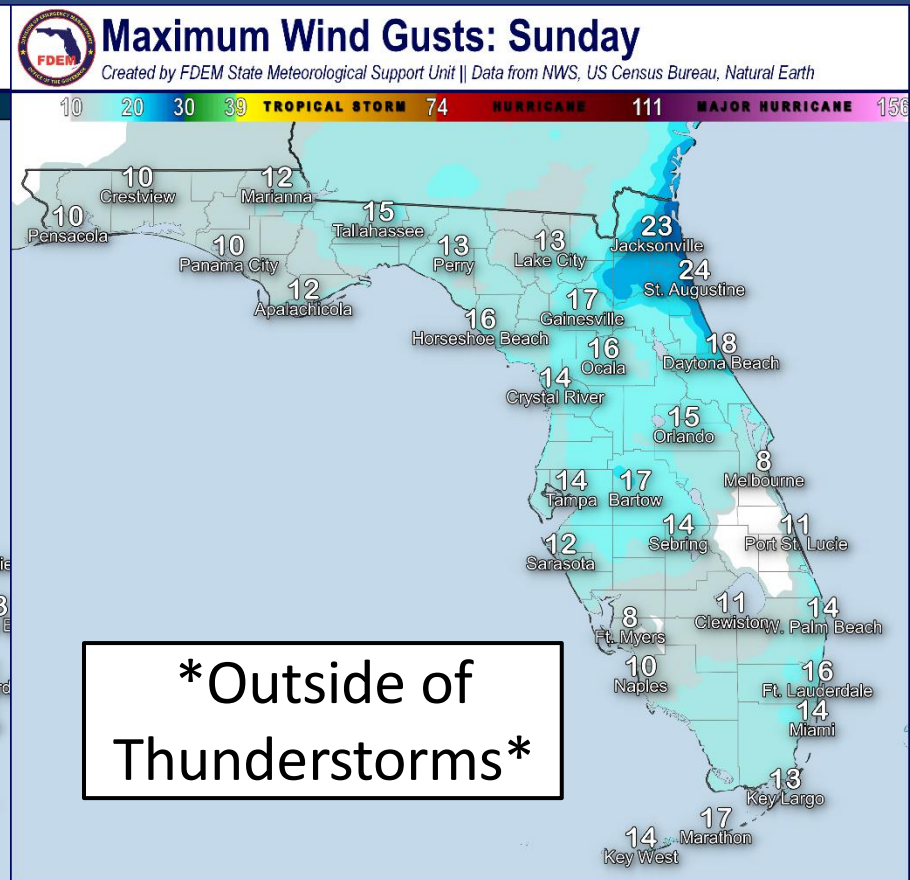
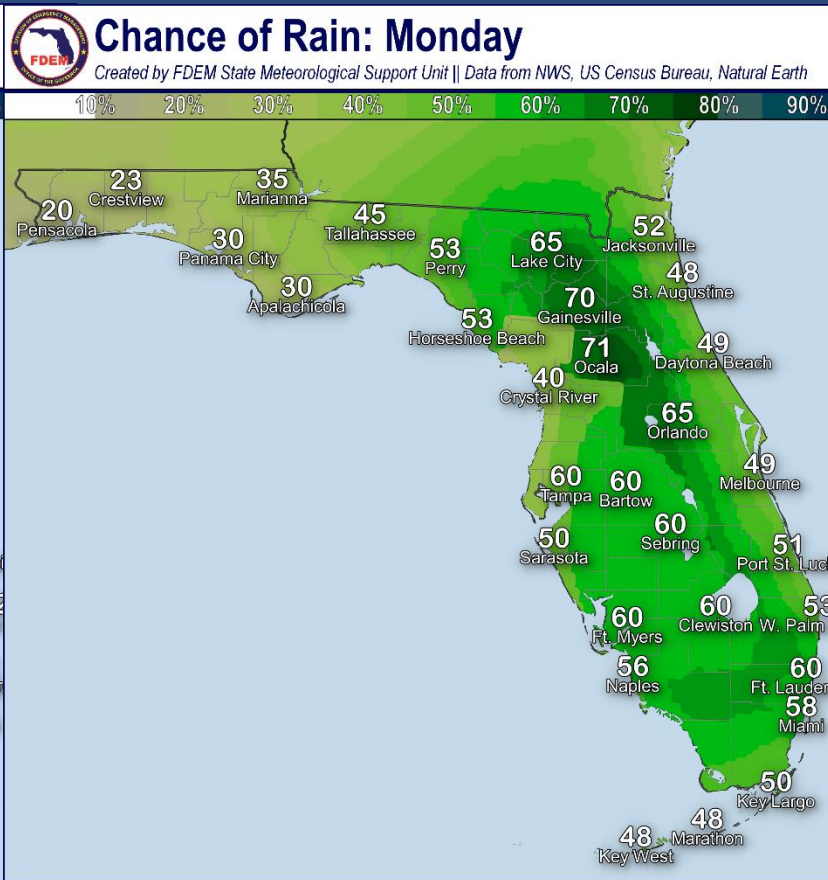
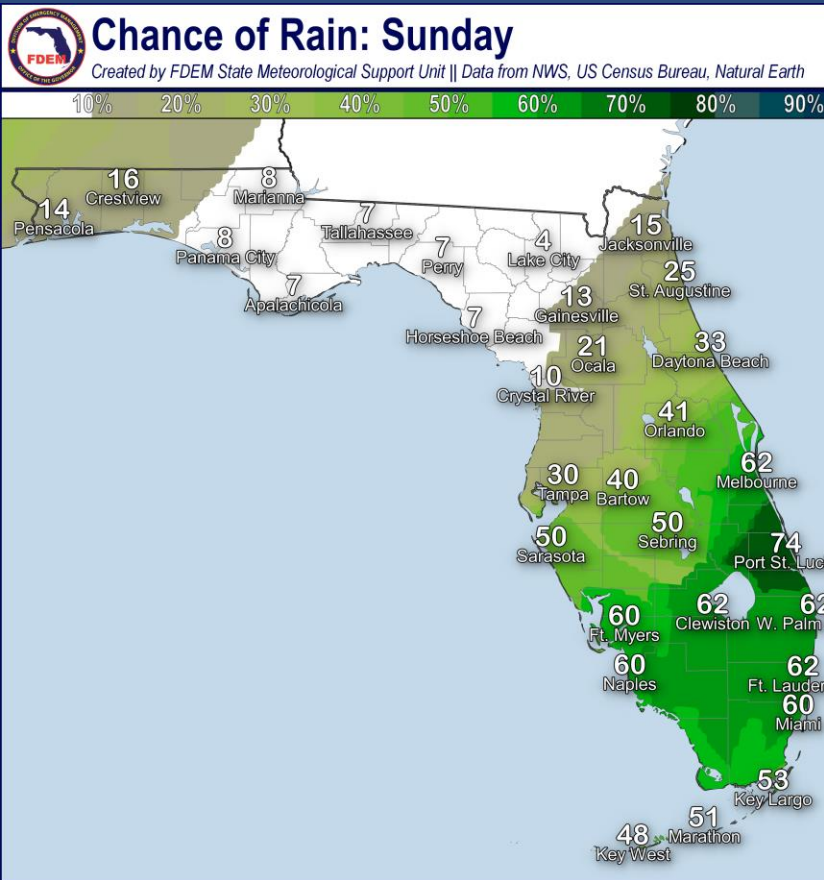


Confidence has increased in the track of the system. 90L is now expected to drift northwest, nearing the coast of Northeast Florida in about 24 hours. The system will then dissipate entirely as it moves inland over the southeastern United States.

Regardless of track, the system is likely to remain weak through its lifetime. A weak system remains of high confidence.



Forecast Rain Chances & Winds



Rain chances will remain high across South Florida into early next week. Heavy rainfall will be the primary threats with the storms, but dangerous lightning and gusty winds will be possible in the stronger storms. Breezy northeast winds are expected in Northeast Florida.



Flood Watch In Effect

Ending 8 PM ET Monday – [NWS Miami](#) – [More Details](#)



HAZARDS IN EFFECT



- Flood Watch is in Effect

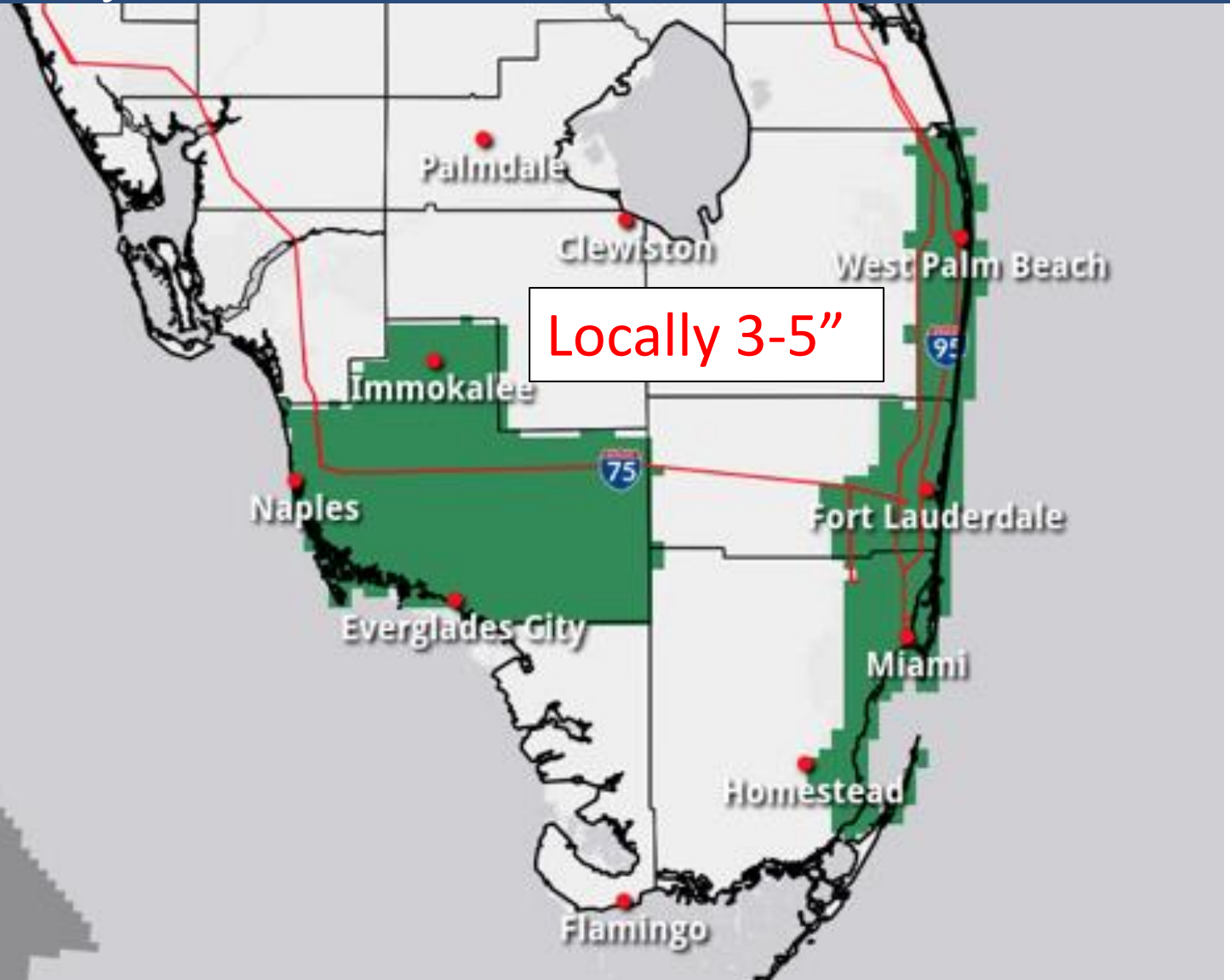


- East Coast Metro locations and Collier County



- Through 8 PM EDT Monday

Showers and thunderstorms expected today through Monday, producing heavy rainfall, gusty winds, and lightning strikes. Flooding is possible, particularly in areas that have seen high rainfall totals in previous days.





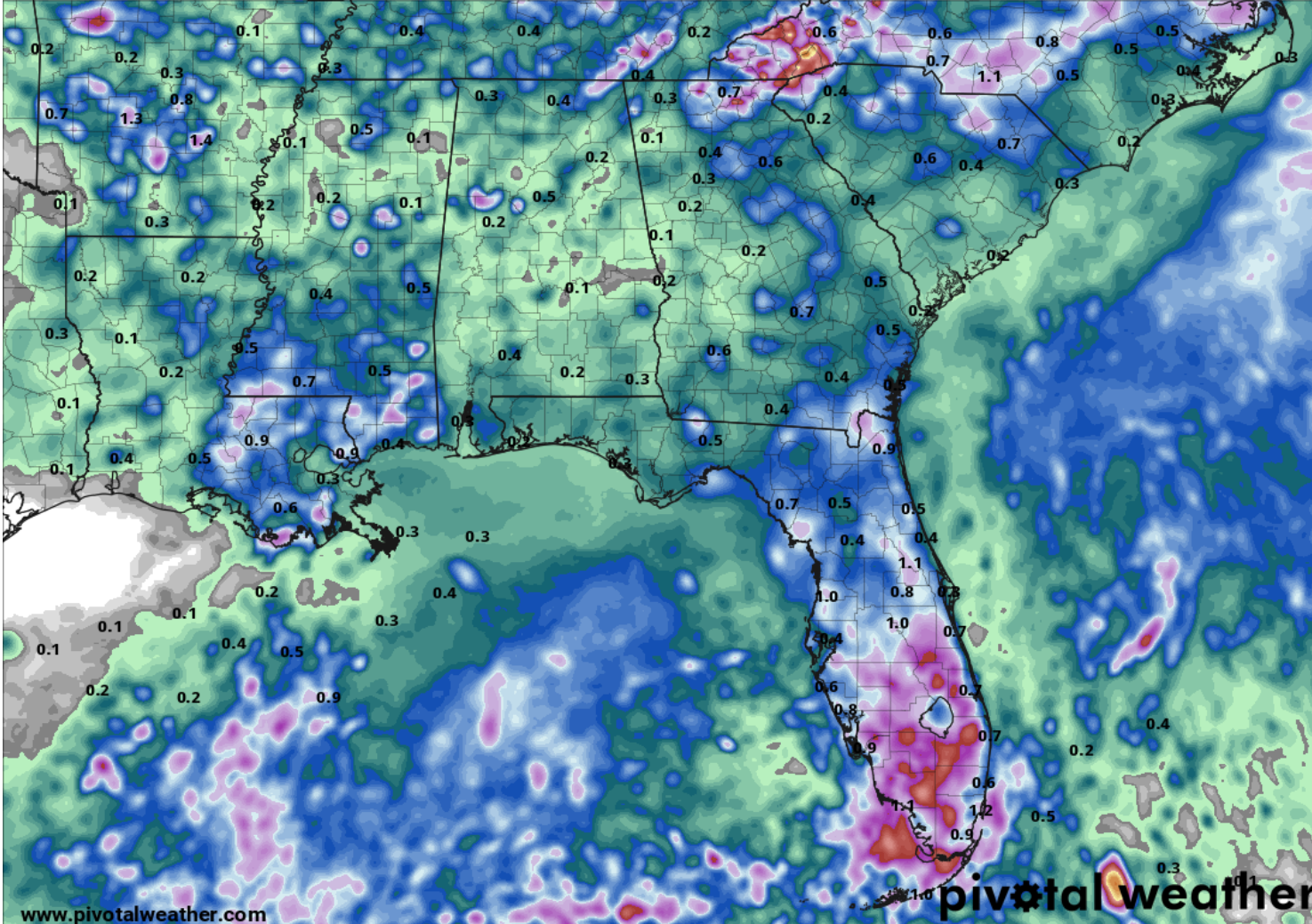
Rainfall Totals Next 5 Days

Ending 8 AM ET Wednesday

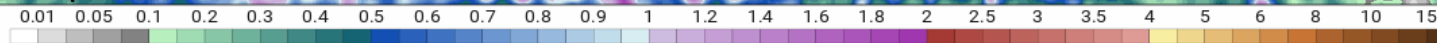
120-Hour Precipitation (in)

Ending Friday, Jul. 30, 2021 at 8 a.m. EDT

Init: Sun 2021-07-25 12z WPC



www.pivotalweather.com



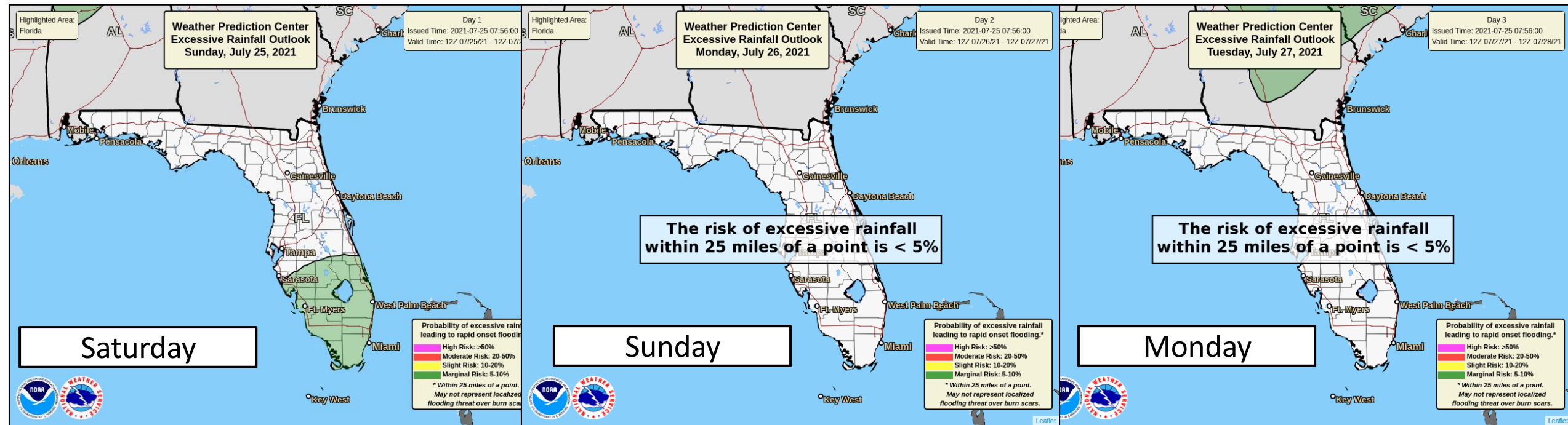
Over the next 5 days, rainfall totals will be a widespread 1-3" across the Peninsula with localized totals near 4-5" expected, particularly south of Lake Okeechobee.

Drier conditions are expected across Northwest Florida.



Flash Flood Outlooks

From the Weather Prediction Center



Risk of rainfall exceeding flash flood guidance within 25 miles of a point to the right of a line

HIGH: > 50% **SLGT: 10%-20%**
MDT: 20%-50% **MRGL: 5%-10%**

With wet to saturated soils across the Peninsula, localized flash flooding cannot be ruled out, should heavy rainfall occur.



Overall Summary

Invest 90L – Off Florida East Coast

- A well defined area of low pressure has developed offshore of the Florida East Coast (160 miles east of Daytona Beach).
- It is lacking any organized showers or thunderstorms as it drifts northwest towards Florida.
- However, conditions are marginally favorable for development, and a tropical depression could develop later today or tonight before the system moves inland.
- 90L now appears likely to move inland over/near Northeast Florida in about 24 hours. However, regardless of track, the system will likely remain weak.
- Development chances have decreased, and this system has a **50% (medium) chance** of development in the next 48 hours.
- Hurricane Hunters may investigate the system this afternoon if thunderstorm activity increases.
- If this system becomes a tropical depression it will be labeled Tropical Depression Six. The next name on the list is Fred if it strengthens.

Florida Outlook:

- Increased rain chances and rip currents are the only impact to Florida expected at this time.
- A **Flood Watch** is in effect for Collier County and the urban areas of Broward, Miami-Dade, and Palm Beach County until Monday night.
- A widespread 2" of rain is forecast this weekend, with localized totals of 3-5".
- These higher rainfall totals would result in urban street flooding and potentially flash flooding.
- Gusty winds and frequent lightning are possible in the strongest thunderstorms typical of a summer afternoon.
- A moderate to high risk of rip currents is expected this weekend at Atlantic beaches north of Palm Beach, with wave heights from 2-4'.

The next briefing packet will be issued Monday morning, unless the Hurricane Hunters find a more organized system this afternoon and development appears imminent. 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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