



TROPICAL UPDATE



10:00 AM EDT

Saturday, July 24, 2021

Invest 90L (60%) – Southeast US Coast

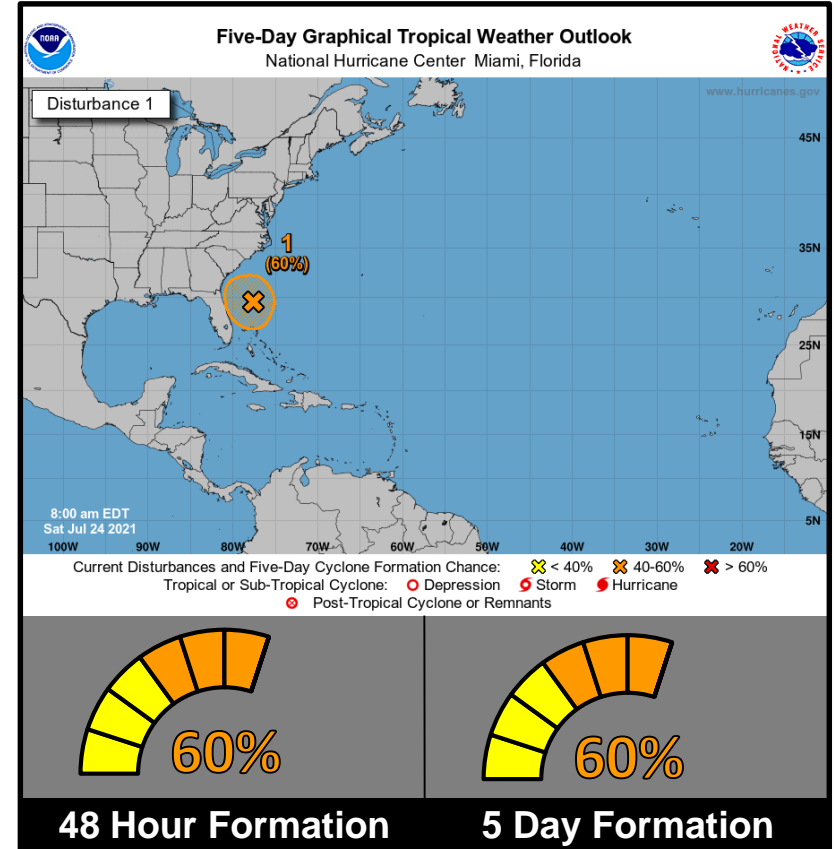
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an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

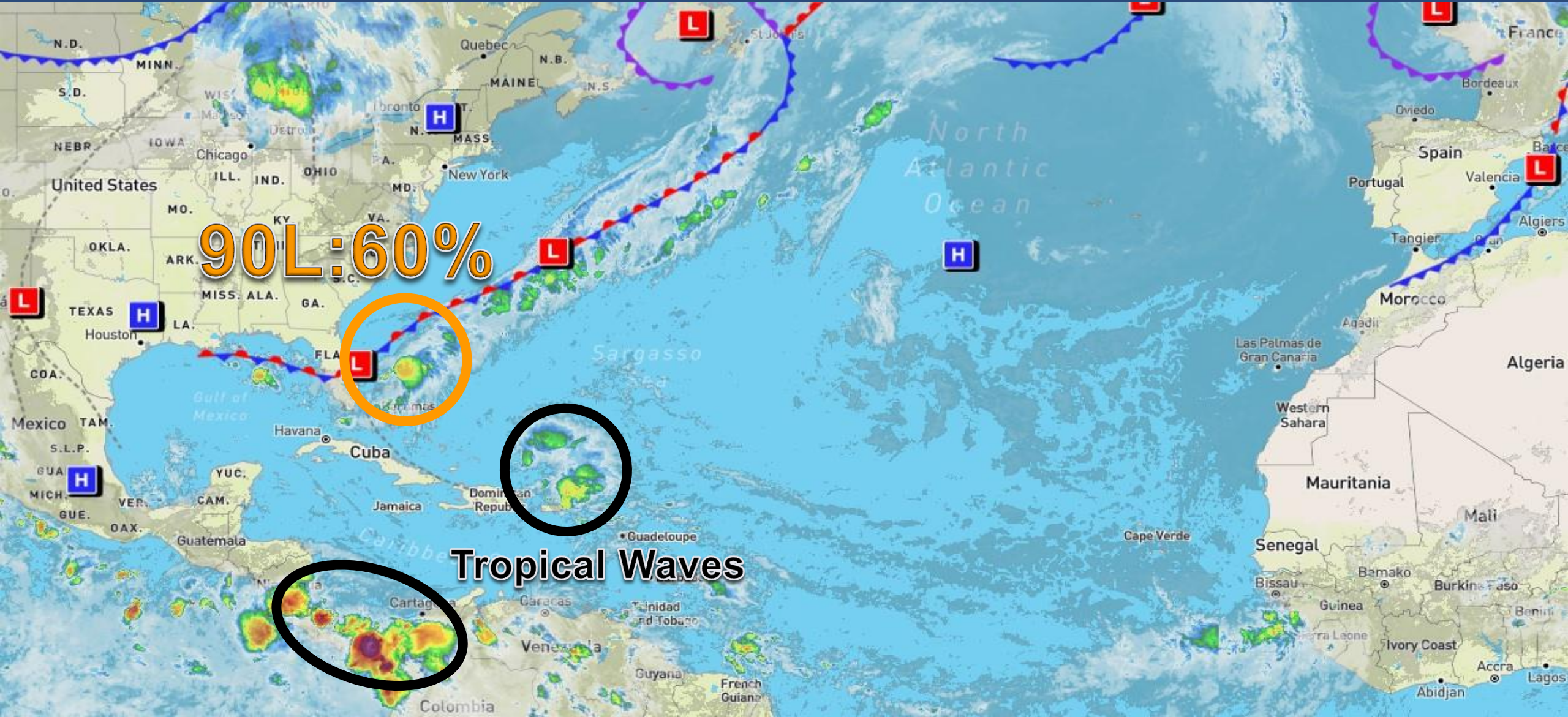
Development chances have increased since yesterday. However, the system remains disorganized. Hurricane hunters may investigate the system this afternoon.

If this system develops, it is not expected to strengthen significantly and will pose a minimal wind, surge, and tornado threat. However, increased moisture from the system may result in flash flooding in urban areas of South Florida, along with rip currents at Atlantic beaches.



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
(60%)

8:00 am EDT
Sat Jul 24 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: Showers and thunderstorm activity has increased a bit this morning in association with the low pressure system located about 200 miles east of Daytona Beach, Florida. Nearby buoy observations also indicate that surface pressures have been falling close to the center of this system. However, the associated shower and thunderstorm activity remains is organized and located primarily south and east of the center. Environmental conditions are forecasted to become a bit more favorable for development, and a tropical depression could form over the next day or so while the low meanders offshore of the Florida Peninsula. Interests in Florida should continue to monitor the progress of this system. An Air Force Reserve Hurricane Hunter aircraft is scheduled to investigate the system later today, if necessary.

***Formation chance through 48 hrs...medium...60%**

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

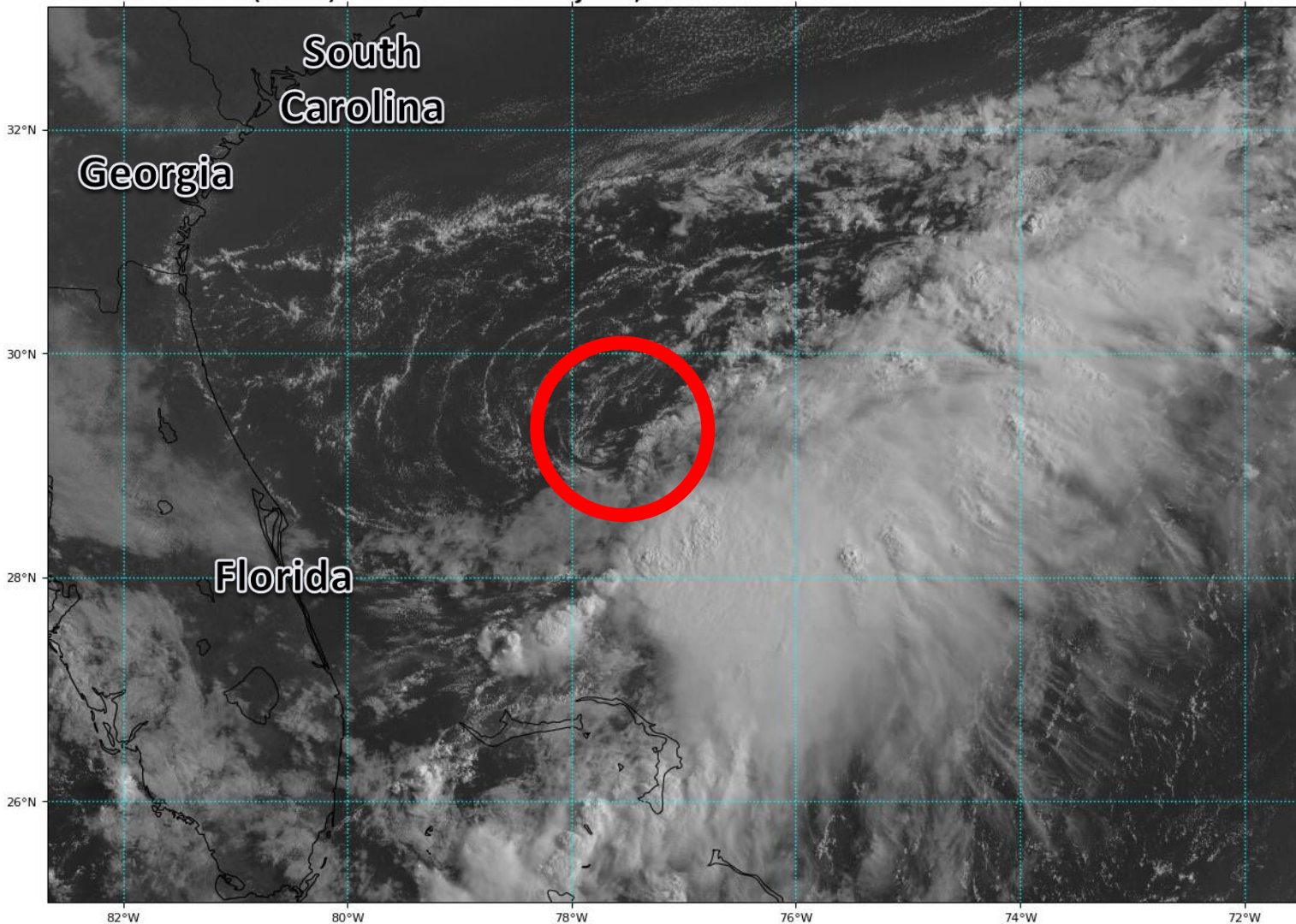


Satellite Imagery

Invest 90L – Southeast US

GOES-16 Channel 2 (visible) Reflectance at 12:52Z Jul 24, 2021

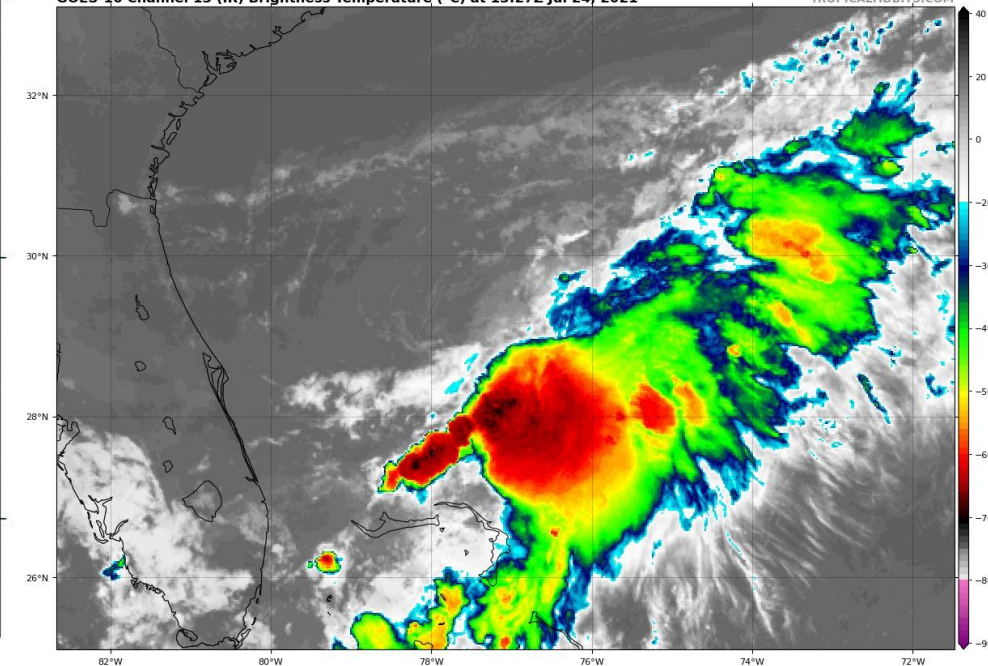
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Invest 90L remains disorganized as it battles wind shear, dry air, and is still attached to a cold front. Only slow organization is expected. The “center” is located near the red circle with most of the showers and thunderstorms southeast of the center (disorganized).

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 13:27Z Jul 24, 2021

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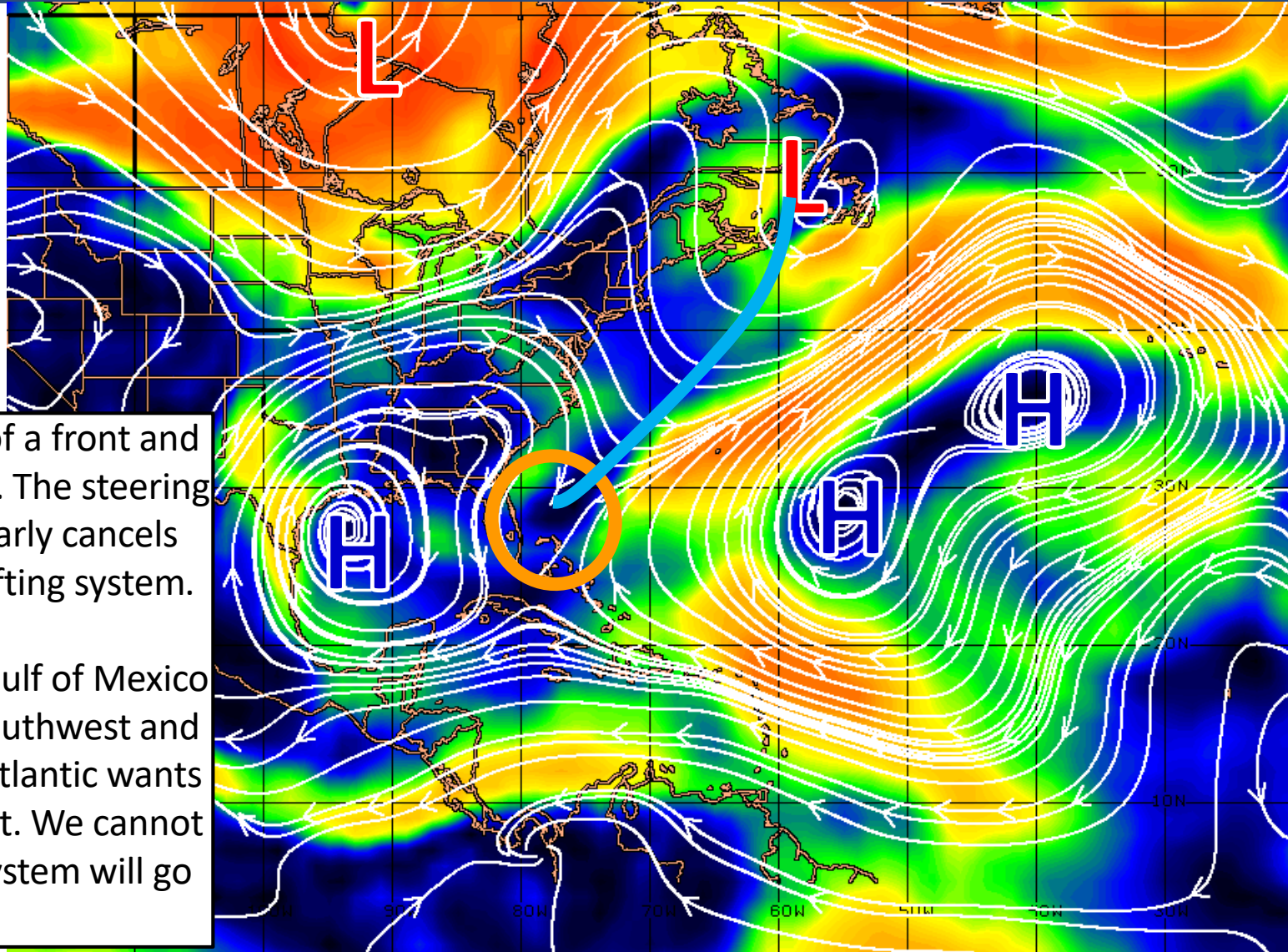




Steering Currents

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.



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.

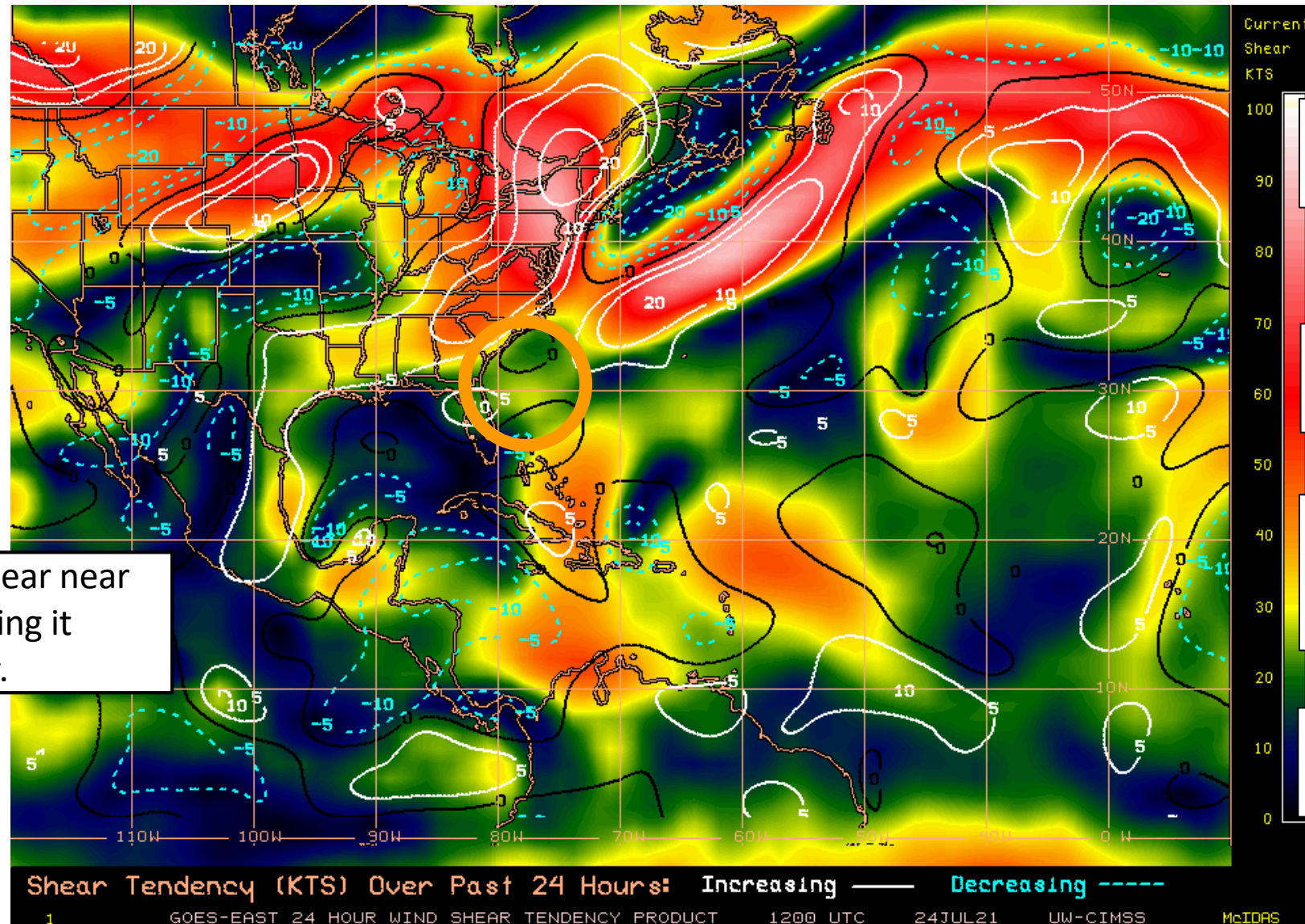
The high pressure over the Gulf of Mexico wants to push the system southwest and the high pressure over the Atlantic wants to push the system northeast. We cannot determine which way the system will go at this time.



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)

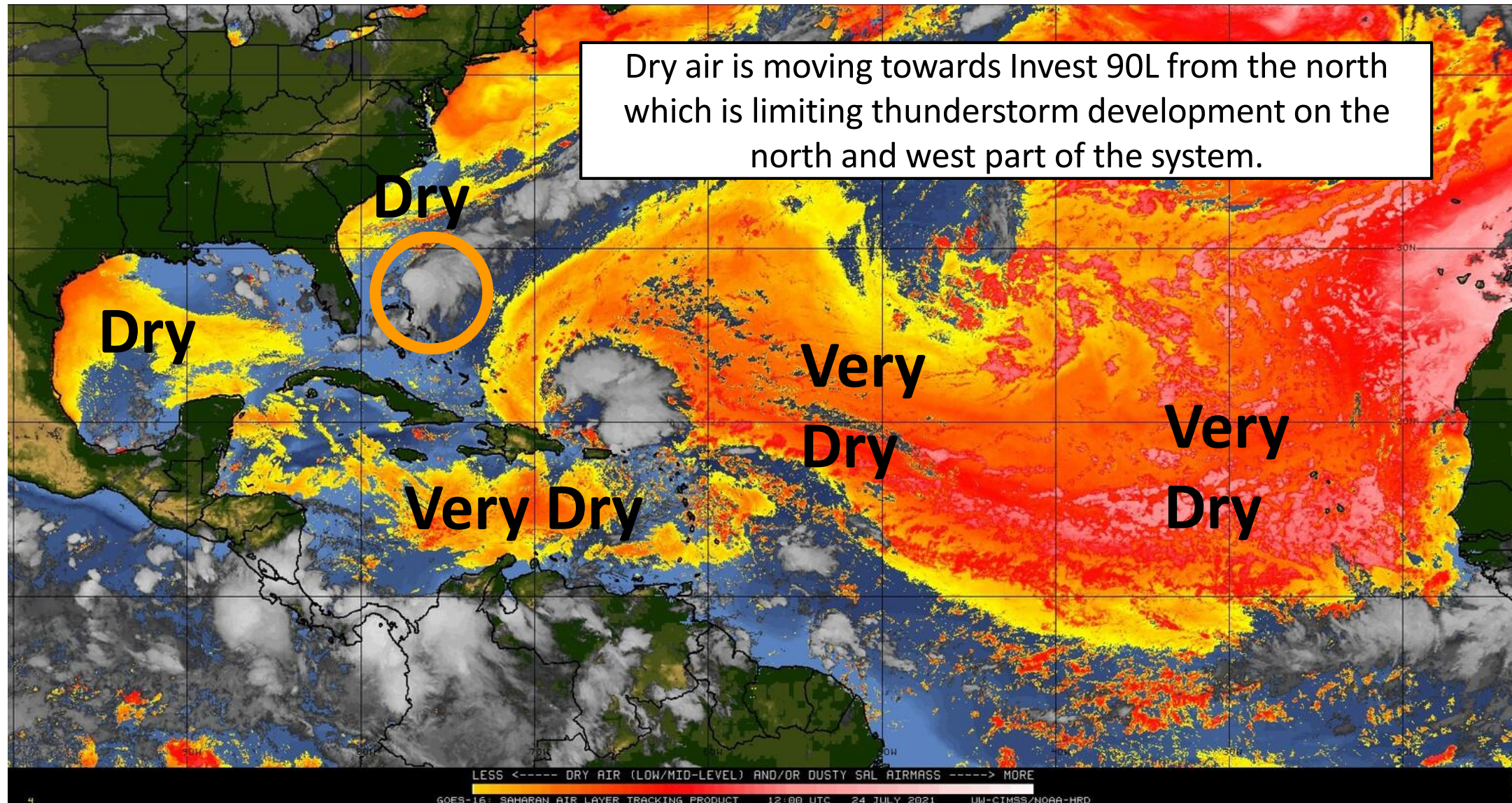
There remains some wind shear near Invest 90L, which is keeping it disorganized for now.



Dry Air & Saharan Dust

Is the environment favorable for the system?

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





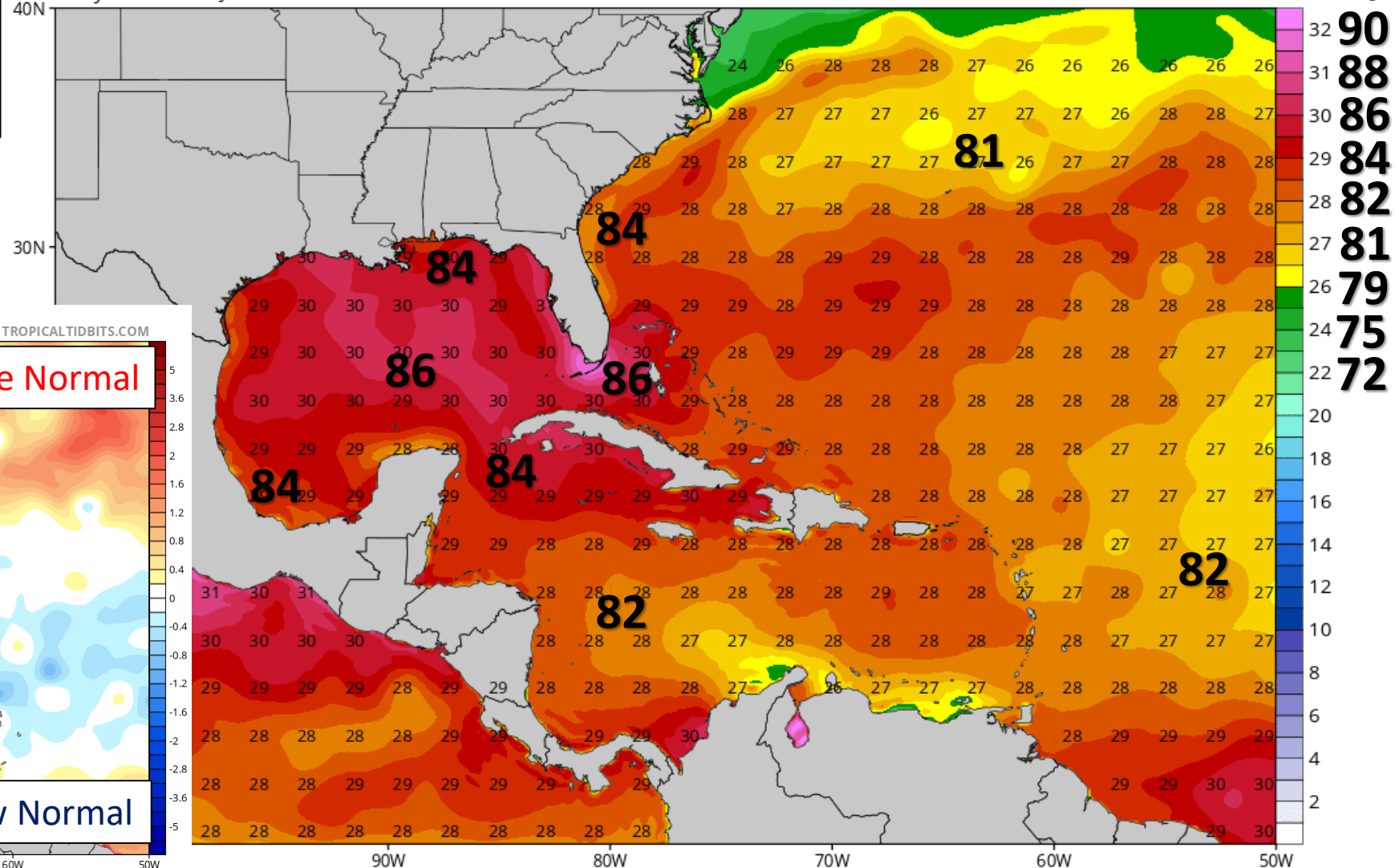
Sea Surface Temperatures & Anomalies

Is the ocean favorable for the system?

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

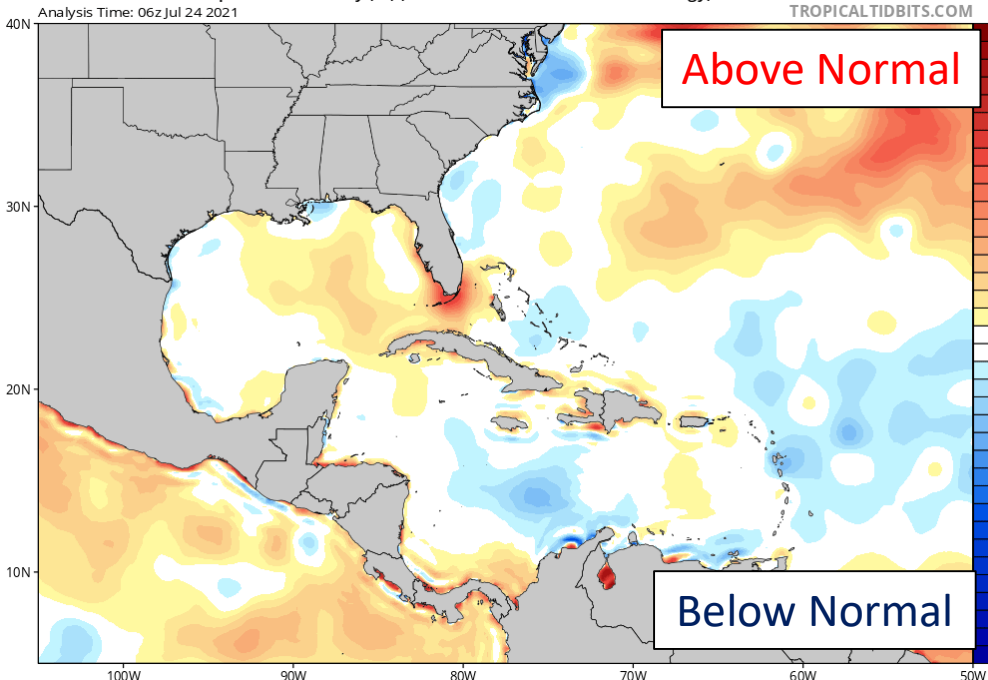
CDAS Sea Surface Temperature (°C)

Analysis Time: 06z Jul 24 2021



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

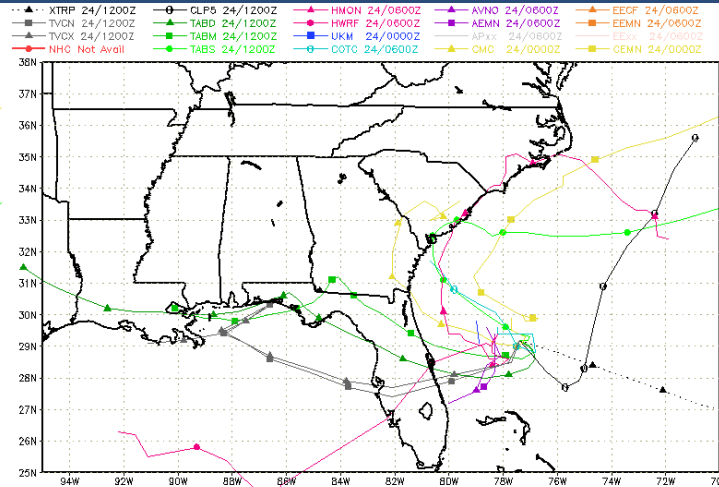
Analysis Time: 06z Jul 24 2021



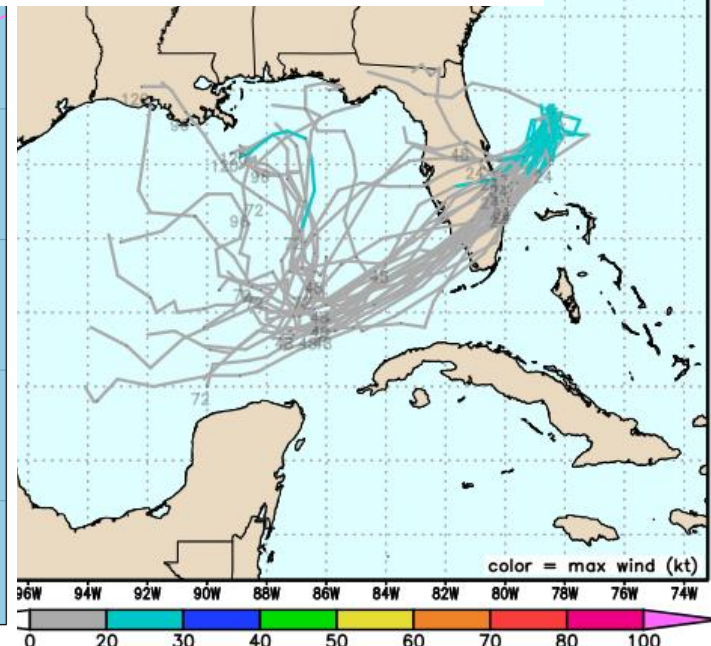
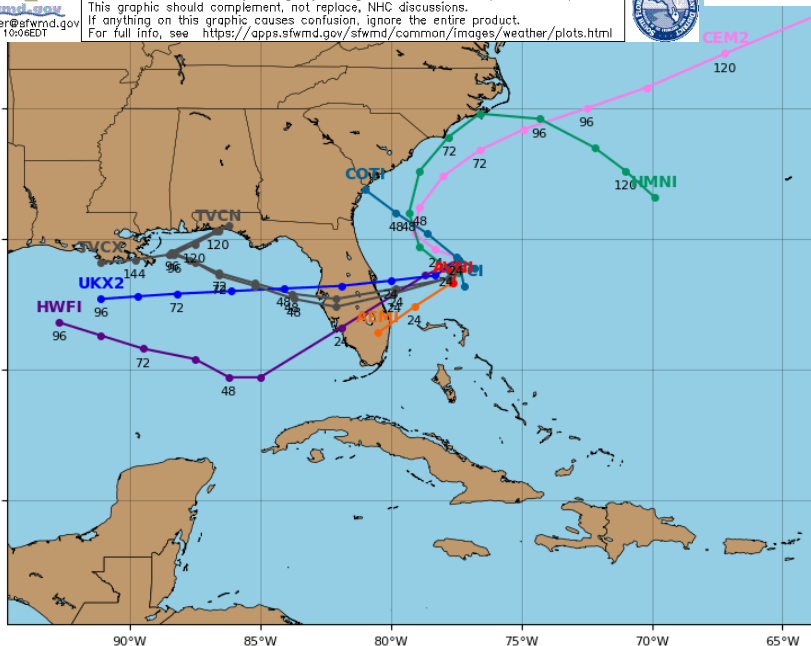
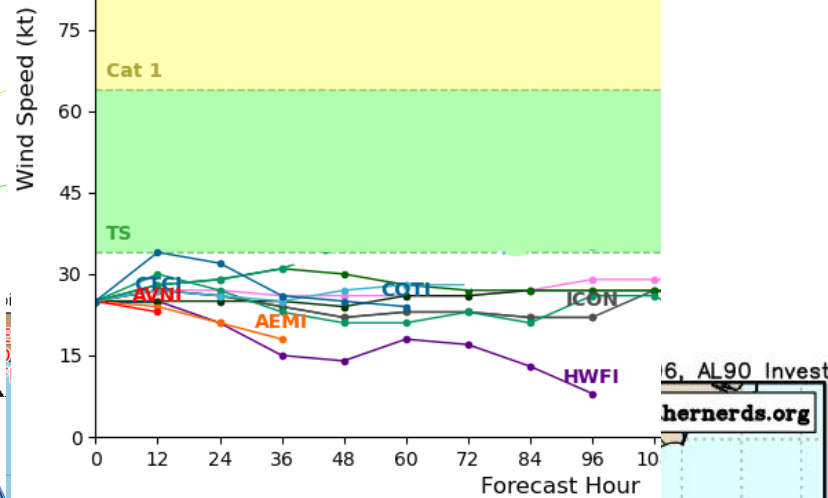


Model Forecast Tracks

Ensemble, Dynamical, and Statistical Models



storm_90
NHC Advisories and County Emergency Management Statements supersede this product.
This graphic should complement, not replace, NHC discussions.
If anything on this graphic causes confusion, ignore the entire product.
For full info, see <https://apps.sfwmd.gov/sfwmd/canmon/images/weather/plots.html>

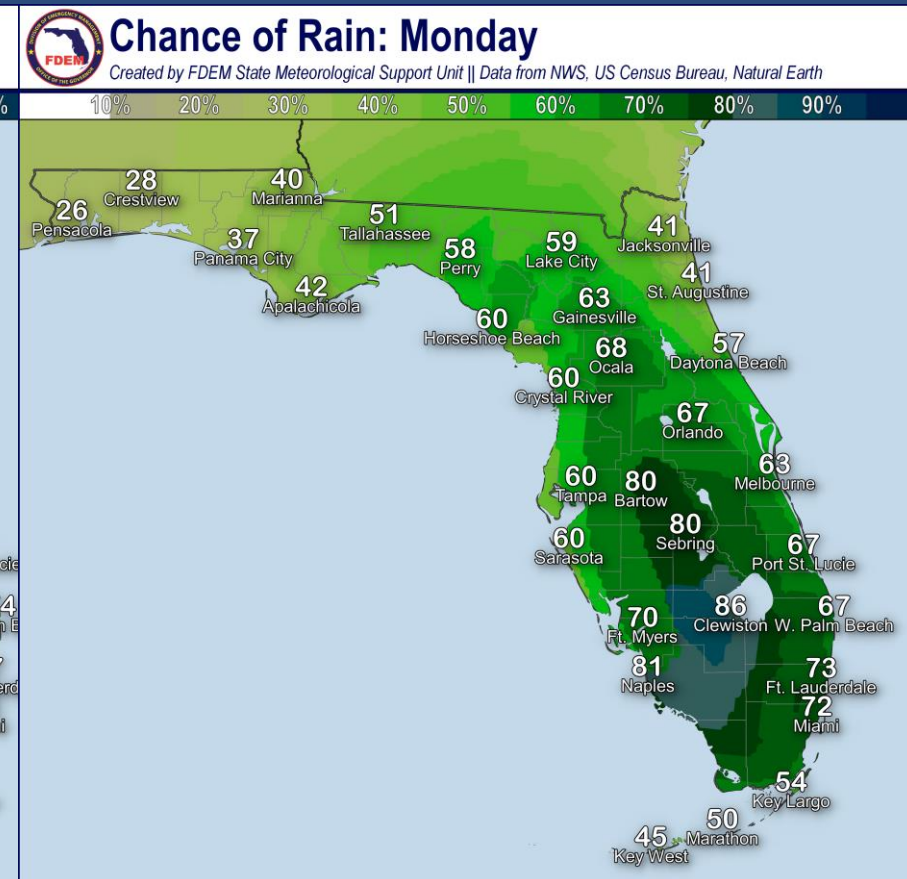
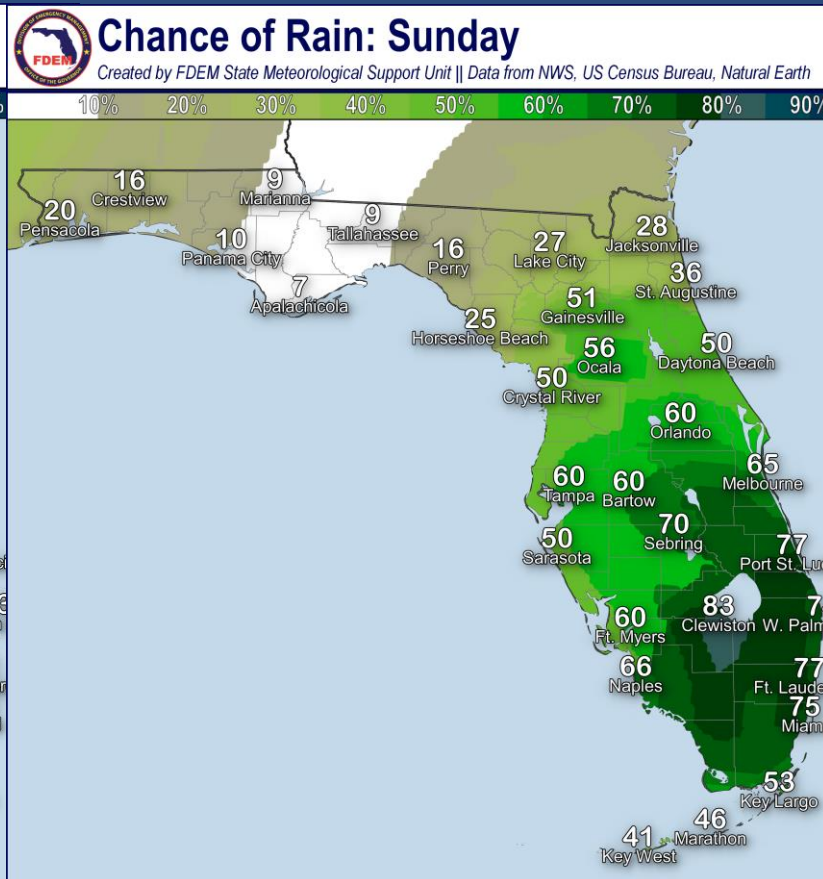
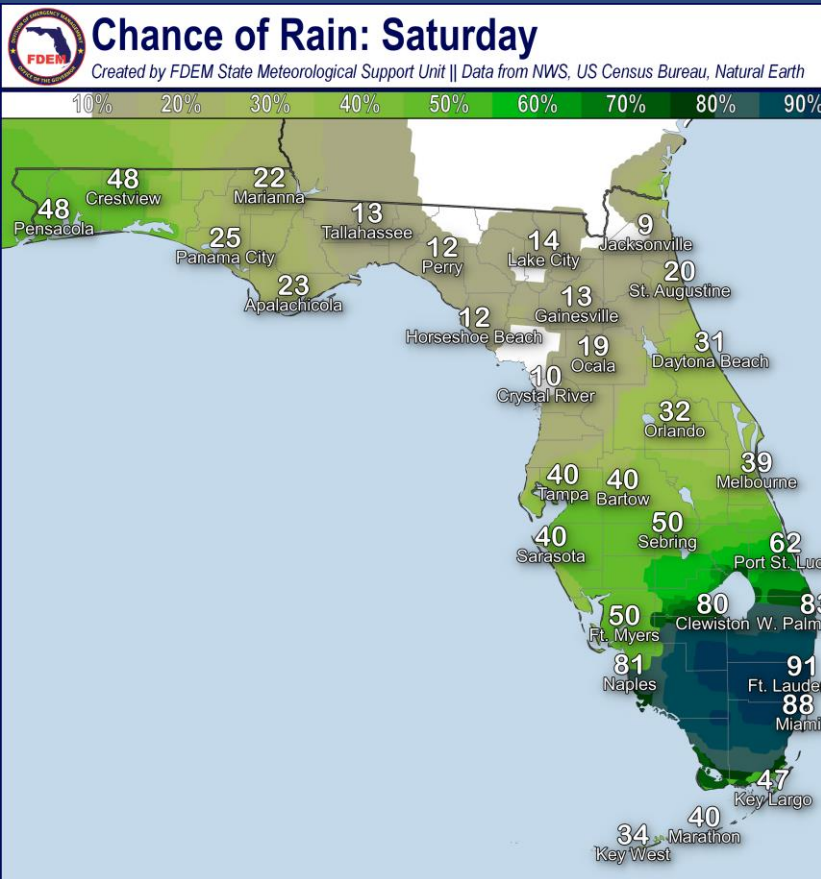


Without a well-defined circulation, and a weak system caught between high pressure systems with little to no steering flow, 90L is expected to meander off the East Coast of Florida this weekend. It is possible that 90L (or part of it) may drift over the Peninsula later this weekend.

Regardless of track, the system is likely to remain weak through its lifetime.



Forecast Rain Chances Next 3 Days



Rain chances will increase across South Florida over the weekend and remain high 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.



Flood Watch In Effect

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



HAZARDS IN EFFECT



- Flood Watch is in Effect

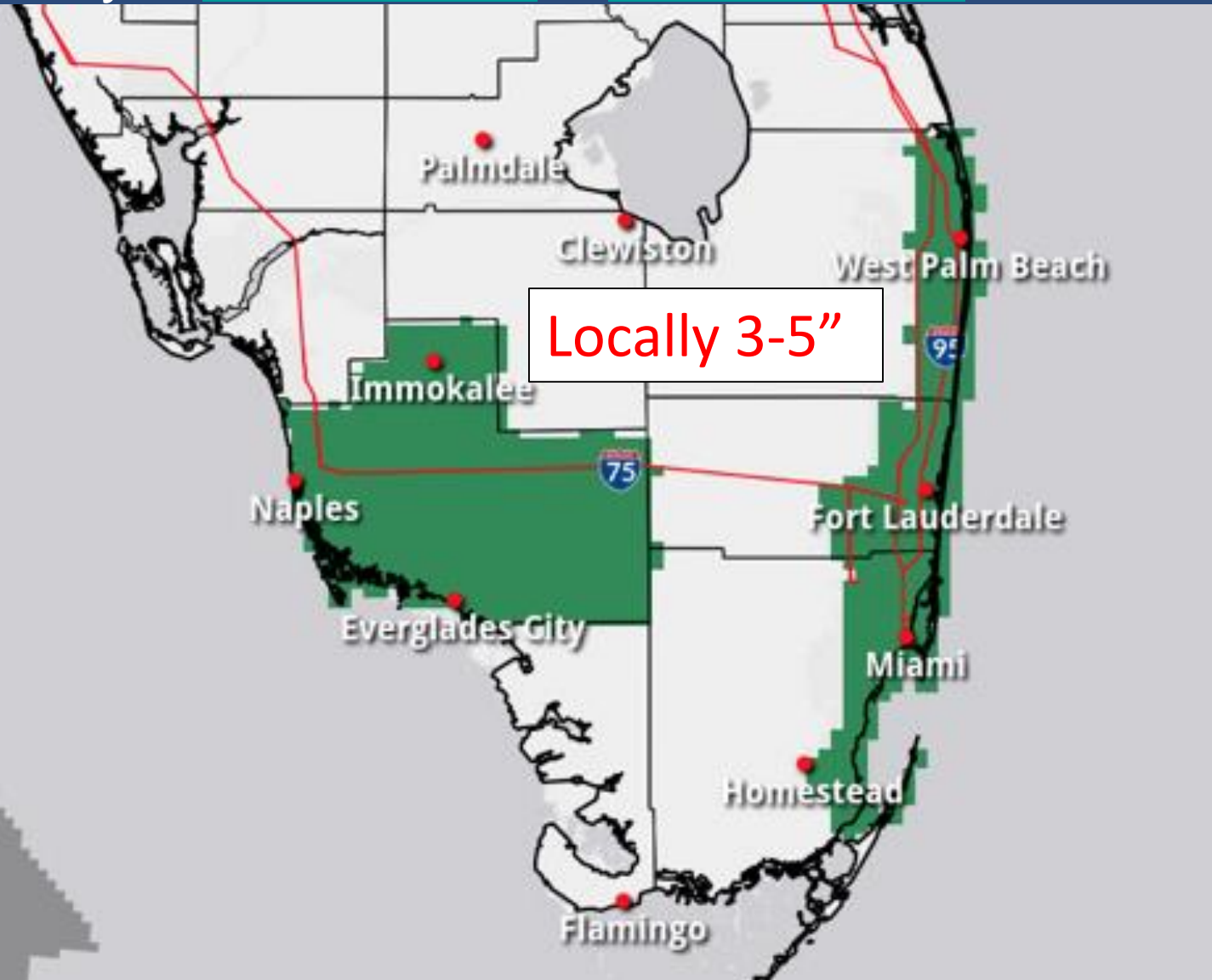


- East Coast Metro locations and Collier County



- 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.





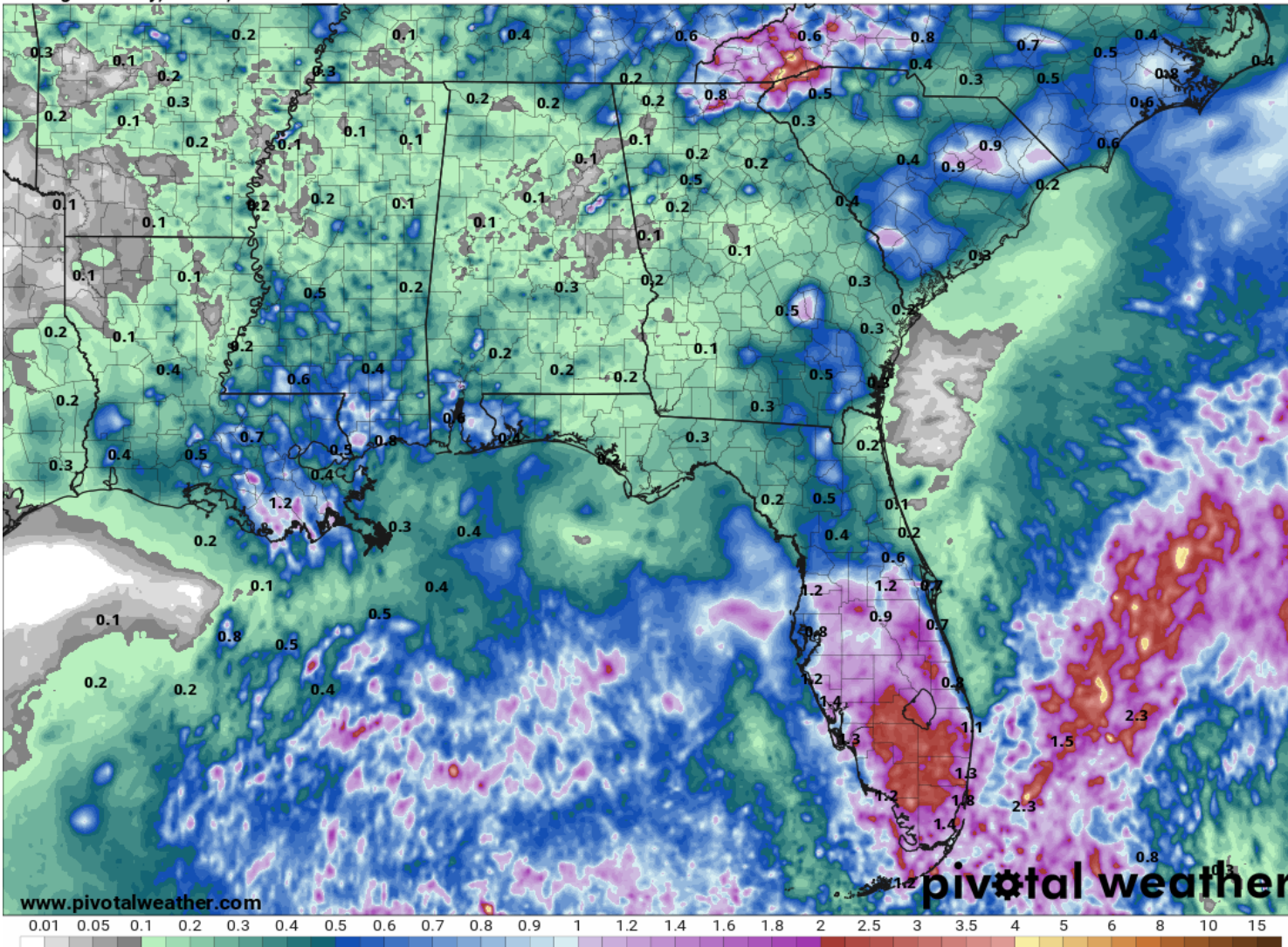
Rainfall Totals Next 5 Days

Ending 8 AM ET Wednesday

120-Hour Precipitation (in)

Ending Thursday, Jul. 29, 2021 at 8 a.m. EDT

Init: Sat 2021-07-24 12z WPC



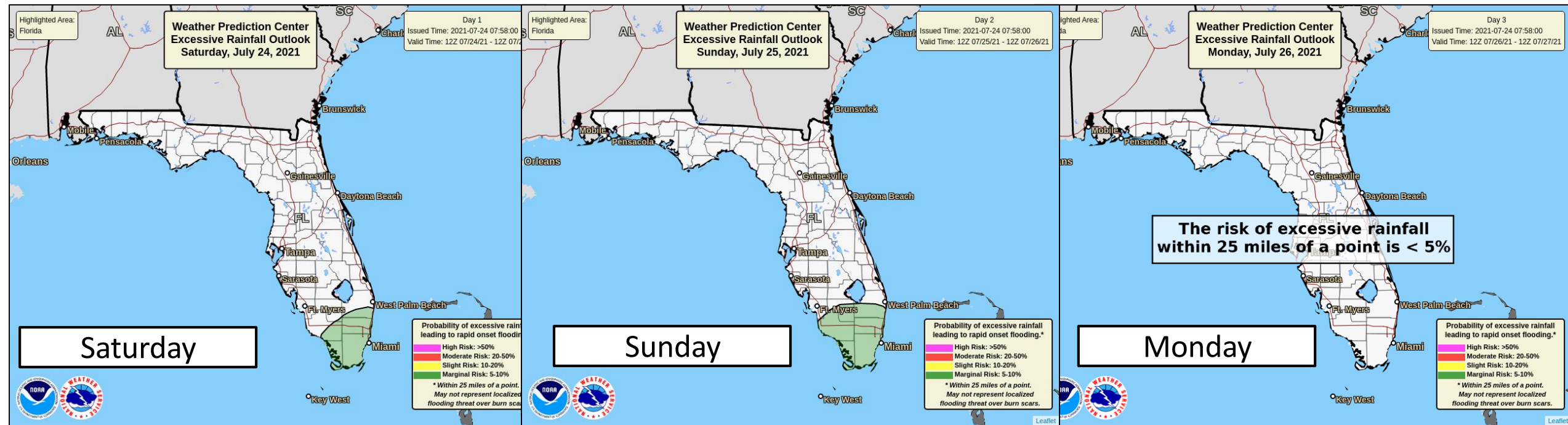
Over the next 5 days, rainfall totals will be a widespread 1-3" across the Peninsula with localized totals near 4-5" expected, particularly south of Lake Okeechobee.

Drier conditions are expected across North 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 non-tropical area of low pressure has developed along a cold front offshore of the Southeast United States. It has organized some overnight.
- As this system meanders this weekend off the East Coast of Florida, it may gradually become organized and develop into a Tropical Depression.
- Conditions are only marginally favorable for any development, so significant strengthening or organization is not expected.
- It is possible that 90L could drift over the Florida Peninsula later this weekend. However, regardless of track, the system will likely remain weak.
- Development chances have increased, and this system has a **60% (medium) chance** of development in the next 48 hours.
- Hurricane Hunters may investigate the system this afternoon.
- 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 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, with wave heights from 2-4'.

The next briefing packet will be issued Sunday 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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