



# Tropical Update



5:00 PM EDT

Thursday, August 1, 2024

**Tropical Wave (Invest 97L) Continues to See Increasing Shower & Thunderstorm Activity; Conditions Become More Favorable for Development Late Week & Weekend in the Eastern Gulf of Mexico, Near the Florida Peninsula**

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).



# Atlantic Basin Satellite Image

Chance of development:     None     Low     Medium     High







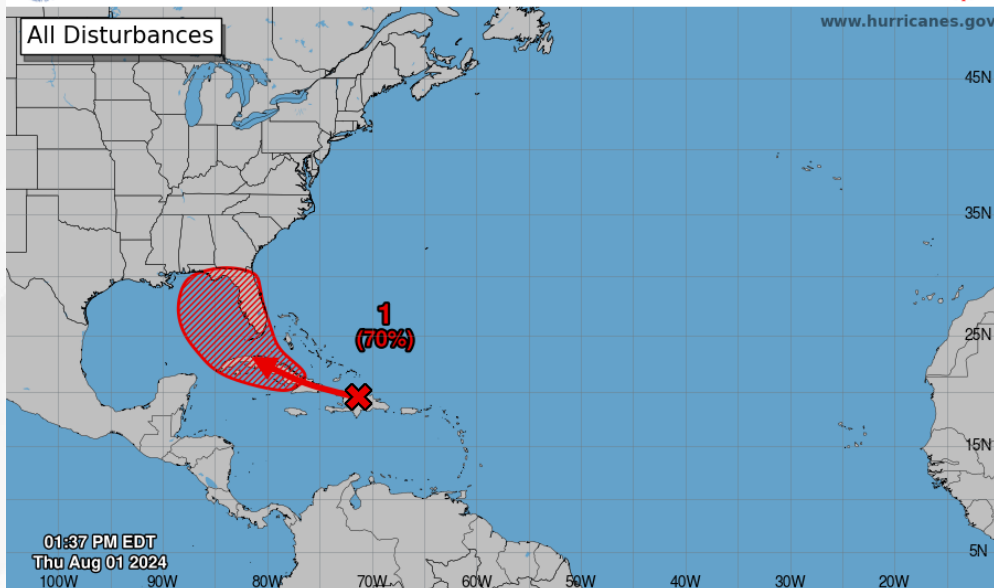
# Tropical Weather Outlook

Disturbance 1 – Invest 97L ([LINK](#))

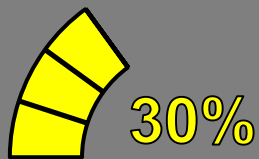


## Seven-Day Graphical Tropical Weather Outlook

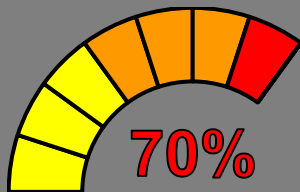
National Hurricane Center Miami, Florida



Current Disturbances and Seven-Day Cyclone Formation Chance: ✕ < 40% ✕ 40-60% ✕ > 60%  
Tropical or Sub-Tropical Cyclone: ○ Depression ○ Storm ● Hurricane  
○ Post-Tropical Cyclone or Remnants



48 Hour Formation



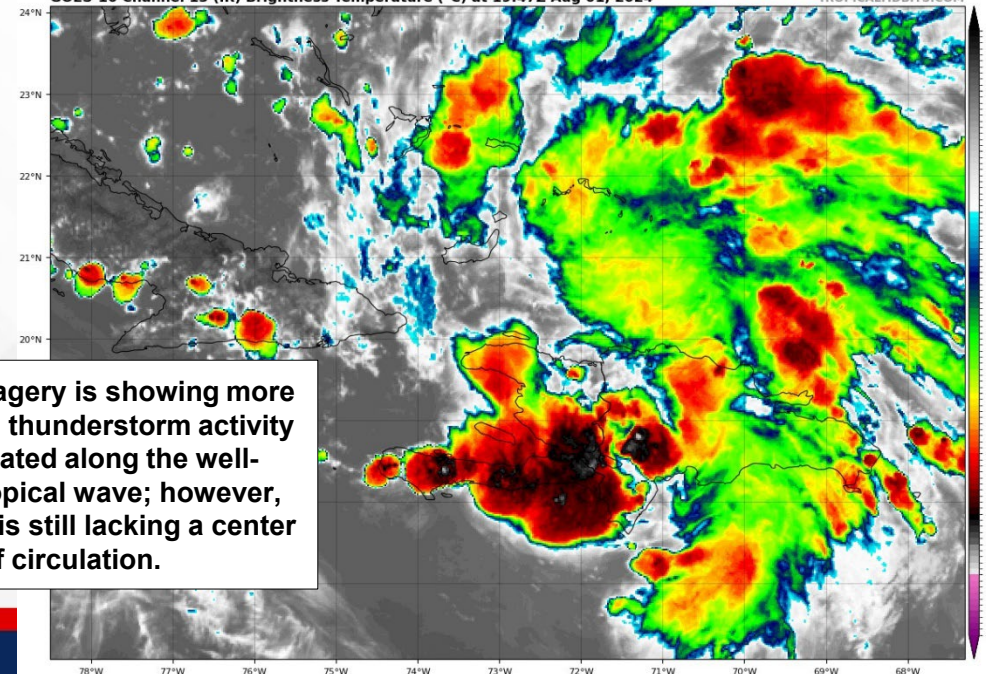
7 Day Formation

A well-defined tropical wave is producing a large area of disorganized showers and thunderstorms over Hispaniola, Puerto Rico, the Southeastern Bahamas, and the adjacent waters of the southwestern Atlantic and northeastern Caribbean Sea. Development of this system could be slow to occur during the next day or so while it moves west-northwestward over portions of the Greater Antilles. However, environmental conditions are forecast to be more conducive for development after the wave passes the Greater Antilles, and a tropical depression is likely to form this weekend or early next week over the eastern Gulf of Mexico near the Florida Peninsula. Interests across the greater Antilles, the Bahamas, and Florida should continue to monitor the progress of this system.

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

\* Formation chance through 7 days...**high...70%.**

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 19:47Z Aug 01, 2024



Satellite imagery is showing more shower and thunderstorm activity concentrated along the well-defined tropical wave; however, the system is still lacking a center of circulation.



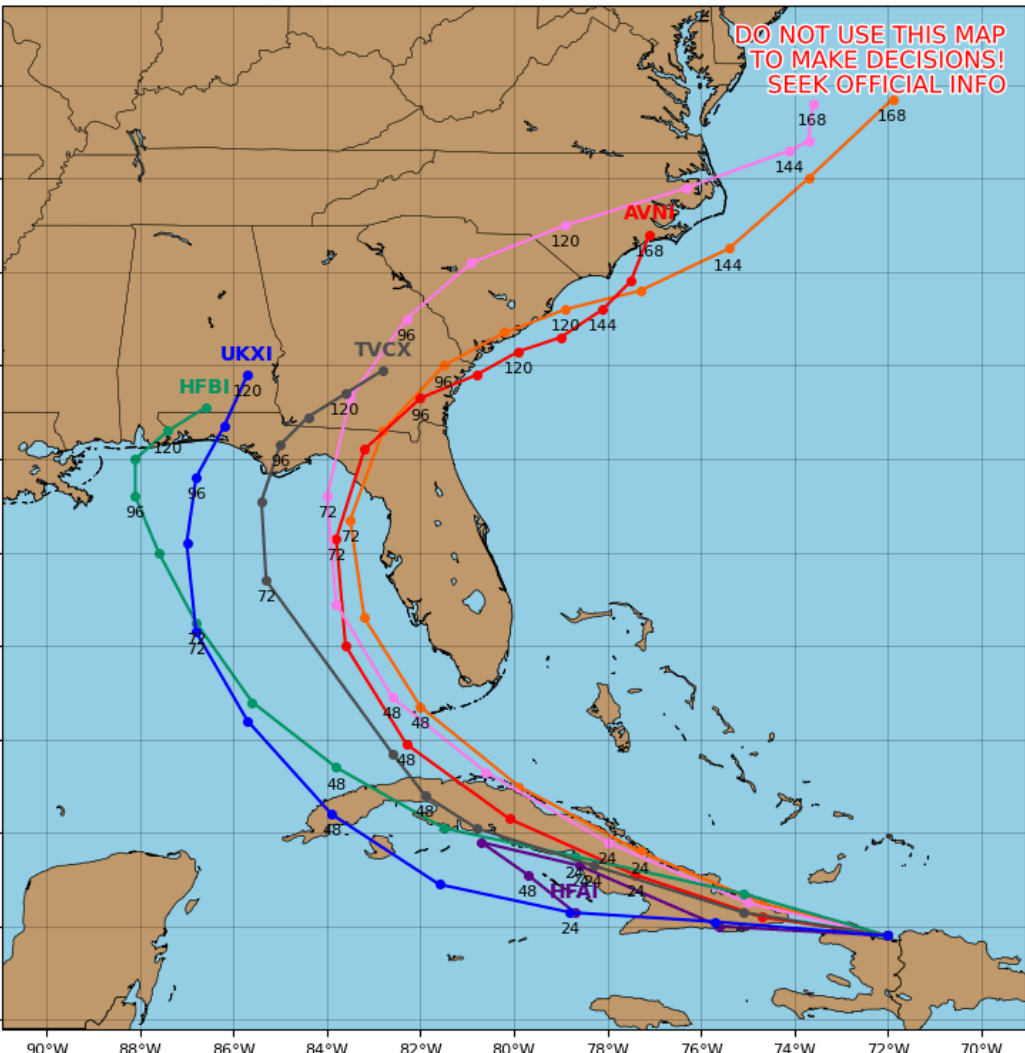
# Model Forecasts – Next 5 Days

## Invest 97L

### Invest 97L Model Track Guidance

Initialized at 18z Aug 01 2024

Levi Cowan - tropicaltidbits.com

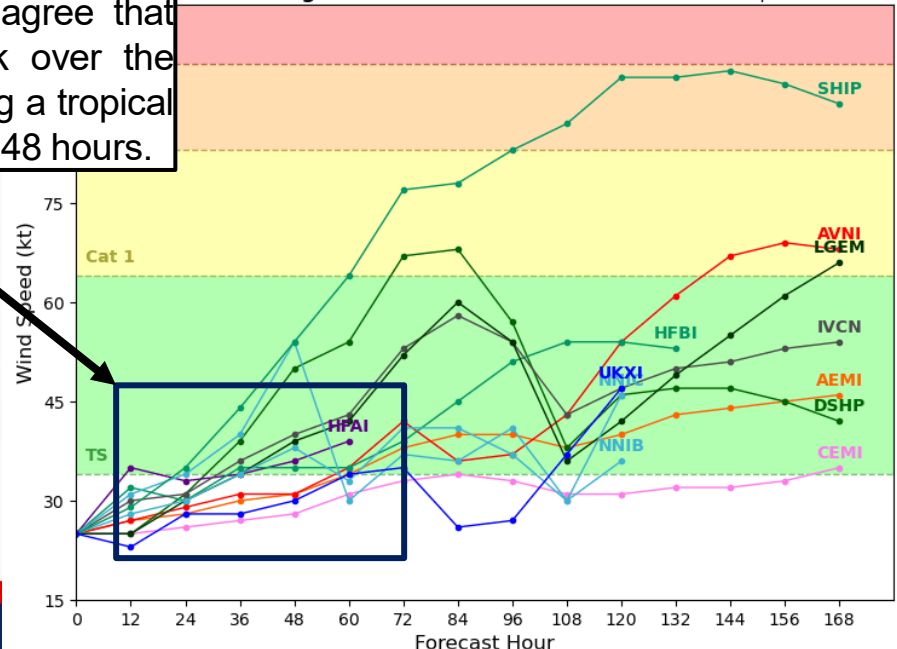


Computer model guidance within the past 24 hours has increased in agreement regarding the development and evolution of the tropical wave. This afternoon, computer forecast models are in good agreement that this system will remain weaker and more disorganized in nature during the next 24 to 36 hours as it advances west-northwestward over the Greater Antilles. While there is uncertainty surrounding the future track of the system, models generally agree that the tropical wave will curve more northwestward and northward over the Florida Straits and southeastern Gulf of Mexico this weekend and entering the eastern-central and northeastern Gulf of Mexico Sunday into Monday. Computer forecast models suggest this may be a slow-moving tropical system as the area of low pressure is still near or over Florida into next week. Because this system does not have a well-defined center of circulation for the forecast computer models to use, additional updates to eventual track and timing will be possible over the next couple days as the tropical wave becomes more organized.

### Invest 97L Model Intensity Guidance

Initialized at 18z Aug 01 2024

Levi Cowan - tropicaltidbits.com



Computer models generally agree that Invest 97L will remain weak over the next few days, likely becoming a tropical depression within the next 24-48 hours.





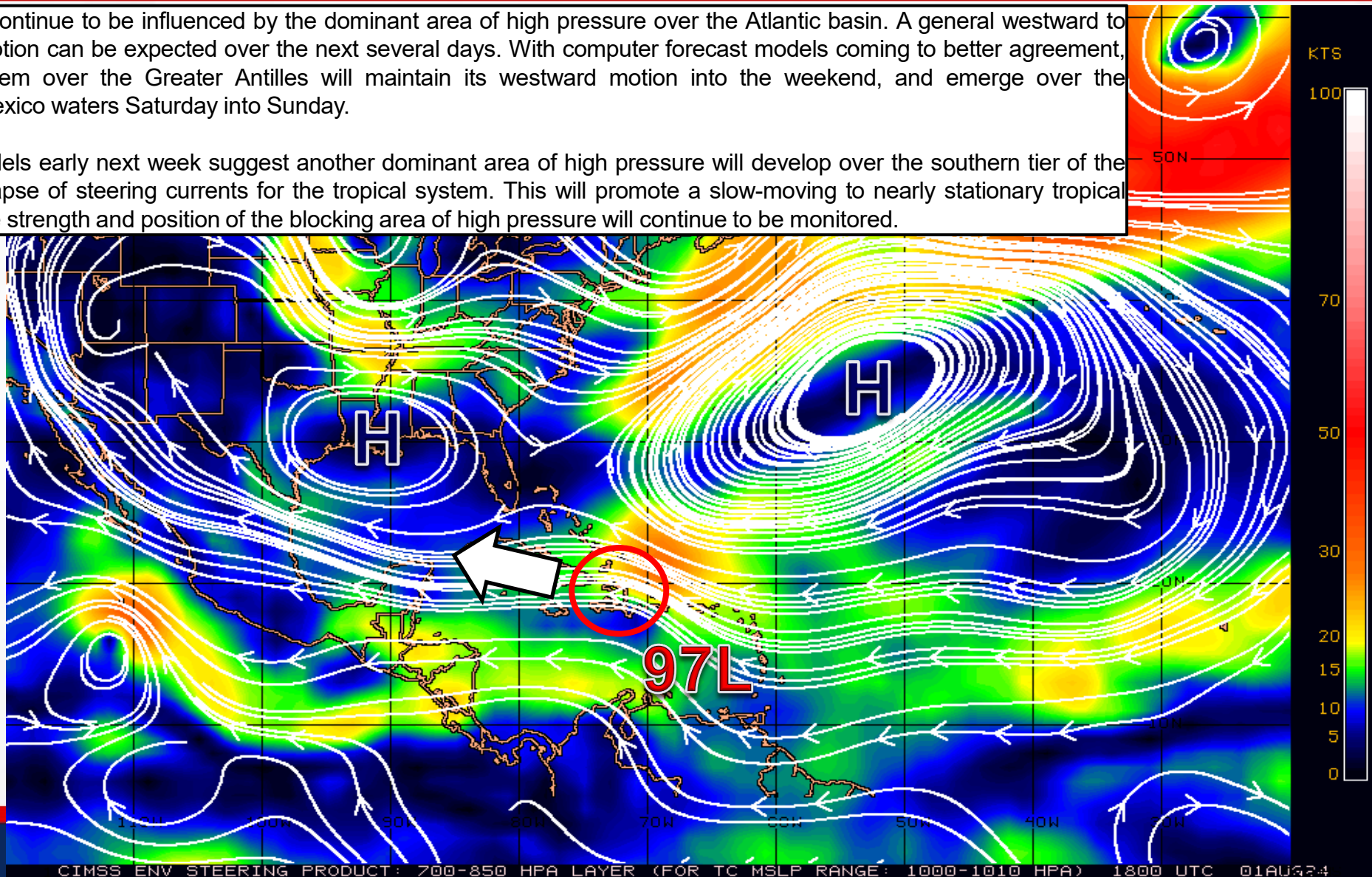
# Steering Currents

## 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.

The tropical wave will continue to be influenced by the dominant area of high pressure over the Atlantic basin. A general westward to west-northwestward motion can be expected over the next several days. With computer forecast models coming to better agreement, a weaker tropical system over the Greater Antilles will maintain its westward motion into the weekend, and emerge over the southeastern Gulf of Mexico waters Saturday into Sunday.

Computer forecast models early next week suggest another dominant area of high pressure will develop over the southern tier of the U.S. resulting in a collapse of steering currents for the tropical system. This will promote a slow-moving to nearly stationary tropical system. Trends with the strength and position of the blocking area of high pressure will continue to be monitored.



Fast Moving Storm

Fast Moving Storm

Typical Moving Storm

Slow Moving Storm

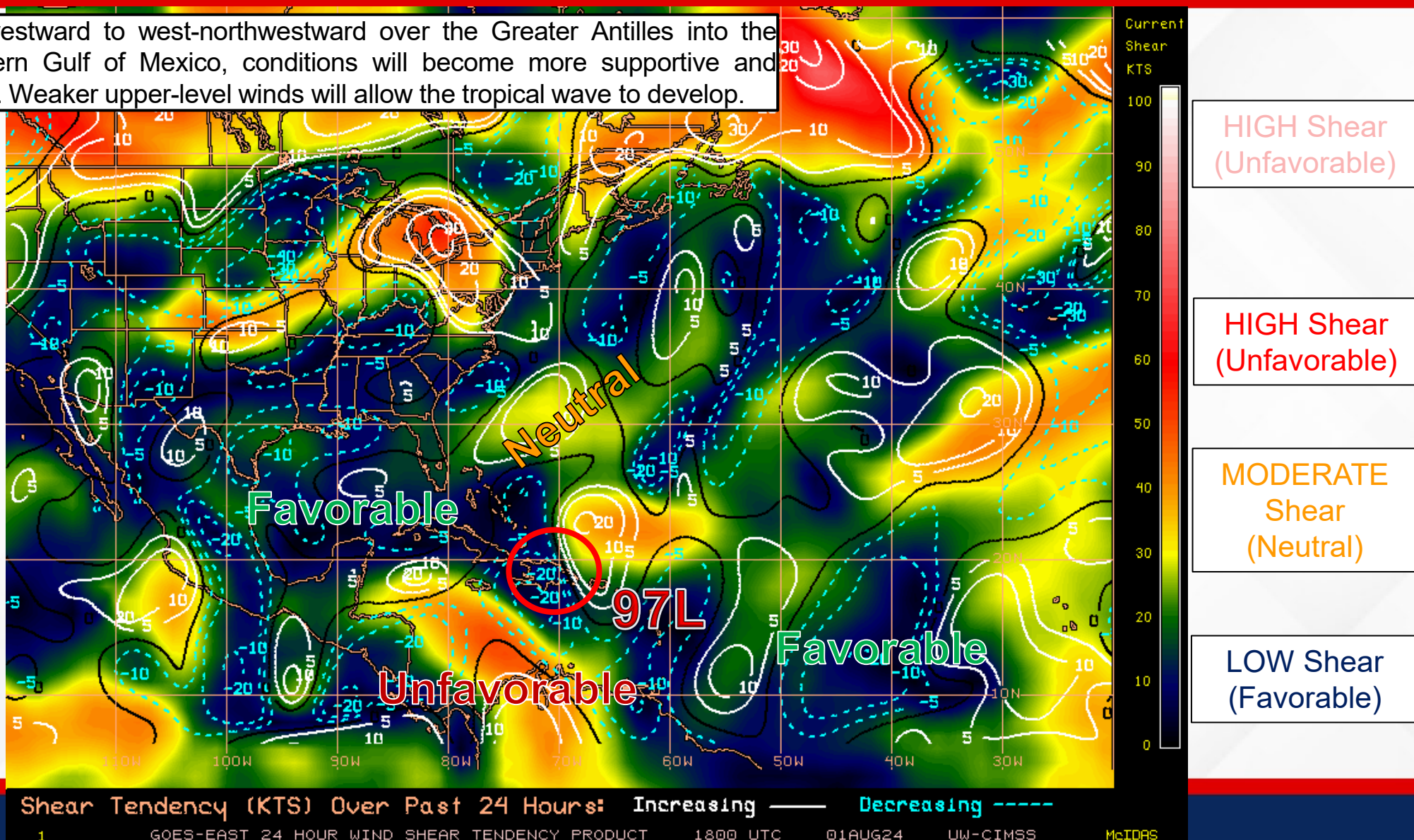


# Wind Shear

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).

As the system moves westward to west-northwestward over the Greater Antilles into the Florida Straits and eastern Gulf of Mexico, conditions will become more supportive and favorable for organization. Weaker upper-level winds will allow the tropical wave to develop.



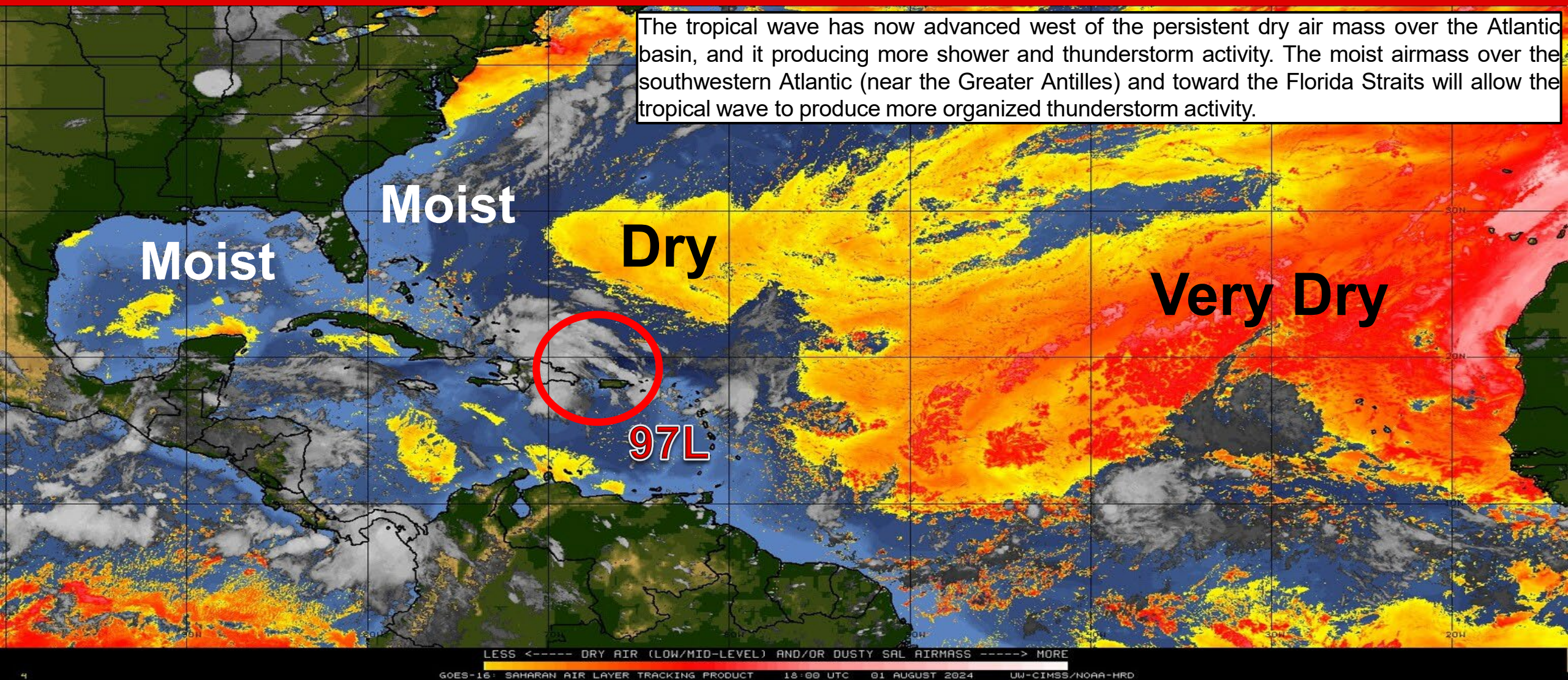




# Dry Air & Saharan Dust

Is the environment favorable for the system?

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



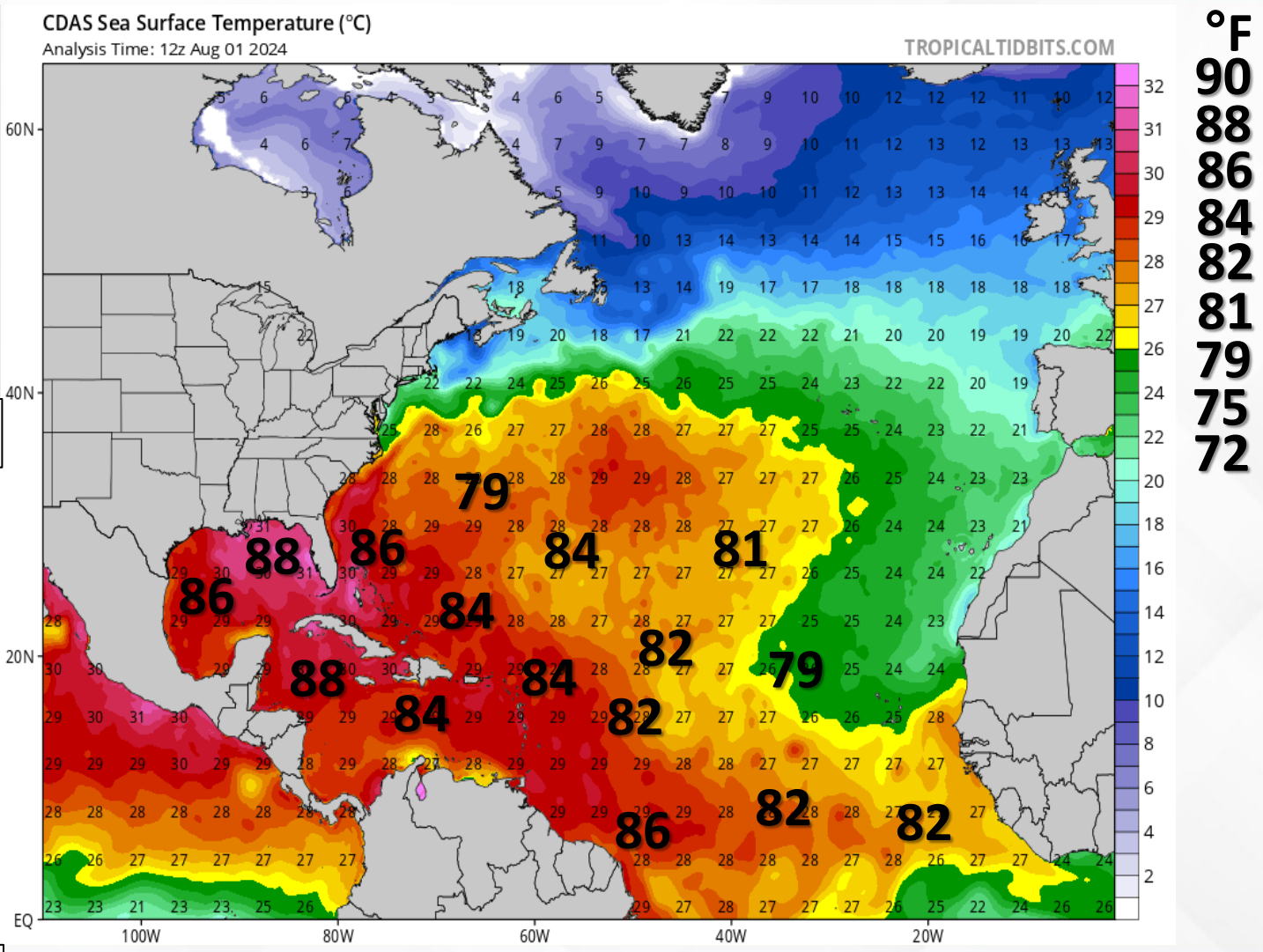
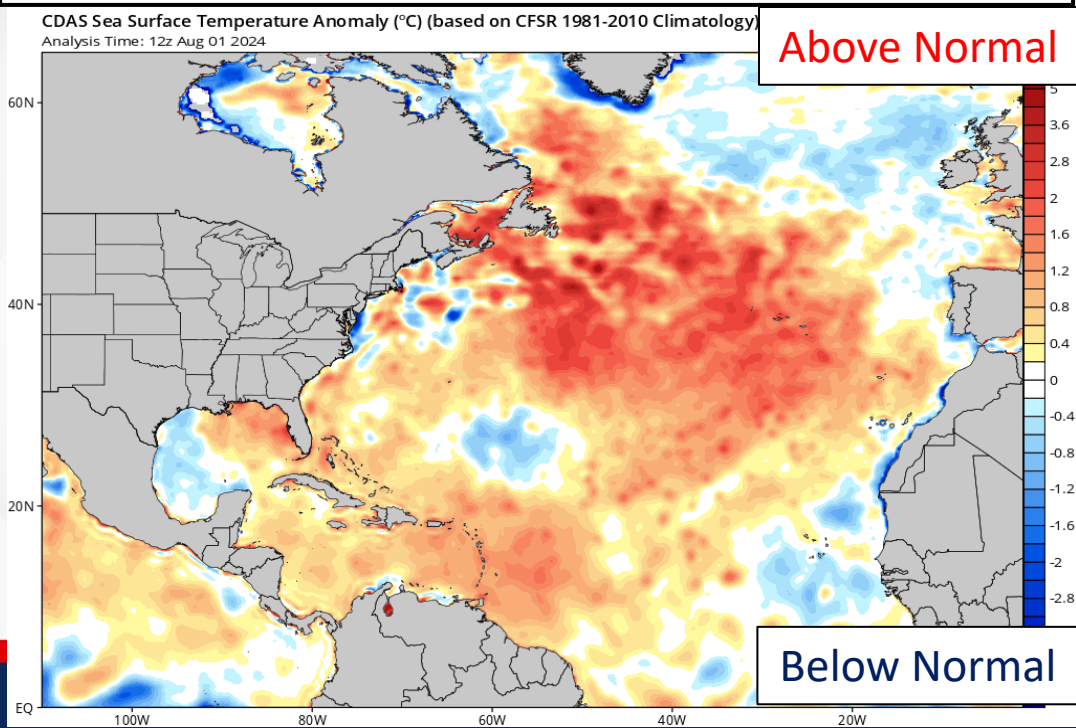




# Sea Surface Temperatures & Anomalies

Is the ocean favorable for the system?

Temperatures across the Atlantic Basin are supportive of tropical cyclone development. Waters across the deep tropical Atlantic and Gulf of Mexico 0.5 to 1.5-degrees above normal for this time of year.







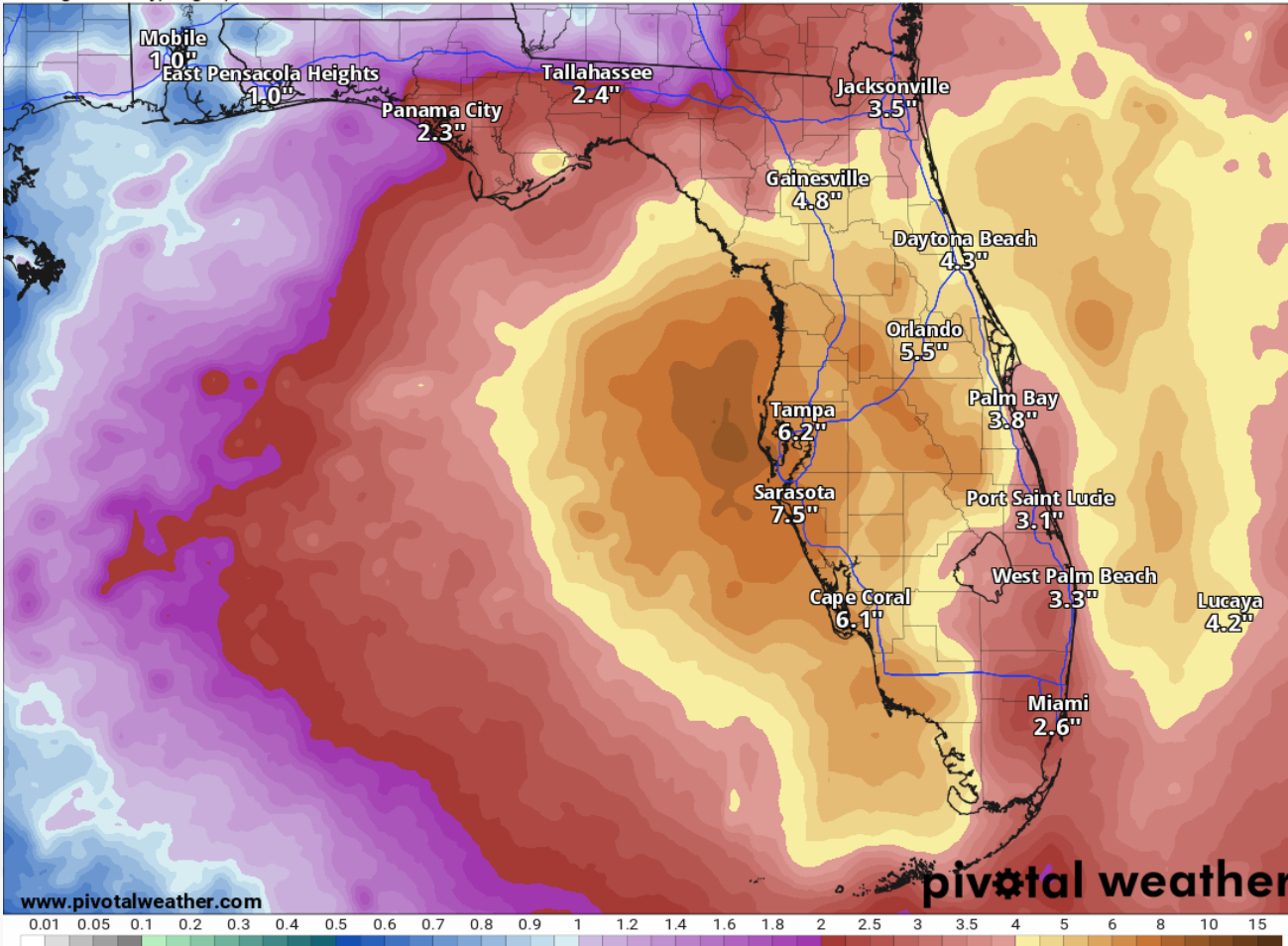
# Rainfall Totals – Next 7 Days

## From the Weather Prediction Center (WPC)

7-Day Precipitation (in)

Ending Thursday, Aug. 8, 2024 at 8 a.m. EDT

Init: Thu 2024-08-01 12z WPC



Flooding concerns are growing through the Sunday through Wednesday timeframe as abundant tropical moisture associated with the approaching tropical system may produce persistent rounds of heavy rain and thunderstorm activity across the state. With computer forecast models over the past 24 hours hinting that the tropical system may be slow-moving to nearly stationary in nature over the eastern Gulf of Mexico, a significant multi-day rainfall totals will be possible.

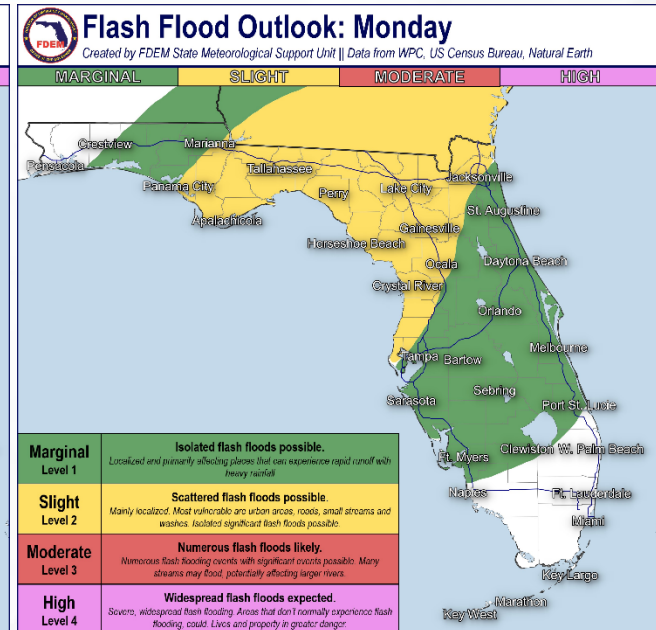
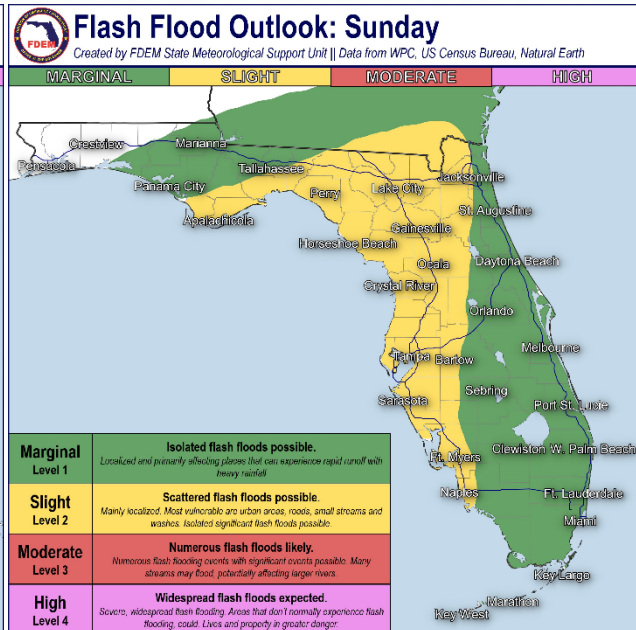
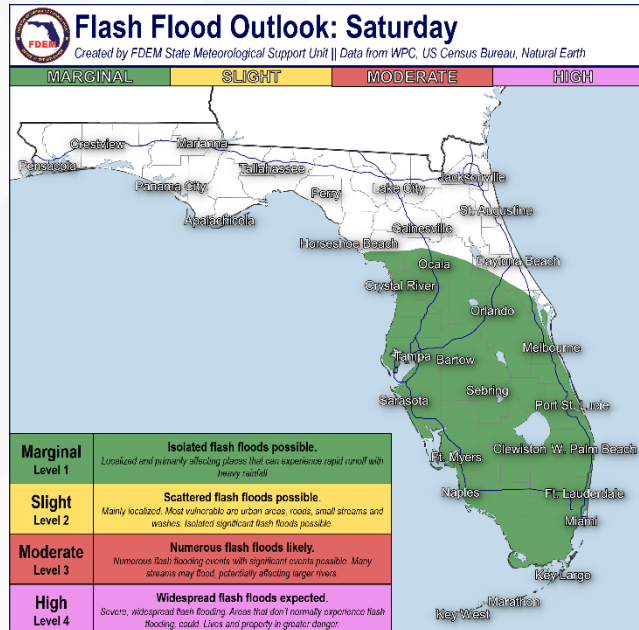
Rainfall totals are heavily tied to the eventual track and forward speed of the tropical system, so there remains forecast uncertainty regarding where the heaviest totals will occur.

Widespread 2-4" can be expected across the state, with locally higher amounts of 4-8" forecast from portions of North Florida, I-4 corridor, and along the Southwest Florida Coast. Locally higher amounts exceeding 10-15" cannot be ruled out.



# Flash Flood Outlooks – Saturday through Monday

## From the Weather Prediction Center (WPC)



The Weather Prediction Center (WPC) is outlooking a **Marginal Risk (level 1 of 4) for Flash Flooding** across Central and South Florida Saturday. A **Marginal to Slight Risk (level 1-2 of 4) for Flash Flooding** is outlooked across much of the state Sunday and Monday. With computer forecast models over the past 24 hours hinting that the tropical system may be slow-moving to nearly stationary in nature over the eastern Gulf of Mexico, a significant multi-day rainfall totals will be possible into next week. Instances of **flooding** will be likely into next week, especially across urban and low-lying/poor drainage areas and over saturated grounds. Given the recent active summertime pattern, saturated grounds will allow for heavy rainfall to likely lead to a quicker onset to **flooding** for some locations.

### Understanding WPC Excessive Rainfall Risk Categories

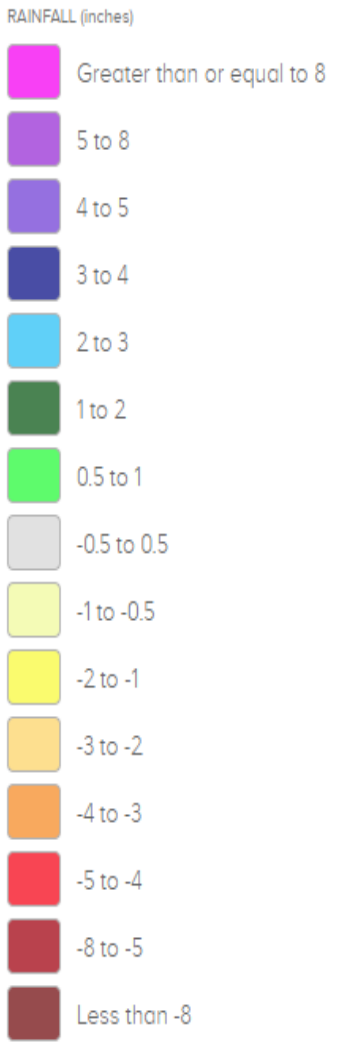
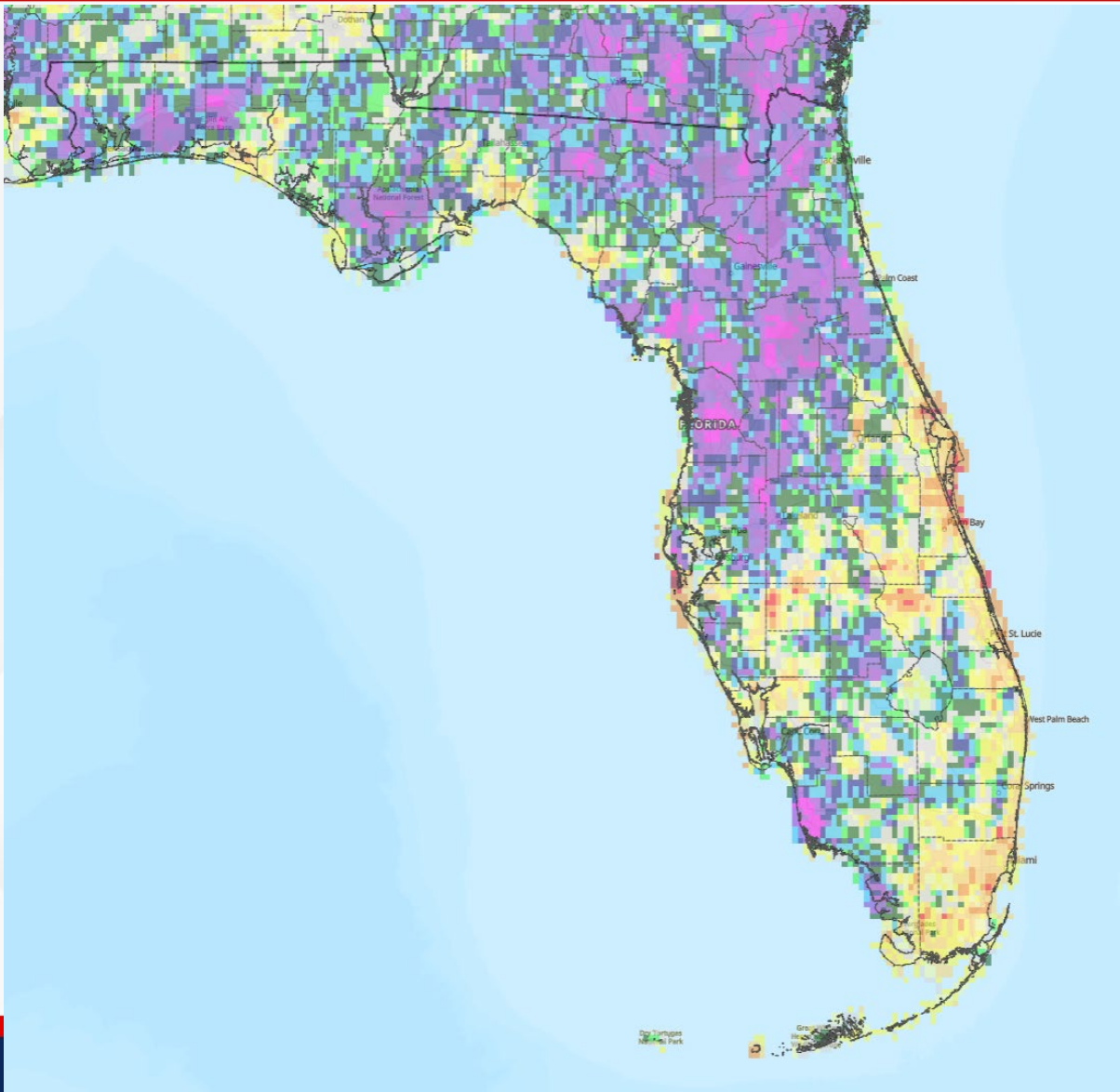
No Area/Label	MARGINAL (MRGL)	SLIGHT (SLGT)	MODERATE (MDT)	HIGH (HIGH)
Flash floods are generally not expected.	Isolated flash floods possible	Scattered flash floods possible	Numerous flash floods likely	Widespread flash floods expected
	Localized and primarily affecting places that can experience rapid 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.
<a href="http://www.wpc.ncep.noaa.gov">www.wpc.ncep.noaa.gov</a> @NWSWPC				
Flash flooding near me?	NO Flash Flooding			





# 30-Day Rainfall Departure from Normal

From the National Water Prediction Service (NWPS)



Much of North Florida and the Florida Gulf Coast have experienced rainfall 6-10" above normal over the past 30 days. This would likely lead to rapid onset of flooding as well as increased drainage into area rivers.

Several eastern Panhandle and North Florida rivers are already running high at this time. Flooding in coastal riverine basins could be exacerbated with multiple days of onshore winds and ocean waves.




# Flash Flood Guidance

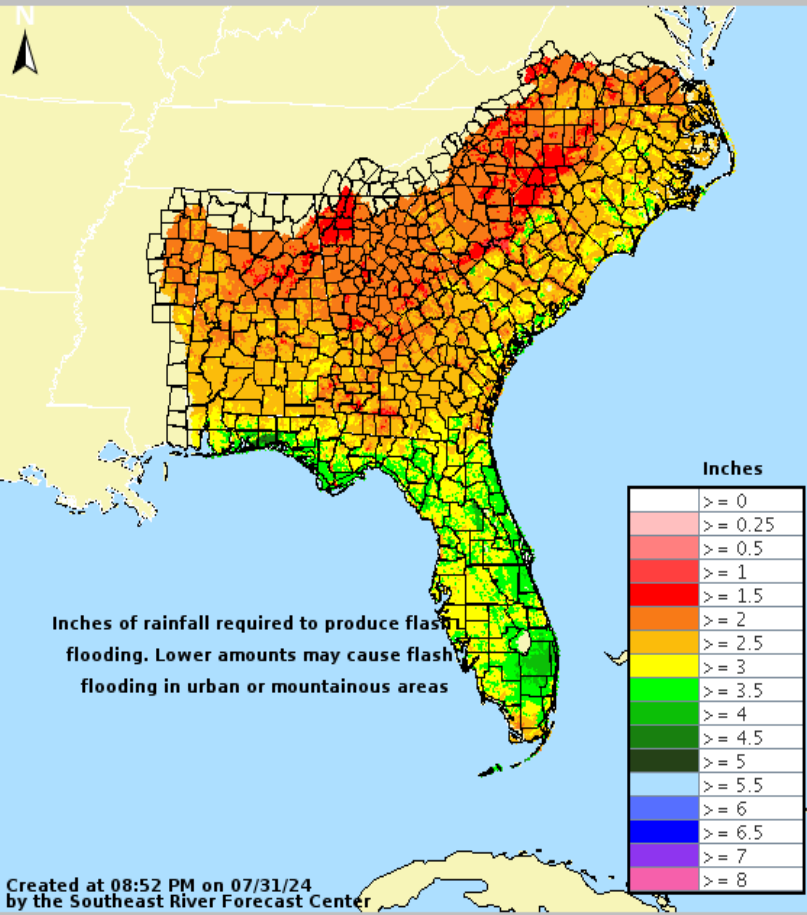
## How Much Rain is Needed to Create Flash Flooding?



### 1-hr Flash Flood Guidance

Valid: 07/31/2024 @ 08:52 PM



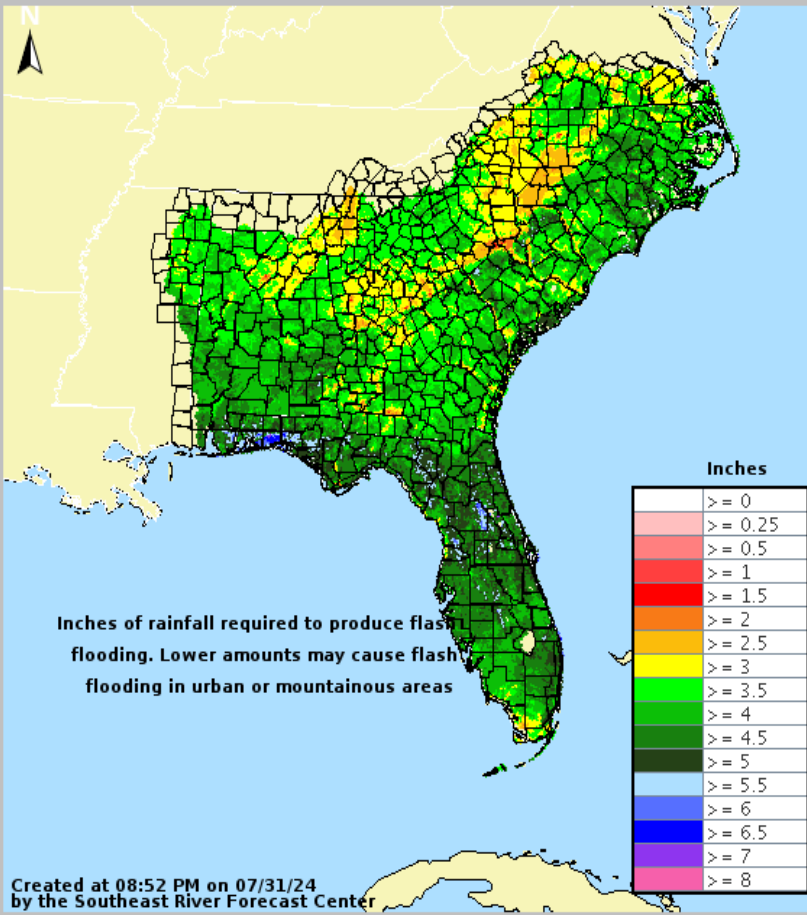




### 6-hr Flash Flood Guidance

Valid: 07/31/2024 @ 08:52 PM





Along portions of the Florida Panhandle, Nature Coast, and Southwest Florida, it will only take about 1-2" within 1 hour or 3-4" within 6 hours to produce flash flooding due to already saturated grounds.

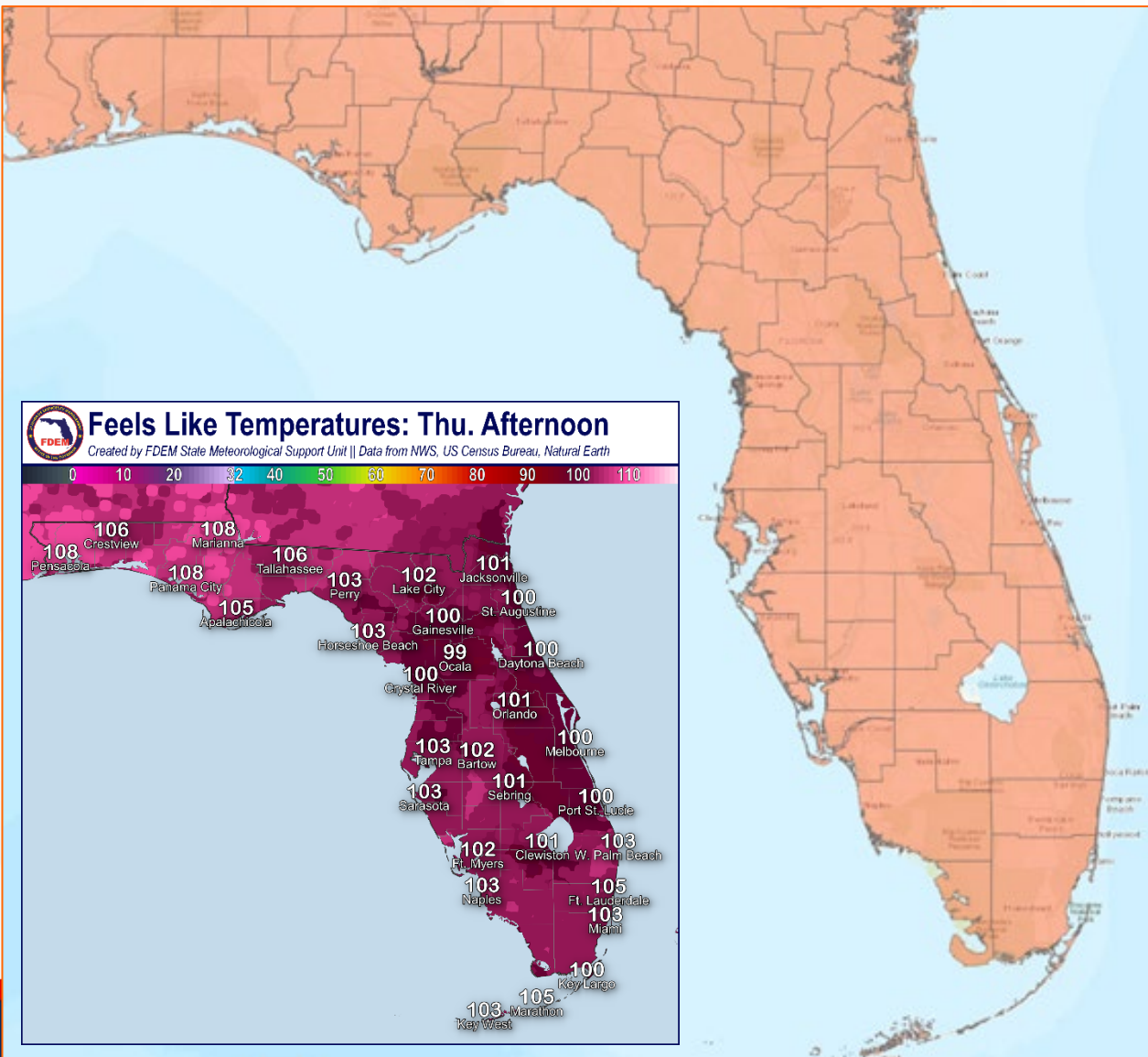
Elsewhere, it will take about 2-4" in 1 hour or 4-6" within 6 hours to cause flash flooding.





# Hot & Humid Conditions

From the National Weather Service (NWS)



**Warm and muggy conditions** can be expected across the state today as high temperatures will reach the upper 80s to middle 90s. **Heat index values** across the state will reach the **triple digits** by the afternoon hours.

**Heat Advisories** will remain in effect statewide through this evening as **heat indices** are expected to **reach 105-112-degrees** this afternoon.

*Remember to take frequent breaks from outdoor activities, wear light clothing, and drink plenty of water.*



# Summary

## Near the Greater Antilles & the Bahamas (Invest 97L):

- A well-defined tropical wave is producing a large area of disorganized showers and thunderstorms over Hispaniola, Puerto Rico, the Southeastern Bahamas, and the adjacent waters of the southwestern Atlantic and northeastern Caribbean Sea.
- Development of this system could be slow to occur during the next day or so while it moves west-northwestward over portions of the Greater Antilles.
- However, environmental conditions are forecast to be more conducive for development after the wave passes the Greater Antilles, and a tropical depression is likely to form this weekend or early next week over the eastern Gulf of Mexico near the Florida Peninsula.
- Interests across the greater Antilles, the Bahamas, and Florida should continue to monitor the progress of this system.
- The National Hurricane Center is outlooking a **low (30%) chance of development** over the next 48 hours, but a **high (70%) chance of development** over the next 7 days. The next name on the list is Debby (*DEH-bee*).

## Florida Outlook:

- The typical summertime pattern can be expected to continue across the Sunshine State over the next several days. Daily showers and thunderstorms will develop along the inland-moving sea breezes late morning and early afternoon, increasing in coverage and intensity with daytime heating.
  - The Storm Prediction Center (SPC) is outlooking a **Marginal Risk (level 1 of 5) for Severe Weather** west of I-75 along and north of the I-10 corridor as a few strong to severe thunderstorms producing frequent lightning, damaging wind gusts (40-60 mph), and heavy downpours will be possible. Locally strong to severe thunderstorms cannot be ruled out elsewhere during peak heating hours of the.
  - Locally heavy rainfall which could lead to localized flooding within stronger or slower-moving shower and thunderstorm activity.
- Rainfall totals associated with any approaching tropical disturbance are typically one of the last details of the '*forecasting puzzle*'.
  - Trends within the computer forecast models will be monitored through the week. A more disorganized tropical system may produce higher rain chances and greater rainfall totals over portions of the Florida Peninsula this weekend into early next week.
  - The Weather Prediction Center (WPC) is outlooking a **Marginal Risk (level 1 of 4) for Flash Flooding** across Central and South Florida Saturday. A **Marginal to Slight Risk (level 1-2 of 4) for Flash Flooding** is outlooked across much of the state Sunday and Monday.
- Warm and muggy conditions can be expected across the state today as high temperatures will reach the upper 80s to middle 90s. Heat index values across the state will reach the triple digits by the afternoon hours.
  - **Heat Advisories** will remain in effect statewide through this evening as heat indices are expected to reach 105-112-degrees this afternoon.

The next briefing packet will be issued on Friday morning. For the latest information, please visit the [National Hurricane Center website](#).





# Tropical Update



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**State Meteorological Support Unit**

**Florida Division of Emergency Management**

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