



Tropical Update



12:00 PM EDT

Monday, September 9, 2024

Tropical Storm Francine Forms in the Western Gulf of Mexico

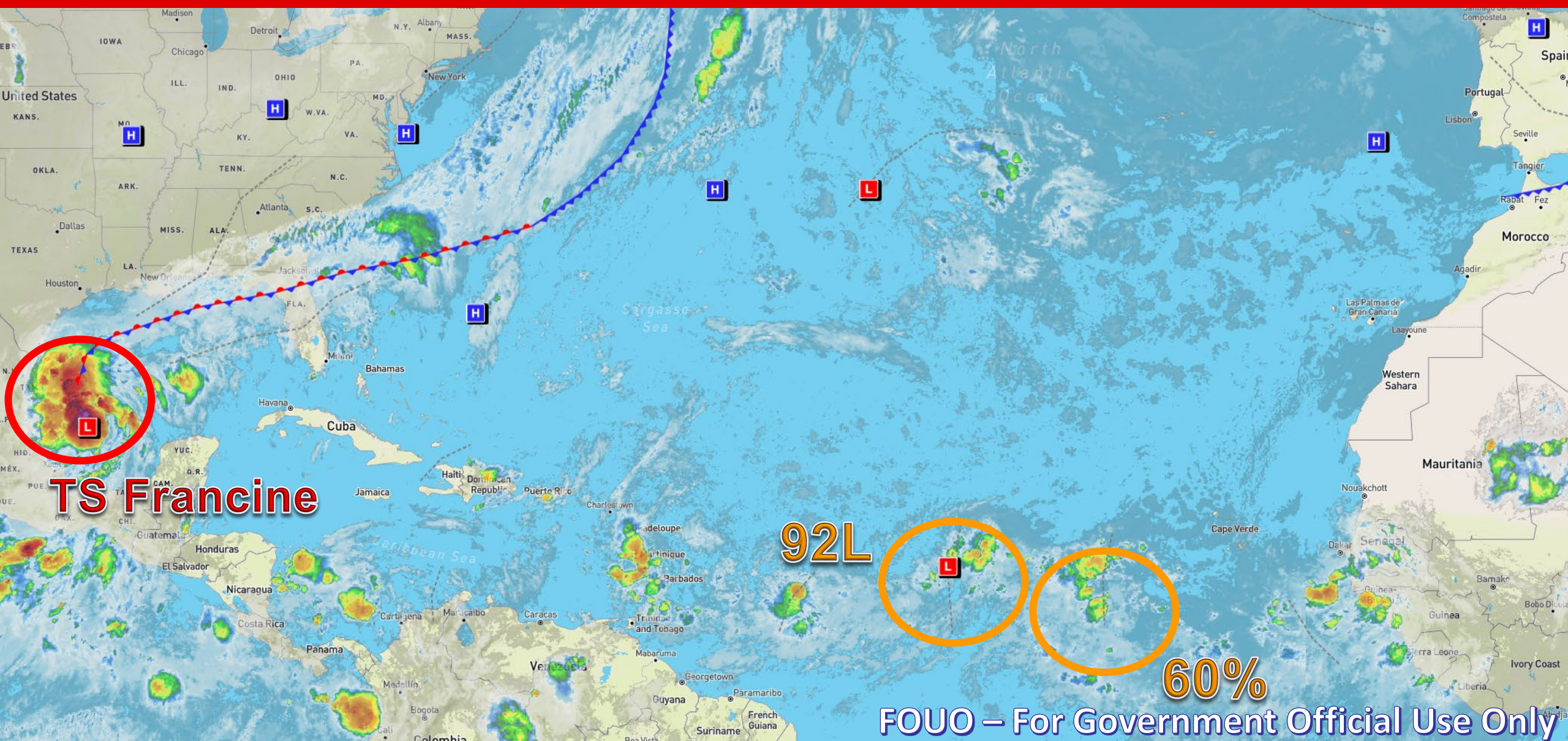
**Invest 92L & Eastern-Central Tropical Atlantic Wave Have
Medium (60%) Chance of Development Over the Next 7 Days**

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

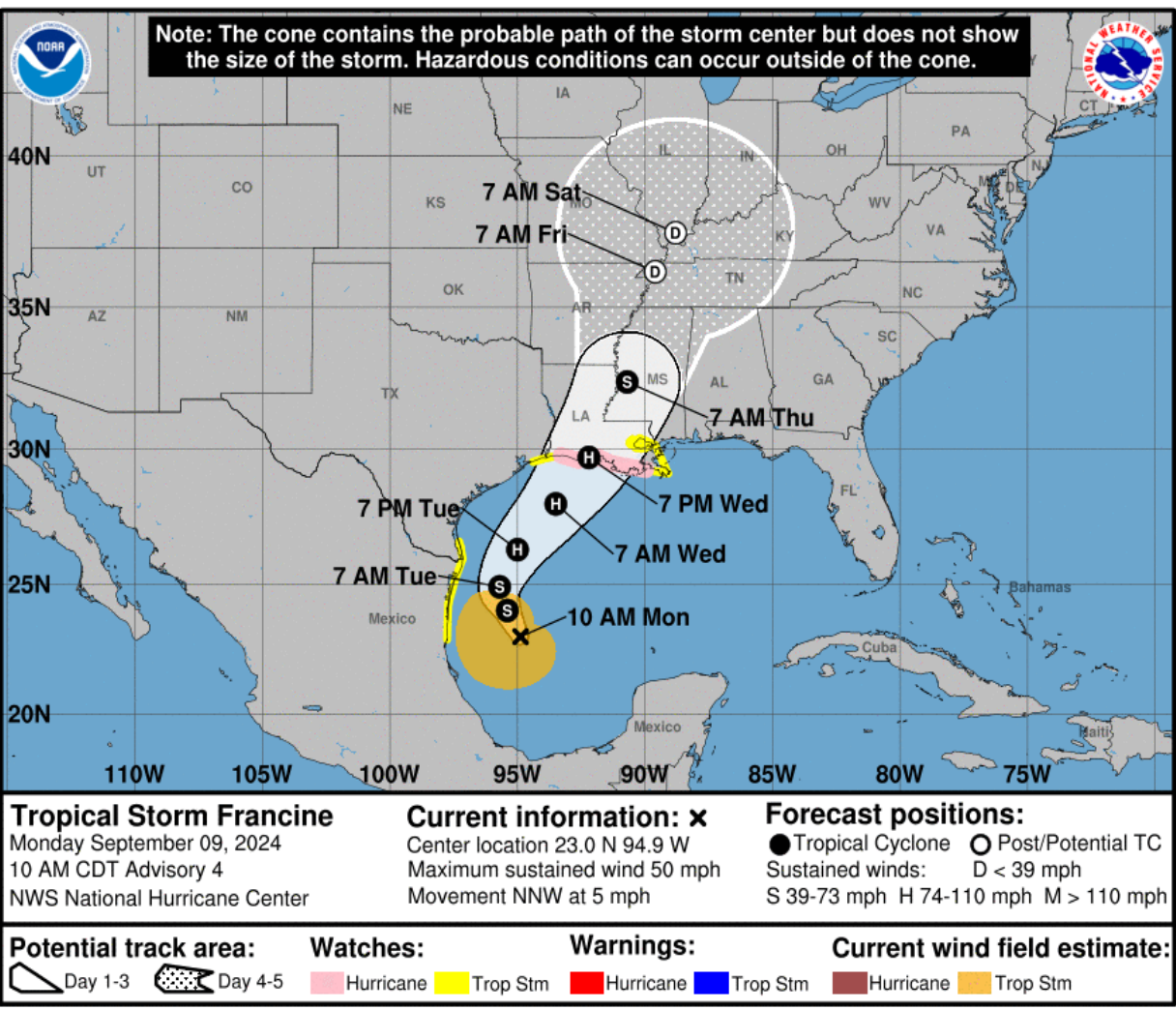
Chance of development: — None — Low — Medium — High





Tropical Storm Francine

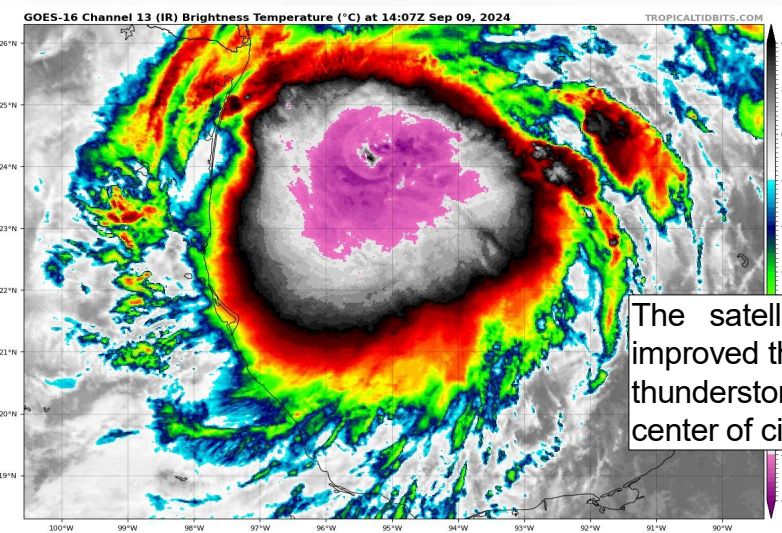
From the National Hurricane Center (NHC)



- **Location:** 480 miles south-southwest of Cameron, Louisiana
- **Maximum Sustained Winds:** 50 mph
- **Current Movement:** NNW at 5 mph
- **FL Watches & Warnings:** None

A slow north-northwestward motion is expected for the remainder of the day, followed by a faster motion to the northeast beginning on Tuesday. On the forecast track, Francine is expected to be just offshore of the northern Gulf Coast through Tuesday and approach the Louisiana and Upper Texas coastline on Wednesday. Gradual intensification is expected over the next day with more significant intensification on Tuesday night and Wednesday. Francine is expected to become a hurricane before it reaches the northwestern U.S. Gulf Coast on Wednesday.

While Francine looks to approach the Upper Texas and Louisiana coastlines midweek, this system will bring dangerous marine and coastal conditions to the Florida Panhandle beginning as early as Wednesday. Rounds of heavy rainfall and abundant tropical moisture associated with Francine could lead to pockets of isolated to scattered flash flooding along the urban I-10 corridor later this week.



The satellite presentation of Francine has improved this morning, with more concentrated thunderstorm activity near the estimated center of circulation.

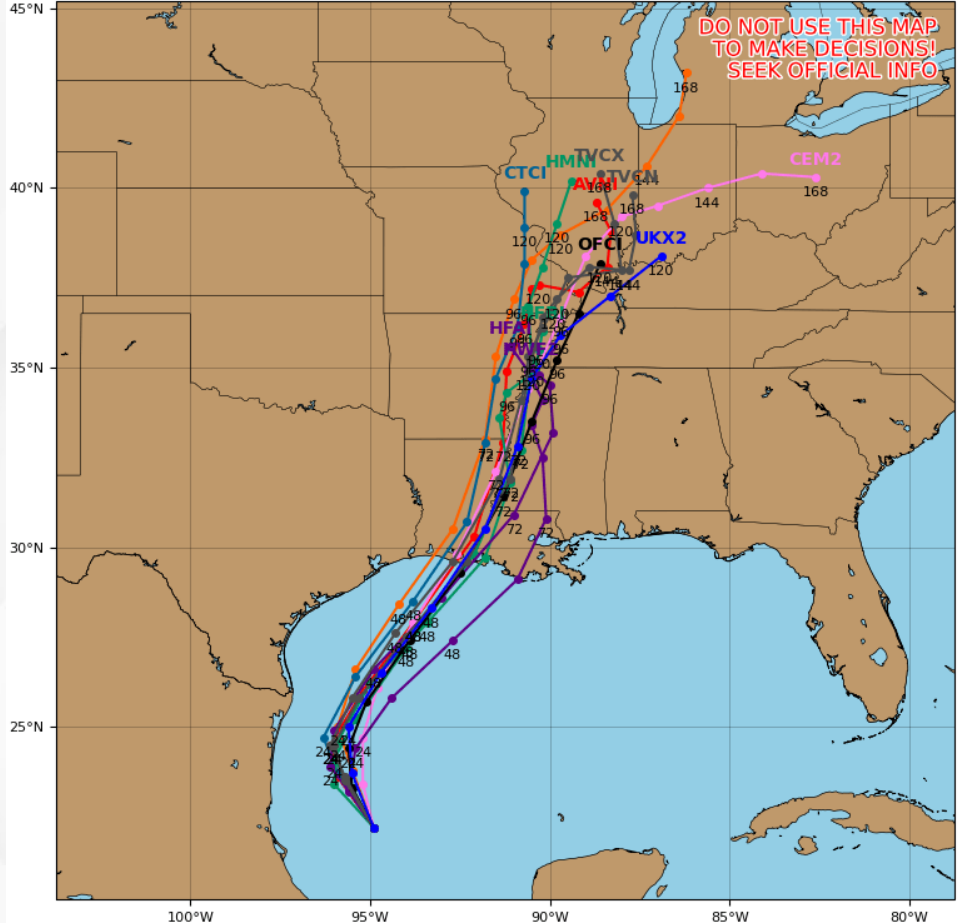


Model Forecasts – Next 5 Days

Tropical Storm Francine

Potential Tropical Cyclone SIX Model Track Guidance

Initialized at 12z Sep 09 2024
Levi Cowan - tropicaltidbits.com

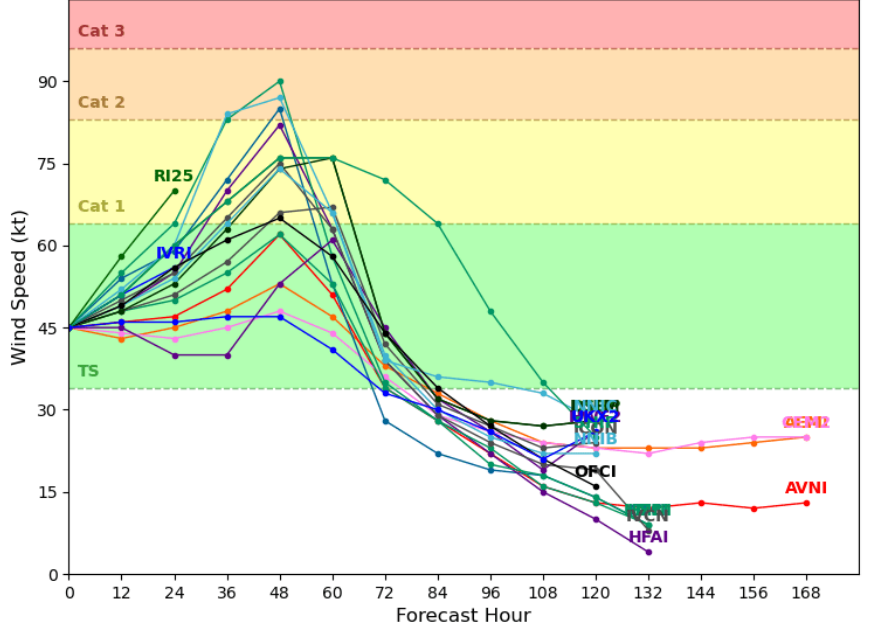


The estimated forward motion of Francine currently remains a little uncertain; however, computer forecast models are in good agreement that the system is forecast to gradually turn northward and the north-northeastward as it moves between a mid-level area of high pressure centered over Cuba and a an upper-level disturbance located to its north over Texas. Computer forecast models this morning have shifted a bit more eastward and faster, with Francine moving onshore the Louisiana coastline Wednesday evening. The eventual track forecast will continue to be refined as the system becomes more organized.

As Francine continues to establish its inner-core, more significant intensification will be possible courtesy of the favorable environment in the western Gulf. After the 48-hour timeframe, strong upper-level southwesterly winds are forecast to greet Francine over the northern Gulf waters and could plateau its intensity; regardless, Francine is forecast to be a Category 1 hurricane at landfall.

Potential Tropical Cyclone SIX Model Intensity Guidance

Initialized at 12z Sep 09 2024
Levi Cowan - tropicaltidbits.com





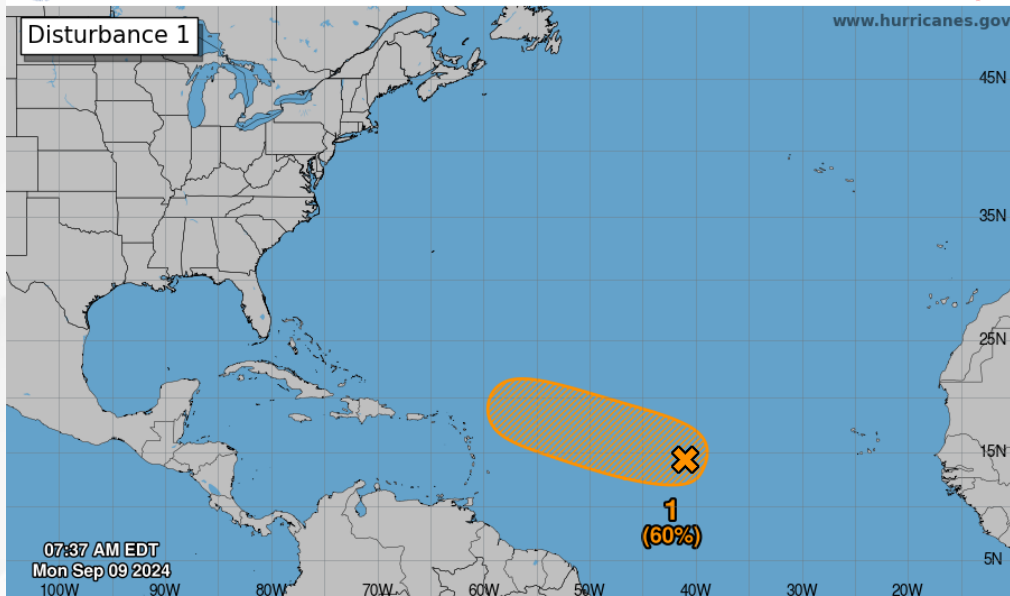
Tropical Weather Outlook

Invest 92L - Central Tropical Atlantic ([LINK](#))

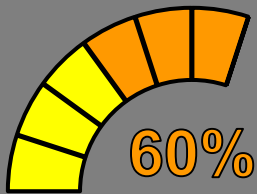


Seven-Day Graphical Tropical Weather Outlook

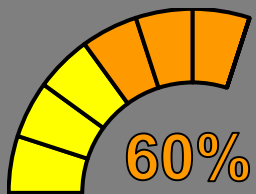
National Hurricane Center Miami, Florida



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



48 Hour Formation



7 Day Formation

An are of low pressure is producing disorganized shower and thunderstorms over the central tropical Atlantic. Environmental conditions are marginally conducive for development during the next few days, and a tropical depression could form while the system meanders over the central tropical Atlantic. By the middle part of the week, the system is forecast to move west-northwestward at around 10 mph.

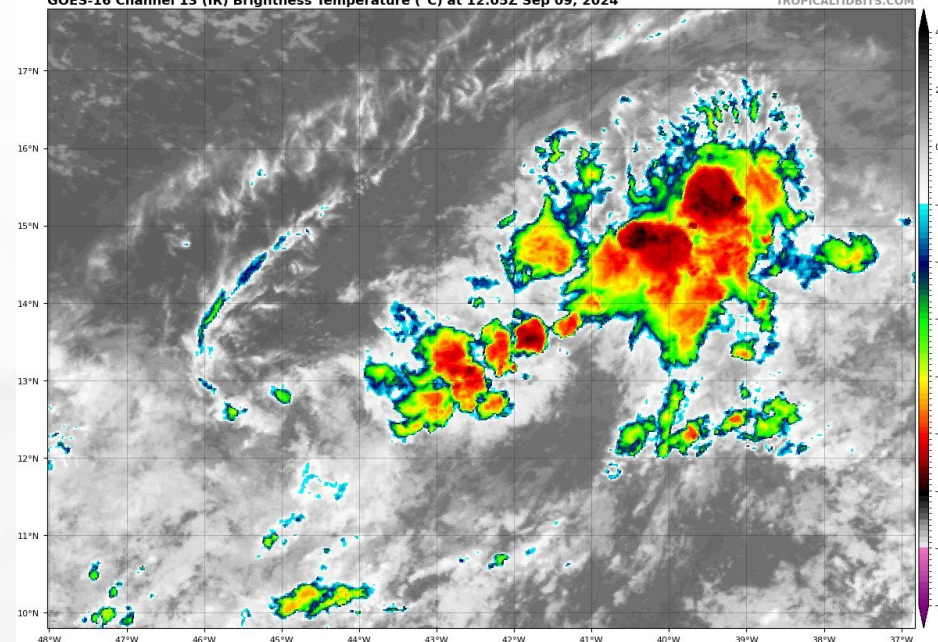
This system poses no threat to Florida over the next 7 to 10 days, at least.

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

* Formation chance through 7 days... **medium...60%.**

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 12:05Z Sep 09, 2024

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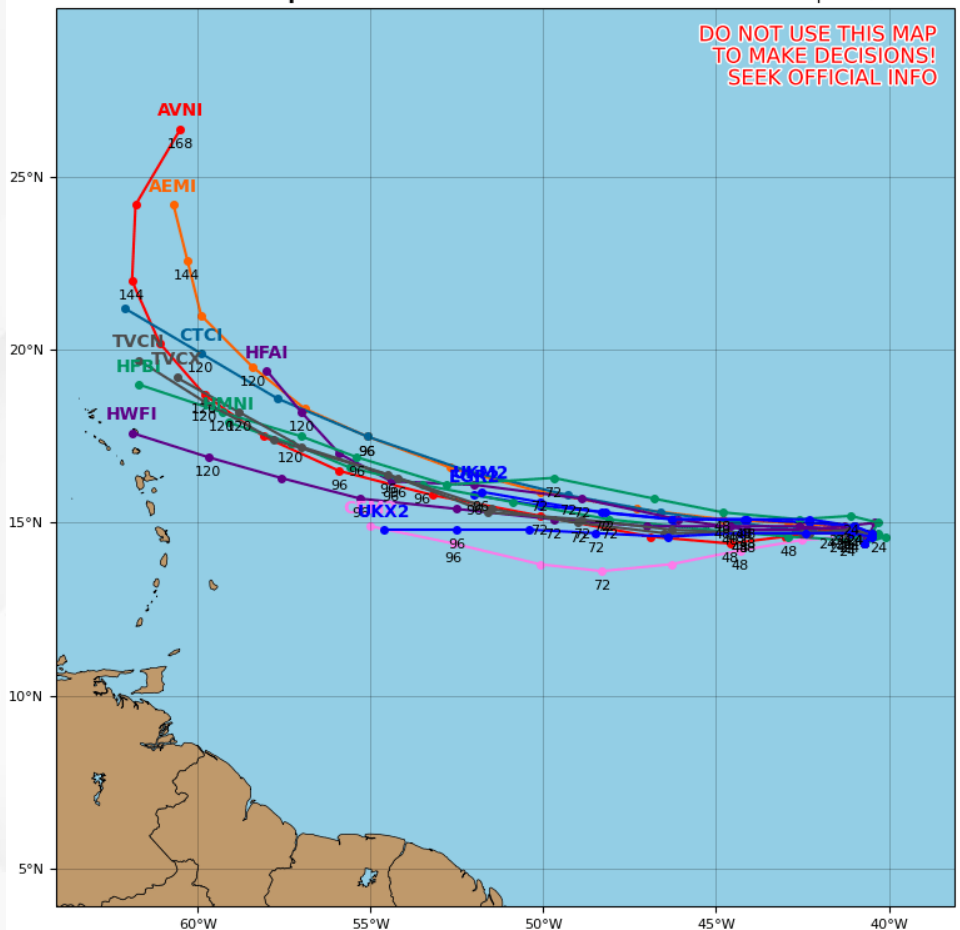
Model Forecasts – Next 5 Days

Disturbance 2 – Invest 92L

Invest 92L Model Track Guidance

Initialized at 12z Sep 09 2024

Levi Cowan - tropicaltidbits.com

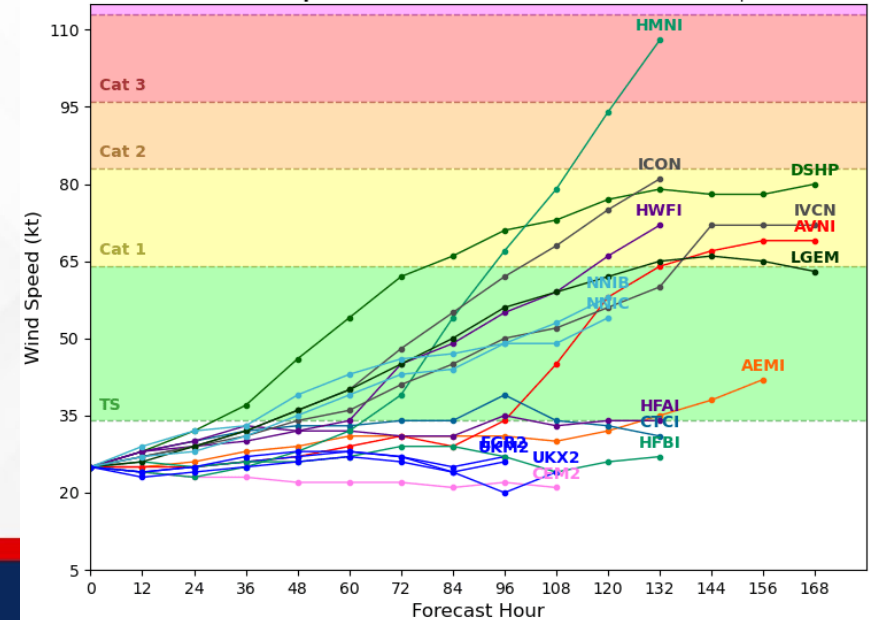


Computer forecast models remain in decent agreement this morning as Invest 92L is forecast to generally meander over the same location for the next 24-48 hours, under the influence of weak steering flow. After the 48-hour timeframe, a westward to west-northwestward motion can be expected; however, computer model disagreement increases thereafter with respect to timing. Some computer forecast models show a quicker westward motion through the next 3 to 5 days, with other computer forecast models struggling to develop the system at all. Trends will continue to be monitored as Invest 92L works to become better defined. Computer forecast models agree that near-term development will be slow over the next couple of days. Once the system organizes its shower and thunderstorm activity, computer forecast models will better handle the evolution of the system.

Invest 92L Model Intensity Guidance

Initialized at 12z Sep 09 2024

Levi Cowan - tropicaltidbits.com





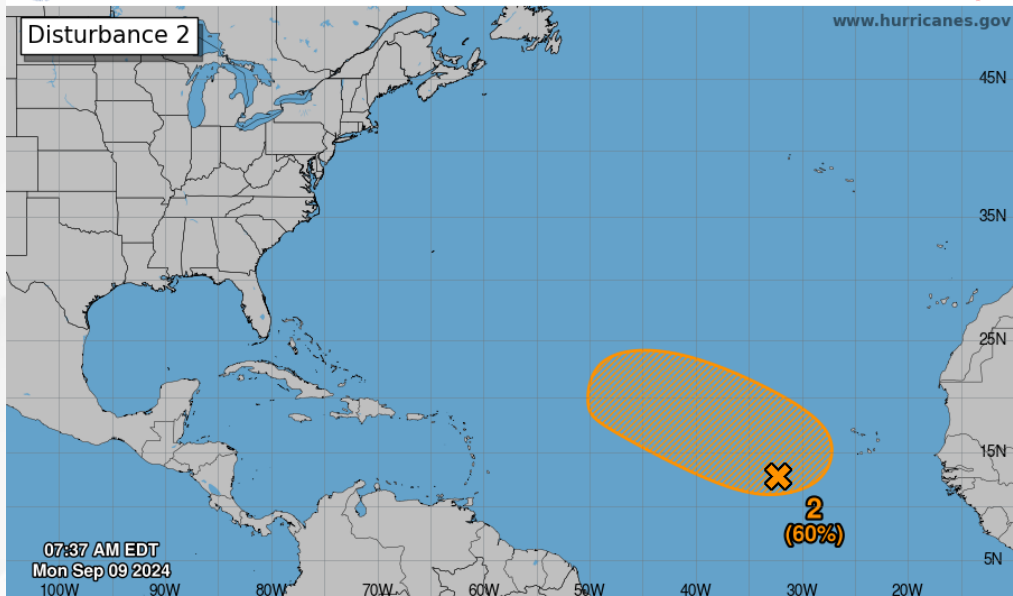
Tropical Weather Outlook

Disturbance 2 – Eastern and Central Tropical Atlantic ([LINK](#))



Seven-Day Graphical Tropical Weather Outlook

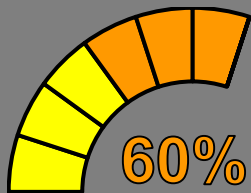
National Hurricane Center Miami, Florida



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

near 0%

48 Hour Formation



60%

7 Day Formation

An upper-level disturbance of low pressure, located several hundred miles west-southwest of the Cabo Verde Islands, is producing a broad area of disorganized showers and thunderstorms. In a couple of days, this upper-level disturbance is forecast to interact with an approaching tropical wave. Afterward, environmental conditions appear favorable for gradual development of this system, and a tropical depression could form during the middle to latter part of this week while the system moves west-northwestward at 10 to 15 mph.

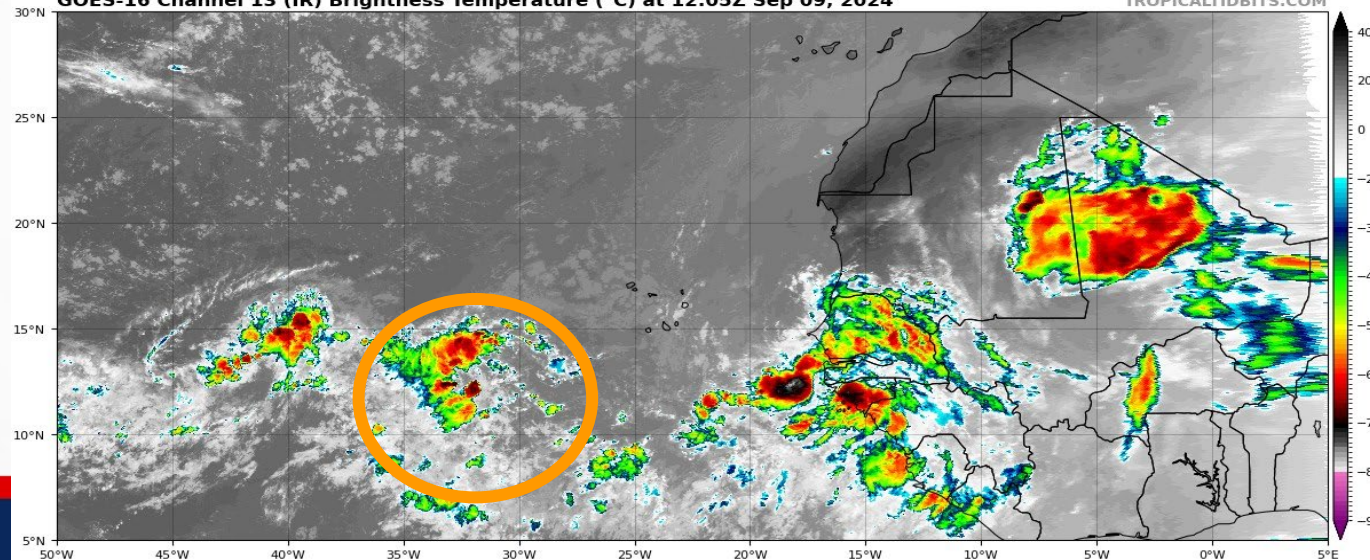
This system poses no threat to Florida over the next 10 days, at least.

* Formation chance through 48 hours...**low...near 0%.**

* Formation chance through 7 days... **medium...60%.**

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 12:05Z Sep 09, 2024

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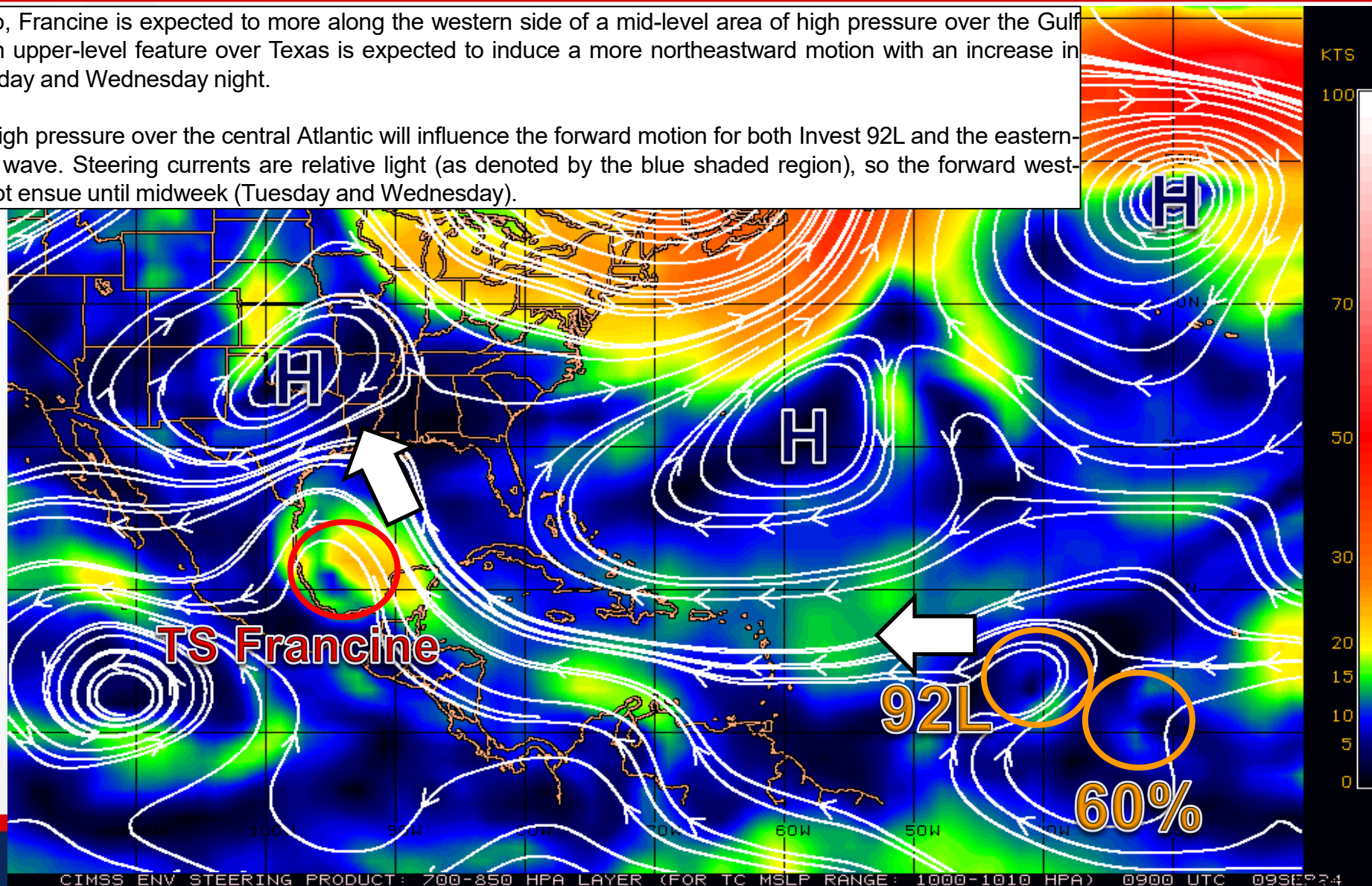
Steering Currents

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.

Over the next day or so, Francine is expected to move along the western side of a mid-level area of high pressure over the Gulf of Mexico. However, an upper-level feature over Texas is expected to induce a more northeastward motion with an increase in forward speed Wednesday and Wednesday night.

The dominant area of high pressure over the central Atlantic will influence the forward motion for both Invest 92L and the eastern-central tropical Atlantic wave. Steering currents are relative light (as denoted by the blue shaded region), so the forward west-northwest motion will not ensue until midweek (Tuesday and Wednesday).



- Fast Moving Storm
- Fast Moving Storm
- Typical Moving Storm
- Slow Moving Storm



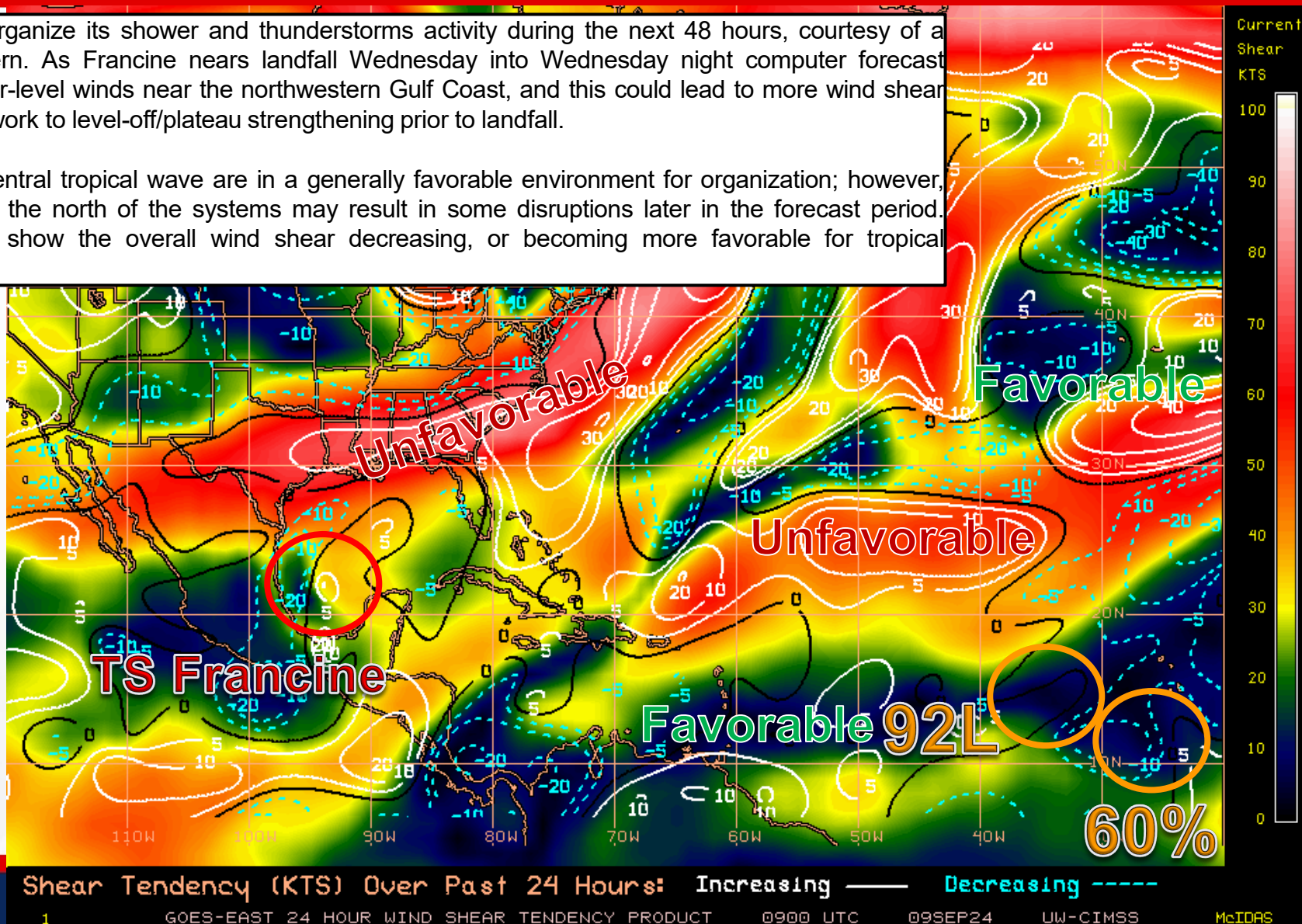
Wind Shear

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).

Francine will be allowed to organize its shower and thunderstorms activity during the next 48 hours, courtesy of a lighter upper-level wind pattern. As Francine nears landfall Wednesday into Wednesday night computer forecast models show increasing upper-level winds near the northwestern Gulf Coast, and this could lead to more wind shear over the system – this would work to level-off/plateau strengthening prior to landfall.

Invest 92L and the eastern-central tropical wave are in a generally favorable environment for organization; however, stronger upper-level winds to the north of the systems may result in some disruptions later in the forecast period. However, forecast trends to show the overall wind shear decreasing, or becoming more favorable for tropical development.



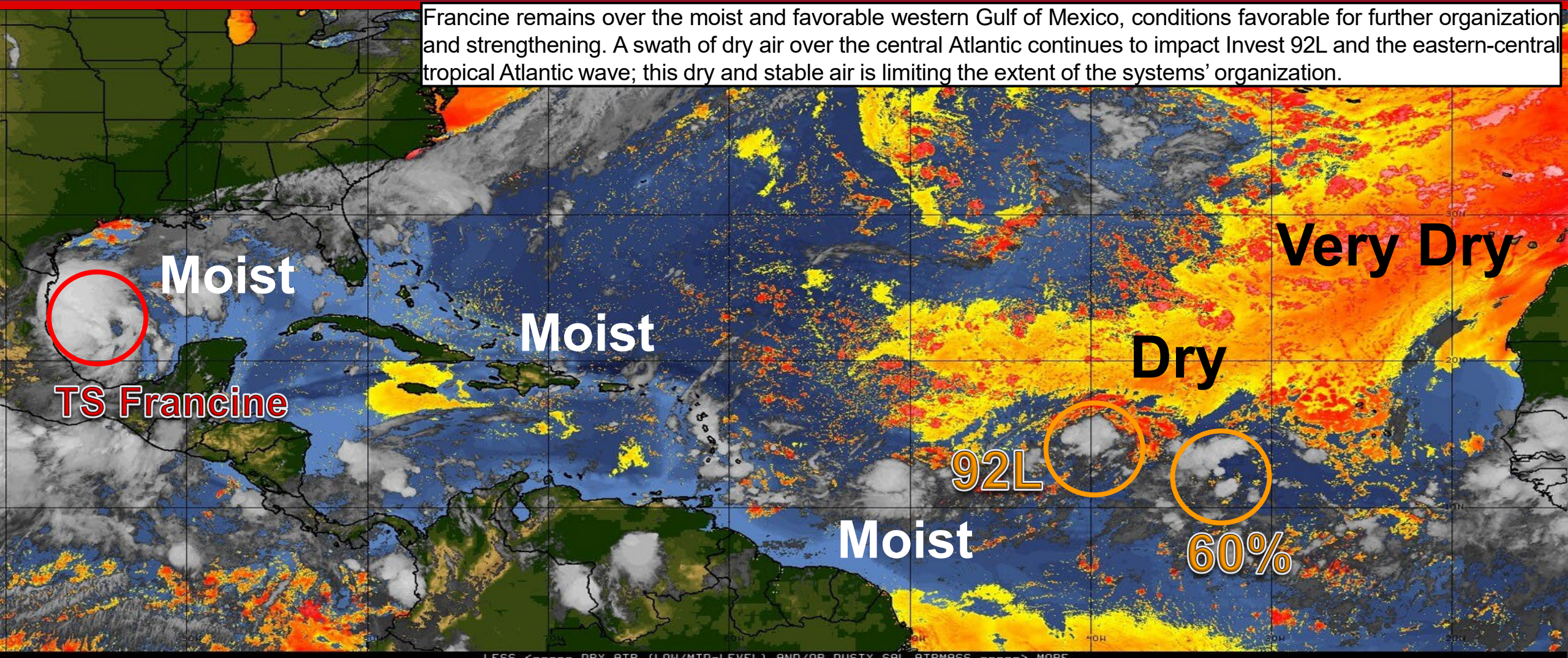


Dry Air & Saharan Dust

Is the environment favorable for the system?

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

Francine remains over the moist and favorable western Gulf of Mexico, conditions favorable for further organization and strengthening. A swath of dry air over the central Atlantic continues to impact Invest 92L and the eastern-central tropical Atlantic wave; this dry and stable air is limiting the extent of the systems' organization.



LESS <----- DRY AIR (LOW/MID-LEVEL) AND/OR DUSTY SAL AIRMASS -----> MORE



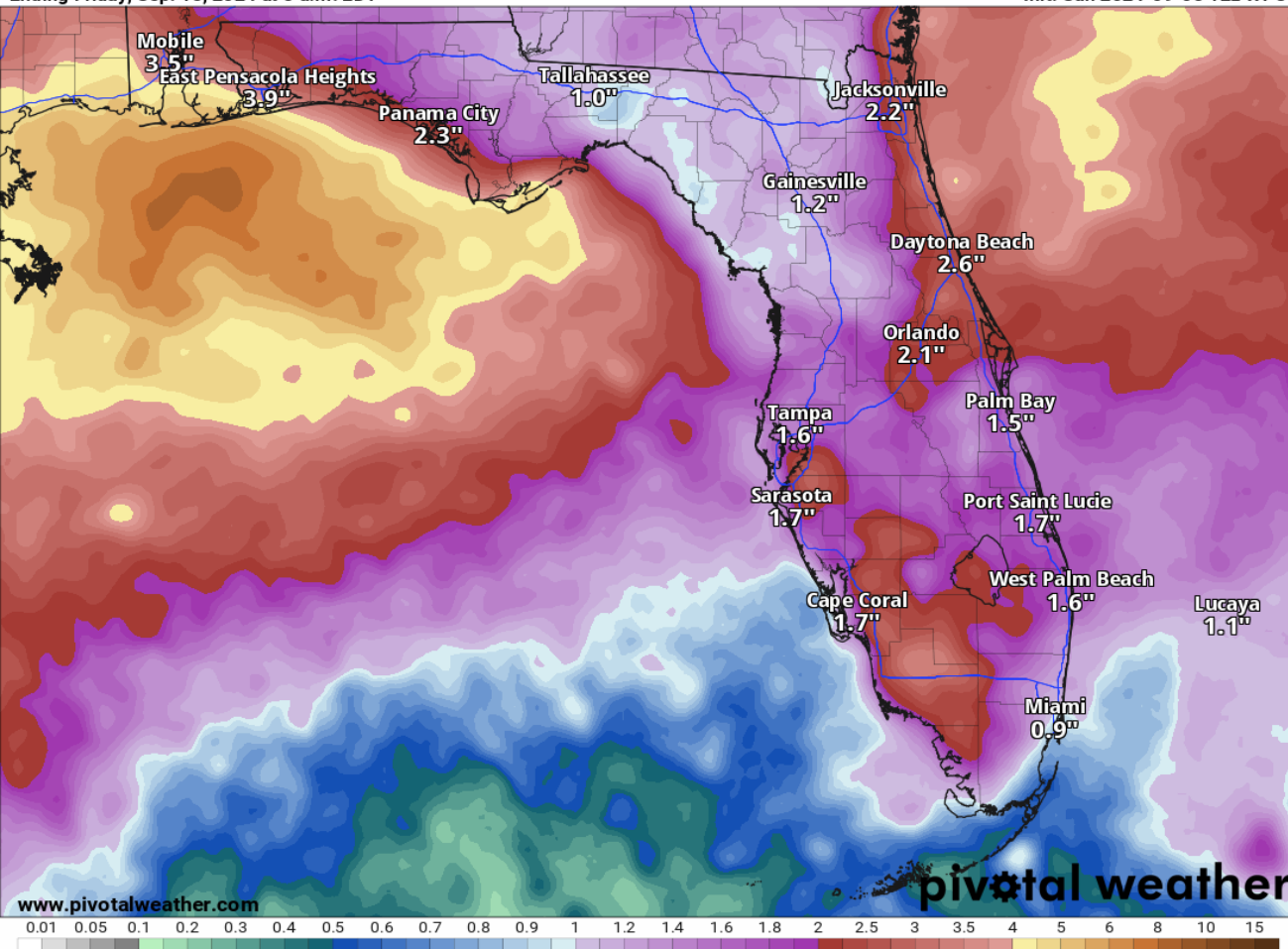
Rainfall Totals – Next 5 Days

From the Weather Prediction Center (WPC)

120-Hour Precipitation (in)

Ending Friday, Sep. 13, 2024 at 8 a.m. EDT

Init: Sun 2024-09-08 12z WPC



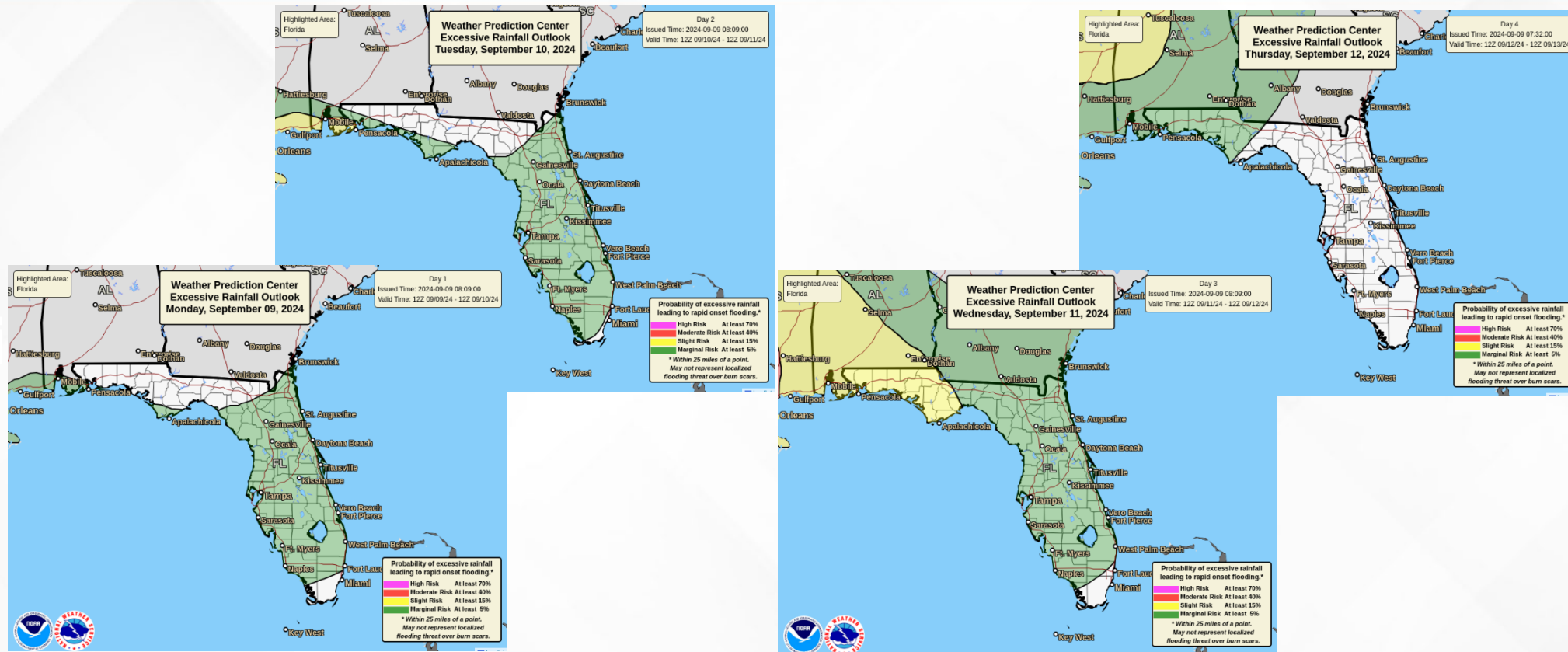
Scattered to numerous showers and thunderstorms will likely persist across the Sunshine State over the next 5 days as the stalled frontal boundary lingers over North Florida and interacts with the daily sea breeze.

Widespread rainfall totals near 1-3" can be expected across the state with **locally higher totals** upwards of 4-6" possible. **Isolated higher totals** cannot be ruled out near and along the Panhandle coastline; however, these rainfall totals will be heavily dependent upon the eventual track of Francine midweek.



Flash Flood Risk – Next 5 Days

From the Weather Prediction Center (WPC)

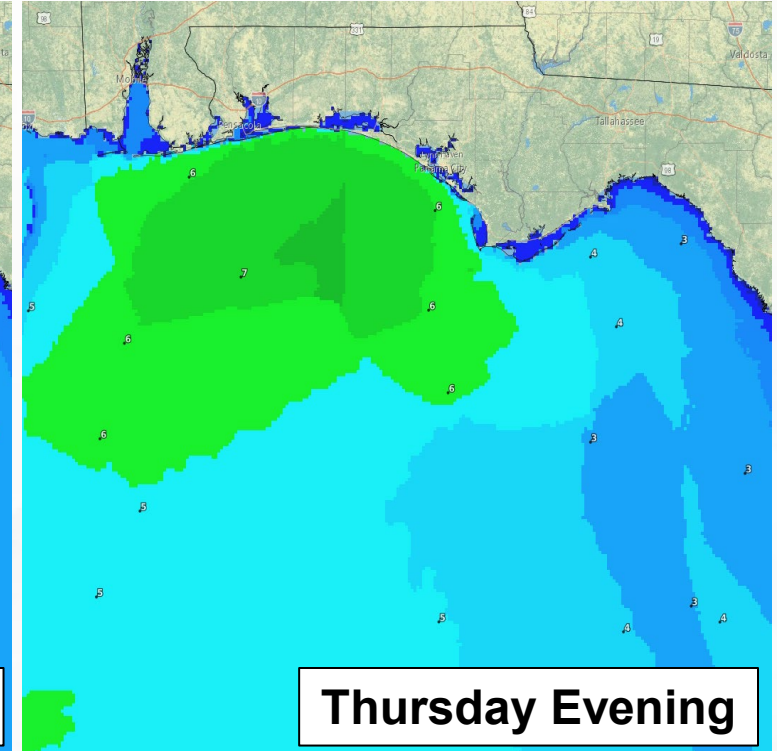
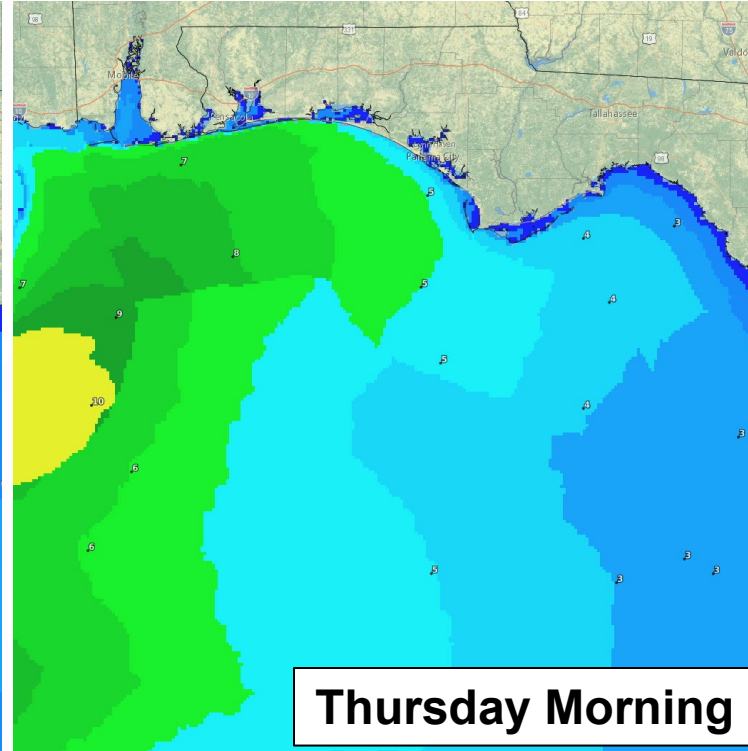
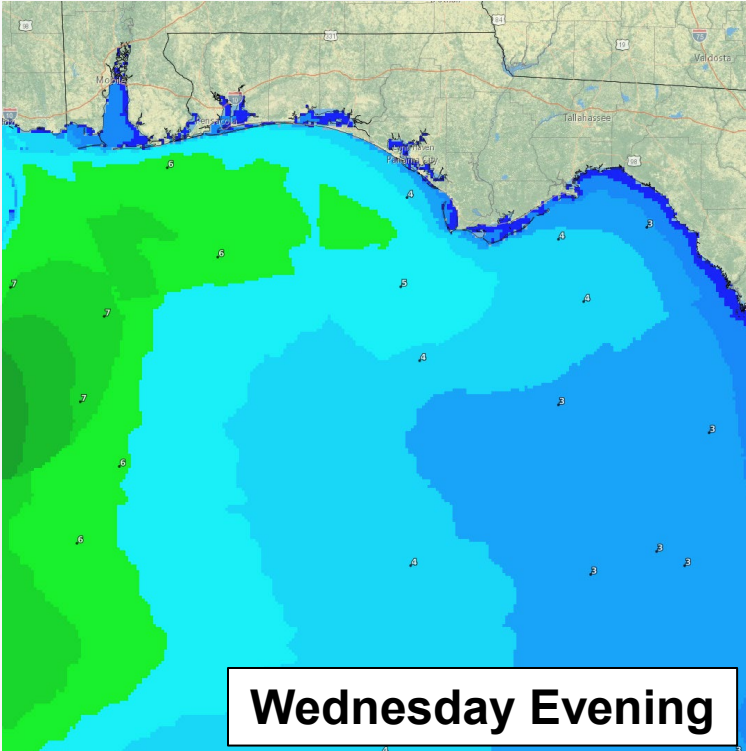


A **Marginal Risk (level 1 of 4) for Flash Flooding** remains in place for the already saturated Florida Peninsula today through Wednesday, with increasing **flooding** concerns arriving to the Florida Panhandle Tuesday and Wednesday. As Francine moves onshore the northern Gulf Coast Wednesday into Thursday, and there is a **Slight Risk (level 2 of 4) for Flash Flooding** outlooked along the Florida Panhandle through the Ochlockonee River Basin (Leon and Wakulla Counties). Additional adjustments to the flash flood risk can be expected as the eventual track of Francine is realized.



Forecast Wave Heights

From the National Weather Service (NWS)



Breezy onshore winds associated with northward-moving Francine will yield **elevated wave heights and swell** along the Florida Panhandle coastline beginning as early as Wednesday afternoon and evening. **Wave heights** of 2-4' can be expected to arrive later Wednesday as the system nears landfall along the northern Gulf Coast, increasing to 4-7' overnight into Thursday morning. **High Surf Advisory** criteria may be reached Thursday and continue into Friday as persistent onshore flow behind Francine maintains elevated surf, with localized breakers in the surf zone reaching 7-8'; *advisories will be issued as conditions warrant.*



Rip Current Risk

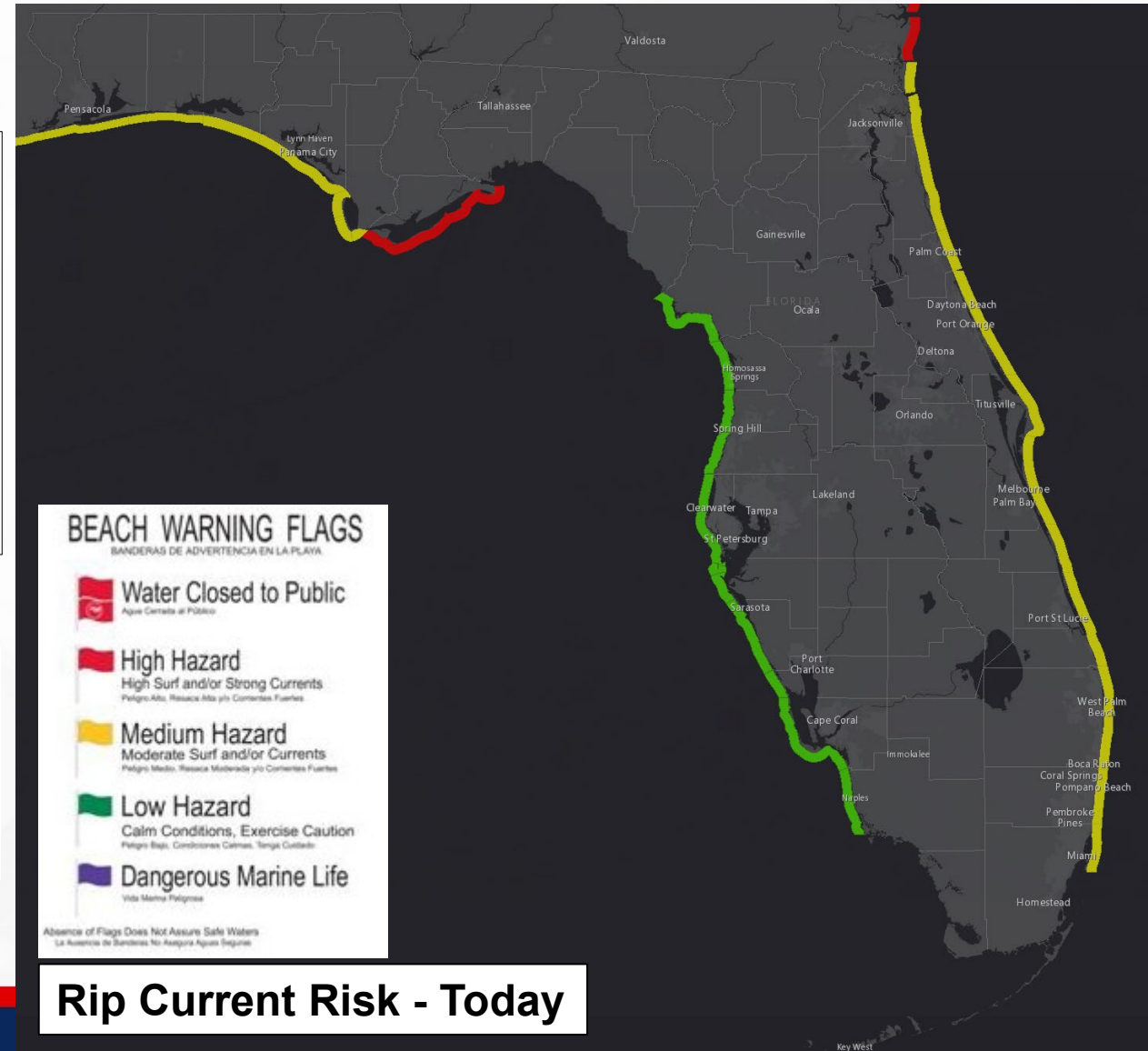
From the National Weather Service (NWS)

Regardless of Francine's evolution, hazardous coastal and marine conditions can be expected along the Florida Panhandle.

A **moderate to high risk of rip currents** along all Florida Panhandle beaches today will give way to widespread **high rip current risk** conditions Wednesday through Friday as Francine moves onshore the northern Gulf Coast. Breezy southerly to southwesterly flow will likely maintain dangerous beach conditions into the weekend.

Forecast Rip Current Risk & Marine Hazards

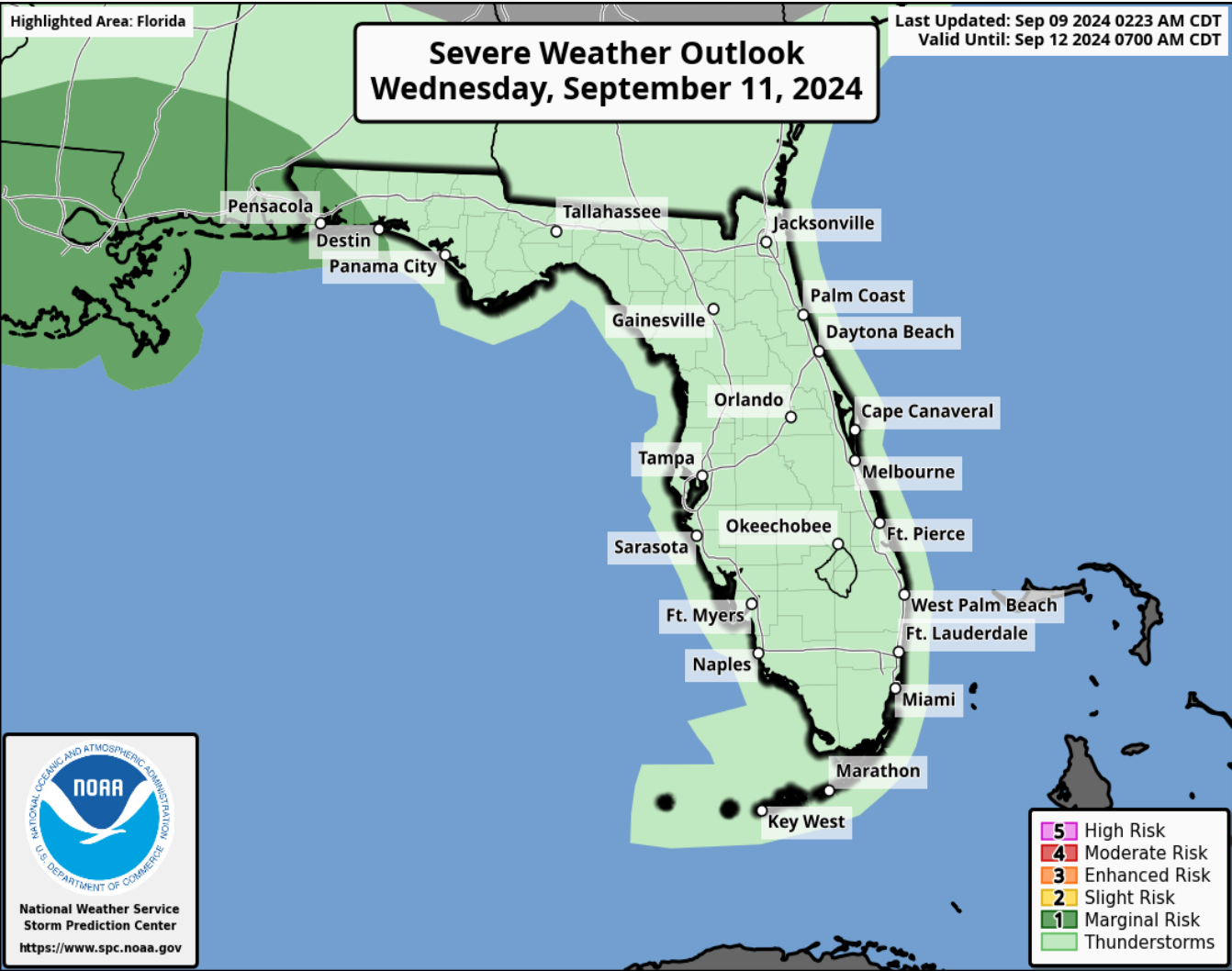
Florida Panhandle	Today	Tue	Wed	Thu	Fri	Sat
Rip Current						
Marine Hazard						





Severe Weather Outlook – Late Wednesday into Thursday

From the Storm Prediction Center (SPC)



The Storm Prediction Center (SPC) has introduced a **Marginal Risk (level 1 of 5) for Severe Weather** over the far western Florida Panhandle Wednesday into Wednesday night as Francine moves onshore the northern Gulf Coast. Low-level winds will increase the threat for isolated tropical tornadoes to the east of Francine's landfall location. The isolated tornado threat may be extended into Thursday as the system moves northward through the Lower and Middle Mississippi River Valley.

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



Summary

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Tropical Storm Francine:

- As of 11:00 AM EDT, Tropical Storm Francine has developed over the western Gulf of Mexico, located about 480 miles south-southwest of Cameron, Louisiana.
- A slow north-northwestward motion is expected for the remainder of today, followed by a faster motion toward the northeast beginning on Tuesday.
- On the forecast track, Francine is forecast to be just offshore the northern Gulf Coast through Tuesday, and approach the Louisiana and Upper Texas coastline on Wednesday.
- Maximum sustained winds are near 50 mph, and gradual intensification is expected over the next day with more significant intensification possible Tuesday night and Wednesday.
- Francine is forecast to become a hurricane before it reaches the northwestern U.S. Gulf Coast on Wednesday.
- This system will bring dangerous marine and coastal conditions to the Florida Panhandle beginning as early as Wednesday. Rounds of heavy rainfall and abundant tropical moisture associated with Francine could lead to pockets of isolated to scattered flash flooding along the urban I-10 corridor later this week.

Central Tropical Atlantic (Invest 92L):

- An area of low pressure is producing disorganized shower and thunderstorms over the central tropical Atlantic.
- Environmental conditions are marginally conducive for development during the next few days, and a tropical depression could form while the system meanders over the central tropical Atlantic.
- By the middle part of the week, the system is forecast to move west-northwestward at around 10 mph.
- This system poses no threat to Florida over the next 7 to 10 days, at least.
- The NHC is outlooking a **medium (60%)** chance for development over the next 48 hours, and a **medium (60%)** chance for development over the next 7 days.

Eastern and Central Tropical Atlantic:

- An upper-level disturbance of low pressure, located several hundred miles west-southwest of the Cabo Verde Islands, is producing a broad area of disorganized showers and thunderstorms.
- In a couple of days, this upper-level disturbance is forecast to interact with an approaching tropical wave.
- Afterward, environmental conditions appear favorable for gradual development of this system, and a tropical depression could form during the middle to latter part of this week while the system moves west-northwestward at 10 to 15 mph.
- This system poses no threat to Florida over the next 10 days, at least.
- The NHC is outlooking a **low (near 0%)** chance for development over the next 48 hours, and a **medium (60%)** chance for development over the next 7 days.

The next briefing packet will be issued on Tuesday. For the latest information, please visit the National Hurricane Center website.



Summary

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Florida Outlook:

- An active weather pattern continues across the Sunshine State, courtesy of the stalled frontal boundary and daily se breeze development; any thunderstorm may be capable of producing frequent lightning, gusty winds (40-50 mph), and heavy downpours.
- The Weather Prediction Center (WPC) is outlooking a **Marginal Risk (level 1 of 4) for Flash Flooding** throughout North and Central Florida, as well as extending into Southwest Florida, as widespread rainfall could lead to localized instances of flash flooding within heavy and intense downpours at times.
 - Flash flood threat for the Florida Panhandle increases through midweek as Francine approaches the northwestern Gulf Coast.
 - There is a **Slight Risk (level 2 of 4) for Flash Flooding** outlooked along the Florida Panhandle through the Ochlockonee River Basin (Leon and Wakulla Counties) Wednesday. Additional adjustments to the flash flood risk can be expected as the eventual track of Francine is realized.
- The Storm Prediction Center (SPC) has introduced a **Marginal Risk (level 1 of 5) for Severe Weather** over the far western Florida Panhandle Wednesday into Wednesday night as Francine moves onshore the northern Gulf Coast.
 - Low-level winds will increase the threat for isolated tropical tornadoes to the east of Francine's landfall location.
 - The isolated tornado threat may be extended into Thursday as the system moves northward through the Lower and Middle Mississippi River Valley.
- Hot and humid conditions to continue across Florida this afternoon; **Heat Advisories** are in effect for South Florida and the Florida Keys this afternoon for **heat indices upwards of 108 to 111-degrees**.
- *The next names on the list are Gordon (GOR-duhn) and Helene (heh-LEEN).*

The next briefing packet will be issued on Tuesday. 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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