



Tropical Update



12:00 PM EDT

Tuesday, September 10, 2024

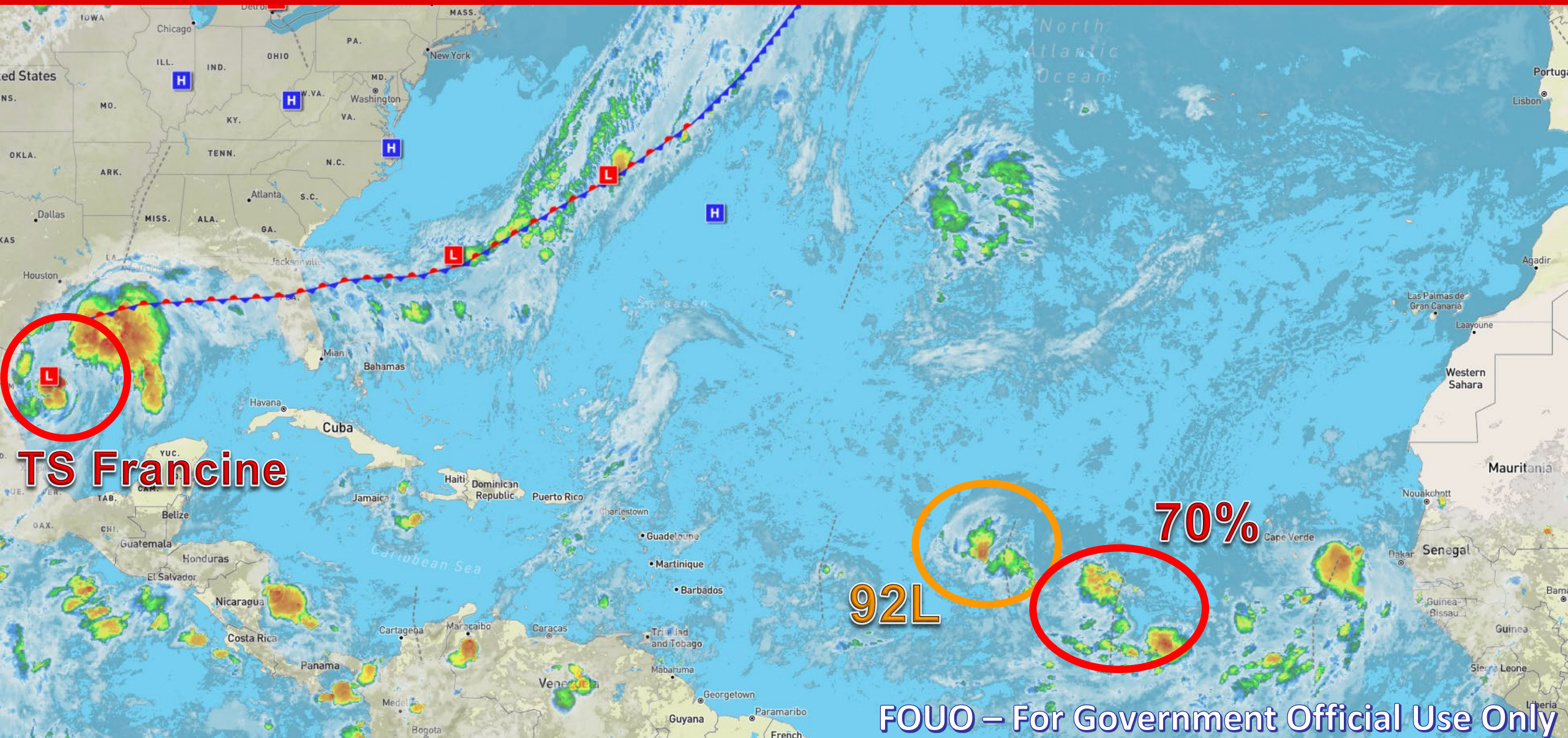
**Tropical Storm Francine Likely to Become a Hurricane Today
Invest 92L (40%) Carries a Medium Chance of Development;
Eastern-Central Tropical Atlantic Now Has a High (70%)
Chance of Development**

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

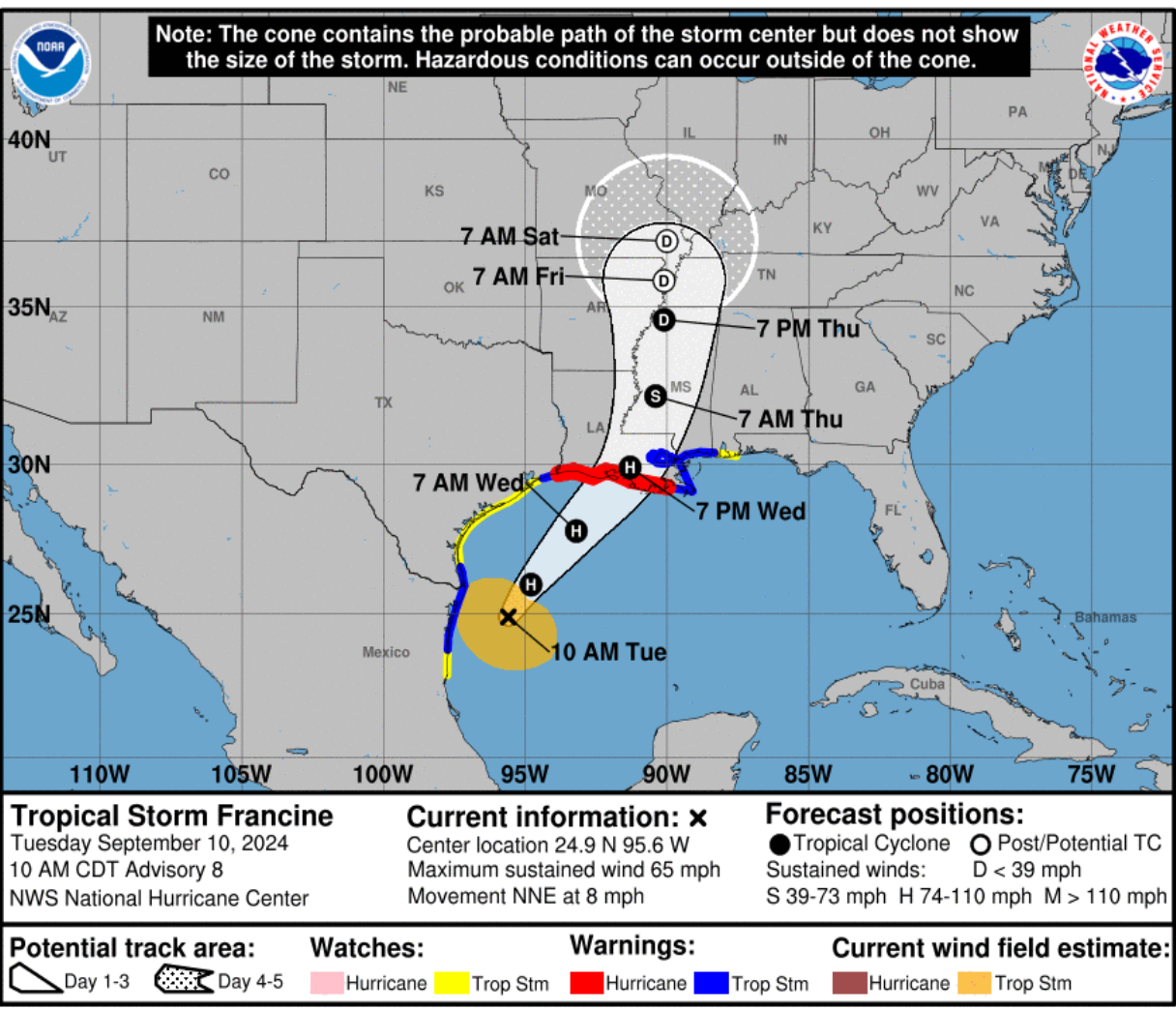


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Tropical Storm Francine

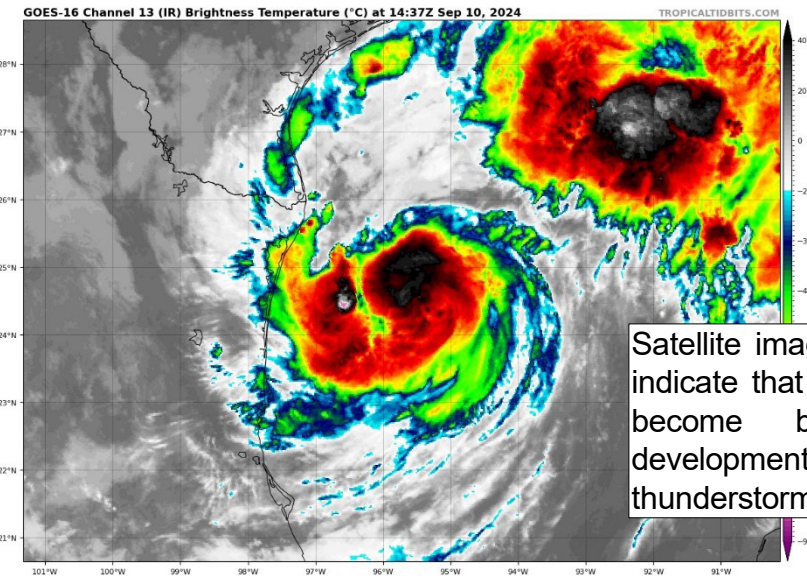
From the National Hurricane Center (NHC)



- **Location:** 425 miles southwest of Morgan City, Louisiana
- **Maximum Sustained Winds:** 65 mph
- **Current Movement:** NNE at 8 mph
- **FL Watches & Warnings:** None

A turn toward the northeast with an increase in forward speed is expected later today or tonight. On the forecast track, Francine is anticipated to be just offshore of the coasts of northeastern Mexico and southern Texas through this afternoon, and then move across the northwestern Gulf of Mexico, making landfall in Louisiana on Wednesday. After landfall, the center is forecast to move into Mississippi on Wednesday night or Thursday. Strengthening is expected through Wednesday morning, and Francine will likely become a hurricane later today or tonight. The system is forecast to weaken quickly after landfall.

While Francine is forecast to make landfall in Louisiana, the system will bring dangerous beach and marine conditions such as elevated ocean swells and dangerous rip currents, isolated to scattered instances of flash flooding, and tropical tornadoes to the Florida Panhandle later Wednesday into Thursday.



Satellite imagery and data from nearby radar indicate that the central core of Francine has become better organized, with the development of a band of deeper thunderstorm activity near the center.

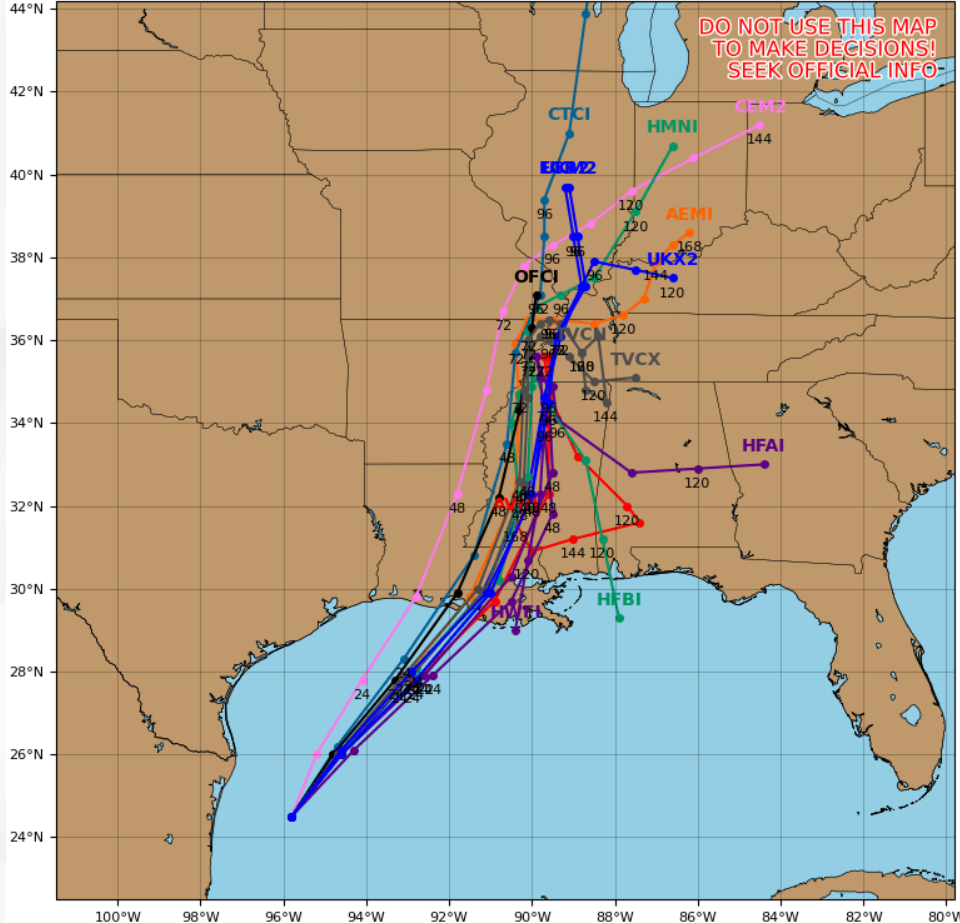


Model Forecasts – Next 5 Days

Tropical Storm Francine

Tropical Storm FRANCINE Model Track Guidance

Initialized at 12z Sep 10 2024
Levi Cowan - tropicaltidbits.com

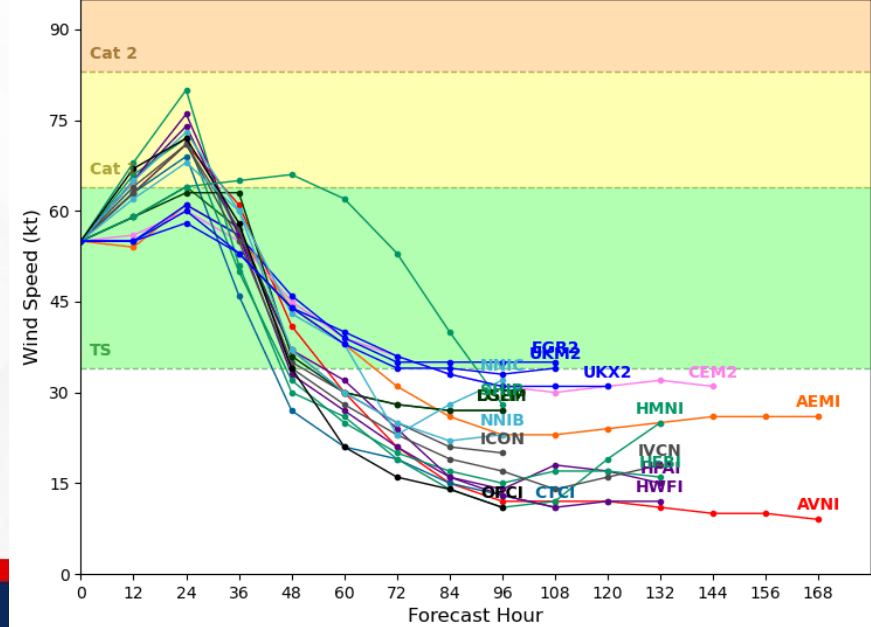


After meandering last night over the western Gulf of Mexico, Francine is now moving to the north-northeast. Computer forecast models remain in good agreement for the next 24 to 36 hours as an upper-level disturbance over Texas should cause a turn northeastward at a faster forward speed. After landfall, Francine should turn more northward between the upper-level disturbance to the west and the mid-level high pressure system to the east. There continues to be a gradual eastward shift in the computer model guidance this morning, so a nudge eastward in the overall forecast has been made on the forecast cone.

Computer forecast models are in good agreement that the window for Francine to strengthen is about 24 to 30 hours prior to encountering more hostile wind shear near the Louisiana coastline. Steady to rapid strengthening can be expected during this timeframe. Francine should reach peak intensity prior to landfall, and rapid weakening is expected following the system moving onshore.

Tropical Storm FRANCINE Model Intensity Guidance

Initialized at 12z Sep 10 2024
Levi Cowan - tropicaltidbits.com





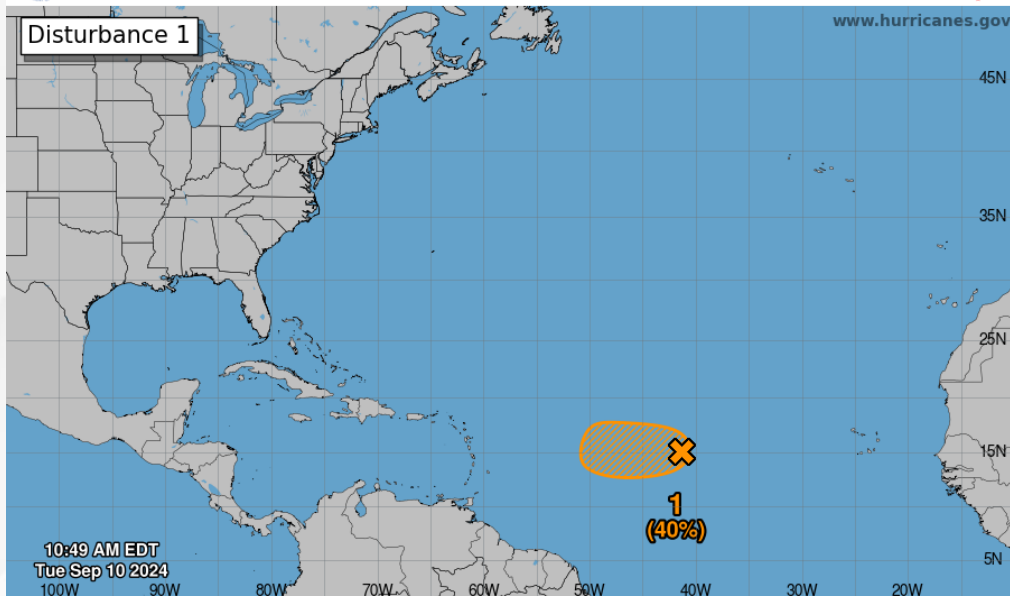
Tropical Weather Outlook

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

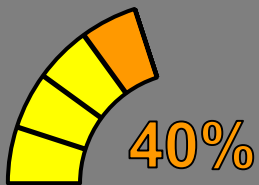


Seven-Day Graphical Tropical Weather Outlook

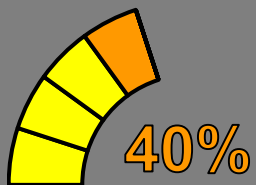
National Hurricane Center Miami, Florida



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



48 Hour Formation



7 Day Formation

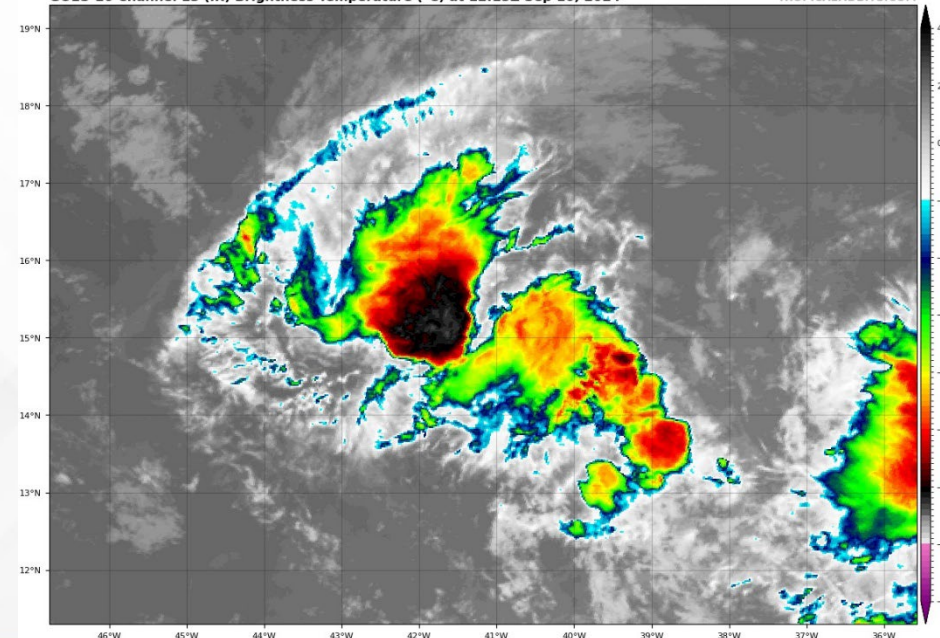
An elongated area of low pressure, located over the central tropical Atlantic continues to produce some disorganized shower and thunderstorm activity. Environmental conditions appear only marginally conducive for some slight development during the next couple of days, but a tropical depression could still form during that time while the system moves westward at 5 to 10 mph over the central tropical Atlantic.

This system poses no threat to Florida, at this time.

* Formation chance through 48 hours...**medium...40%.**

* Formation chance through 7 days... **medium...40%.**

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 12:15Z Sep 10, 2024





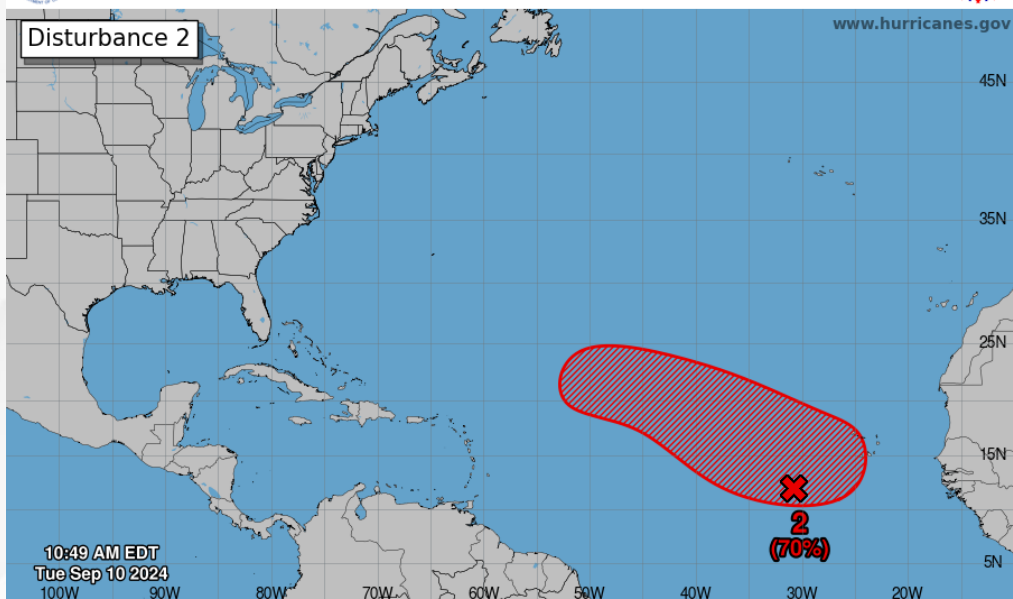
Tropical Weather Outlook

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

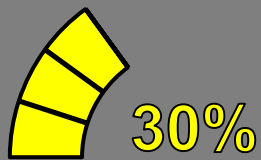


Seven-Day Graphical Tropical Weather Outlook

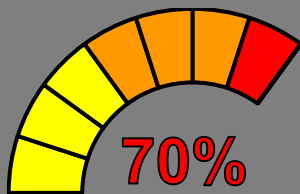
National Hurricane Center Miami, Florida



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



48 Hour Formation



7 Day Formation

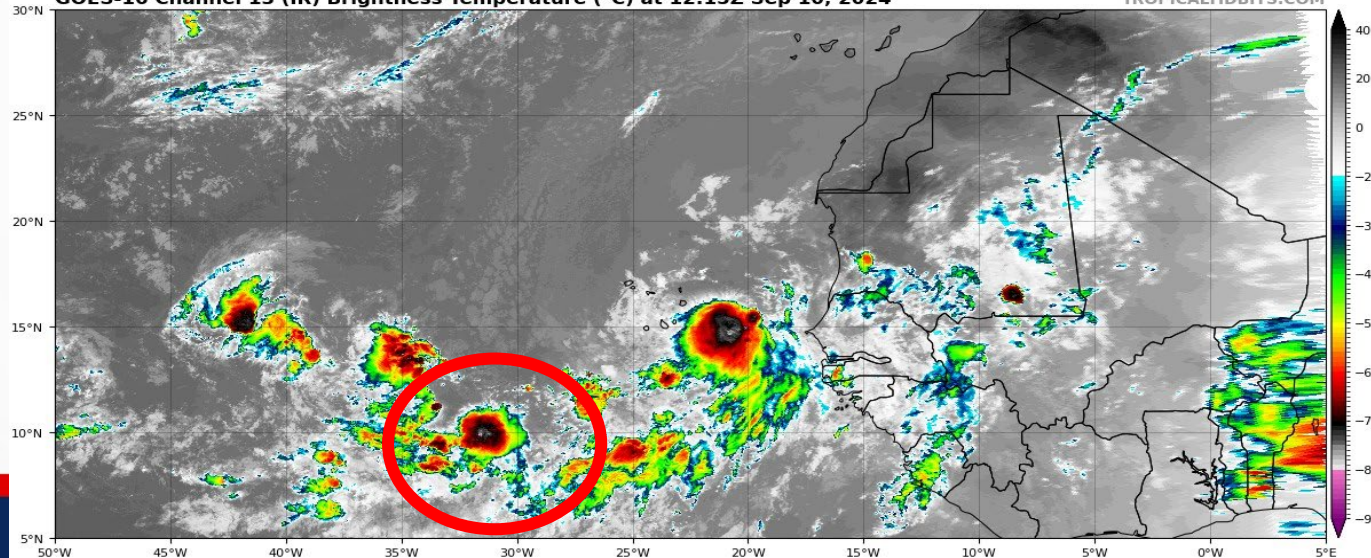
An upper-level disturbance of low pressure located several hundred miles southwest of the Cabo Verde Islands is expected to interact and merge with a strong tropical wave located between the west coast of Africa and the Cabo Verde Islands over the next couple of days. Thereafter, environmental conditions appear favorable for gradual development of this combined system, and a tropical depression will likely form during the latter part of this week while the system moves west-northwestward at 10 to 15 mph.

This system poses no threat to Florida at this time.

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

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

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 12:15Z Sep 10, 2024





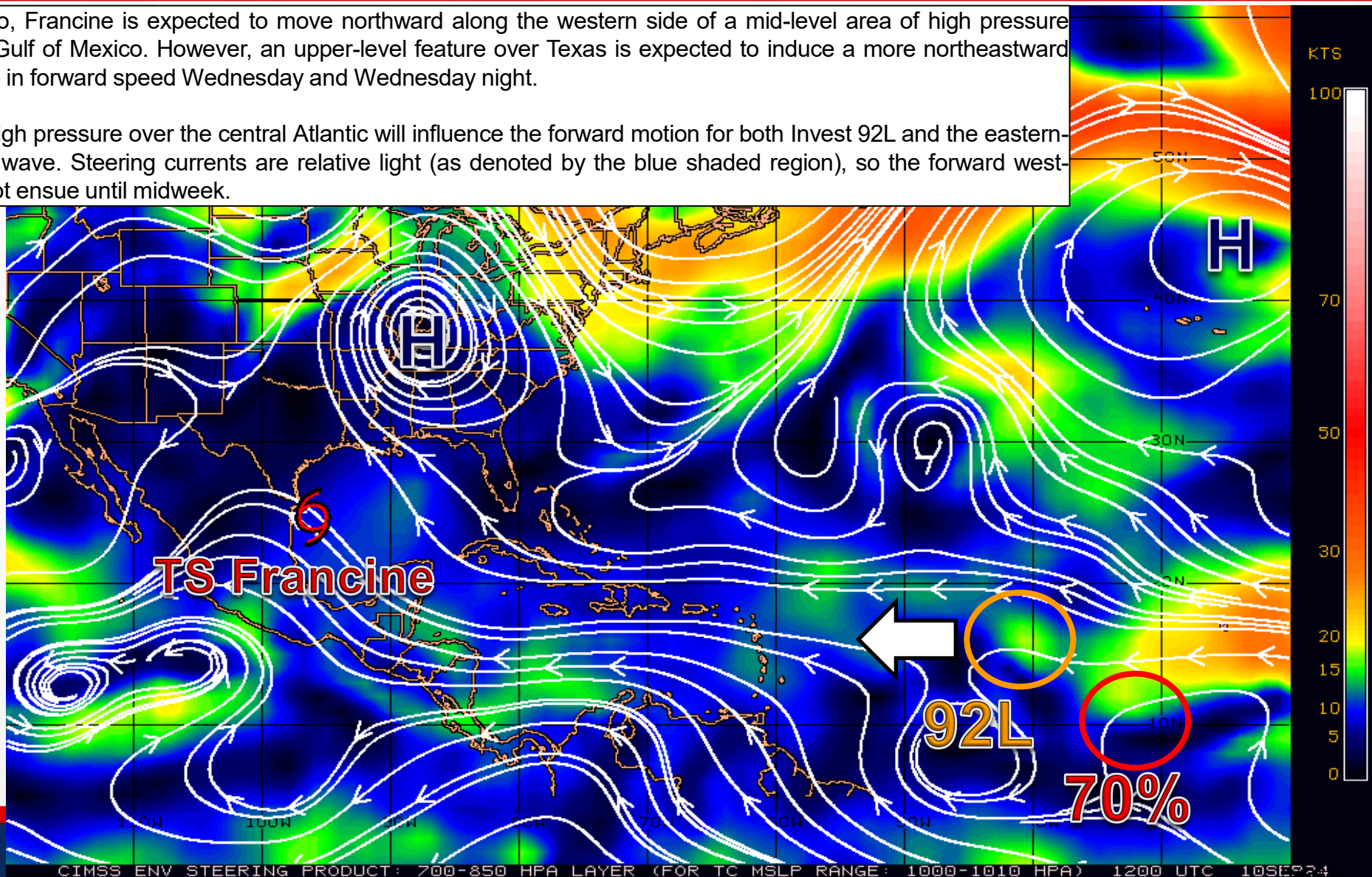
Steering Currents

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 northward along the western side of a mid-level area of high pressure over the southeastern 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.



Fast Moving Storm

Fast Moving Storm

Typical Moving Storm

Slow Moving Storm



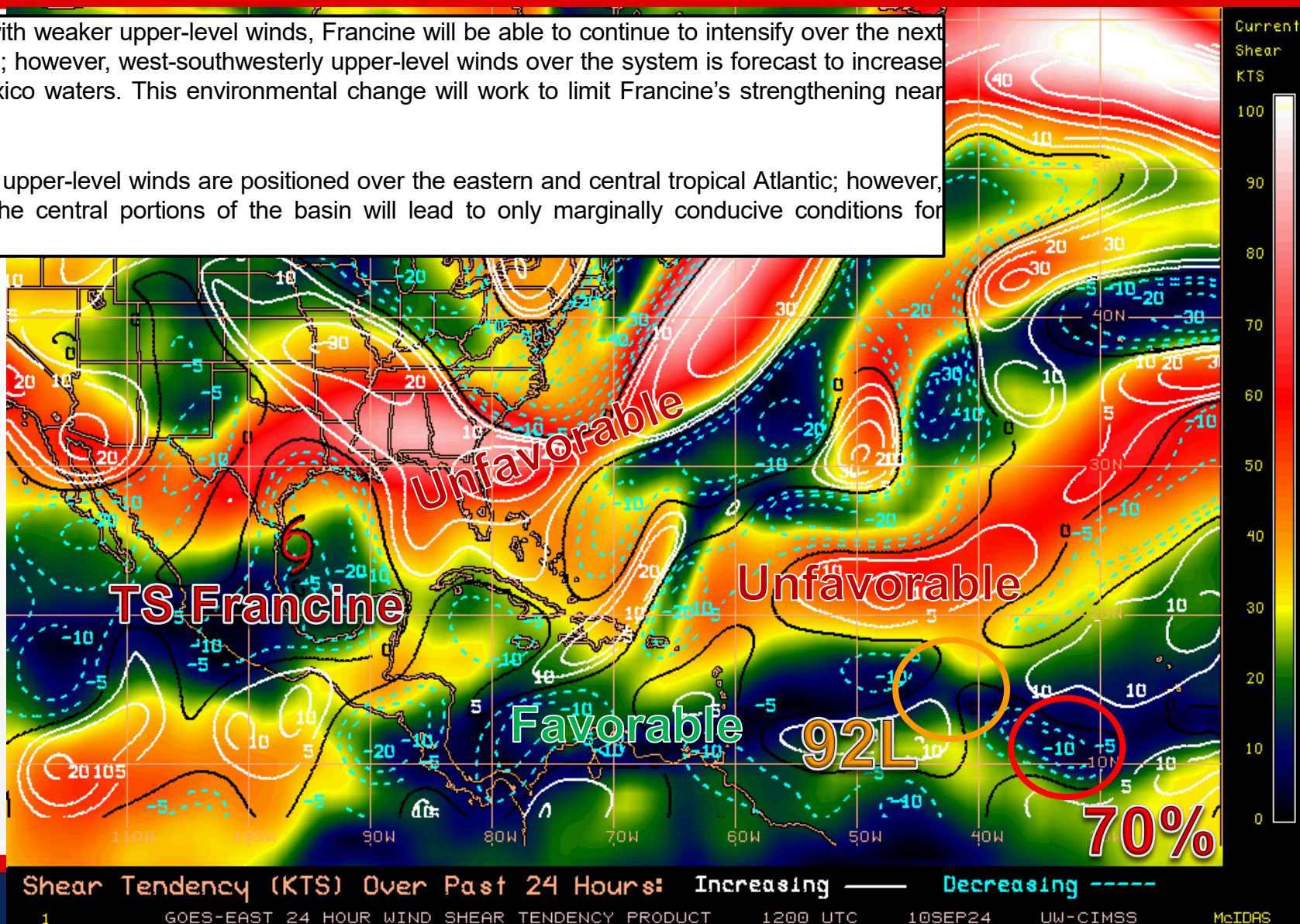
Wind Shear

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).

Currently in an environment with weaker upper-level winds, Francine will be able to continue to intensify over the next 24 to 36 hours prior to landfall; however, west-southwesterly upper-level winds over the system is forecast to increase over the northern Gulf of Mexico waters. This environmental change will work to limit Francine's strengthening near landfall.

Generally favorable to neutral upper-level winds are positioned over the eastern and central tropical Atlantic; however, increasing wind shear over the central portions of the basin will lead to only marginally conducive conditions for organization.



HIGH Shear
(Unfavorable)

HIGH Shear
(Unfavorable)

MODERATE
Shear
(Neutral)

LOW Shear
(Favorable)

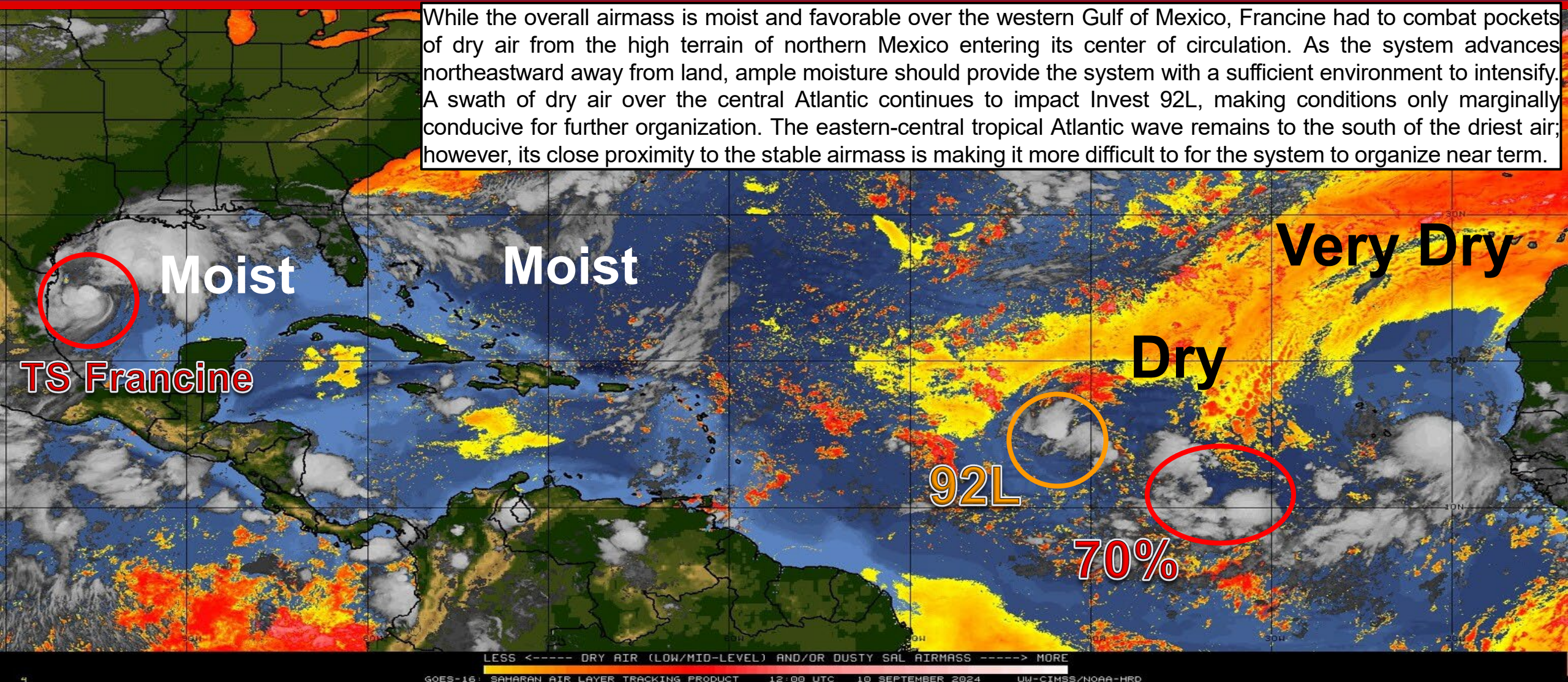


Dry Air & Saharan Dust

Is the environment favorable for the system?

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

While the overall airmass is moist and favorable over the western Gulf of Mexico, Francine had to combat pockets of dry air from the high terrain of northern Mexico entering its center of circulation. As the system advances northeastward away from land, ample moisture should provide the system with a sufficient environment to intensify. A swath of dry air over the central Atlantic continues to impact Invest 92L, making conditions only marginally conducive for further organization. The eastern-central tropical Atlantic wave remains to the south of the driest air; however, its close proximity to the stable airmass is making it more difficult for the system to organize near term.





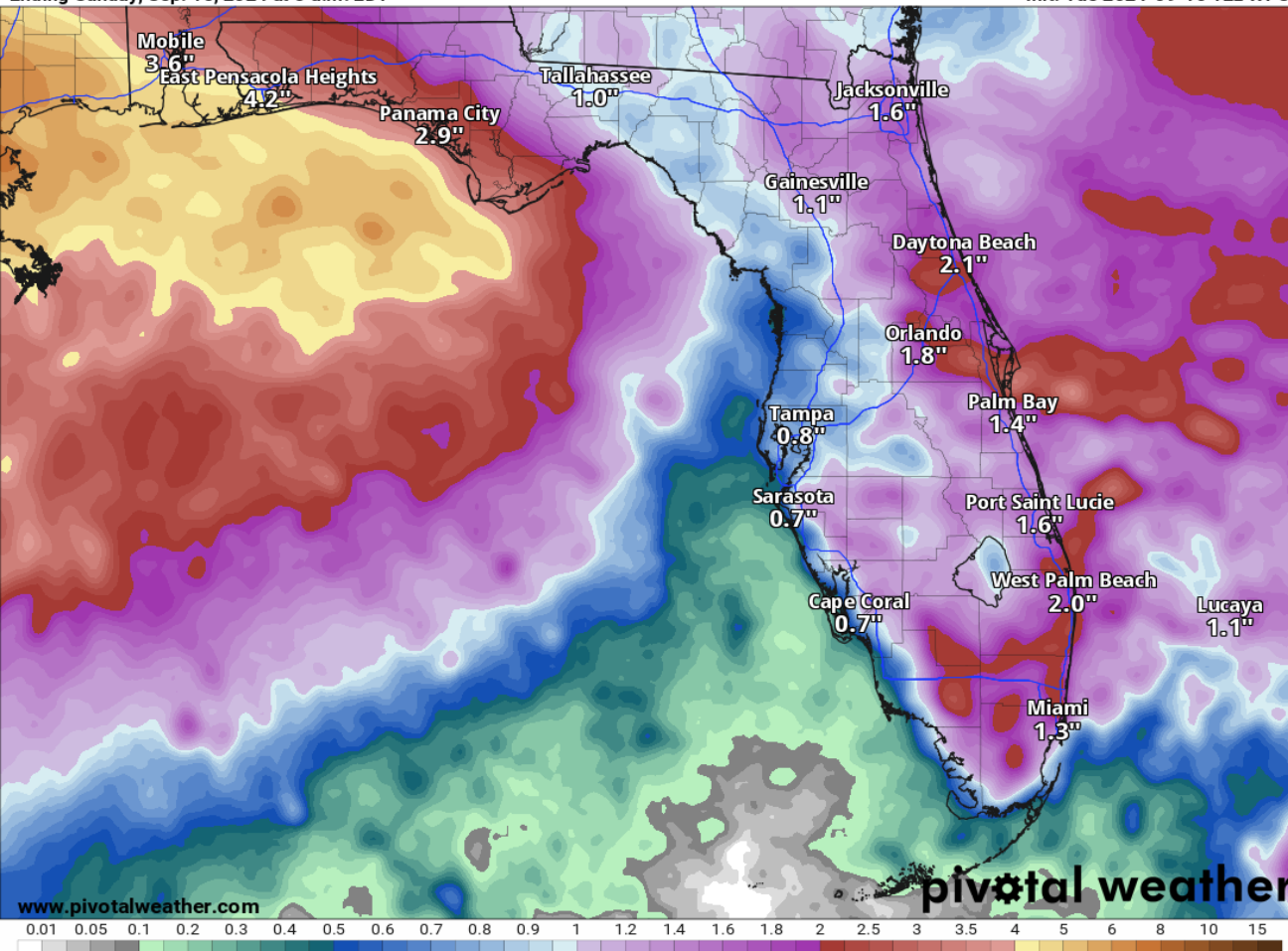
Rainfall Totals – Next 5 Days

From the Weather Prediction Center (WPC)

120-Hour Precipitation (in)

Ending Sunday, Sep. 15, 2024 at 8 a.m. EDT

Init: Tue 2024-09-10 12z WPC



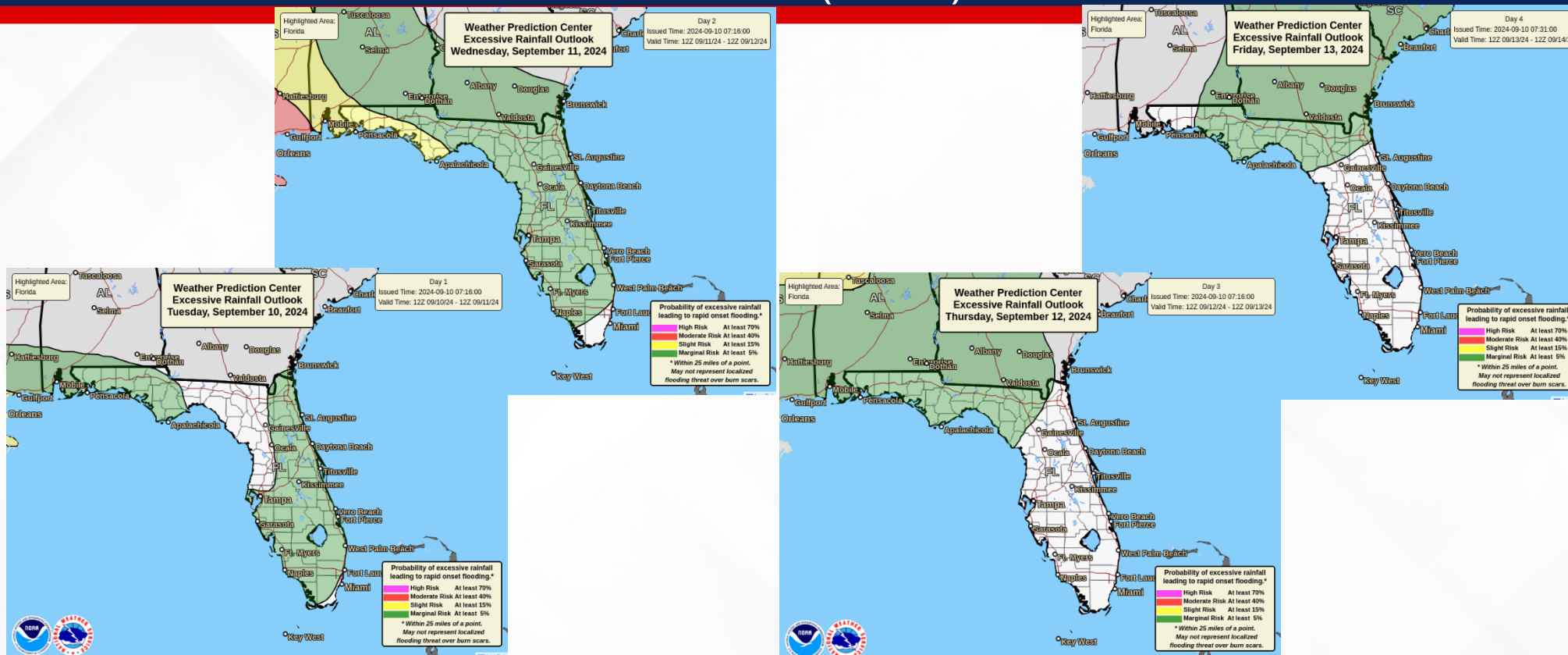
Locally heavy rain remains a concern for much of the Sunshine State over the next couple of days, due to a stalled frontal boundary over the northeastern Gulf of Mexico. The heavy rainfall risk is highly dependent on the track of Francine and the placement of a warm front that is forecast to lift north into the Florida Panhandle Wednesday afternoon into Wednesday night. The warm front will be the focal point for the heavier rain.

Forecast rainfall totals of 2 to 4" are currently highest along the Emerald Coast and just offshore the western Forgotten Coast. Locally higher amounts of 6 to 8" cannot be ruled out, especially for locations that experience multiple rounds of heavy rain and thunderstorm activity from Francine's outer rainbands. *Trends radar and computer forecast models on Wednesday and Thursday will be closely monitored for localized flash flooding threats.*



Flash Flood Risk – Next 5 Days

From the Weather Prediction Center (WPC)



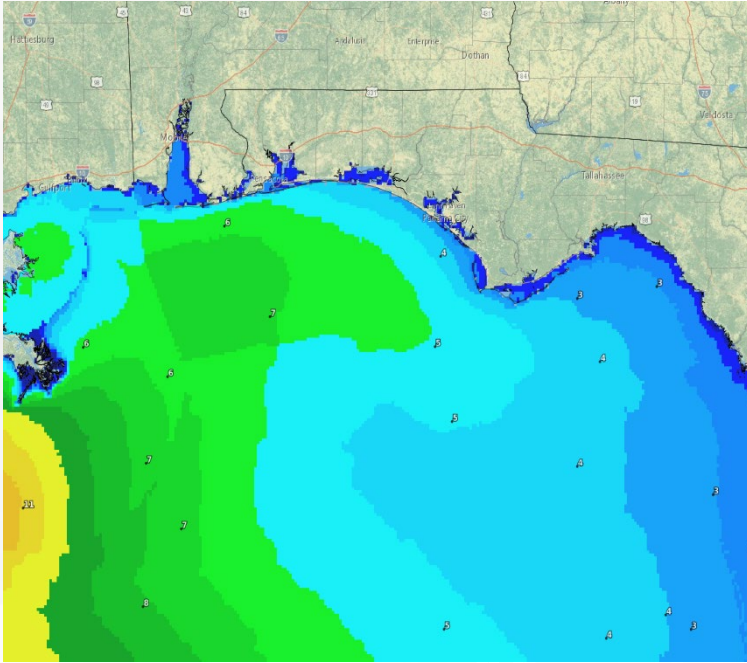
No significant changes were made to this morning's Weather Prediction Center (WPC) outlook. There is a **Slight Risk (level 1 of 4) for Flash Flooding** noted for the coastal Florida Panhandle Wednesday into Thursday, with a **Marginal Risk (level 1 of 4)** extending further east. Rainfall directly tied to Francine is not an easy forecast as the system will likely be transitioning to an extratropical system. The increase in forward speed, the potential of drier air wrapping into its inner core near/after landfall, and the dry antecedent conditions preceding Francine's landfall all impact the amount of rainfall this system will be capable of producing. Along the Florida Panhandle, the heavy rainfall risk is not only highly dependent on the eventual track of Francine, but also the placement of a warm front forecast to lift north into the Florida Panhandle Wednesday afternoon and Wednesday night.

Regardless, on the eastern side of any tropical system can see instances of isolated to scattered **flash flooding**, especially along the urban I-10 corridor. We continue to monitor trends within the computer model guidance regarding an outer rain band extending from the center of Francine; any outer rainbands could bring repeated rounds of locally heavy rainfall to the same locations and lead to a quicker onset to **flooding and ponding water**.

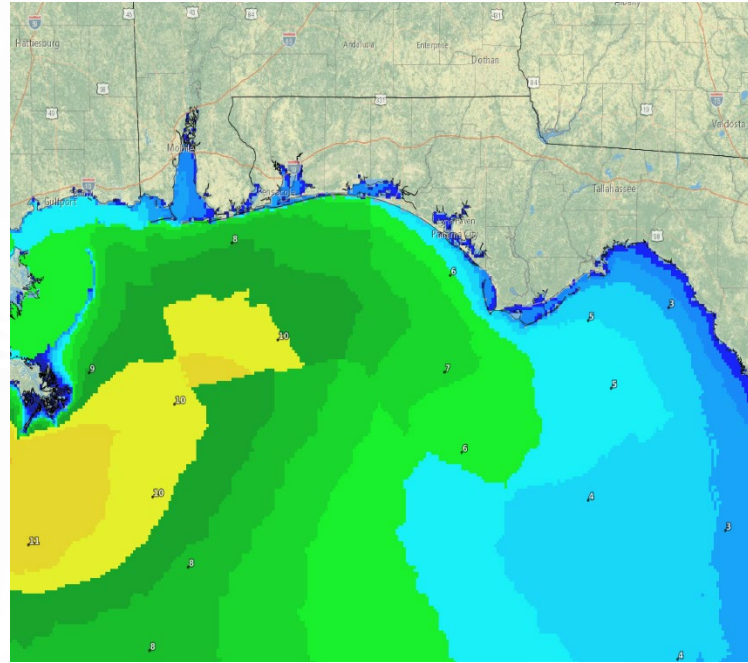


Forecast Wave Heights

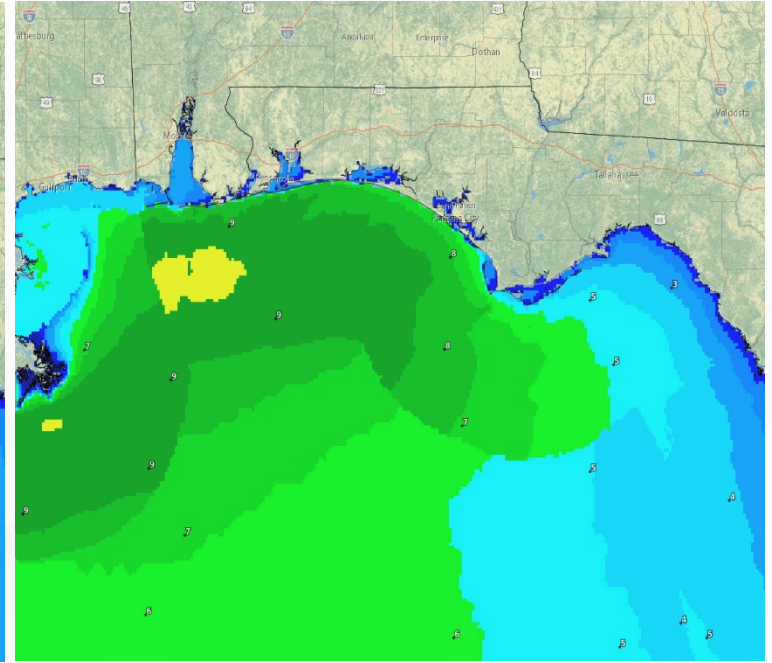
From the National Weather Service (NWS)



Wednesday Evening



Thursday Morning



Thursday Evening

Swells associated with Francine will arrive to the northern Gulf Coast midweek, and will increase the threat for dangerous beach and marine conditions along the Florida Panhandle coastline. **Wave heights** in the surf zone will reach **4-7'** along the Emerald Coast Wednesday evening and Wednesday night, gradually overspreading eastward to the central and eastern Florida Panhandle on Thursday. Isolated brakers in excess of **8'** cannot be ruled out along the western Florida Panhandle coastline. **High Surf Advisories** will be issued as conditions warrant. The combination of onshore winds and elevated surf may lead to instances of **minor coastal flooding** along the Florida Panhandle, especially at or near times of high tide. Isolated pockets of **moderate coastal flooding** cannot be ruled out along the far western Florida Panhandle, for locations closer to Mobile Bay.



Rip Current Risk

From the National Weather Service (NWS)

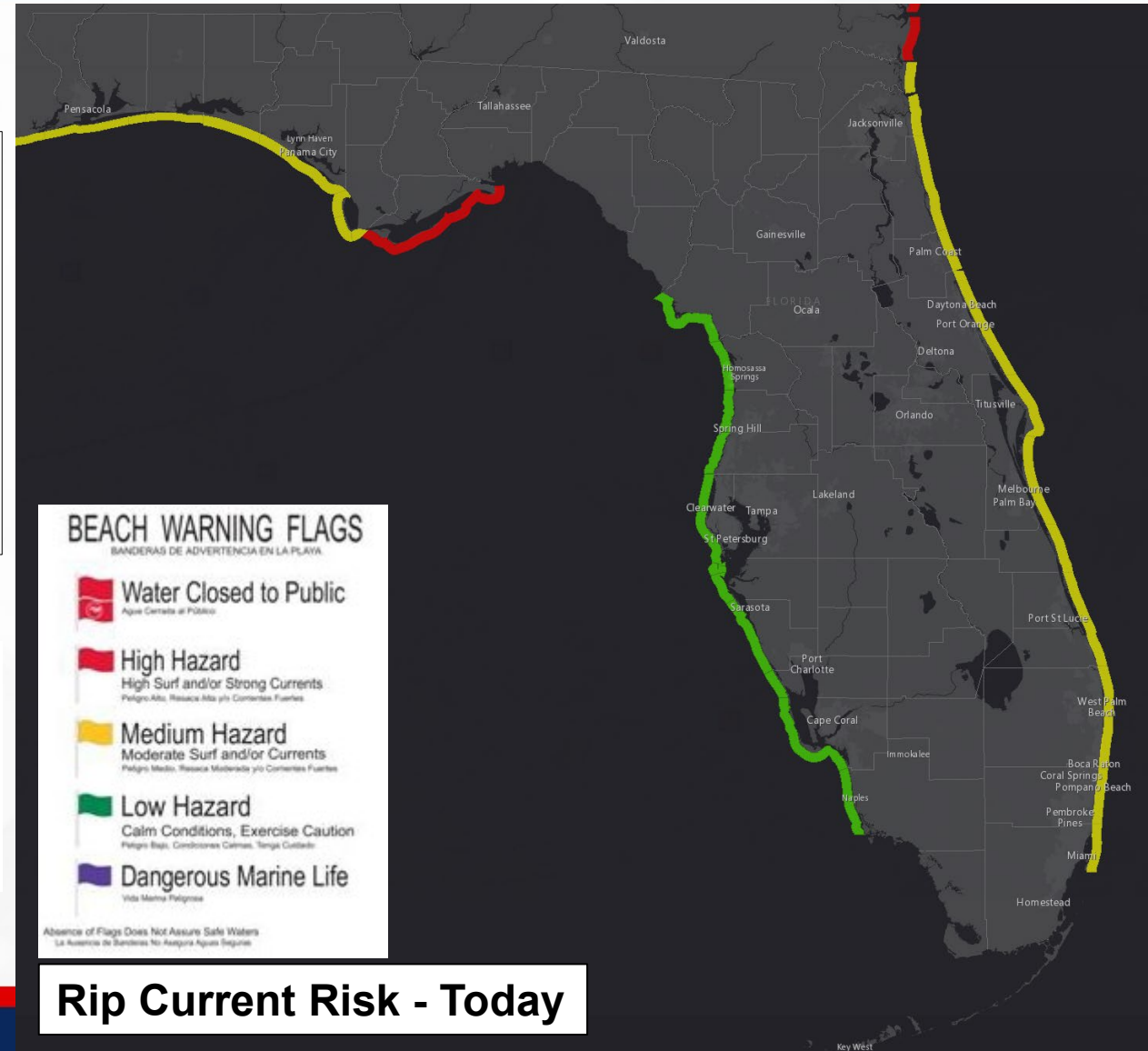
Regardless of Francine's evolution, hazardous coastal and marine conditions can be expected along the Florida Panhandle.

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 Saturday 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	Wed	Thu	Fri	Sat
Rip Current					
Marine Hazard					





Severe Weather Outlook – Wednesday Night & Thursday

From the Storm Prediction Center (SPC)

1 - MARGINAL (MRGL)

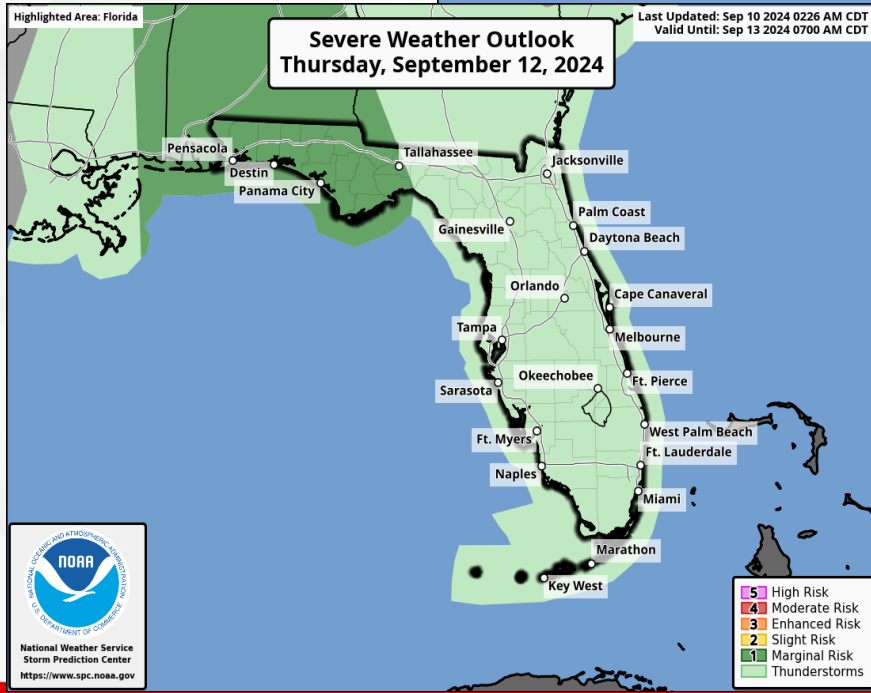
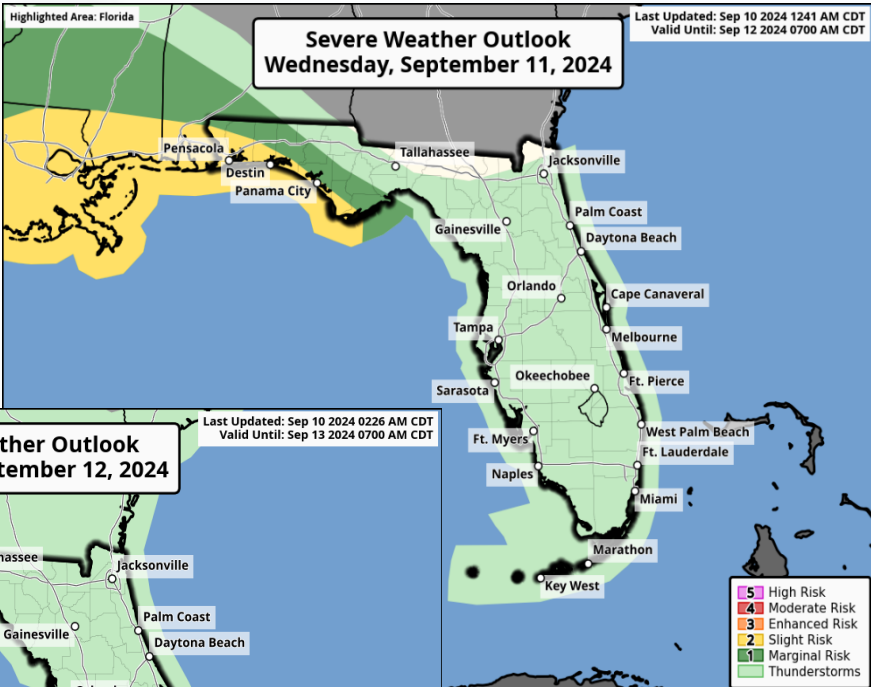
Isolated severe thunderstorms possible

Limited in duration and/or coverage and/or intensity

2 - SLIGHT (SLGT)

Scattered severe storms possible

Short-lived and/or not widespread, isolated intense storms possible



1 - MARGINAL (MRGL)

Isolated severe thunderstorms possible

Limited in duration and/or coverage and/or intensity

The environment gradually becomes more favorable for tropical tornadoes late Wednesday afternoon into Wednesday night across the Florida Panhandle as a warm front is forecast to lift north from the Gulf of Mexico while Francine makes landfall in Louisiana. The Storm Prediction Center (SPC) is outlooking a **Slight Risk (level 2 of 5) for Severe Weather** across portions of the Emerald Coast and the western Forgotten Coast, with a **Marginal Risk (level 1 of 5)** extending into the I-10 corridor and further east along the Florida Panhandle.

With Francine moving northward through the Lower to Middle Mississippi Valley on Thursday, conditions remain supportive for isolated tropical tornadoes. There is a **Marginal Risk (level 1 of 5) for Severe Weather** across the Florida Panhandle, through the Capital City.

The extent and location of the tornado threat remains quite uncertain at this time and changes to the forecast can be expected over the next 24 to 48 hours. *Tornado Watches will be issued Wednesday night and Thursday as conditions warrant.*





Summary

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Tropical Storm Francine:

- As of 11:00 AM EDT, Francine is located about 425 miles southwest of Morgan City, Louisiana and is moving north-northeastward at 8 mph.
- A turn toward the northeast with an increase in forward speed is expected later today or tonight.
- On the forecast track, Francine is anticipated to be just offshore of the coasts of northeastern Mexico and southern Texas through this afternoon, making landfall in Louisiana on Wednesday.
- Maximum sustained winds are near 65 mph, and strengthening is expected through Wednesday morning; Francine is forecast to become a hurricane later today or tonight, with rapid weakening expected after landfall.
- *While Francine is forecast to make landfall in Louisiana, the system will bring dangerous beach and marine conditions such as elevated ocean swells and dangerous rip currents, isolated to scattered instances of flash flooding, and tropical tornadoes to the Florida Panhandle later Wednesday into Thursday.*

Central Tropical Atlantic (Invest 92L):

- An elongated area of low pressure, located over the central tropical Atlantic continues to produce some disorganized shower and thunderstorm activity.
- Environmental conditions appear only marginally conducive for some slight development during the next couple of days, but a tropical depression could still form during that time while the system moves westward at 5 to 10 mph over the central tropical Atlantic.
- The National Hurricane Center (NHC) is outlooking a **medium (40%) chance of development** over the next 48 hours and 7 days.
- *This system poses no threat to Florida, at this time.*

Eastern and Central Tropical Atlantic:

- An upper-level disturbance of low pressure located several hundred miles southwest of the Cabo Verde Islands is expected to interact and merge with a strong tropical wave located between the west coast of Africa and the Cabo Verde Islands over the next couple of days.
- Thereafter, environmental conditions appear favorable for gradual development of this combined system, and a tropical depression will likely form during the latter part of this week while the system moves west-northwestward at 10 to 15 mph.
- The NHC is outlooking a **low (30%) chance for development** over the next 48 hours, and a **high (70%) chance for development** over the next 7 days.
- *This system poses no threat to Florida, at this time.*

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



Summary

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Florida Outlook:

- Locally heavy rain remains a concern for much of the Sunshine State over the next couple of days, due to a stalled frontal boundary over the northeastern Gulf of Mexico.
 - The heavy rainfall risk is highly dependent on the track of Francine and the placement of a warm front that is forecast to lift north into the Florida Panhandle Wednesday afternoon into Wednesday night. The warm front will be the focal point for the heavier rain.
 - There is a **Slight Risk (level 1 of 4) for Flash Flooding** noted for the coastal Florida Panhandle Wednesday into Thursday, with a **Marginal Risk (level 1 of 4)** extending further east.
 - Regardless of the exact evolution of Francine at landfall, the eastern side of any tropical system can see instances of isolated to scattered flash flooding especially within any outer rainbands that bring repeated rounds of locally heavy rainfall to the same area.
- The environment gradually becomes more favorable for tropical tornadoes late Wednesday afternoon into Wednesday night across the Florida Panhandle as a warm front is forecast to lift north from the Gulf of Mexico while Francine makes landfall in Louisiana.
 - The Storm Prediction Center (SPC) is outlooking a **Slight Risk (level 2 of 5) for Severe Weather** across portions of the Emerald Coast and the western Forgotten Coast, with a **Marginal Risk (level 1 of 5)** extending into the I-10 corridor and further east along the Florida Panhandle.
 - With Francine moving northward through the Lower to Middle Mississippi Valley on Thursday, conditions remain supportive for isolated tropical tornadoes. There is a **Marginal Risk (level 1 of 5) for Severe Weather** across the Florida Panhandle, through the Capital City.
 - The extent and location of the tornado threat remains quite uncertain at this time and changes to the forecast can be expected over the next 24 to 48 hours. *Tornado Watches will be issued Wednesday night and Thursday as conditions warrant.*
- Swells associated with Francine will arrive to the northern Gulf Coast within the next 24 hours, and will yield dangerous beach and marine conditions along the Florida Panhandle coastline.
 - Wave heights in the surf zone will reach 4-7' along the Emerald Coast Wednesday evening and Wednesday night, gradually overspreading eastward to the central and eastern Florida Panhandle on Thursday. Isolated breakers in excess of 8' cannot be ruled out along the western Florida Panhandle coastline. *High Surf Advisories will be issued as conditions warrant.*
 - The combination of onshore winds and elevated surf may lead to instances of **minor coastal flooding** along the Florida Panhandle, especially at or near times of high tide. Isolated pockets of **moderate coastal flooding** cannot be ruled out along the far western Florida Panhandle, for locations closer to Mobile Bay.
 - 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 Saturday as Francine moves onshore the northern Gulf Coast. Breezy southerly to southwesterly flow will likely maintain dangerous beach conditions into the weekend.
- 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 106 to 110-degrees**.
- The next names on the list are Gordon (GOR-duhn) and Helene (heh-LEEN).*

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



Tropical Update

FOUO – For Government Official Use Only



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State Meteorological Support Unit

Florida Division of Emergency Management

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