



Tropical Update



11:30 AM EDT

Tuesday, October 1, 2024

Helene Recovery Weather

Tropical Storm Kirk

**Monitoring Two Disturbances: Northwestern Caribbean Sea (40%) &
Eastern Tropical Atlantic - Invest 91L (90%)**

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

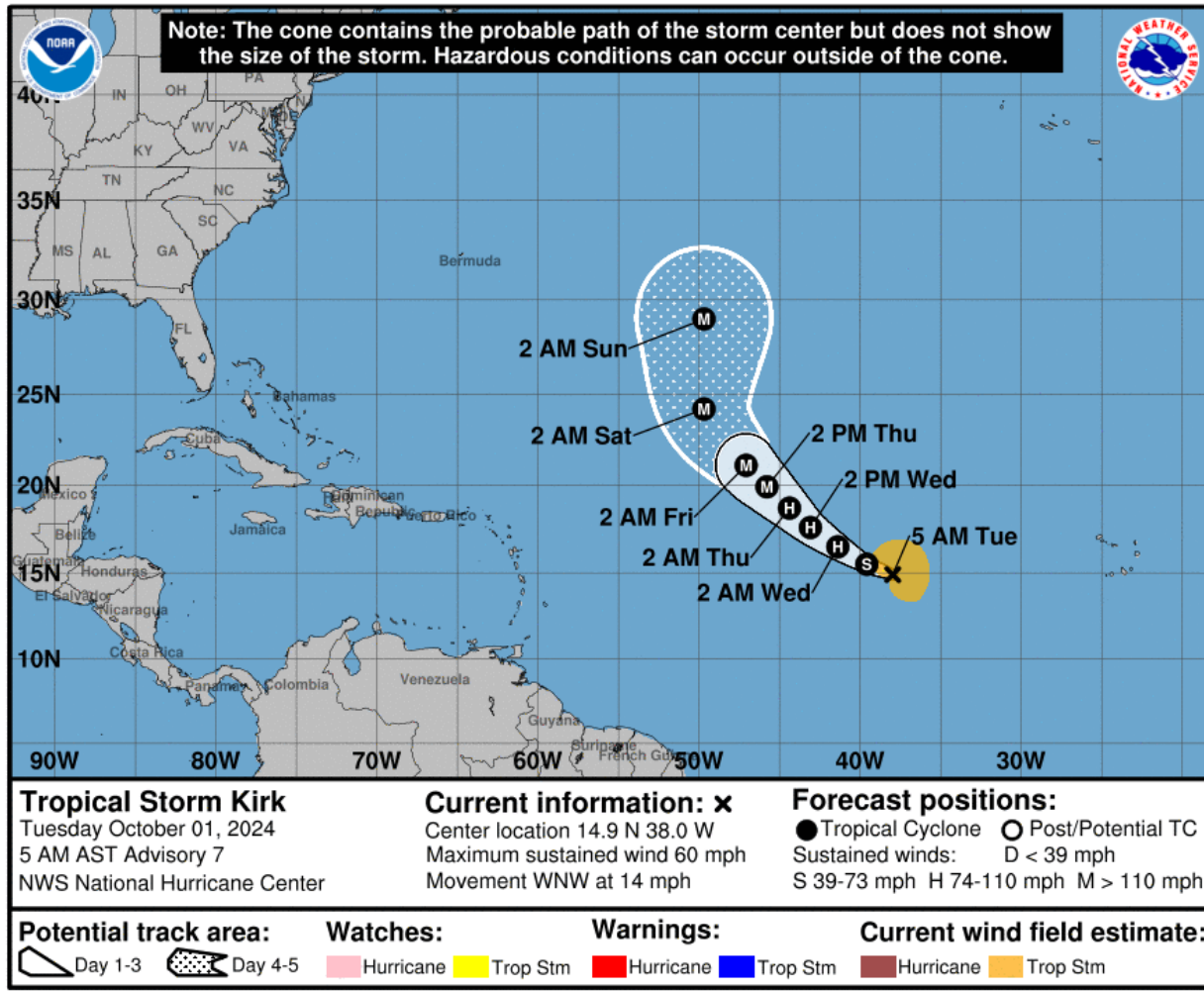


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Tropical Storm Kirk

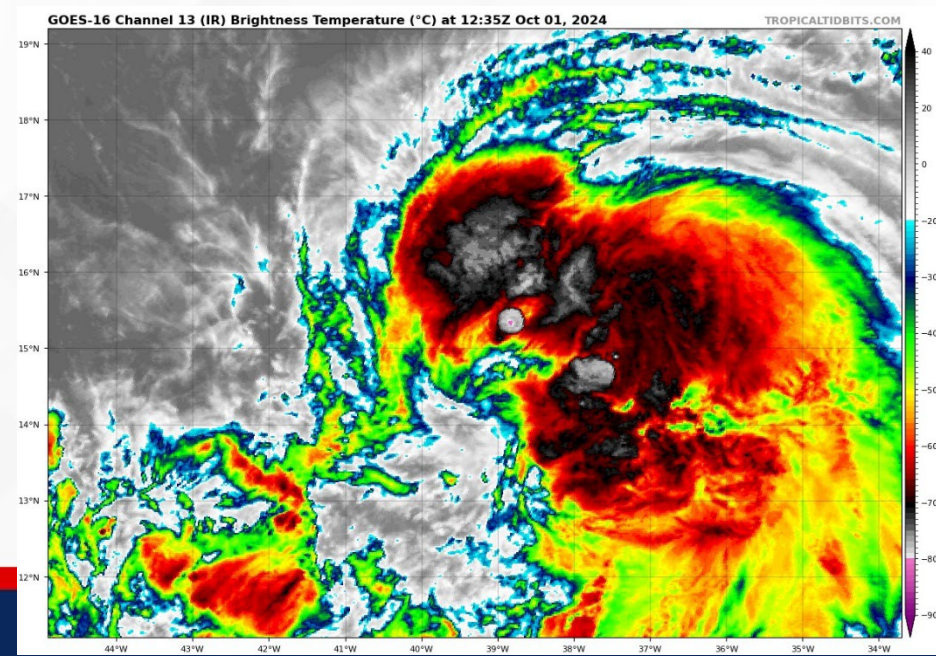
From the National Hurricane Center (NHC)



- **Location:** 110 miles W of the Cabo Verde Islands
- **Maximum Sustained Winds:** 70 mph
- **Current Movement:** WNW at 13 mph

This general motion is expected to continue with a gradual turn more northwestward over the next several days. Additional strengthening is anticipated, and Kirk should become a hurricane by tonight, and a major hurricane in a couple of days.

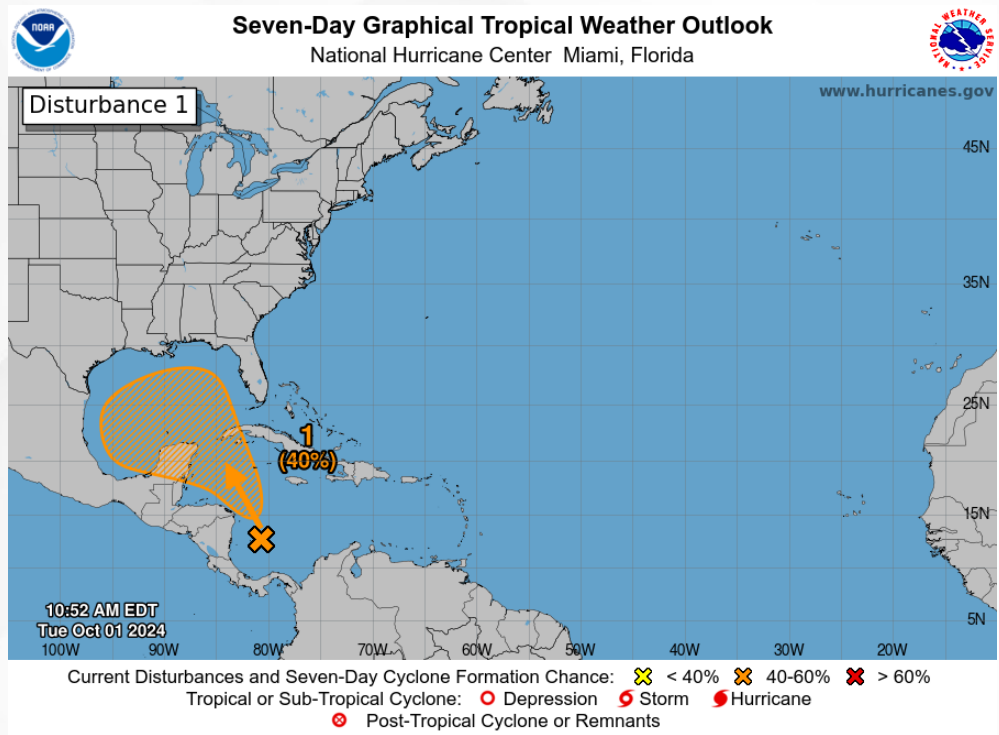
Kirk poses no direct threat to Florida at this time.





Tropical Weather Outlook

Disturbance 1 – Northwestern Caribbean Sea & Gulf of Mexico



10%

48 Hour Formation

40%

7 Day Formation

Disorganized showers and thunderstorms located over the southwestern Caribbean Sea are associated with a trough of low pressure. Environmental conditions could support some gradual development of this system, and a tropical depression could form towards the end of this week or this weekend while it moves generally northwestward over the northwestern Caribbean Sea and into the Gulf of Mexico. Interests along the U.S. Gulf Coast should continue to monitor the progress of this system.

This system poses no direct threat to Florida in the next 5-7 days, but trends with its development/organization and within the computer forecast models will be closely monitored.

Chance of development through 48 hours... **low...10%**

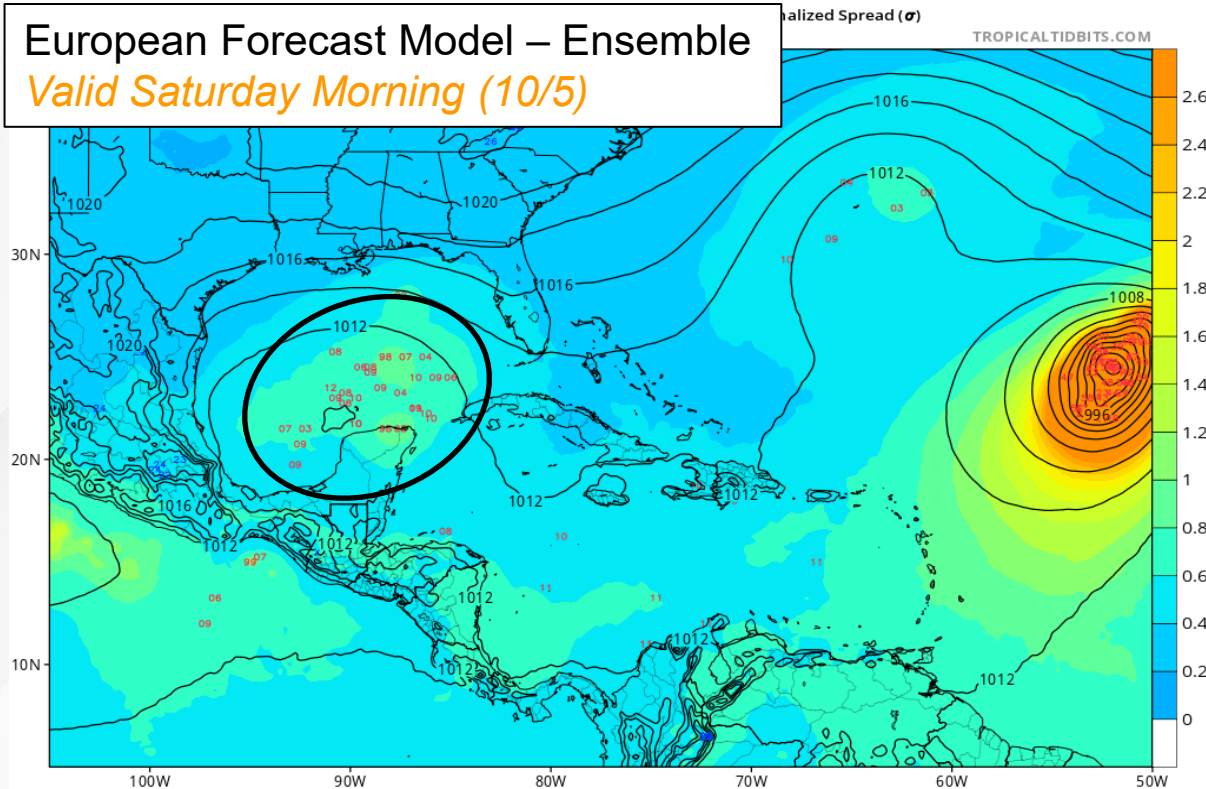
Chance of development through 7 days... **medium...40%**



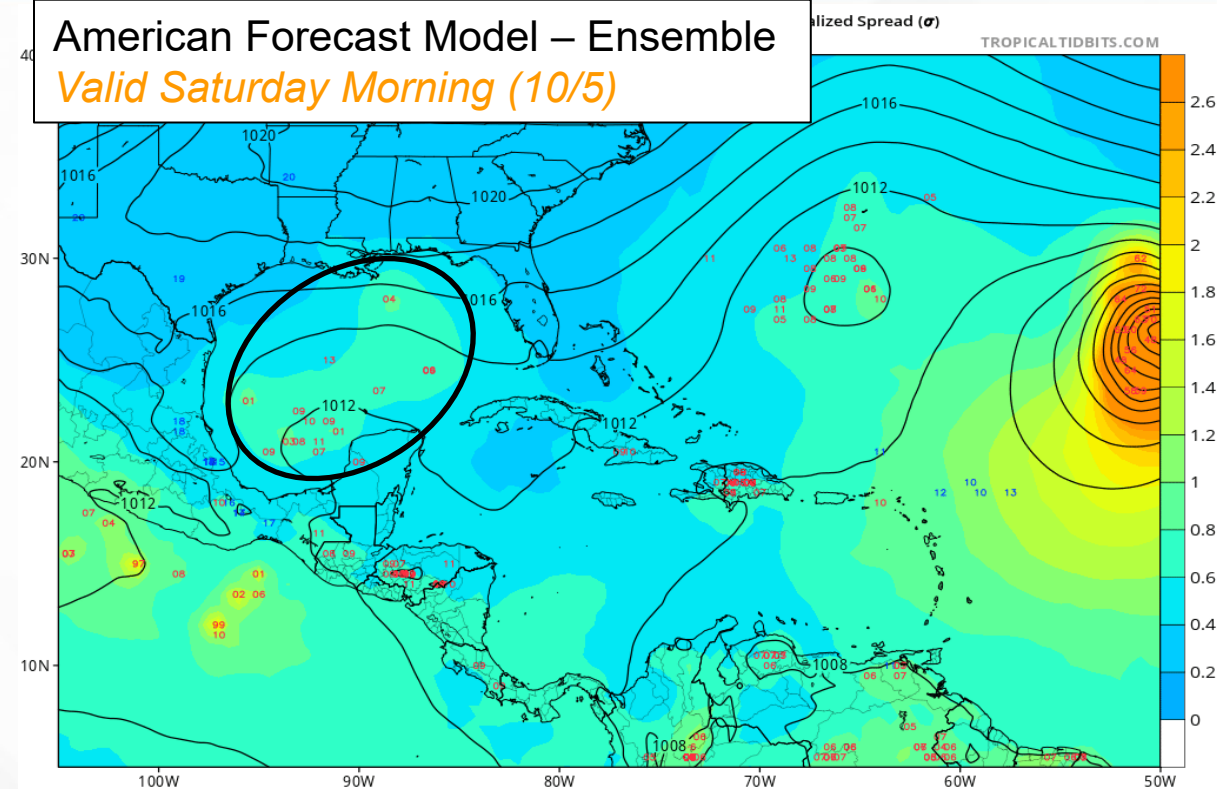
Ensemble Forecast Computer Models

Disturbance 1 – Northwestern Caribbean Sea & Gulf of Mexico

European Forecast Model – Ensemble
Valid Saturday Morning (10/5)



American Forecast Model – Ensemble
Valid Saturday Morning (10/5)



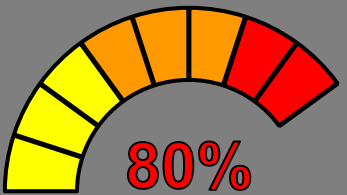
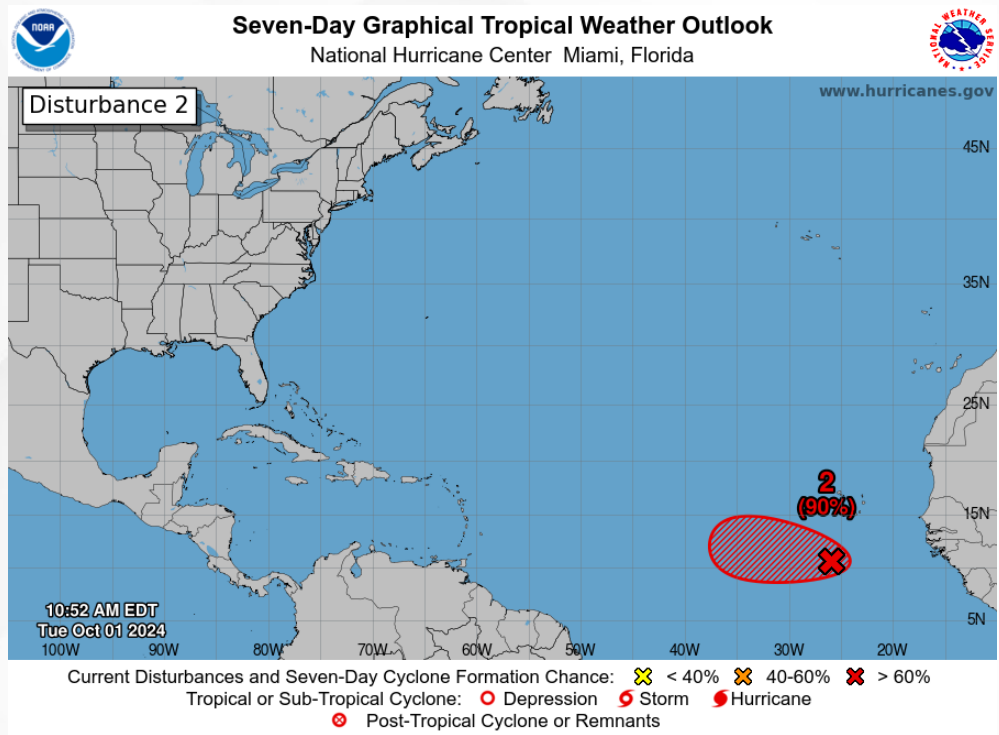
There is a **wide range of possibilities** in the eventual path and timeline of the western Caribbean low pressure next week, with little agreement across the forecast computer models – large changes and shifts in the model guidance can be expected, as well as which area of low pressure becomes the more dominant feature.

- Computer forecast models have been hinting at showers and thunderstorms becoming increasingly organized near Central America as well as the southwestern Gulf of Mexico early next week.
- There is a decent signal that a more concentrated area of low pressure could form over the western Caribbean Sea or southwestern Gulf of Mexico and moving further out into the southwestern or central Gulf of Mexico later this week into the weekend; however, much development or uptick in organization will likely be slow at first through into the midweek timeframe.
- A cold front is forecast to push into the southeast U.S. late this weekend into early next week, likely interact with the disturbance as it moves through the Gulf of Mexico. Influences from the frontal boundary may support a weaker solution for the disturbance; however, the timing and placement of these systems and their possible interactions will continue to be monitored.
- There remains considerable disagreement across forecast computer model ensembles, so **it is important to not only look at one-run model solutions** as large shifts in the computer models can be expected in the coming days until a more defined system forms.

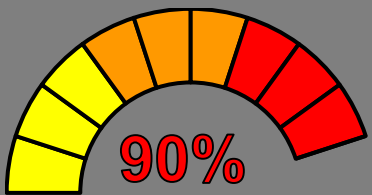


Tropical Weather Outlook

Disturbance 2 – Eastern Tropical Atlantic (Invest 91L)



48 Hour Formation



7 Day Formation

Showers and thunderstorms continue to show signs of organization in association with a broad area of low pressure located a few hundred miles south-southwest of the Cabo Verde Islands. Environmental conditions appear conducive for further development of this system, and a tropical depression is expected to form during the next couple of days while it moves slowly westward over the eastern tropical Atlantic.

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

Chance of development through 48 hours...**high...80%**
Chance of development through 7 days...**high...90%**



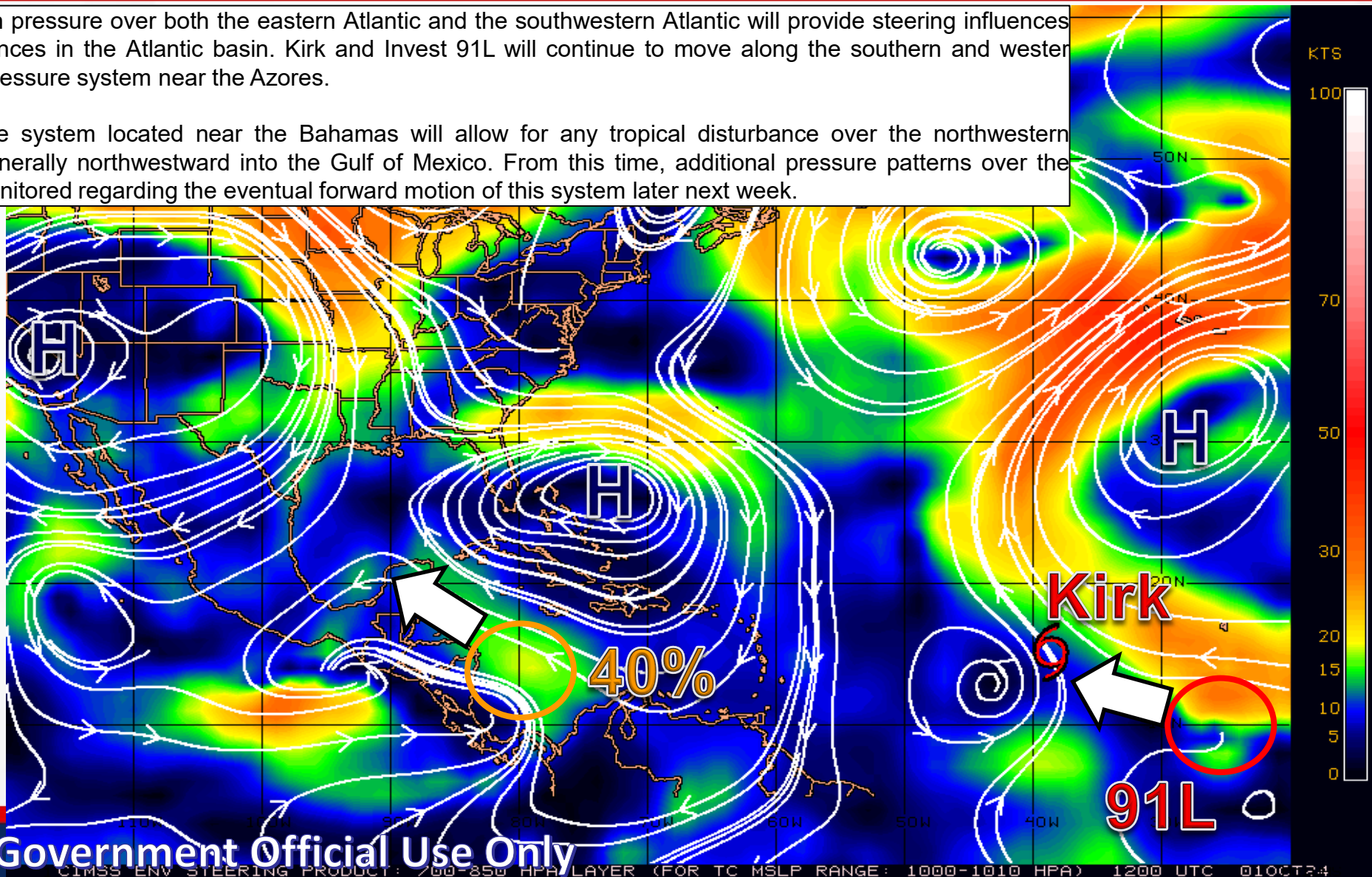
Steering Currents

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.

Dominant areas of high pressure over both the eastern Atlantic and the southwestern Atlantic will provide steering influences for all tropical disturbances in the Atlantic basin. Kirk and Invest 91L will continue to move along the southern and western periphery of the high pressure system near the Azores.

A strong high pressure system located near the Bahamas will allow for any tropical disturbance over the northwestern Caribbean to move generally northwestward into the Gulf of Mexico. From this time, additional pressure patterns over the U.S. will need to be monitored regarding the eventual forward motion of this system later next week.



Fast Moving Storm

Fast Moving Storm

Typical Moving Storm

Slow Moving Storm

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CIMSS ENV STEERING PRODUCT: 700-850 HPA LAYER (FOR TC MSLP RANGE: 1000-1010 HPA) 1200 UTC 01OCT24



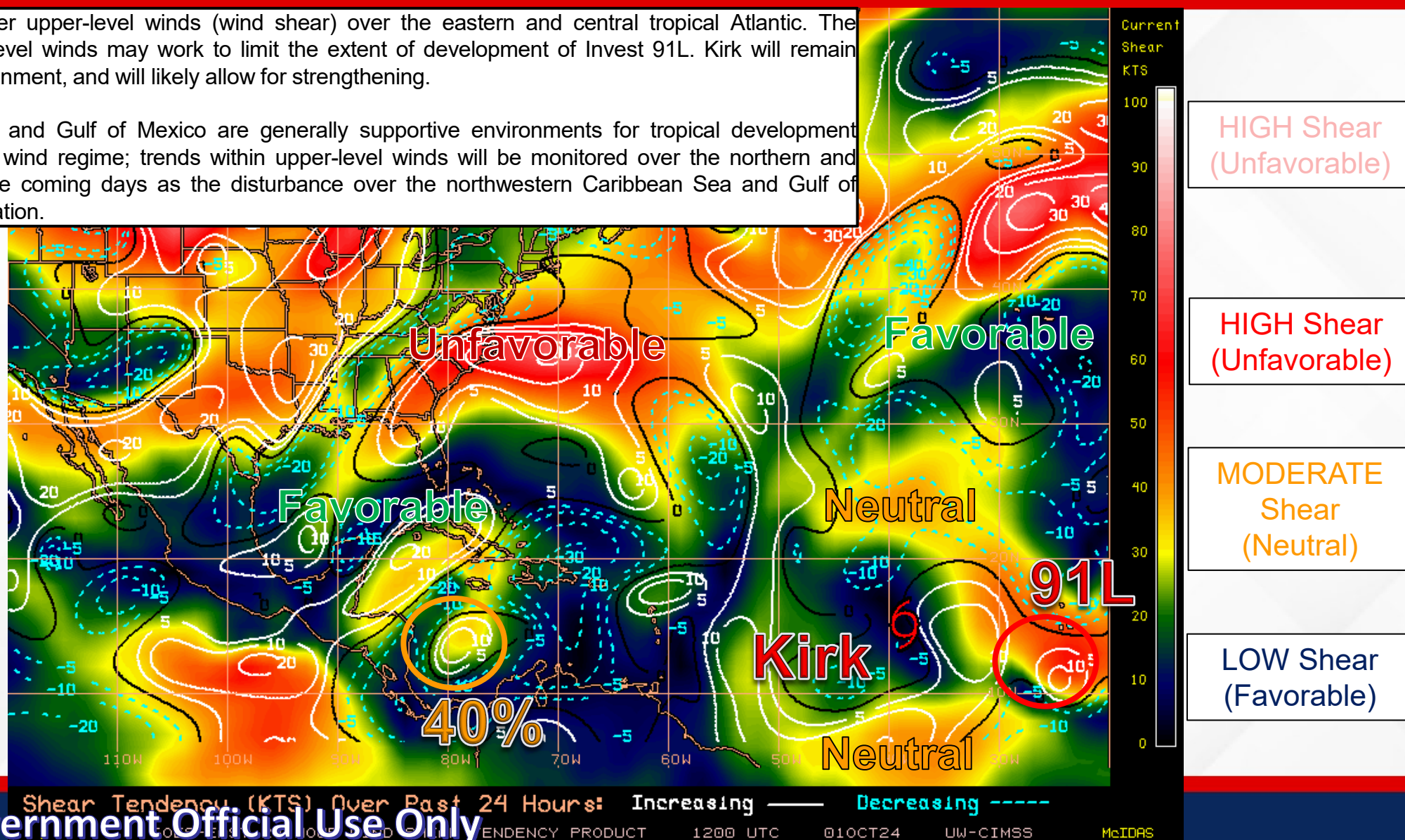
Wind Shear

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).

There are pockets of stronger upper-level winds (wind shear) over the eastern and central tropical Atlantic. The presence of stronger upper-level winds may work to limit the extent of development of Invest 91L. Kirk will remain within a more favorable environment, and will likely allow for strengthening.

The western Caribbean Sea and Gulf of Mexico are generally supportive environments for tropical development featuring a weak upper-level wind regime; trends within upper-level winds will be monitored over the northern and western Gulf of Mexico in the coming days as the disturbance over the northwestern Caribbean Sea and Gulf of Mexico works toward organization.



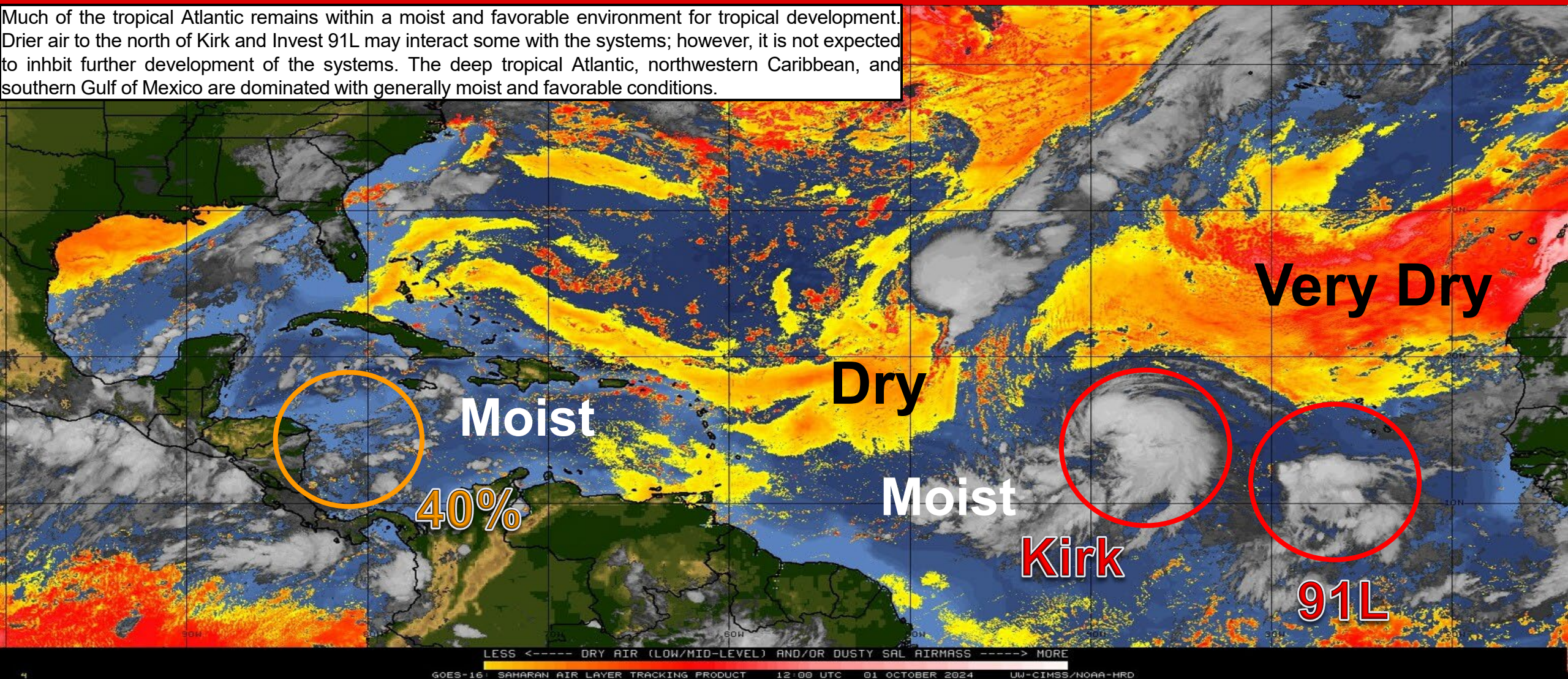


Dry Air & Saharan Dust

Is the environment favorable for the system?

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

Much of the tropical Atlantic remains within a moist and favorable environment for tropical development. Drier air to the north of Kirk and Invest 91L may interact some with the systems; however, it is not expected to inhibit further development of the systems. The deep tropical Atlantic, northwestern Caribbean, and southern Gulf of Mexico are dominated with generally moist and favorable conditions.

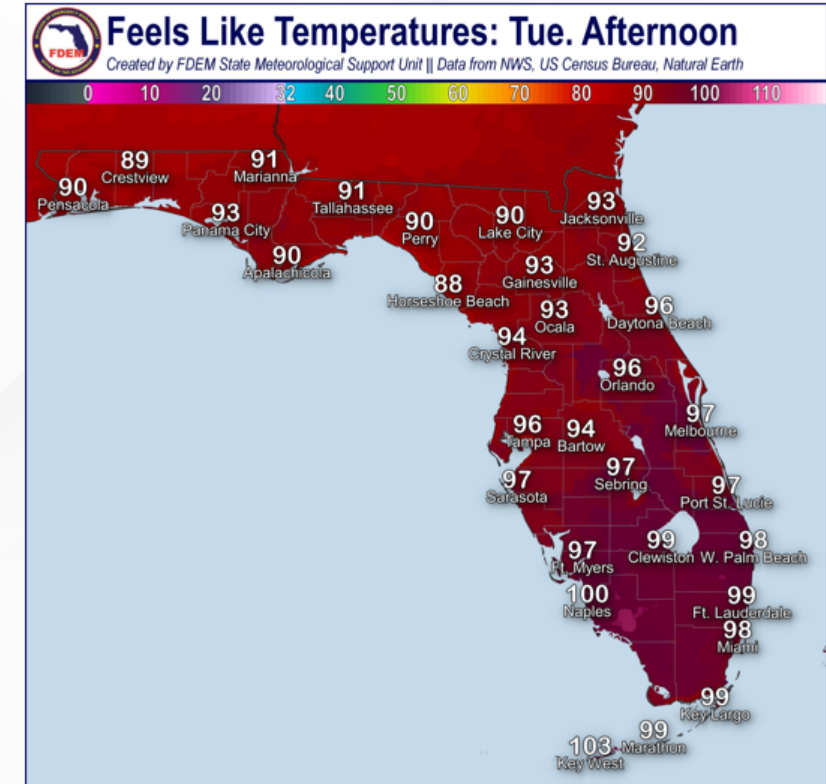
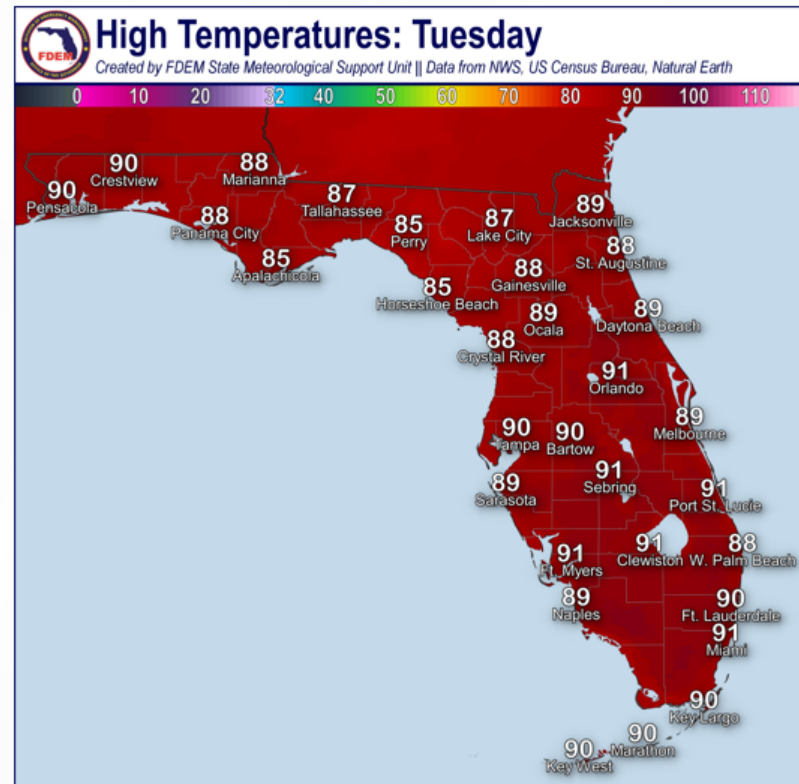
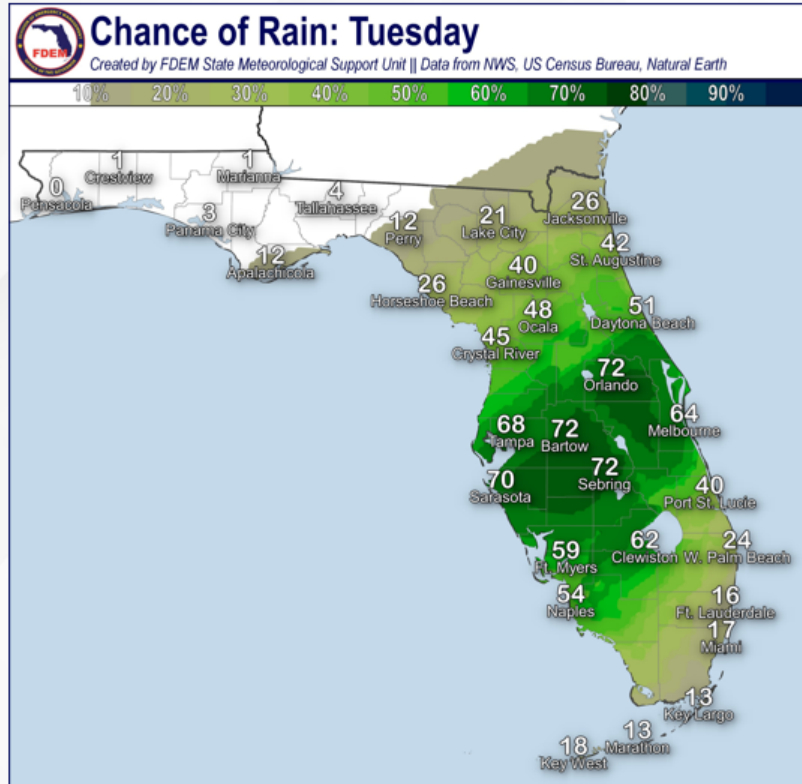


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Recovery Weather - Tuesday

Rain Chances, High Temperature & Feels-Like Temperature





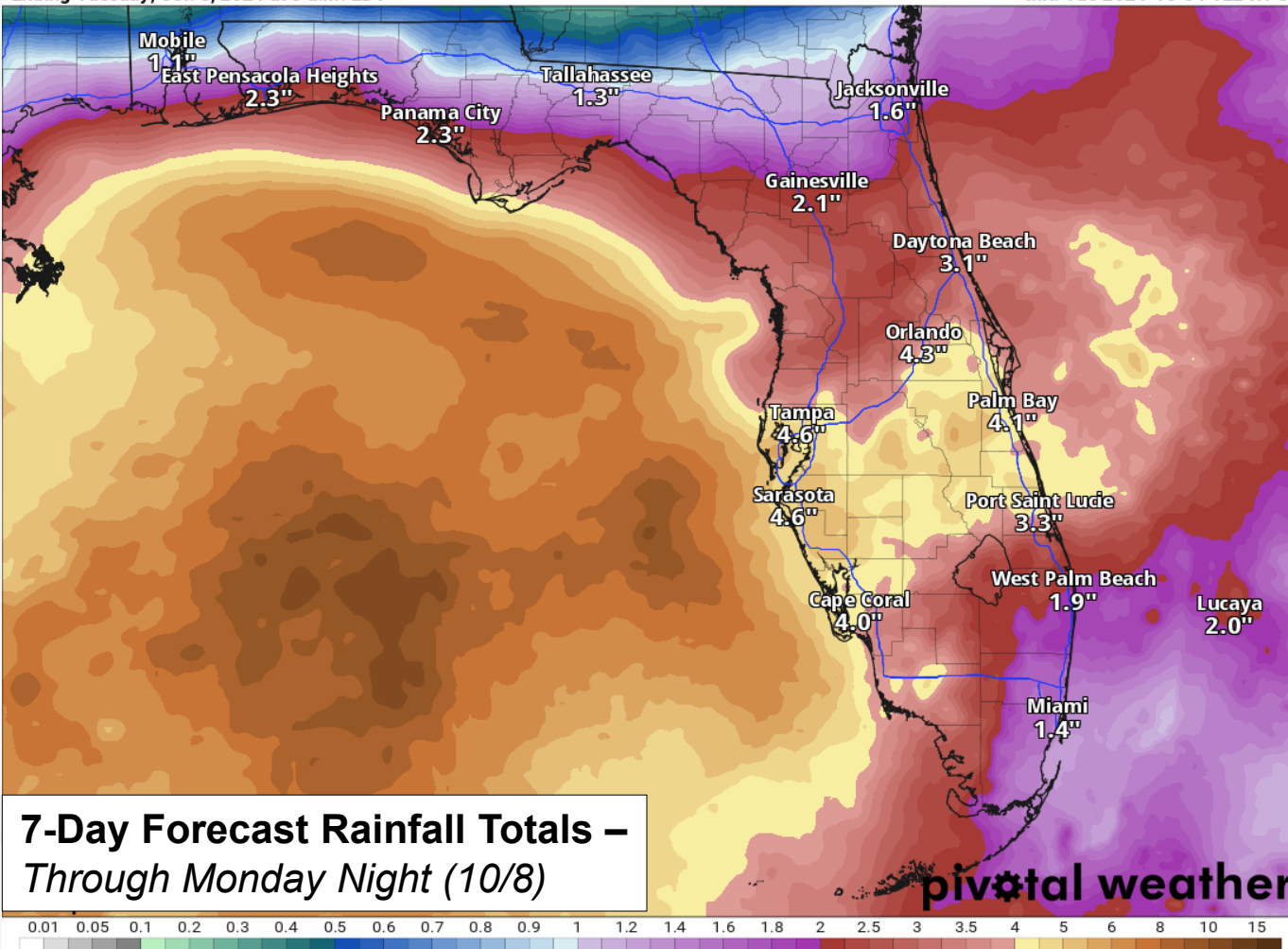
Rainfall Totals – Next 7 Days

From the Weather Prediction Center (WPC)

7-Day Precipitation (in)

Ending Tuesday, Oct. 8, 2024 at 8 a.m. EDT

Init: Tue 2024-10-01 12z WPC

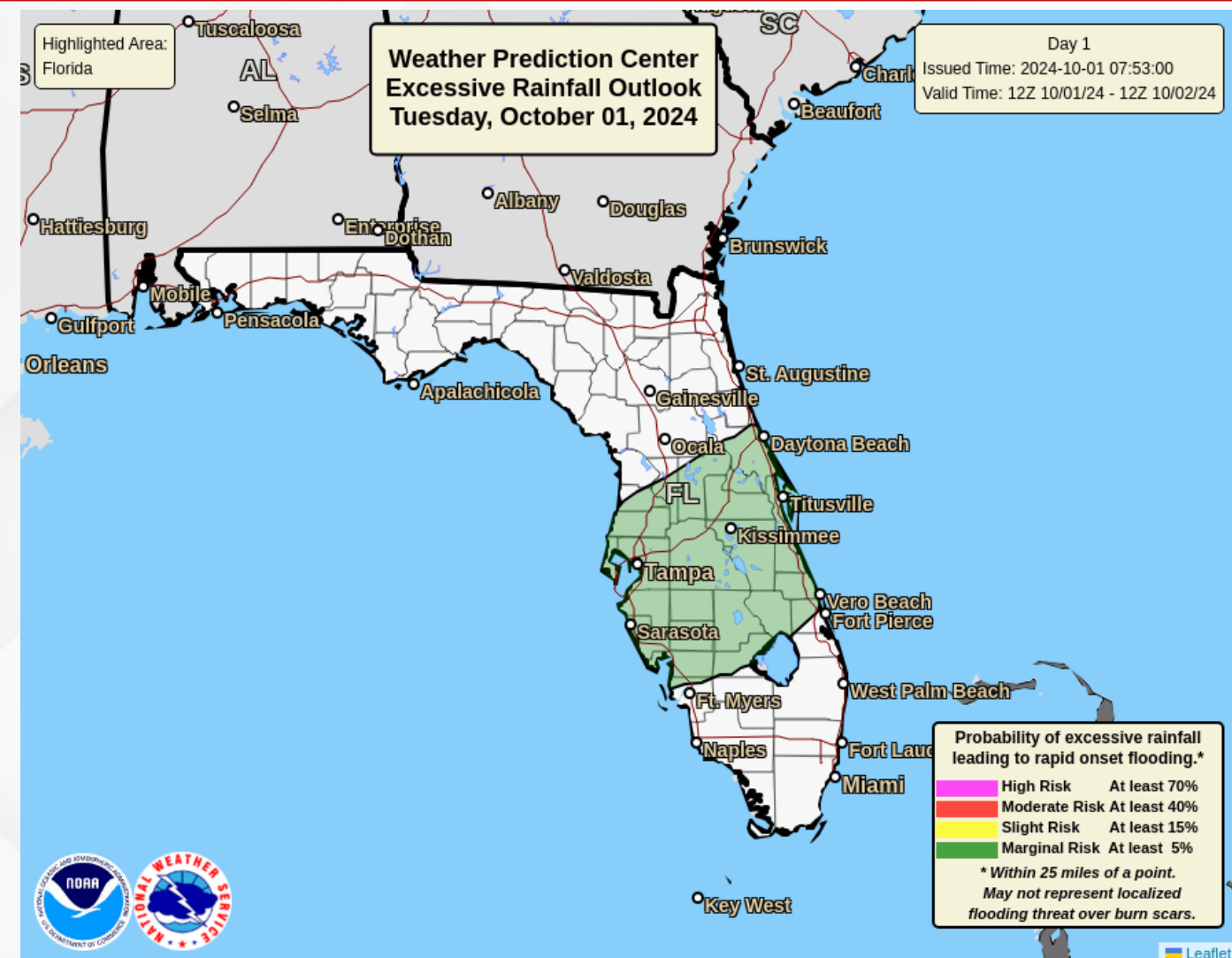


- Scattered showers and thunderstorms are forecast to continue across much of Florida Peninsula through the week, with more concentrated rainfall totals arriving this weekend and early next week as we monitor potential development in the northwestern Caribbean and Gulf of Mexico.
- Rainfall totals will be highly dependent upon the evolution of the next tropical disturbance over the northwestern Caribbean and Gulf of Mexico, with most of this activity not beginning until later this week and early next week.
- A cold front is expected to push through the southeast U.S. late this weekend into early next week, likely interact with the disturbance and supporting a wet and active weather pattern. The timing and placement of these systems and their possible interactions will continue to be monitored.
- Widespread rainfall totals near 1-3" can be expected statewide, with higher amounts of 4-6" along the I-4 corridor and south towards Lake Okeechobee.
 - Heaviest rainfall of 6-8", with locally higher amounts eclipsing 8-12" cannot be ruled out; however, the exact placement of these more significant totals will continue to be modified depending on the tropical disturbance's organization and track.
 - **Please continue to stay tuned for the latest computer forecast model guidance and trends in the subsequent days.**



Flash Flood Outlooks – Today

From the Weather Prediction Center (WPC)

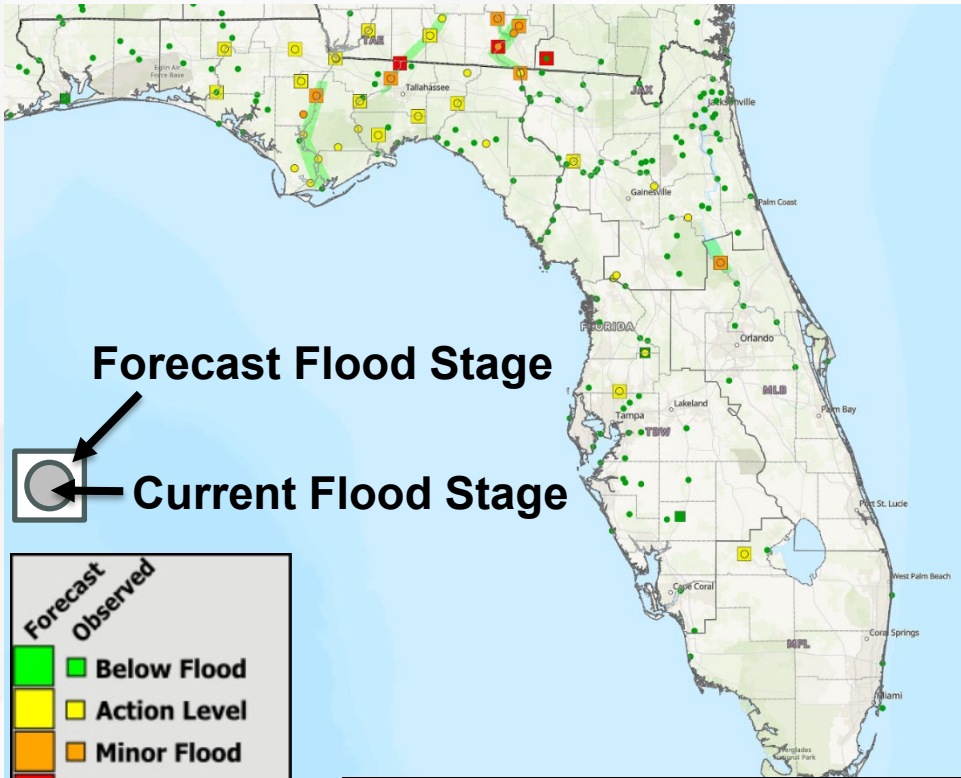


- The Weather Prediction Center (WPC) is outlooking a **Marginal Risk (level 1 of 4) for Flash Flooding** across Central Florida today.
- Deep moisture remains draped across Central Florida as high pressure over the Atlantic strengthens and builds westward over the Florida Peninsula and high pressure over the Midwest shifts eastward, allowing for more typical summertime weather pattern along the Peninsula.
- This activity will likely be slow moving and train across the state and will be capable of producing locally heavy downpours.
- Locally heavy downpours along urban and low-lying/poor drainage areas and over saturated grounds may give way to localized instances of **flooding**.
- Coastal and low-lying areas along Florida's Gulf Coast will remain vulnerable to additional rounds of rainfall thanks to recent and lingering flooding and saturated grounds.



Current & Forecast River Conditions

From the National Weather Service



A **River Flood Warning** remain in effect along the [St. Johns River at Astor](#) as water levels hold relatively steady within **minor flood stage**.

Several **River Flood Warnings** remain in effect across the eastern Florida Panhandle and Big Bend as elevated water levels continue in the wake of Helene. The [Ochlockonee River near Concord \(CR-12\)](#) is notably experiencing **moderate flooding** while several locations between the Ochlockonee, Apalachicola, and Withlacoochee basins continue to run in **minor flood stage**.

Additional rises in water level will be possible along the Withlacoochee and Ochlockonee Rivers as excess heavy rainfall discharge through the basin from the Georgia headwaters; elsewhere, limited rainfall totals over the next few days will help water levels gradually level off and recede through the week. For more details, please visit the [River Forecast Center](#).

River Gauge	County(ies) Affected	Current Level	Crest Level	Record Level	Status	Crest Date	Warning Expires
Apalachicola River near Blountstown	Calhoun, Franklin, Gulf, Liberty	Minor: 20.62 ft	Minor: 21.00 ft	28.60 ft	Rising	2-Oct	Until Further Notice
Ochlockonee River near Concord (CR-12)	Gadsden, Leon	Moderate: 39.11 ft	Moderate: 39.80 ft	45.70 ft	Falling	Crested	1700 EDT 4-Oct
Ochlockonee River near Havana (US-27)	Gadsden, Leon	Minor: 28.37 ft	Minor: 28.50 ft	35.10 ft	Rising	2-Oct	2000 EDT 4-Oct
Withlacoochee River near Pinetta	Hamilton, Madison	Action: 61.06 ft	Minor: 76.70 ft	87.80 ft	Rising	4-Oct	No Warning Issued
St. Johns River at Astor	Volusia, Lake	Minor: 2.36 ft	Minor: 2.70 ft	4.70 ft	Steady	Crested	Until Further Notice



Summary

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Tropical Storm Kirk:

- As of 11:00 AM EDT, Kirk is located about 935 miles west of the Cabo Verde Islands and moving west-northwestward at 14 mph.
- This general motion is expected to continue with a gradual turn more northwestward over the next several days.
- Maximum sustained winds are near 70 mph with higher gusts.
- Additional strengthening is anticipated, and Kirk should become a hurricane by tonight, and a major hurricane in a couple of days.
- *Kirk poses no direct threat to Florida at this time.*

Western Caribbean Sea and Gulf of Mexico:

- Disorganized showers and thunderstorms located over the southwestern Caribbean Sea are associated with a trough of low pressure.
- Environmental conditions could support some gradual development of this system, and a tropical depression could form towards the end of this week or this weekend while it moves generally northwestward over the northwestern Caribbean Sea and into the Gulf of Mexico.
- Interests along the U.S. Gulf Coast should continue to monitor the progress of this system.
- *This system poses no direct threat to Florida in the next 5-7 days, but trends with its development/organization and within the computer forecast models will be closely monitored.*
- The NHC is outlooking a **low (10%) chance of development** over the next 48 hours, and a **medium (40%) chance of development** over the next 7 days.

Eastern Atlantic Tropical (Invest 91L):

- Showers and thunderstorms continue to show signs of organization in association with a broad area of low pressure located a few hundred miles south-southwest of the Cabo Verde Islands.
- Environmental conditions appear conducive for further development of this system, and a tropical depression is expected to form during the next couple of days while it moves slowly westward over the eastern tropical Atlantic.
- *This system poses no direct threat to Florida over the next 10 days, at least.* The NHC is outlooking a **high (80%) chance of development** over the next 48 hours, and a **high (90%) chance of development** over the next 7 days.

The next names on the list are Leslie (LEHZ-lee) and Milton (MIL-ton).

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



Summary

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Florida Outlook:

- Scattered to numerous showers and thunderstorms can be expected across much of Central and Southwest Florida with the sea breezes this afternoon and evening thanks to high pressure building in from the Atlantic, high pressure over the Midwest U.S. and deep moisture remaining over portions of the state; Isolated to scattered activity will extend into northern and southern portions of the Peninsula this afternoon.
- An isolated strong thunderstorm or two may be possible during the peak heating hours of the day.
- The Weather Prediction Center (WPC) is outlooking a **Marginal Risk (level 1 of 4) for Flash Flooding** across Central Florida today.
 - Locally heavy downpours along urban and low-lying/poor drainage areas and over saturated grounds, especially with slow moving or training shower and thunderstorm activity, may give way to localized instances of flooding.
 - Coastal and low-lying areas along Florida's Gulf Coast will remain vulnerable to additional rounds of rainfall thanks to recent and lingering flooding and saturated grounds.
- **Heat Advisories** are not anticipated at this time; however, localized areas may approach or briefly reach Advisory criteria.
- Several **River Flood Warnings** remain in effect across the eastern Florida Panhandle and Big Bend as elevated water levels continue in the wake of Helene.
 - The Ochlockonee River near Concord (CR-12) is notably experiencing moderate flooding while several locations between the Ochlockonee, Apalachicola, and Withlacoochee basins continue to run in minor flood stage.
 - Additional rises in water level will be possible along the Withlacoochee and Ochlockonee Rivers as excess heavy rainfall discharge through the basin from the Georgia headwaters; elsewhere, limited rainfall totals over the next few days will help water levels gradually level off and recede through the week.
- Rainfall totals in the 7-day timeframe will be highly dependent upon the evolution of the next tropical disturbance over the northwestern Caribbean and Gulf of Mexico, with most of this activity not beginning until later this week and early next week.
 - Current computer forecast model guidance shows widespread rainfall totals near 1-3" can be expected statewide, with higher amounts of 4-6" along the I-4 corridor and south toward Lake Okeechobee.
 - Heaviest rainfall of 6-8", with locally higher amounts eclipsing 8-12" cannot be ruled out; however, the exact placement of these more significant totals will continue to be modified depending on the tropical disturbance's organization and track.
 - A cold front is expected to push through the southeast U.S. late this weekend into early next week, likely interact with the disturbance and supporting a wet and active weather pattern; The timing and placement of these systems and their possible interactions will continue to be monitored.
 - **Please continue to stay tuned for the latest computer forecast model guidance and trends in the subsequent days.**

The next briefing packet will be issued on Wednesday 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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