



TROPICAL UPDATE



11:00 AM EDT

Friday, September 16, 2022

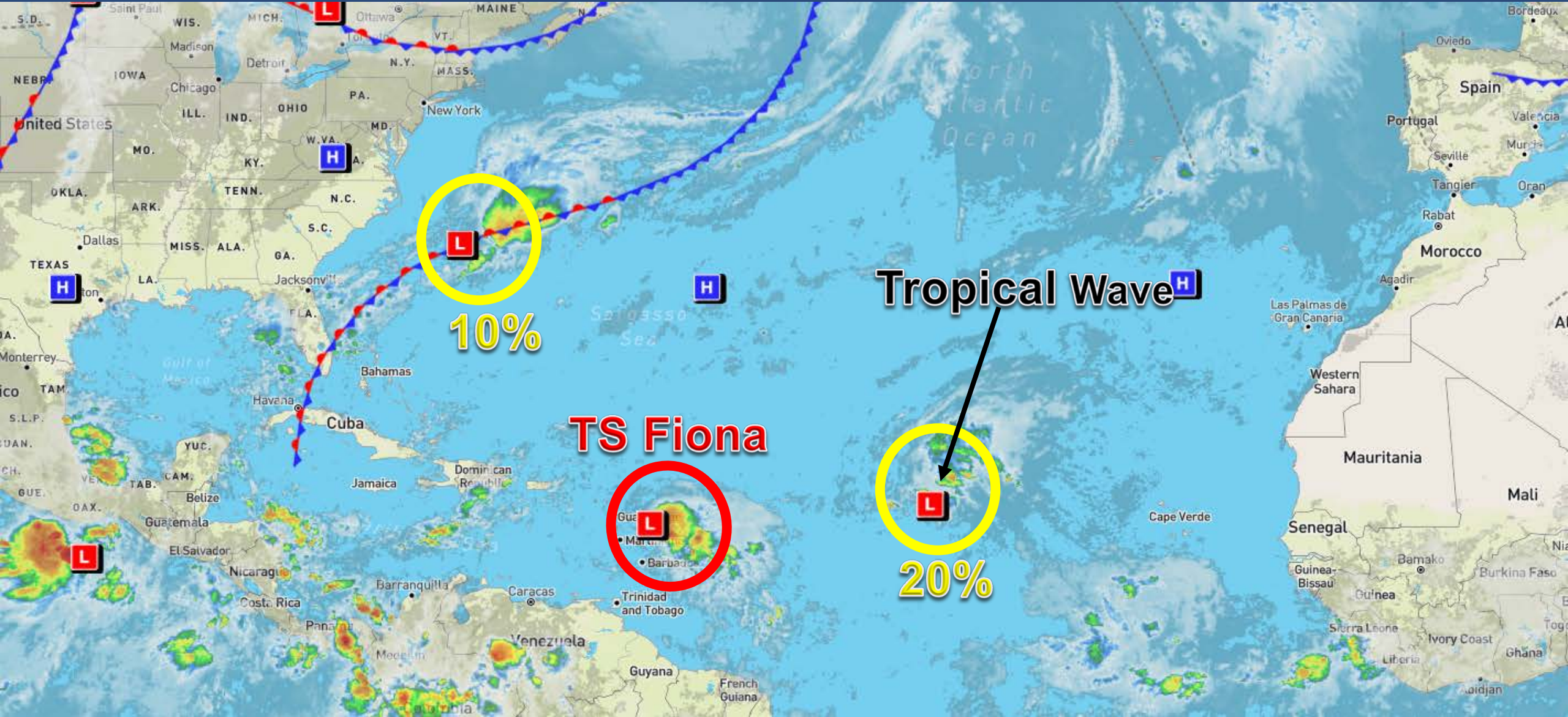
Tropical Storm Fiona, Western Atlantic Low
(10%), & Central Atlantic Tropical Wave (20%)

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



10%

TS Fiona

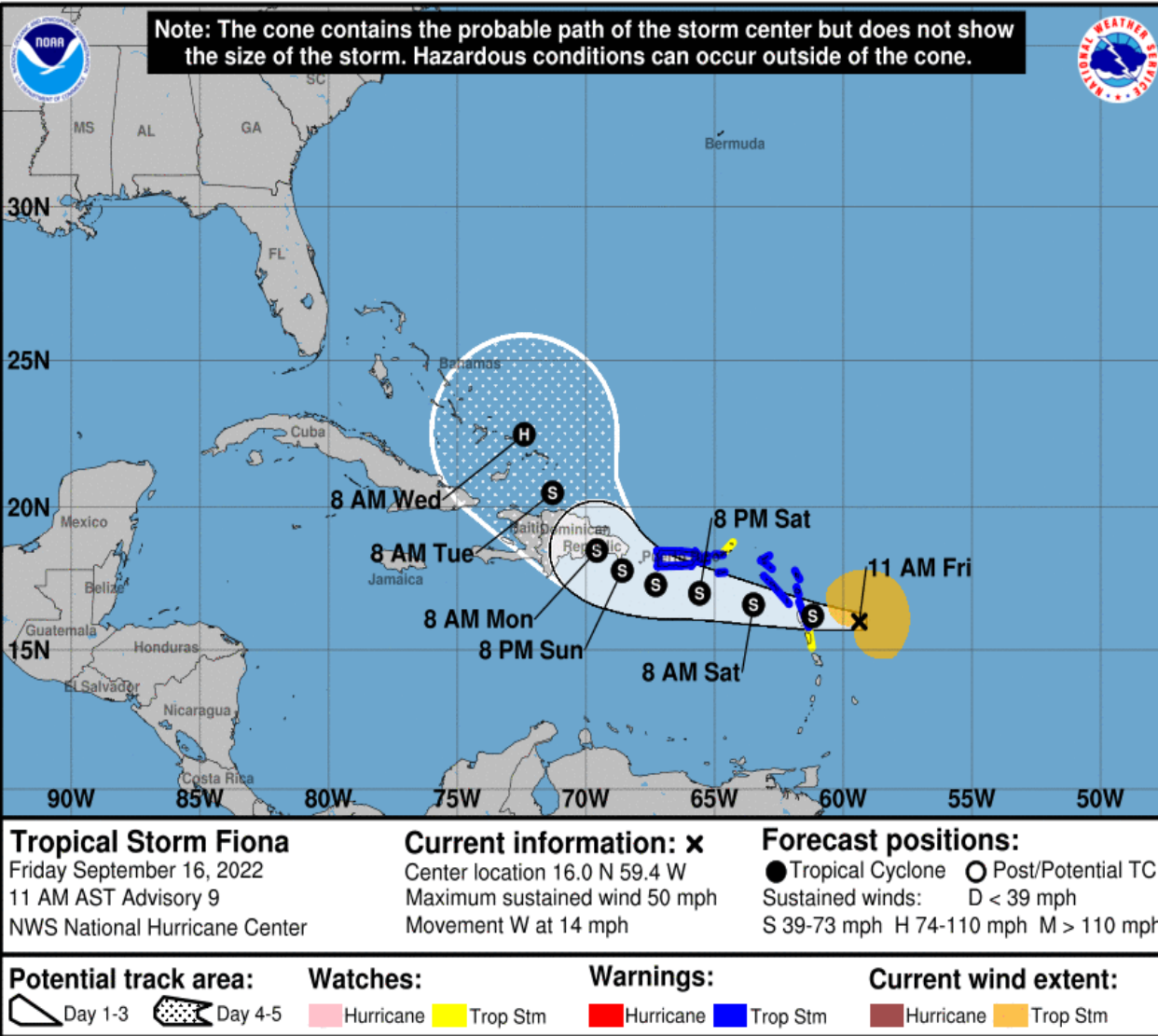
Tropical Wave

20%



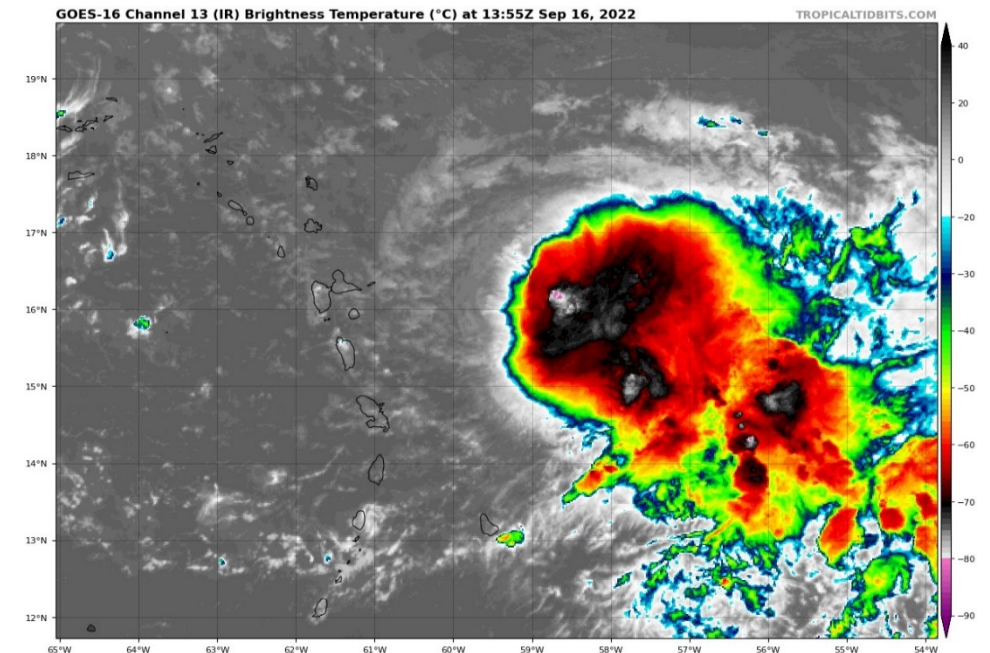
Forecast Cone

Tropical Storm Fiona ([LINK](#))



- **Location:** 135 miles east of Guadeloupe
- **Maximum Sustained Winds:** 50 mph
- **Current Movement:** W at 14 mph

A westward motion with a decrease in forward speed is expected through early Sunday, followed by a turn toward the west-northwest and northwest Sunday and Sunday night. On the forecast track, the center of Fiona is expected to move across the Leeward Islands tonight, near or just south of the Virgin Islands and Puerto Rico Saturday into Sunday, and approach the southern coast of the Dominican Republic Sunday night and early Monday. Gradual strengthening is forecast during the next few days. *Fiona poses no direct threat to Florida over the next 5-7 days, but should continue to be monitored.*





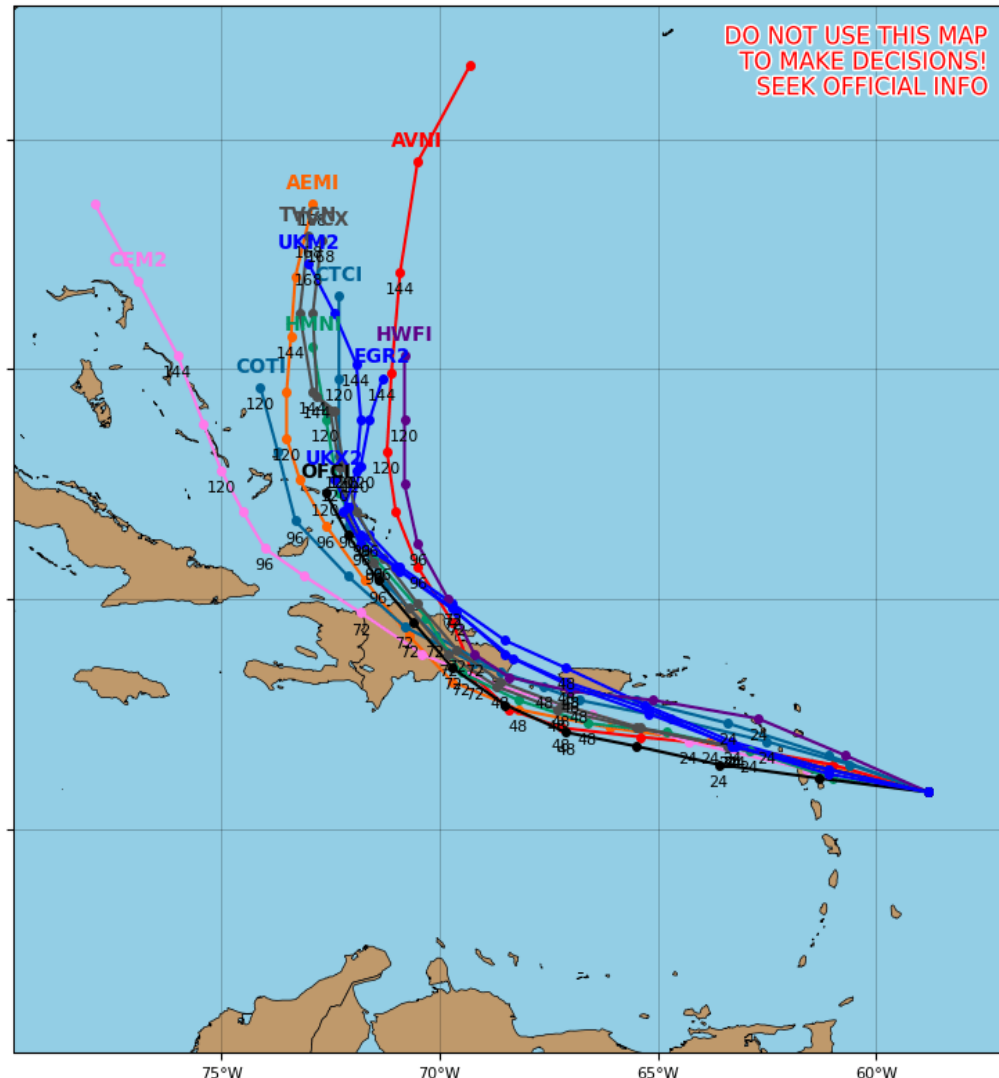
Model Forecasts – Next 5 Days

Tropical Storm Fiona

Tropical Storm FIONA Model Track Guidance

Initialized at 12z Sep 16 2022

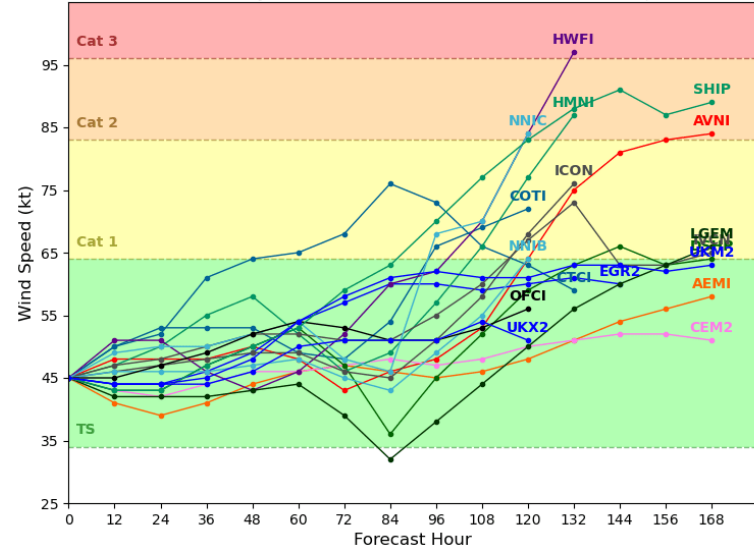
Levi Cowan - tropicaltidbits.com



Tropical Storm FIONA Model Intensity Guidance

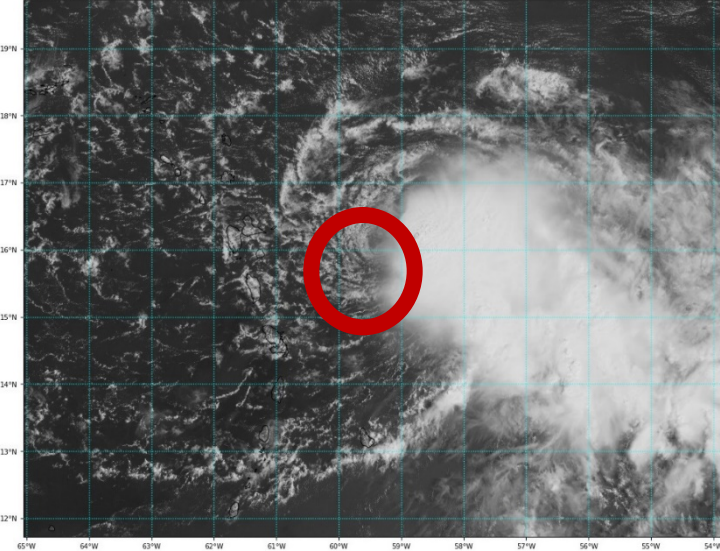
Initialized at 12z Sep 16 2022

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GOES-16 Channel 2 (visible) Reflectance at 13:55Z Sep 16, 2022

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The spread among computer models this morning has decreased since yesterday, with a bit more agreement in Fiona's forecast track. Computer models are in good agreement that Fiona will maintain a westerly motion through Sunday, under the influence of a strong area of high pressure. As Fiona reaches the western periphery of the high pressure in 3-4 days, computer models agree that an even further decrease in forward speed will take shape.

Fiona will approach the Turks and Caicos Islands and southeastern Bahamas in about 5 days.

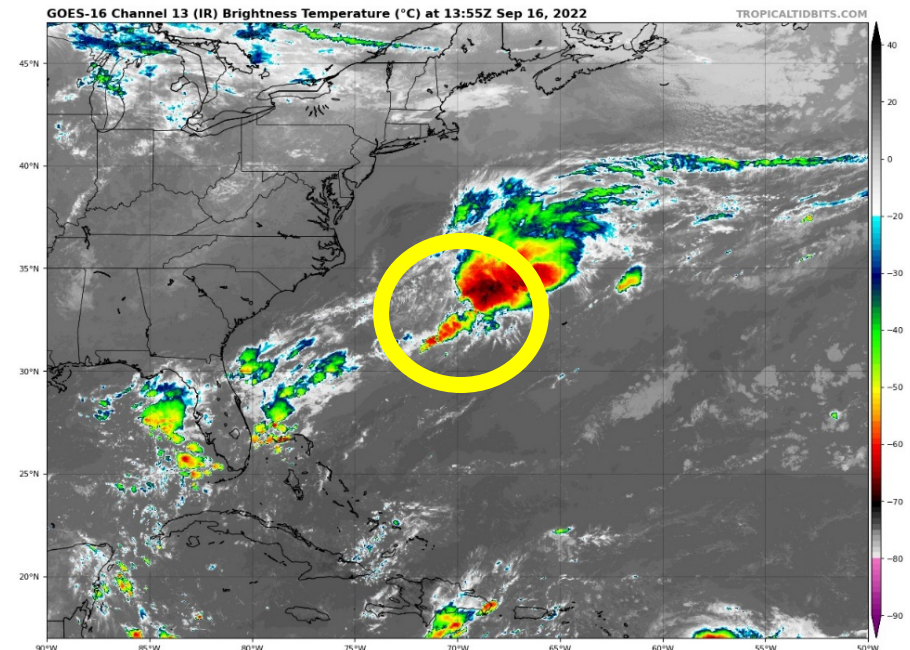
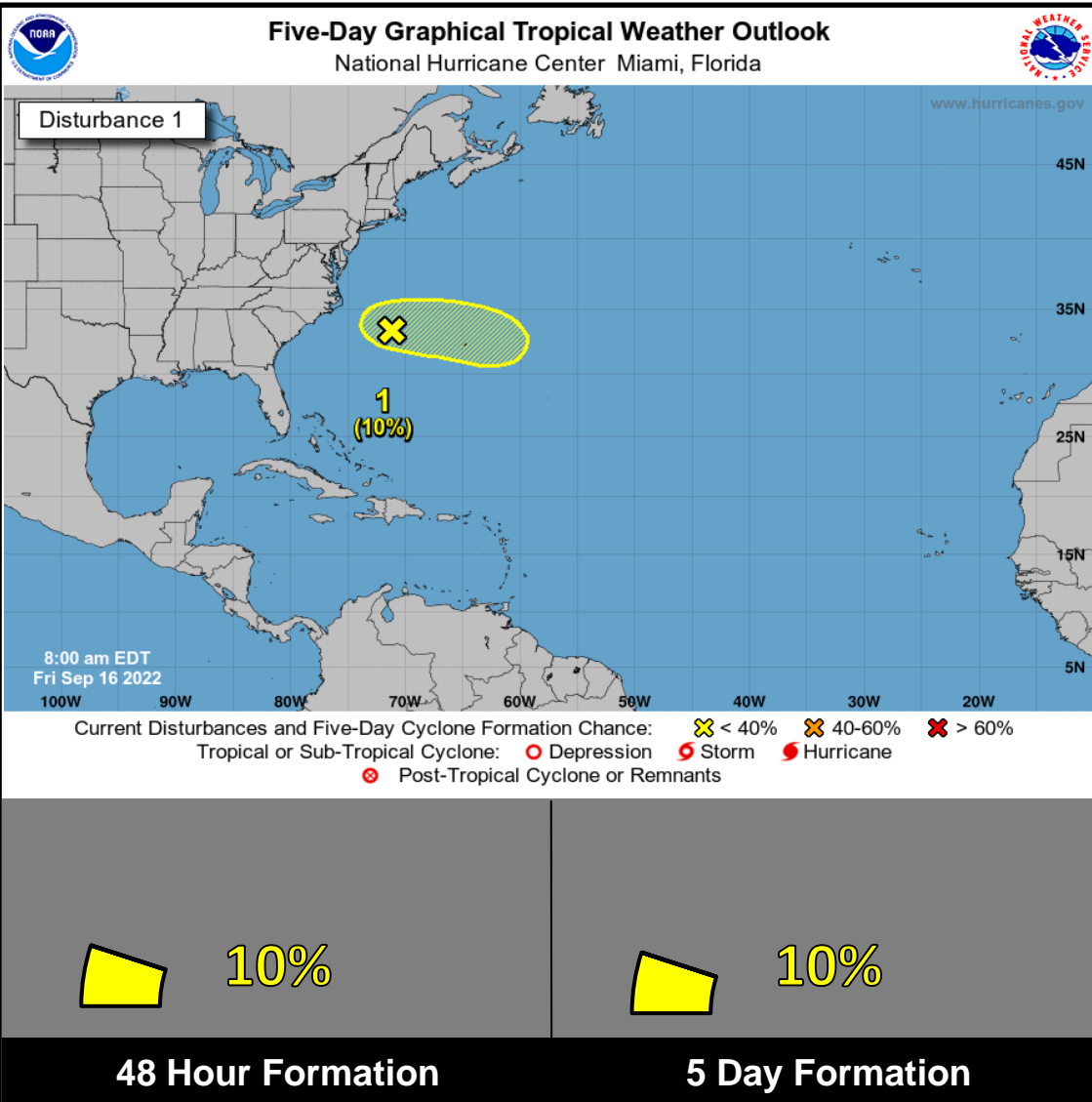
Fiona's shower and thunderstorm activity has returned closer to its center of circulation as it found an environment with slightly less wind shear. The system is still very close to a tight gradient of upper-level winds, and computer model guidance is in good agreement that moderate wind shear will remain in place for the next 3-5 days. There is still some disagreement across the models, with respect to Fiona's intensity as the system's slower forward speed may allow for additional organization over water. In 36-48 hours, Fiona may become a strong tropical storm (near hurricane strength) as it approaches the southern coast of the Dominican Republic. Even despite land interaction later in the forecast period, Fiona is expected to emerge over the southwestern Atlantic with the opportunity to further strengthen.



Tropical Weather Outlook

Disturbance 1 – Western Atlantic Low ([LINK](#))

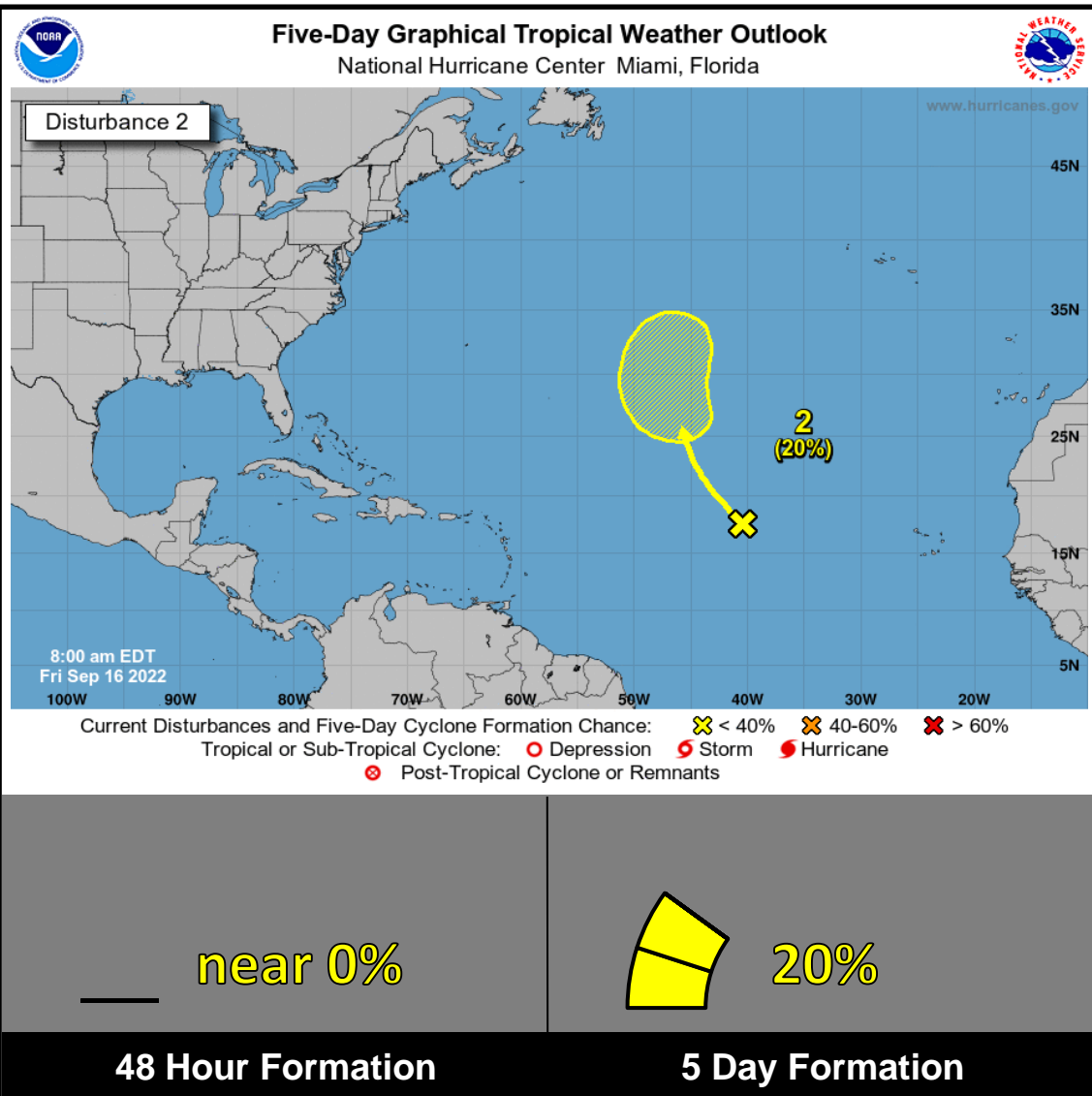
A frontal low over the western Atlantic Ocean, a few hundred miles west-northwest of Bermuda, is producing disorganized showers and thunderstorms. This low is expected to move eastward to east-southeastward at 10-15 mph, and development into a tropical cyclone is not anticipated due to strong upper-level winds. *This system poses no threat to Florida.*



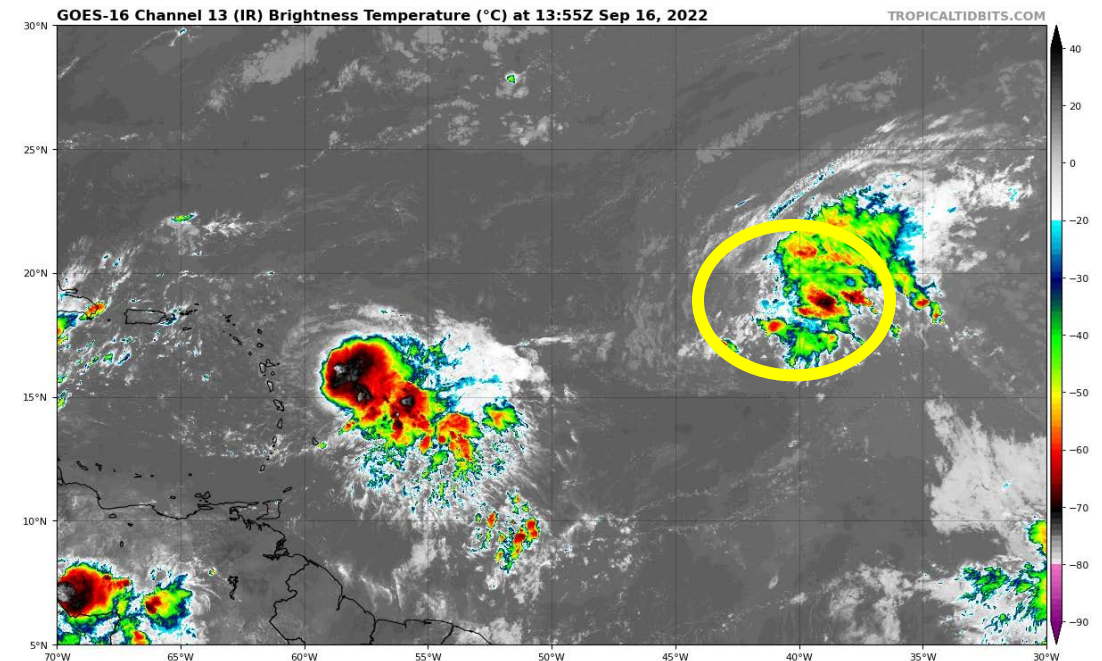


Tropical Weather Outlook

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



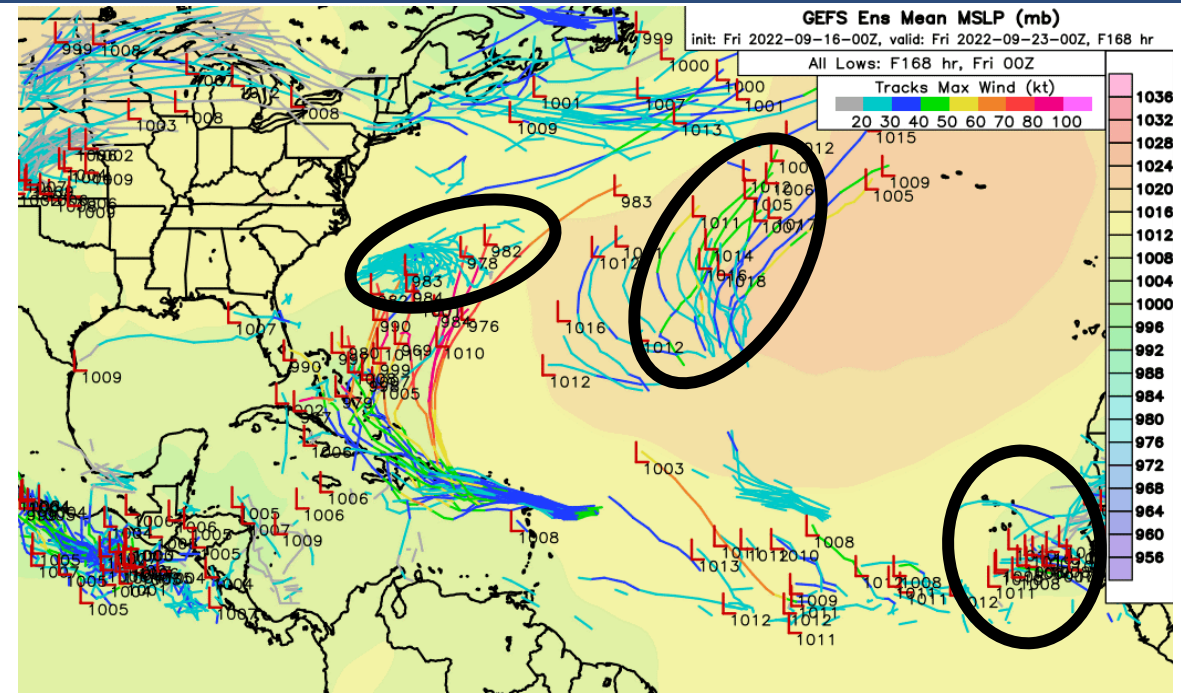
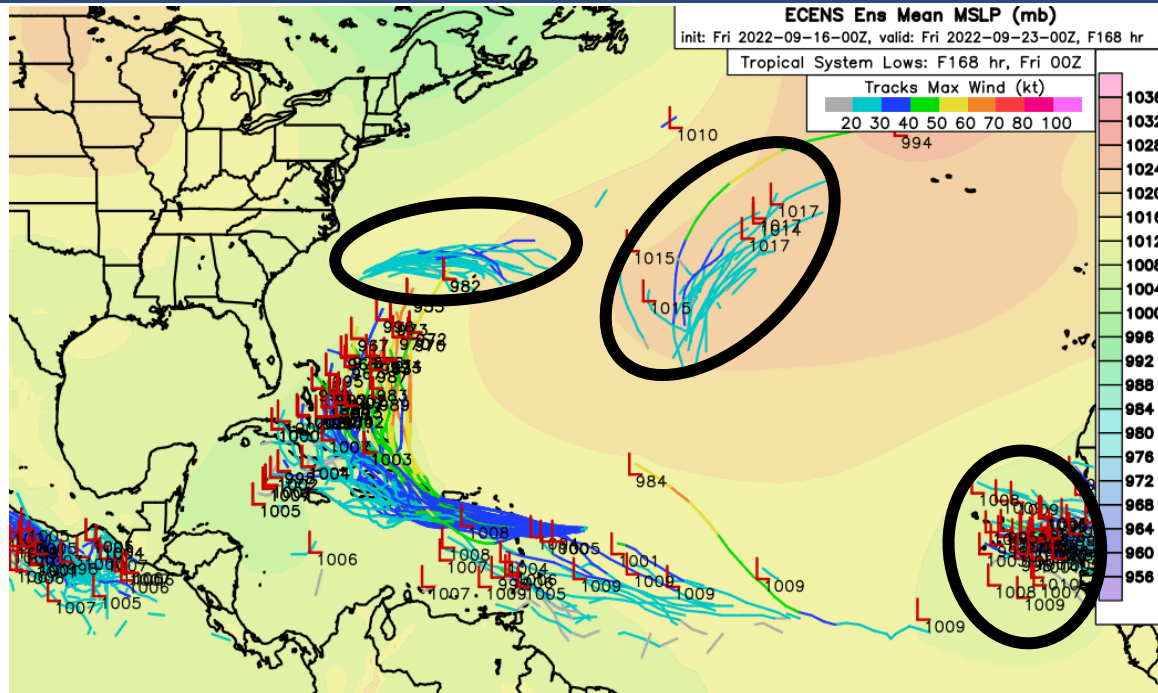
Disorganized showers and thunderstorms over the central tropical Atlantic Ocean are associated with the northern end of a tropical wave. Some slow development of this system is possible early next week while it moves northwestward to northward over the central subtropical Atlantic. *This system poses no threat to Florida.*





Model Forecasts – Next 7 Days

Atlantic Basin



Computer models are in good agreement that the Western Atlantic Low will move eastward over the subtropical Atlantic over the next day or so before dissipating.

There is decent consensus across models that the Central Atlantic Tropical Wave may develop into an area of low pressure later this weekend into early next week. This system will then move northward to northward over the central Atlantic through the middle parts of next week. Computer models are in agreement that this potential disturbance will dissipate over the central subtropical Atlantic later next week.

Computer models are hinting at additional disturbances developing over the tropical Atlantic. There is quite a bit of disagreement across models with respect to a potential disturbance developing over the central tropical Atlantic, east of the Leeward Islands, early next week. A general westward to west-northwestward motion can be expected. There is good agreement within computer models this morning that a tropical wave will move off the coast of Africa later next week.



Steering Currents

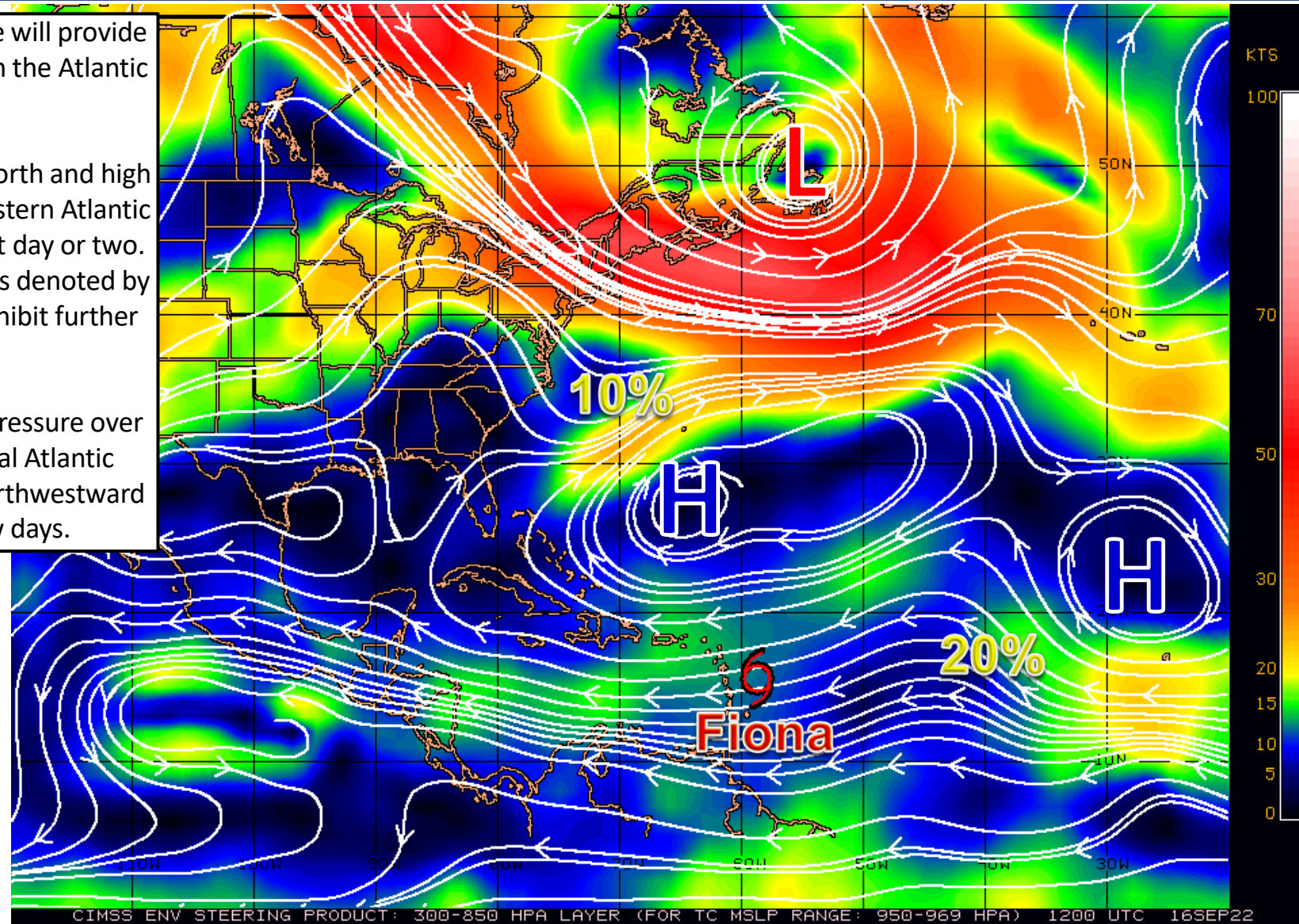
What is Moving the System?

Color denotes the movement speed through the atmosphere and thin white lines denote direction. Tightly clustered white lines represent faster movement as well.

Multiple areas of strong high pressure will provide steering for all tropical disturbances in the Atlantic Basins.

Between a low pressure area to the north and high pressure system to the south, the Western Atlantic Low will move eastward over the next day or two. However, strong upper-level winds (as denoted by the oranges and reds) will work to inhibit further development.

To the southwest of an area of high pressure over the east-central Atlantic, the Central Atlantic Tropical Wave will move generally northwestward to northward over the next few days.



Fast Moving Storm

Fast Moving Storm

Typical Moving Storm

Slow Moving Storm



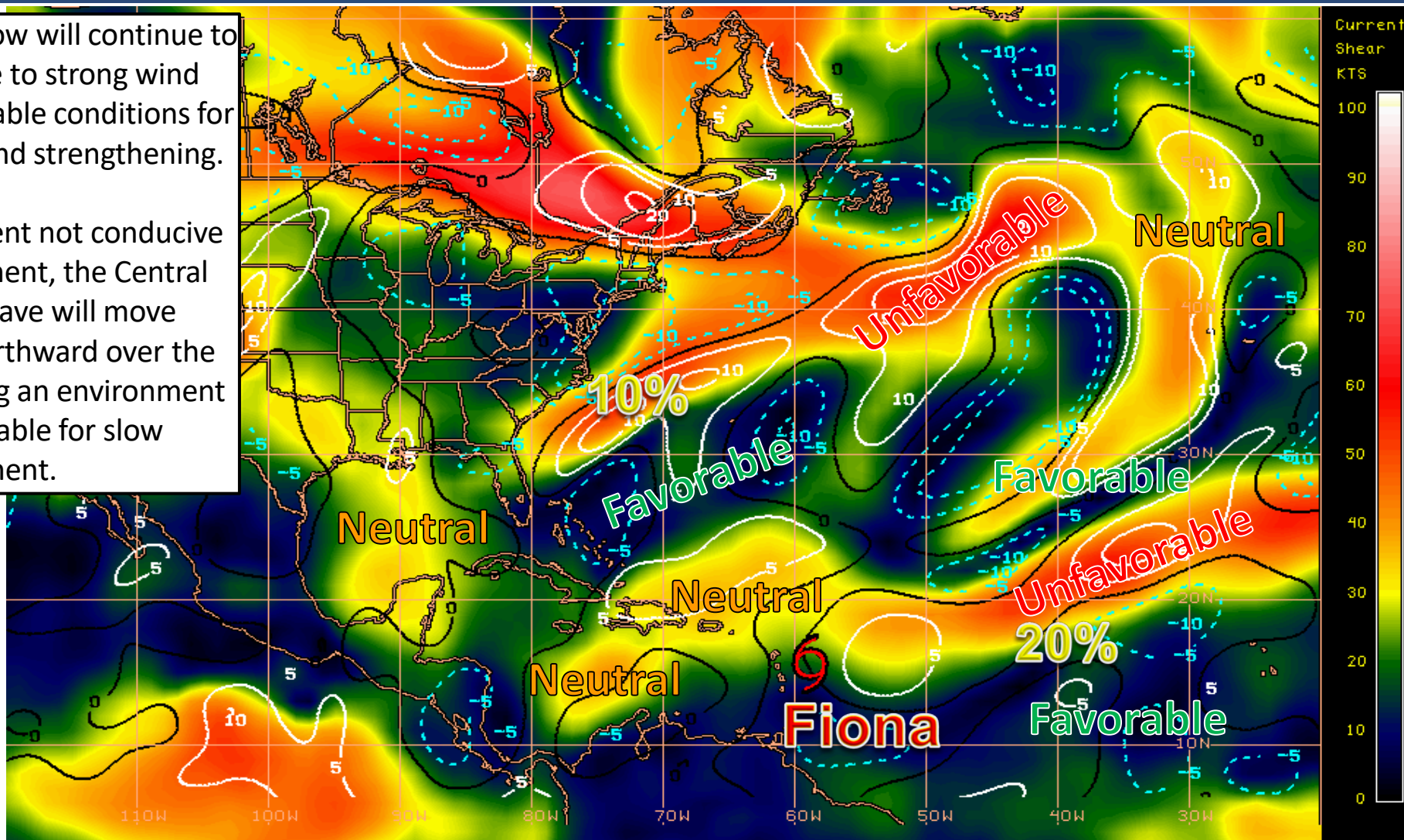
Wind Shear

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).

The Western Atlantic Low will continue to encounter moderate to strong wind shear, yielding unfavorable conditions for further organization and strengthening.

While in an environment not conducive for tropical development, the Central Atlantic Tropical Wave will move northwestward to northward over the next few days, entering an environment increasingly favorable for slow development.



HIGH Shear
(Unfavorable)

HIGH Shear
(Unfavorable)

MODERATE
Shear
(Neutral)

LOW Shear
(Favorable)

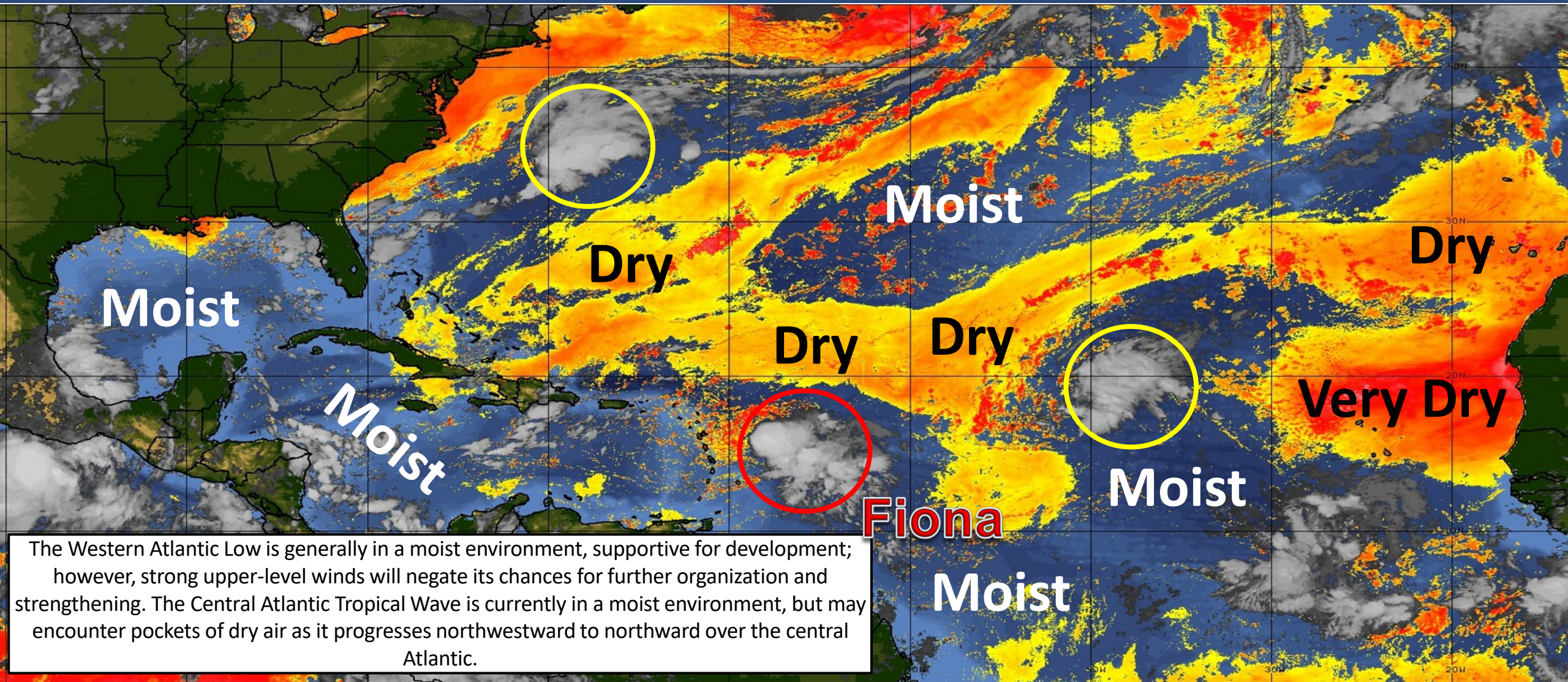
Shear Tendency (KTS) Over Past 24 Hours: Increasing ——— Decreasing - - - -



Dry Air & Saharan Dust

Is the environment favorable for the system?

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



The Western Atlantic Low is generally in a moist environment, supportive for development; however, strong upper-level winds will negate its chances for further organization and strengthening. The Central Atlantic Tropical Wave is currently in a moist environment, but may encounter pockets of dry air as it progresses northward to northward over the central Atlantic.

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



Overall Summary

Tropical Storm Fiona:

- At 11:00 AM AST, Tropical Storm Fiona is located 135 miles east of Guadeloupe and moving west at 14 mph.
- A westward motion with a decrease in forward speed is expected through early Sunday, followed by a turn toward the west-northwest and northwest Sunday and Sunday night.
- On the forecast track, the center of Fiona is expected to move across the Leeward Islands tonight, near or just south of the Virgin Islands and Puerto Rico Saturday into Sunday, and approach the southern coast of the Dominican Republic Sunday night and early Monday.
- Data from Air Force Reserve and NOAA Hurricane Hunter aircraft indicate that maximum sustained winds are near 50 mph, with higher gusts. Gradual strengthening is forecast during the next few days.

Western Atlantic Low:

- A frontal low over the western Atlantic Ocean, a few hundred miles west-northwest of Bermuda, is producing disorganized showers and thunderstorms.
- This low is expected to move eastward to east-southeastward at 10-15 mph, and development into a tropical cyclone is not anticipated due to strong upper-level winds. This system poses no threat to Florida.

Central Atlantic Tropical Wave:

- Disorganized showers and thunderstorms over the central tropical Atlantic Ocean are associated with the northern end of a tropical wave.
- Some slow development of this system is possible early next week while it moves northwestward to northward over the central subtropical Atlantic.
- This system poses no threat to Florida.

Florida Outlook:

- Fiona poses no direct threat to Florida over the next 5-7 days, but should continue to be monitored.
- The next names on the list are Gaston and Hermine.

The next briefing packet will be issued Saturday morning. 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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