# COLORADO STATE UNIVERSITY FORECAST OF ATLANTIC HURRICANE ACTIVITY FROM AUGUST 6–19, 2025

We believe that the most likely category for Atlantic hurricane activity in the next two weeks is above-normal (55%), with near-normal (35%) and below-normal (10%) less likely.

(as of 6 August 2025)

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In Memory of William M. Gray[5]

This discussion as well as past forecasts and verifications are available online at http://tropical.colostate.edu

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# 1 Introduction

This is the 17th year that we have issued shorter-term forecasts of tropical cyclone (TC) activity starting in early August. These two-week forecasts are based on a combination of observational and modeling tools. The primary tools that are used for this forecast are as follows: 1) current storm activity, 2) National Hurricane Center Tropical Weather Outlooks, 3) forecast output from global models, 4) the current and projected state of the Madden-Julian oscillation (MJO) and 5) the current seasonal forecast.

Our forecast definition of above-normal, normal, and below-normal Accumulated Cyclone Energy (ACE) periods is defined by ranking observed activity in the satellite era from 1966–2024 and defining above-normal, normal and below-normal two-week periods based on terciles. Since there are 59 years from 1966–2024, we include the 20 years with the most ACE from August 6–19 as the upper tercile, the 19 years with the least ACE as the bottom tercile, while the remaining 20 years are counted as the middle tercile.

Table 1: ACE forecast definition and probabilistic forecast for TC activity for August 6–19, 2025.

| Parameter | Definition | Probability in Each Category |
|---|---|---|
| Above-Normal | Upper Tercile (>6 ACE) | 55% |
| Normal | Middle Tercile (2–6 ACE) | 35% |
| Below-Normal | Lower Tercile (<2 ACE) | 10% |

# 2 Forecast

We are somewhat favoring above-normal activity (>6 ACE) during the next two weeks. Tropical Storm Dexter is estimated to generate ~1 ACE before dissipation. The National Hurricane Center is currently monitoring two potential areas with a medium chance of TC formation in the next week. Global models are also highlighting additional potential TC formations in the tropical Atlantic later in the forecast period. The MJO is forecast to propagate across Africa and into the Indian Ocean during the two-week period, providing large-scale conditions that typically favor Atlantic hurricane activity.

Figure 1 displays the formation locations of TCs from August 6–19 for the years from 1966–2024, along with the maximum intensities that these storms reached. Figure 2 displays the August 6–19 forecast period with respect to climatology. This period typically marks the beginning of the ramp-up for Atlantic TC activity. The primary formation area for major hurricanes in early- to mid-August is in the tropical Atlantic east of the Lesser Antilles.

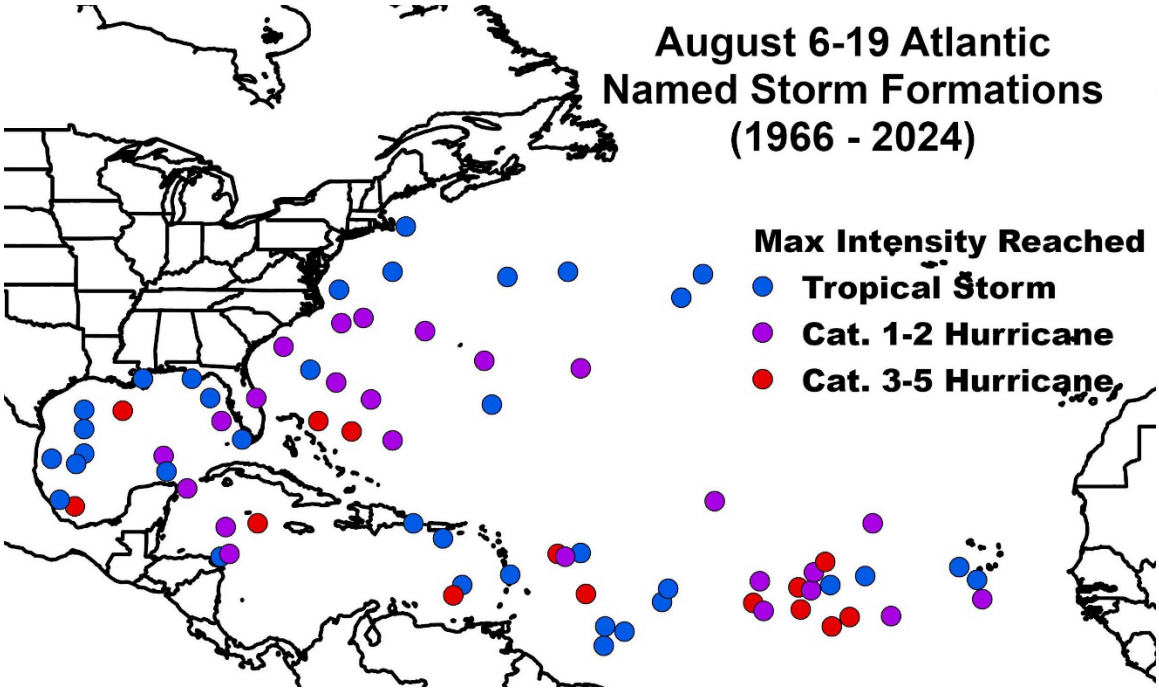


Figure 1: Atlantic named storm formations from August 6–19 from 1966–2024 and the maximum intensity that these named storms reached.

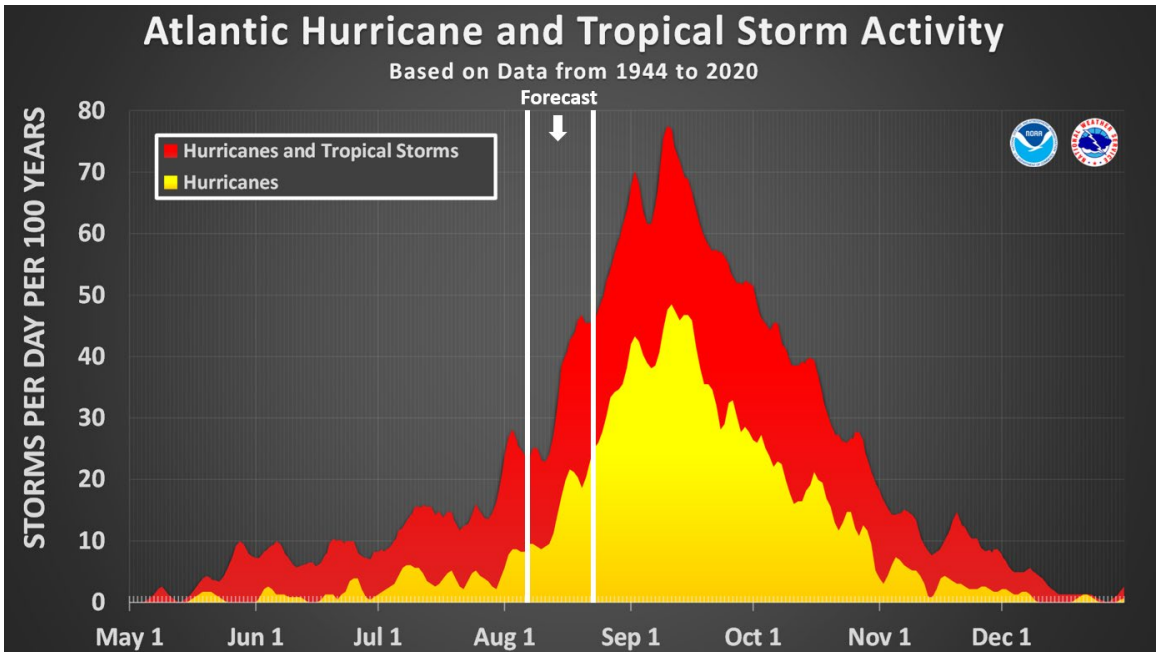


Figure 2: The current forecast period (August 6–19) with respect to climatology, delimited with white lines. Figure courtesy of NOAA.

We now examine how we believe each of the five factors discussed in the introduction will impact Atlantic TC activity for the period from August 6–19.

1) Current Storm Activity

Tropical Storm Dexter is forecast to move northeastward across the North Atlantic and become post-tropical on Thursday, 7 August. The system looks to generate an additional ~1 ACE before dissipation (Figure 3).

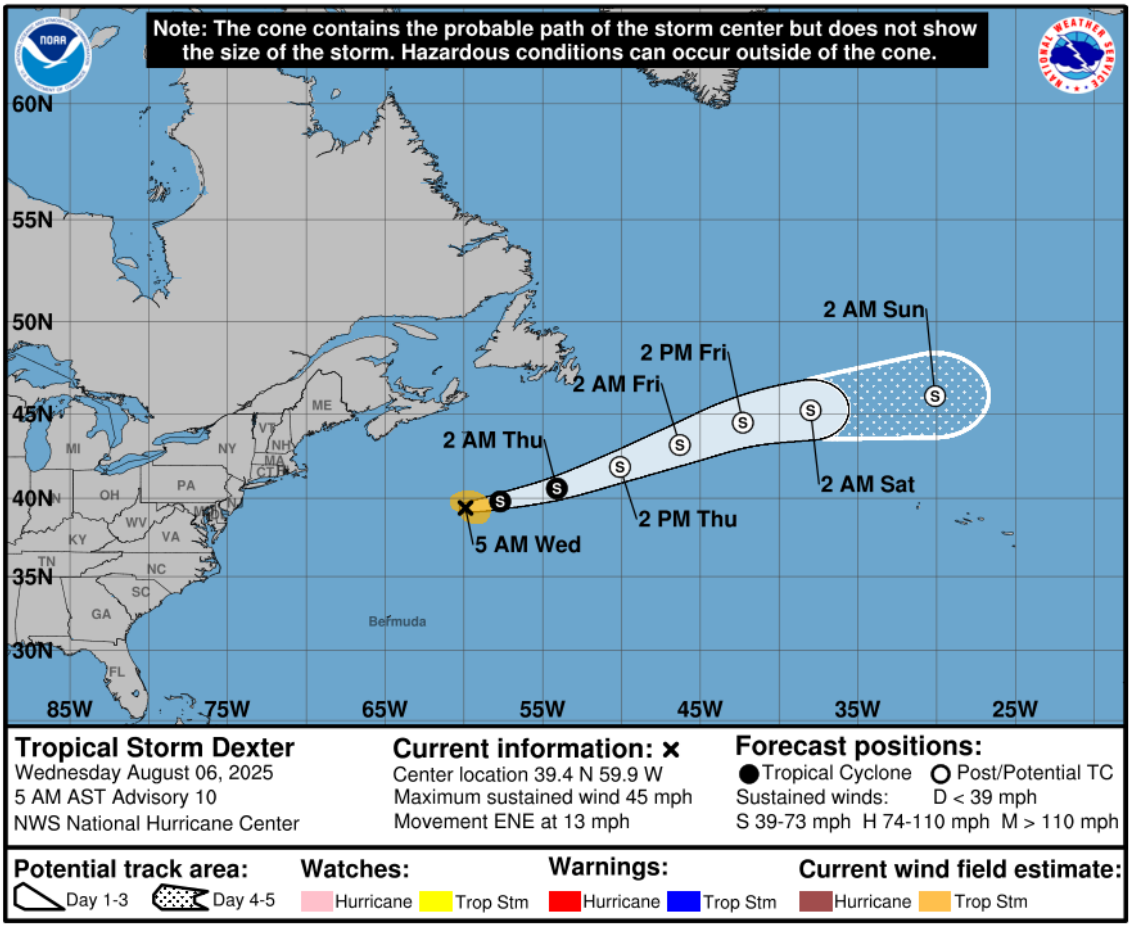


Figure 3: National Hurricane Center forecast for Tropical Storm Dexter.

2) National Hurricane Center Tropical Weather Outlook

The latest NHC Tropical Weather Outlook is monitoring two potential areas with a medium chance of TC development in the next week. While the area off of the southeastern United States coast would likely generate only minimal ACE if it were to develop, the area in the central tropical Atlantic could generate several ACE if it were to form.

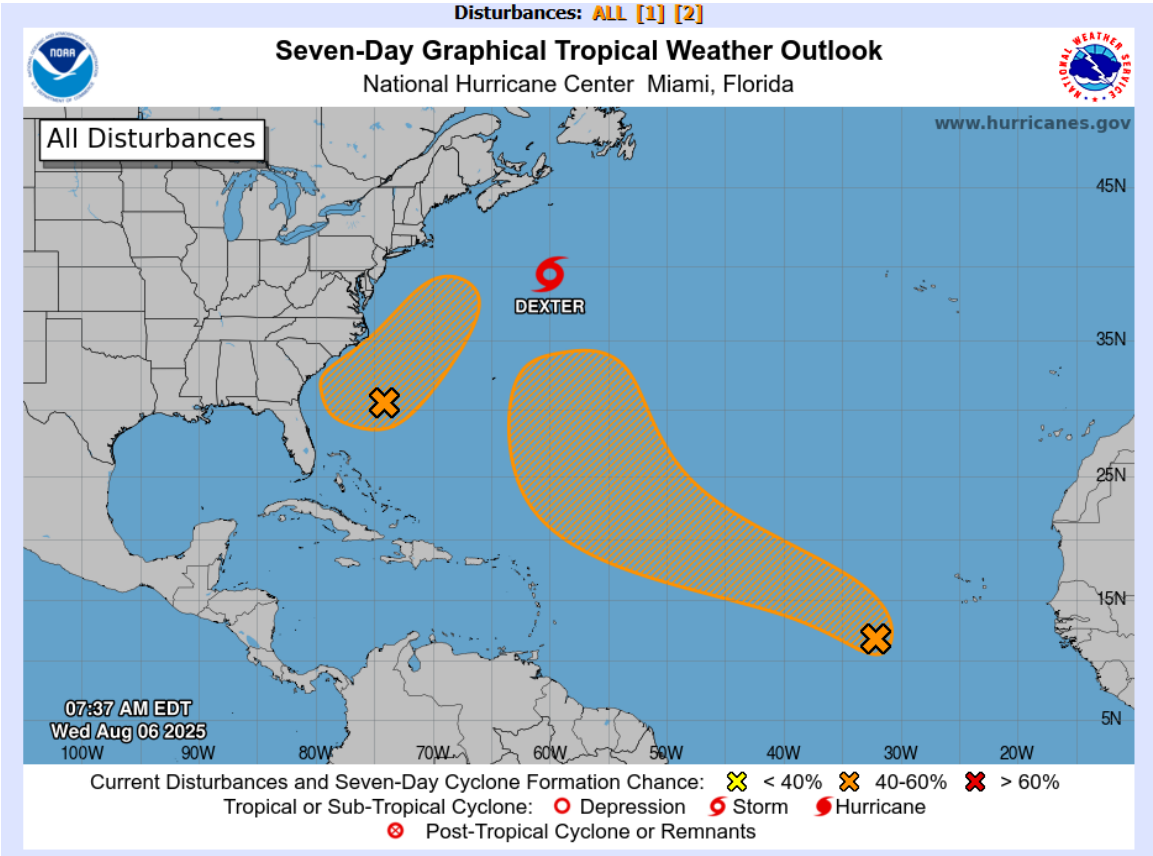


Figure 4: Current National Hurricane Center Atlantic Tropical Weather Outlook.

3) Global Model Analysis

In addition to the areas that the National Hurricane Center is currently monitoring, the ECMWF EPS ensemble (Figure 5), the ECMWF AI ensemble (Figure 6) and the GEFS ensemble (Figure 7) all have model support for additional TC formation in the tropical Atlantic later in the forecast period.

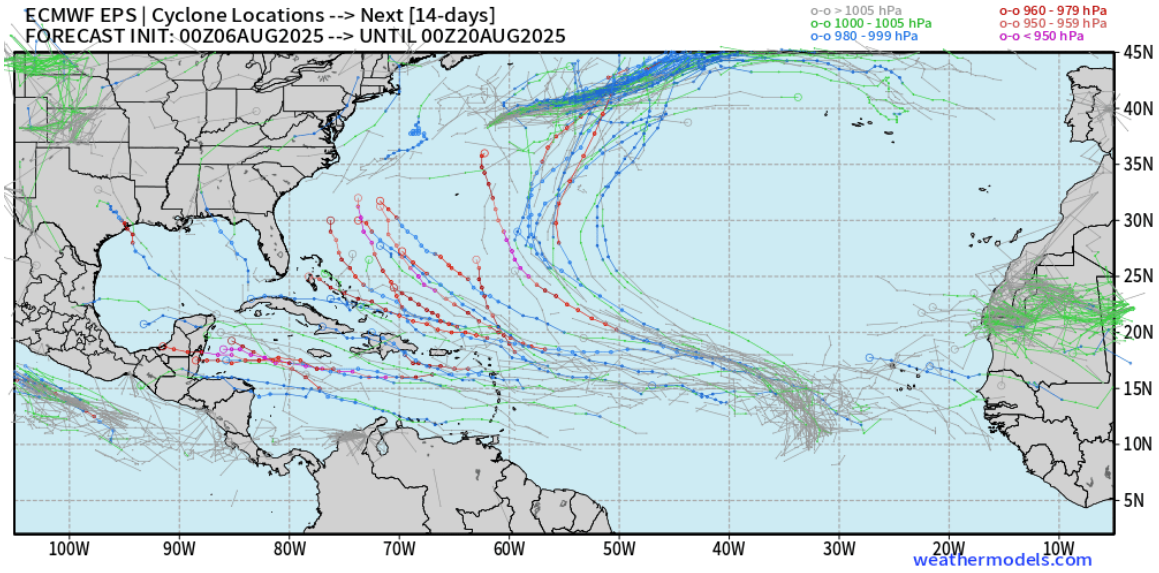


Figure 5: Cyclone locations from the ECMWF EPS ensemble for the next 14 days. Figure courtesy of weathermodels.com.

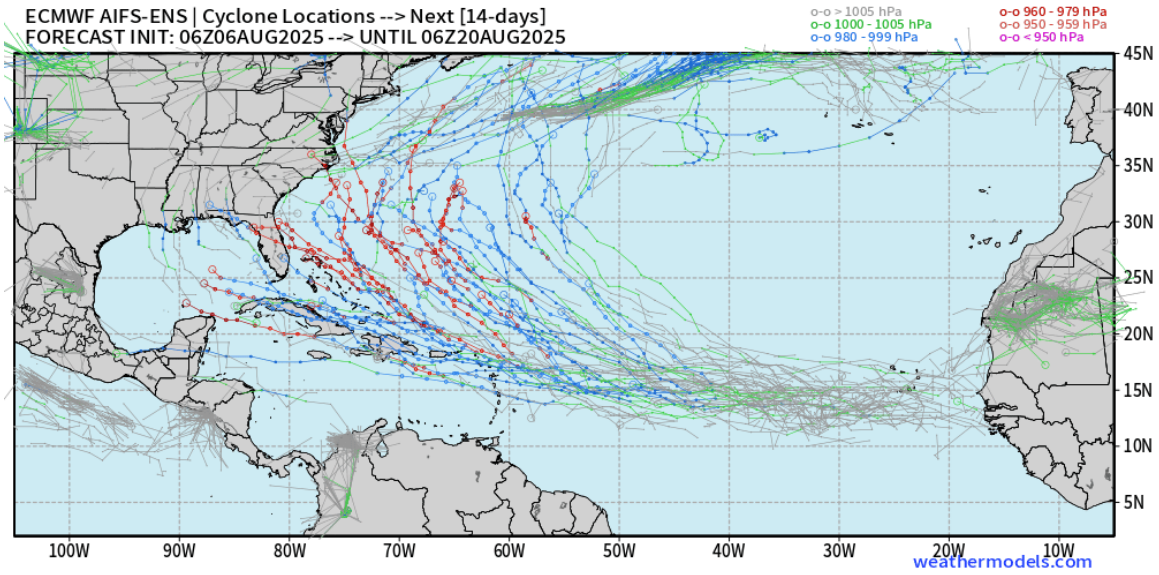


Figure 6: Cyclone locations from the ECMWF AI ensemble for the next 14 days. Figure courtesy of weathermodels.com.

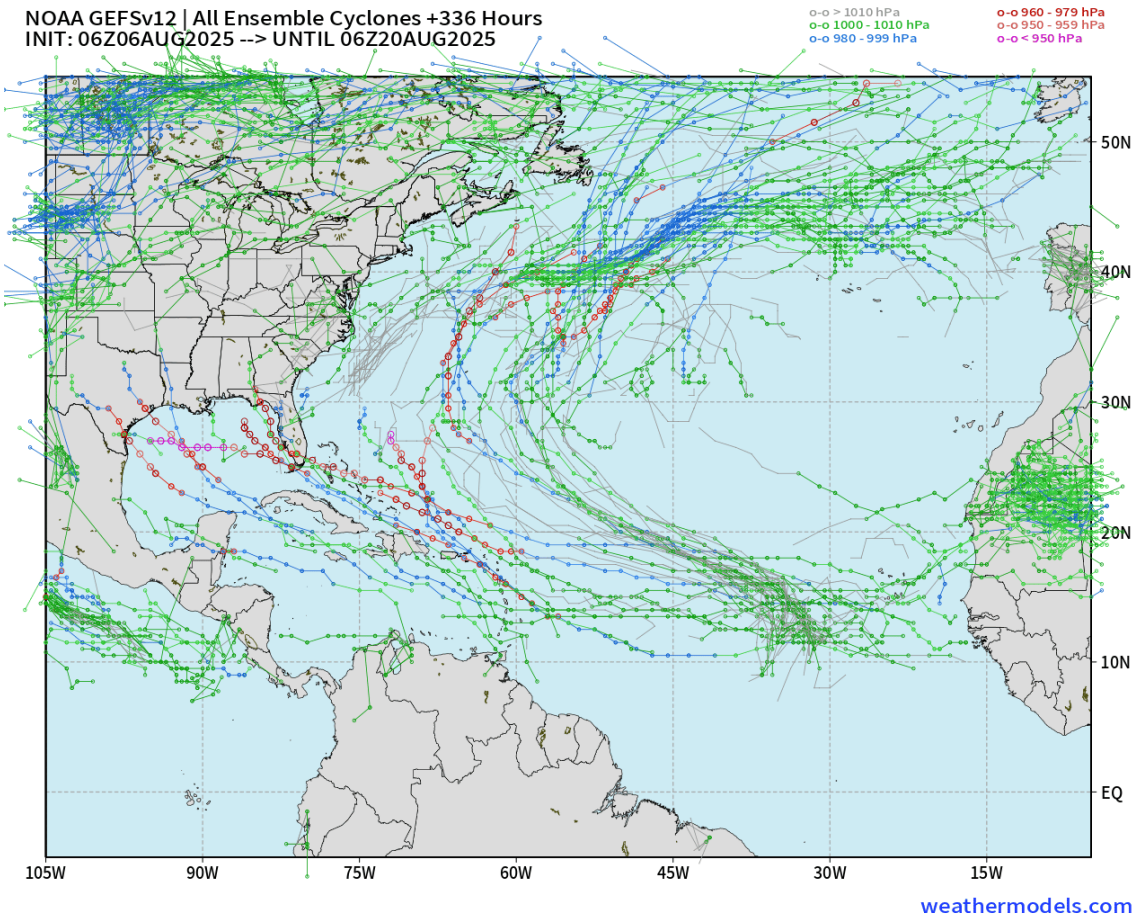


Figure 7: Cyclone locations from the GEFS ensemble for the next 14 days. Figure courtesy of weathermodels.com

4) Madden-Julian Oscillation

The MJO, as measured by the Wheeler-Hendon index, is currently of moderate amplitude over Africa. The MJO is forecast to slowly propagate eastward over the next couple of weeks, potentially stalling as it reaches the Indian Ocean (Figure 8). When the MJO index is located in phases 1–3, as is likely over the next two weeks, Atlantic TC activity is typically favored due to reductions in vertical wind shear and increased rising motion over Africa and the Indian Ocean.

As would be expected given the favorable seasonal signals of cool neutral ENSO conditions and a warm Atlantic combined with TC-favorable MJO phases, the EPS is predicting below-normal vertical wind shear across the tropical Atlantic over the next two weeks (Figure 9). We anticipate this reduction in shear to lead to an active period for Atlantic TCs over the next two weeks.

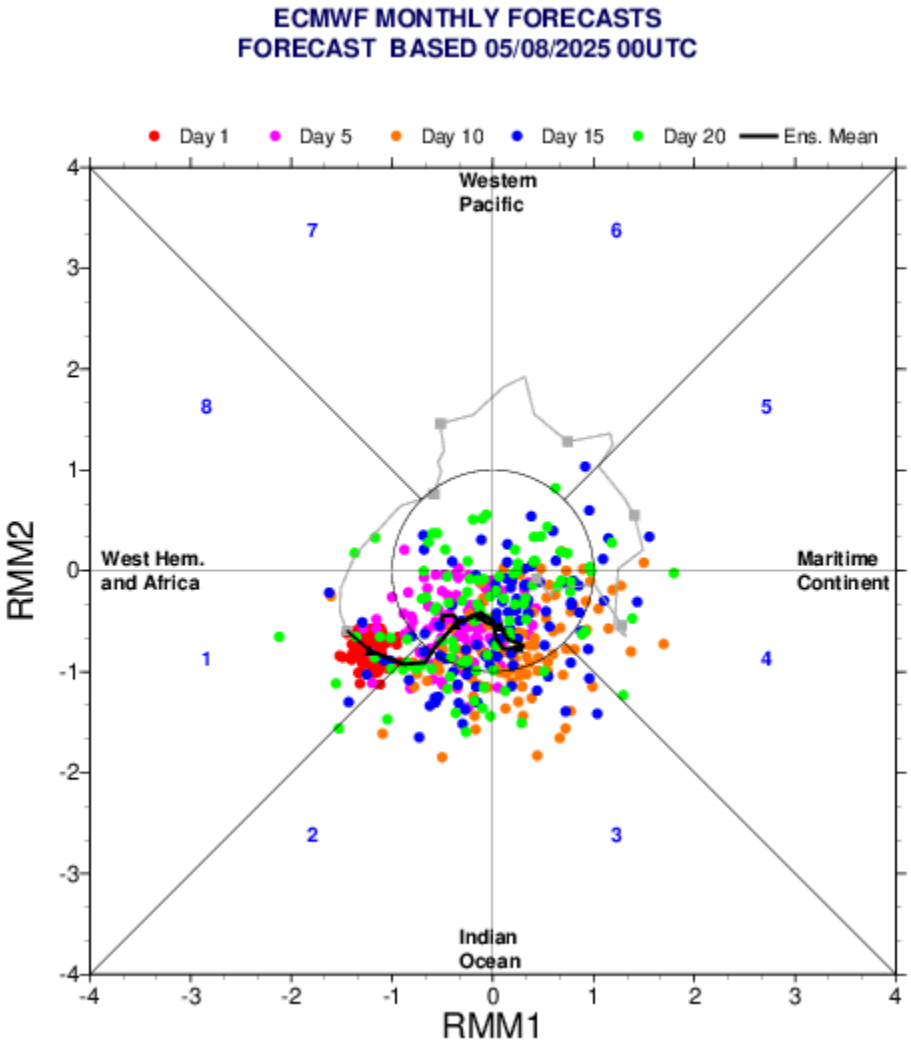


Figure 8: Predicted propagation of the MJO by the EPS. Figure courtesy of ECMWF.

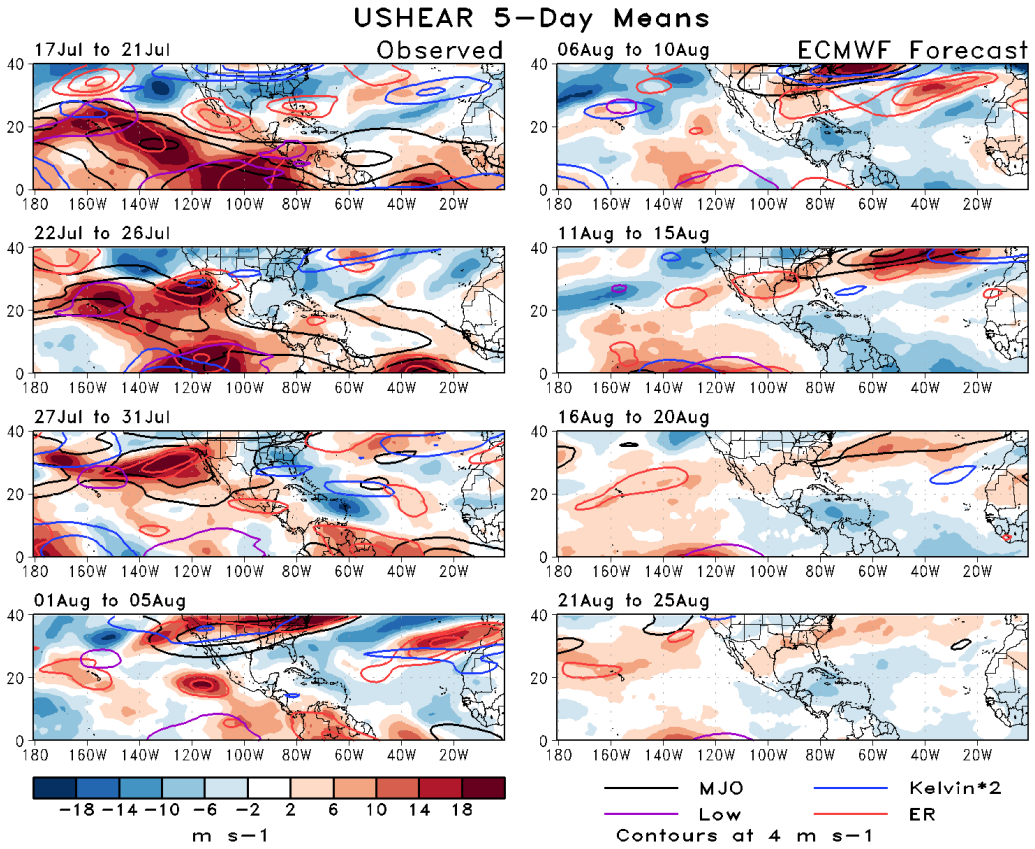


Figure 9: Observed and predicted zonal wind shear by the ECMWF ensemble for the next 20 days. Vertical wind shear is generally forecast to be below normal (e.g., easterly anomalies) across the Atlantic Main Development Region during this time. Figure courtesy of Nick Novella (NOAA/Climate Prediction Center).

5) Seasonal Forecast

The most recent seasonal forecast calls for a slightly above-average season. We believe that the next two weeks will be relatively active for Atlantic hurricane activity.

## 3 Upcoming Forecasts

The next two-week forecast will be issued on August 20 for the August 20–September 2 period. Additional two-week forecasts will be issued on September 3, September 17, October 1, and October 15.