



# Weeks 2-3 Global Tropics Hazards Outlook

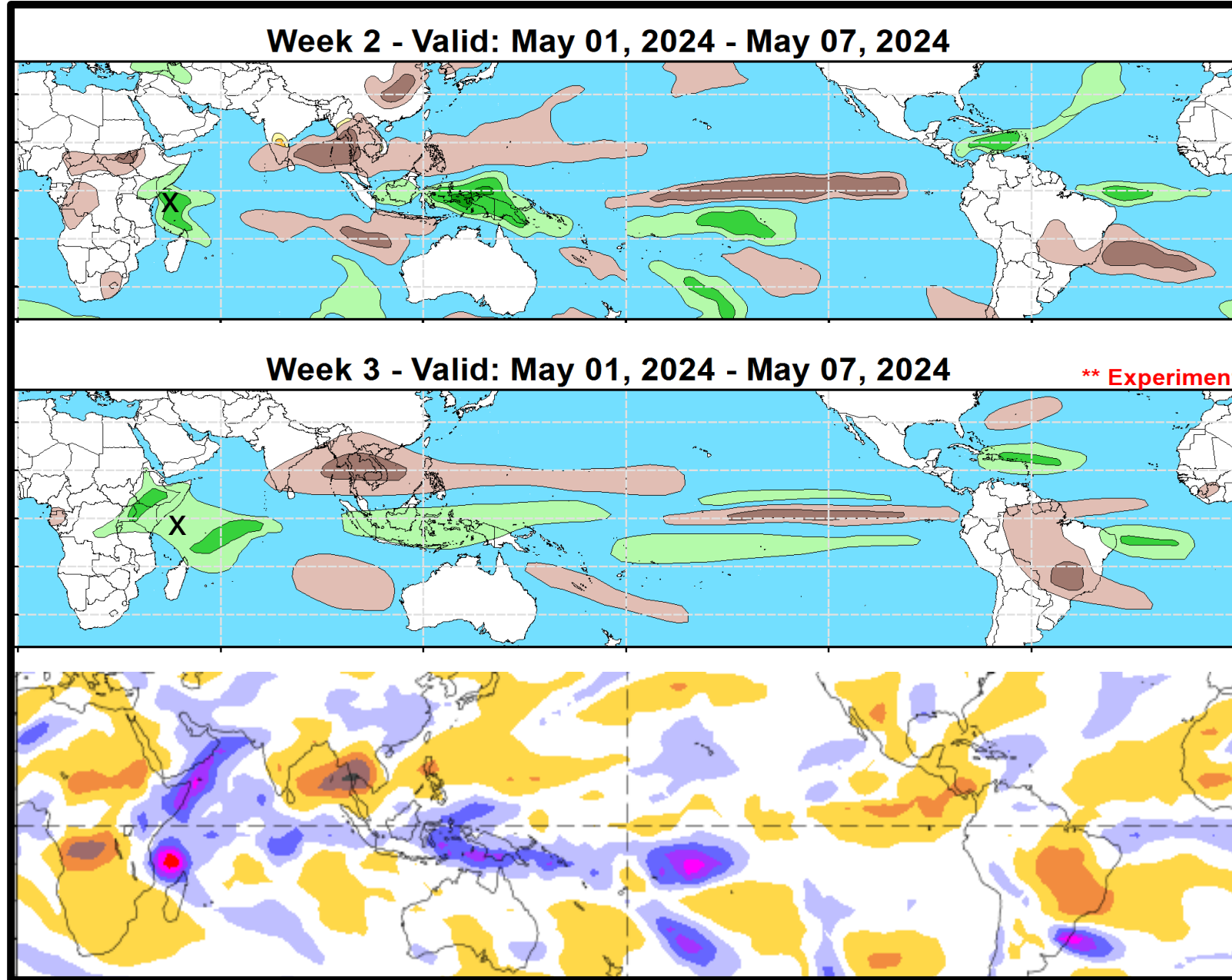
5/7/2024

Brad Pugh

NWS / NCEP / Climate Prediction Center

# Outlook Review: TC development & anomalous precipitation during the past week

Tropical Cyclone Hidaya: May 1  
(x= western Indian Ocean)



# Synopsis of Climate Modes:

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**ENSO:** (April 11, 2024 Update)      *next update on Thursday, May 9<sup>th</sup>*

- ENSO Alert System Status: [El Niño Advisory](#) / [La Niña Watch](#)
- A transition from El Niño to ENSO-neutral is likely by April-June 2024 (85% chance), with chances of La Niña developing by June-August (60% chance).

## **MJO and other subseasonal tropical variability:**

- The MJO strengthened during late April with its enhanced phase propagating eastward from the Indian Ocean to the Maritime Continent since the beginning of May.
- The MJO is forecast to continue a rapid pace eastward over the Western Hemisphere during the next two weeks. Other modes of subseasonal variability (Kelvin wave and equatorial Rossby wave) are complicating the RMM-based index forecast and the weeks 2 and 3 outlooks.
- Brief window for tropical cyclone (TC) development exists in the East Pacific: May 15-21. Although only a 20 to 40 percent chance, other favored areas during mid to late May include the Bay of Bengal and West Pacific.

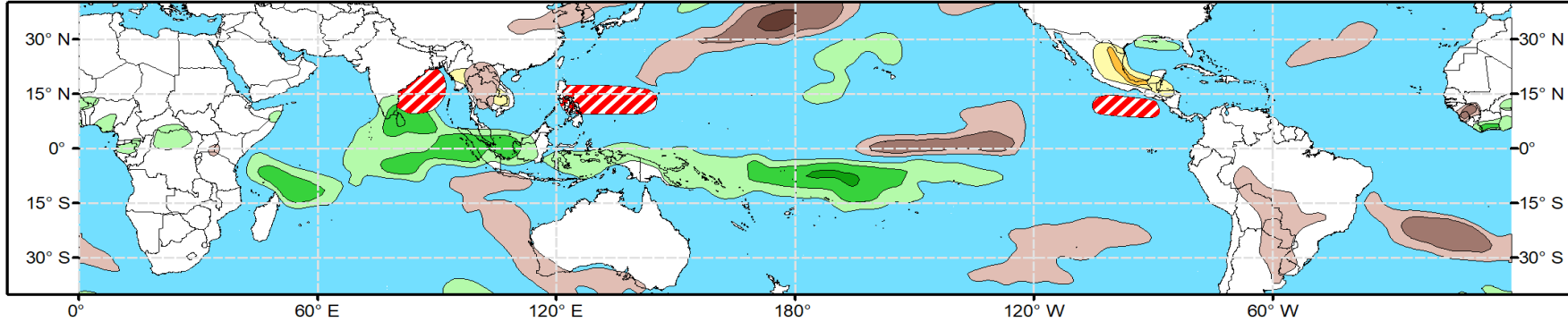
# GTH Outlook:



## Global Tropics Hazards Outlook Climate Prediction Center

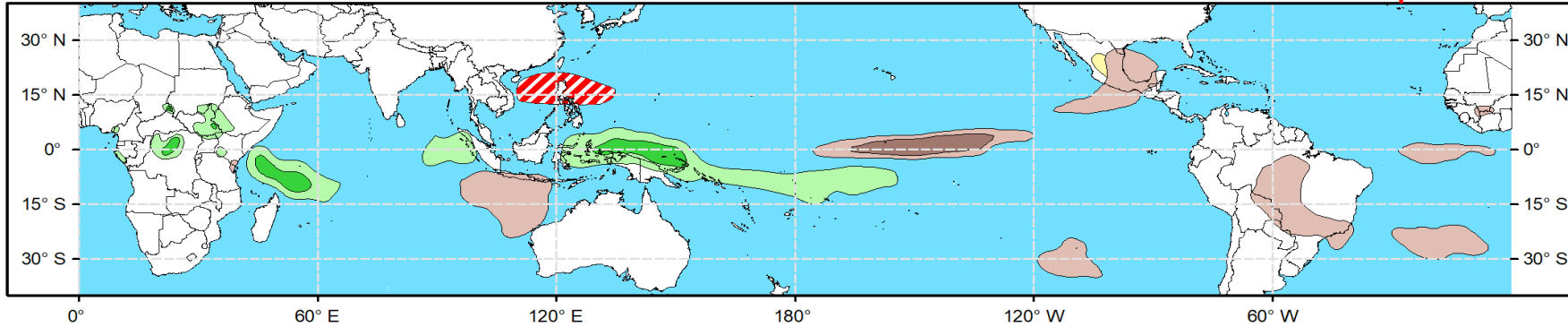


**Week 2 - Valid: May 15, 2024 - May 21, 2024**



**Week 3 - Valid: May 22, 2024 - May 28, 2024**

**\*\* Experimental \*\***



**Tropical Cyclone (TC)  
Formation Probability**



>20% >40% >60%

*Tropical Depression (TD)  
or greater strength*

**Above-Average  
Rainfall Probability**



>50% >65% >80%

*Weekly total rainfall in the  
Upper third of the historical range*

**Below-Average  
Rainfall Probability**



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*Weekly total rainfall in the  
Lower third of the historical range*

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Temperatures Probability**



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*7-day max temperatures in the  
Upper third of the historical range*

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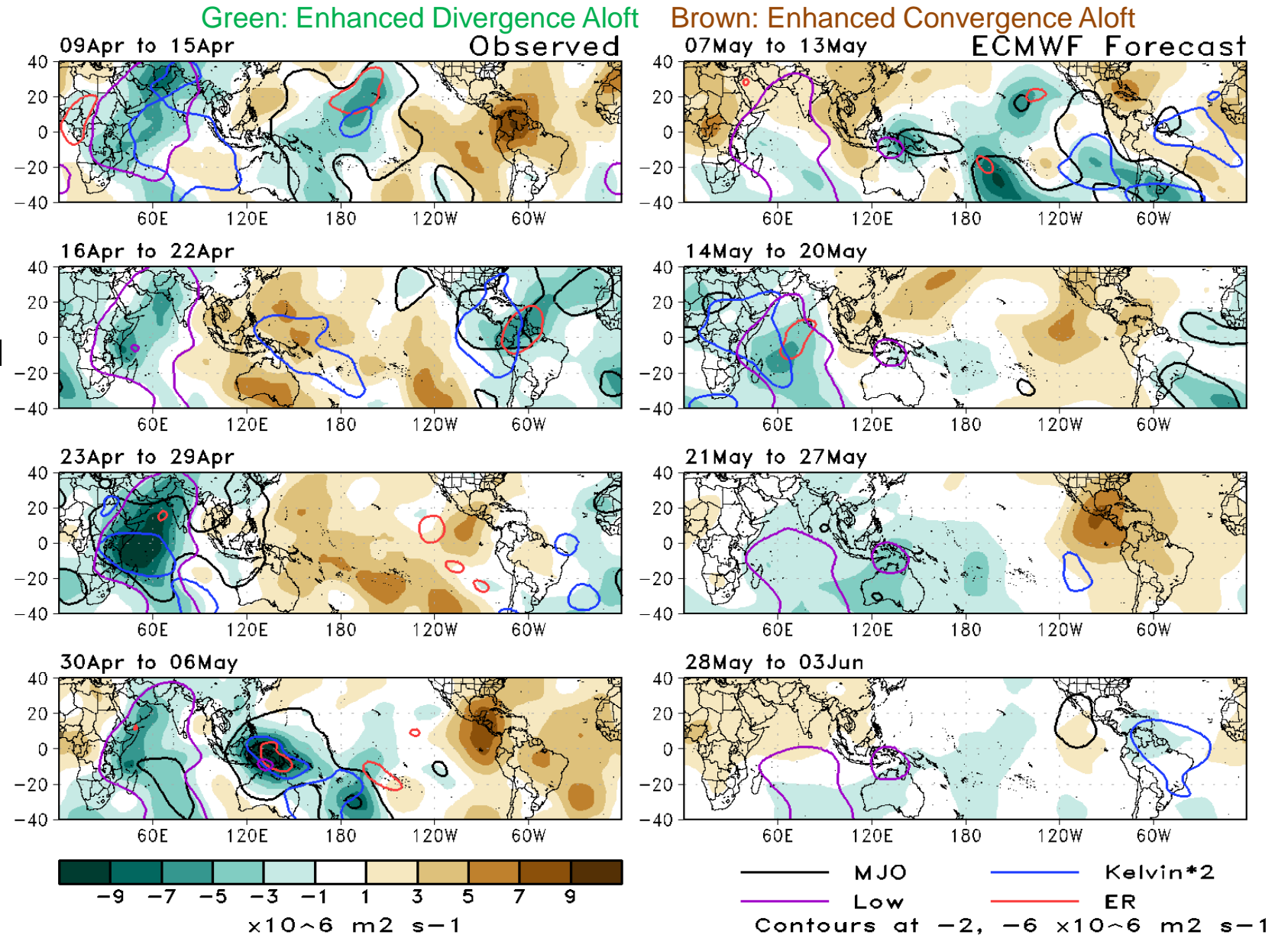
**Issued: 05/07/2024**

**Forecaster: Pugh**

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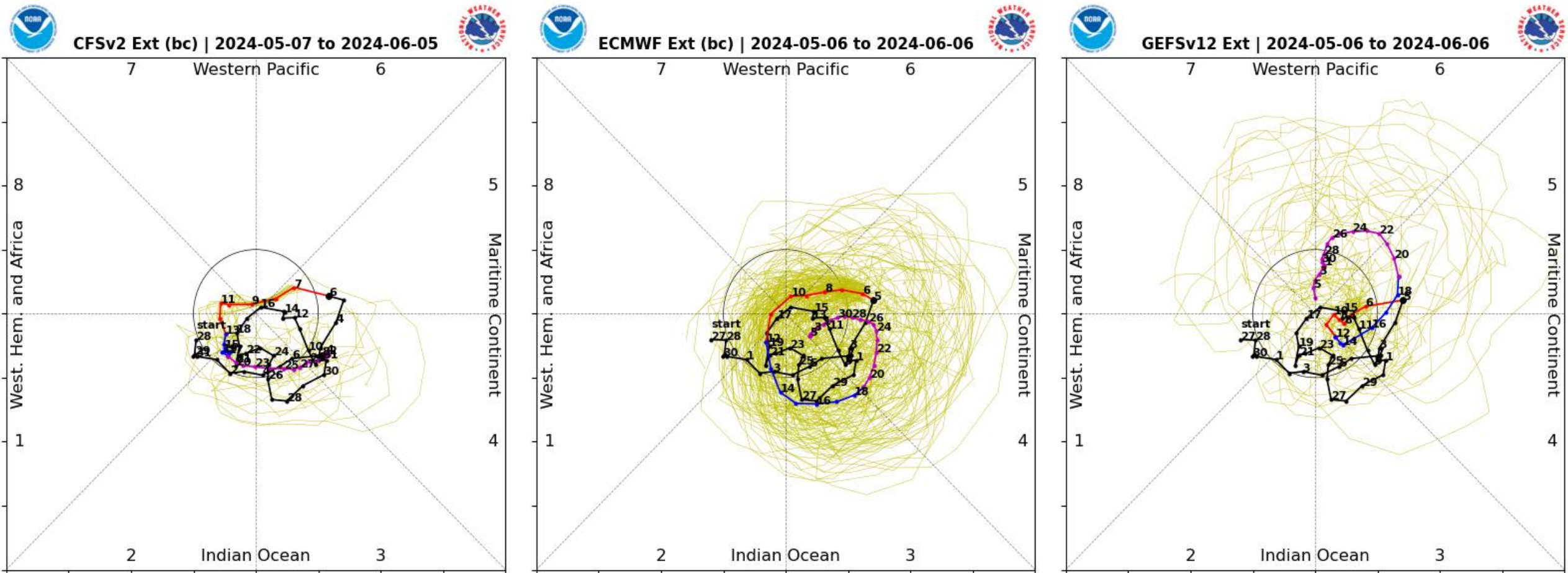
# 200-hPa Velocity Potential Anomaly Maps:

- April 23-29: MJO constructively interfered with a low frequency state over eastern Africa and the western Indian Ocean
- April 30 to May 6: MJO eastward propagation to the West Pacific
- Complicated forecast next few weeks but enhanced lift and tropical rainfall shifts quickly from the Pacific back to the Indian Ocean





# RMM Index Observations & Forecasts:



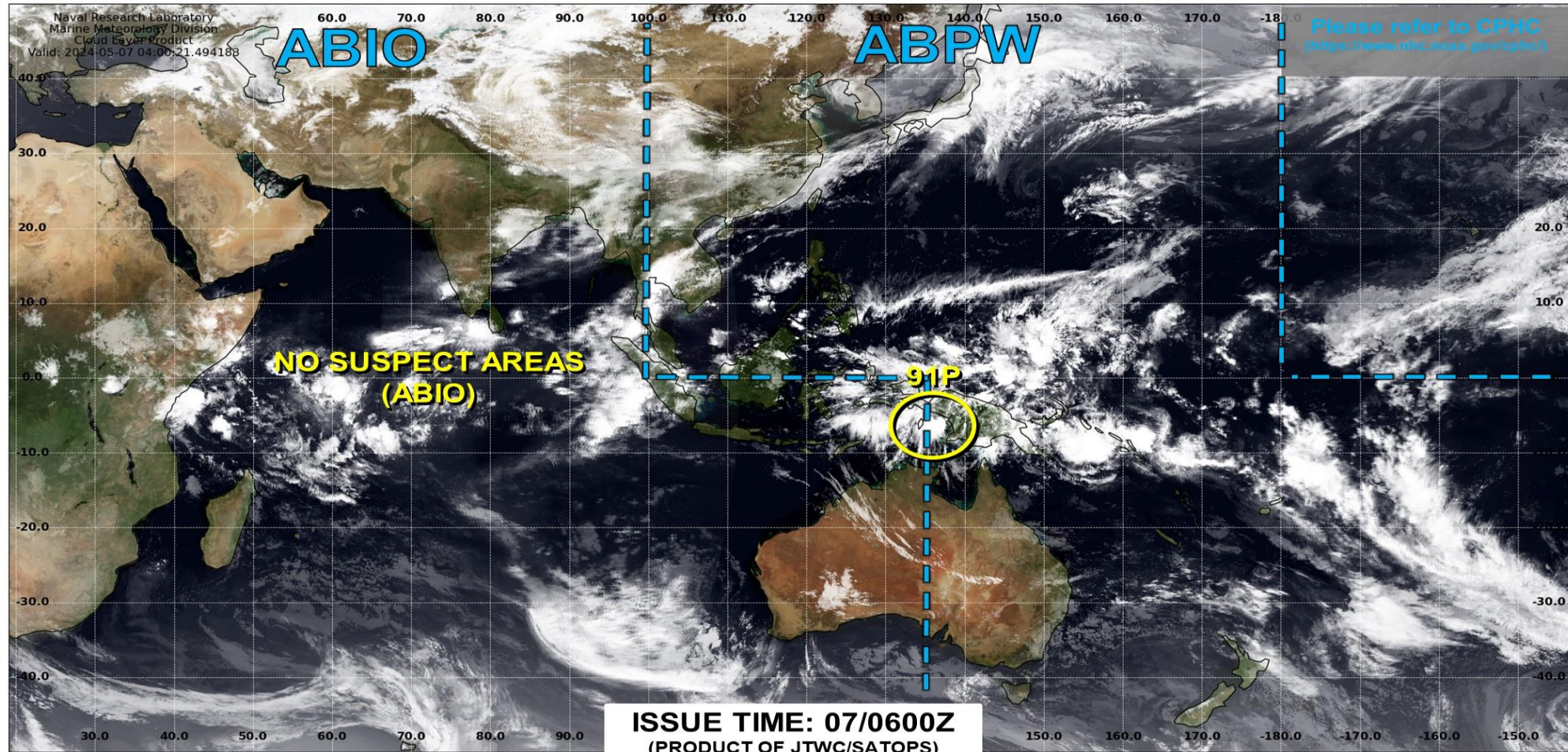
- Large model spread on the MJO amplitude but a fast eastward propagation is apparent among the ensemble means.
- ECMWF ensemble mean has the RMM index back to phase 4 by May 20<sup>th</sup>.



# Tropical Cyclone Monitoring/Forecast: JTWC



## JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours



TC development likely within 24 hours (Reference TCFA)



Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

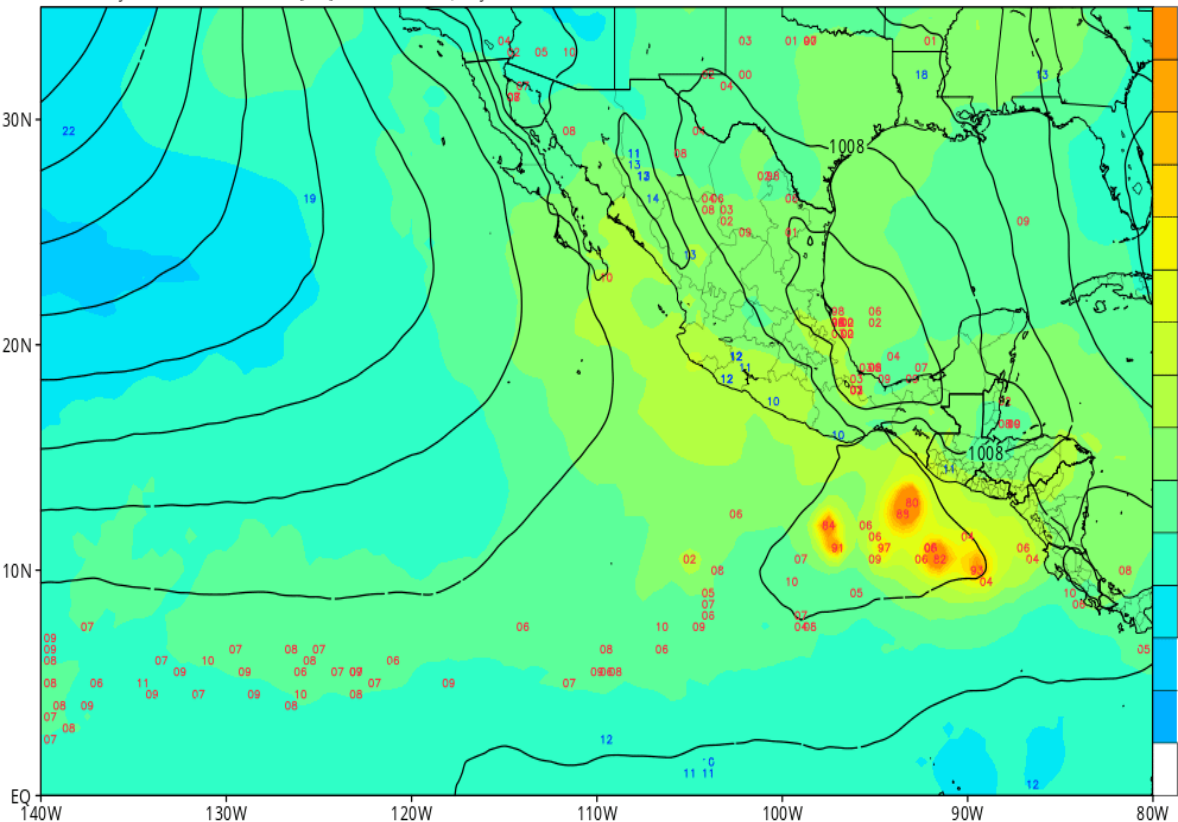




GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | High: blue), & Normalized Spread ( $\sigma$ )

Init: 12z May 07 2024 Forecast Hour: [216] valid at 12z Thu, May 16 2024

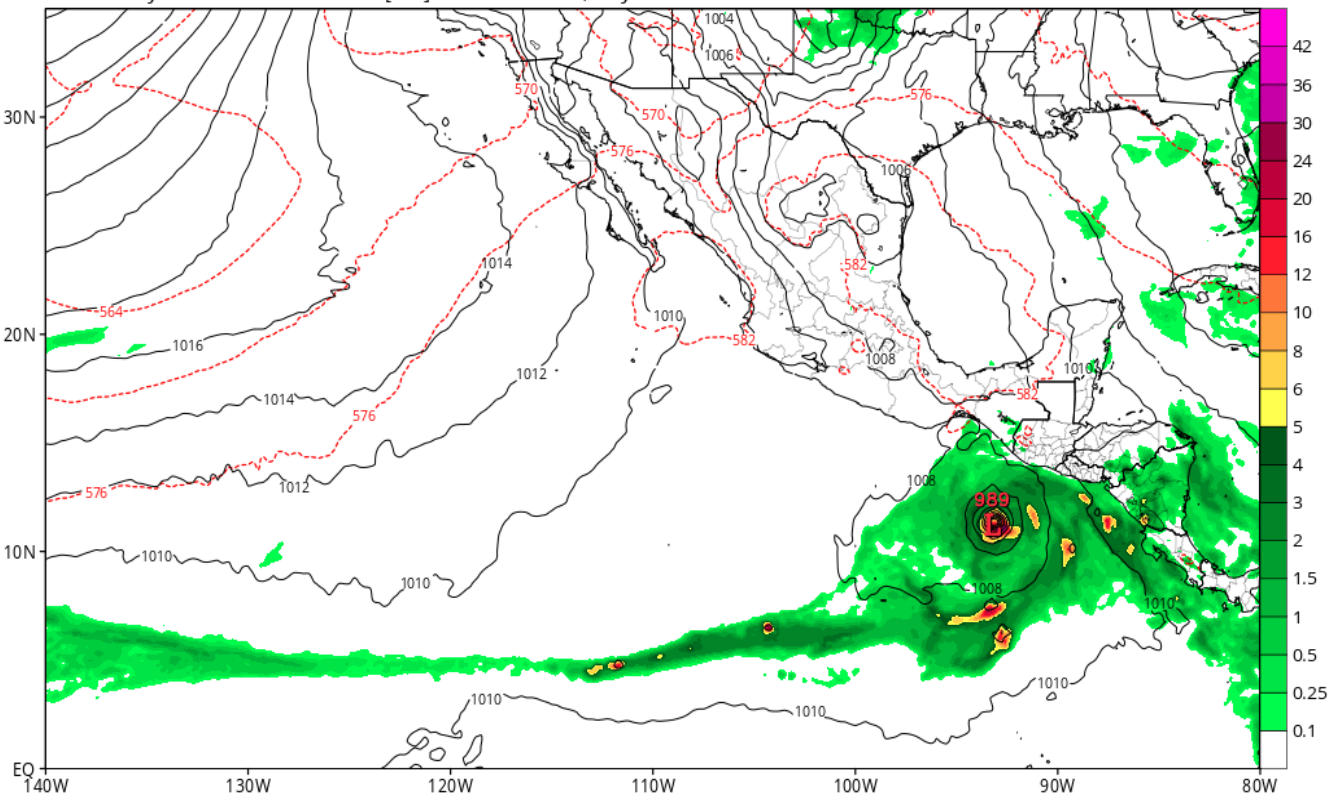
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GFS 6-hour Averaged Precip Rate (mm/hr), MSLP (hPa) & 1000-500mb Thickness (dam)

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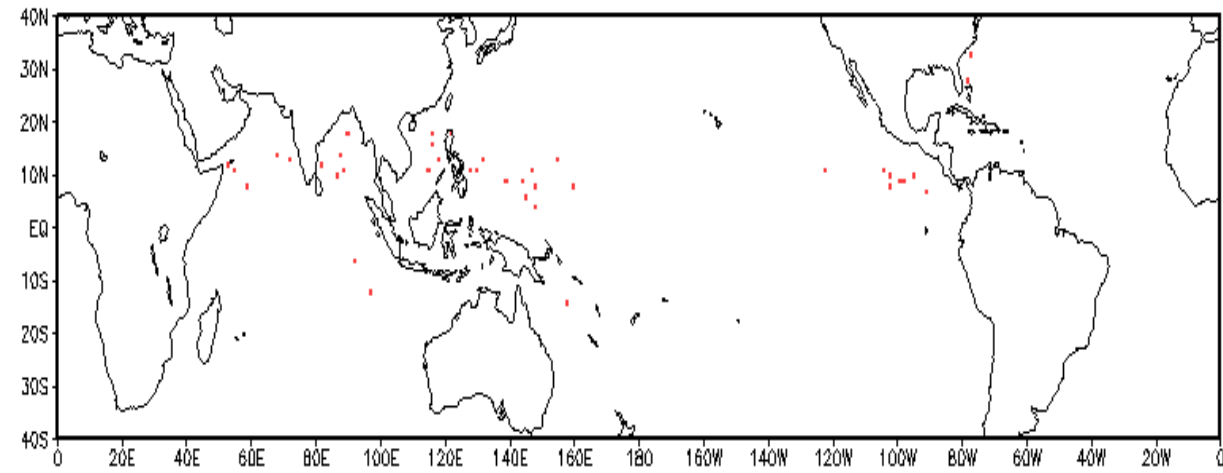
30% ensemble members have TC development



# TC Climatological Genesis: Weeks 2+3

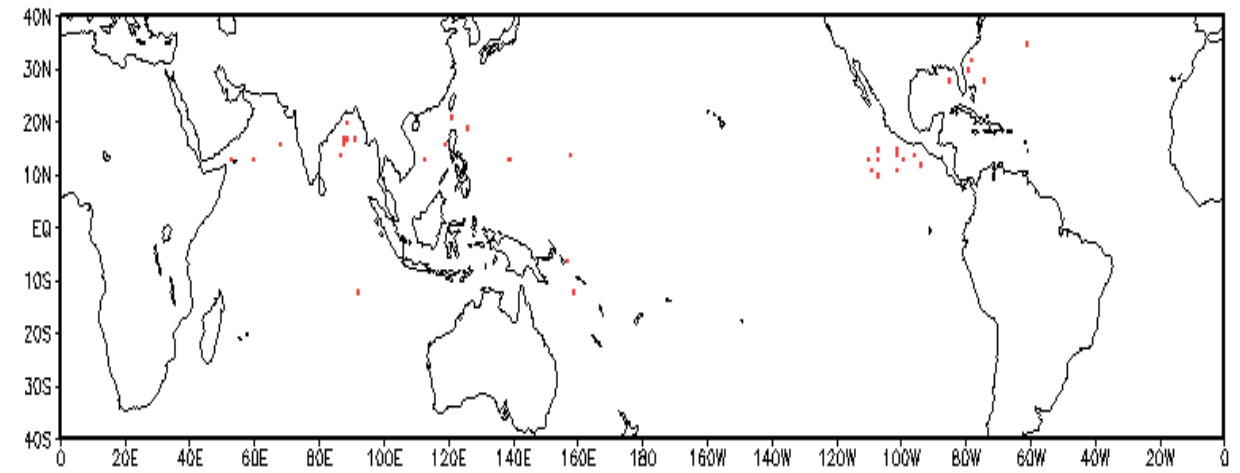
Observed TC Genesis, 1979–2021

7-day Period 0515 to 0521

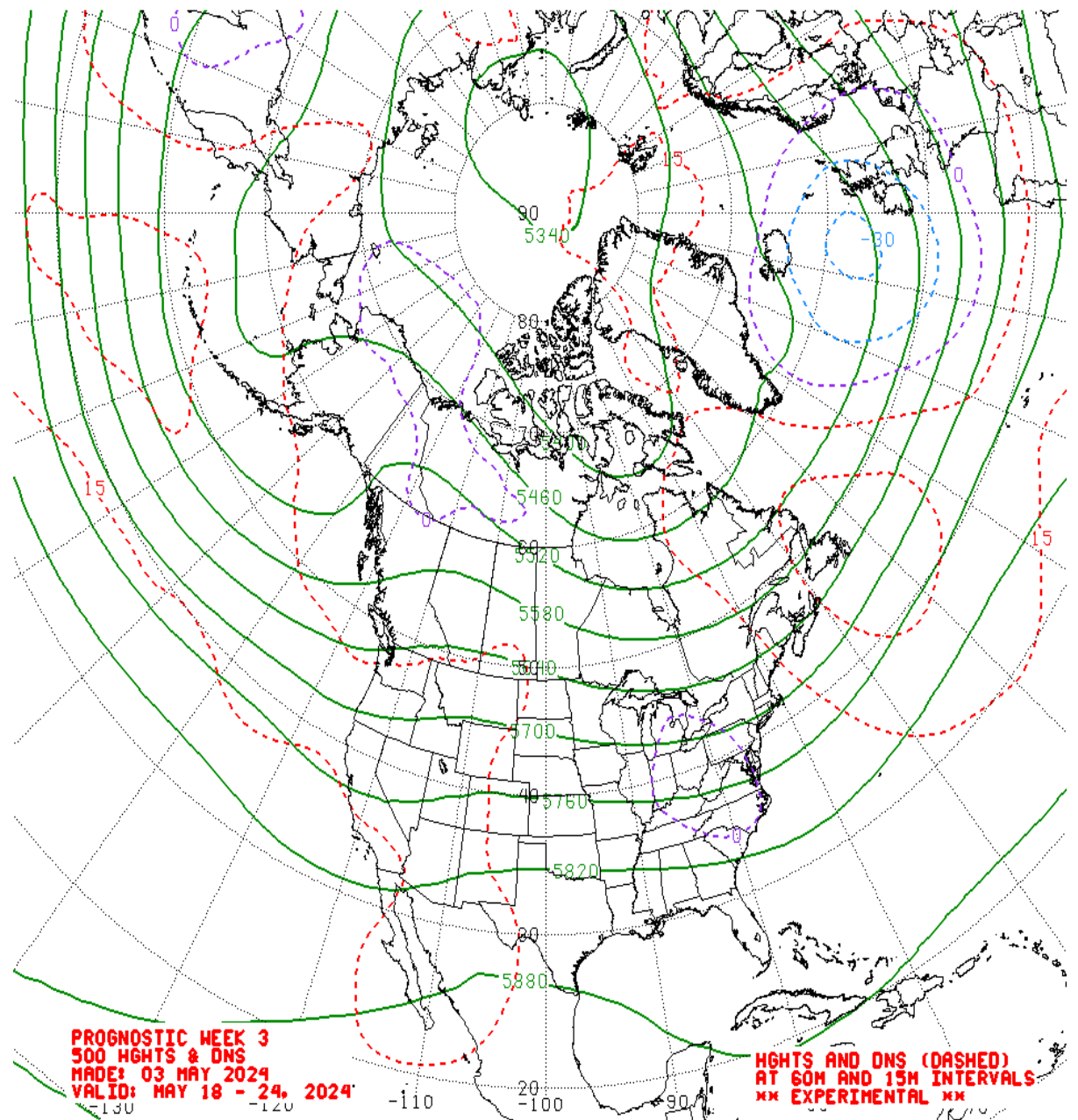
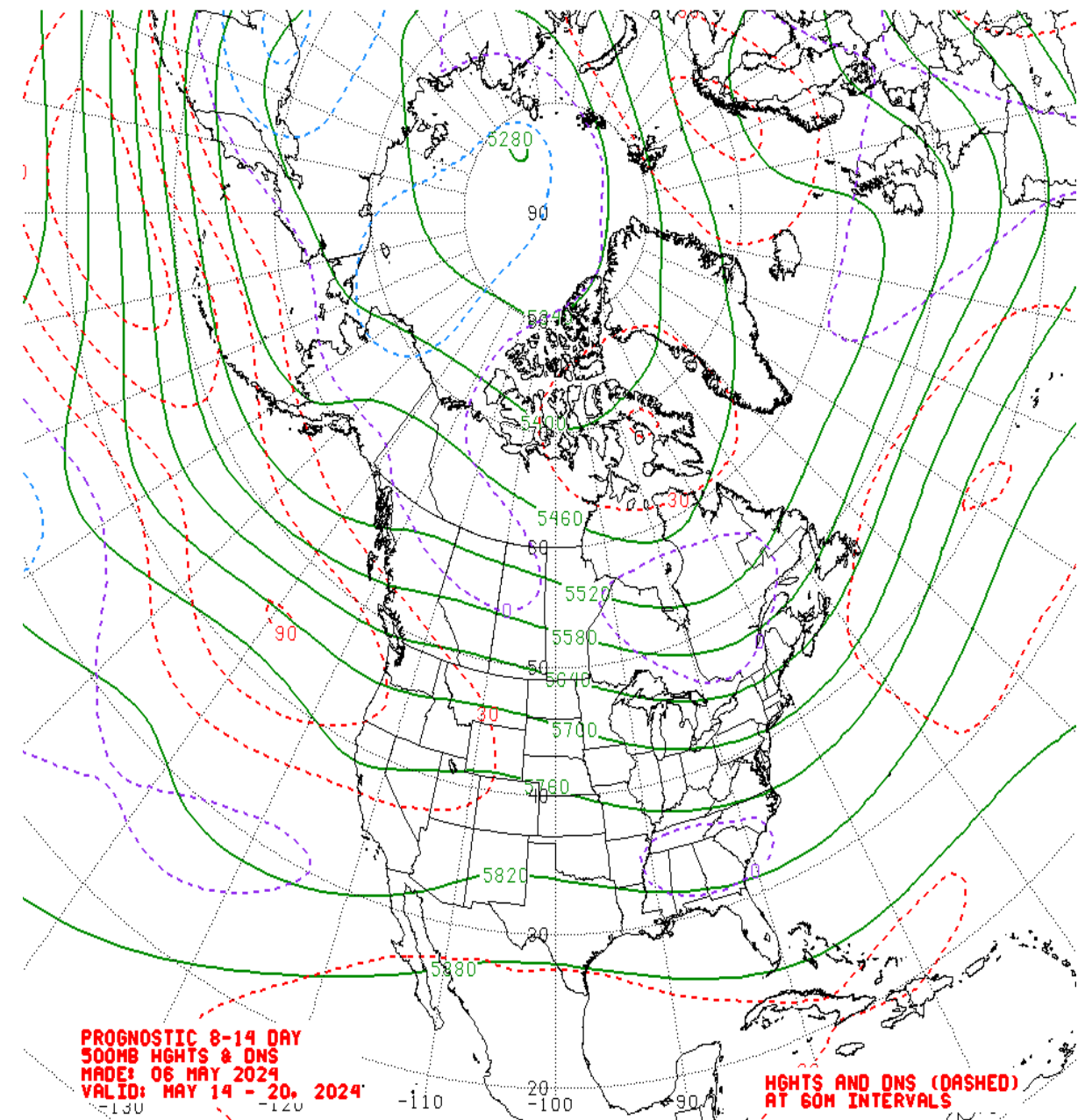


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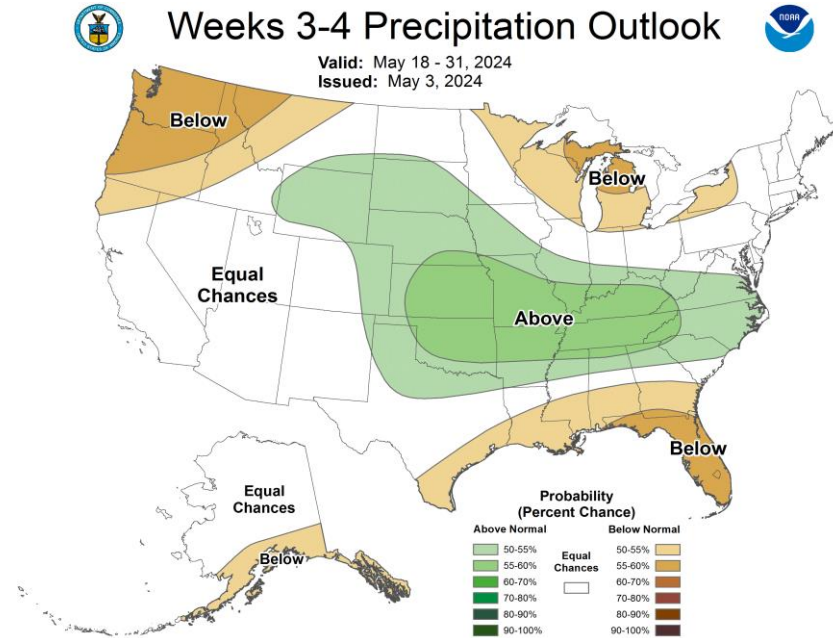
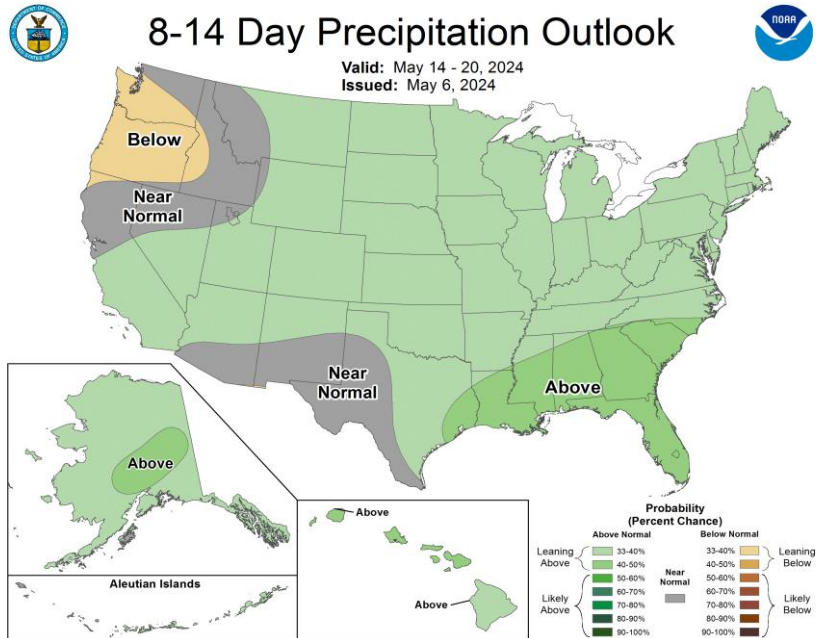
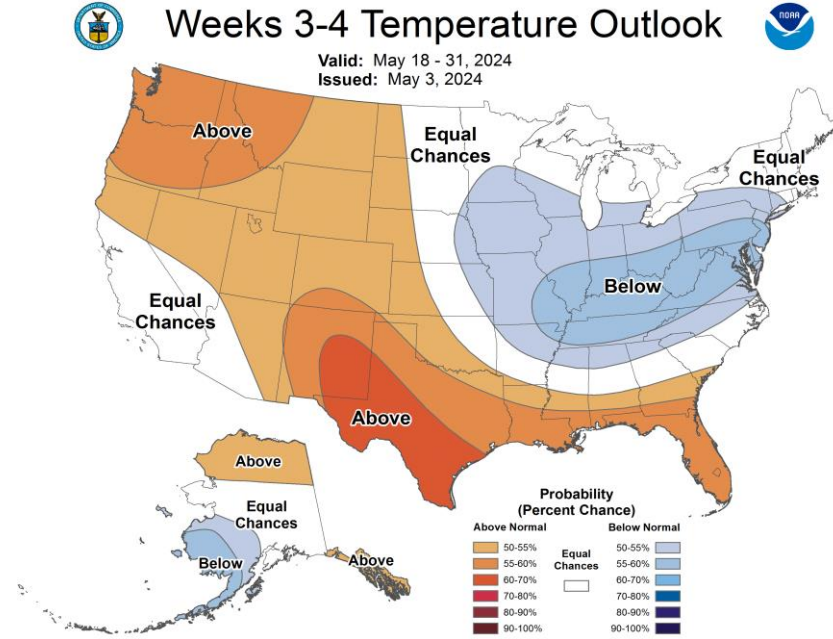
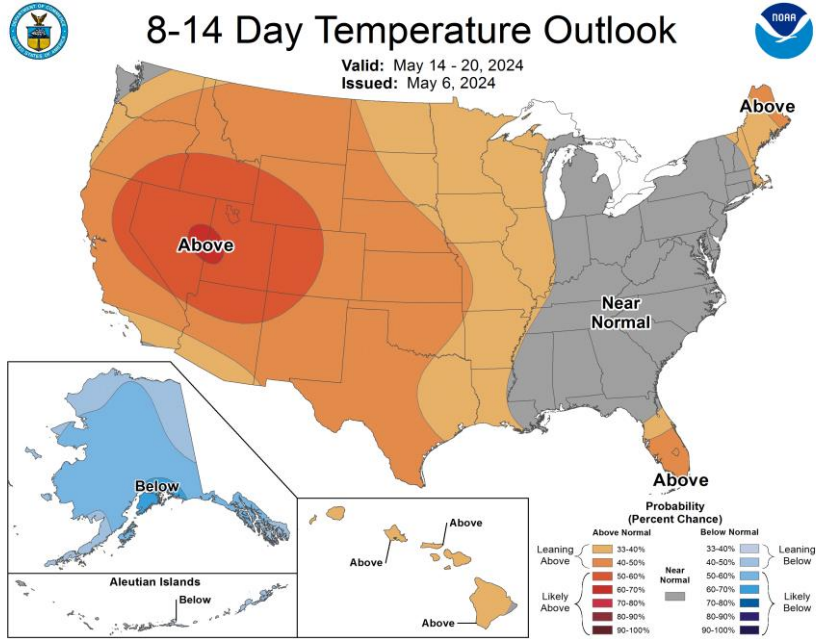
7-day Period 0522 to 0528



# Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3



# Official Temperature & Precipitation Forecasts:





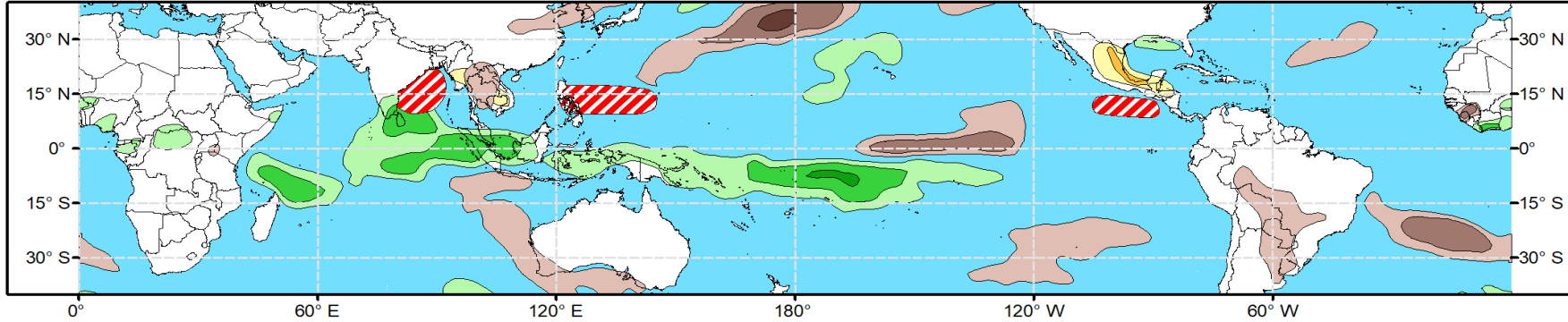
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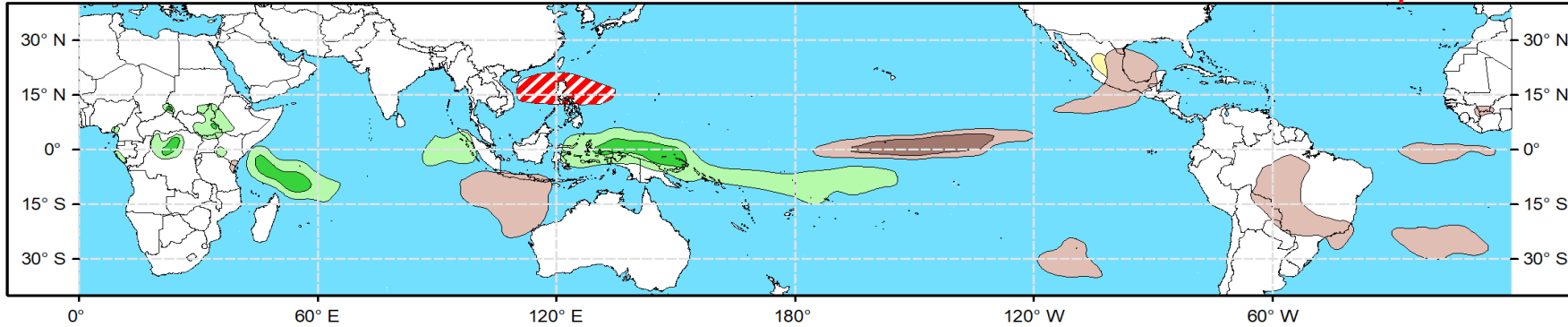


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