



# Weeks 2-3 Global Tropics Hazards Outlook

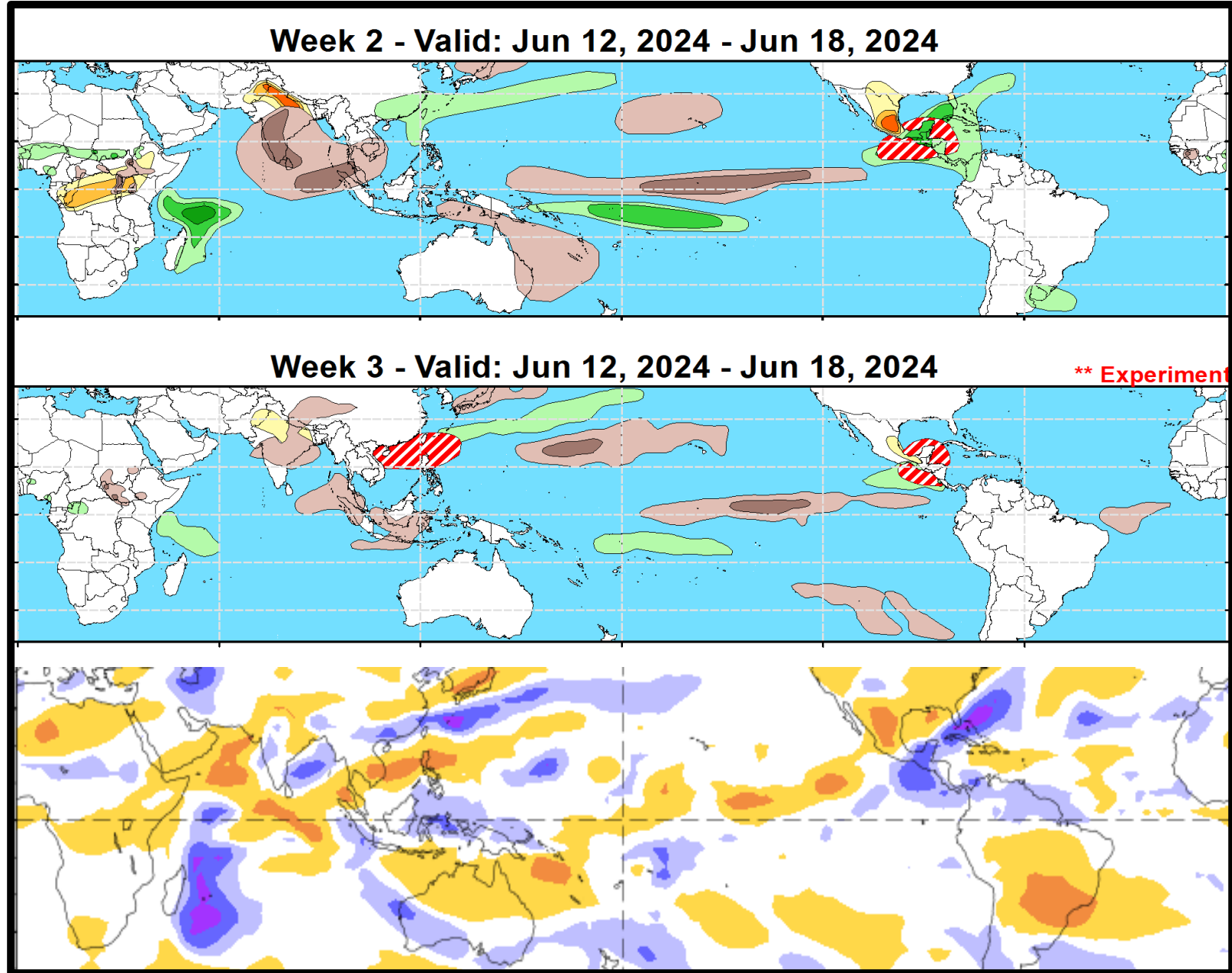
6/18/2024

Thomas Collow

NWS / NCEP / Climate Prediction Center

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

No new TCs formed during the past week.



# Synopsis of Climate Modes:

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**ENSO:** (Jun 13, 2024 Update)      *next update on Thursday, Jul 11<sup>th</sup>*

- ENSO Alert System Status: Final El Niño Advisory / [La Niña Watch](#)
- ENSO-neutral conditions are present. La Niña is favored to develop during July-September (65% chance) and persist into the Northern Hemisphere winter 2024-25.

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

- The MJO has been inactive during the first half of June with the RMM-based index residing in the unit circle.
- Dynamical models depict some possible reorganization of the MJO over the Western Hemisphere and Indian Ocean over the next 2 weeks, although the phase speed may be more indicative of a Convectively Coupled Kelvin Wave.
- There is an enhanced low frequency convective signal located over the far Western Pacific, perhaps tied to the ENSO transition.

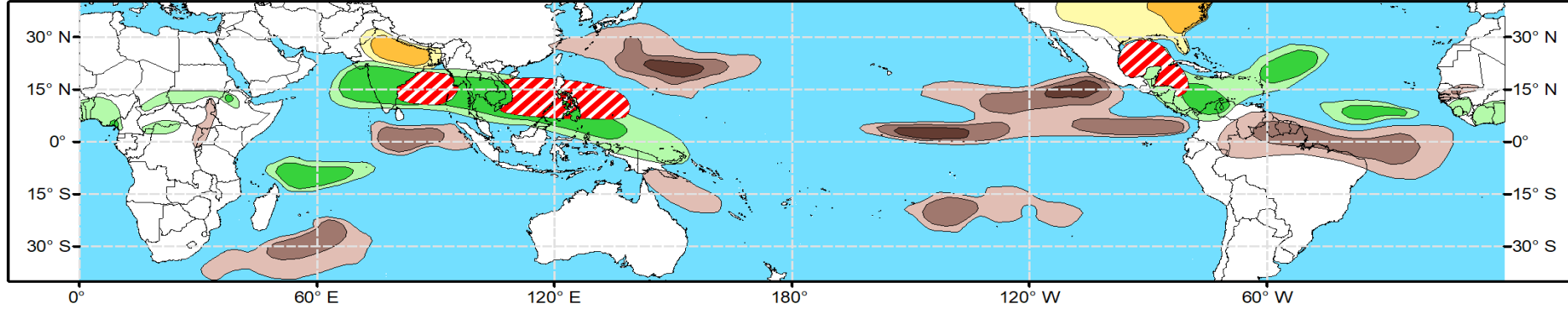
# GTH Outlook:



## Global Tropics Hazards Outlook Climate Prediction Center

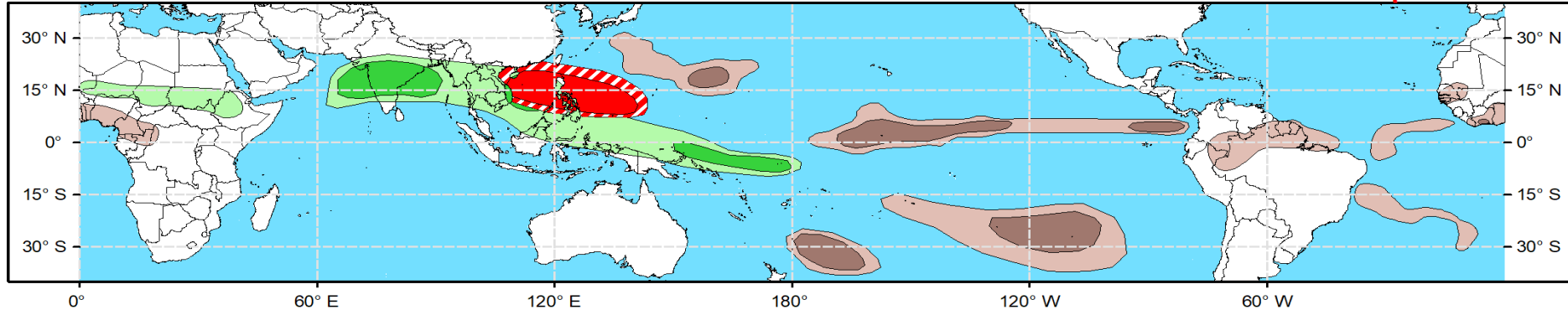


**Week 2 - Valid: Jun 26, 2024 - Jul 02, 2024**



**Week 3 - Valid: Jul 03, 2024 - Jul 09, 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  
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**Above-Average  
Temperatures Probability**



>50% >65% >80%

*7-day max temperatures in the  
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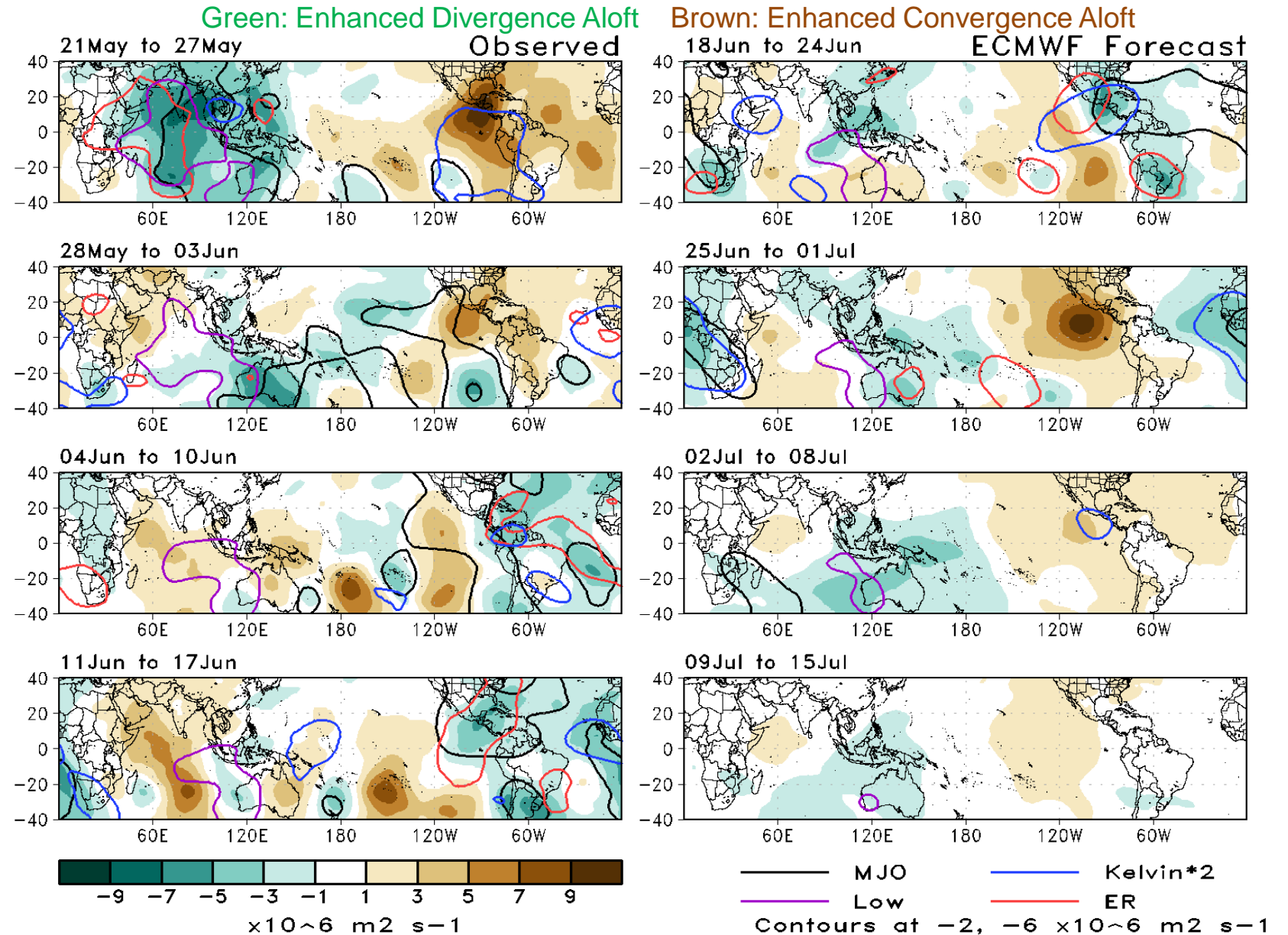
**Issued: 06/18/2024**

**Forecaster: Collow**

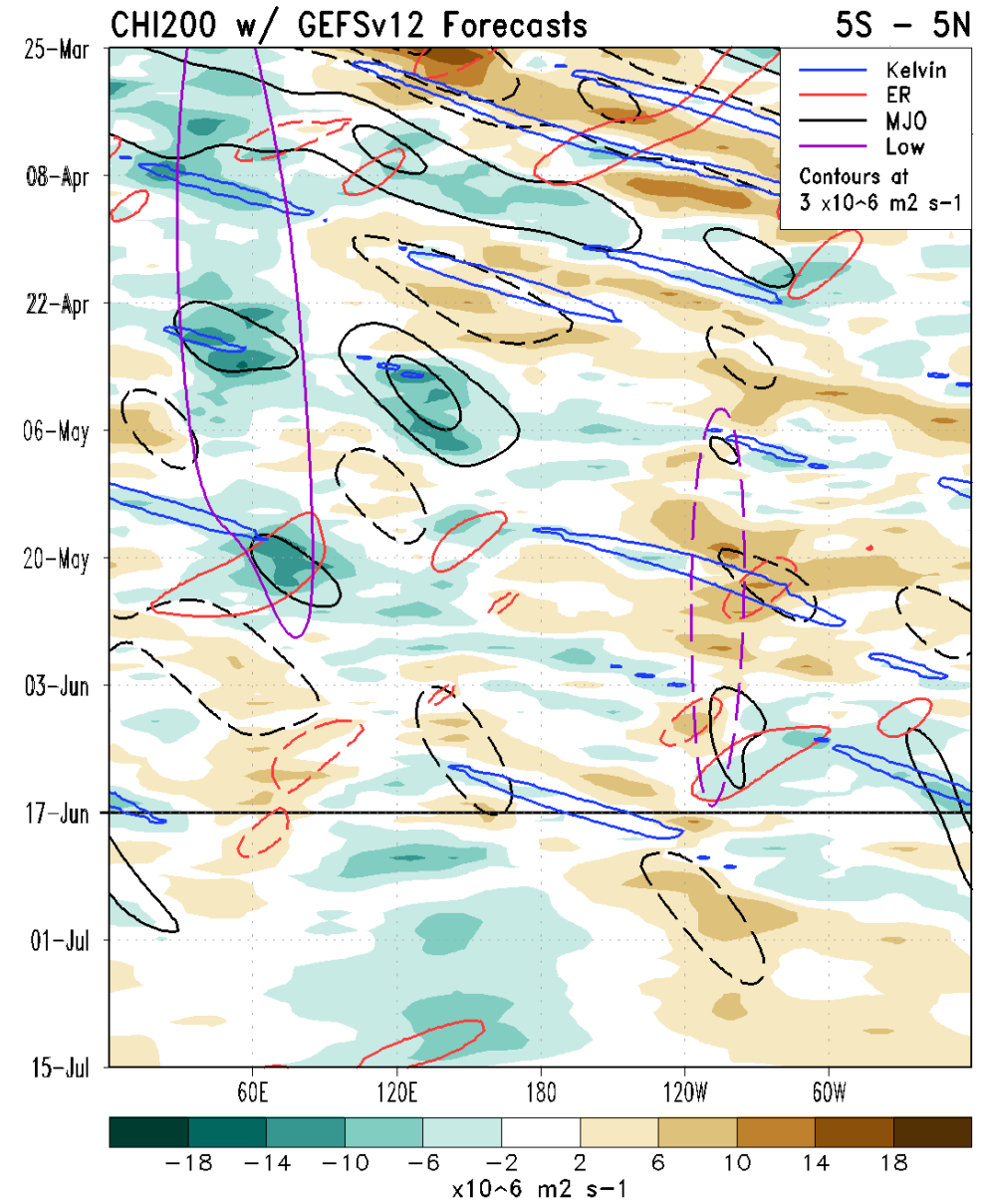
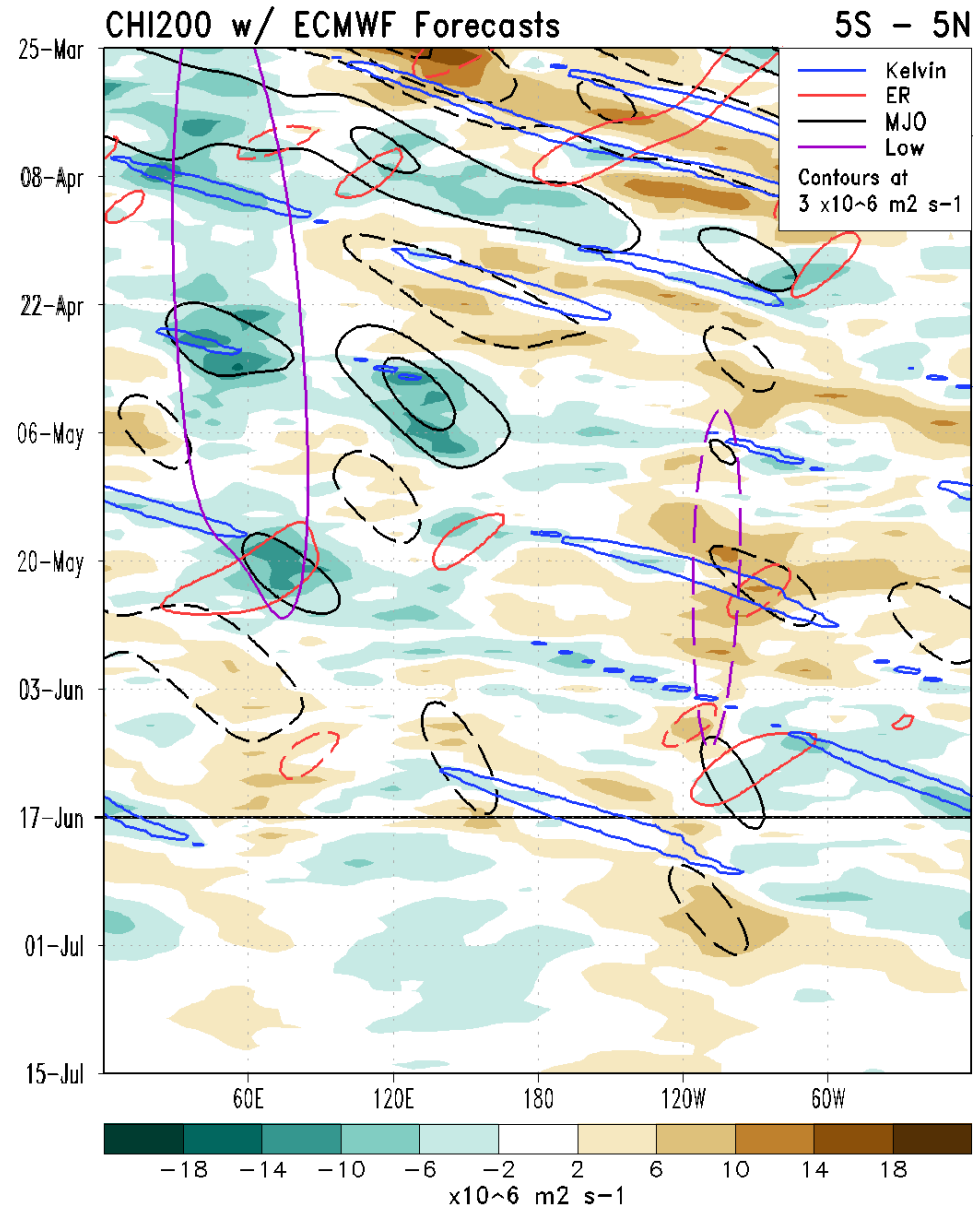
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# 200-hPa Velocity Potential Anomaly Maps:

- The lack of MJO activity in early June has resulted in an incoherent spatial upper-level velocity potential pattern across the globe.
- Enhanced divergence aloft is currently over the Americas and the Atlantic, with several different modes of tropical variability coming through the objective filtering.
- Over the the next few weeks, a more organized pattern may develop with enhanced divergence (convergence) aloft across the Eastern (Western) Hemisphere.



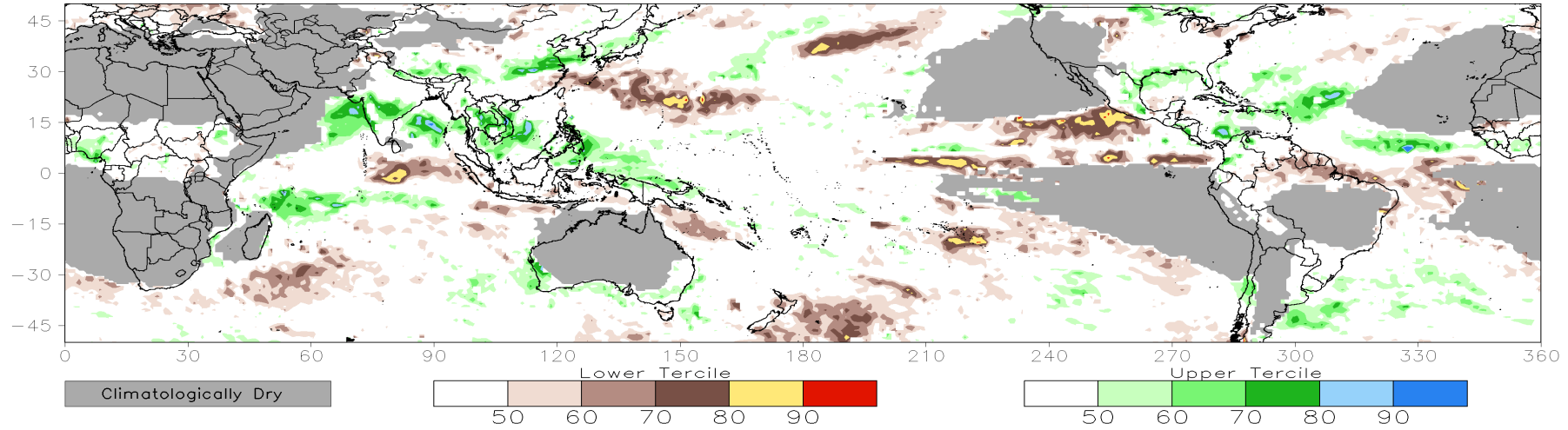
# 200-hPa Velocity Potential Anomaly Time/Lon Plots:



# Consolidated Probabilistic Precipitation: Weeks 2 & 3

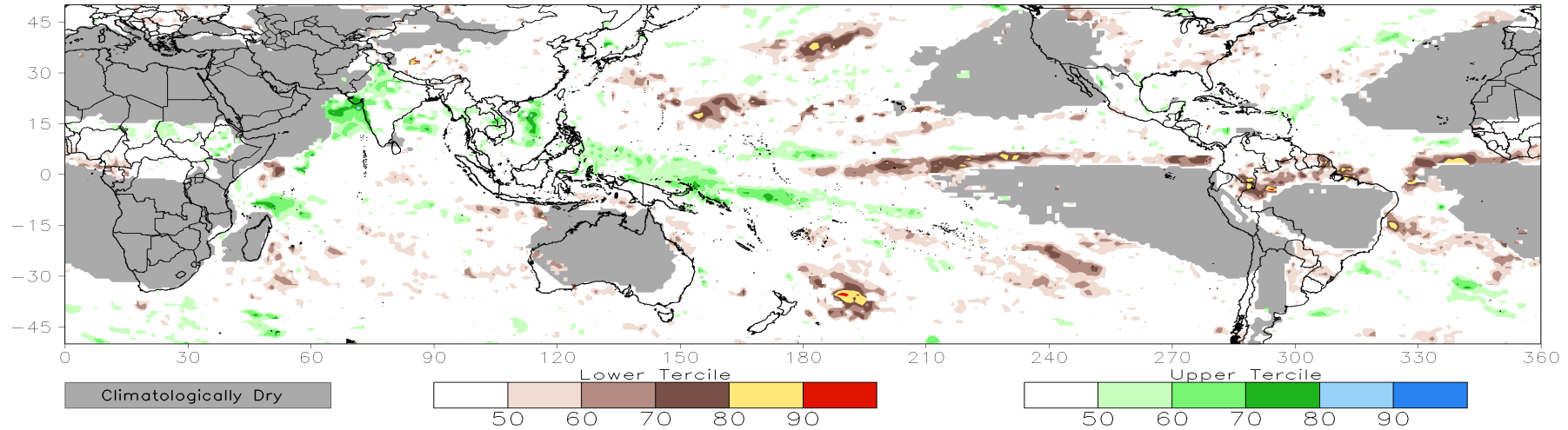
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 26Jun2024–02Jul2024



CONS 00z: Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

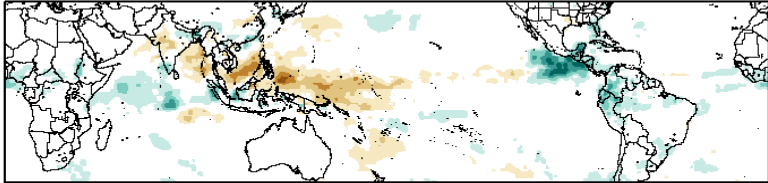
Valid: 03Jul2024–09Jul2024



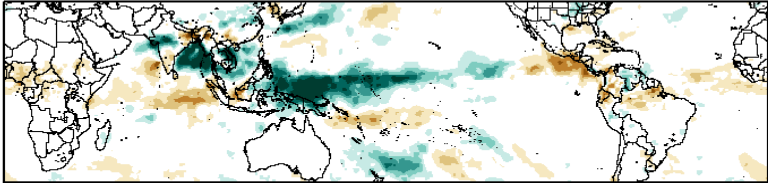
# Historical Precipitation Anomalies By MJO Phase:

MJJ MJO Composite: GPCP1DD (mm/day)

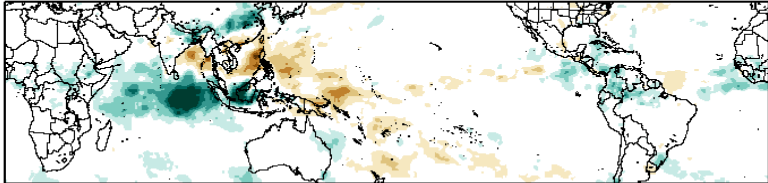
Phase 1



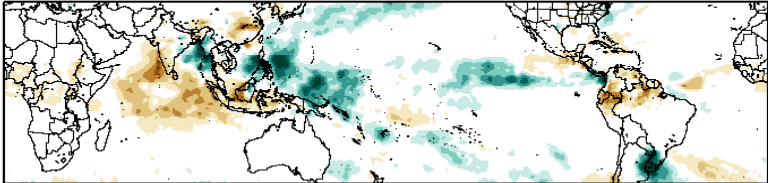
Phase 5



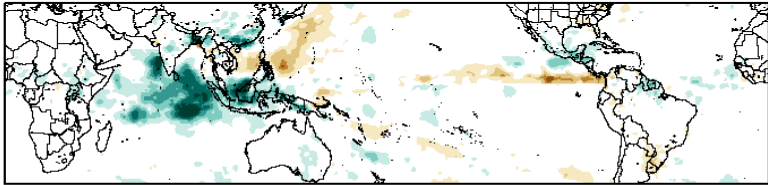
Phase 2



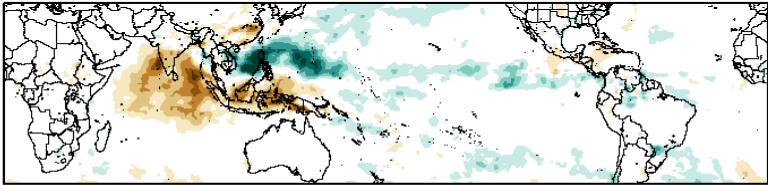
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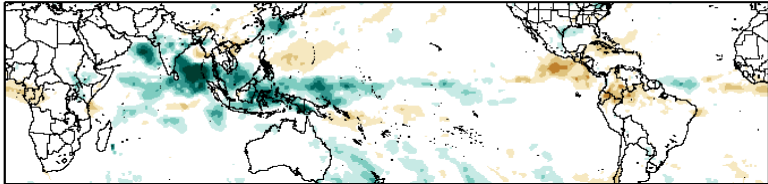
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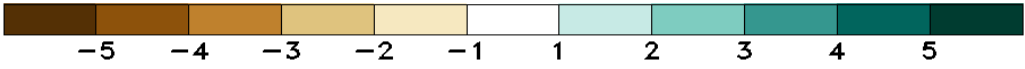
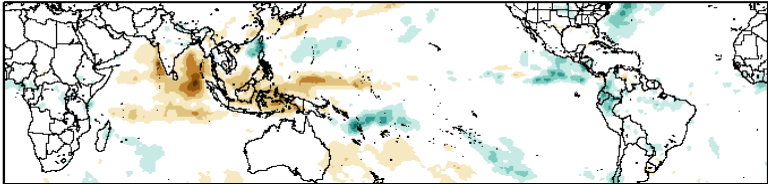
Phase 7



Phase 4



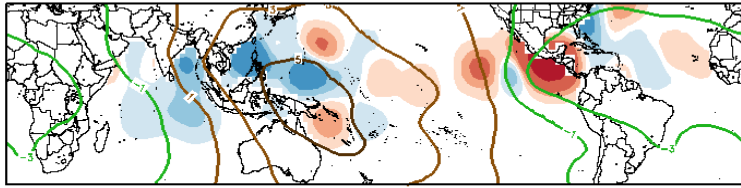
Phase 8



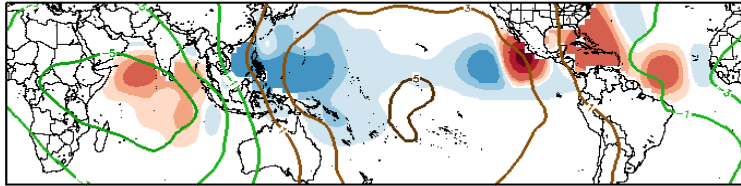


# Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

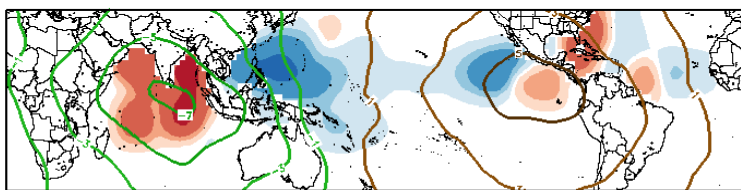
MJJ MJO Composite: Mean TC Origin Density Anomaly ( $\#TCs/277km^2*100$ )  
w/ MJJ CHI200 ( $\times 10^6 m^2 s^{-1}$ ) / Contours every  $2 \times 10^6 m^2 s^{-1}$



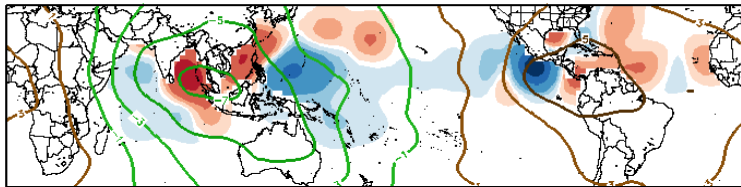
Phase 1



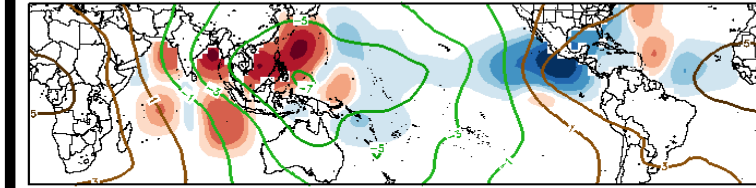
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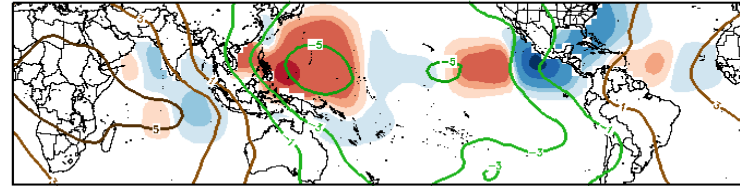
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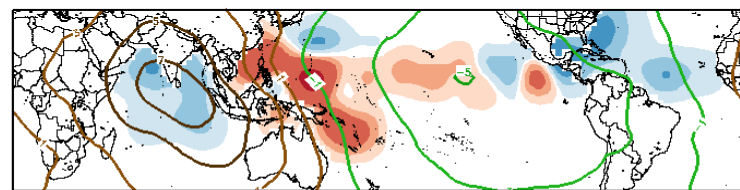
Phase 4



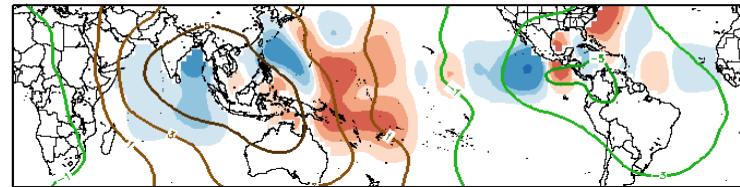
Phase 5



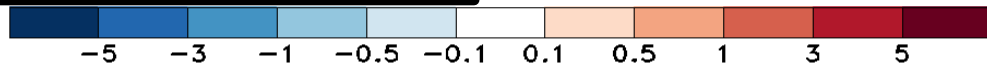
Phase 6



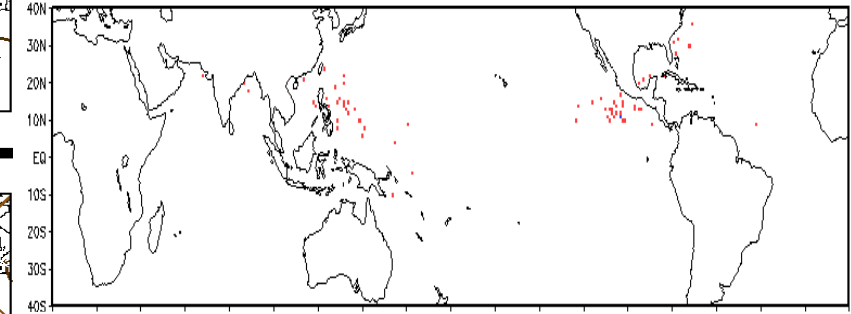
Phase 7



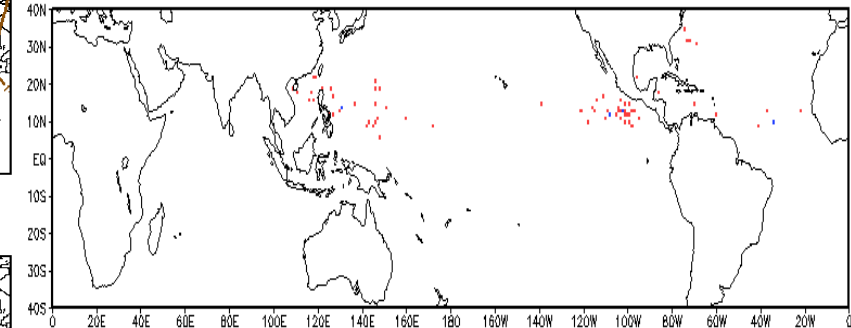
Phase 8



Observed TC Genesis, 1979-2021  
7-day Period 0626 to 0702

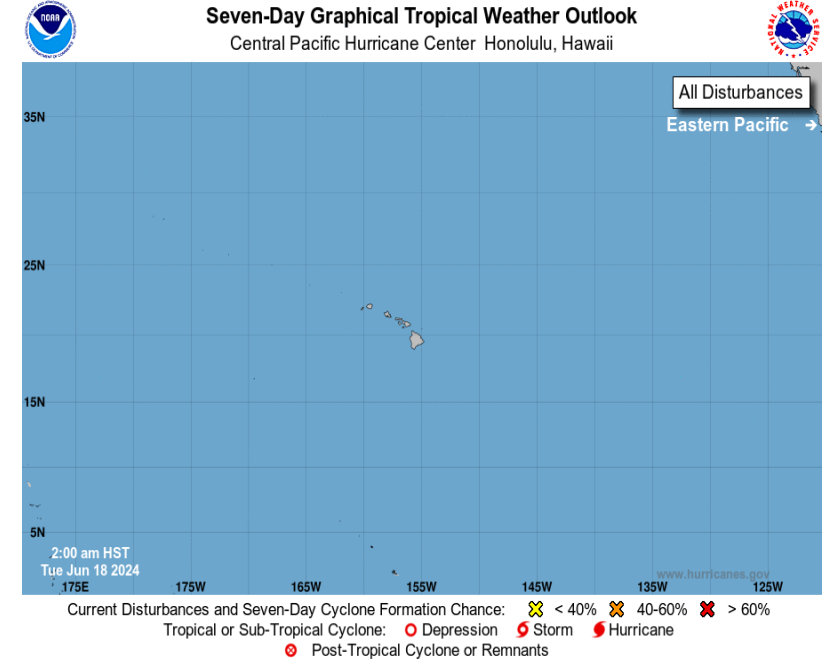
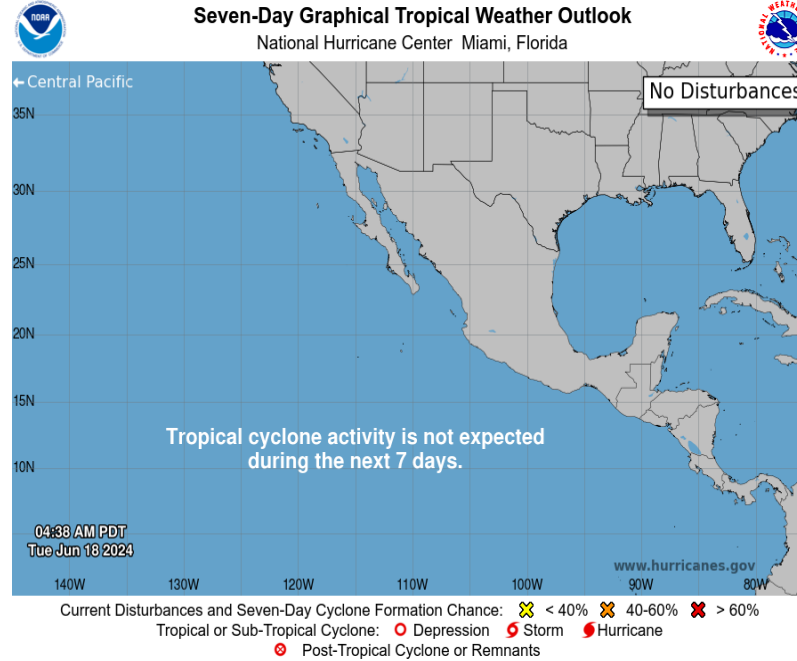
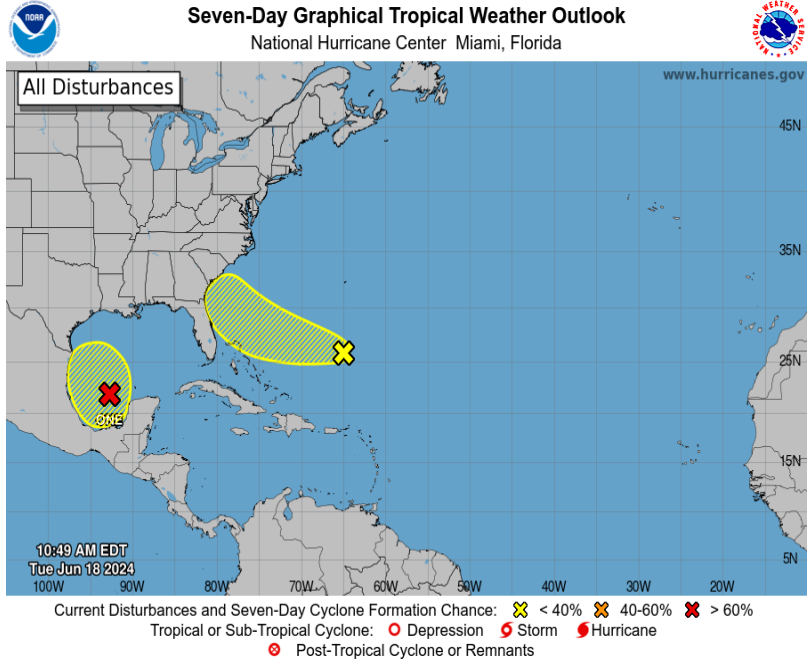


Observed TC Genesis, 1979-2021  
7-day Period 0703 to 0709



\*Experimental\*

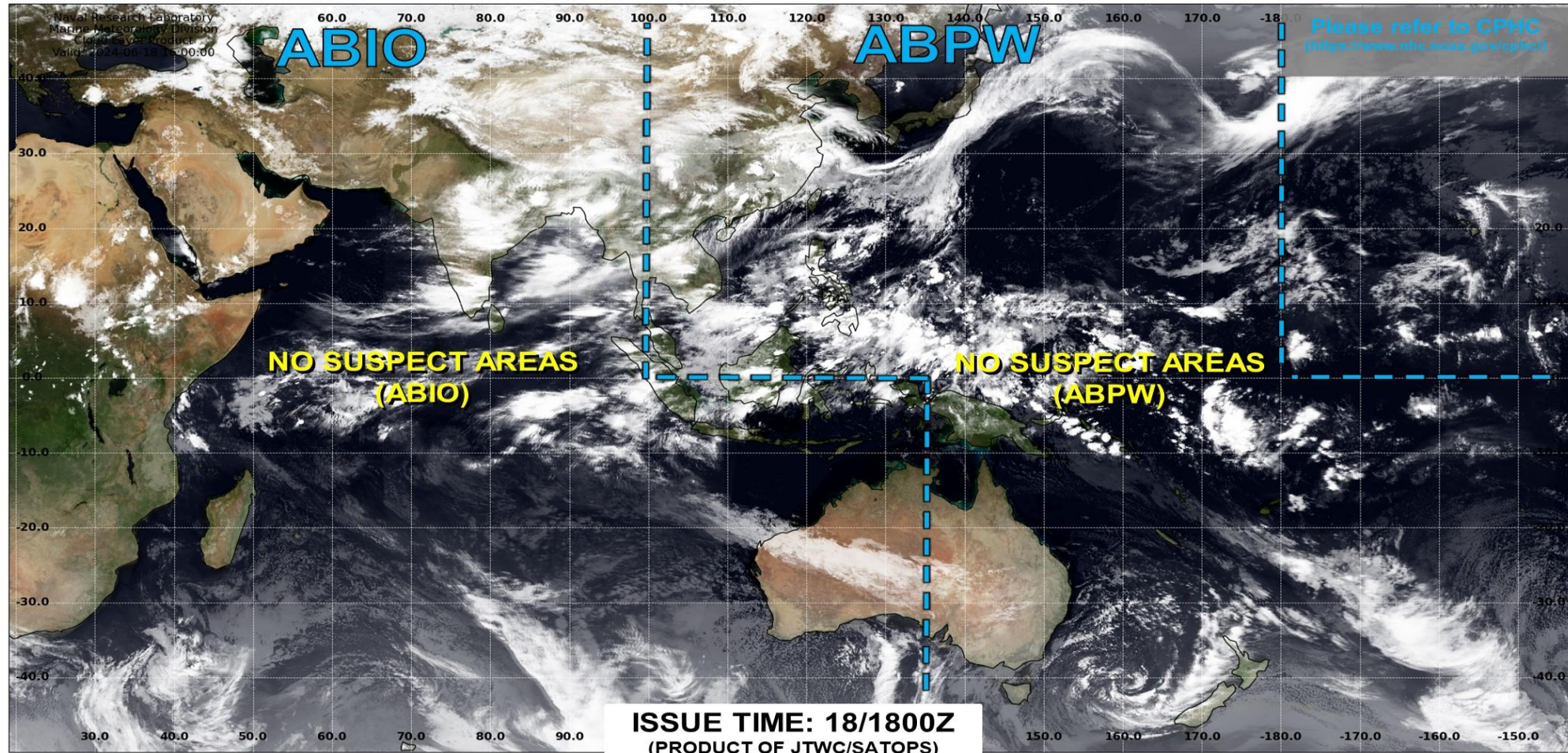
# Tropical Cyclone Monitoring/Forecast: NHC / CPHC



# 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)



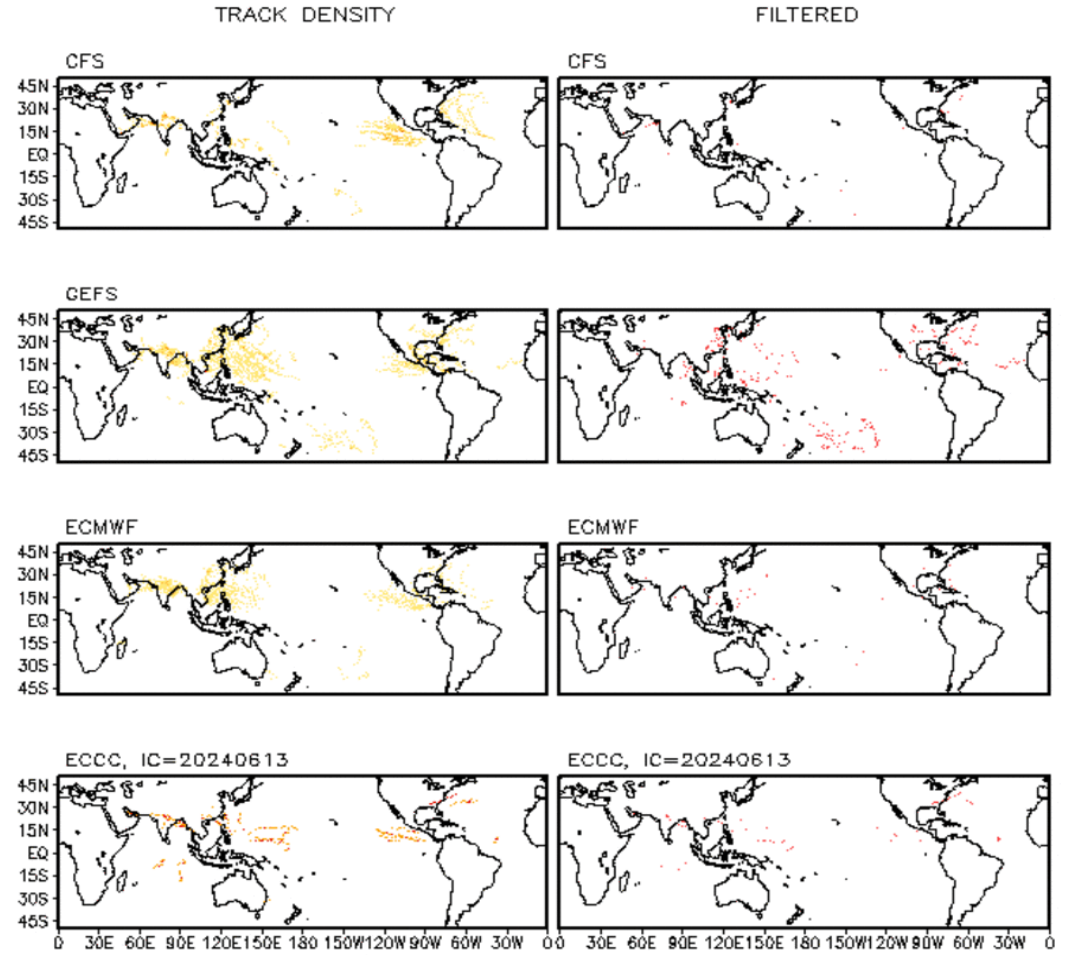
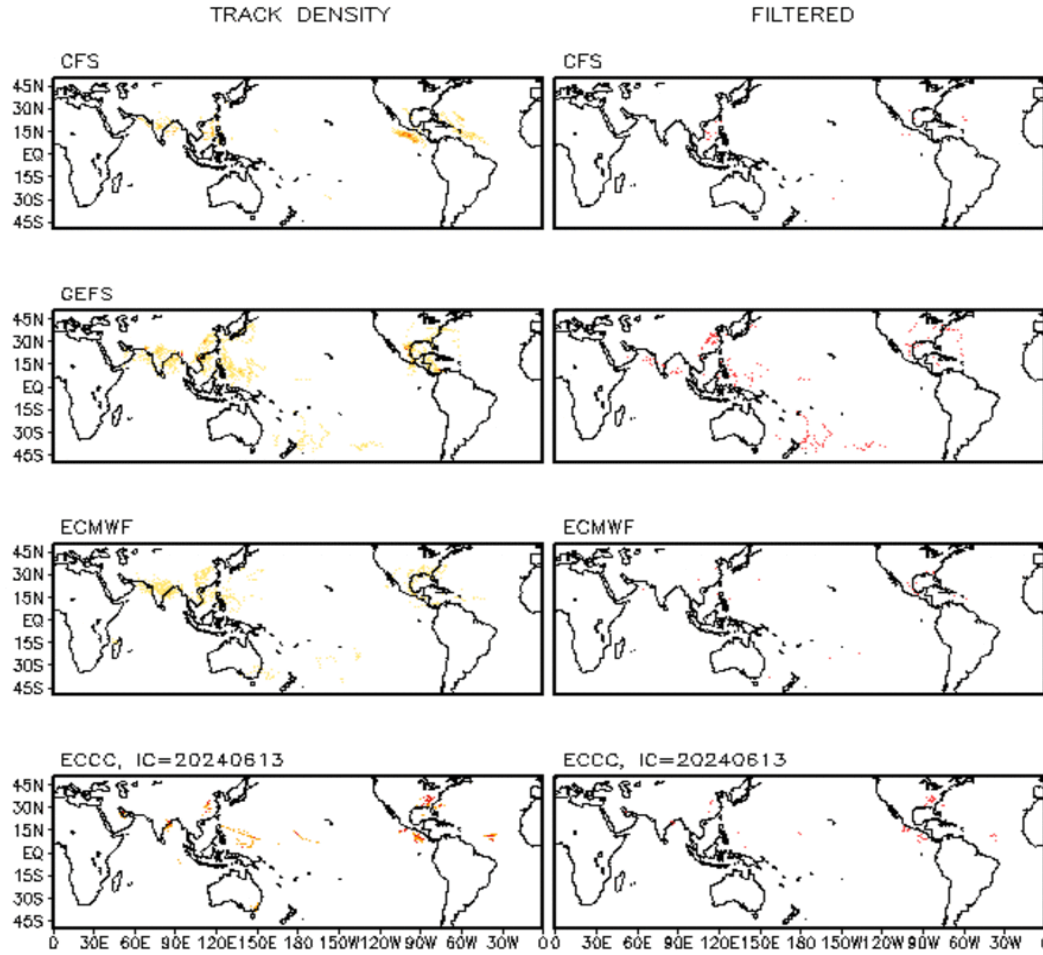
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



# Multi-Model TC Track Densities: Weeks 2+3

Storm Track Density Distribution, IC=20240617  
Week 2 Forecast: 0626-0702

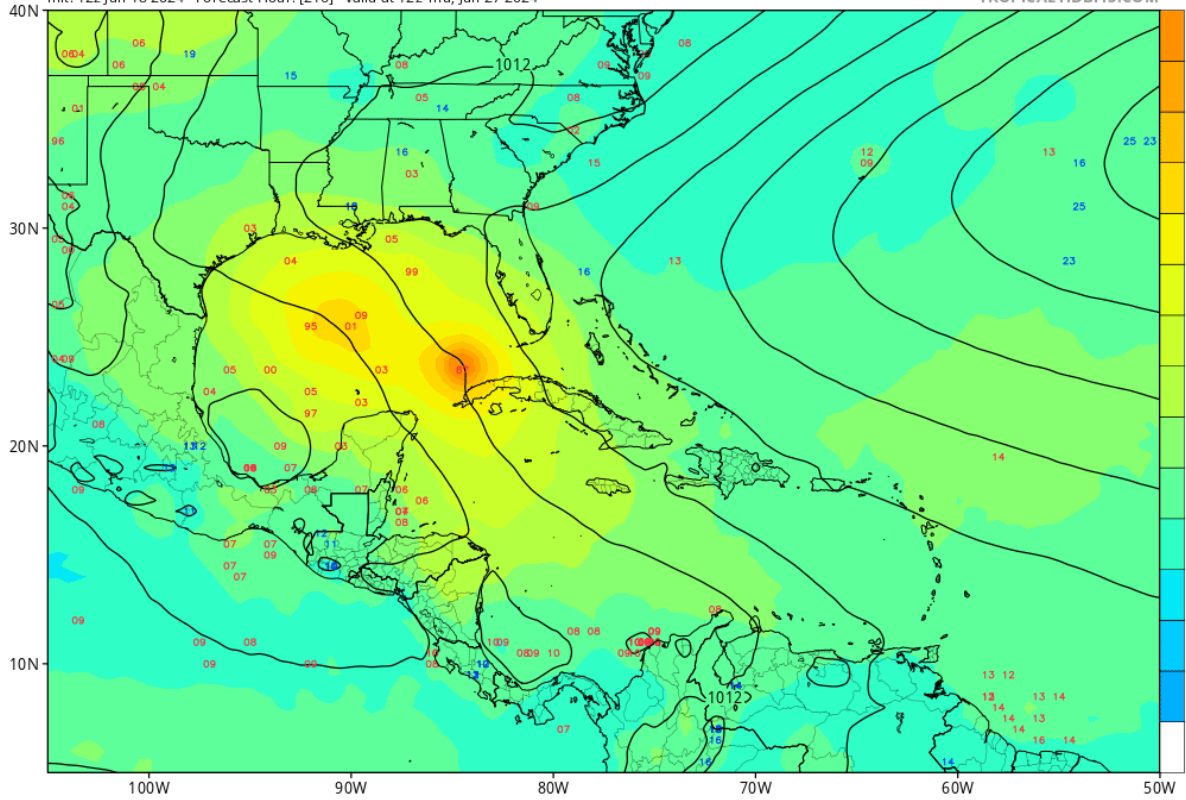
Storm Track Density Distribution, IC=20240617  
Week 3 Forecast: 0703-0709



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

Init: 12z Jun 18 2024 Forecast Hour: [216] valid at 12z Thu, Jun 27 2024

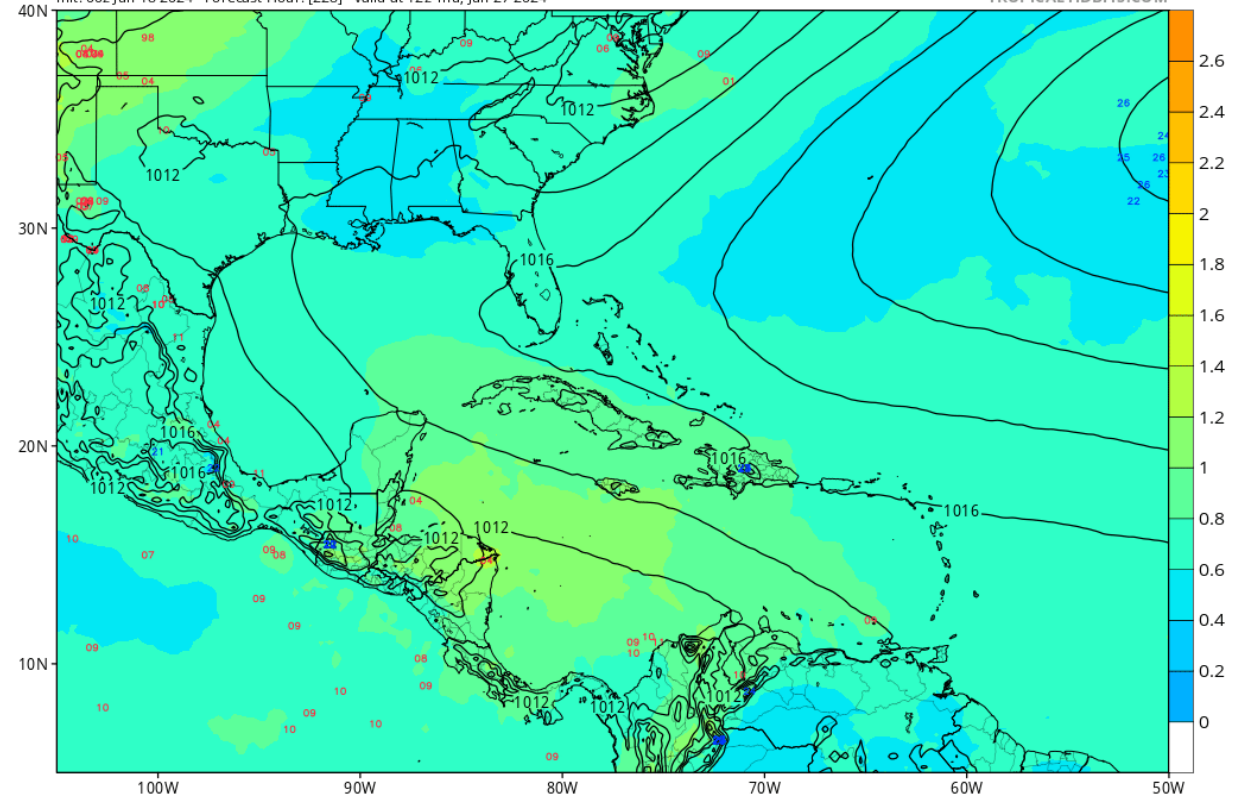
TROPICALTIDBITS.COM



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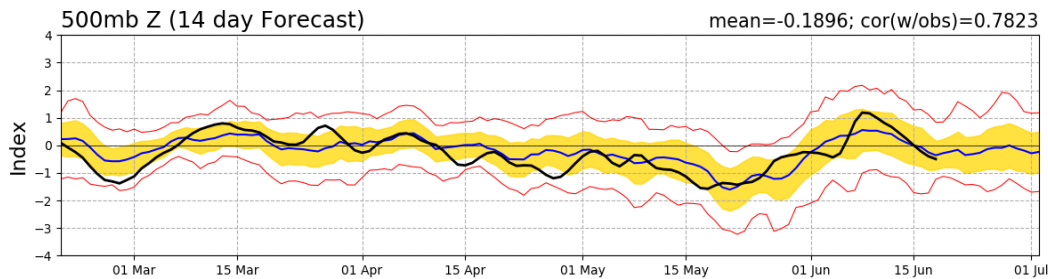
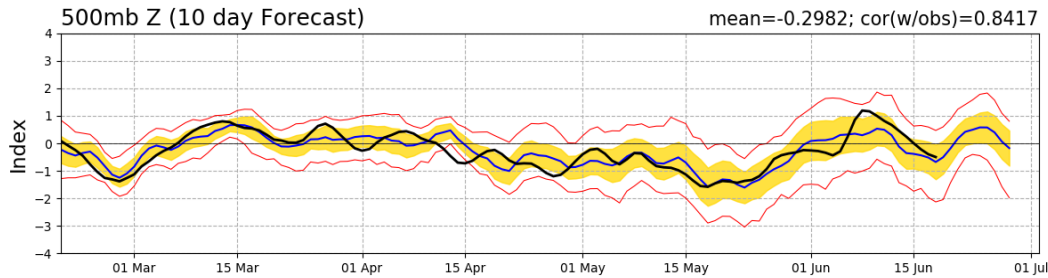
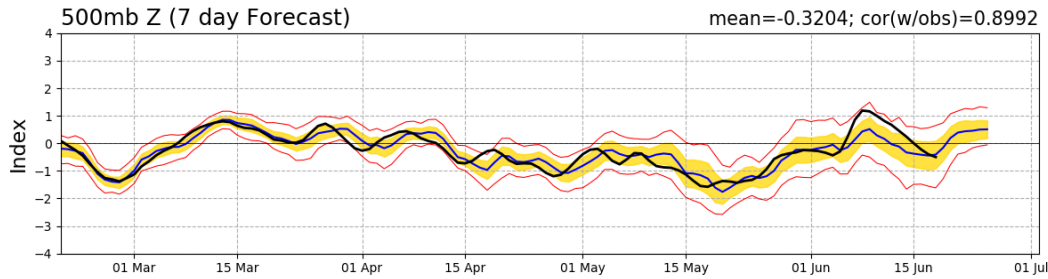
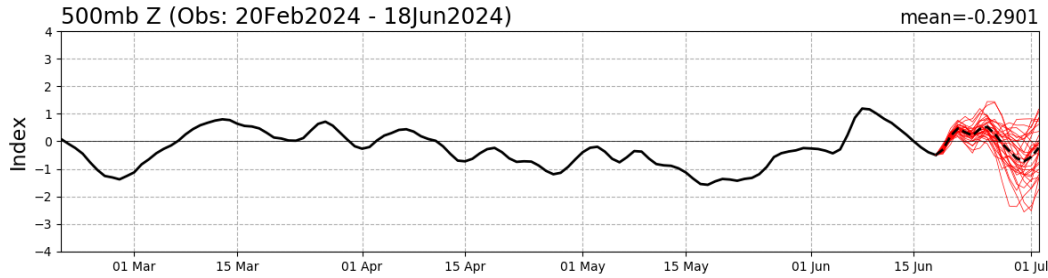
Init: 00z Jun 18 2024 Forecast Hour: [228] valid at 12z Thu, Jun 27 2024

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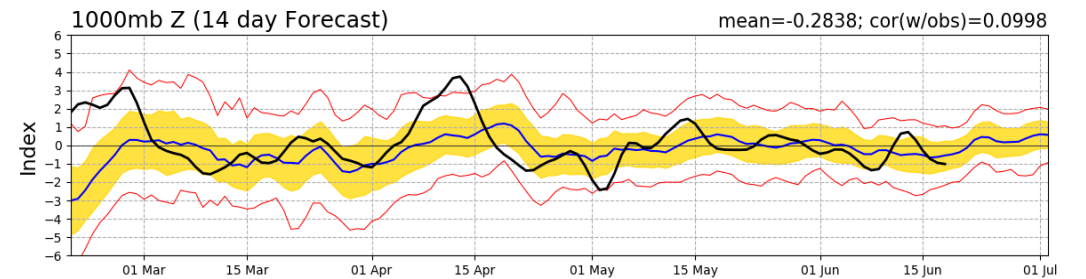
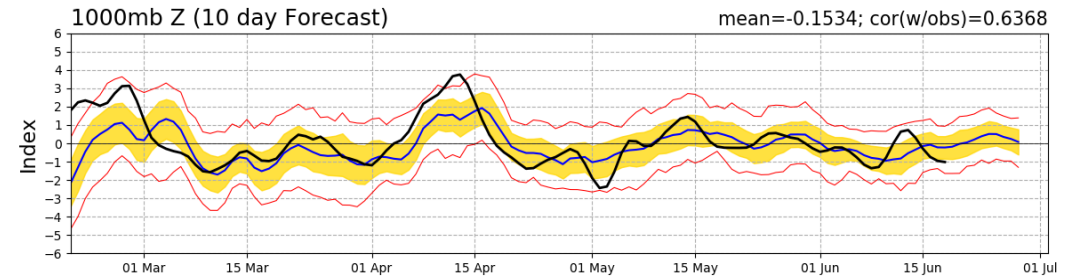
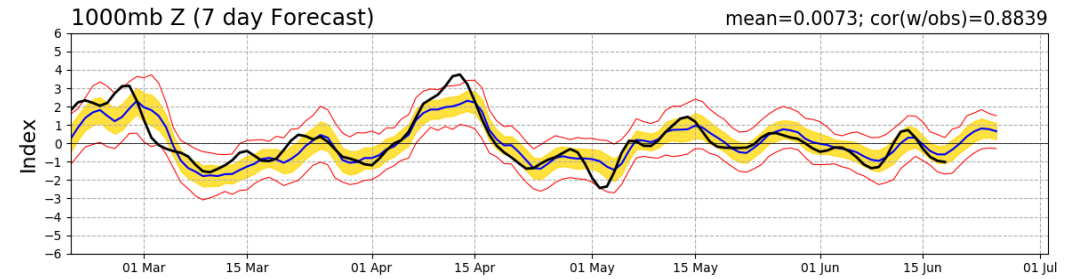
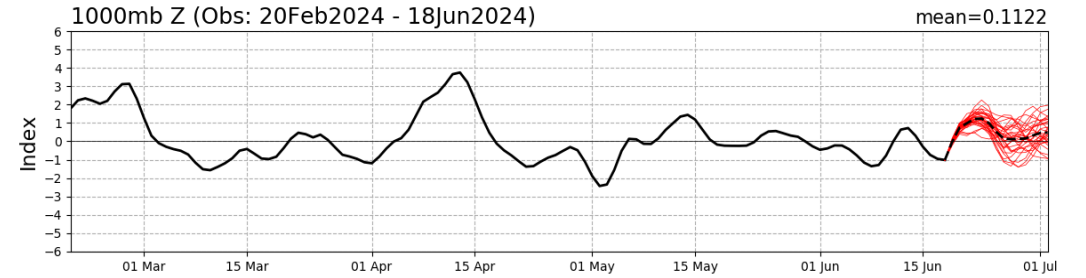


# Teleconnection Indices: PNA / AO:

## PNA Index: Observed & GEFS Forecasts



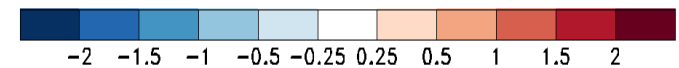
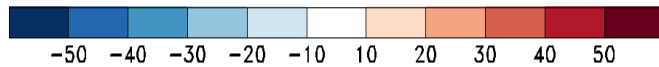
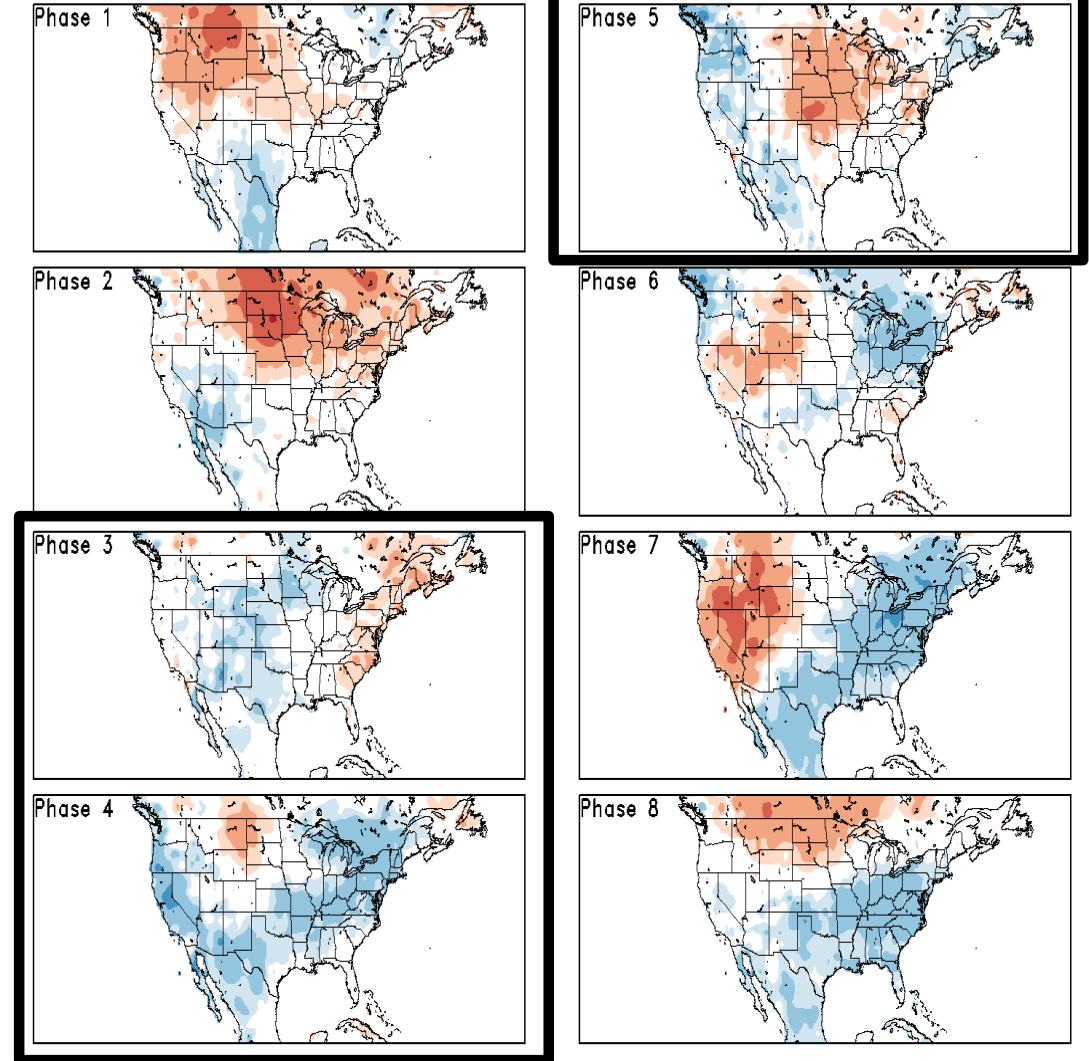
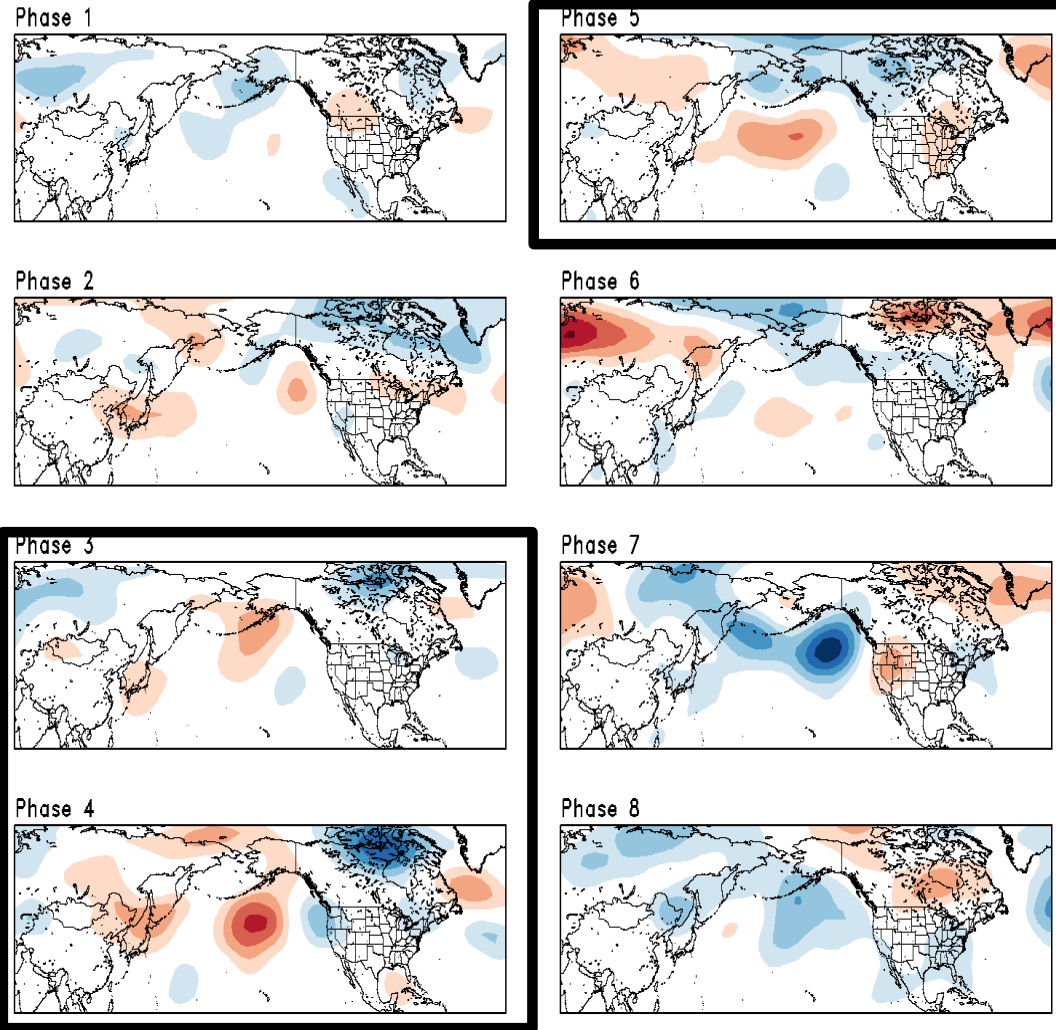
## AO Index: Observed & GEFS Forecasts



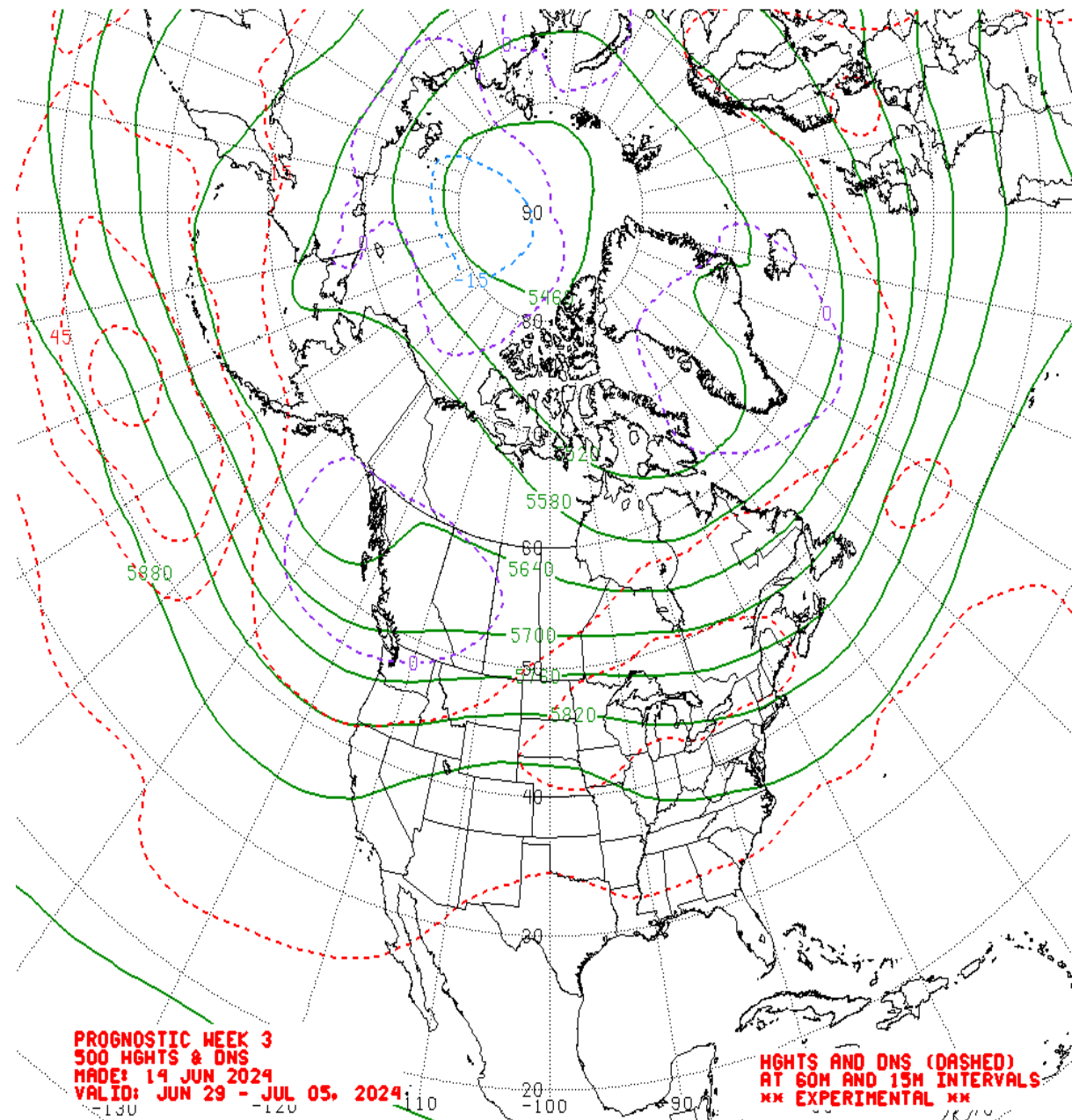
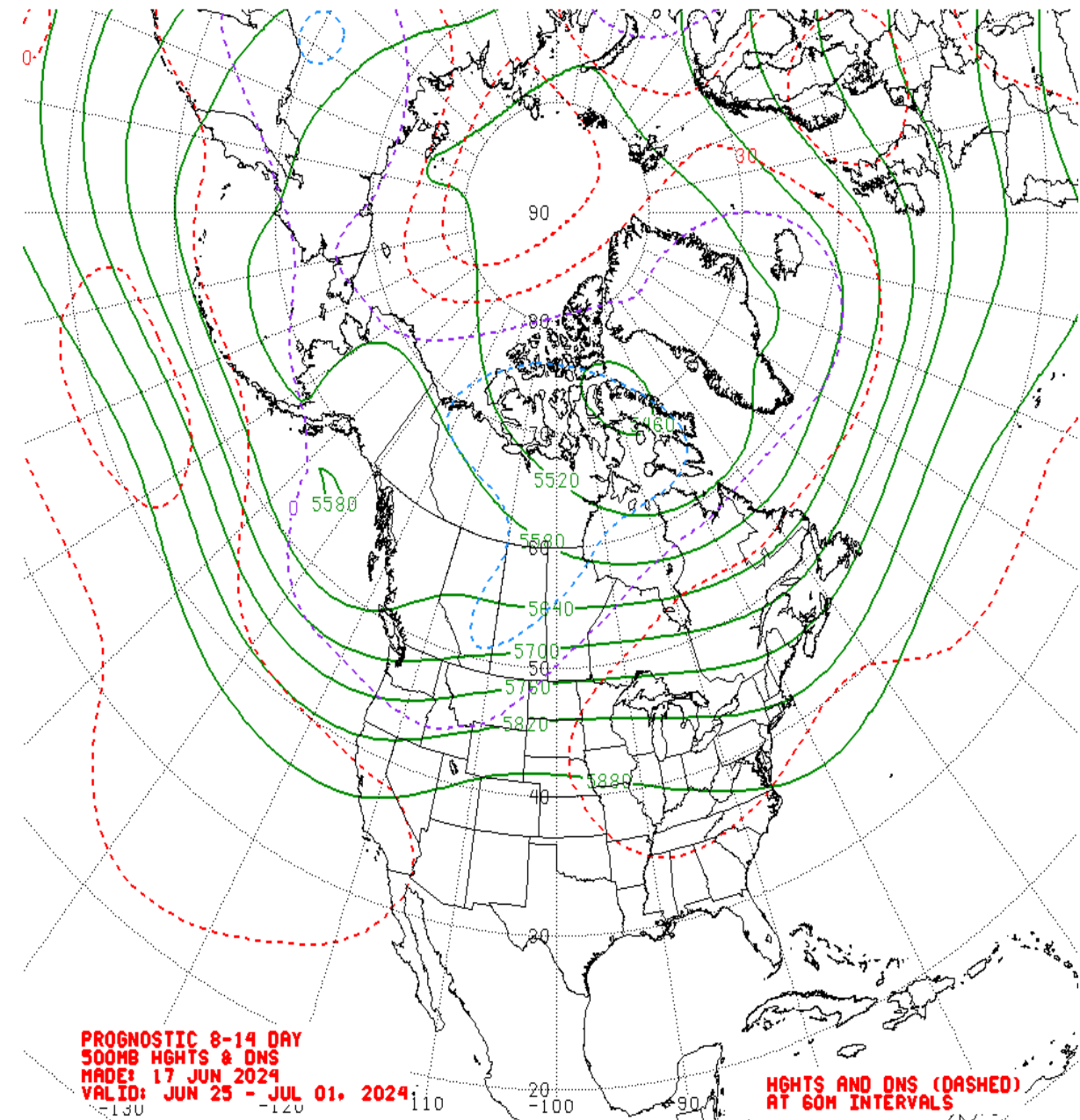
# Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

MJJ MJO Composite: CDAS 500-hPa Height (m)

MJJ MJO Composite: GLBT (degC)

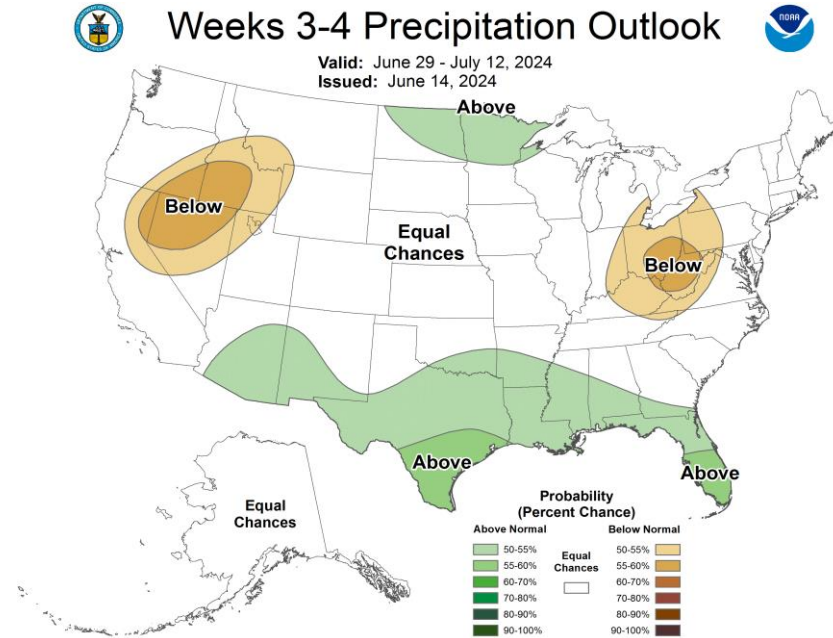
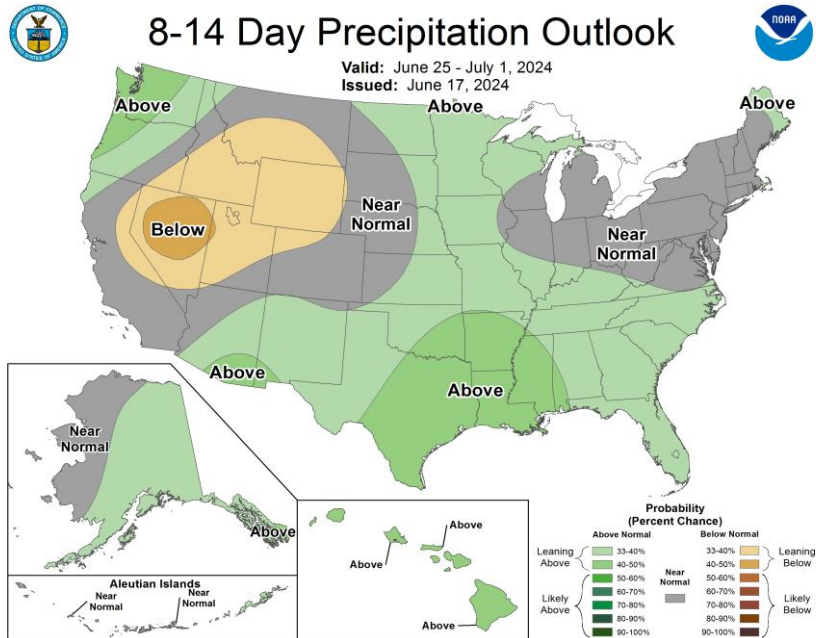
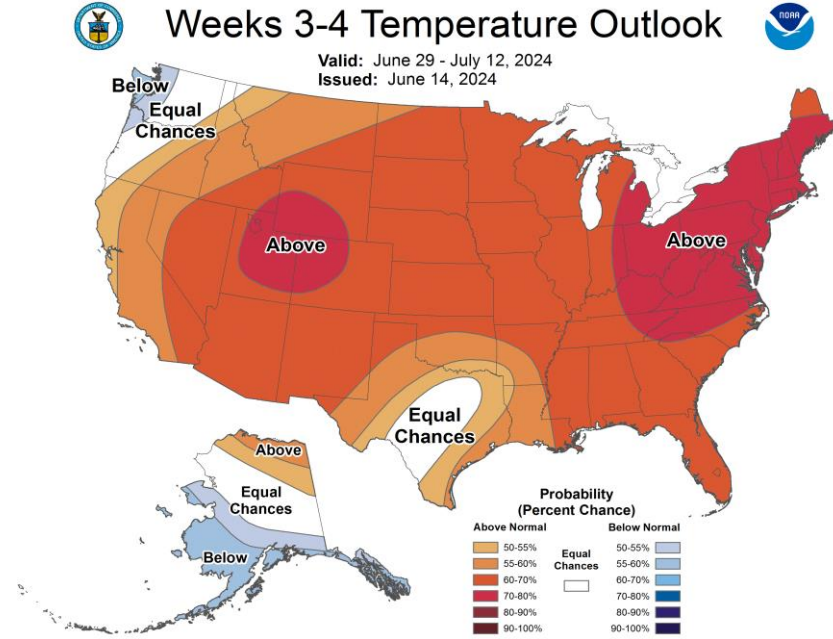
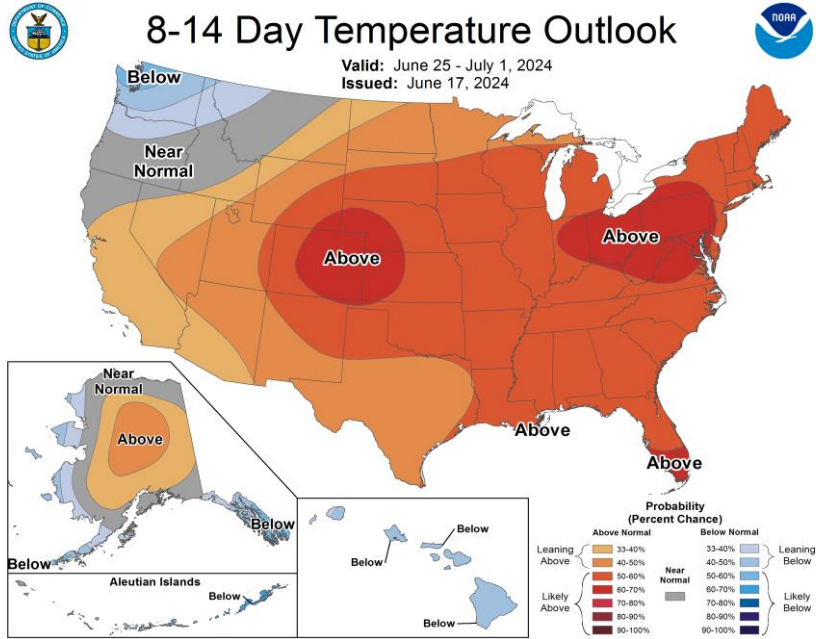


# Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3





# Official Temperature & Precipitation Forecasts:



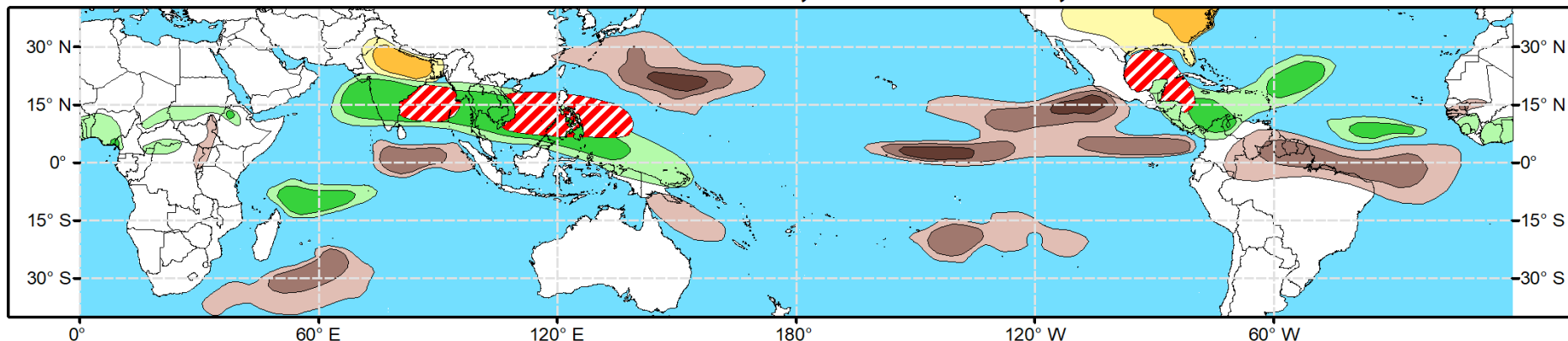


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Climate Prediction Center

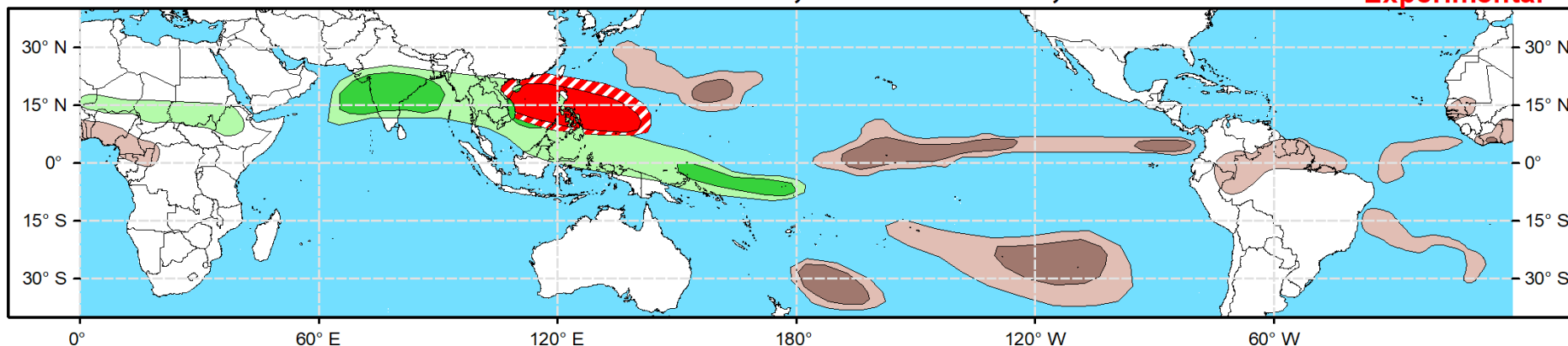


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