Weeks 2-3 Global Tropics Hazards Outlook

7/9/2024

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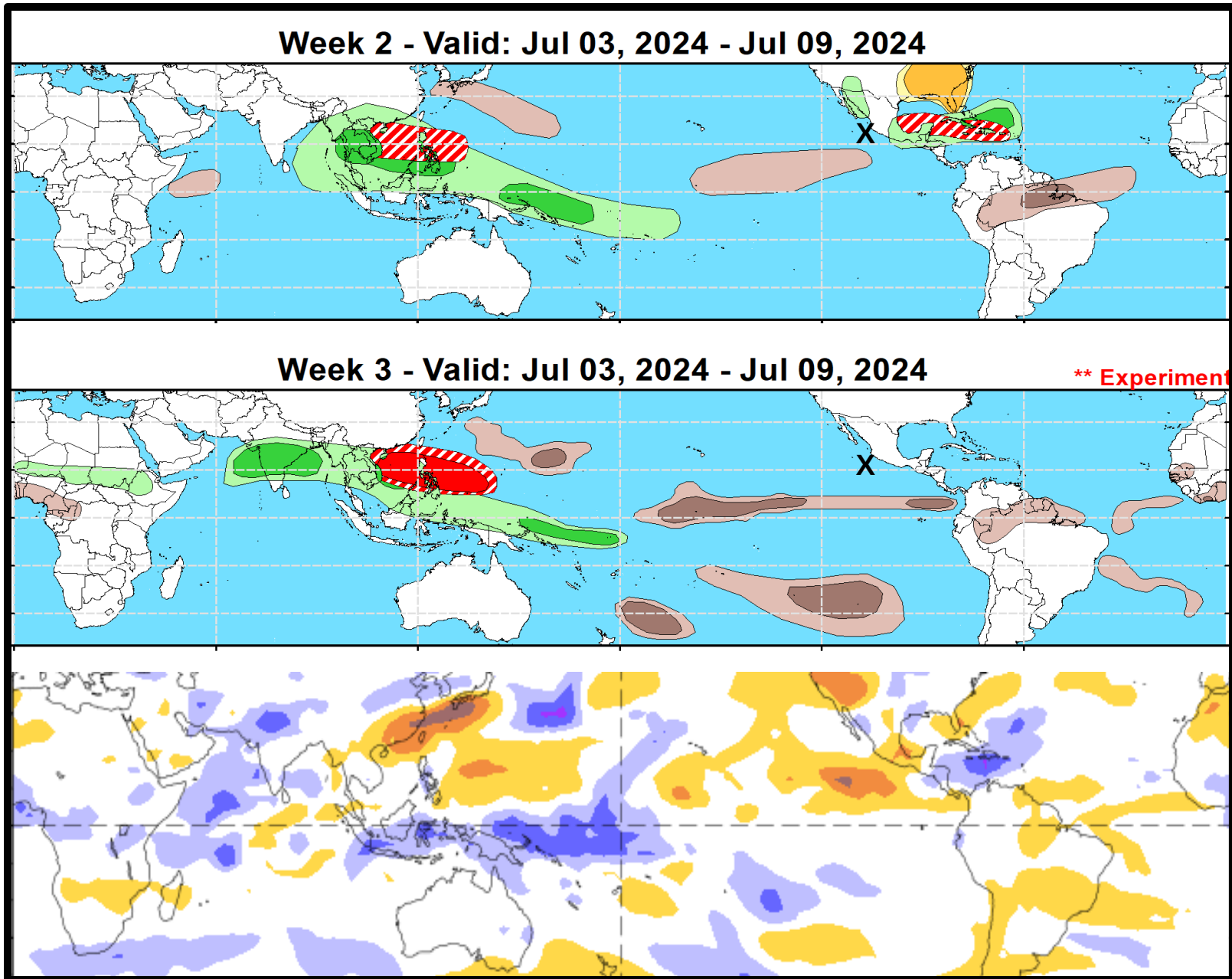
NWS / NCEP / Climate Prediction Center

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

- Tropical Storm Aletta formed south of Mexico and dissipated after two days
- Hurricane Beryl formed prior to the Week-2 period
- The West Pacific remains unusually quiet



Synopsis of Climate Modes:

ENSO: (Jun 13, 2024 Update) ***next update on Thursday, July 11th***

- 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 (85% chance during November-January).

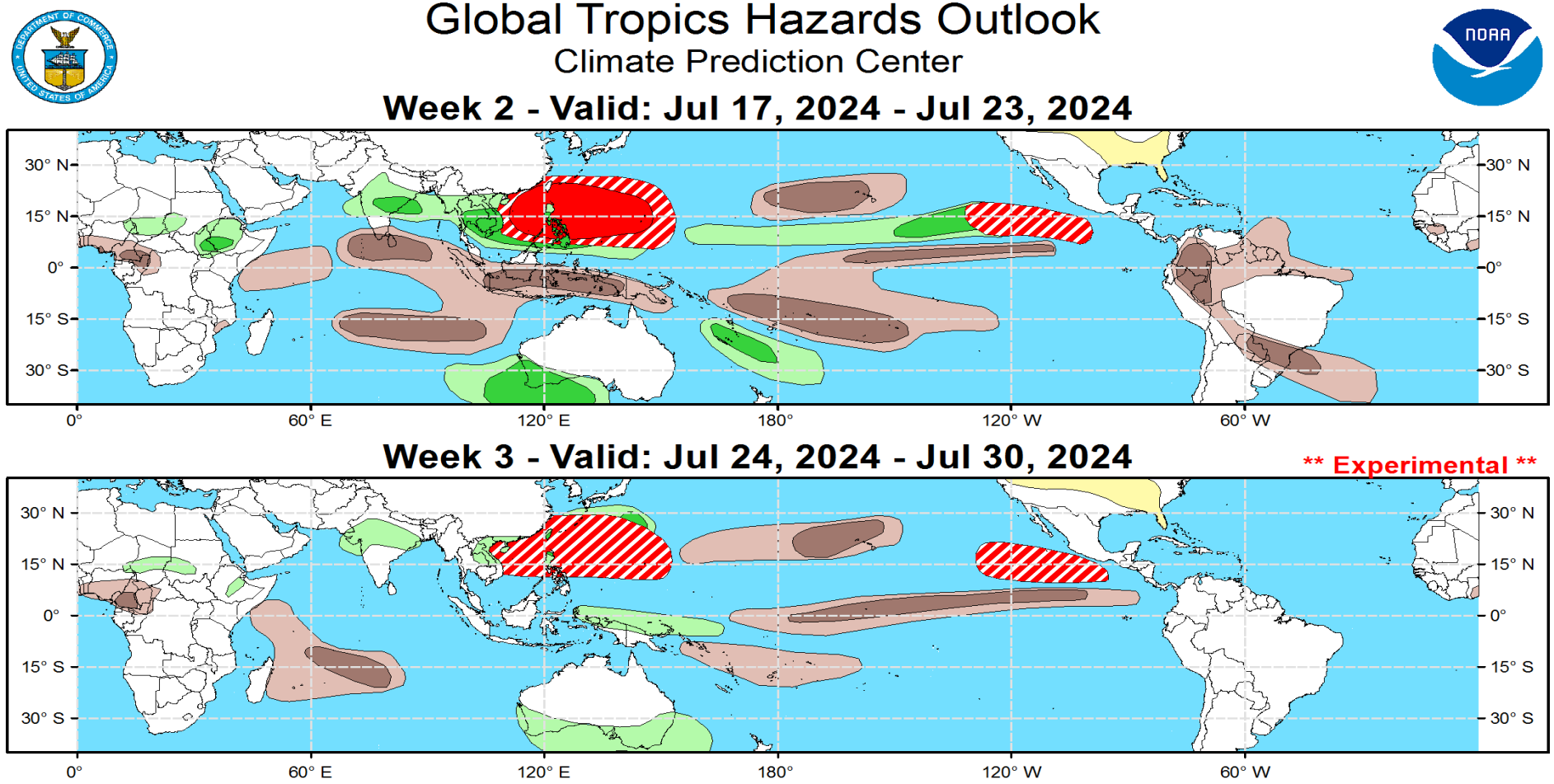
MJO and other subseasonal tropical variability:

- A robust intraseasonal signal is present in the upper-level velocity potential anomaly field, with a suppressed envelope over the Western Hemisphere, and an enhanced envelope over the Maritime Continent. Robust eastward propagation has not been established, and this feature appears to be constructively interfering with the evolving low frequency base state.

- Dynamical model MJO index forecasts do depict some eastward propagation of the signal across the Maritime Continent and possibly the far West Pacific during Week-2. Model solutions become highly divergent during Week-3.

- Any MJO activity transitioning towards the Pacific could promote an uptick in West Pacific tropical cyclone activity, with increased favorability shifting towards the East Pacific. Atlantic activity is typically suppressed in these MJO phases, though extremely warm SSTs can still promote TC genesis if shear temporarily subsides.

GTH Outlook:


Global Tropics Hazards Outlook
Climate Prediction Center
Week 2 - Valid: Jul 17, 2024 - Jul 23, 2024
Week 3 - Valid: Jul 24, 2024 - Jul 30, 2024
** Experimental **
30° N
15° N
0°
15° S
30° S
0°
60° E
120° E
180°
120° W
60° W
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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Issued: 07/09/2024
Forecaster: Allgood
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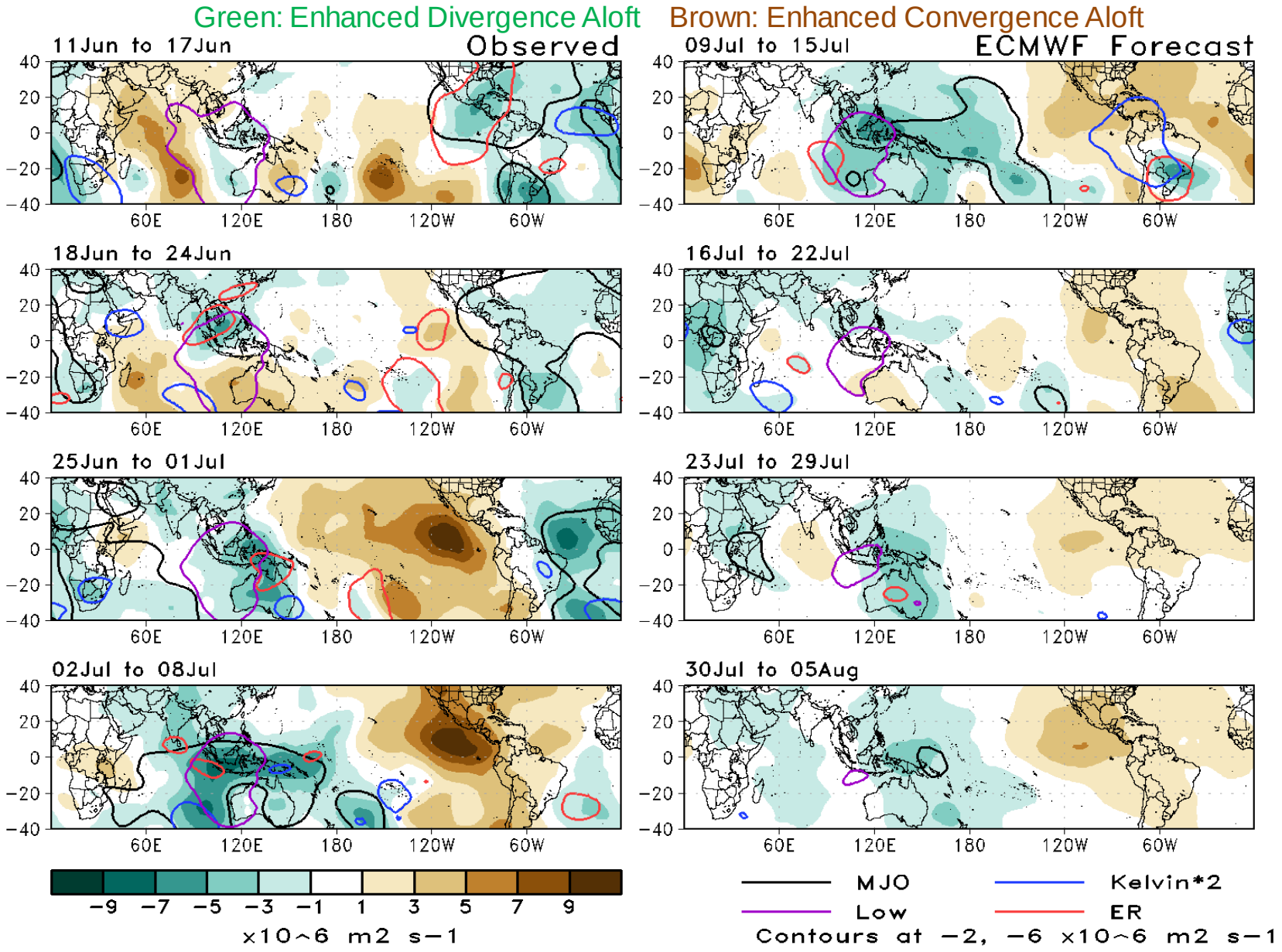
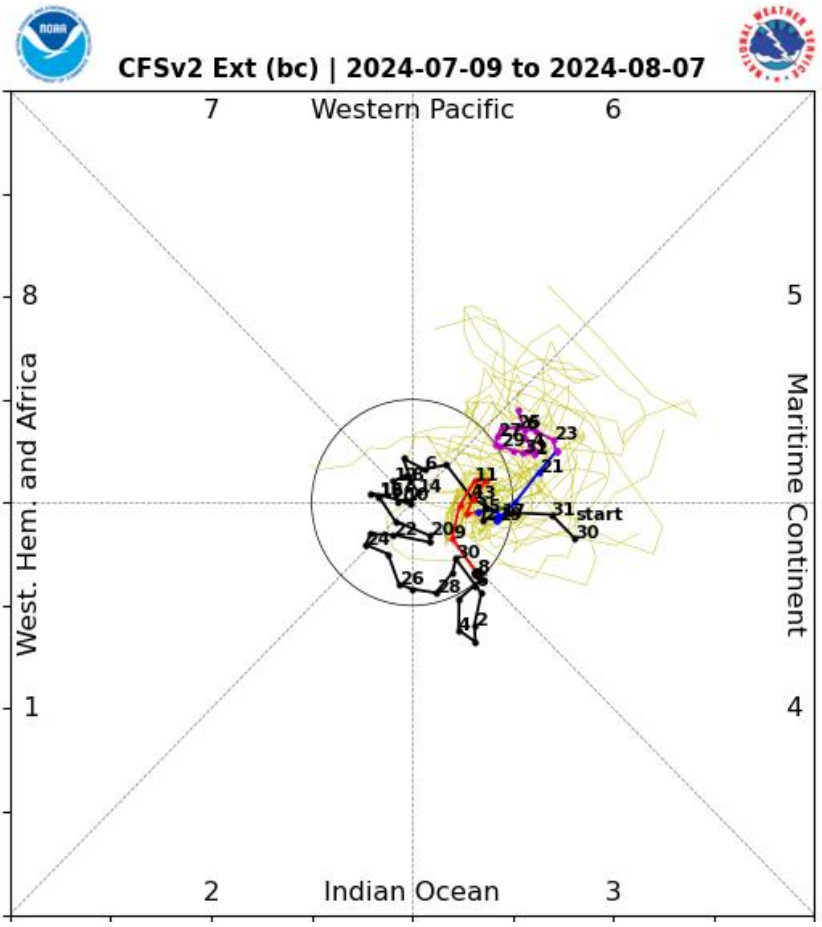
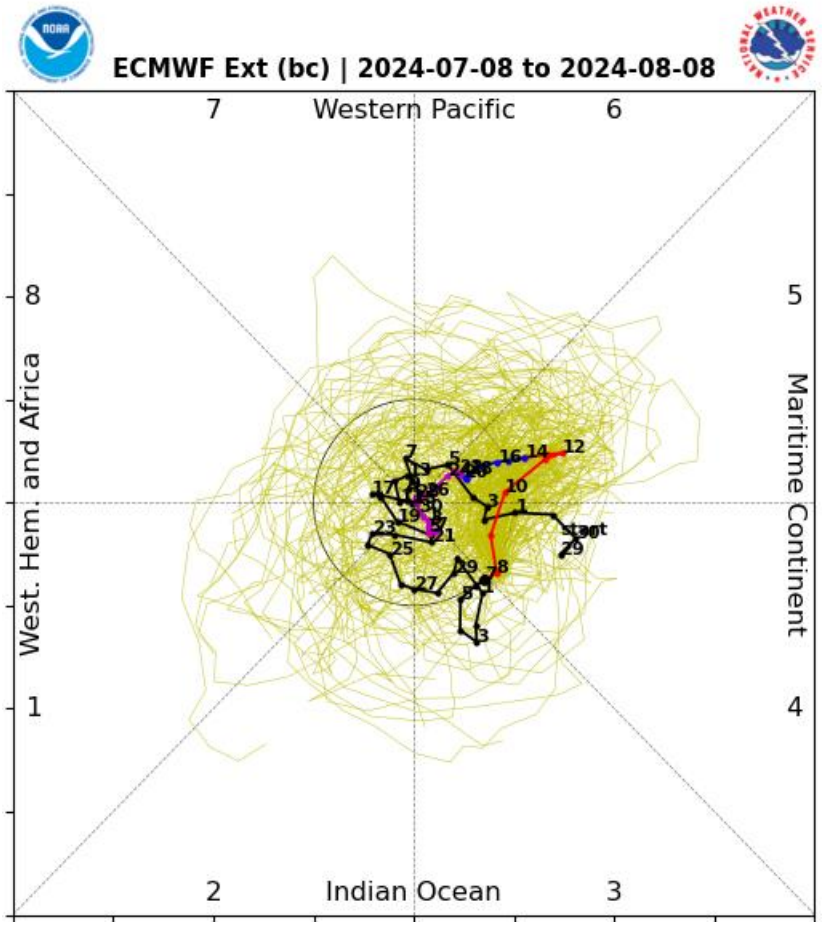
200-hPa Velocity Potential Anomaly Maps:

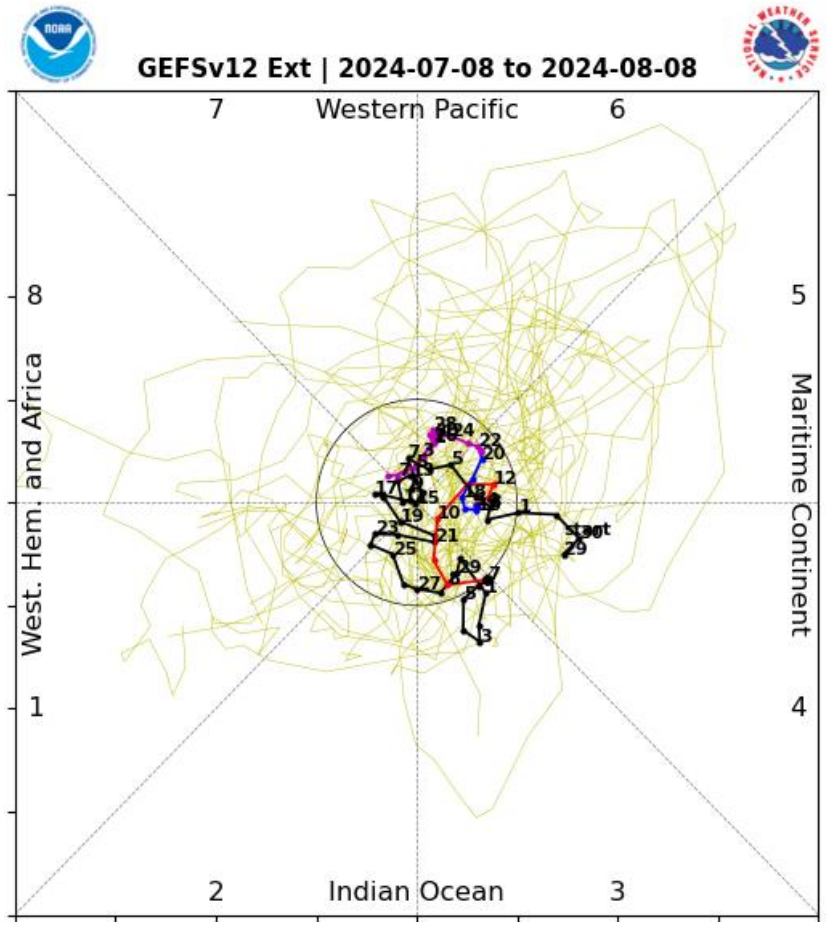
- The upper-level VP field began to exhibit a Wave-1 structure towards the end of June, which when coupled with eastward propagation is indicative of MJO activity.
- The ECMWF does not favor robust eastward propagation of the signal, as the low frequency base state presents a “Maritime Continent barrier” to continued evolution.



RMM Index Observations & Forecasts:

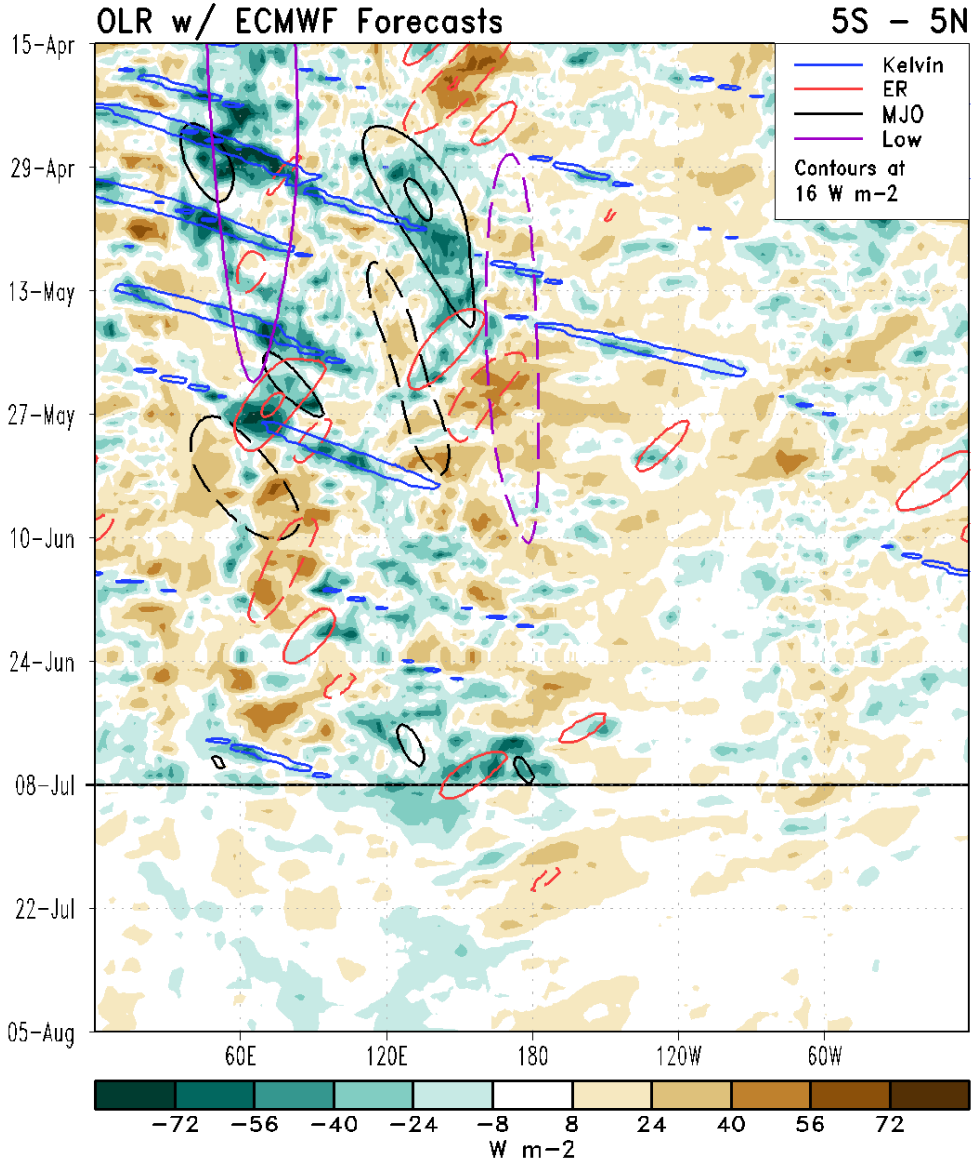


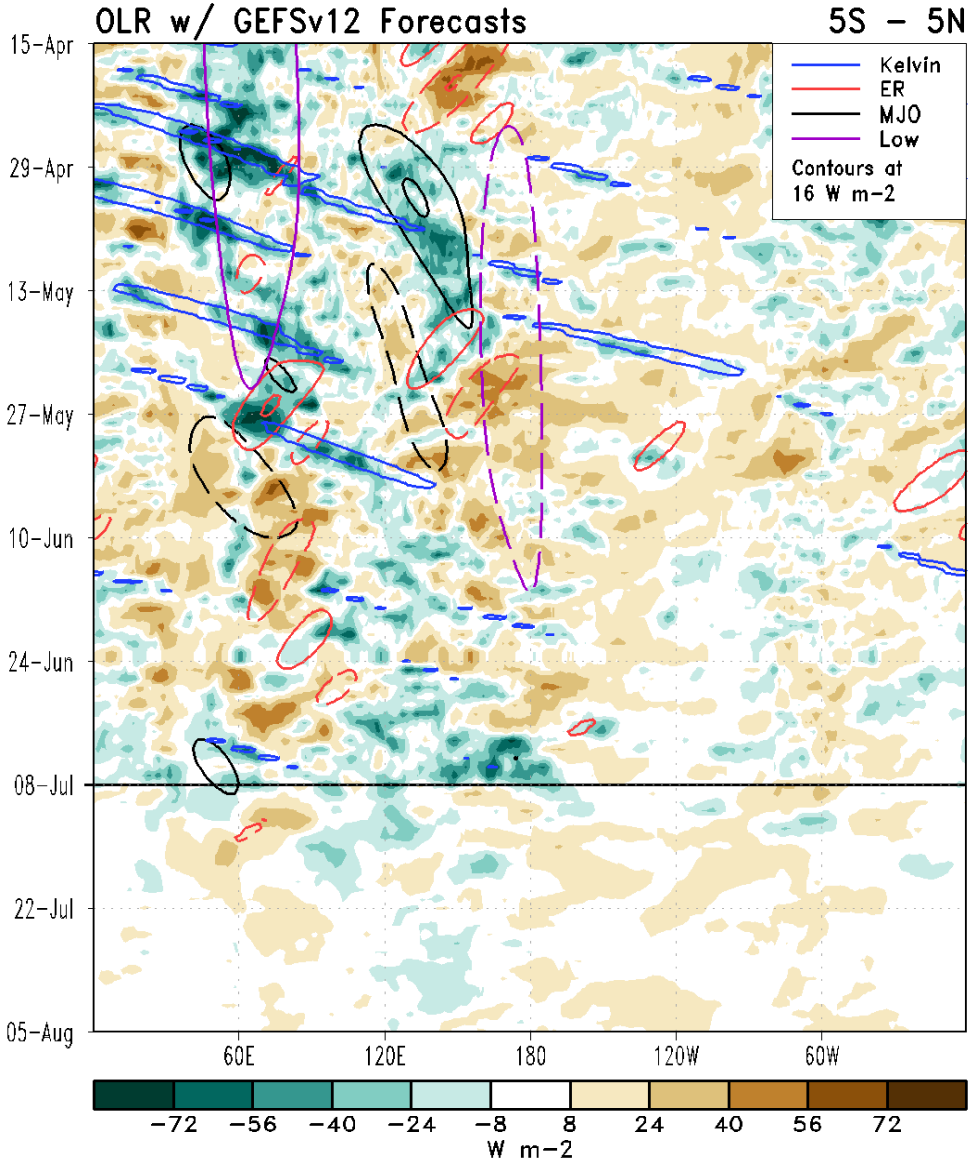




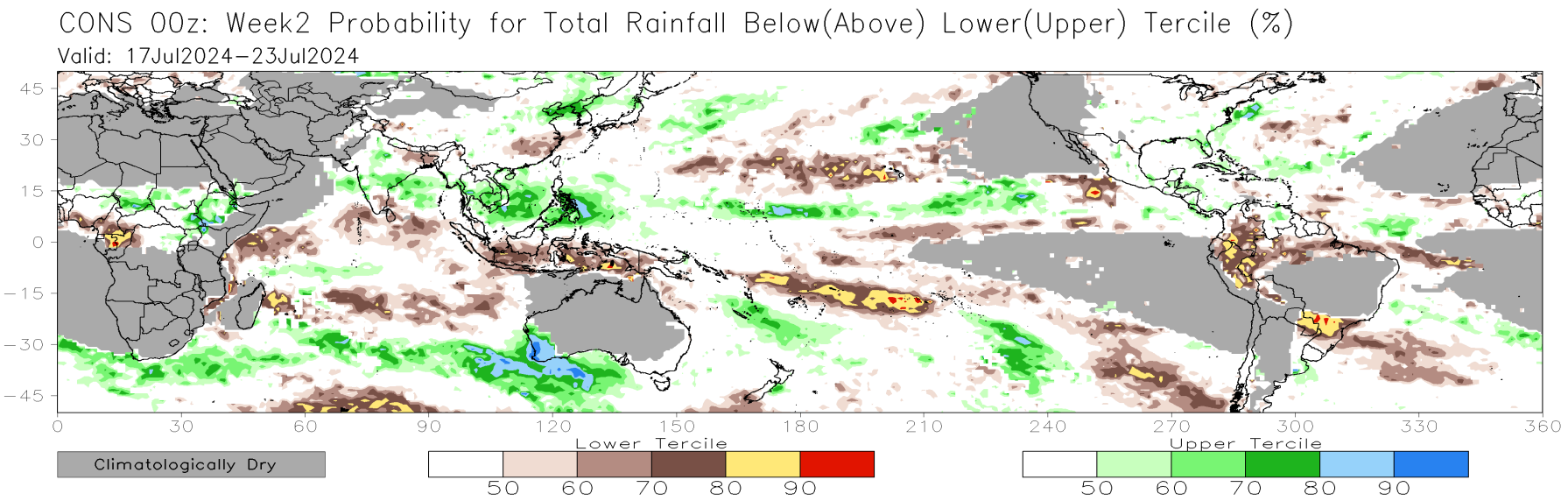
- The CFS and ECMWF favor amplification over the Maritime Continent during Week-1, with many ensemble members reaching the West Pacific during Week-2, where the signal has not crossed for several months.
- There is considerable spread among the models, particularly during Week-3, with ensemble members presenting in almost every phase (or inside the unit circle).

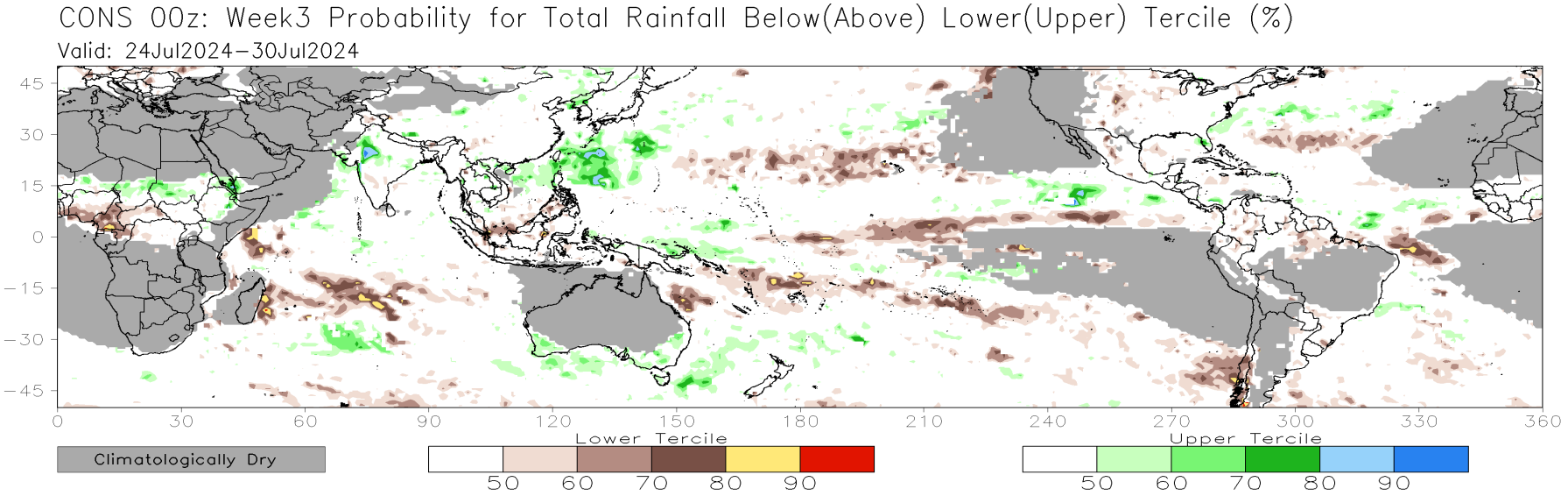
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



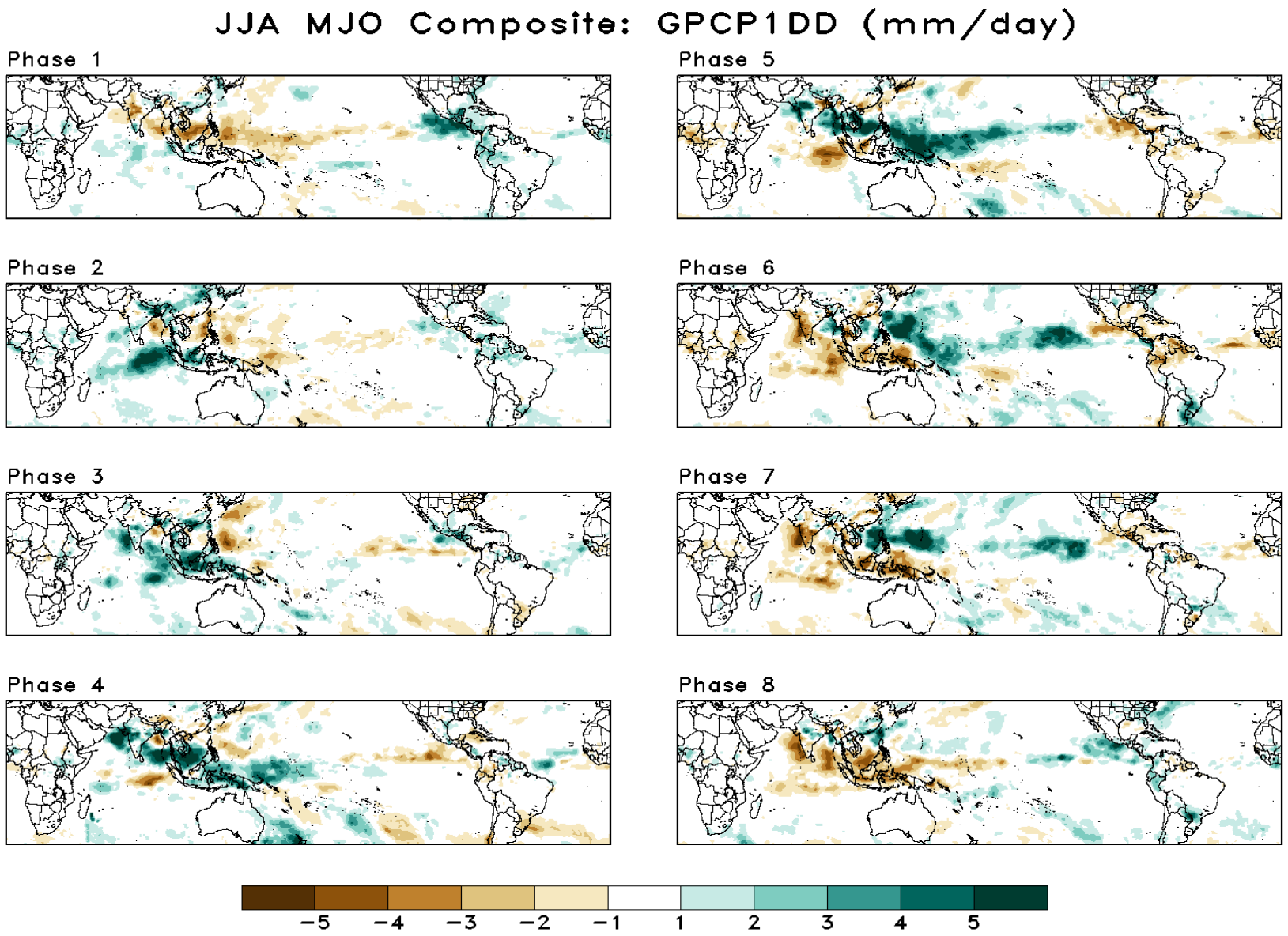


Consolidated Probabilistic Precipitation: Weeks 2 & 3

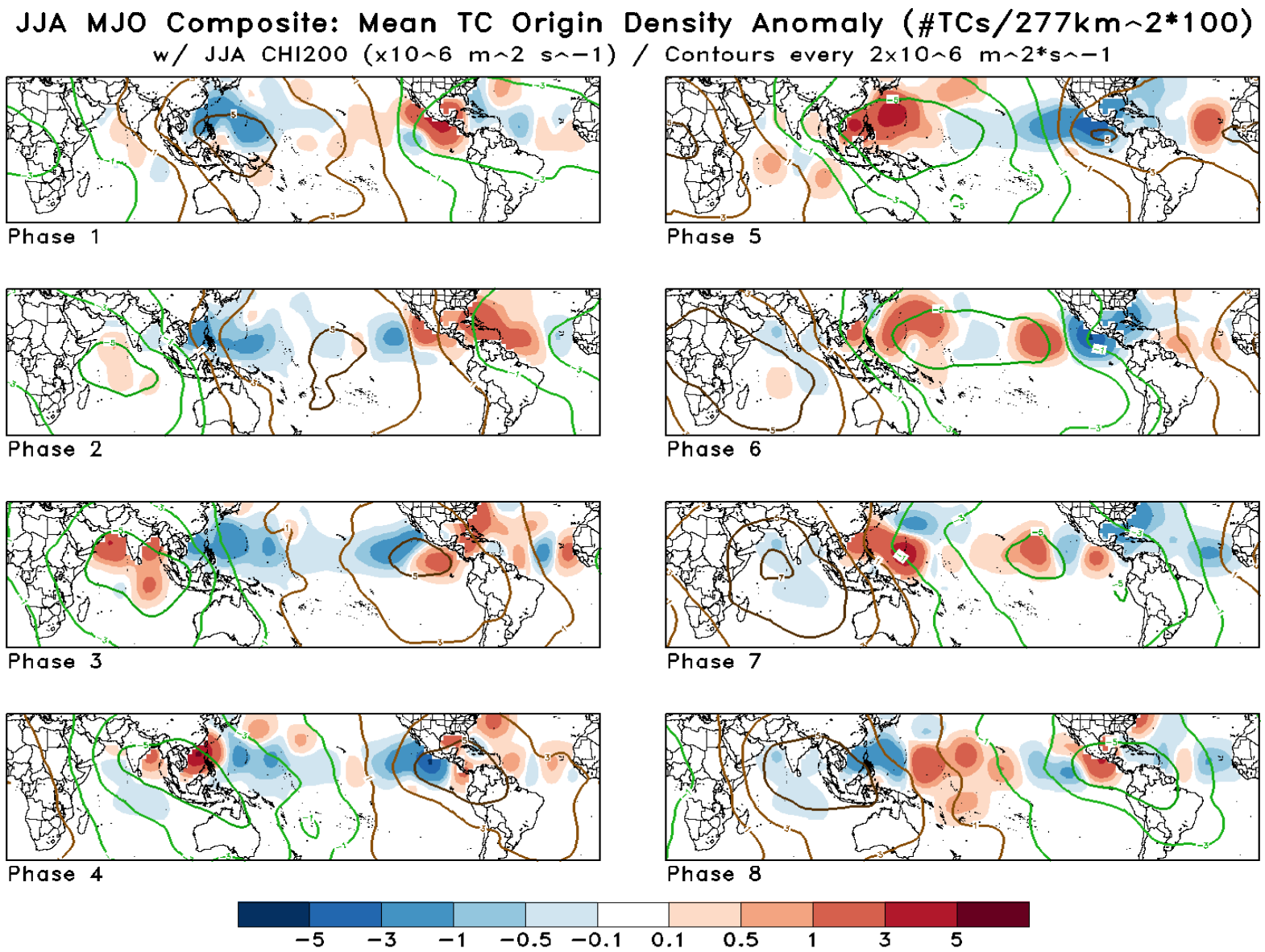


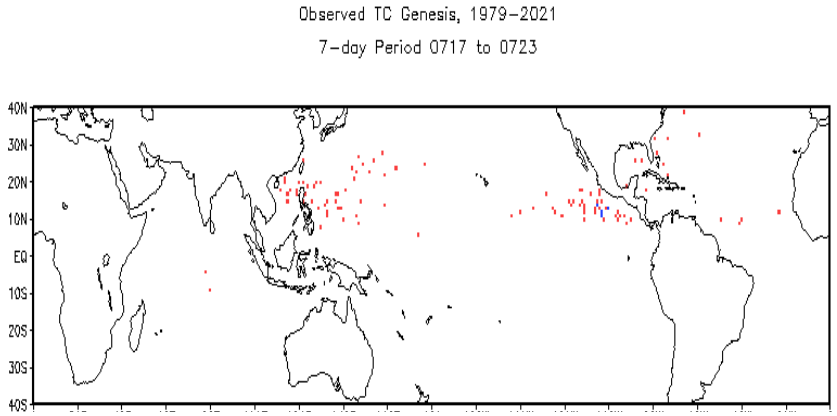


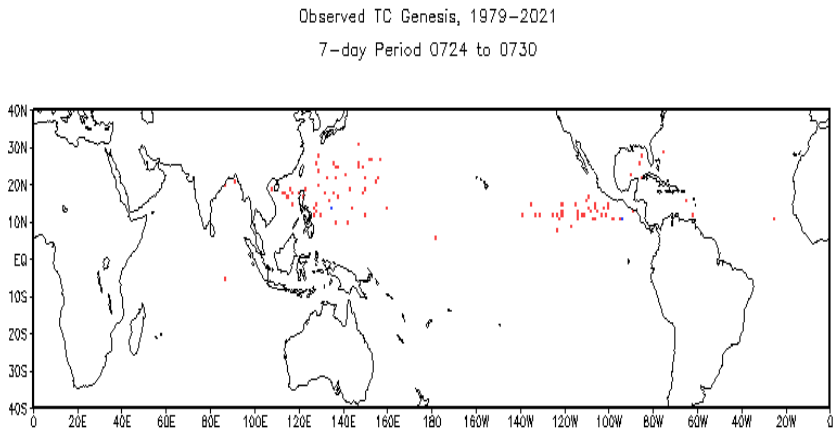
Historical Precipitation Anomalies By MJO Phase:



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

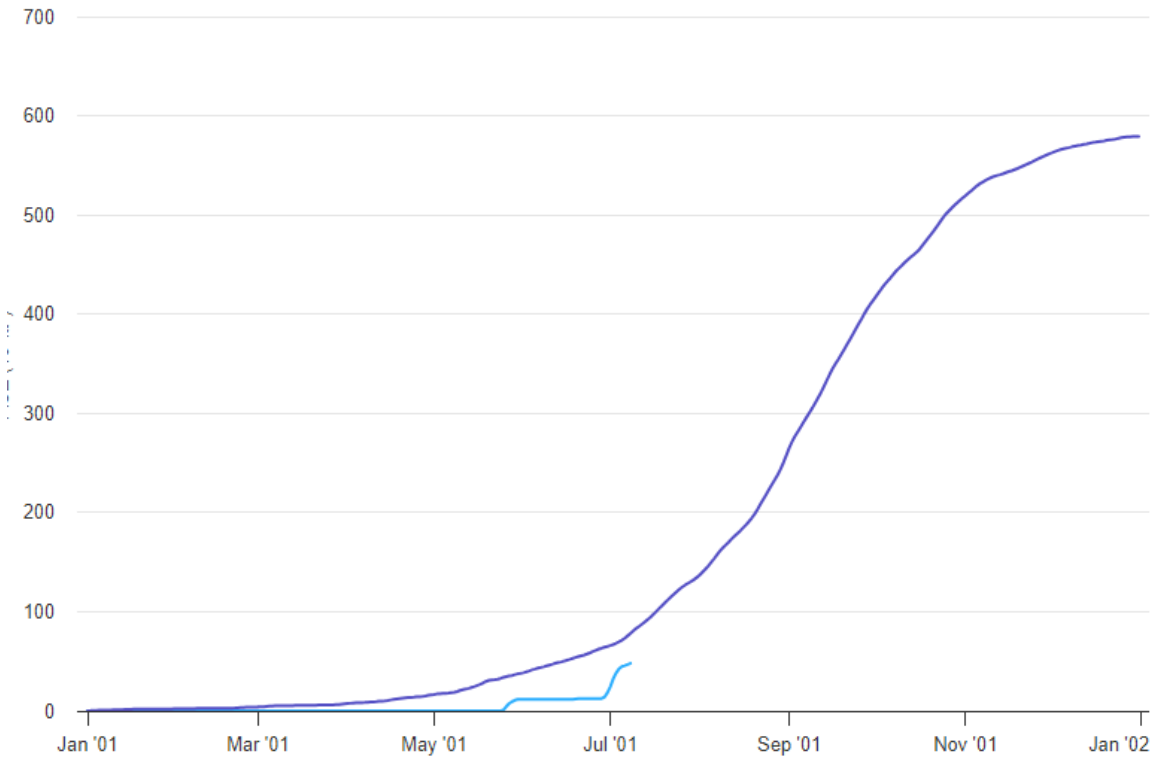




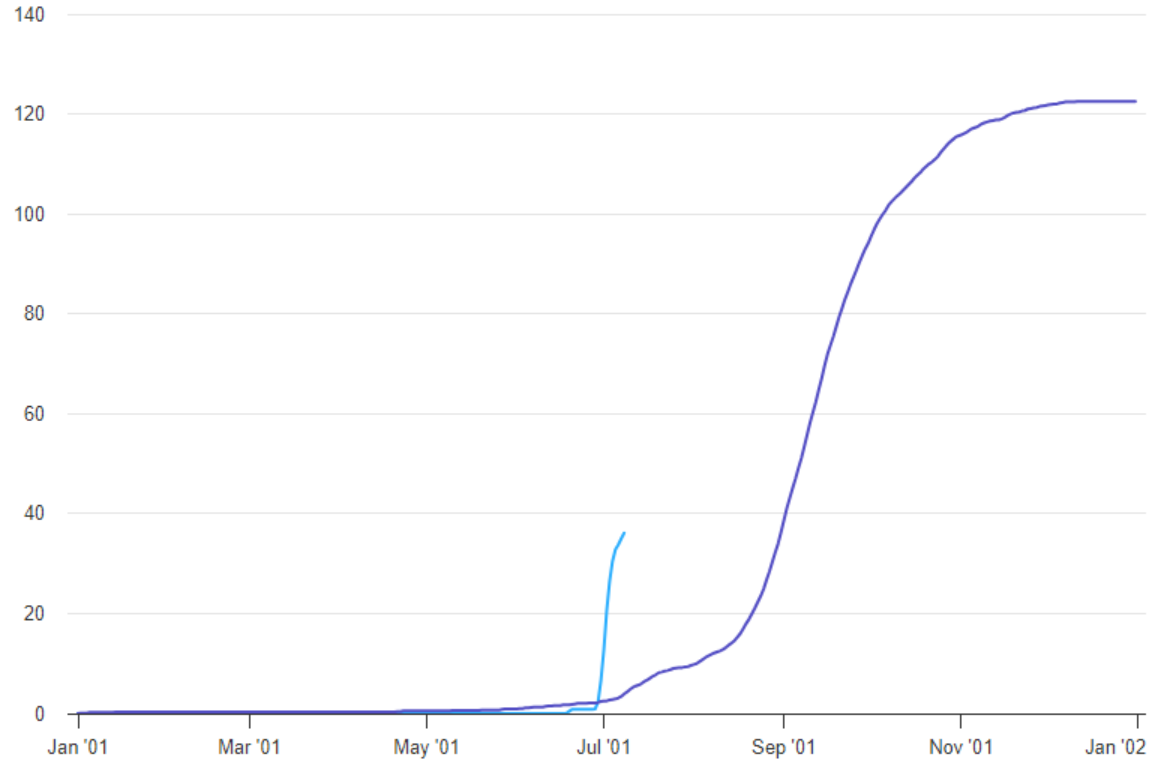


Experimental

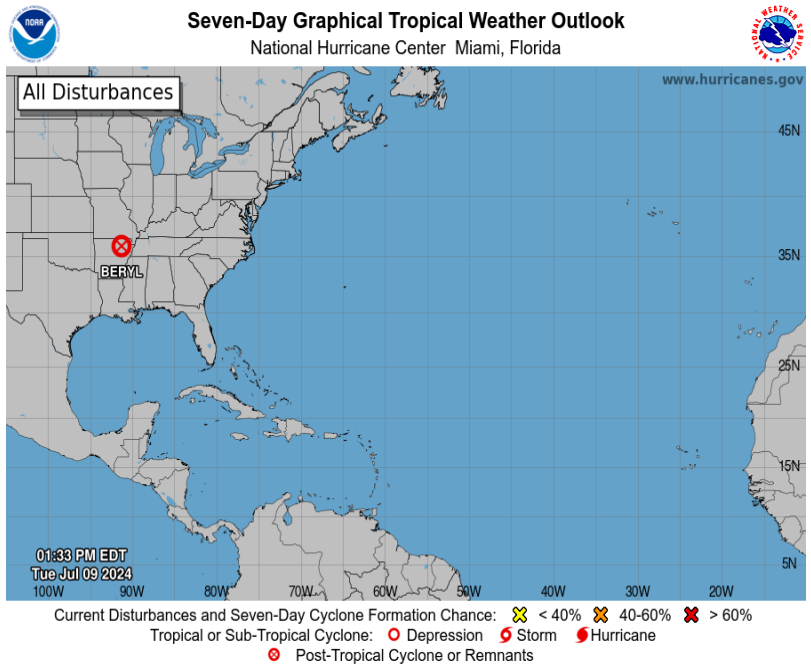
Current Season Northern Hemisphere ACE (1991-2020 Climatology)

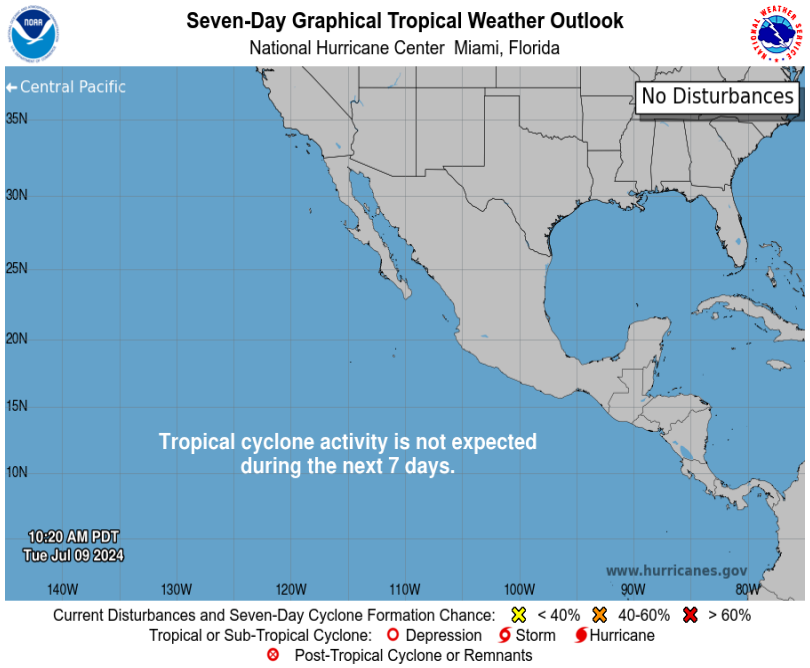


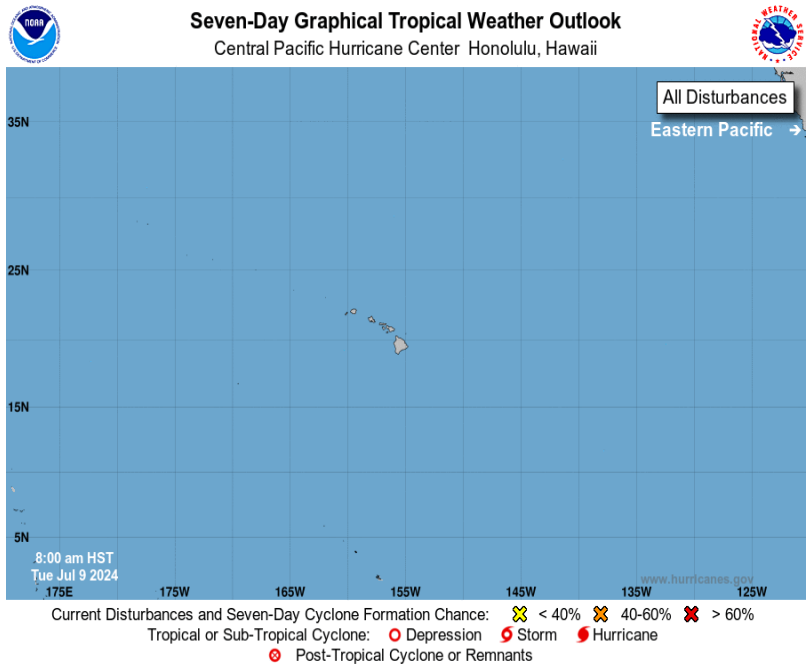
Current Season North Atlantic Ocean ACE (1991-2020 Climatology)



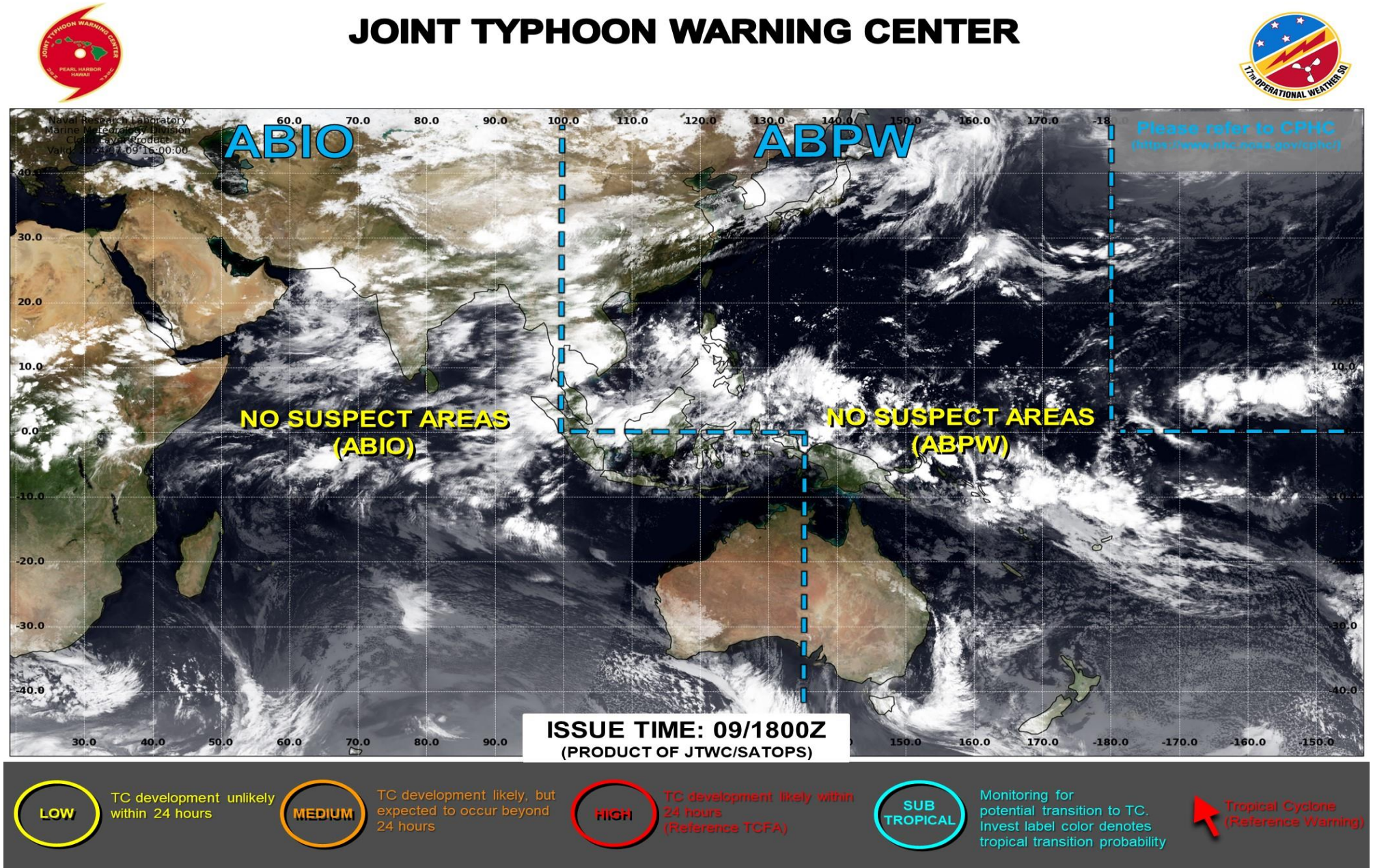
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



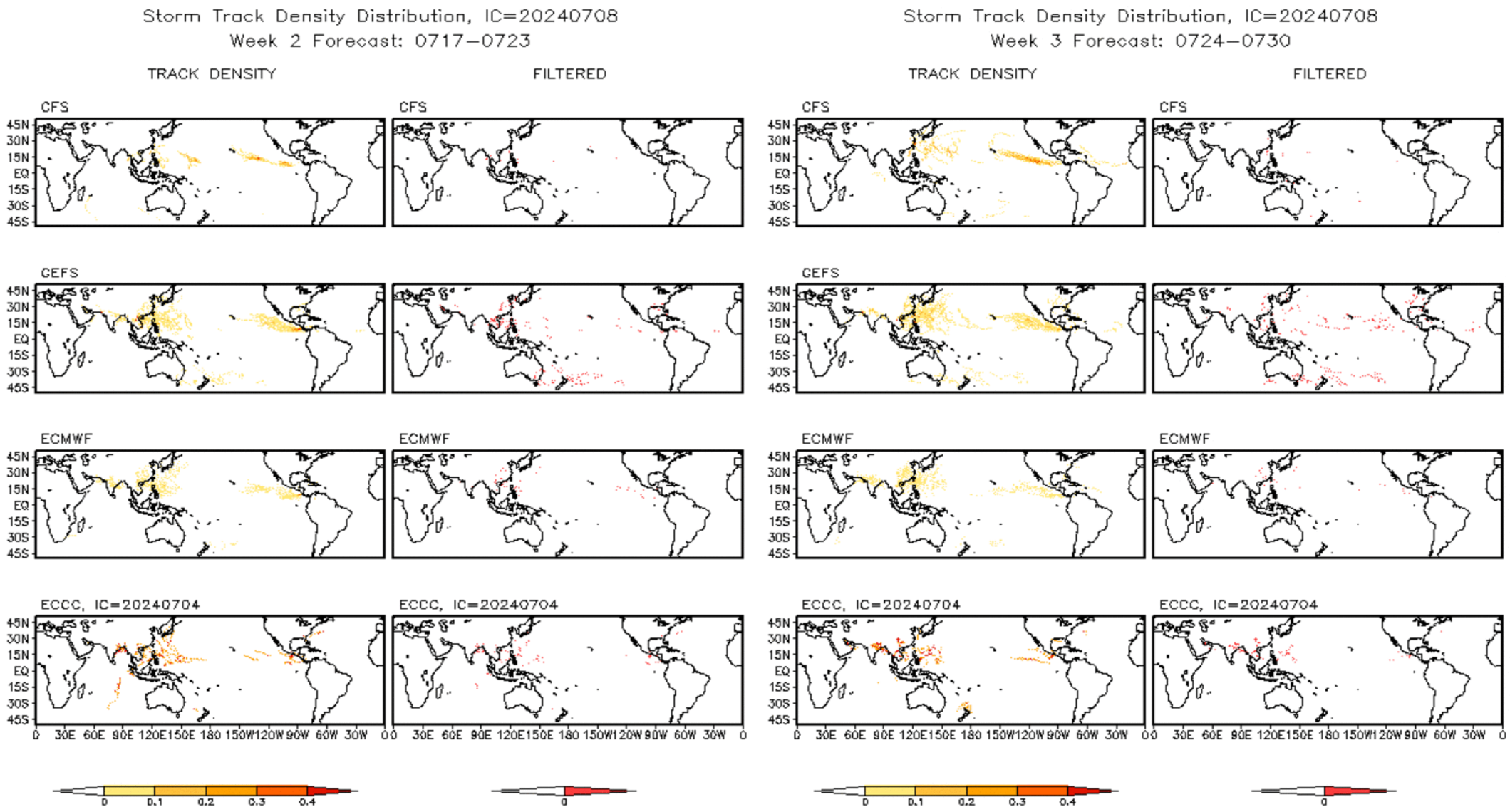




Tropical Cyclone Monitoring/Forecast: JTWC

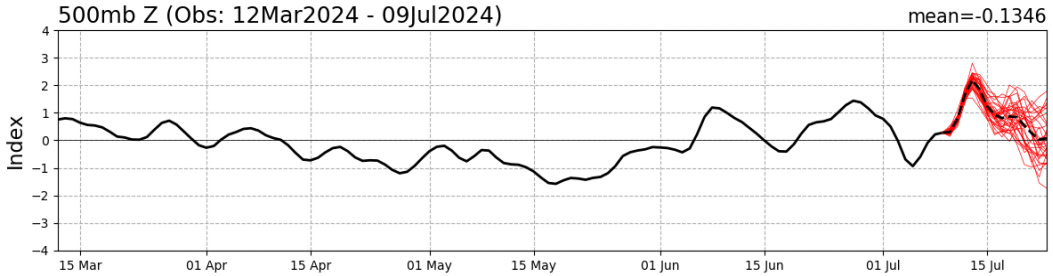


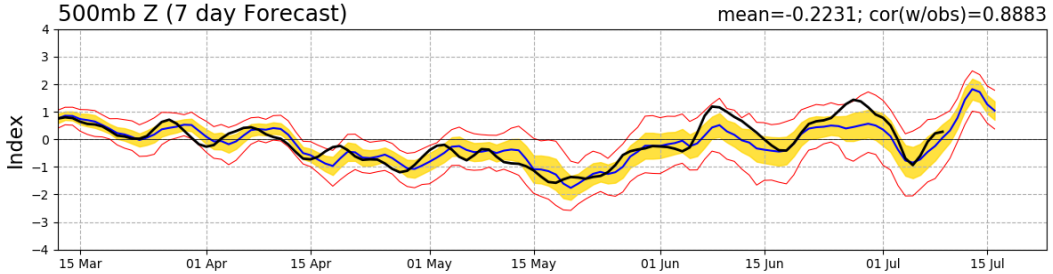
Multi-Model TC Track Densities: Weeks 2+3

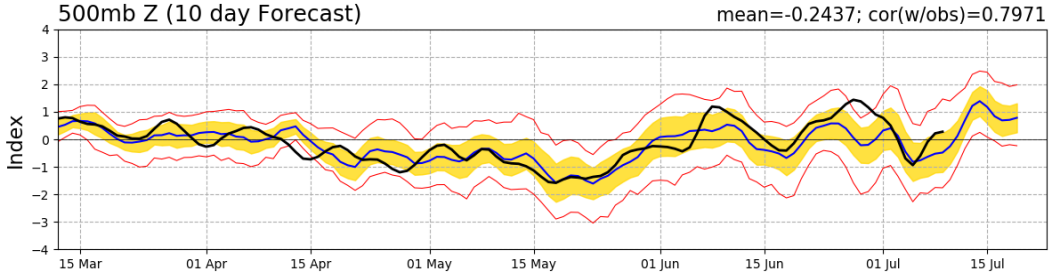


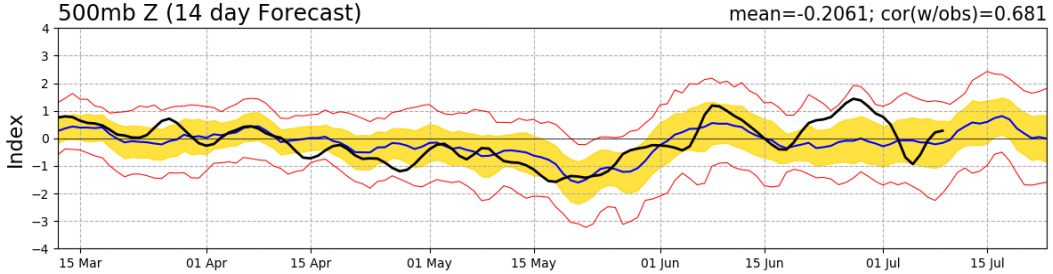
Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

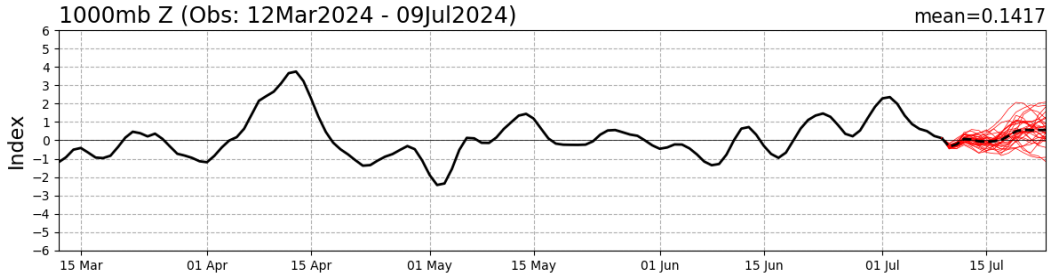


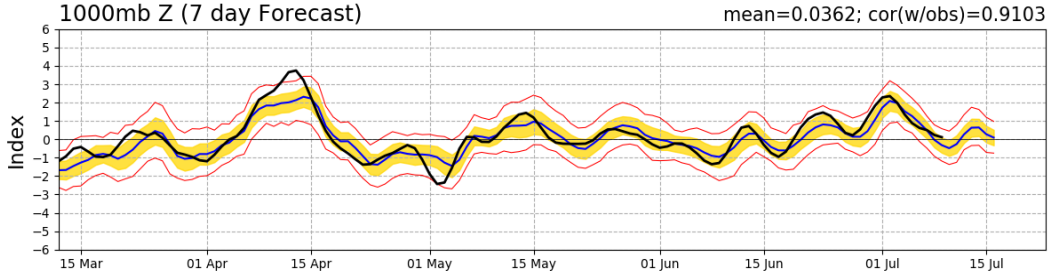


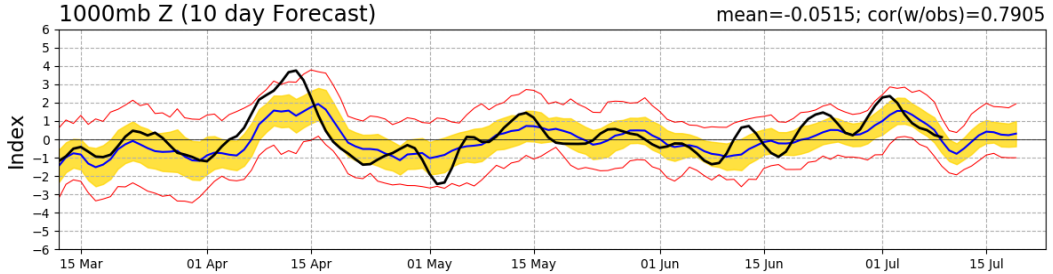


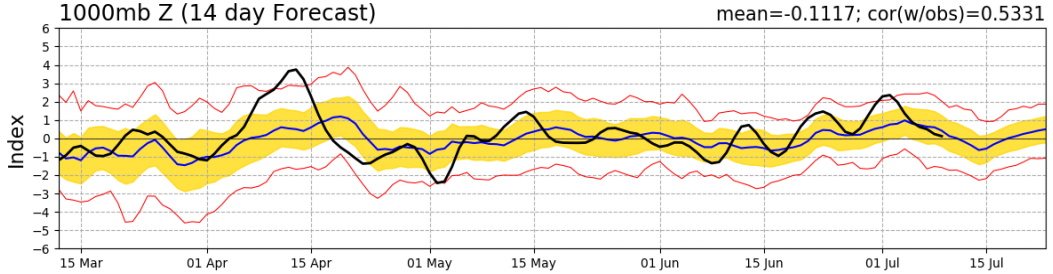


AO Index: Observed & GEFS Forecasts

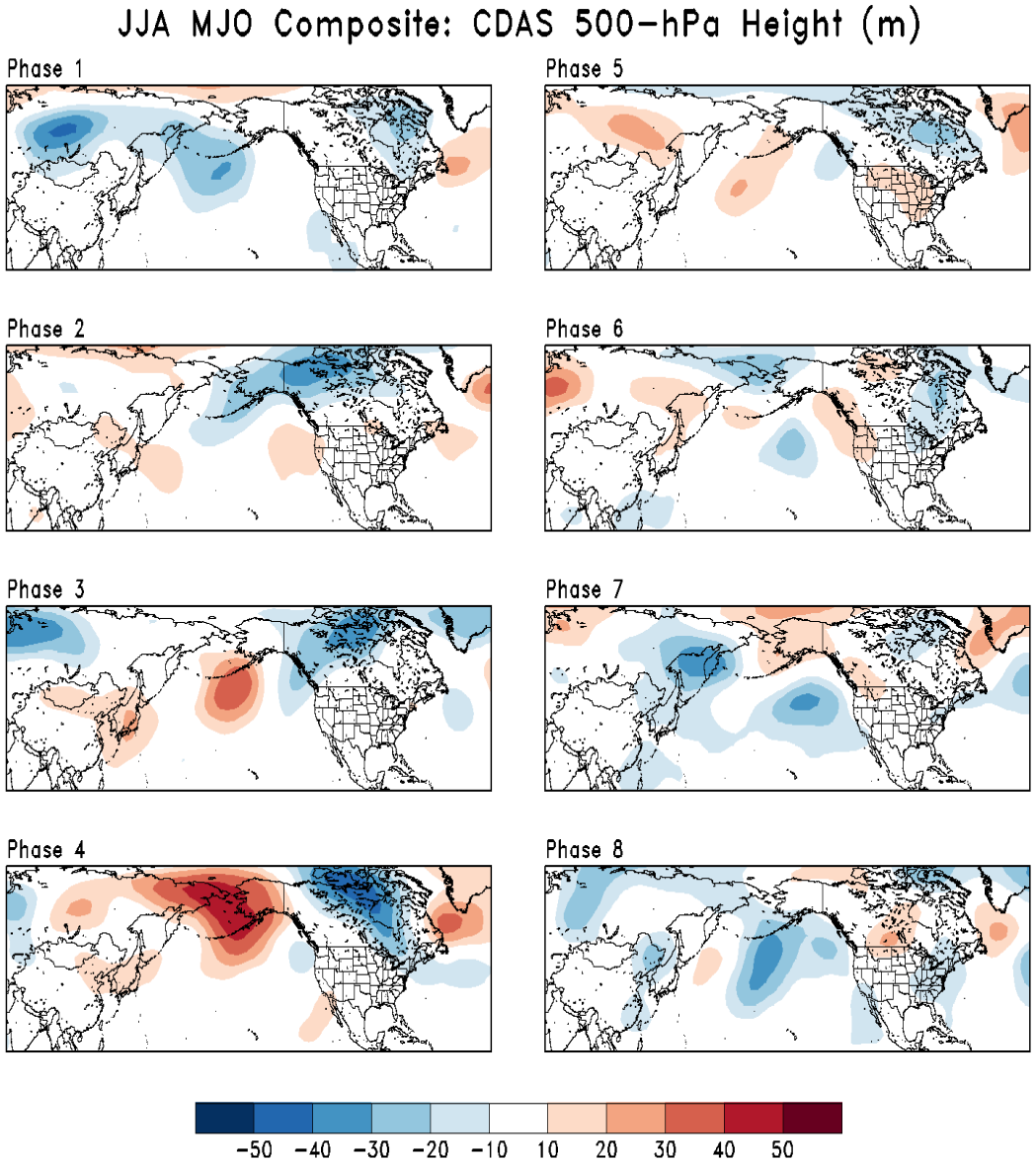


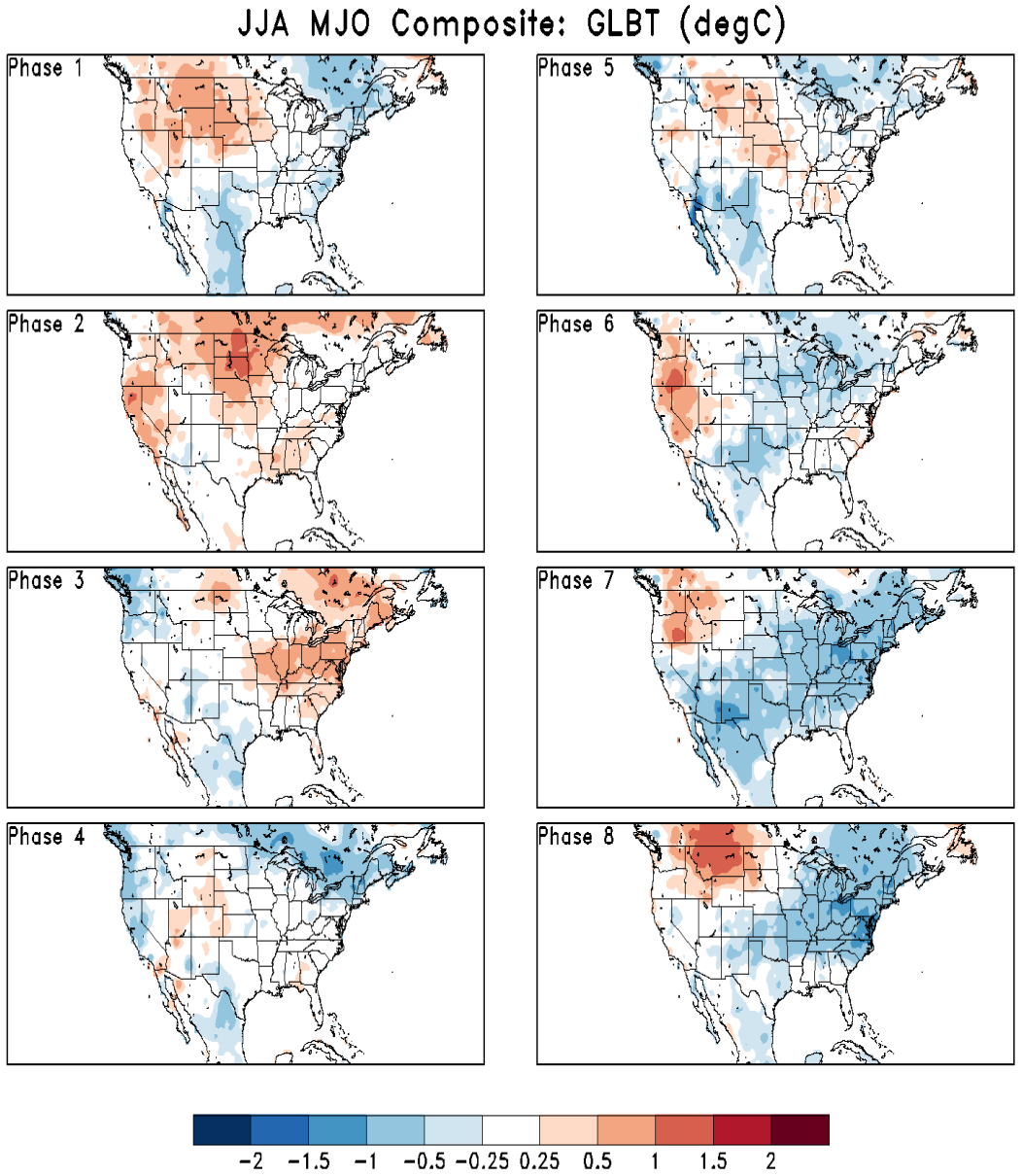




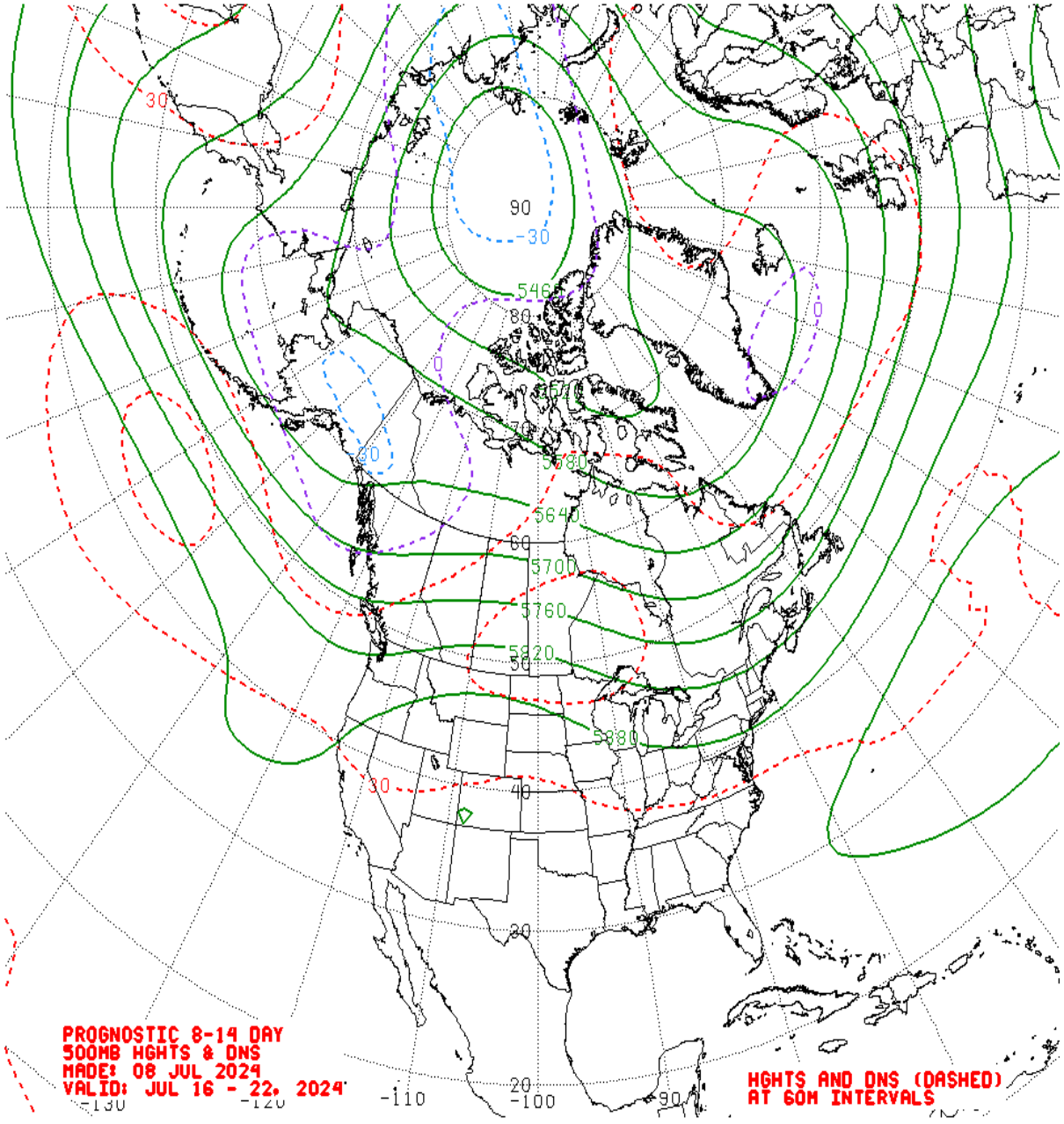


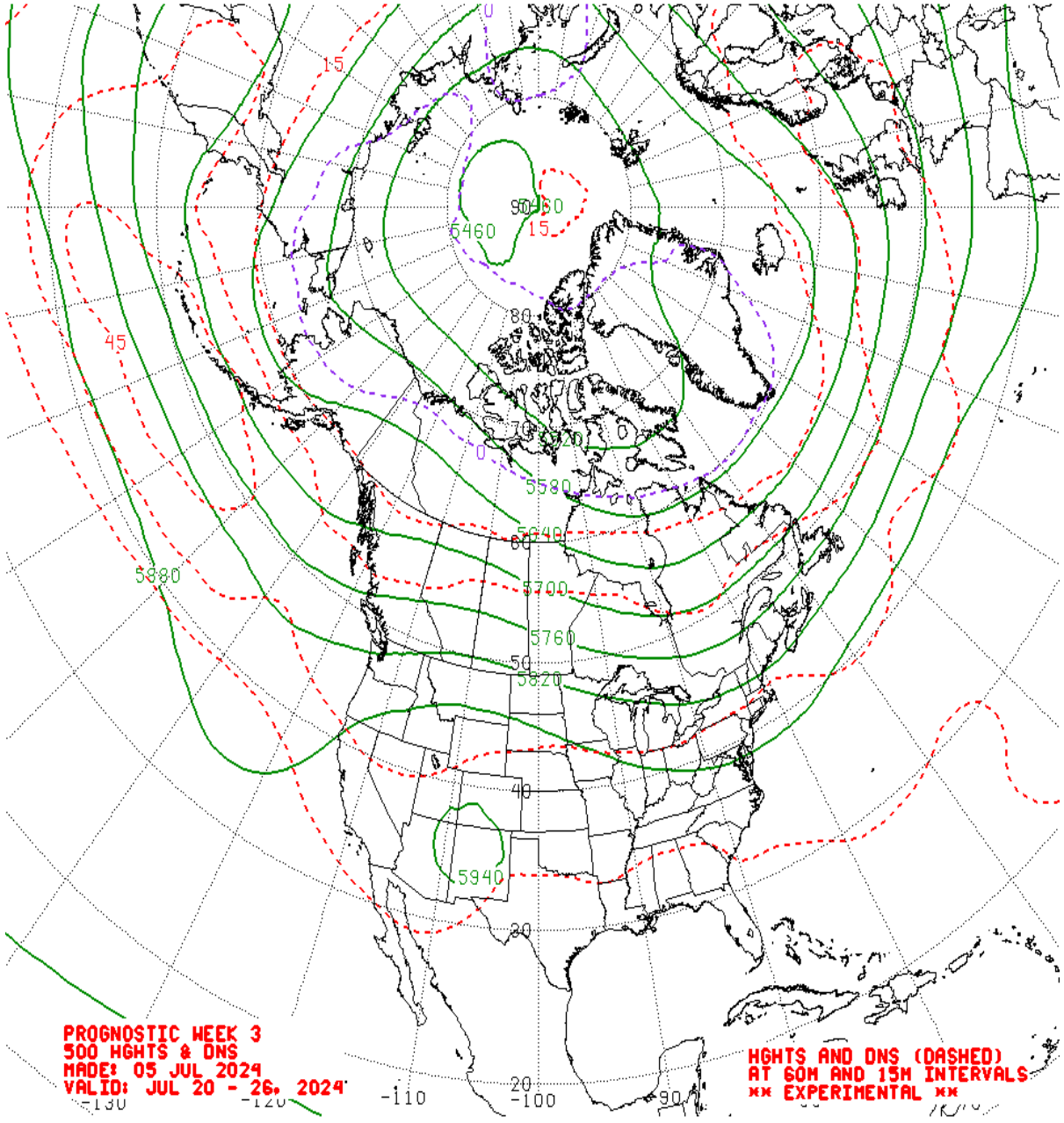
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:



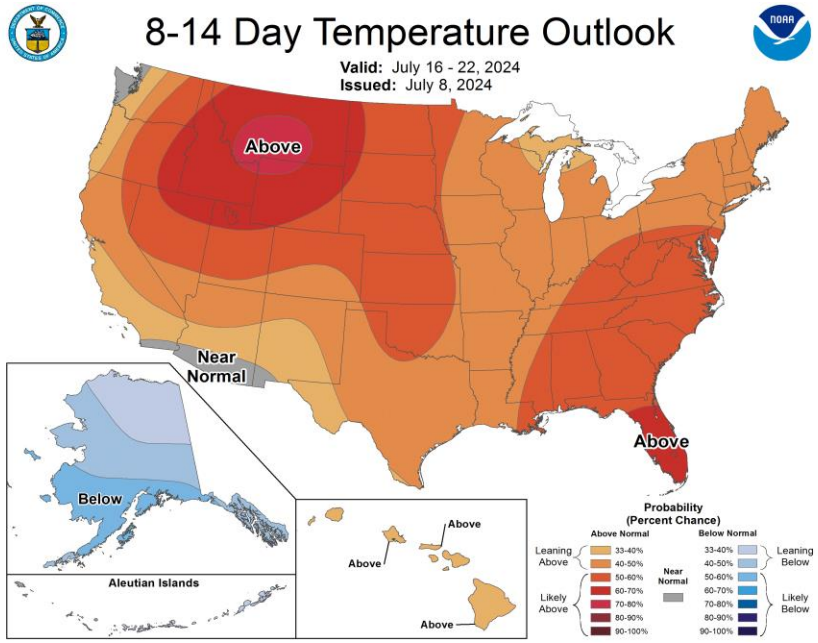


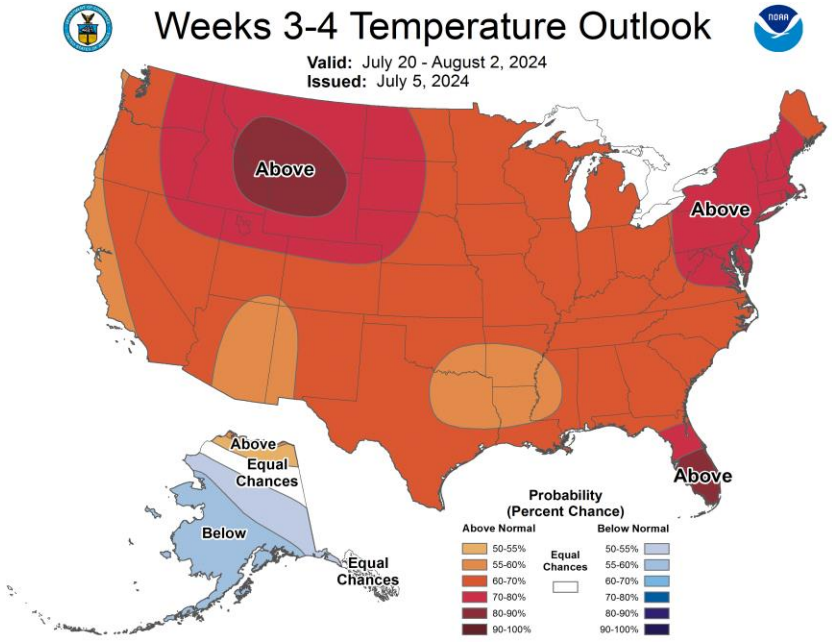
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

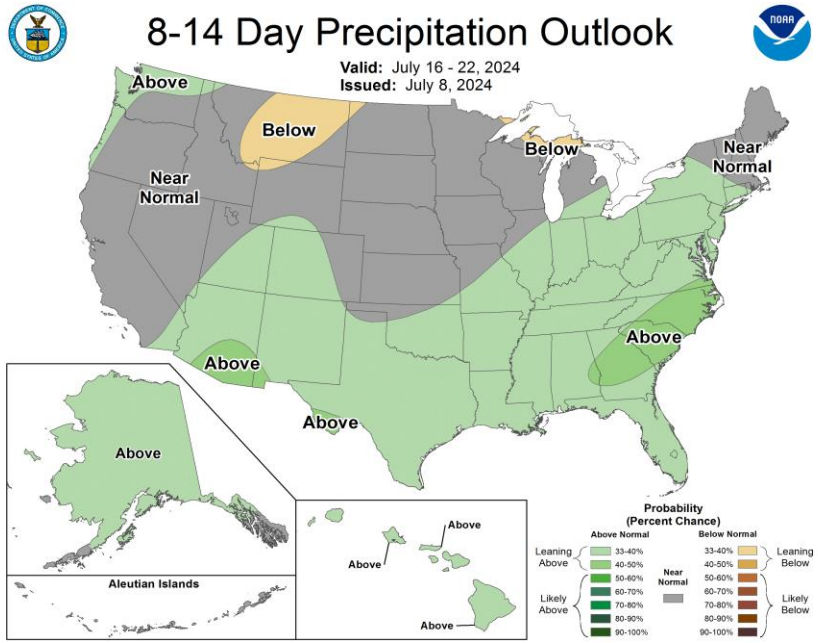


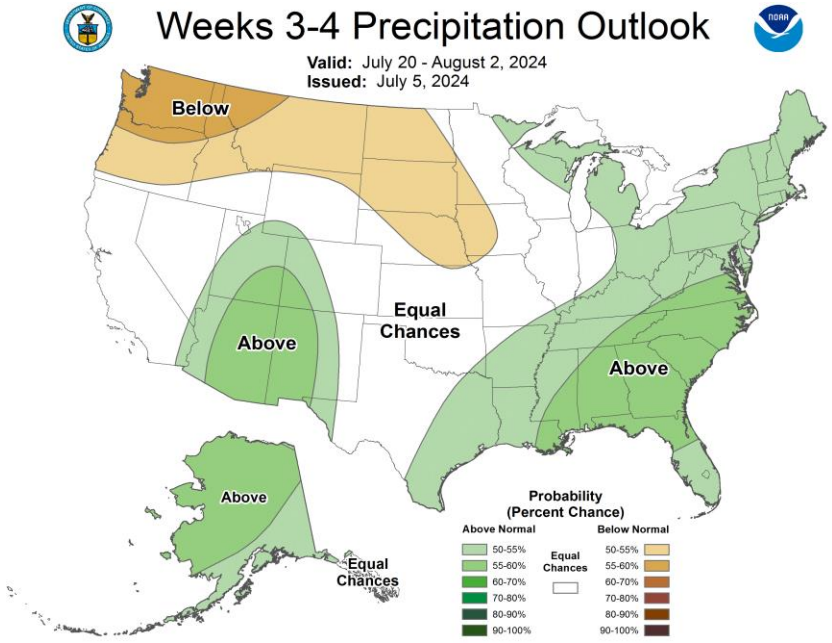


Official Temperature & Precipitation Forecasts:









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Climate Prediction Center

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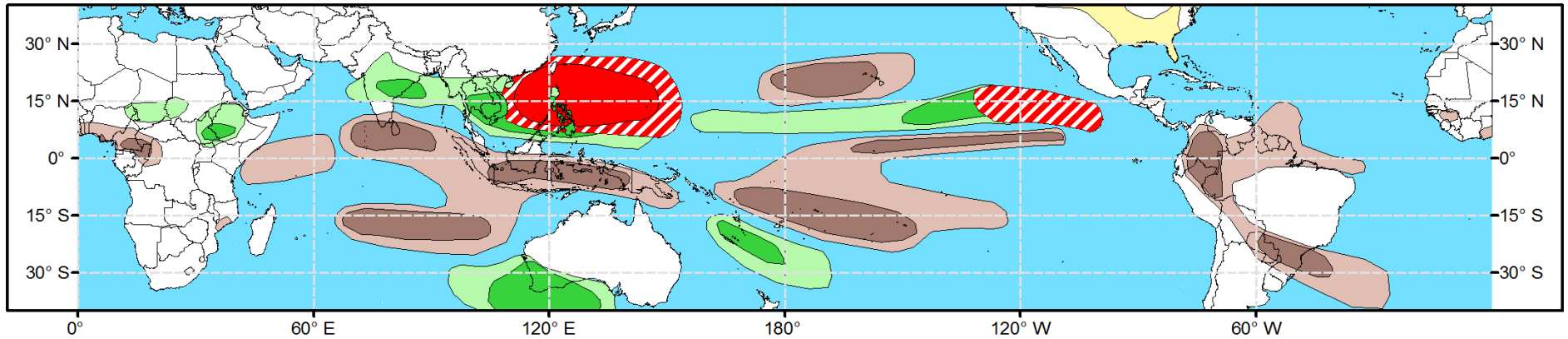
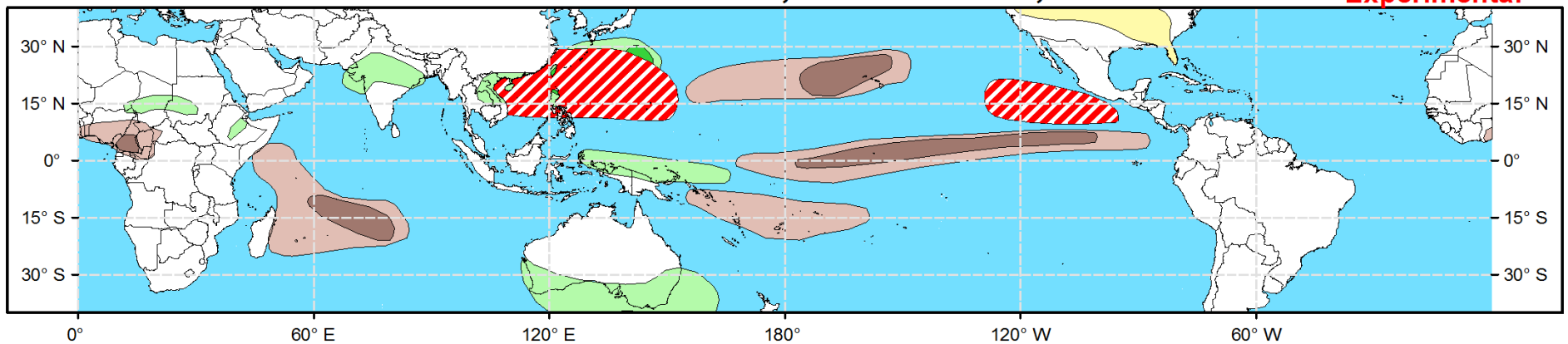


Week 3 - Valid: Jul 24, 2024 - Jul 30, 2024

** Experimental **



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