



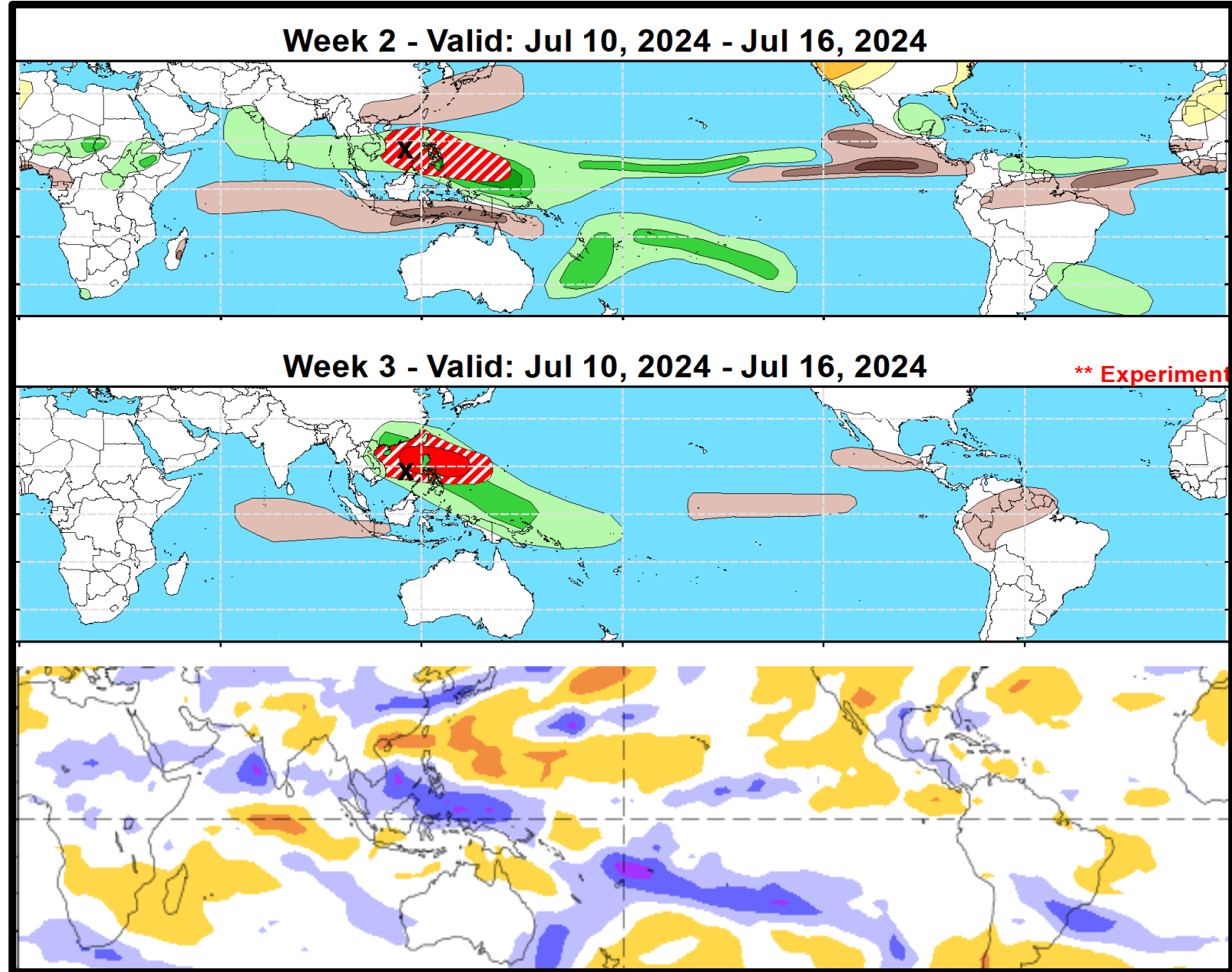
Weeks 2-3 Global Tropics Hazards Outlook

7/16/2024

Danny Barandiaran
NWS / NCEP / Climate Prediction Center

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

- 7/14: TC 03W



Synopsis of Climate Modes:

ENSO: (Jul 11, 2024 Update) *next update on Thursday, Aug 8th*

- ENSO Alert System Status: [La Niña Watch](#)
- ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).

MJO and other subseasonal tropical variability:

- Dynamical model MJO index forecasts are mixed, with the GEFS depicting a return to a weak pattern similar to June, while the ECMWF shows eastward propagation of a more coherent signal across the Pacific Ocean and possibly into the Western Hemisphere by the end of Week-2.
- The MJO may contribute to continued broad suppression across the Western Hemisphere especially during week-2, reducing the chances for continued early season tropical cyclone (TC) activity across the Atlantic basin. Extremely warm SSTs present a significant reservoir for additional activity, however, should shear weaken in the vicinity of any disturbance or easterly wave.
- A favorable environment for tropical cyclogenesis across the East Pacific is anticipated. Should the intraseasonal signal become more coherent as suggested by the ECMWF, conditions could become very favorable for TC genesis in the East Pacific by Week-3.

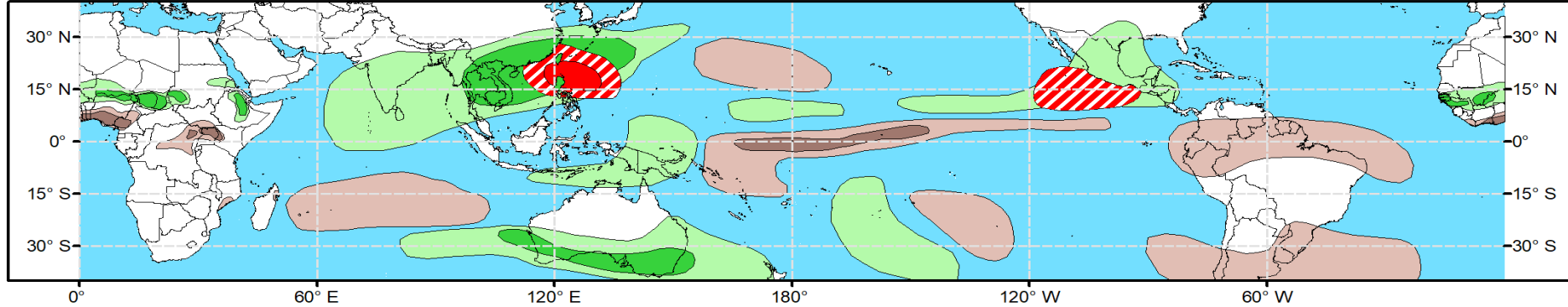
GTH Outlook:



Global Tropics Hazards Outlook Climate Prediction Center

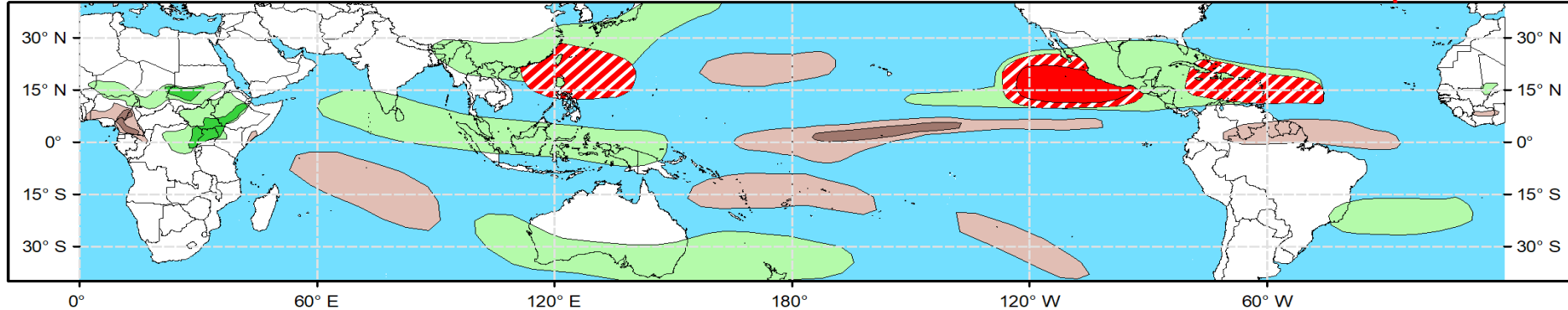


Week 2 - Valid: Jul 24, 2024 - Jul 30, 2024



Week 3 - Valid: Jul 31, 2024 - Aug 06, 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**



>50% >65% >80%

Weekly total rainfall in the
Lower third of the historical range

**Above-Average
Temperatures Probability**



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7-day max temperatures in the
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**Below-Average
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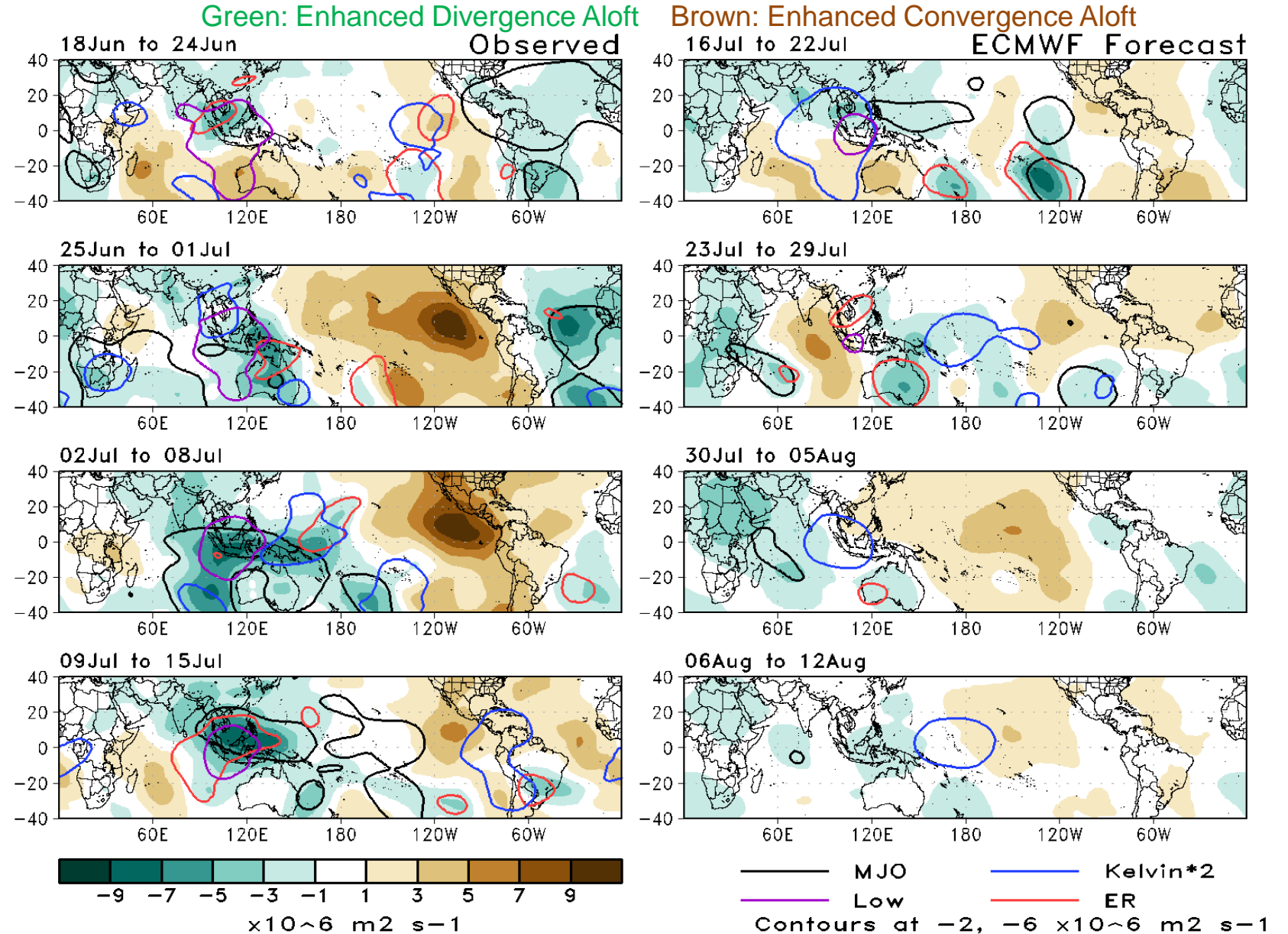
Issued: 07/16/2024

Forecaster: Barandiaran

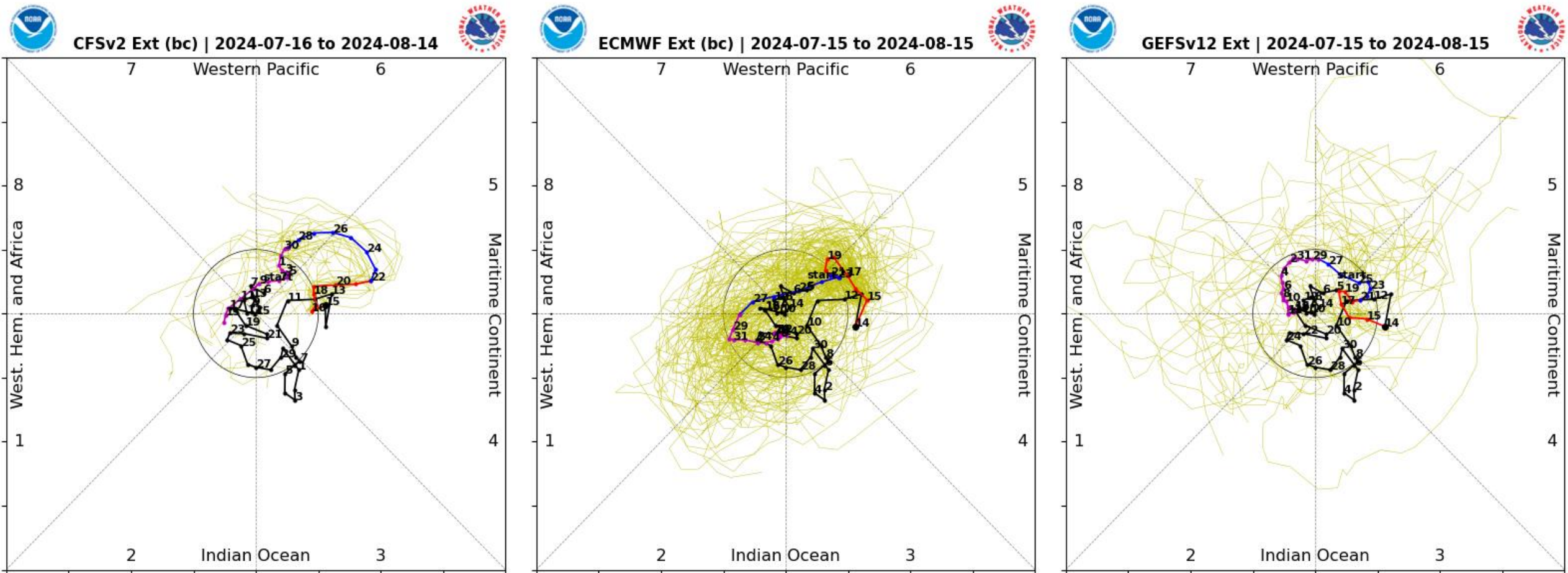
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200-hPa Velocity Potential Anomaly Maps:

- Over the last few weeks an amplified wave-1 pattern emerged with modest eastward propagation. The enhanced convective envelope is most lately over the Maritime Continent.
- Over the coming weeks the ECMWF continues some eastward propagation of the enhanced phase, albeit with a lot of noise introduced from other modes of variability.

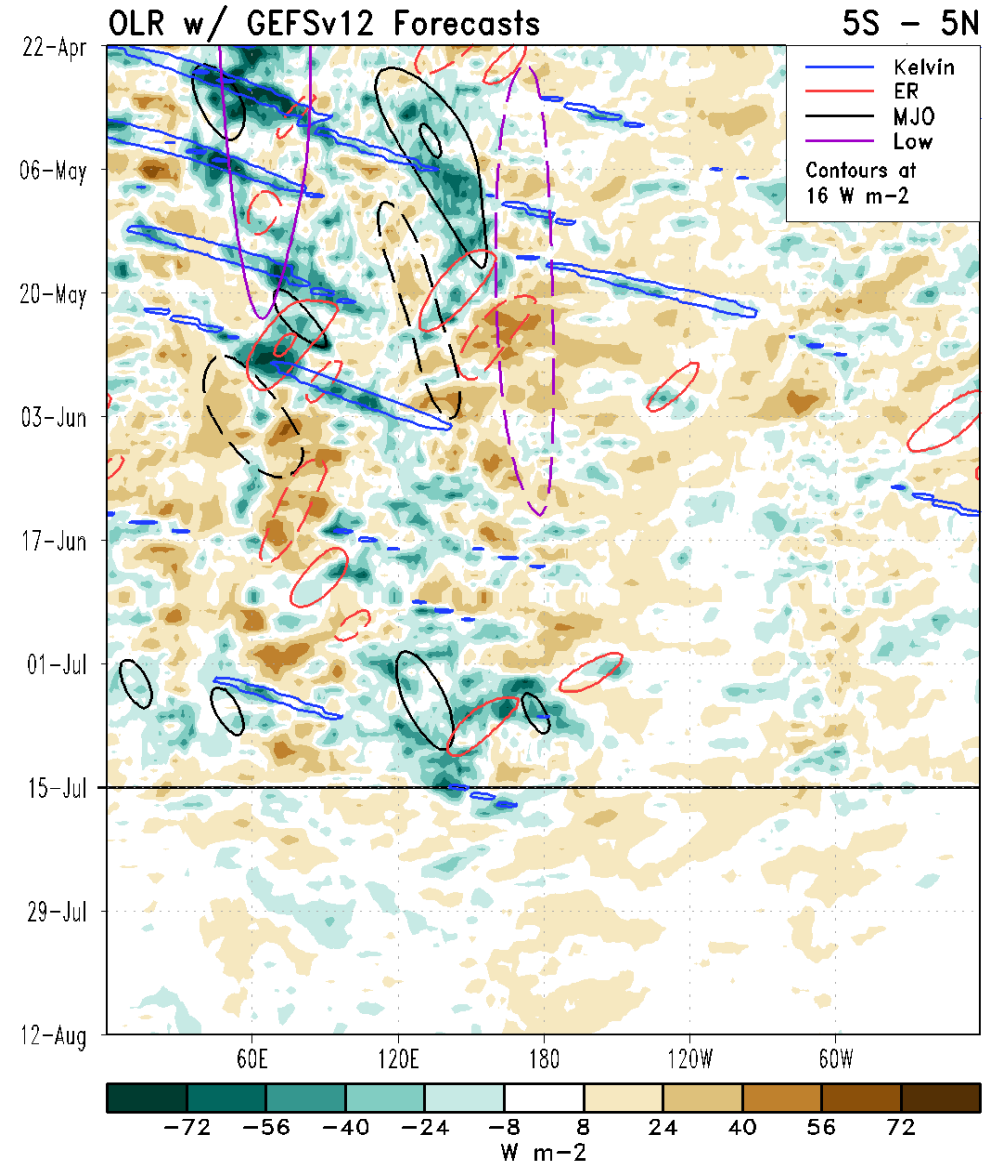
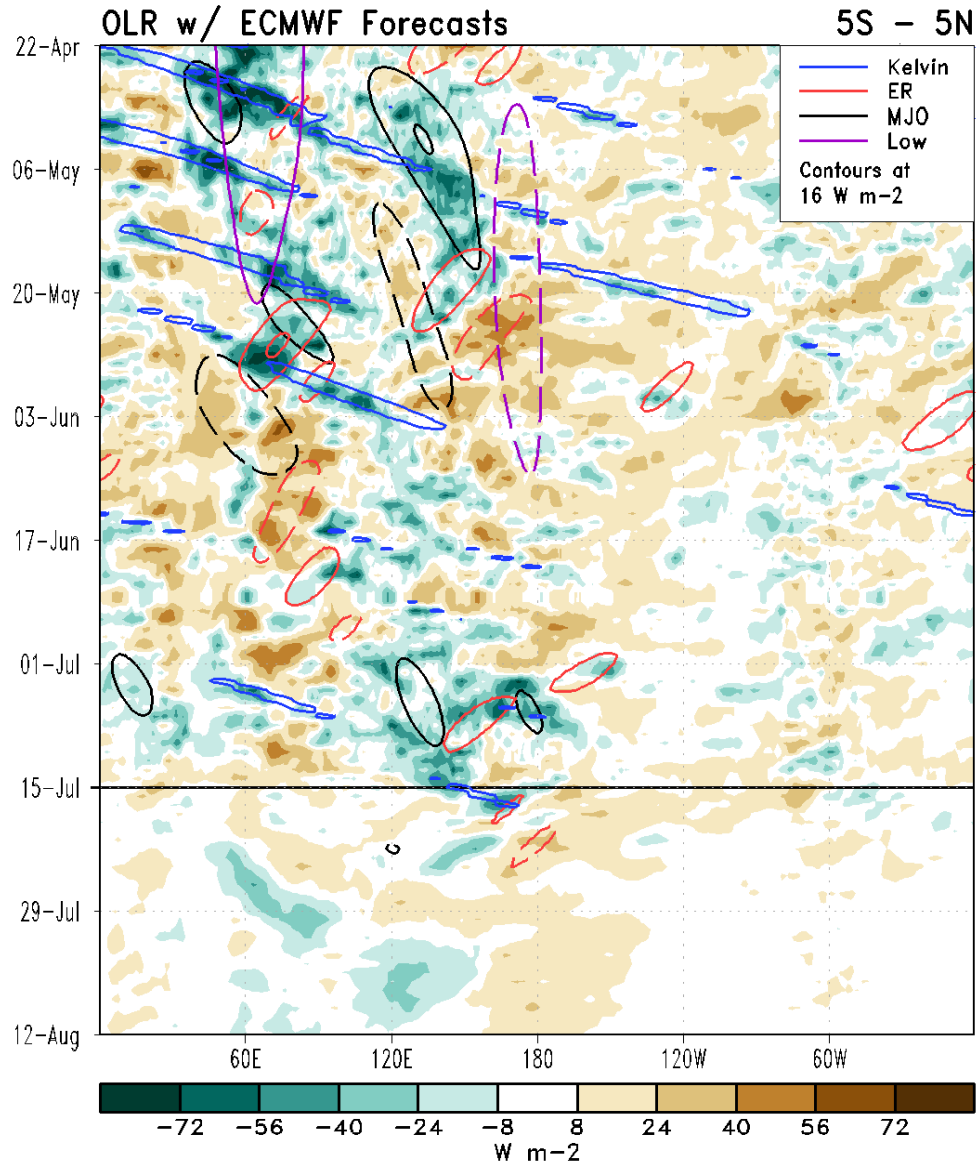


RMM Index Observations & Forecasts:



- The long-range model ensembles pictured all suggest a continued eastward propagation of the MJO over the coming weeks, although significant disparities remain regarding pacing and amplitude of the RMM index.
- Short-range ensembles (not pictured) generally show a much weaker MJO signal, with the RMM index trending towards zero.

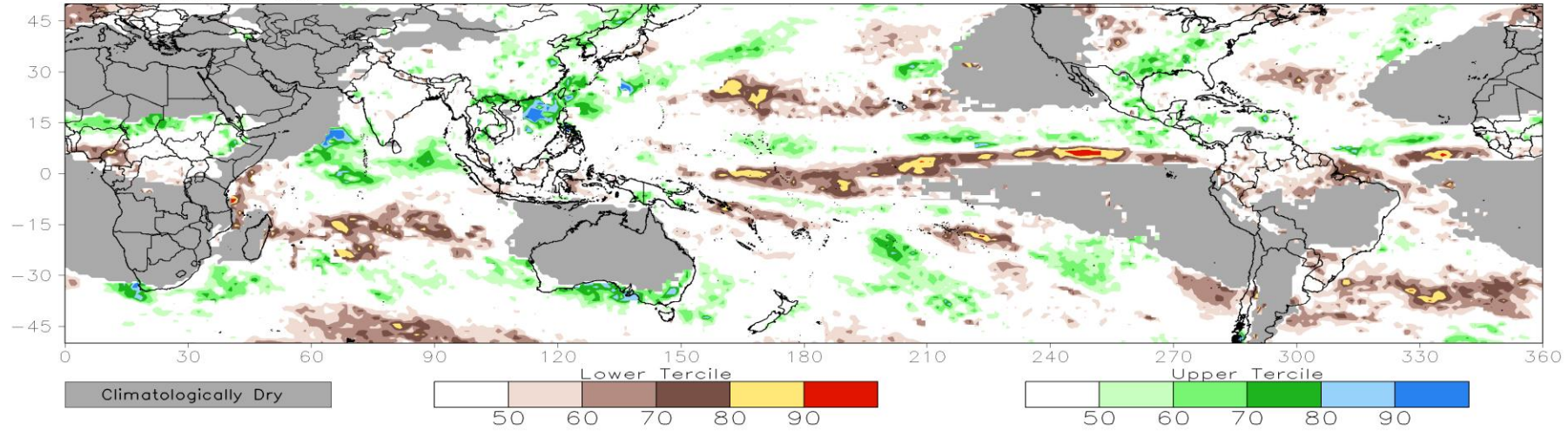
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

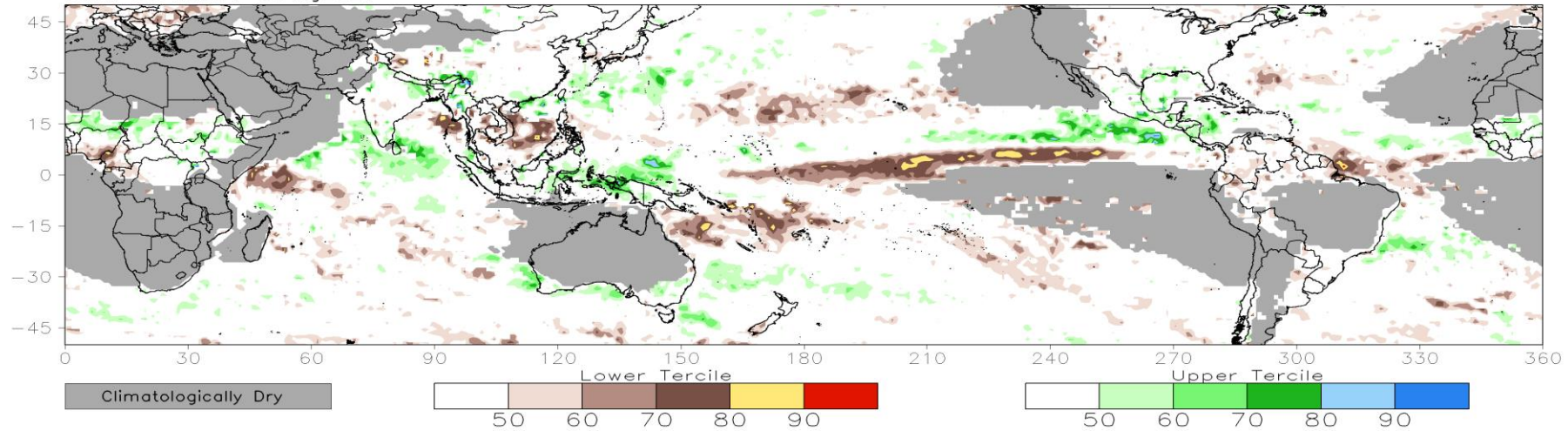
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 24Jul2024–30Jul2024



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

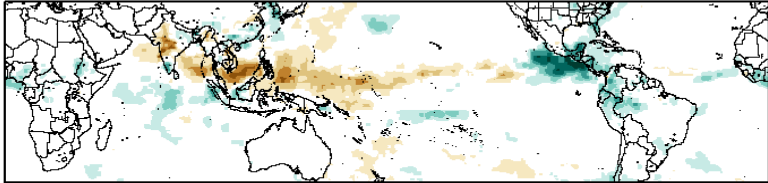
Valid: 31Jul2024–06Aug2024



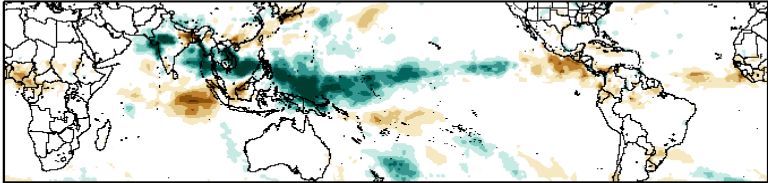
Historical Precipitation Anomalies By MJO Phase:

JJA MJO Composite: GPCP1DD (mm/day)

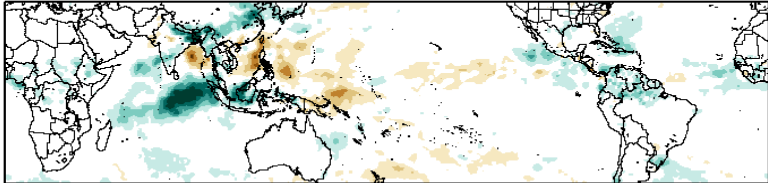
Phase 1



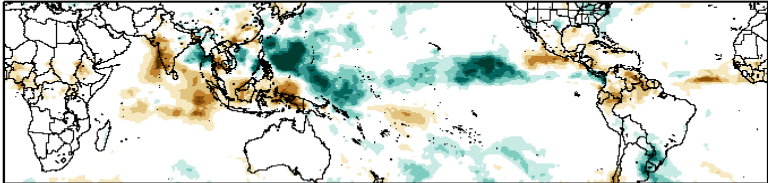
Phase 5



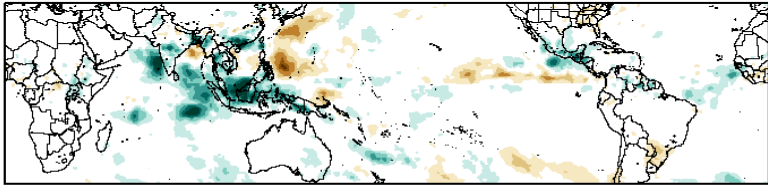
Phase 2



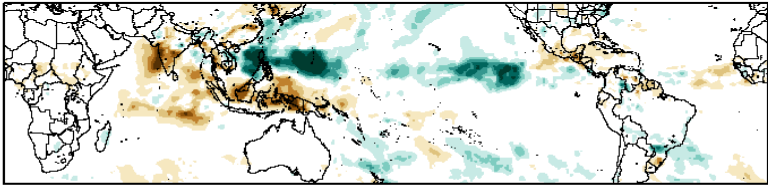
Phase 6



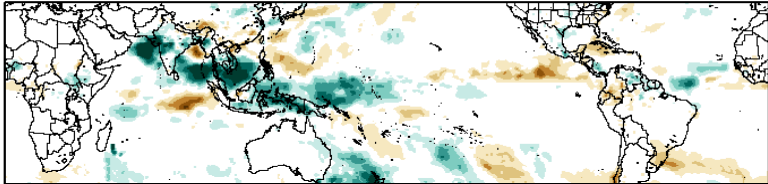
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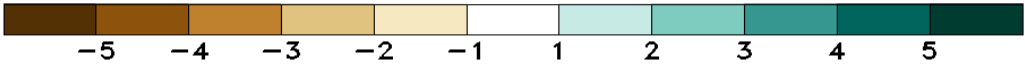
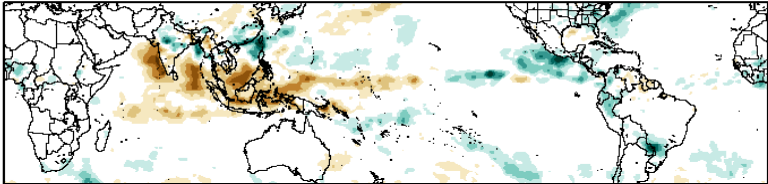
Phase 7



Phase 4

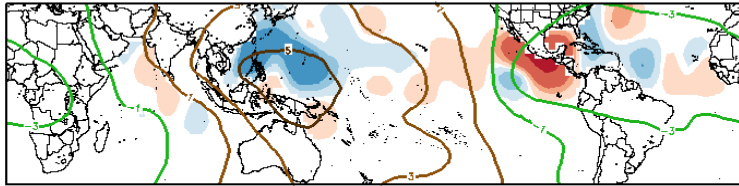


Phase 8

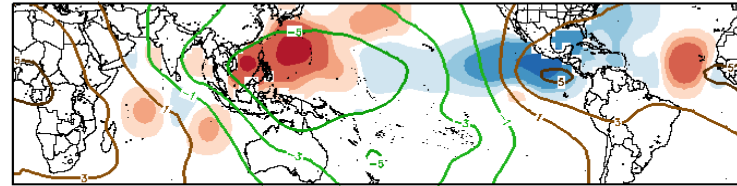


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

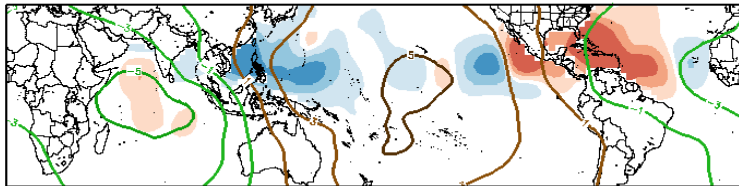
JJA MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JJA CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



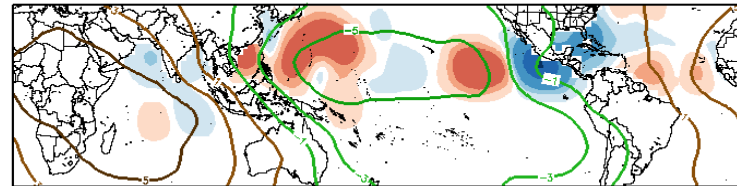
Phase 1



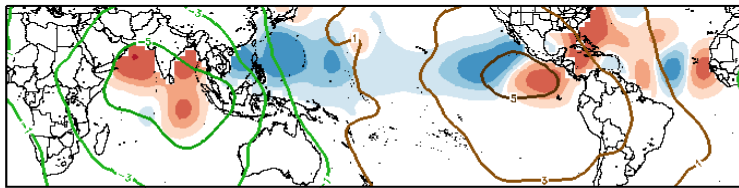
Phase 5



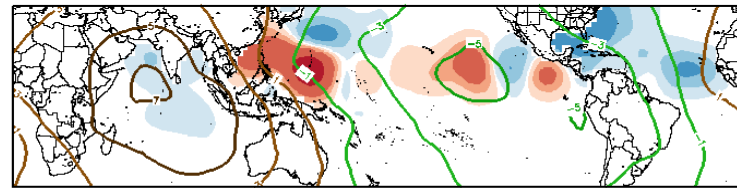
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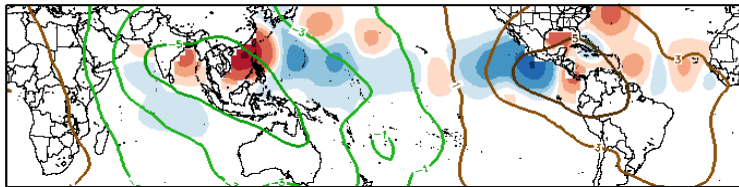
Phase 6



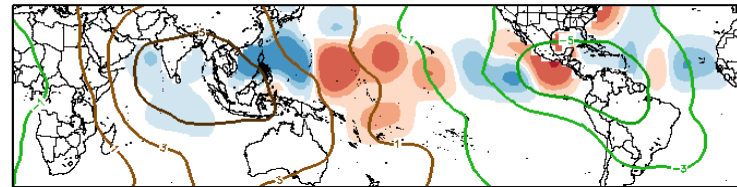
Phase 3



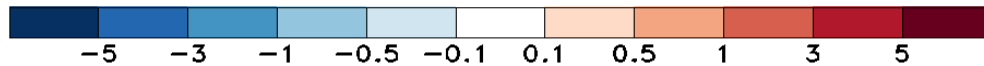
Phase 7



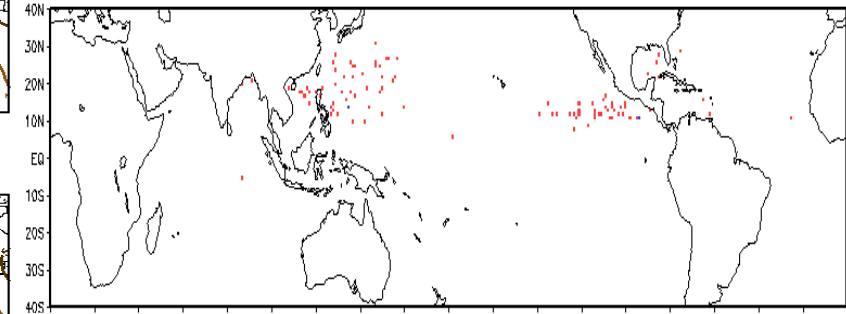
Phase 4



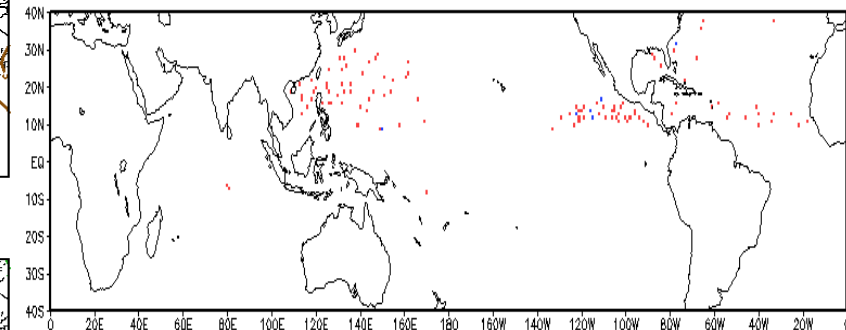
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 0724 to 0730

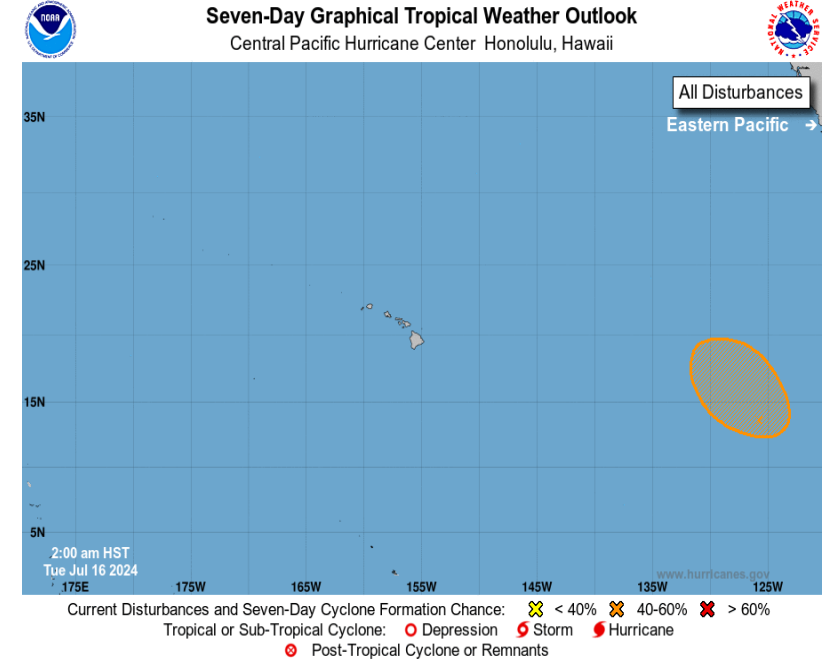
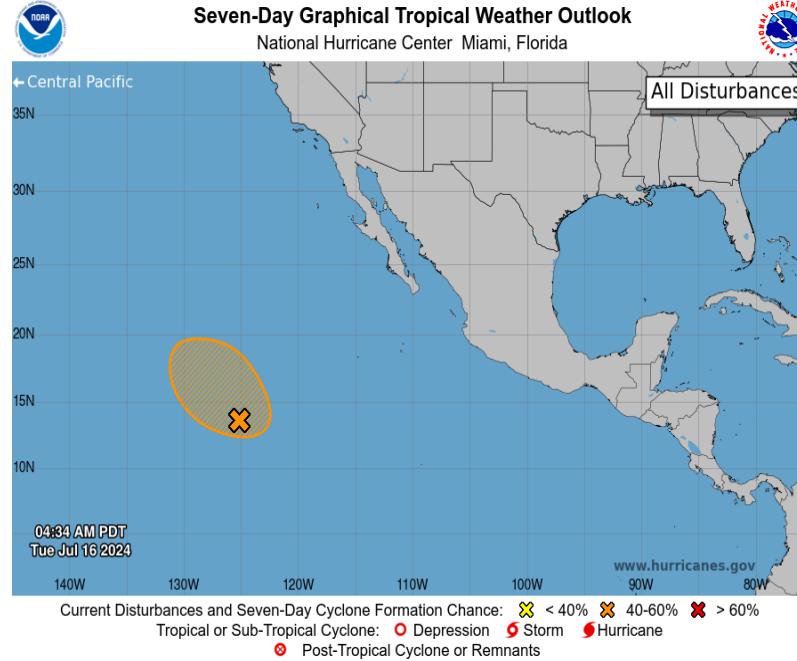
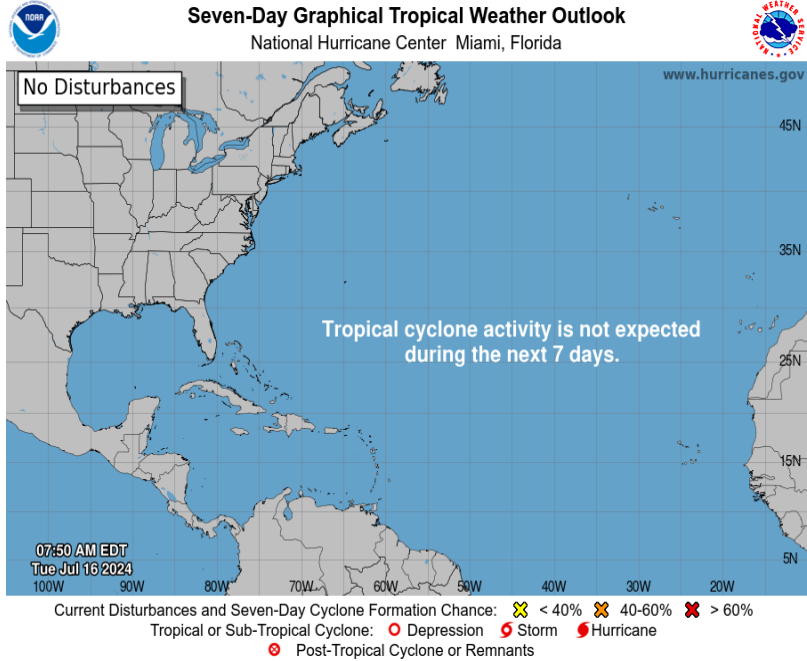


Observed TC Genesis, 1979-2021
7-day Period 0731 to 0806



Experimental

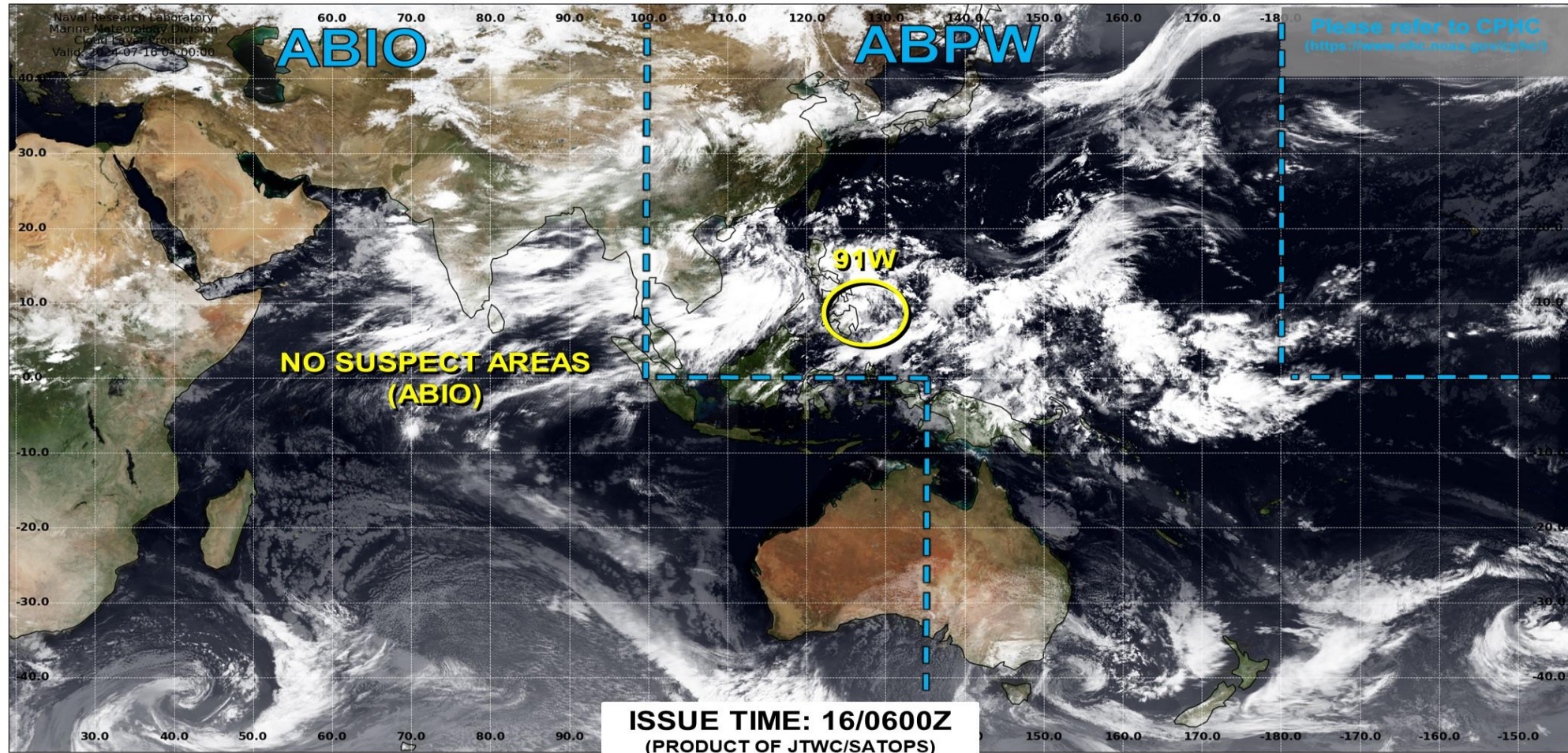
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



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)



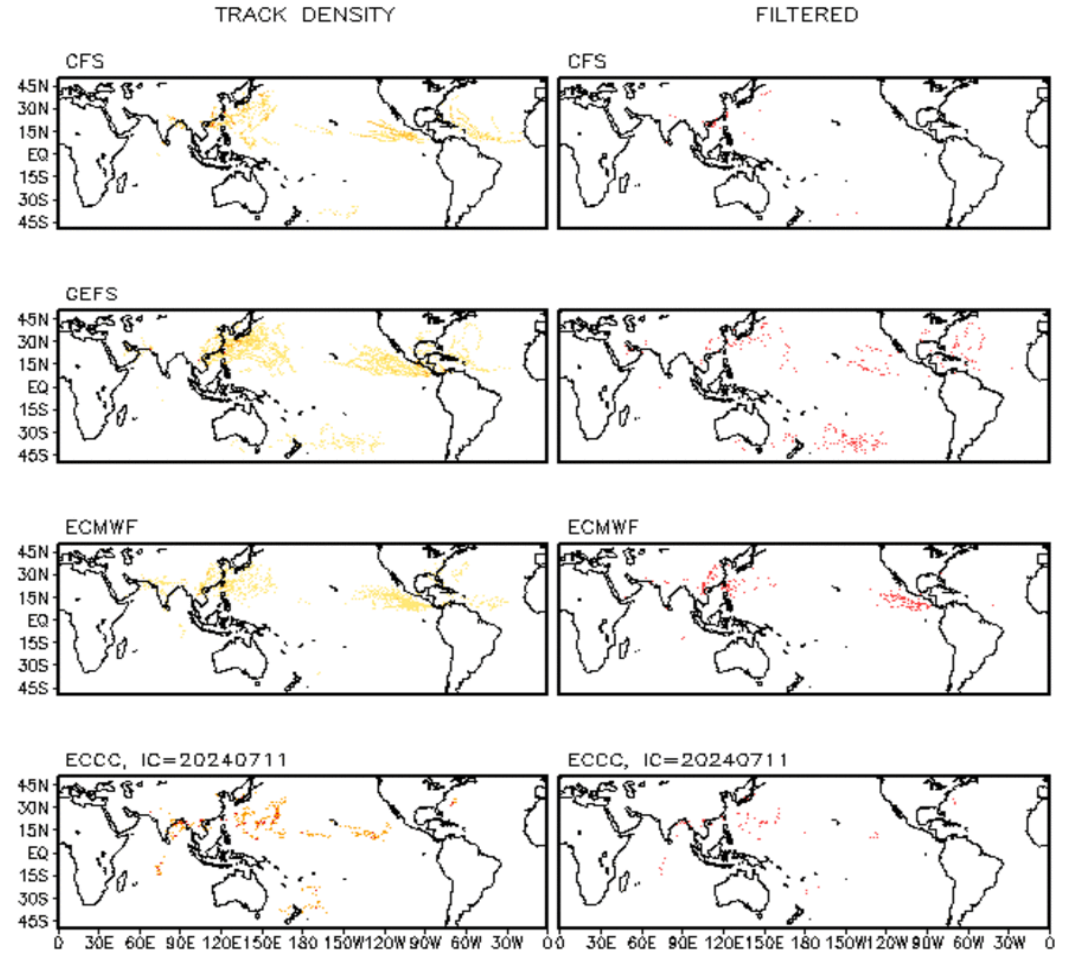
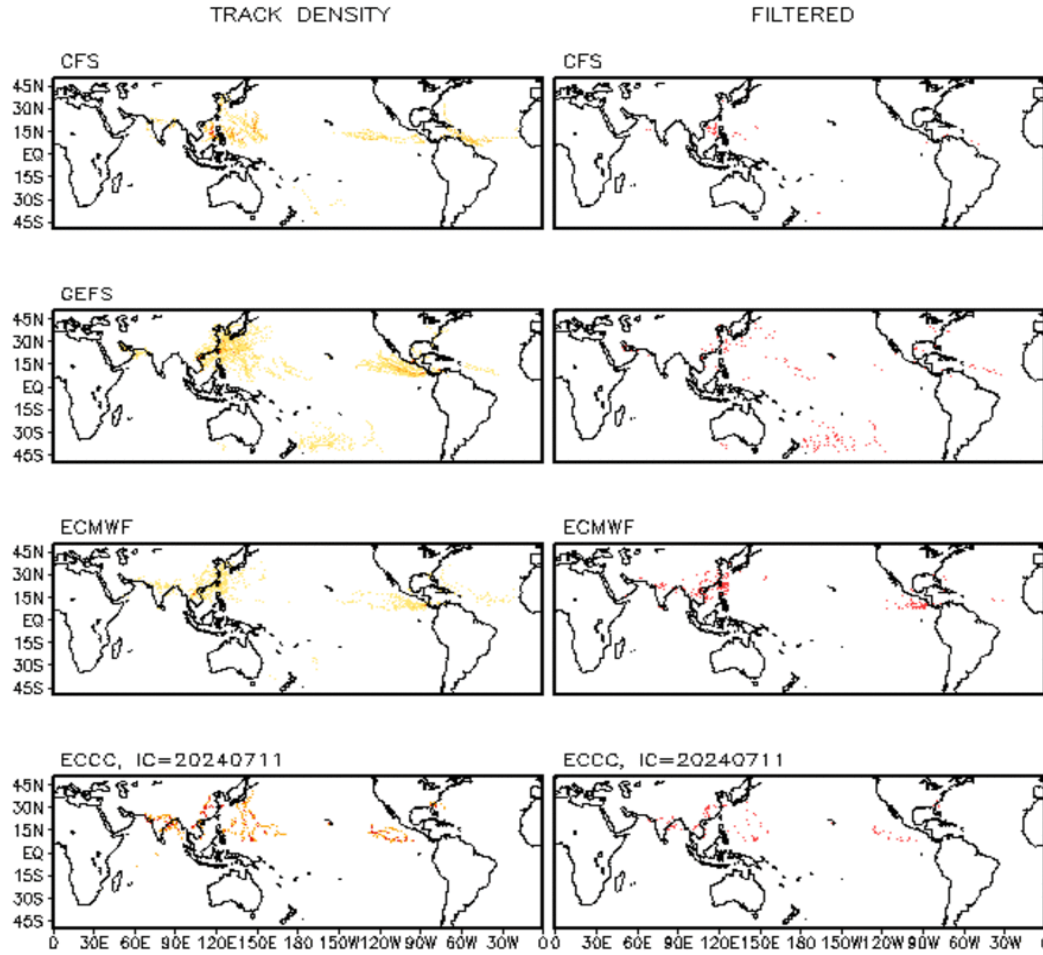
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)

Multi-Model TC Track Densities: Weeks 2+3

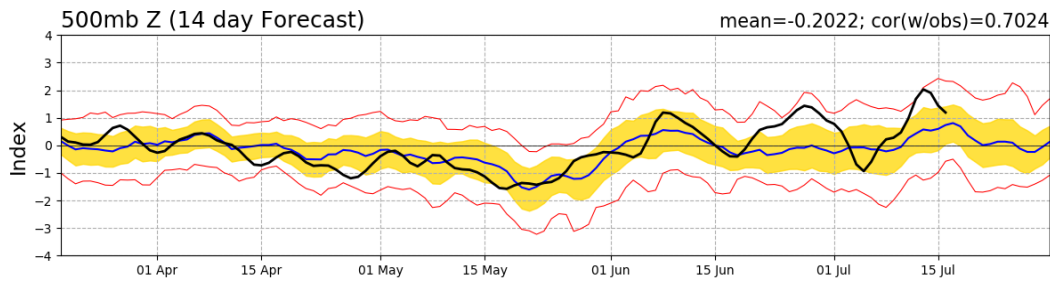
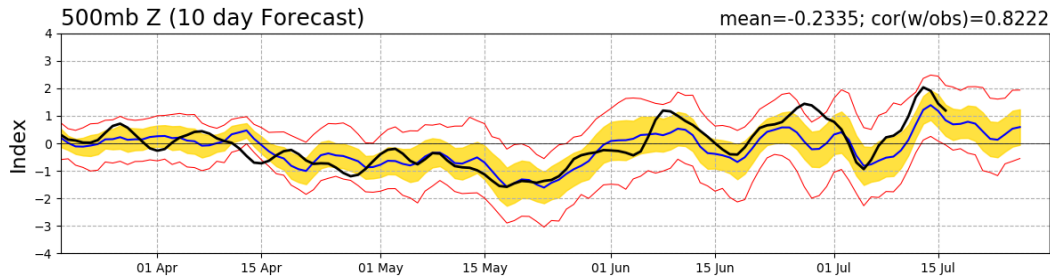
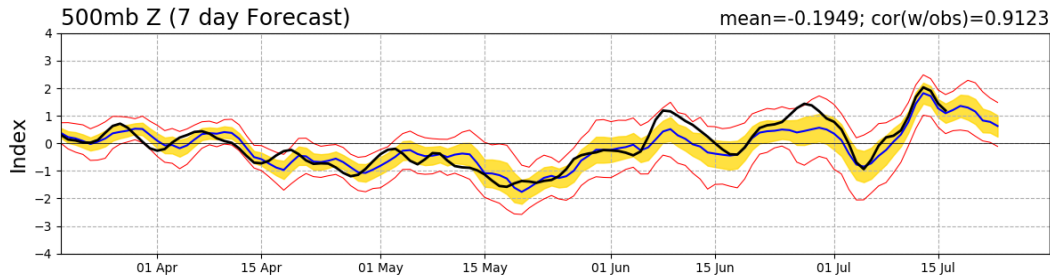
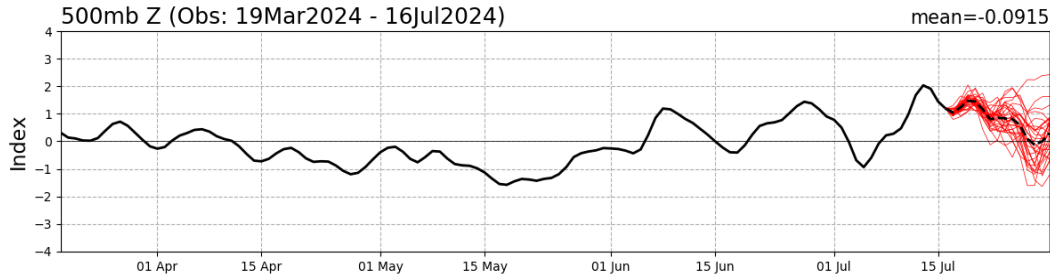
Storm Track Density Distribution, IC=20240715
Week 2 Forecast: 0724-0730

Storm Track Density Distribution, IC=20240715
Week 3 Forecast: 0731-0806

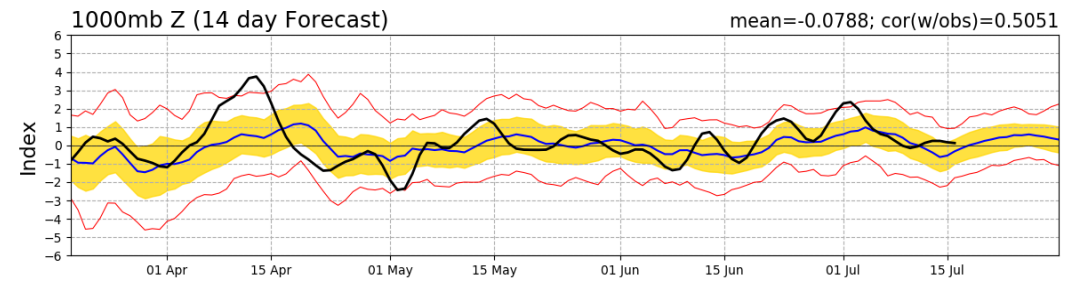
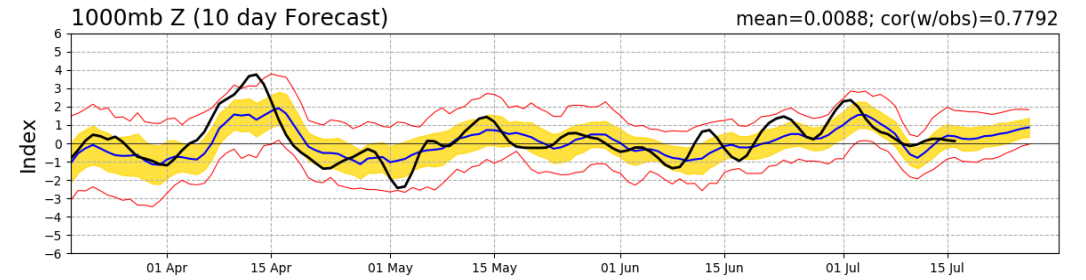
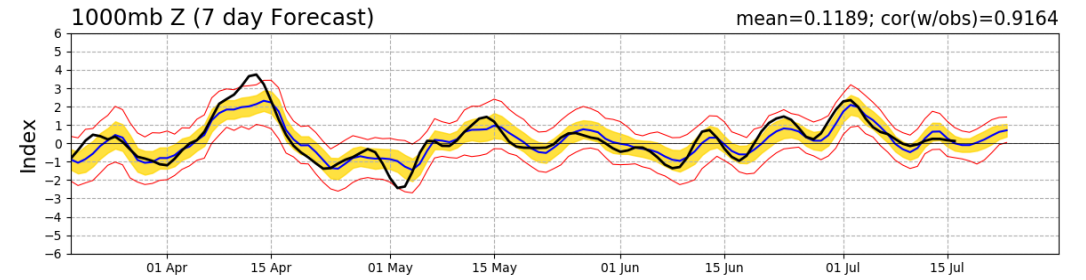
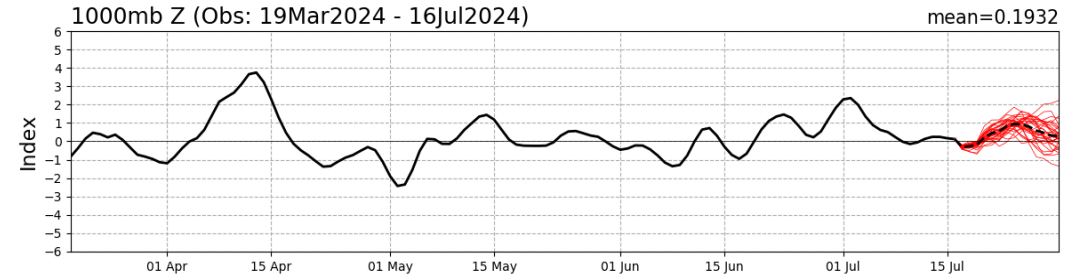


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

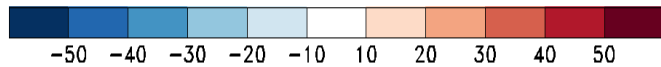
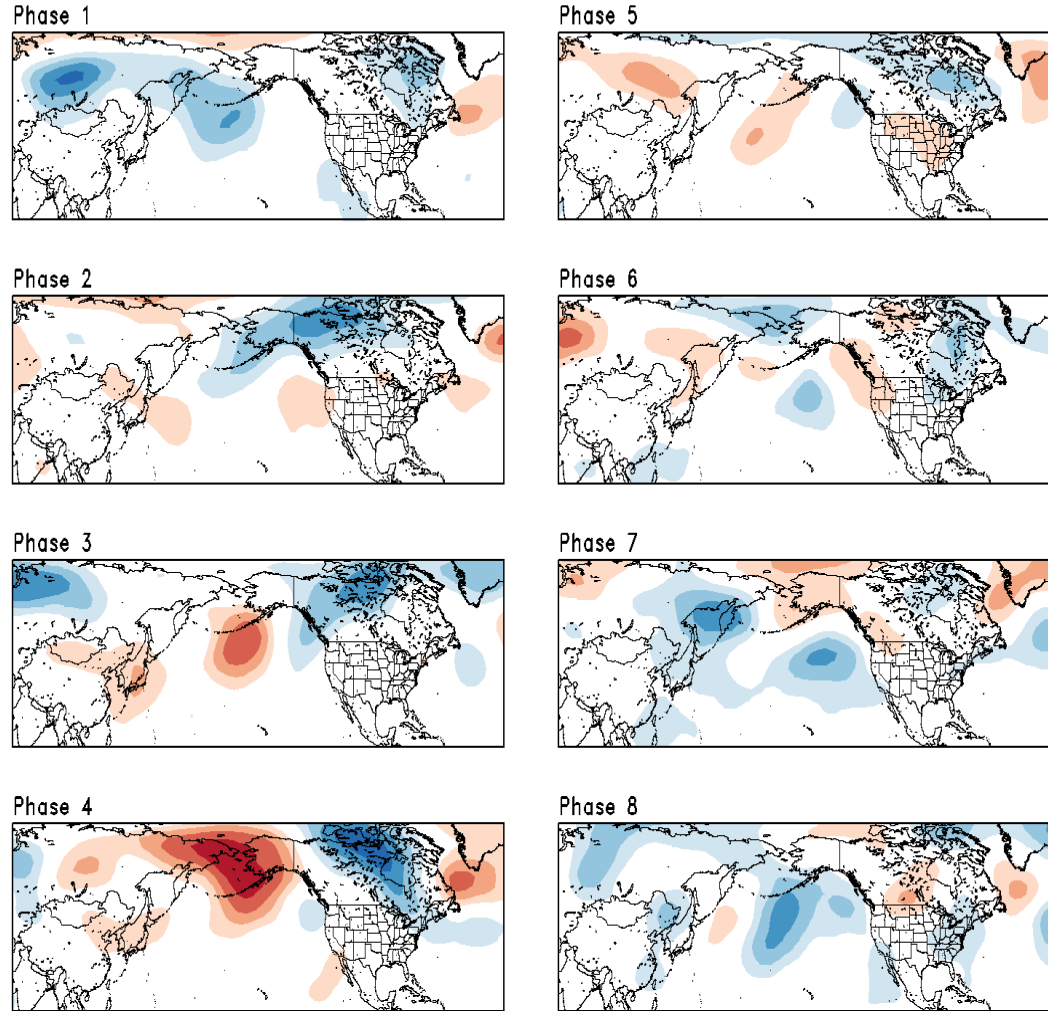


AO Index: Observed & GEFS Forecasts

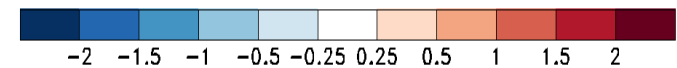
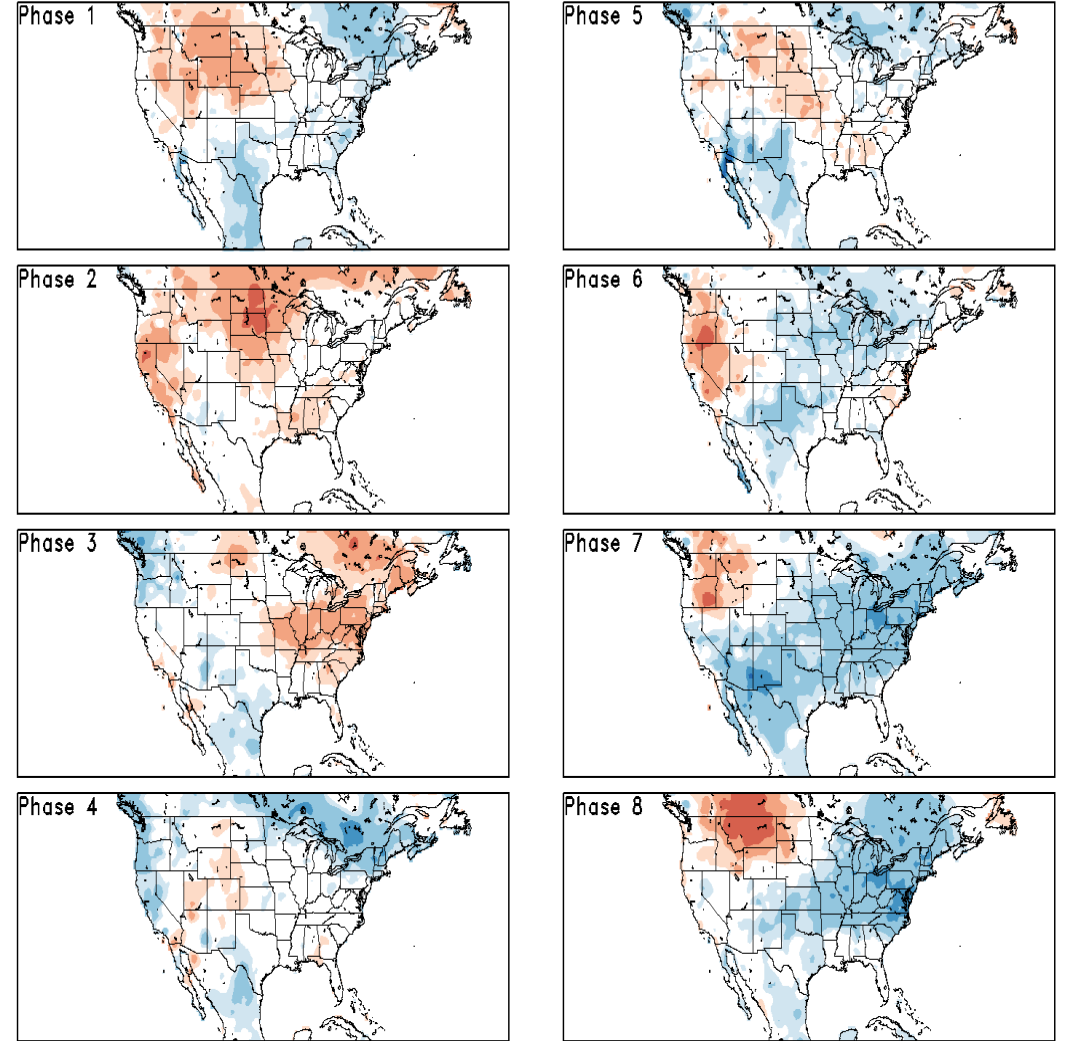


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

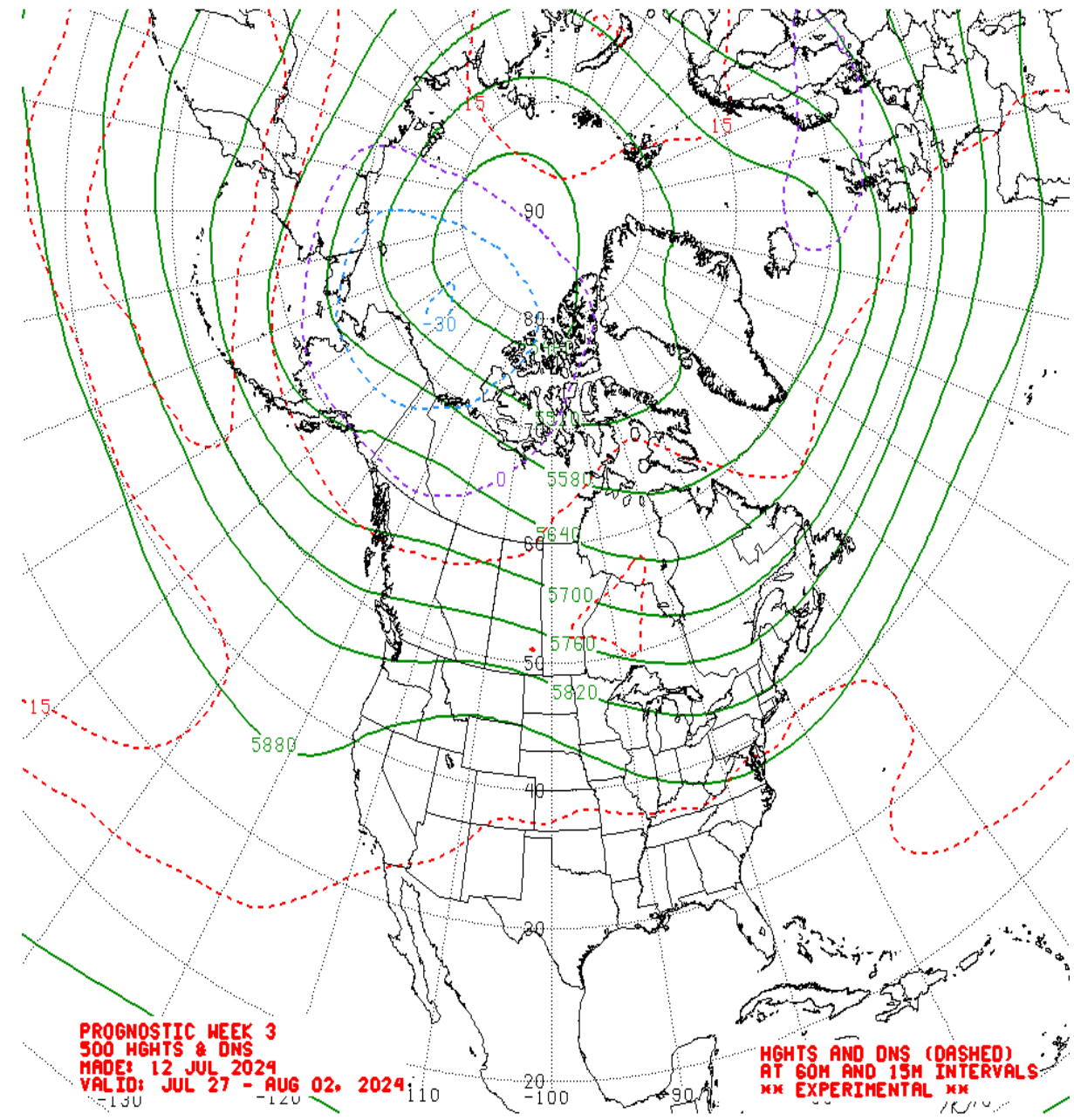
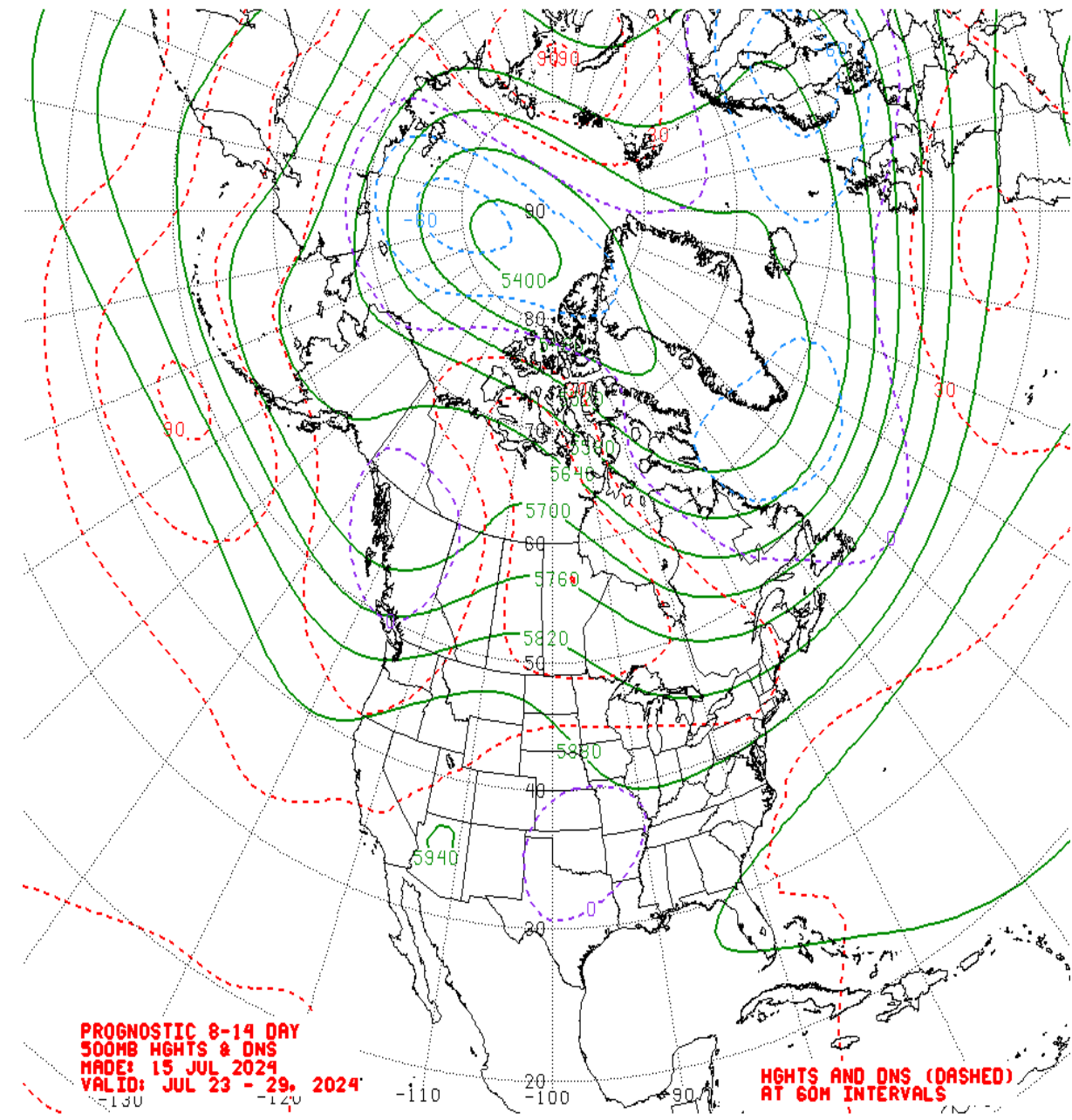
JJA MJO Composite: CDAS 500-hPa Height (m)



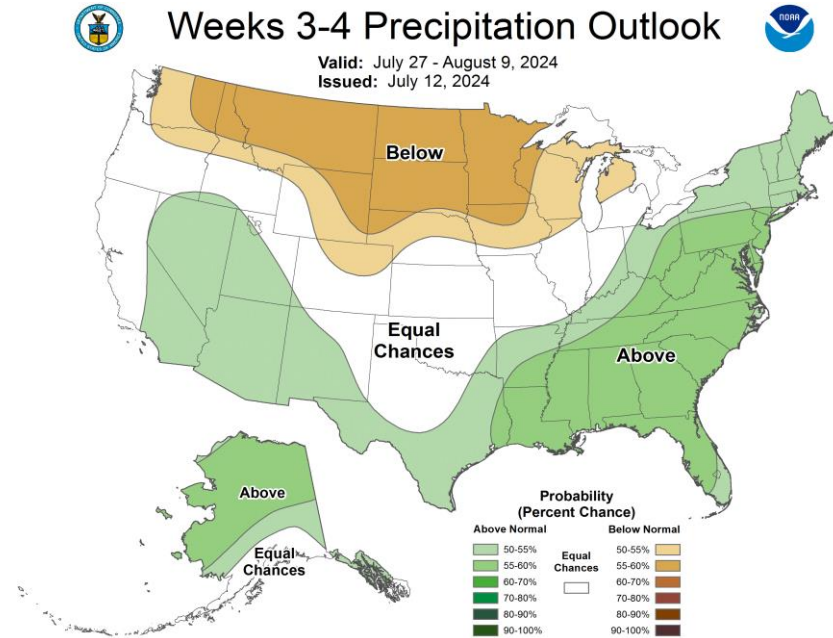
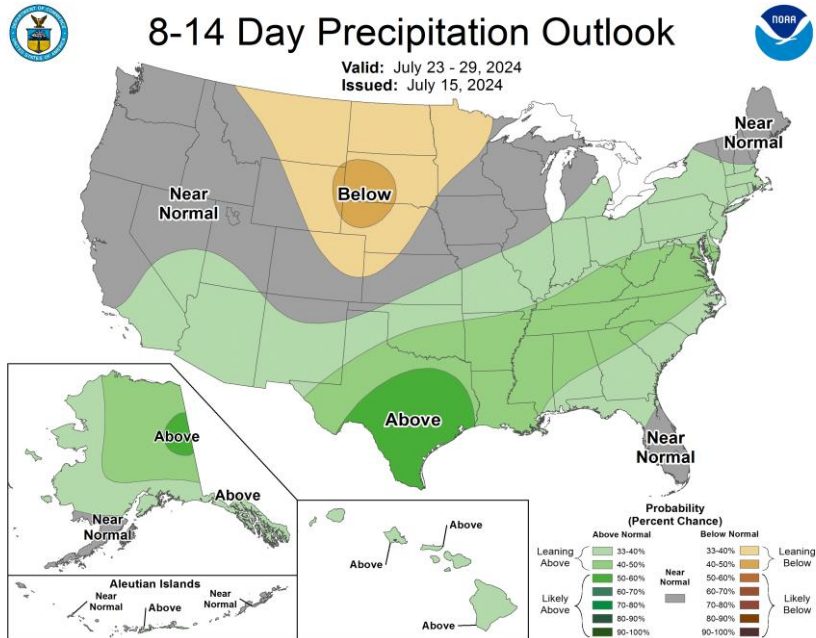
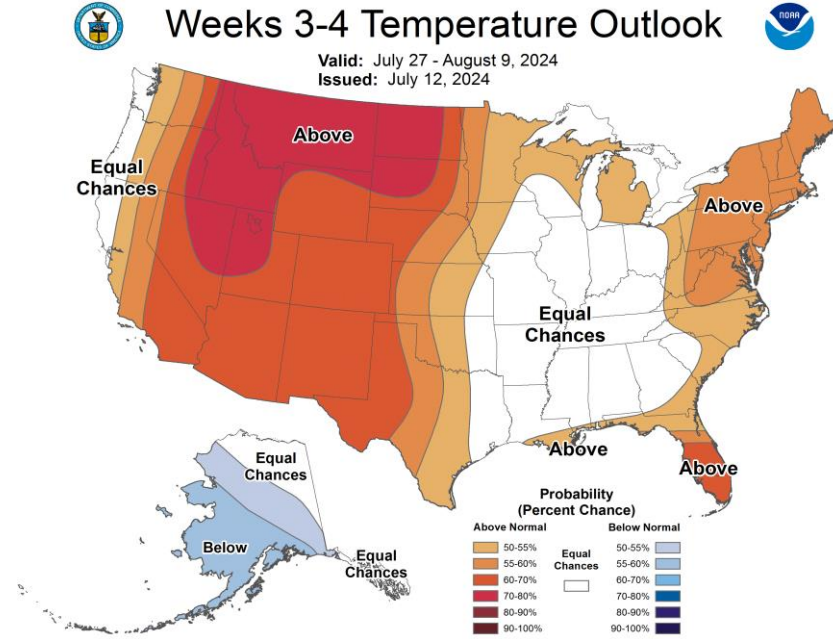
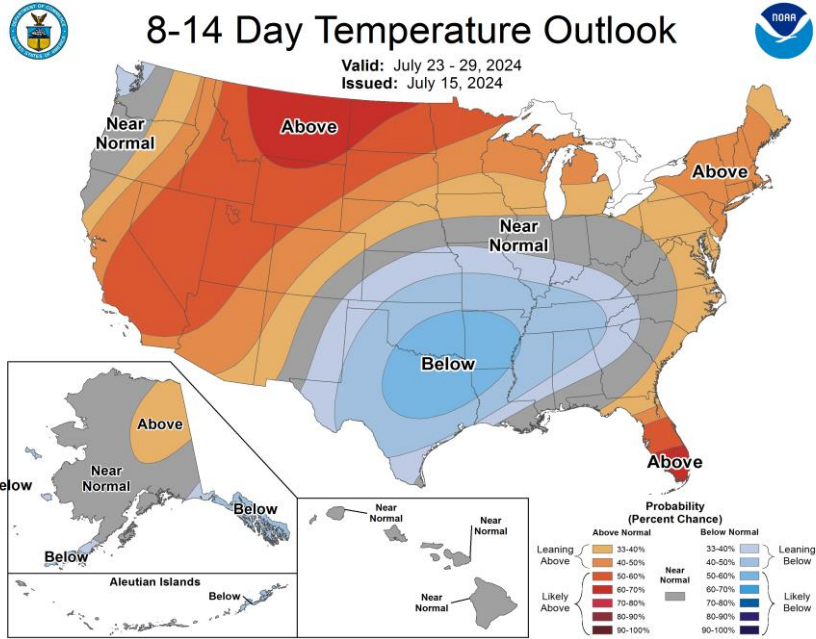
JJA MJO Composite: GLBT (degC)



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



Official Temperature & Precipitation Forecasts:



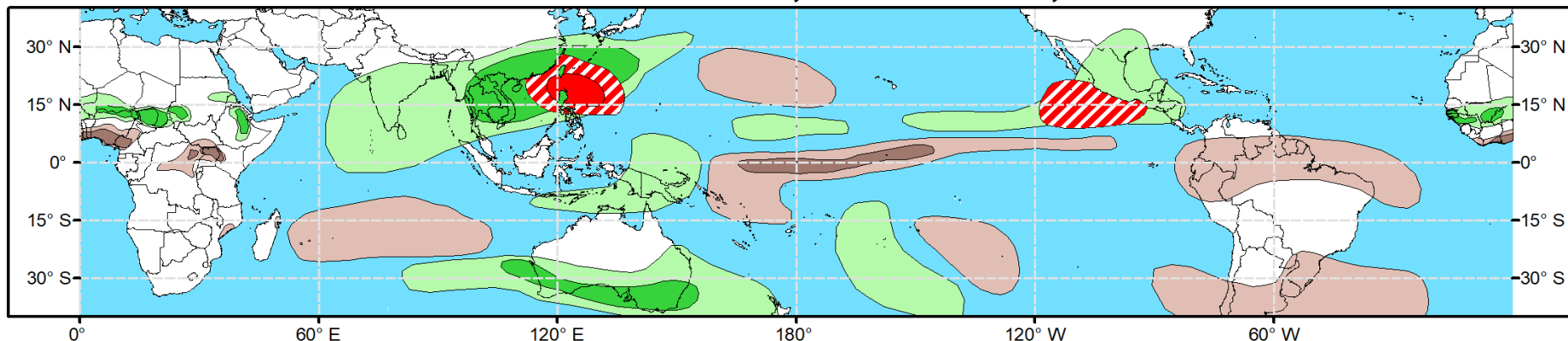


Global Tropics Hazards Outlook

Climate Prediction Center

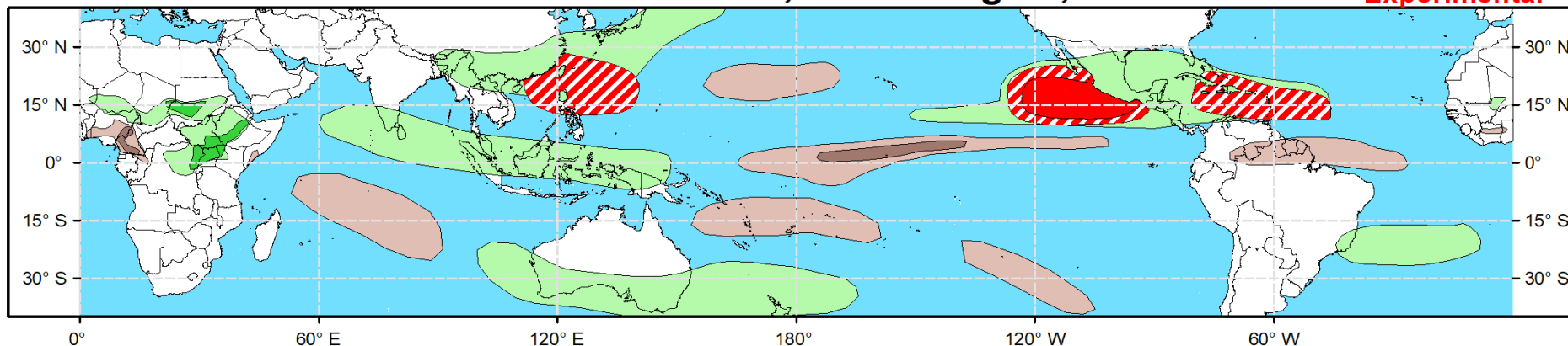


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