



Weeks 2-3 Global Tropics Hazards Outlook

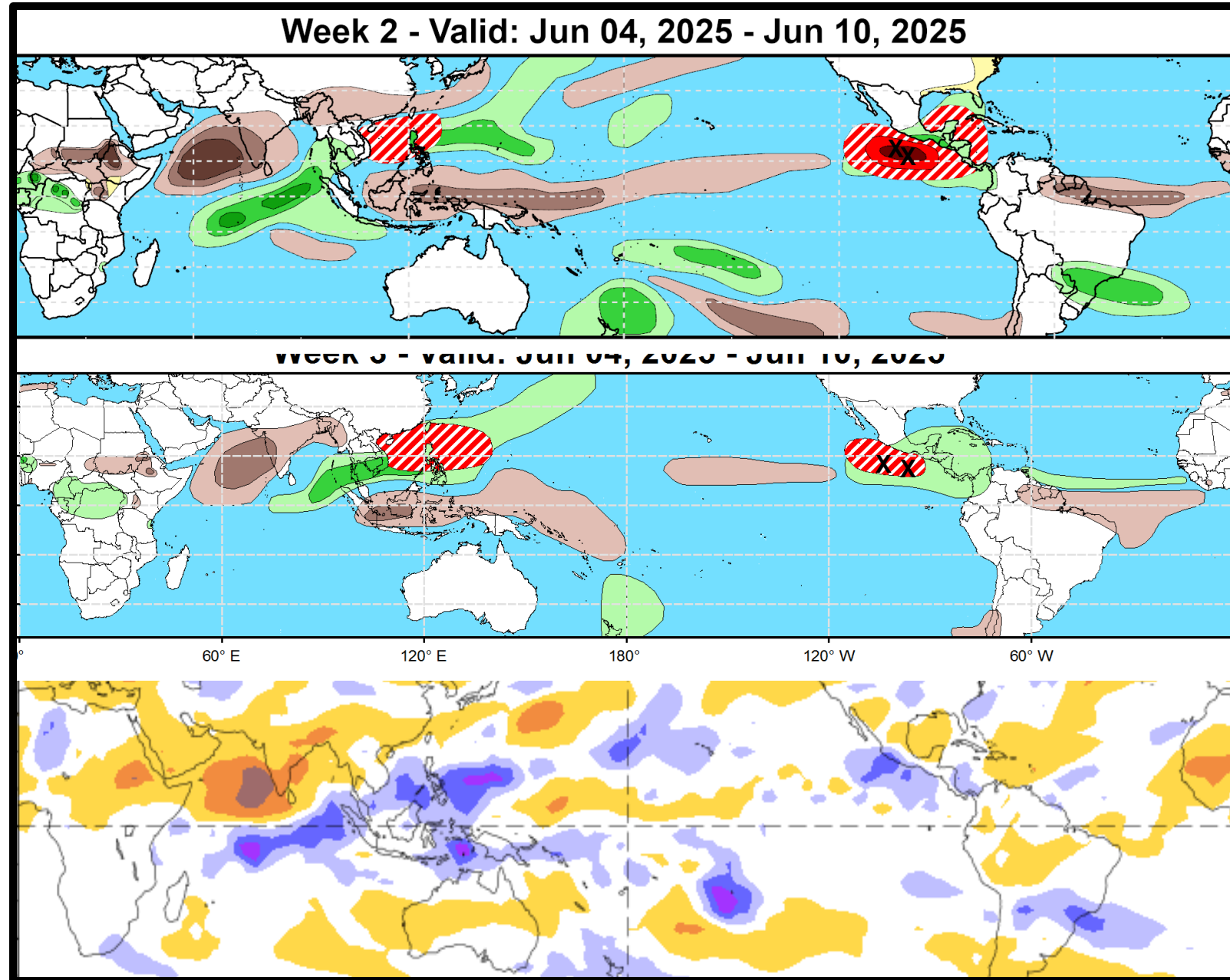
6/10/2025

Adam Allgood

NWS / NCEP / Climate Prediction Center

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

- Two tropical cyclones formed over the East Pacific: Hurricane Barbara and TS Cosme
- Forecasts over the Indian Ocean are performing well, less so over the Maritime Continent



Synopsis of Climate Modes:

ENSO: (May 8, 2025 Update) *next update on Thursday, June 12th*

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored through the Northern Hemisphere summer 2025 (74% chance during June-August), with chances exceeding 50% through August-October 2025.

MJO and other subseasonal tropical variability:

- Following a long period of weak activity, a strong intraseasonal (MJO-like) signal abruptly popped up over the West Pacific, with sustained eastward propagation during the last week.
- Dynamical model MJO index forecasts are almost unanimous in depicting the rapid demise of this signal, with RMM indices crashing into the unit circle over the next few days followed by weeks of weak activity.
- It's possible that the reason broad coherence globally is due to the superposition of strong Kelvin wave activity crossing the Pacific and equatorial Rossby wave activity over the Maritime Continent. As these signals diverge, the broader scale enhanced envelope will break down into separate smaller centers of activity.
- The MJO is not favored to play a role in the global tropical convective pattern during Weeks 2-3. Kelvin wave activity will maintain the potential for a highly active East Pacific basin through Week-3, while persistent ridging maintains unfavorable conditions for much of the Atlantic.

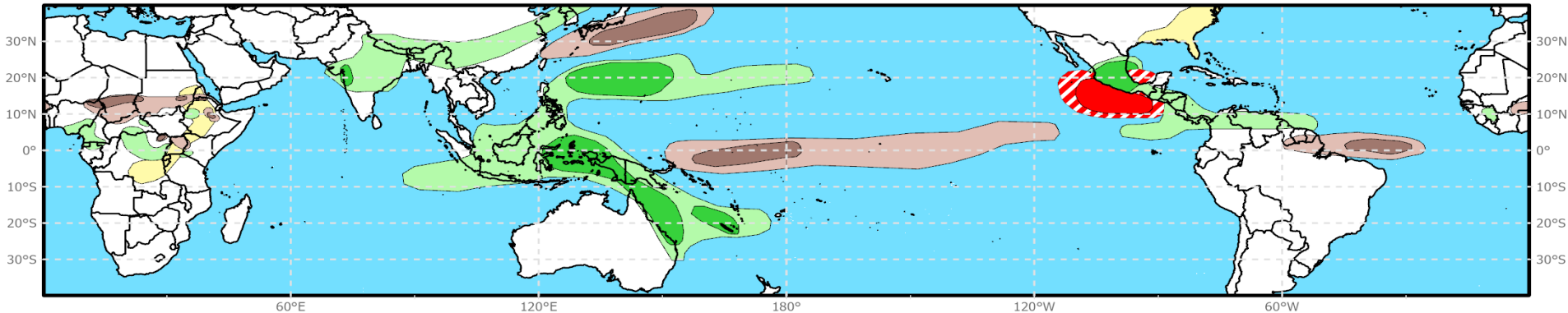


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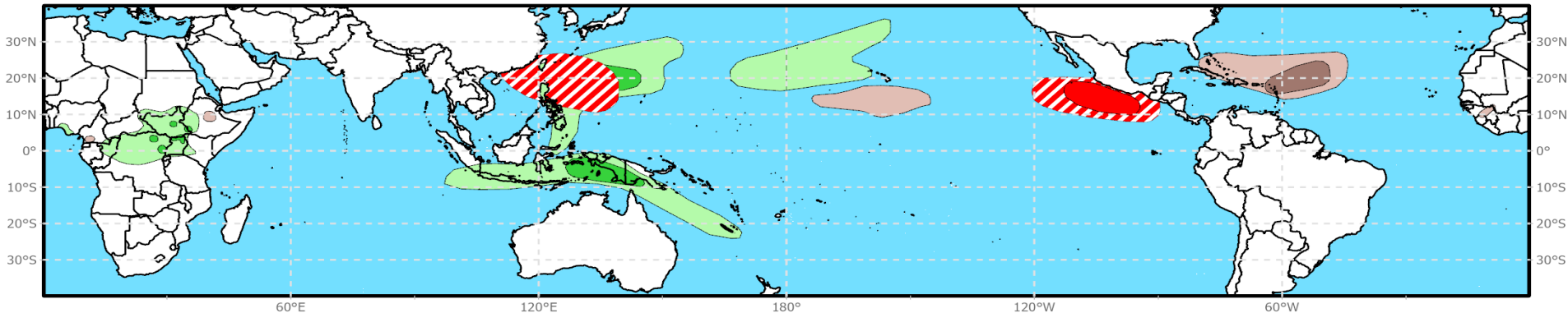
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Week 2 - Valid: Jun 18, 2025 - Jun 24, 2025



Week 3 - Valid: Jun 25, 2025 - Jul 01, 2025



**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

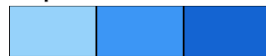
**Above-Average
Temperatures Probability**



>50% >65% >80%

7-day mean temperatures in the
Upper third of the historical range

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Lower third of the historical range

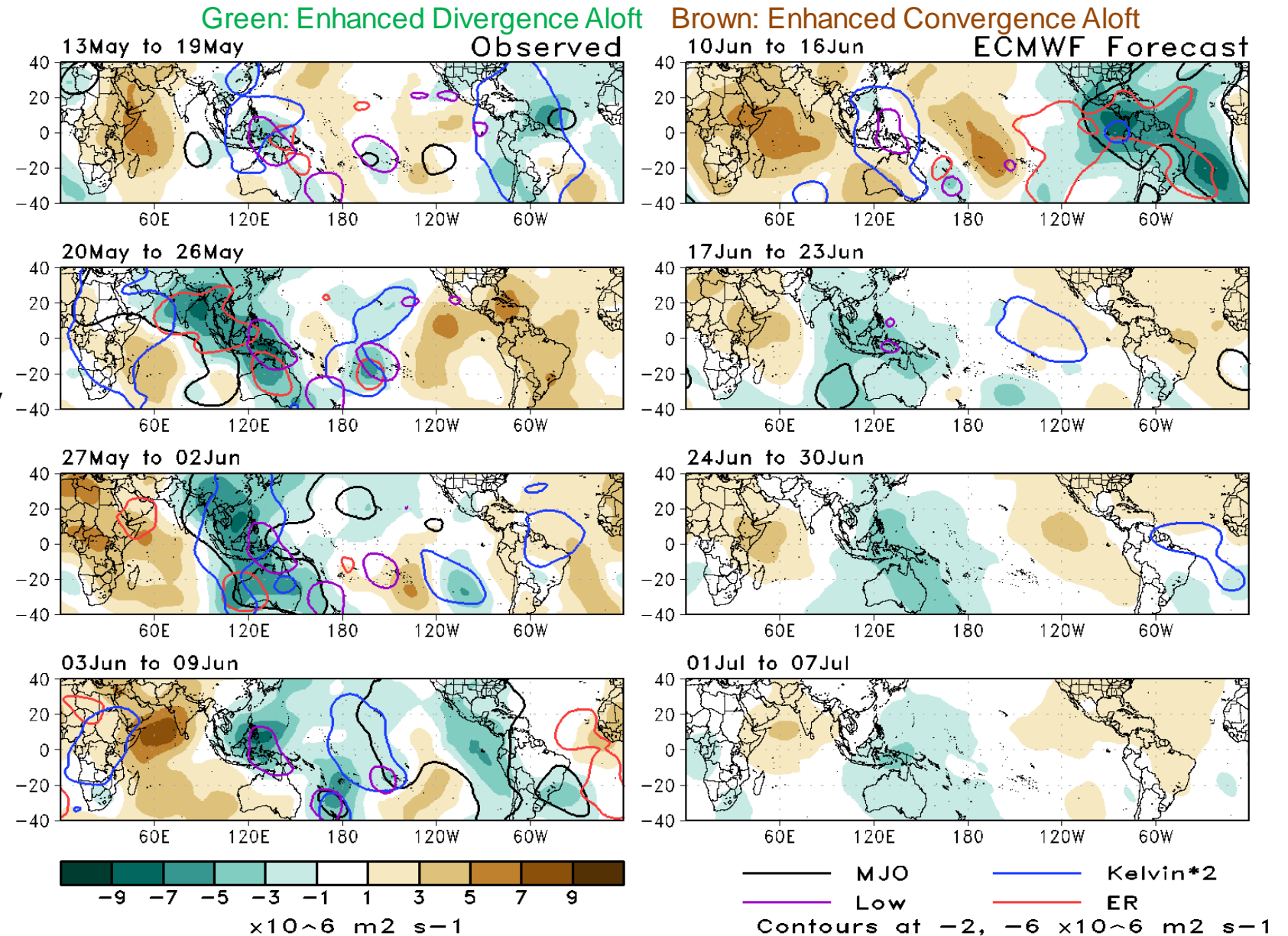
Issued: 06/10/2025

Forecaster: Allgood

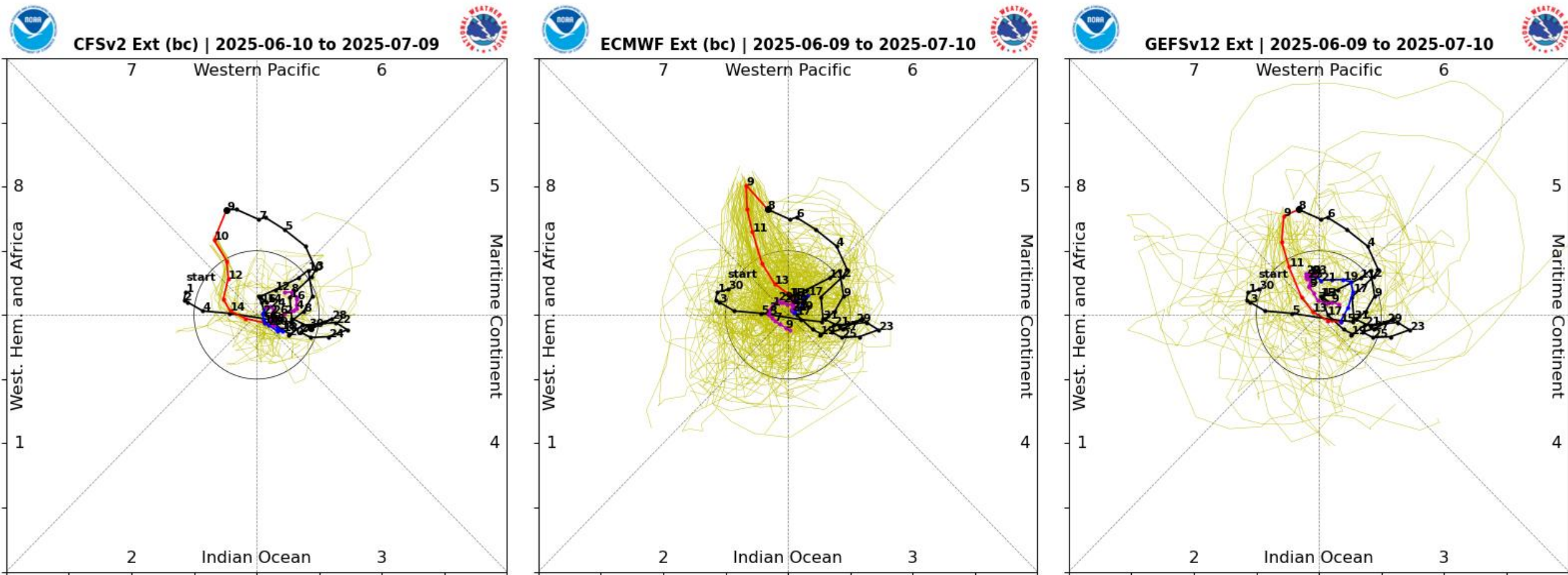
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Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- During late May and early June, an incoherent upper-level pattern became increasingly Wave-1 in appearance.
- Enhancement over the Western Hemisphere is favored to rapidly flip by the end of Week-2, with enhanced convection returning to the Maritime Continent (more low-frequency).

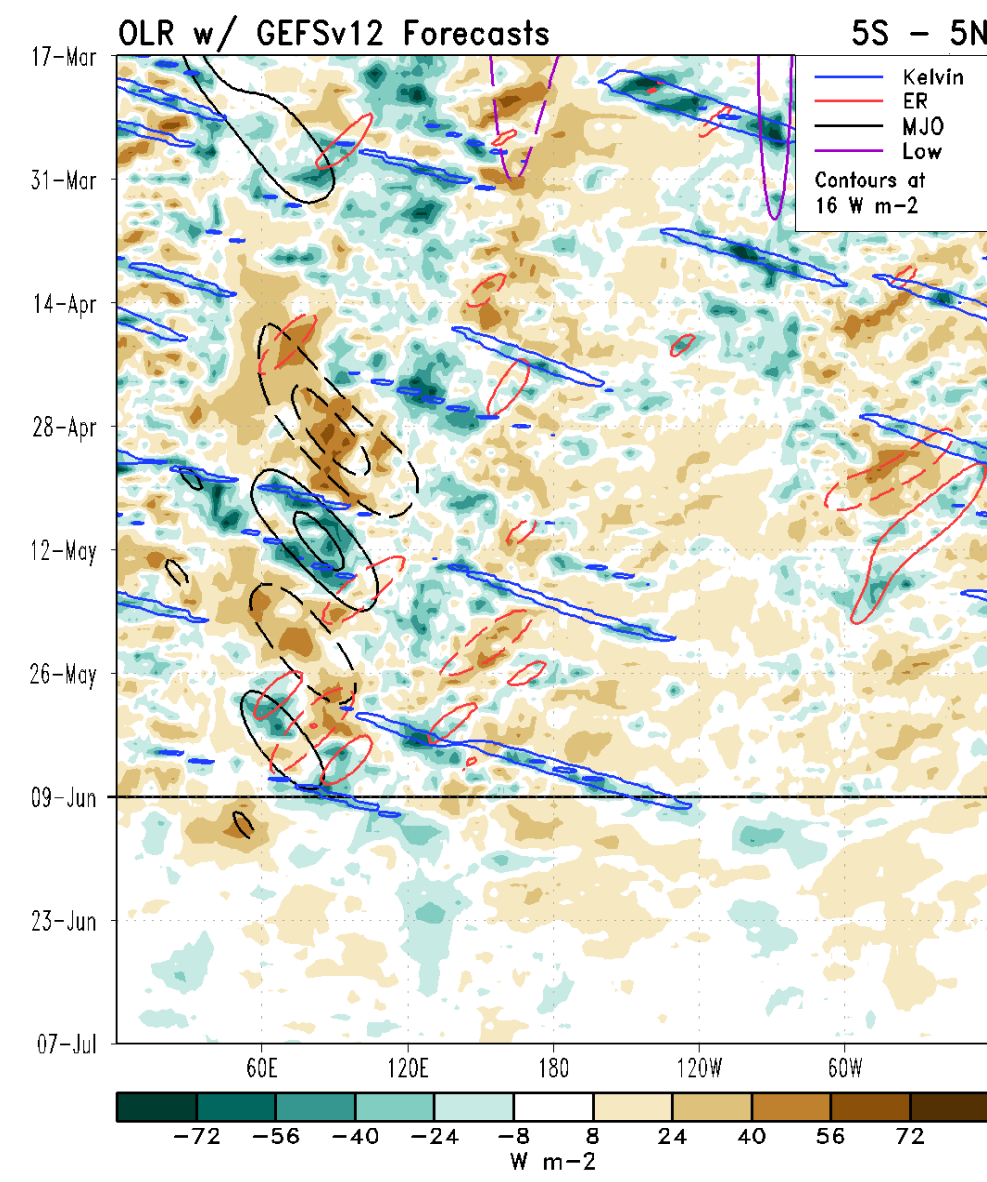
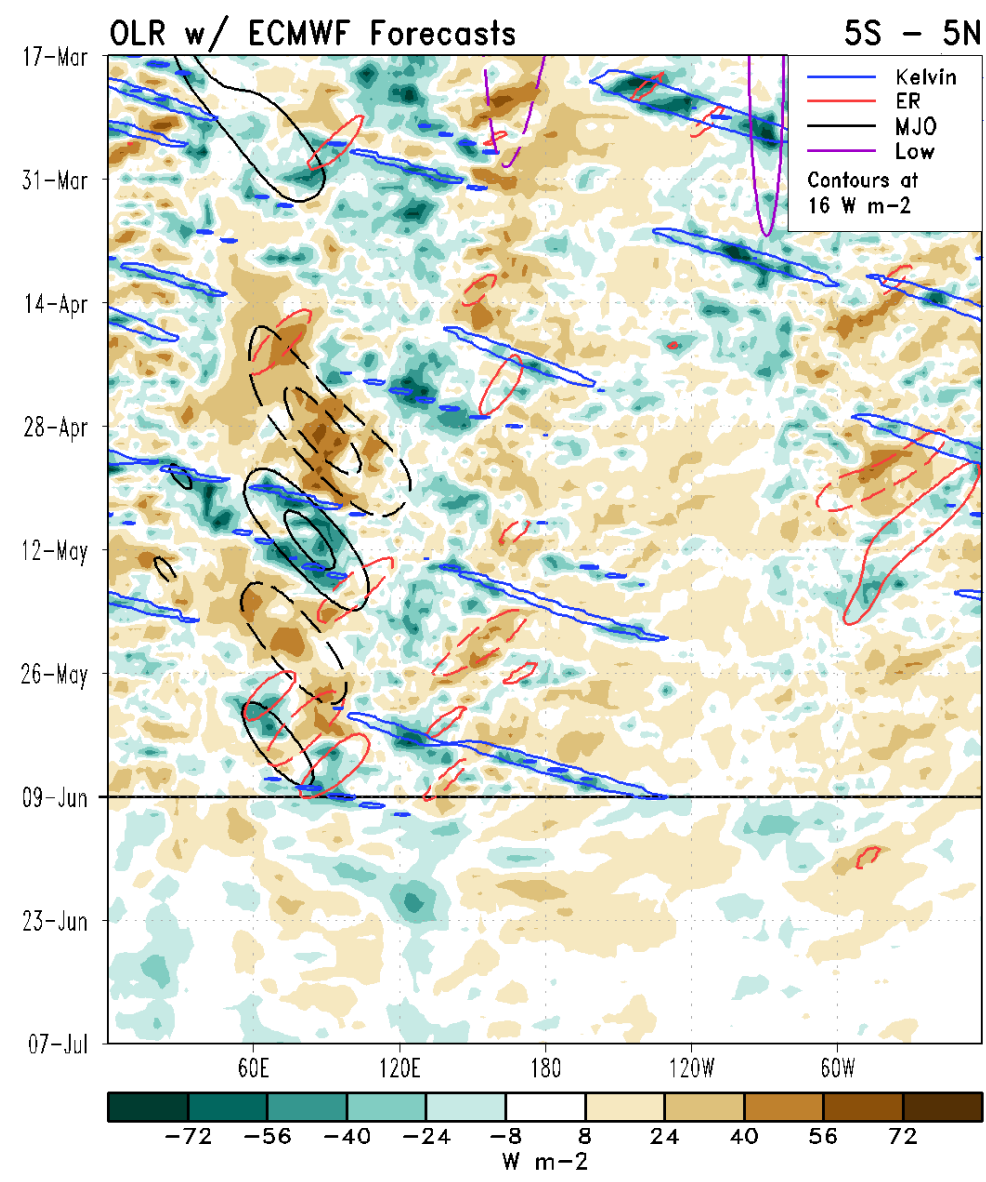


RMM Index Observations & Forecasts:



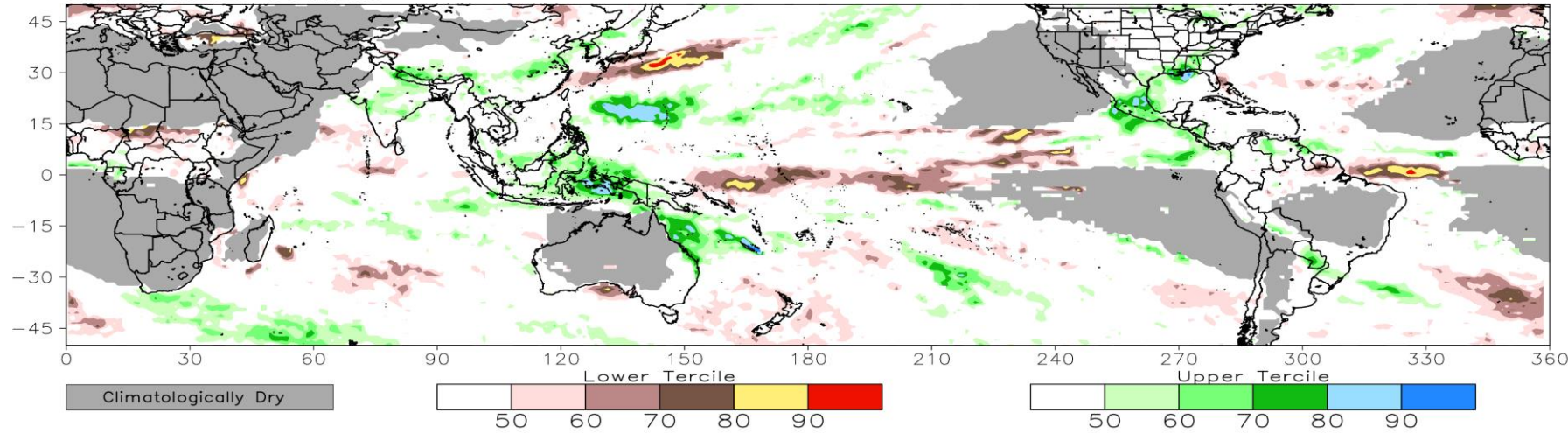
- All three model systems show a rapid collapse of recent MJO activity.
- The ECMWF shows increased confidence in weak MJO activity, while the GEFS has its typical high spread.

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

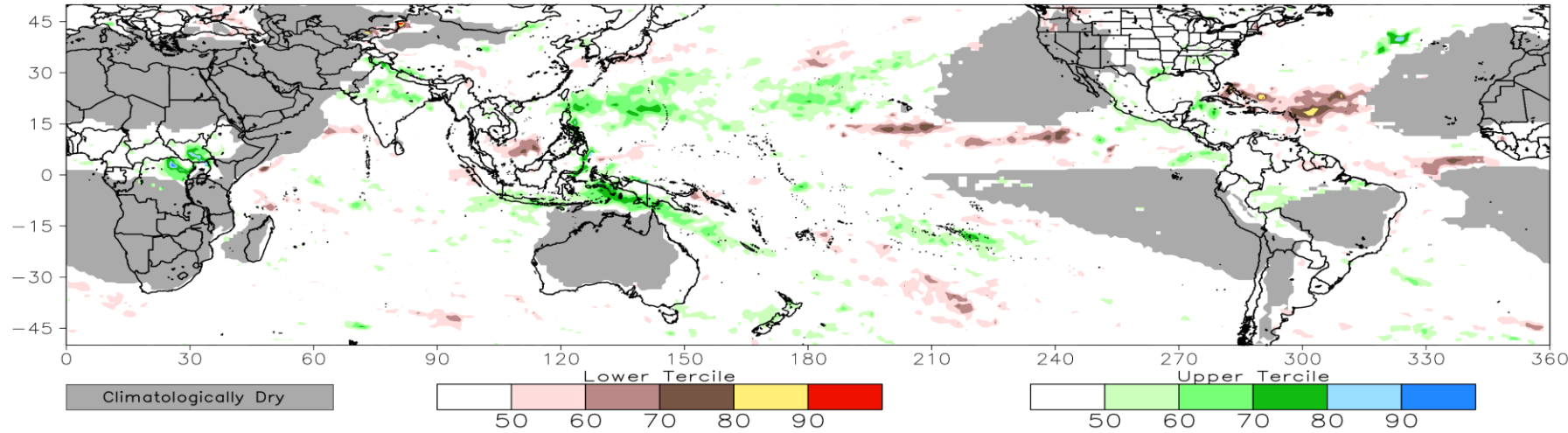


Consolidated Probabilistic Precipitation: Weeks 2 & 3

CONS (CFS+ECMWF+GEFS): Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)
Valid: 18Jun2025–24Jun2025

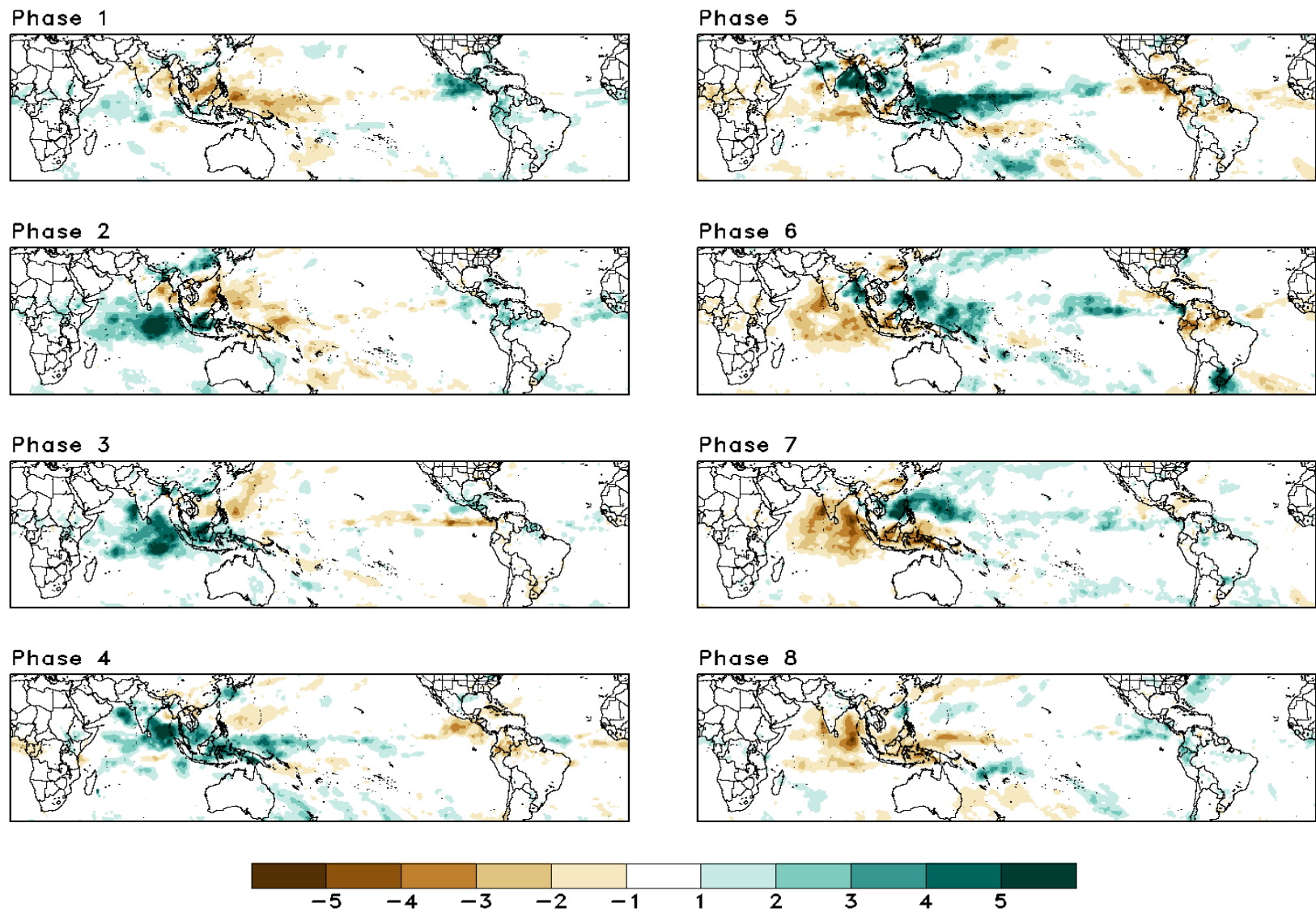


CONS (CFS+ECMWF+GEFS): Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)
Valid: 25Jun2025–01Jul2025



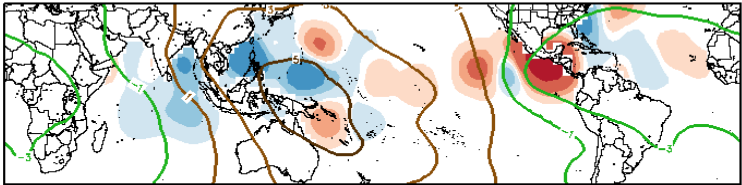
Historical Precipitation Anomalies By MJO Phase:

MJJ MJO Composite: GPCP1DD (mm/day)

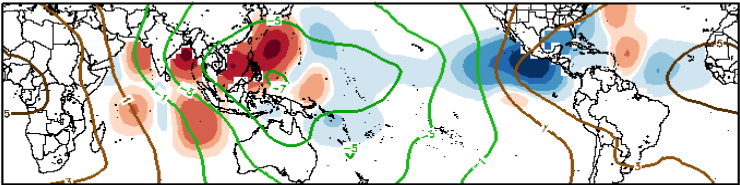


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

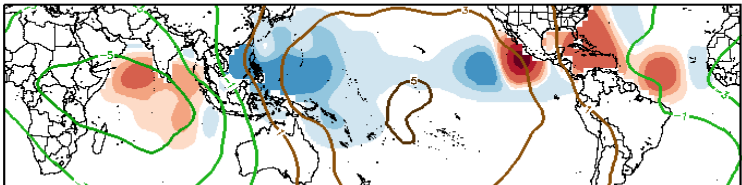
MJJ MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ MJJ CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



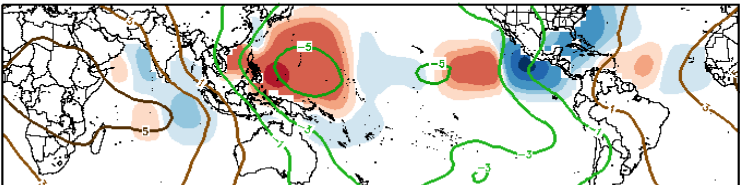
Phase 1



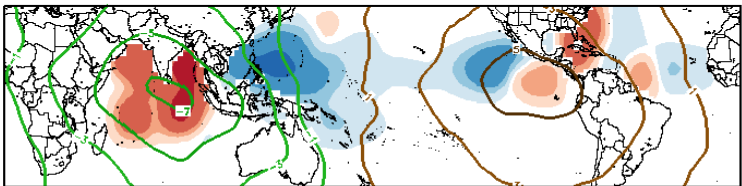
Phase 5



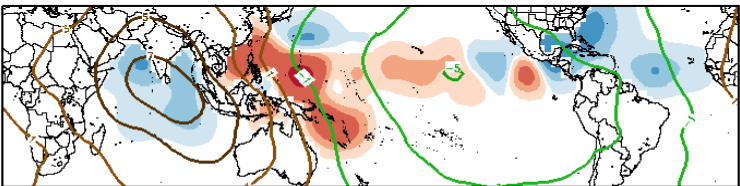
Phase 2



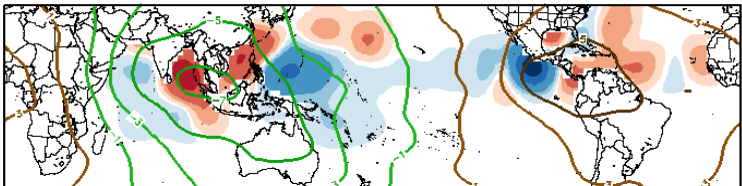
Phase 6



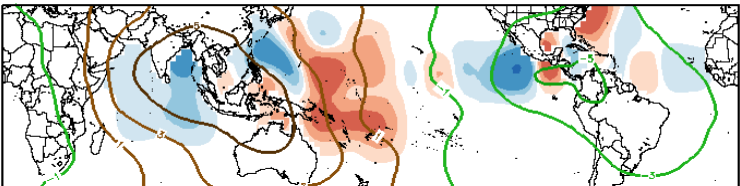
Phase 3



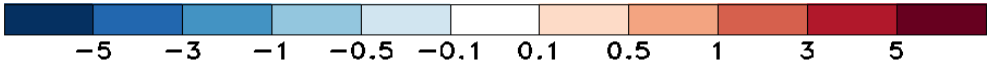
Phase 7



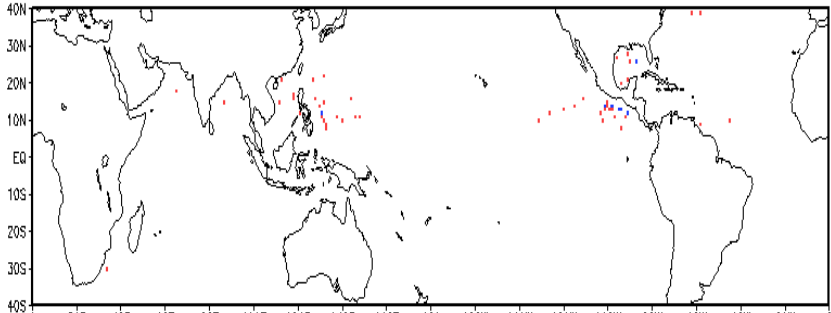
Phase 4



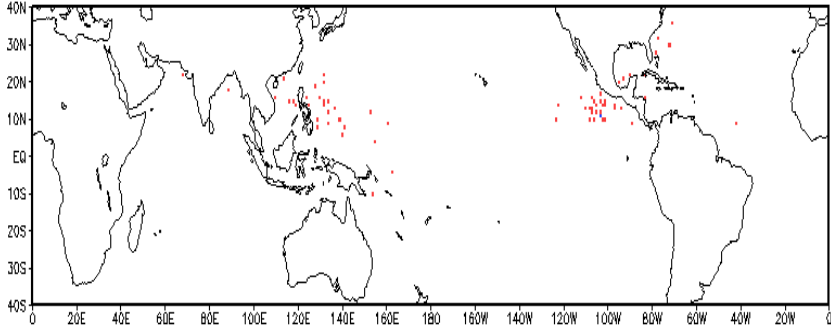
Phase 8



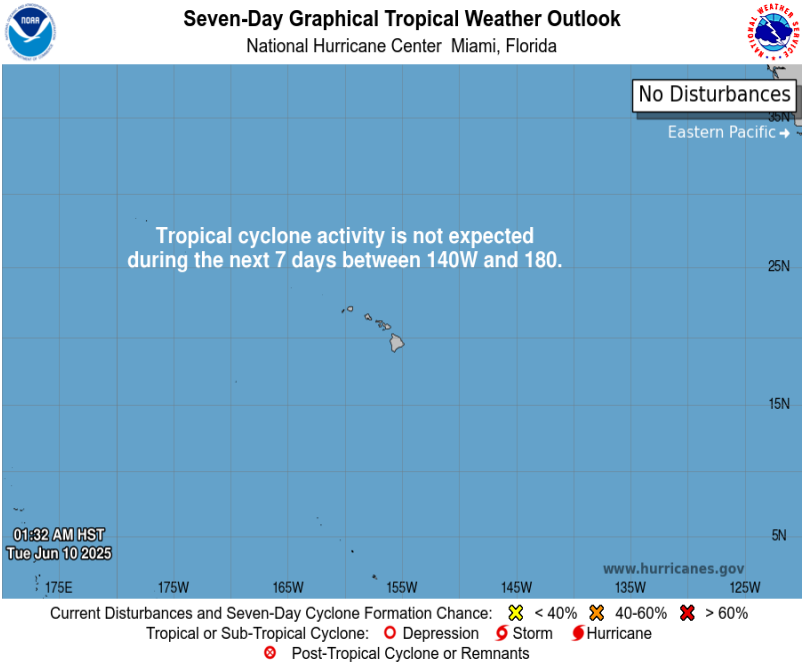
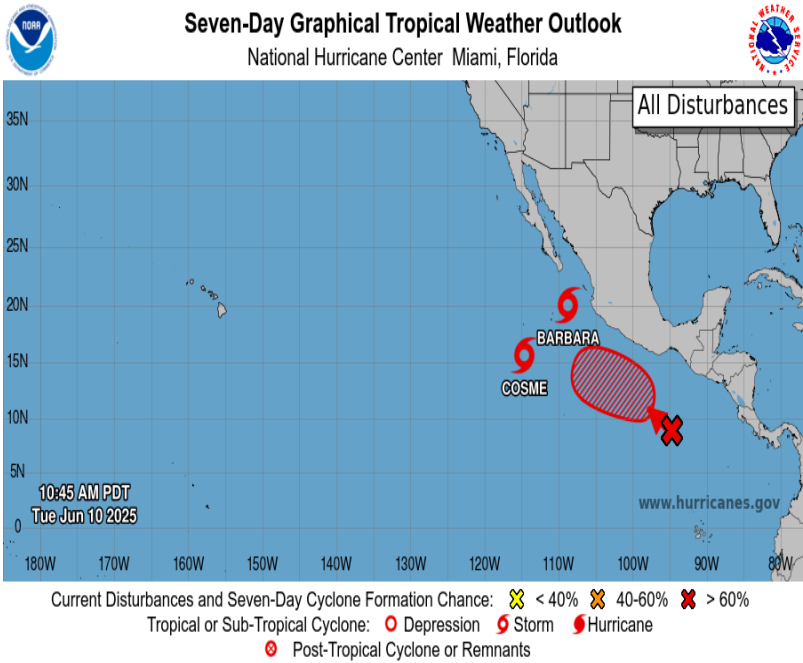
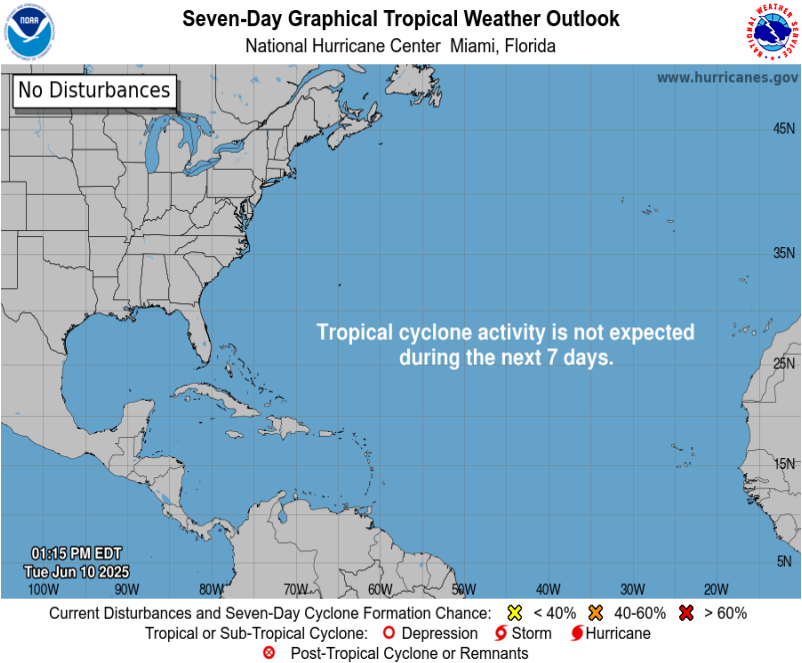
Observed TC Genesis, 1979–2021
7-day Period 0618 to 0624



Observed TC Genesis, 1979–2021
7-day Period 0625 to 0701



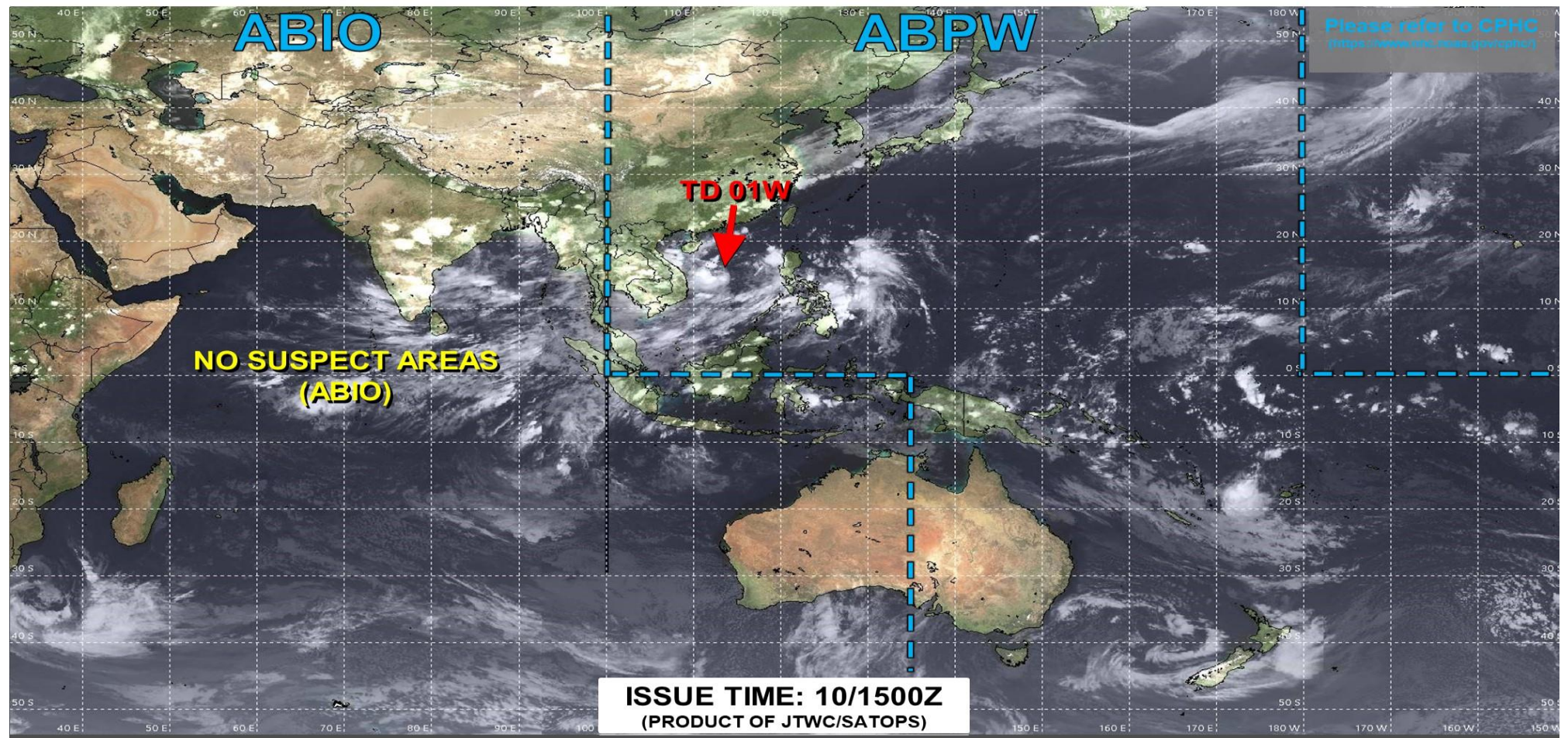
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



Tropical Cyclone Monitoring/Forecast: JTWC



JOINT TYPHOON WARNING CENTER



LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

HIGH

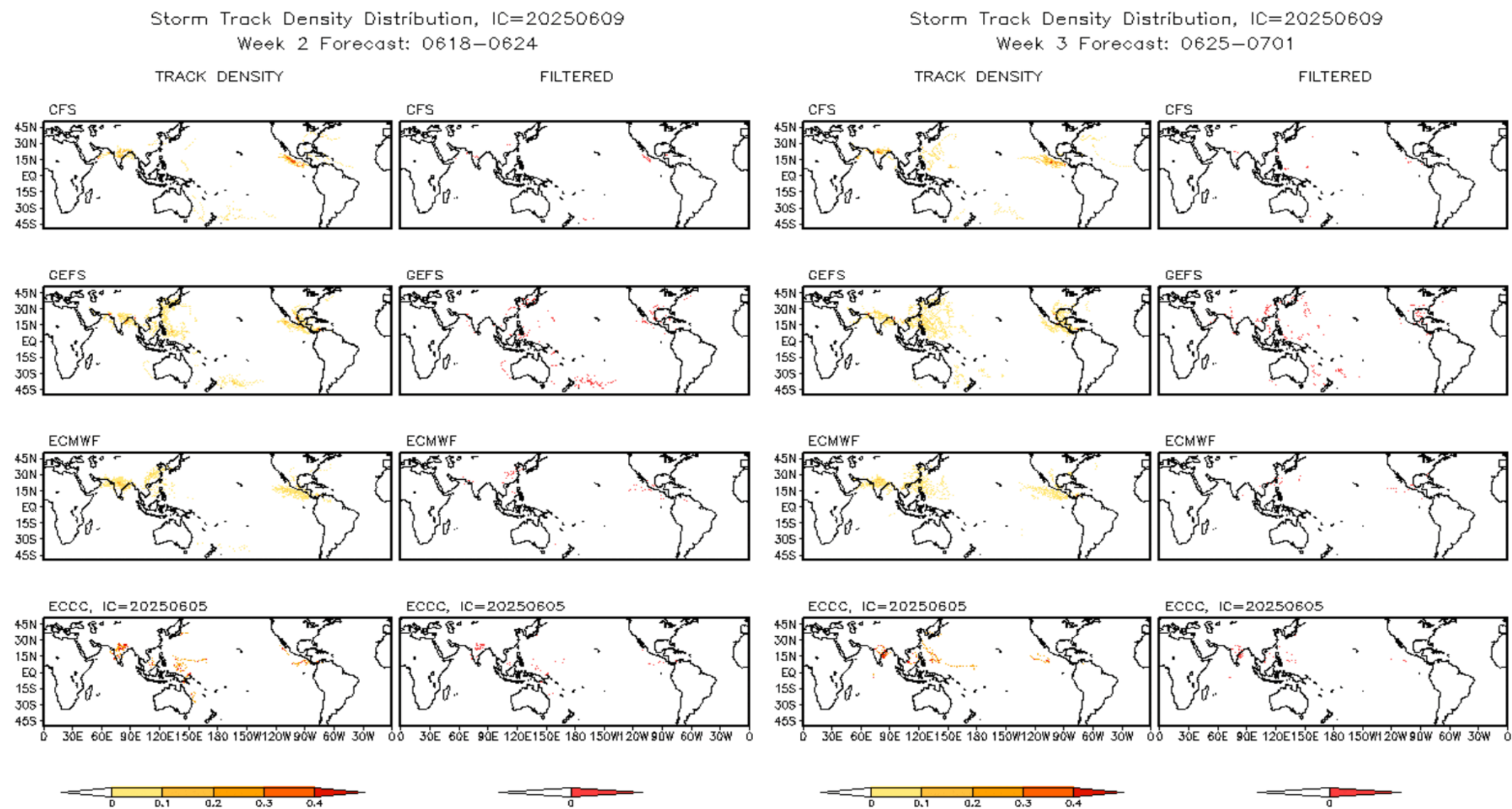
TC development likely within 24 hours (Reference TCFA)

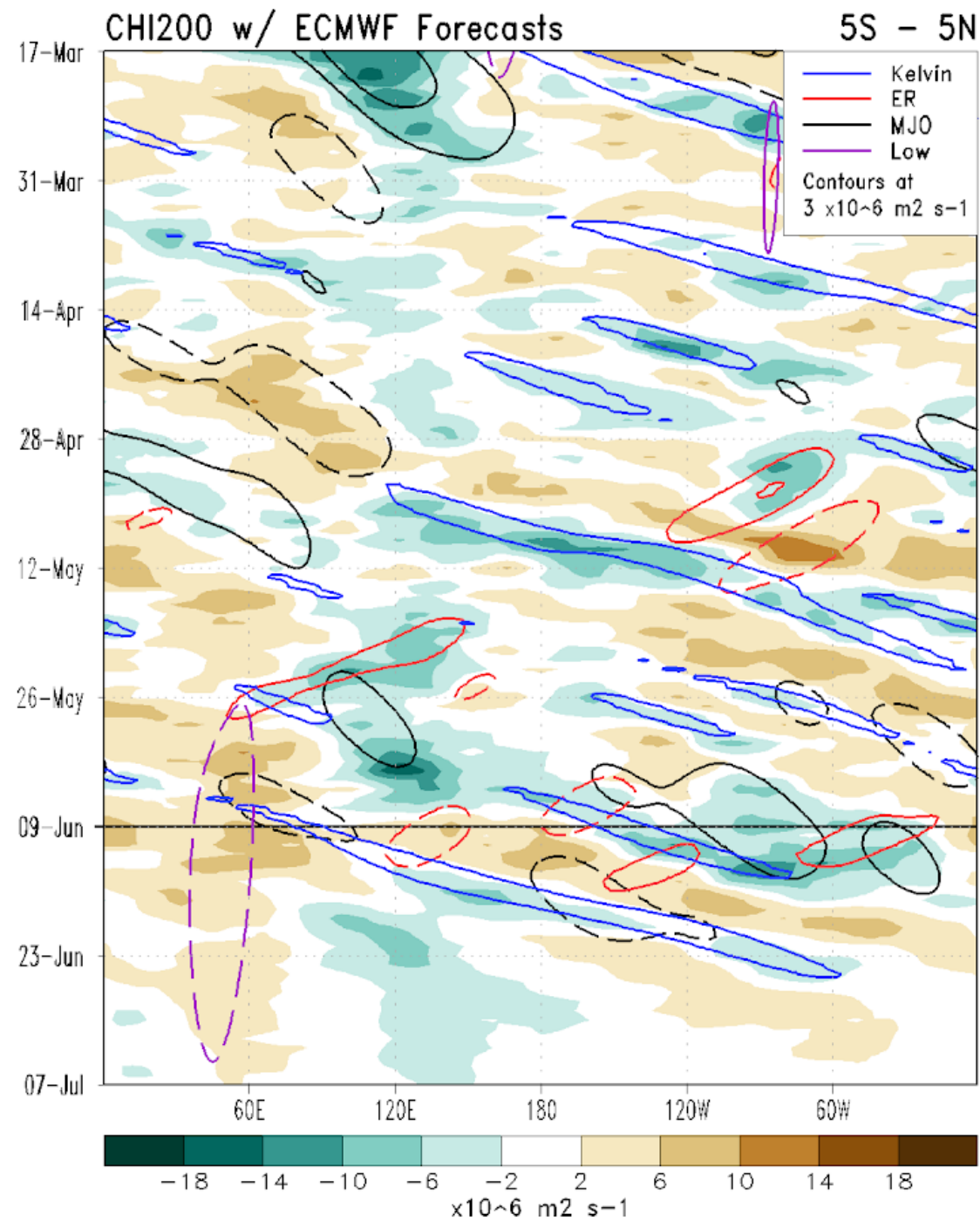
SUB TROPICAL

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

Tropical Cyclone (Reference Warning)

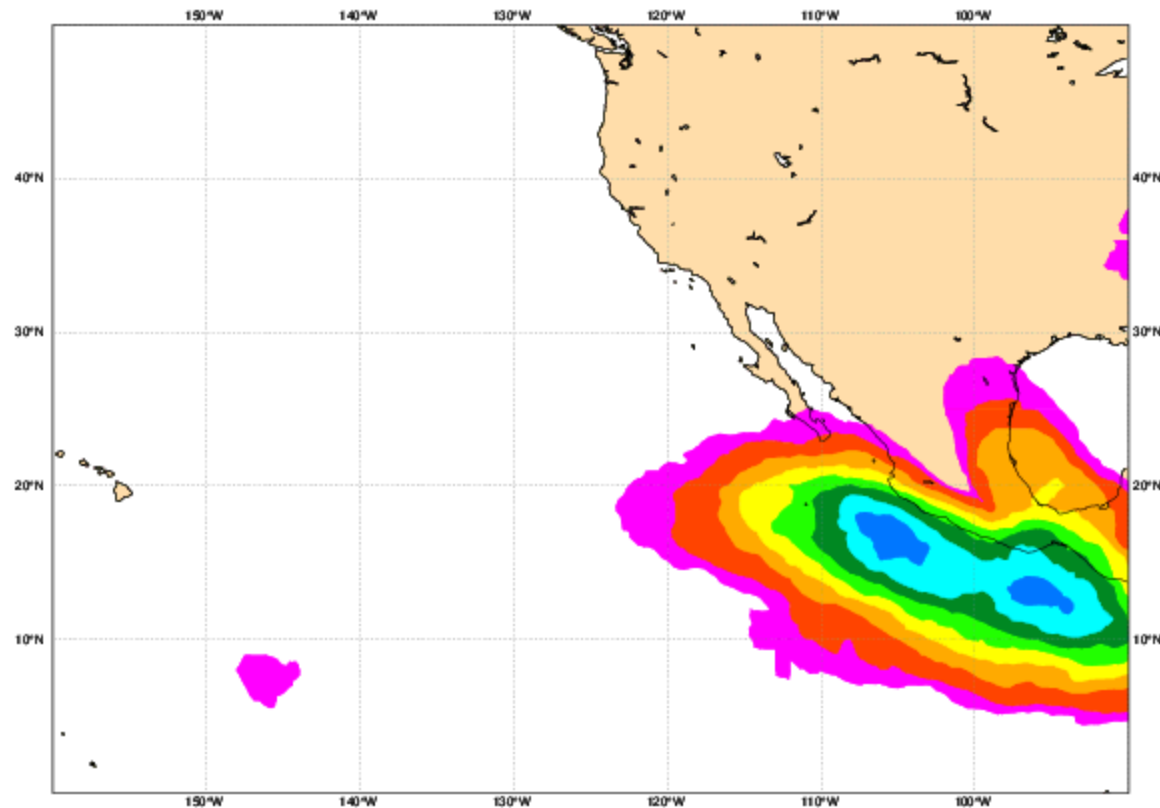
Multi-Model TC Track Densities: Weeks 2+3





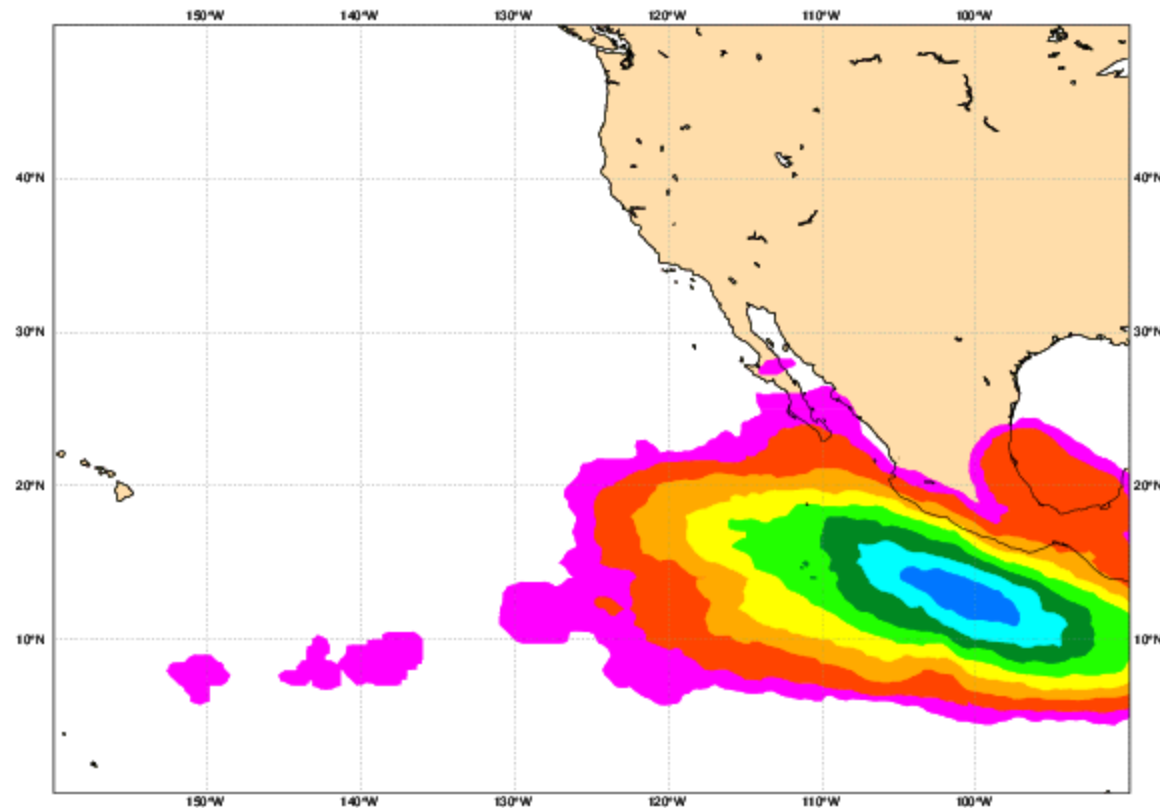
Weekly Mean Tropical Cyclone Strike Probability. Date: 20250609 0 UTC $t_{+}(168-336)$
Probability of a TC passing within 300km radius

5-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 90-110



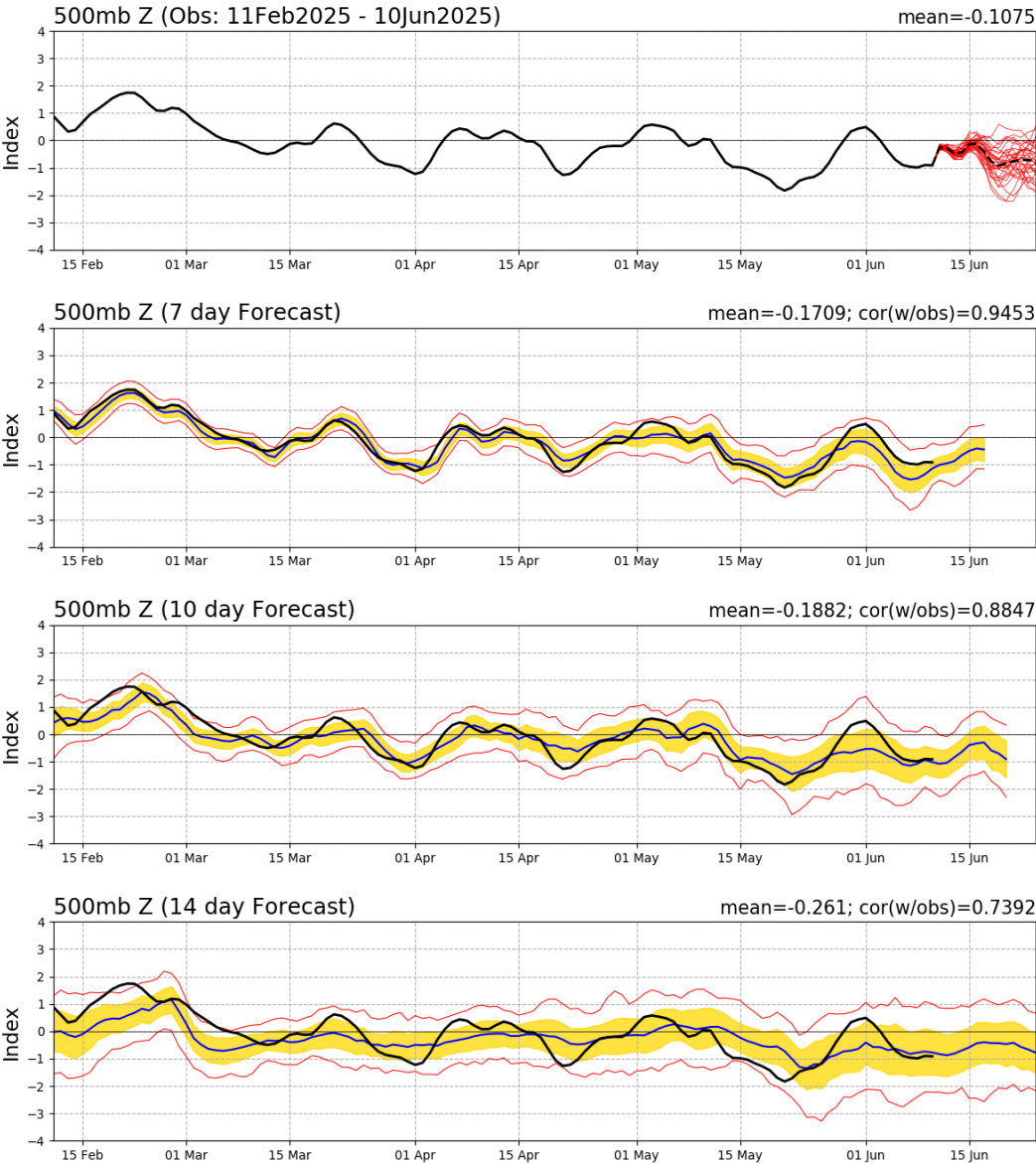
Weekly Mean Tropical Cyclone Strike Probability. Date: 20250609 0 UTC $t_{+}(336-504)$
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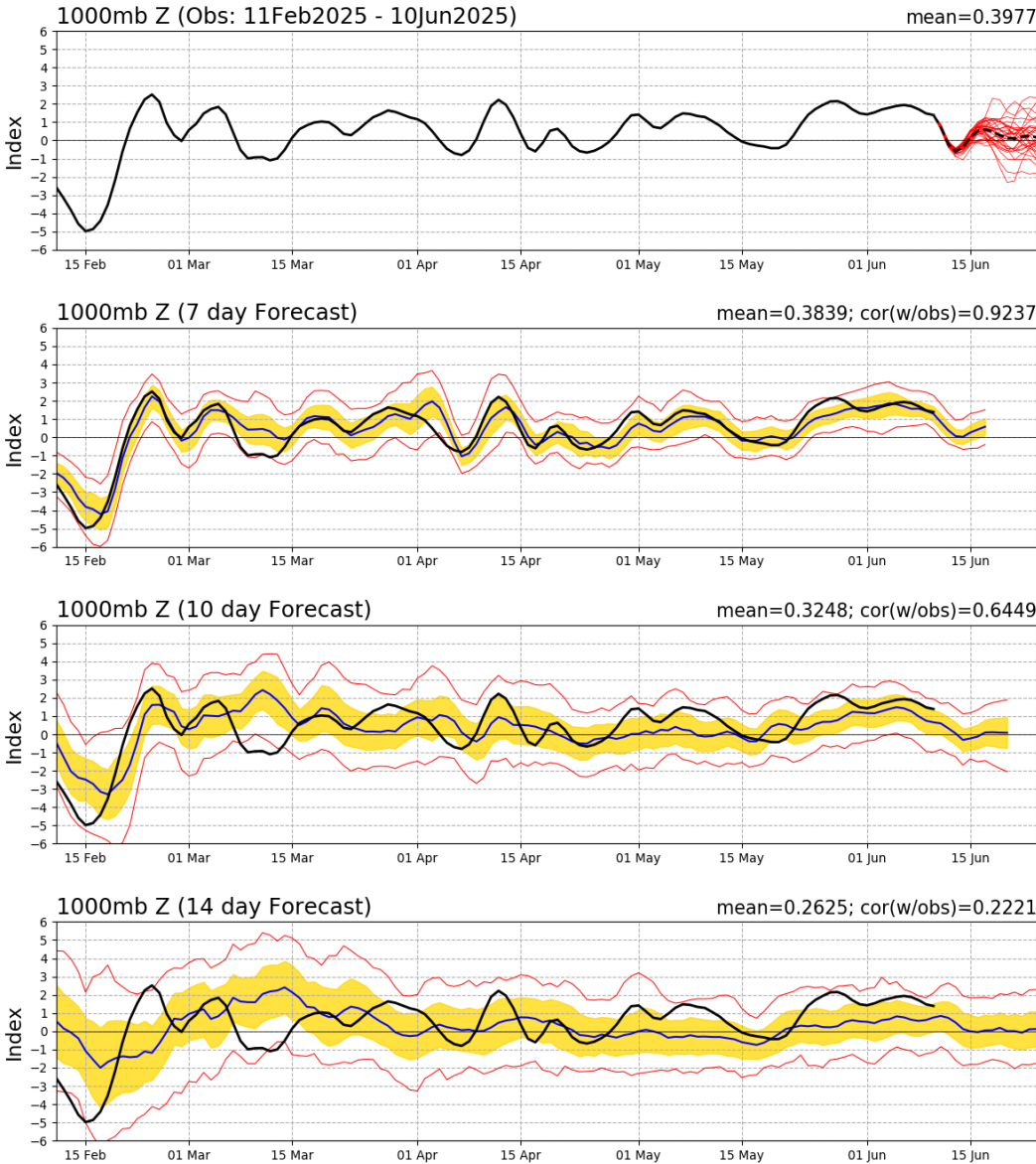


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

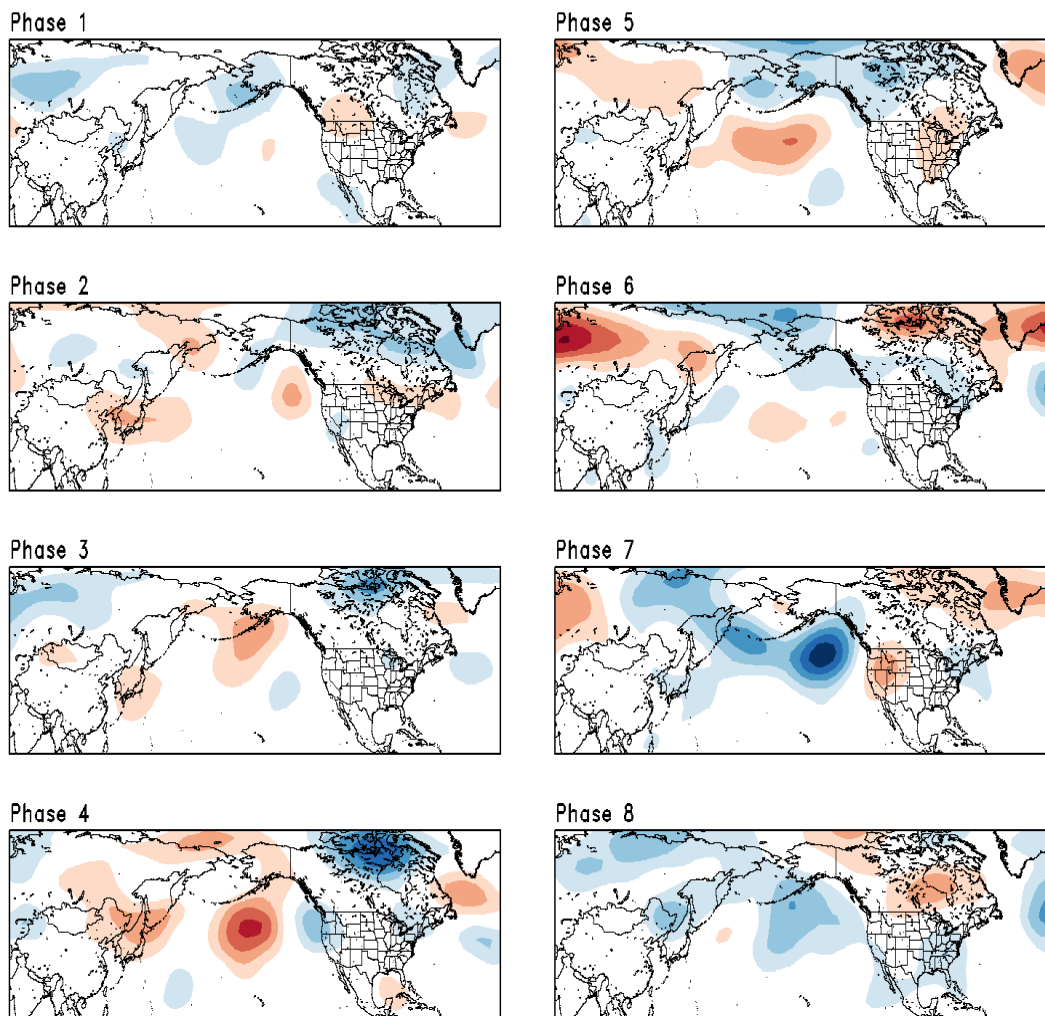


AO Index: Observed & GEFS Forecasts

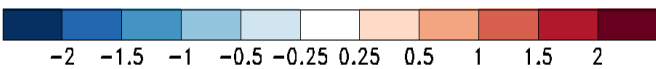
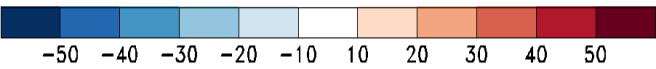
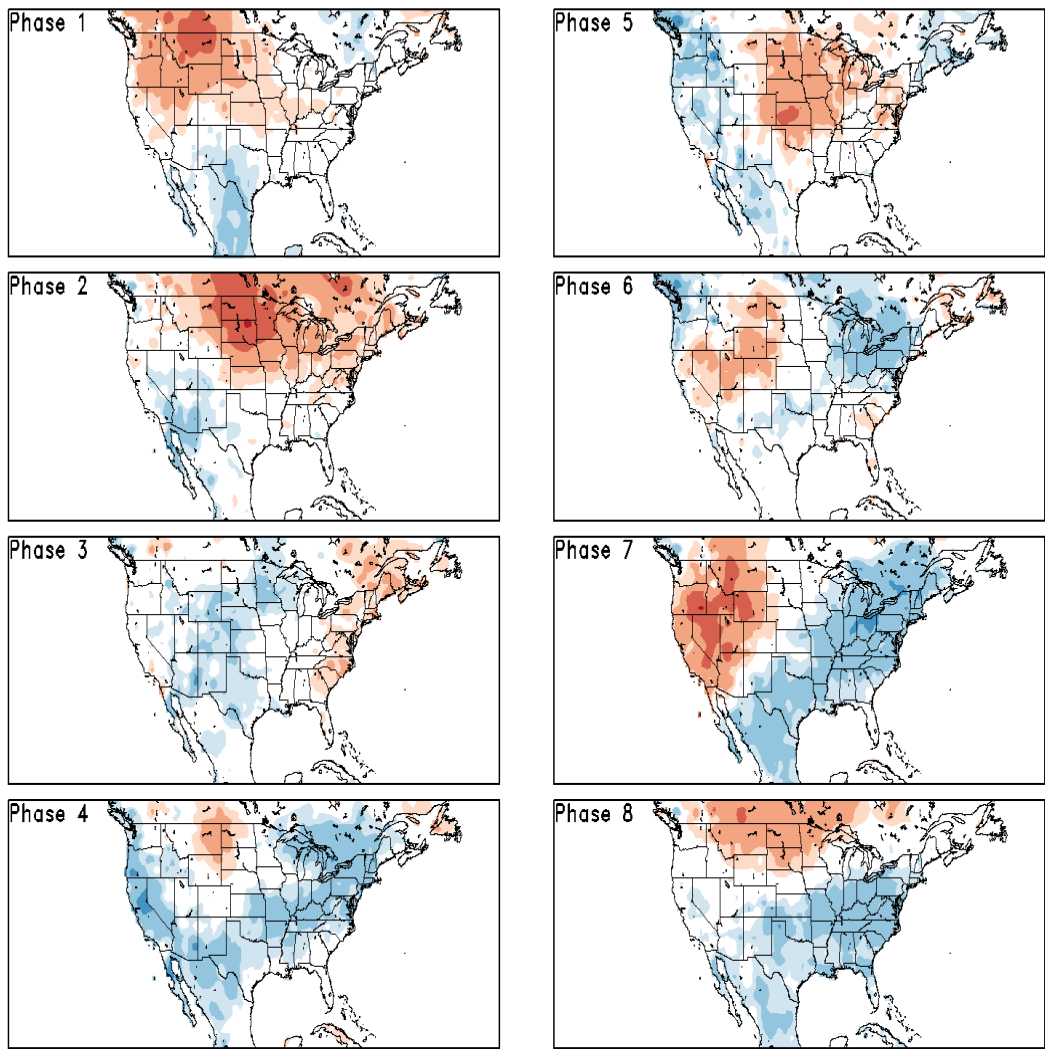


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

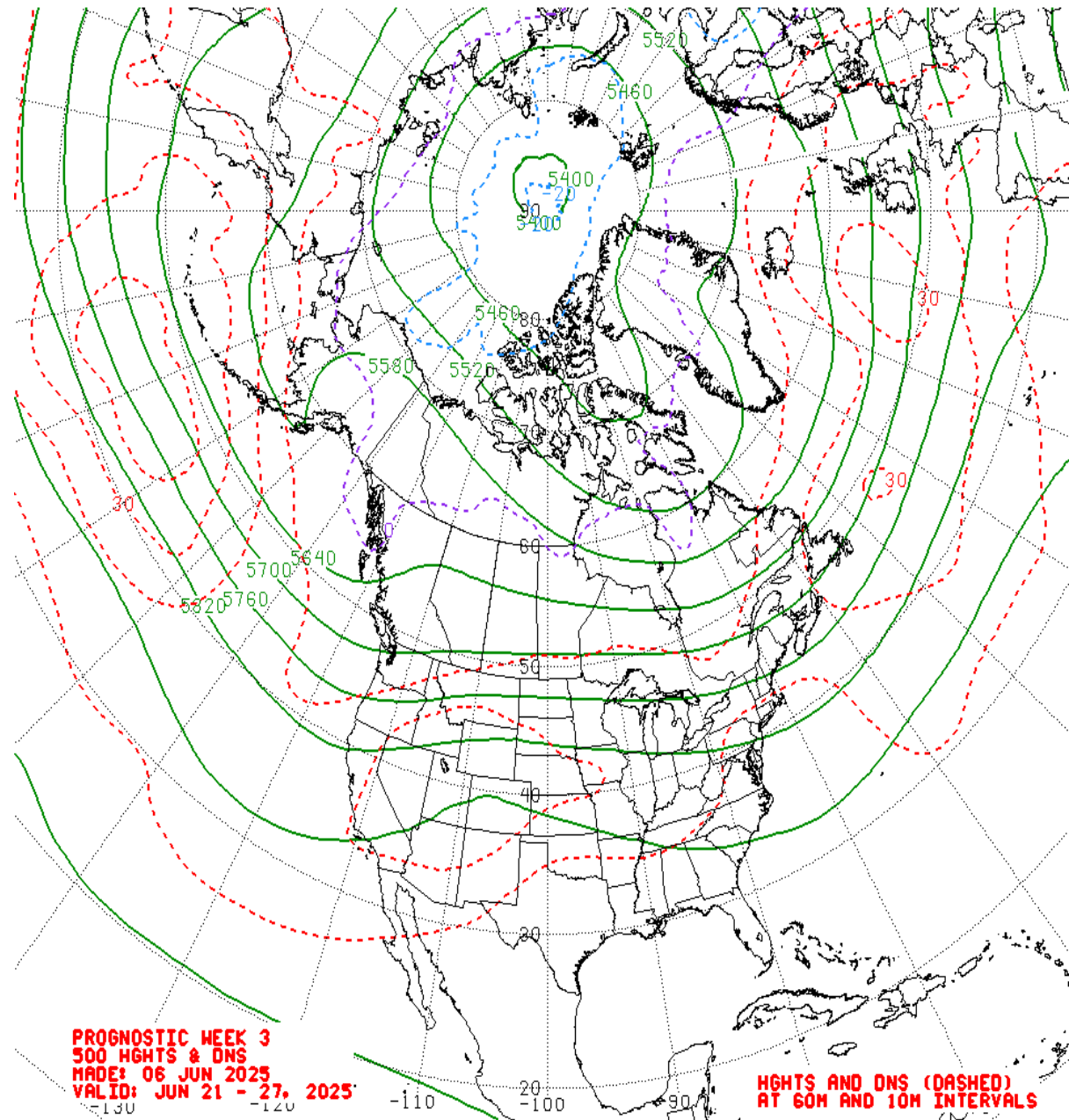
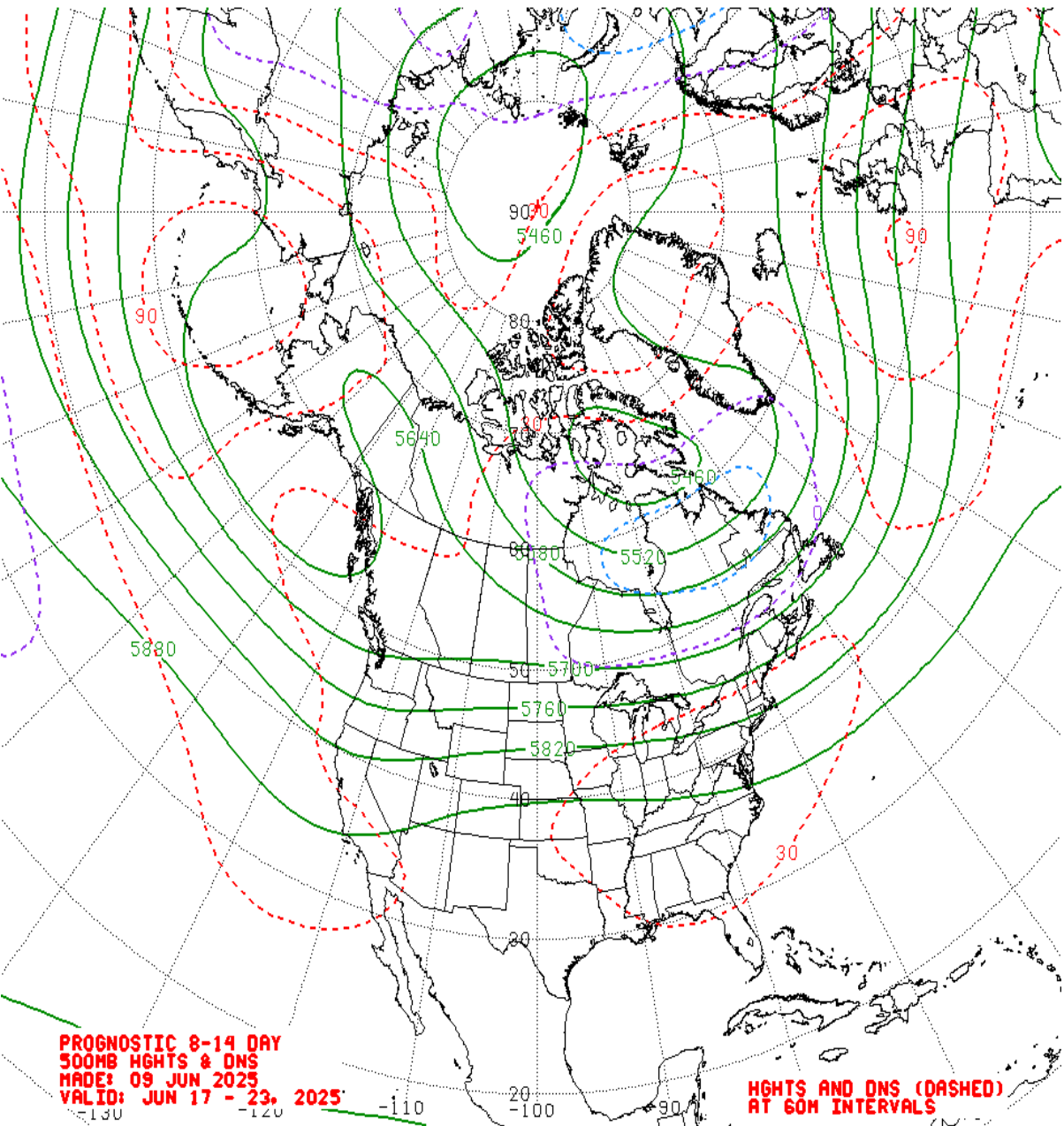
MJJ MJO Composite: CDAS 500-hPa Height (m)



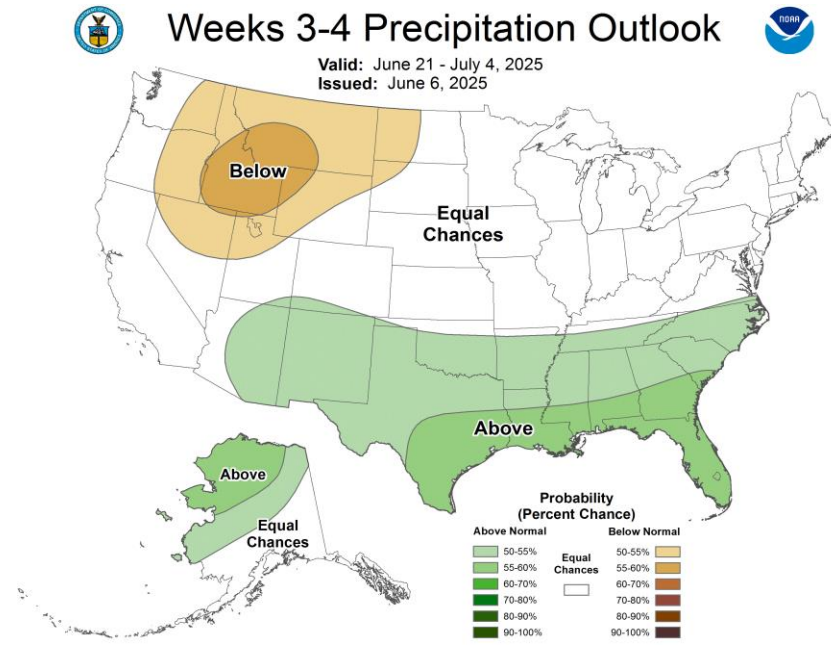
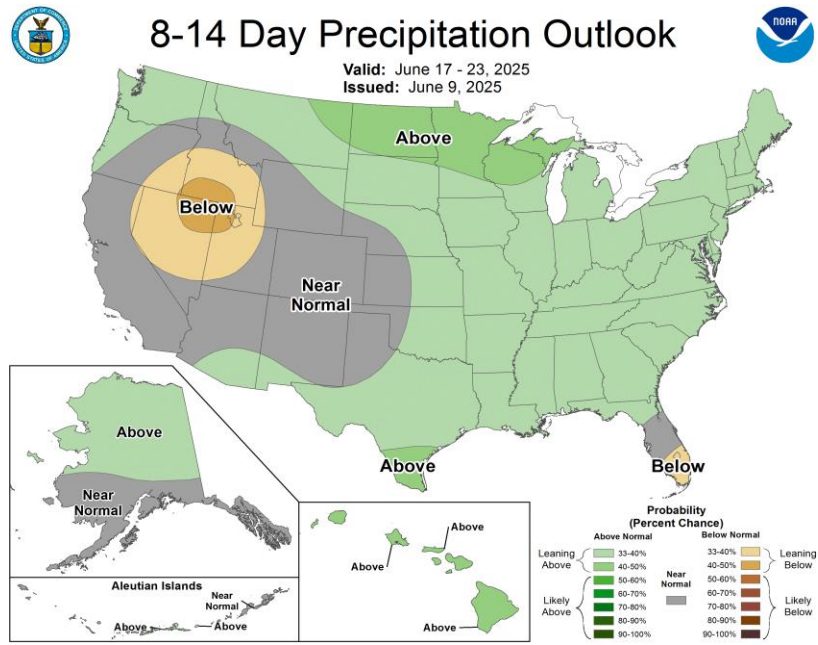
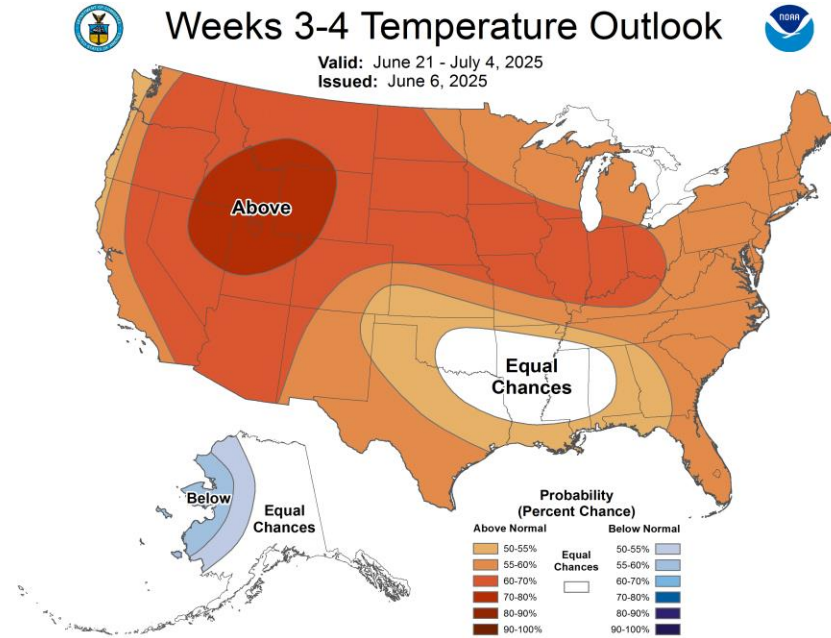
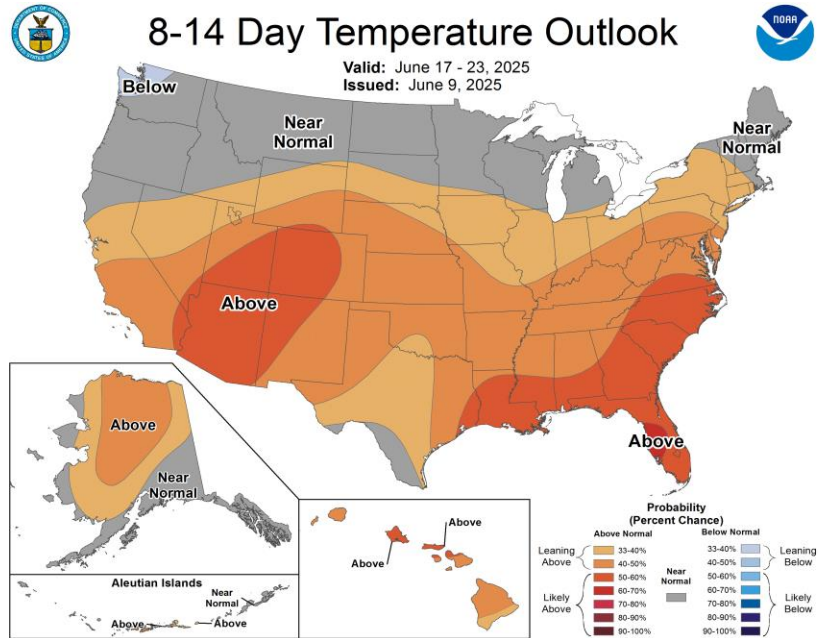
MJJ MJO Composite: GLBT (degC)



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



Official Temperature & Precipitation Forecasts:



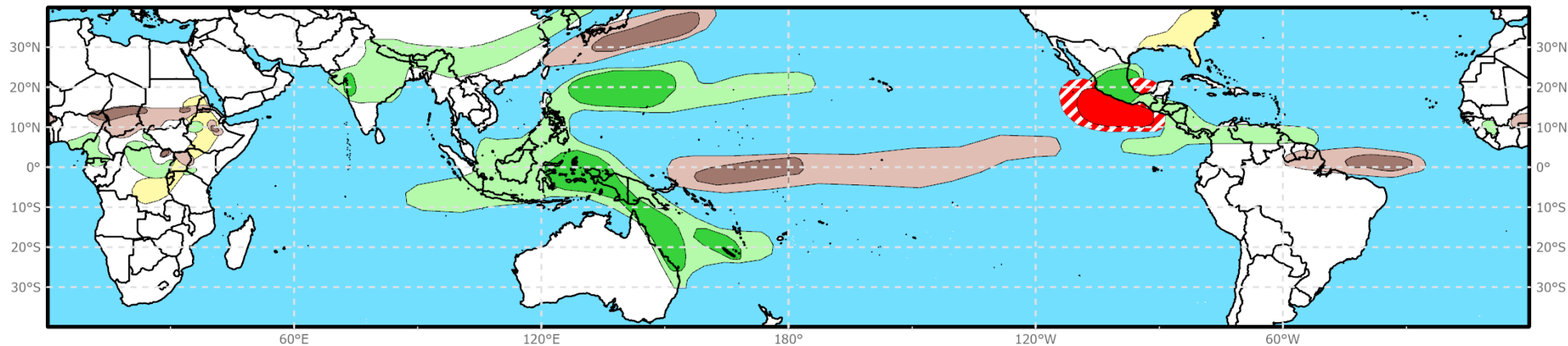


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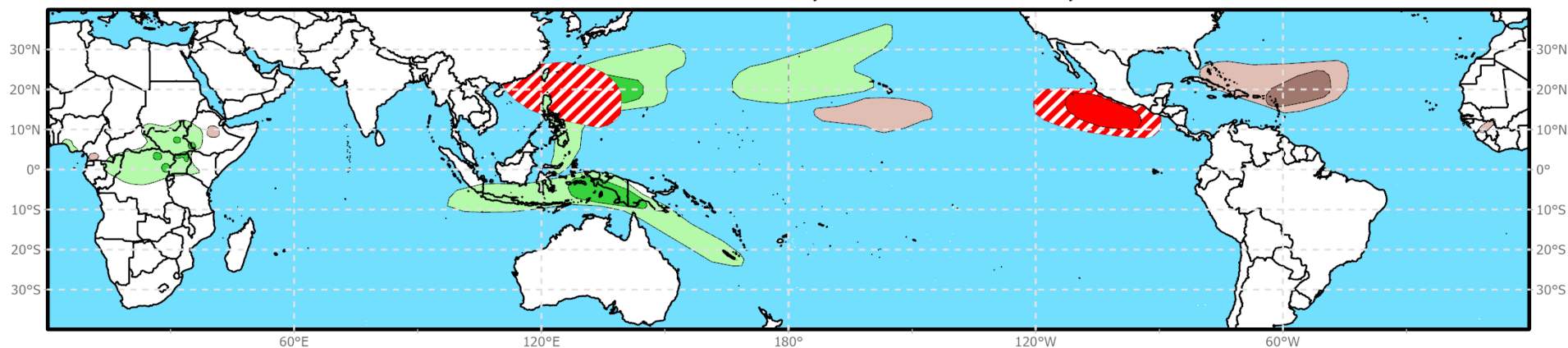
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