



Weeks 2-3 Global Tropics Hazards Outlook

7/1/2025

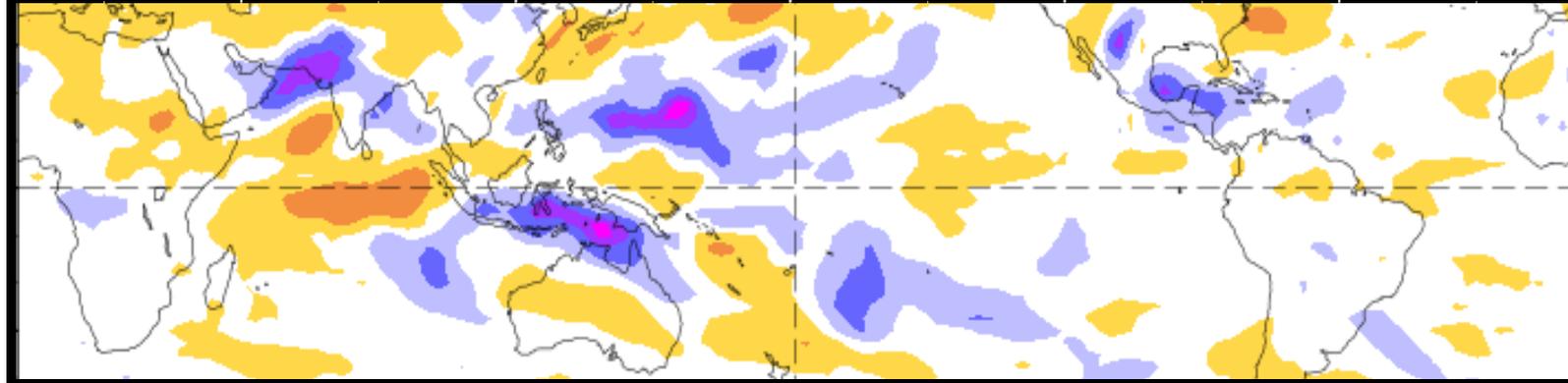
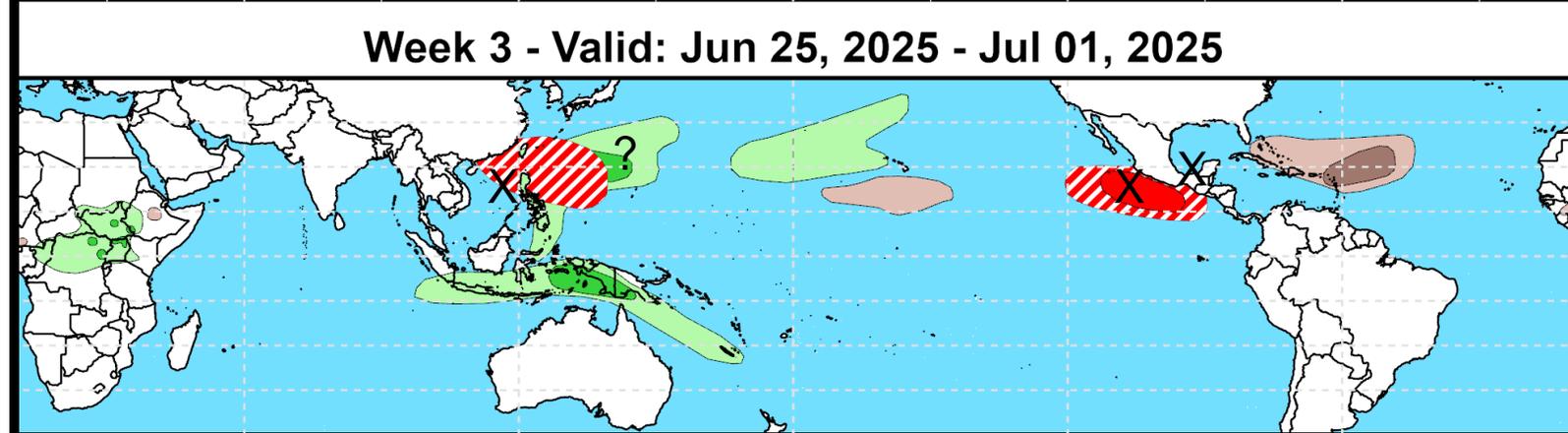
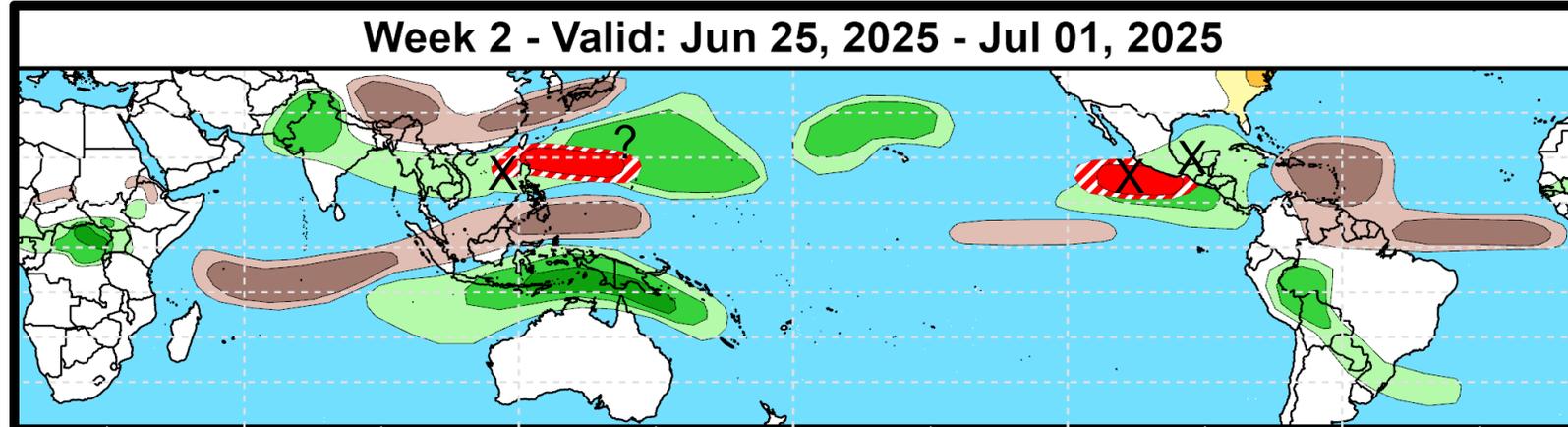
Nick Novella

NWS / NCEP / Climate Prediction Center

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

- EPAC: Flossie (6/29)
- ATL: Barry (6/28)
- WPAC: TD03

- WPAC: TCFA on 90W?



Synopsis of Climate Modes:

ENSO: (Jun 12, 2025 Update) *next update on Thursday, Jul 10th*

- ENSO Alert System Status: Not Active
- ENSO-neutral is likely in the Northern Hemisphere summer 2025 (85% chance in JJA) and may continue into winter 2025-26, though confidence is lower (48% chance of Neutral and 41% chance of La Nina in NDJ).

MJO and other subseasonal tropical variability:

- The MJO remains disorganized with other modes of tropical variability continuing to prevail throughout the global tropics.
- RMM forecasts are generally unsupportive of a reorganizing MJO, with the exception of the GEFS which favors an amplifying Maritime Continent and Western Pacific event later in July. Although it is unclear whether this signal is reflective of true subseasonal activity or a strengthening of low frequency variability, the favored shift of the large-scale circulation pattern is significant.
- As a result of this shift, conditions are expected to become much less favorable for TC development in the eastern Pacific and Atlantic. Conversely, there are elevated chances for TC development in the western Pacific during the next several weeks.

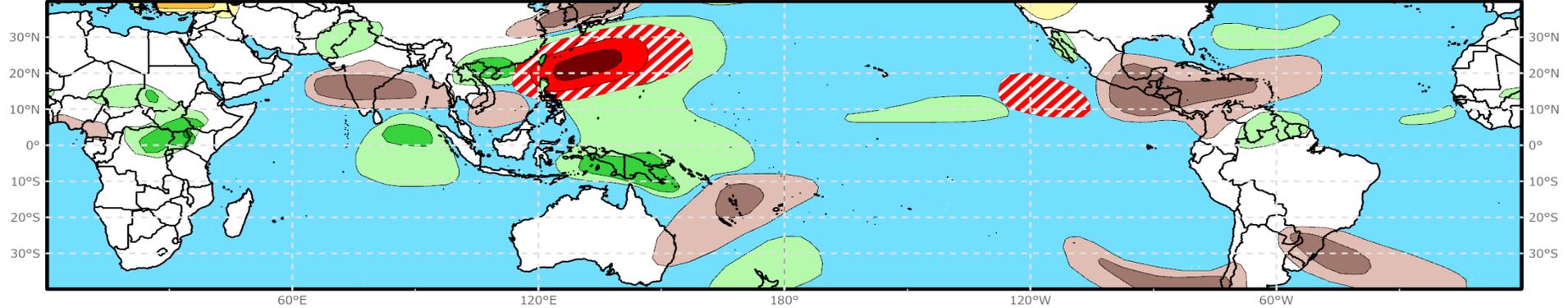


Global Tropics Hazards Outlook

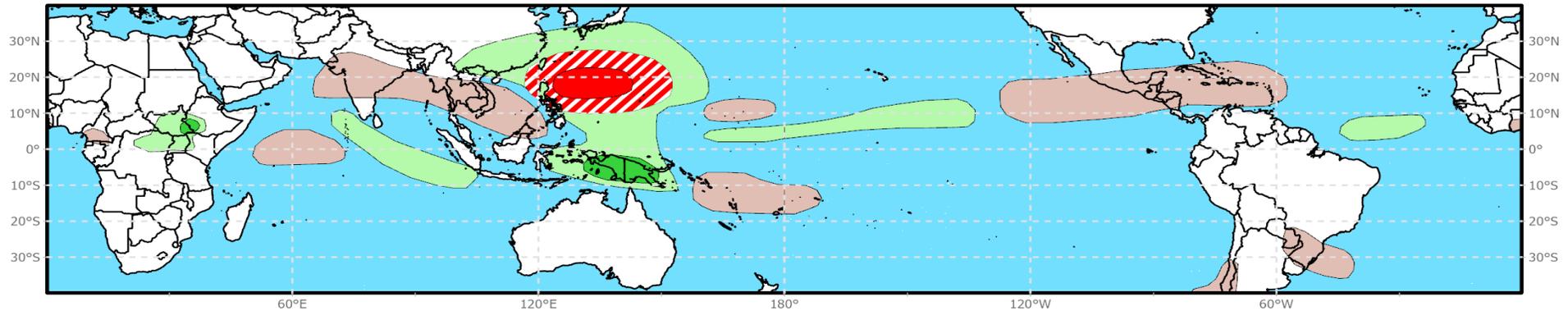
Climate Prediction Center



Week 2 - Valid: Jul 09, 2025 - Jul 15, 2025



Week 3 - Valid: Jul 16, 2025 - Jul 22, 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

**Below-Average
Temperatures Probability**



>50% >65% >80%

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

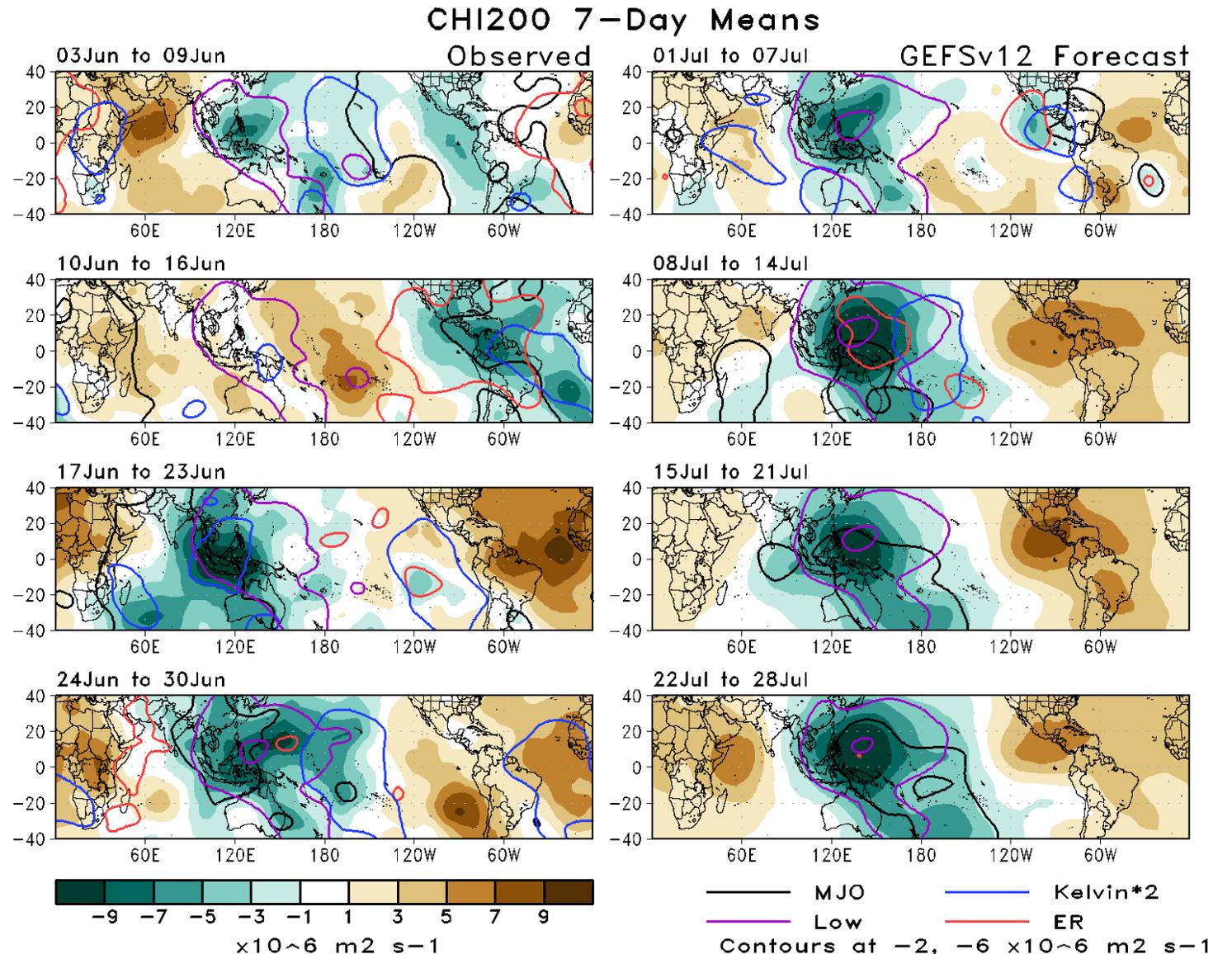
**Issued: 07/01/2025
Forecaster: Novella**

This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

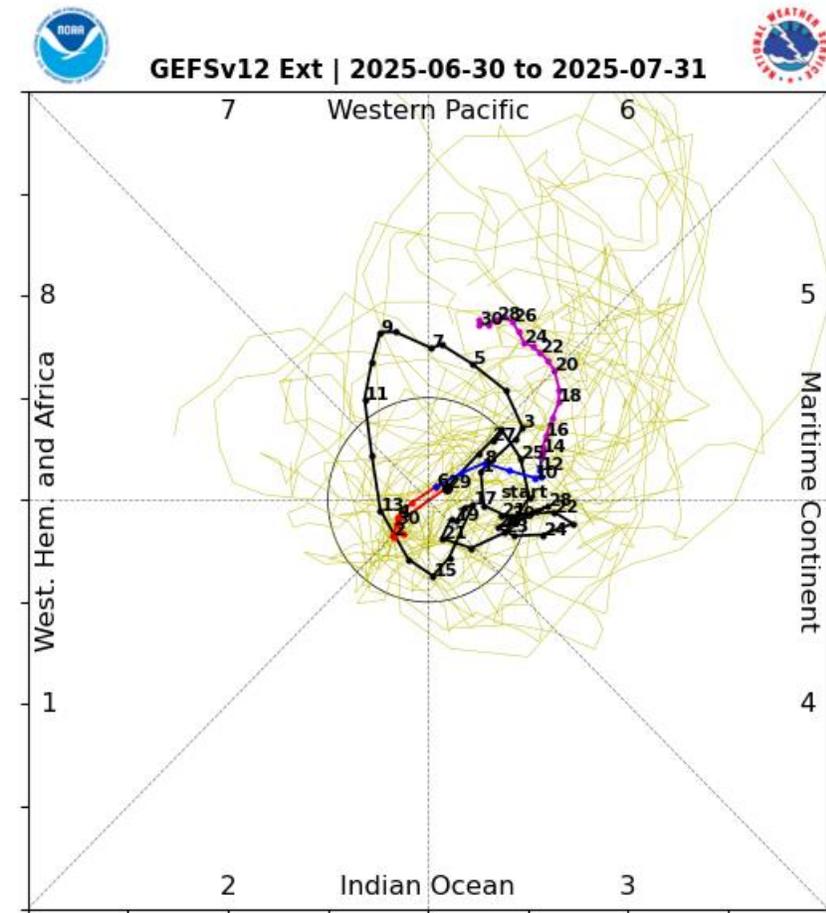
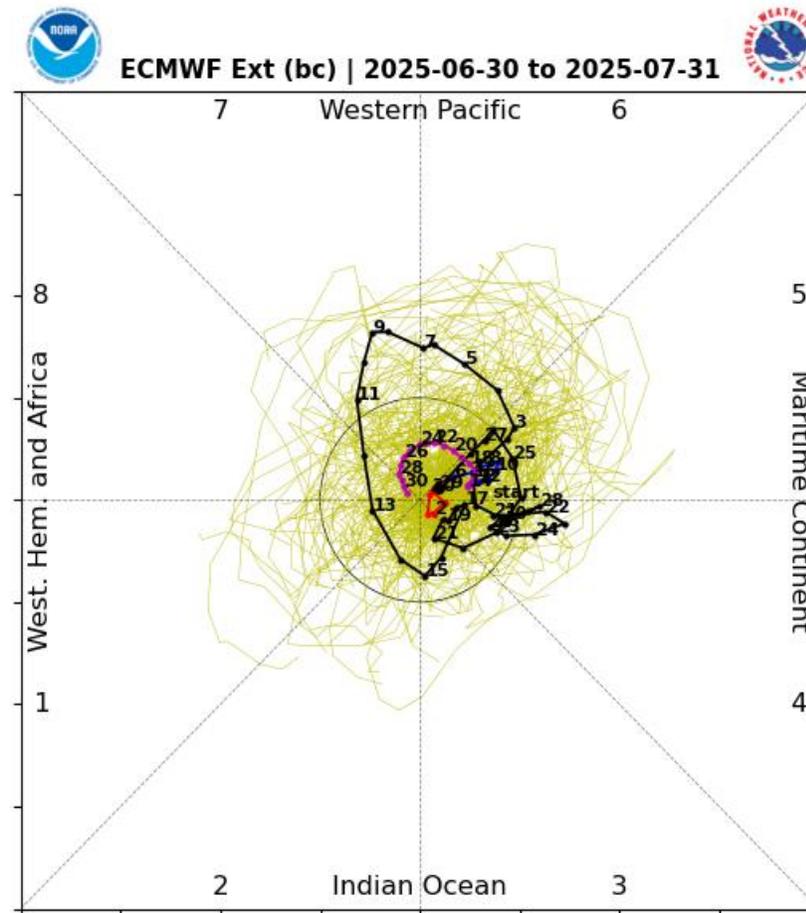
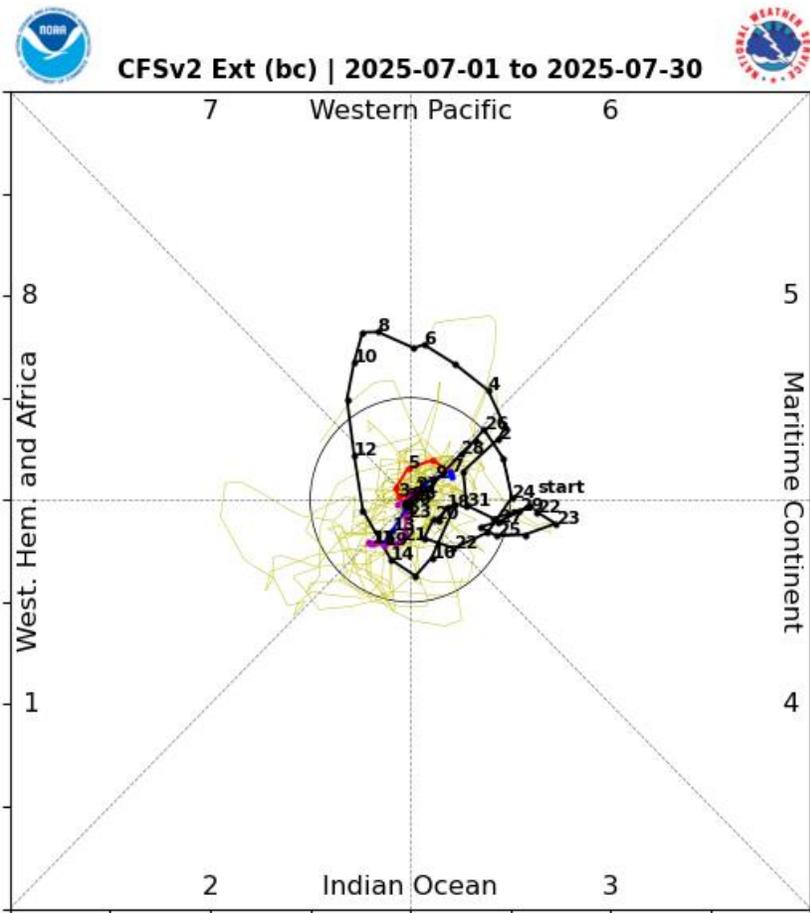
200-hPa Velocity Potential Anomaly Maps:

Green: Enhanced Divergence Aloft Brown: Enhanced Convergence Aloft

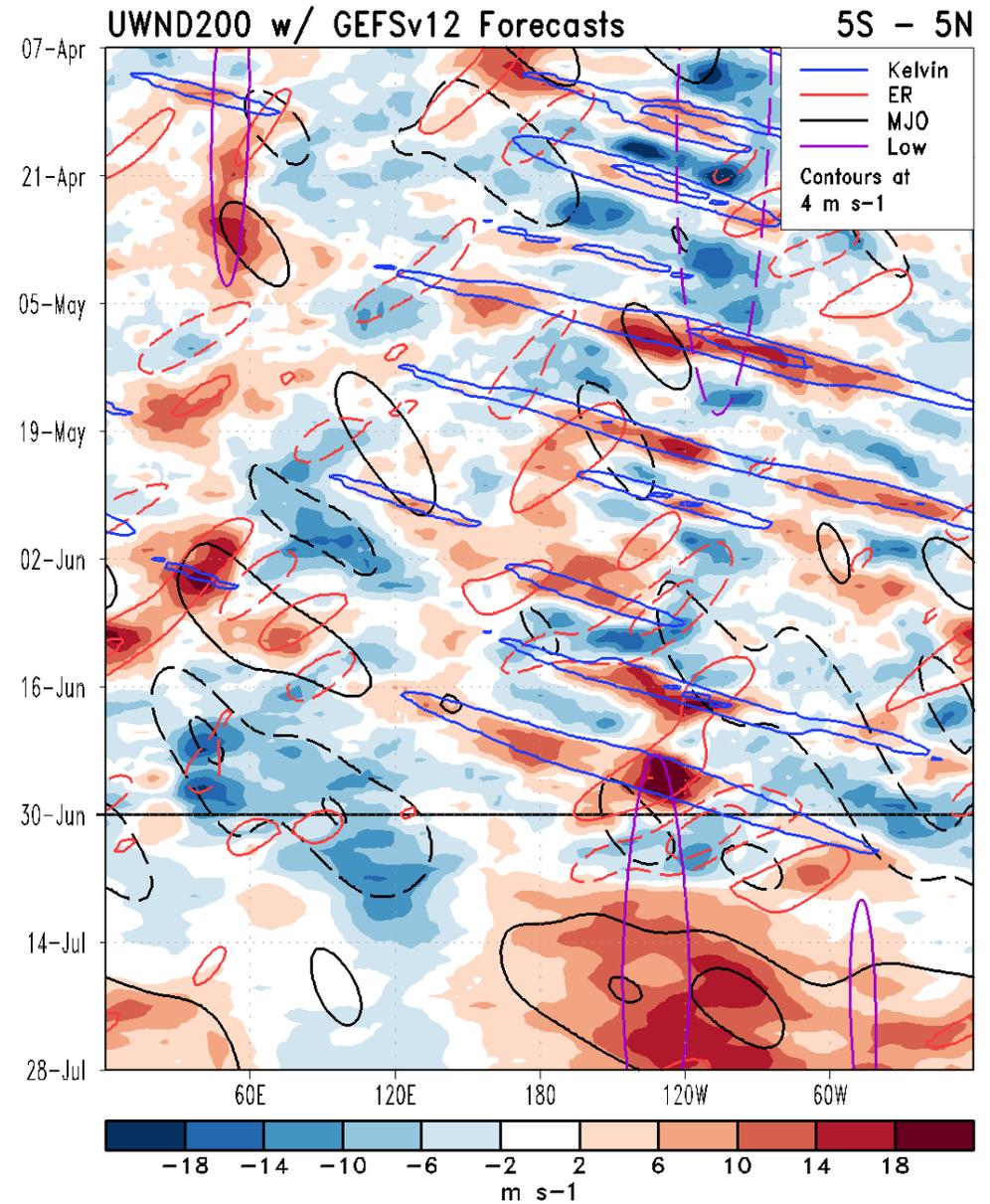
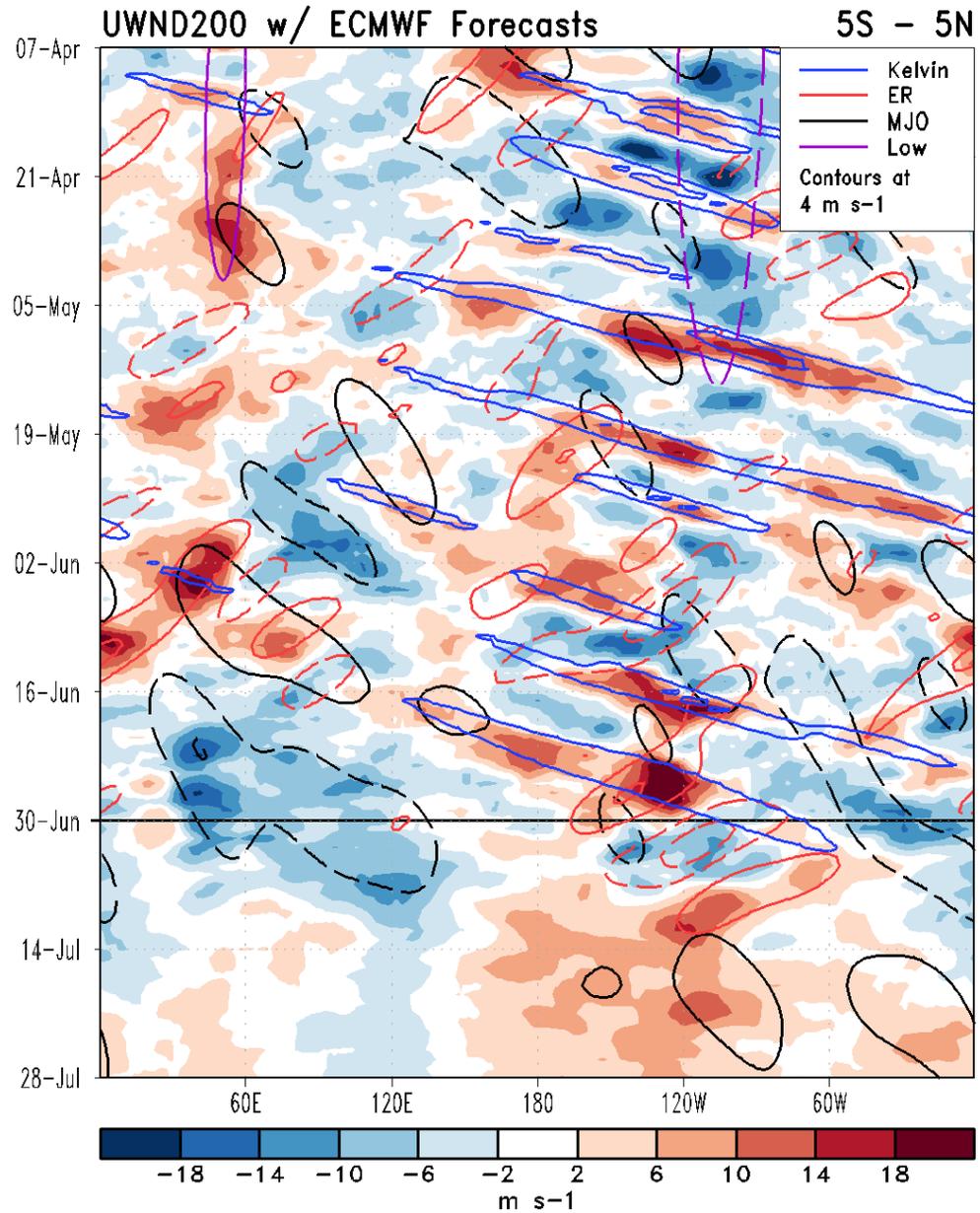
- A wave-1 pattern became better defined in late June, but lacked any eastward propagation consistent with an organized **MJO**.
- Equatorial **Rossby** and **Kelvin** wave activity prevailed, while a of **Low Frequency** footprint strengthened over the Maritime Continent and the Western Pacific.
- These forecasts favor **Low Frequency** variability dominating in July, which is supported by the persistence of a stationary wave-1 pattern, strengthening convergence aloft over the tropical Americas and Atlantic, with less signal from other tropical modes later in July.



RMM Index Observations & Forecasts:



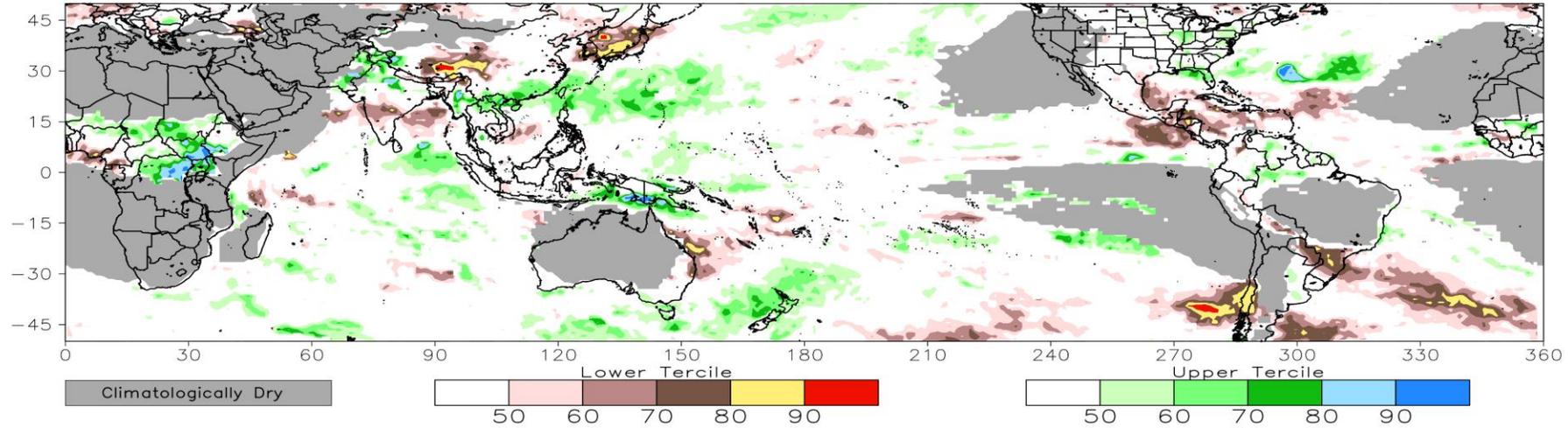
Upper-level Zonal Wind Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

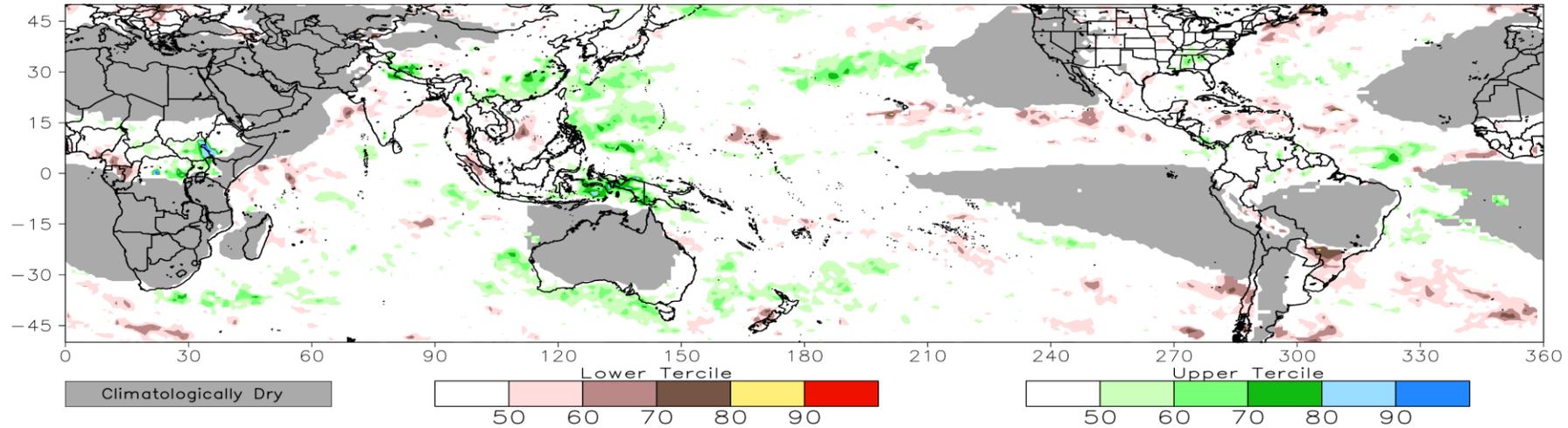
CONS (CFS+ECMWF+GEFS): Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 09Jul2025–15Jul2025



CONS (CFS+ECMWF+GEFS): Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

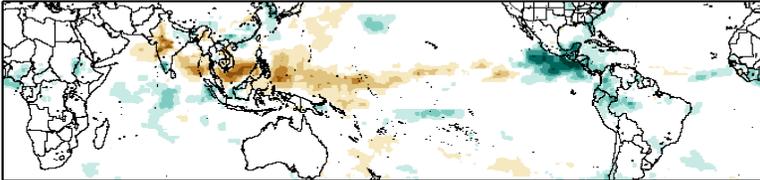
Valid: 16Jul2025–22Jul2025



Historical Precipitation Anomalies By MJO Phase:

JJA MJO Composite: GPCP1DD (mm/day)

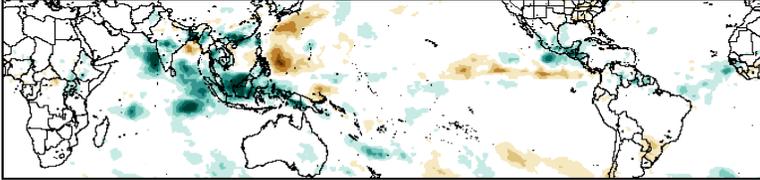
Phase 1



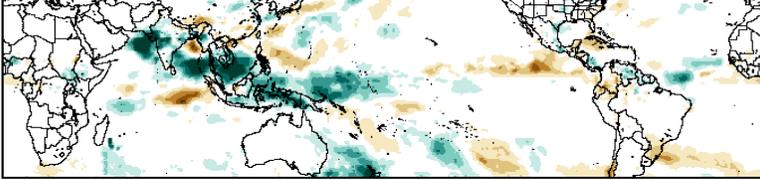
Phase 2



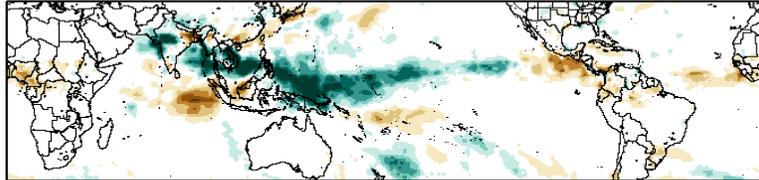
Phase 3



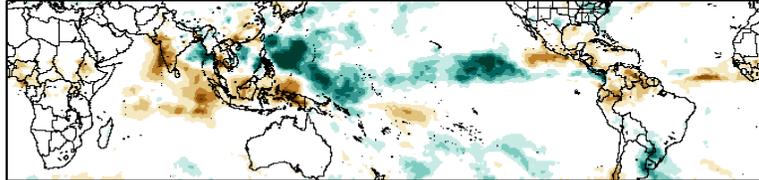
Phase 4



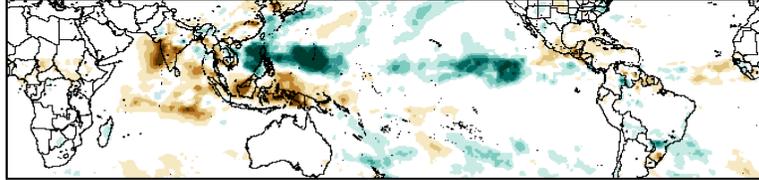
Phase 5



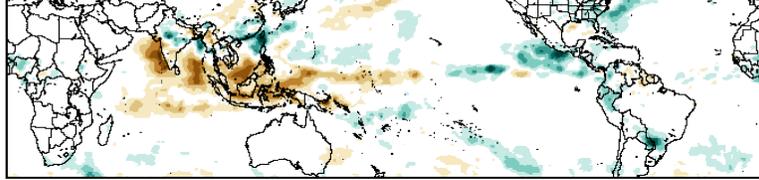
Phase 6



Phase 7

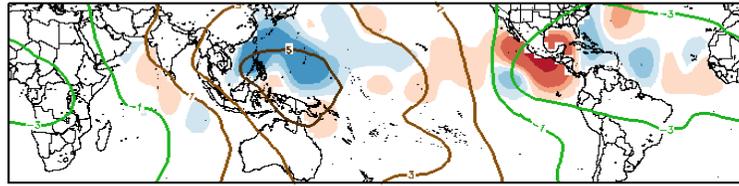


Phase 8

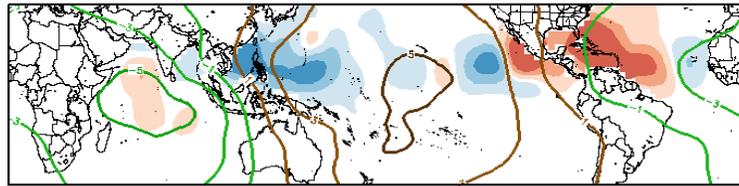


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

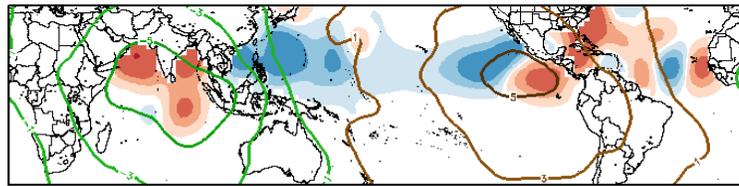
JJA MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2 \cdot 100$)
w/ JJA CHI200 ($\times 10^{-6} m^{-2} s^{-1}$)



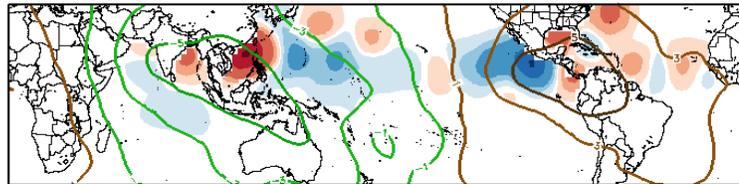
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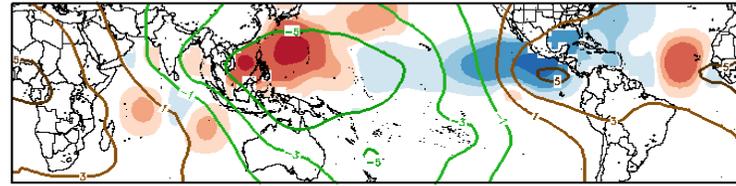
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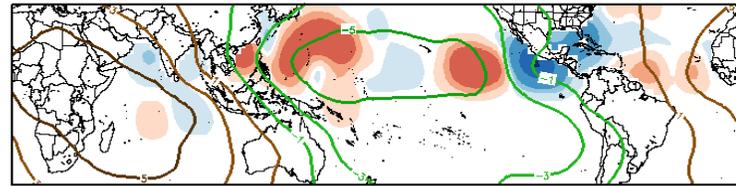
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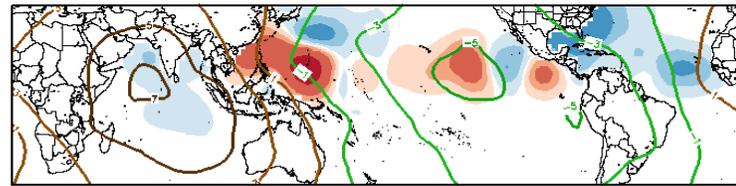
Phase 4



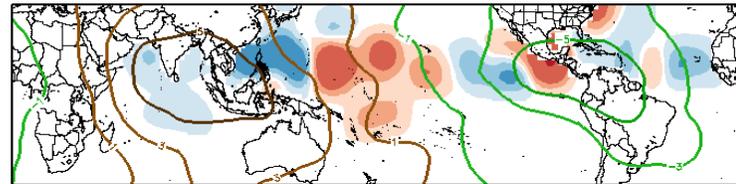
Phase 5



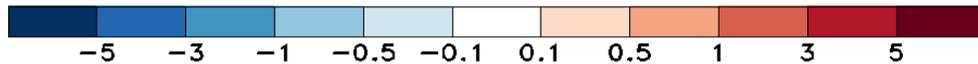
Phase 6



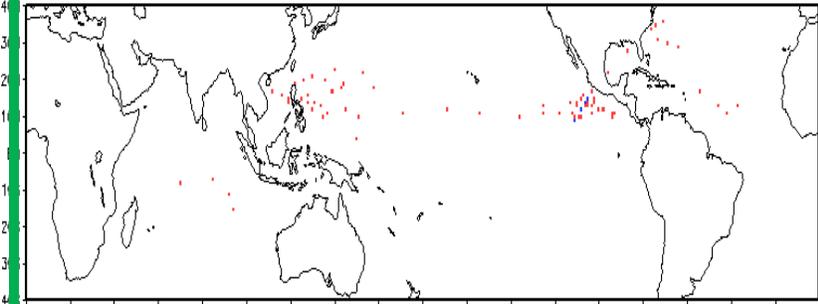
Phase 7



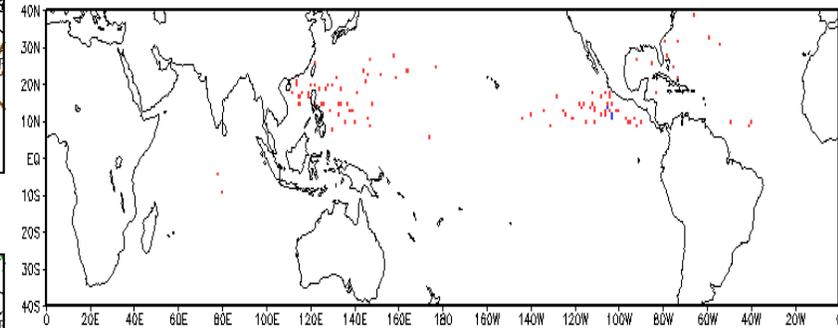
Phase 8



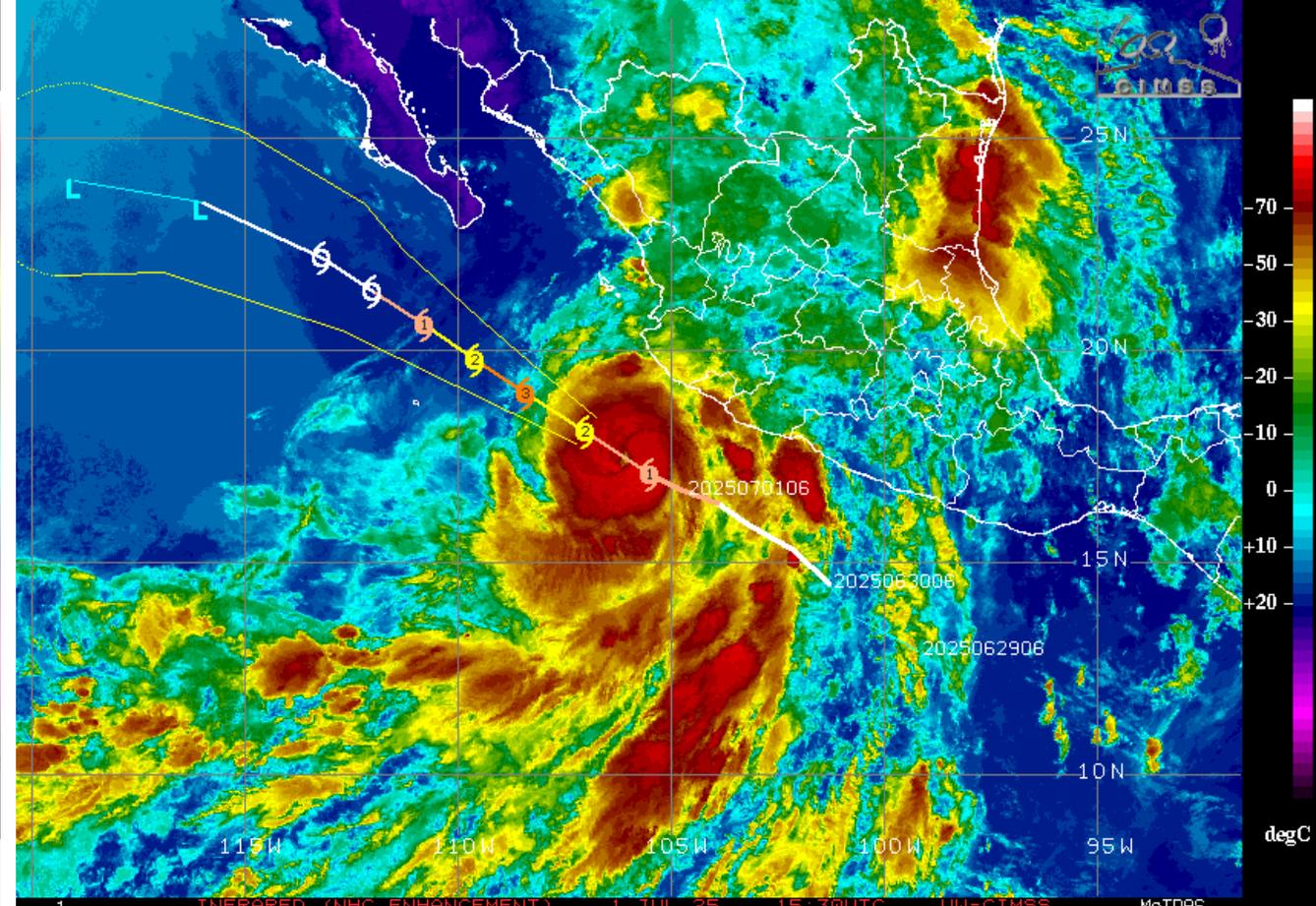
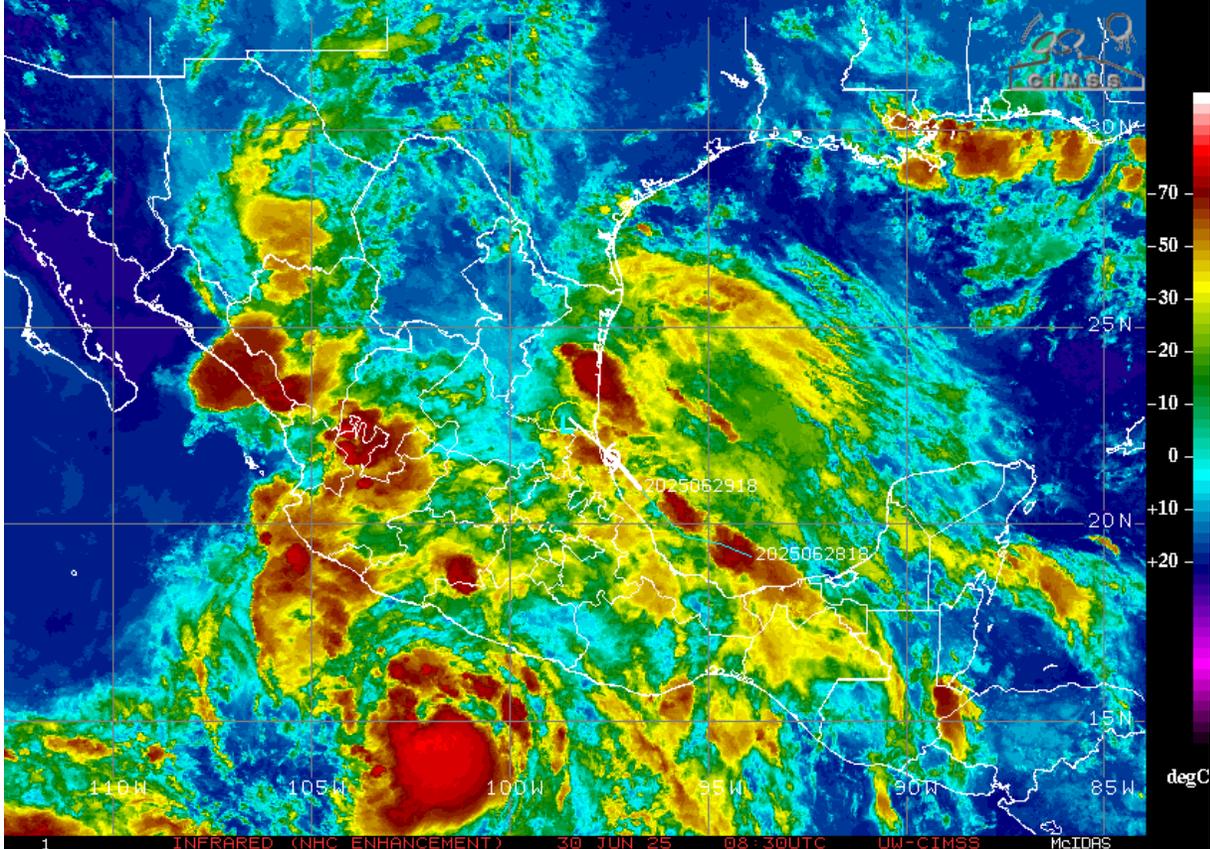
Observed TC Genesis, 1979-2021
7-day Period 0709 to 0715



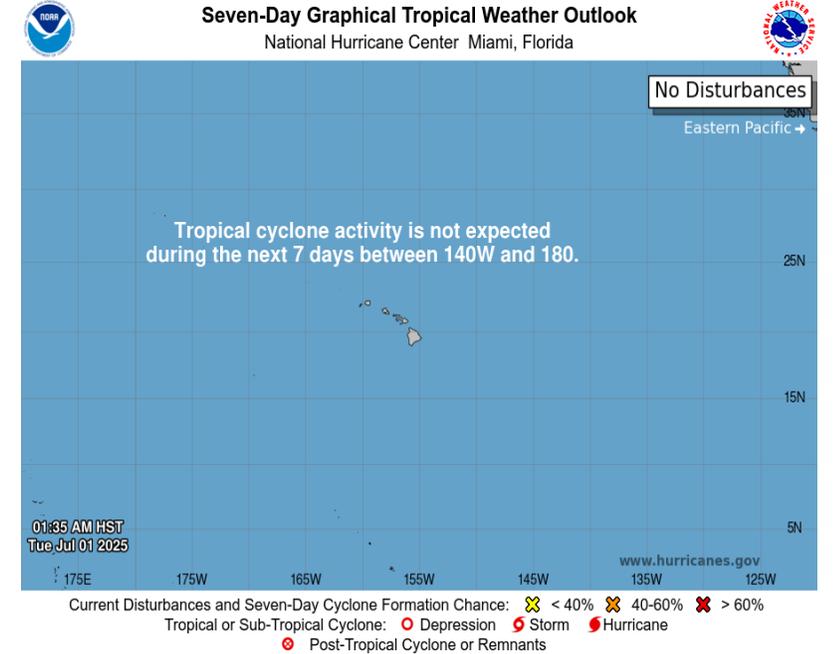
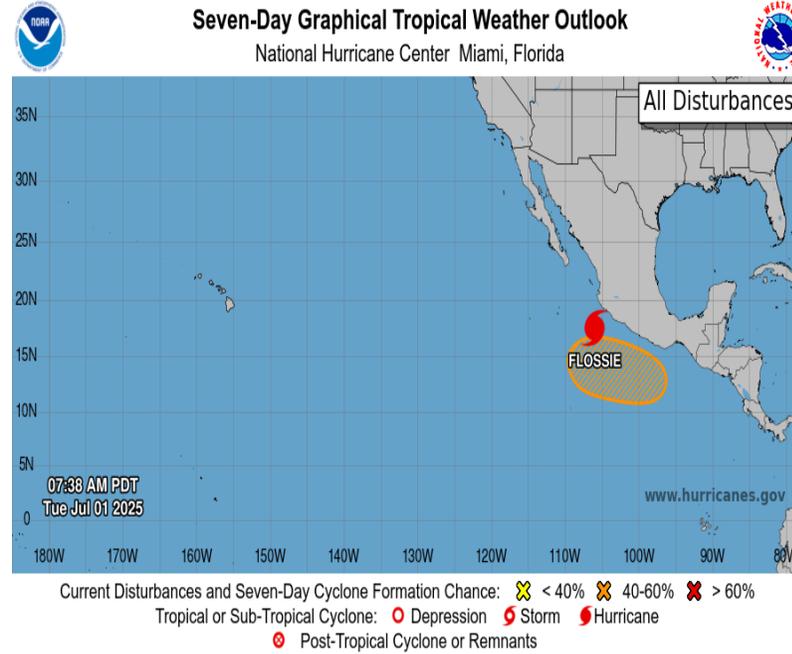
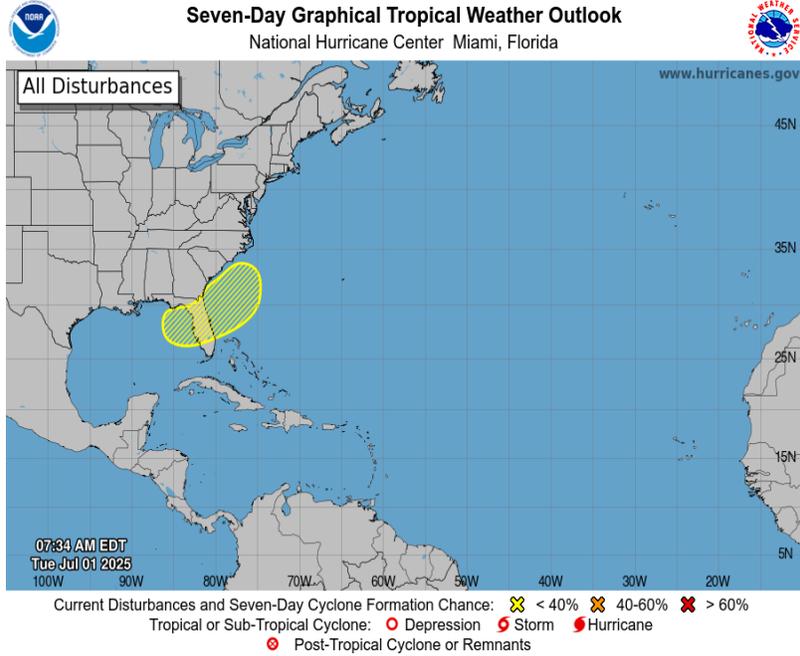
Observed TC Genesis, 1979-2021
7-day Period 0716 to 0722

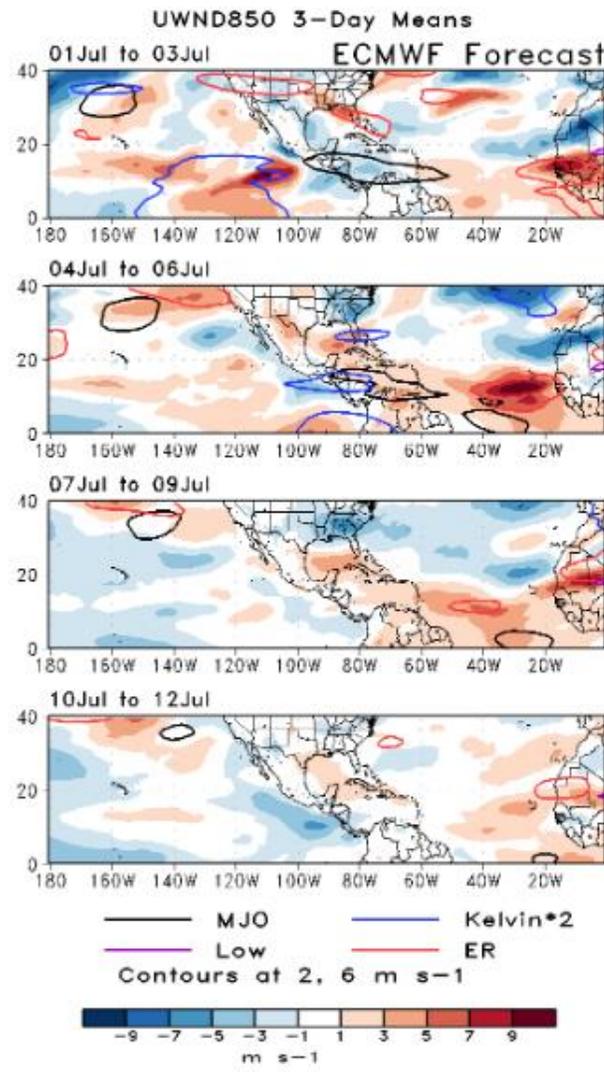
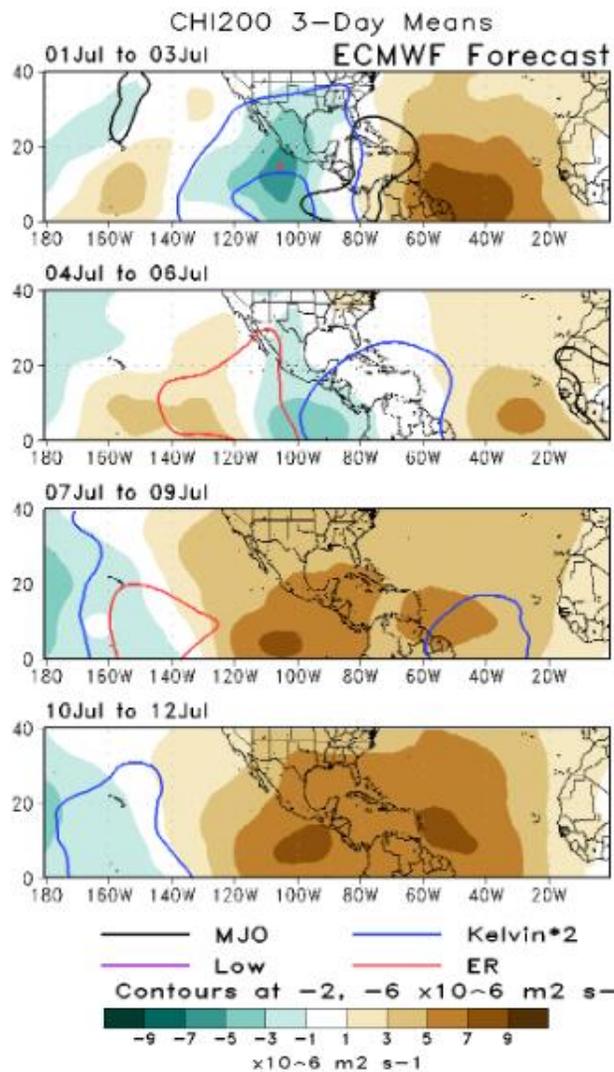


Experimental

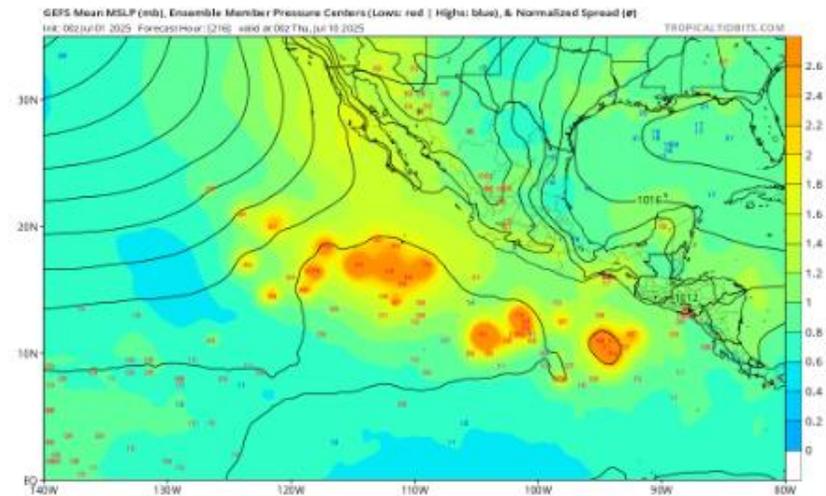


Tropical Cyclone Monitoring/Forecast: NHC / CPHC

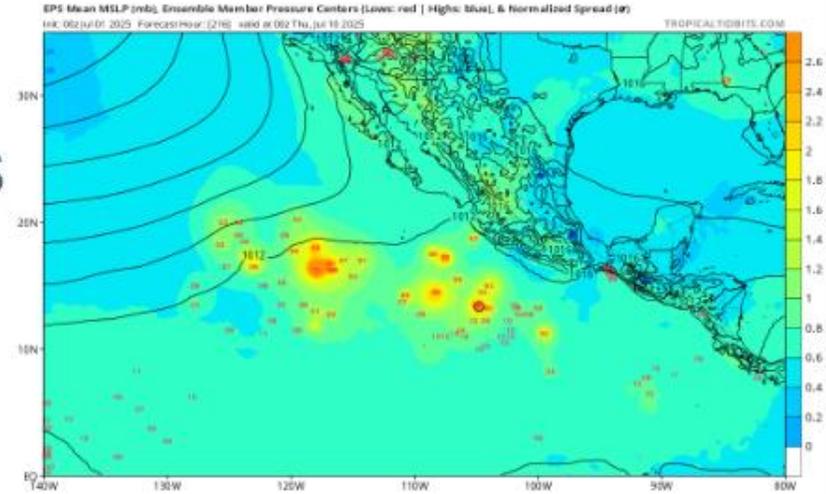




0z GEFS
 Day 9
 7/10



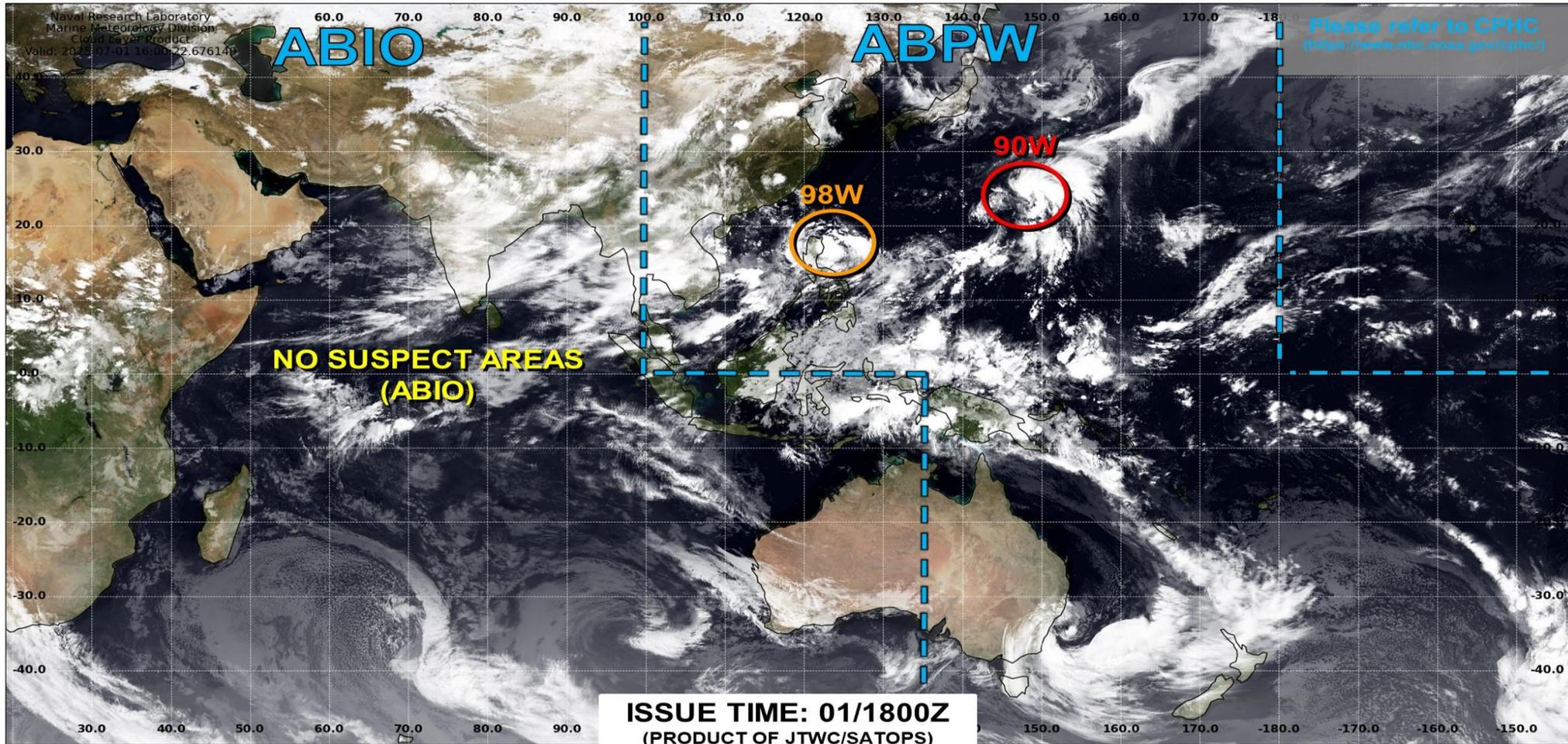
0z ECENS
 Day 9
 7/10



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

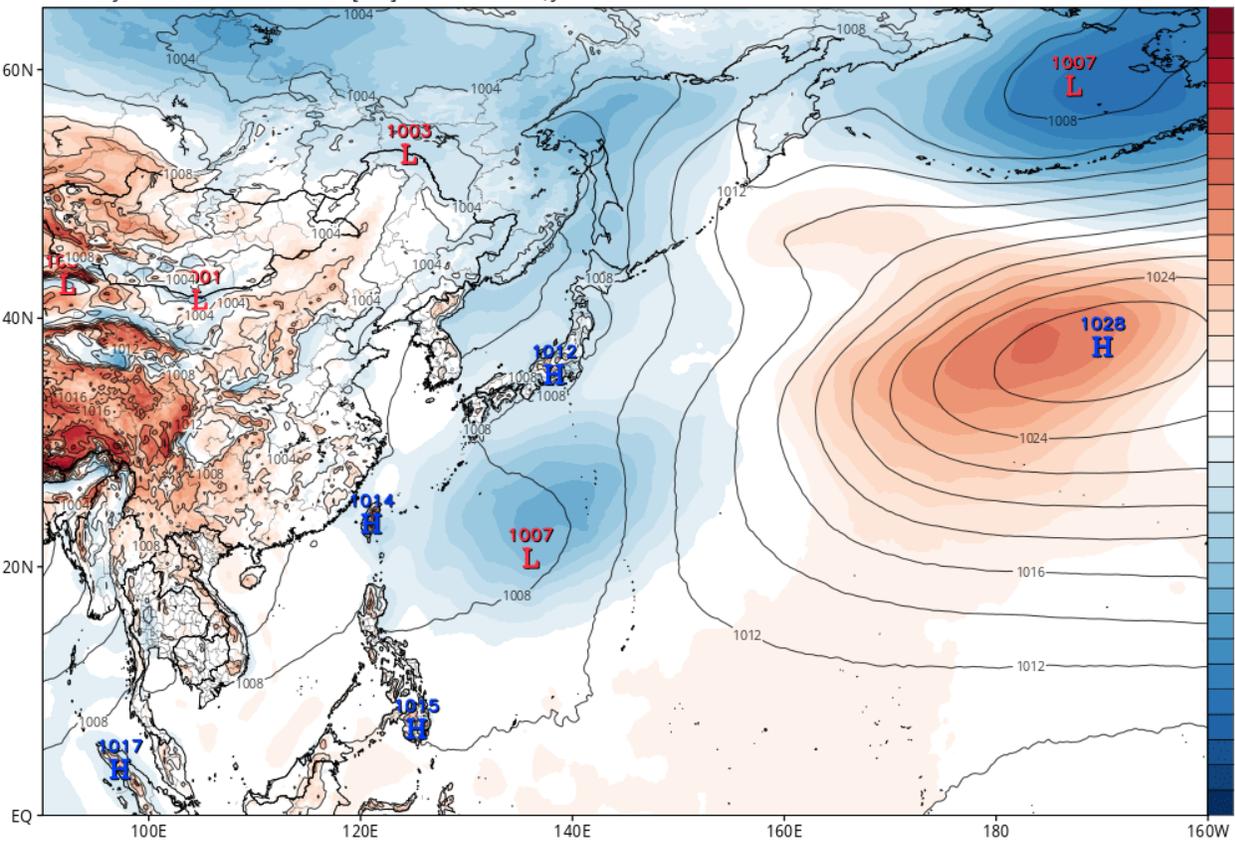


Tropical Cyclone (Reference Warning)

EPS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Jul 01 2025 Forecast Hour: [288] valid at 00z Sun, Jul 13 2025

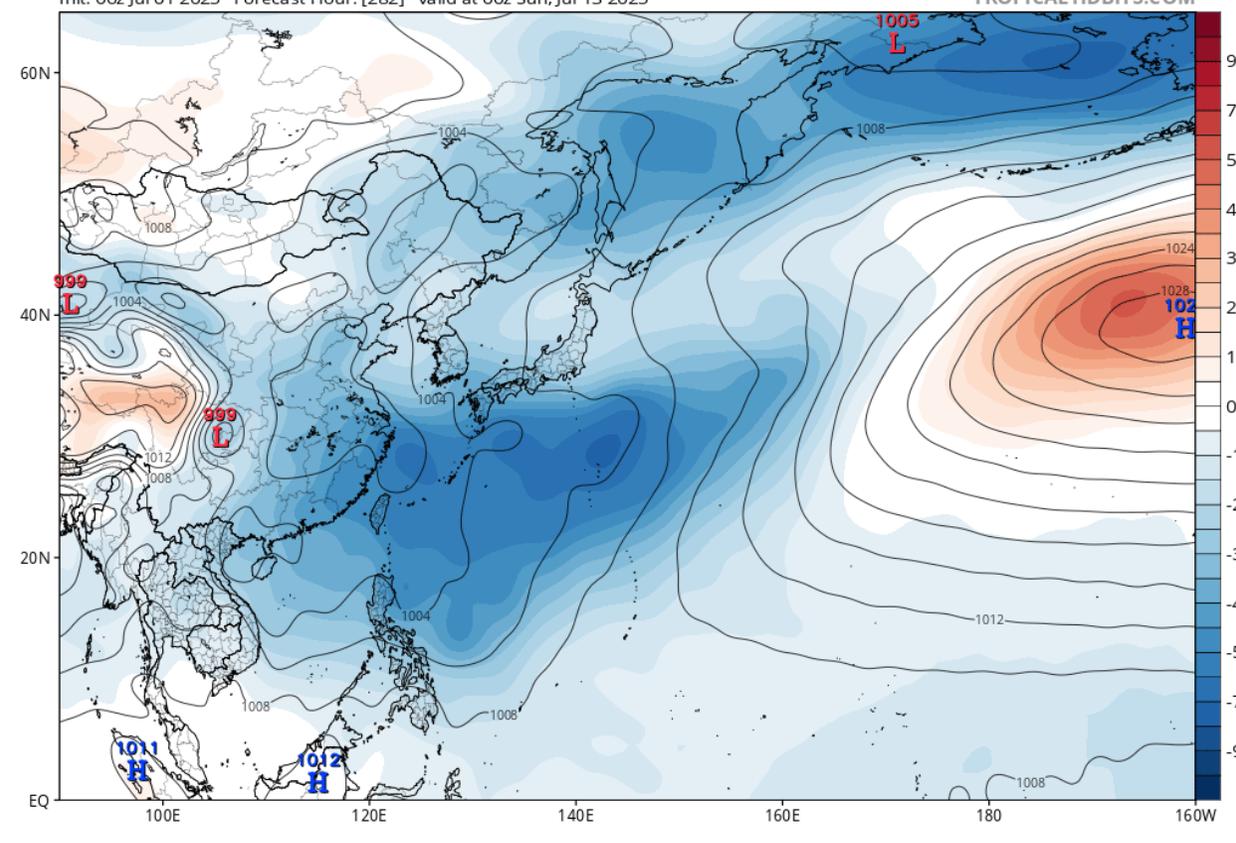
TROPICALTIDBITS.COM



GEFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 06z Jul 01 2025 Forecast Hour: [282] valid at 00z Sun, Jul 13 2025

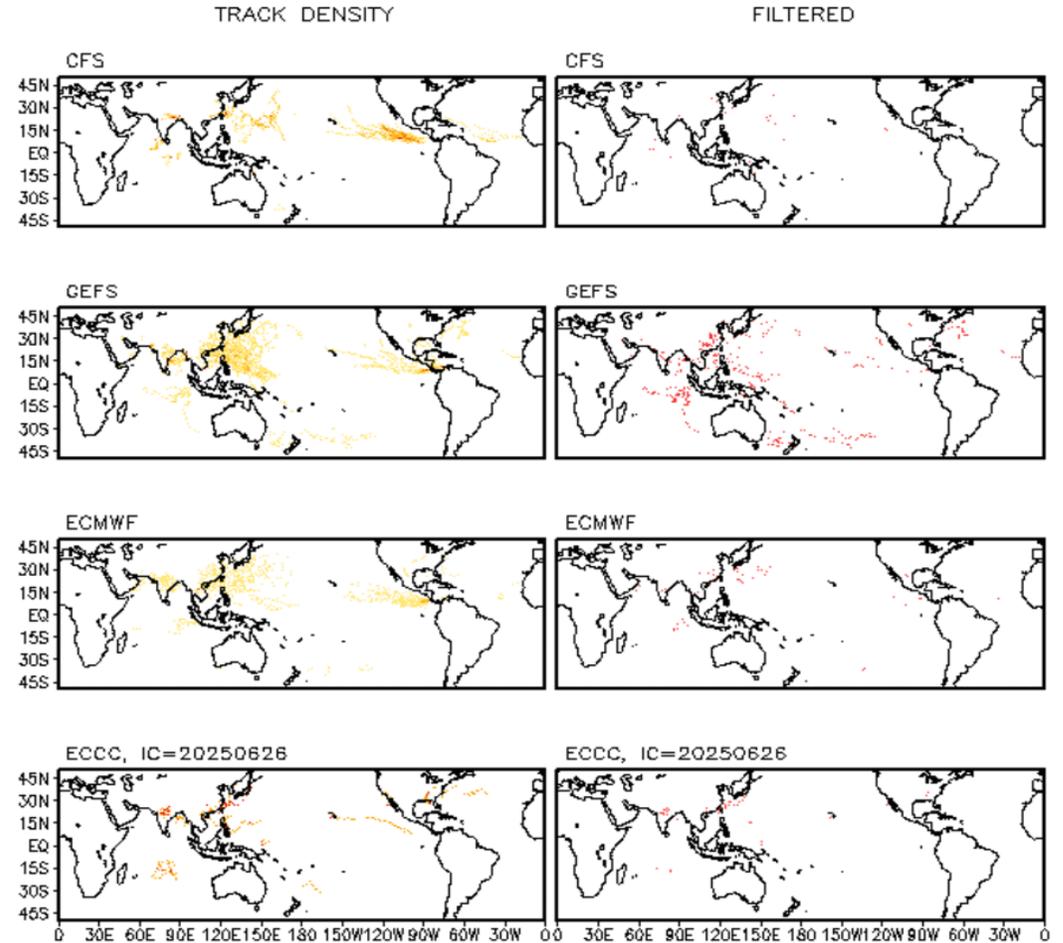
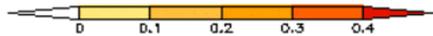
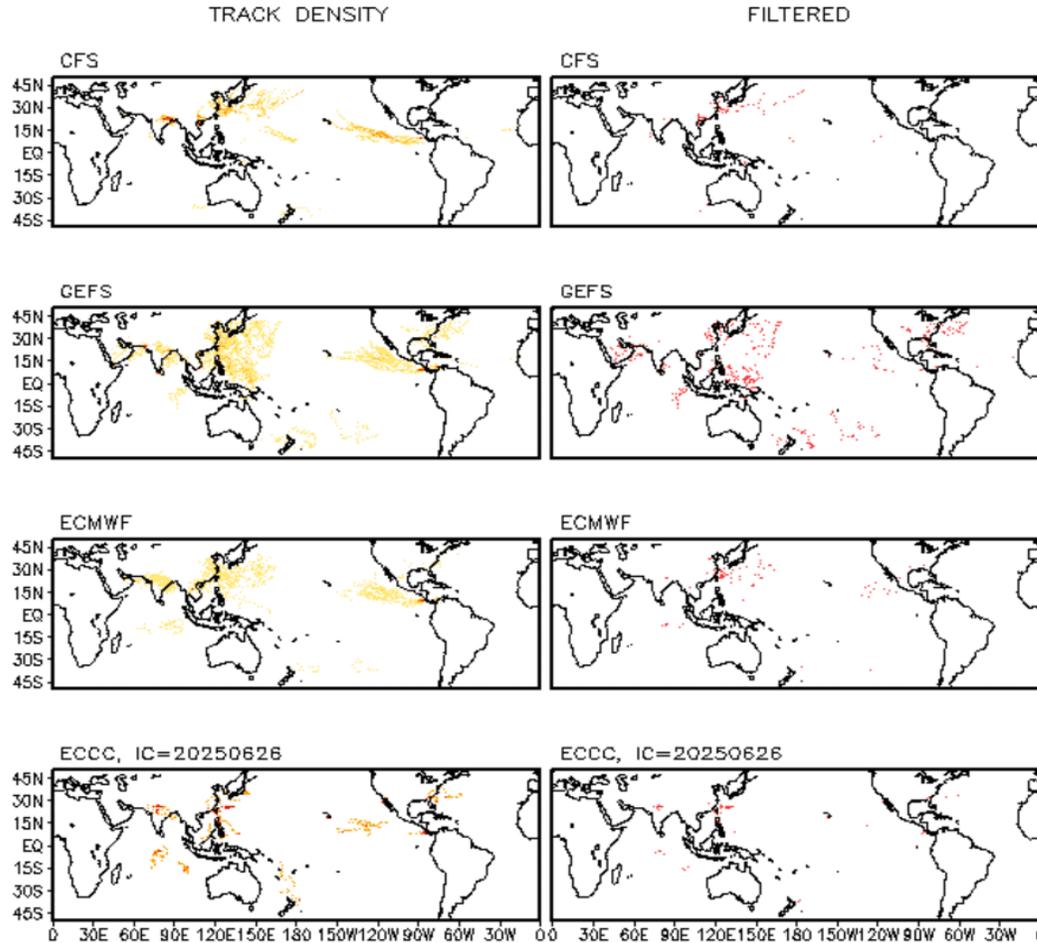
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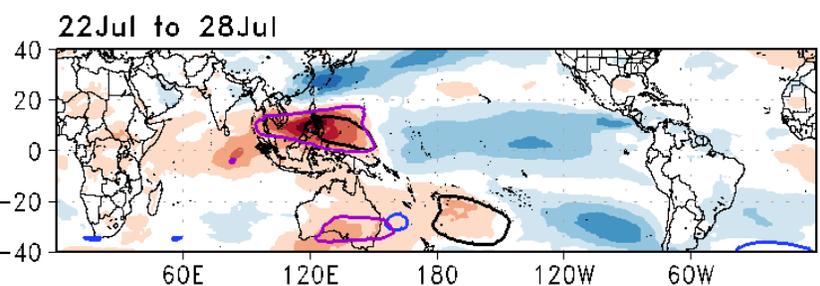
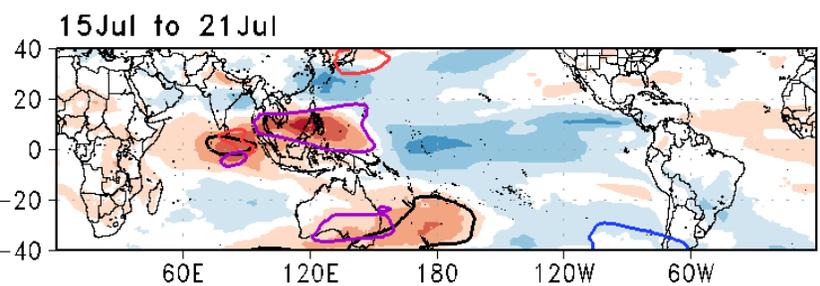
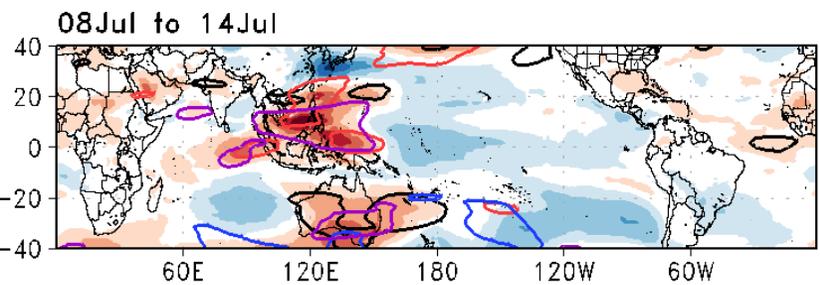
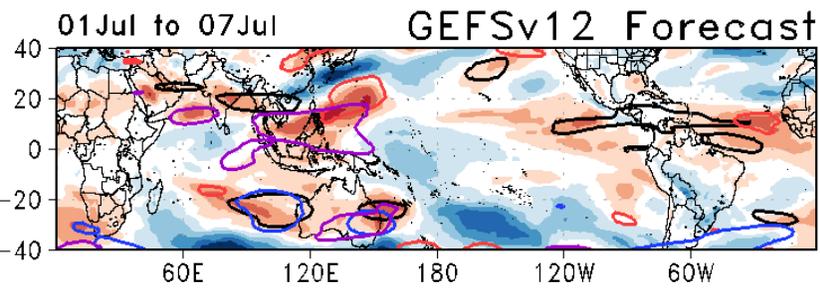
Multi-Model TC Track Densities: Weeks 2+3

Storm Track Density Distribution, IC=20250630
Week 2 Forecast: 0709-0715

Storm Track Density Distribution, IC=20250630
Week 3 Forecast: 0716-0722

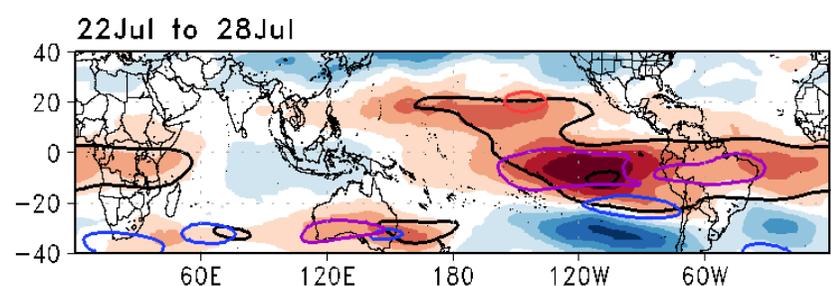
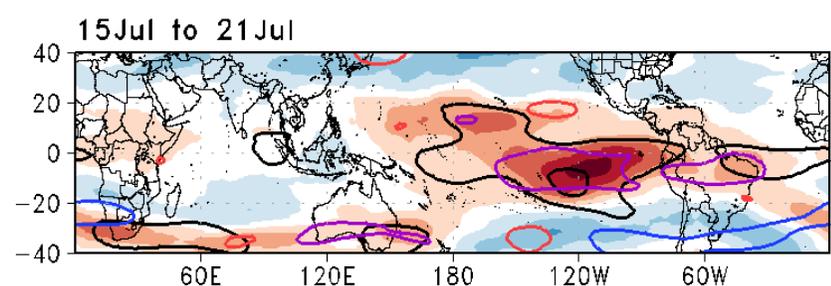
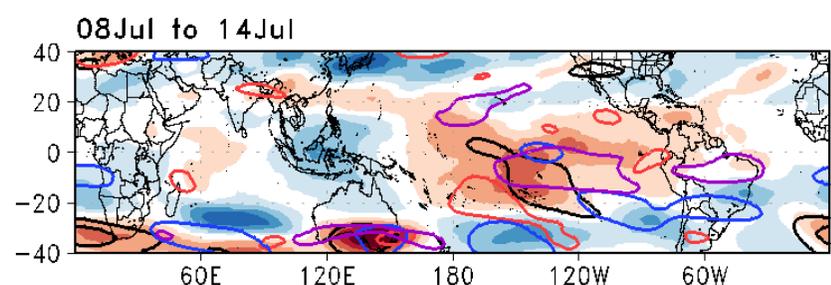
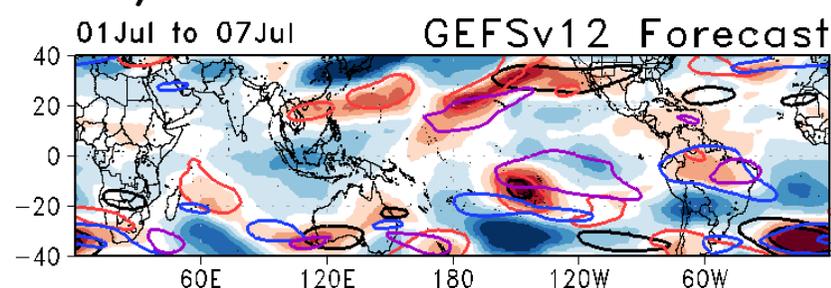


-Day Means



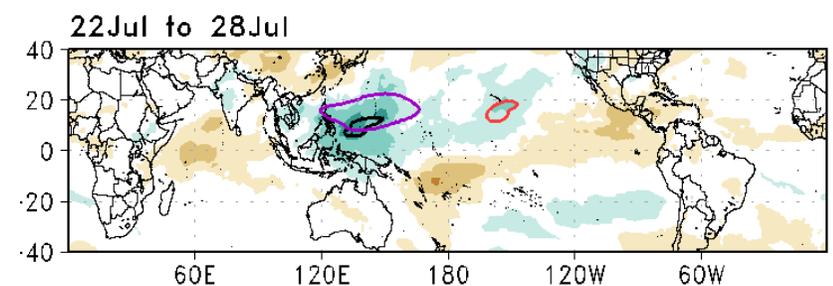
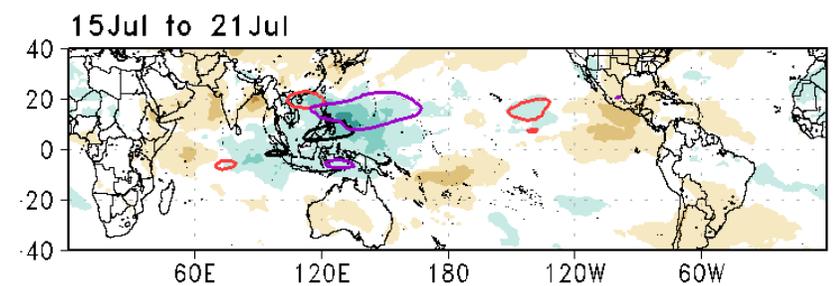
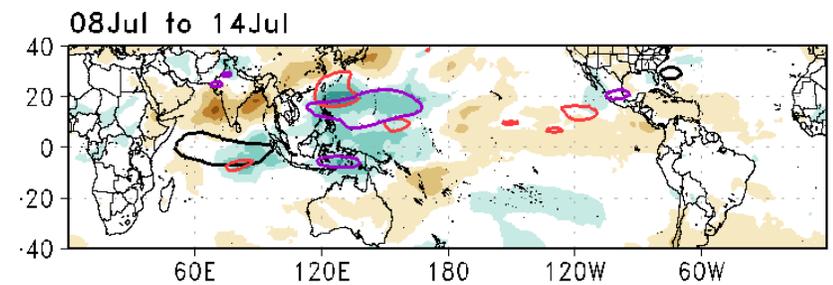
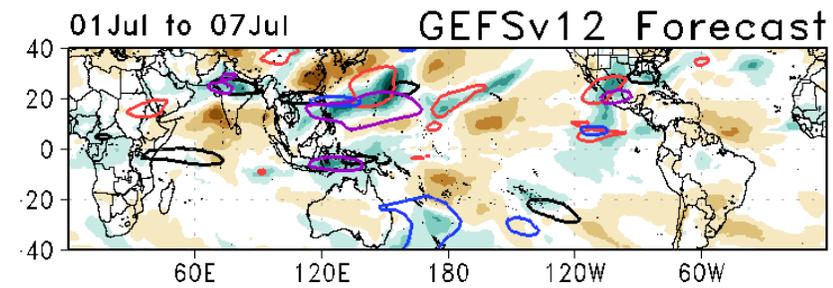
— MJO — Kelvin*2
— Low — ER
Contours at 2, 6 m s⁻¹

7-Day Means



— MJO — Kelvin*2
— Low — ER
Contours at 4, 12 m s⁻¹

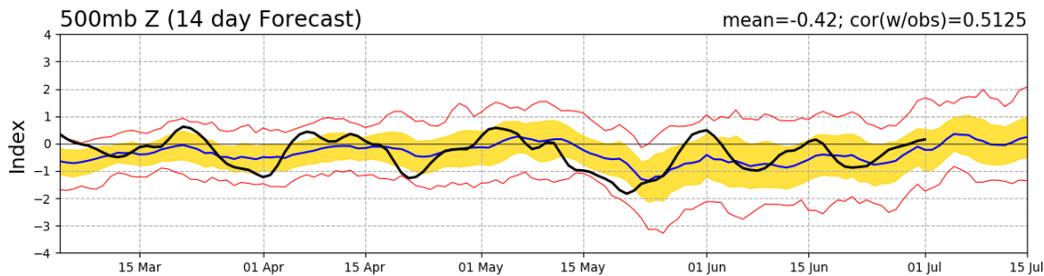
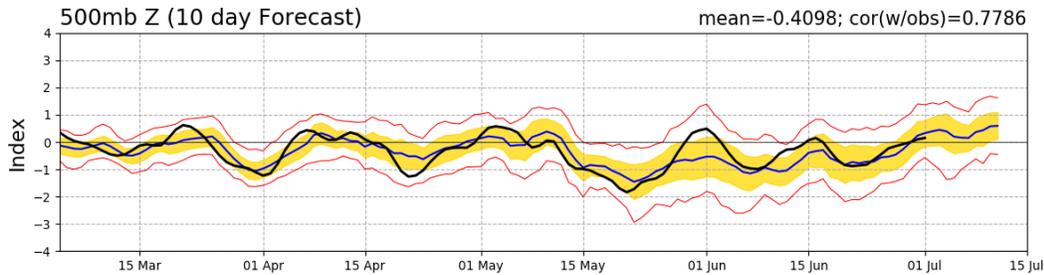
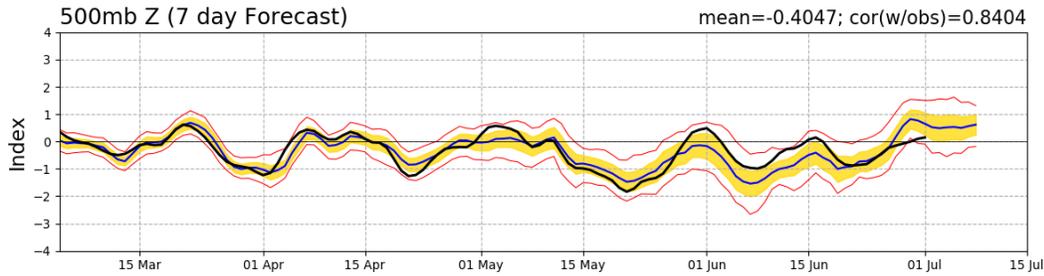
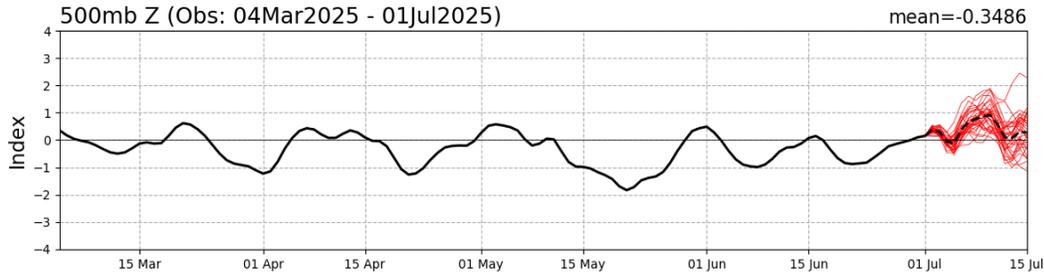
ay Means



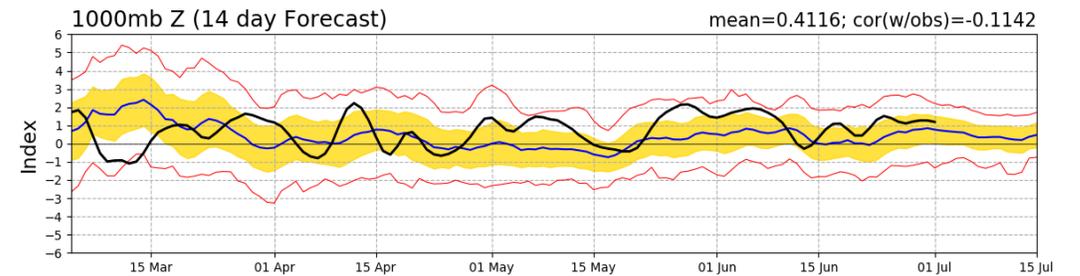
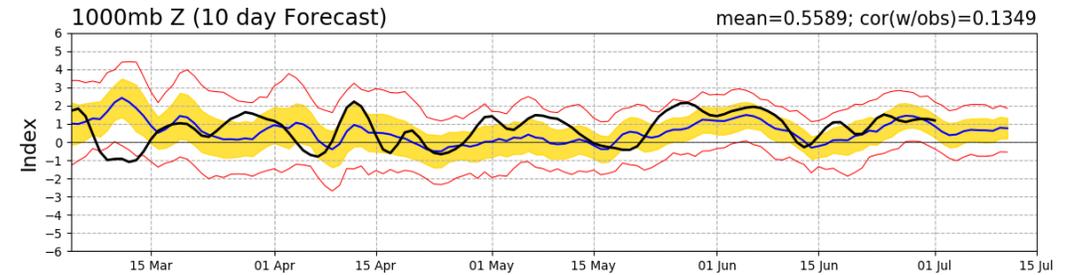
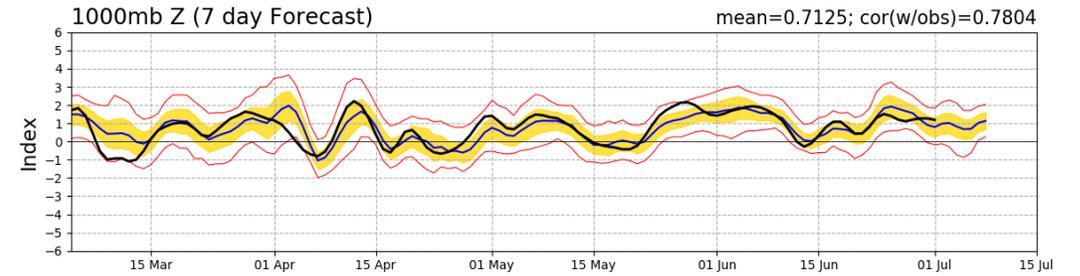
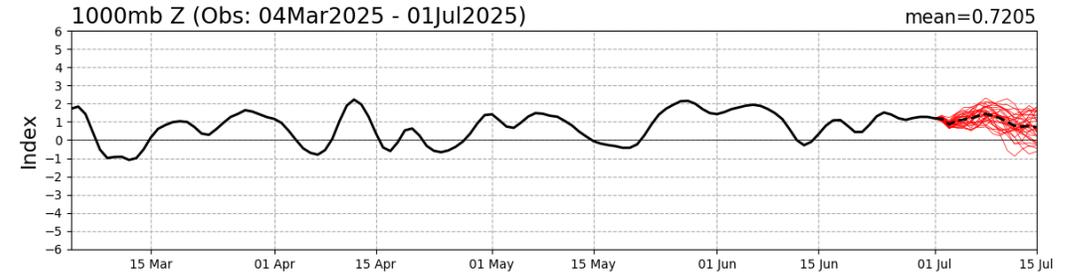
— MJO — Kelvin*2
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Contours at -12, -36 W m⁻²

Teleconnection Indices: PNA / AO:

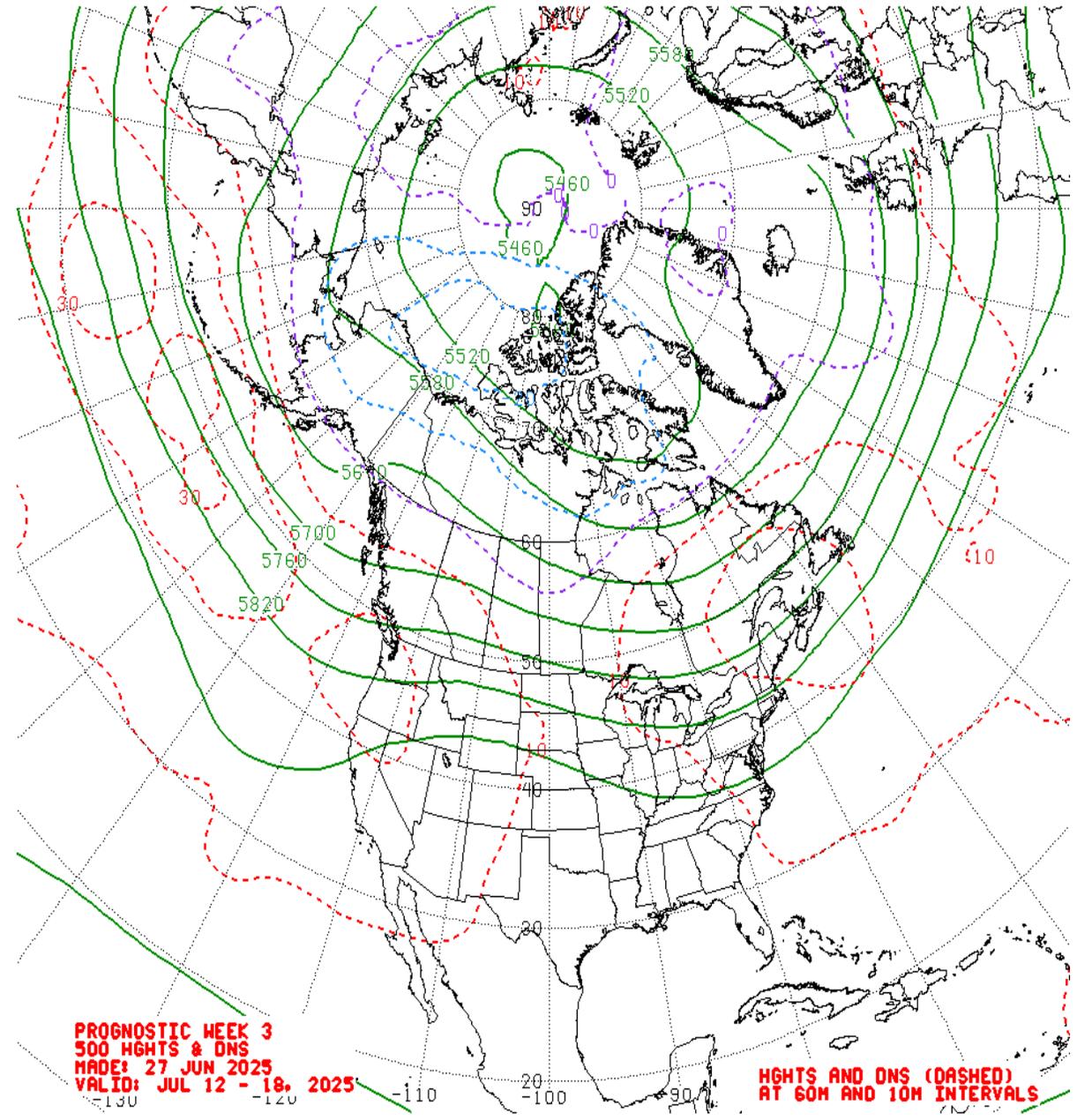
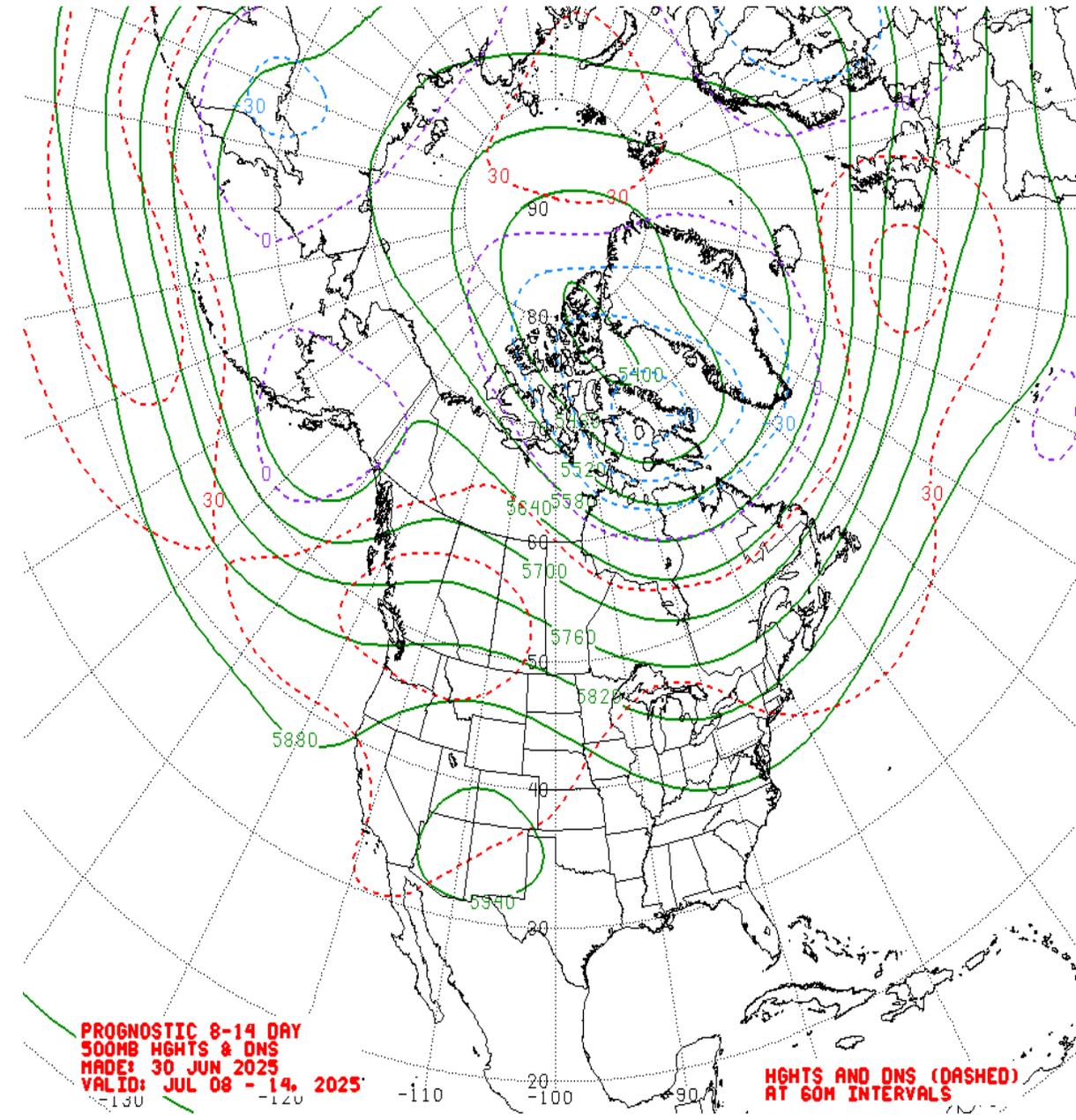
PNA Index: Observed & GEFS Forecasts



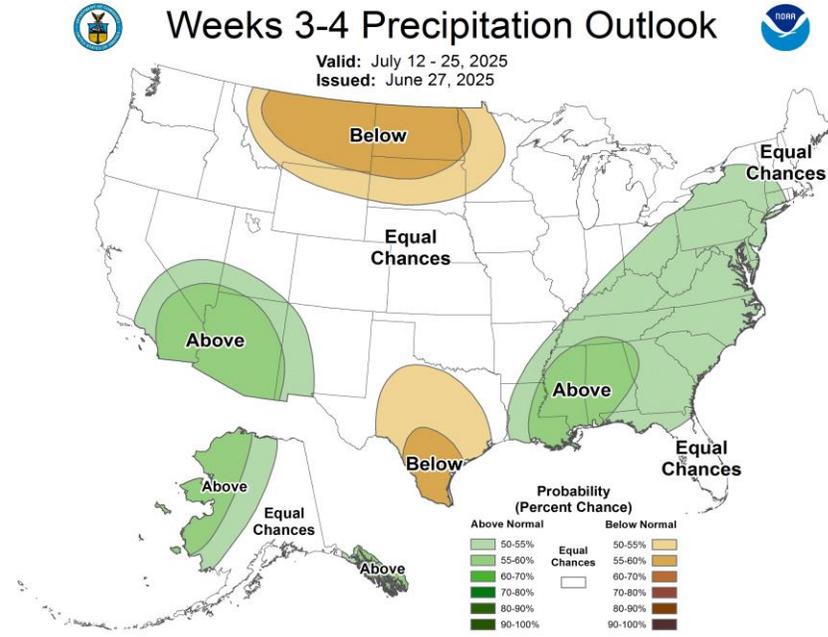
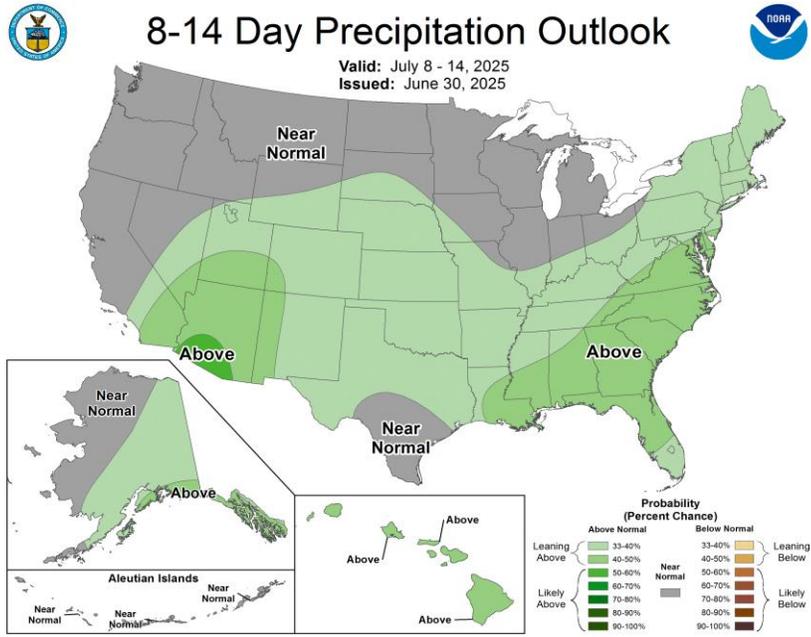
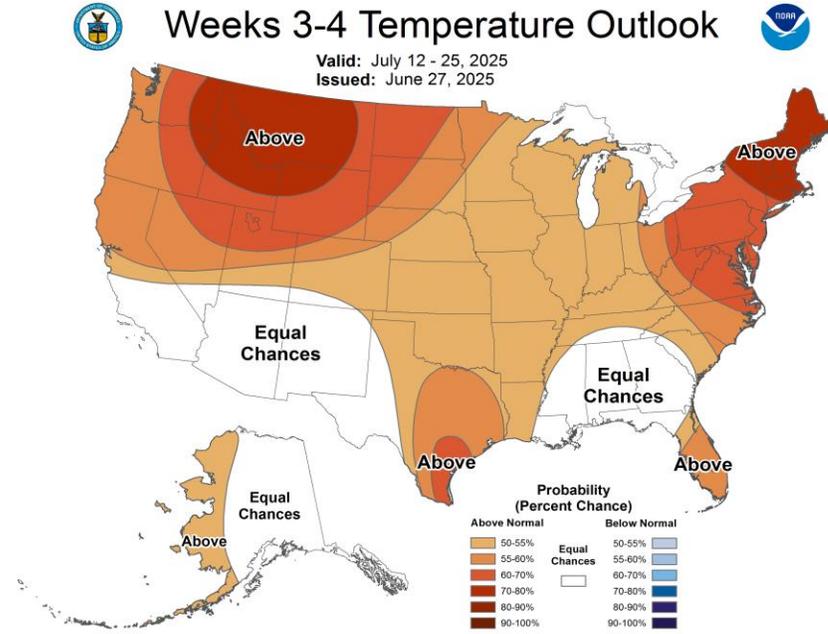
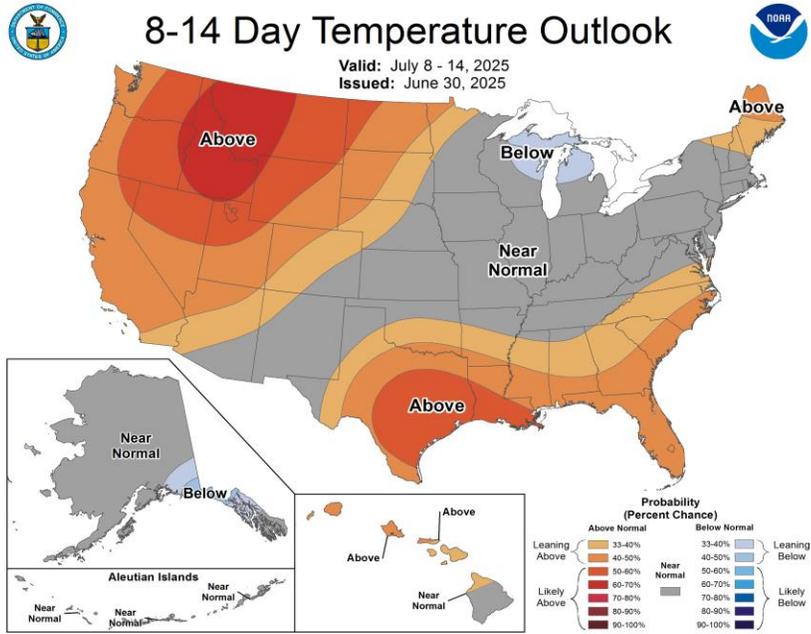
AO Index: Observed & GEFS Forecasts



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



Official Temperature & Precipitation Forecasts:



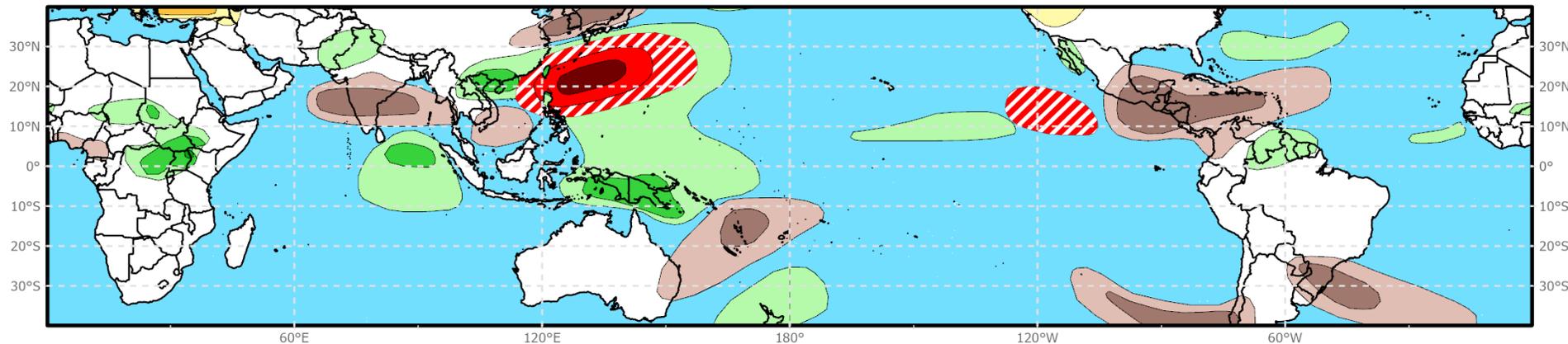


Global Tropics Hazards Outlook

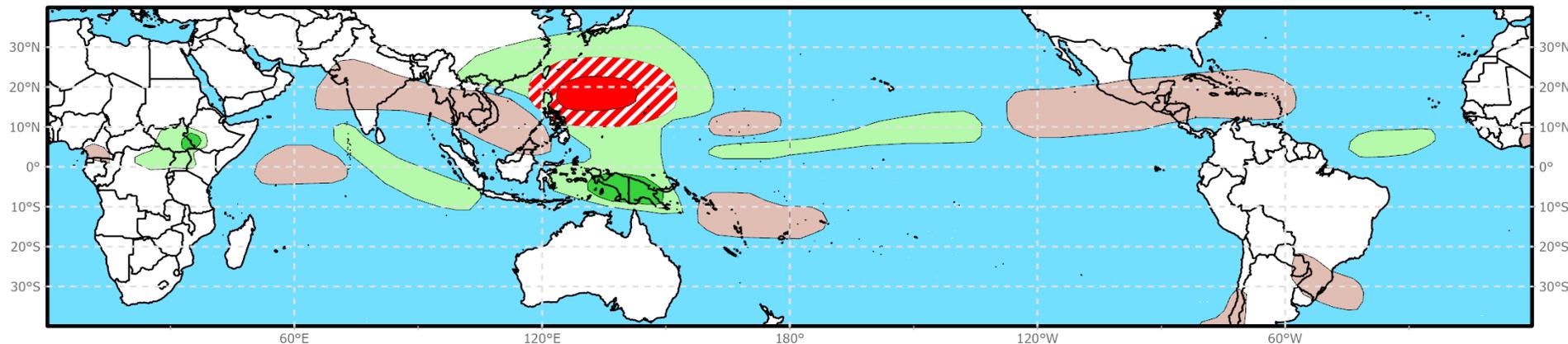
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Lower third of the historical range*

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Forecaster: Novella**

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