



Weeks 2-3 Global Tropics Hazards Outlook

6/13/2023

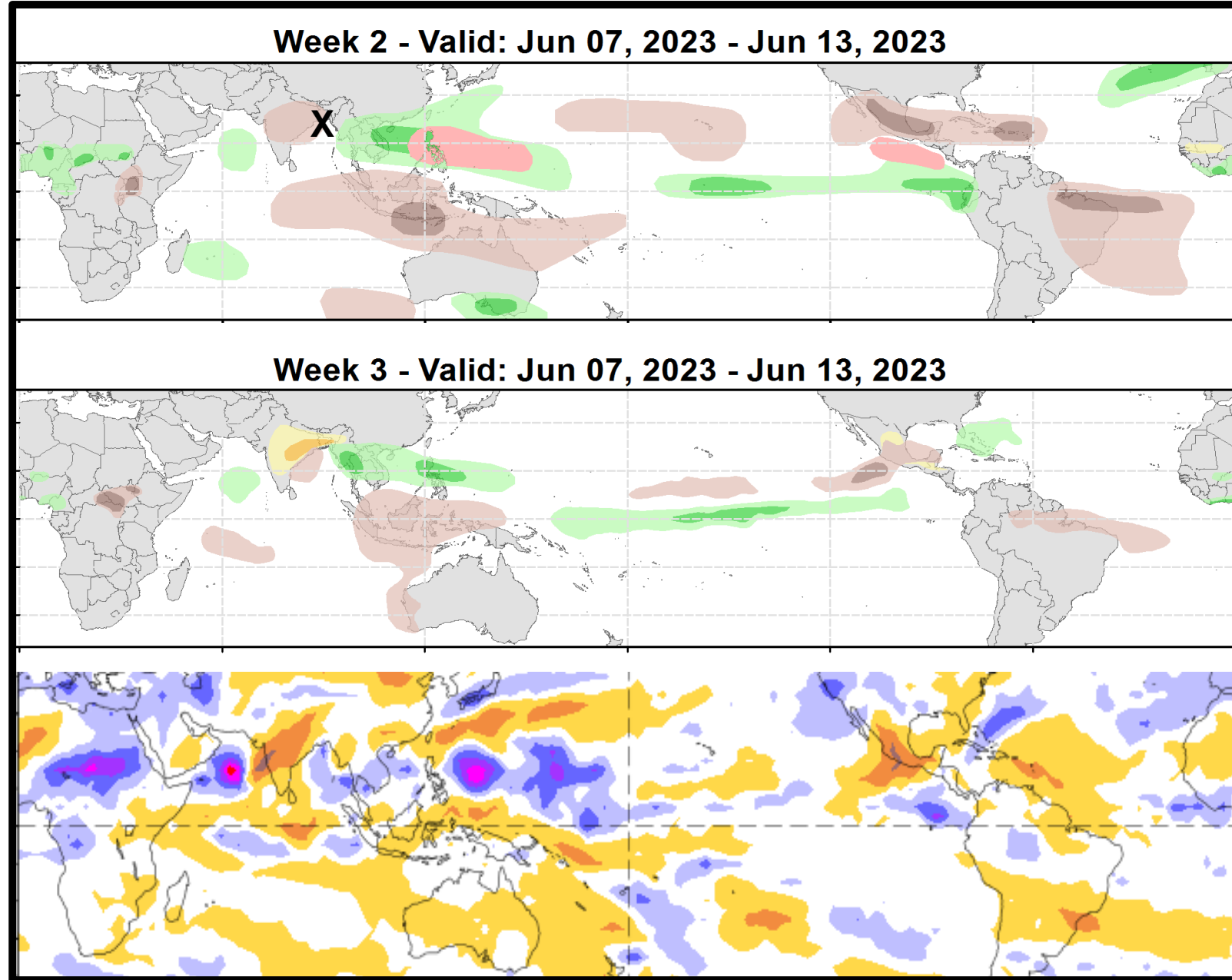
Thomas Collow

NWS / NCEP / Climate Prediction Center

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

TCs formed in the past week

- Tropical Cyclone 03B (6/9)



Synopsis of Climate Modes:

ENSO: (Jun 8, 2023 Update) *next update on Thursday, July 13th*

- ENSO Alert System Status: [El Niño Advisory](#)
- El Niño conditions are present and are expected to gradually strengthen into the Northern Hemisphere winter 2023-24.

MJO and other subseasonal tropical variability:

- A weak RMM-based Madden Julian Oscillation (MJO) signal has propagated across the Western Hemisphere and into the Indian Ocean at the end of May and into early June.
- While RMM-based forecasts from the CFS, GEFS, and ECMWF ensembles generally depict a weakening of the signal back into the unit circle, upper-level velocity potential based MJO forecasts are more robust, depicting the MJO propagating across the Pacific during the next 2 weeks.
- The GEFS depicts a Convectively Coupled Kelvin Wave breaking off the main convective envelope and moving into the Atlantic during week-2, while the ECMWF indicates a longer persistence of suppressed convection across the Atlantic.

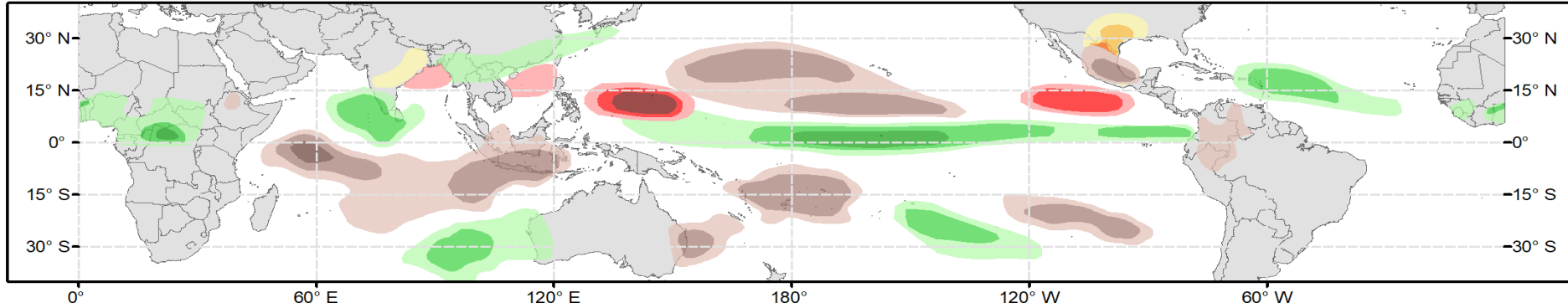
GTH Outlook:



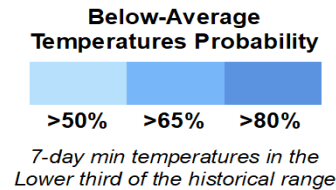
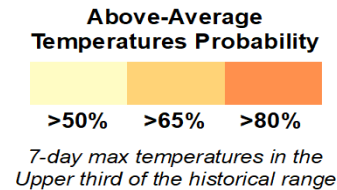
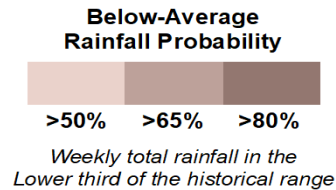
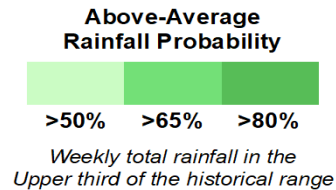
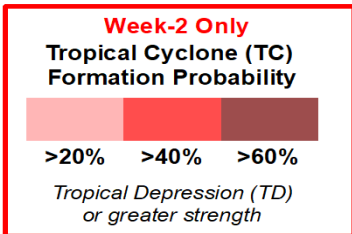
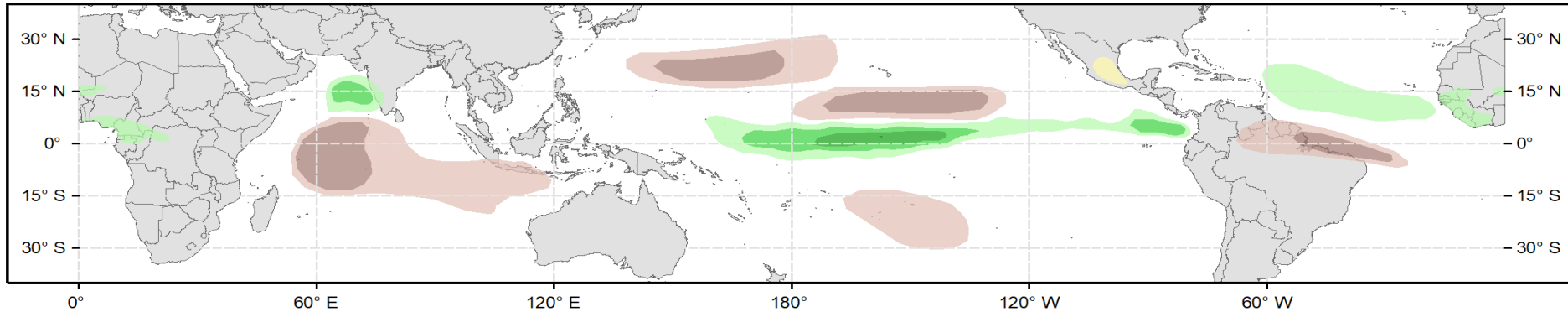
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Jun 21, 2023 - Jun 27, 2023



Week 3 - Valid: Jun 28, 2023 - Jul 04, 2023

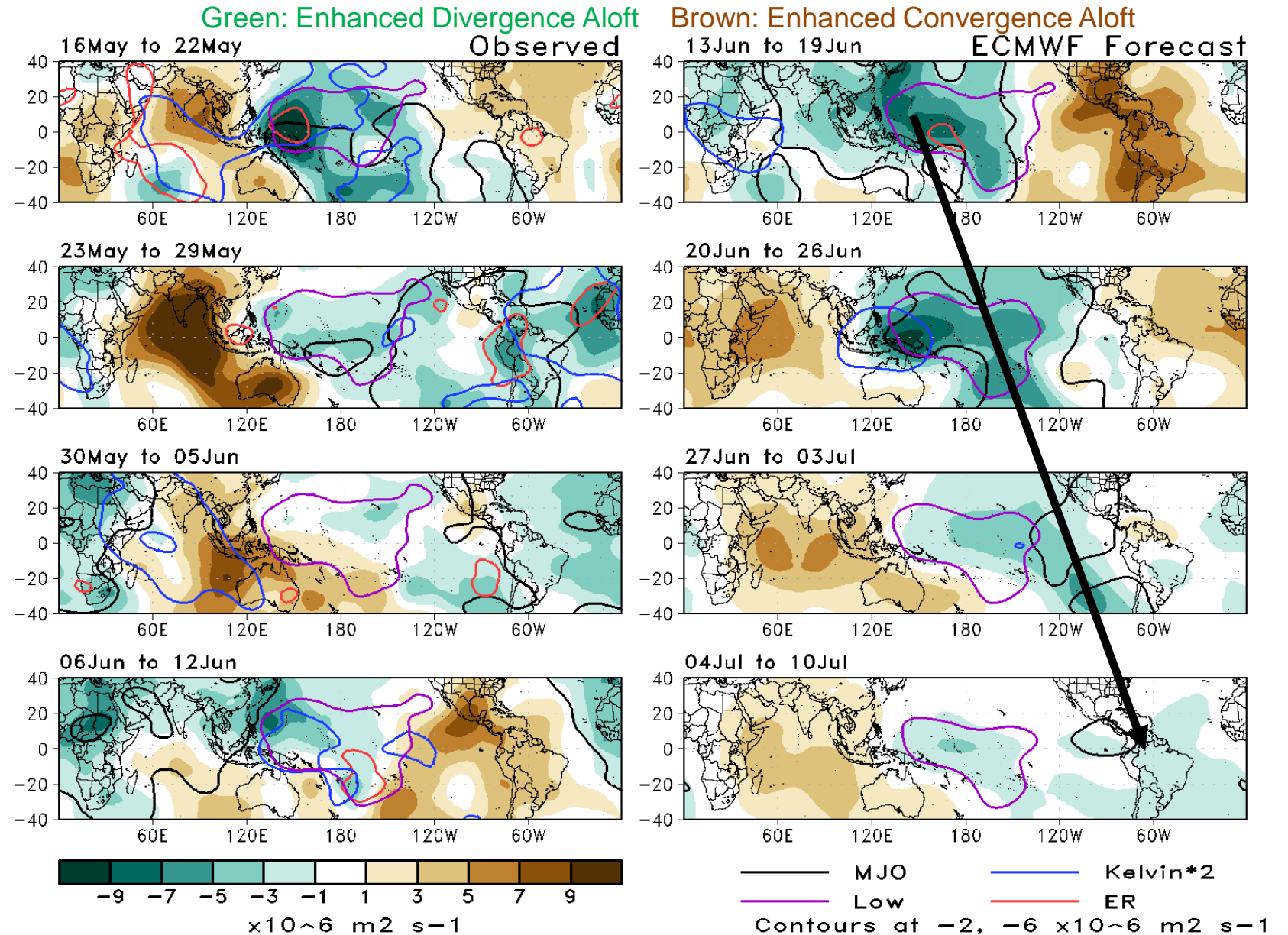


Issued: 06/13/2023
Forecaster: Collow

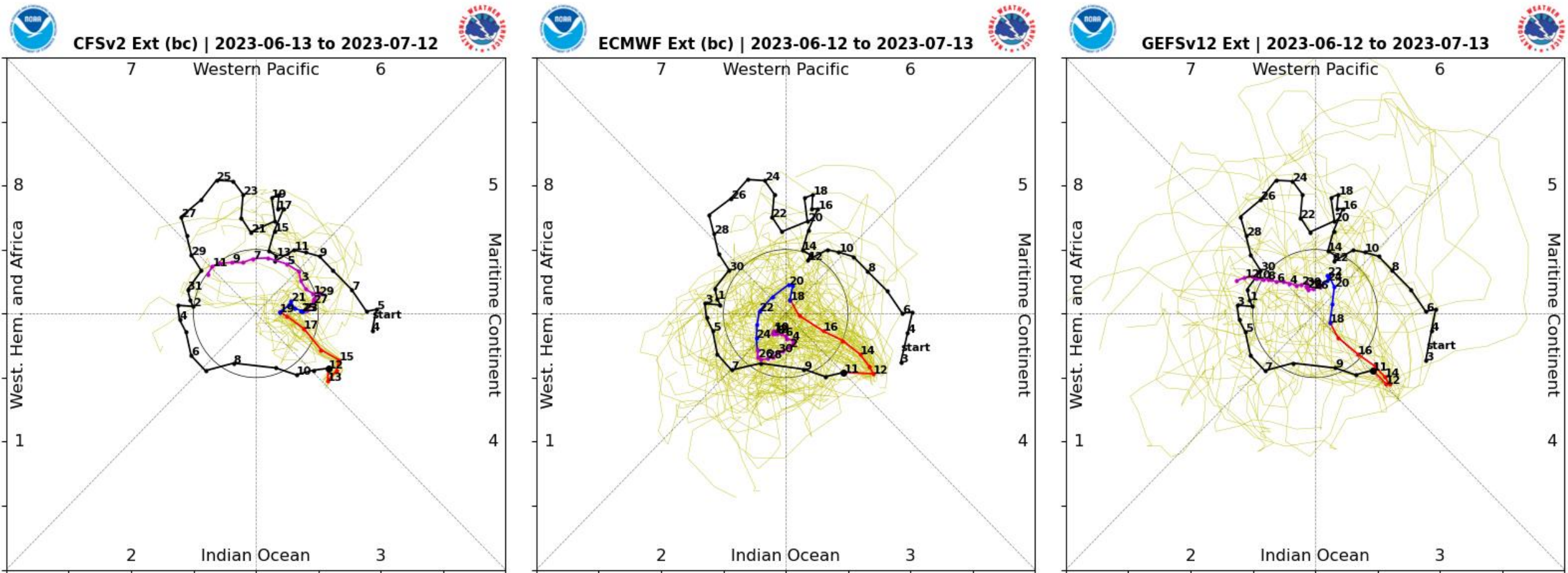
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Intraseasonal signal is forecast to traverse across the Pacific during mid- to late-June.
- The low frequency El Niño footprint remains evident, with enhanced divergence (convergence) aloft across the central Pacific (Indian Ocean) persisting through early July.

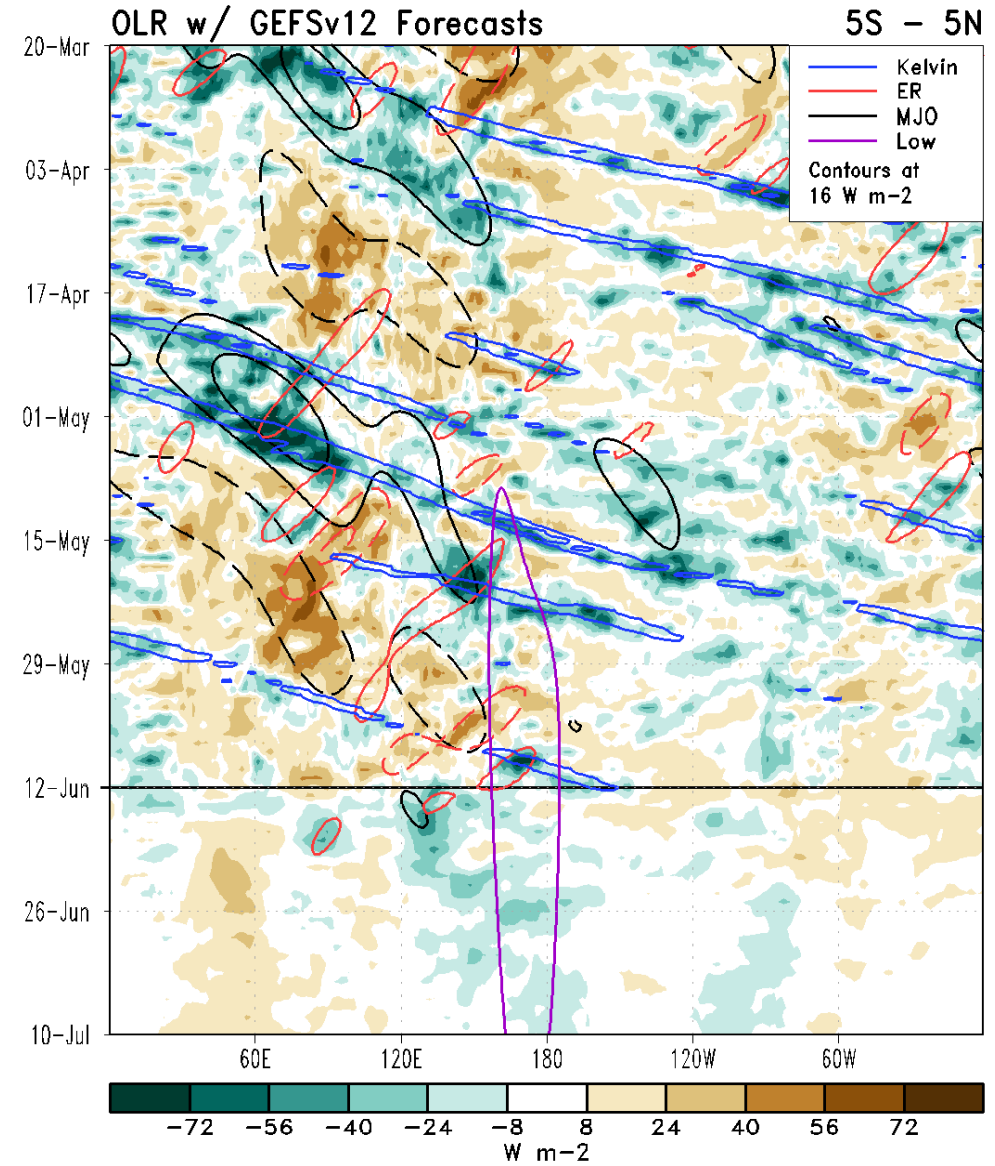
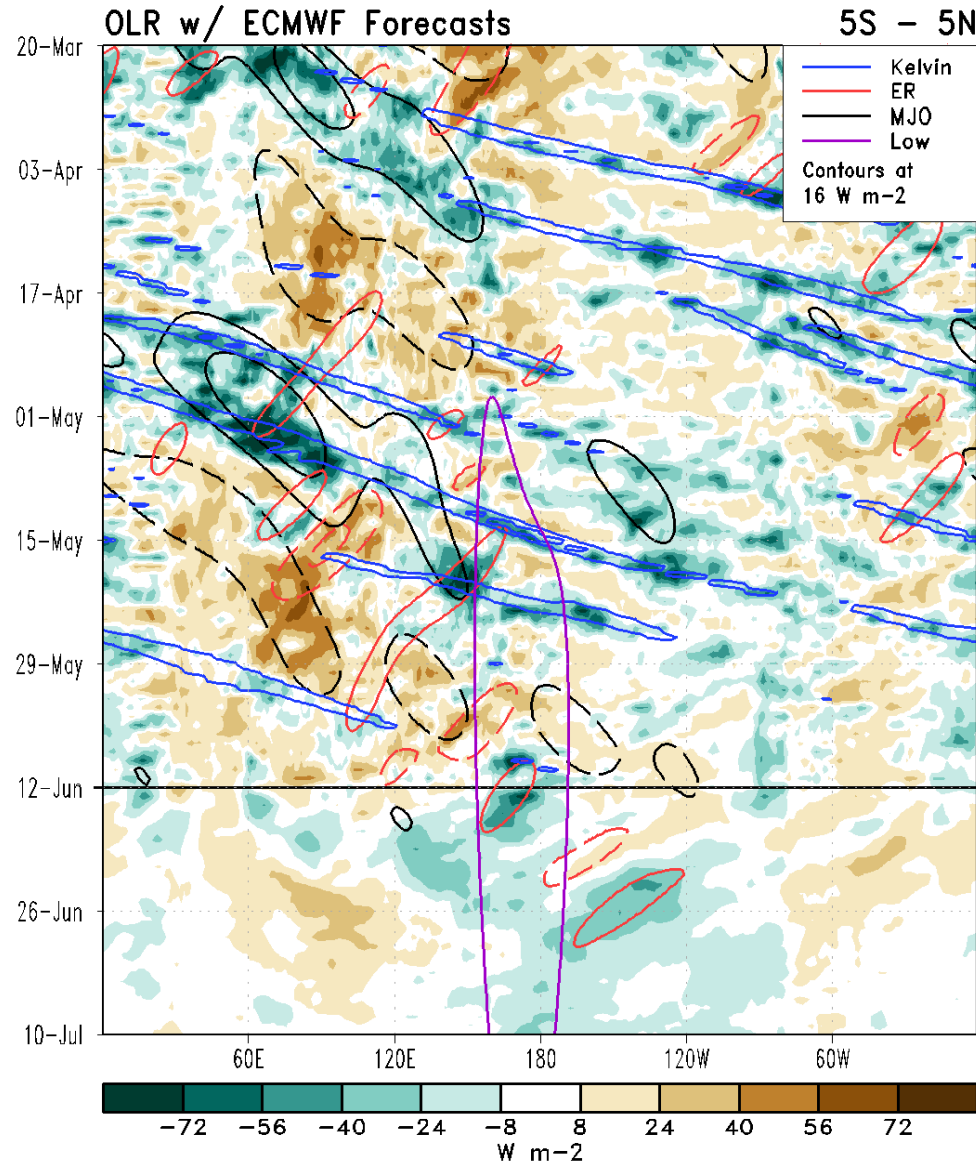


RMM Index Observations & Forecasts:

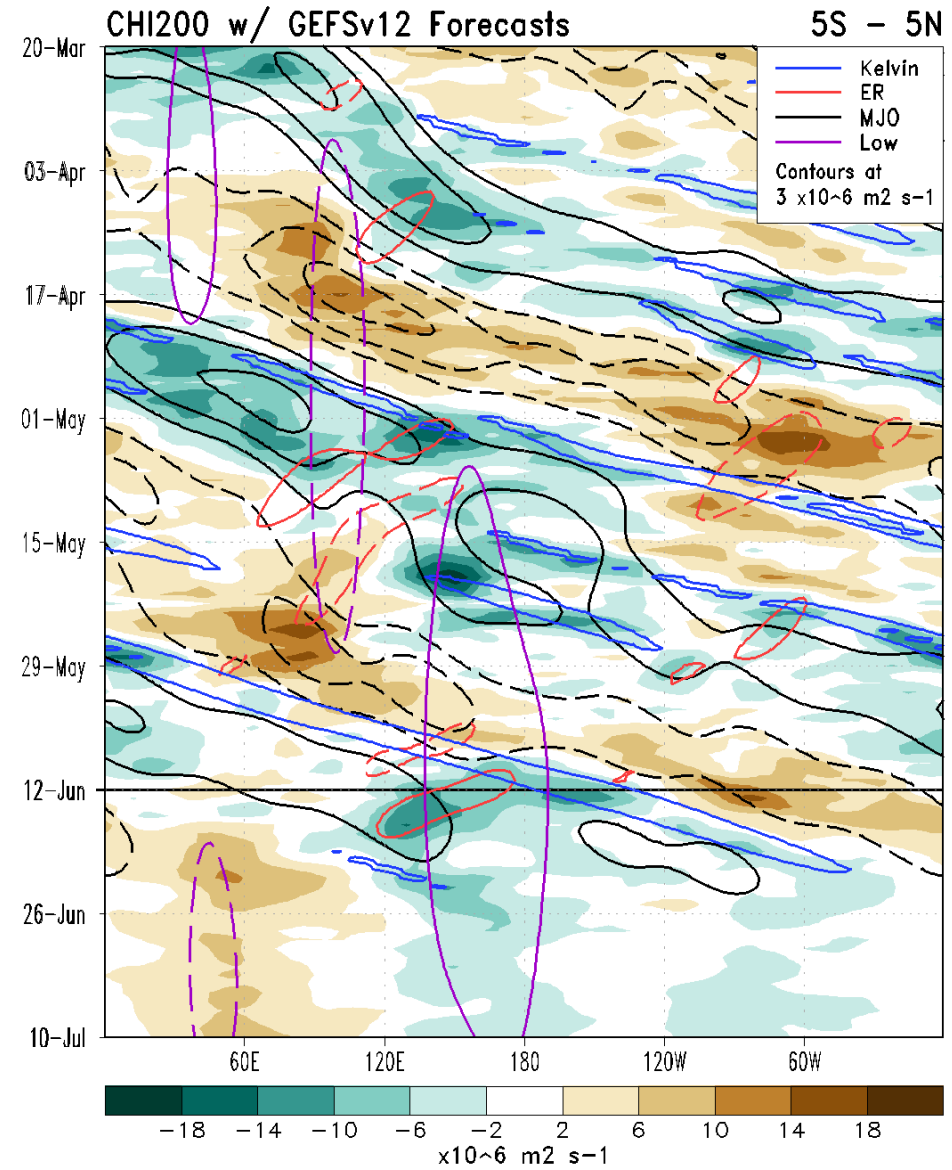
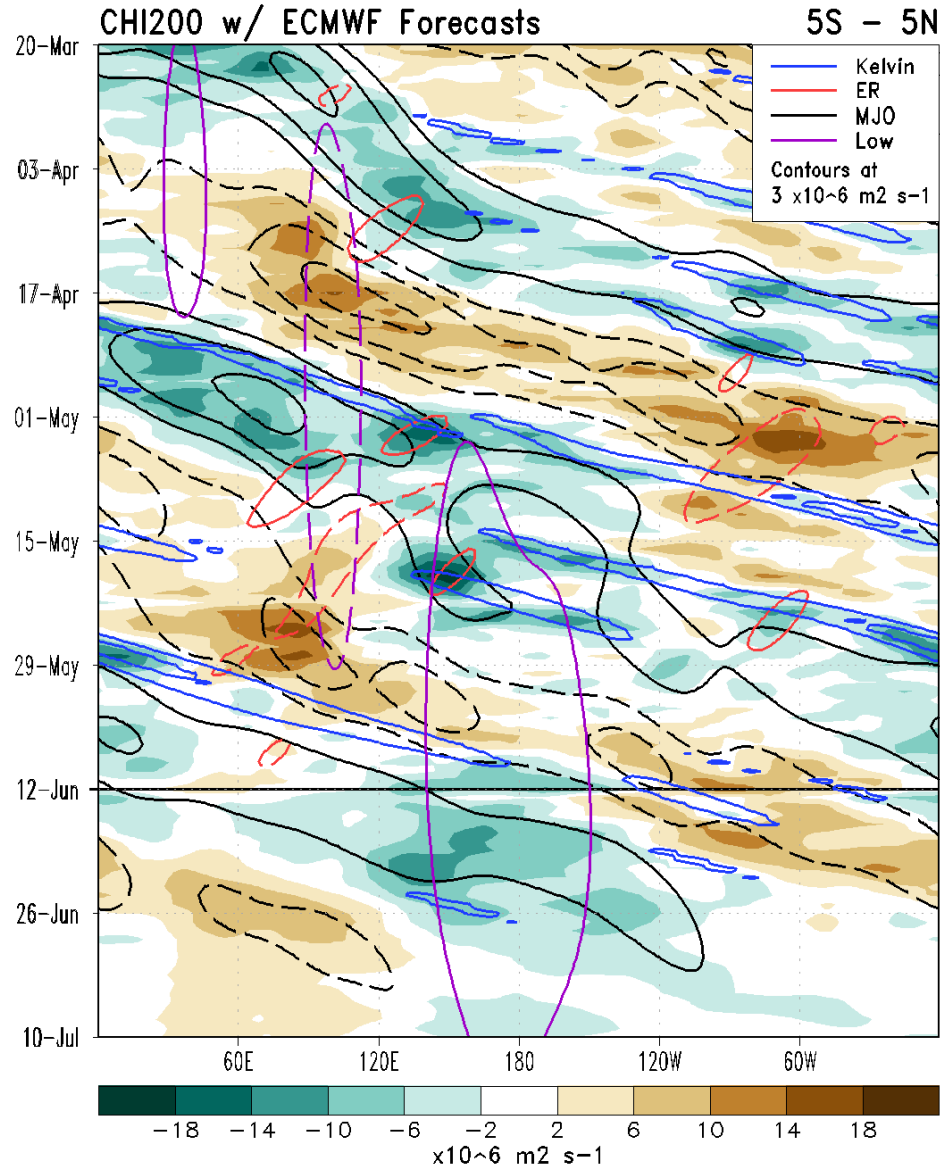


- The CFS, GEFs, and ECMWF ensemble means depict a weakening of the RMM-based MJO signal into the RMM unit circle during the next week.
- While ensemble variability is high, there is some evidence of a weak MJO propagation across the Pacific, or reemergence of the intraseasonal signal across the Western Hemisphere in the next few weeks.

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



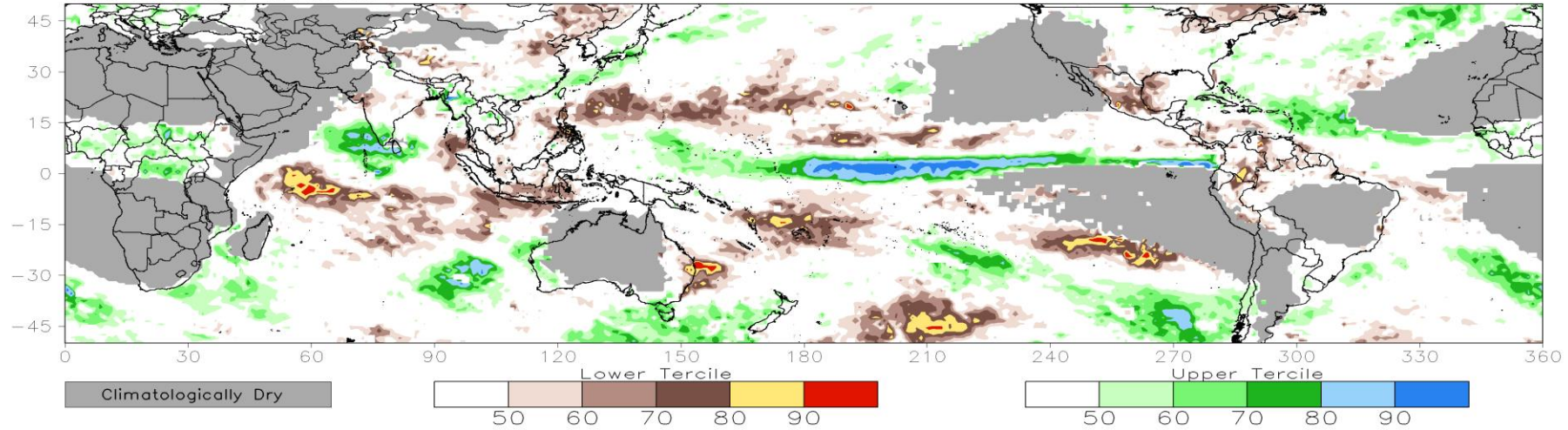
Upper-level Velocity Potential Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

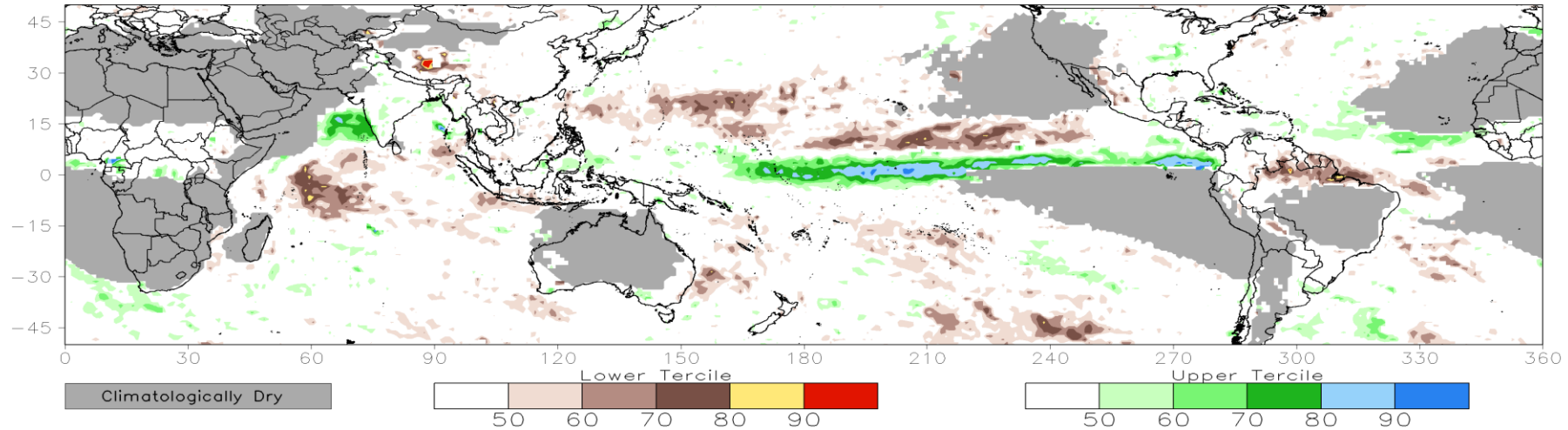
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 21Jun2023–27Jun2023



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

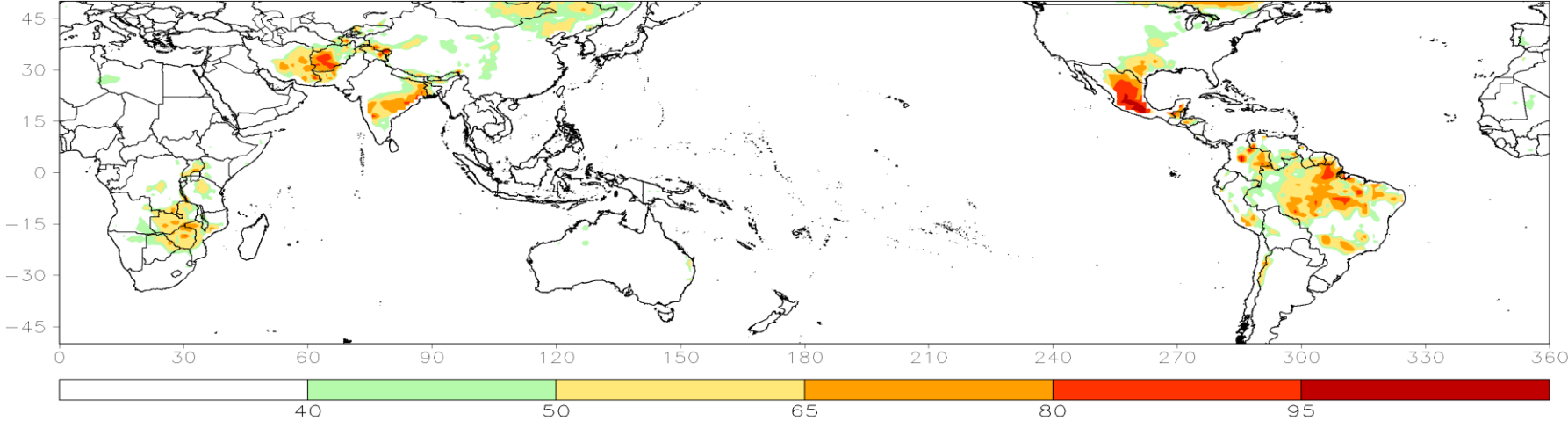
Valid: 28Jun2023–04Jul2023



Consolidated Probabilistic Temperatures: Week-2

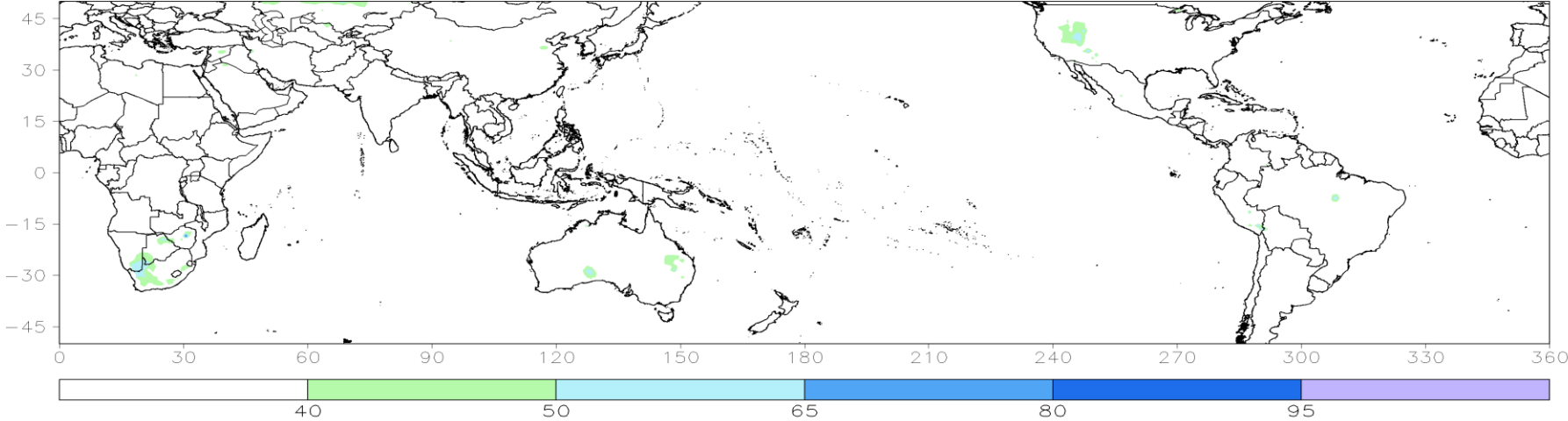
CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmax Above Upper Tercile (%)

Valid: 21Jun2023-27Jun2023



CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmin Below Lower Tercile (%)

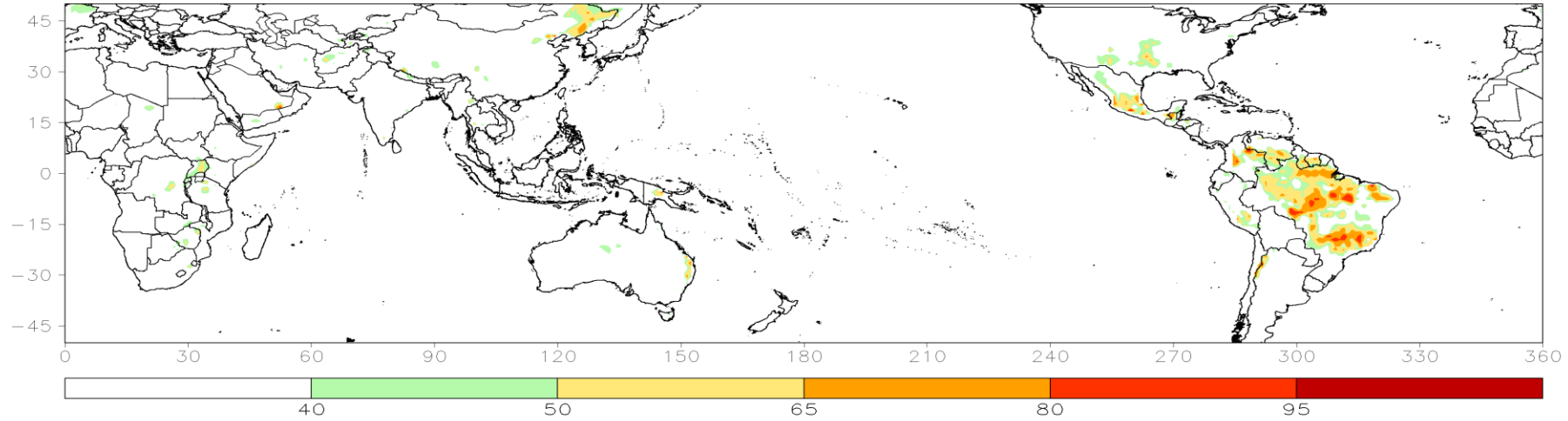
Valid: 21Jun2023-27Jun2023



Consolidated Probabilistic Temperatures: Week-3

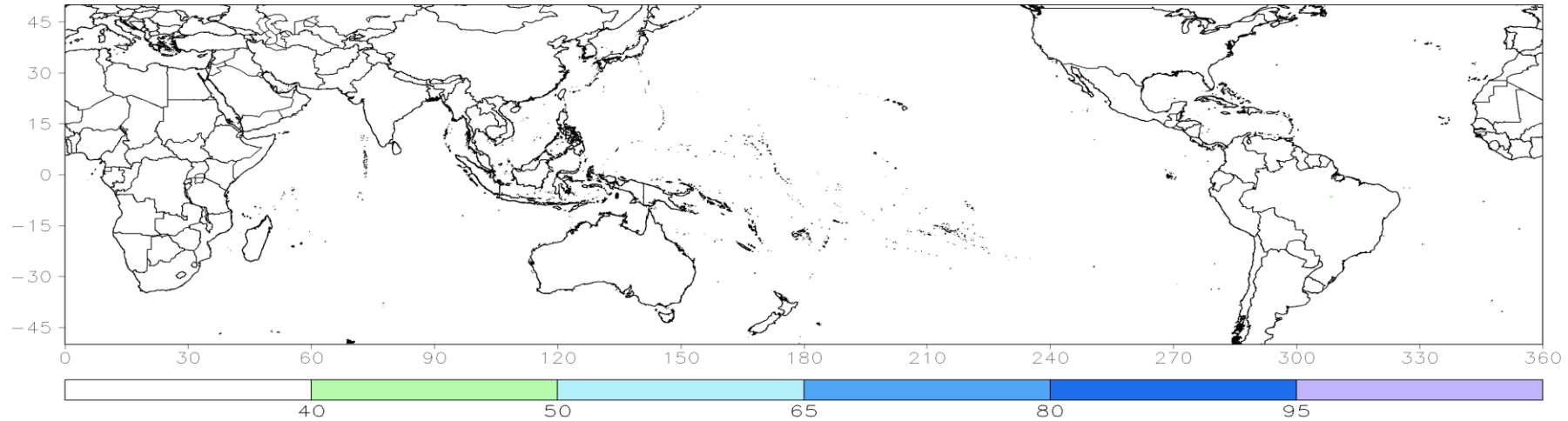
CFS/ECMWF/GEFS Correlation Weighted: Week3 Probability for Tmax Above Upper Tercile (%)

Valid: 28Jun2023-04Jul2023



CFS/ECMWF/GEFS Correlation Weighted: Week3 Probability for Tmin Below Lower Tercile (%)

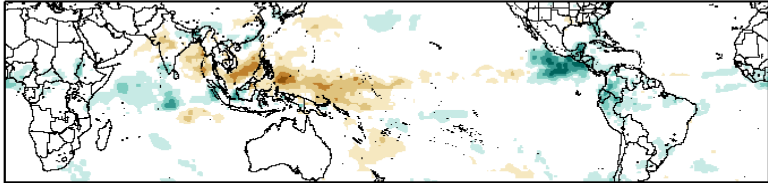
Valid: 28Jun2023-04Jul2023



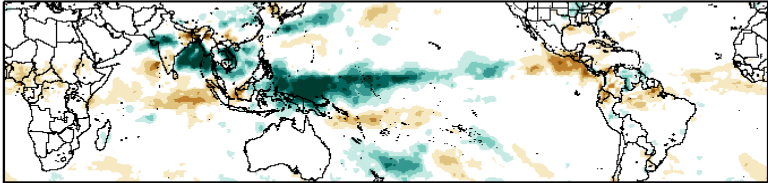
Historical Precipitation Anomalies By MJO Phase:

MJJ MJO Composite: GPCP1DD (mm/day)

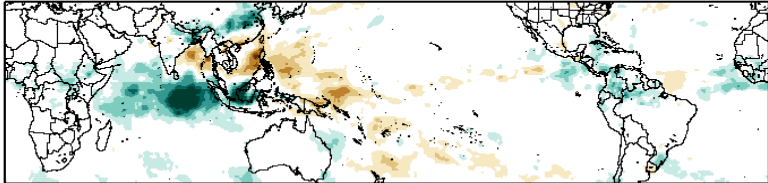
Phase 1



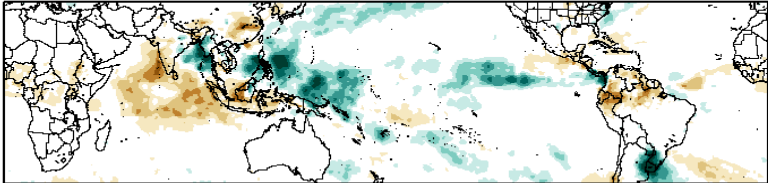
Phase 5



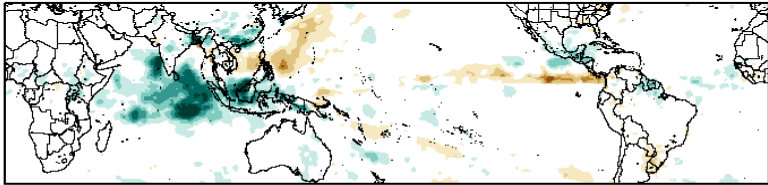
Phase 2



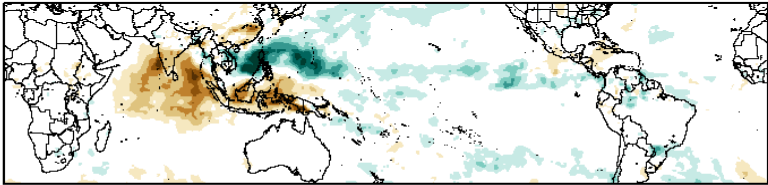
Phase 6



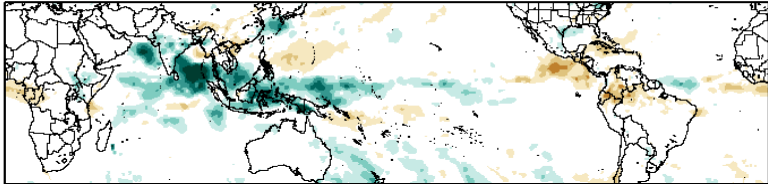
Phase 3



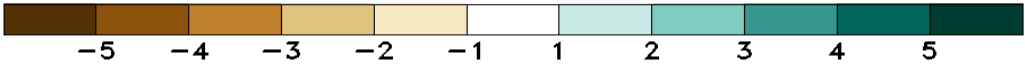
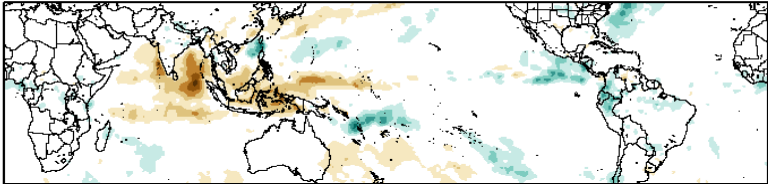
Phase 7



Phase 4

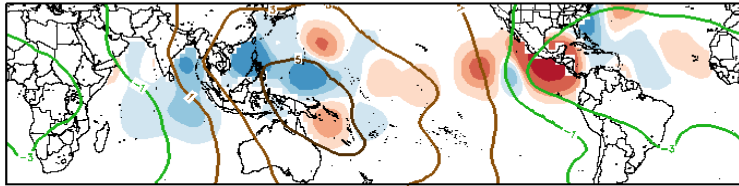


Phase 8

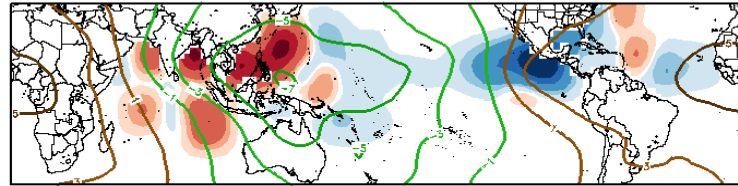


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

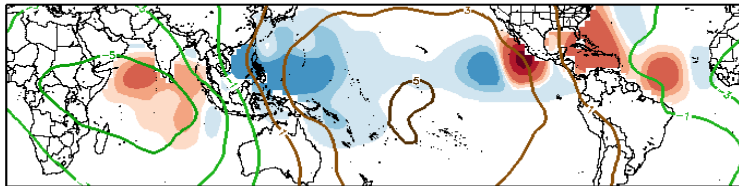
MJJ MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ MJJ CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



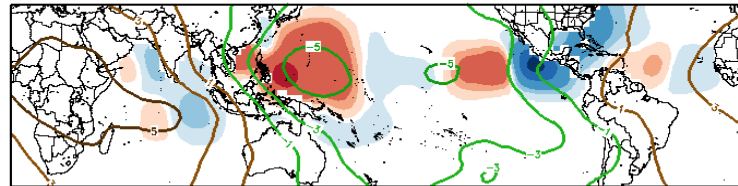
Phase 1



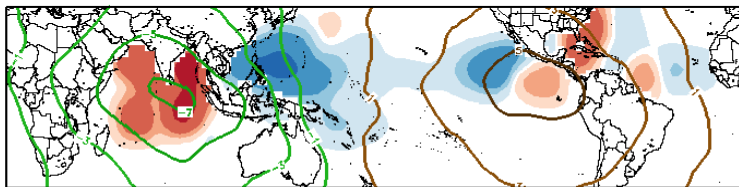
Phase 5



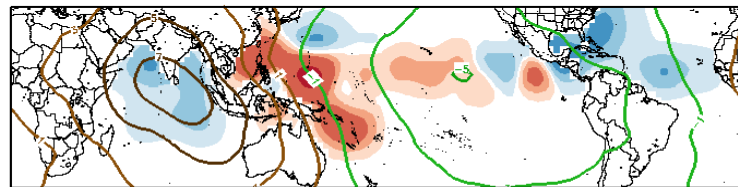
Phase 2



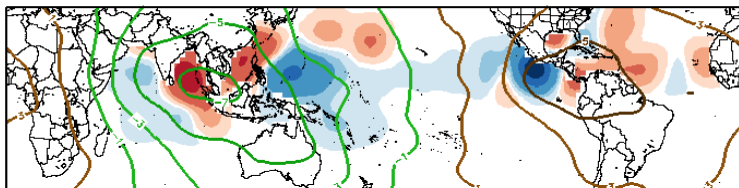
Phase 6



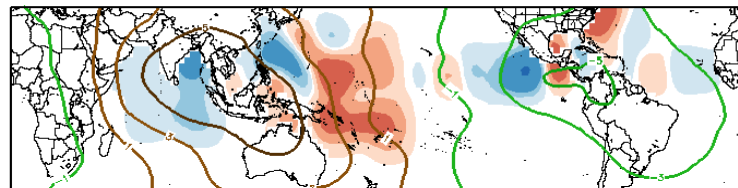
Phase 3



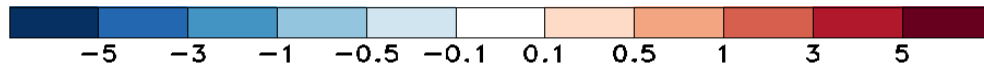
Phase 7



Phase 4



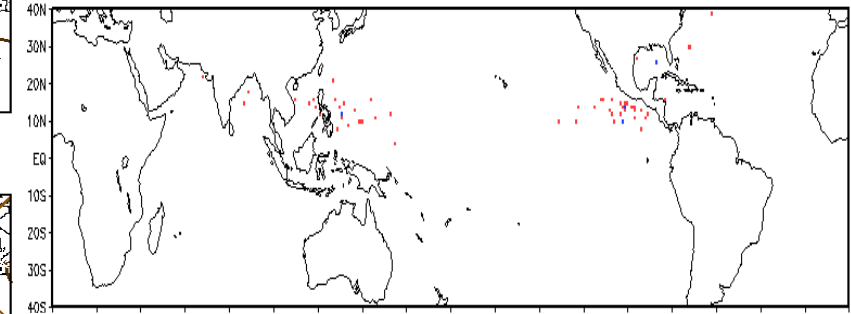
Phase 8



Experimental

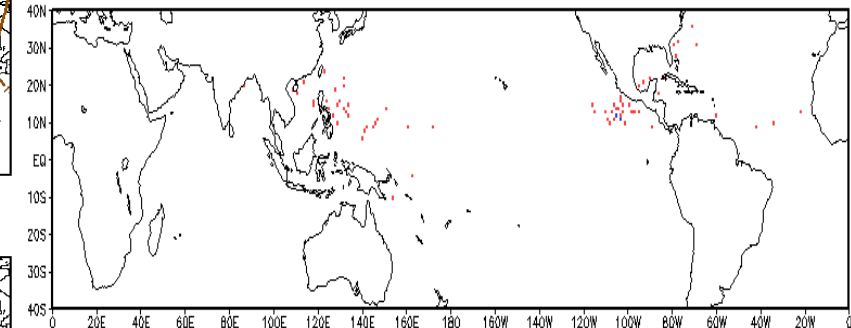
Observed TC Genesis, 1979-2021

7-day Period 0621 to 0627

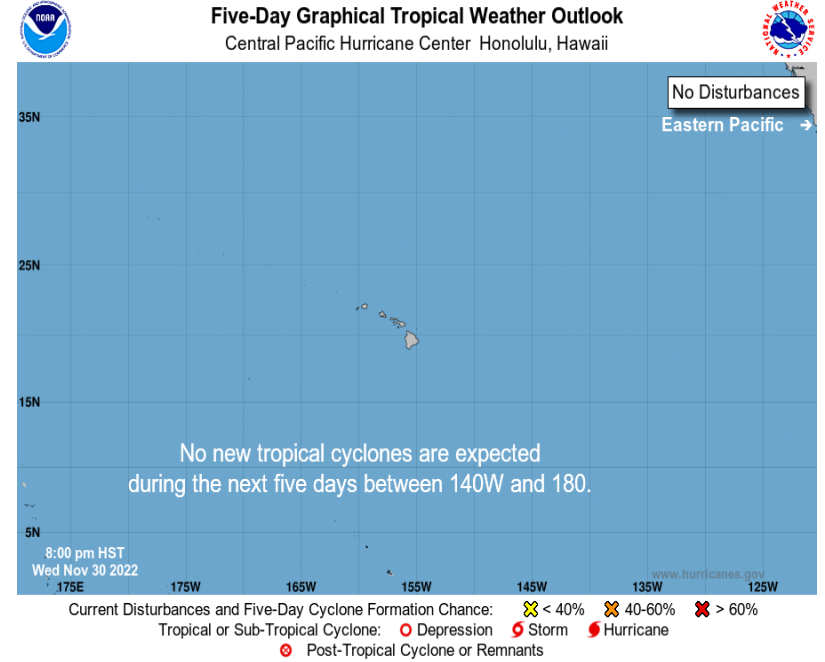
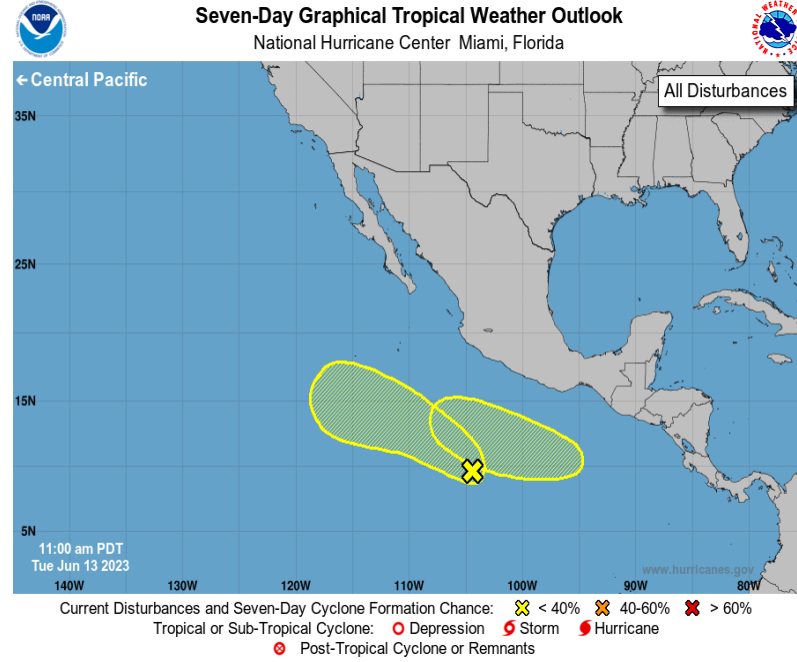
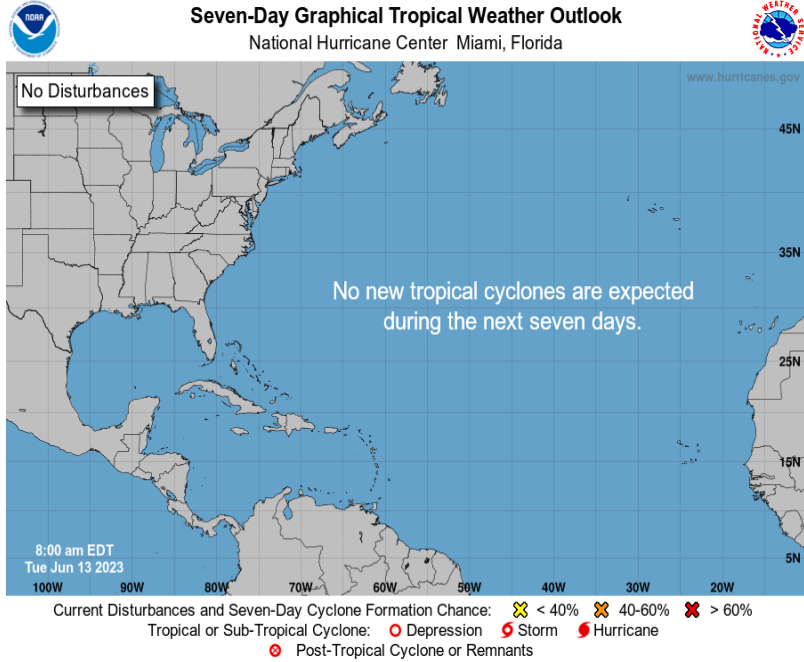


Observed TC Genesis, 1979-2021

7-day Period 0628 to 0704



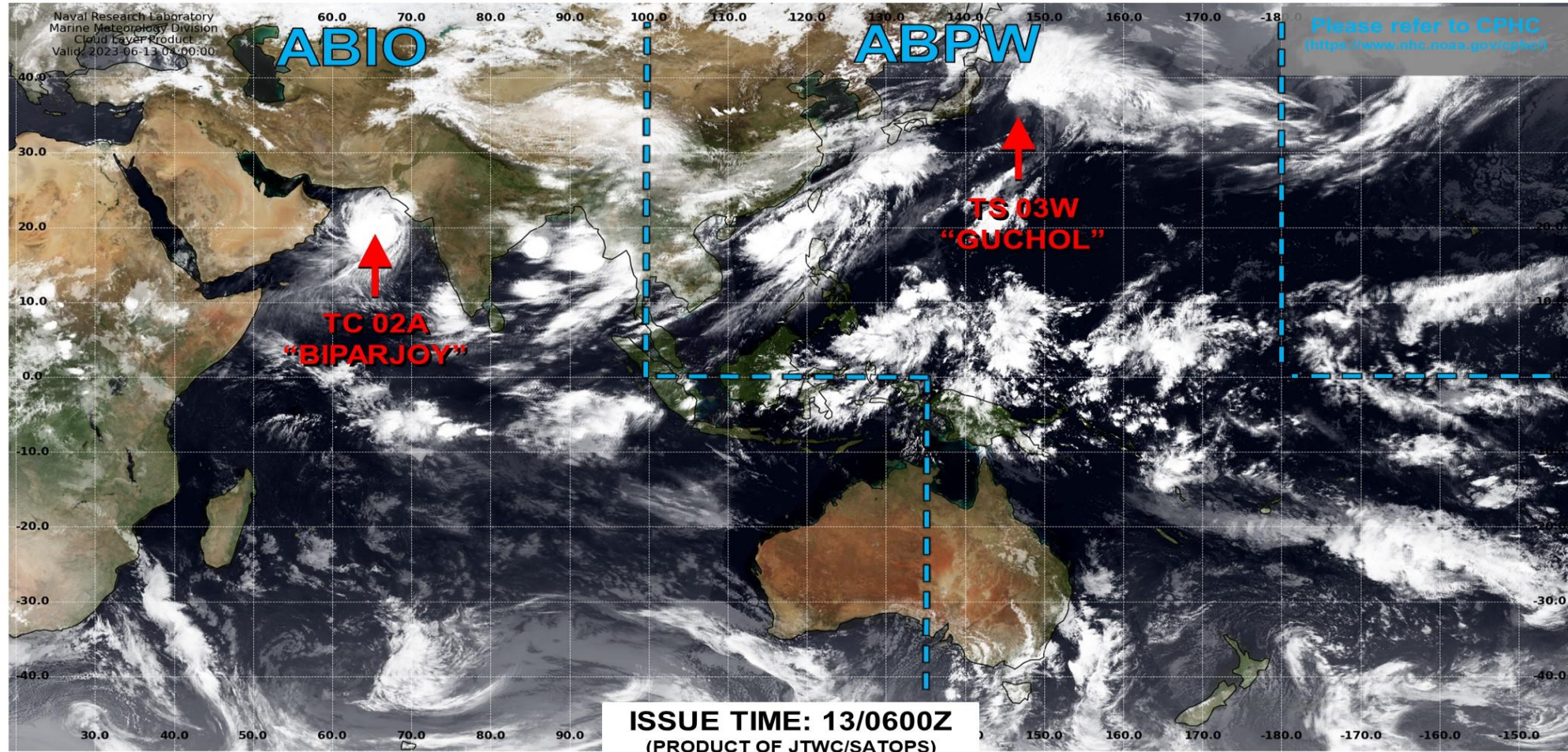
Tropical Cyclone Monitoring/Forecast: NHC



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

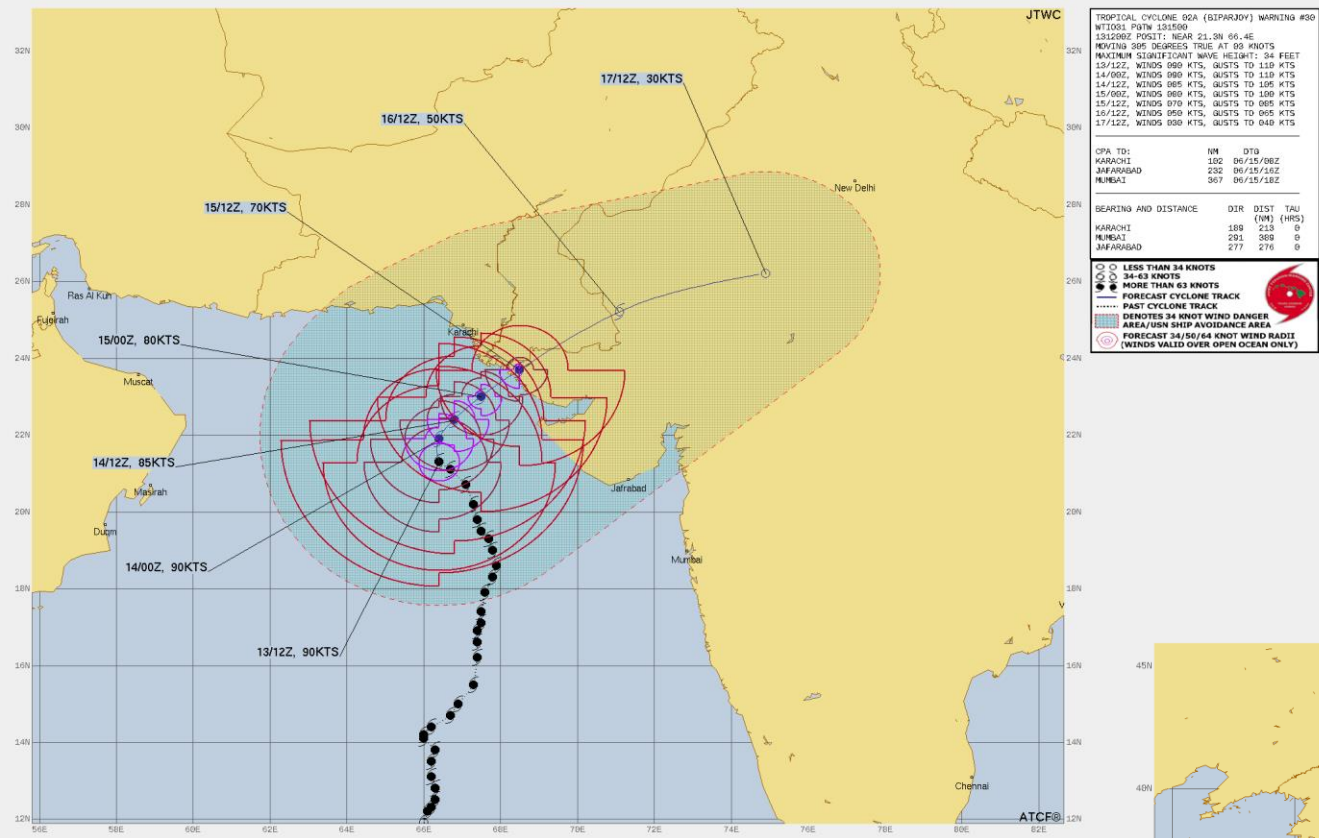


TC development likely within 24 hours (Reference TCFA)



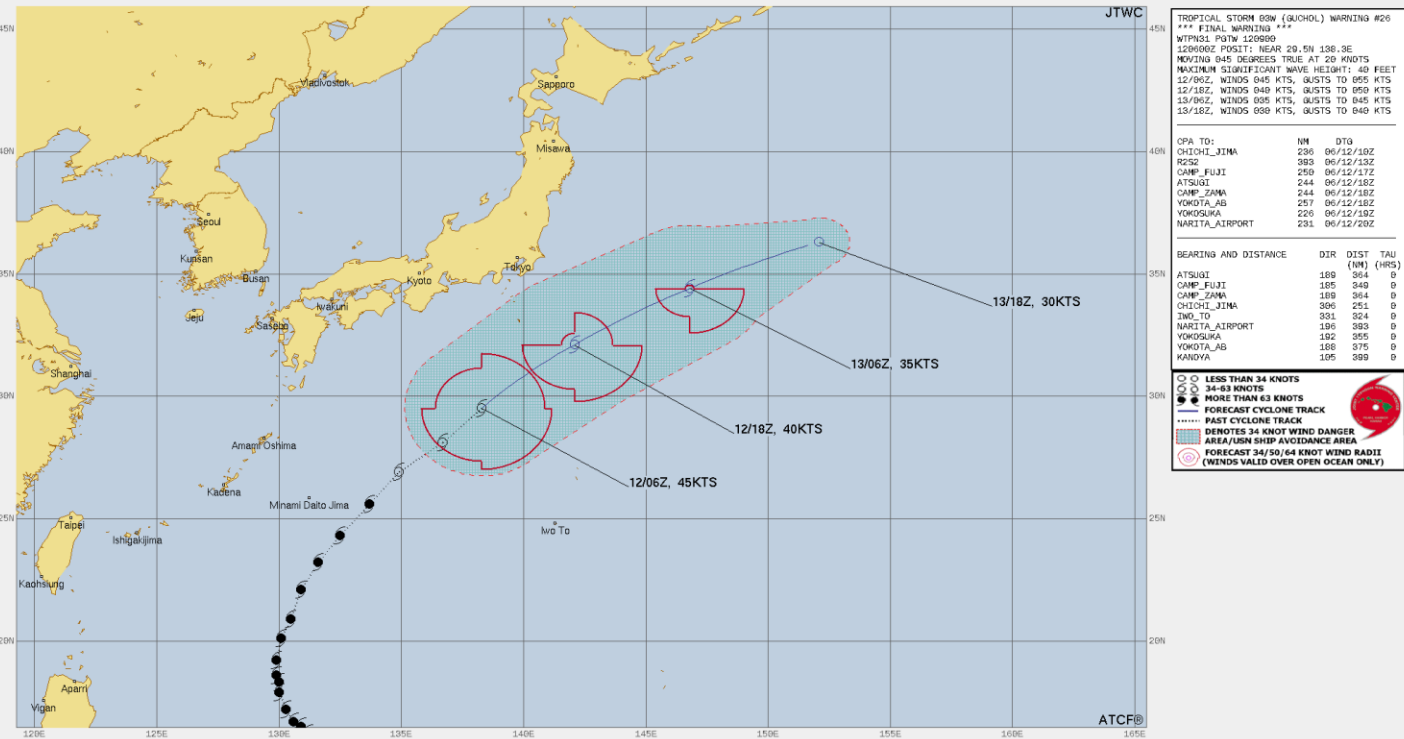
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability





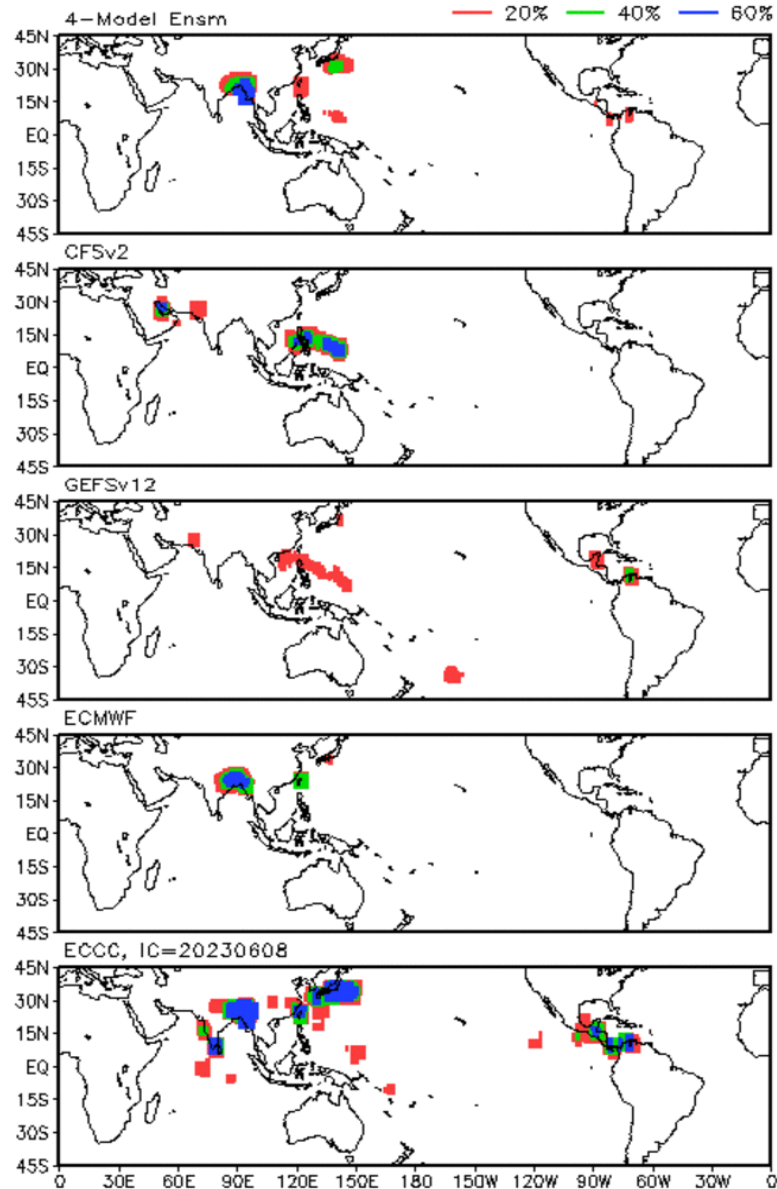
Biparjoy

Guchol

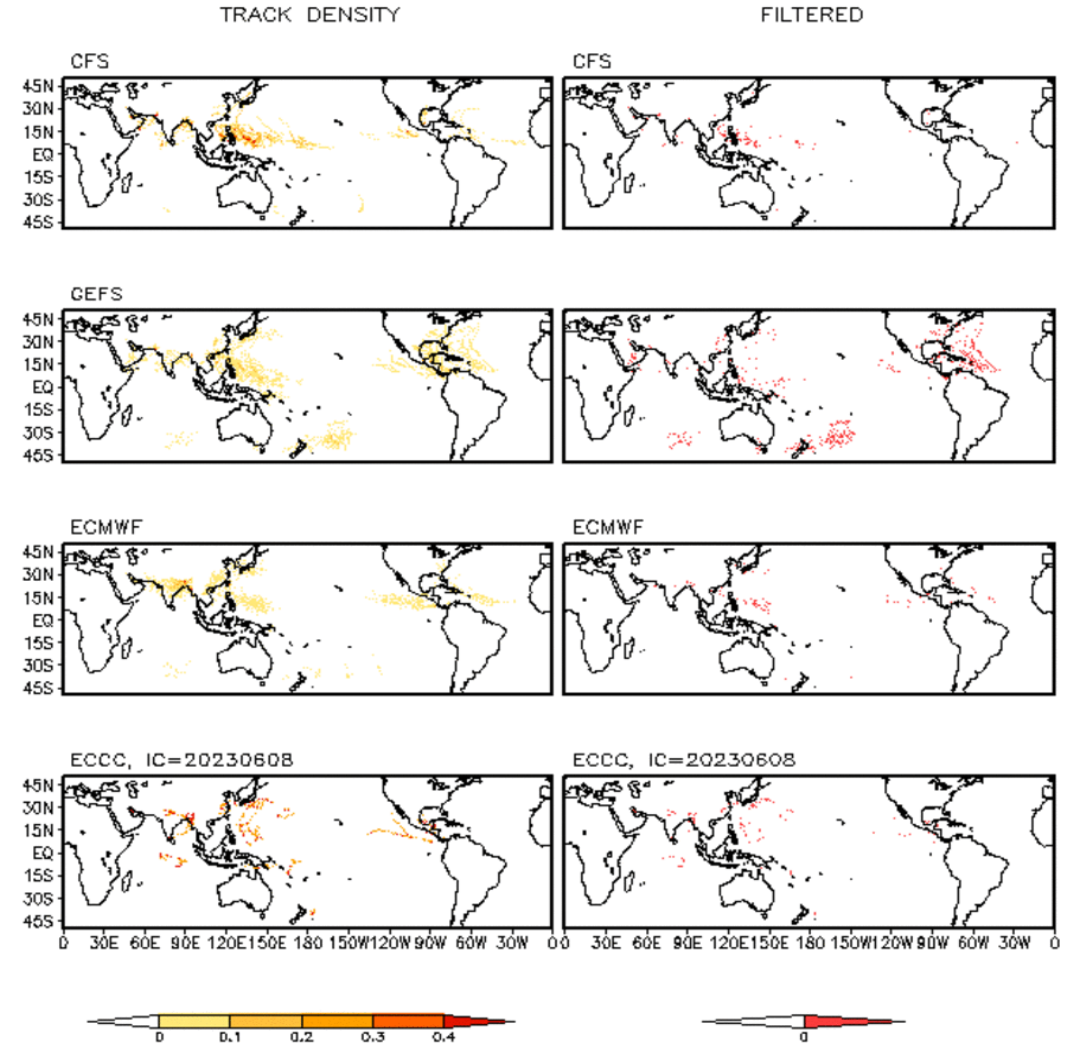


Multi-Model TC Track Probabilities/Densities: Week-2

Storm Track Probabilities, IC=20230612
Week 2: 0621 - 0627

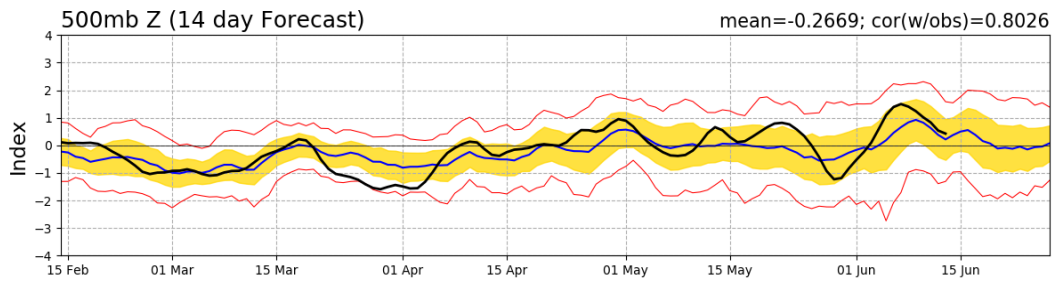
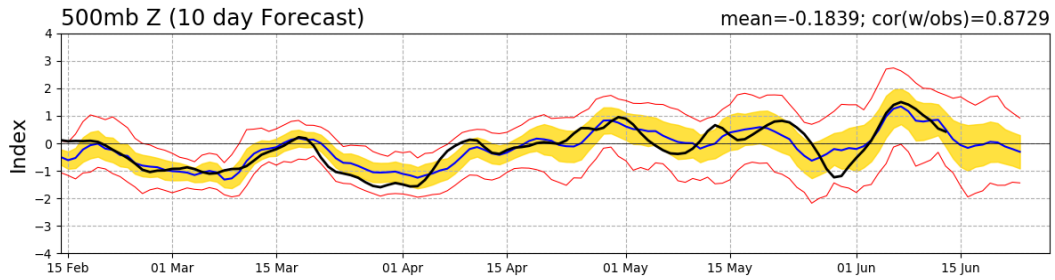
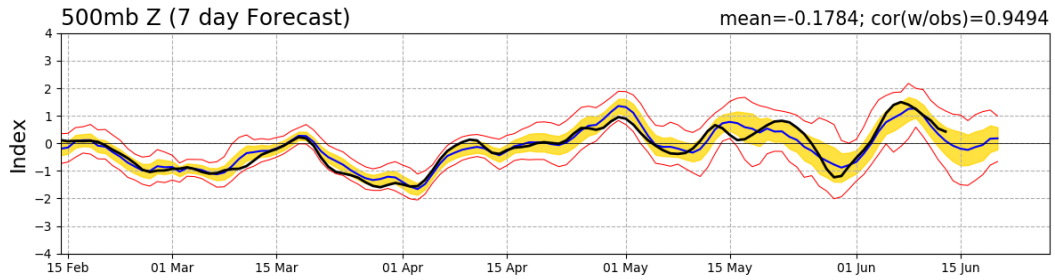
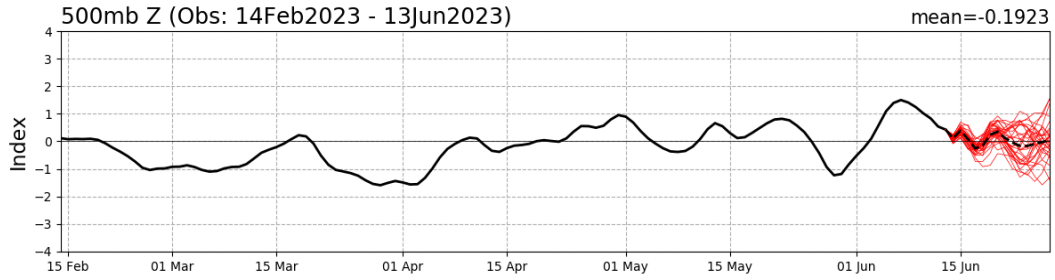


Storm Track Density Distribution, IC=20230612
Week 2 Forecast: 0621-0627

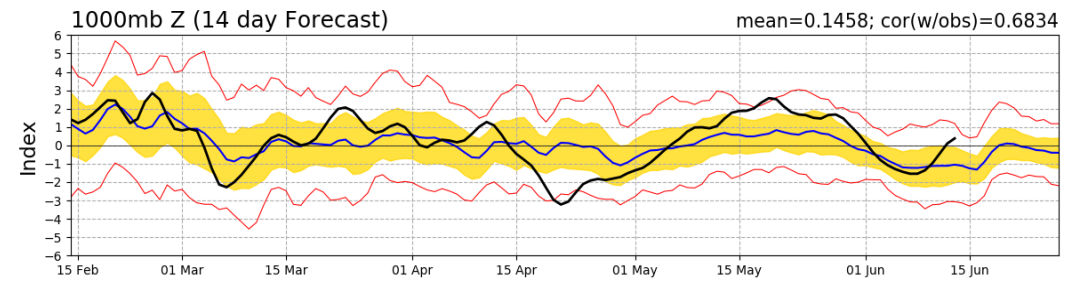
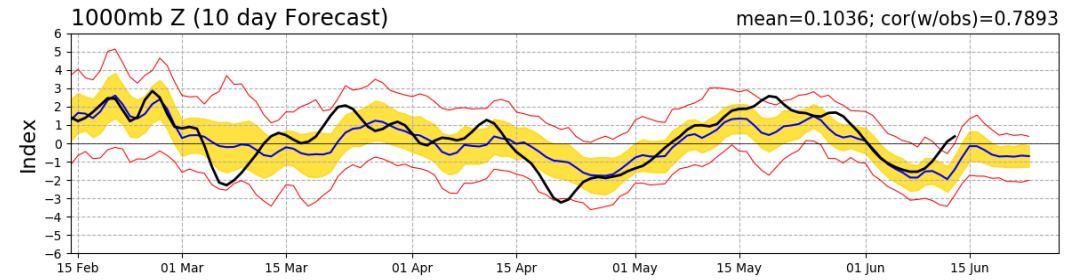
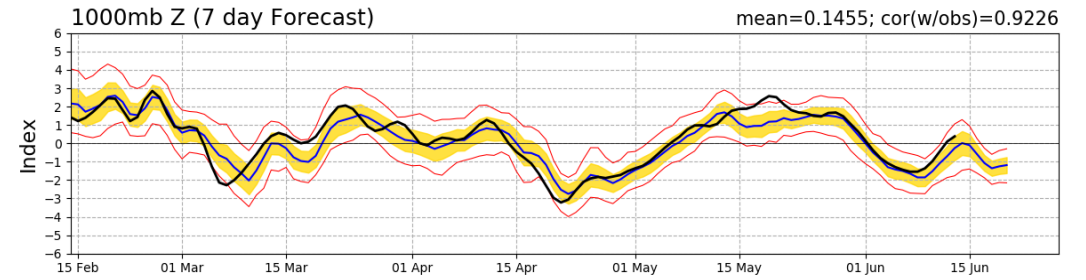
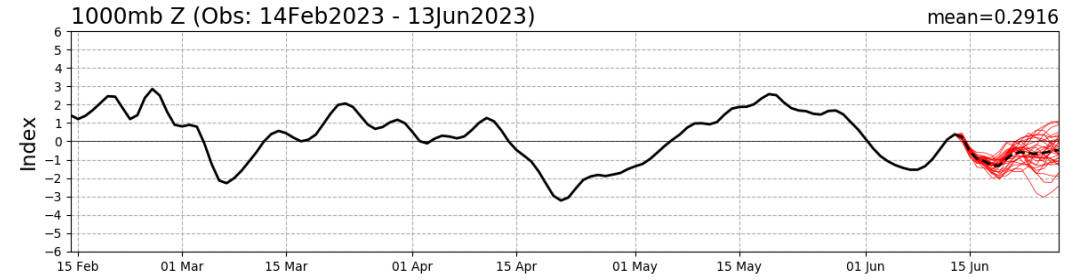


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts



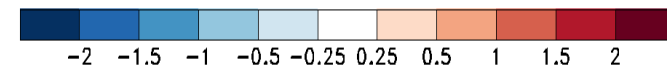
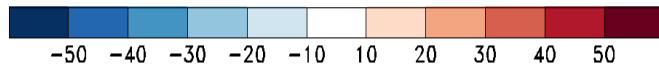
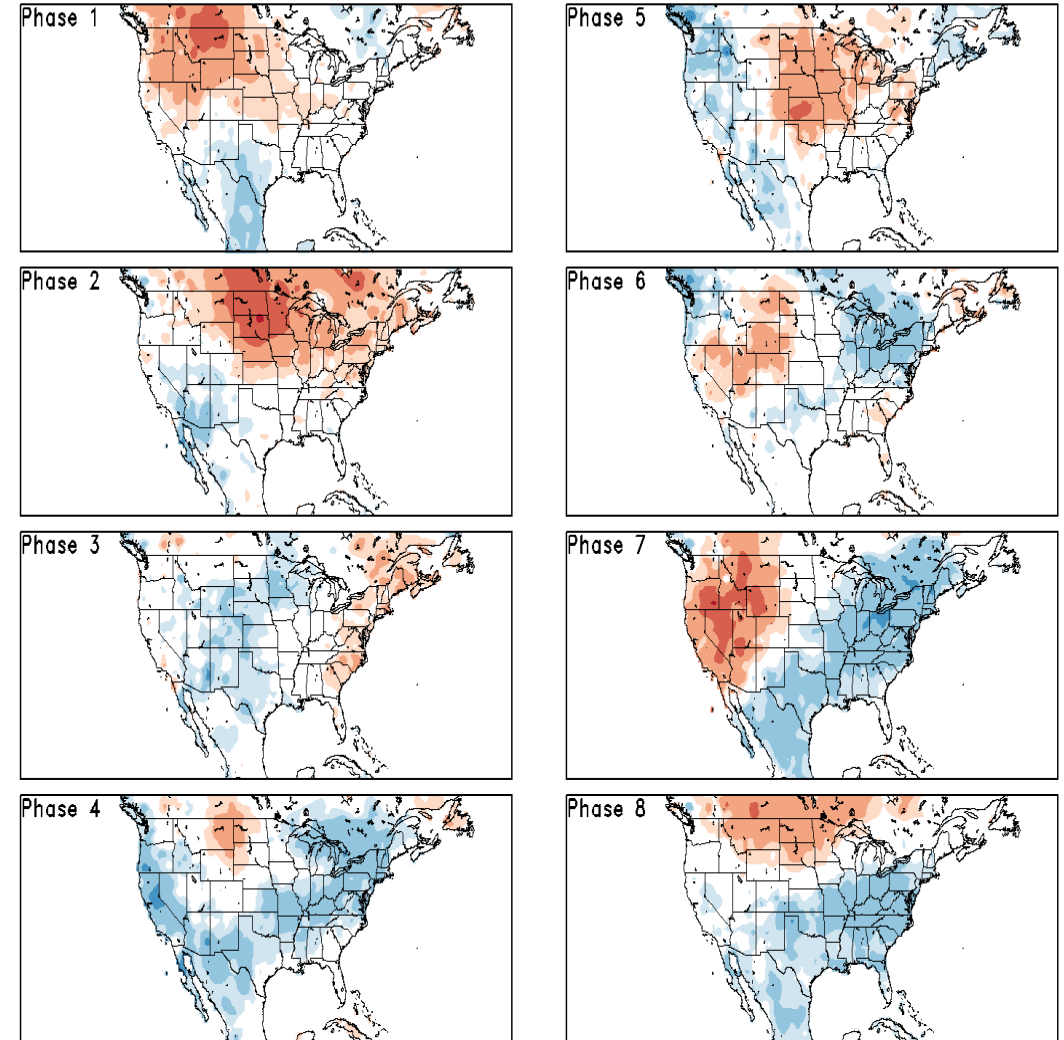
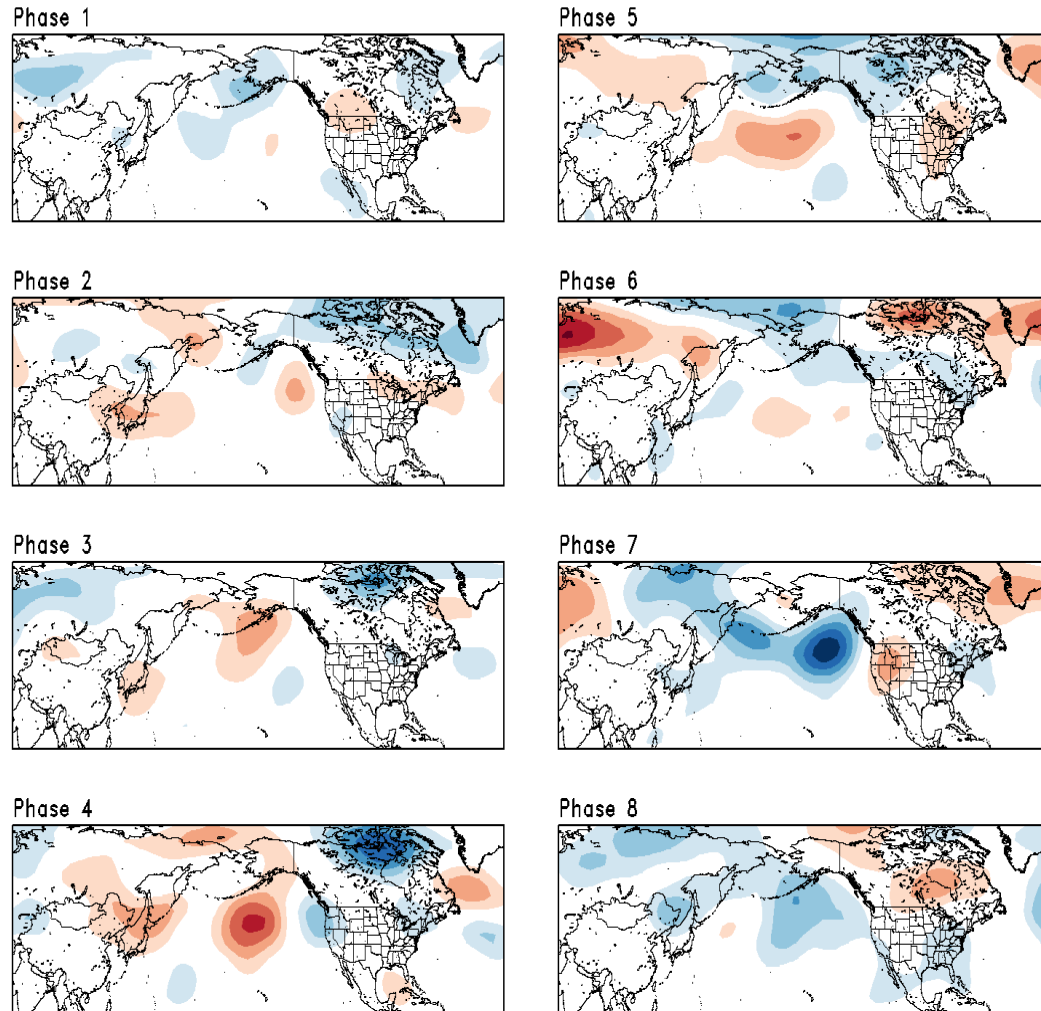
AO Index: Observed & GEFS Forecasts



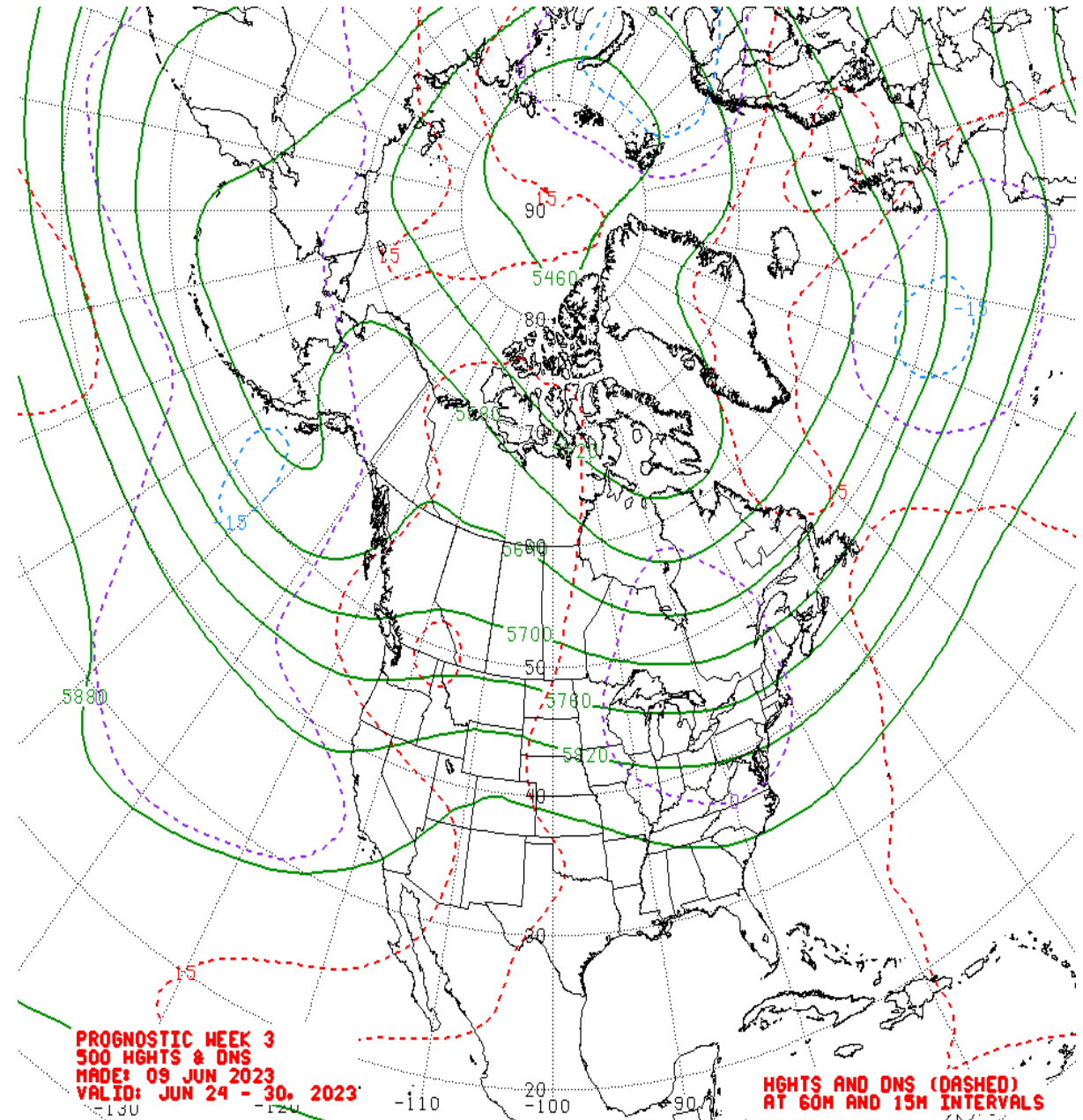
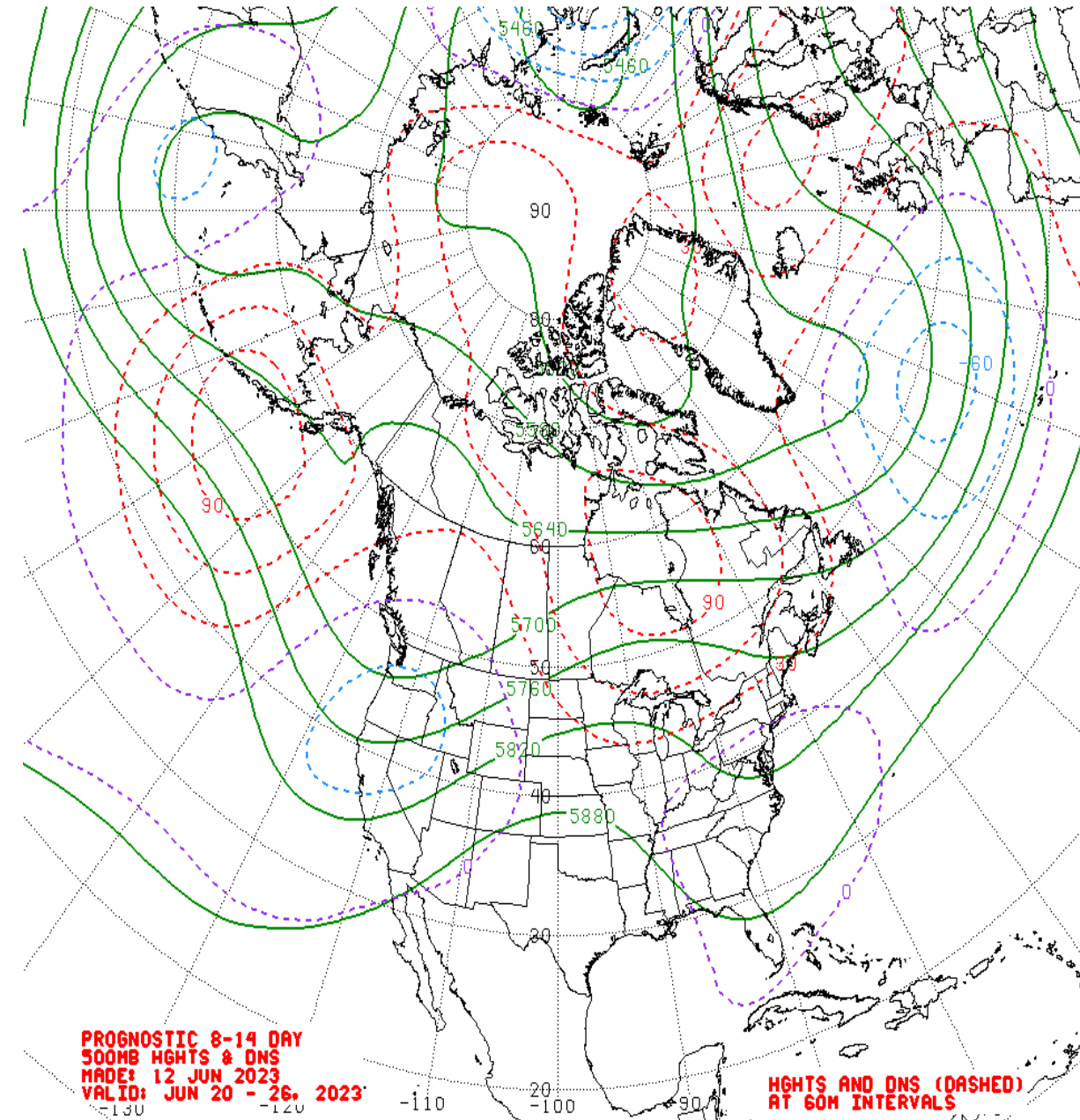
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

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

MJJ MJO Composite: GLBT (degC)



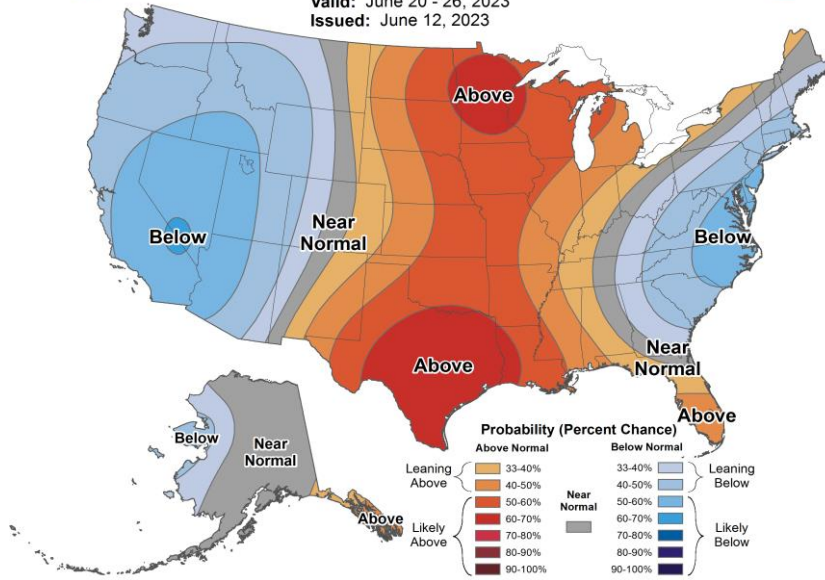
Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:

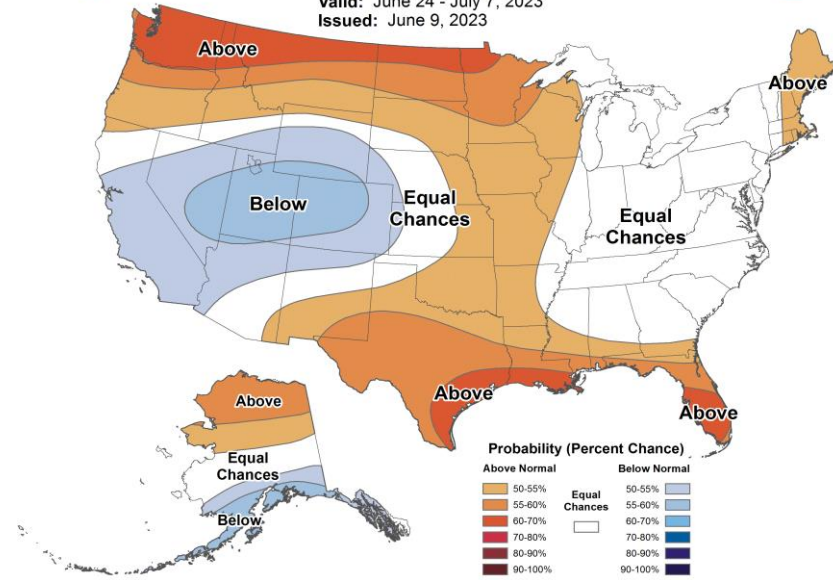
8-14 Day Temperature Outlook

Valid: June 20 - 26, 2023
Issued: June 12, 2023



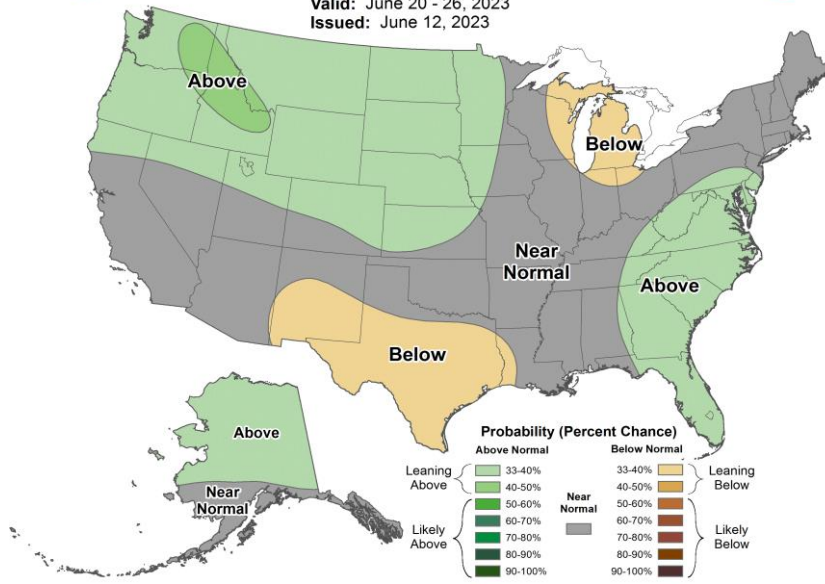
Weeks 3-4 Temperature Outlook

Valid: June 24 - July 7, 2023
Issued: June 9, 2023



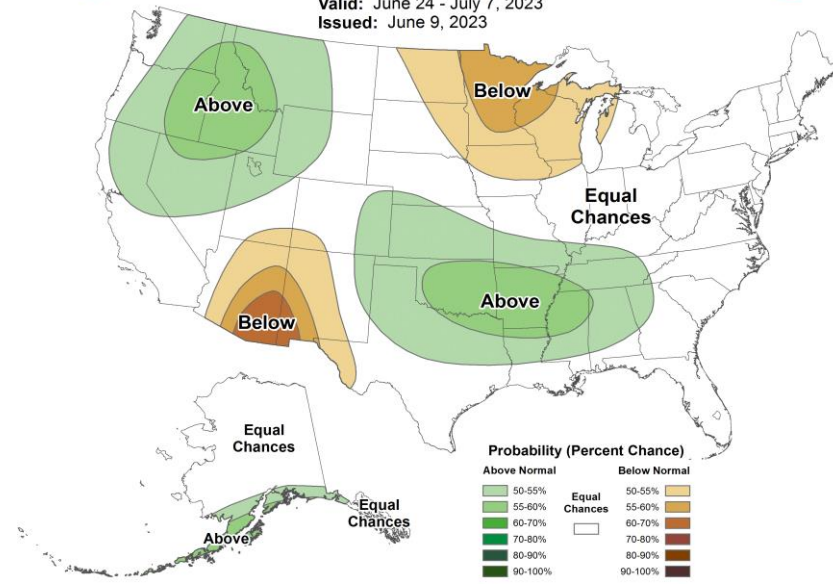
8-14 Day Precipitation Outlook

Valid: June 20 - 26, 2023
Issued: June 12, 2023



Weeks 3-4 Precipitation Outlook

Valid: June 24 - July 7, 2023
Issued: June 9, 2023



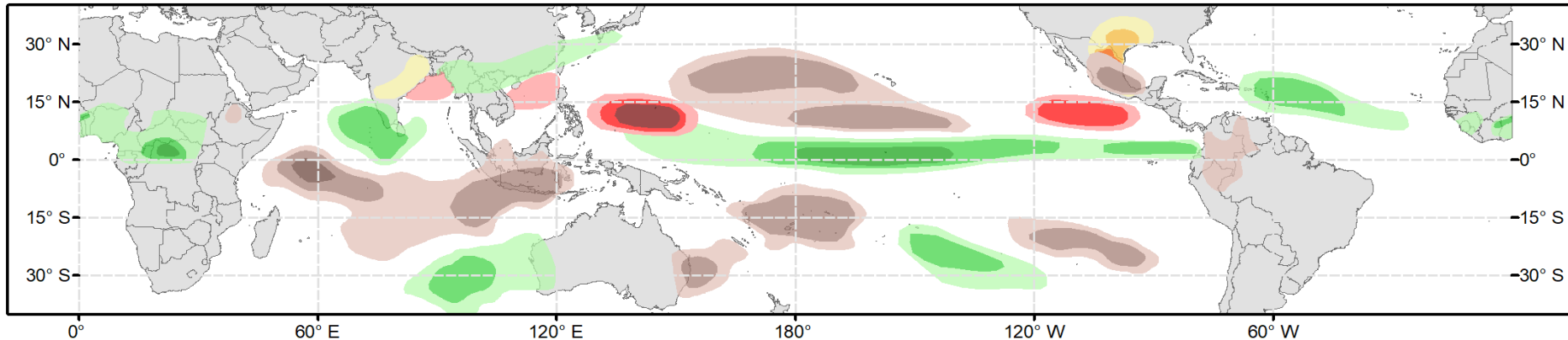


Global Tropics Hazards Outlook

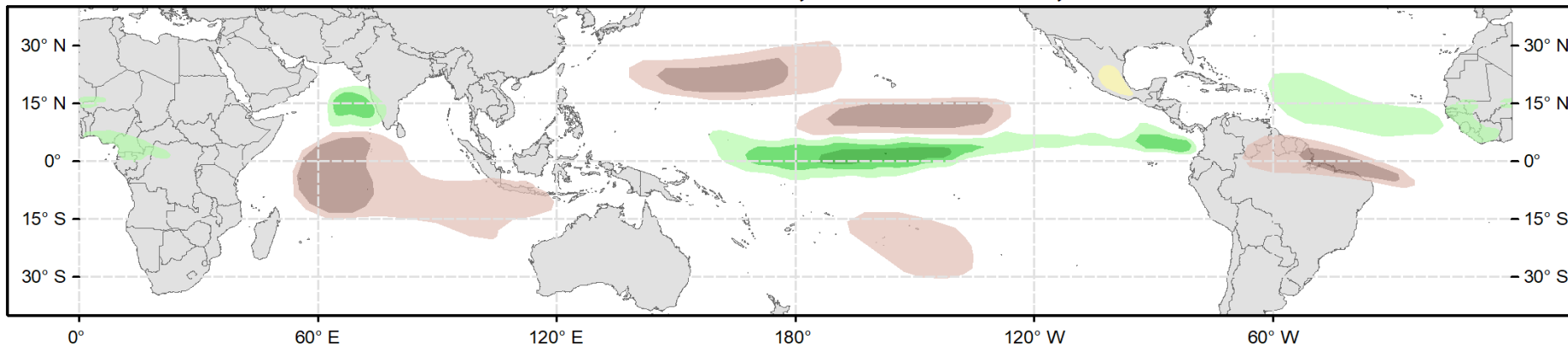
Climate Prediction Center



Week 2 - Valid: Jun 21, 2023 - Jun 27, 2023



Week 3 - Valid: Jun 28, 2023 - Jul 04, 2023



Week-2 Only

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 max temperatures in the Upper third of the historical range

Below-Average Temperatures Probability

>50% >65% >80%

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

Issued: 06/13/2023
Forecaster: Collow

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