



Weeks 2-3 Global Tropics Hazards Outlook

5/2/2023

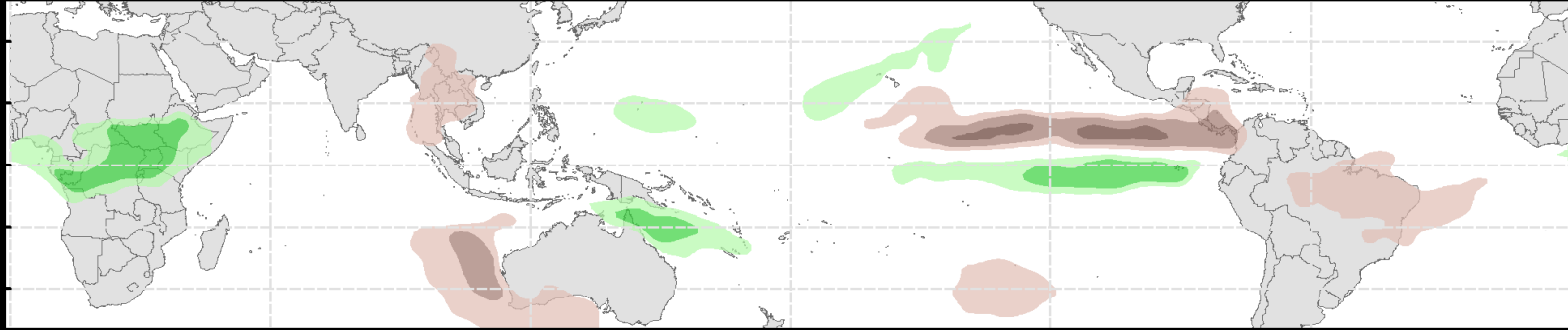
Thomas Collow

NWS / NCEP / Climate Prediction Center

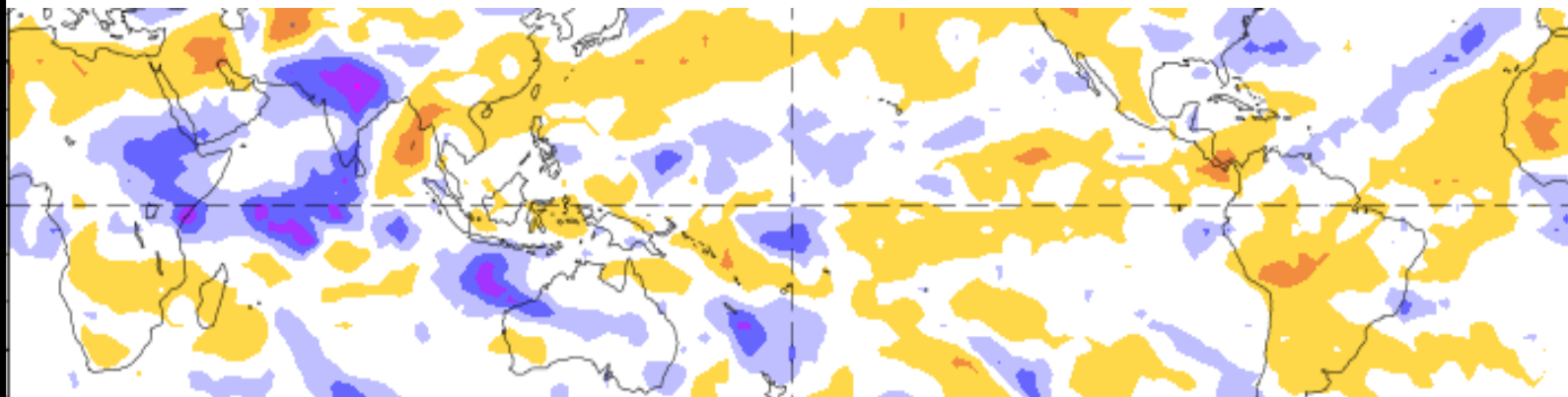
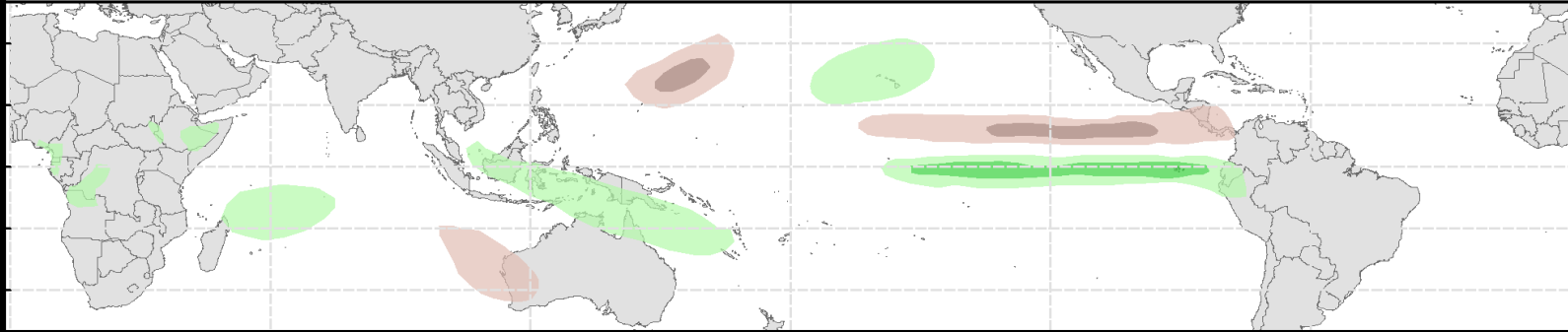
Outlook Review: TC development & anomalous precipitation during the past week

No new TCs formed in the past week

Week 2 - Valid: Apr 26, 2023 - May 02, 2023



Week 3 - Valid: Apr 26, 2023 - May 02, 2023



Synopsis of Climate Modes:

ENSO: (Apr 13, 2023 Update) *next update on Thursday, May 11th*

- ENSO Alert System Status: [El Niño Watch](#)
- ENSO neutral conditions are expected to continue through the Northern Hemisphere spring, followed by a 62% chance of El Niño developing during May-July 2023.

MJO and other subseasonal tropical variability:

- Following an active MJO propagation across the Western Hemisphere during mid- to late-April, the RMM-based MJO index now resides on the border of the Indian Ocean and Maritime Continent (phases 3 and 4).
- Dynamical models depict the MJO strengthening over the Maritime Continent during the next few days, with quick propagation into the Western Pacific by week-2.
- There are increasing chances for tropical cyclone development over the Bay of Bengal and the Western Pacific during the next 2 weeks associated with the enhanced convective envelope moving across these areas.
- The active MJO over the Maritime Continent may drive a pattern change to warmer temperatures across the central and eastern U.S. by mid-May, although continued eastward propagation of the MJO back into the Western Hemisphere later in the month could result in a return to below normal temperatures over these areas.

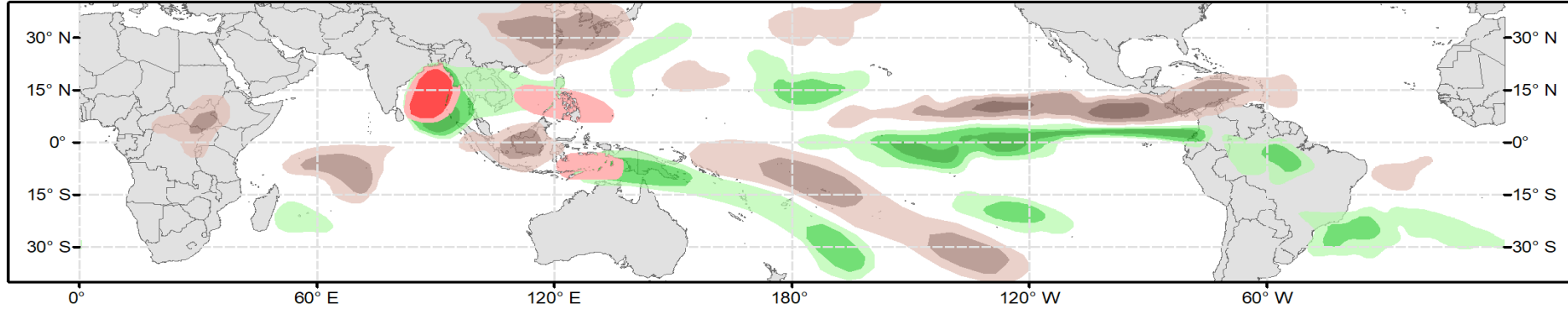
GTH Outlook:



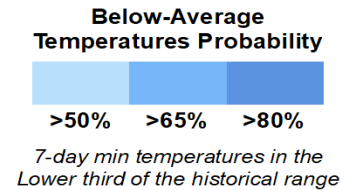
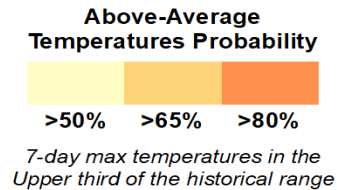
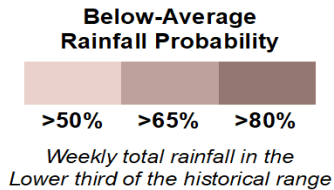
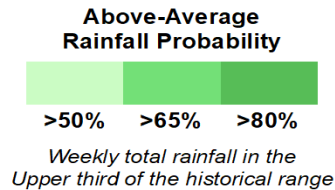
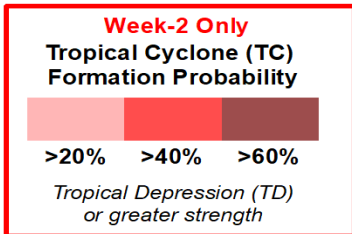
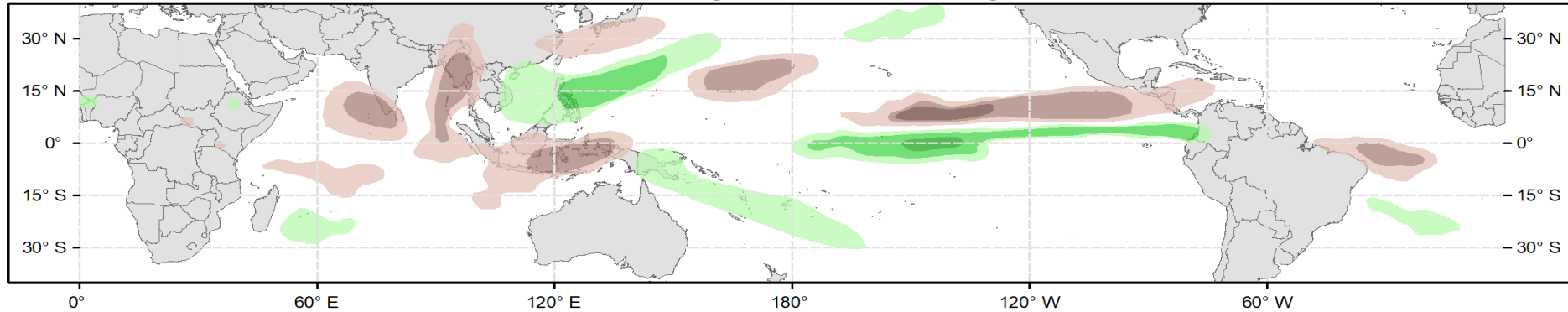
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: May 10, 2023 - May 16, 2023



Week 3 - Valid: May 17, 2023 - May 23, 2023

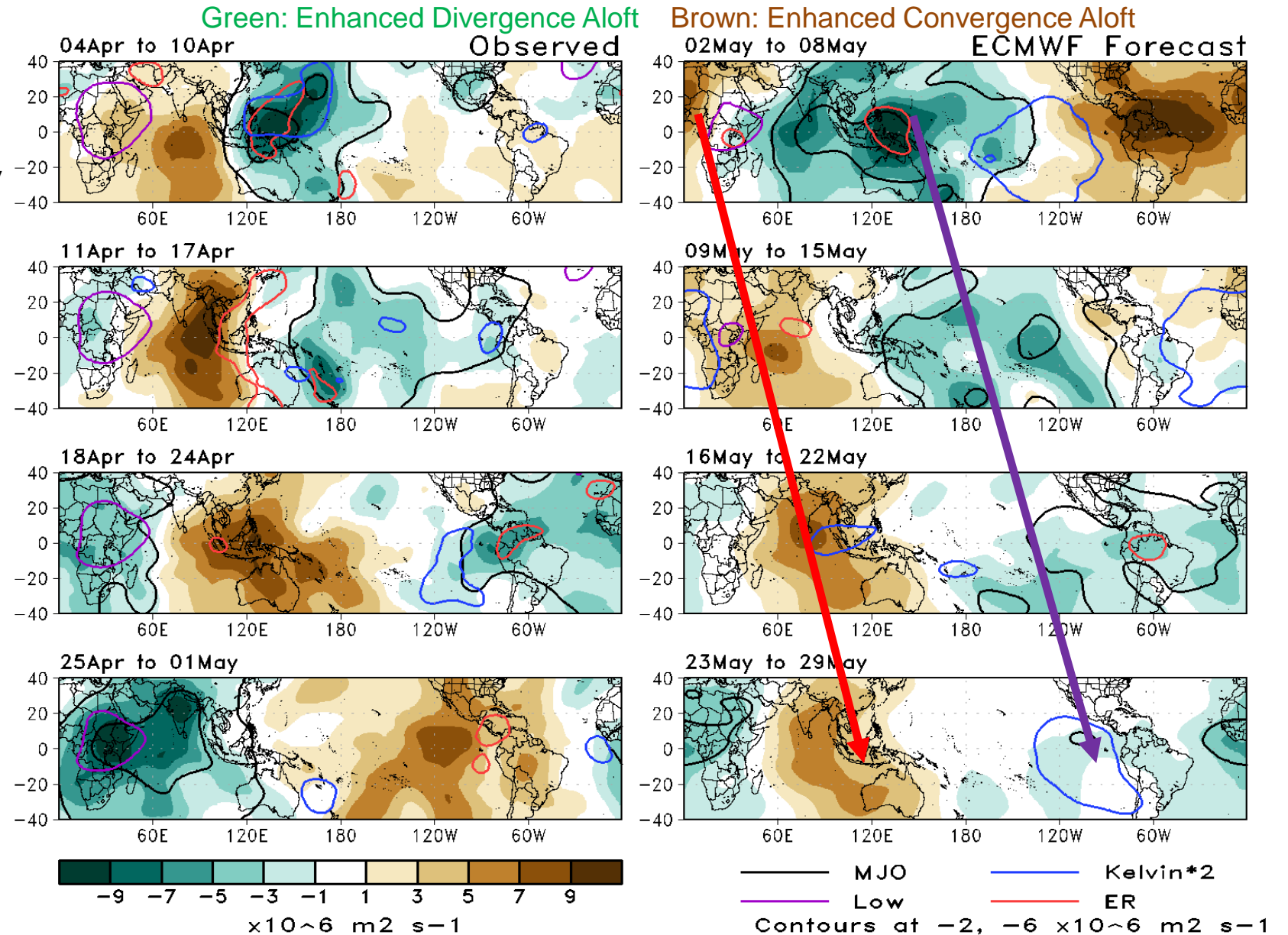


Issued: 05/02/2023
Forecaster: Collow

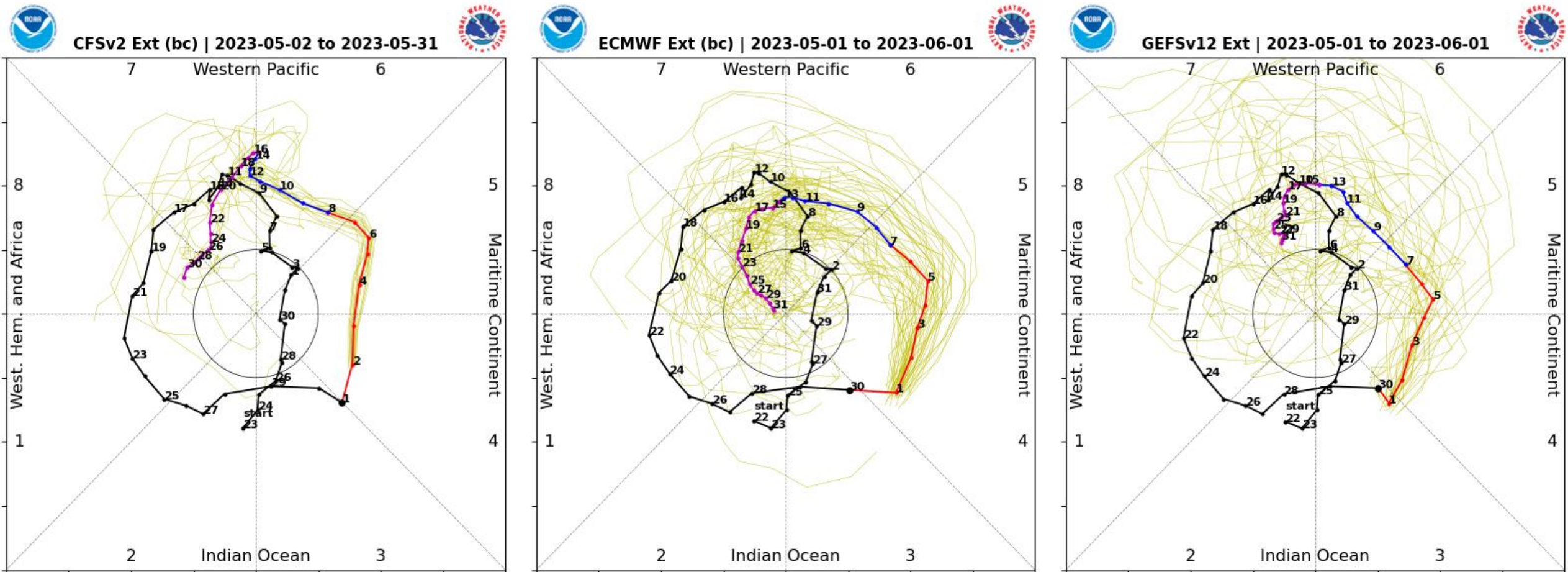
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Wave-1 asymmetry pattern seen in the upper-level spatial velocity potential field during April.
- This structure is forecast to continue into May with a gradual eastward shift of the enhanced and suppressed convective envelopes.
- Anomalous divergence aloft is forecast to increase across the Pacific; anomalous convergence aloft is forecast to build across the Indian Ocean.

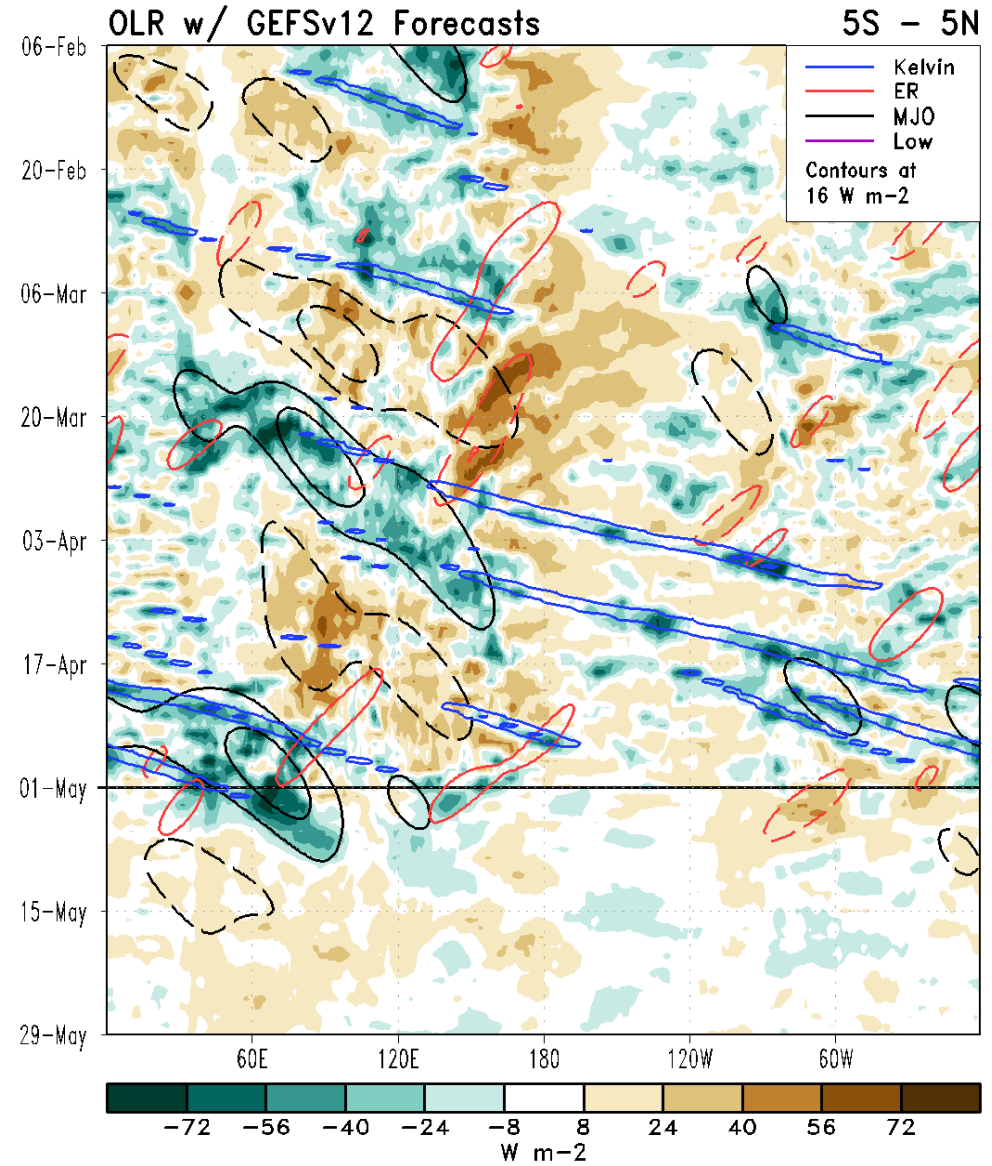
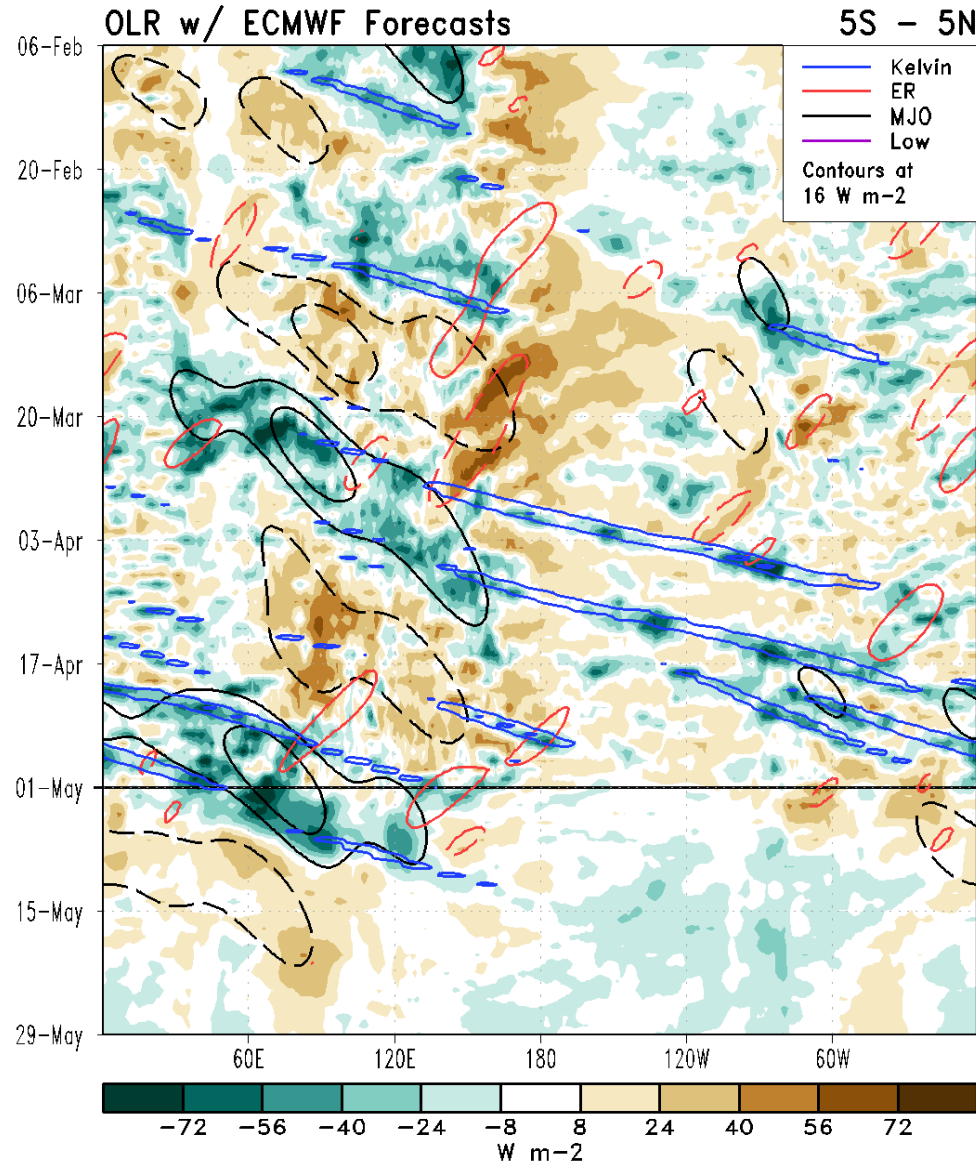


RMM Index Observations & Forecasts:



- The CFSv2, ECMWF, and GEFS ensembles all depict a strengthening of the RMM-based MJO index in the coming days, with a fast propagation across the Maritime Continent and Western Pacific during the next 2 weeks.
- Thereafter, there is more uncertainty as to whether the intraseasonal signal weakens or continues propagating into the Western Hemisphere.

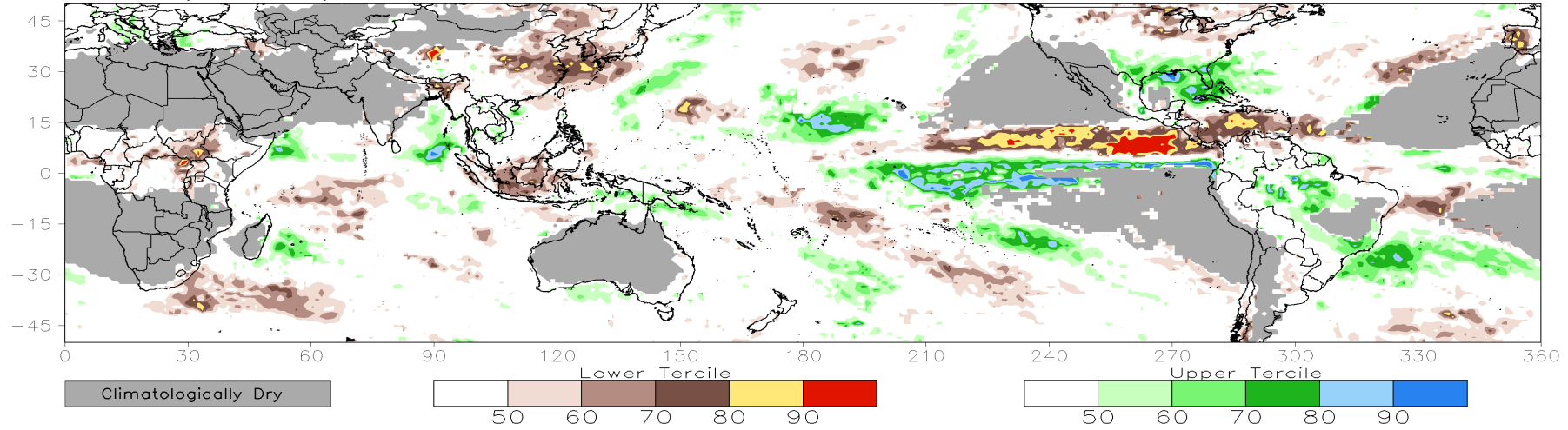
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

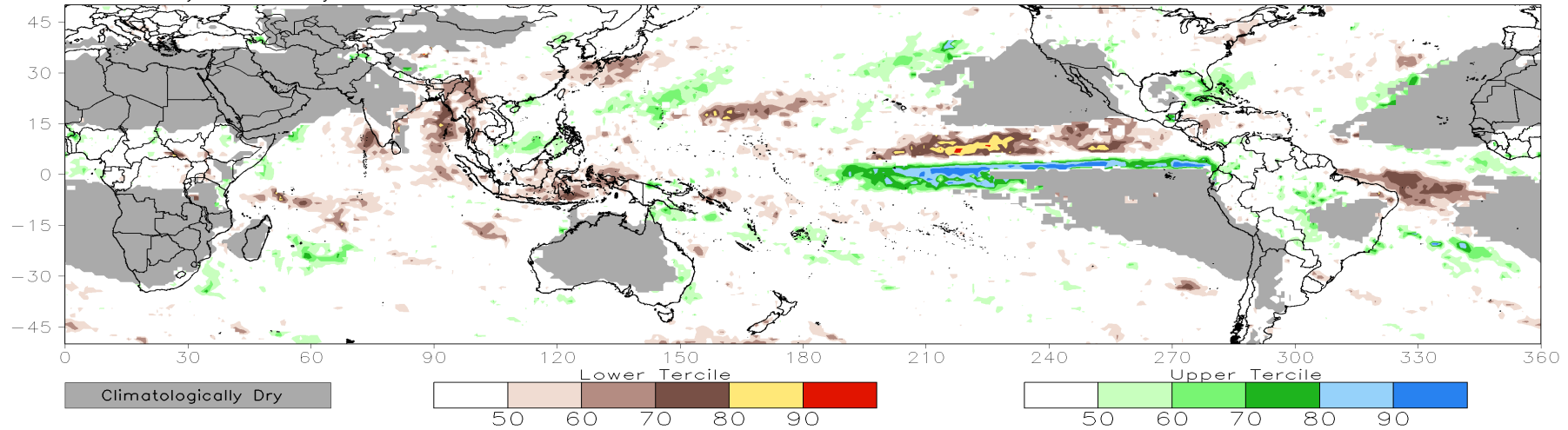
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 10May2023–16May2023



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

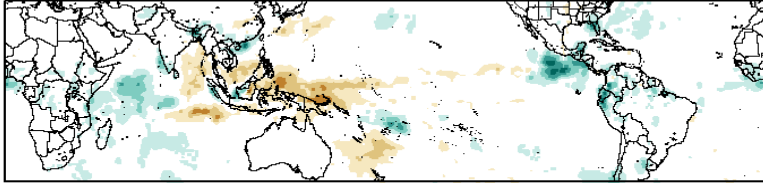
Valid: 17May2023–23May2023



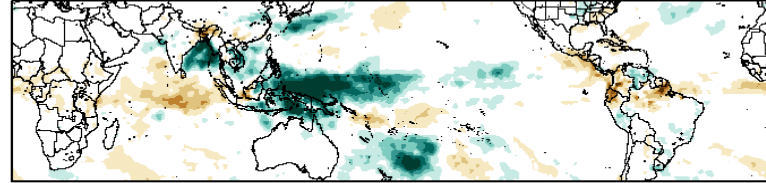
Historical Precipitation Anomalies By MJO Phase:

AMJ MJO Composite: GPCP1DD (mm/day)

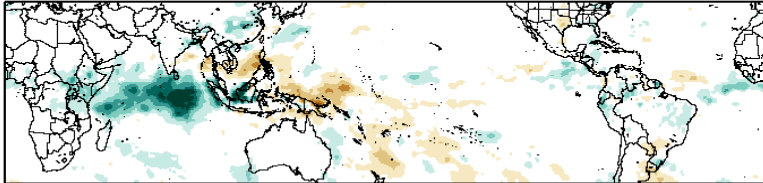
Phase 1



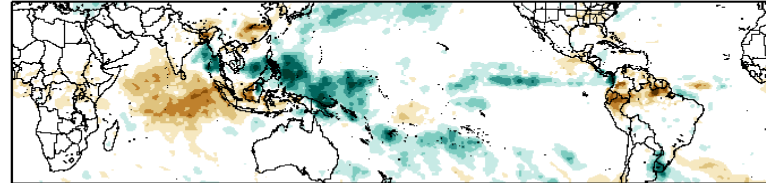
Phase 5



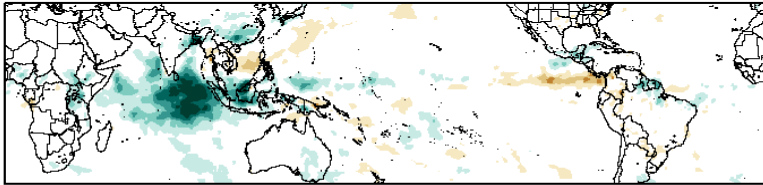
Phase 2



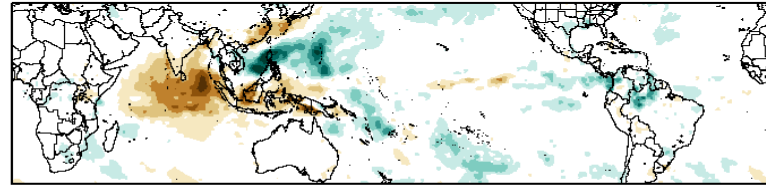
Phase 6



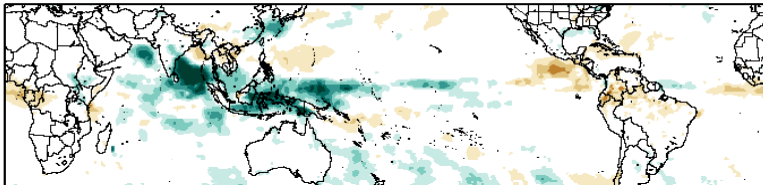
Phase 3



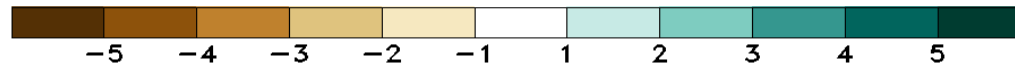
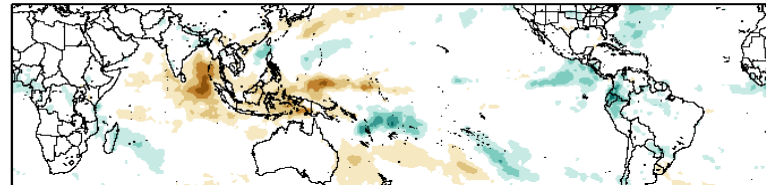
Phase 7



Phase 4

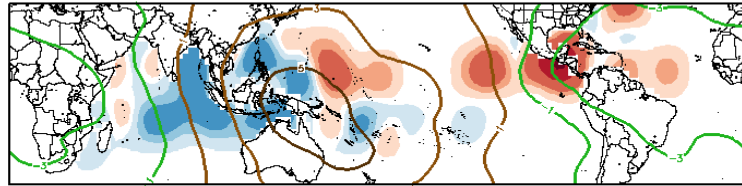


Phase 8

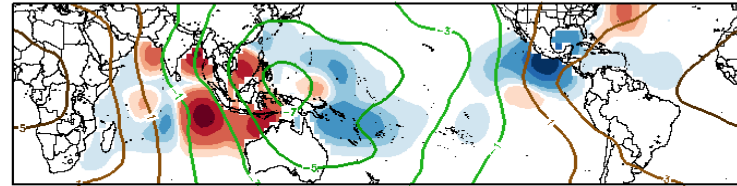


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

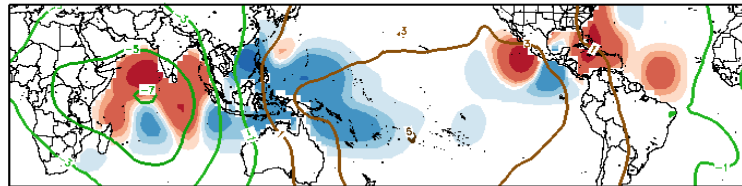
AMJ MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ AMJ CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



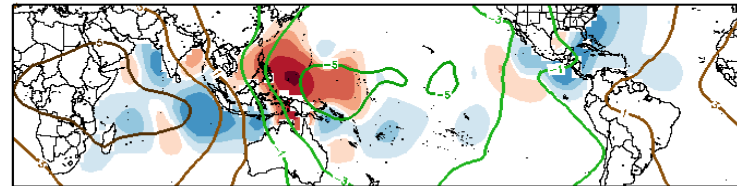
Phase 1



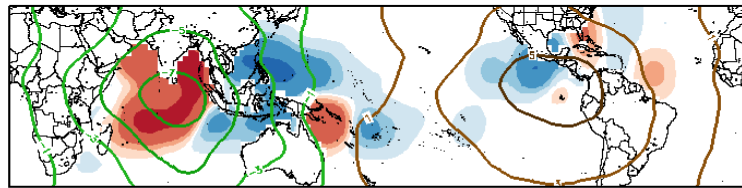
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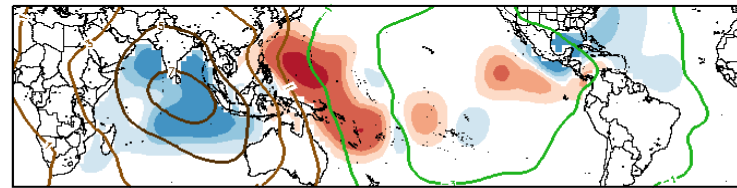
Phase 2



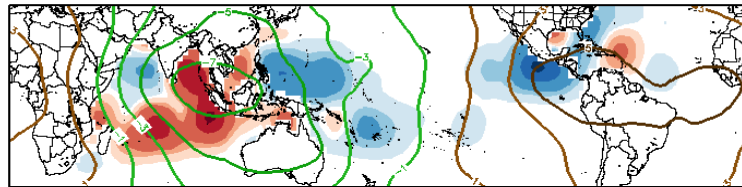
Phase 6



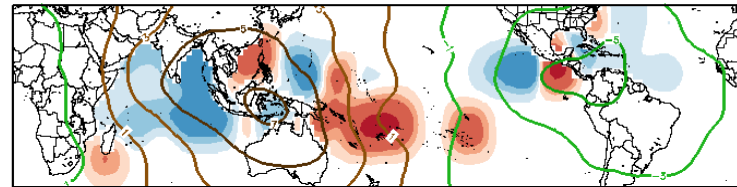
Phase 3



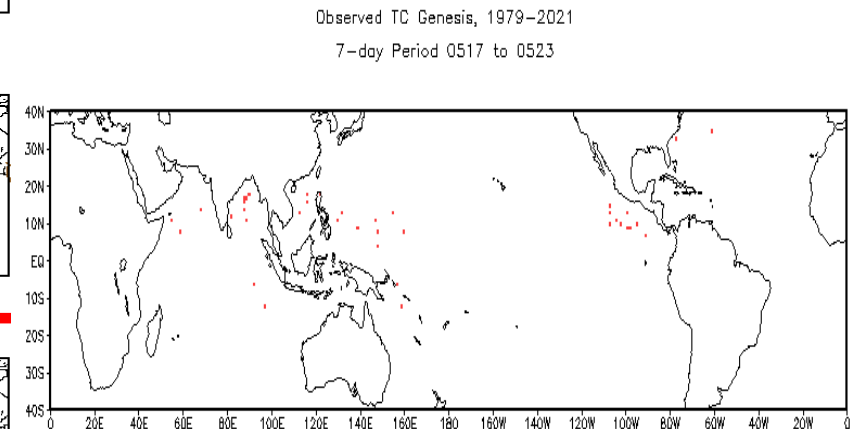
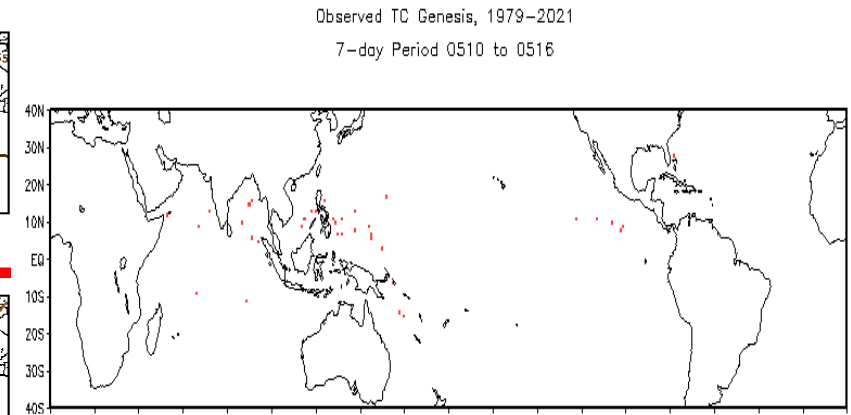
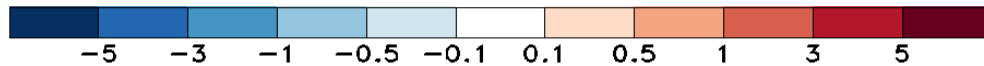
Phase 7



Phase 4

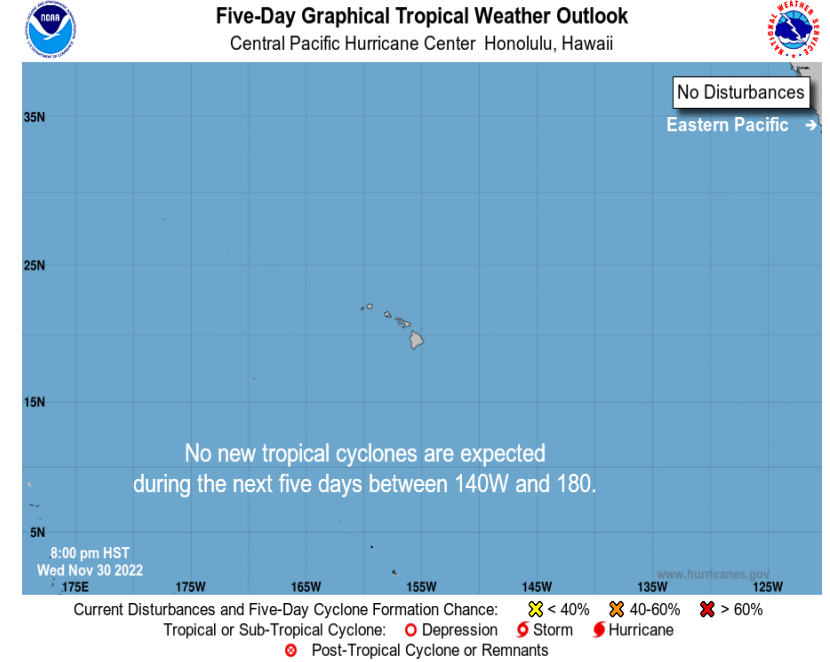
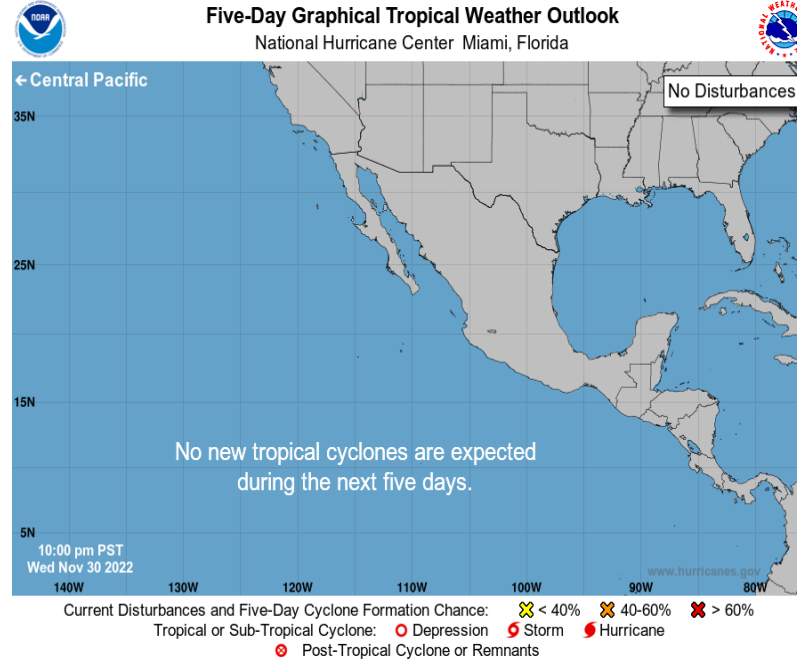
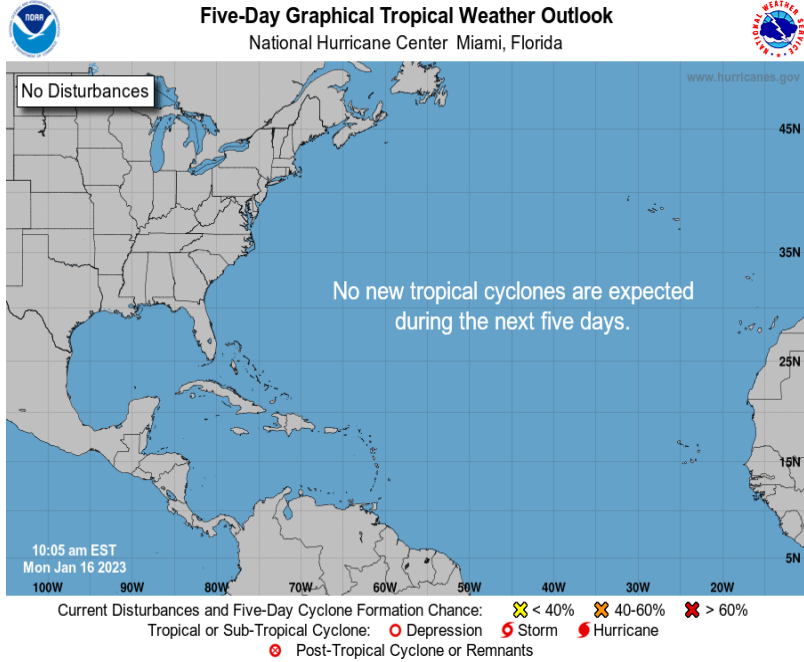


Phase 8



Experimental

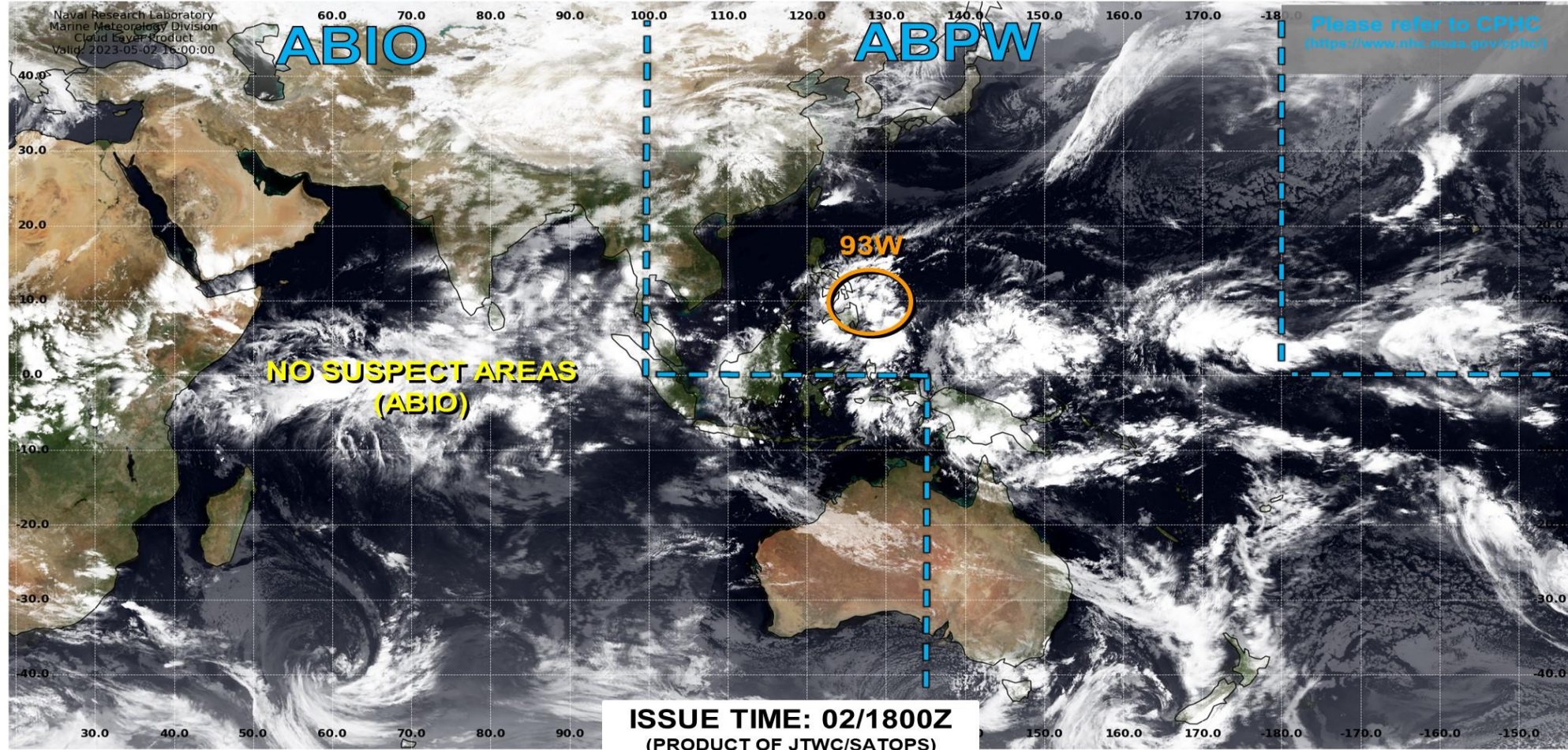
Tropical Cyclone Monitoring/Forecast: NHC



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)

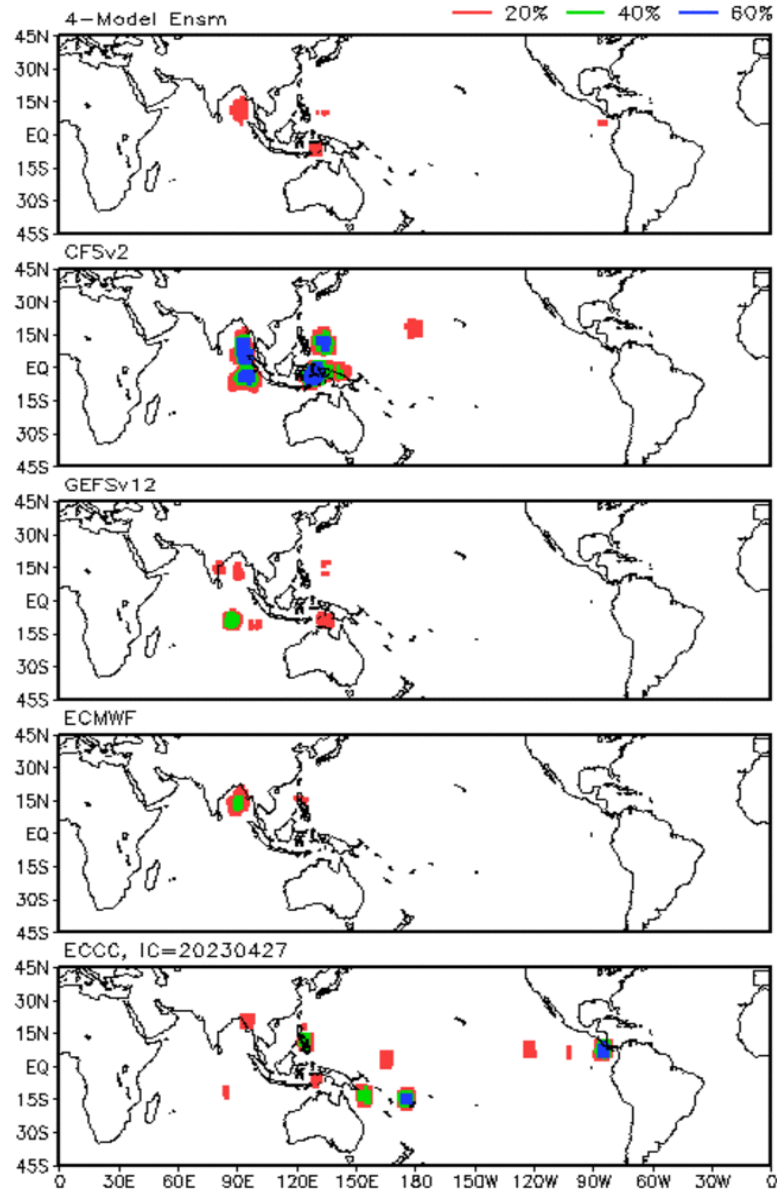


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

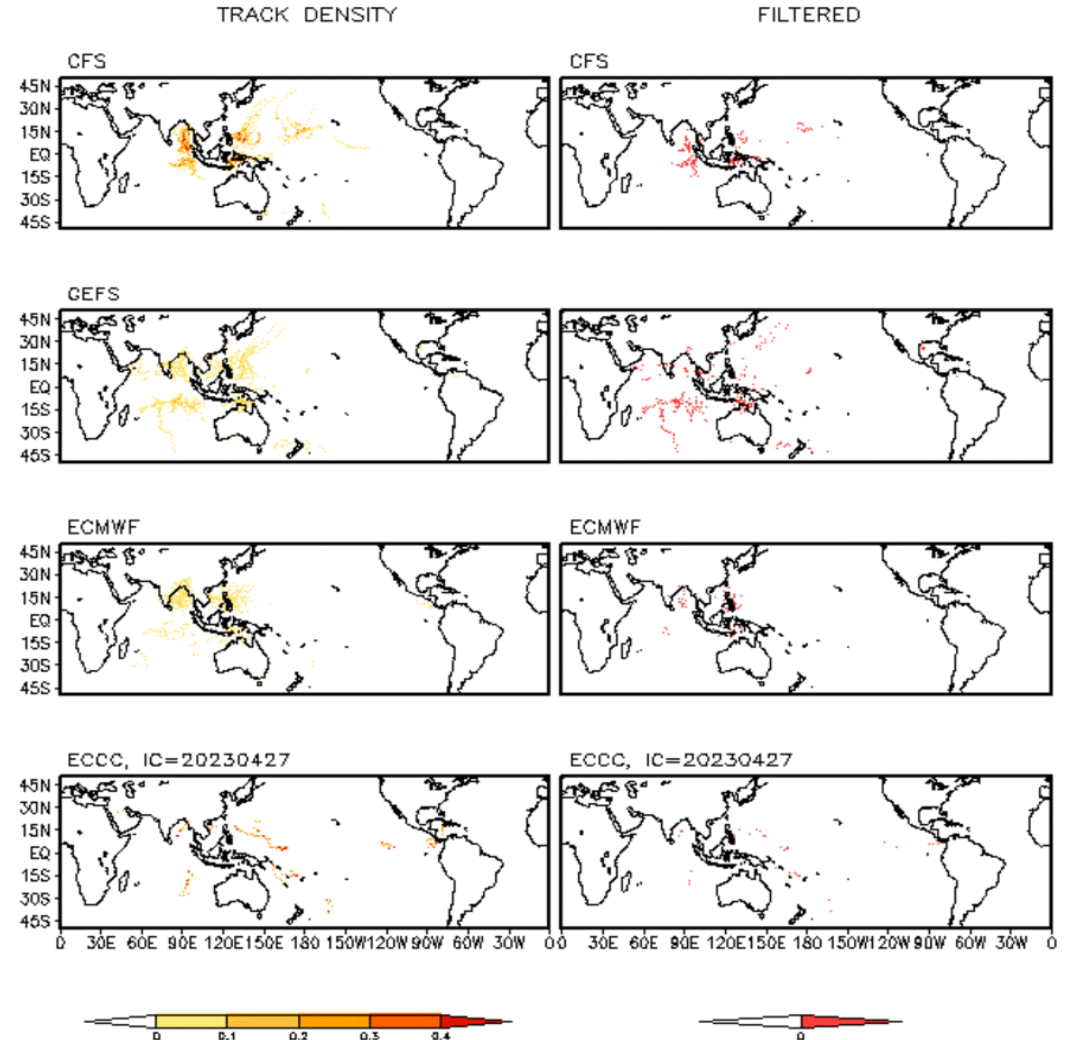


Multi-Model TC Track Probabilities/Densities: Week-2

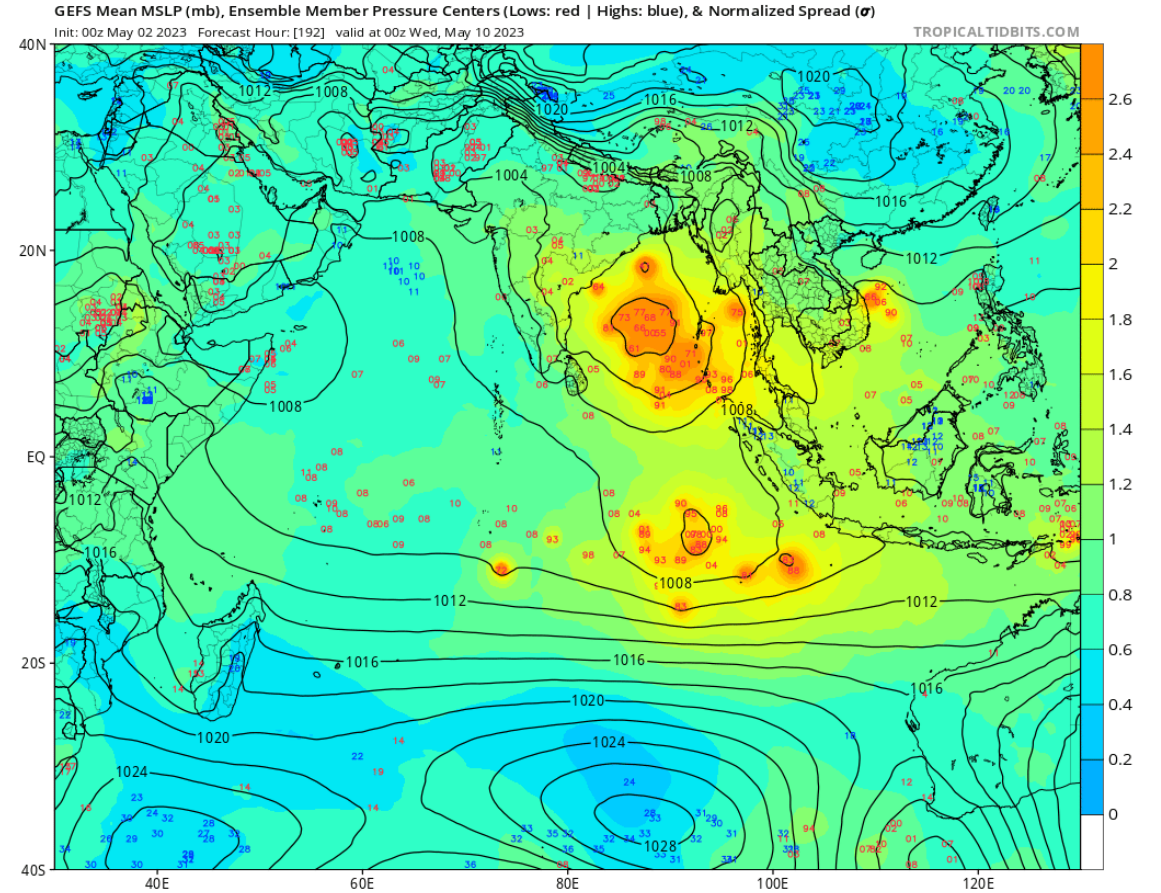
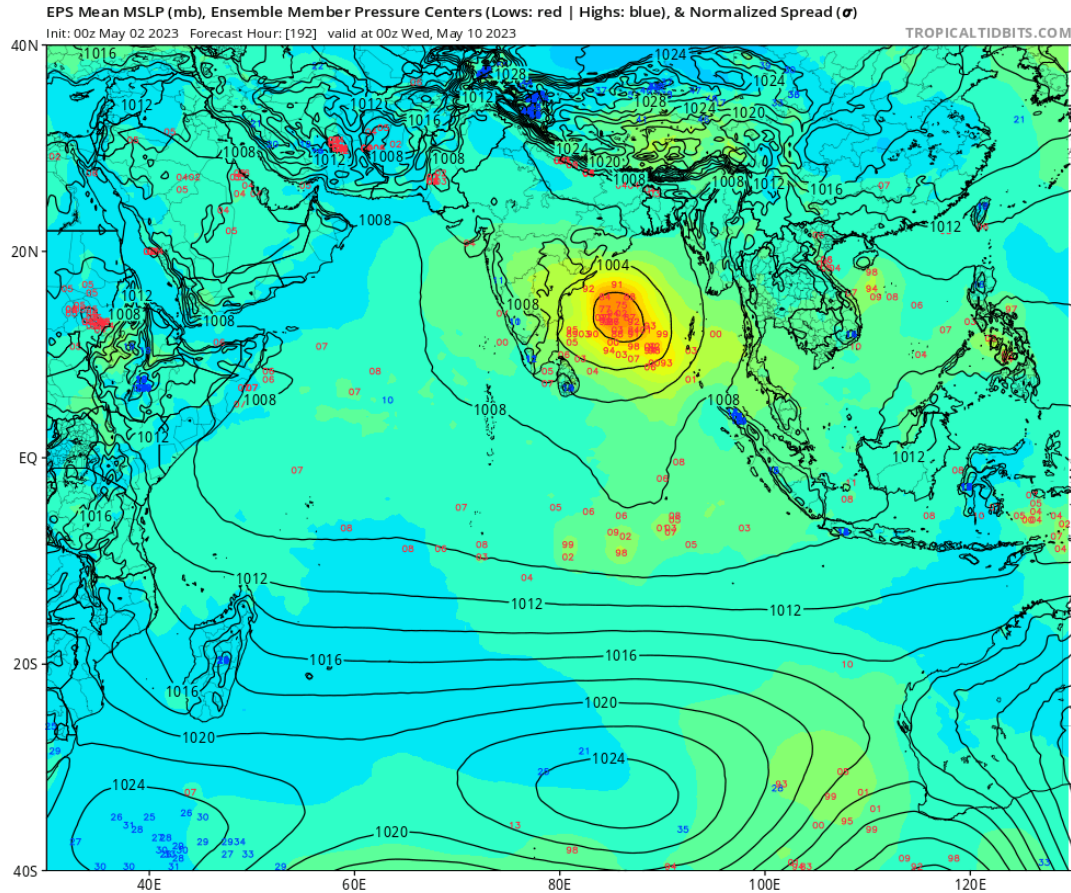
Storm Track Probabilities, IC=20230501
Week 2: 0510 - 0516



Storm Track Density Distribution, IC=20230501
Week 2 Forecast: 0510-0516



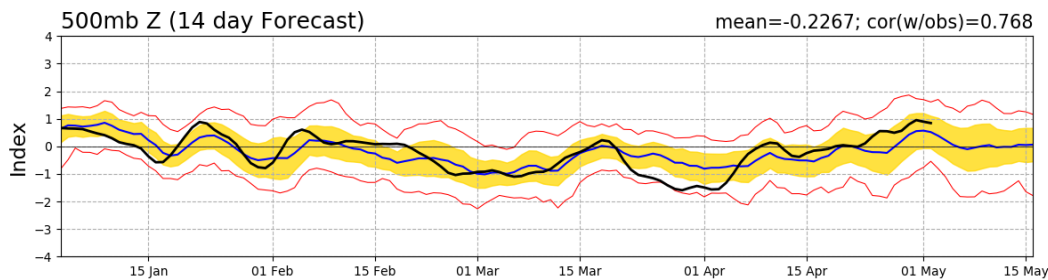
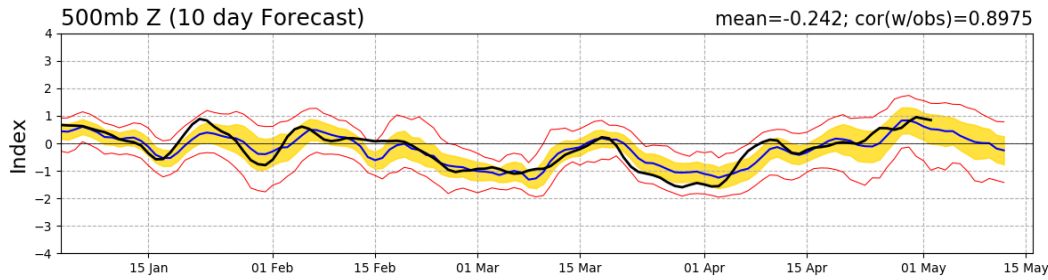
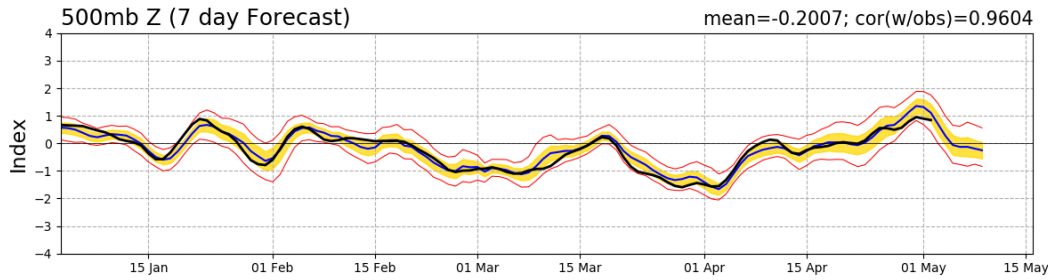
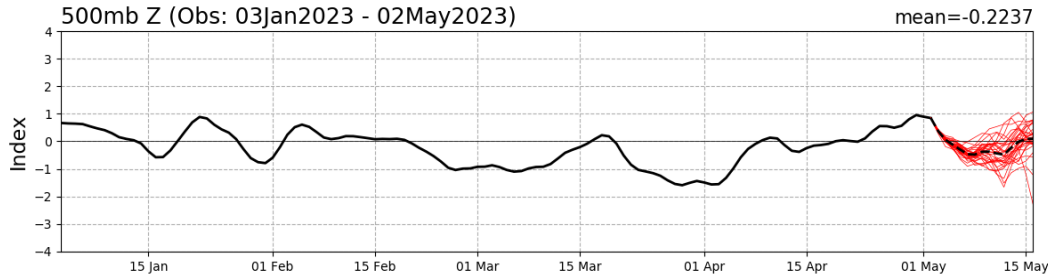
Potential Bay of Bengal System



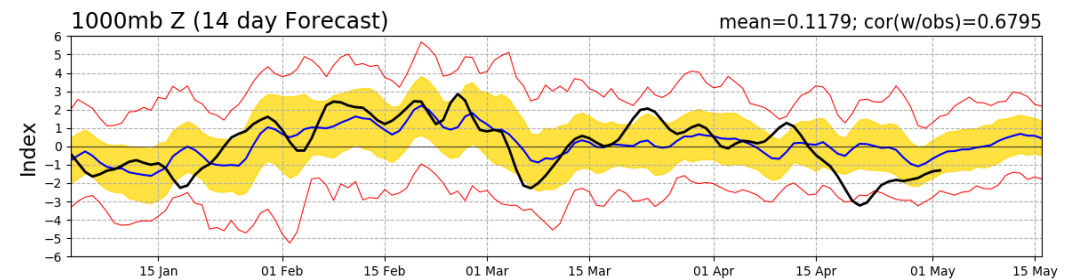
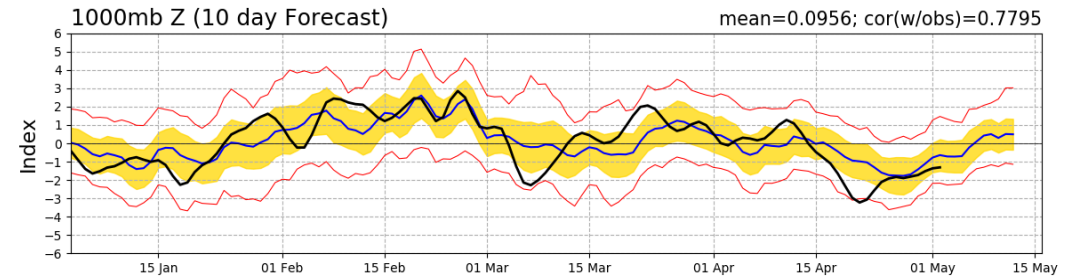
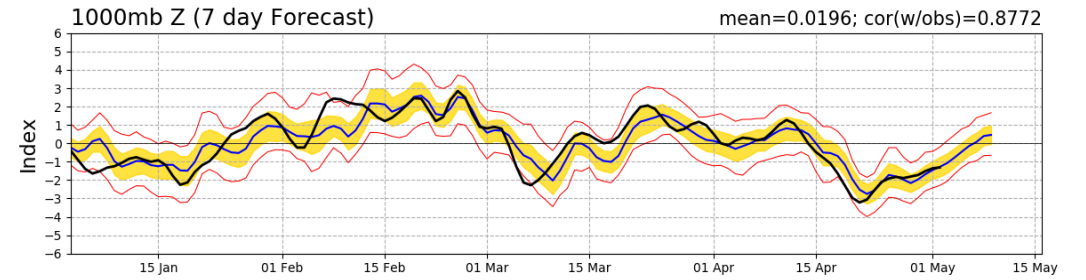
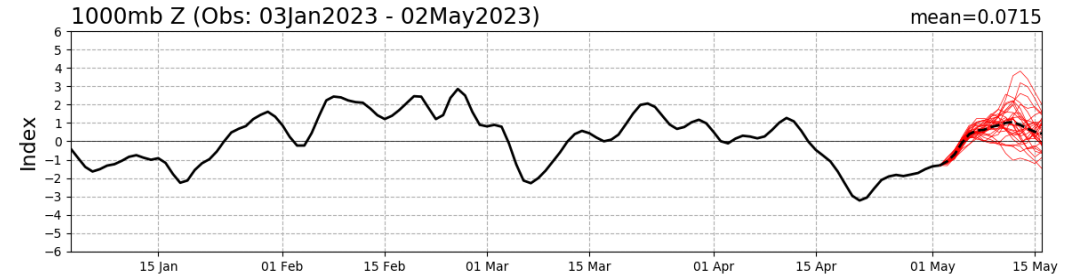
Timing uncertainty: May develop prior to the start of week-2 or after the outset of the period.

Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

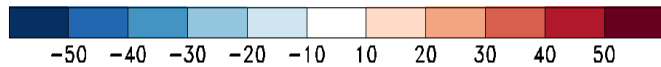
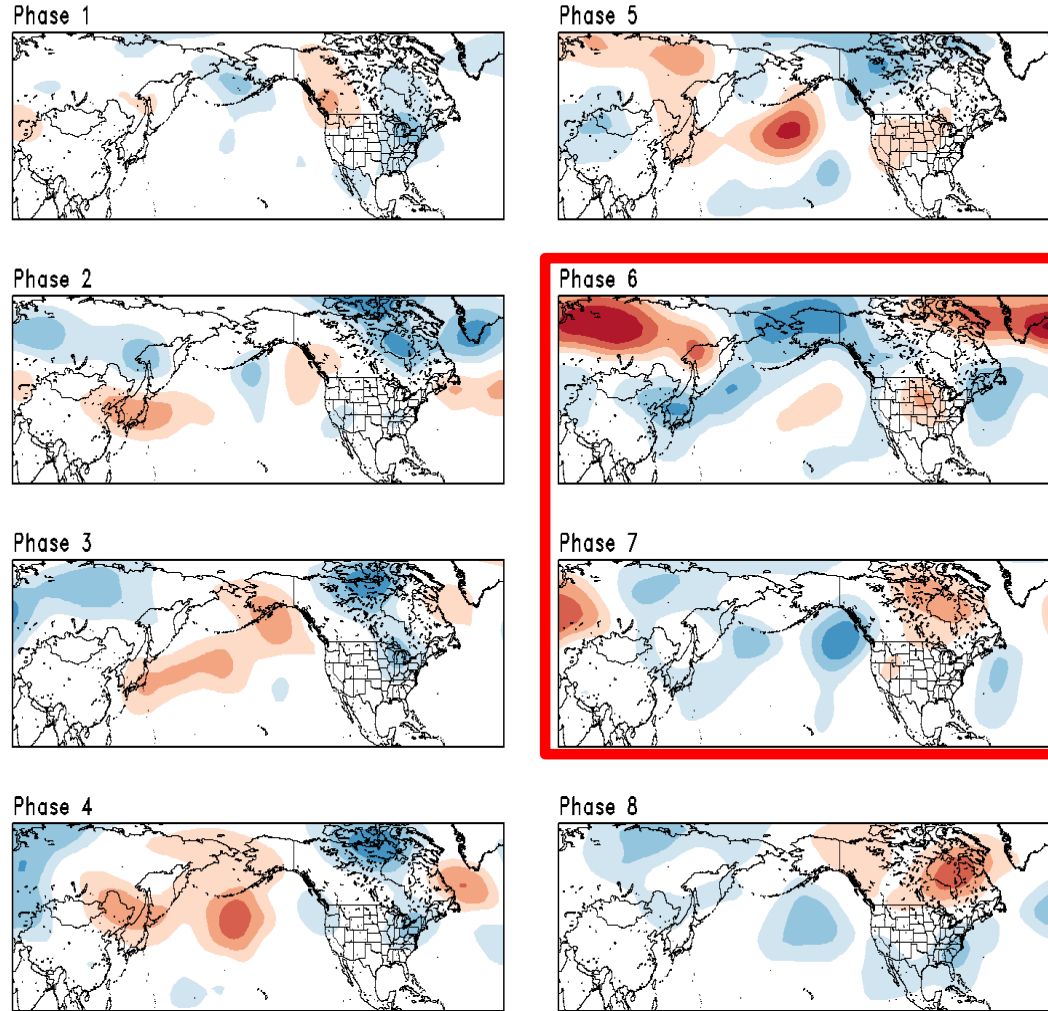


AO Index: Observed & GEFS Forecasts

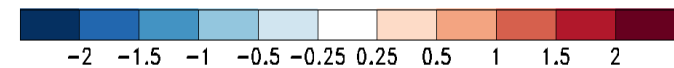
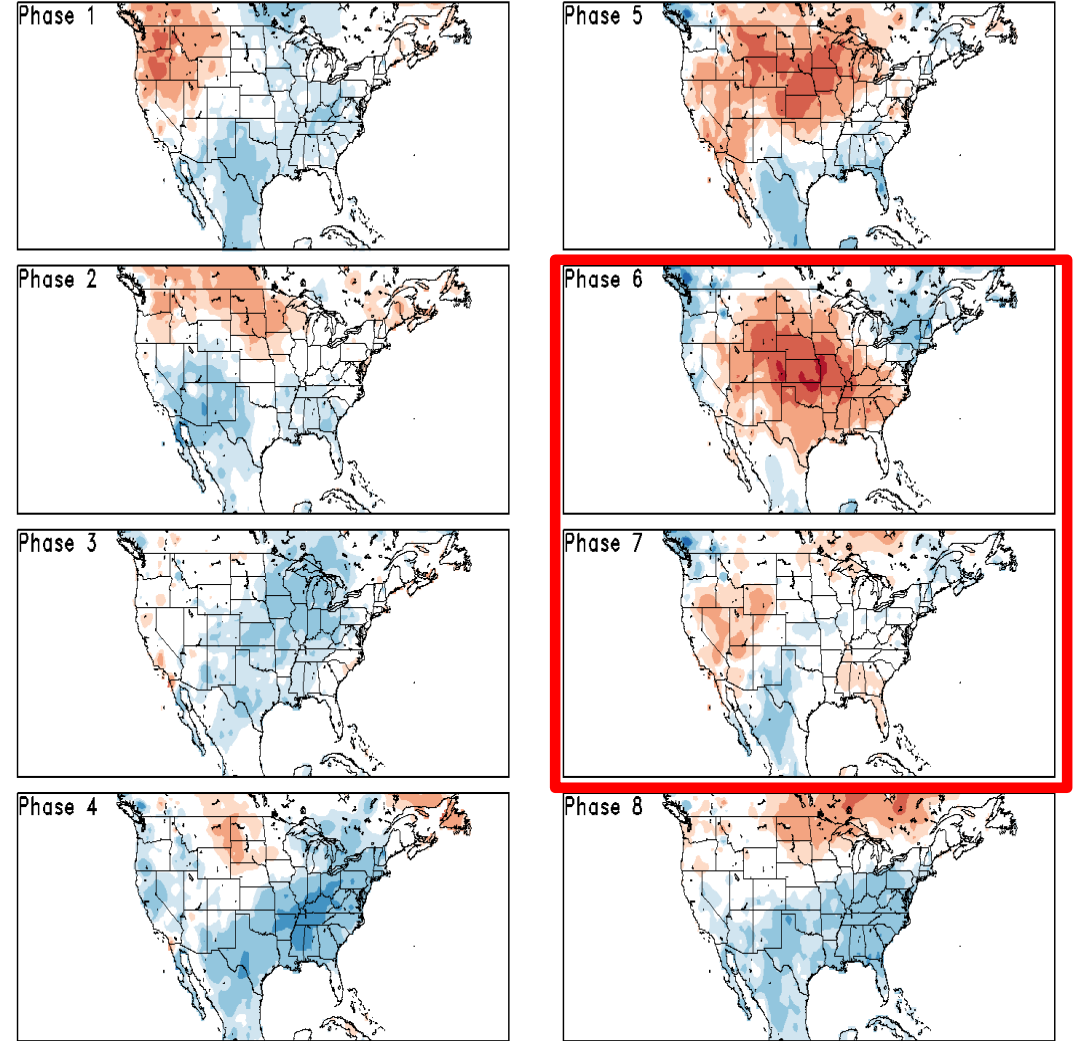


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

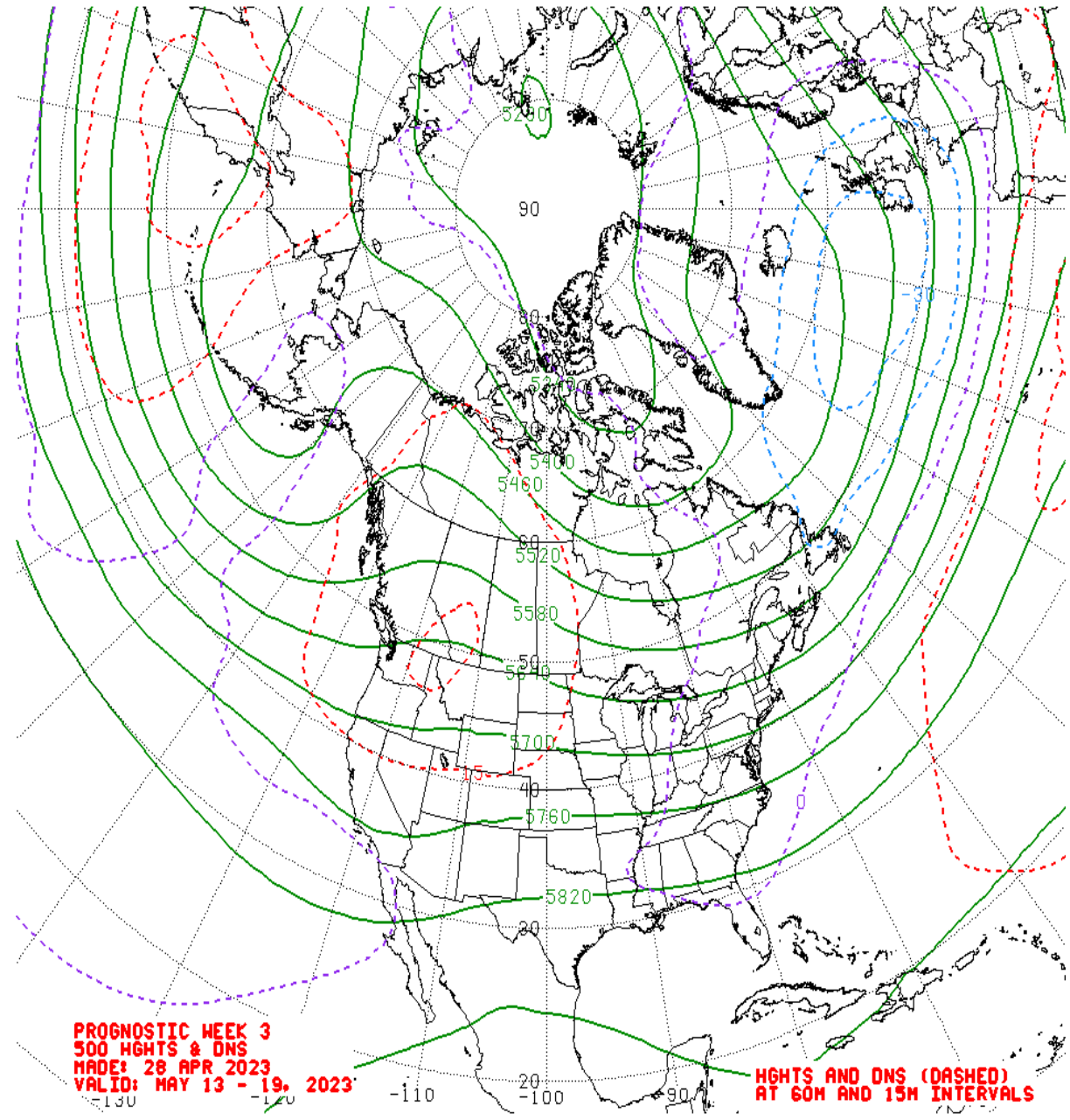
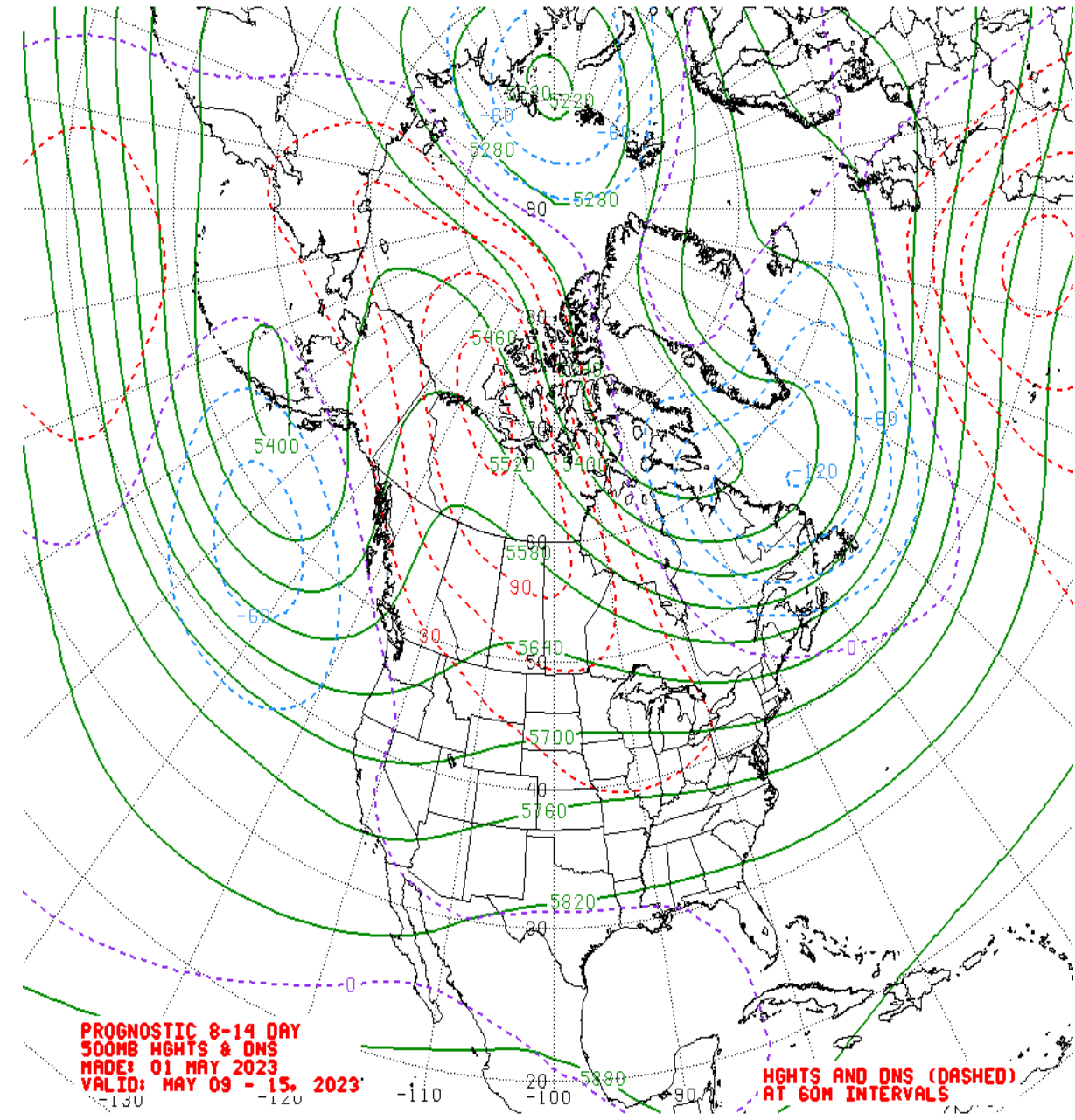
AMJ MJO Composite: CDAS 500-hPa Height (m)



AMJ MJO Composite: GLBT (degC)



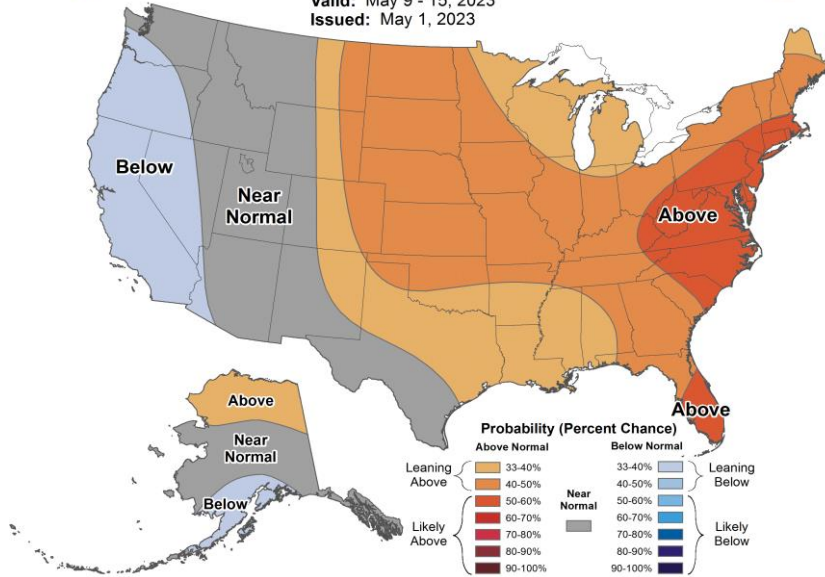
Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:

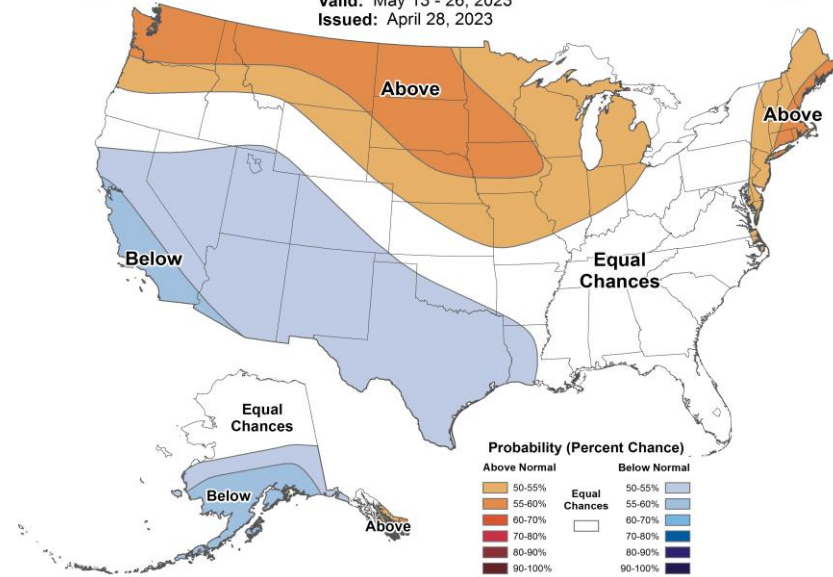
8-14 Day Temperature Outlook

Valid: May 9 - 15, 2023
Issued: May 1, 2023



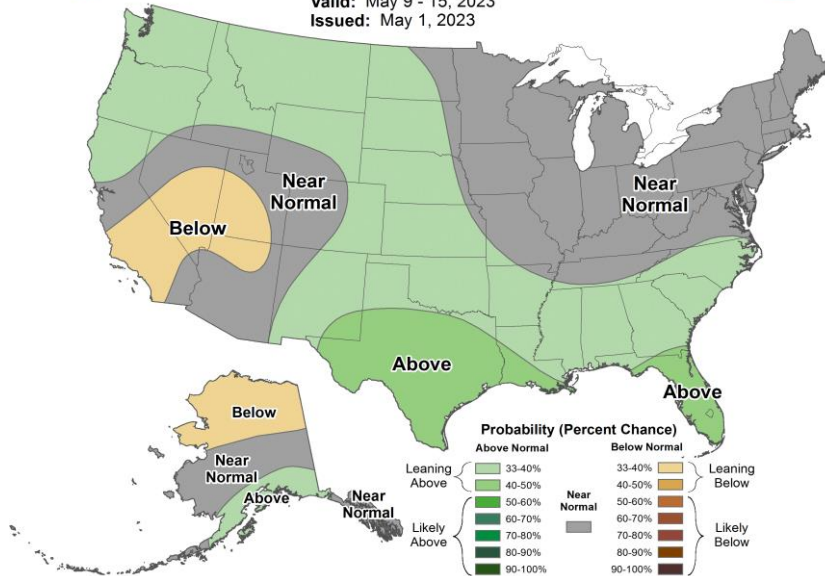
Weeks 3-4 Temperature Outlook

Valid: May 13 - 26, 2023
Issued: April 28, 2023



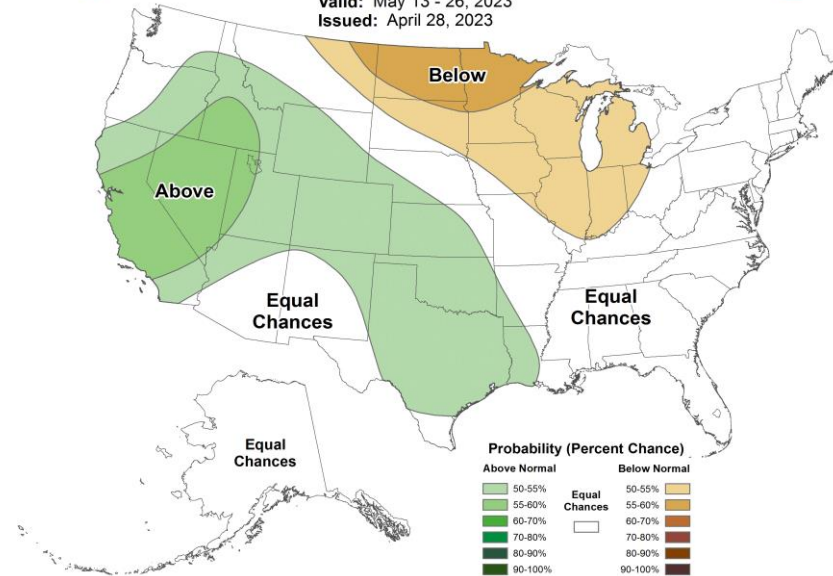
8-14 Day Precipitation Outlook

Valid: May 9 - 15, 2023
Issued: May 1, 2023



Weeks 3-4 Precipitation Outlook

Valid: May 13 - 26, 2023
Issued: April 28, 2023



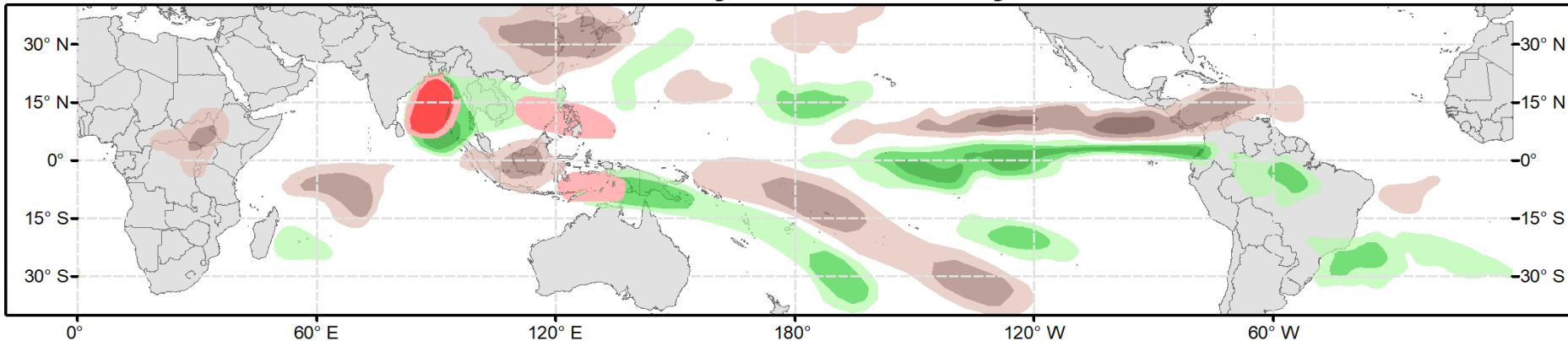


Global Tropics Hazards Outlook

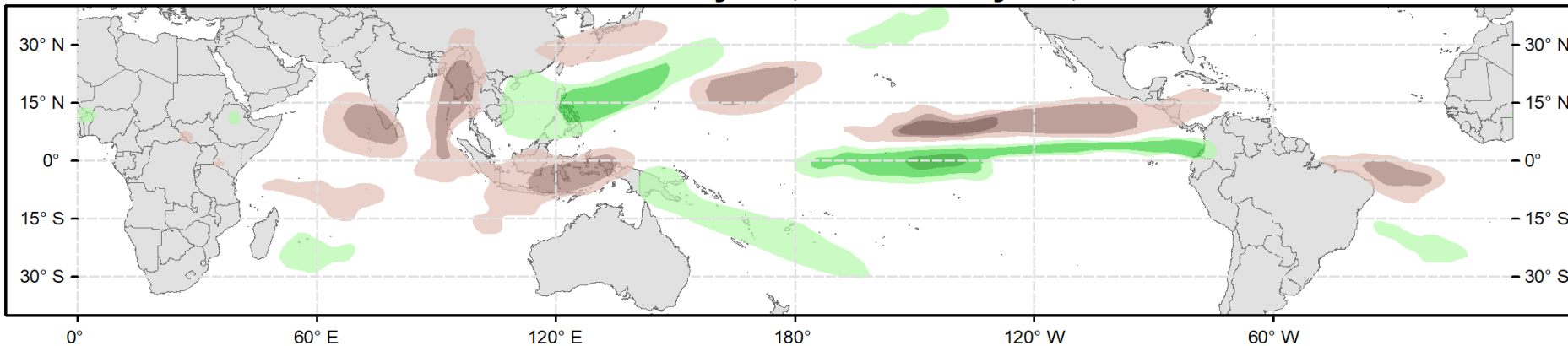
Climate Prediction Center



Week 2 - Valid: May 10, 2023 - May 16, 2023



Week 3 - Valid: May 17, 2023 - May 23, 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: 05/02/2023
Forecaster: Collow

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