



Weeks 2-3 Global Tropics Hazards Outlook

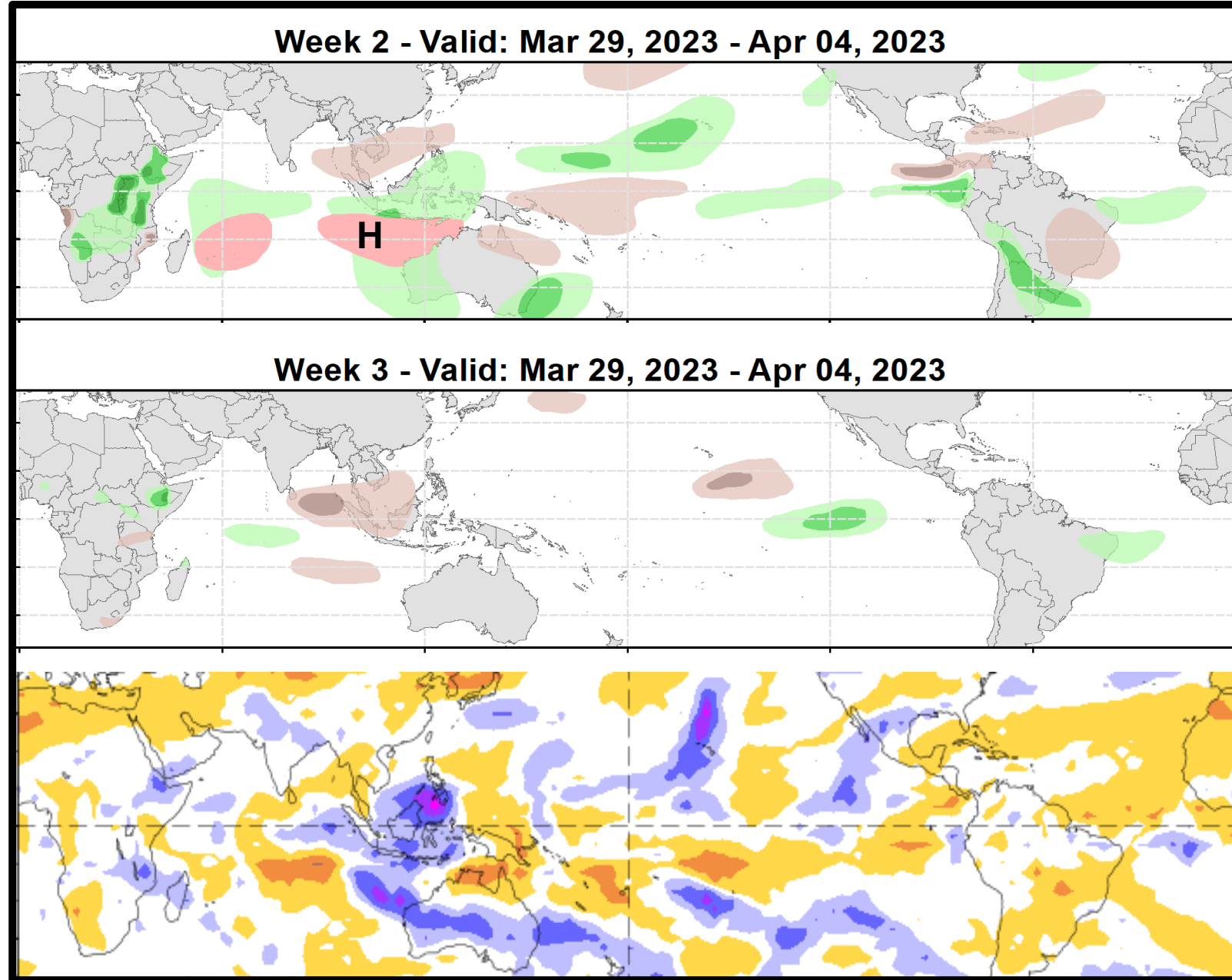
4/4/2023

Thomas Collow

NWS / NCEP / Climate Prediction Center

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

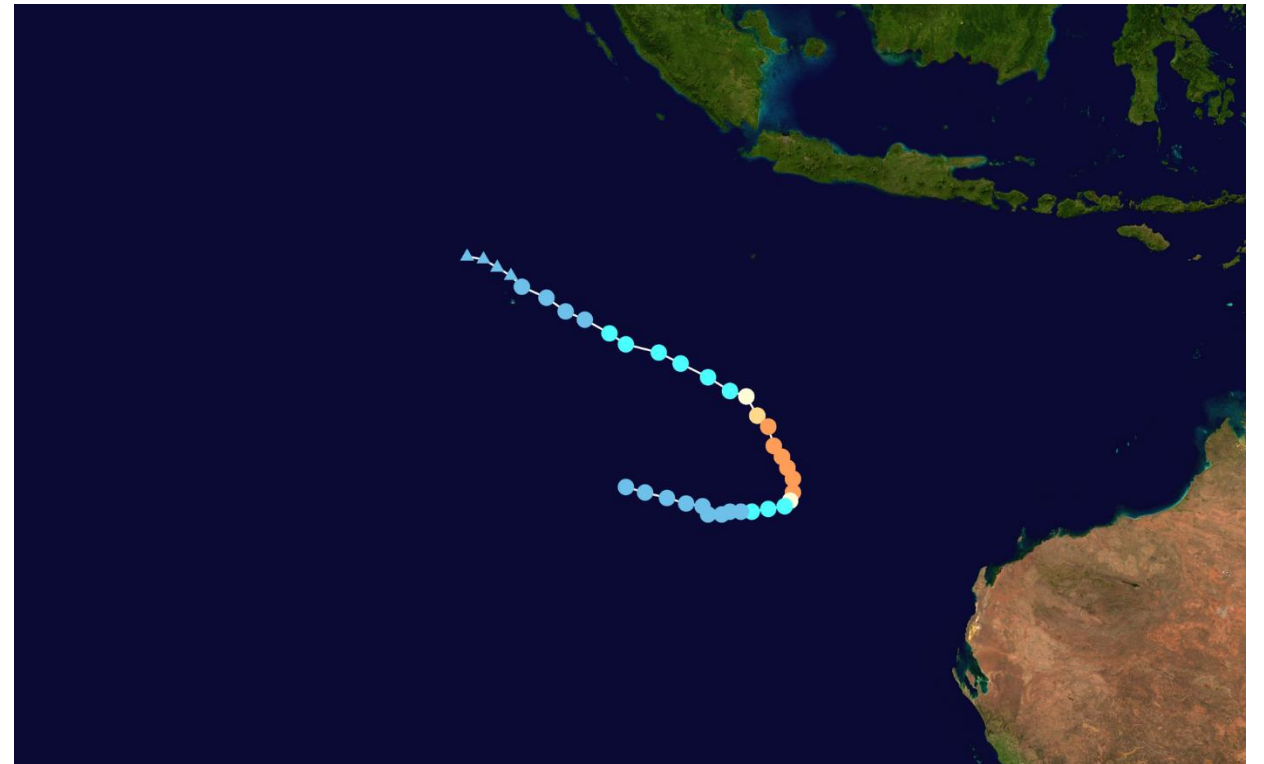
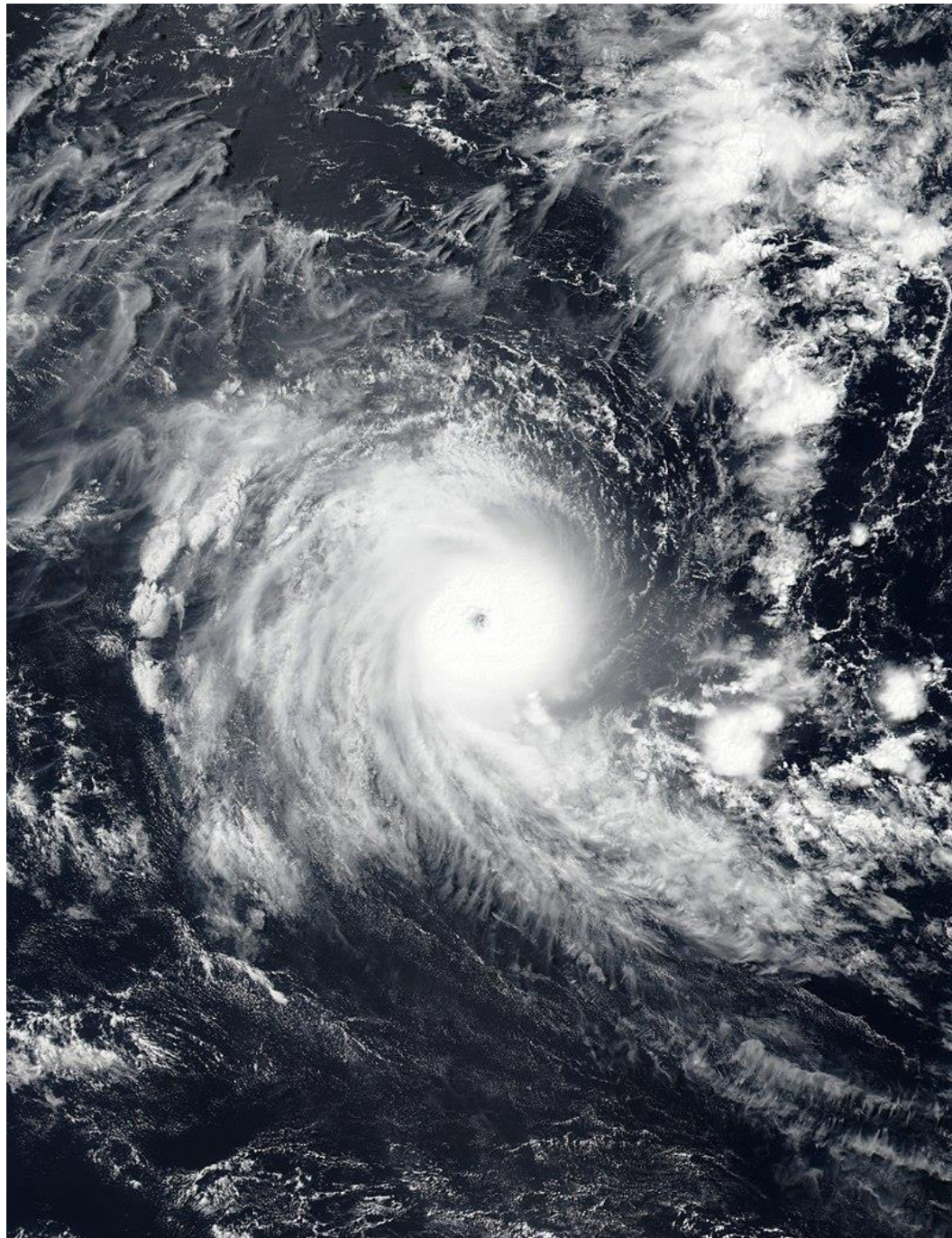
- **Tropical Cyclone Herman**
 - Formed over the southeast Indian Ocean on 3/29.



Tropical Cyclone Herman

March 29 – April 2

Peak intensity: 125-mph (equivalent of a category-3 hurricane)



Synopsis of Climate Modes:

ENSO: (Mar 9, 2023 Update) *next update on Thursday, Apr 13th*

- ENSO Alert System Status: [Final La Niña Advisory](#)
- La Niña has ended and ENSO-neutral conditions are expected to continue through the Northern Hemisphere spring and early summer 2023.

MJO and other subseasonal tropical variability:

- Following a very strong MJO across the Western Hemisphere during March, the intraseasonal signal has since retreated back into the RMM-based unit circle.
- Dynamical models are in good agreement regarding a renewed MJO signal emerging over the Western Pacific during the next week, with less coherency regarding its eastward propagation by week-2.
- The MJO supports increased chances for tropical cyclone formation to the north of Australia and possibly over the western North Pacific.
- Anomalously warm temperatures are possible in week-2 over the contiguous U.S. east of the Rockies tied to the MJO over the Western Pacific and a La Niña-like response.

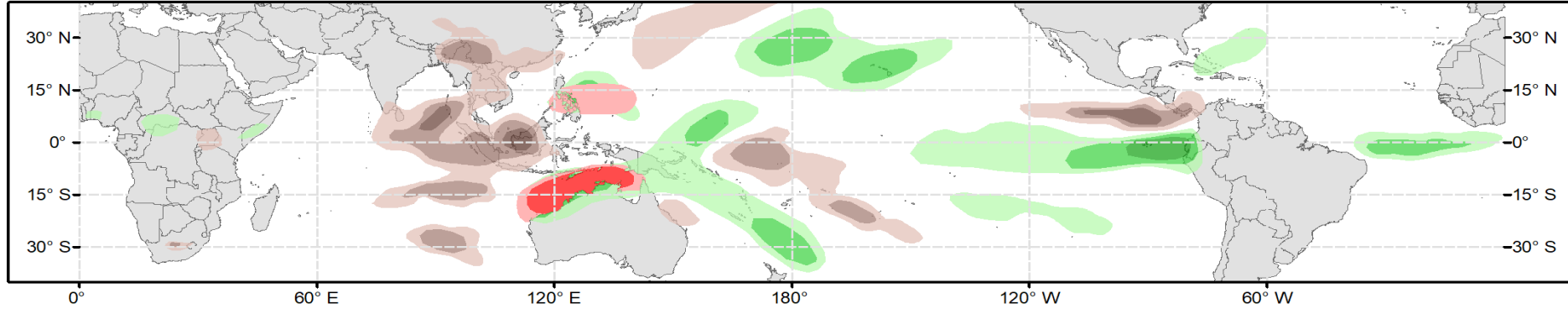
GTH Outlook:



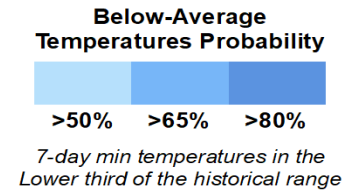
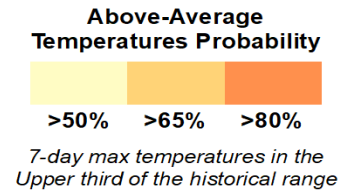
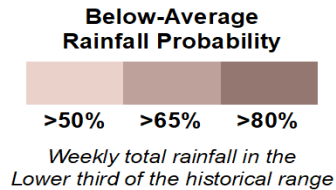
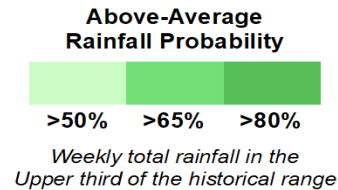
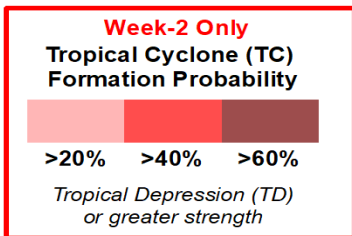
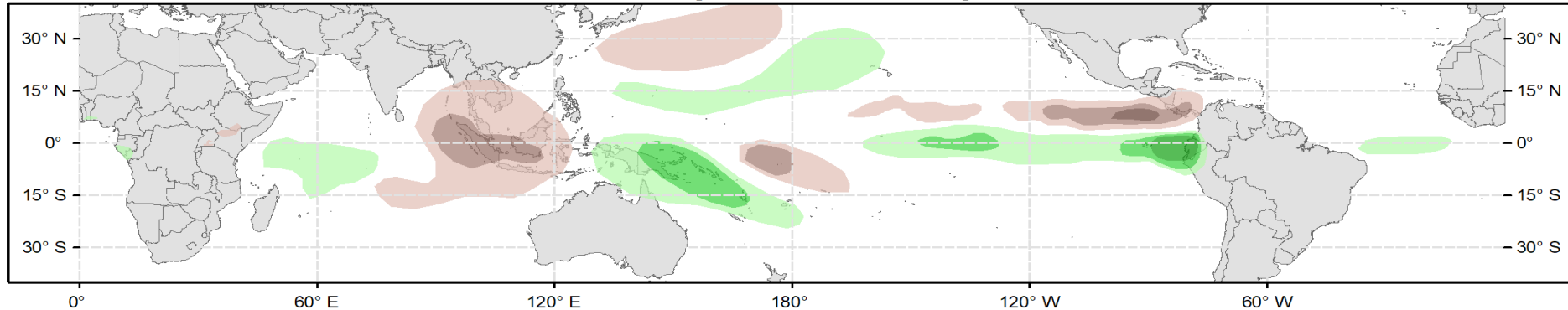
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Apr 12, 2023 - Apr 18, 2023



Week 3 - Valid: Apr 19, 2023 - Apr 25, 2023

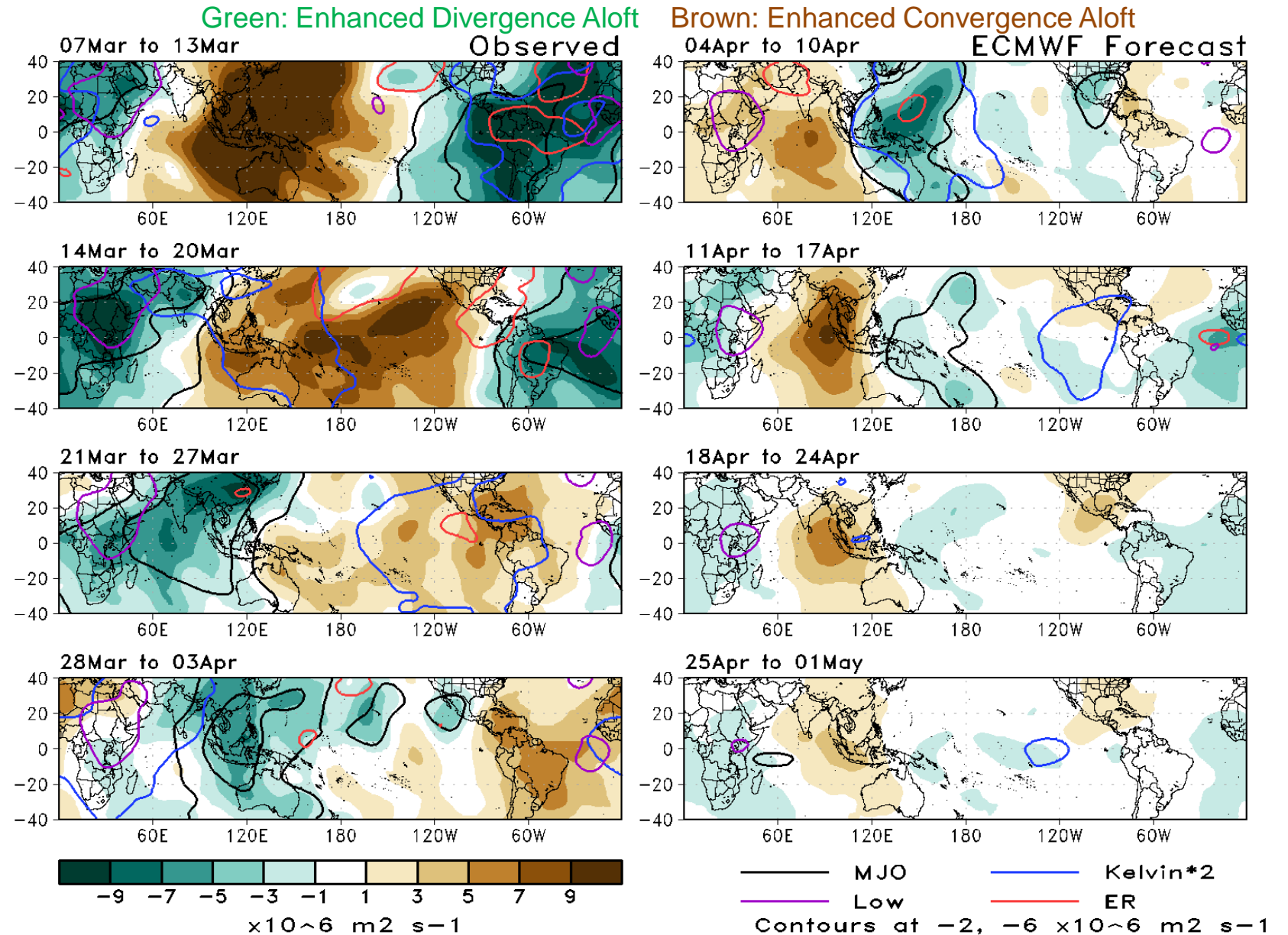


Issued: 04/04/2023
Forecaster: Collow

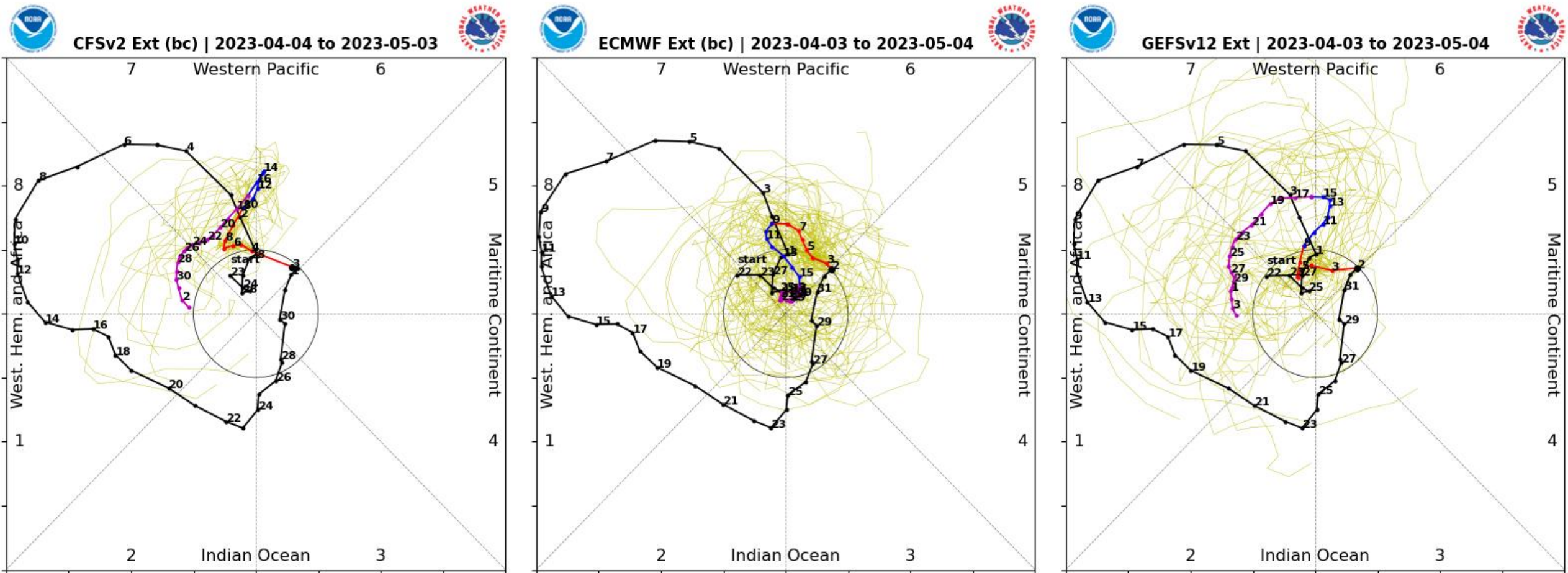
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Robust wave-1 asymmetry pattern in the upper-level velocity potential weakened toward the end of March.
- In the short-term, enhanced divergence (convergence) aloft is forecast over the Western Pacific (Indian Ocean).
- A secondary area of enhanced convection emerges across South America, the Atlantic, and Africa by mid-April tied to either the MJO propagation or a Convectively Coupled Kelvin Wave.

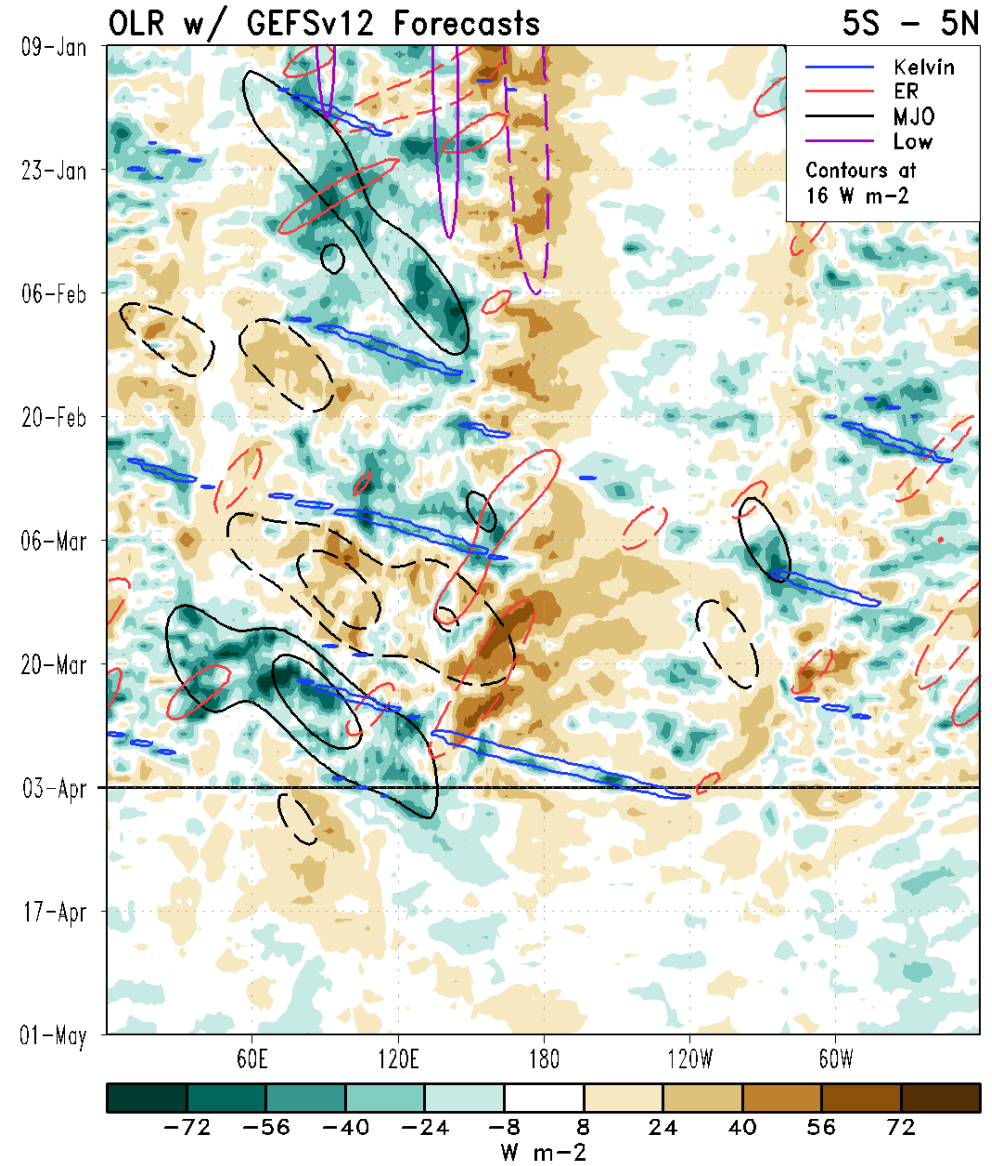
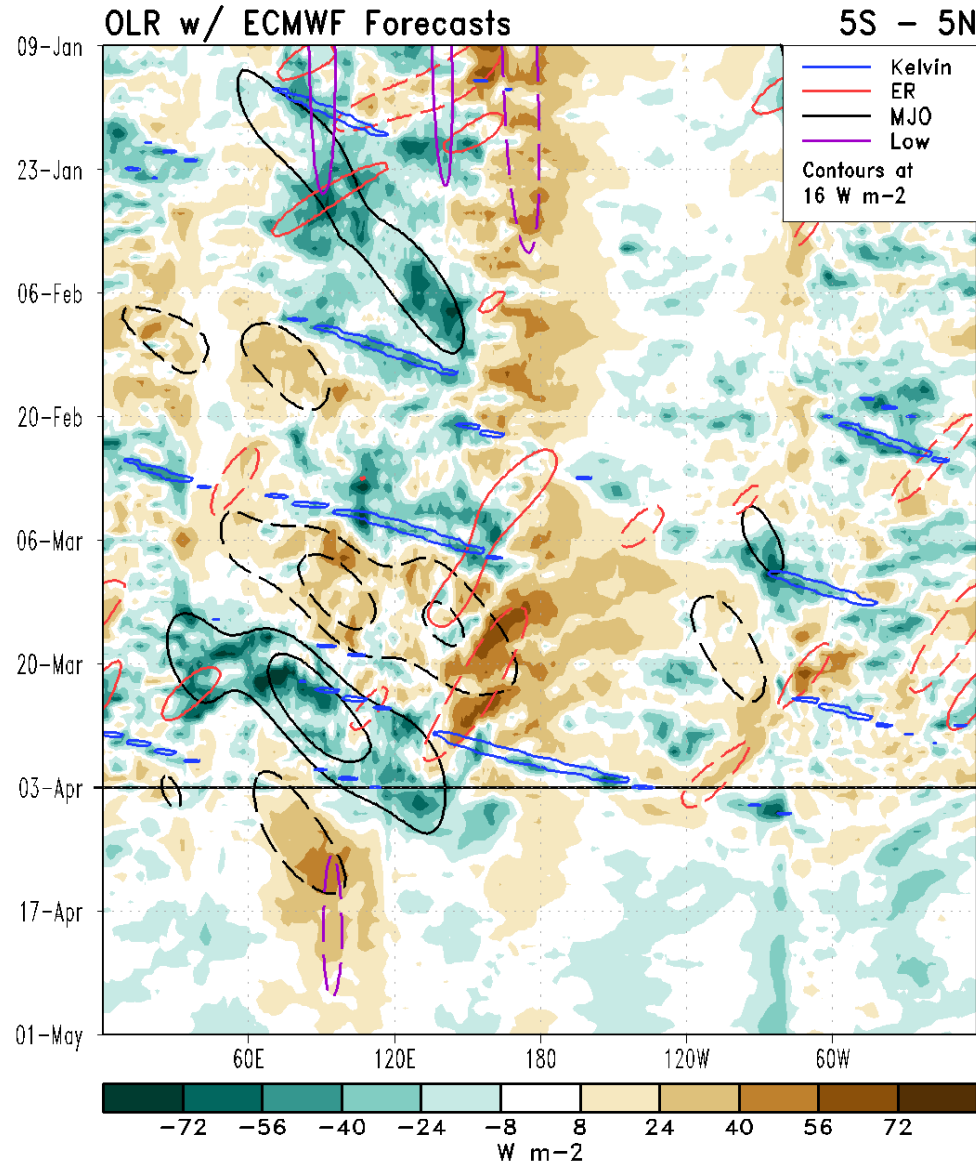


RMM Index Observations & Forecasts:



- The CFS, GEFs and ECMWF dynamical model ensembles agree on a renewed MJO signal emerging across the Western Pacific during the next week.
- Large ensemble variability exists by week-2, with the potential for a meandering intraseasonal signal over the Western Pacific, or quicker propagation into the Western Hemisphere.

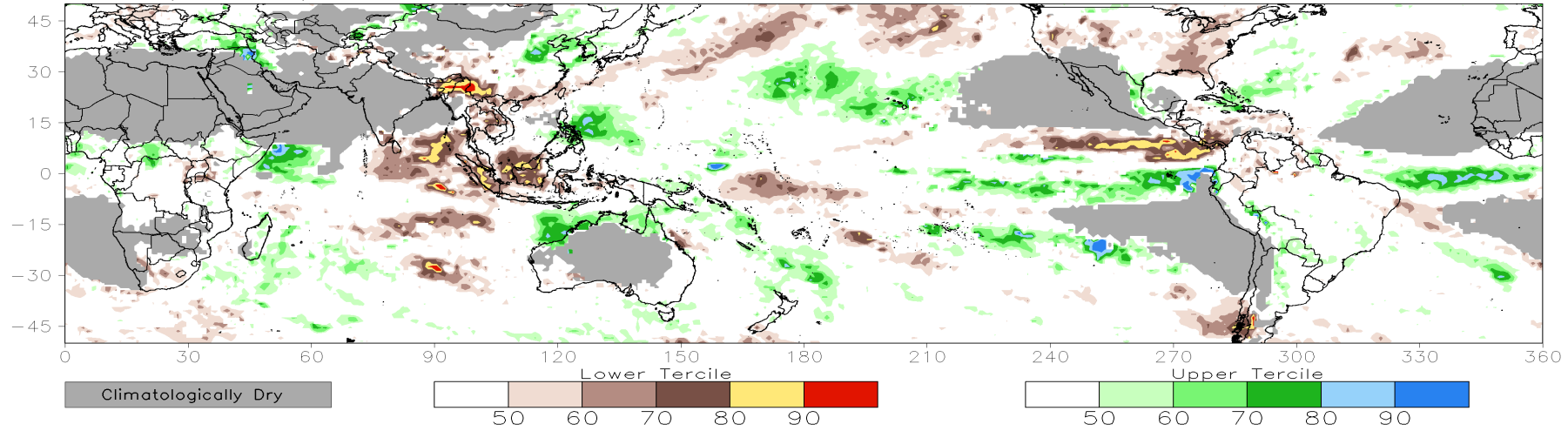
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

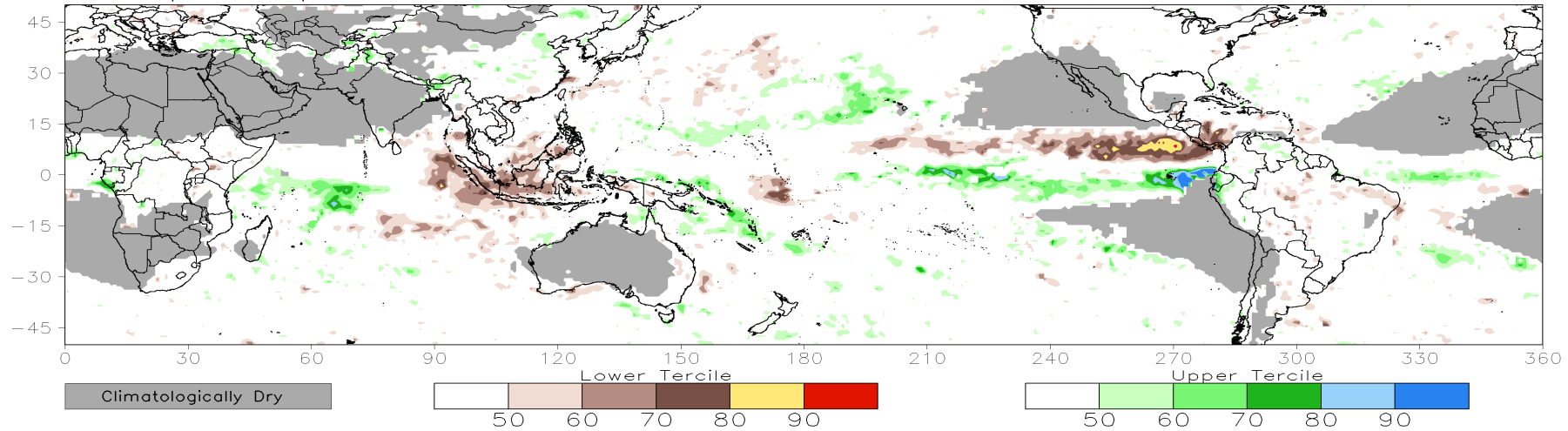
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 12Apr2023–18Apr2023



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

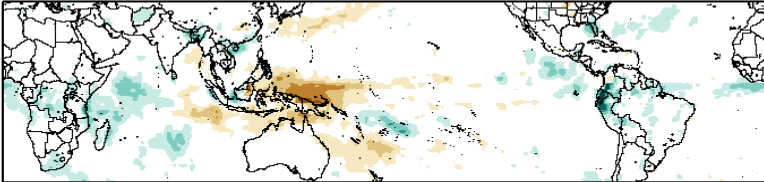
Valid: 19Apr2023–25Apr2023



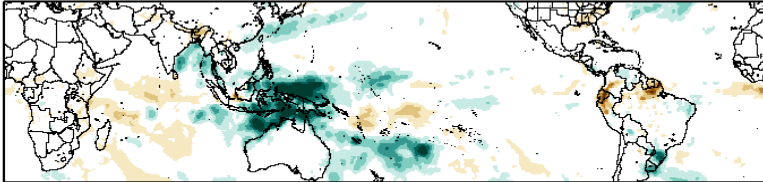
Historical Precipitation Anomalies By MJO Phase:

MAM MJO Composite: GPCP1DD (mm/day)

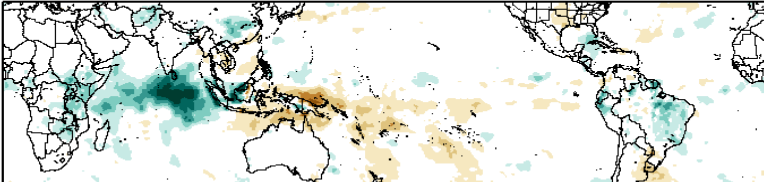
Phase 1



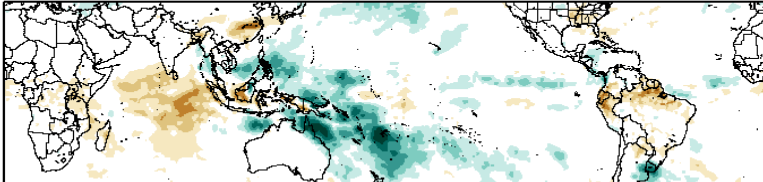
Phase 5



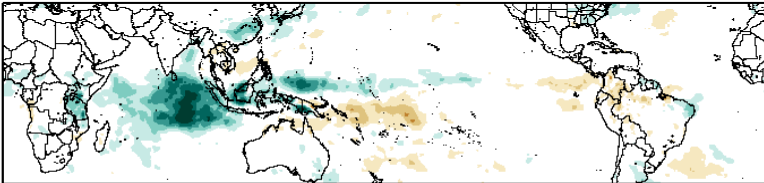
Phase 2



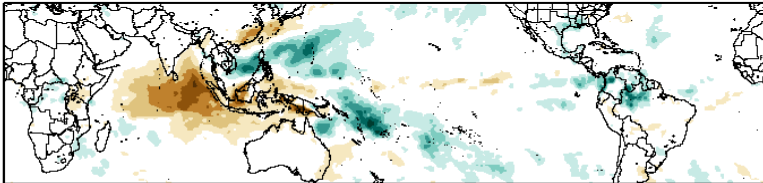
Phase 6



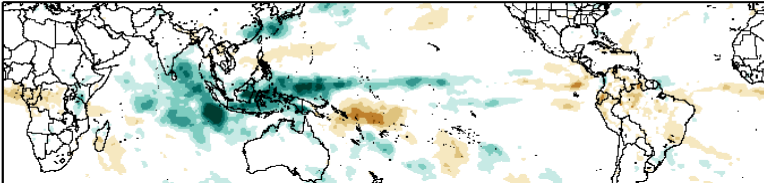
Phase 3



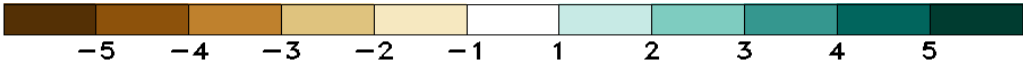
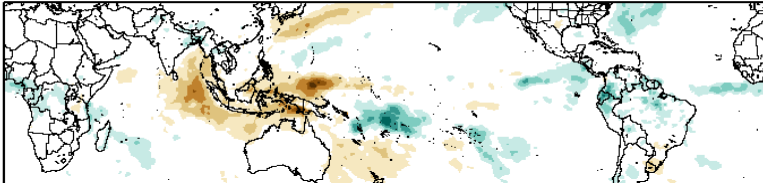
Phase 7



Phase 4

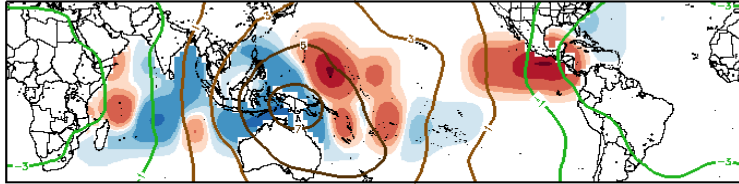


Phase 8

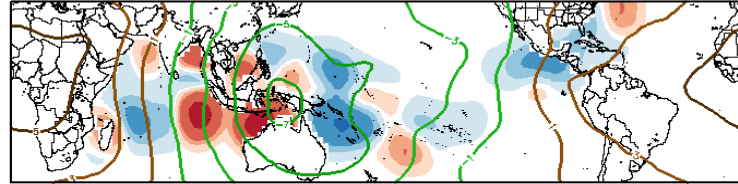


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

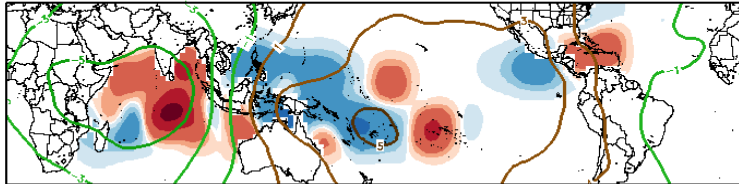
MAM MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ MAM CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



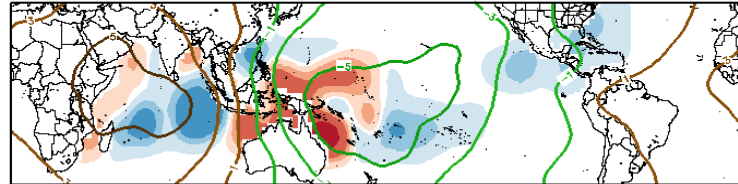
Phase 1



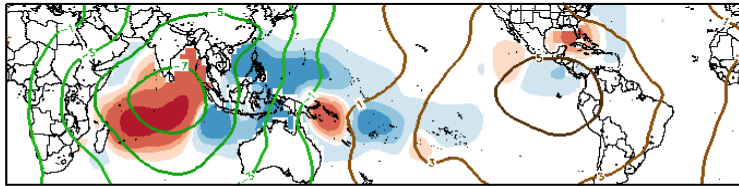
Phase 5



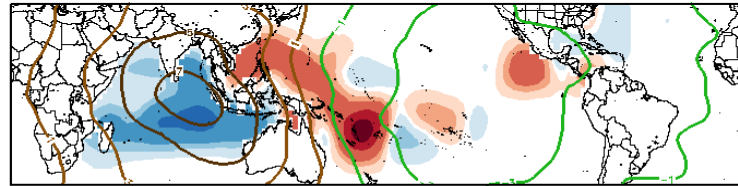
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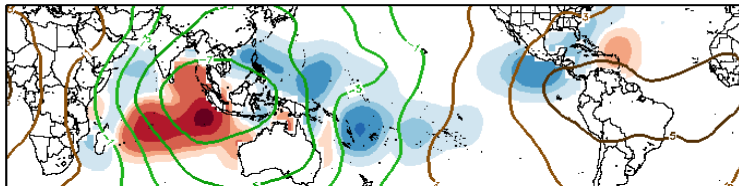
Phase 6



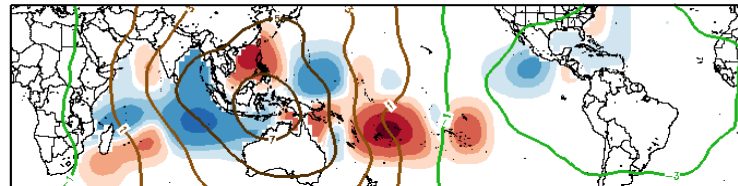
Phase 3



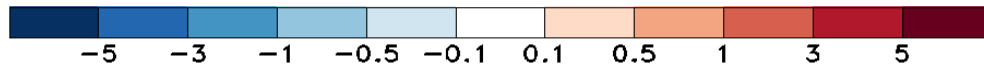
Phase 7



Phase 4



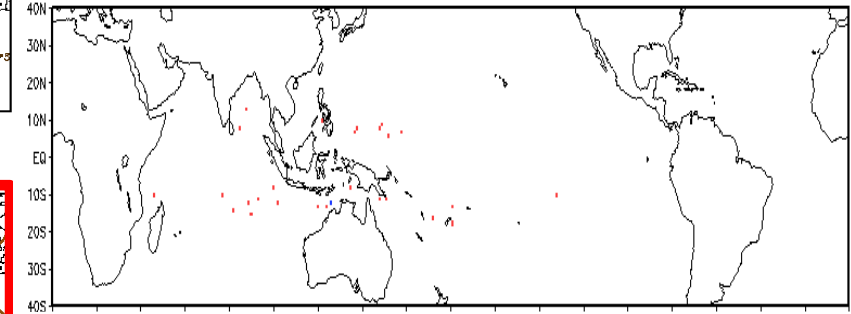
Phase 8



Experimental

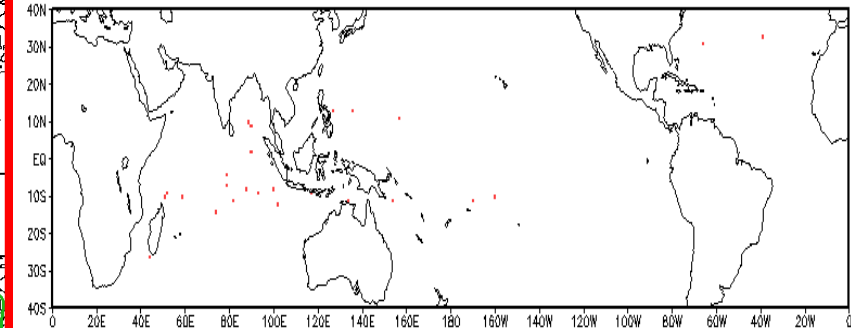
Observed TC Genesis, 1979-2021

7-day Period 0412 to 0418



Observed TC Genesis, 1979-2021

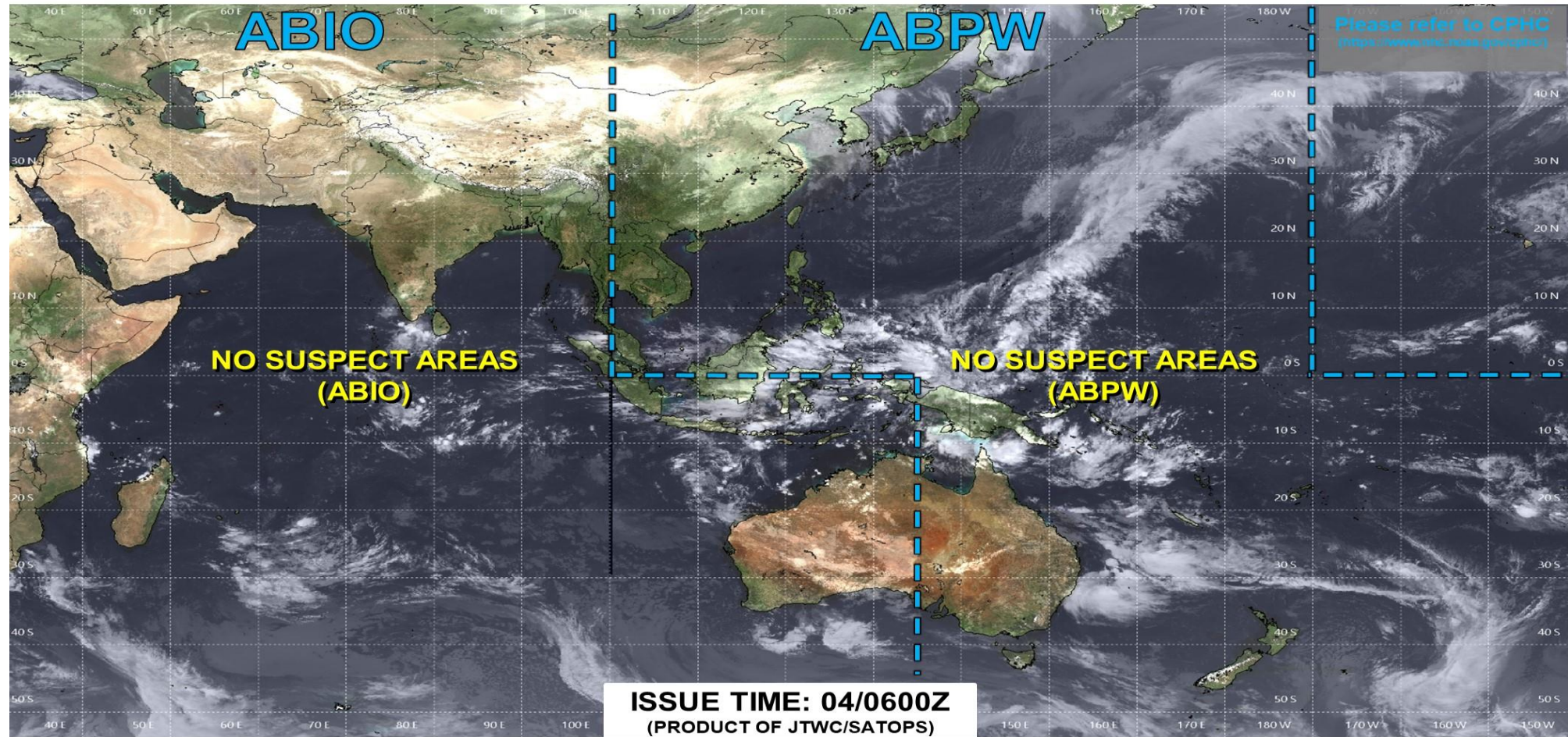
7-day Period 0419 to 0425



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)



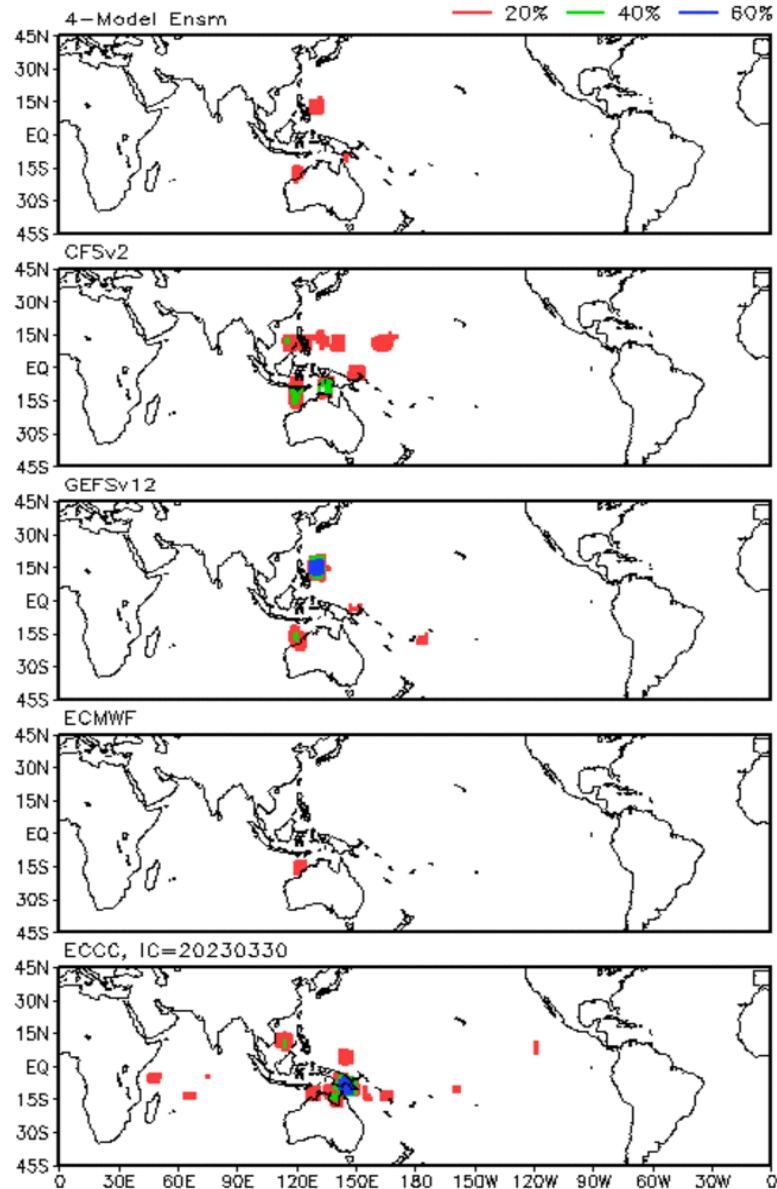
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



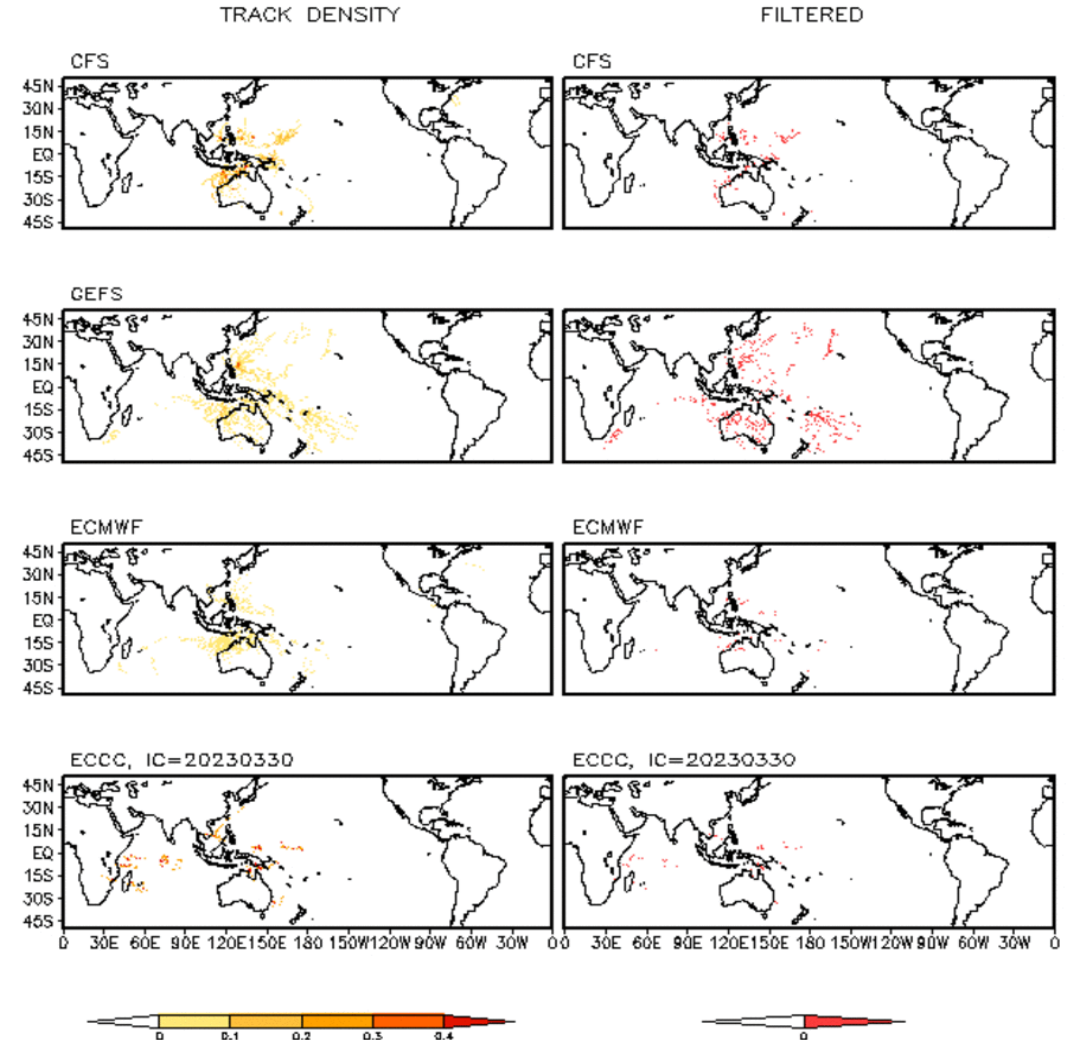
Tropical Cyclone (Reference Warning)

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

Storm Track Probabilities, IC=20230403
Week 2: 0412 - 0418

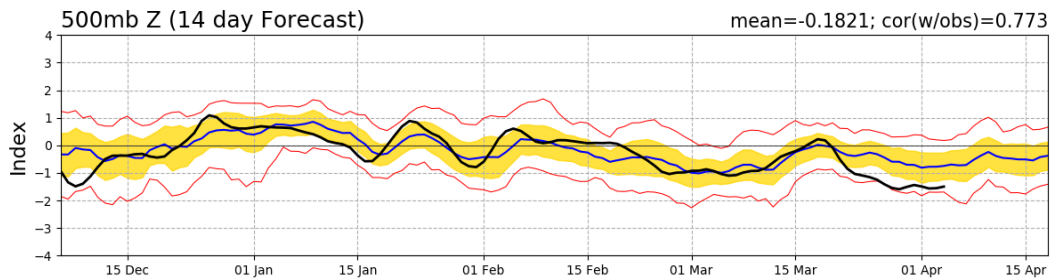
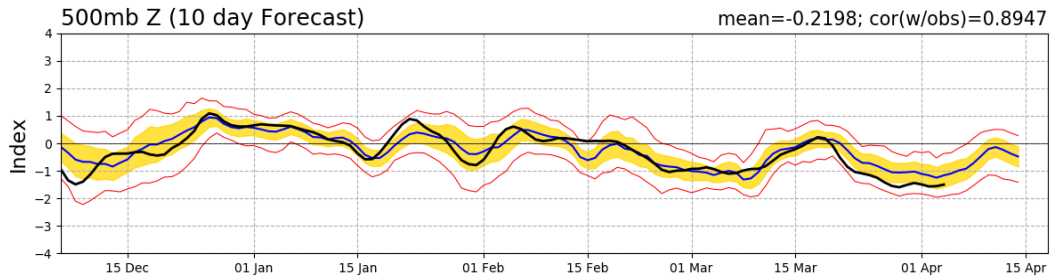
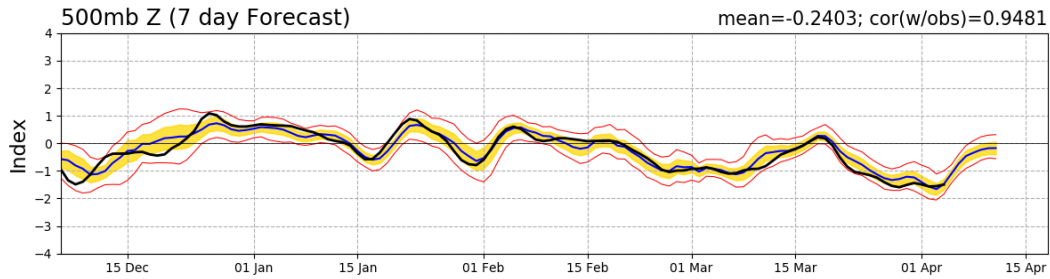
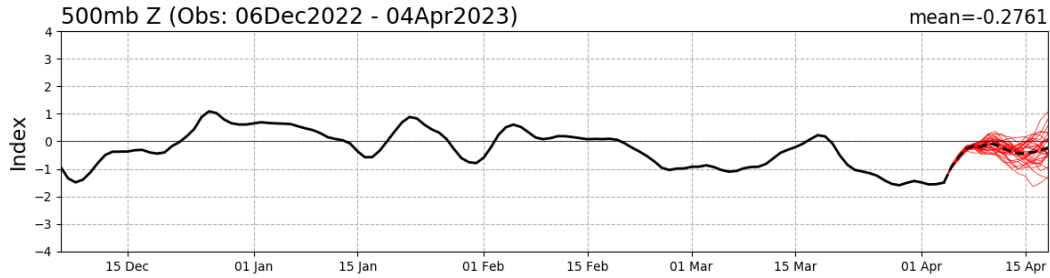


Storm Track Density Distribution, IC=20230403
Week 2 Forecast: 0412-0418

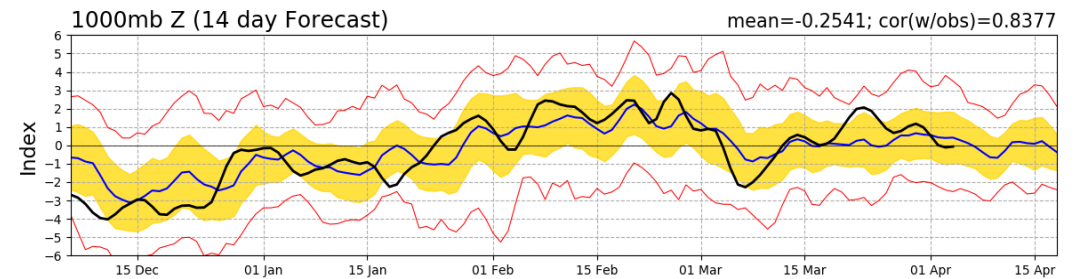
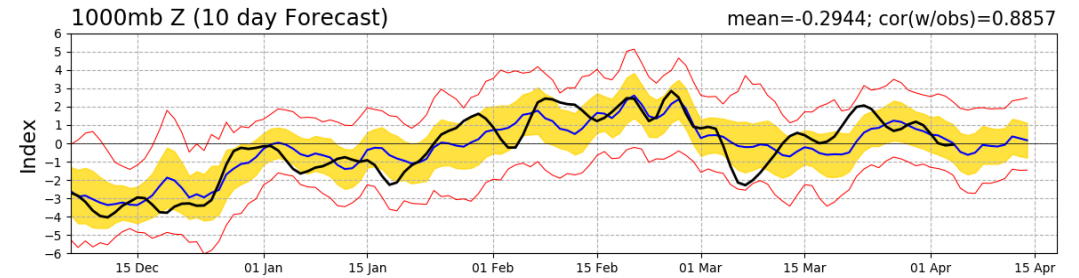
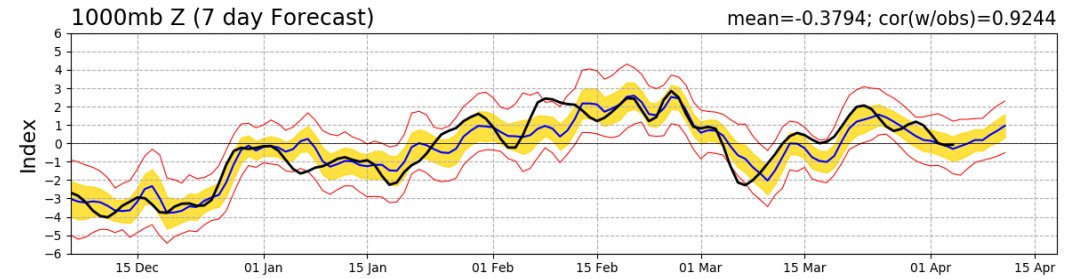
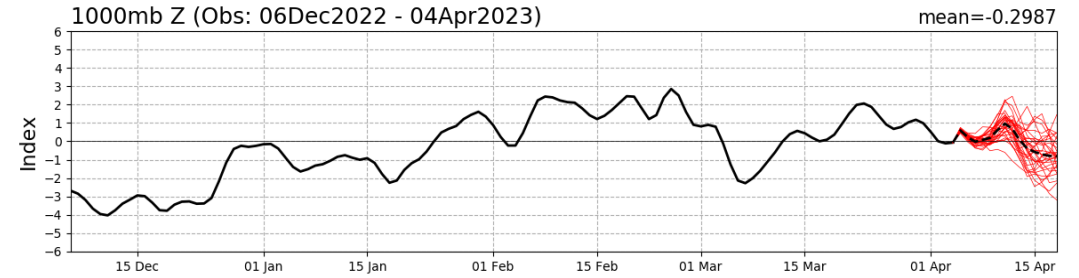


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

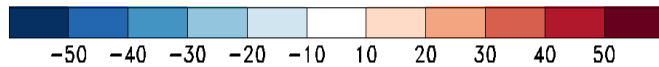
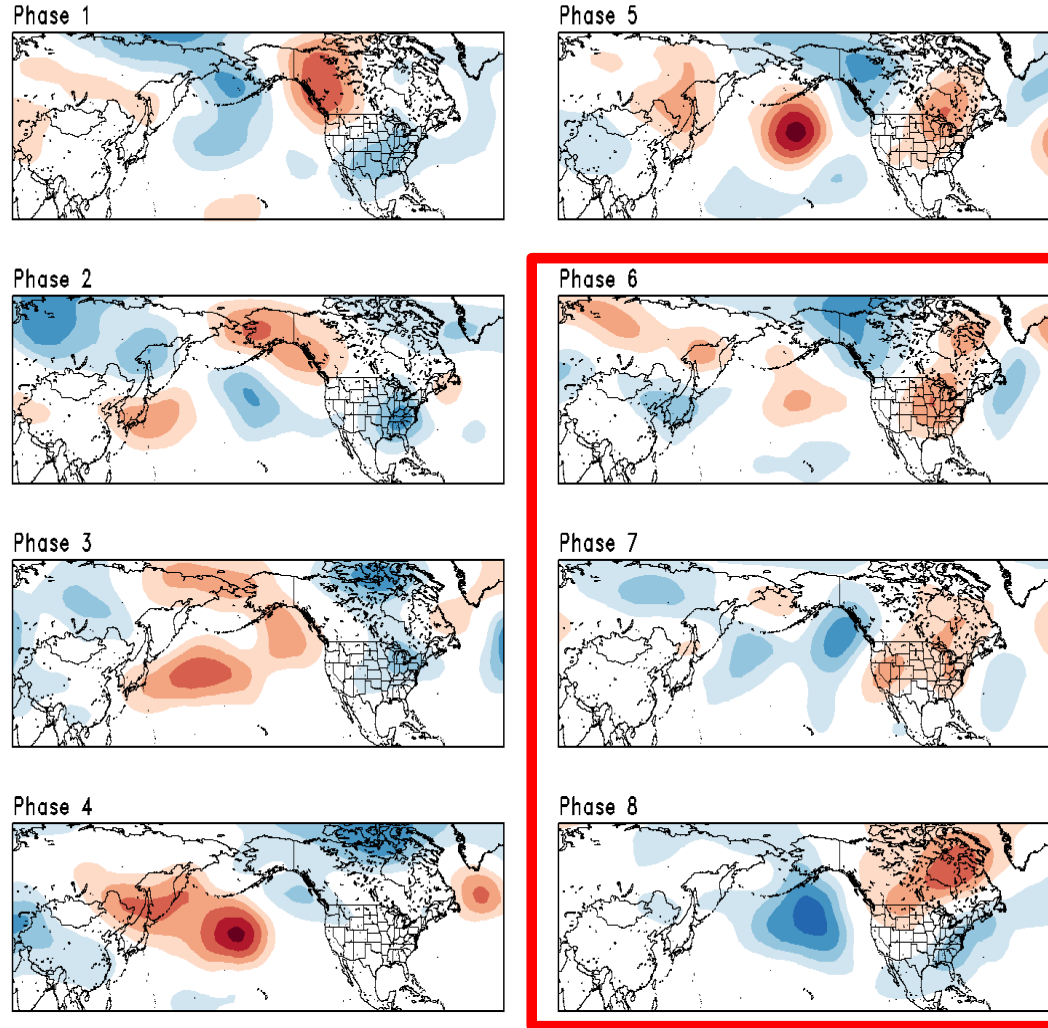


AO Index: Observed & GEFS Forecasts

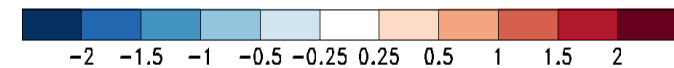
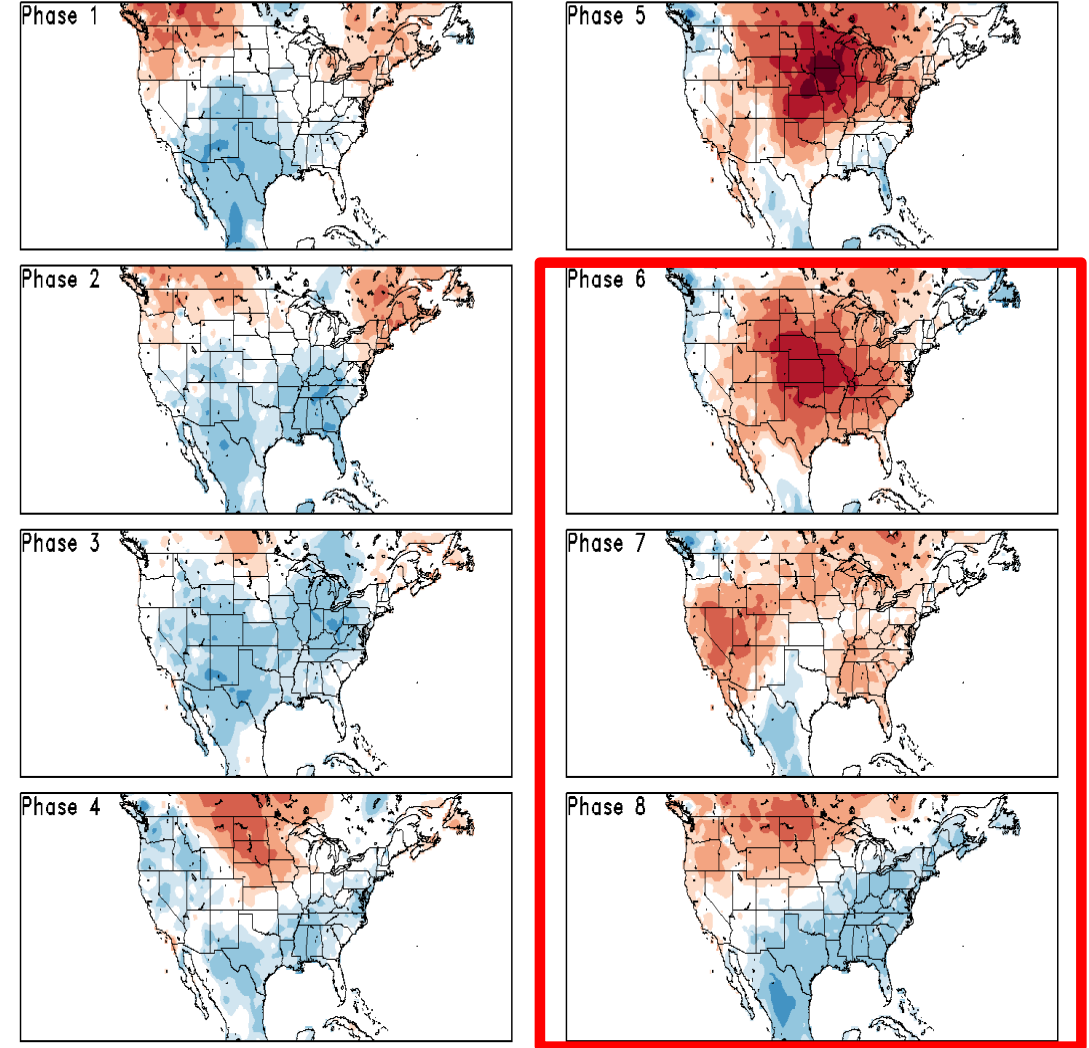


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

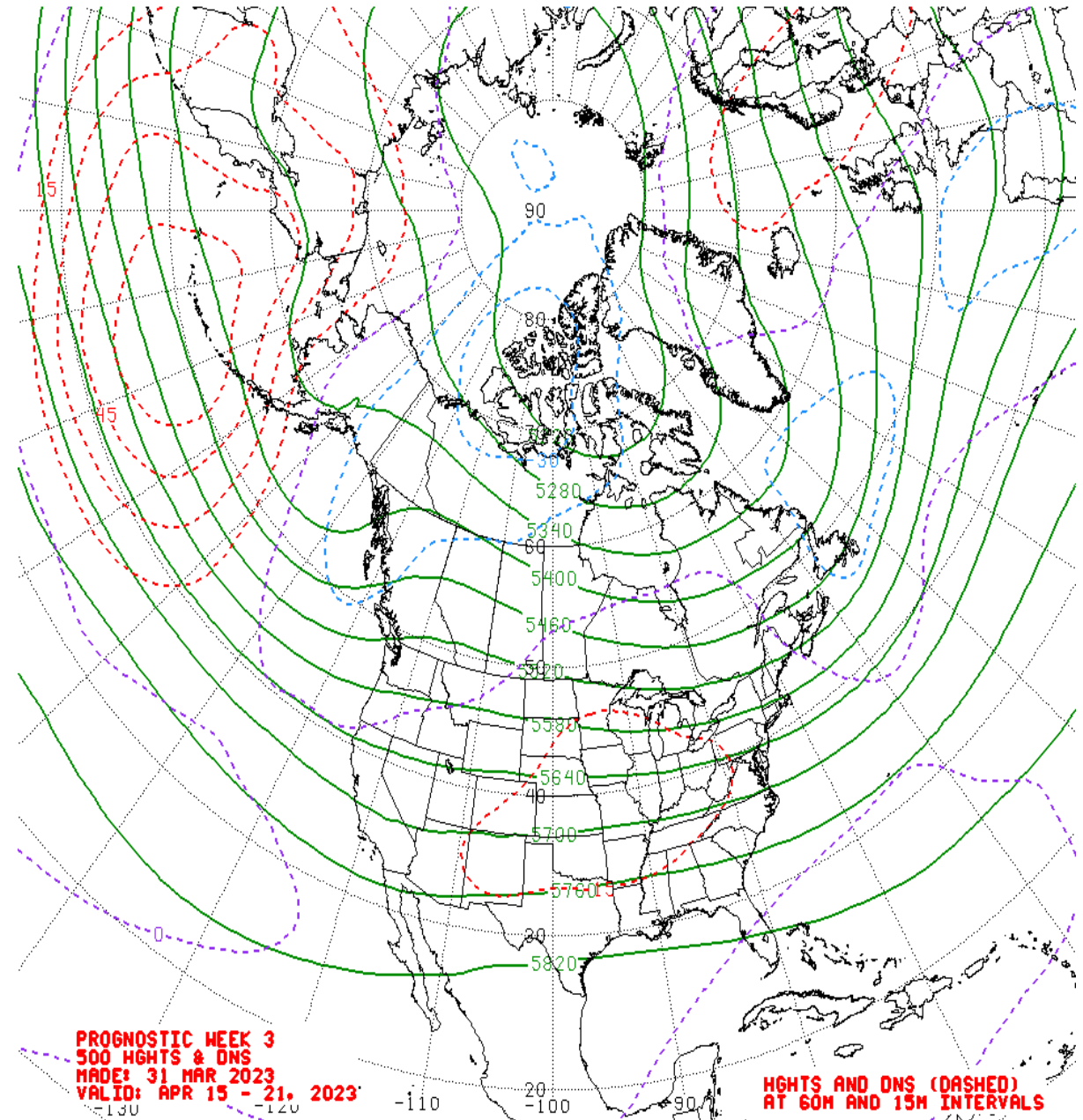
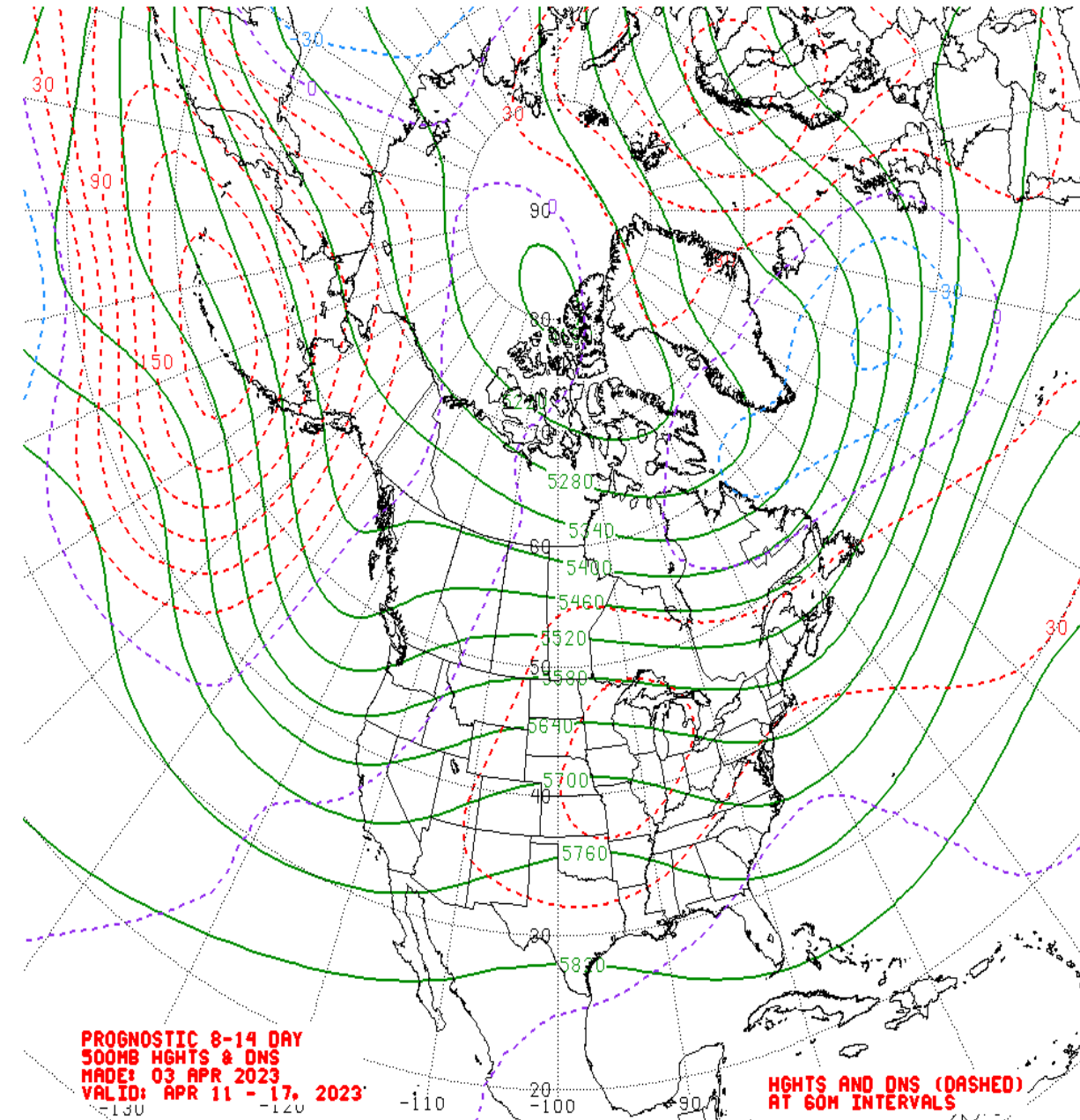
MAM MJO Composite: CDAS 500-hPa Height (m)



MAM MJO Composite: GLBT (degC)



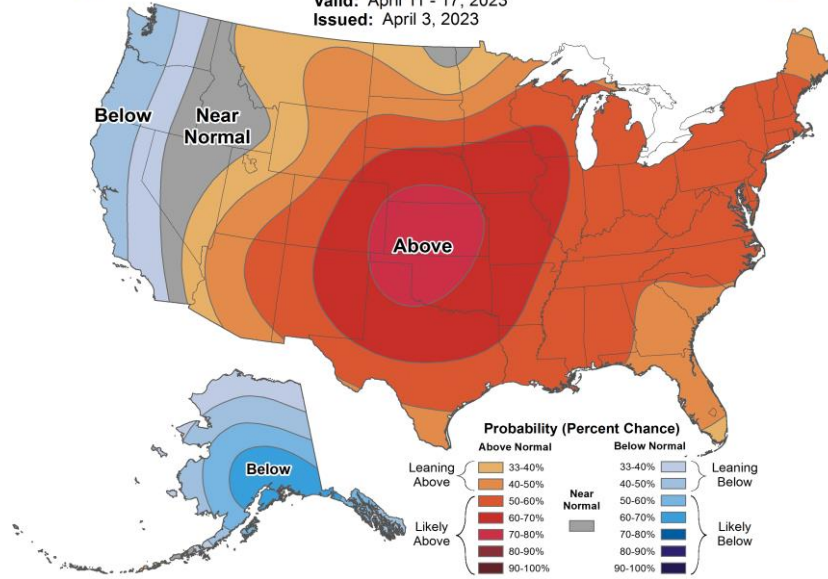
Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:

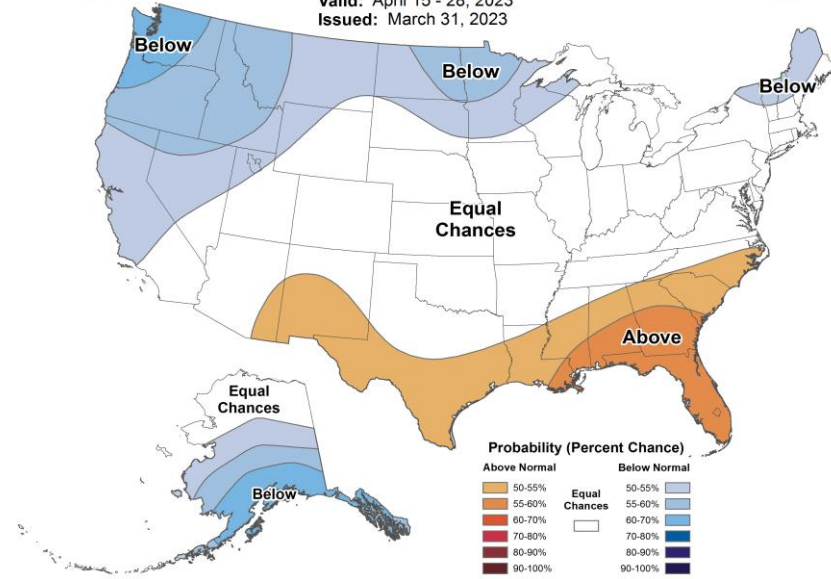
8-14 Day Temperature Outlook

Valid: April 11 - 17, 2023
Issued: April 3, 2023



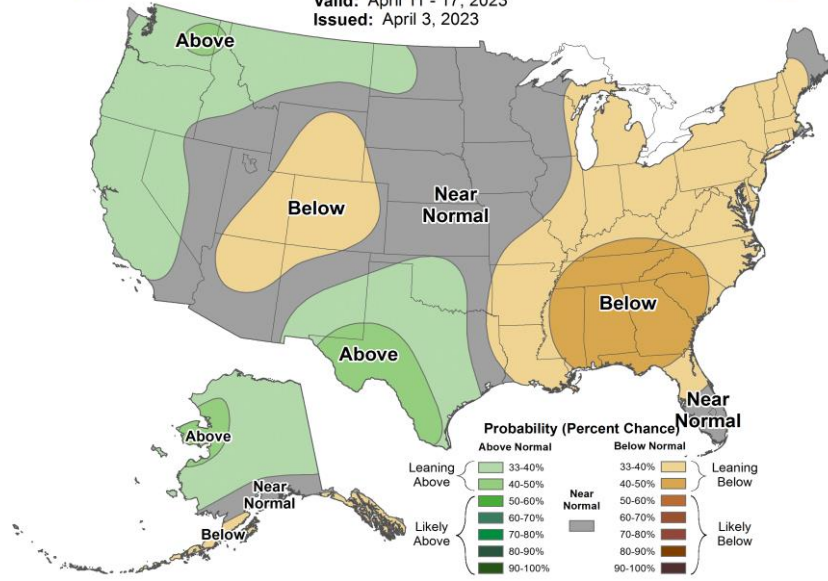
Weeks 3-4 Temperature Outlook

Valid: April 15 - 28, 2023
Issued: March 31, 2023



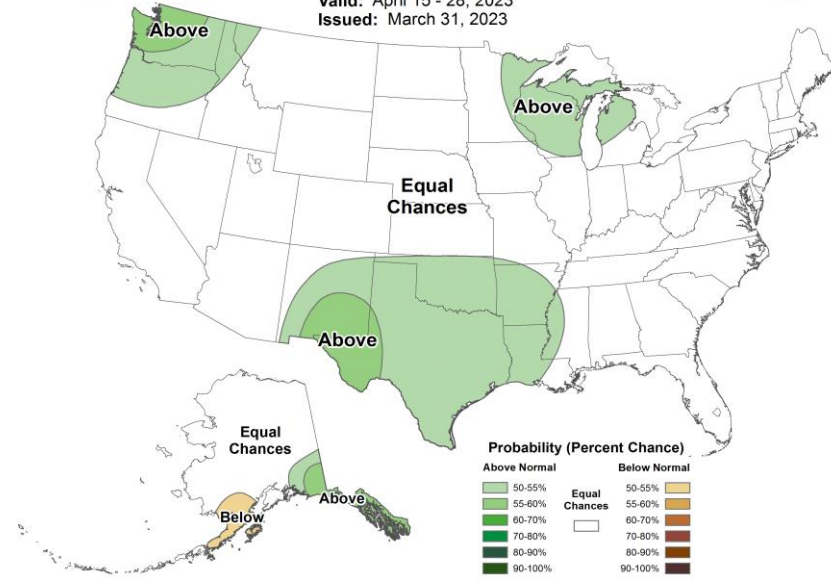
8-14 Day Precipitation Outlook

Valid: April 11 - 17, 2023
Issued: April 3, 2023



Weeks 3-4 Precipitation Outlook

Valid: April 15 - 28, 2023
Issued: March 31, 2023



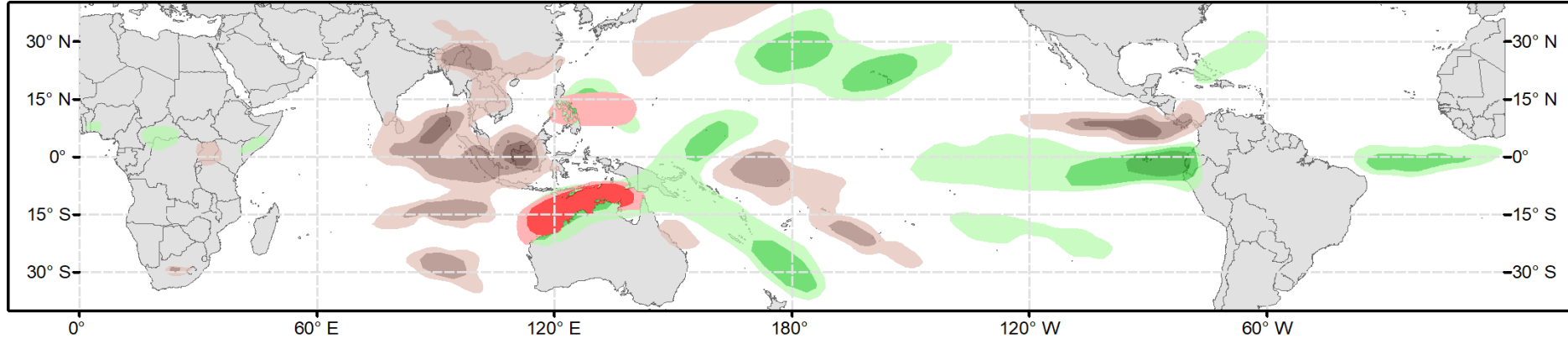


Global Tropics Hazards Outlook

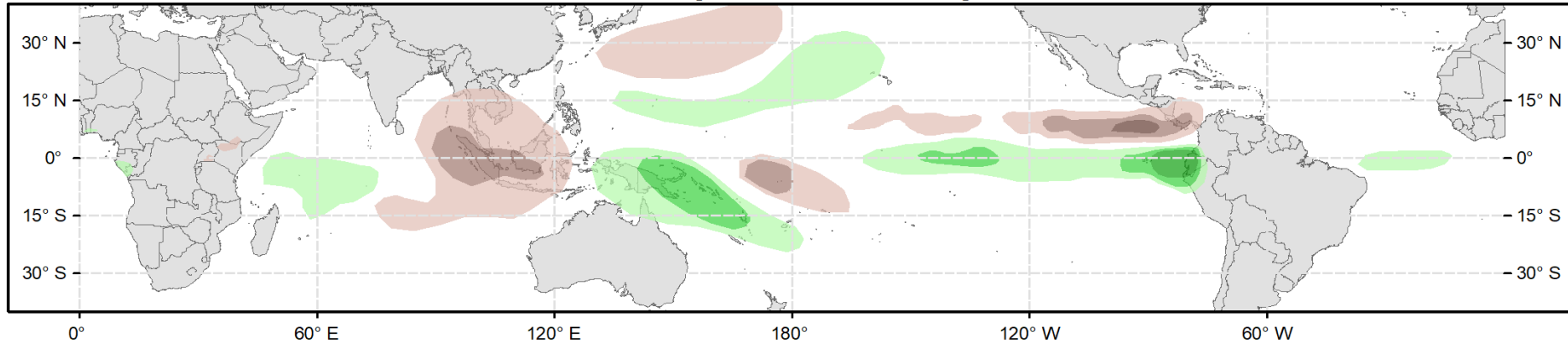
Climate Prediction Center



Week 2 - Valid: Apr 12, 2023 - Apr 18, 2023



Week 3 - Valid: Apr 19, 2023 - Apr 25, 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: 04/04/2023
Forecaster: Collow

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