



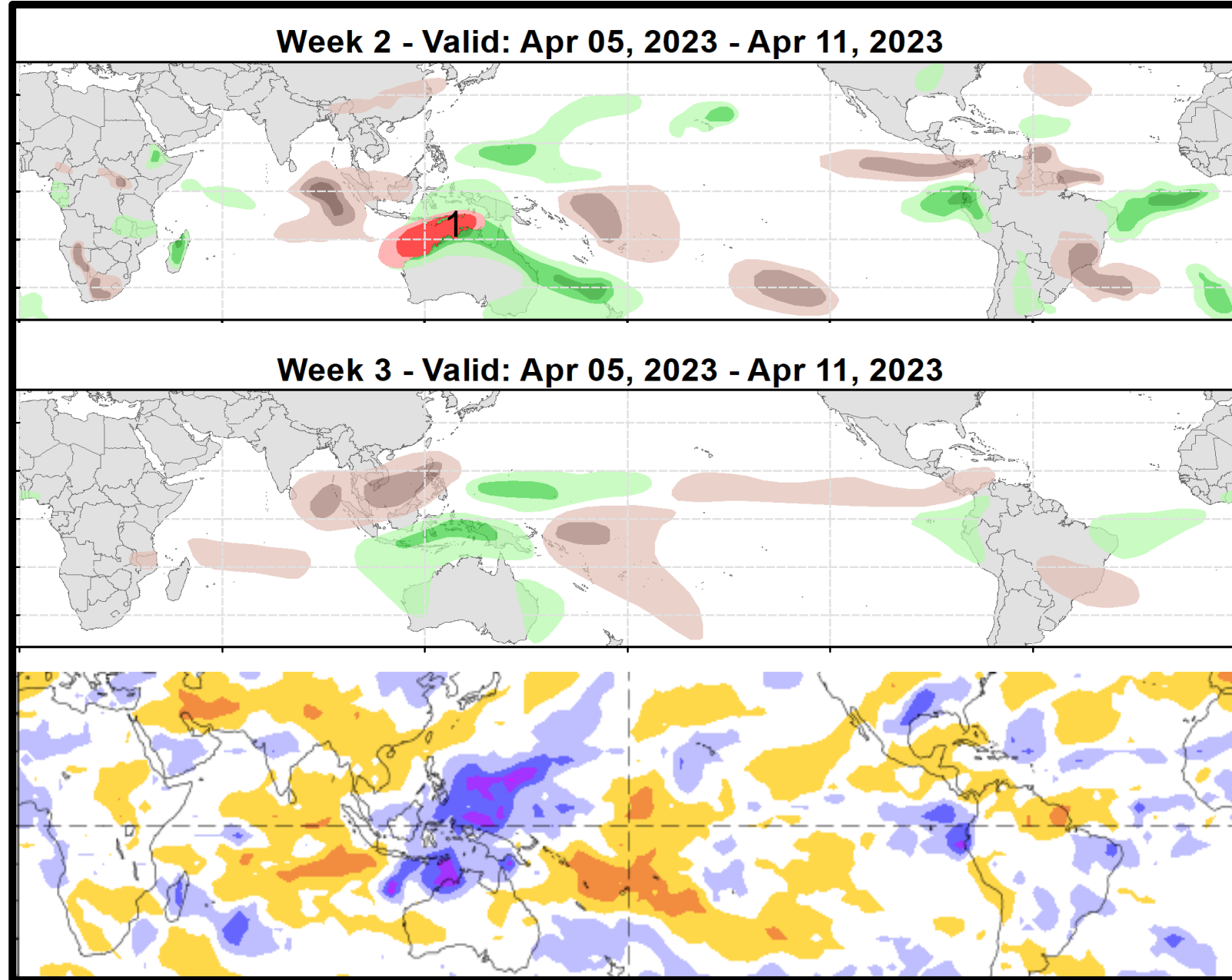
Weeks 2-3 Global Tropics Hazards Outlook

4/11/2023

Danny Barandiaran
NWS / NCEP / Climate Prediction Center

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

- 1: Ilsa (April 8)



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:

- Evident Madden-Julian Oscillation (MJO) activity continues after a robust signal during March. Tropical tropospheric zonal wind anomalies are now more reflective of MJO activity than the previously dominant La Niña base state.
- Enhanced convective envelope is currently situated over Western Pacific, with suppressed conditions over the Indian Ocean. Model guidance generally favors a continued eastward propagation of MJO signal over the next two weeks.
- Increased chances for tropical cyclone formation to the northeast of Australia continue, while the evolving MJO increases chances for TC formation over the western Indian Ocean during week-2.

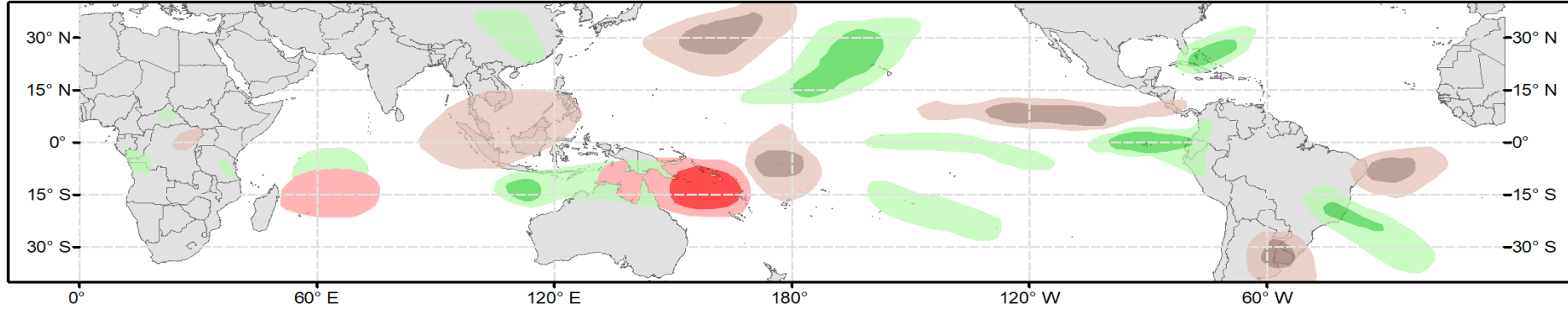
GTH Outlook:



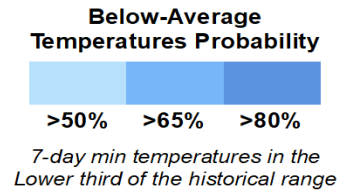
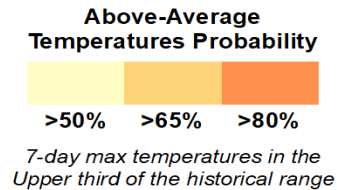
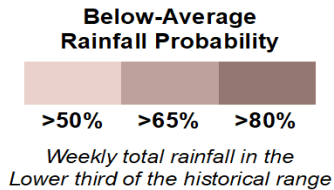
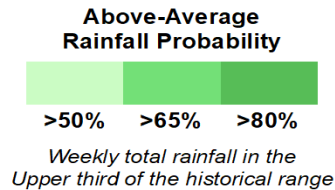
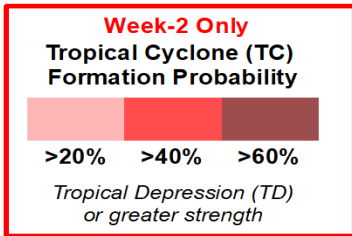
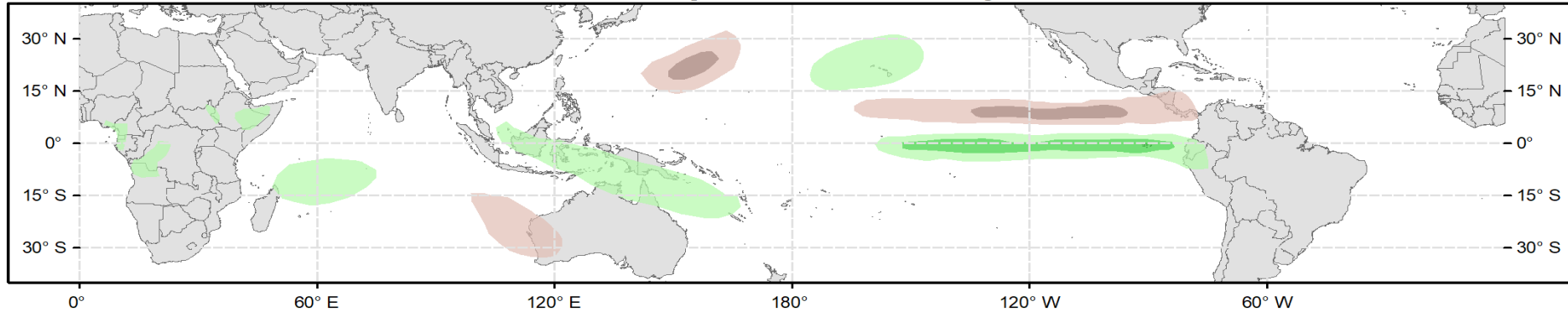
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Apr 19, 2023 - Apr 25, 2023



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

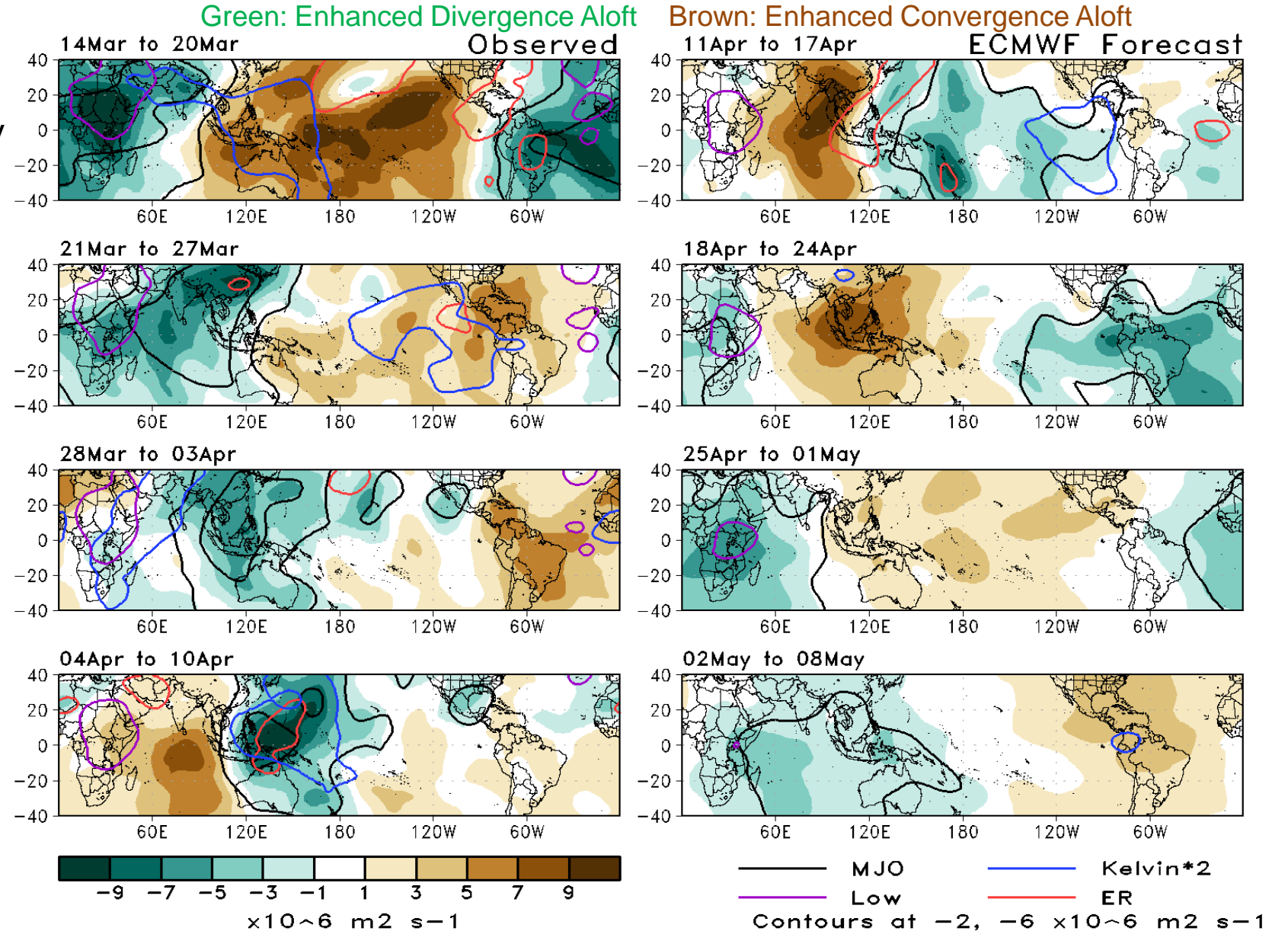


Issued: 04/11/2023
Forecaster: Barandiaran

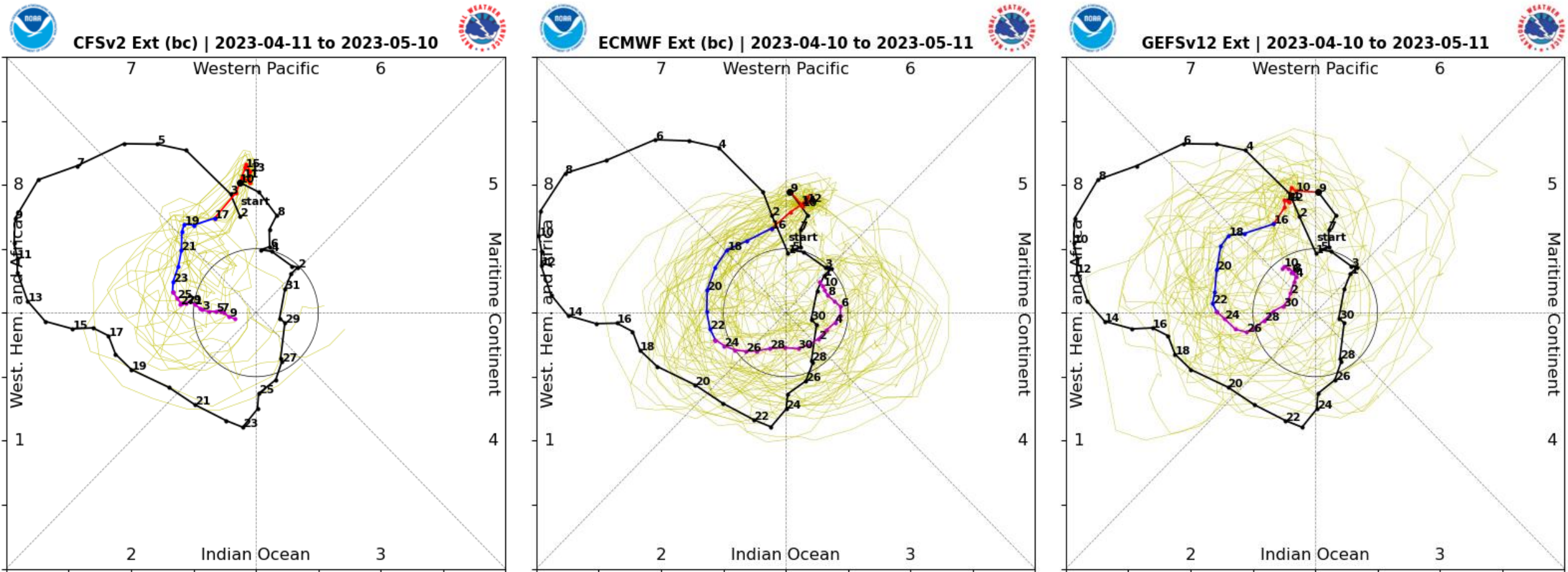
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Wave-1 pattern has been slightly disrupted recently, but steady eastward propagation of enhanced convective envelope continued.
- Forecasts indicate continued MJO activity through week-4, with the convective envelope moving from the East Pacific across the Americas and Africa.

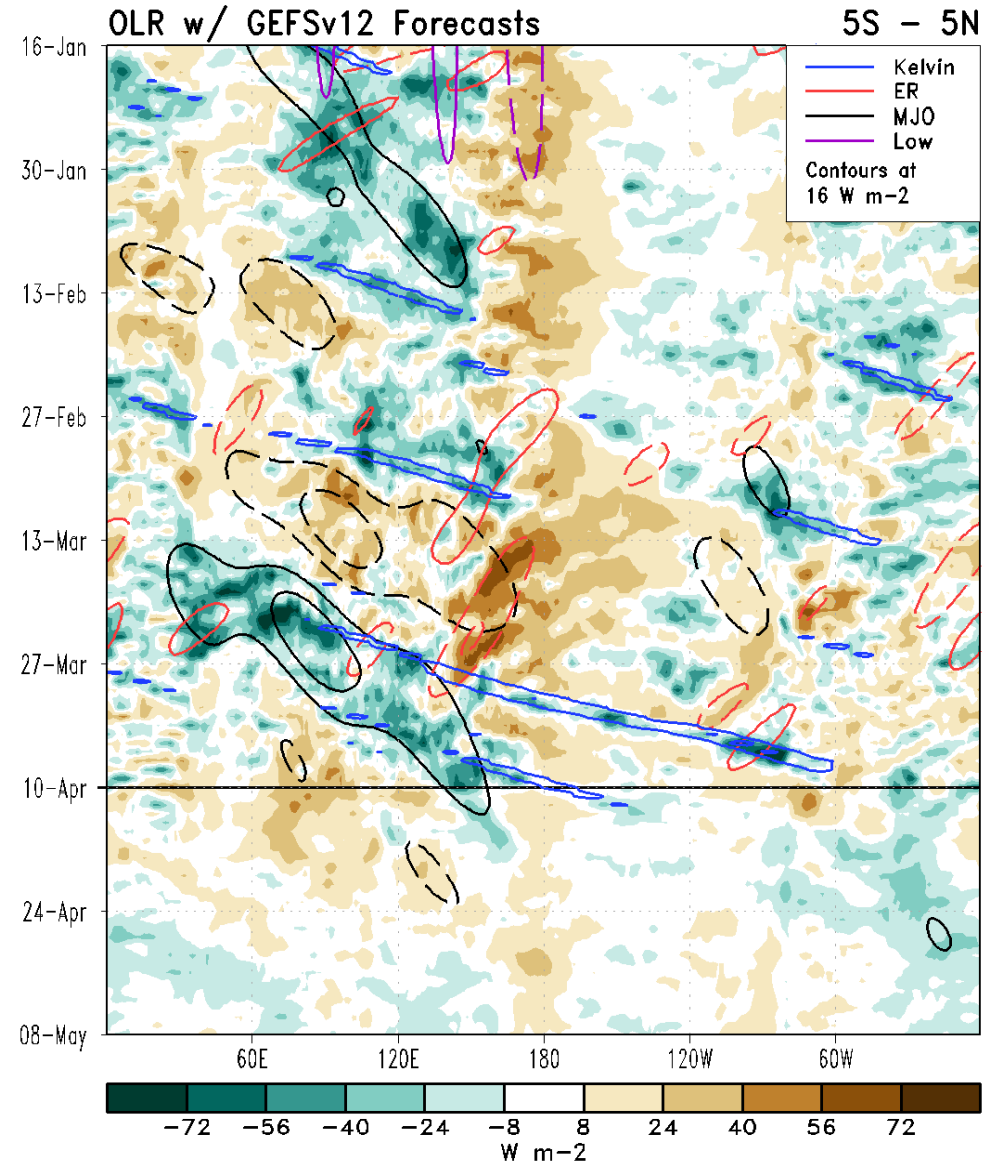
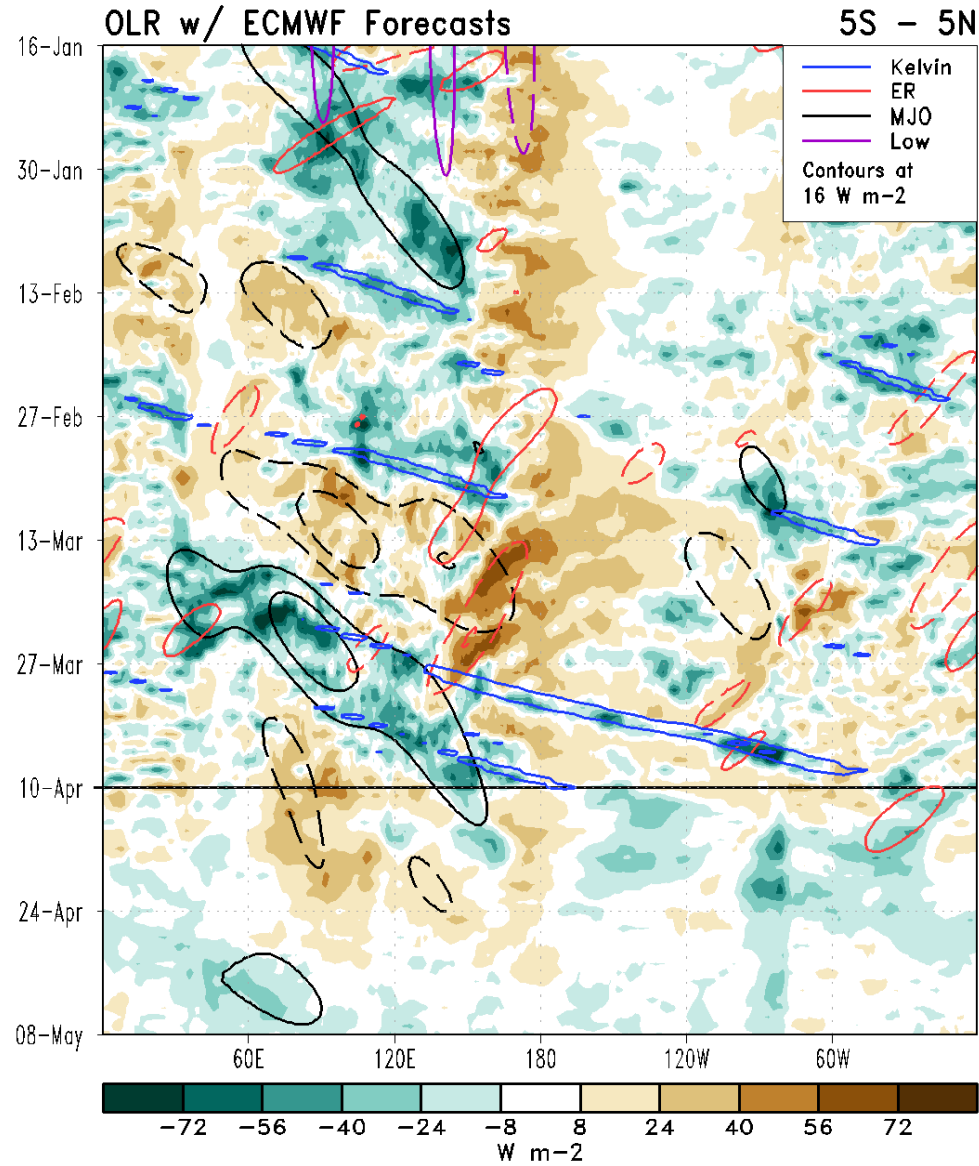


RMM Index Observations & Forecasts:



- There is good agreement among dynamical models that MJO activity will continue through the week-3 forecast period and beyond. There is more spread with regard to the amplitude of the RMM signal and the propagation speed.
- There is a noticeable leftward shift of the RMM index.

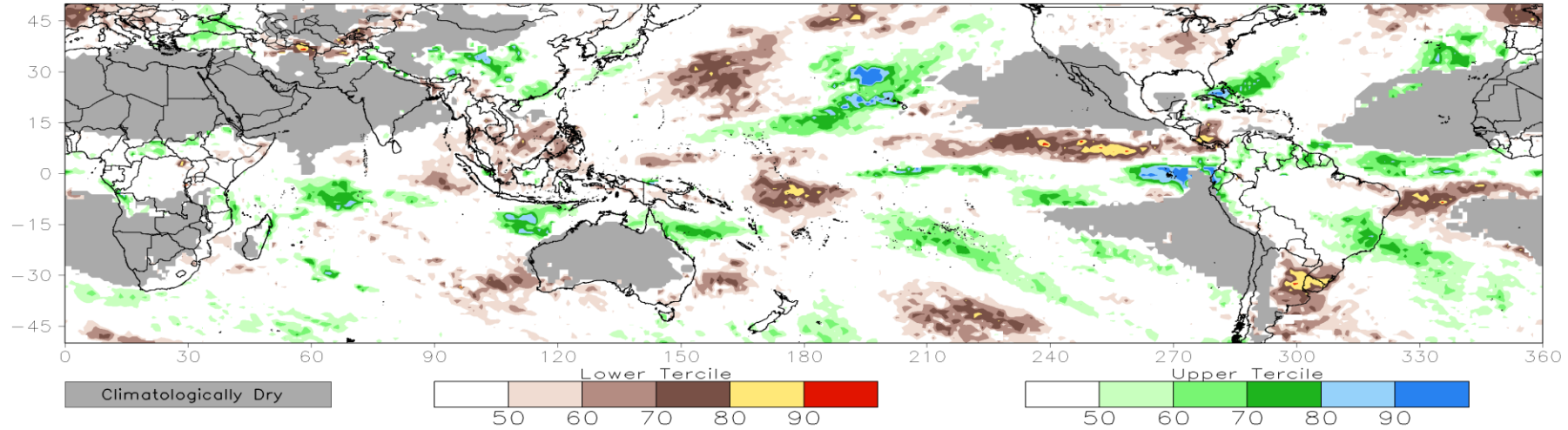
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

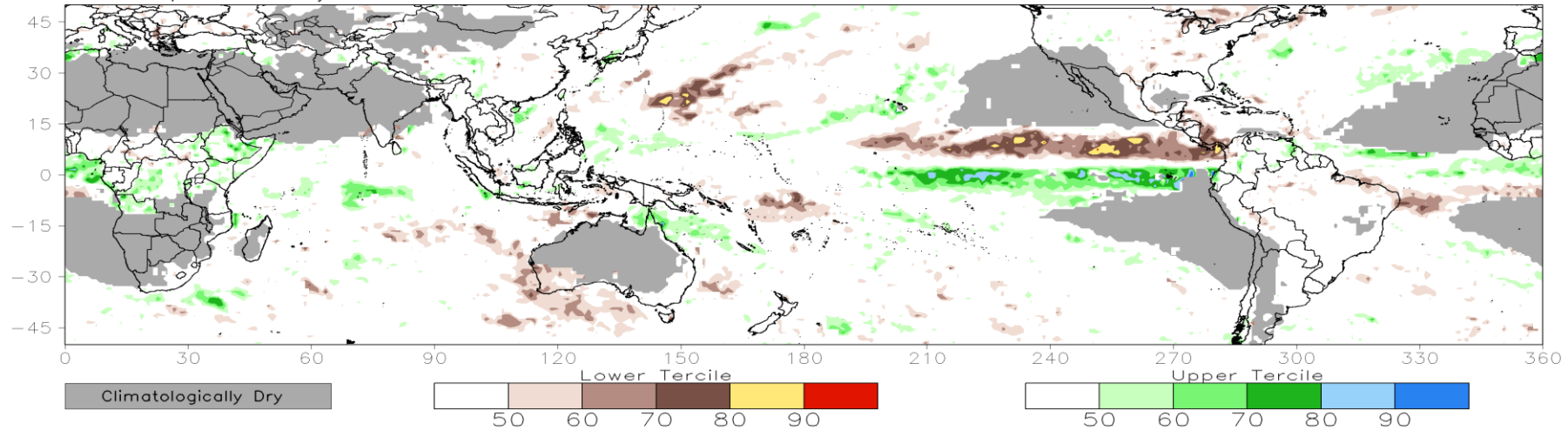
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 19Apr2023–25Apr2023



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

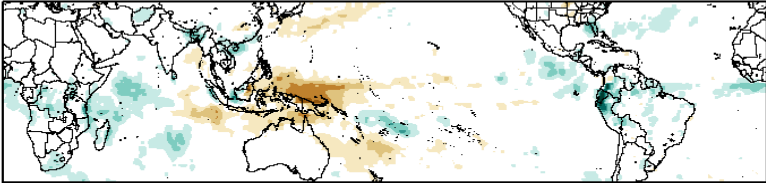
Valid: 26Apr2023–02May2023



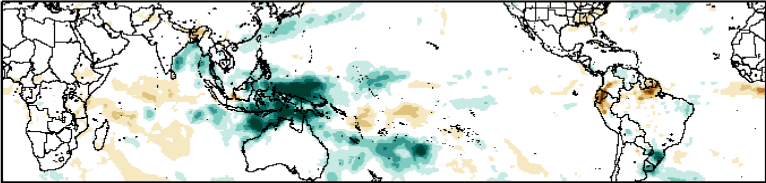
Historical Precipitation Anomalies By MJO Phase:

MAM MJO Composite: GPCP1DD (mm/day)

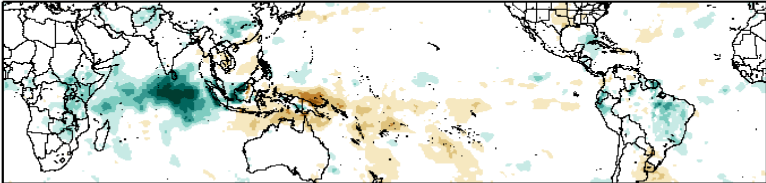
Phase 1



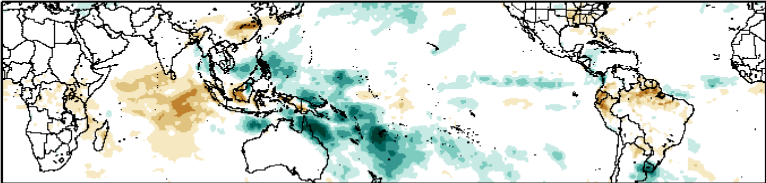
Phase 5



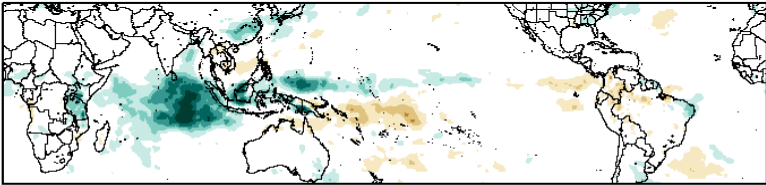
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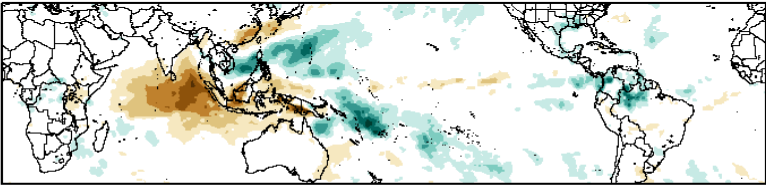
Phase 6



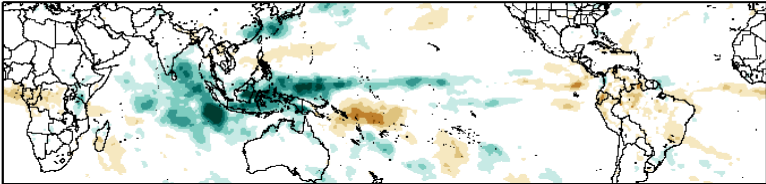
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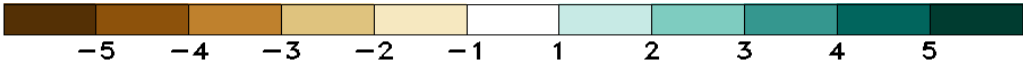
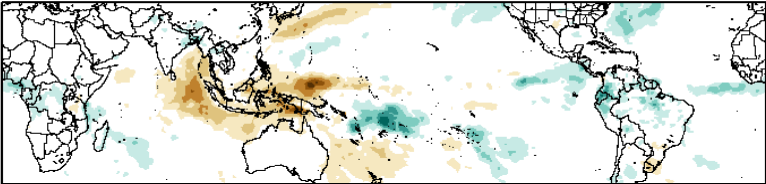
Phase 7



Phase 4

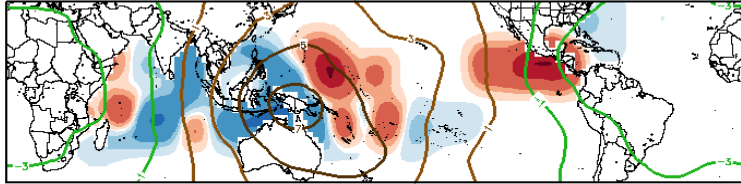


Phase 8

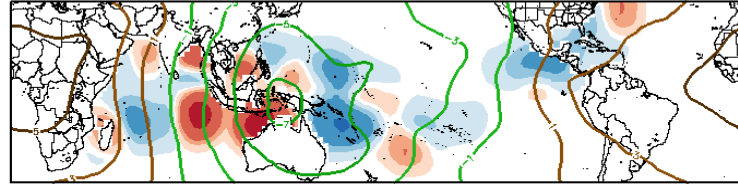


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

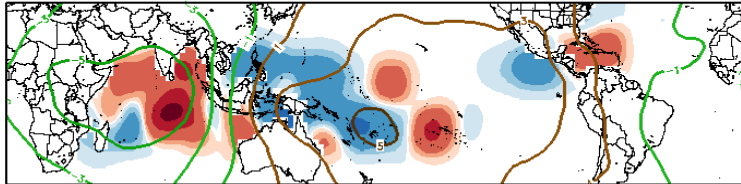
MAM MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ MAM CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



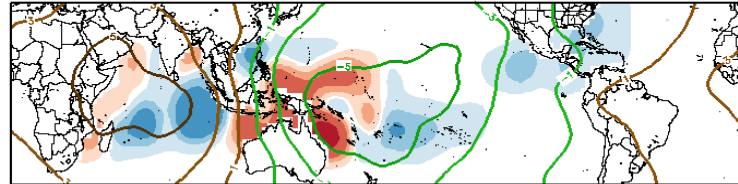
Phase 1



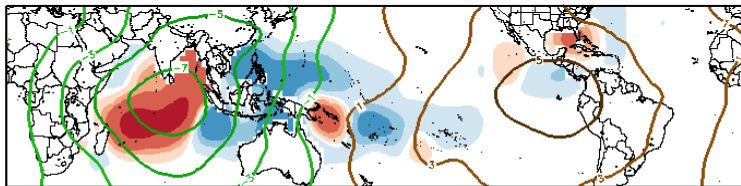
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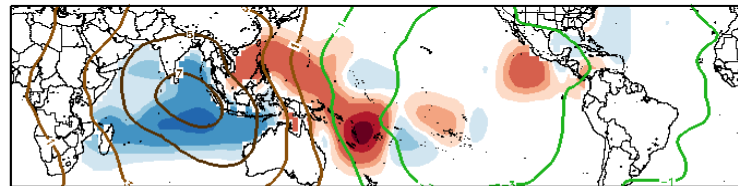
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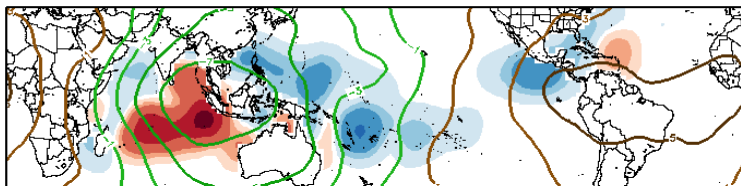
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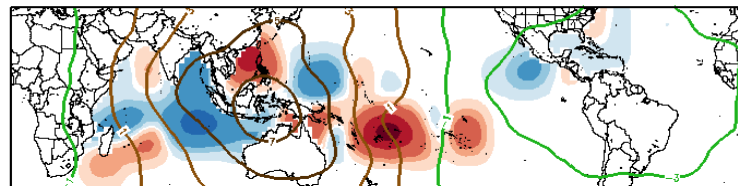
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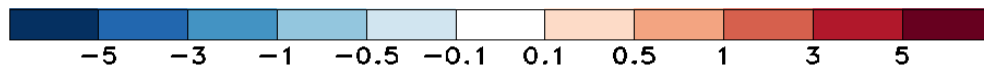
Phase 7



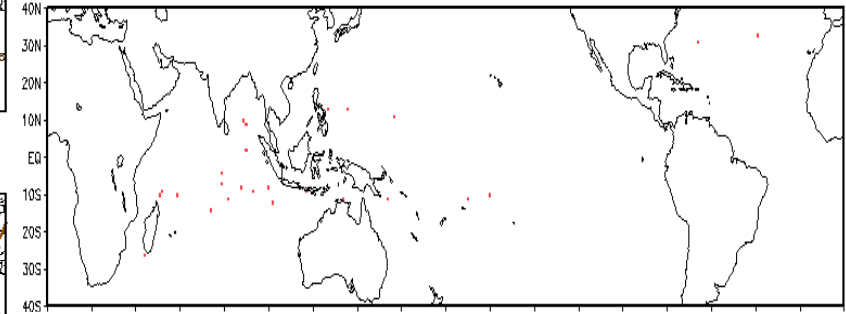
Phase 4



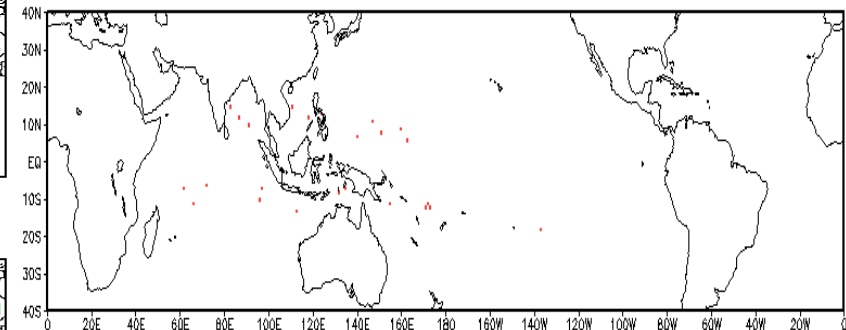
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 0419 to 0425

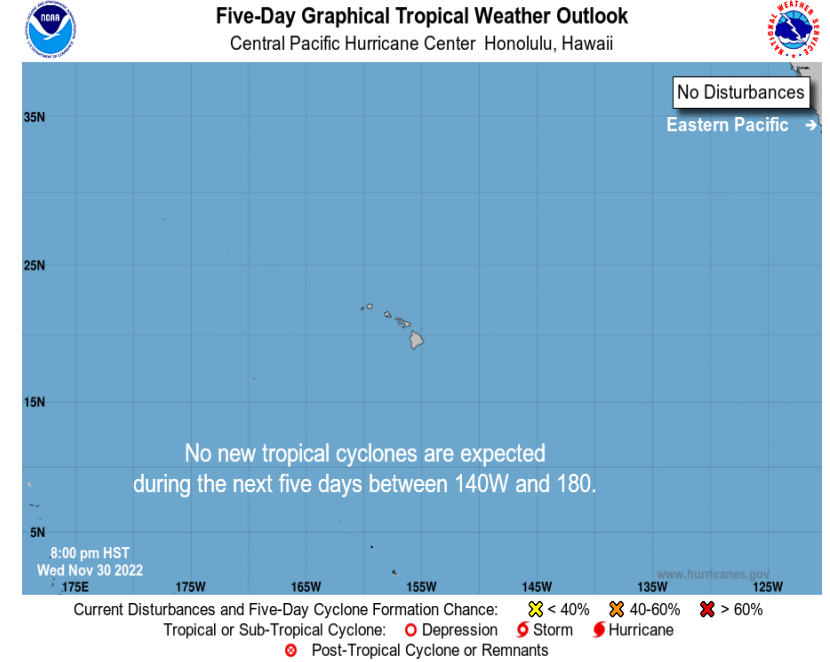
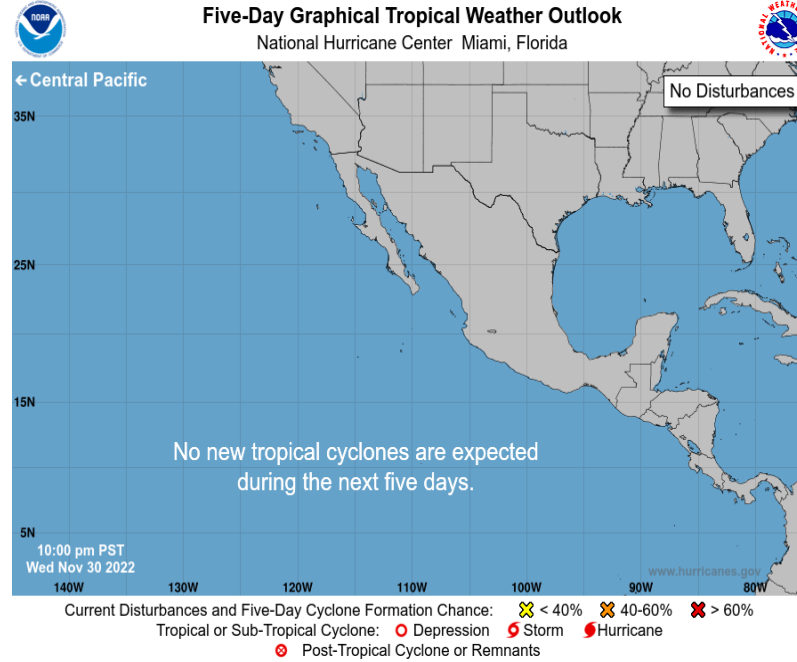
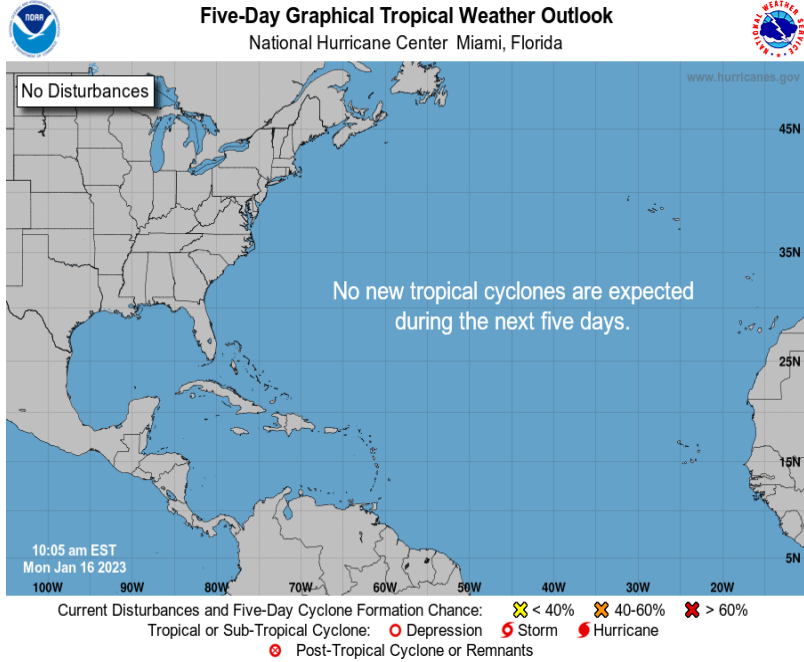


Observed TC Genesis, 1979-2021
7-day Period 0426 to 0502



Experimental

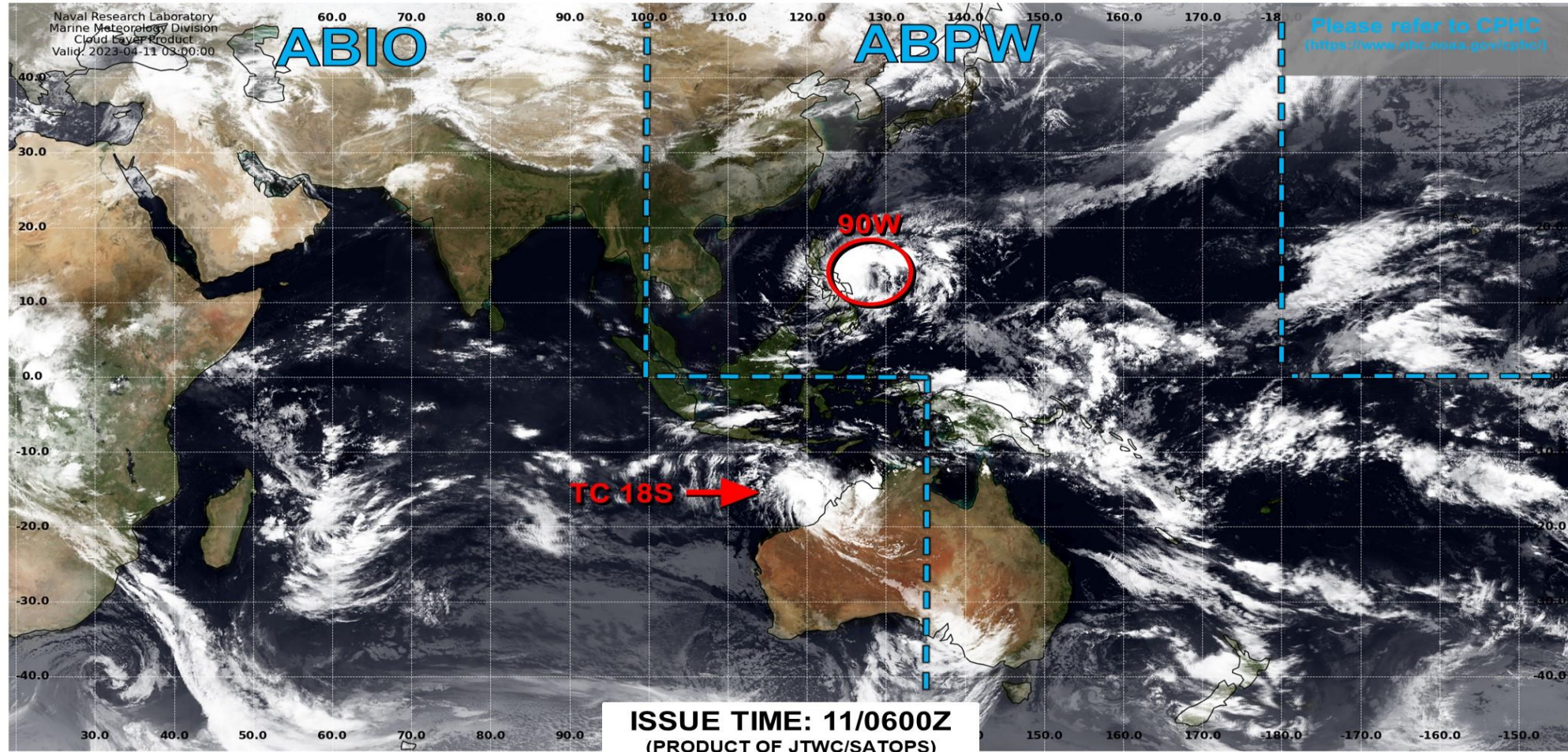
Tropical Cyclone Monitoring/Forecast: NHC



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)

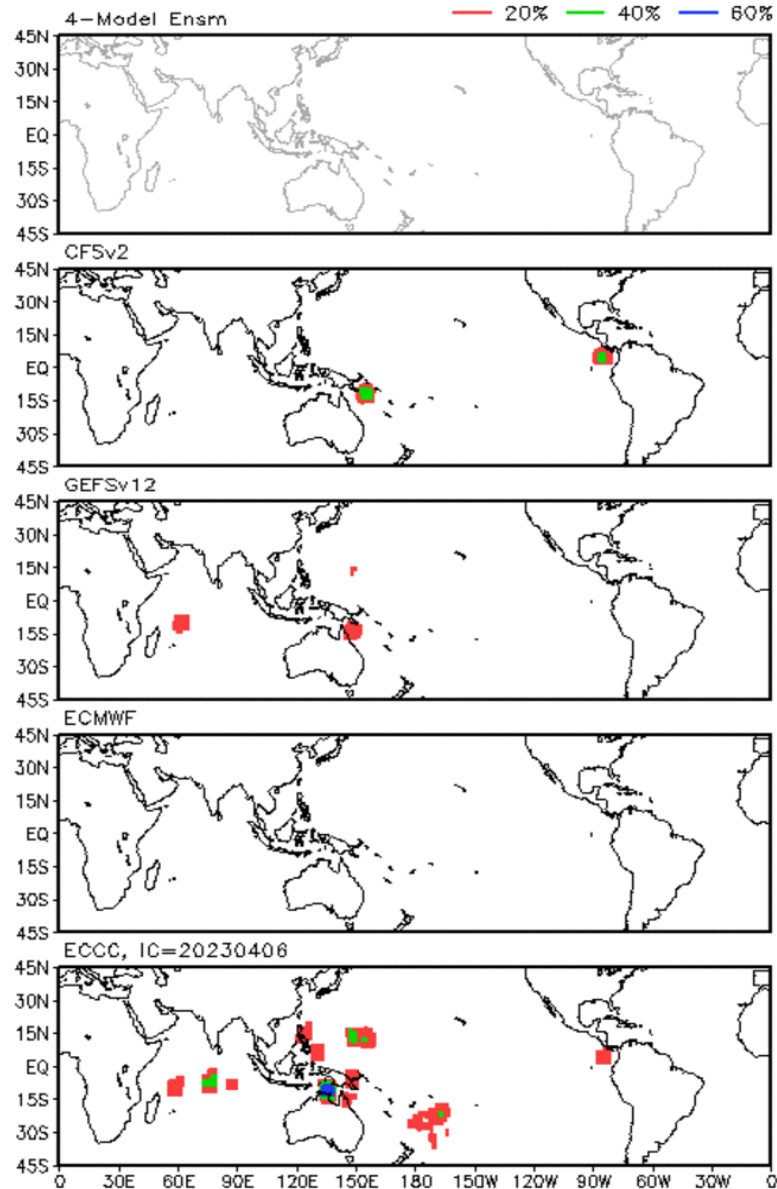


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

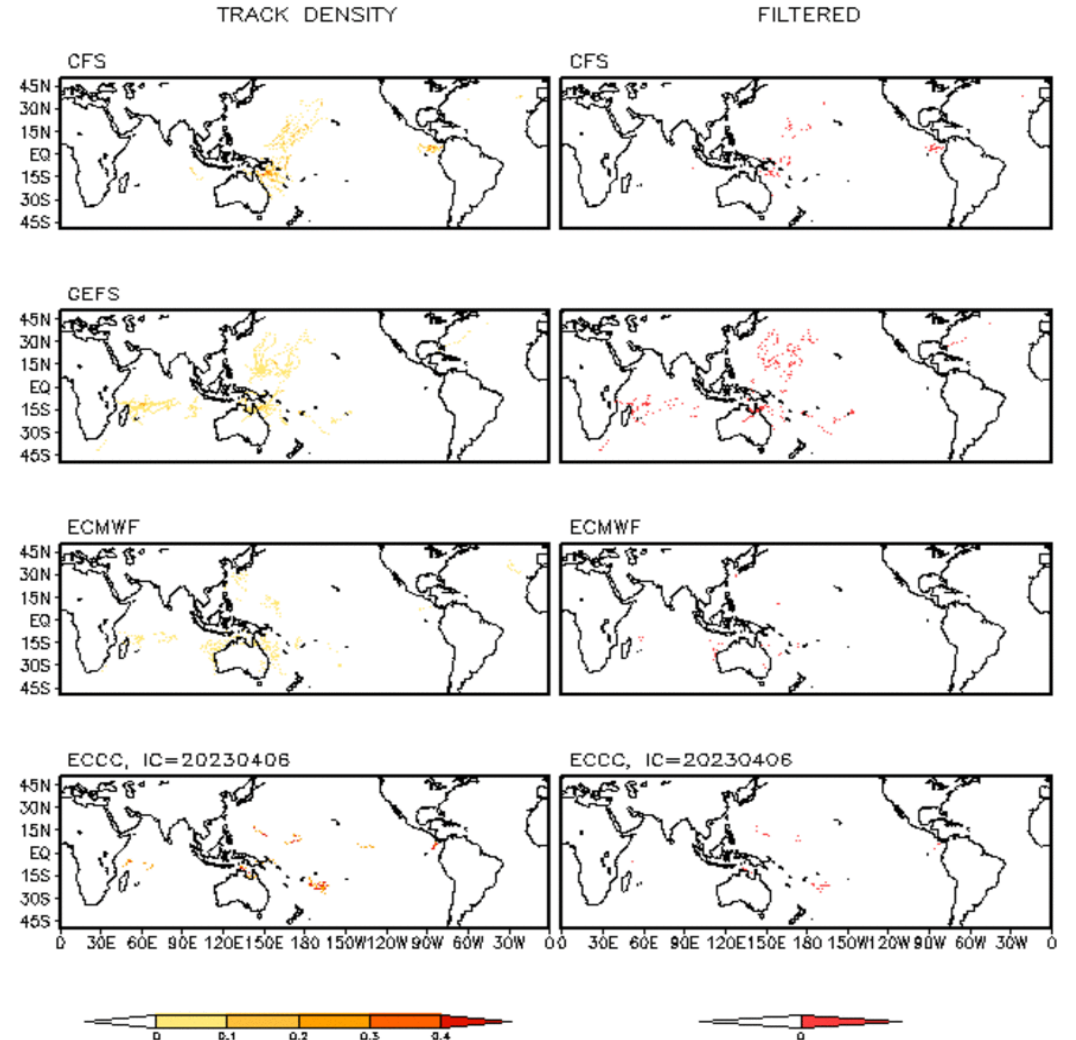


Multi-Model TC Track Probabilities/Densities: Week-2

Storm Track Probabilities, IC=20230410
Week 2: 0419 - 0425

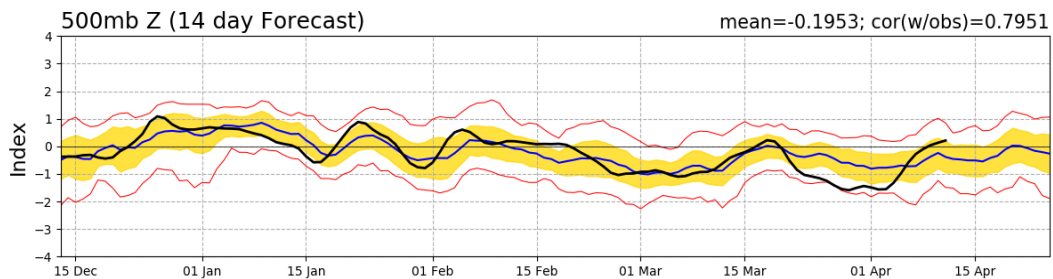
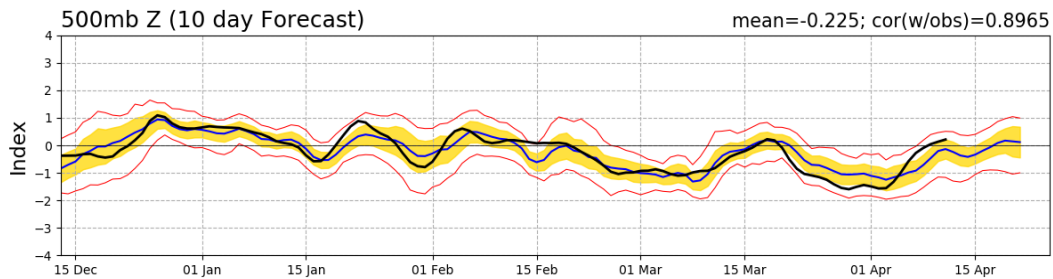
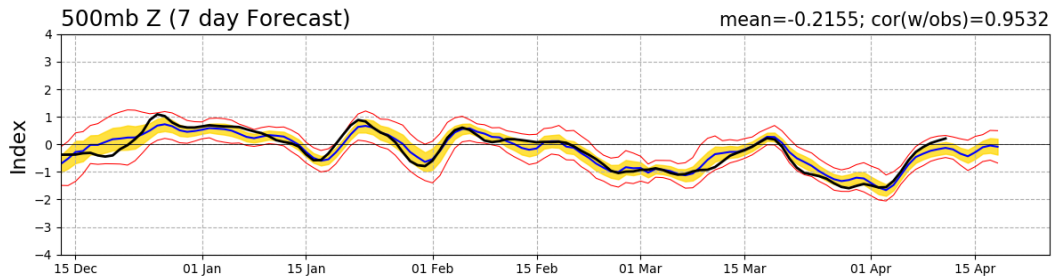
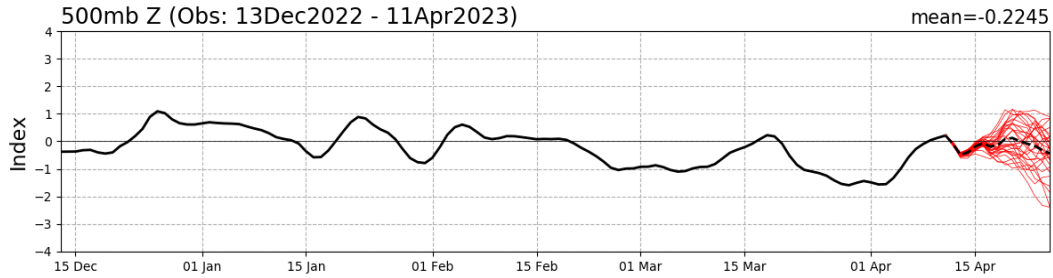


Storm Track Density Distribution, IC=20230410
Week 2 Forecast: 0419-0425

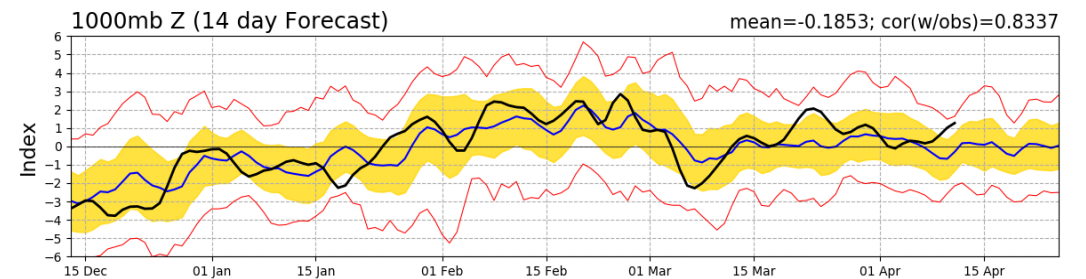
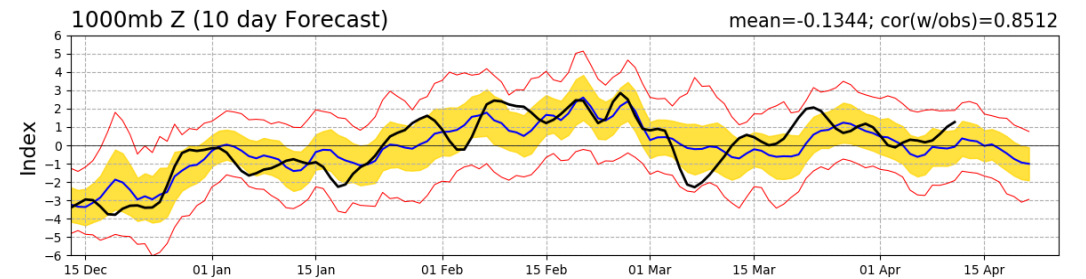
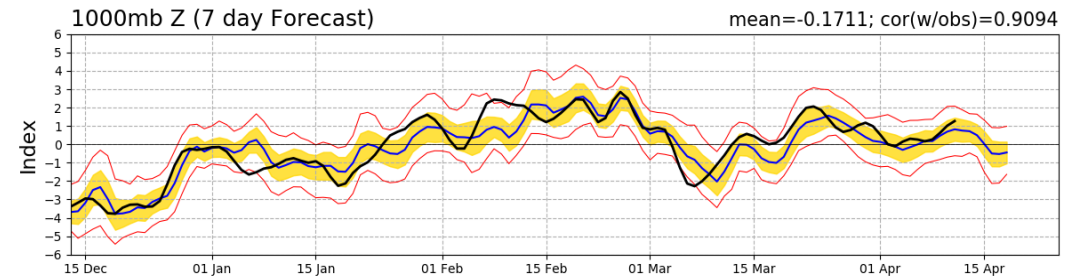
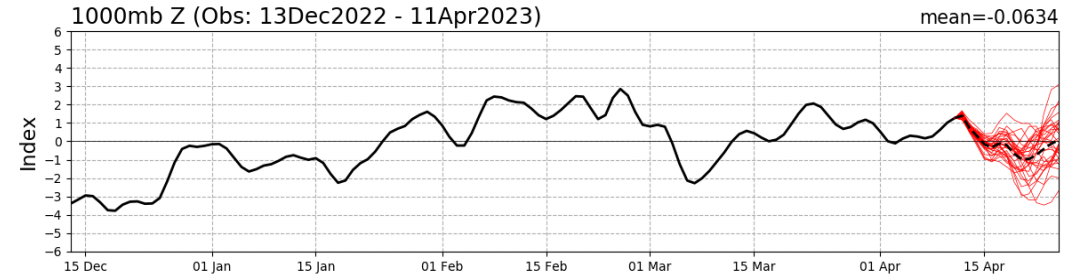


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

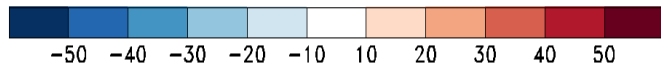
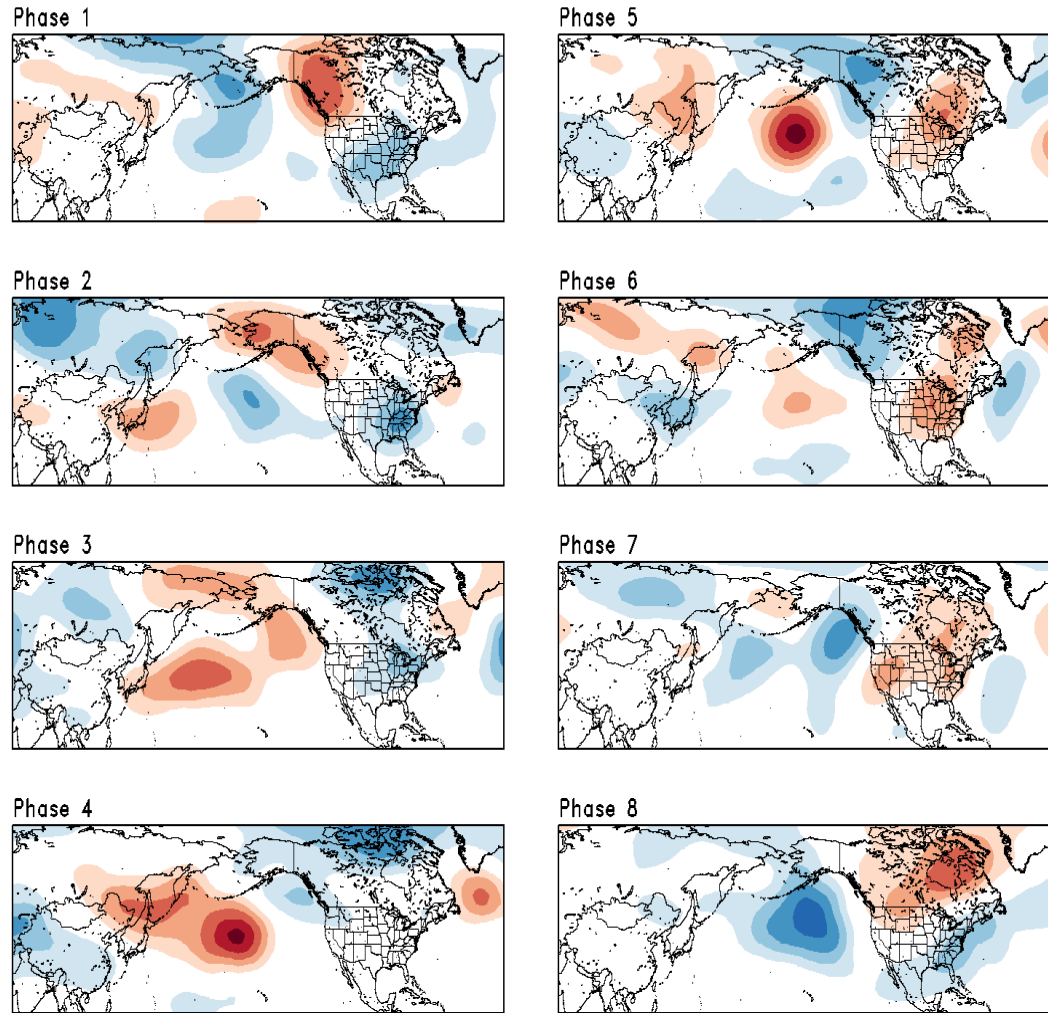


AO Index: Observed & GEFS Forecasts

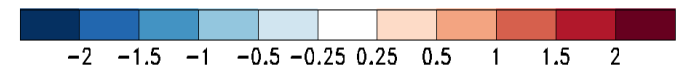
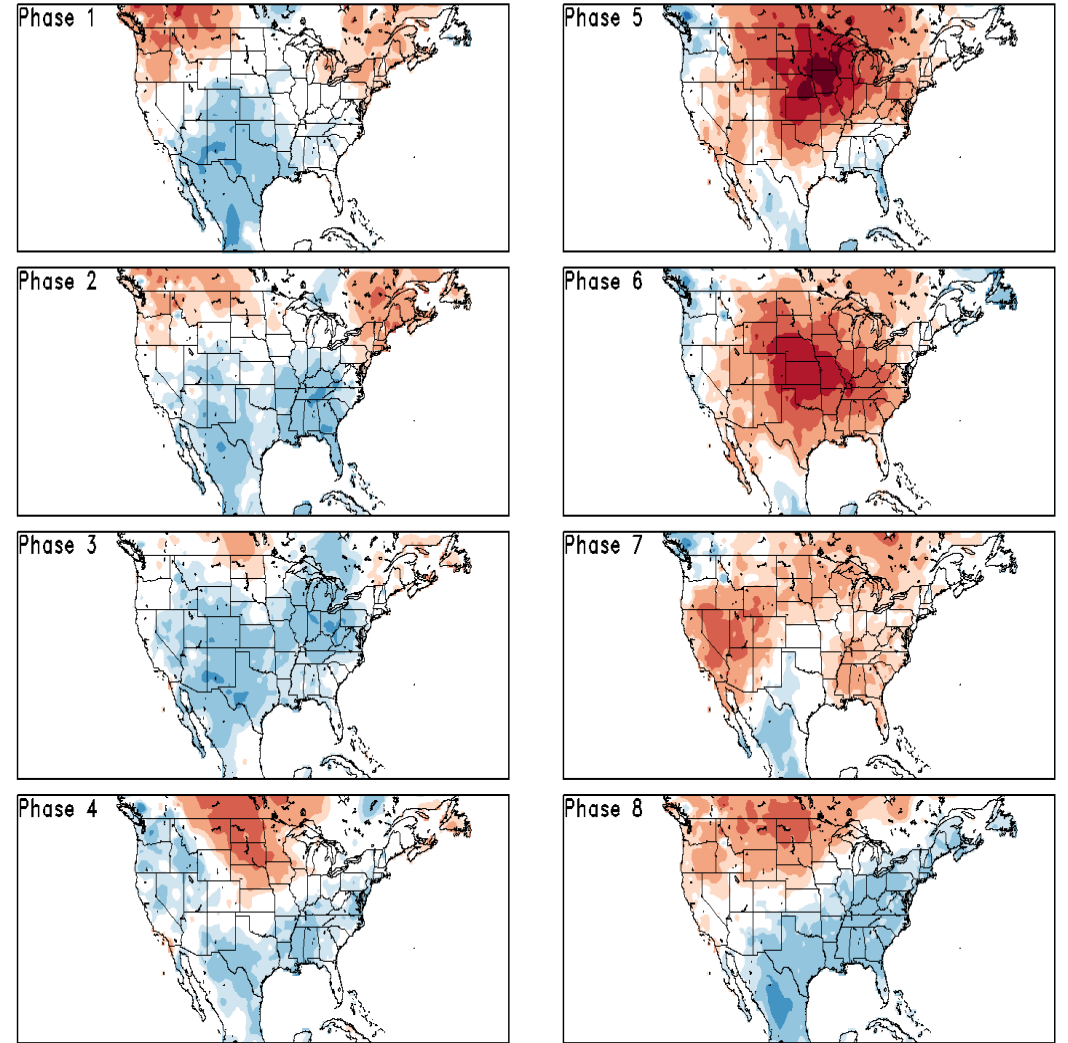


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

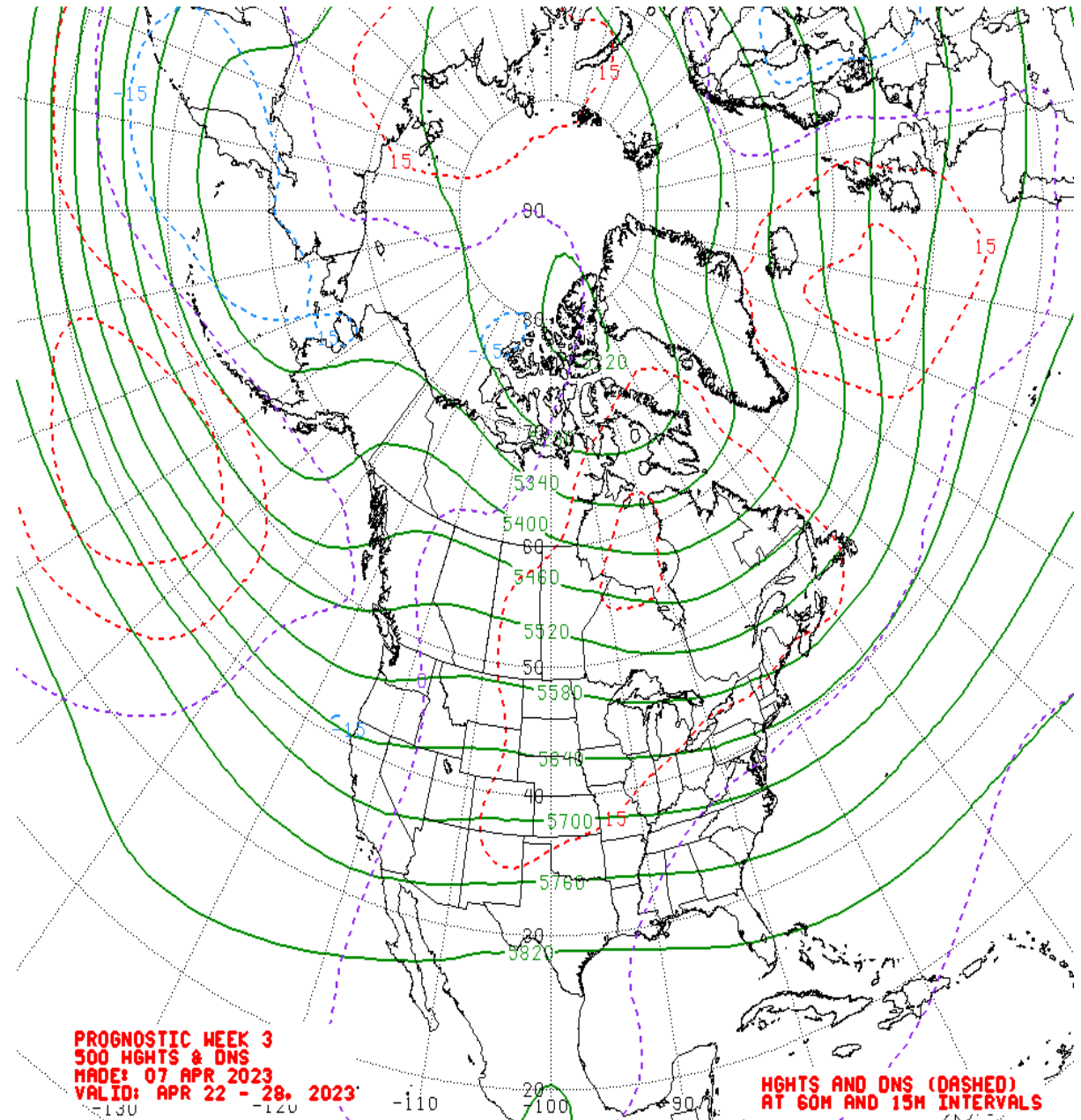
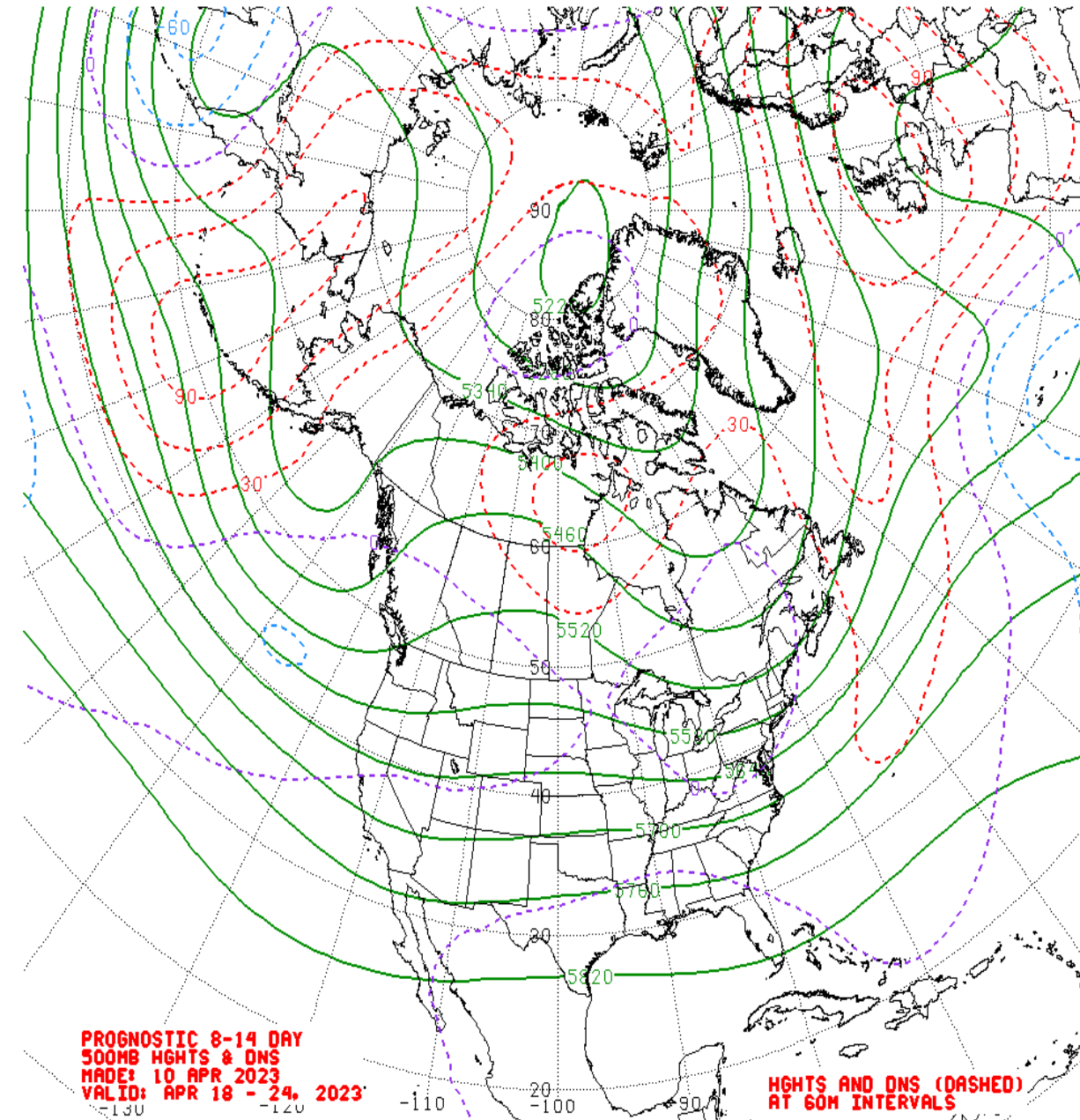
MAM MJO Composite: CDAS 500-hPa Height (m)



MAM MJO Composite: GLBT (degC)



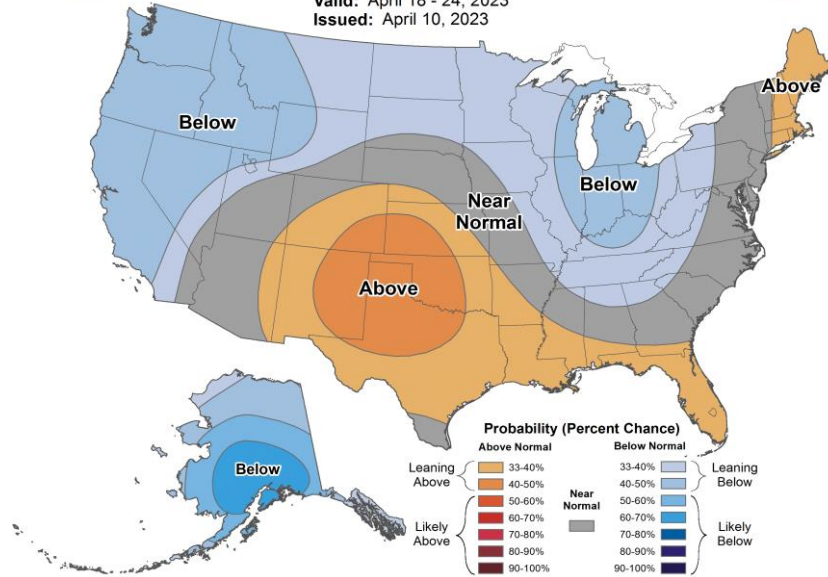
Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:

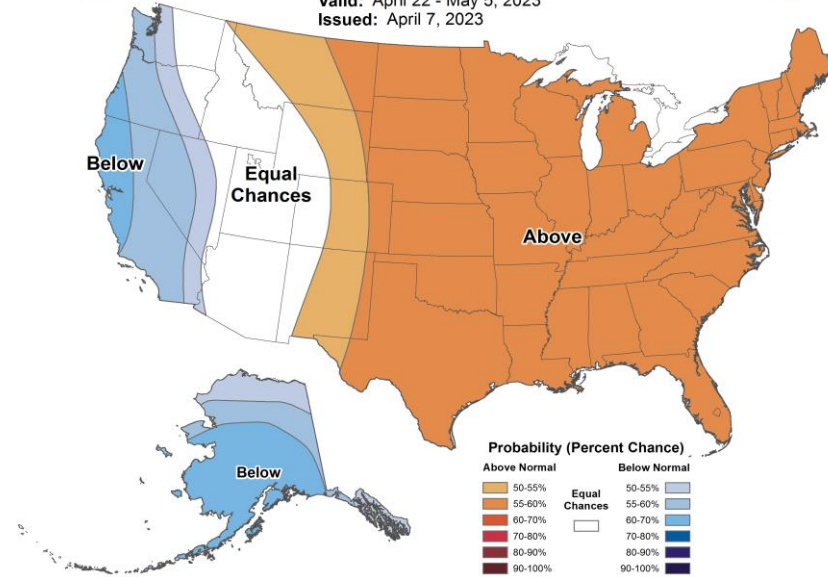
8-14 Day Temperature Outlook

Valid: April 18 - 24, 2023
Issued: April 10, 2023



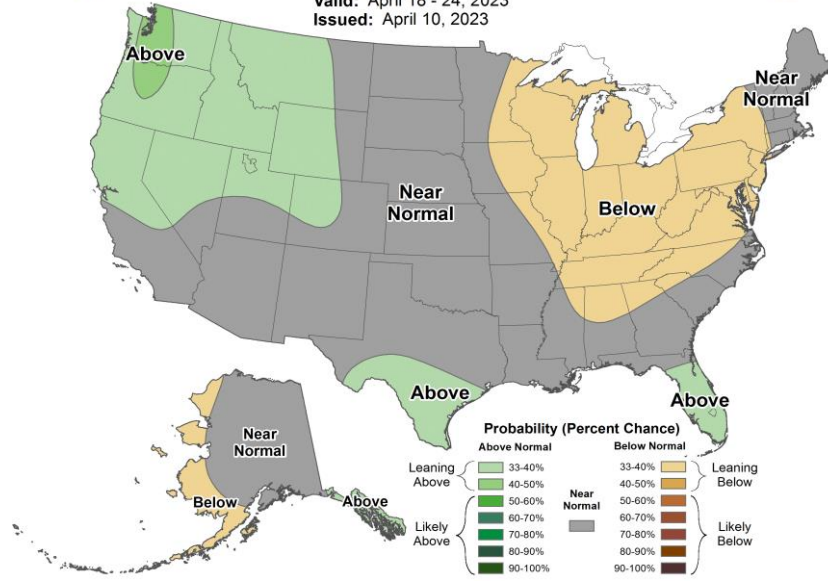
Weeks 3-4 Temperature Outlook

Valid: April 22 - May 5, 2023
Issued: April 7, 2023



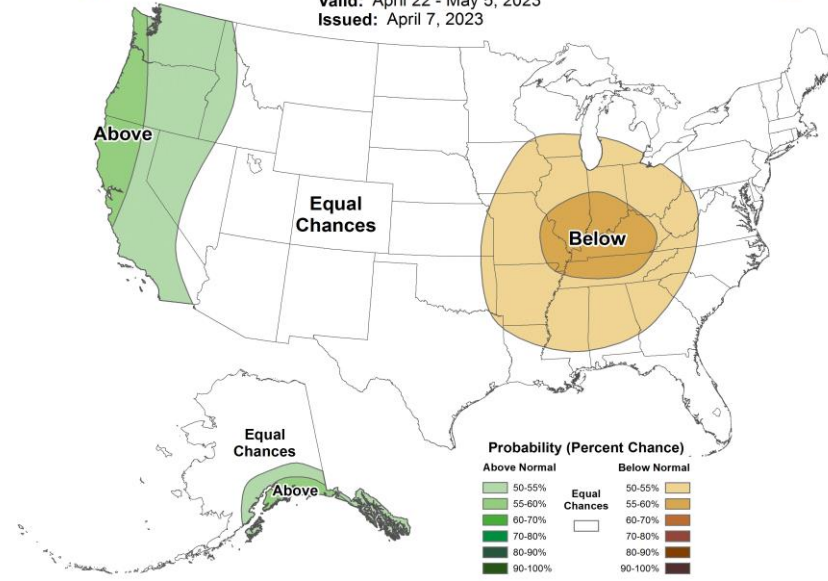
8-14 Day Precipitation Outlook

Valid: April 18 - 24, 2023
Issued: April 10, 2023



Weeks 3-4 Precipitation Outlook

Valid: April 22 - May 5, 2023
Issued: April 7, 2023



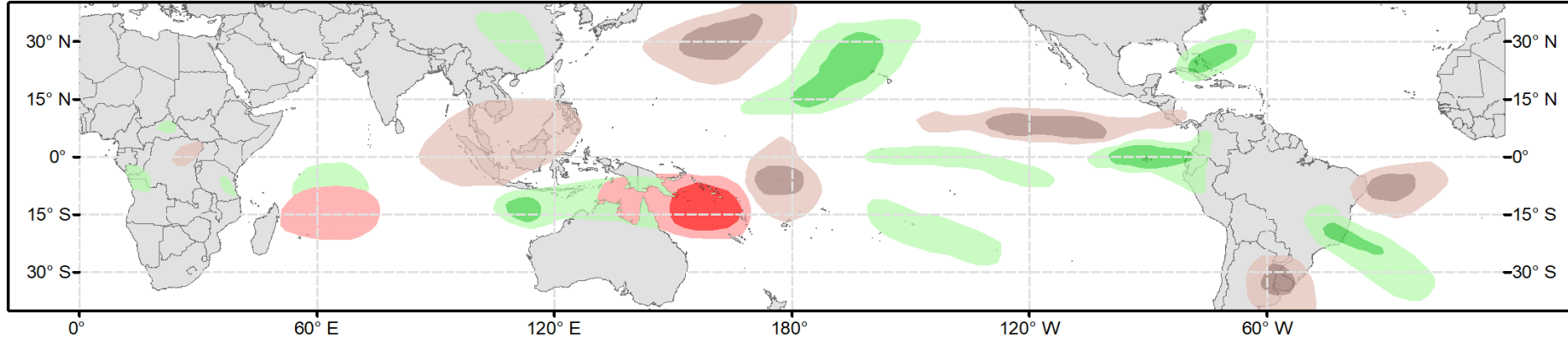


Global Tropics Hazards Outlook

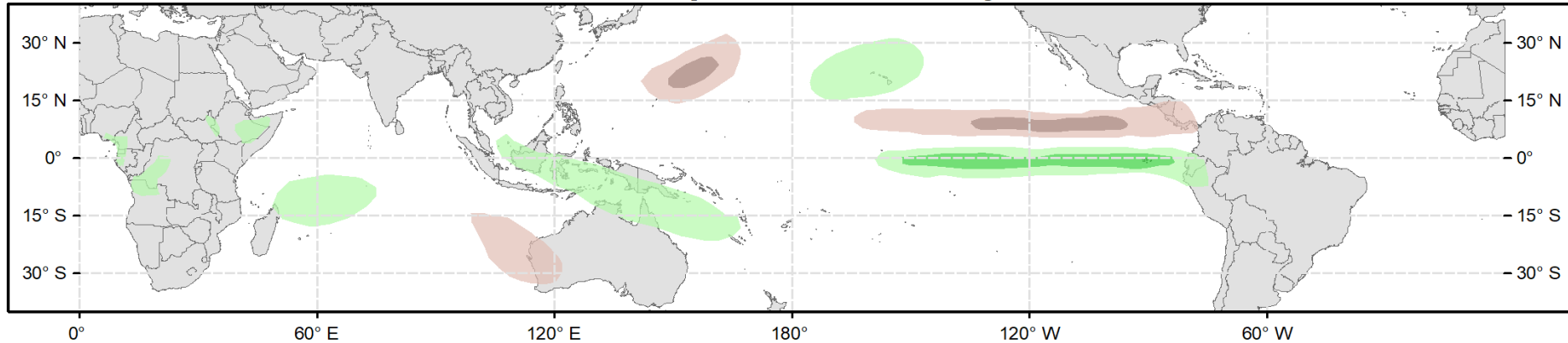
Climate Prediction Center



Week 2 - Valid: Apr 19, 2023 - Apr 25, 2023



Week 3 - Valid: Apr 26, 2023 - May 02, 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: 04/11/2023

Forecaster: Barandiaran

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