



Weeks 2-3 Global Tropics Hazards Outlook

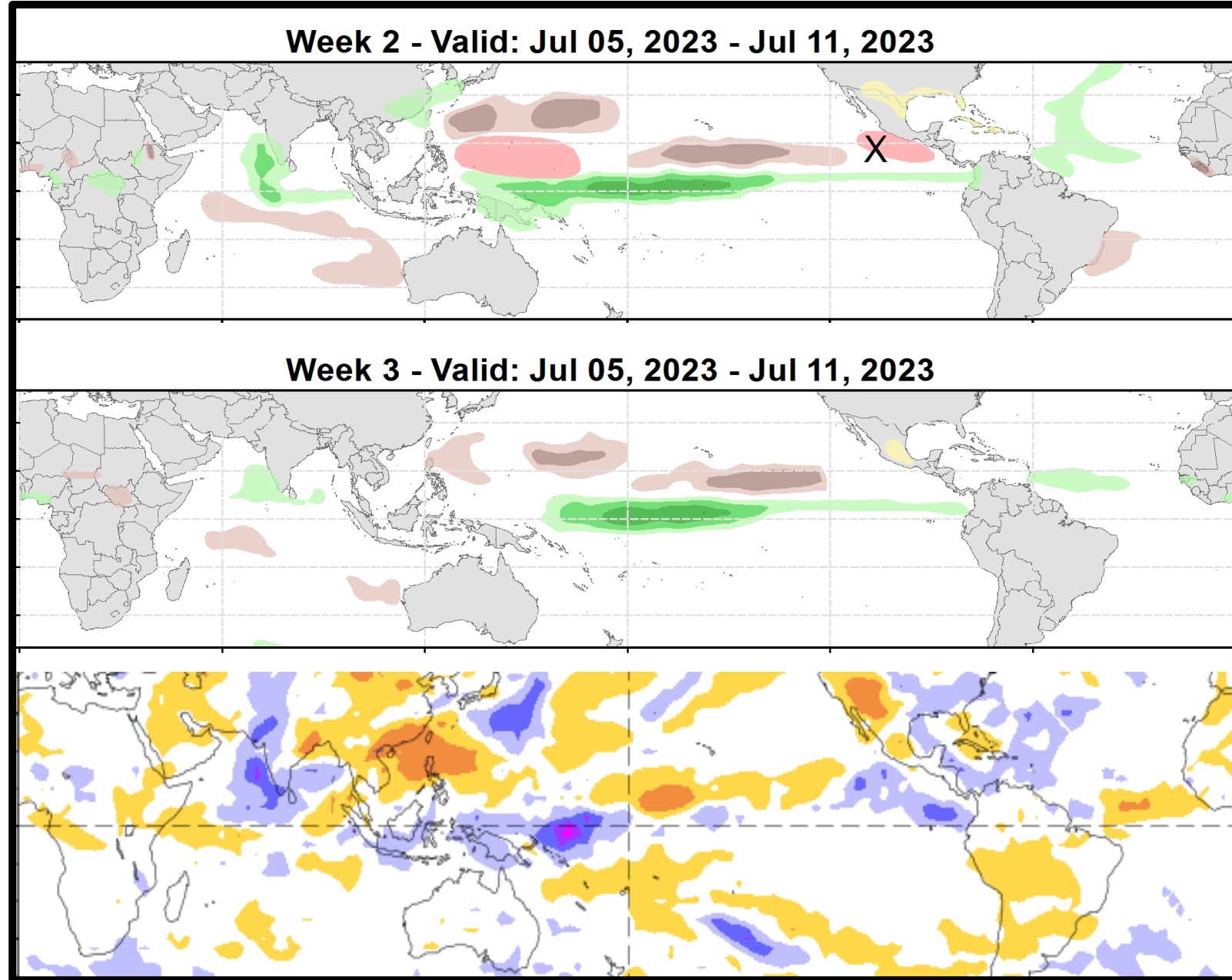
7/11/2023

Nick Novella

NWS / NCEP / Climate Prediction Center

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

- TD03 / Calvin (not yet formed, but about to)



Synopsis of Climate Modes:

ENSO: (June 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:

- The MJO continues to be disorganized, though the weak signal has shown signs of eastward propagation over the Indian Ocean in recent days.
- Consistent with the previous outlook, there are continued signs of intraseasonal activity becoming better organized in the RMM and upper-level velocity potential forecasts, with the enhanced phase of MJO gaining amplitude and propagating eastward into the western Pacific during the next 3 weeks.
- Constructive interference with ongoing El Niño conditions is expected to lead to a large-scale environment favorable for tropical cyclogenesis across the western Pacific, with decreased chances for tropical cyclone development across the eastern Pacific. .

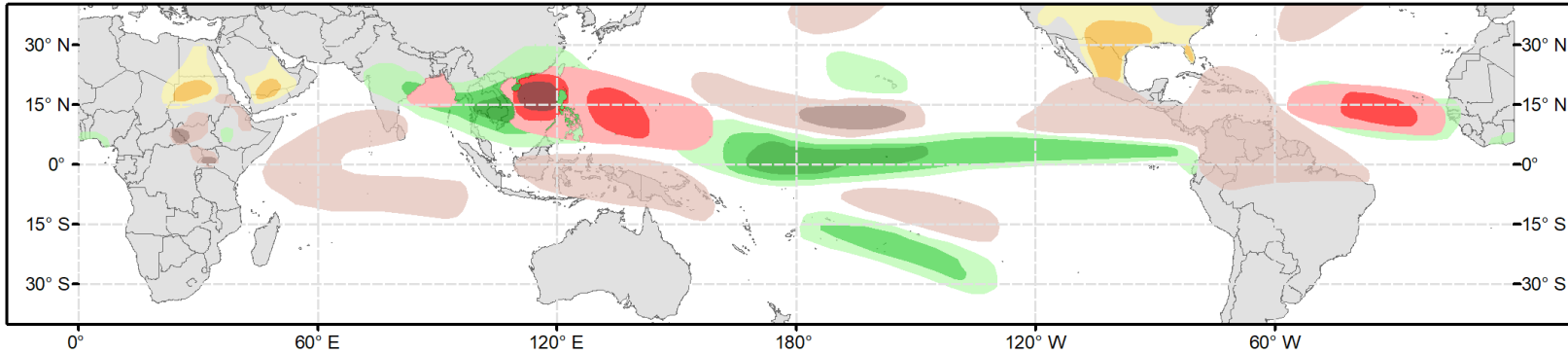
GTH Outlook:



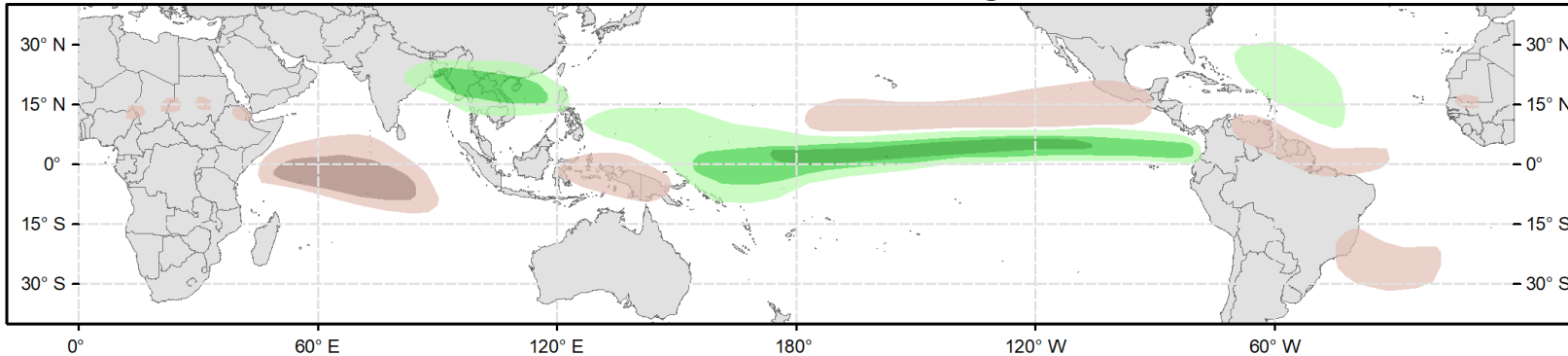
Global Tropics Hazards Outlook Climate Prediction Center



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



Week 3 - Valid: Jul 26, 2023 - Aug 01, 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



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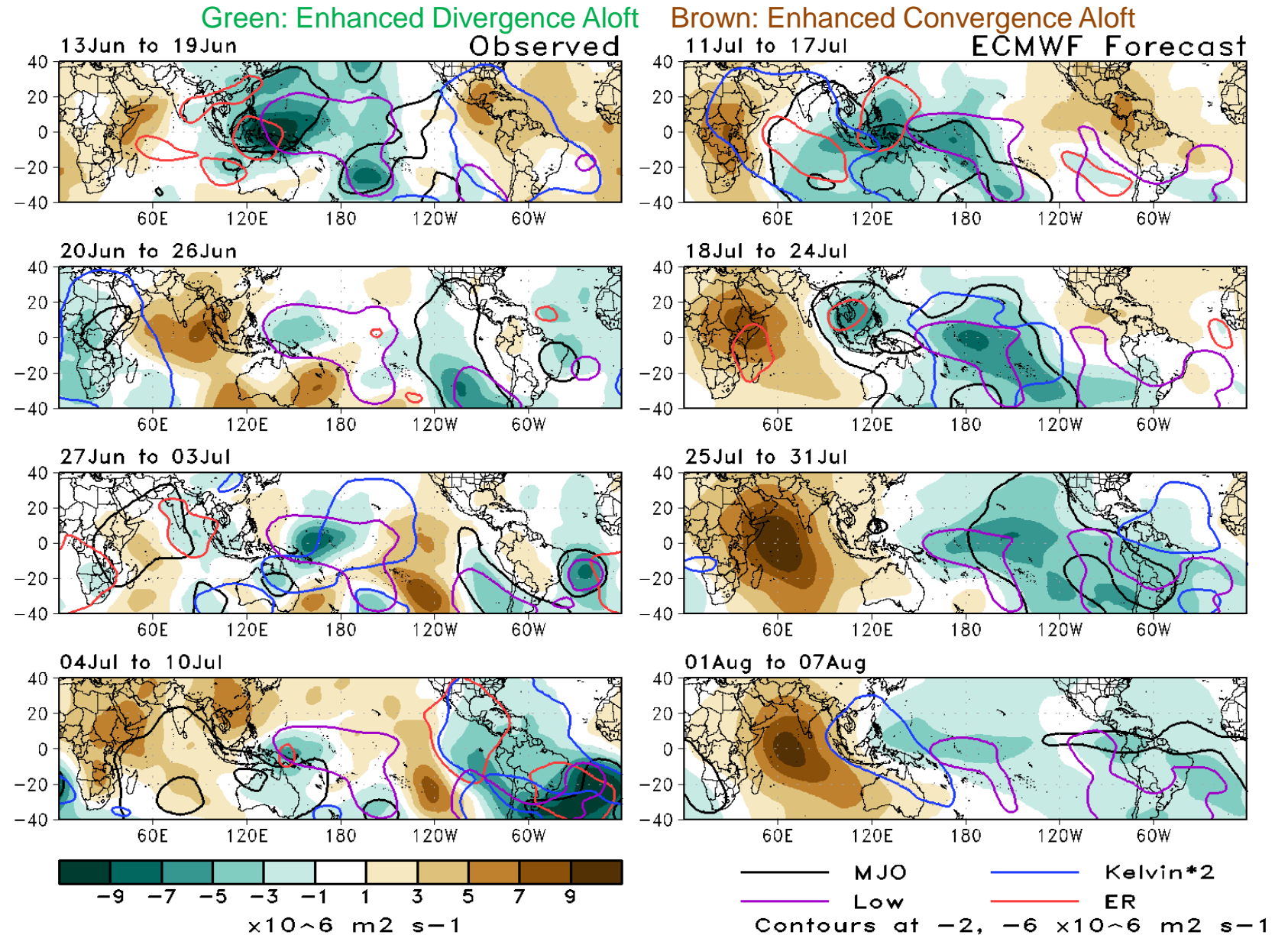
7-day min temperatures in the Lower third of the historical range

Issued: 07/11/2023
Forecaster: Novella

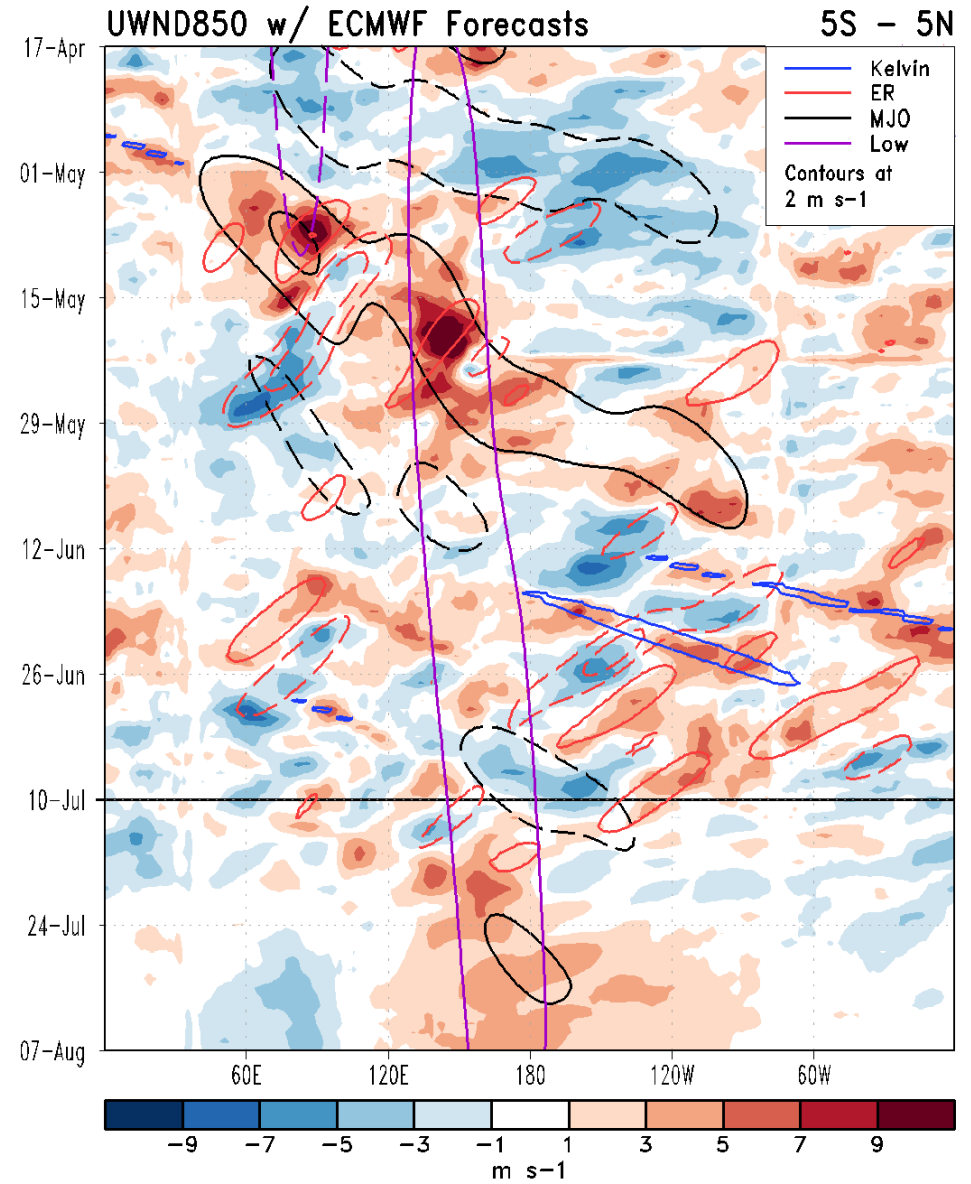
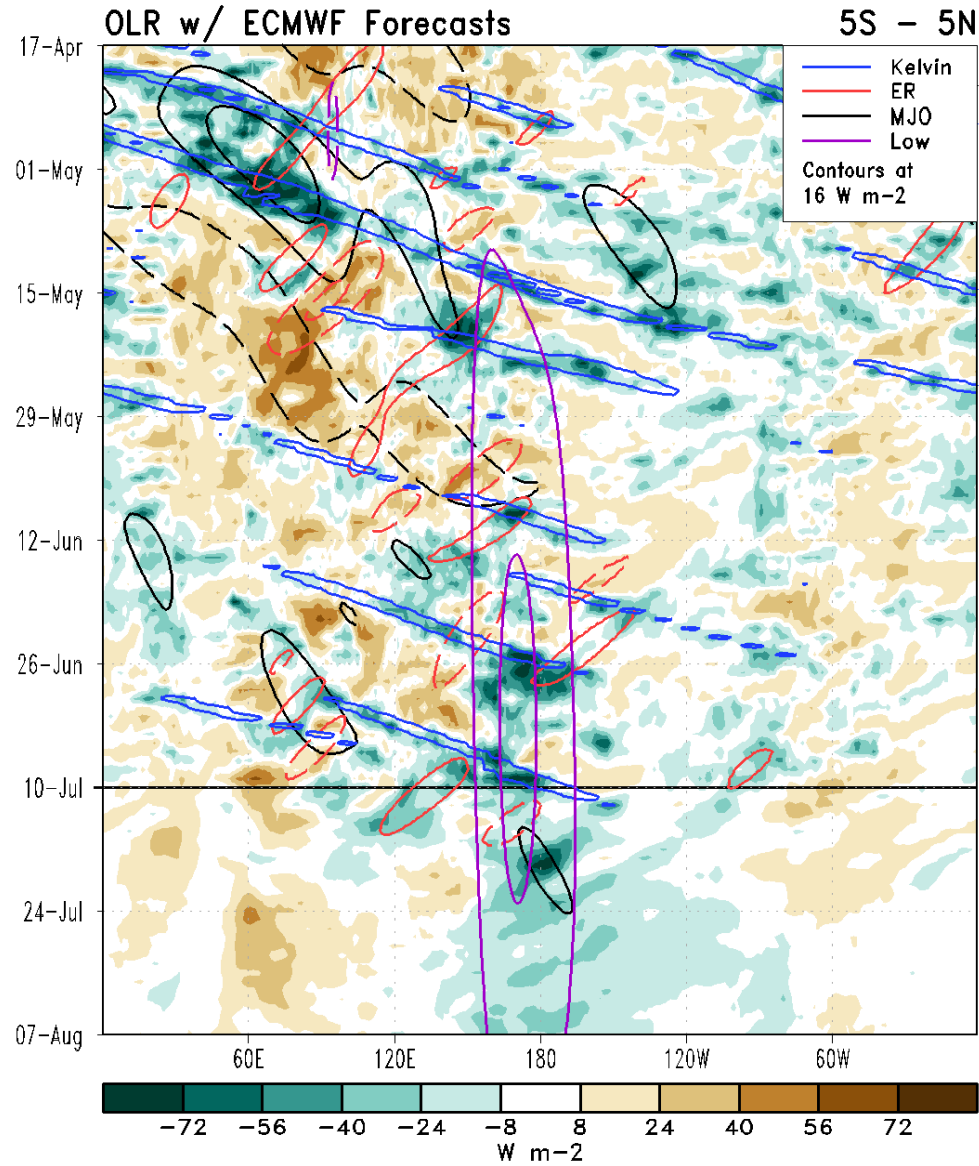
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Following a noisy pattern since mid-June, models now favor a better defined wave-1 spatial pattern emerging through the end of July, with MJO activity coming through the filtering.
- The enhanced phase of the MJO is likely to constructively interfere with the ongoing El Nino signal (purple contours) as it crosses the equatorial Pacific.
- Other modes of variability are also likely to interfere with the pattern.



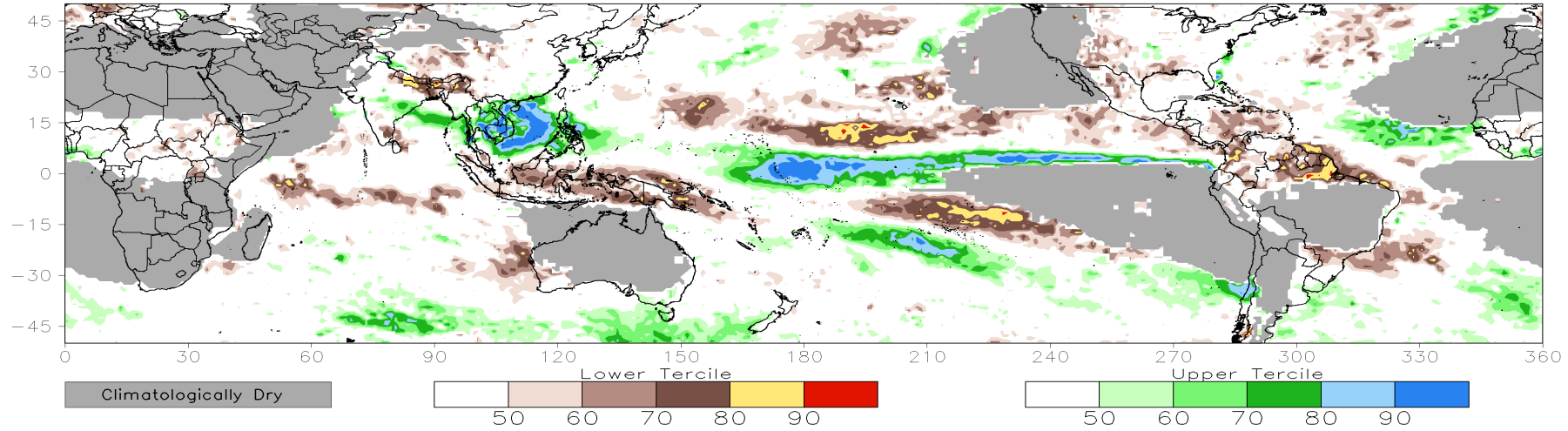
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

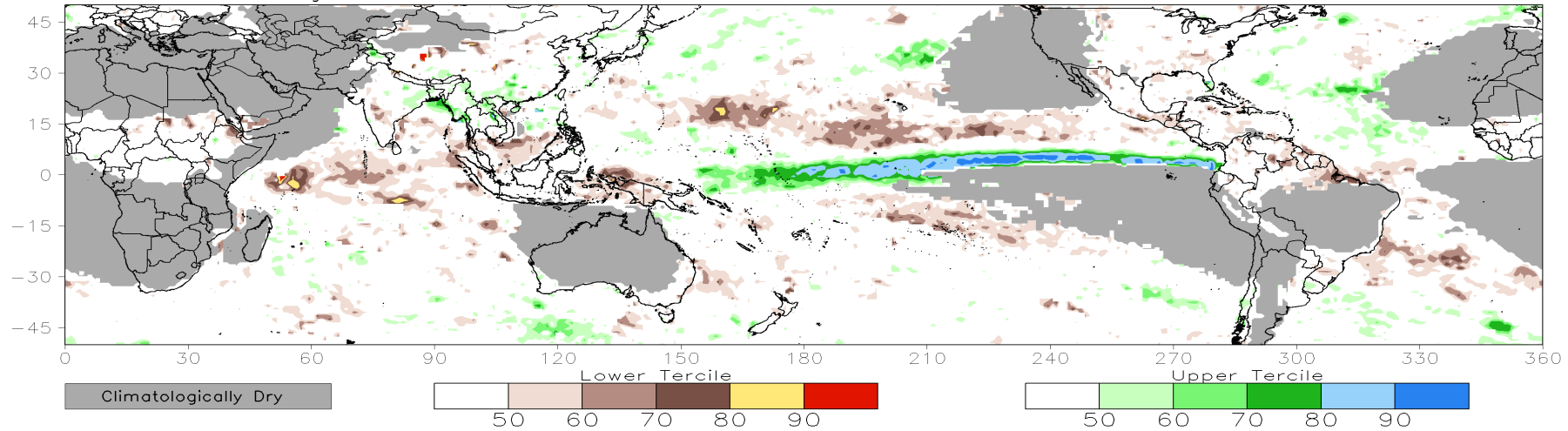
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 19Jul2023–25Jul2023



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

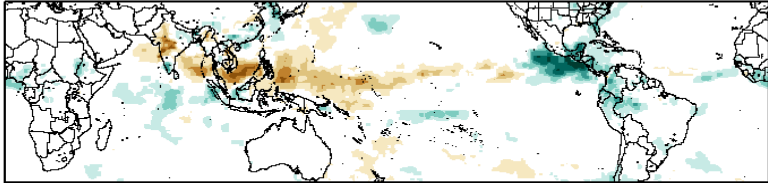
Valid: 26Jul2023–01Aug2023



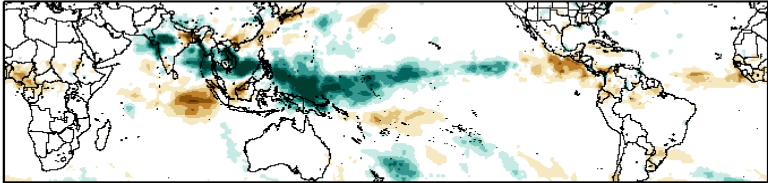
Historical Precipitation Anomalies By MJO Phase:

JJA MJO Composite: GPCP1DD (mm/day)

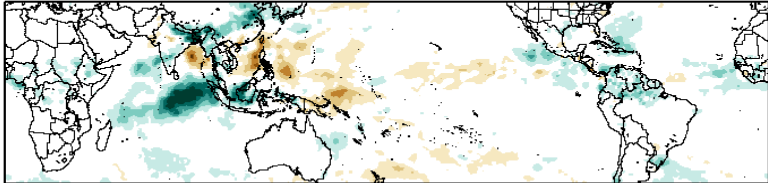
Phase 1



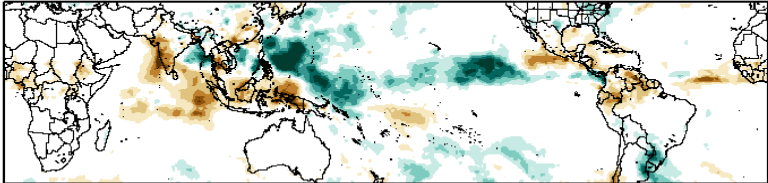
Phase 5



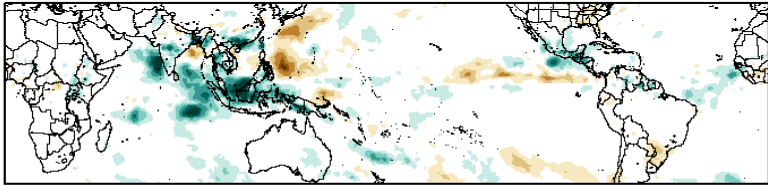
Phase 2



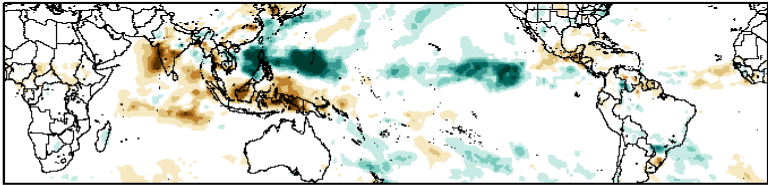
Phase 6



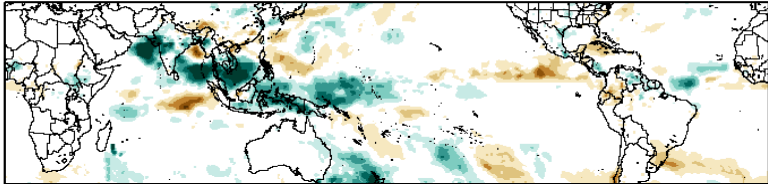
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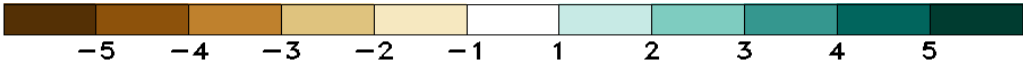
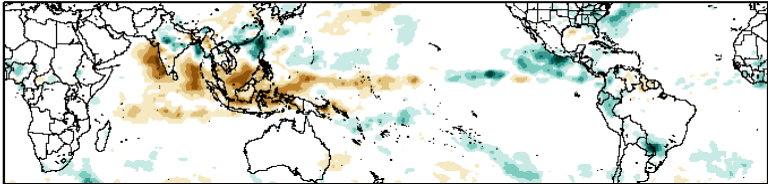
Phase 7



Phase 4

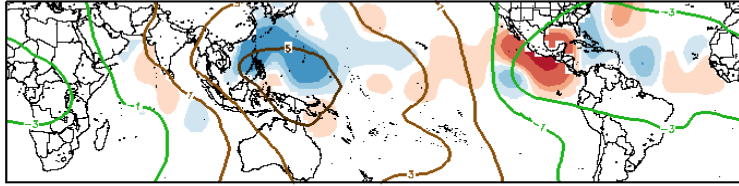


Phase 8

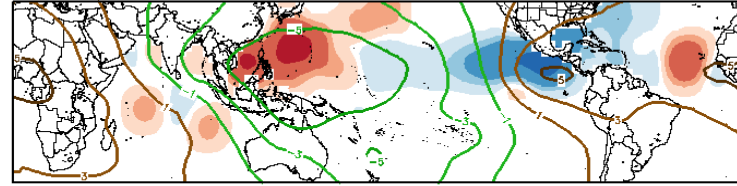


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

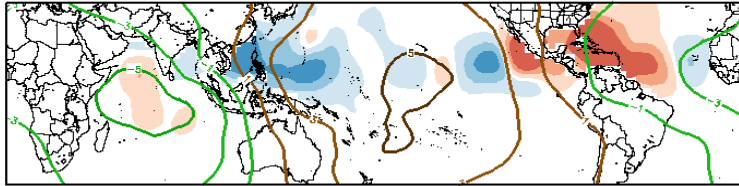
JJA MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JJA CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



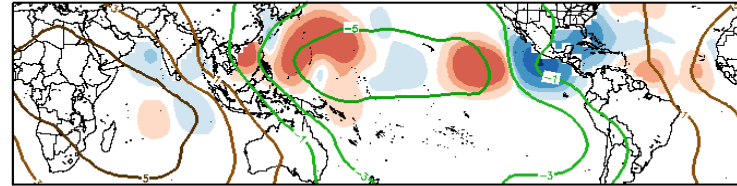
Phase 1



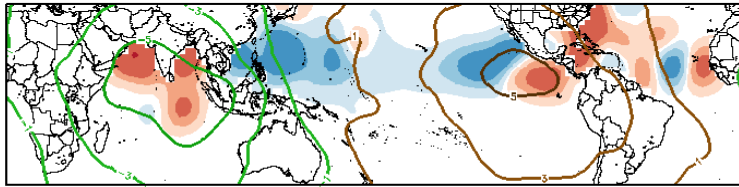
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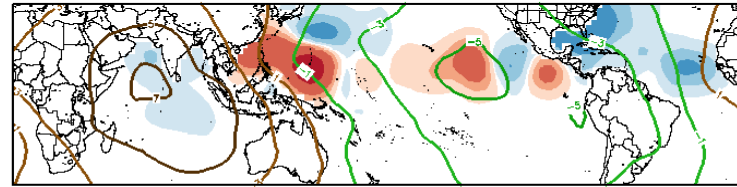
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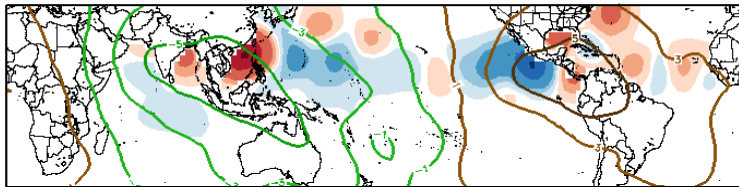
Phase 6



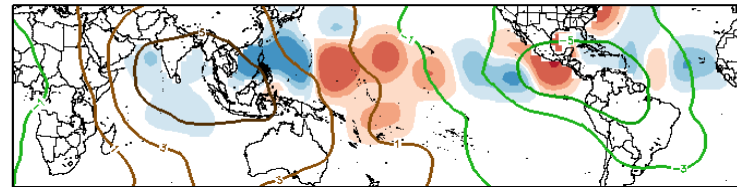
Phase 3



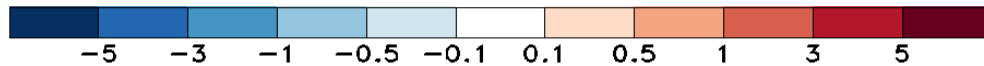
Phase 7



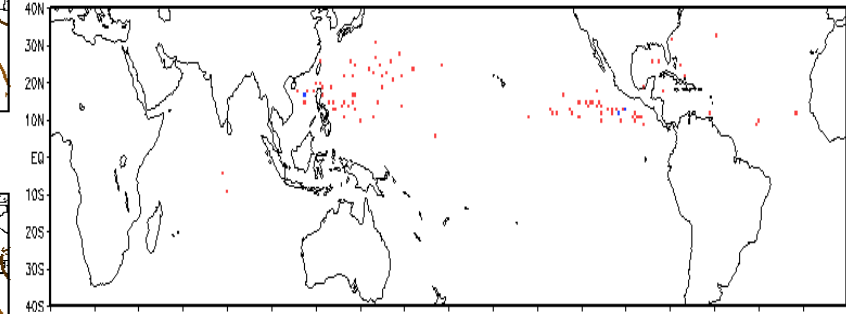
Phase 4



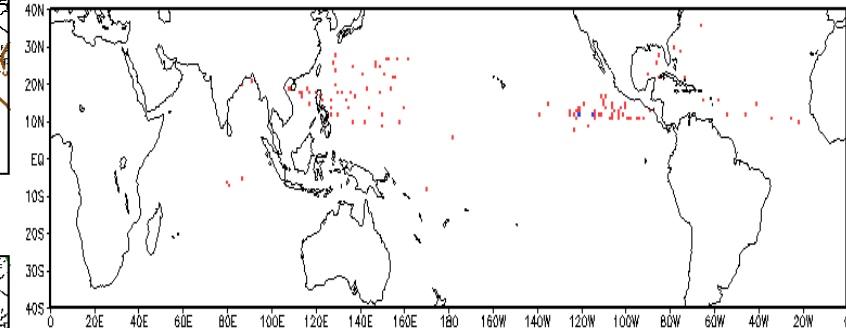
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 0719 to 0725




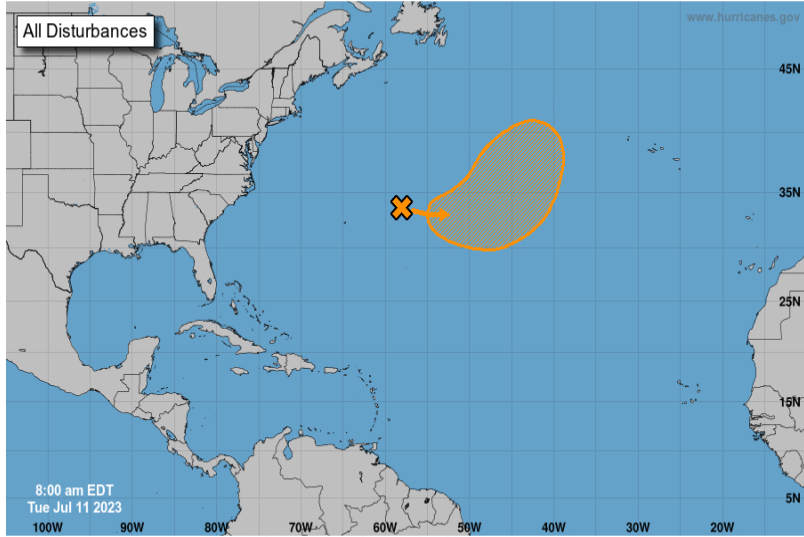
Observed TC Genesis, 1979-2021
7-day Period 0726 to 0801



Experimental

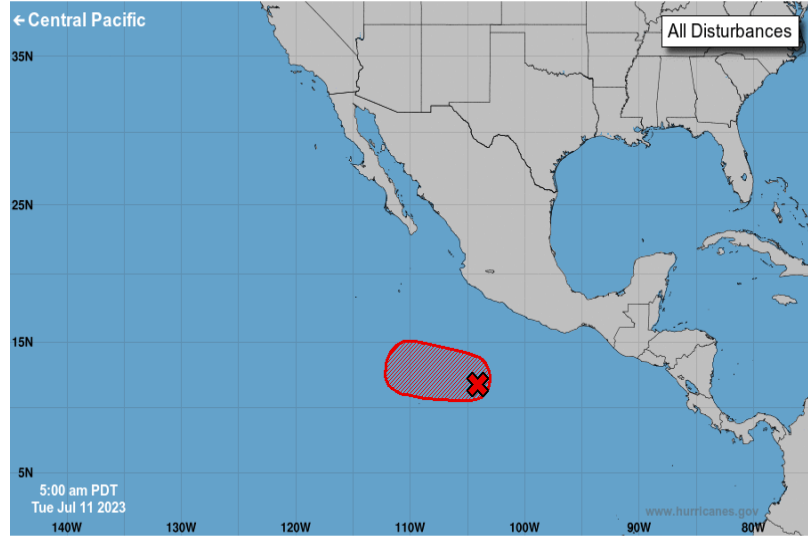
Tropical Cyclone Monitoring/Forecast: NHC


Seven-Day Graphical Tropical Weather Outlook
 National Hurricane Center Miami, Florida




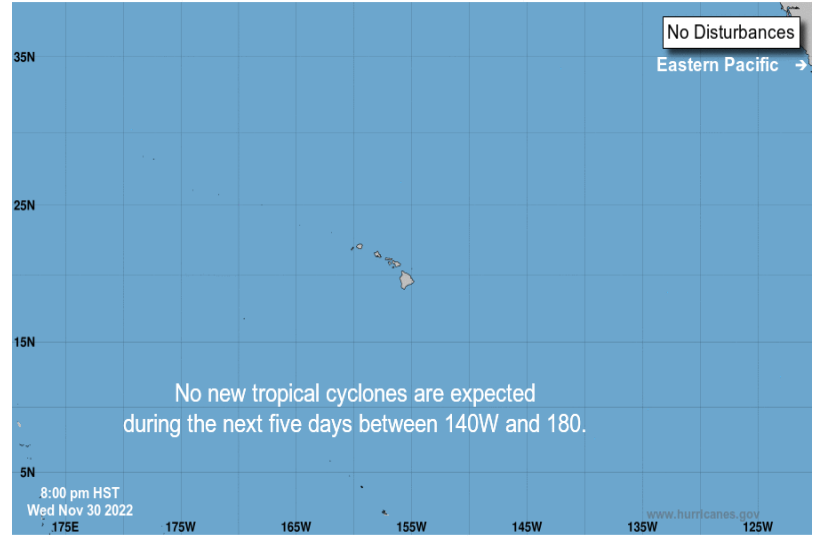
Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants


Seven-Day Graphical Tropical Weather Outlook
 National Hurricane Center Miami, Florida










Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
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Five-Day Graphical Tropical Weather Outlook
 Central Pacific Hurricane Center Honolulu, Hawaii



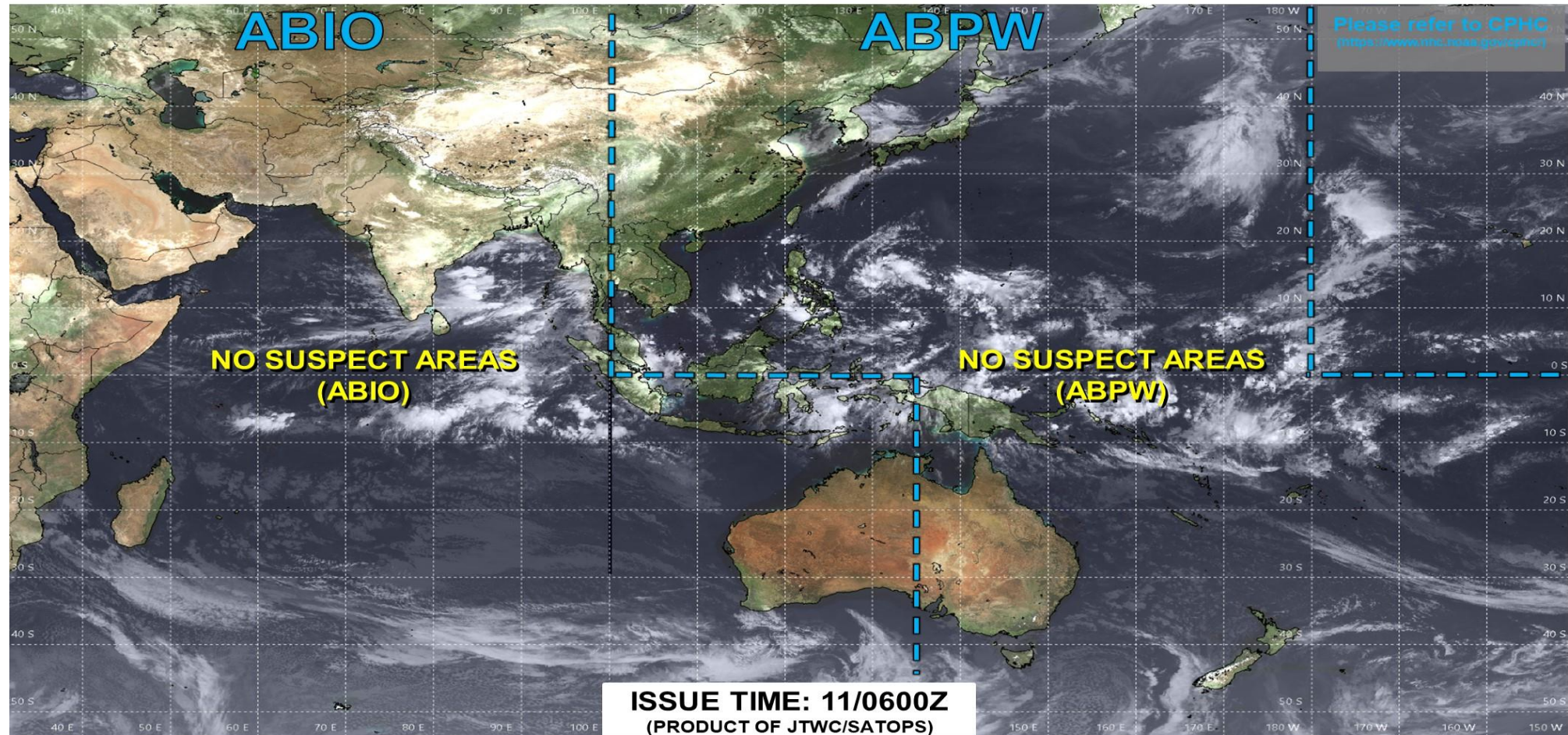
No new tropical cyclones are expected
 during the next five days between 140W and 180.

Current Disturbances and Five-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants

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)

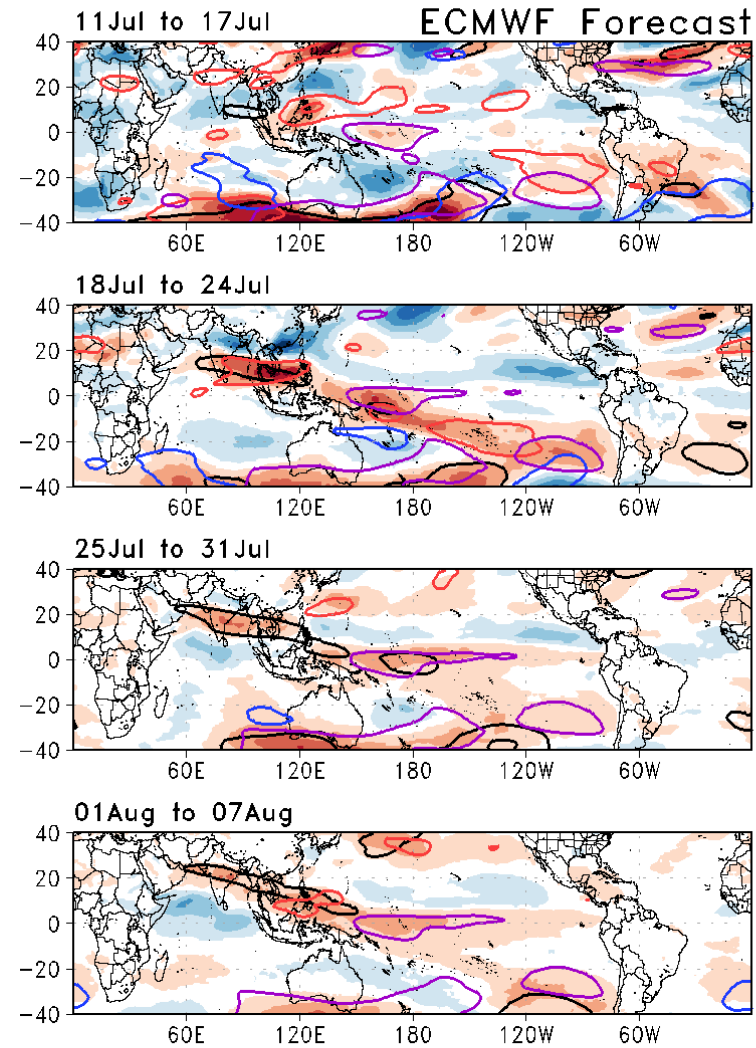


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)

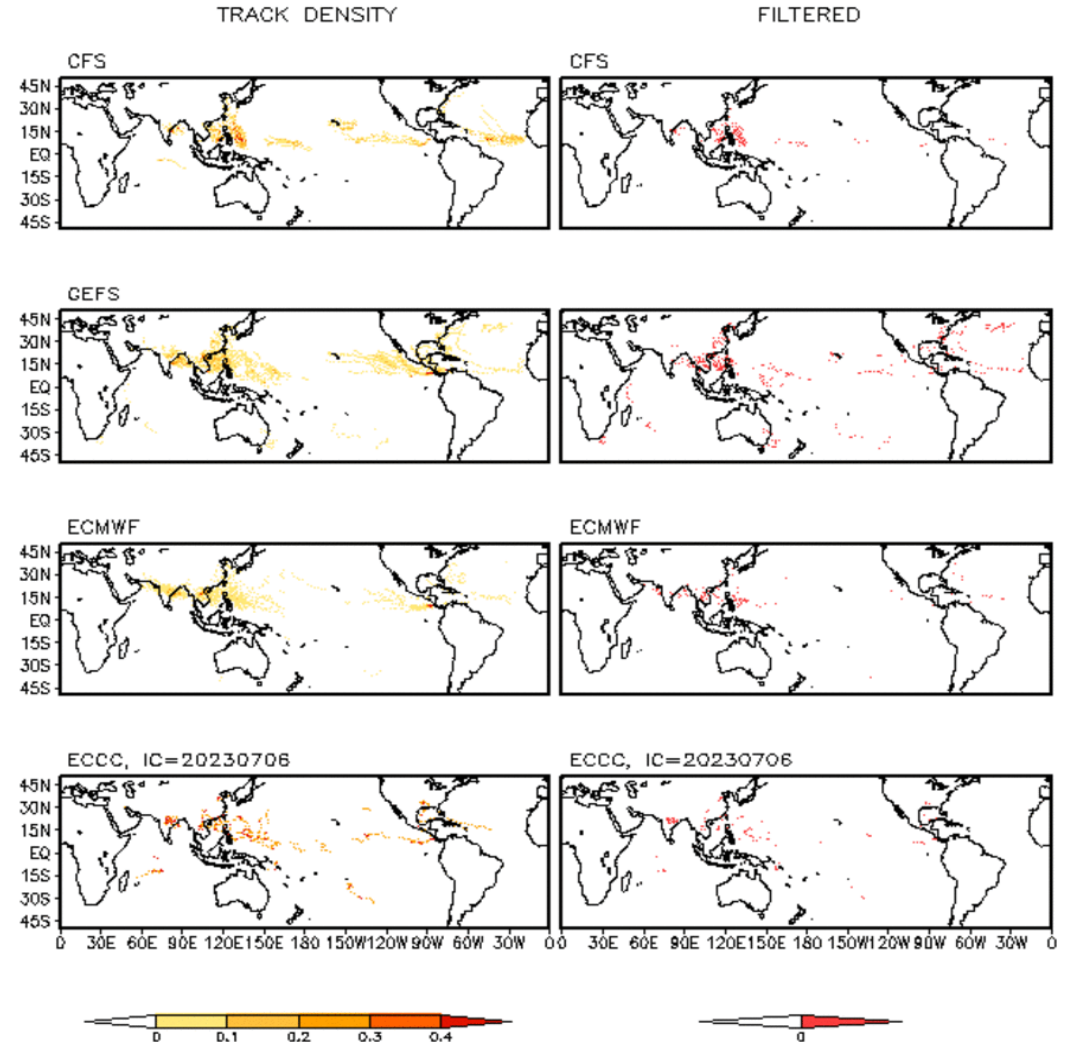
Multi-Model TC Track Probabilities/Densities: Week-2

7-Day Means



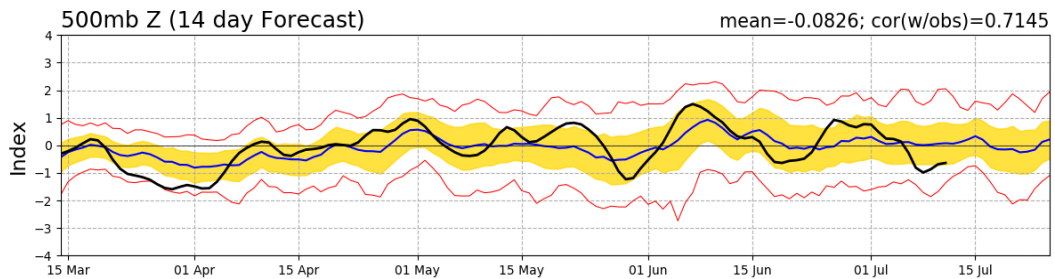
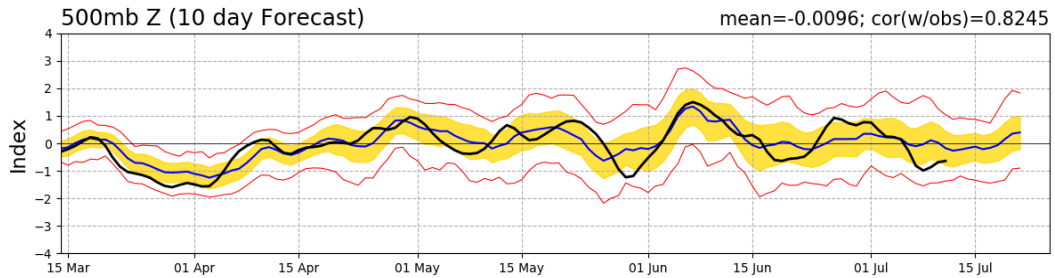
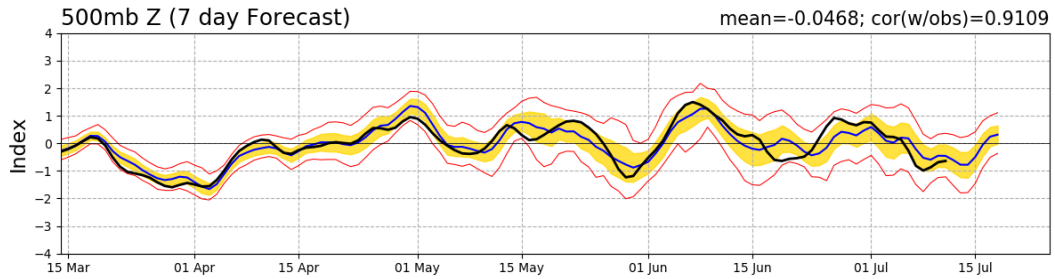
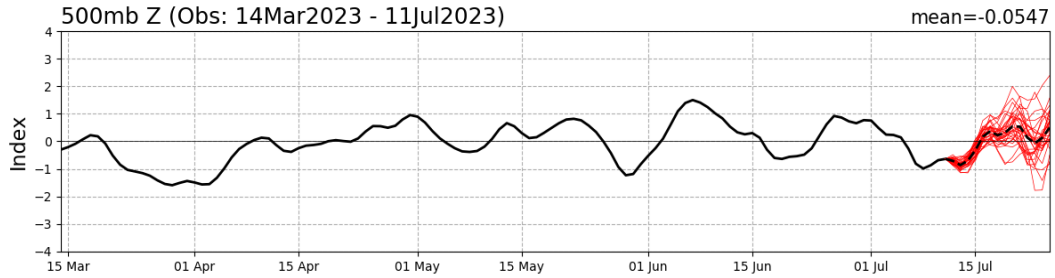
— MJO — Kelvin*2
— Low — ER
 Contours at 2, 6 m s⁻¹

Storm Track Density Distribution, IC=20230710
Week 2 Forecast: 0719-0725

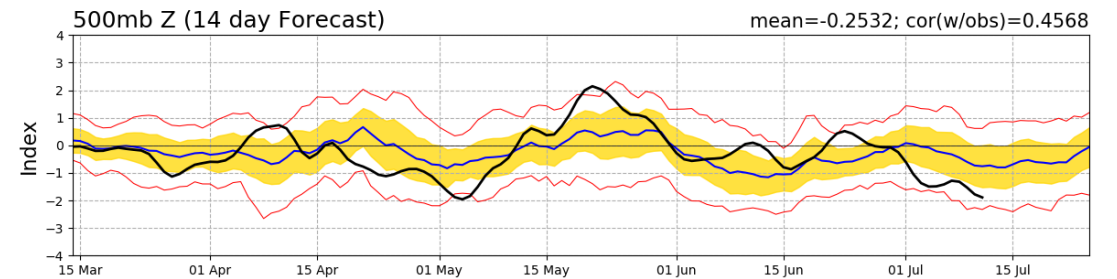
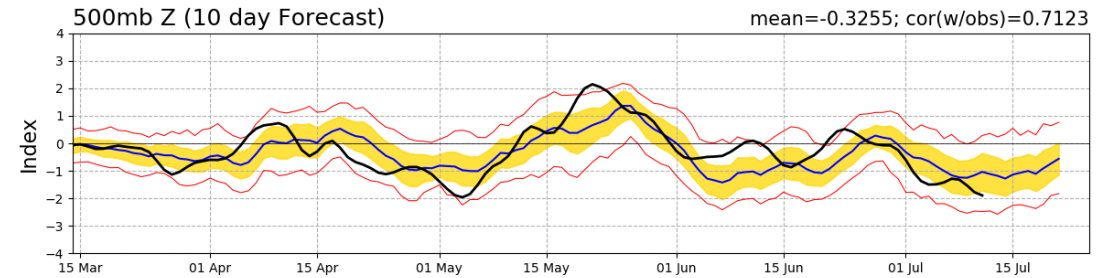
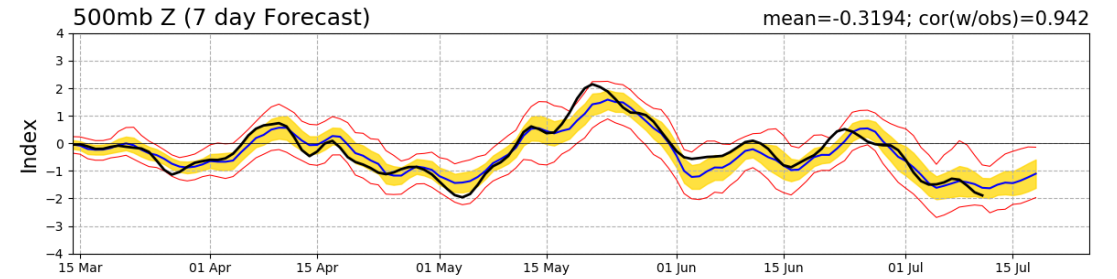
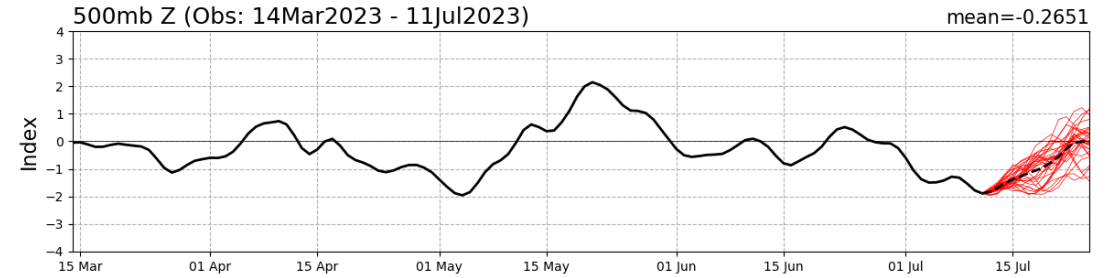


Teleconnection Indices: PNA / AO:

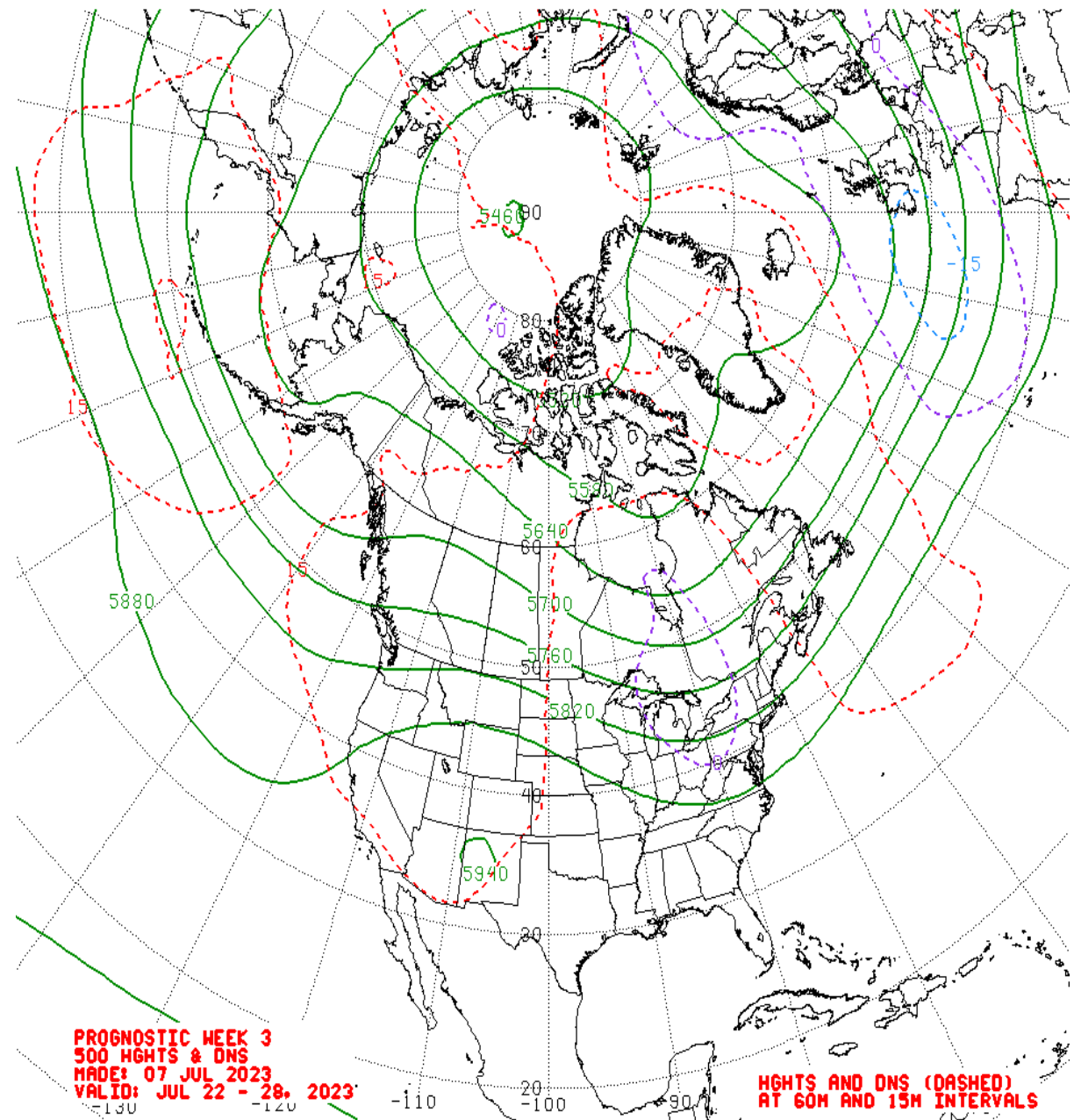
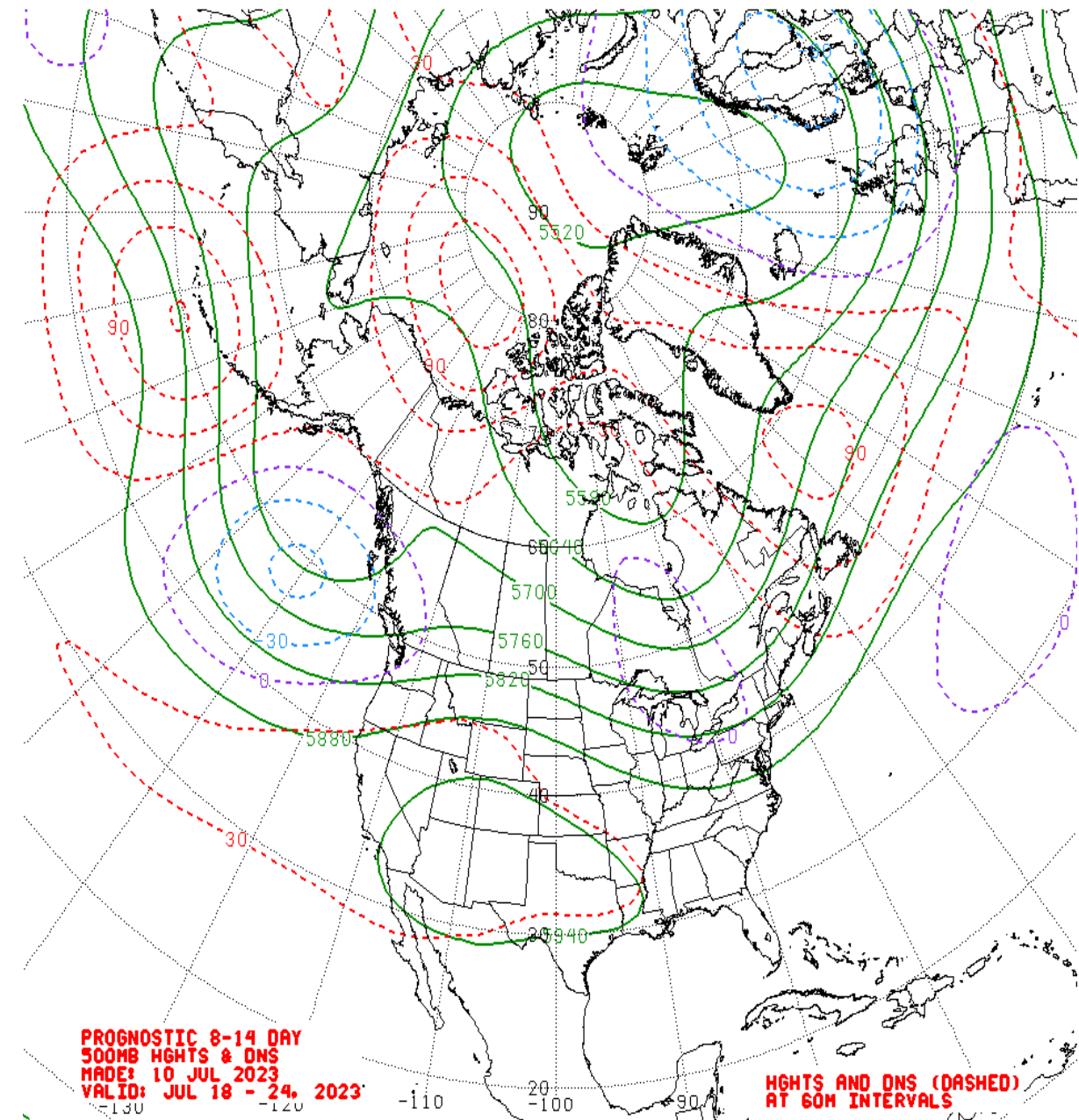
PNA Index: Observed & GEFS Forecasts



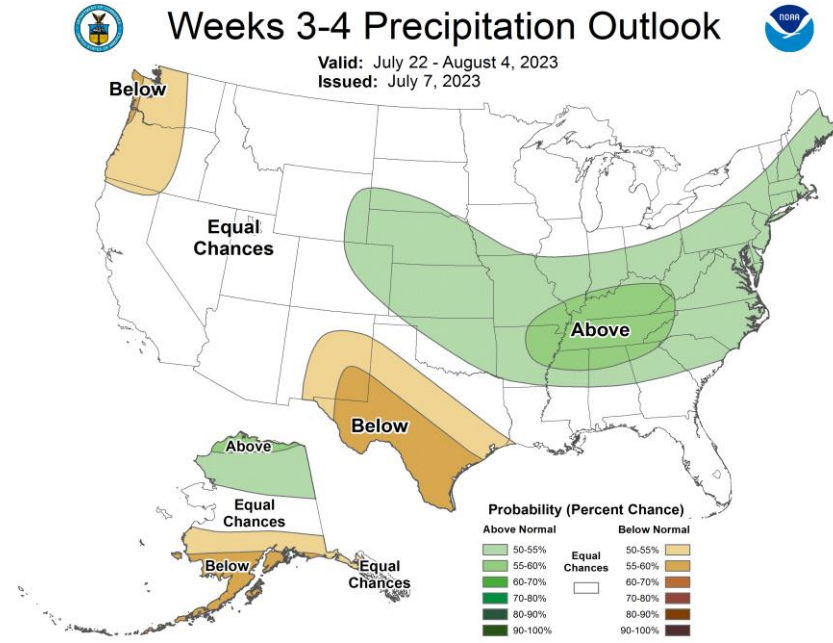
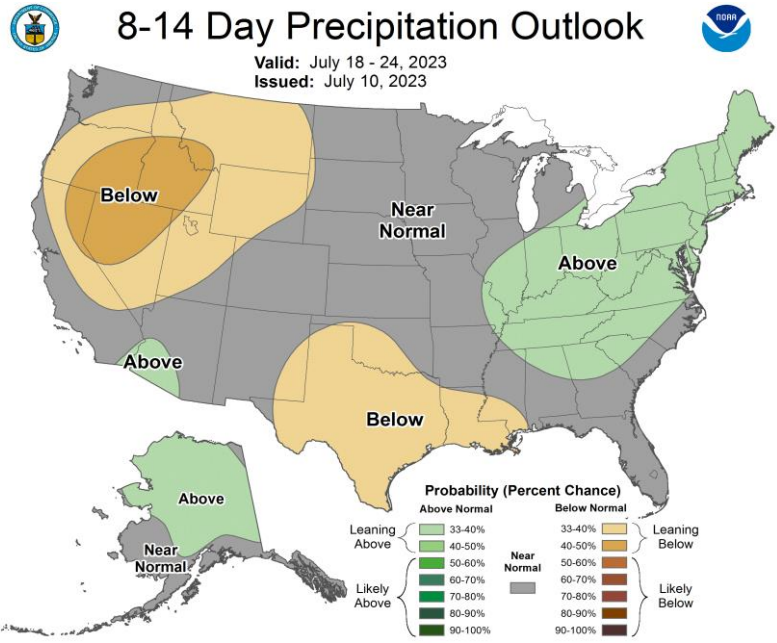
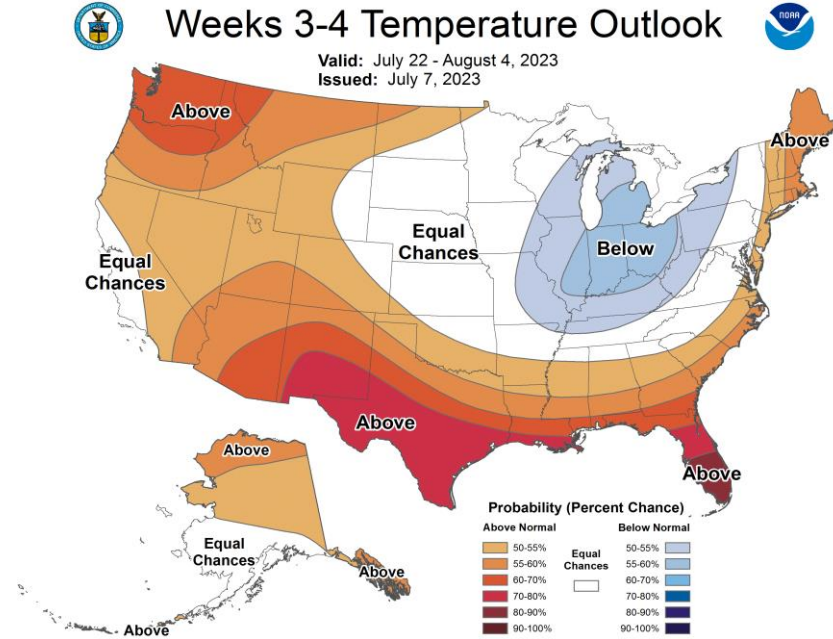
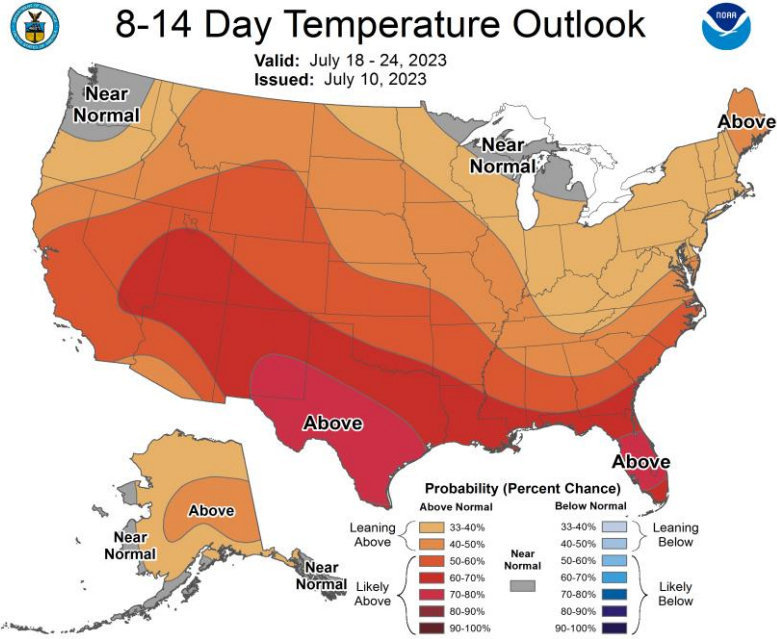
NAO Index: Observed & GEFS Forecasts



Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:



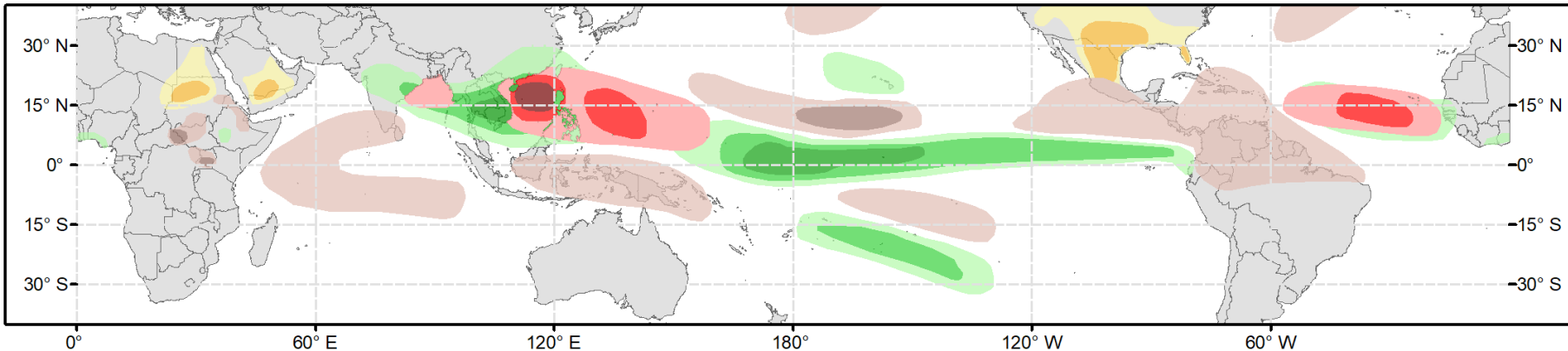


Global Tropics Hazards Outlook

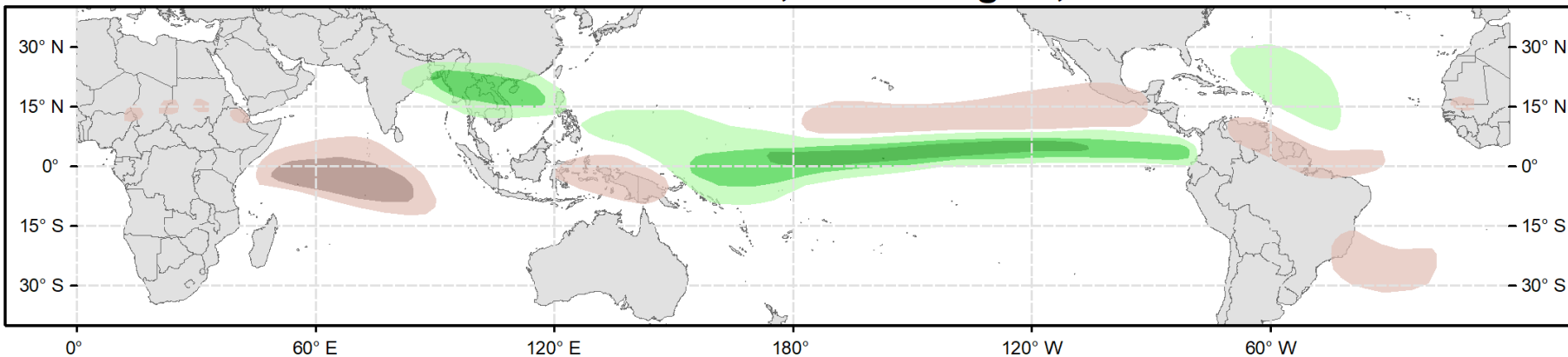
Climate Prediction Center



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