



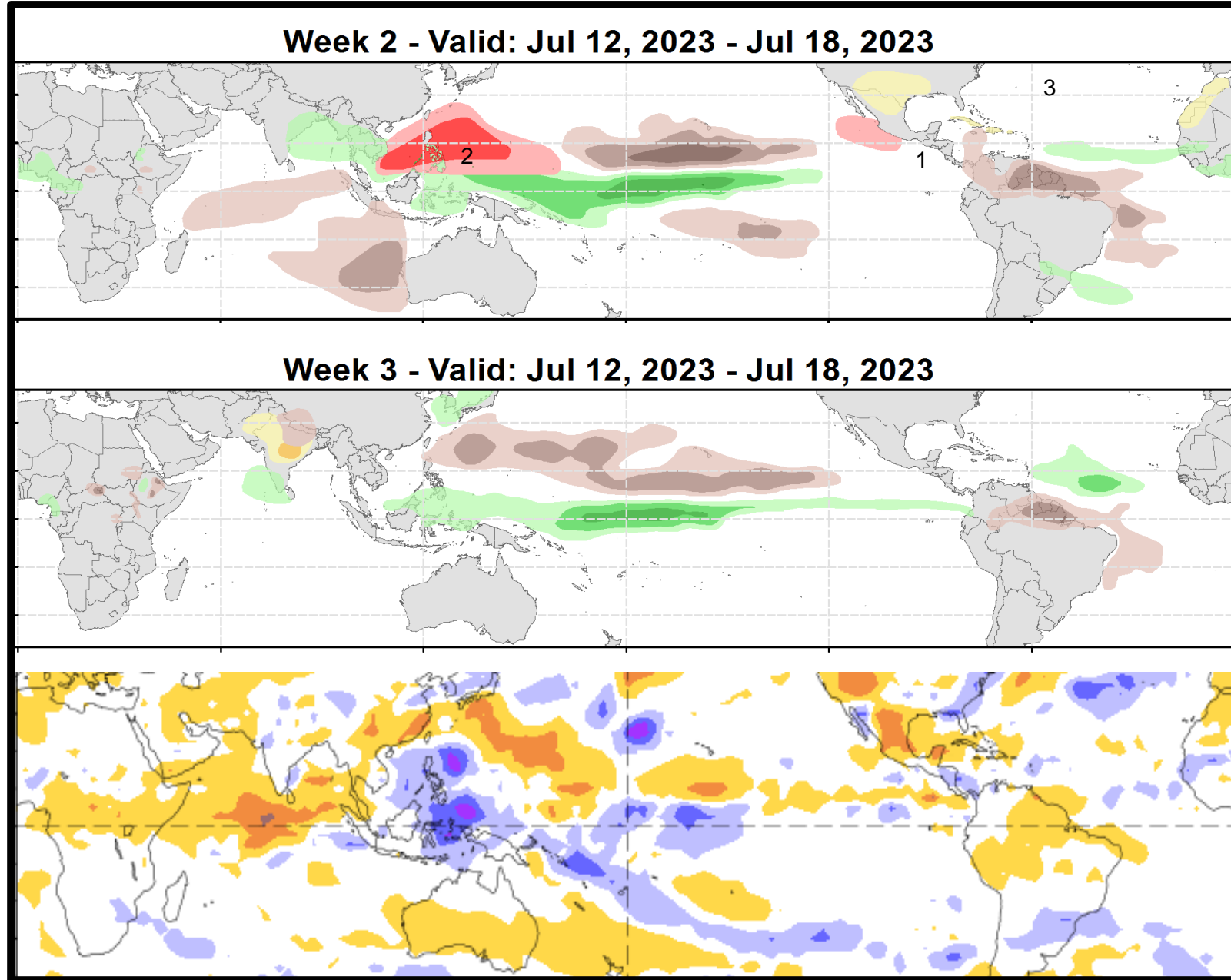
# Weeks 2-3 Global Tropics Hazards Outlook

7/18/2023

Danny Barandiaran  
NWS / NCEP / Climate Prediction Center

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

- 1: Calvin, 7/11
- 2: Talim, 7/13
- 3: Don, 7/14



# Synopsis of Climate Modes:

---

**ENSO:** (July 13, 2023 Update)     *next update on Thursday, August 10<sup>th</sup>.*

- 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 has continued to be largely disorganized since mid-June, with other modes of variability contributing to the convective anomalies throughout the global tropics.
- Dynamical models remain consistent on the MJO potentially reemerging over the Maritime Continent and propagating eastward into West Pacific during the next few weeks.
- The large scale environment is expected to be favorable for tropical cyclone (TC) formation in the western Pacific, while chances across the eastern Pacific during the period remain elevated despite the presence of a suppressed convection regime.
- Increased chances for TC formation are also anticipated over the Main Development Region of the Atlantic with very warm SSTs and a reasonable shear environment.

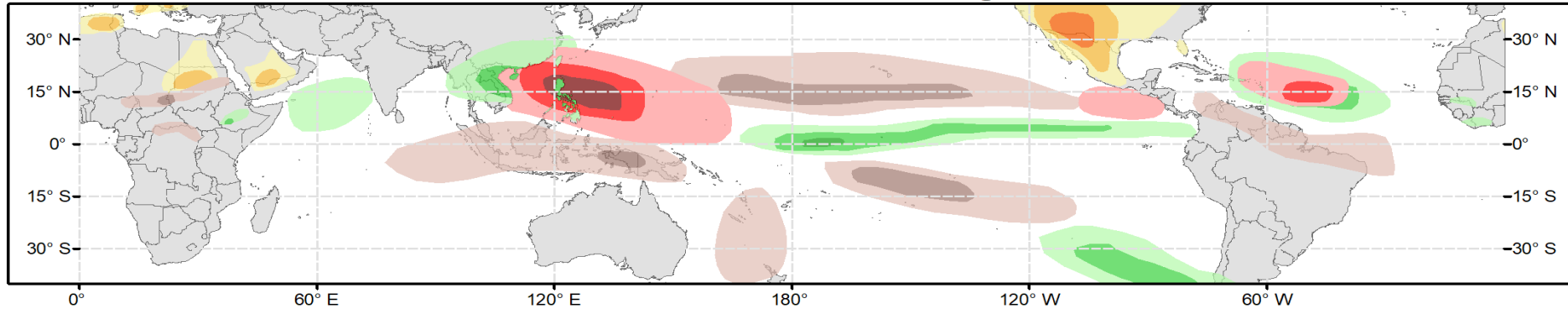
# GTH Outlook:



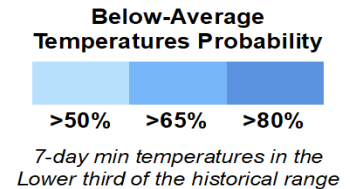
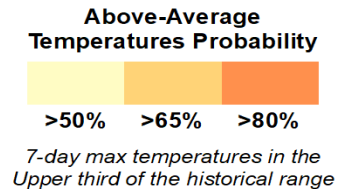
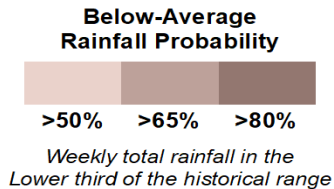
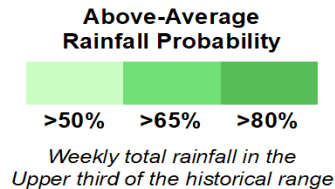
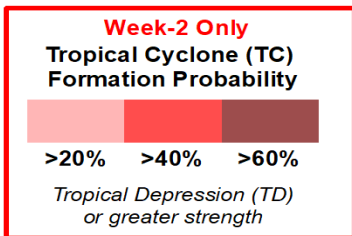
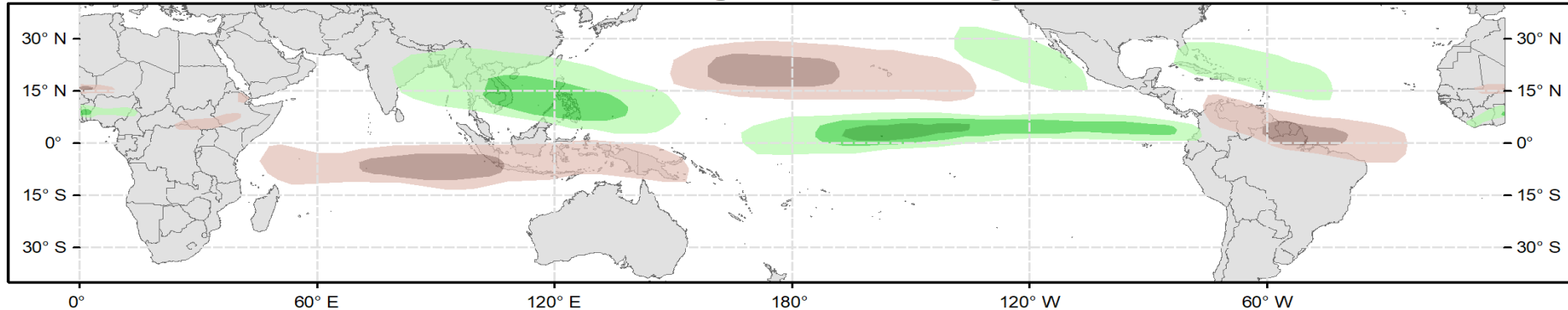
## Global Tropics Hazards Outlook Climate Prediction Center



**Week 2 - Valid: Jul 26, 2023 - Aug 01, 2023**



**Week 3 - Valid: Aug 02, 2023 - Aug 08, 2023**

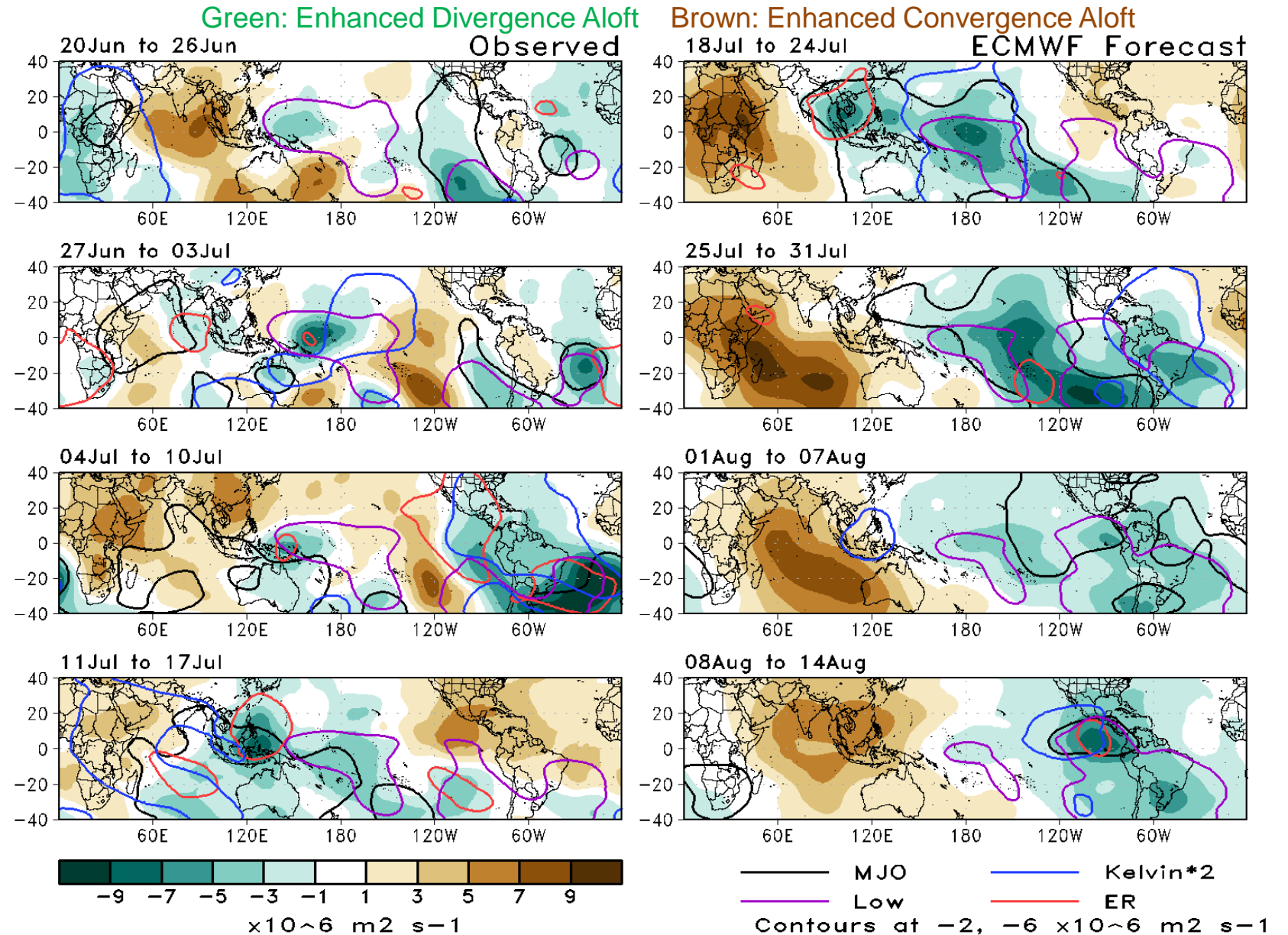


**Issued: 07/18/2023**  
**Forecaster: Barandiaran**

**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.**

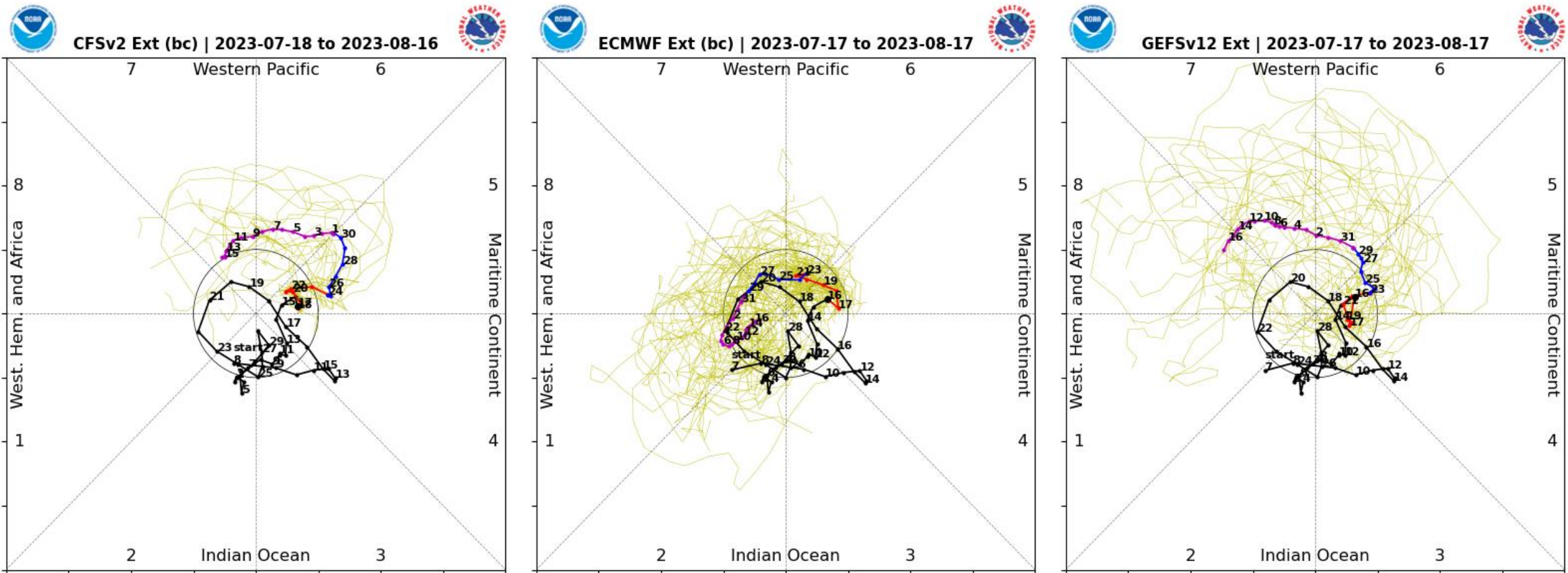
# 200-hPa Velocity Potential Anomaly Maps:

- After a period of disorganized tropical convection, a wave-1 pattern has reemerged with enhanced convection situated over the Maritime Continent.
- Looking ahead, the enhanced convective envelope is favored to propagate eastward into the Pacific and Western Hemisphere over the coming weeks, while suppressed convection over the Indian Ocean is slower to move east.



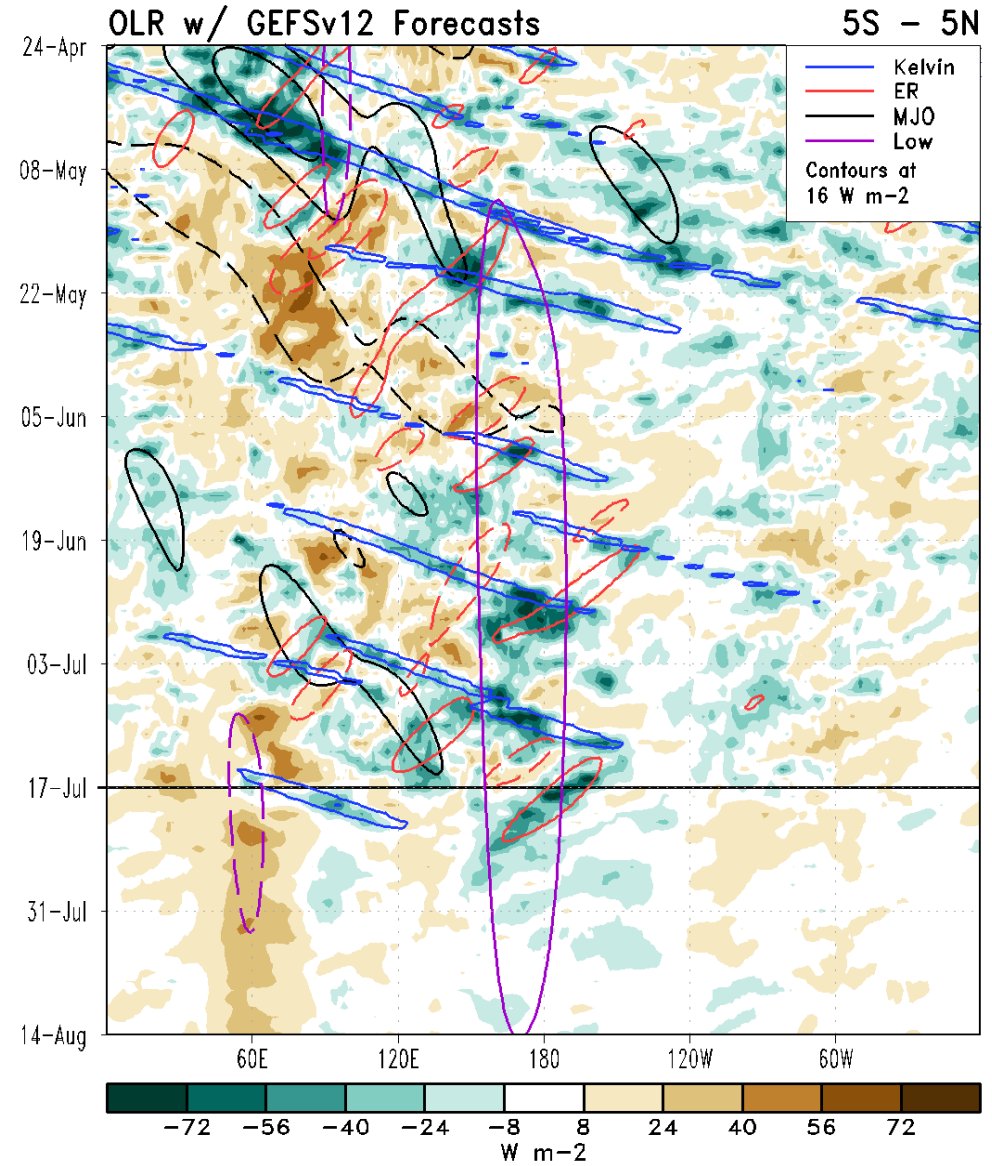
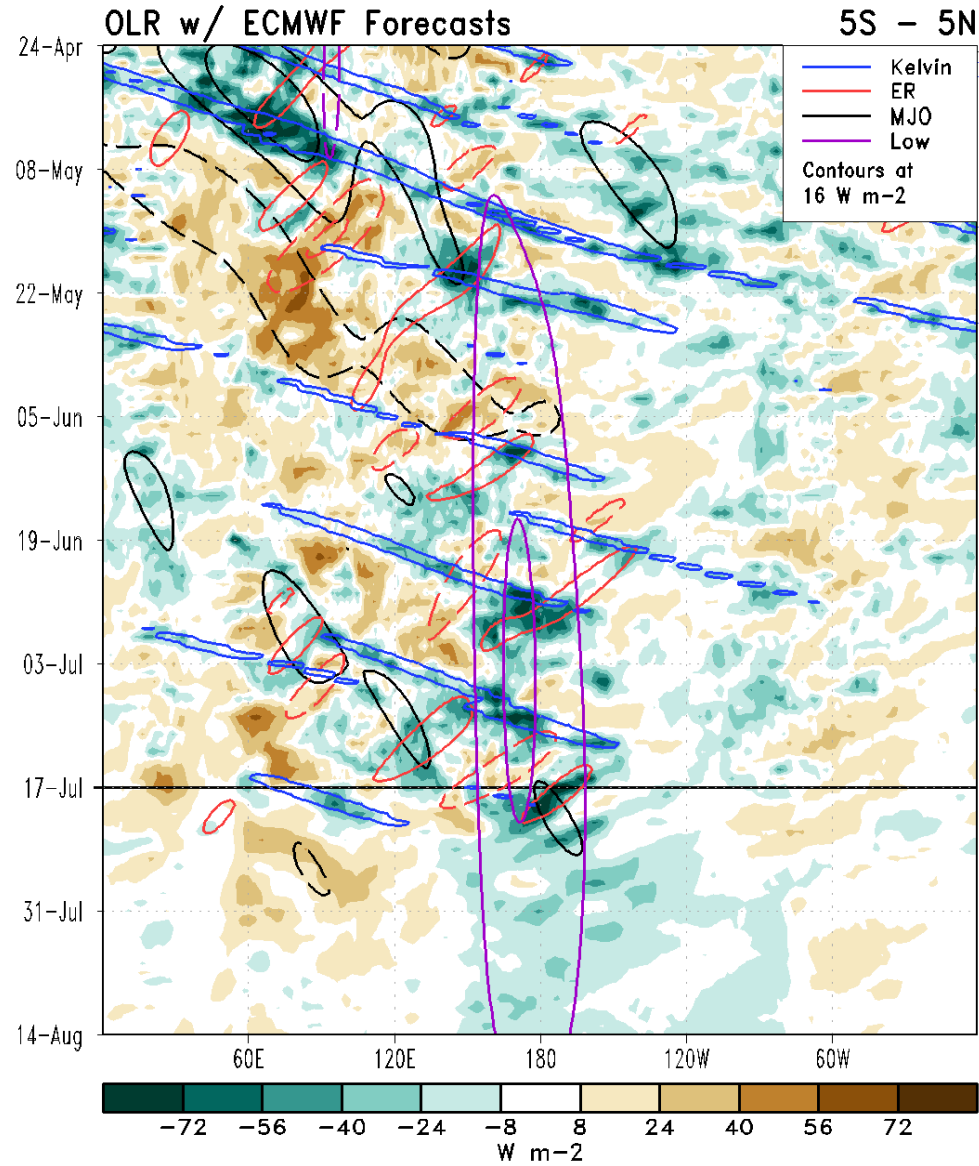


# RMM Index Observations & Forecasts:



- Modeled depictions of the RMM index have become more coherent relative to yesterday's solutions, favoring a resumption of eastward propagation of the MJO signal over the coming weeks.
- The GFS and CFS depict a stronger event than the ECWFMF. It should be noted that ensemble spread is quite high, reducing confidence in the forecast.

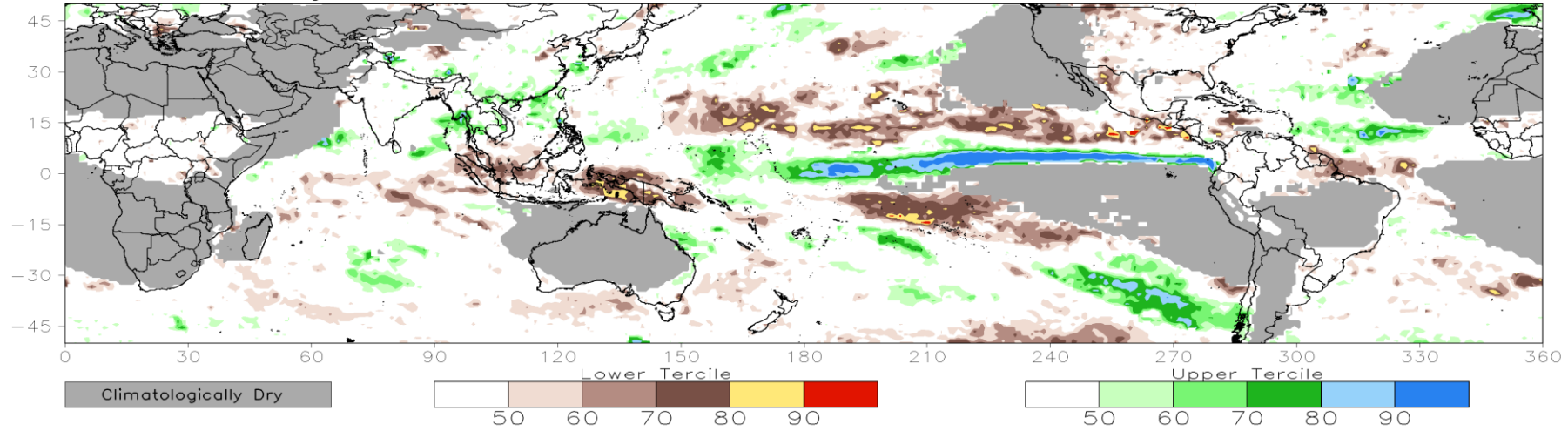
# Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



# Consolidated Probabilistic Precipitation: Weeks 2 & 3

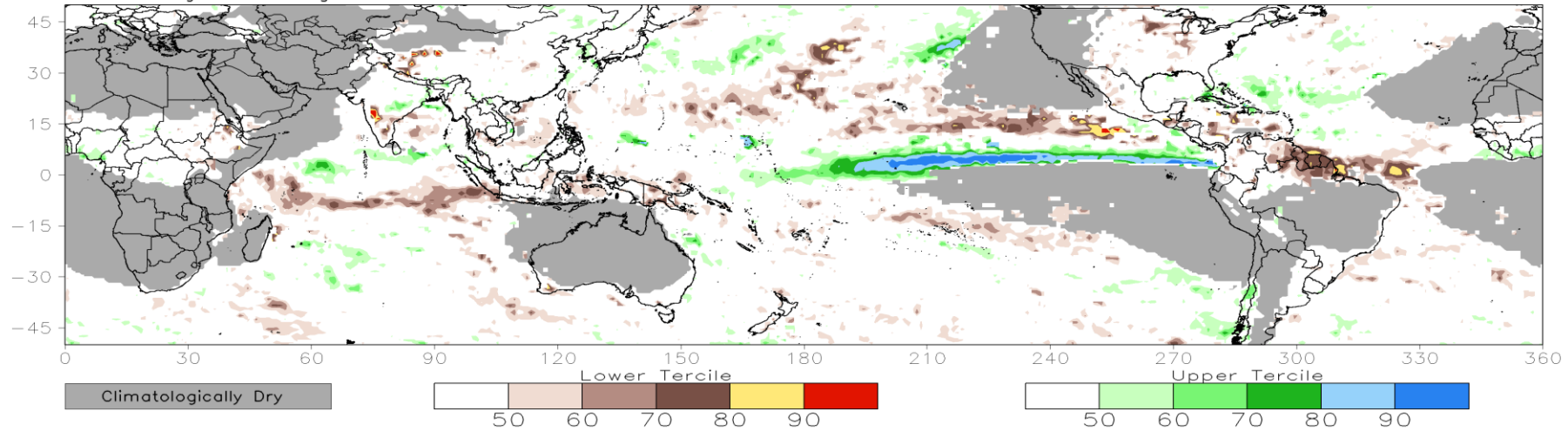
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 26Jul2023–01Aug2023



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

Valid: 02Aug2023–08Aug2023

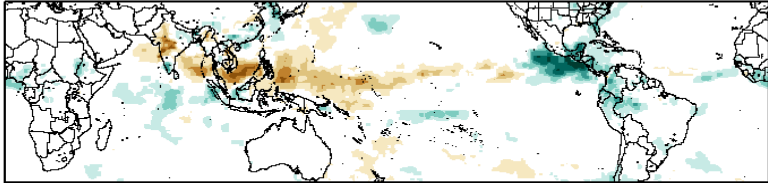




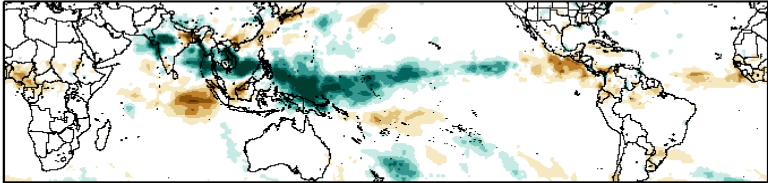
# Historical Precipitation Anomalies By MJO Phase:

JJA MJO Composite: GPCP1DD (mm/day)

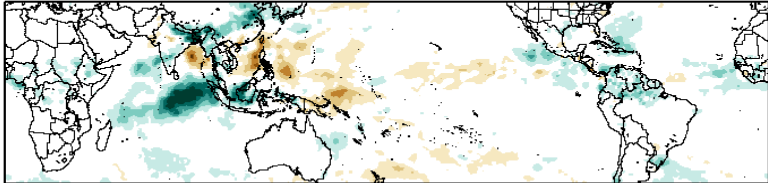
Phase 1



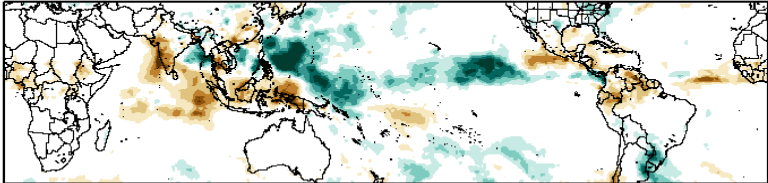
Phase 5



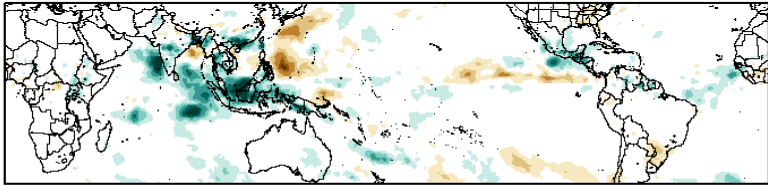
Phase 2



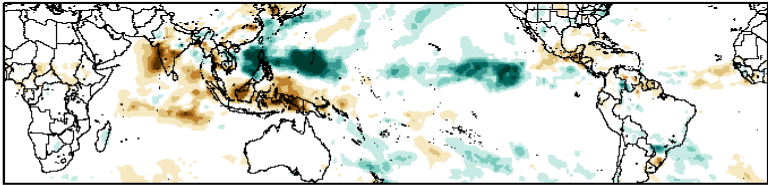
Phase 6



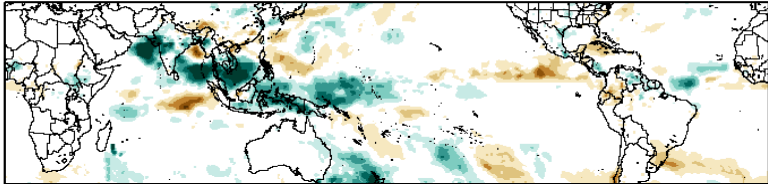
Phase 3



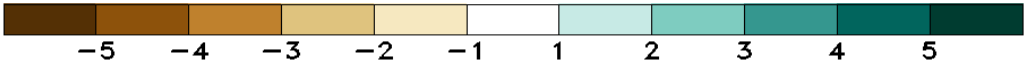
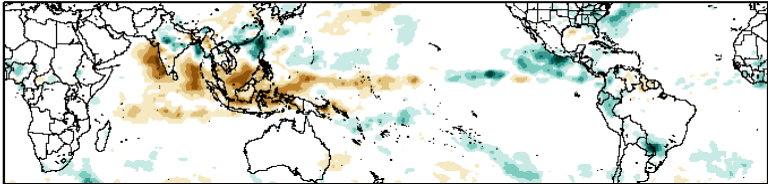
Phase 7



Phase 4

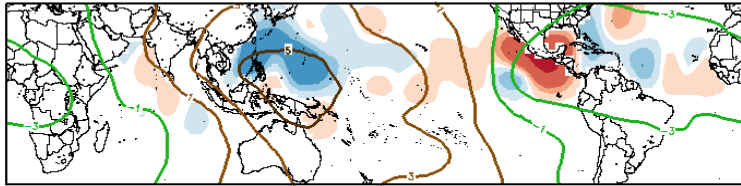


Phase 8

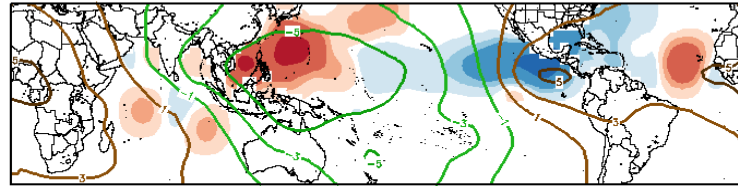


# Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

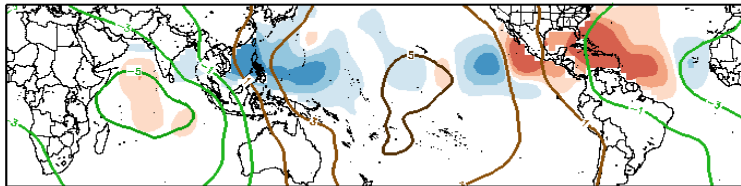
JJA MJO Composite: Mean TC Origin Density Anomaly ( $\#TCs/277km^2*100$ )  
w/ JJA CHI200 ( $\times 10^{-6} m^{-2} s^{-1}$ ) / Contours every  $2 \times 10^{-6} m^{-2} s^{-1}$



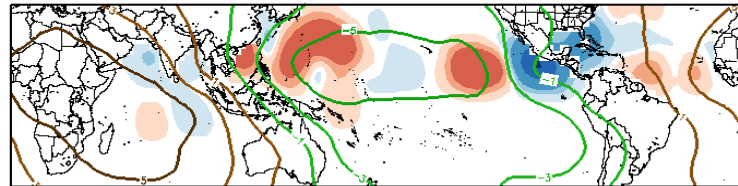
Phase 1



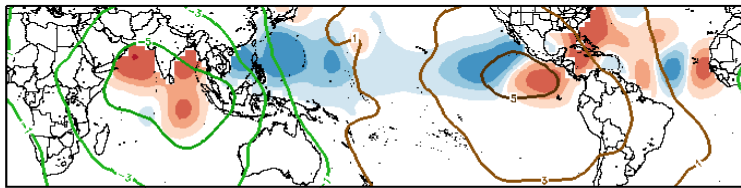
Phase 5



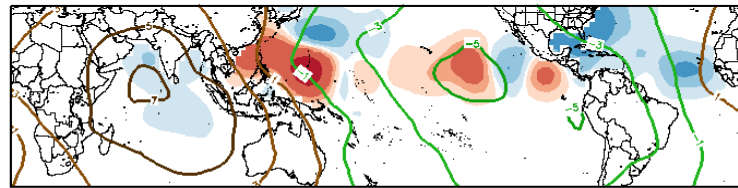
Phase 2



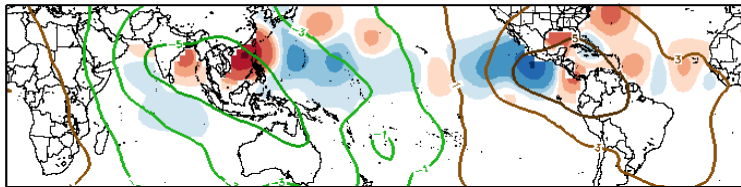
Phase 6



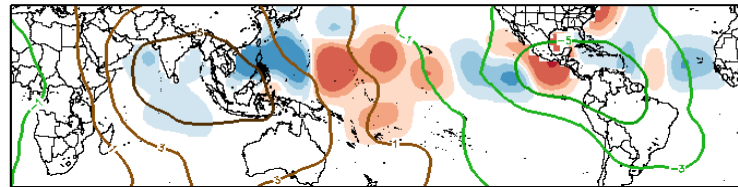
Phase 3



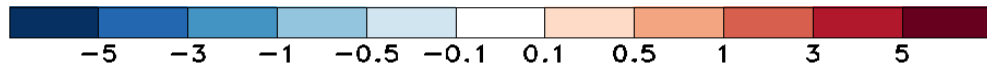
Phase 7



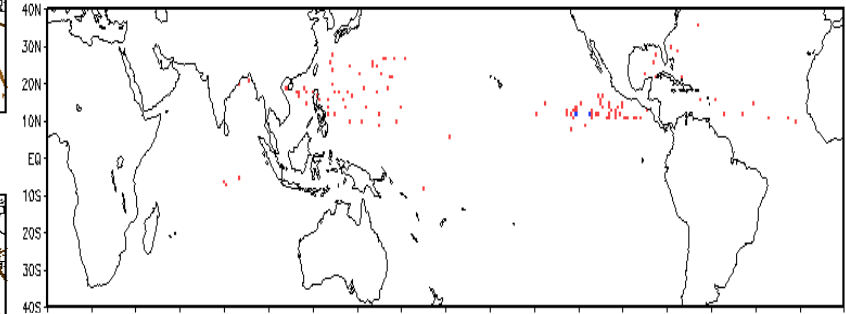
Phase 4



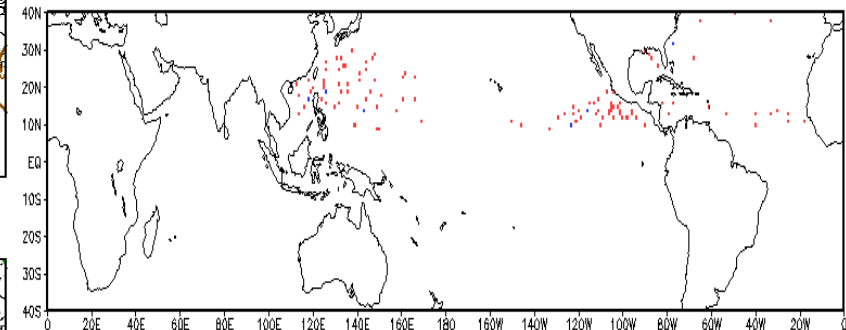
Phase 8



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




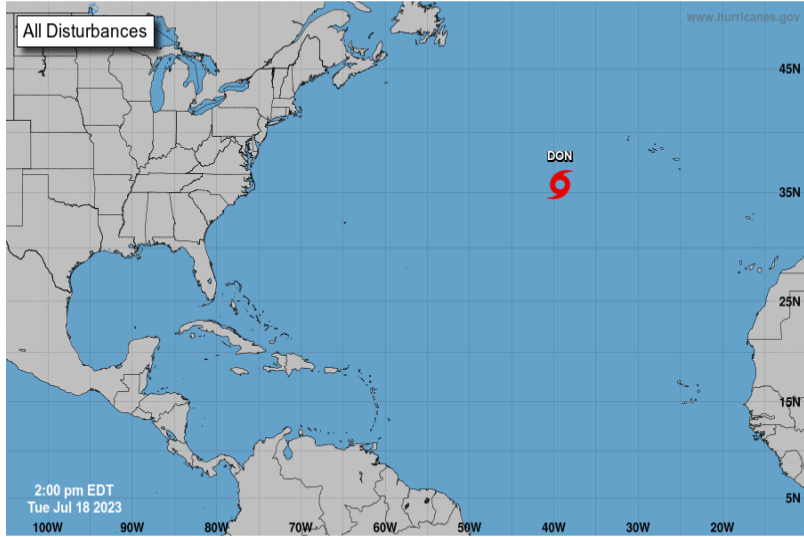
Observed TC Genesis, 1979-2021  
7-day Period 0802 to 0808










\*Experimental\*


# Tropical Cyclone Monitoring/Forecast: NHC

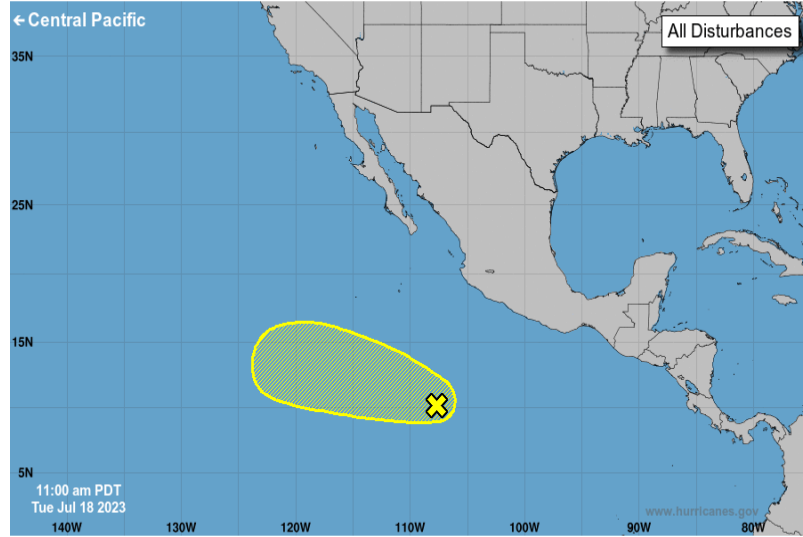

**Seven-Day Graphical Tropical Weather Outlook**  
 National Hurricane Center Miami, Florida



2:00 pm EDT  
 Tue Jul 18 2023  
 www.hurricanes.gov


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

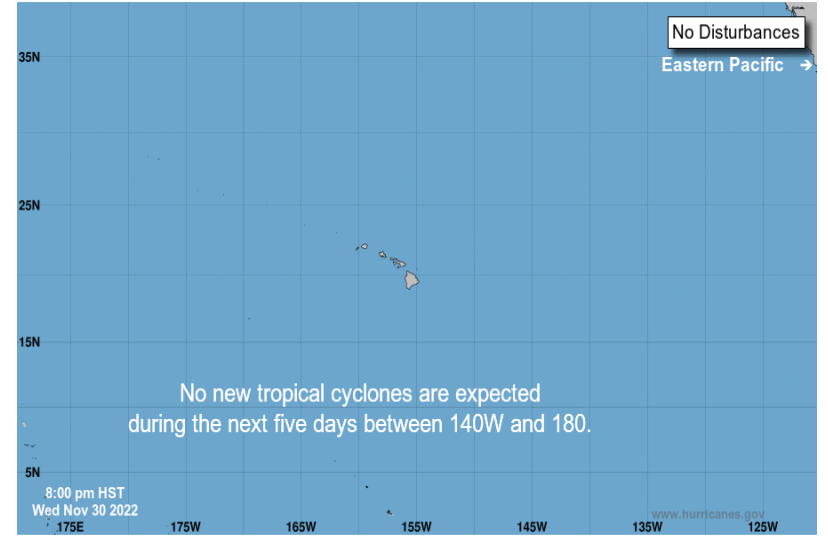

**Seven-Day Graphical Tropical Weather Outlook**  
 National Hurricane Center Miami, Florida



11:00 am PDT  
 Tue Jul 18 2023  
 www.hurricanes.gov





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


**Five-Day Graphical Tropical Weather Outlook**  
 Central Pacific Hurricane Center Honolulu, Hawaii



8:00 pm HST  
 Wed Nov 30 2022  
 www.hurricanes.gov

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

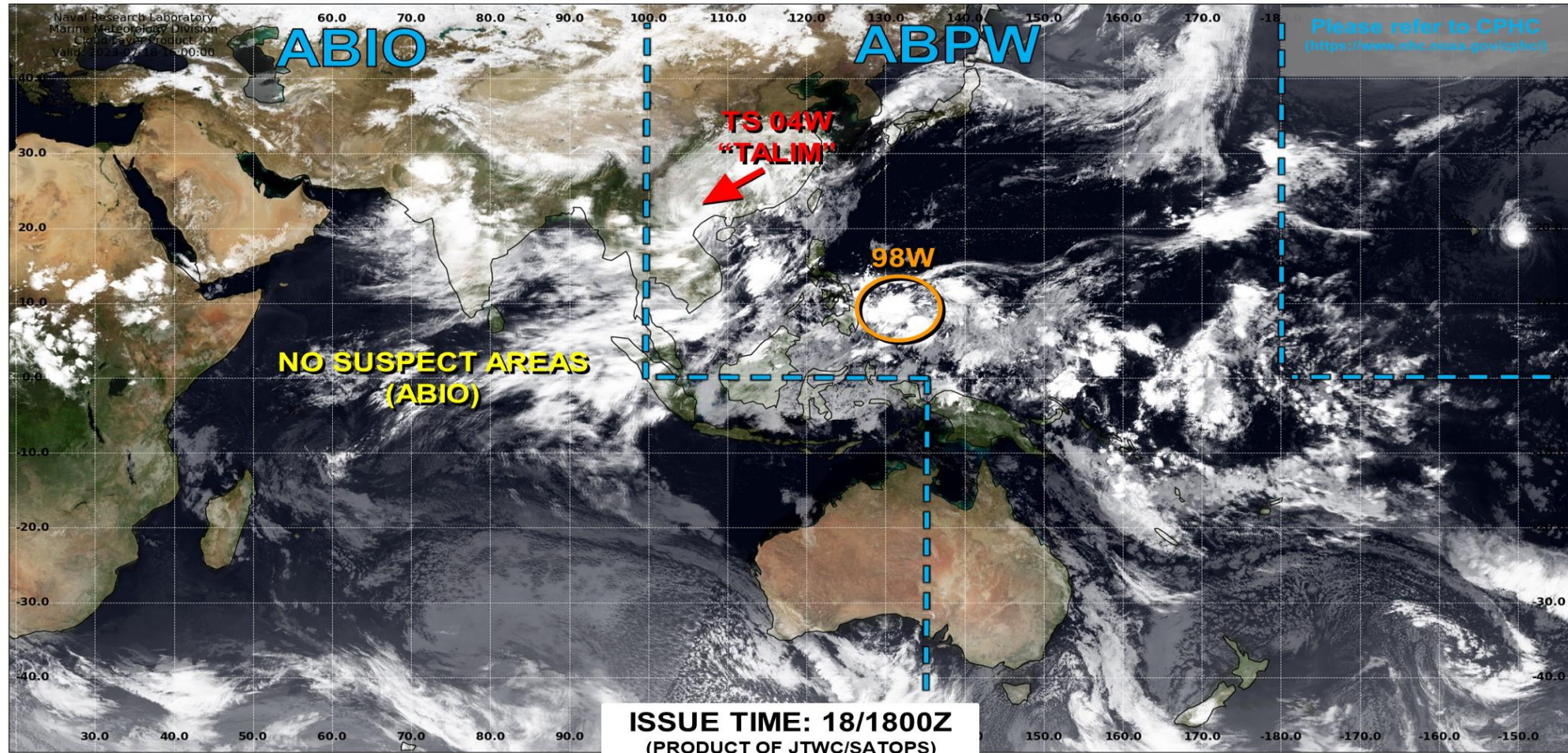
Current Disturbances and Five-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%  
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane  
 Post-Tropical Cyclone or Remnants



# 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)



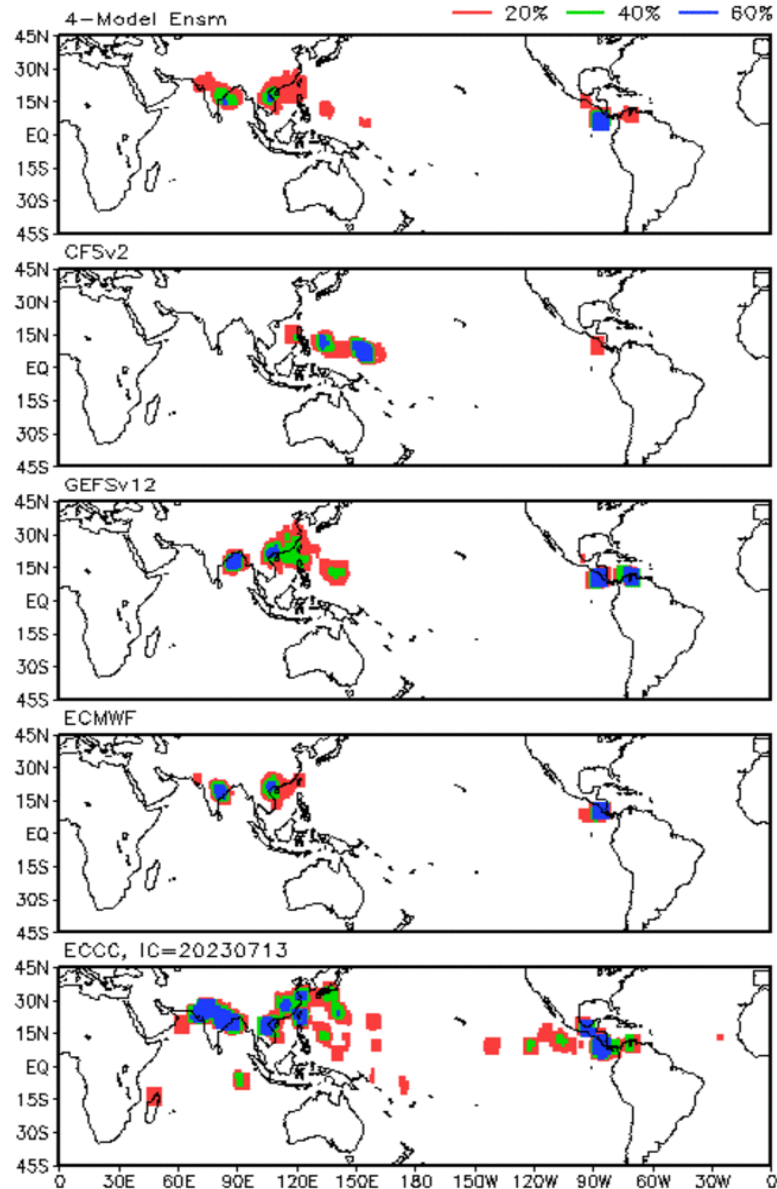
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



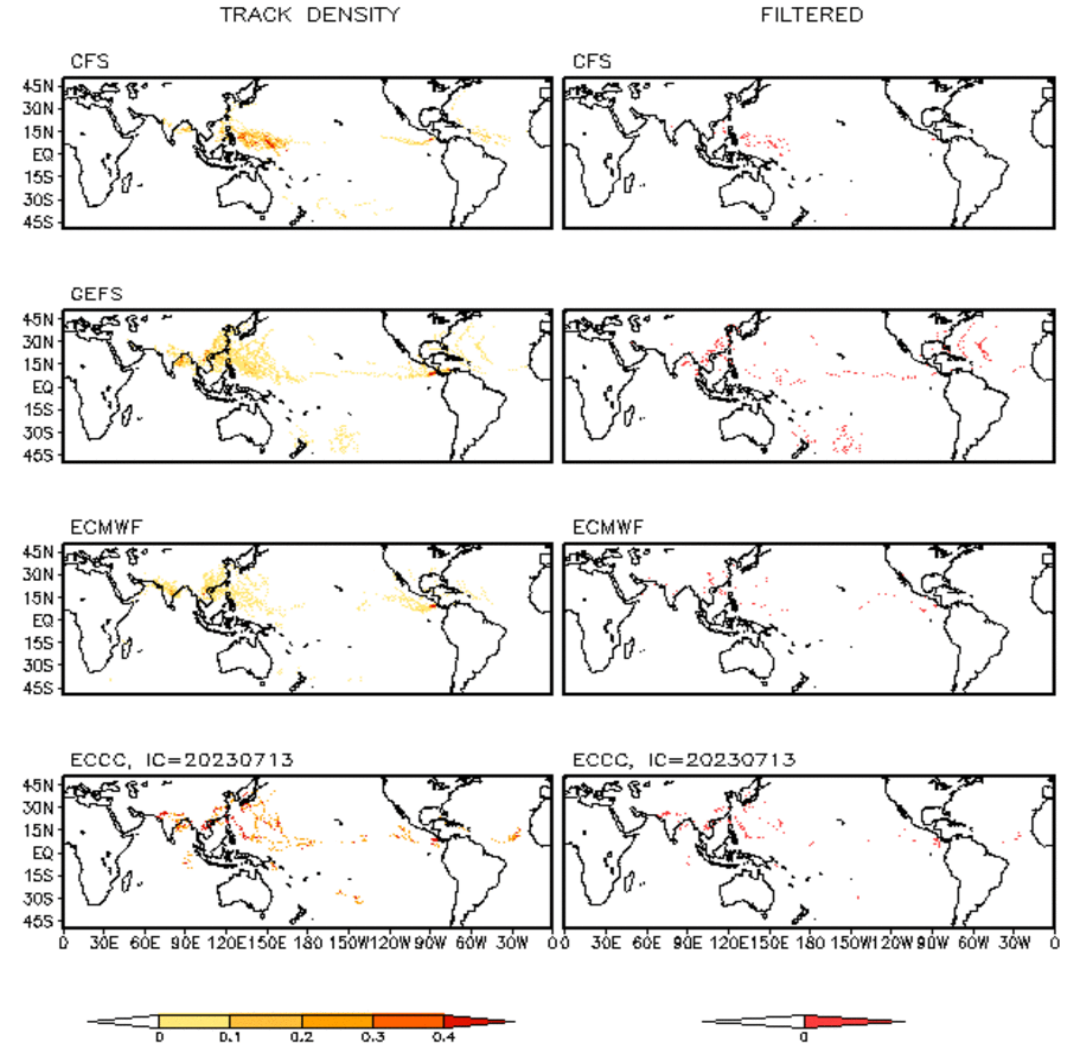


# Multi-Model TC Track Probabilities/Densities: Week-2

Storm Track Probabilities, IC=20230717  
Week 2: 0726 - 0801

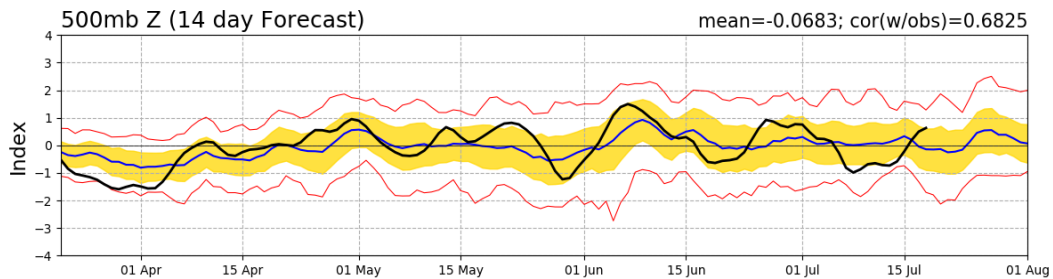
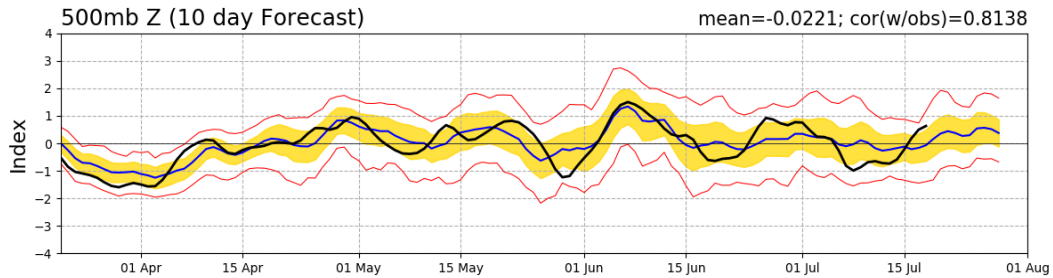
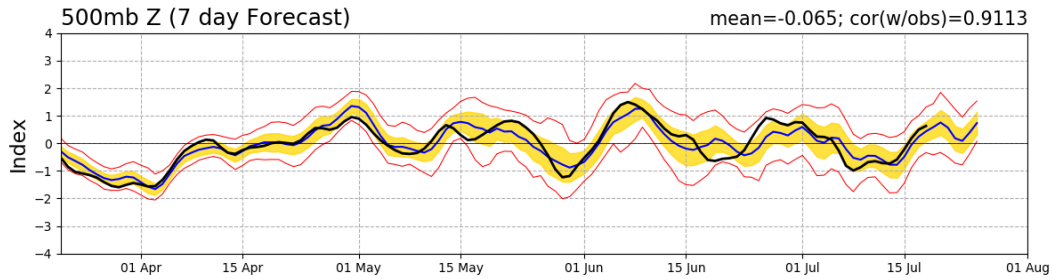
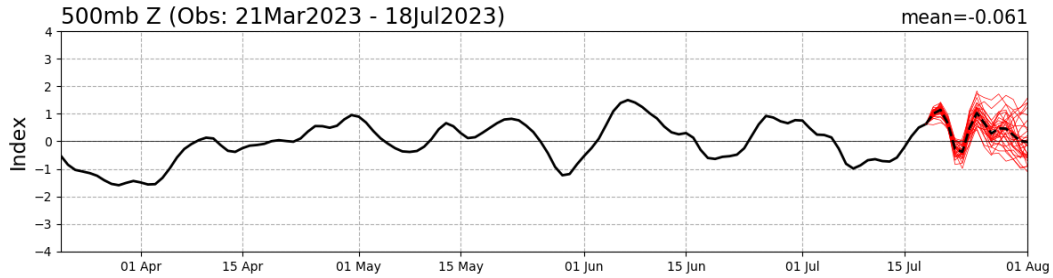


Storm Track Density Distribution, IC=20230717  
Week 2 Forecast: 0726-0801

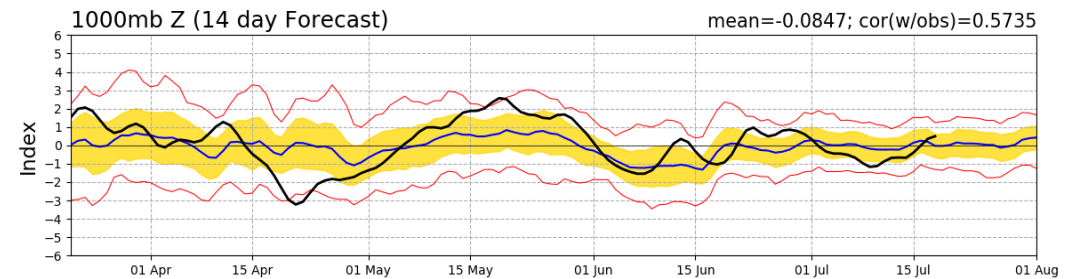
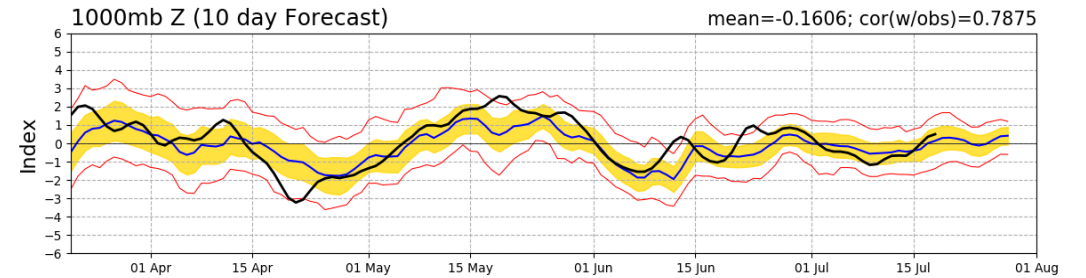
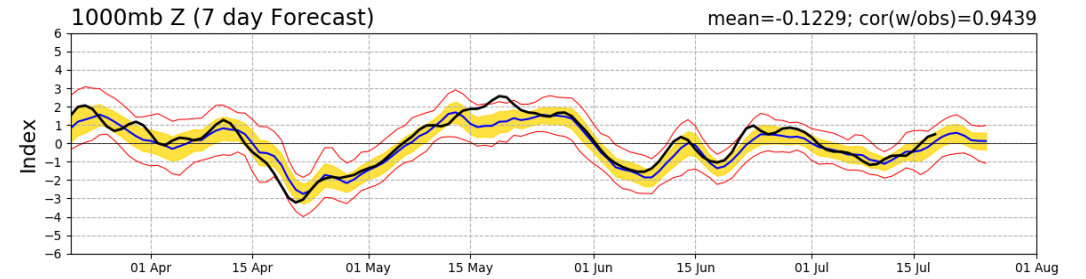
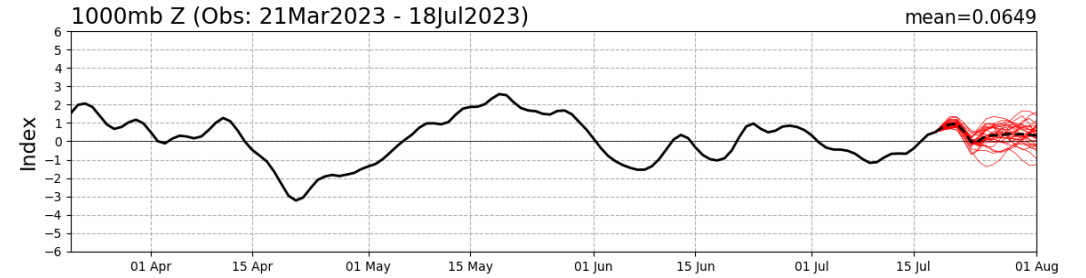


# Teleconnection Indices: PNA / AO:

## PNA Index: Observed & GEFS Forecasts



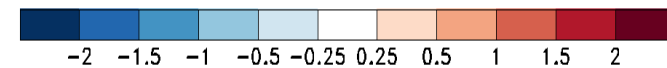
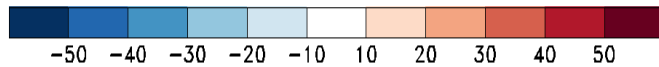
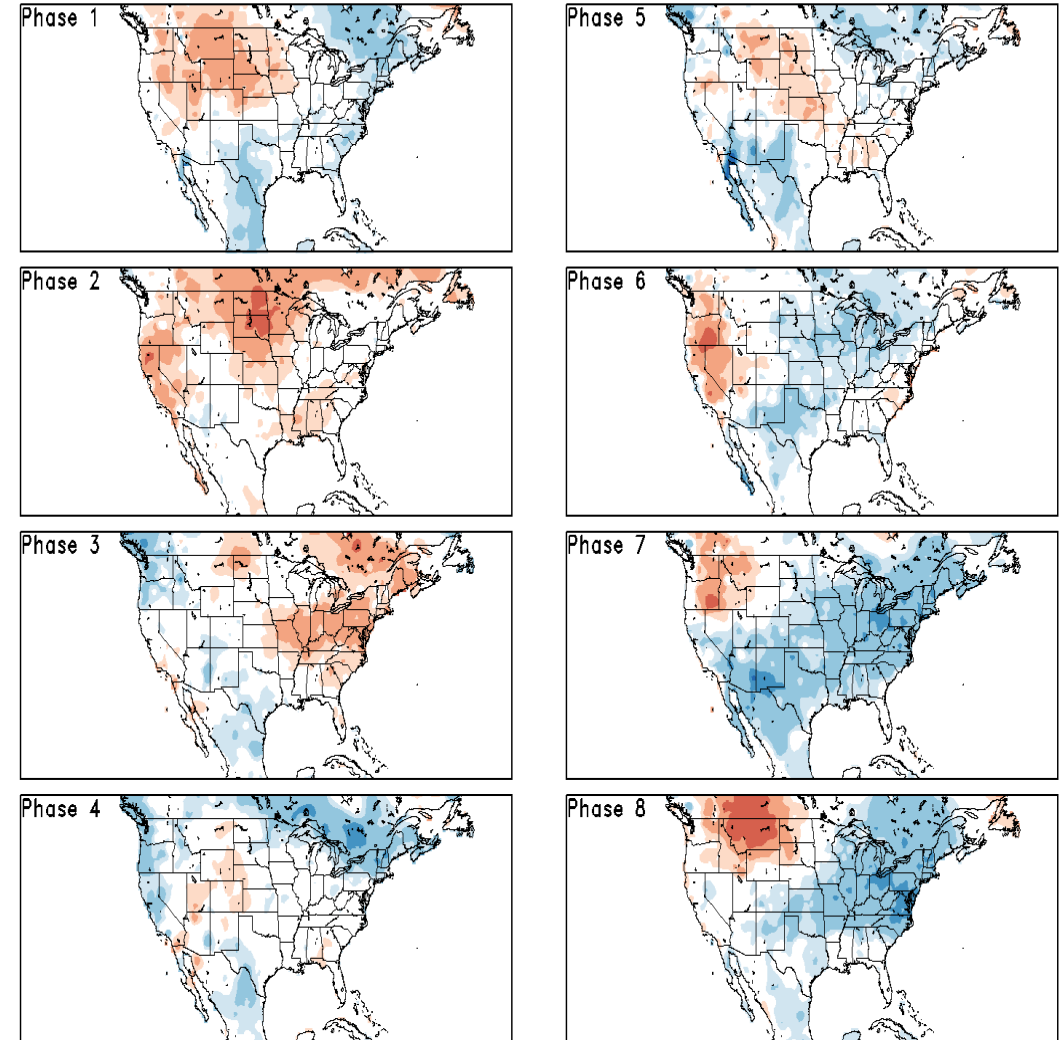
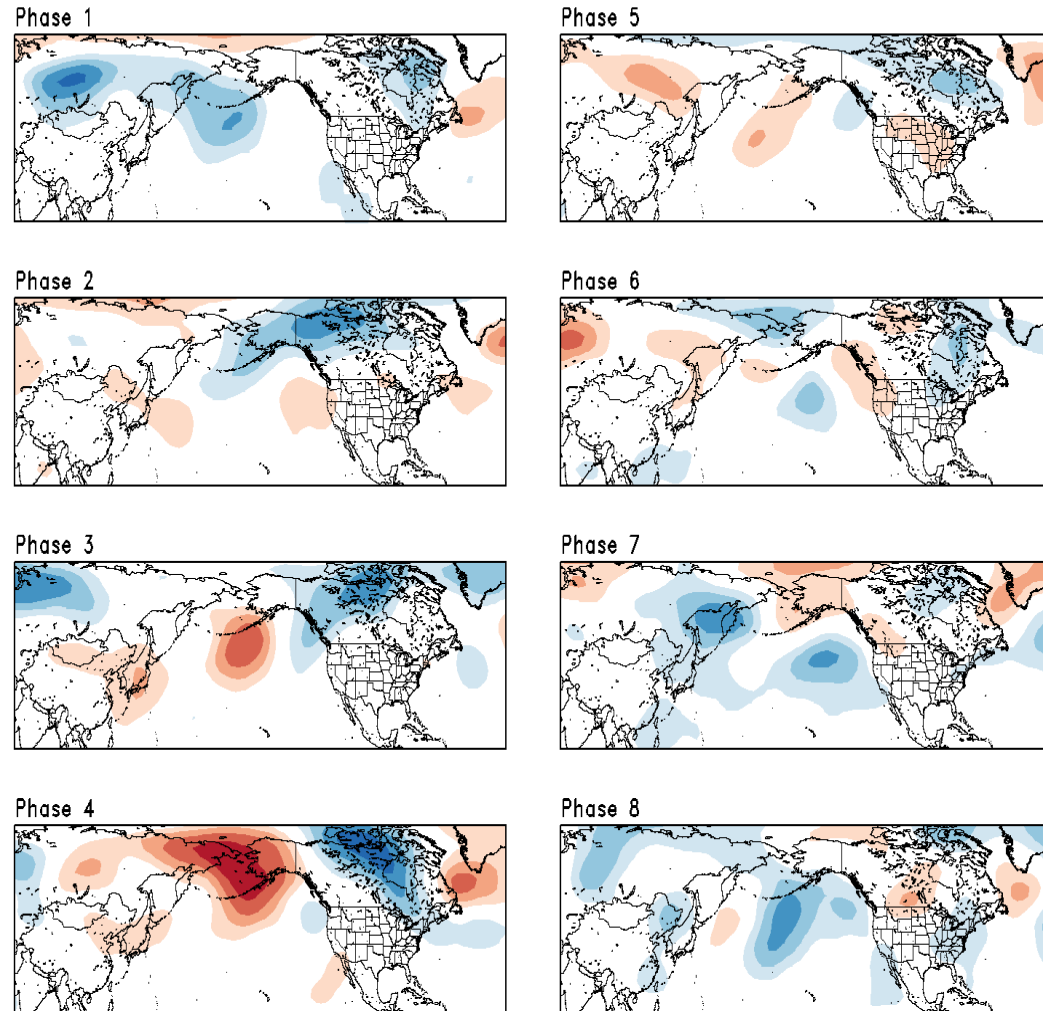
## AO Index: Observed & GEFS Forecasts



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

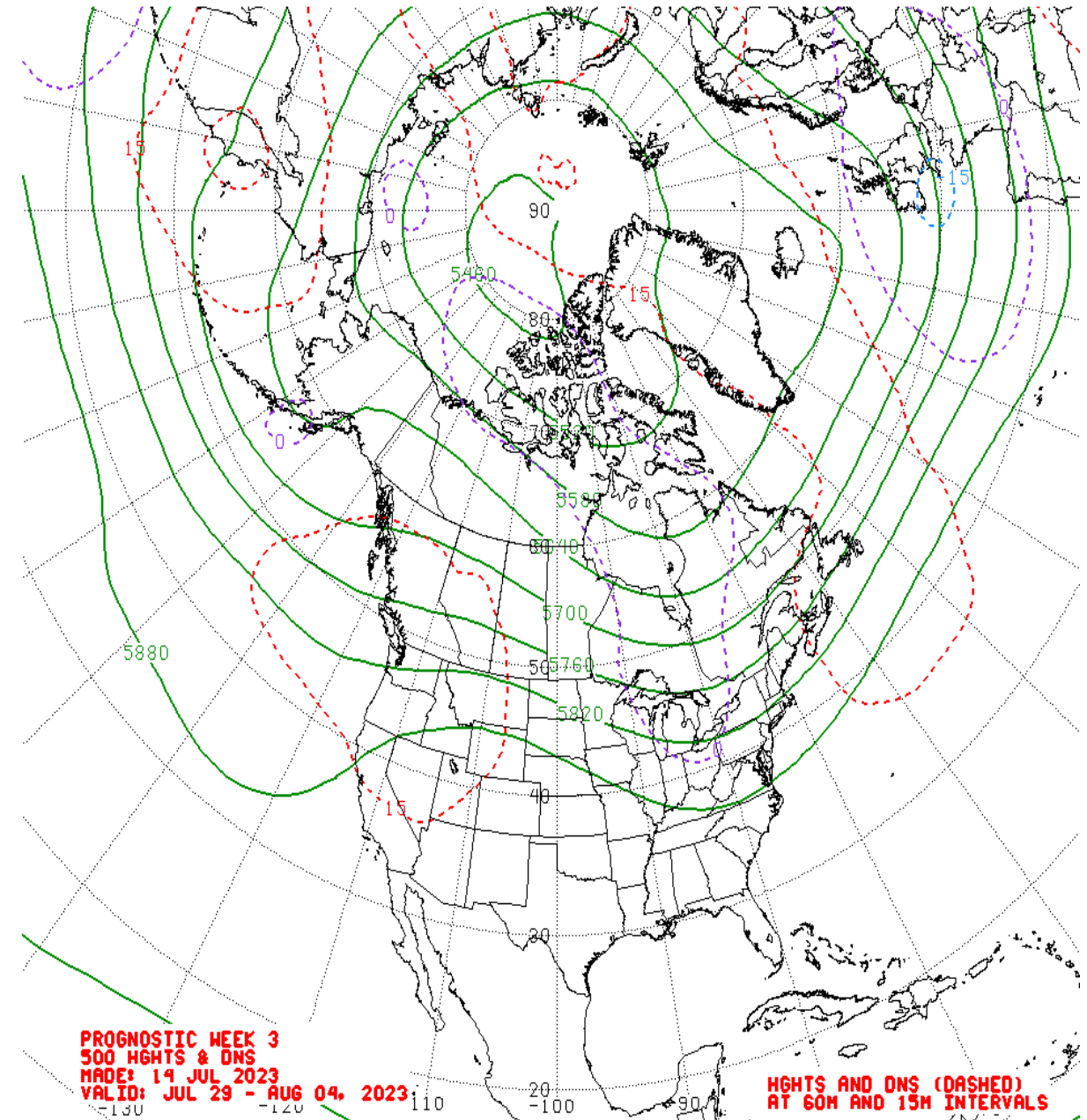
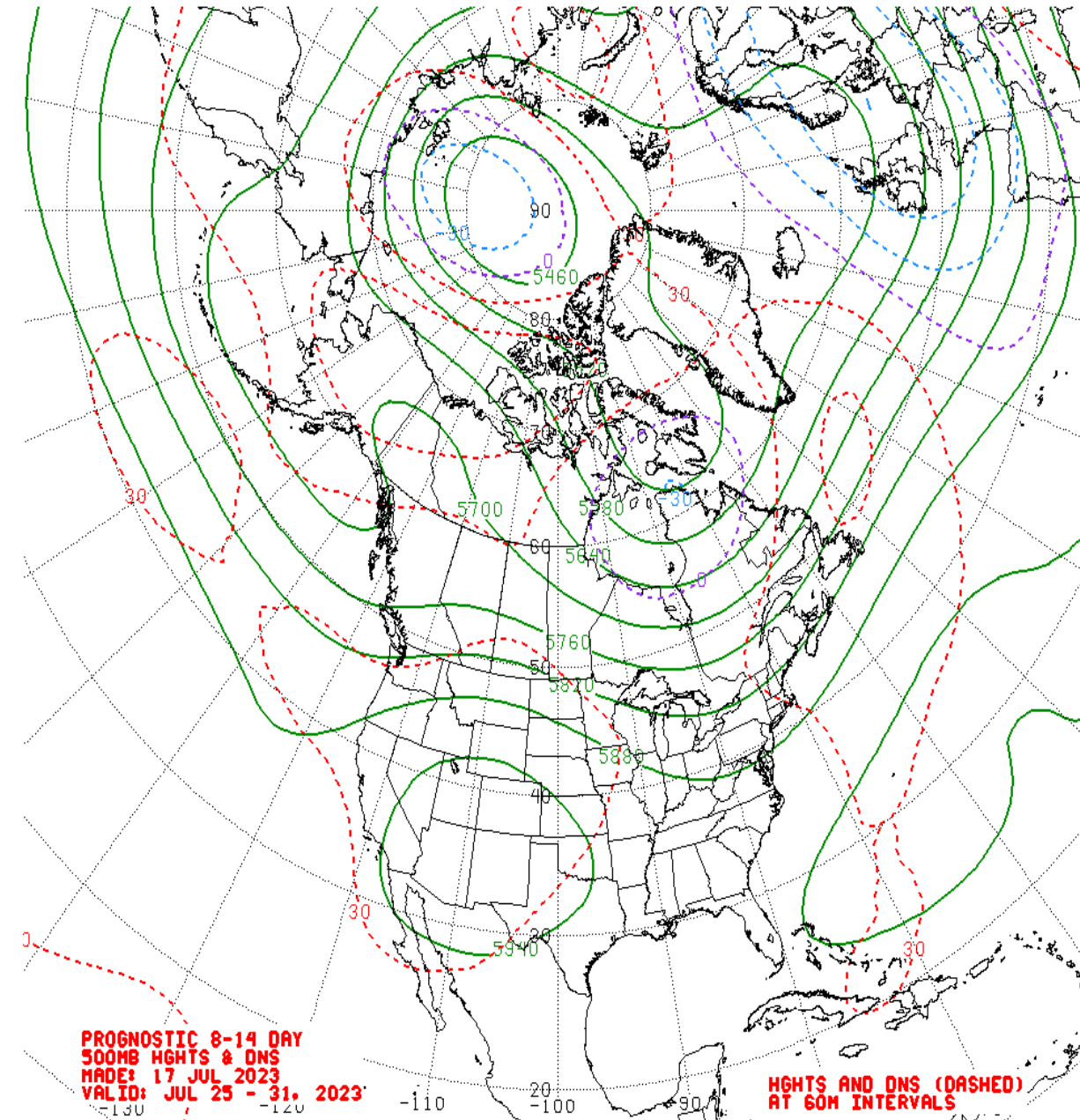
JJA MJO Composite: CDAS 500-hPa Height (m)

JJA MJO Composite: GLBT (degC)





# Mean 500-hPa Height Anomaly Forecasts:

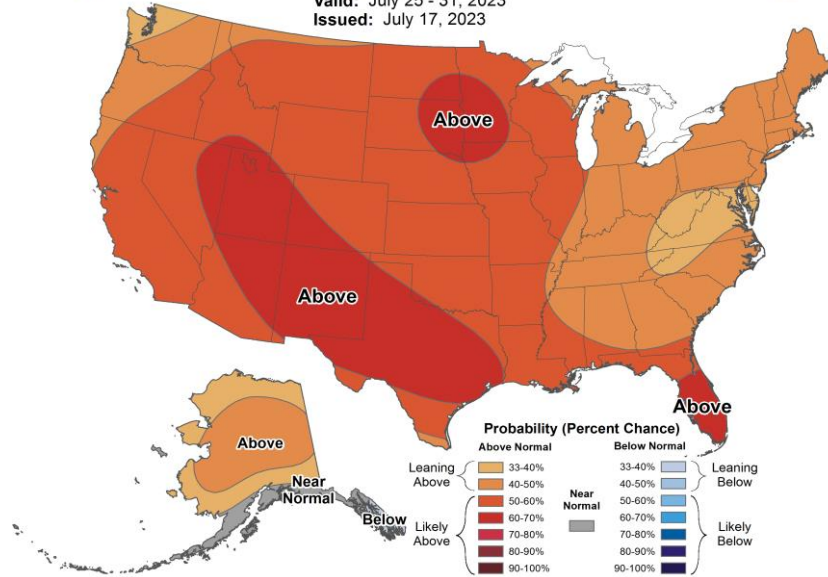




# Official Temperature & Precipitation Forecasts:

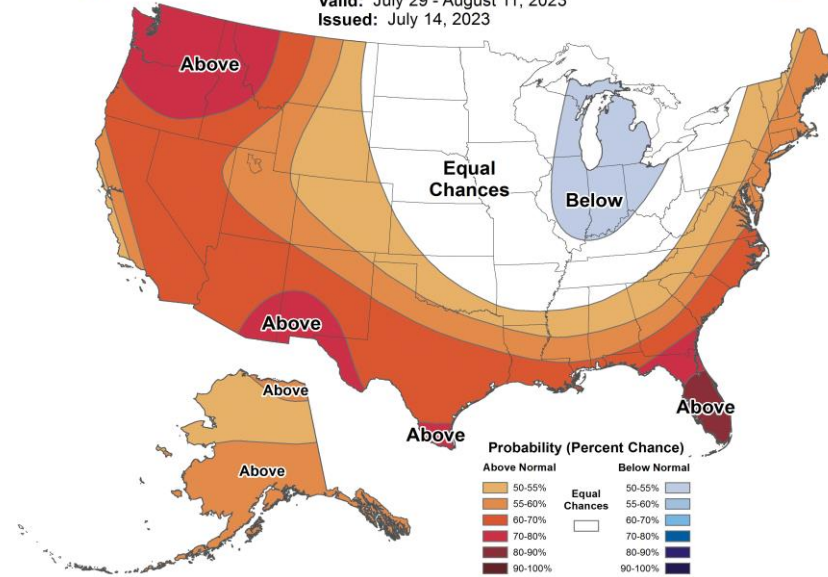
## 8-14 Day Temperature Outlook

Valid: July 25 - 31, 2023  
Issued: July 17, 2023



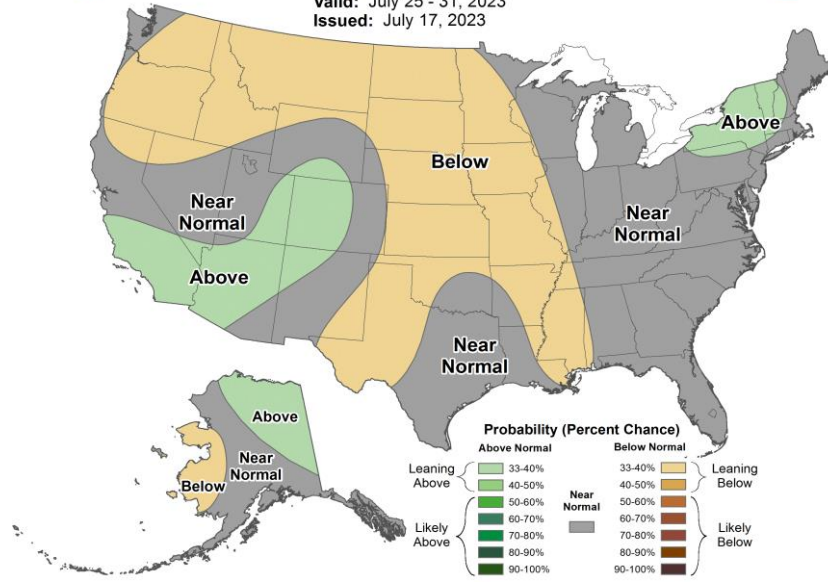
## Weeks 3-4 Temperature Outlook

Valid: July 29 - August 11, 2023  
Issued: July 14, 2023



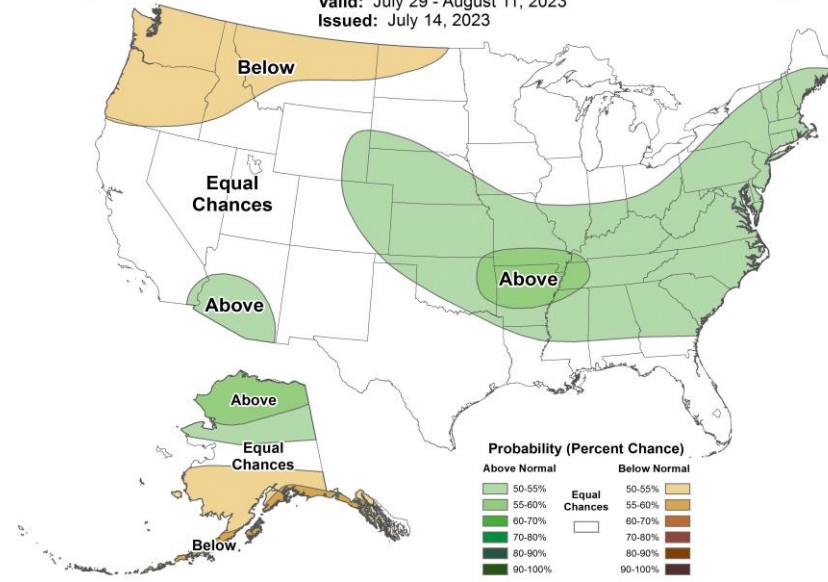
## 8-14 Day Precipitation Outlook

Valid: July 25 - 31, 2023  
Issued: July 17, 2023



## Weeks 3-4 Precipitation Outlook

Valid: July 29 - August 11, 2023  
Issued: July 14, 2023



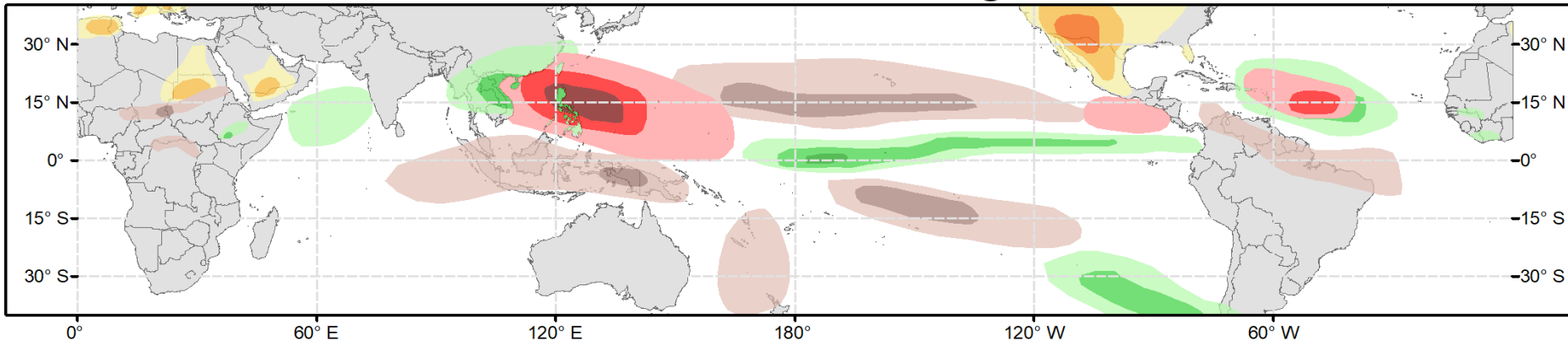


# Global Tropics Hazards Outlook

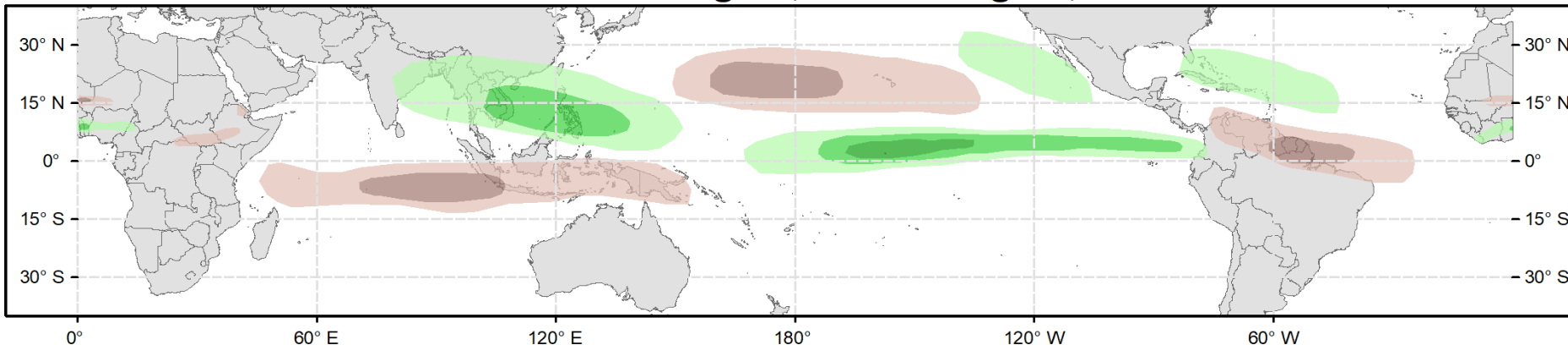
Climate Prediction Center



## Week 2 - Valid: Jul 26, 2023 - Aug 01, 2023



## Week 3 - Valid: Aug 02, 2023 - Aug 08, 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: 07/18/2023

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.