



Weeks 2-3 Global Tropics Hazards Outlook

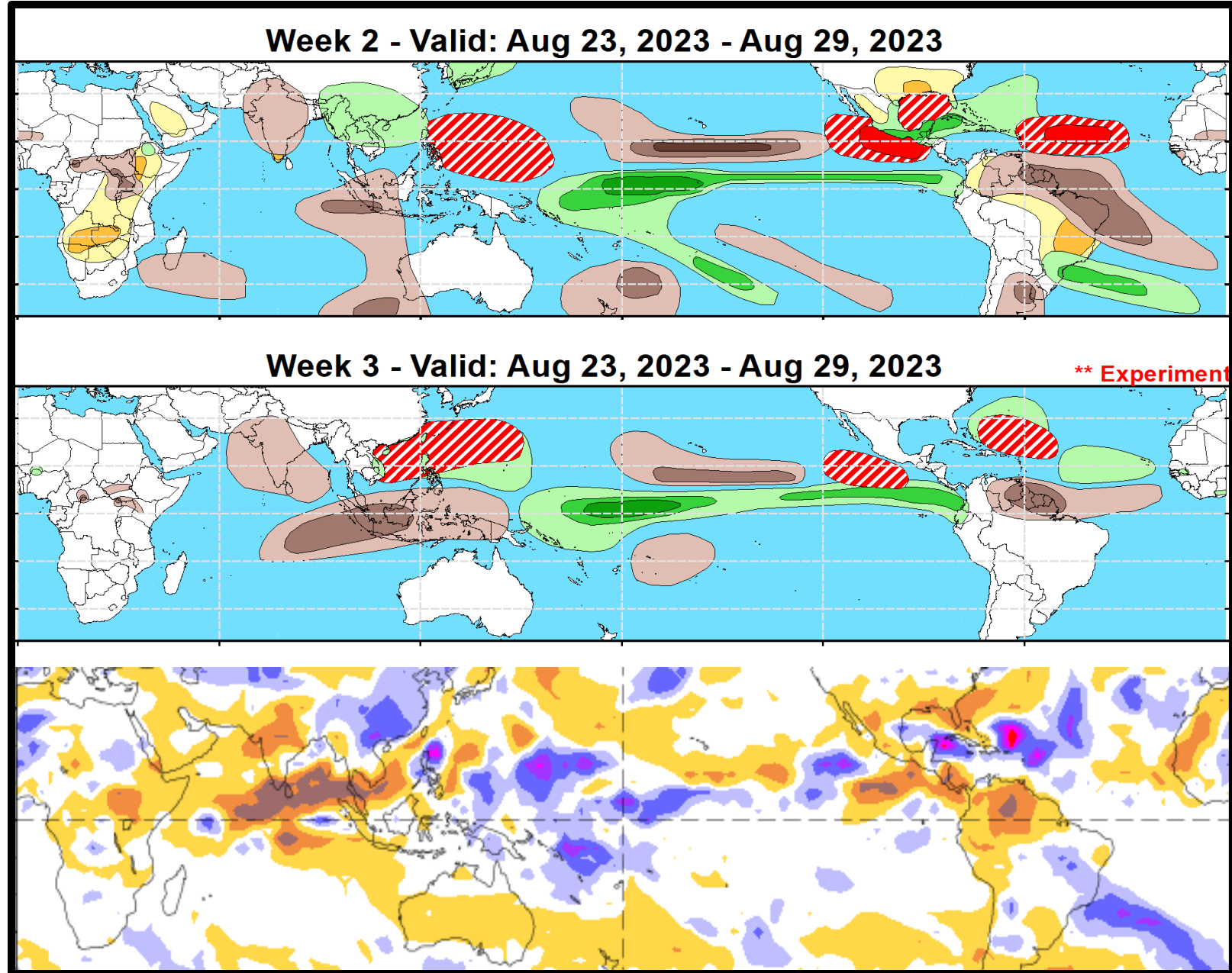
8/29/2023

Adam Allgood

NWS / NCEP / Climate Prediction Center

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

- Atlantic: Harold, Idalia, TD-11
- East Pacific: Irwin
- West Pacific: Saola, Haikui



Synopsis of Climate Modes:

ENSO: (Aug 10, 2023 Update) *next update on Thursday, Sep 14th*

- ENSO Alert System Status: [El Niño Advisory](#)
- El Niño is anticipated to continue through the Northern Hemisphere winter (95% chance during DJF)

MJO and other subseasonal tropical variability:

- An active MJO signal is apparent in the upper-level velocity potential field, with some signal also apparent in the wind field.
- Little MJO activity is apparent in the OLR field due to destructive interference with the ongoing El Niño.
- Dynamical model MJO index forecasts favor increasingly coherent MJO activity, with the enhanced phase propagating across the Maritime Continent during Week-2, and the West Pacific during Week-3.
- The MJO supports increased chances for tropical cyclone development over the South China Sea and Northwest Pacific (spreading southeast with time), and decreased activity over the East Pacific and Atlantic basins during Weeks 2-3.
- Despite the broader unfavorability, the climatological peak of tropical cyclone activity plus unusually warm ocean temperatures maintains a potential for tropical cyclone development during the outlook period.

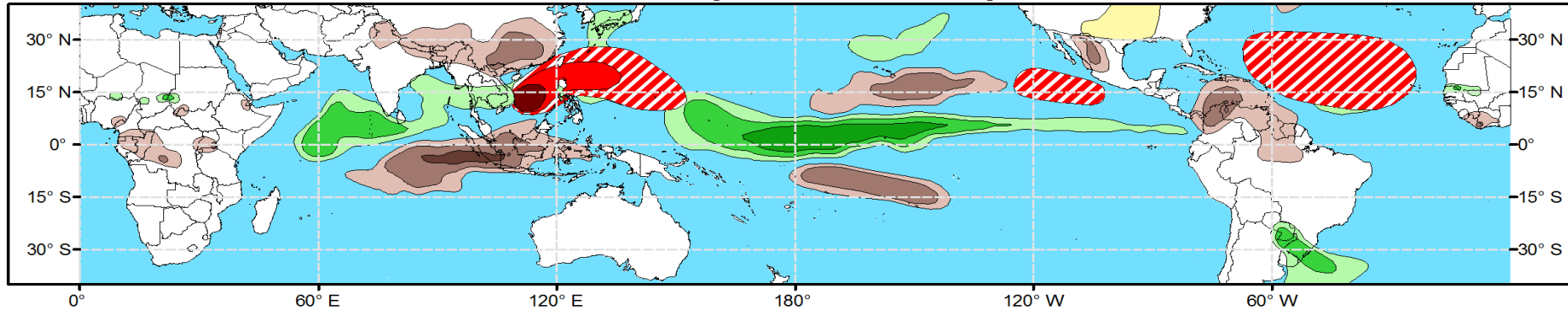
GTH Outlook:



Global Tropics Hazards Outlook Climate Prediction Center

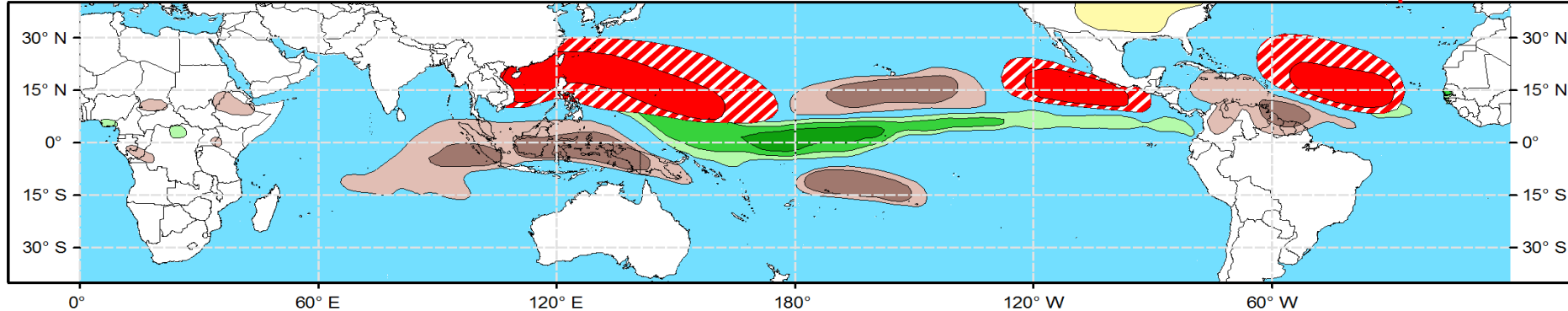


Week 2 - Valid: Sep 06, 2023 - Sep 12, 2023



Week 3 - Valid: Sep 13, 2023 - Sep 19, 2023

**** Experimental ****



**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
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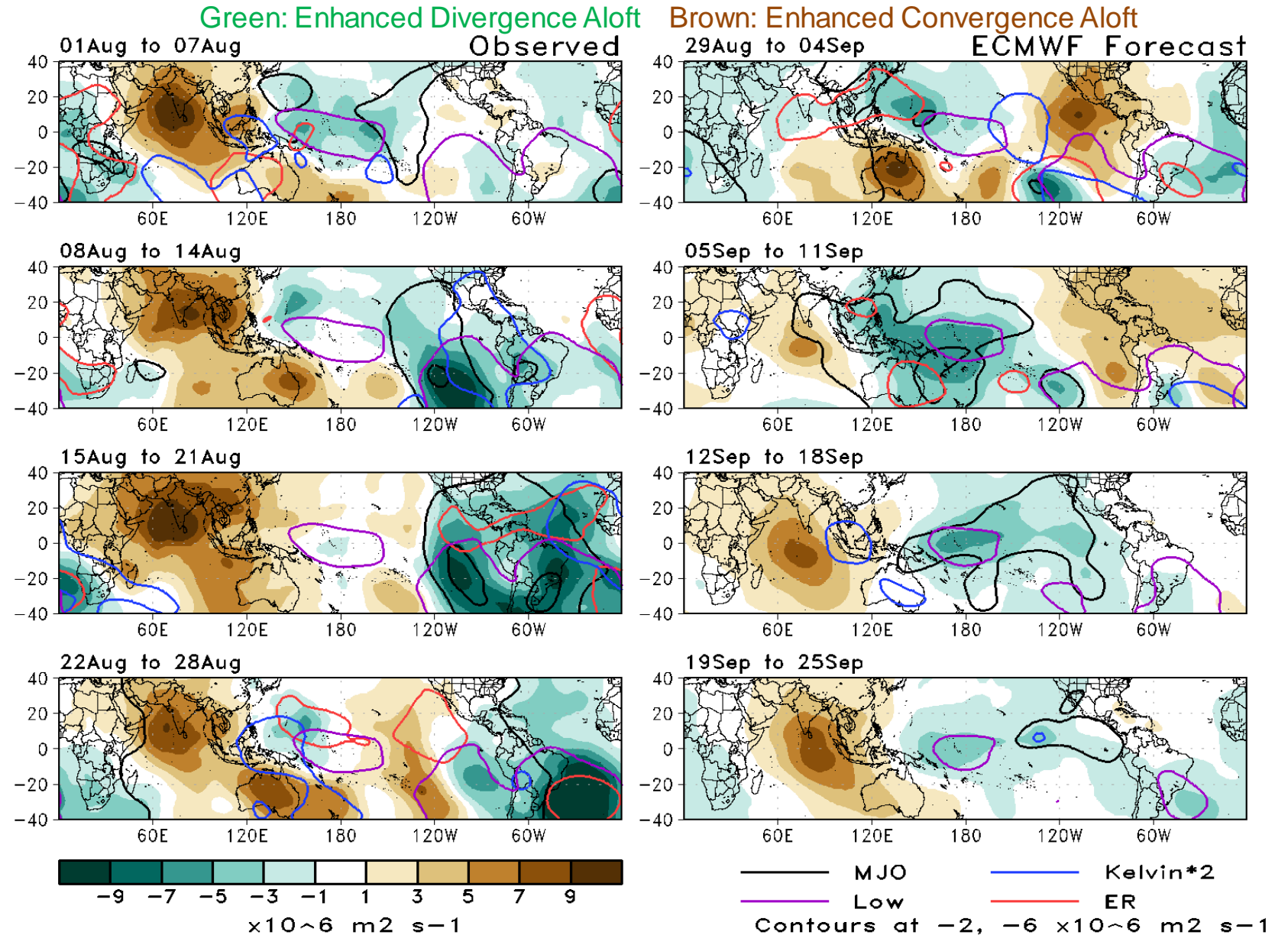
Issued: 08/29/2023

Forecaster: Allgood

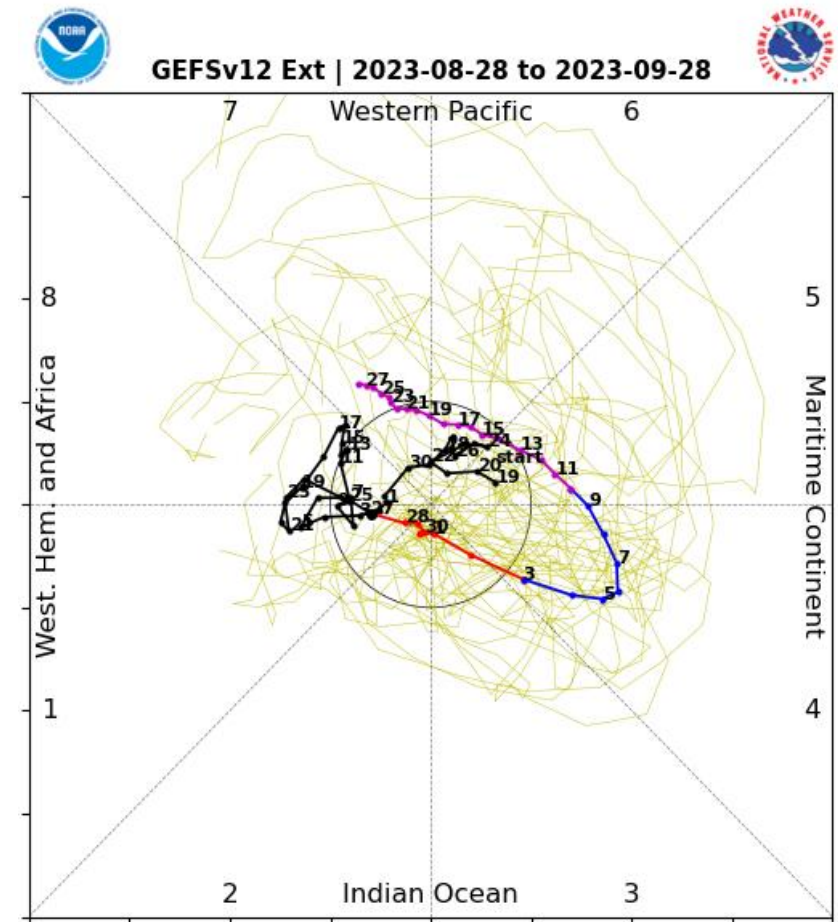
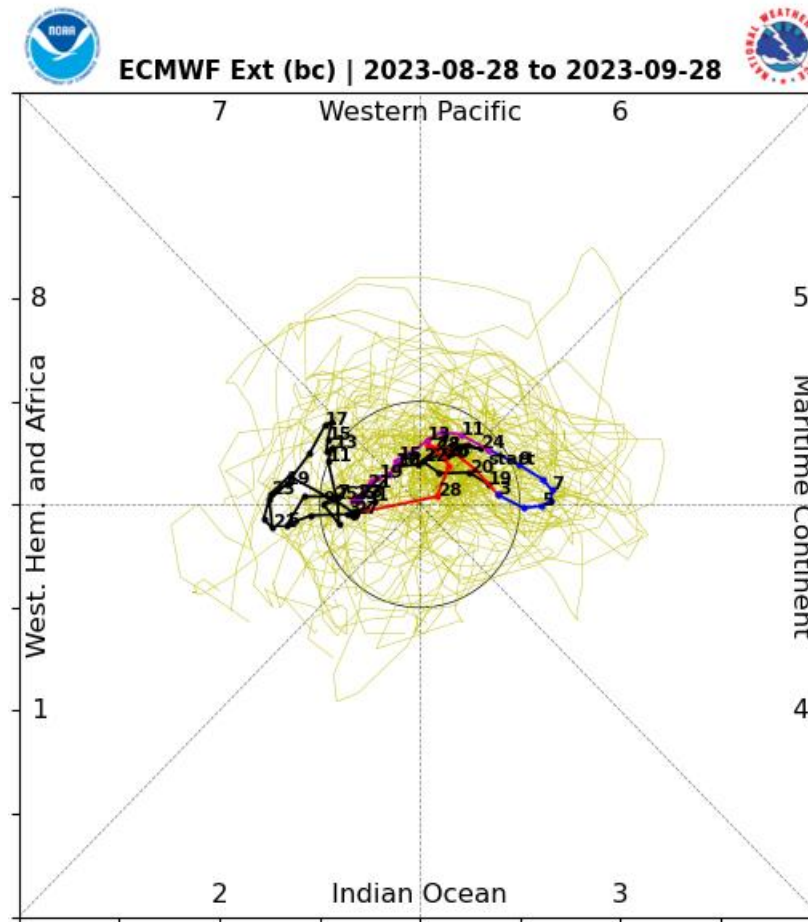
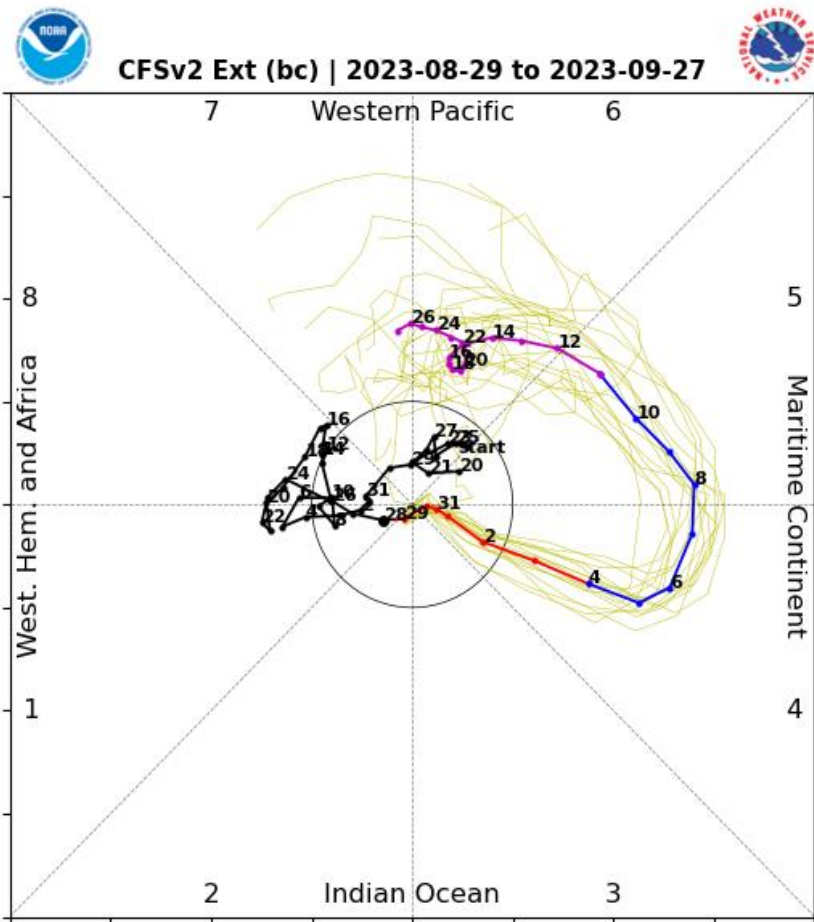
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200-hPa Velocity Potential Anomaly Maps:

- Eastward propagation of an enhanced signal is apparent over the Western Hemisphere
- A more stationary suppressed signal over the IO and MT, as well as enhancement near the Date Line, are associated with El Niño.
- ECMWF forecasts show more robust MJO activity over the next 4 weeks.

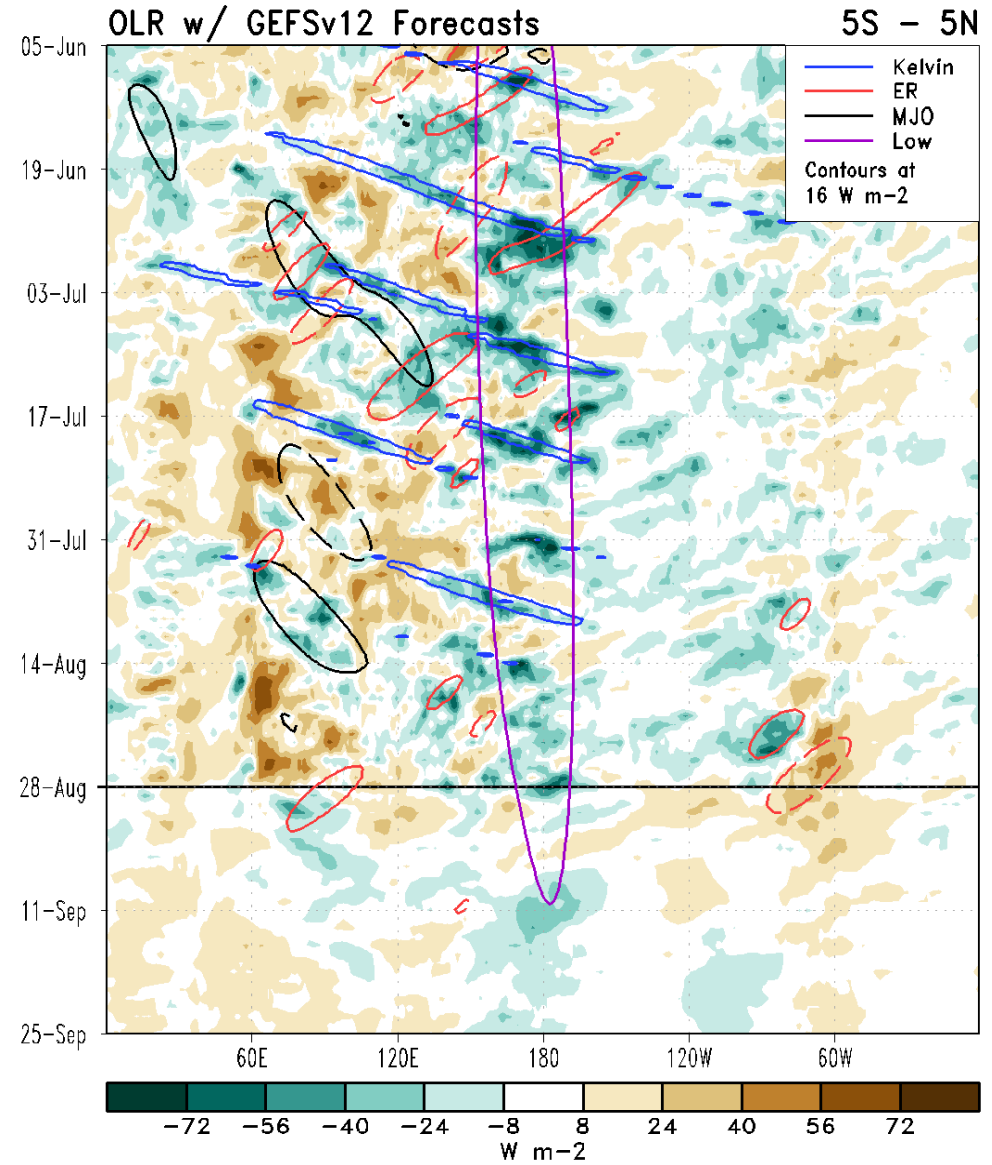
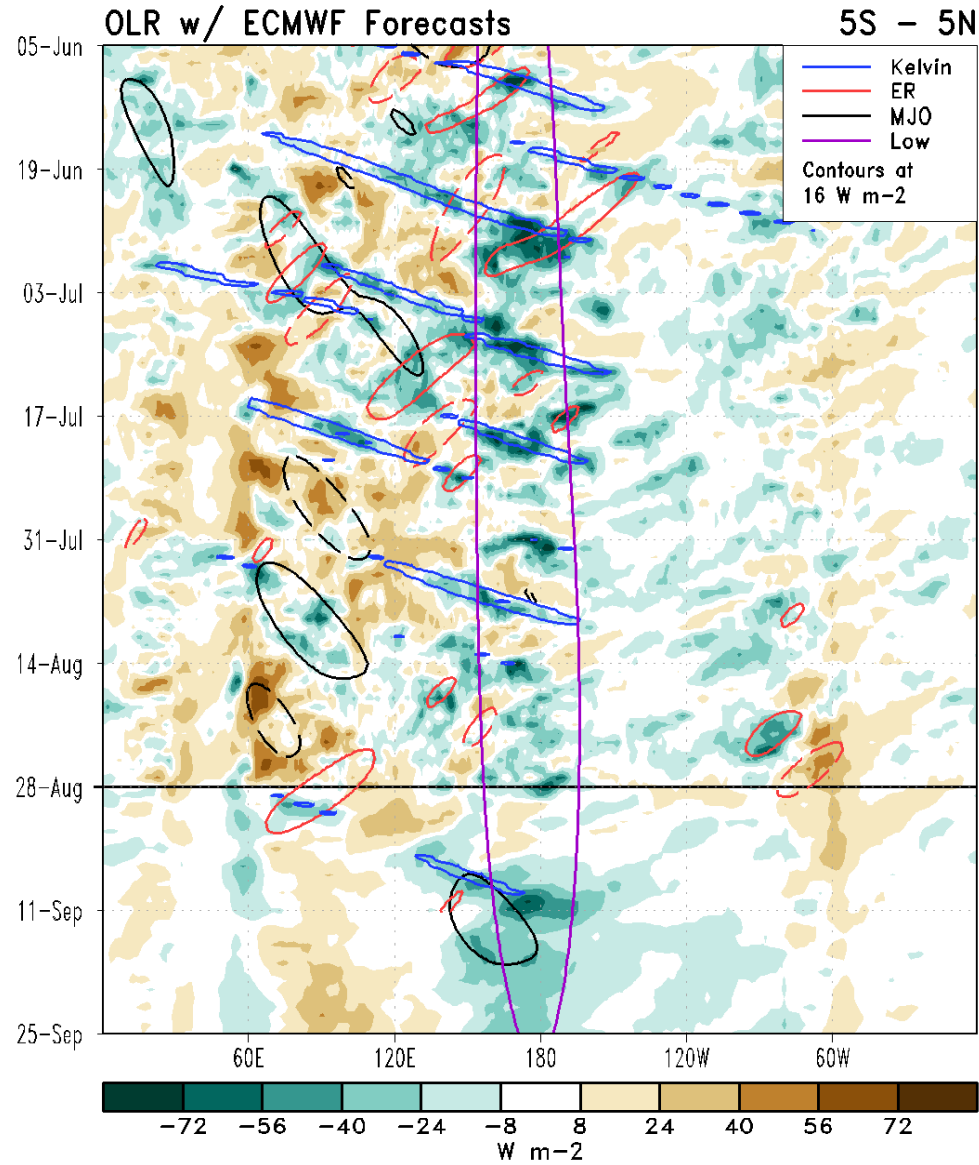


RMM Index Observations & Forecasts:



- The GFS and CFS favor robust MJO activity over the next few weeks.
- The ECMWF also favors eastward propagation, albeit with a weaker signal.

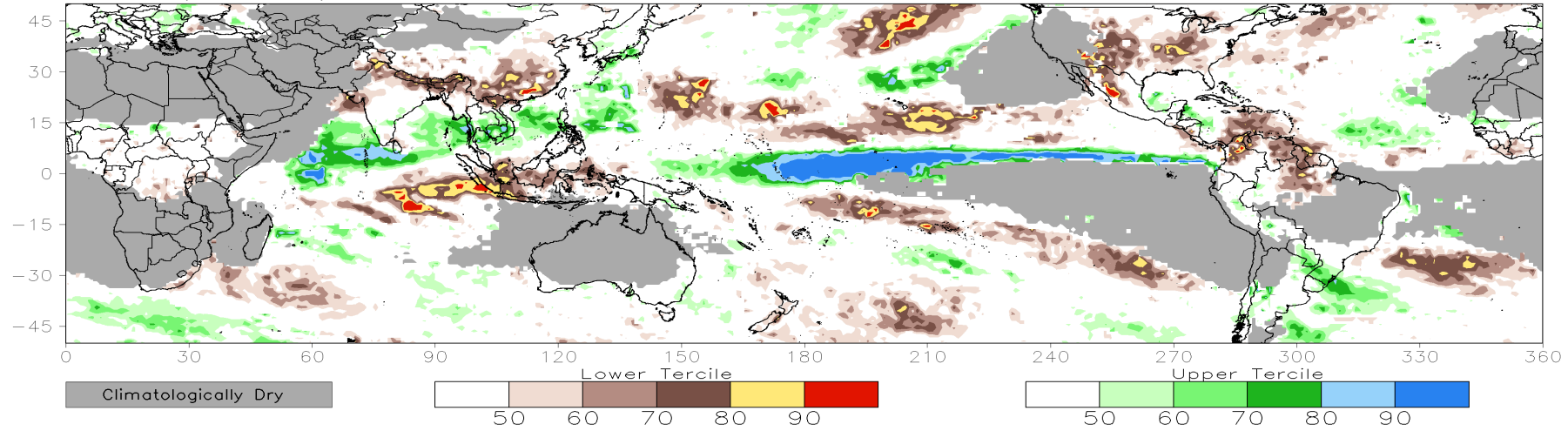
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

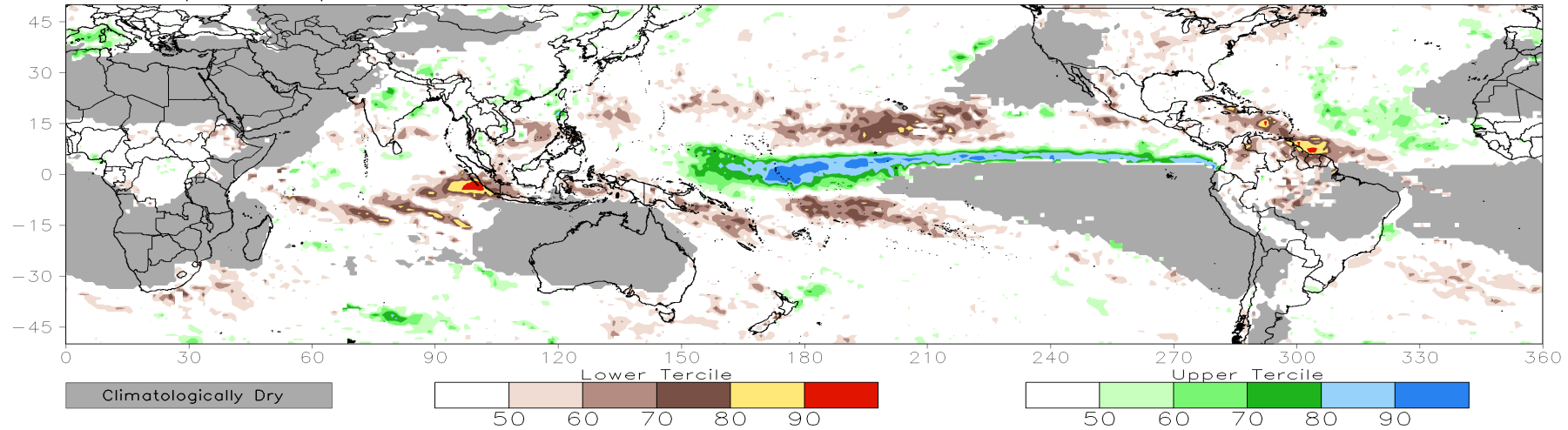
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 06Sep2023–12Sep2023



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

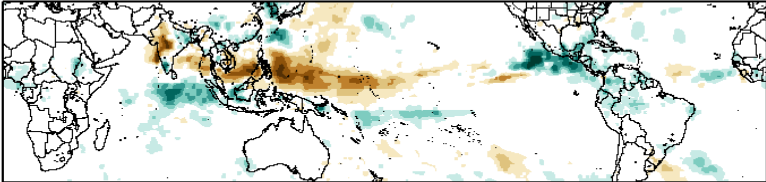
Valid: 13Sep2023–19Sep2023



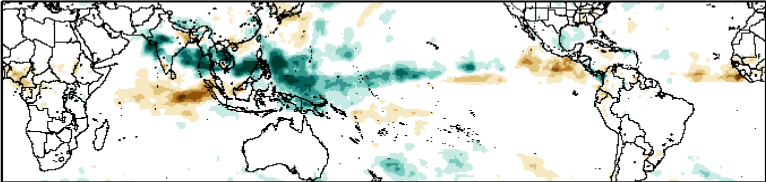
Historical Precipitation Anomalies By MJO Phase:

JAS MJO Composite: GPCP1DD (mm/day)

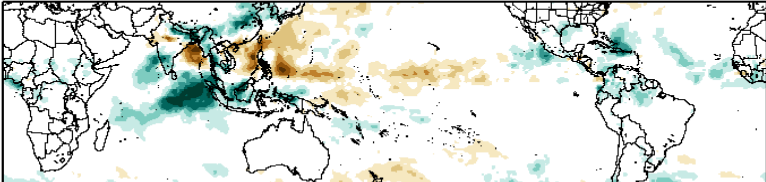
Phase 1



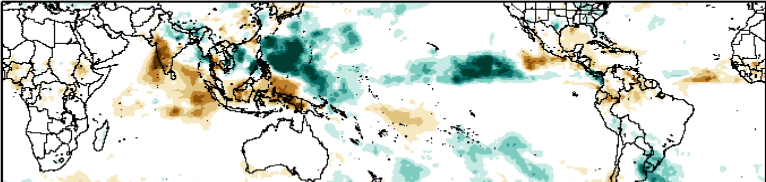
Phase 5



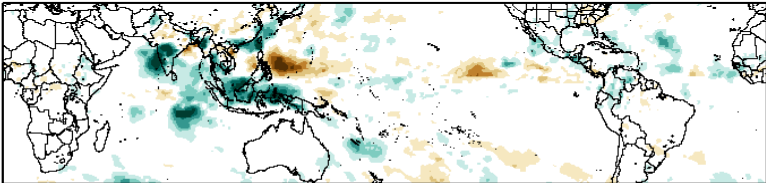
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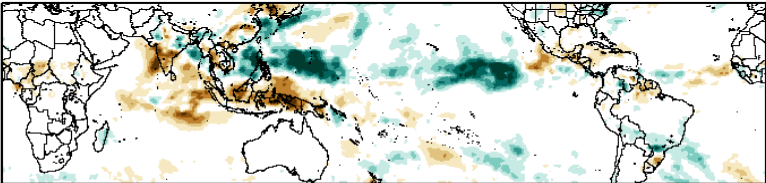
Phase 6



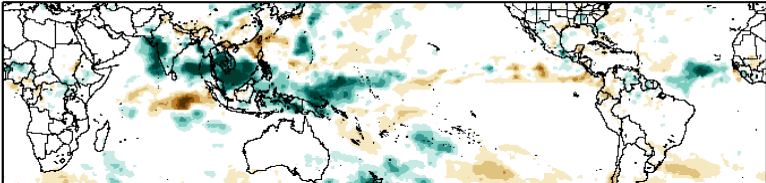
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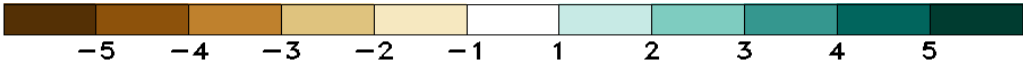
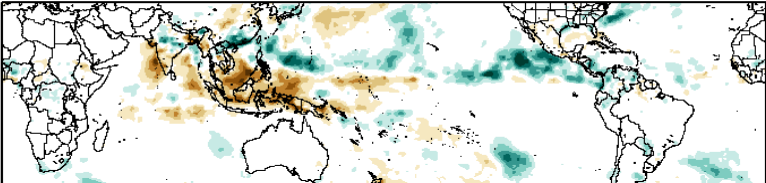
Phase 7



Phase 4

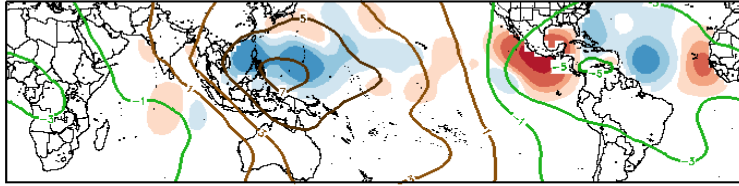


Phase 8

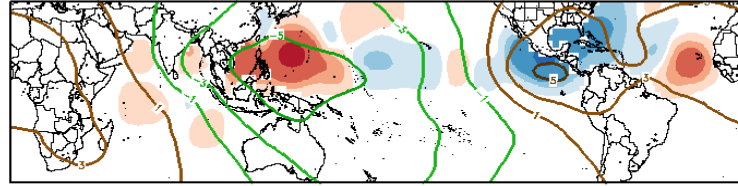


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

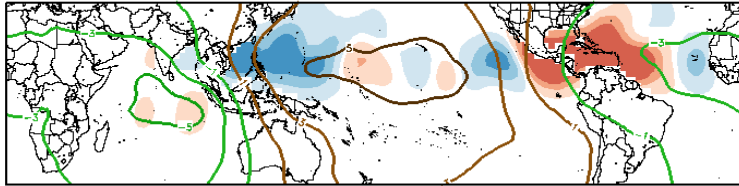
JAS MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JAS CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



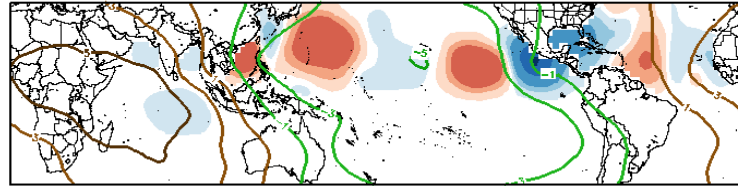
Phase 1



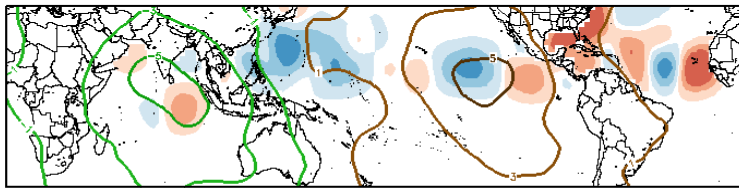
Phase 5



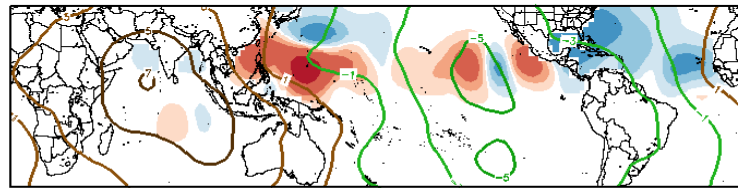
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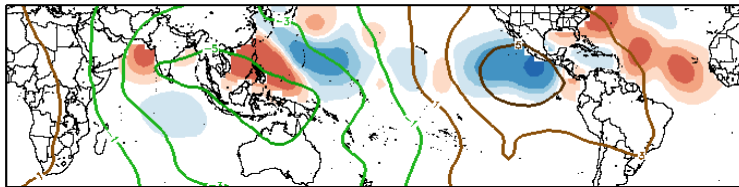
Phase 6



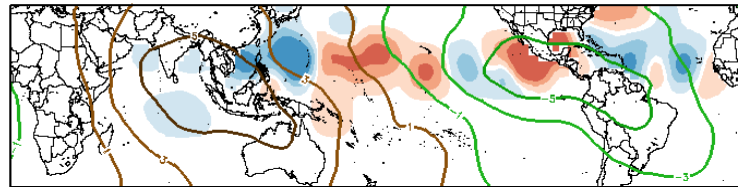
Phase 3



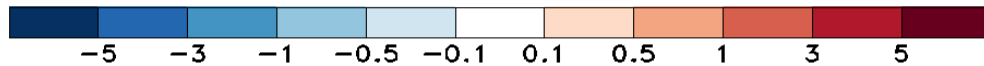
Phase 7



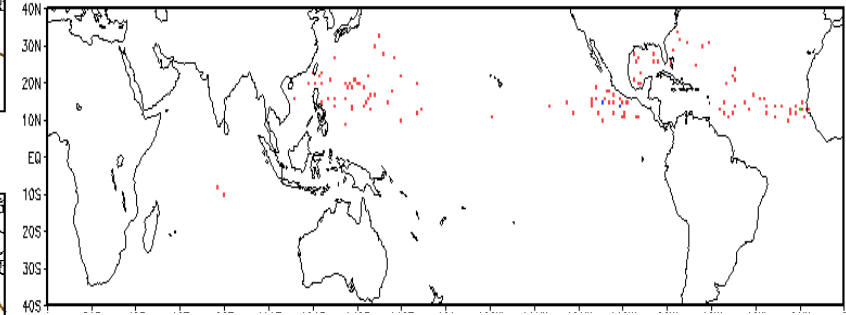
Phase 4



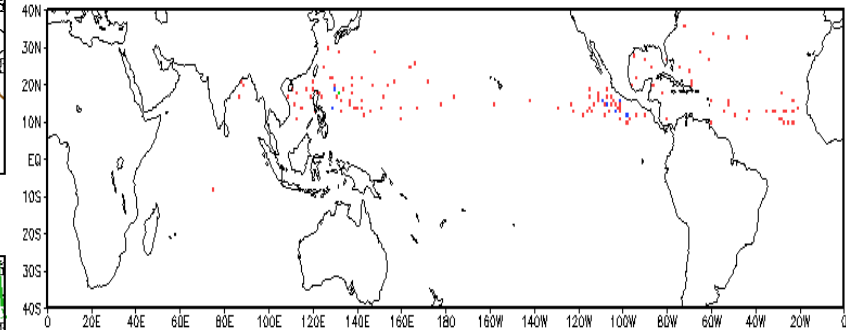
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 0906 to 0912

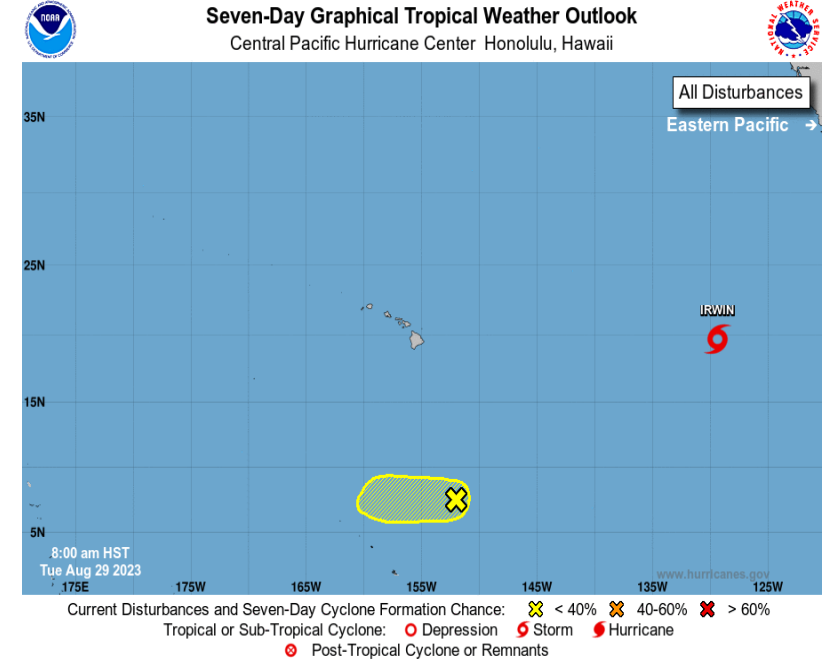
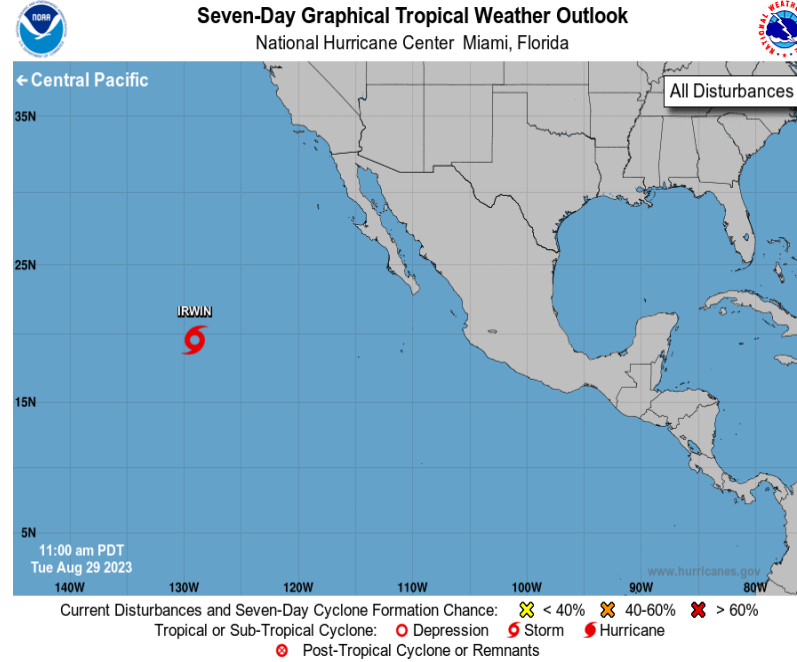
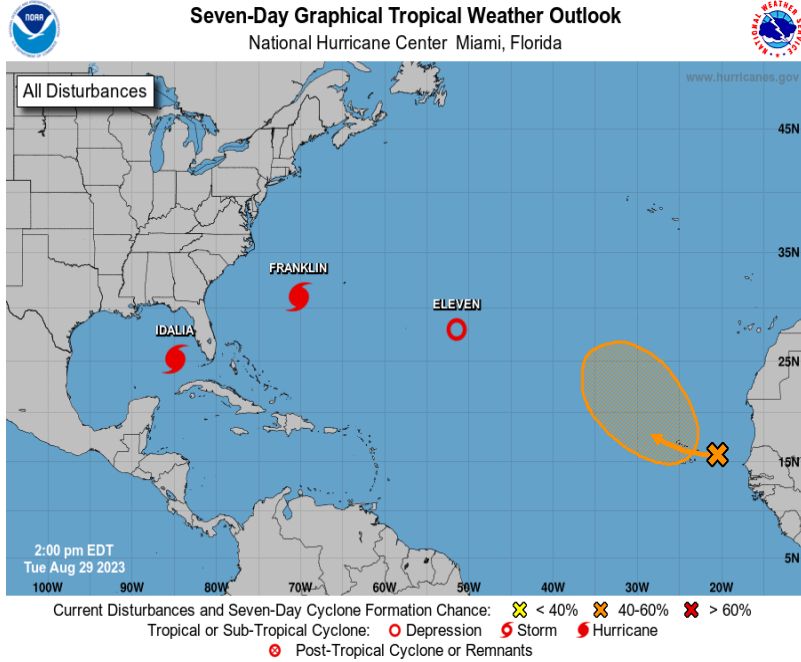


Observed TC Genesis, 1979-2021
7-day Period 0913 to 0919



Experimental

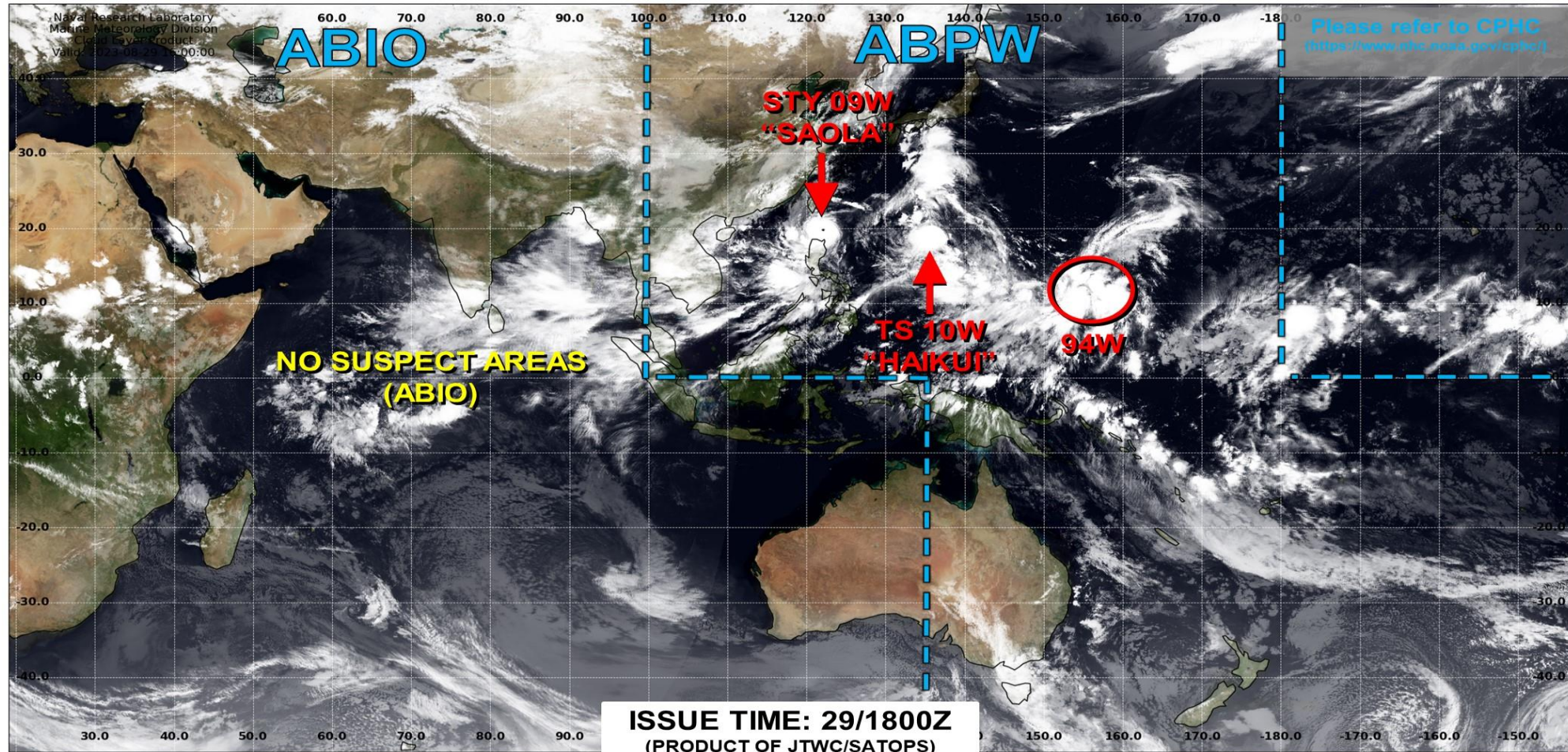
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



Tropical Cyclone Monitoring/Forecast: JTWC



JOINT TYPHOON WARNING CENTER



ISSUE TIME: 29/1800Z
(PRODUCT OF JTWC/SATOPS)



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours



TC development likely within 24 hours (Reference TCFA)



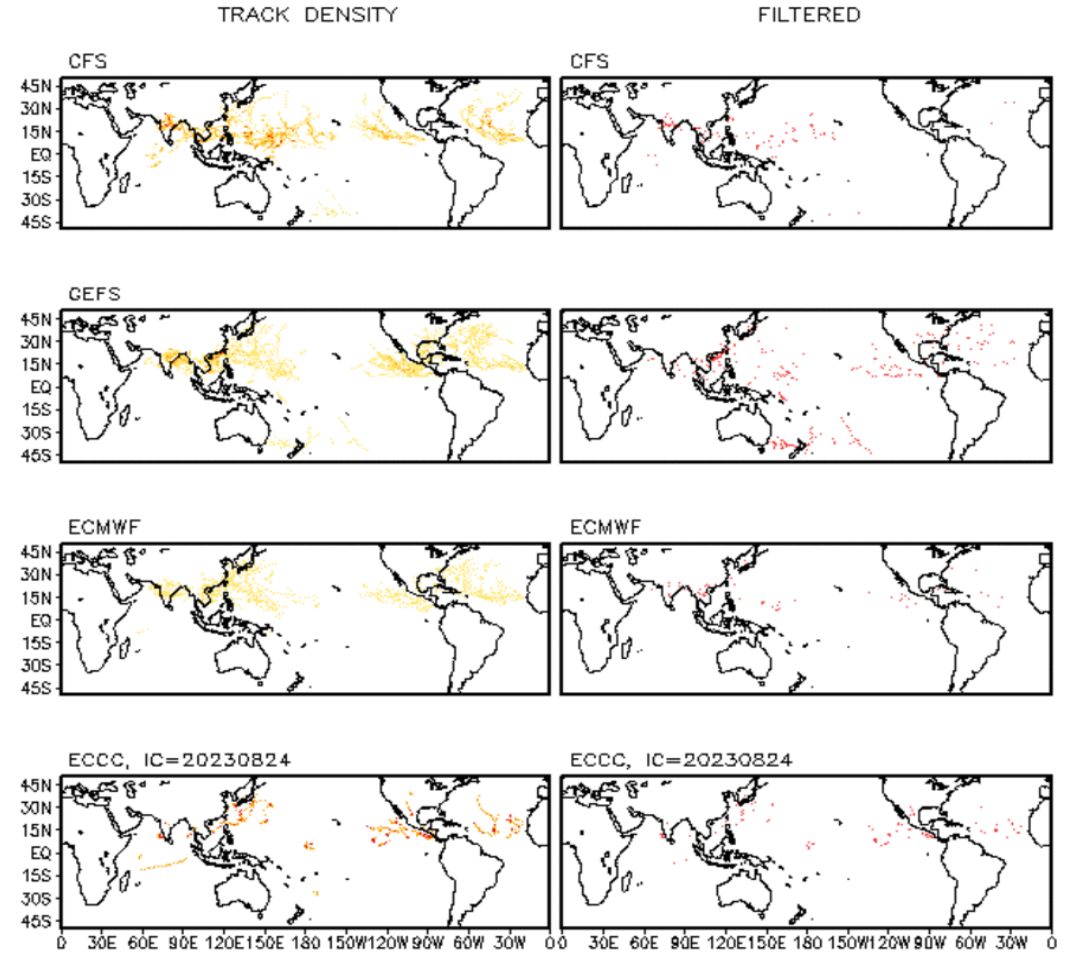
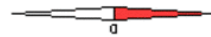
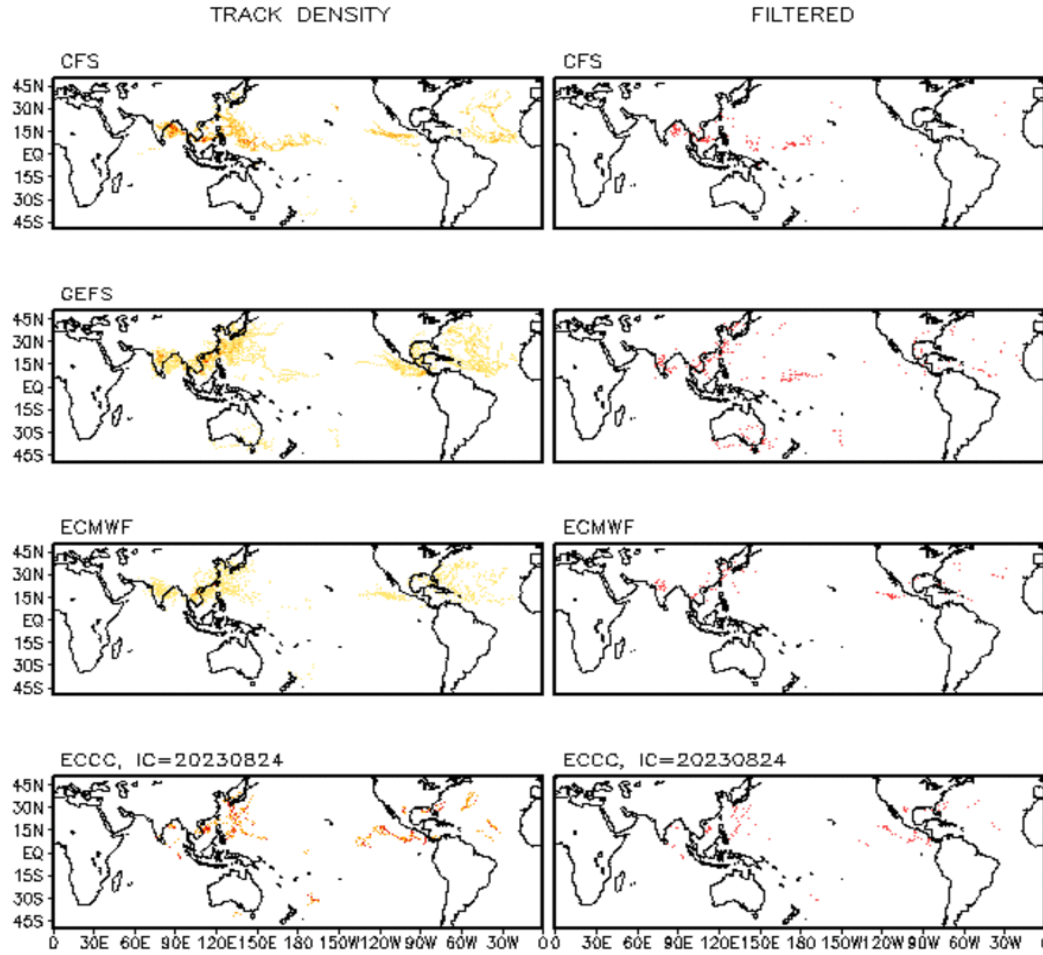
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



Multi-Model TC Track Densities: Weeks 2+3

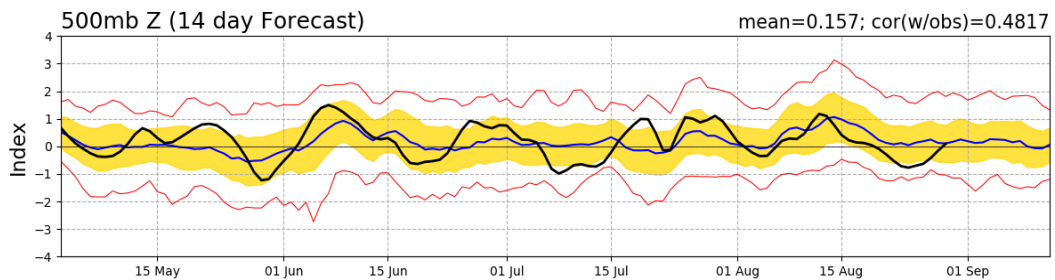
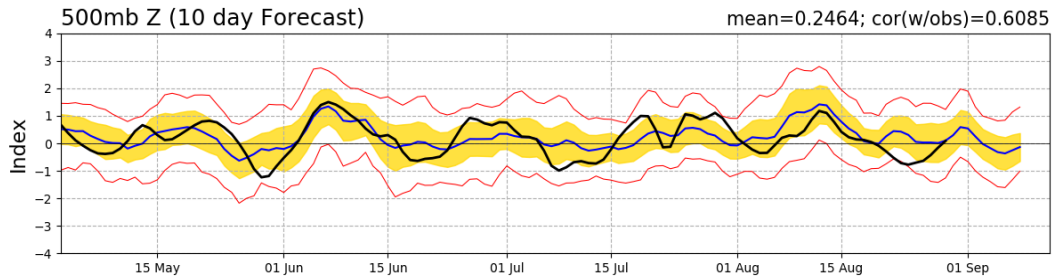
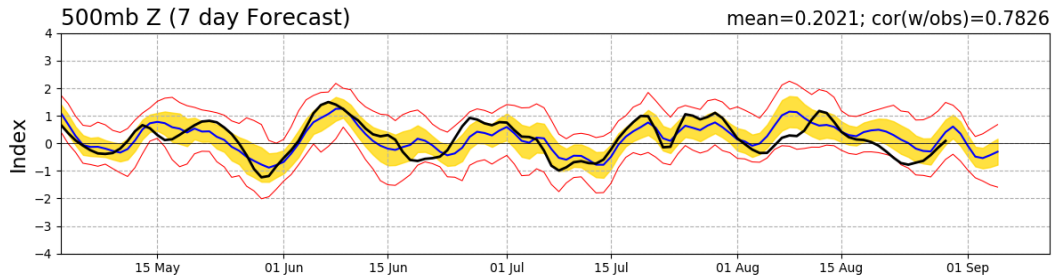
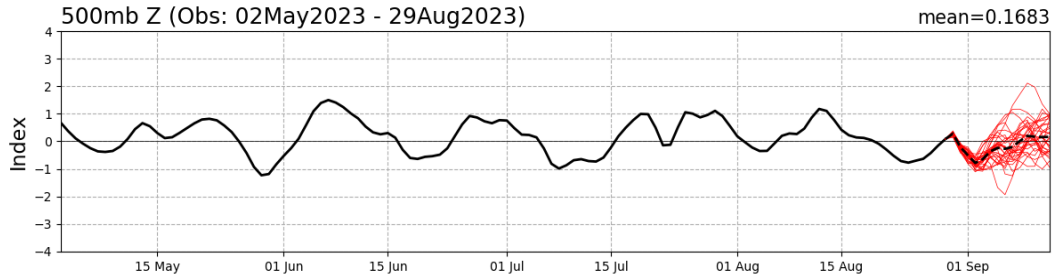
Storm Track Density Distribution, IC=20230828
Week 2 Forecast: 0906–0912

Storm Track Density Distribution, IC=20230828
Week 3 Forecast: 0913–0919

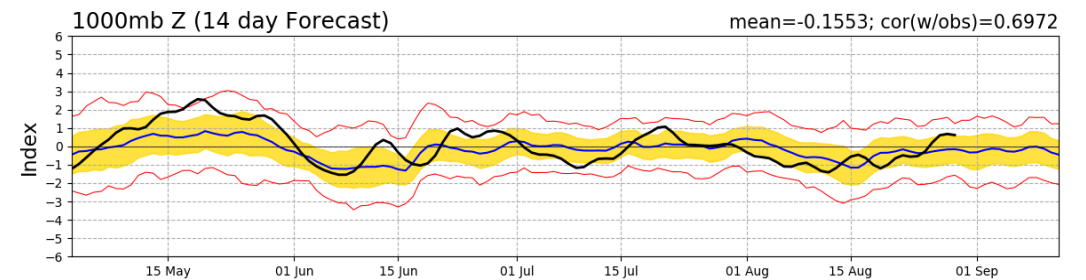
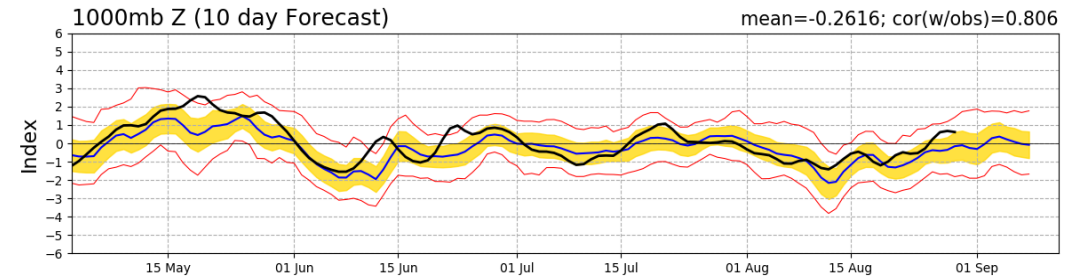
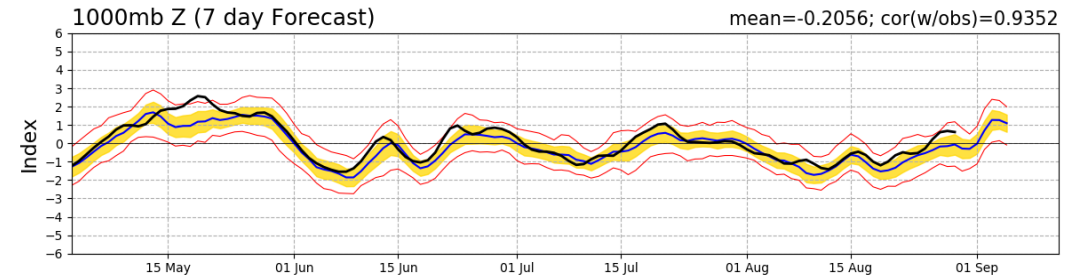
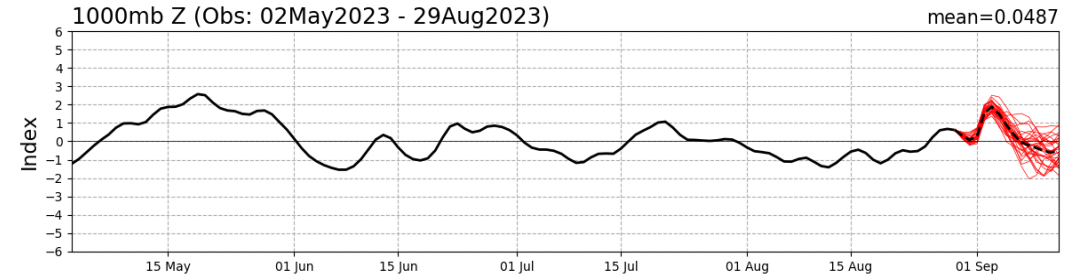


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

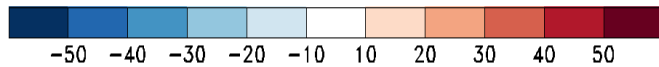
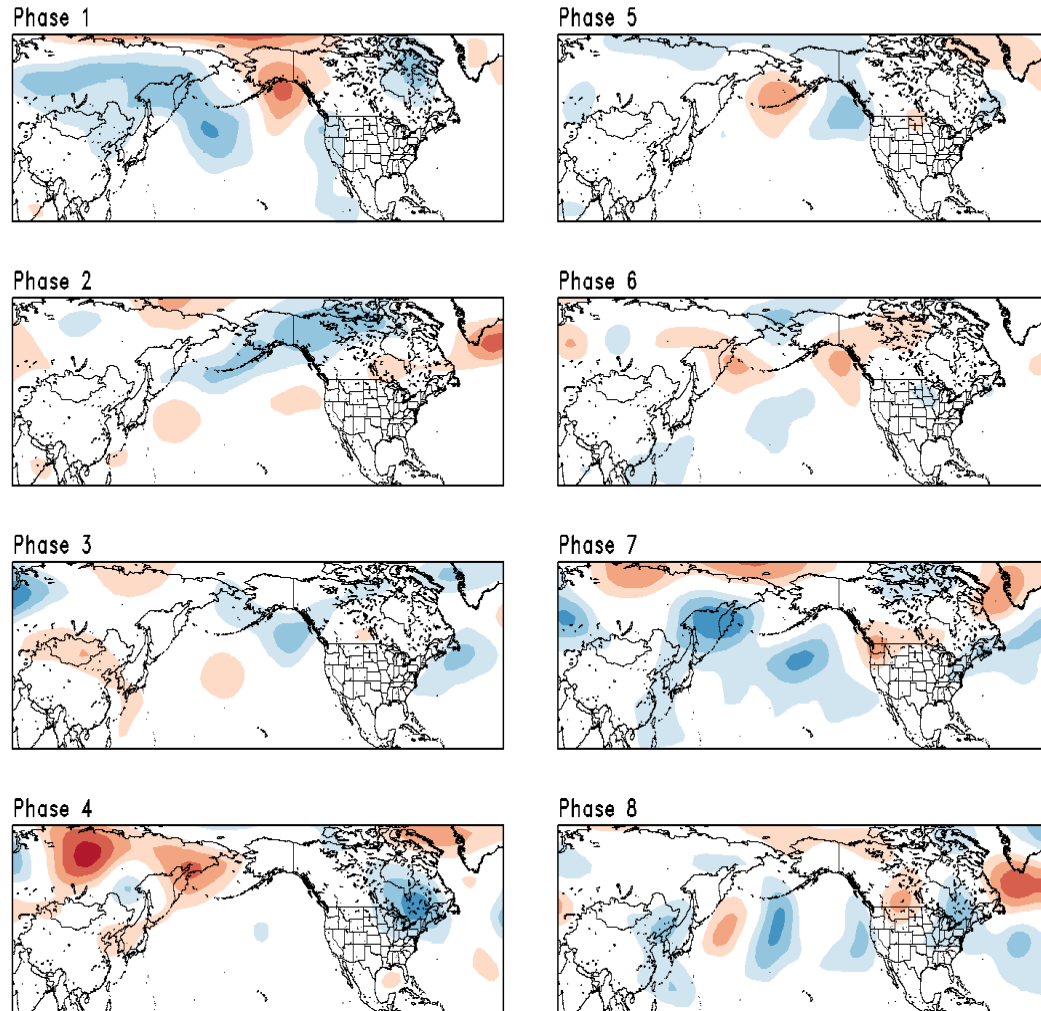


AO Index: Observed & GEFS Forecasts

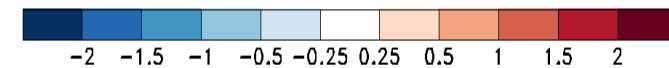
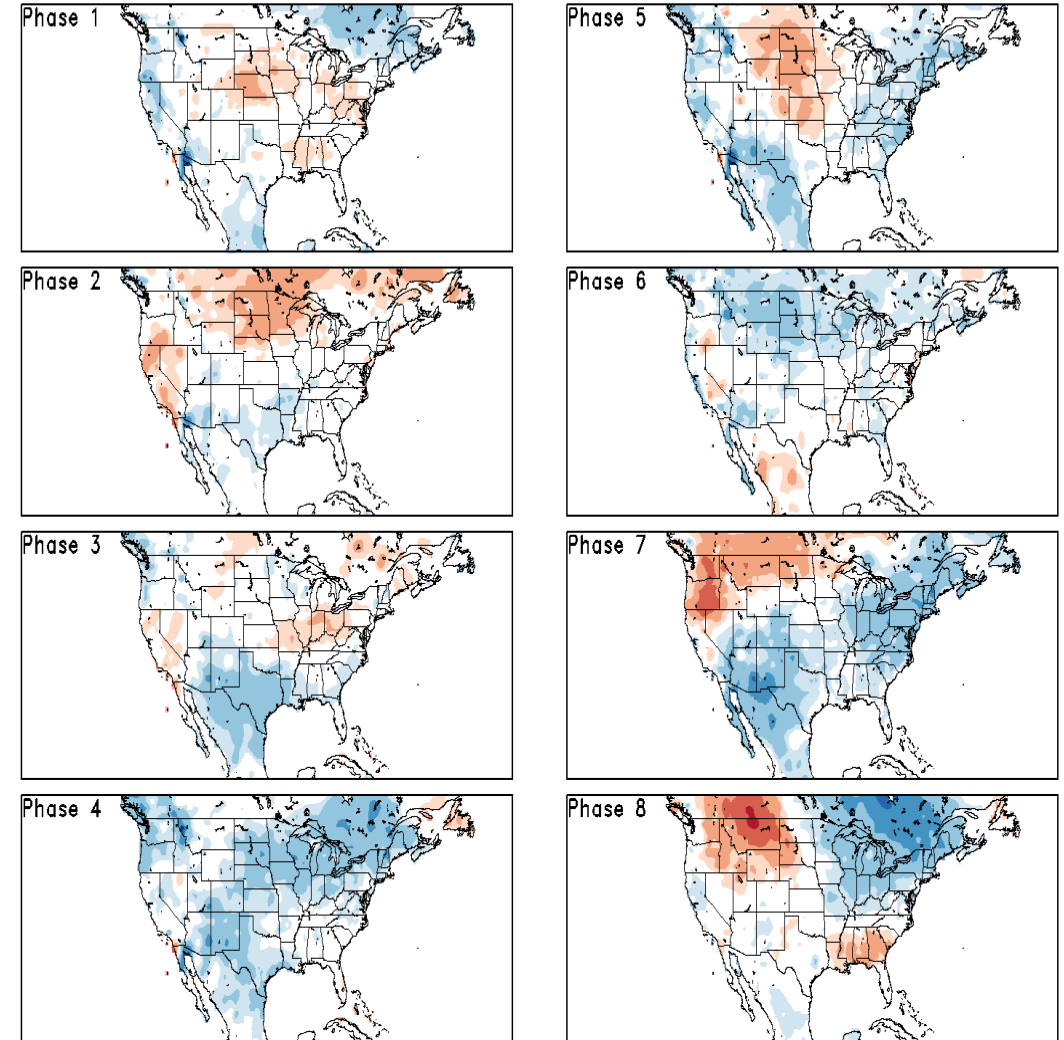


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

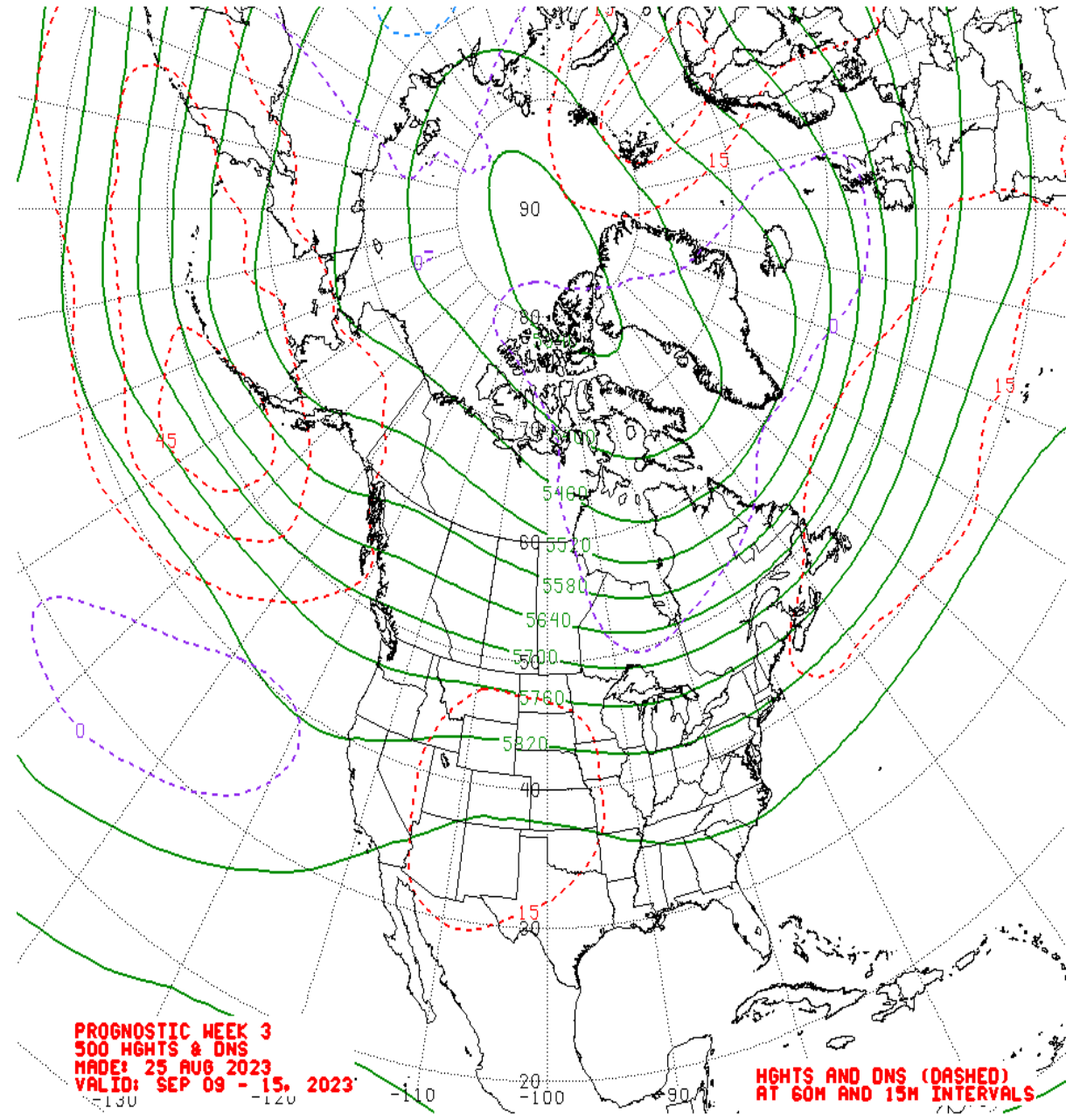
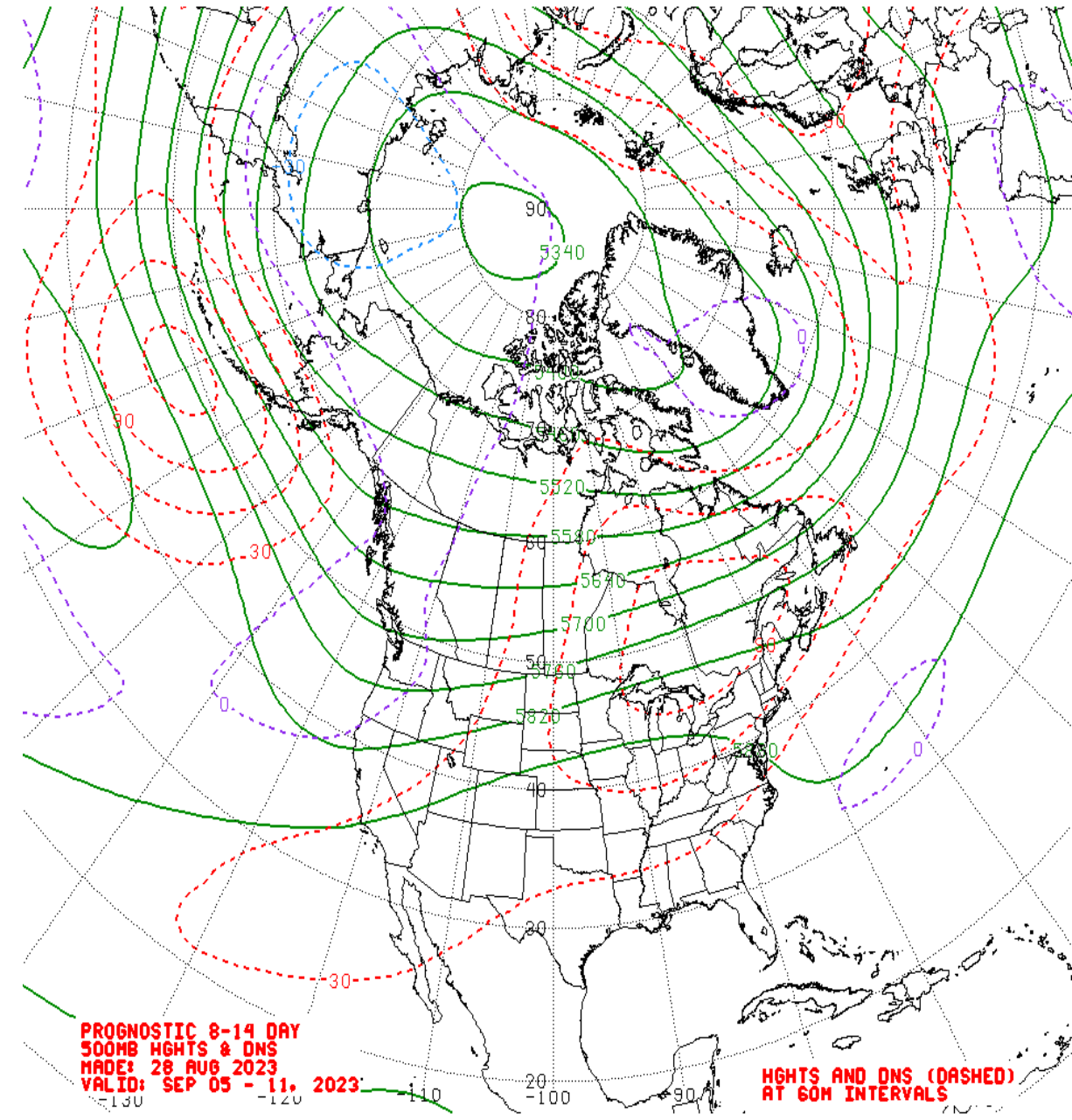
JAS MJO Composite: CDAS 500-hPa Height (m)



JAS MJO Composite: GLBT (degC)



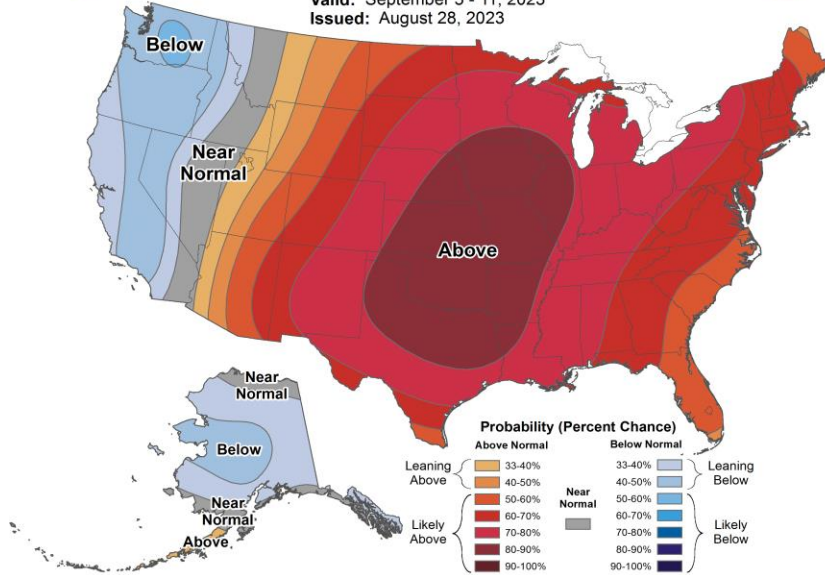
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3



Official Temperature & Precipitation Forecasts:

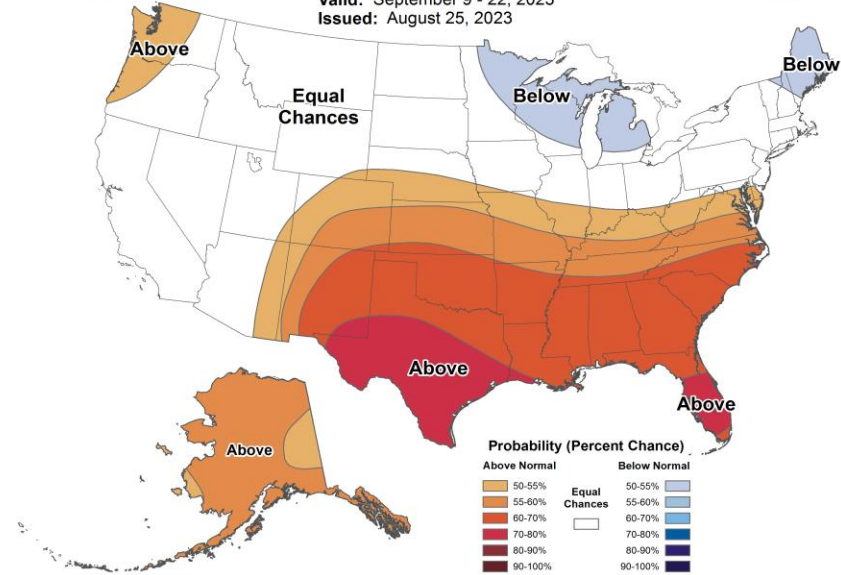
8-14 Day Temperature Outlook

Valid: September 5 - 11, 2023
Issued: August 28, 2023



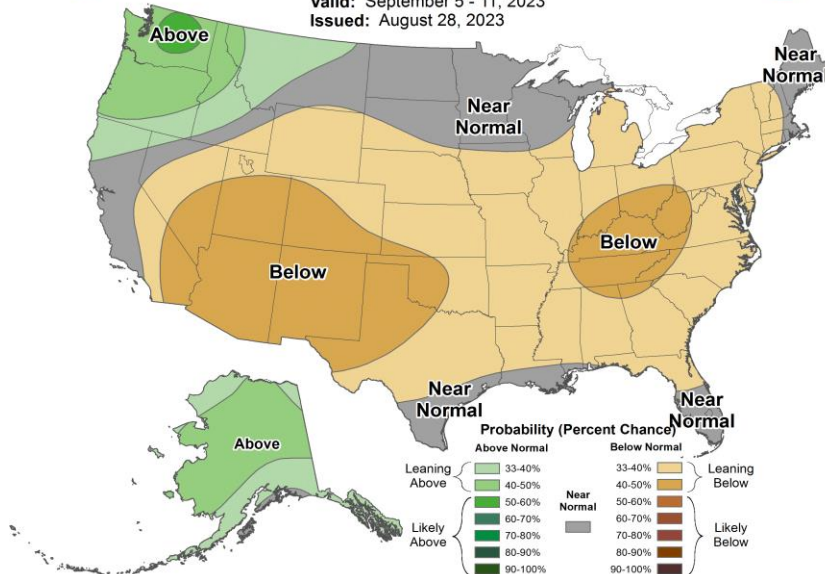
Weeks 3-4 Temperature Outlook

Valid: September 9 - 22, 2023
Issued: August 25, 2023



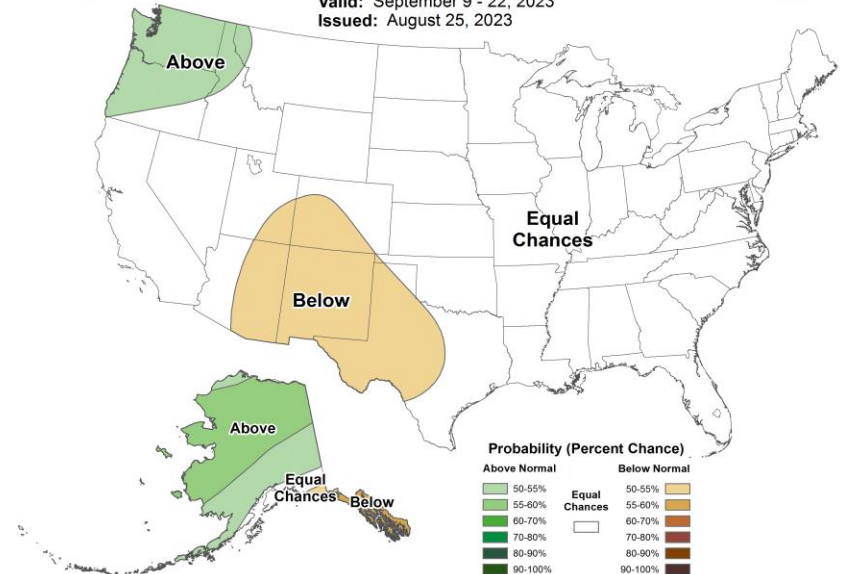
8-14 Day Precipitation Outlook

Valid: September 5 - 11, 2023
Issued: August 28, 2023



Weeks 3-4 Precipitation Outlook

Valid: September 9 - 22, 2023
Issued: August 25, 2023



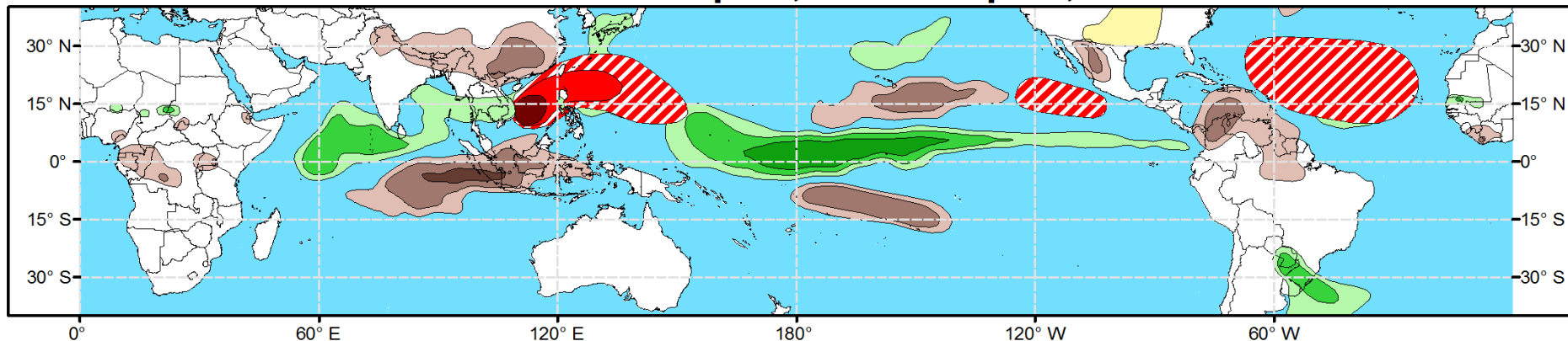


Global Tropics Hazards Outlook

Climate Prediction Center

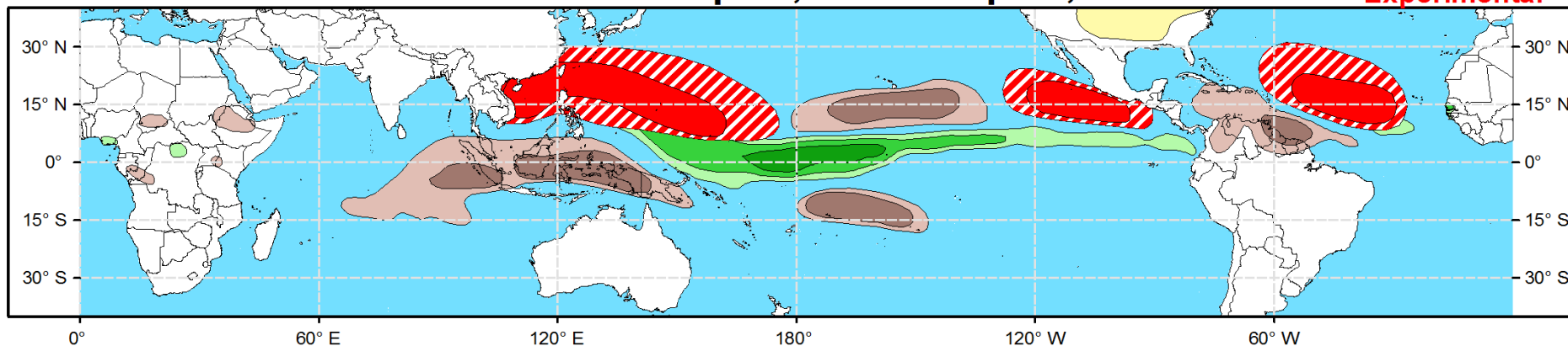


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