



Weeks 2-3 Global Tropics Hazards Outlook

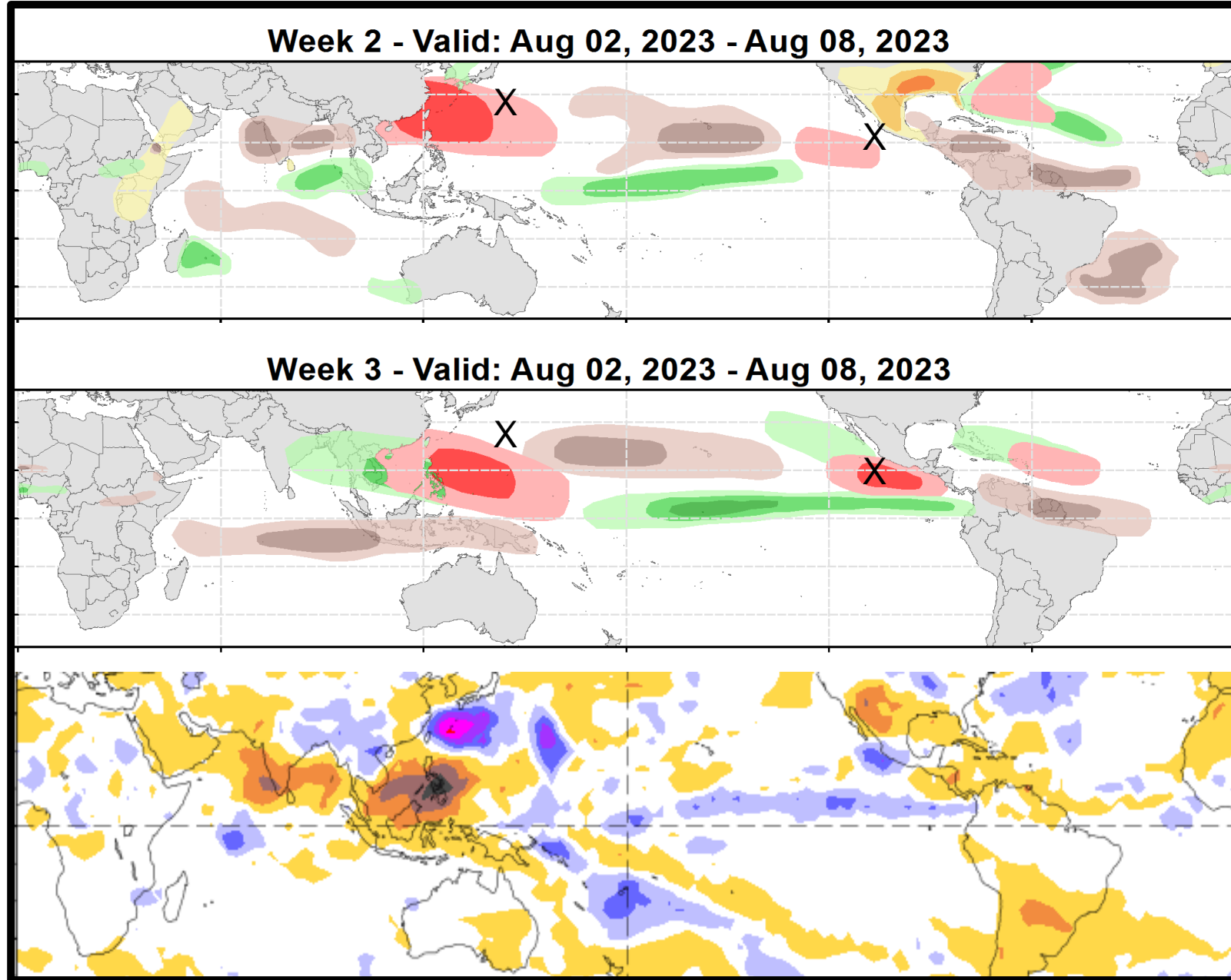
8/18/2023

Nick Novella

NWS / NCEP / Climate Prediction Center

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

- EPAC: TS Eugene (8/5)
- WPAC: TS Lan (8/8)



Synopsis of Climate Modes:

ENSO: (Jul 13, 2023 Update) *next update on Thursday, Aug 10th*

- ENSO Alert System Status: [La Niña Advisory](#)
- There is greater than a 90% chance that El Niño will continue through the Northern Hemisphere winter.

MJO and other subseasonal tropical variability:

- Following a brief uptick of the MJO signal in the RMM index over the Western Hemisphere, the signal has since weakened and retreated westward, and is likely related to the passage of Tropical Cyclone (TC) Dora in the central Pacific. Renewed MJO activity is much less supported in the observed upper-level velocity potential anomaly fields.
- RMM forecasts are largely unresponsive of a more coherent, eastward propagating MJO reemerging through late August, as the El Niño base state is expected to remain the dominant driver of convective anomalies and tropical cyclogenesis.
- Upper-level conditions, modulated by other modes of variability forecast, are expected to be favorable for TC development in the eastern Pacific and Atlantic.

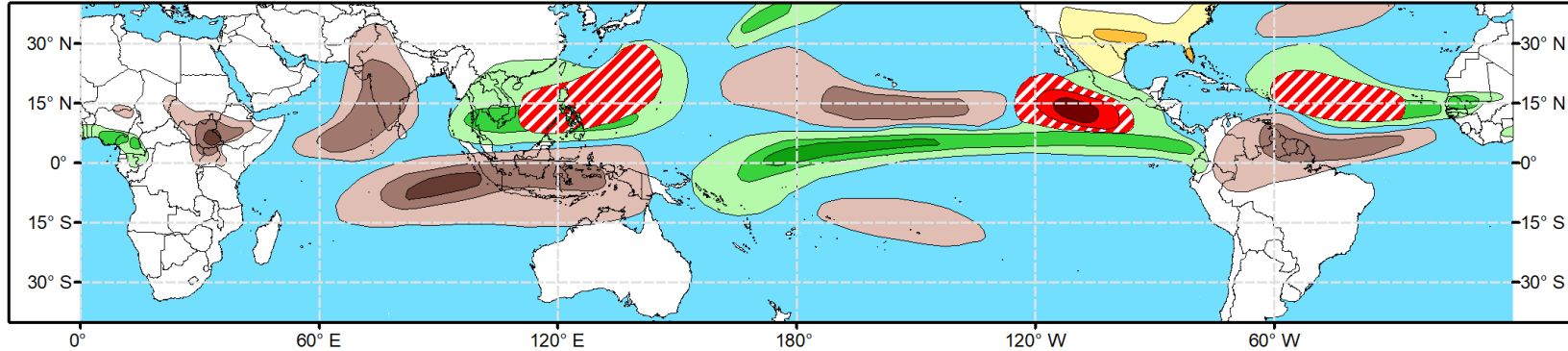
GTH Outlook:



Global Tropics Hazards Outlook Climate Prediction Center

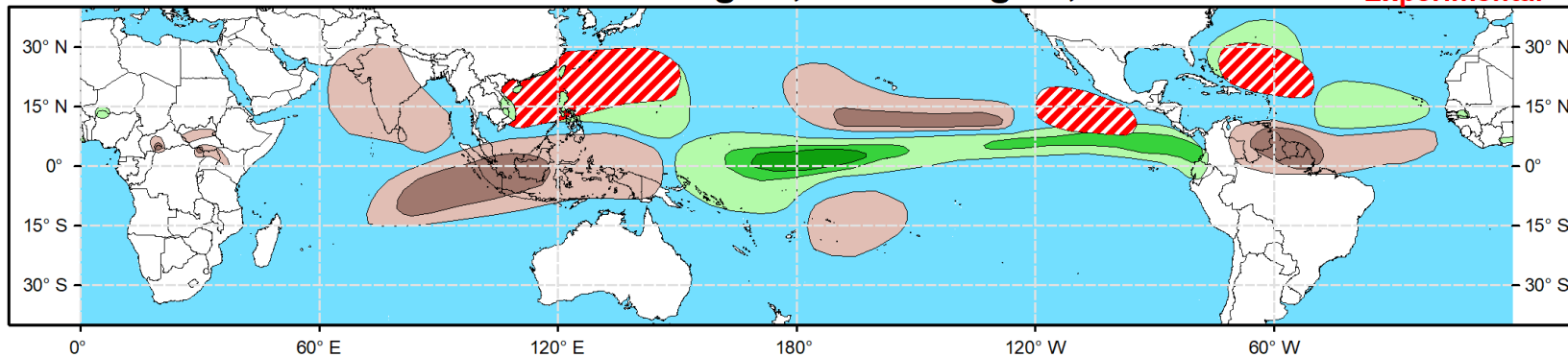


Week 2 - Valid: Aug 16, 2023 - Aug 22, 2023



Week 3 - Valid: Aug 23, 2023 - Aug 29, 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
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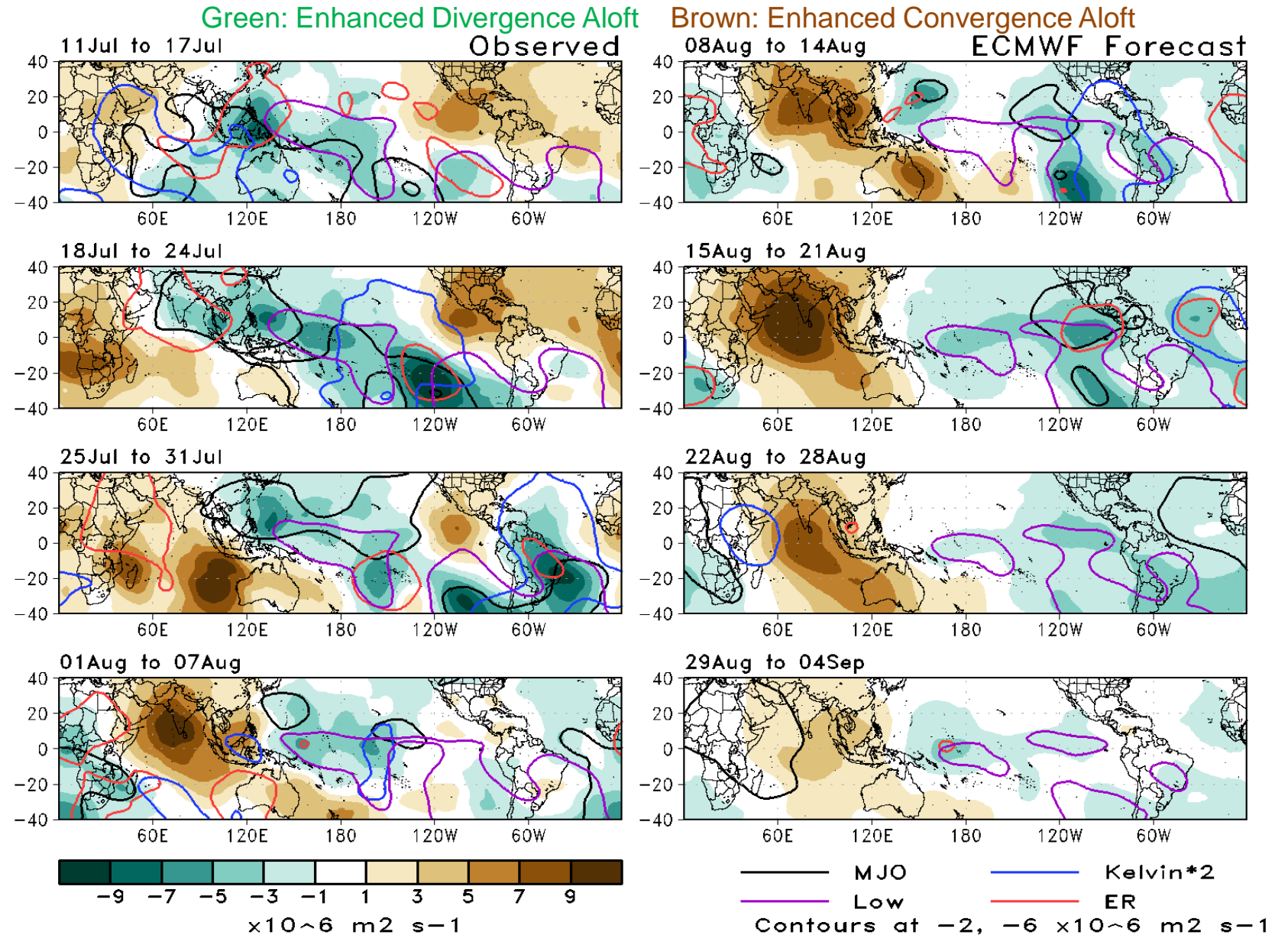
*7-day min temperatures in the
Lower third of the historical range*

**Issued: 08/08/2023
Forecaster: Novella**

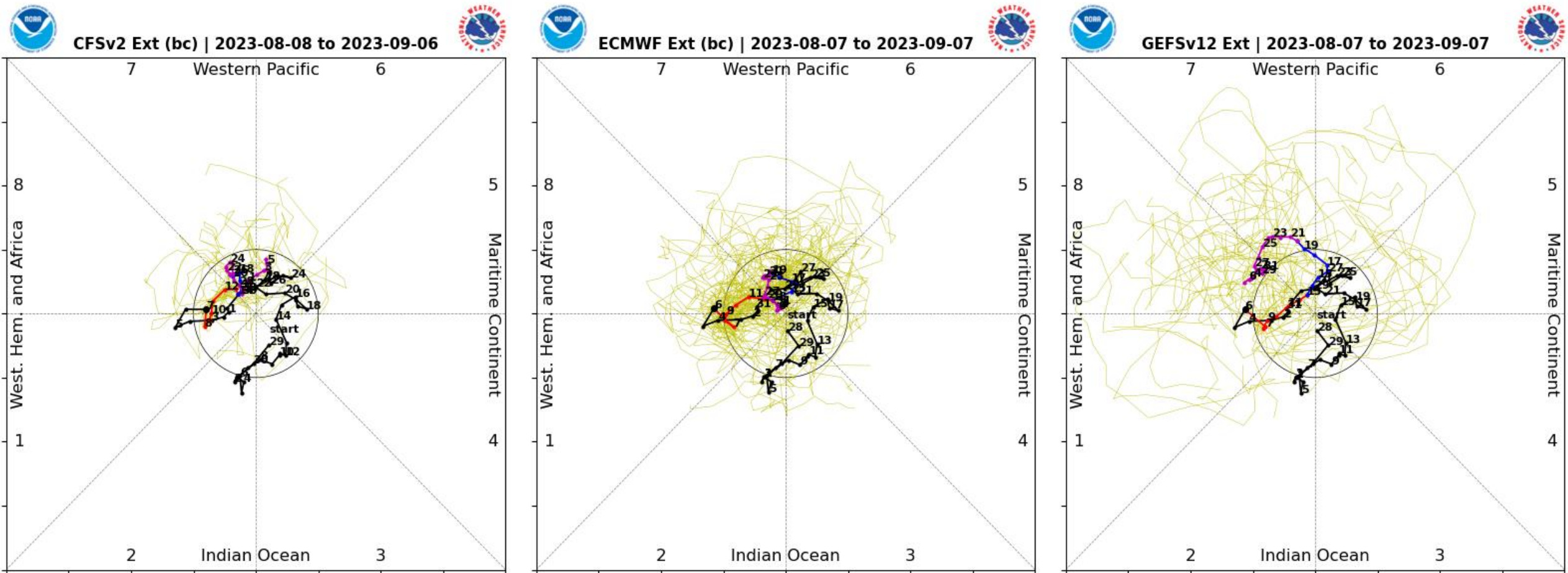
**This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only.
Consult your local responsible forecast agency.**

200-hPa Velocity Potential Anomaly Maps:

- A disorganized pattern was observed during the past week, with multiple envelopes of enhanced divergence aloft.
- During the next several weeks, the pattern is favored to become more wave-1 like, however it lacks any eastward propagation consistent with an organized MJO.
- The persistence of enhanced divergence favored aloft, along with predicted Kelvin and Rossby wave passages are favorable for TC development in the western Hemisphere

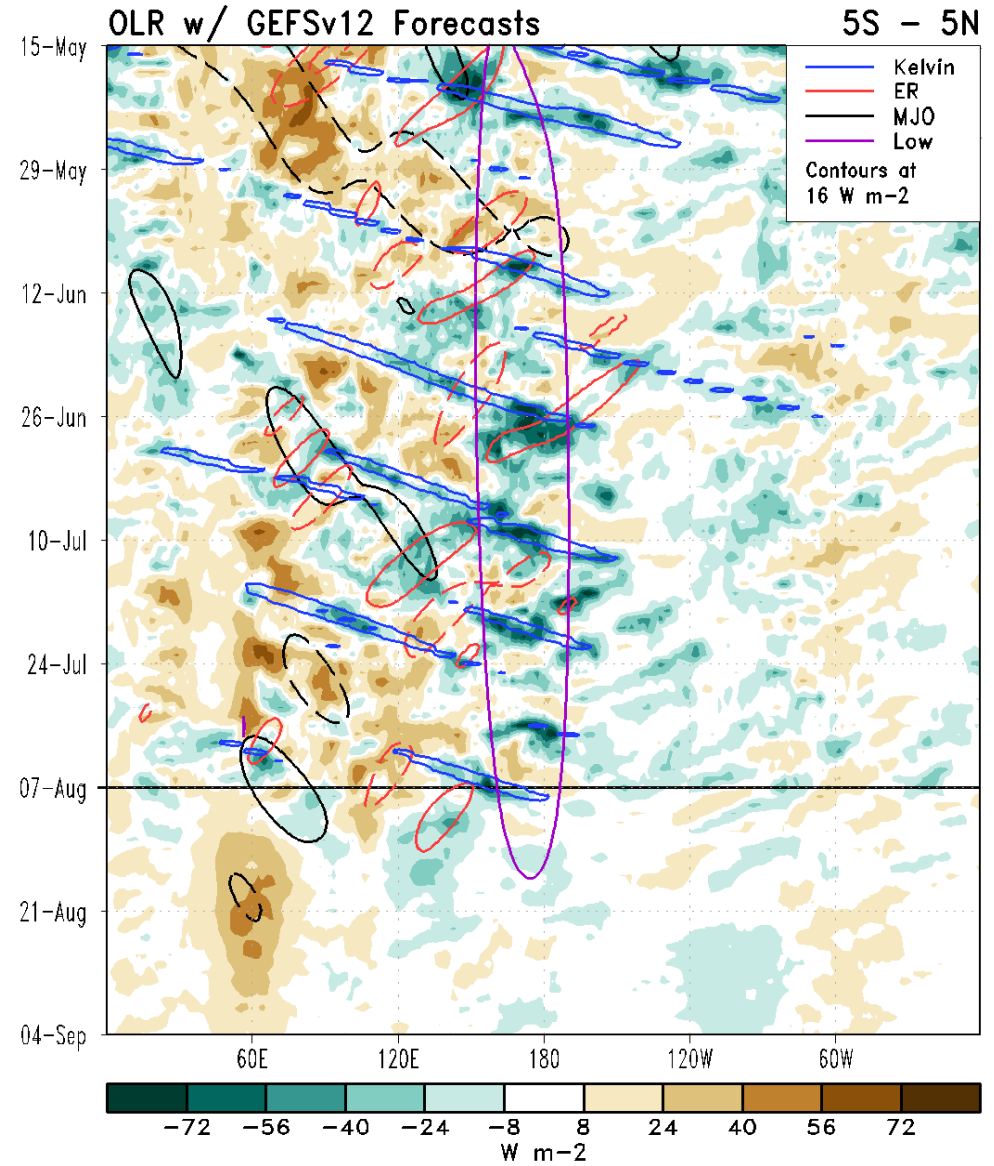
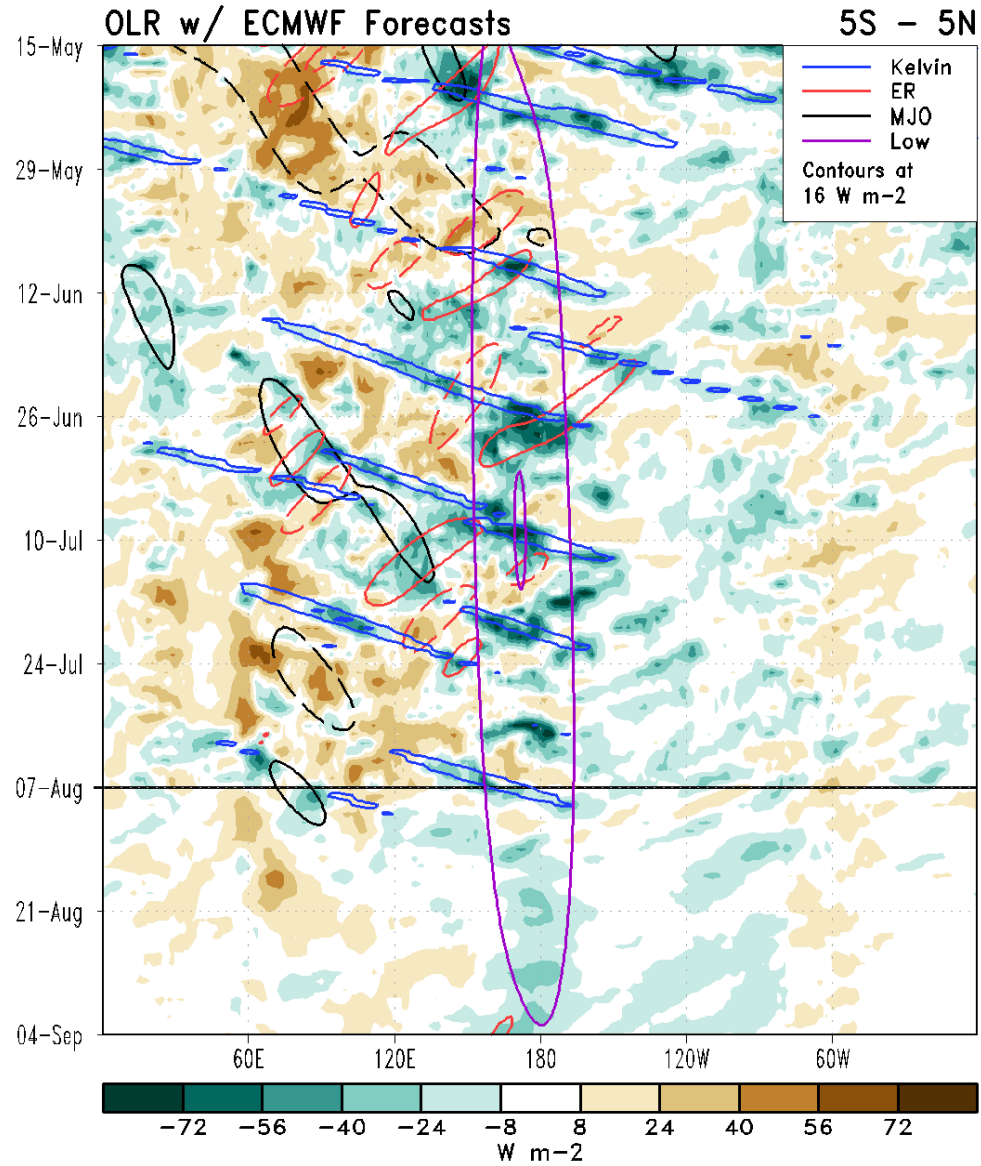


RMM Index Observations & Forecasts:



- RMM forecasts largely agree that the MJO signal will remain weak and disorganized during the next several weeks.
- Extended range solutions point to possible reemergence over the western Pacific, however confidence is quite low given the high ensemble spread.

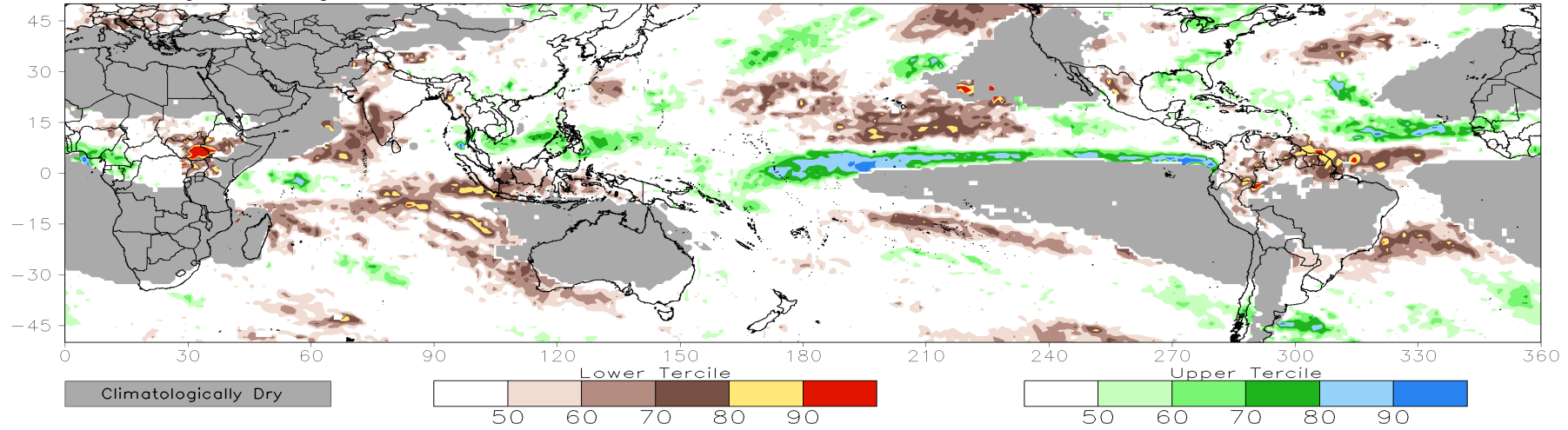
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

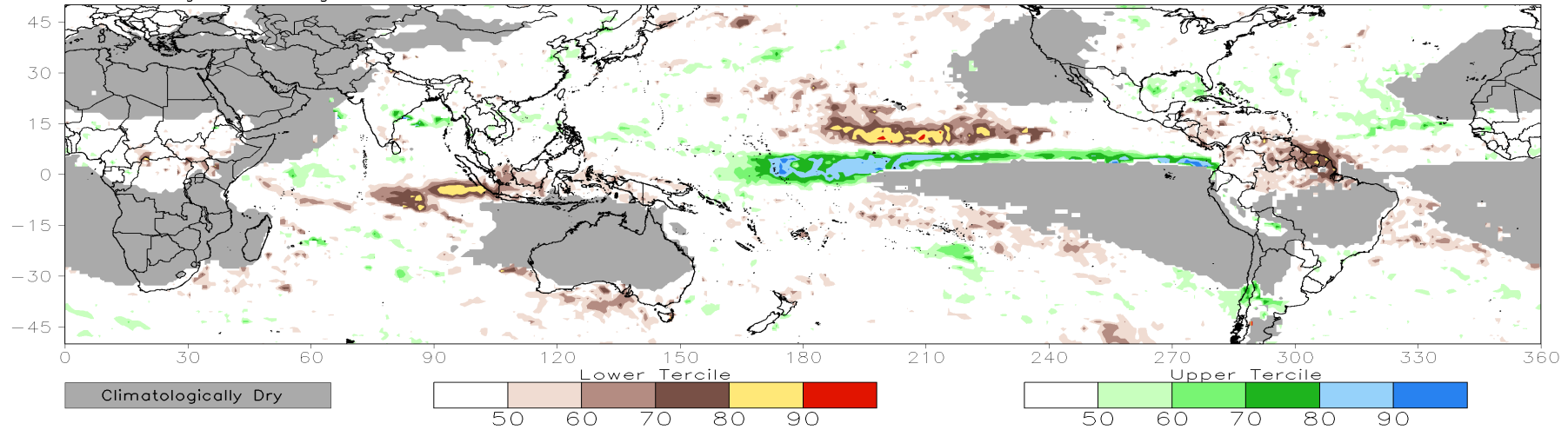
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 16Aug2023–22Aug2023



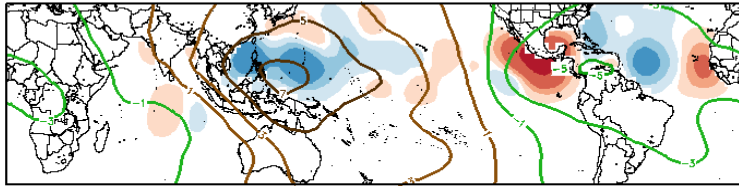
CONS 00z: Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 23Aug2023–29Aug2023

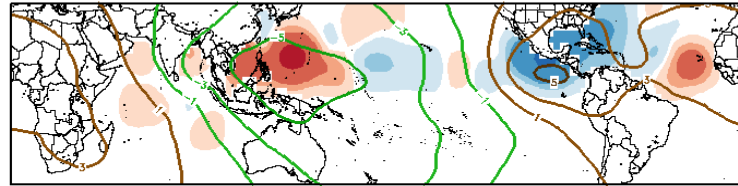


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

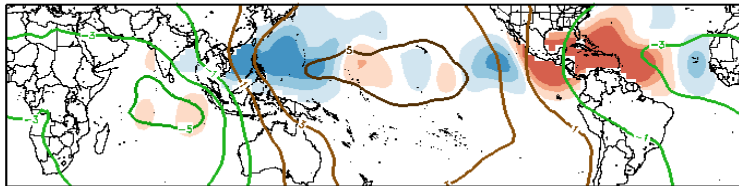
JAS MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JAS CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



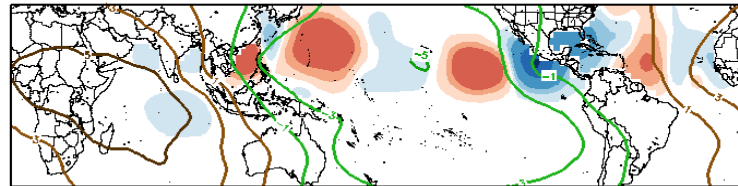
Phase 1



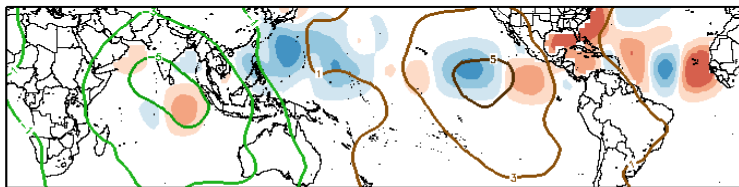
Phase 5



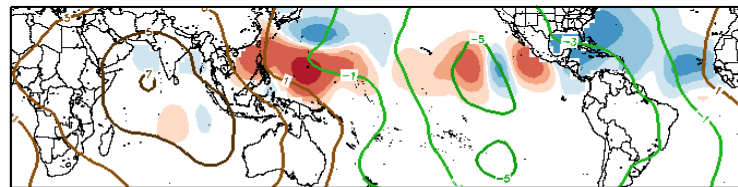
Phase 2



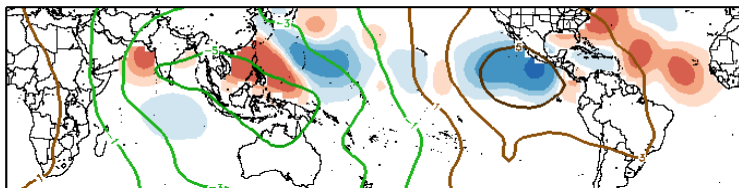
Phase 6



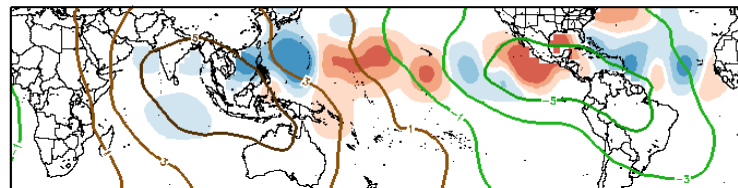
Phase 3



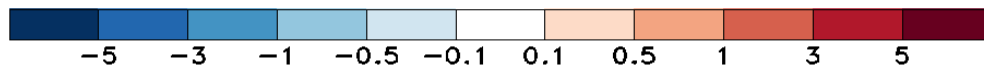
Phase 7



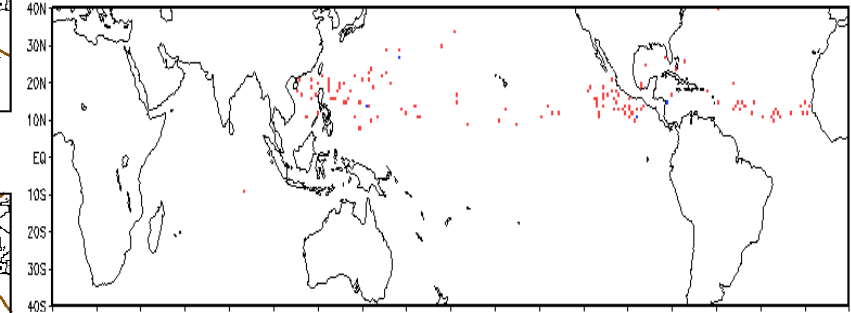
Phase 4



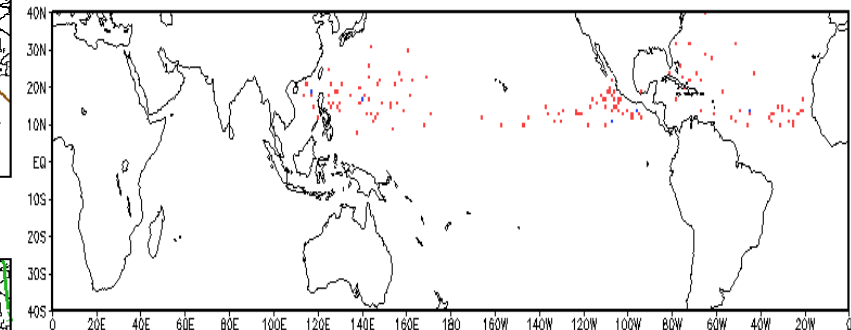
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 0816 to 0822

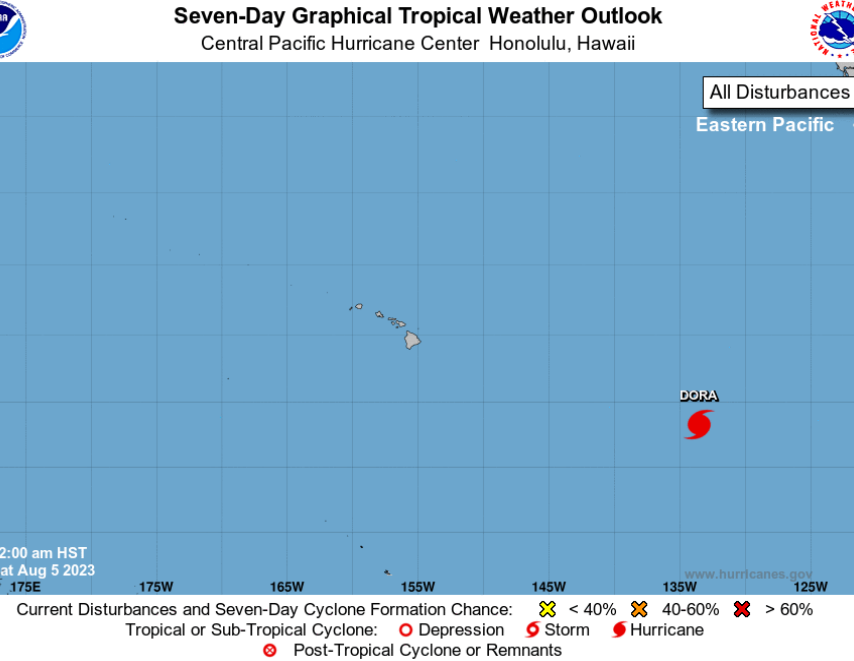
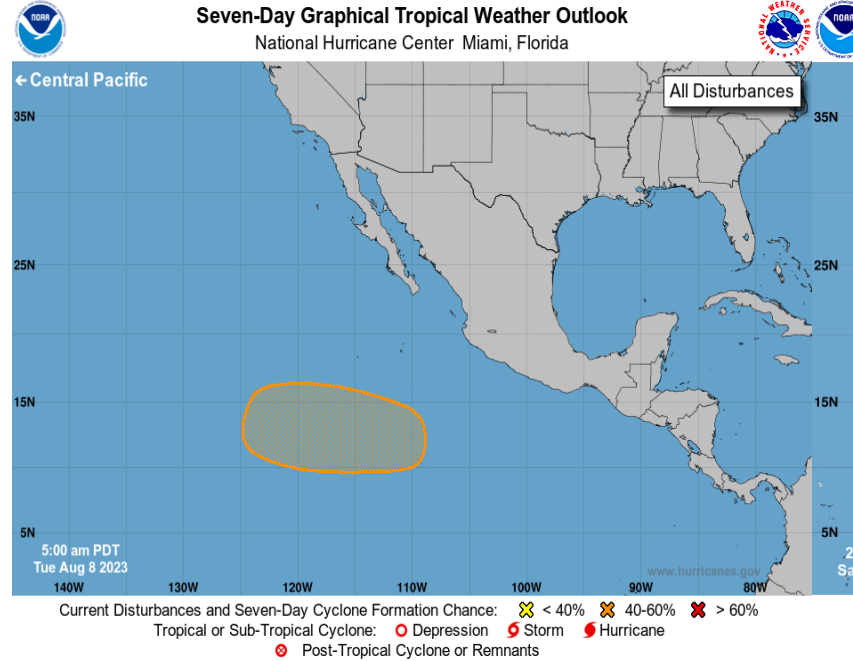
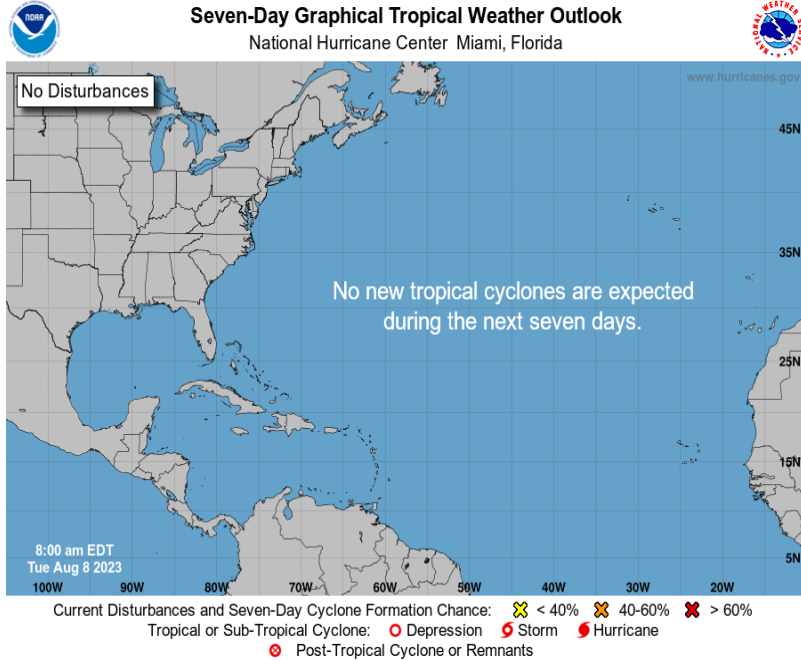


Observed TC Genesis, 1979-2021
7-day Period 0823 to 0829

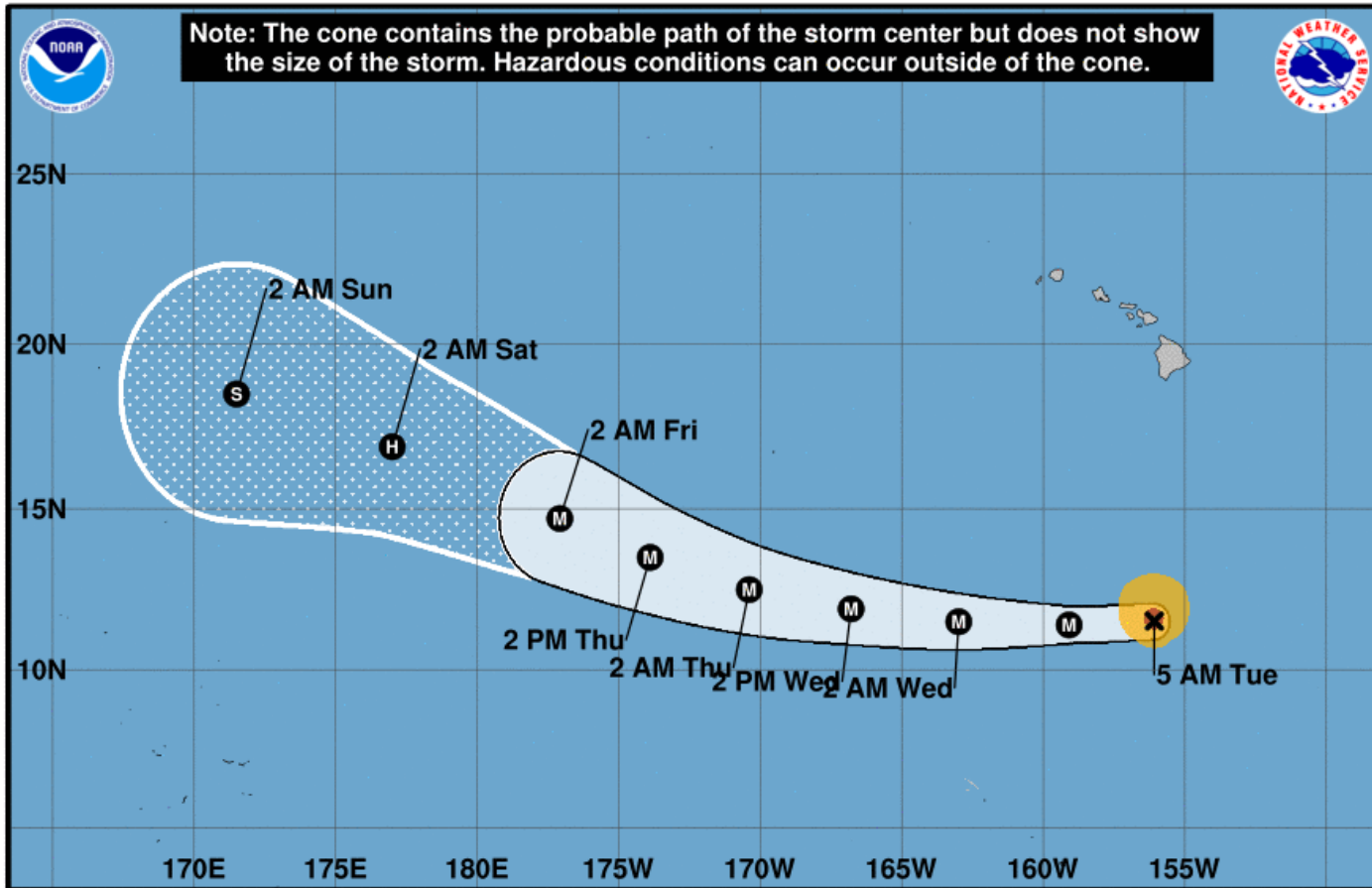


Experimental

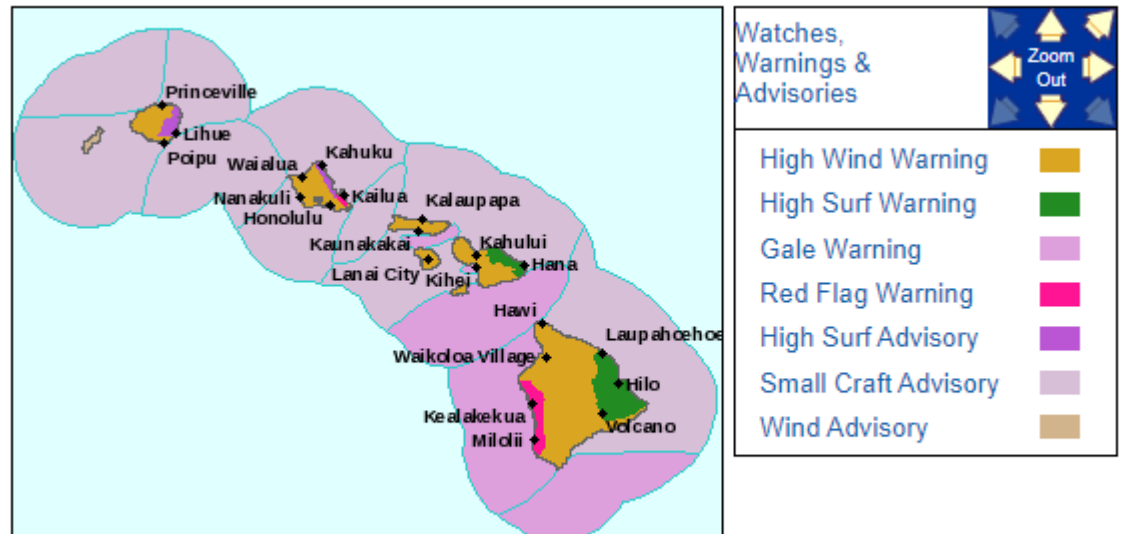
Tropical Cyclone Monitoring/Forecast: NHC



Click a location below for detailed forecast.



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Watches, Warnings & Advisories

- High Wind Warning ■
- High Surf Warning ■
- Gale Warning ■
- Red Flag Warning ■
- High Surf Advisory ■
- Small Craft Advisory ■
- Wind Advisory ■

Zoom In / Zoom Out

Hurricane Dora
 Tuesday August 08, 2023
 5 AM HST Advisory 33
 NWS Central Pacific Hurricane Center

Current information: x
 Center location 11.5 N 156.1 W
 Maximum sustained wind 130 mph
 Movement W at 22 mph

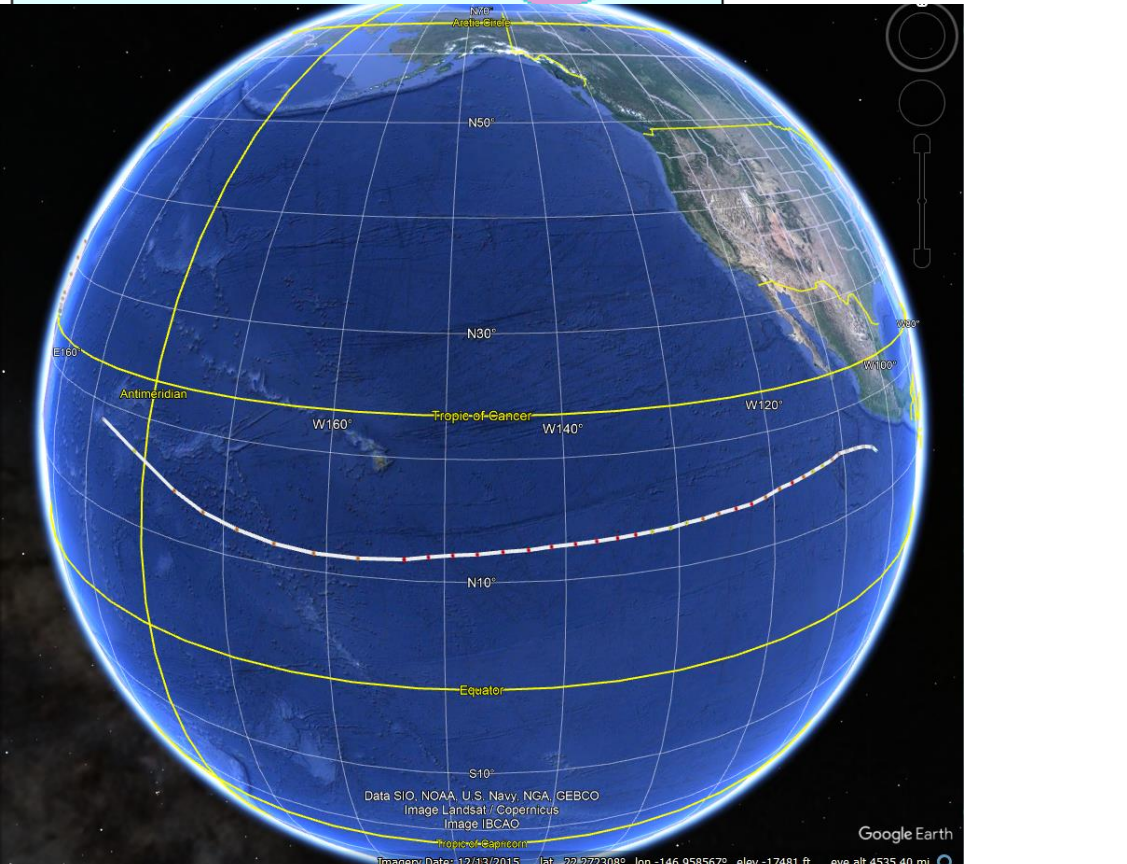
Forecast positions:
 ● Tropical Cyclone ○ Post/Potential TC
 Sustained winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110 mph

Potential track area: Day 1-3 (solid line), Day 4-5 (dotted line)

Watches: Hurricane (pink), Trop Stm (yellow)

Warnings: Hurricane (red), Trop Stm (blue)

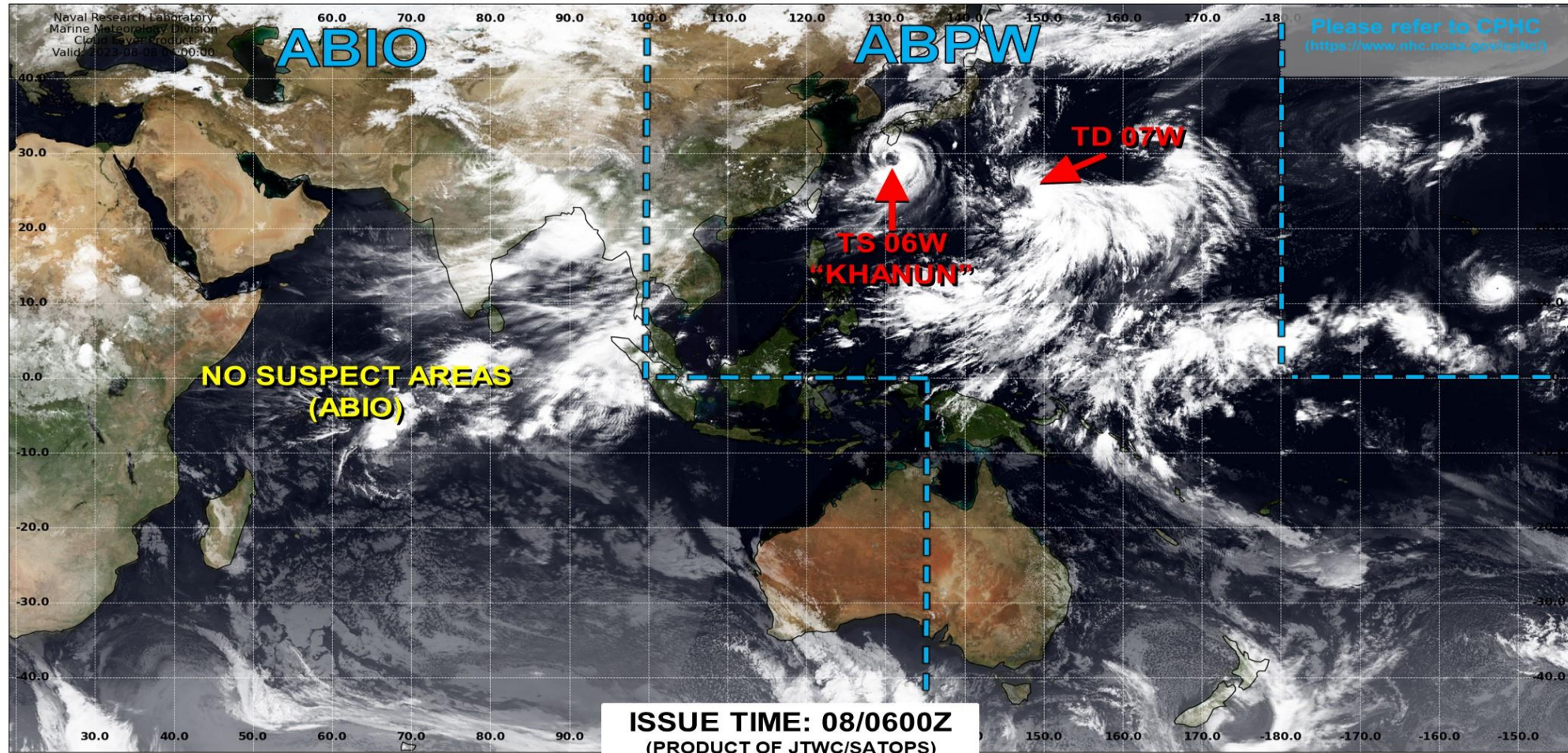
Current wind extent: Hurricane (brown), Trop Stm (orange)



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

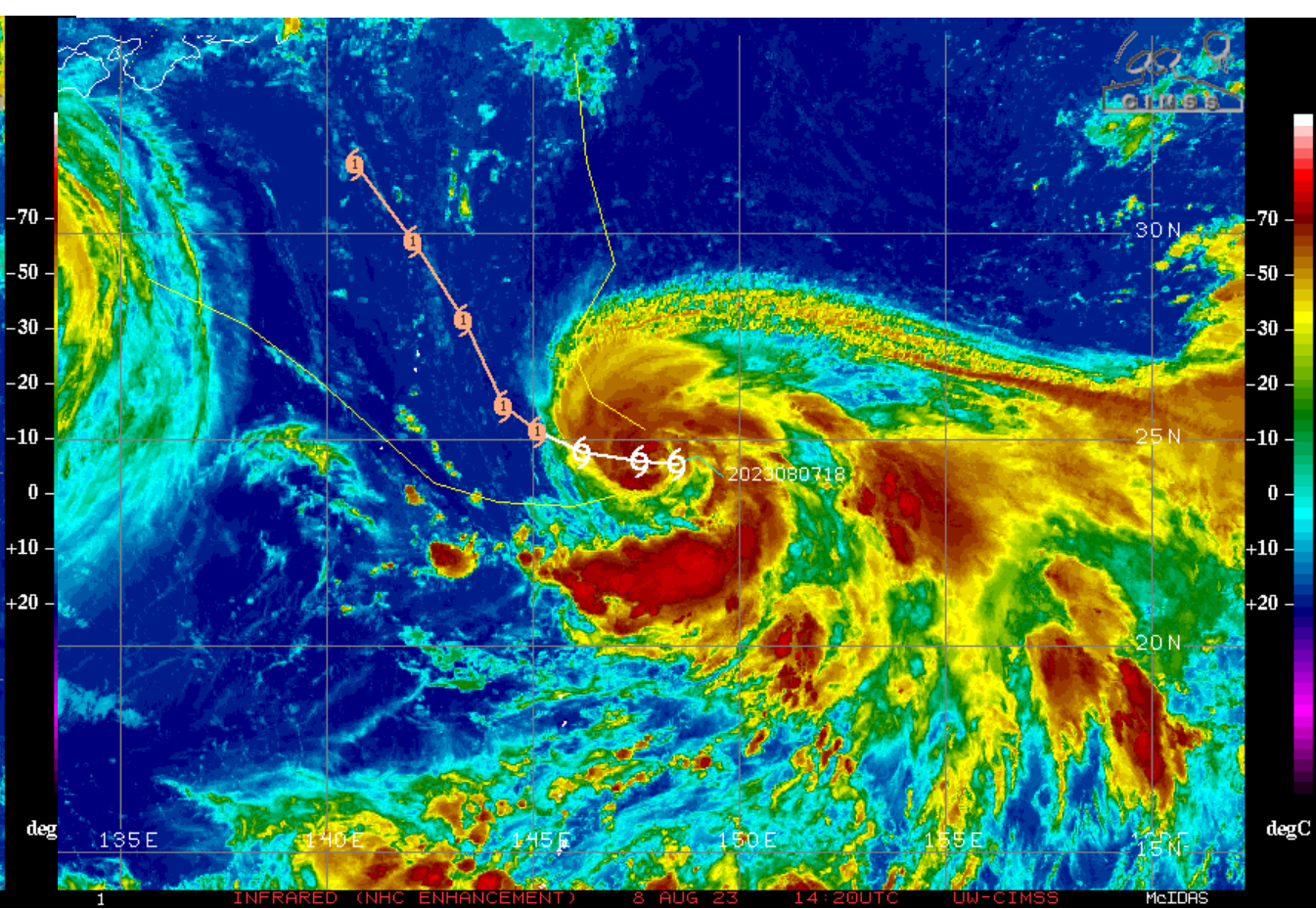
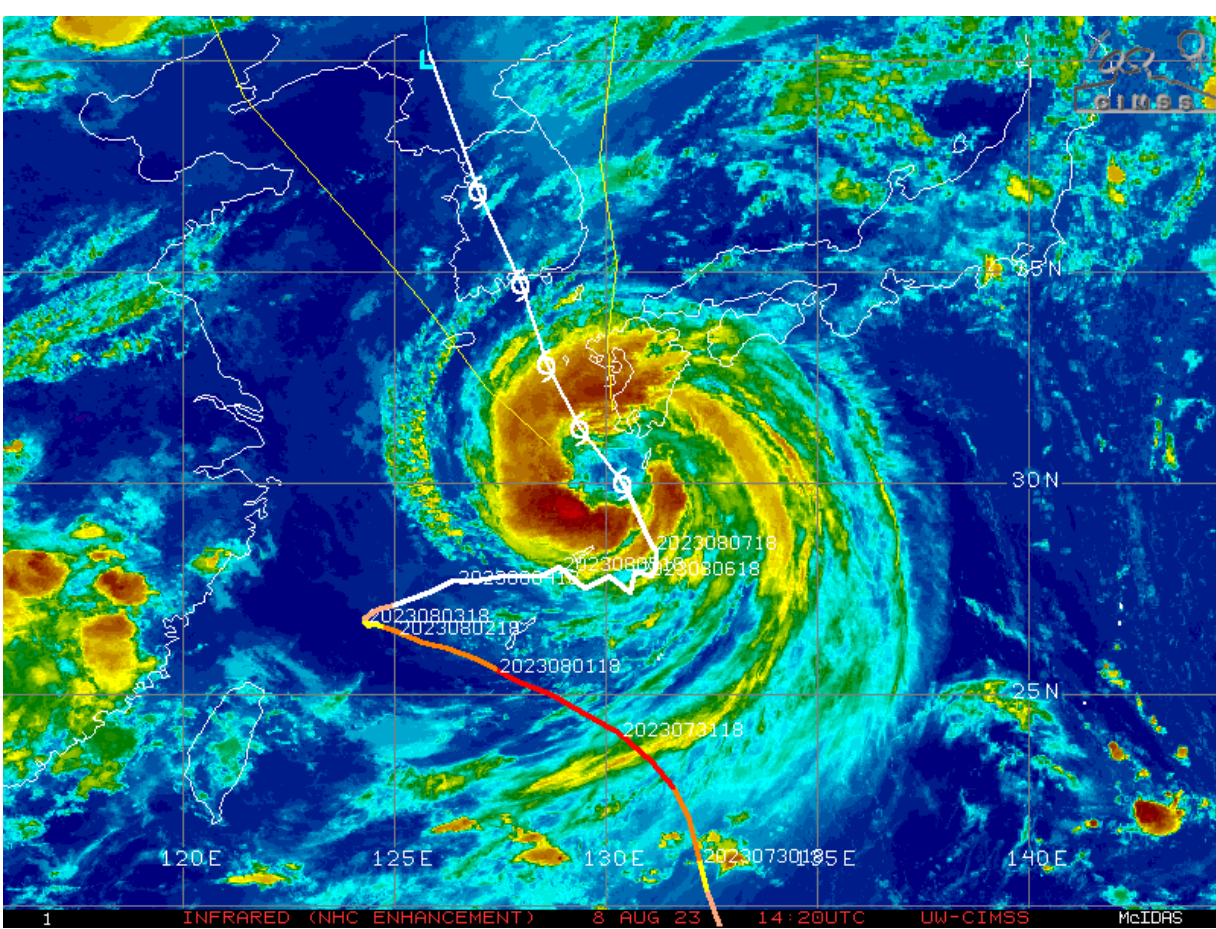


TC development likely within 24 hours (Reference TCFA)



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

 Tropical Cyclone (Reference Warning)



Multi-Model TC Track Probabilities/Densities:

Storm Track Density Distribution, IC=20230807
Week 2 Forecast: 0816-0822

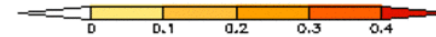
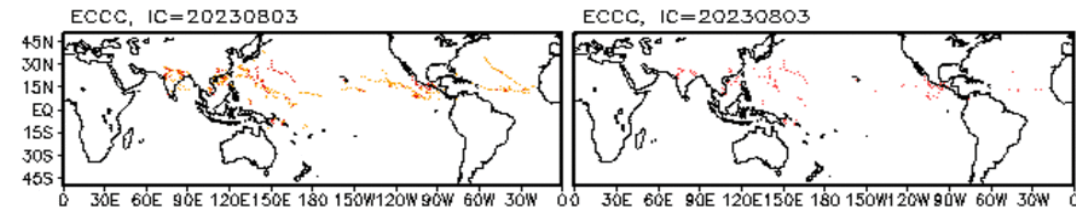
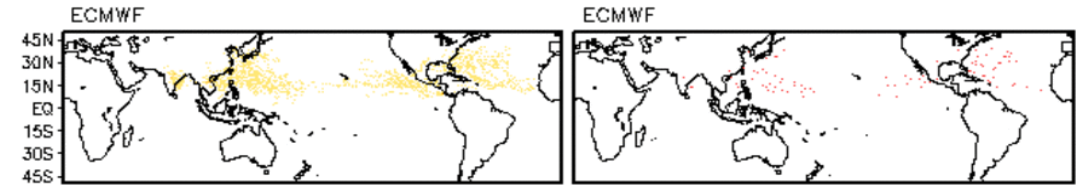
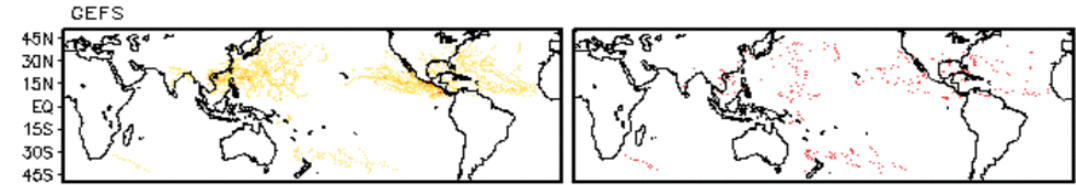
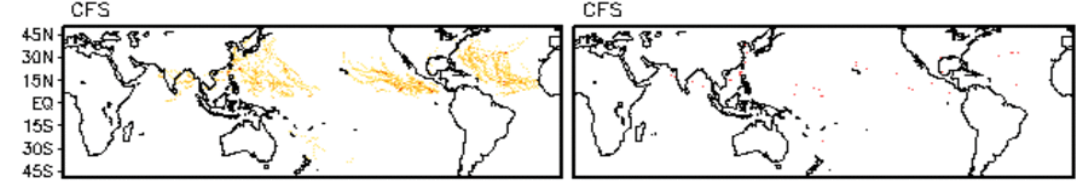
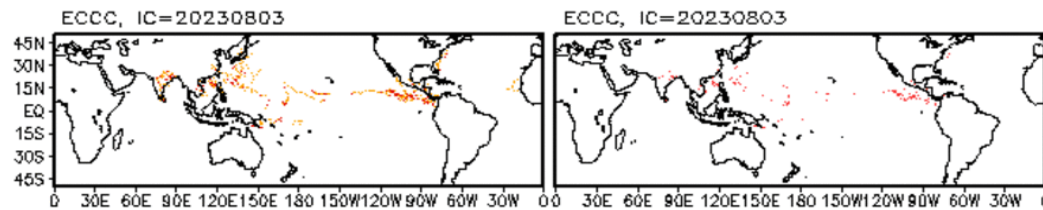
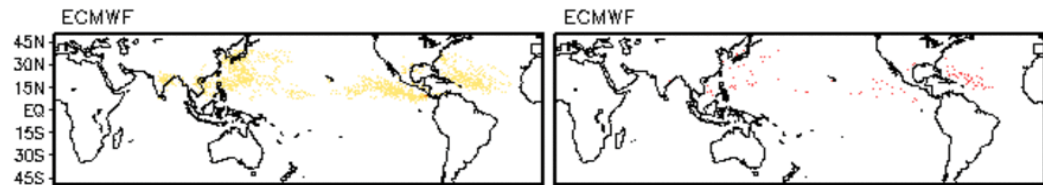
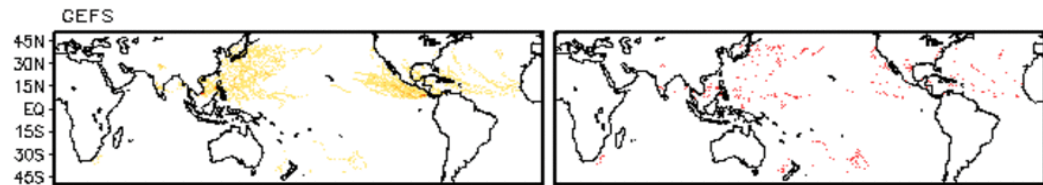
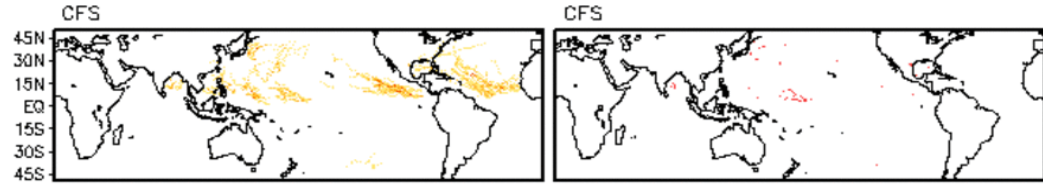
Storm Track Density Distribution, IC=20230807
Week 3 Forecast: 0823-0829

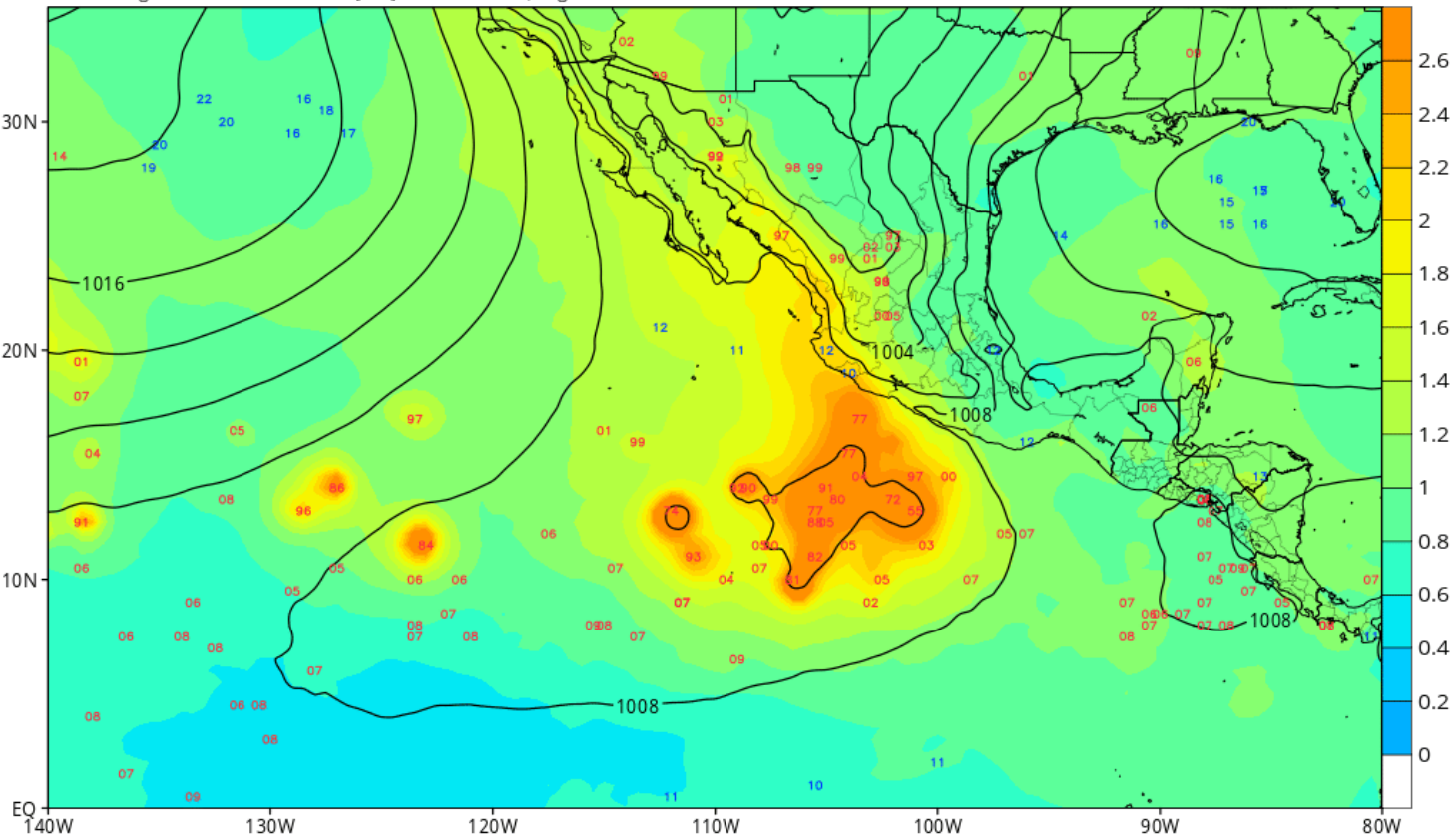
TRACK DENSITY

FILTERED

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FILTERED

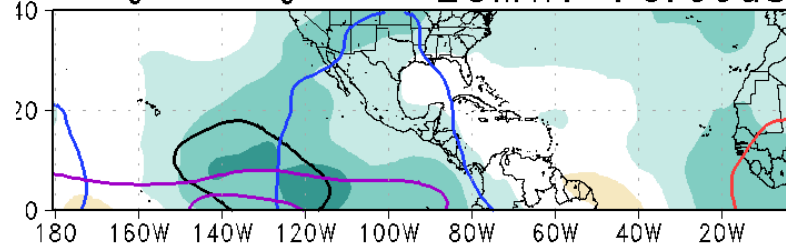




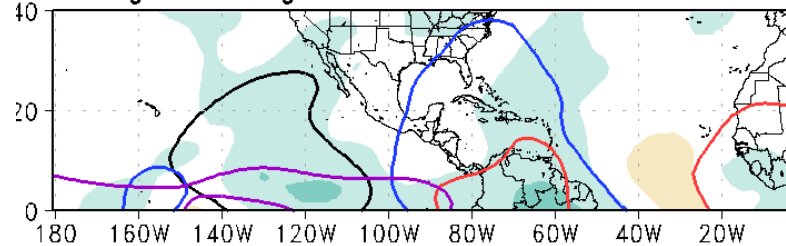
Day Means

08Aug to 10Aug

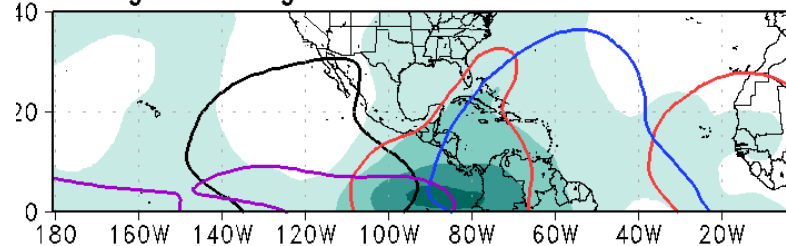
ECMWF Forecast



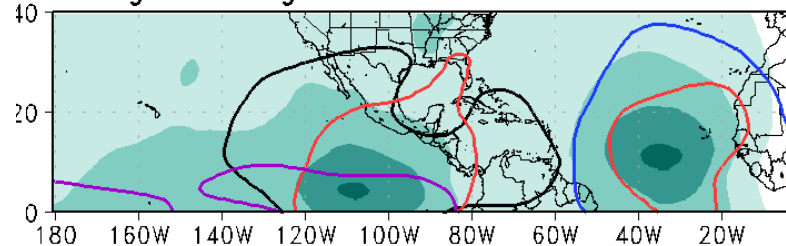
11Aug to 13Aug



14Aug to 16Aug



17Aug to 19Aug



— MJO — Kelvin*2
 — Low — ER
 Contours at $-2, -6 \times 10^{-6} \text{ m}^2 \text{ s}^{-1}$

Tropical storm probabilities - Extended range forecast

Extended range tropical storm activity

Base time
Mon 07 Aug 2023

Valid time
Mon 14 Aug 2023 - M...

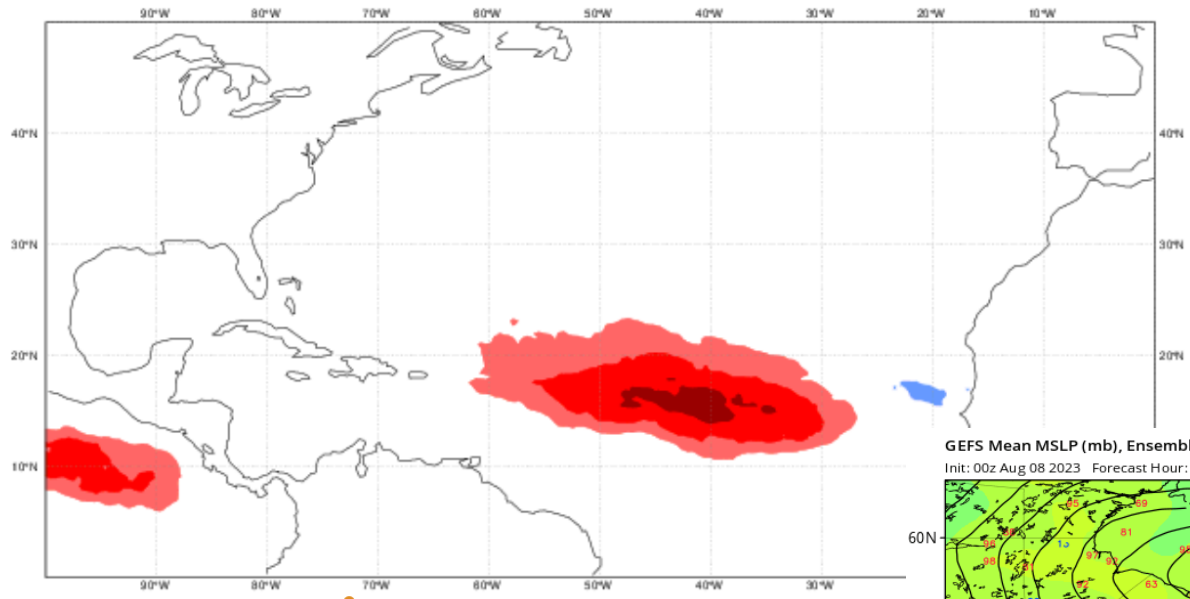
Parameter
Forecast anomalies

Intensity
Tropical depression

Area
Atlantic Ocean

Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20230807 0 UTC t+(168-336)

Probability of a TC passing within 300km radius

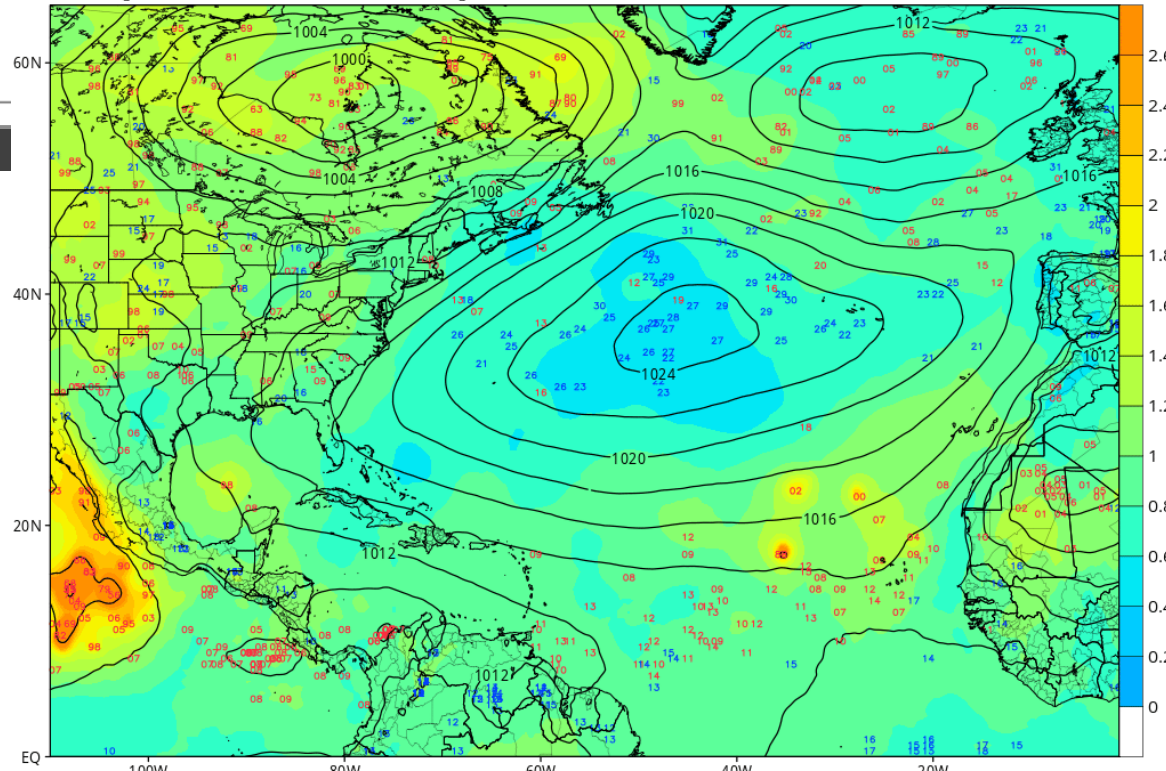


Navigation controls: Previous, Play, Next, Stop. Time range: Mon 14 Aug 2023 - Mon 21 Aug 2023

GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)

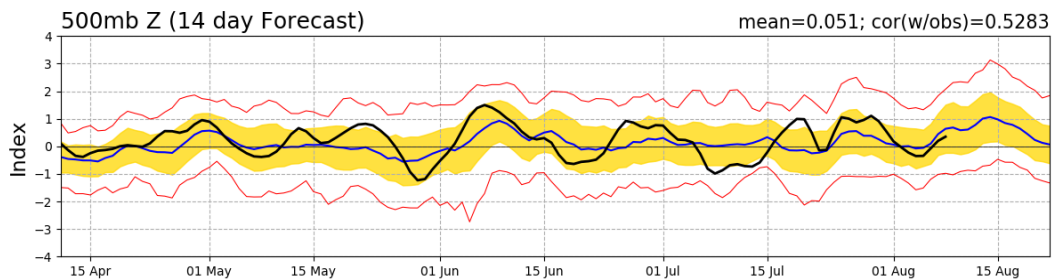
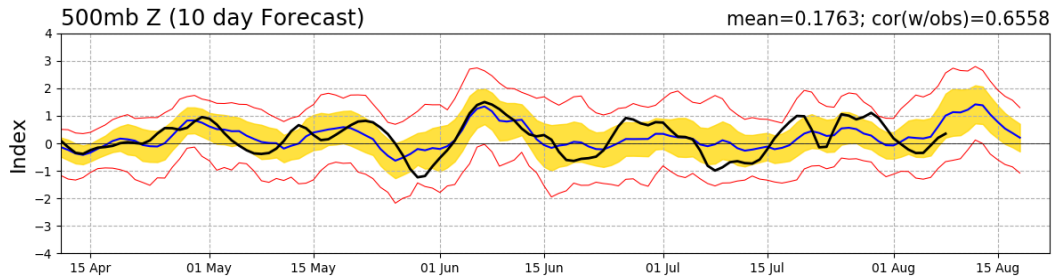
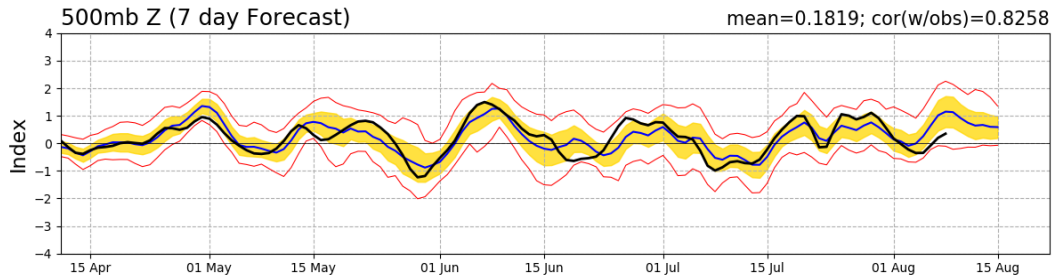
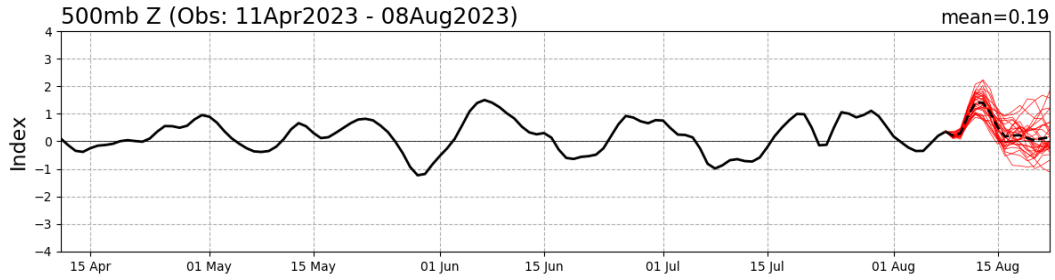
Init: 00z Aug 08 2023 Forecast Hour: [252] valid at 12z Fri, Aug 18 2023

TROPICALTIDBITS.COM

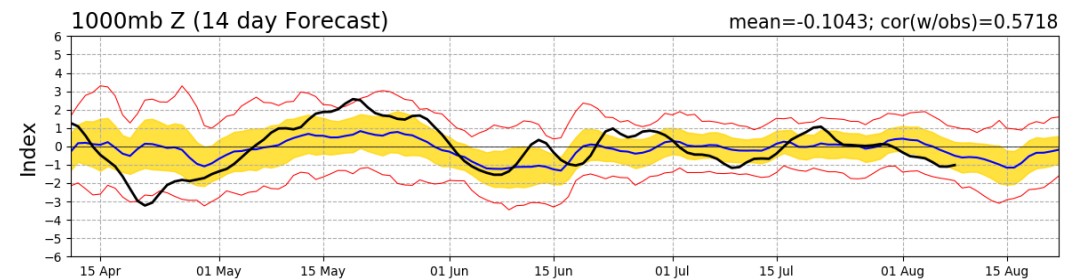
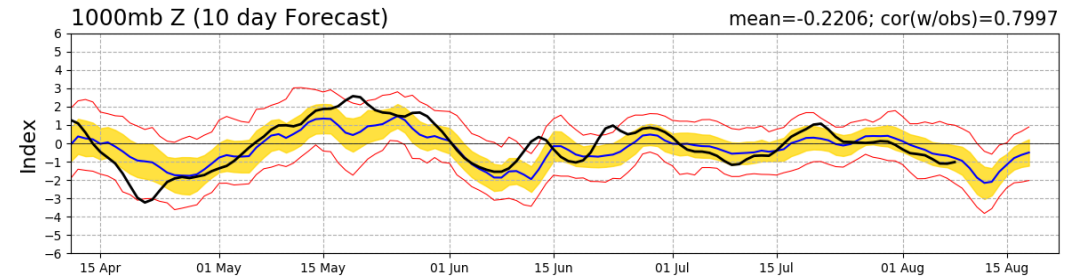
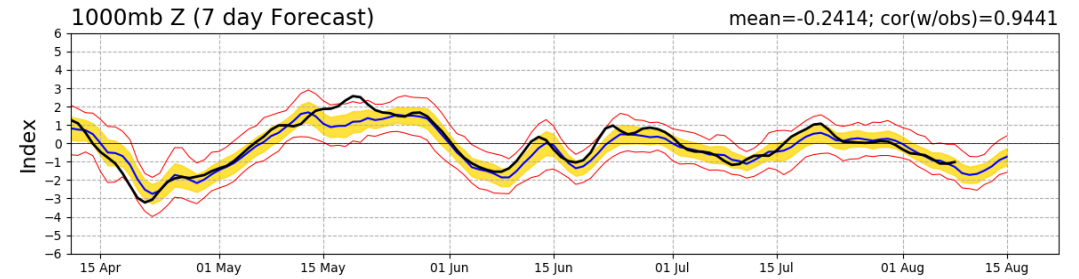
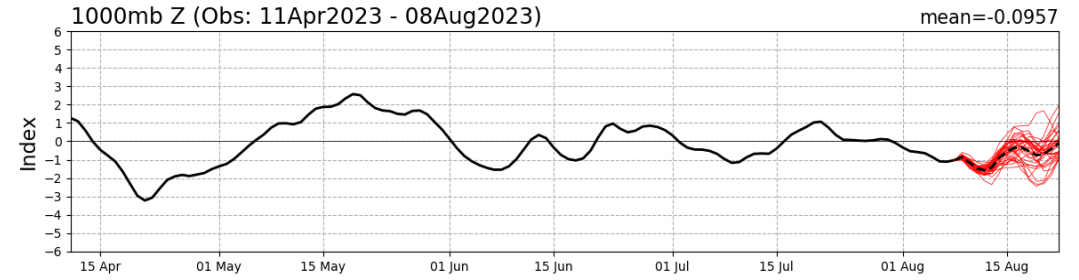


Teleconnection Indices: PNA / AO:

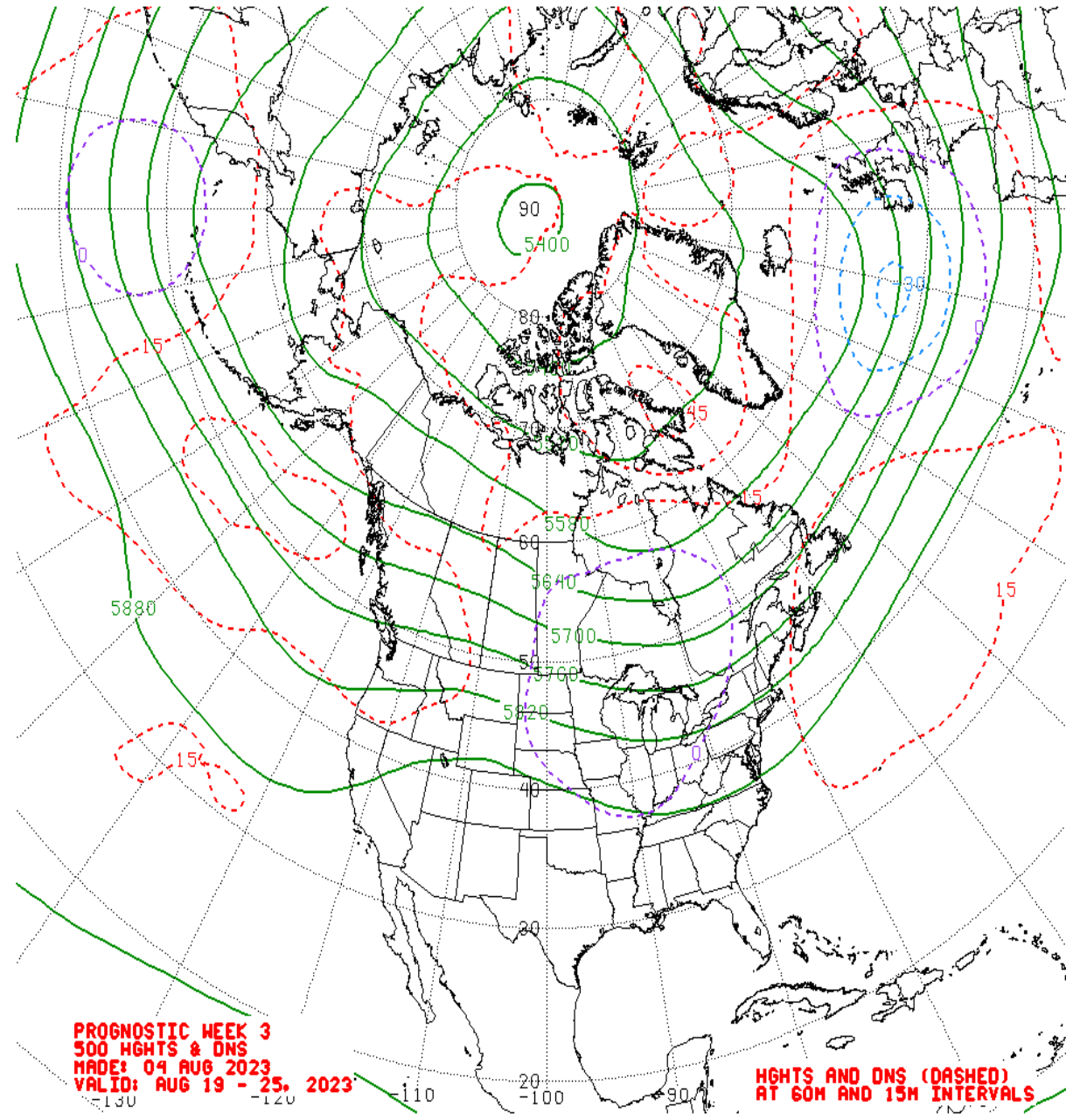
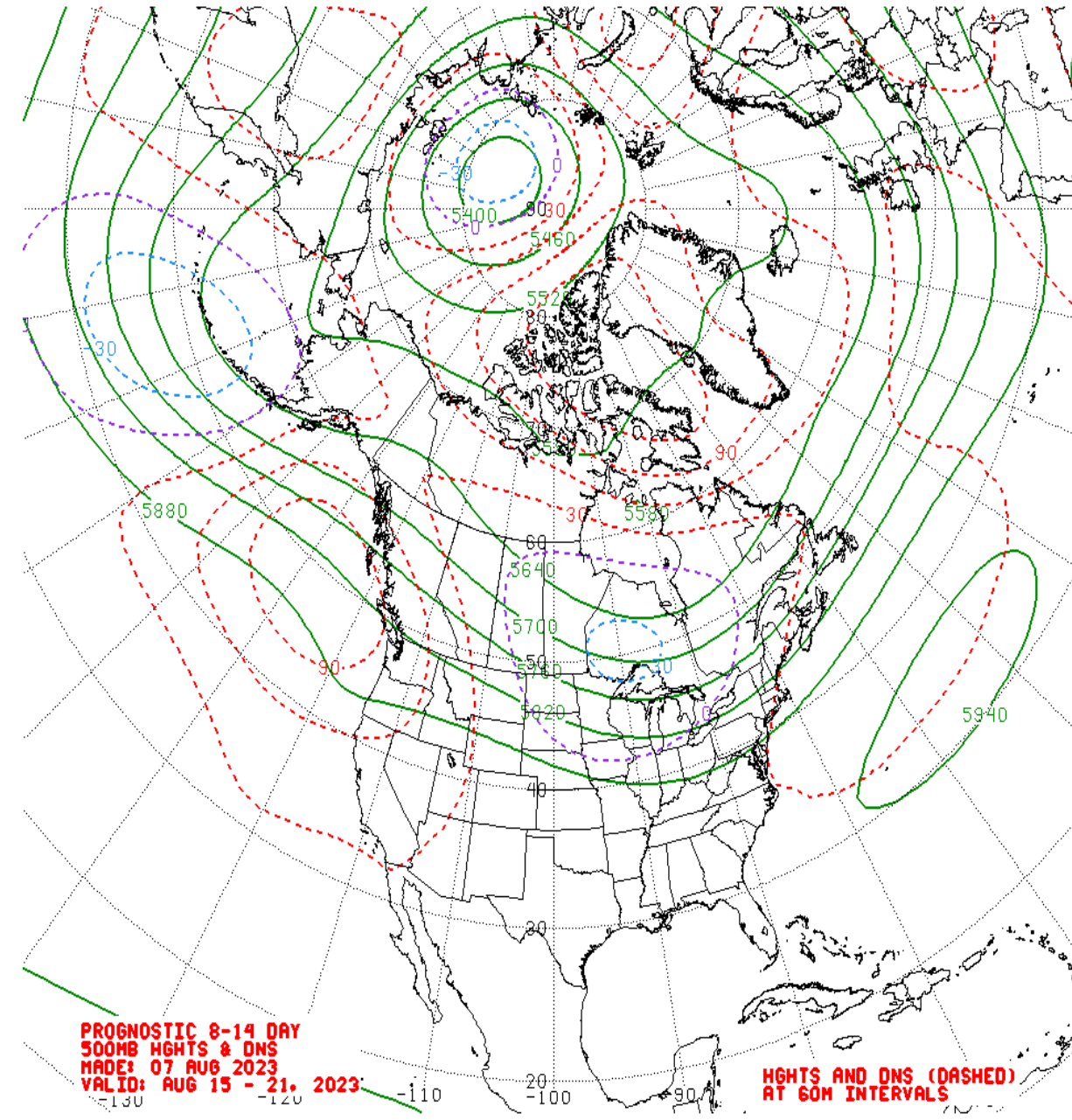
PNA Index: Observed & GEFS Forecasts



AO Index: Observed & GEFS Forecasts



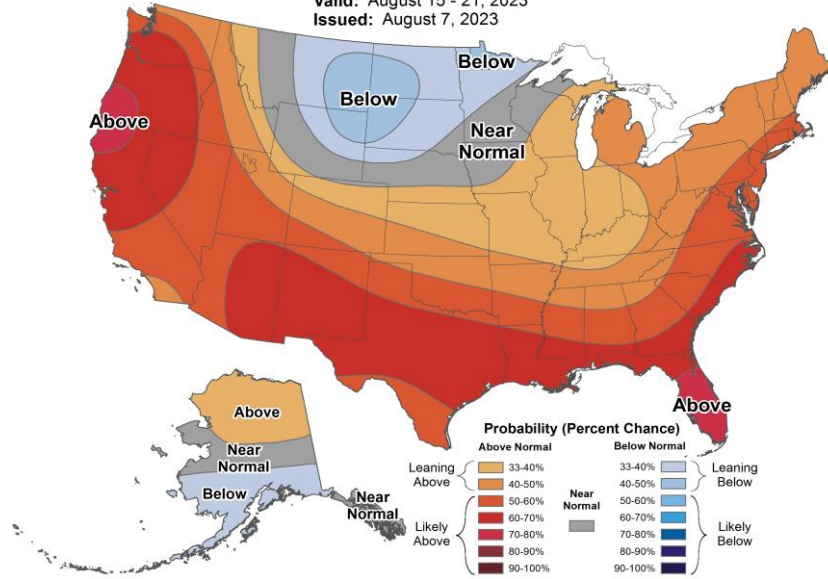
Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:

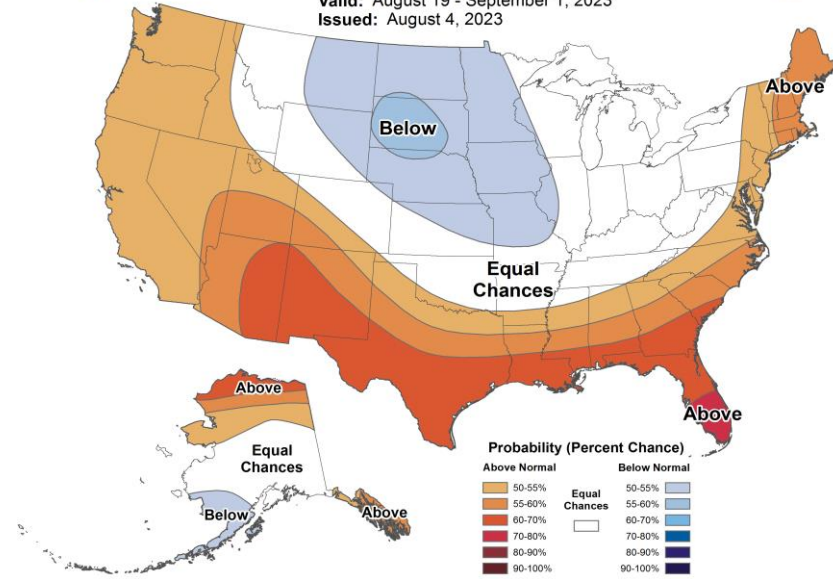
8-14 Day Temperature Outlook

Valid: August 15 - 21, 2023
Issued: August 7, 2023



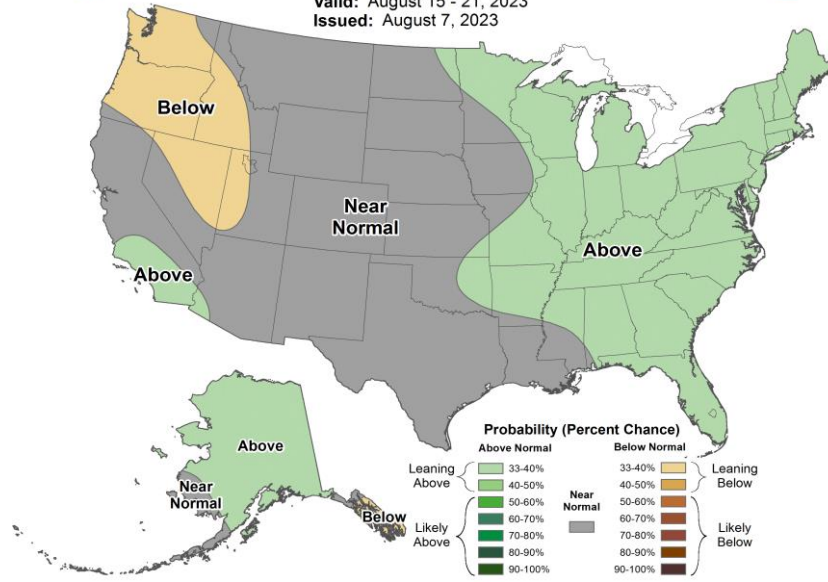
Weeks 3-4 Temperature Outlook

Valid: August 19 - September 1, 2023
Issued: August 4, 2023



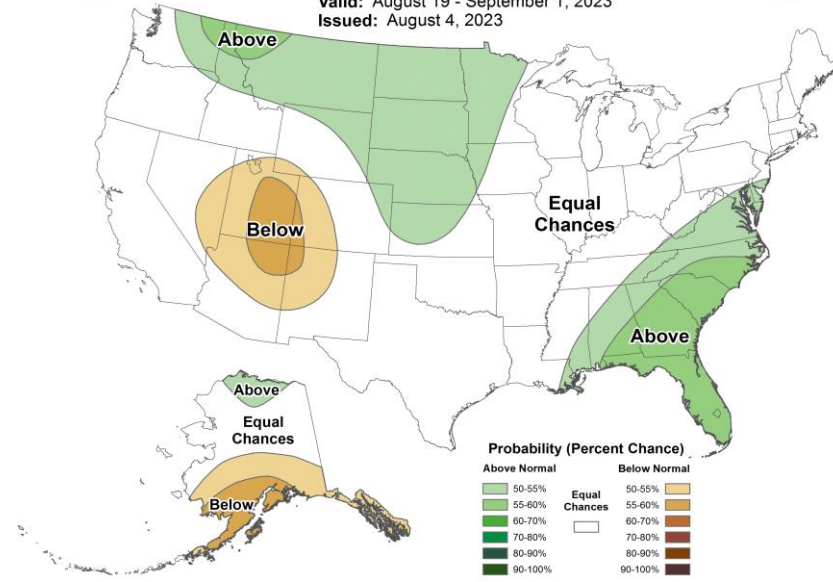
8-14 Day Precipitation Outlook

Valid: August 15 - 21, 2023
Issued: August 7, 2023



Weeks 3-4 Precipitation Outlook

Valid: August 19 - September 1, 2023
Issued: August 4, 2023



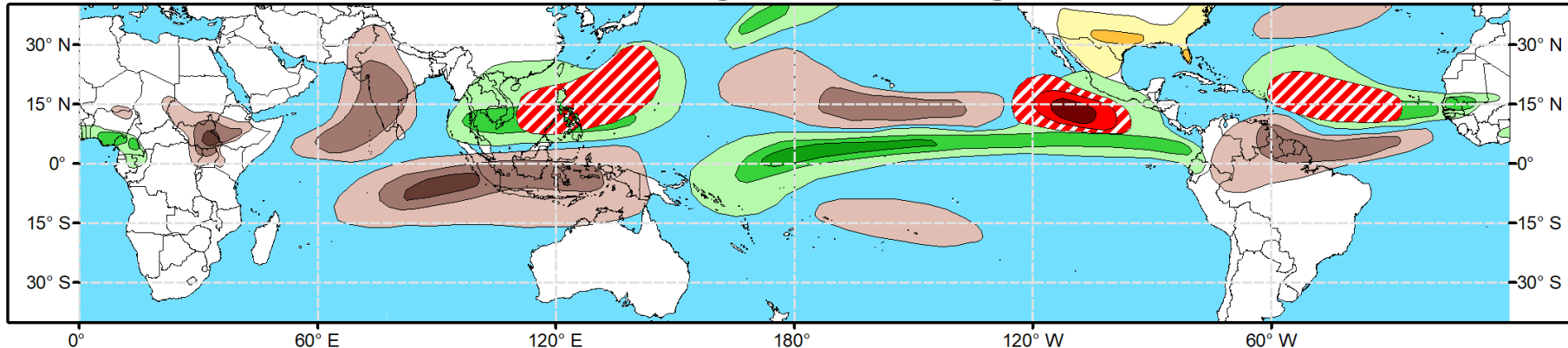


Global Tropics Hazards Outlook

Climate Prediction Center

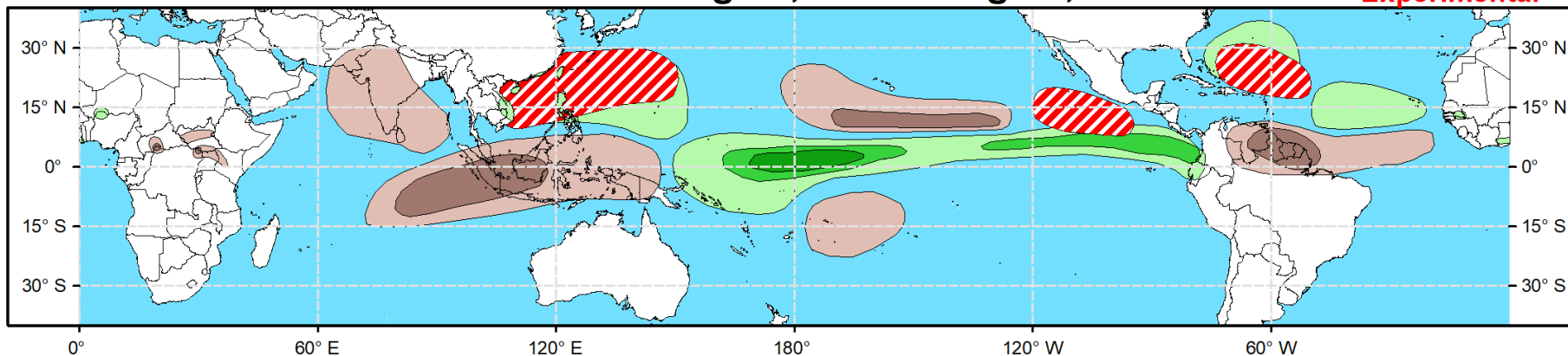


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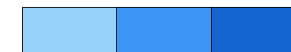
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**Issued: 08/08/2023
Forecaster: Novella**

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