



Weeks 2-3 Global Tropics Hazards Outlook

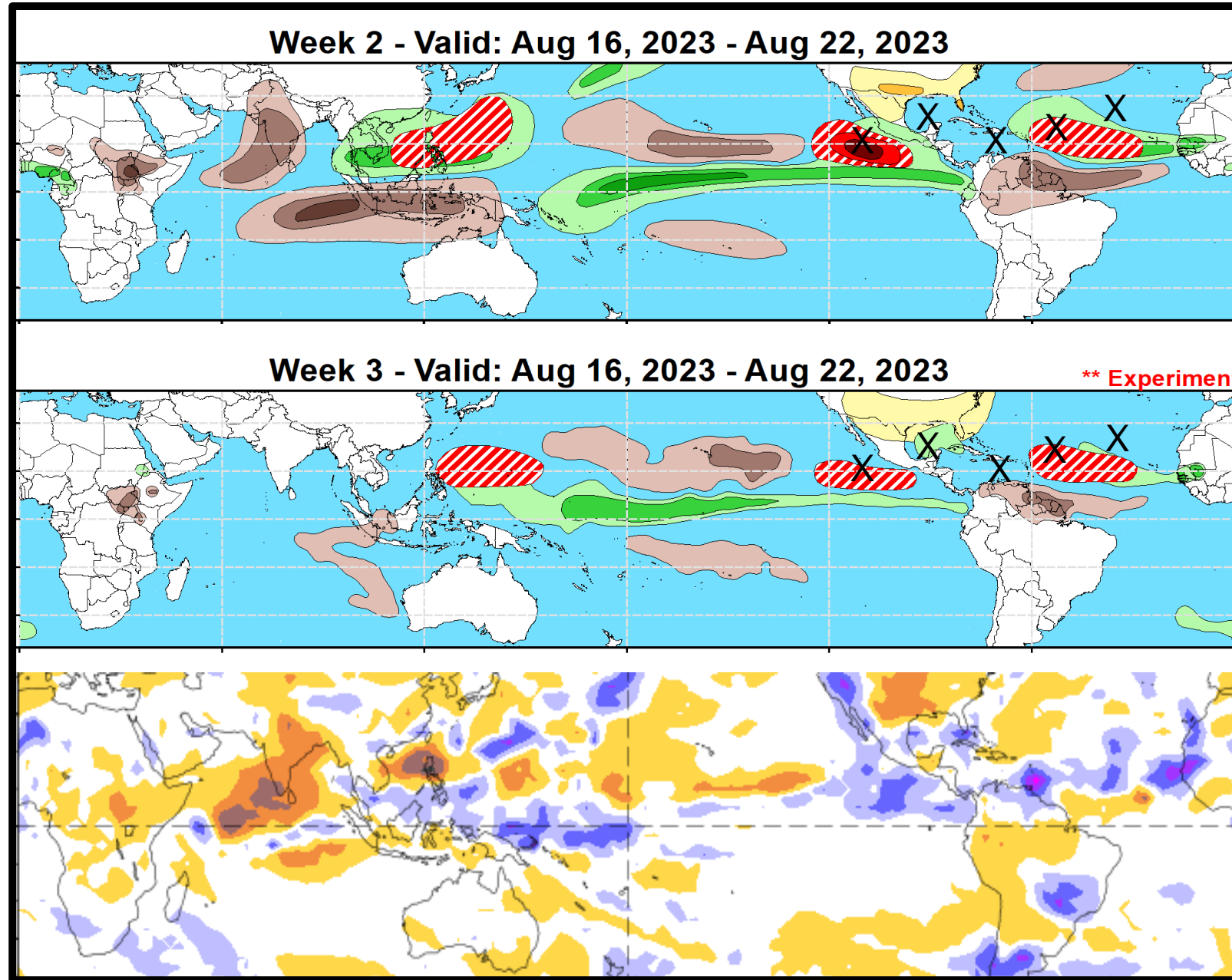
8/22/2023

Brad Pugh

NWS / NCEP / Climate Prediction Center

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

- East Pacific: Hurricane Hilary
- Atlantic: 4 Tropical Cyclones
 - Gert and Emily (short-lived)
 - Franklin (tracking towards Hispaniola)
 - Harold (made landfall in Padre Island, TX)



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 expected to continue through the Northern Hemisphere winter.

MJO and other subseasonal tropical variability:

- The MJO strengthened during mid-August with its enhanced phase over the Western Hemisphere.
- Dynamical models depict the MJO propagating east to the West Pacific from late August to early September.
- This predicted MJO evolution coupled with nearing the peak in climatology supports enhanced chances for tropical cyclone (TC) development across the Atlantic basin.
- The East (West) Pacific are forecast to become less (more) favorable for TC development by the beginning of September.

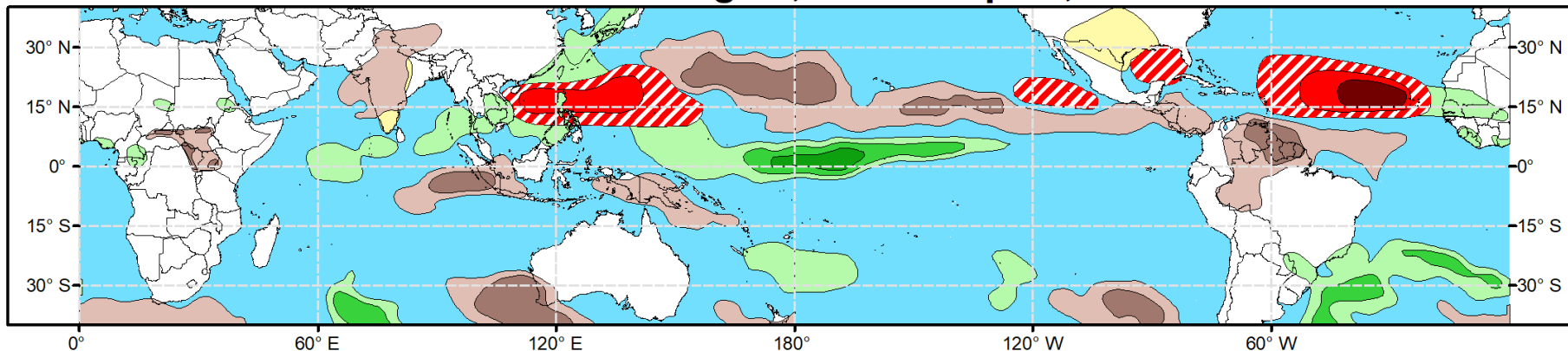


Global Tropics Hazards Outlook

Climate Prediction Center

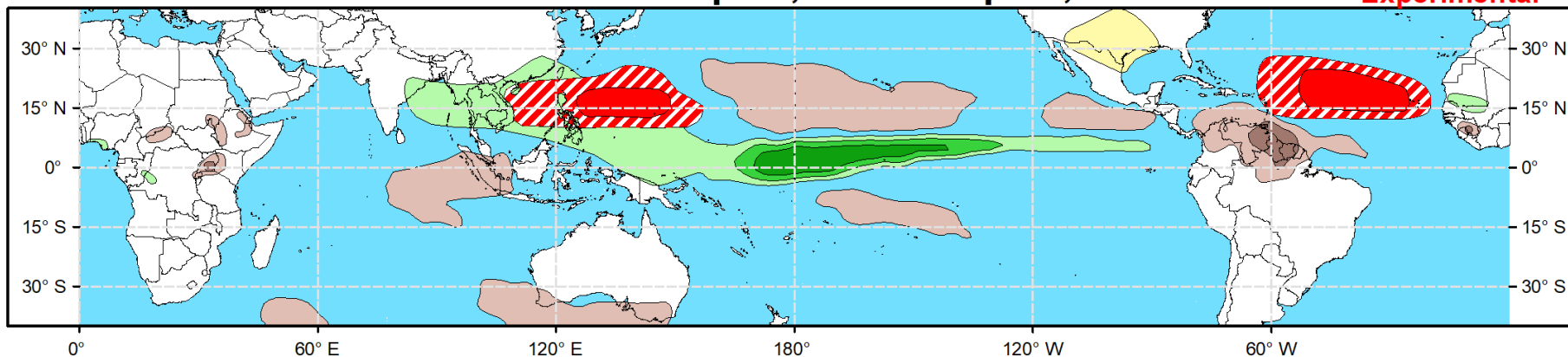


Week 2 - Valid: Aug 30, 2023 - Sep 05, 2023



Week 3 - Valid: Sep 06, 2023 - Sep 12, 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**



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*7-day max temperatures in the
Upper third of the historical range*

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Temperatures Probability**



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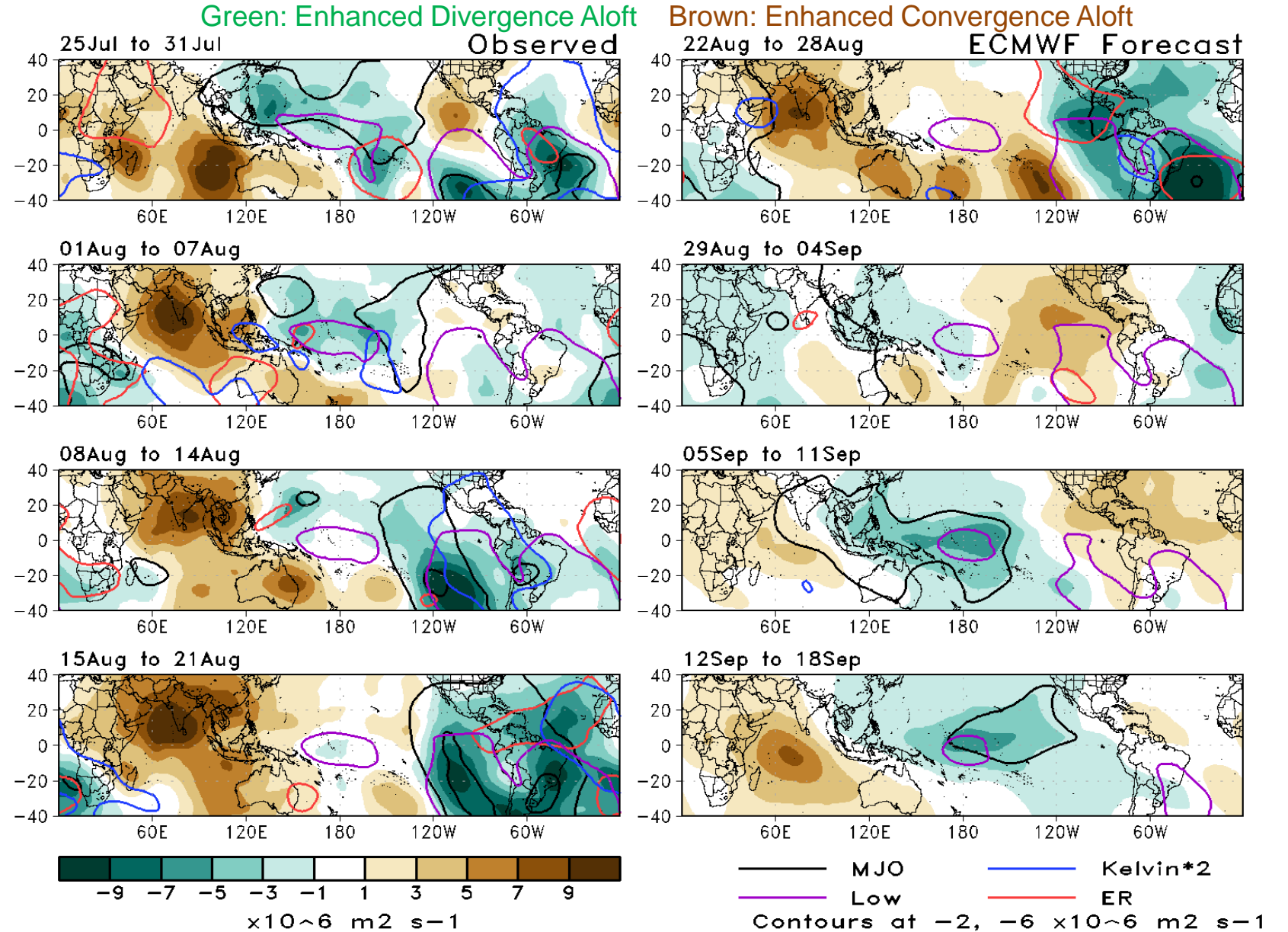
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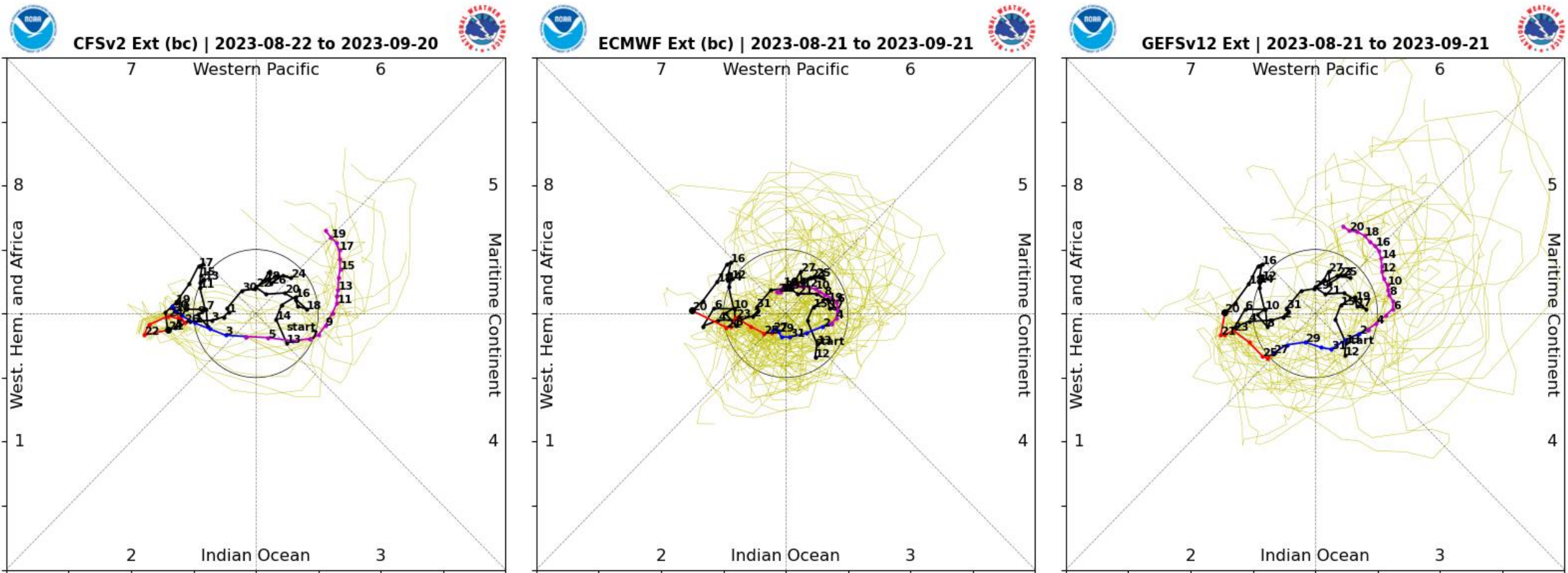
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Consult your local responsible forecast agency.**

200-hPa Velocity Potential Anomaly Maps:

- Less coherent pattern during late July and early August.
- By mid-August, a better defined wave-1 structure emerged in the observations.
- Forecast: Note the eastward propagation of the enhanced and suppressed phases during the next three weeks.



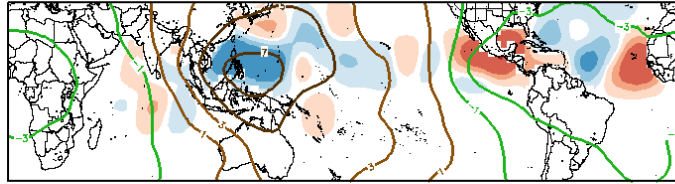
RMM Index Observations & Forecasts:



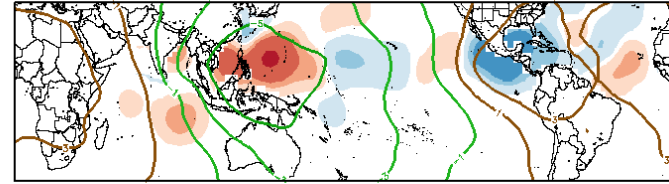
- Large spread on the amplitude due to interference with the background El Nino.
- CFS, ECMWF, and GEFS agree on counterclockwise (eastward) rotation of the MJO through mid-September.

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

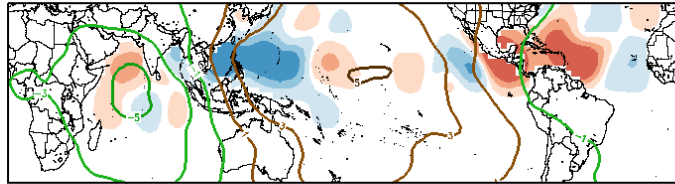
ASO MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ ASO CHI200 ($\times 10^{-6} m^2 s^{-1}$) / Contours every $2 \times 10^{-6} m^2 s^{-1}$



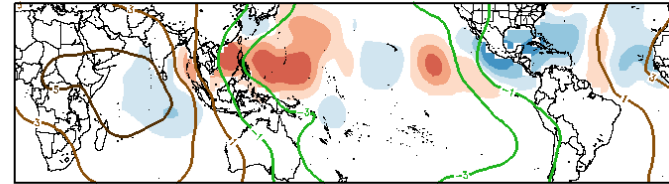
Phase 1



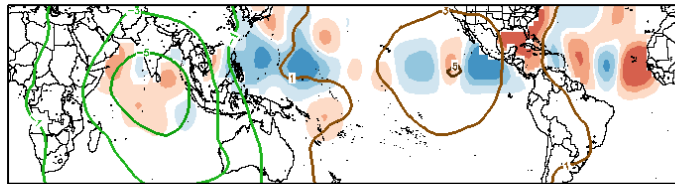
Phase 5



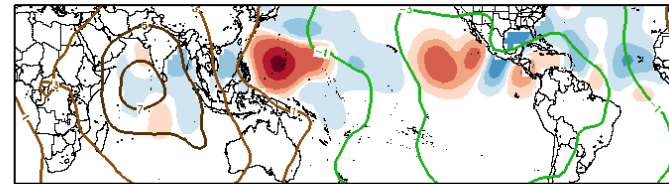
Phase 2



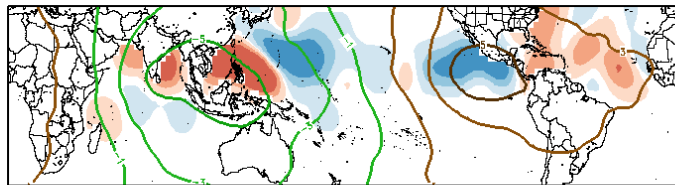
Phase 6



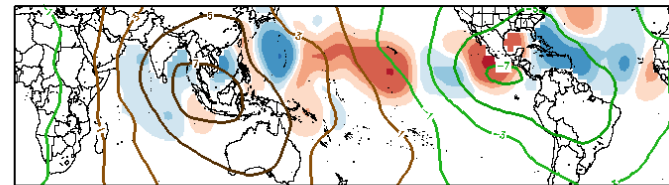
Phase 3



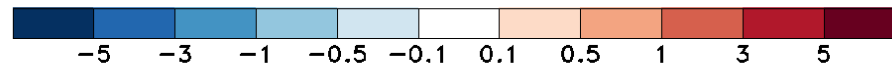
Phase 7



Phase 4



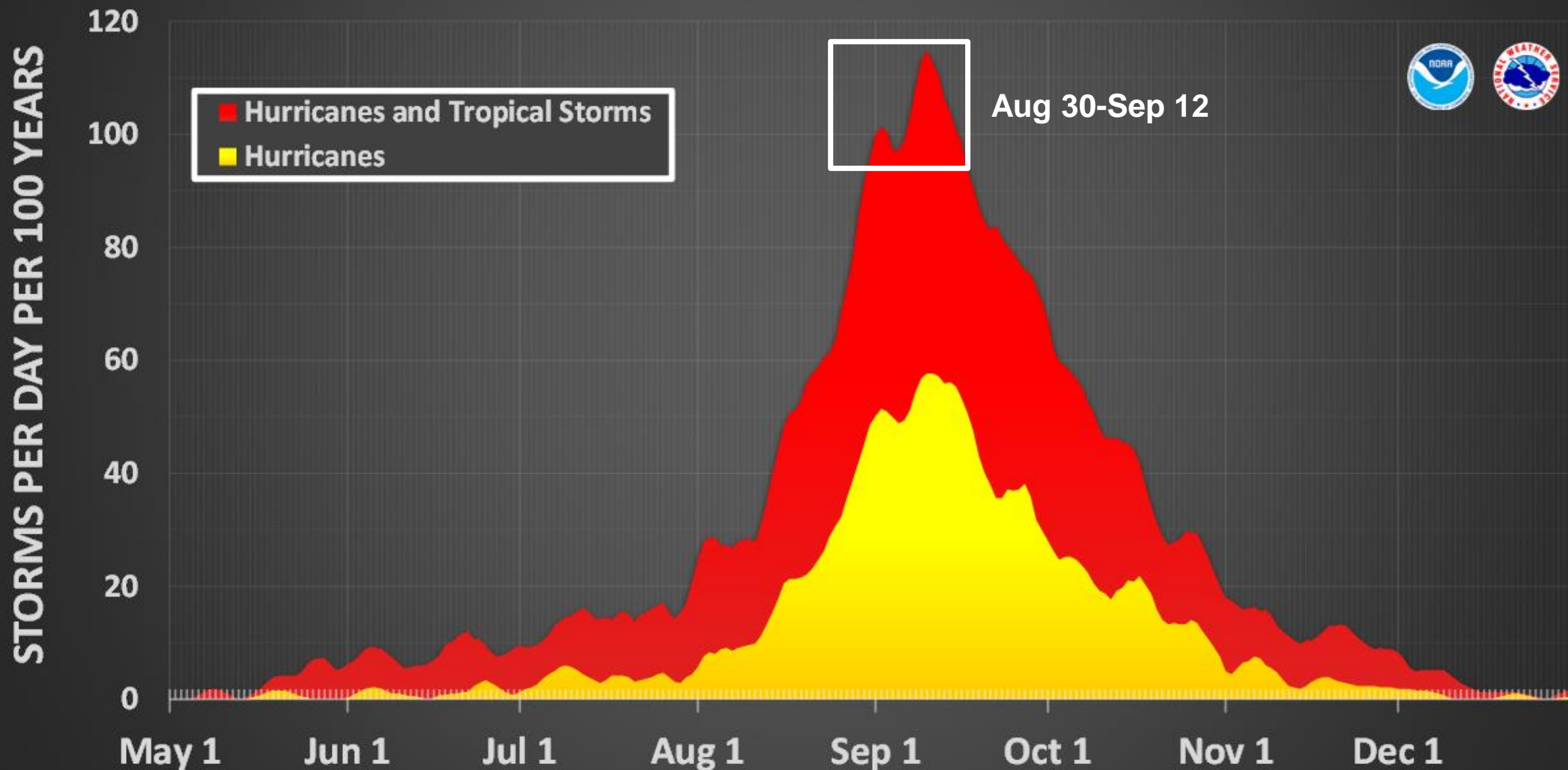
Phase 8

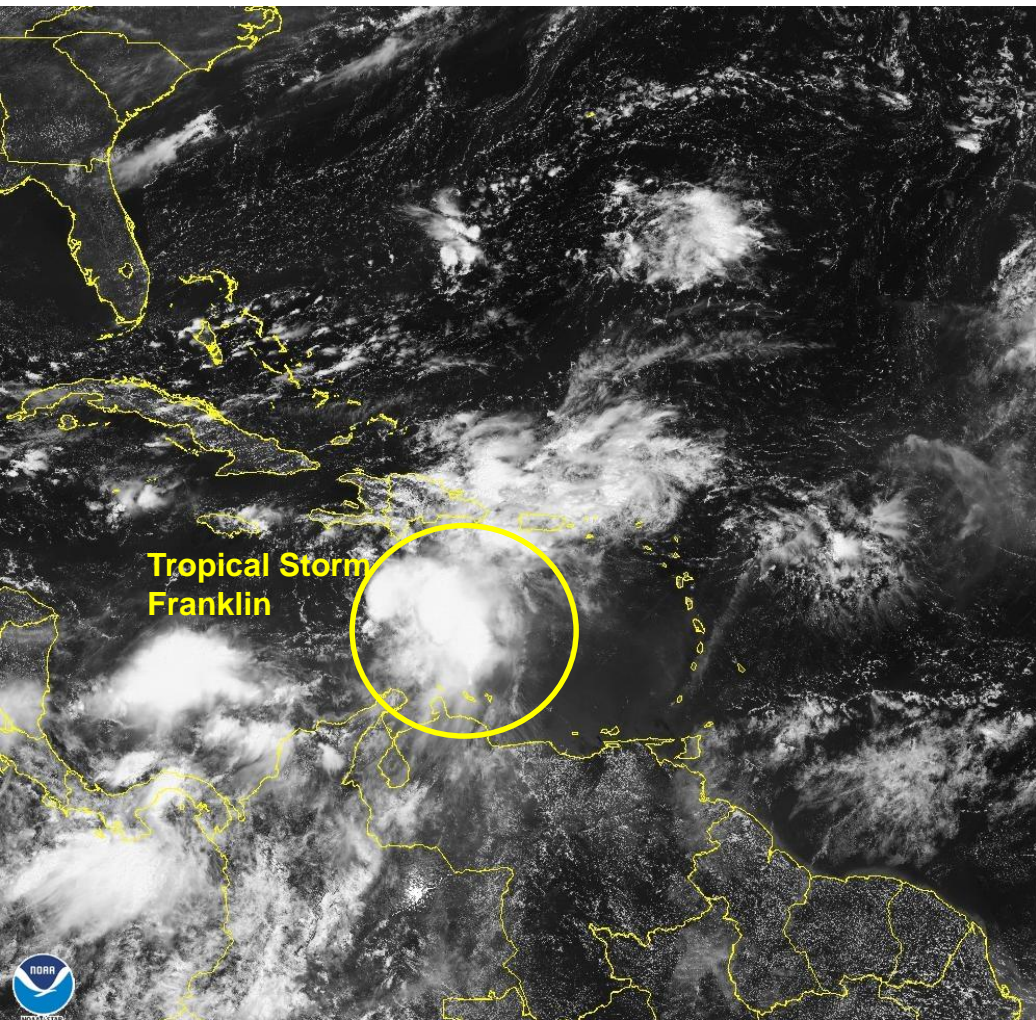


Experimental

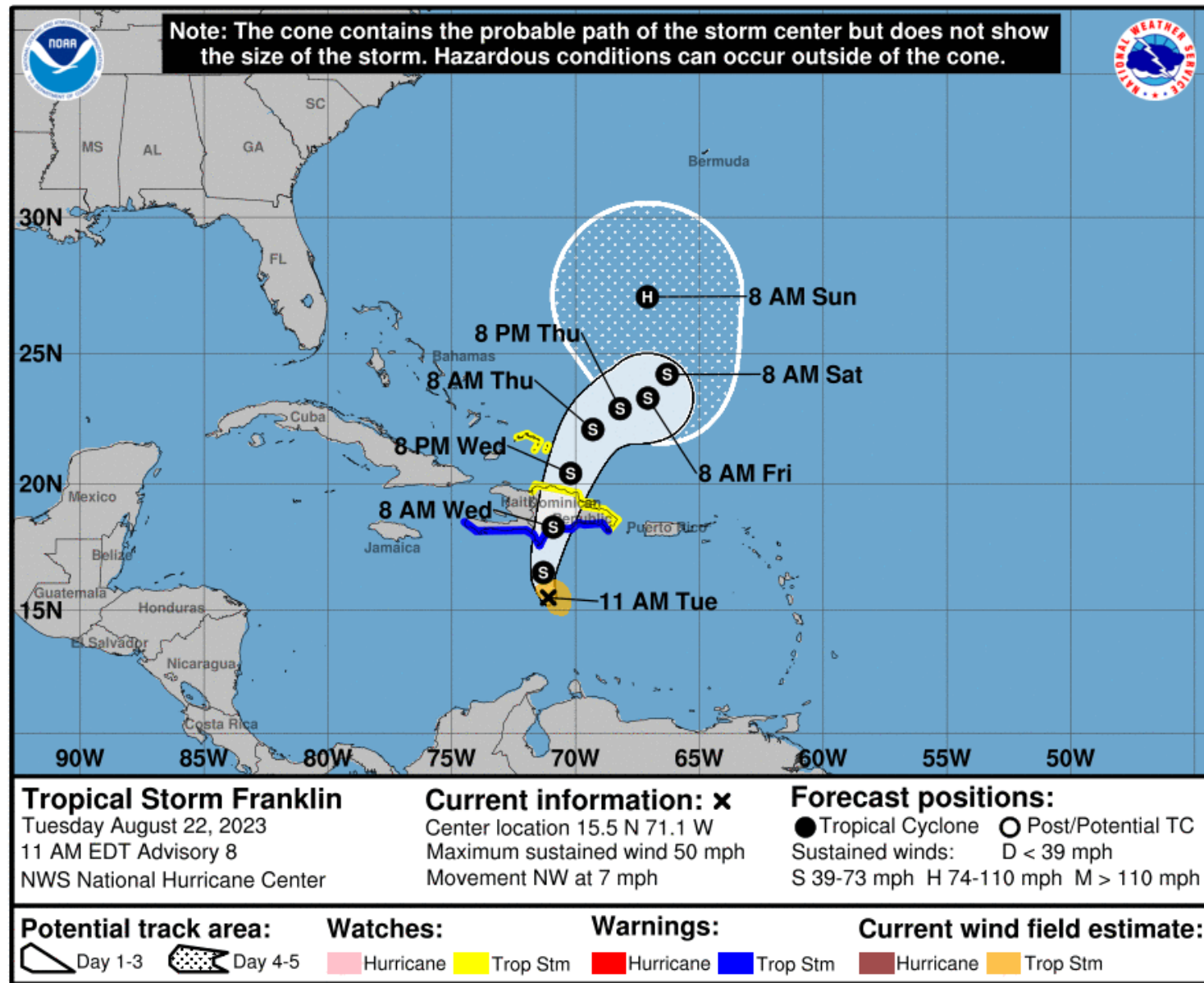
Atlantic Hurricane and Tropical Storm Activity

Based on Data from 1944 to 2020





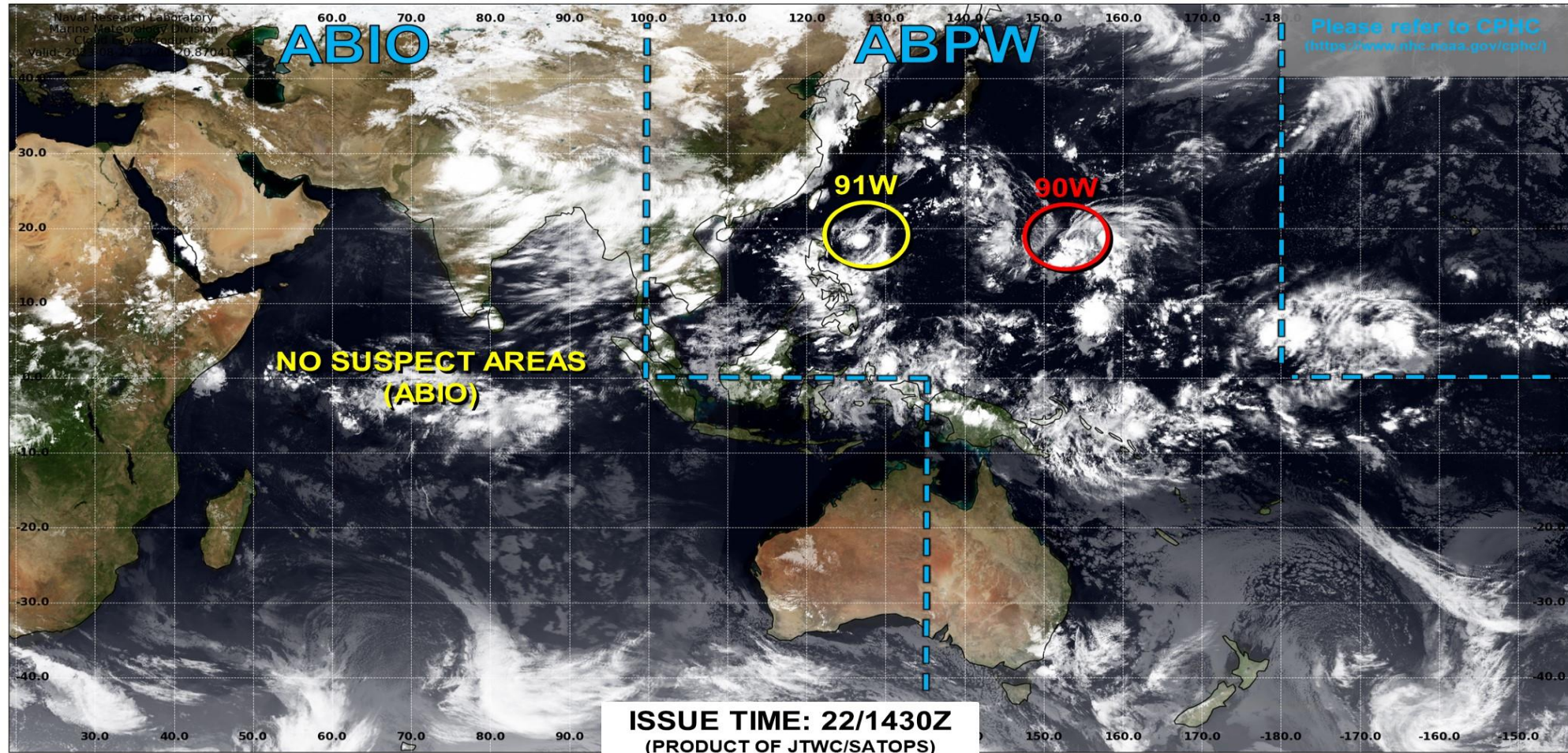
22 Aug 2023 16:20Z - NOAA/NESDIS/STAR - GOES-East - Band 02 - CAR



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



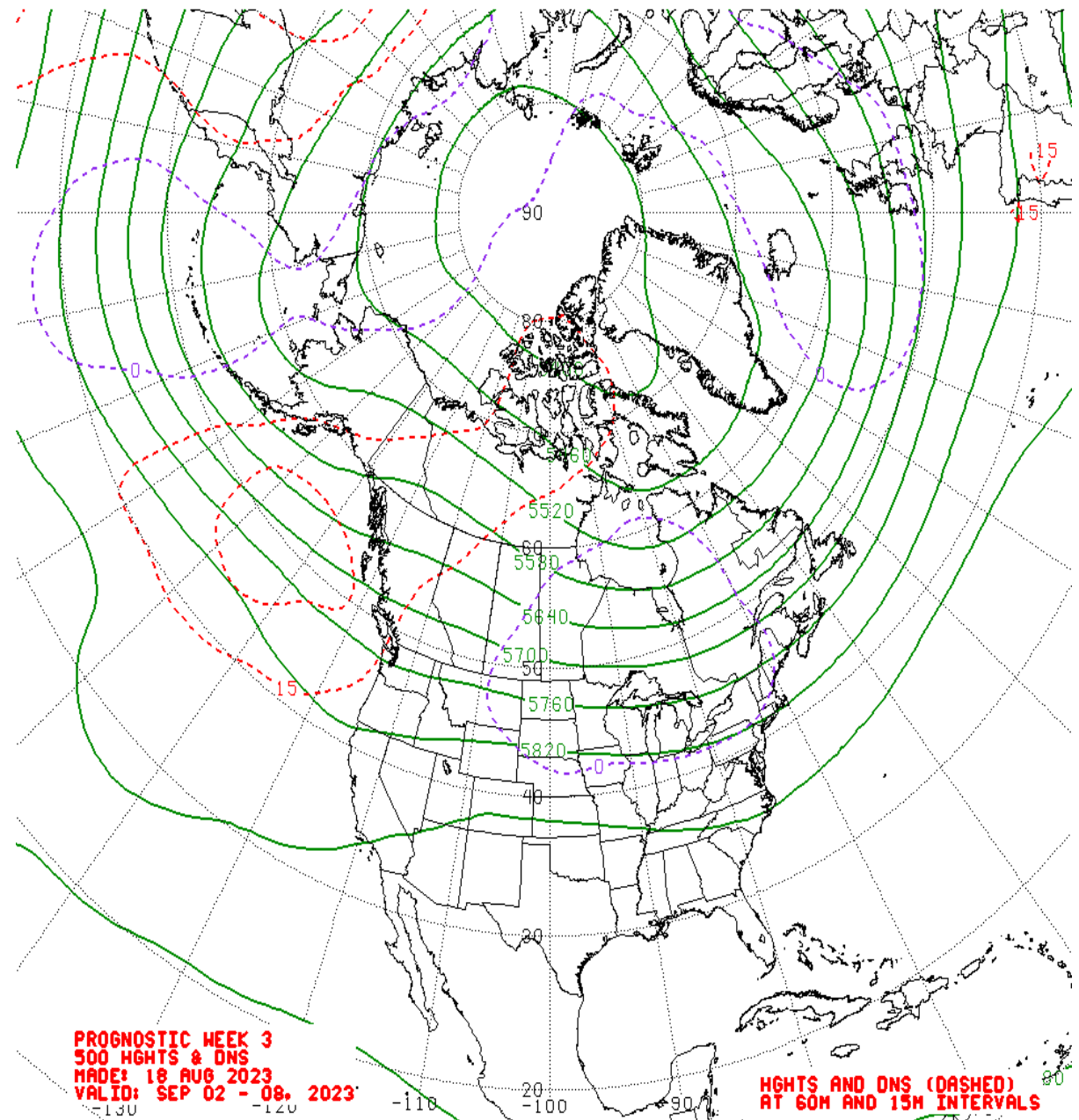
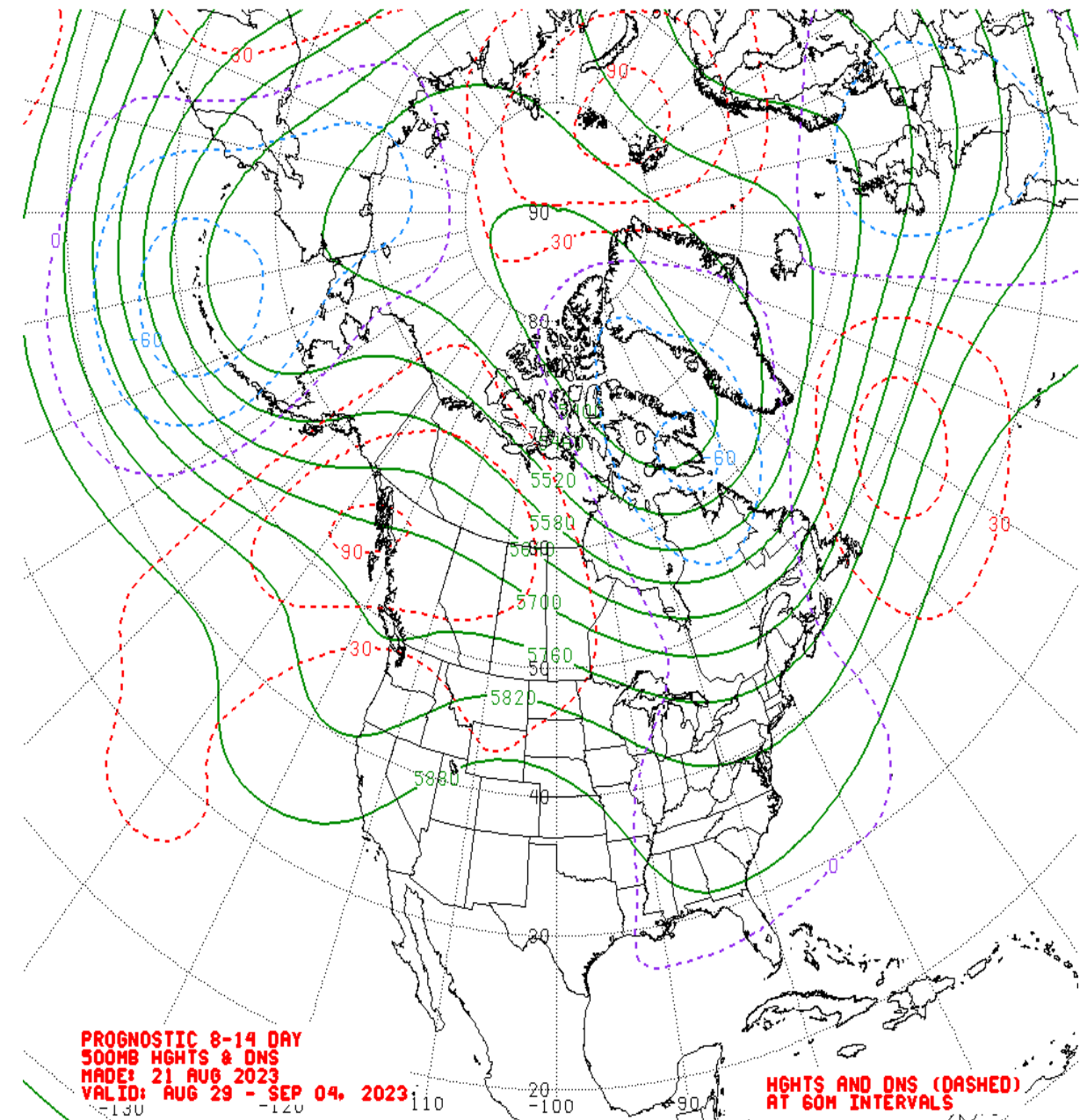
TC development likely within 24 hours (Reference TCFA)



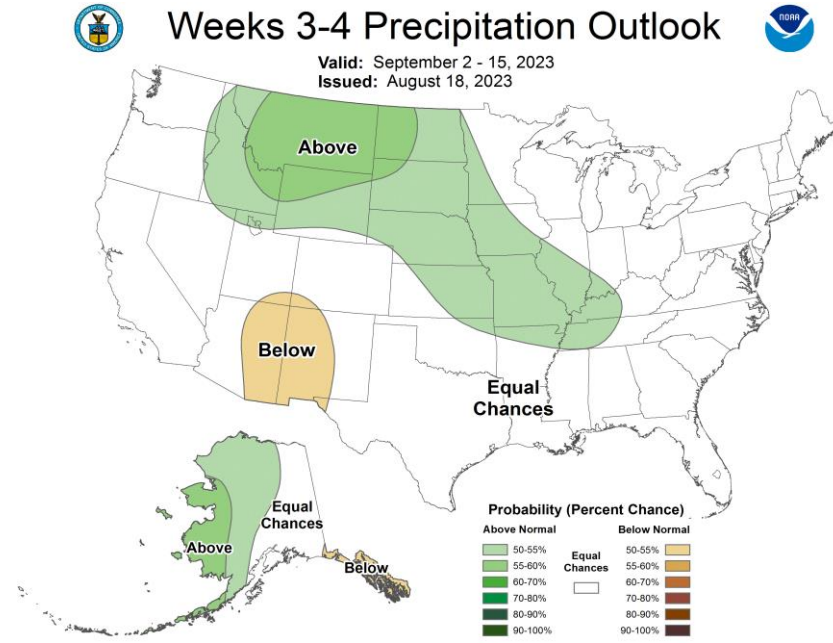
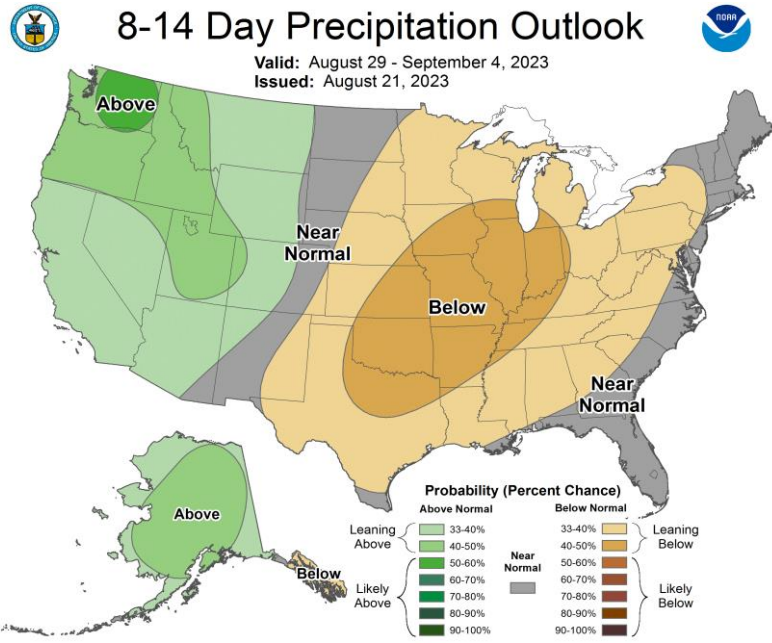
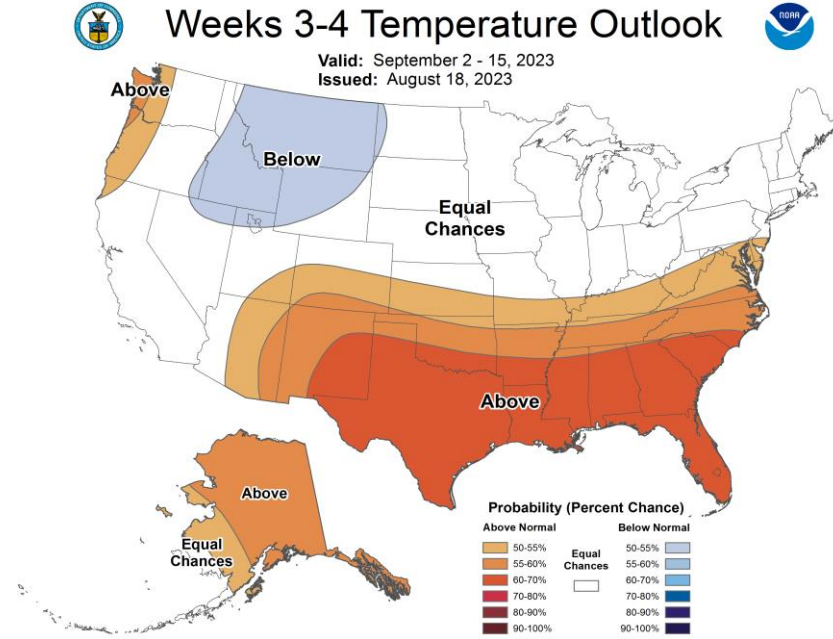
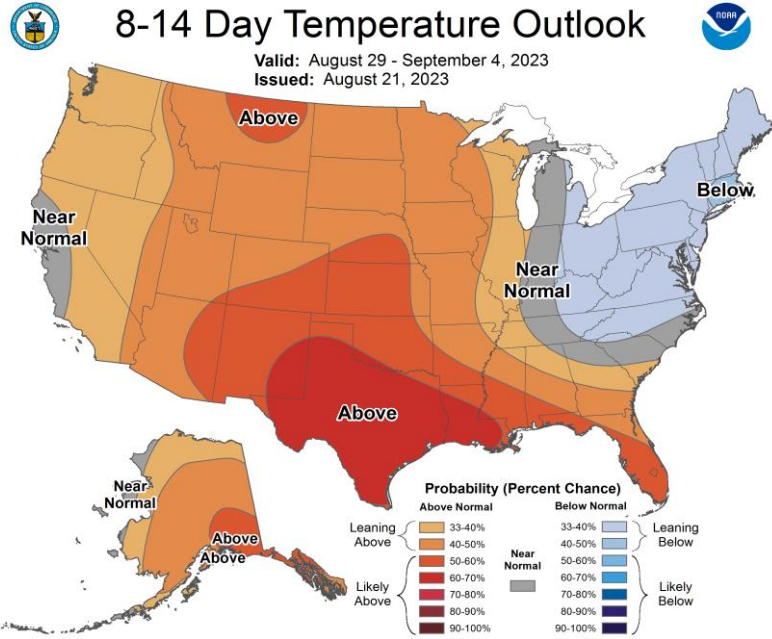
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)

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



Official Temperature & Precipitation Forecasts:



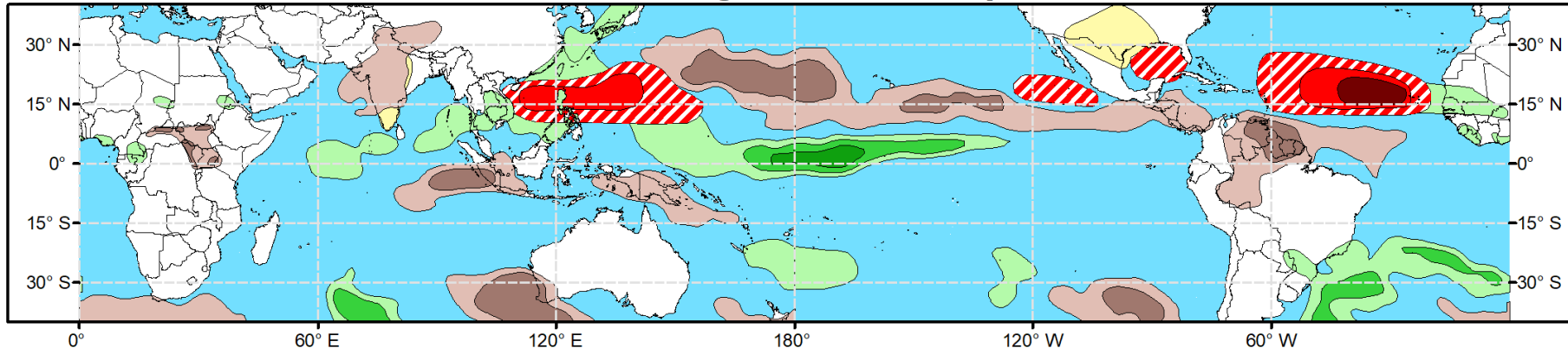


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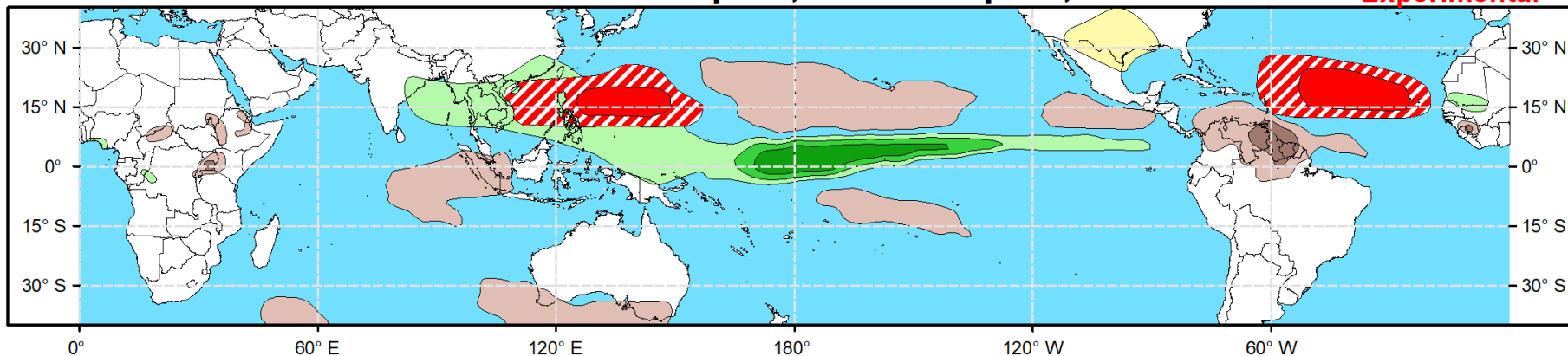


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