



Weeks 2-3 Global Tropics Hazards Outlook

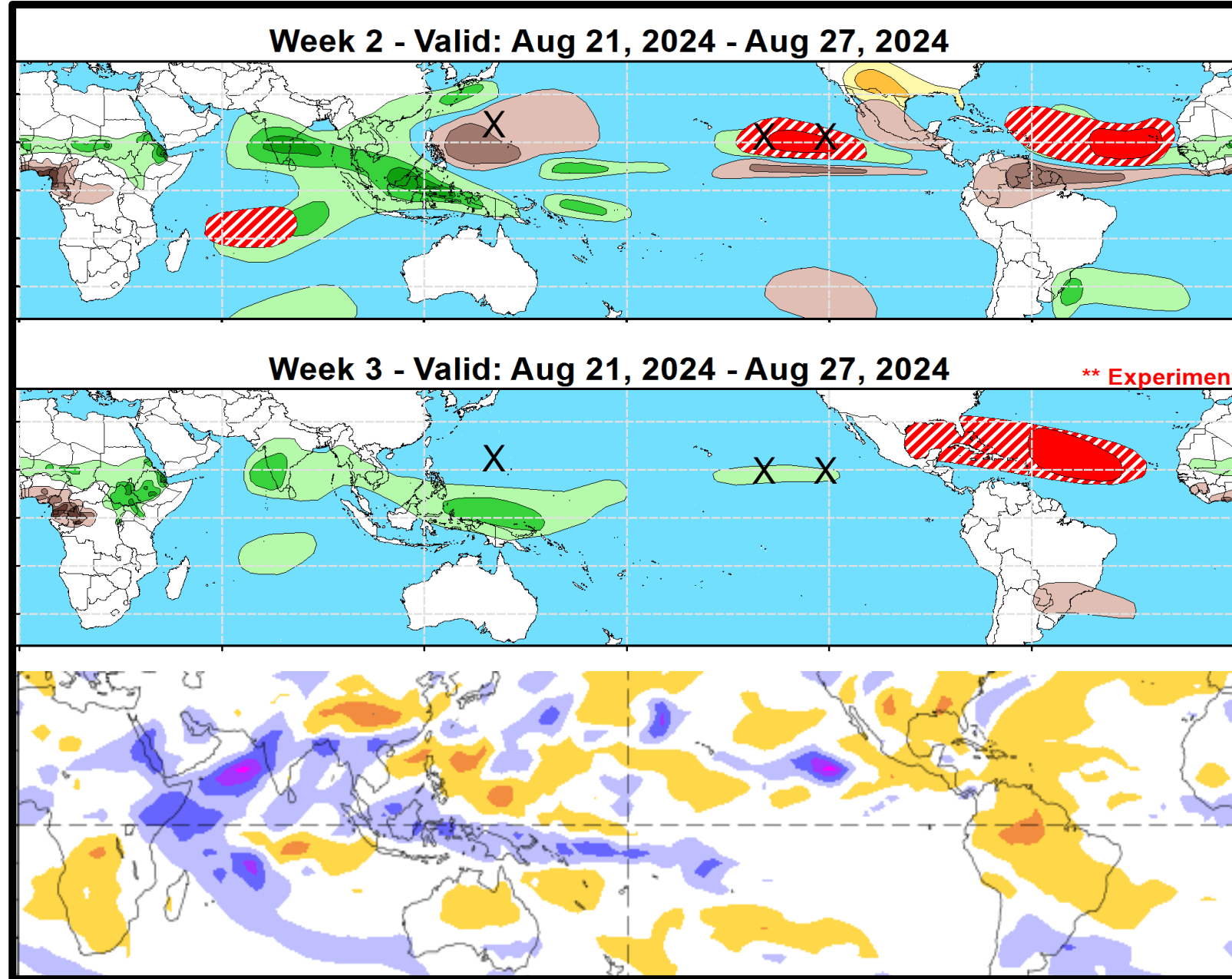
8/27/2024

Nick Novella

NWS / NCEP / Climate Prediction Center

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

- CPAC: Hone
- EPAC: Hector
- WPAC: Shanshan



Synopsis of Climate Modes:

ENSO: (Aug 8, 2024 Update) *next update on Thursday, Sep 12th*

- ENSO Alert System Status: [La Niña Watch](#)
- ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during SON (66% chance) and persist into the Northern Hemisphere winter 2024-25 (74% chance during November-January).

MJO and other subseasonal tropical variability:

- Following a period where the MJO has maintained good organization for much of August, the signal has lost amplitude during the past week most likely tied to competing modes of tropical variability .
- This weakening looks to be short-lived, and models are supportive of the MJO restrengthening and propagating eastward over the Maritime Continent during the next few weeks. Models begin to diverge in regards to the strength of the MJO before nearing the Western Pacific, adding to some uncertainty in the outlook.
- Confidence is high that the large-scale environment will be favorable for additional Tropical Cyclone (TC) formation in the western Pacific. While there are lower odds for TC development in the eastern Pacific and Atlantic, additional formation remains favored given high SSTs, climatology and other tropical modes that can contribute to genesis in these basins.

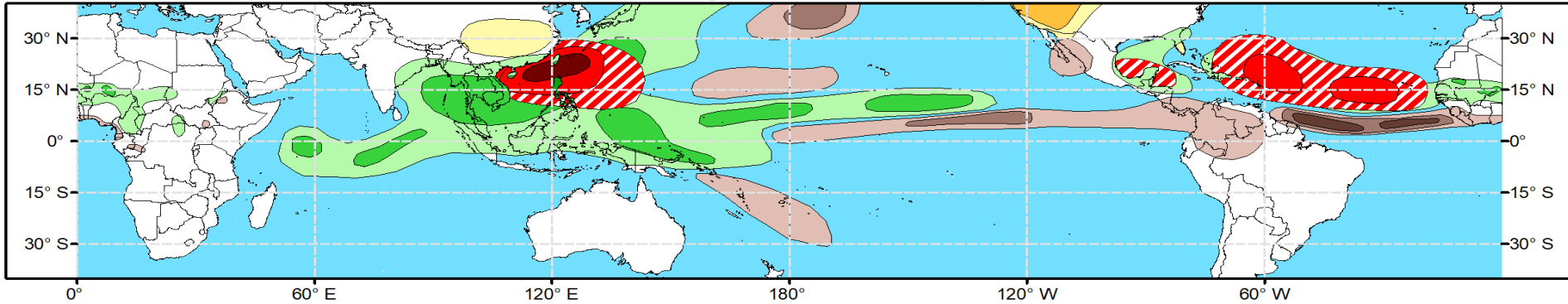


Global Tropics Hazards Outlook

Climate Prediction Center

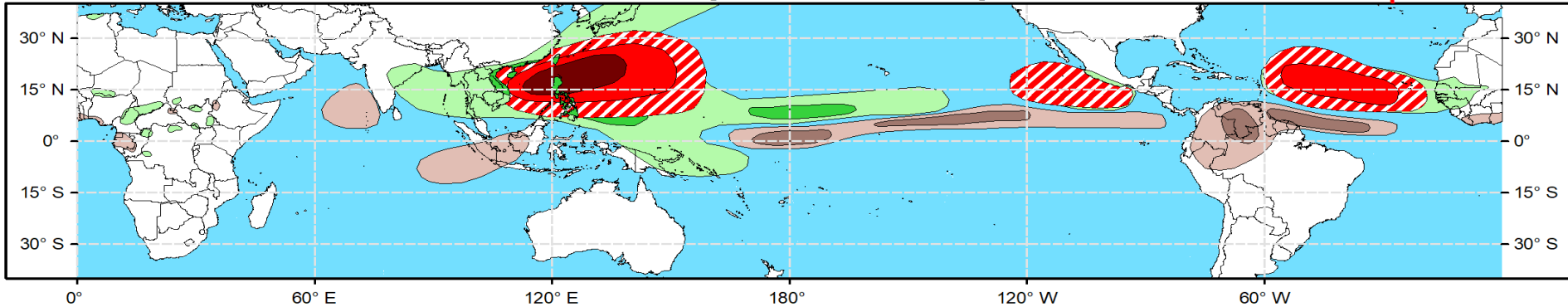


Week 2 - Valid: Sep 04, 2024 - Sep 10, 2024



Week 3 - Valid: Sep 11, 2024 - Sep 17, 2024

**** 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**



>50% >65% >80%

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

Issued: 08/27/2024

Forecaster: Novella

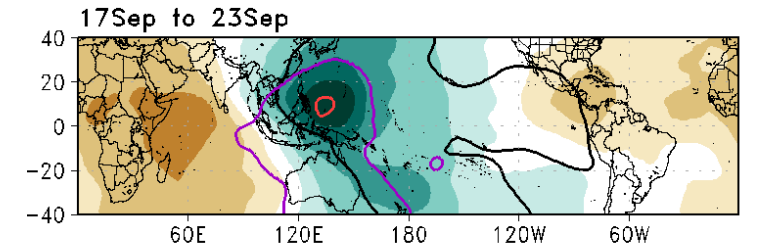
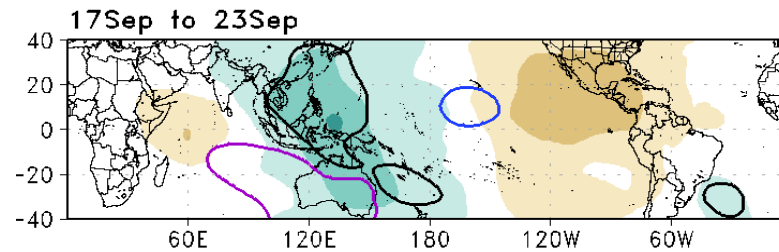
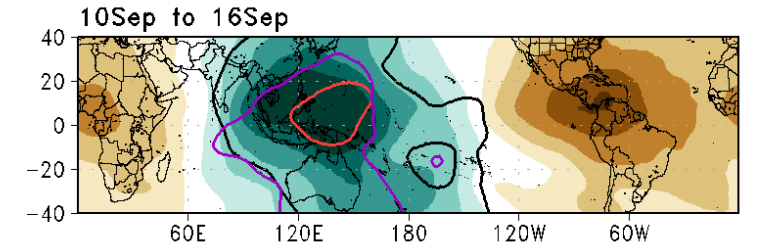
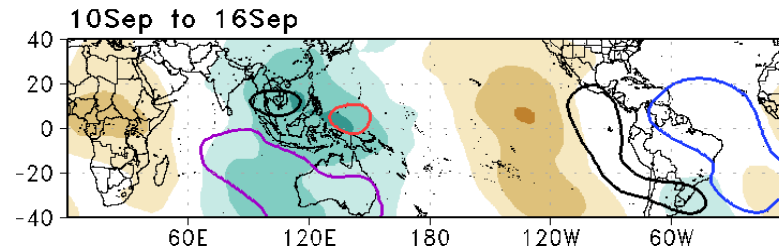
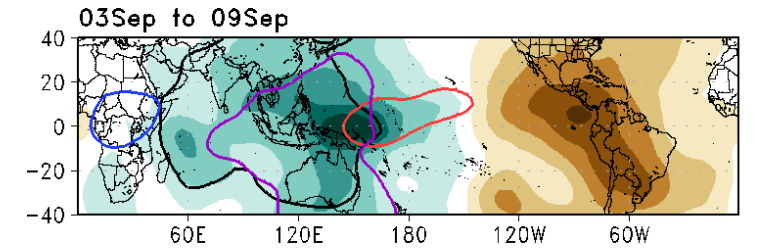
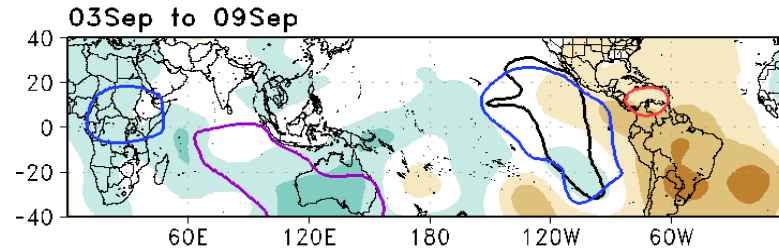
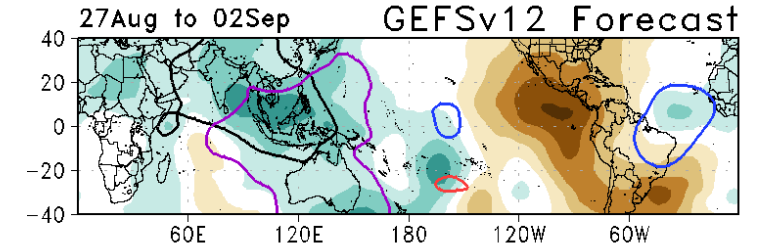
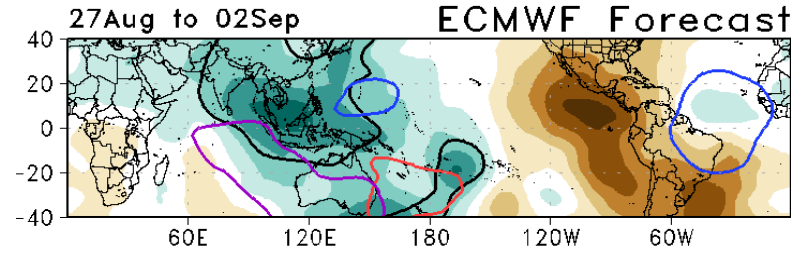
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200-hPa Velocity Potential Anomaly Maps:

Green: Enhanced Divergence Aloft

Brown: Enhanced Convergence Aloft

-Day Means

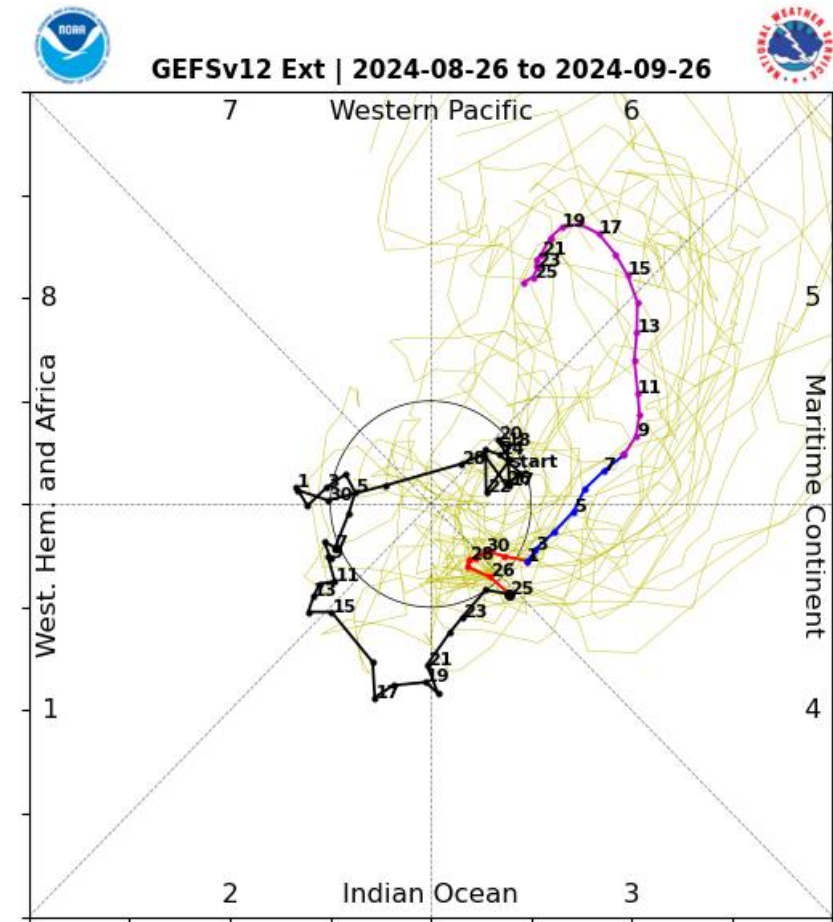
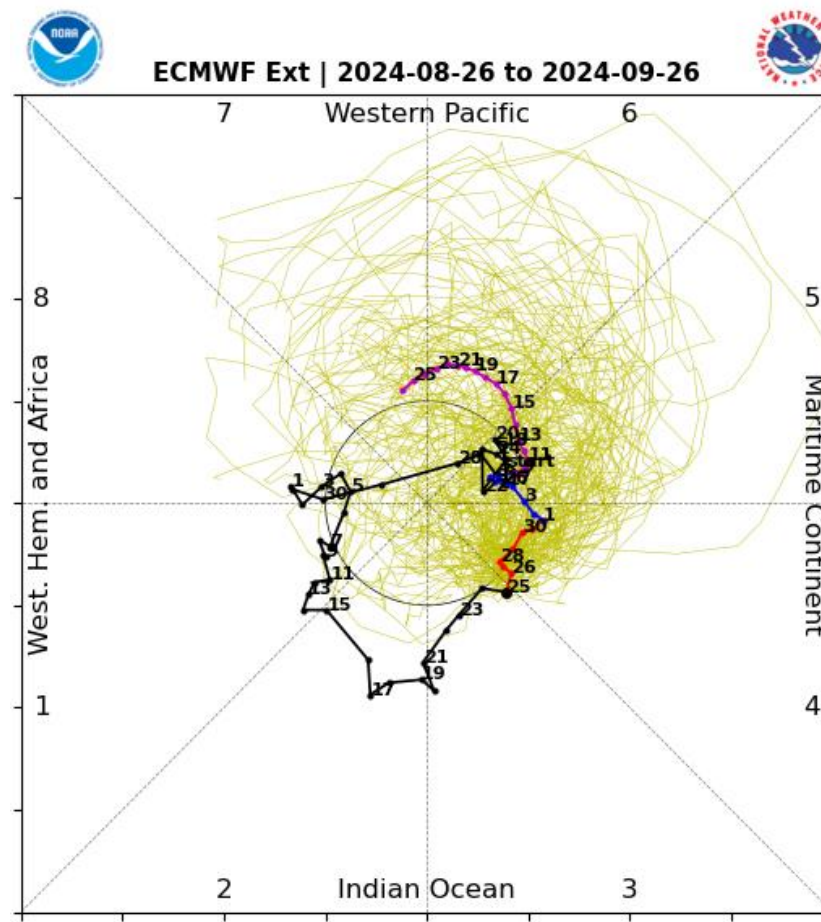
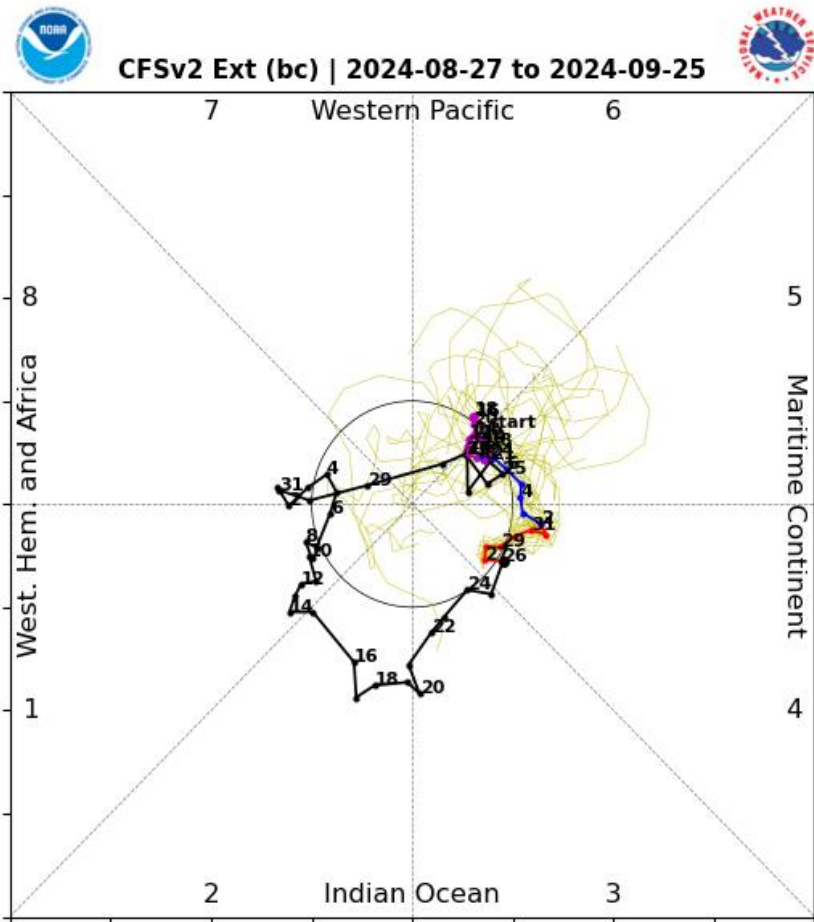


— MJO — Kelvin*2
 — Low — ER
 Contours at $-2, -6 \times 10^{-6} \text{ m}^2 \text{ s}^{-1}$

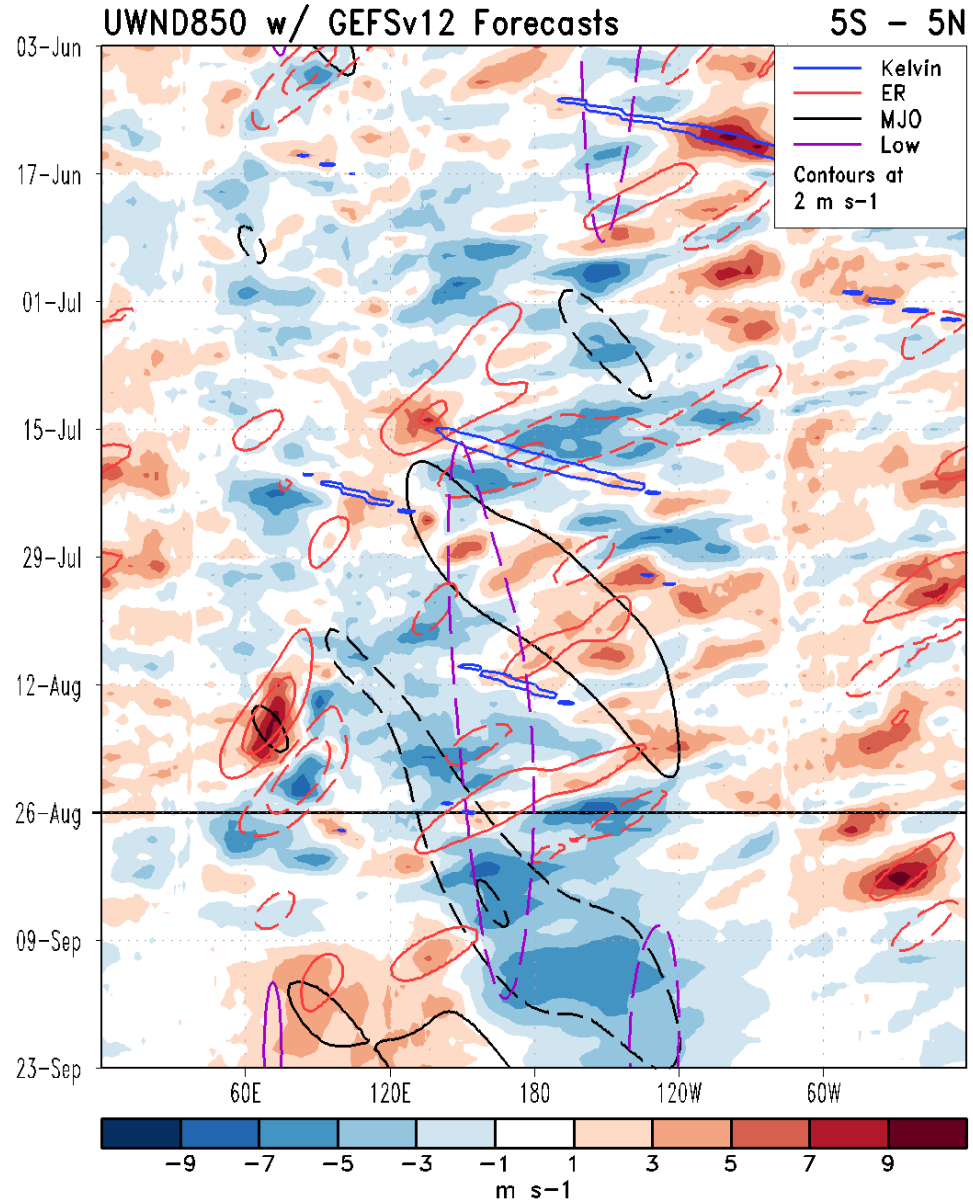
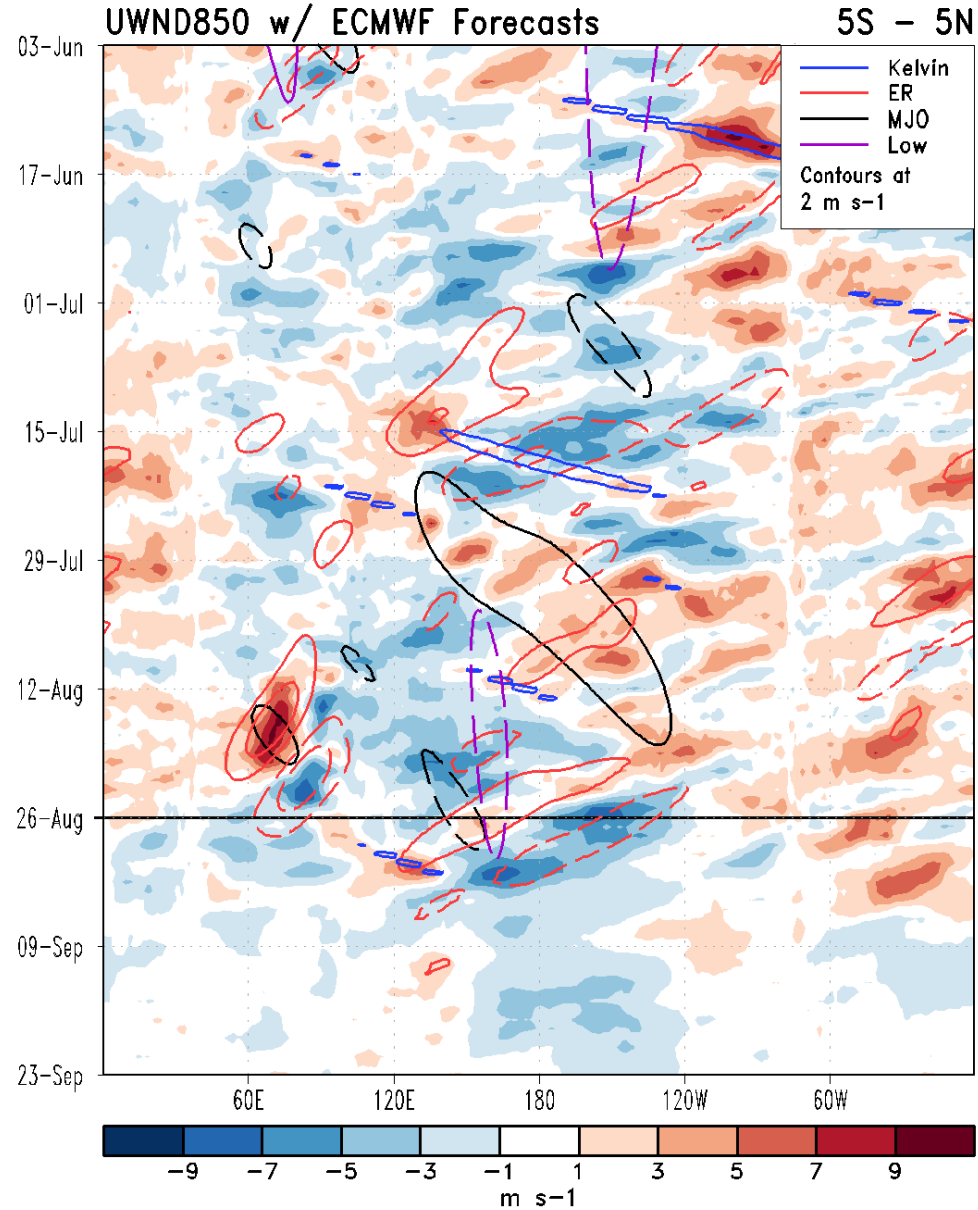
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- The wave-1 pattern becomes more disorganized in the ECMWF forecast, with higher frequency signals (notably Kelvin wave activity) becoming more prominent.
- The GEFS favors a more canonical, and robust evolution of the GEFS.
- Both feature enhanced divergence aloft, conducive for enhanced convection and TC genesis in the Maritime Continent and western Pacific.

RMM Index Observations & Forecasts:



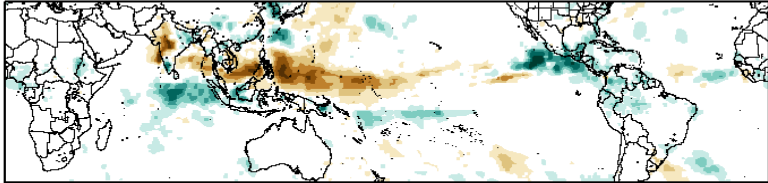
Lower-Level Zonal Wind Anomaly Time/Lon Plots:



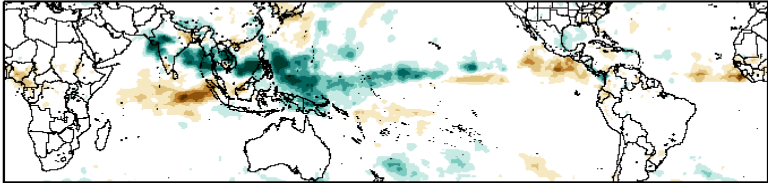
Historical Precipitation Anomalies By MJO Phase:

JAS MJO Composite: GPCP1DD (mm/day)

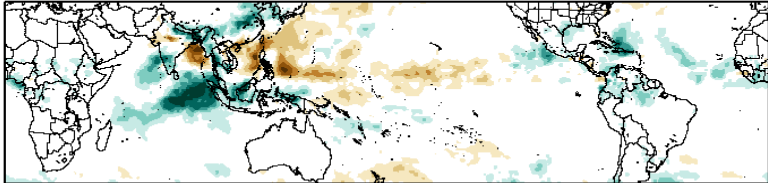
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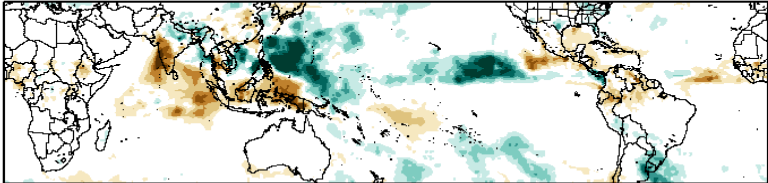
Phase 5



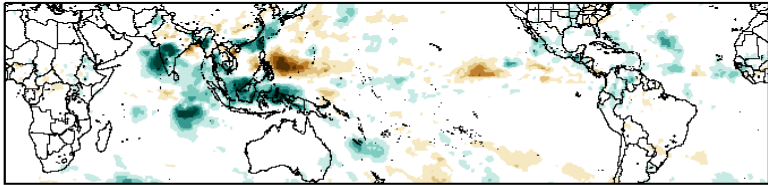
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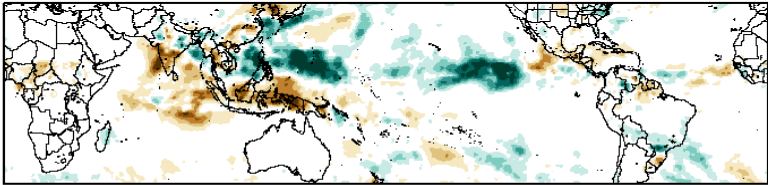
Phase 6



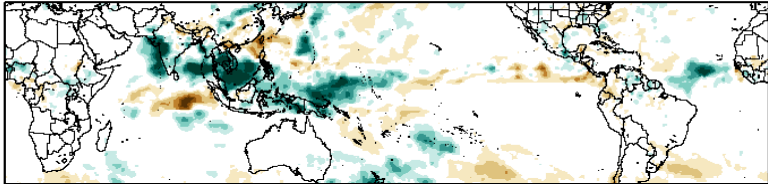
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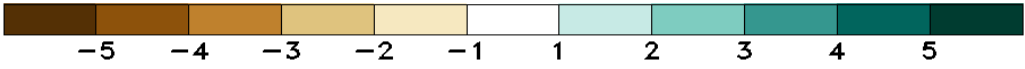
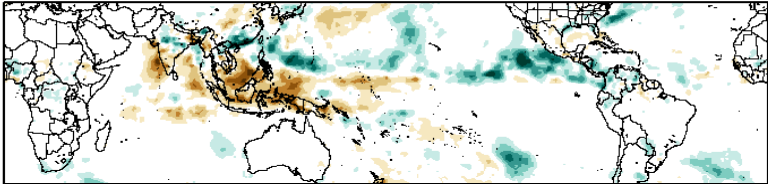
Phase 7



Phase 4

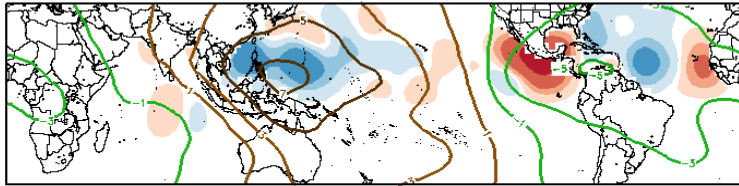


Phase 8

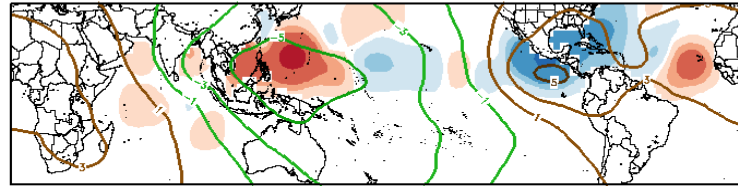


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

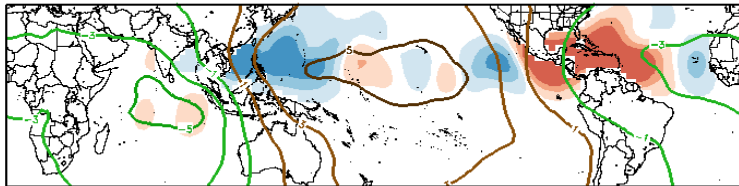
JAS MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JAS CHI200 ($\times 10^{-6} m^{-2} s^{-1}$) / Contours every $2 \times 10^{-6} m^{-2} s^{-1}$



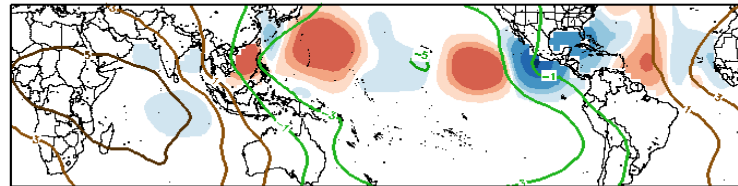
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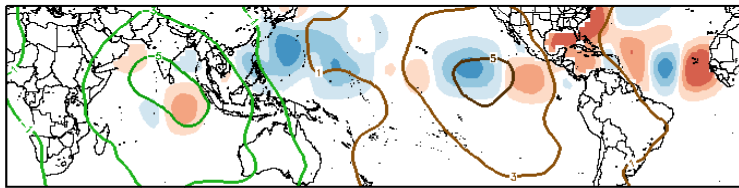
Phase 5



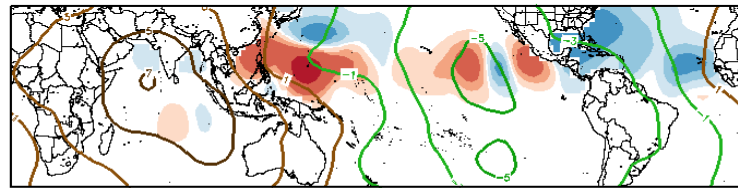
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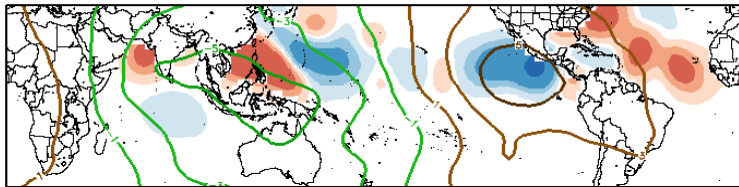
Phase 6



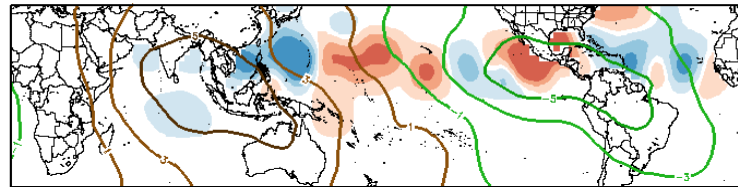
Phase 3



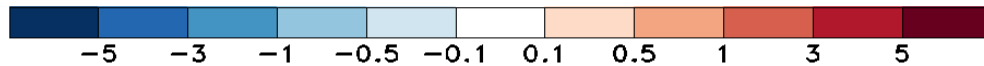
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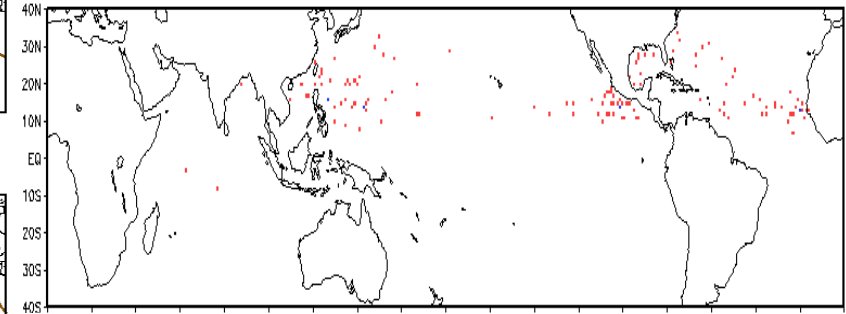
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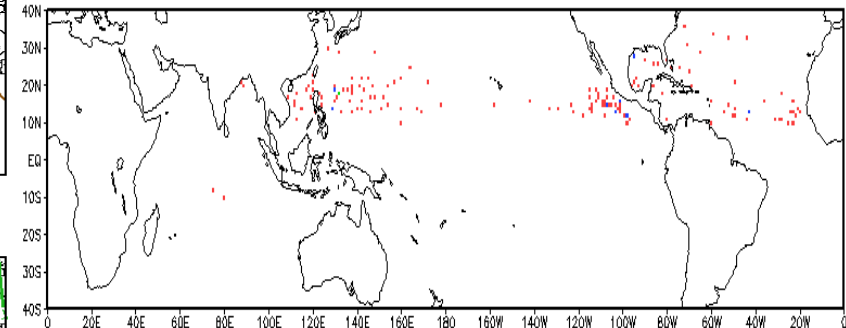
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 0904 to 0910



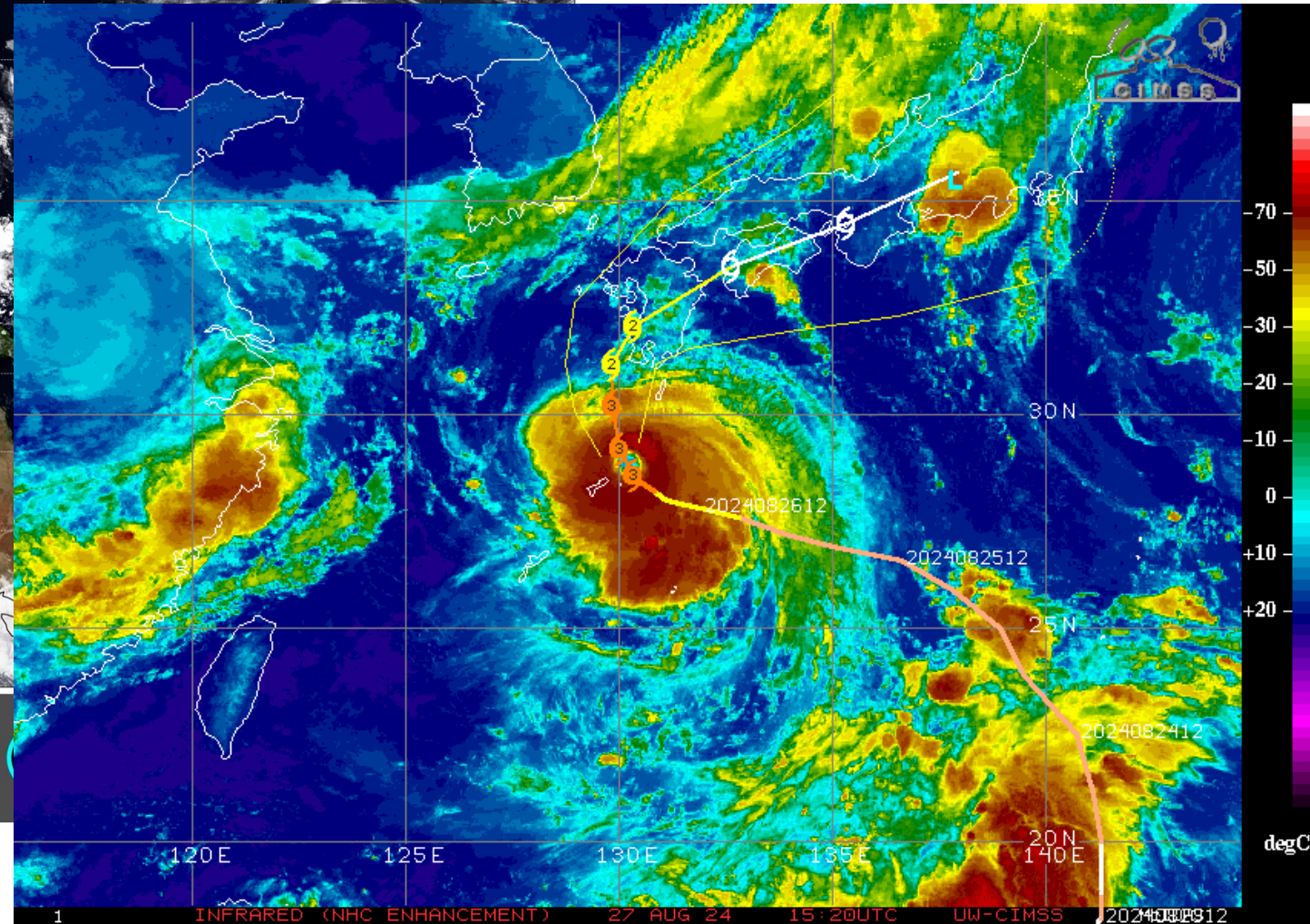
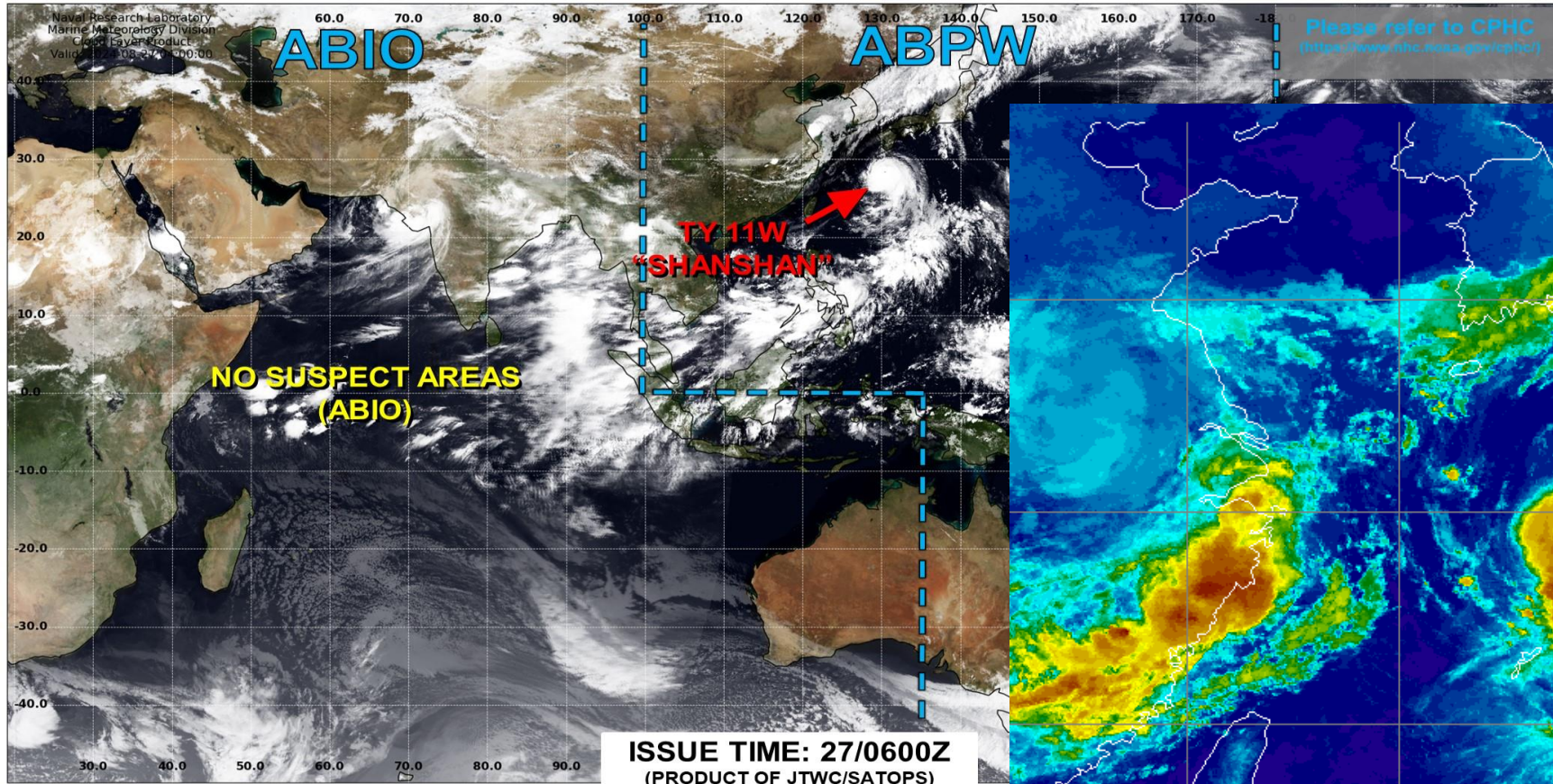
Observed TC Genesis, 1979-2021
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Experimental

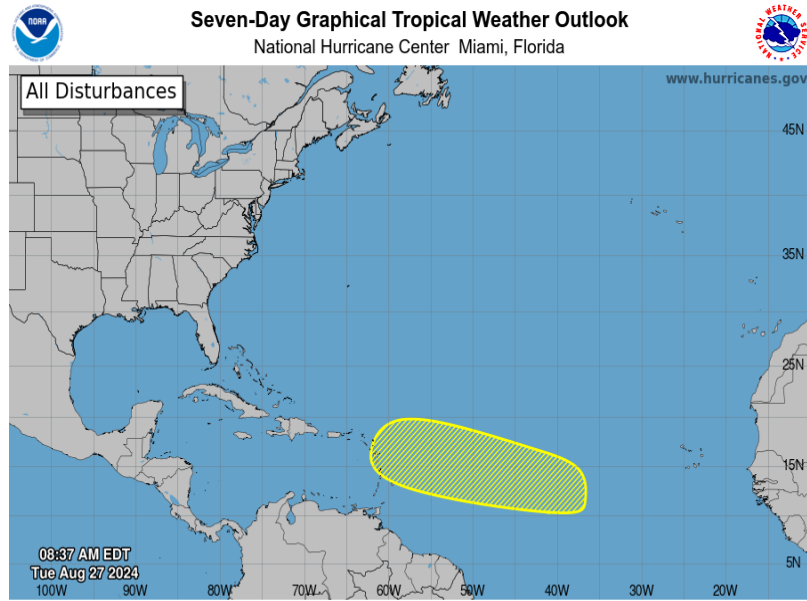
Tropical Cyclone Monitoring/Forecast: JTWC

JOINT TYPHOON WARNING CENTER

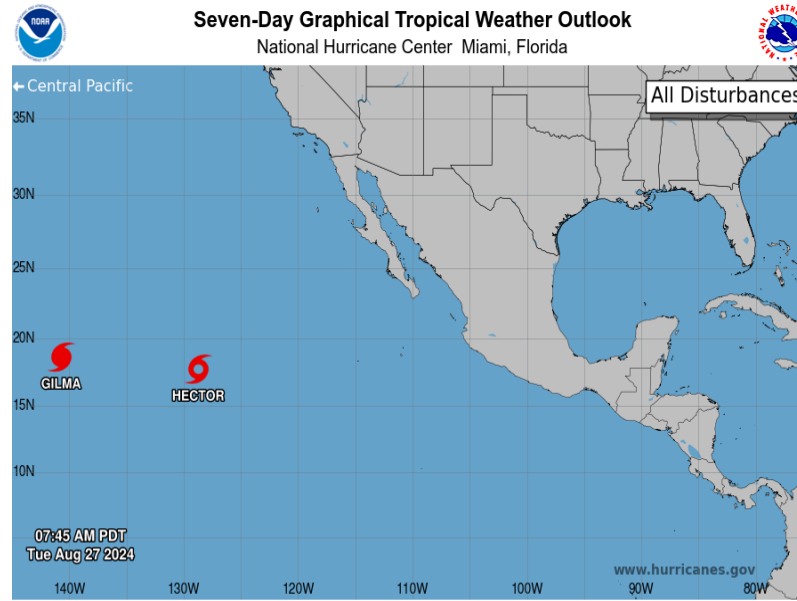


- LOW** TC development unlikely within 24 hours
- MEDIUM** TC development likely, but expected to occur beyond 24 hours
- HIGH** TC development likely within 24 hours (Reference TCFA)

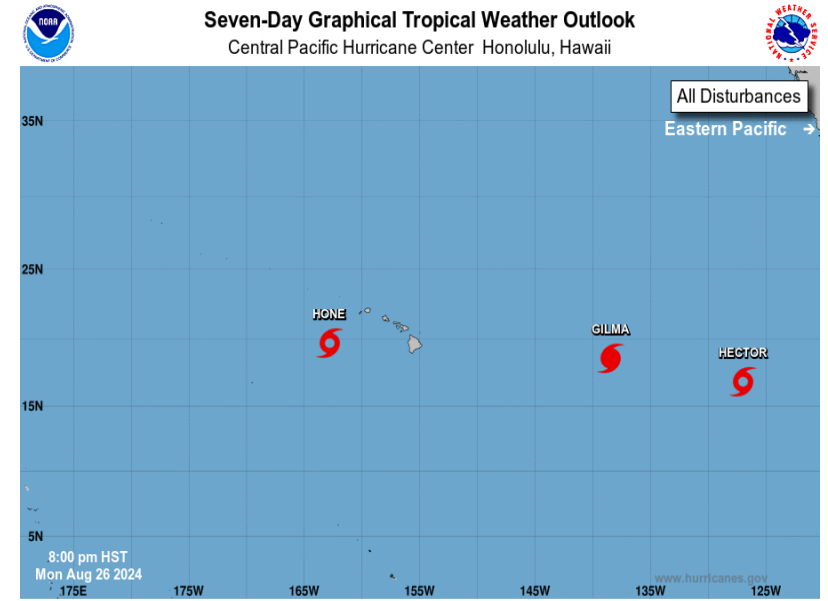
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



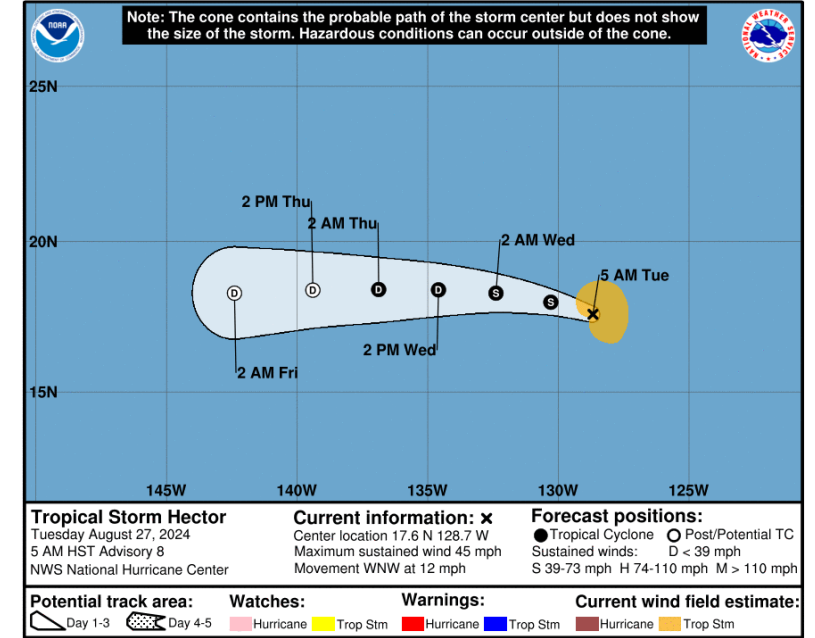
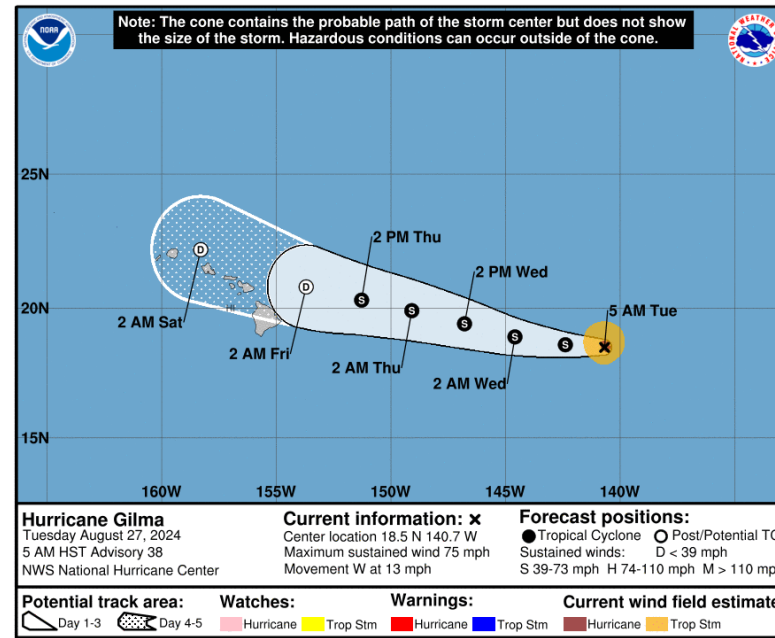
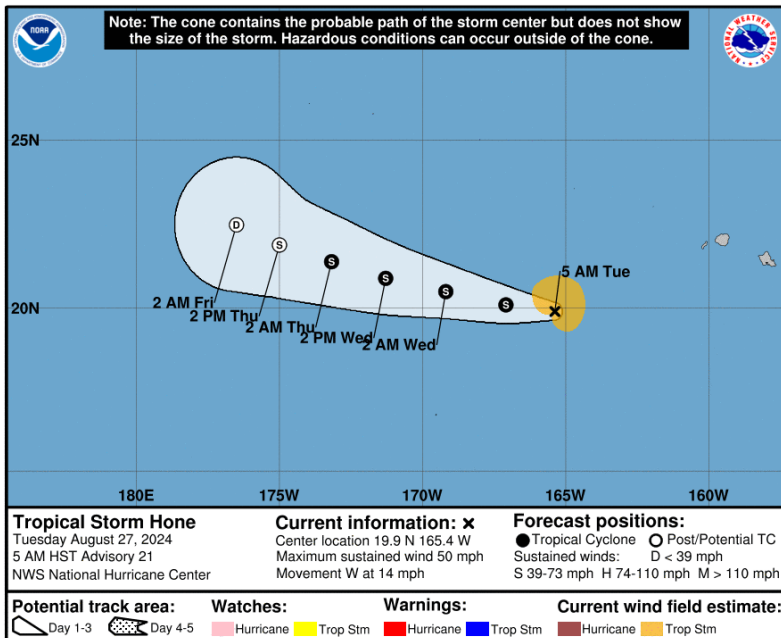
Current Disturbances and Seven-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

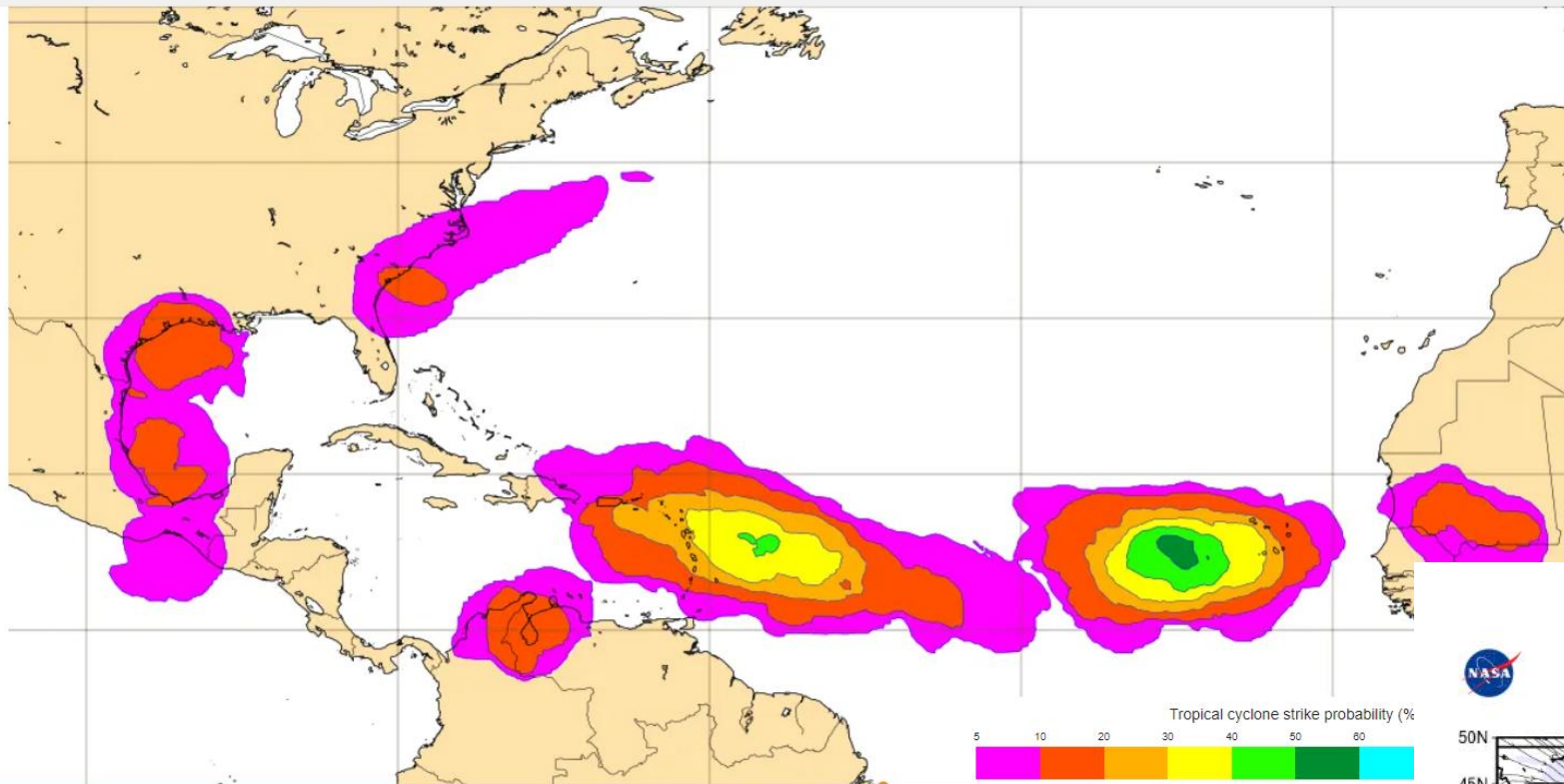


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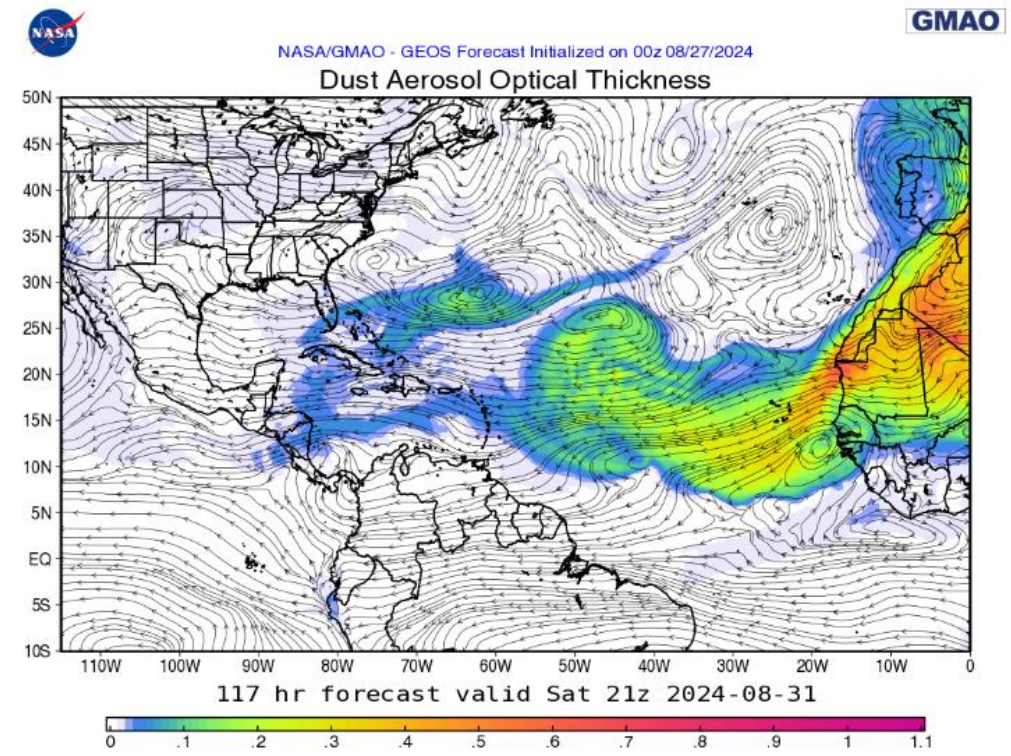


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Atmospheric Composition (2D) Maps

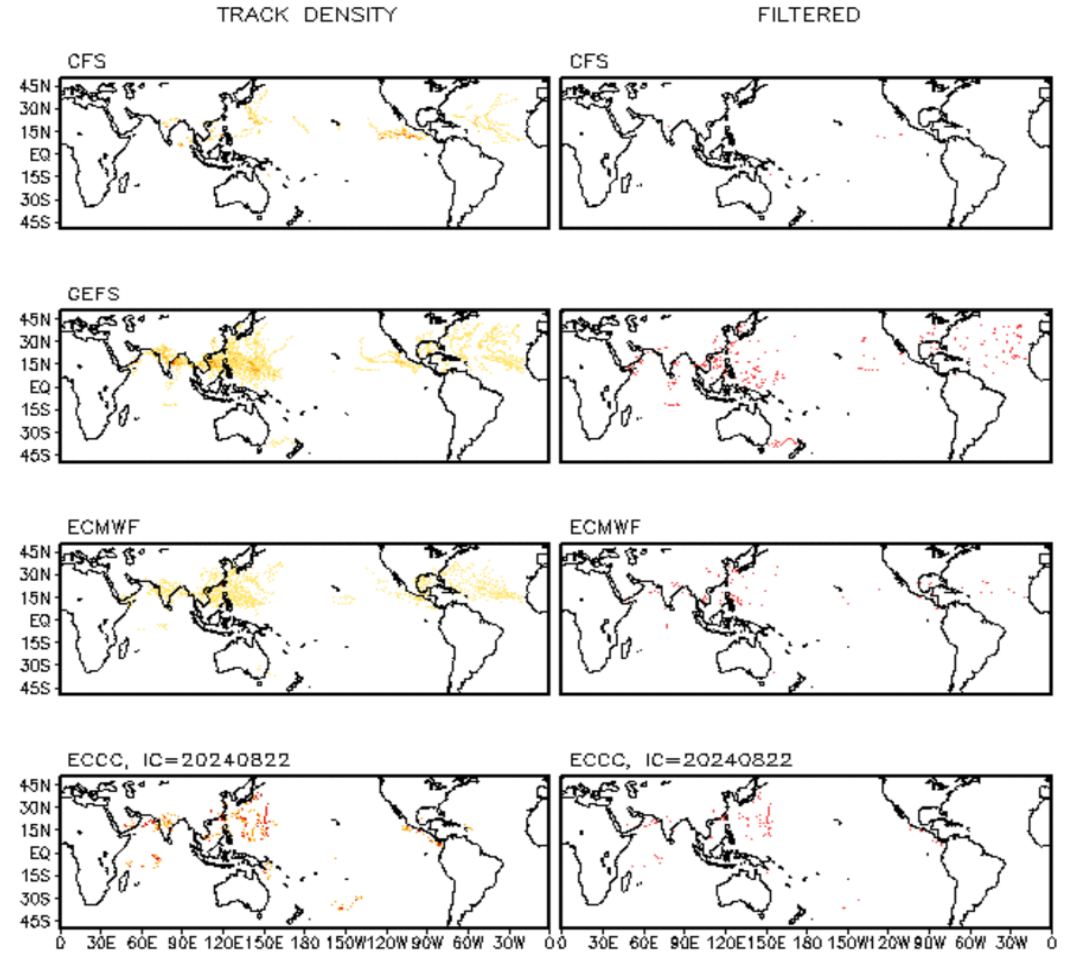
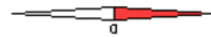
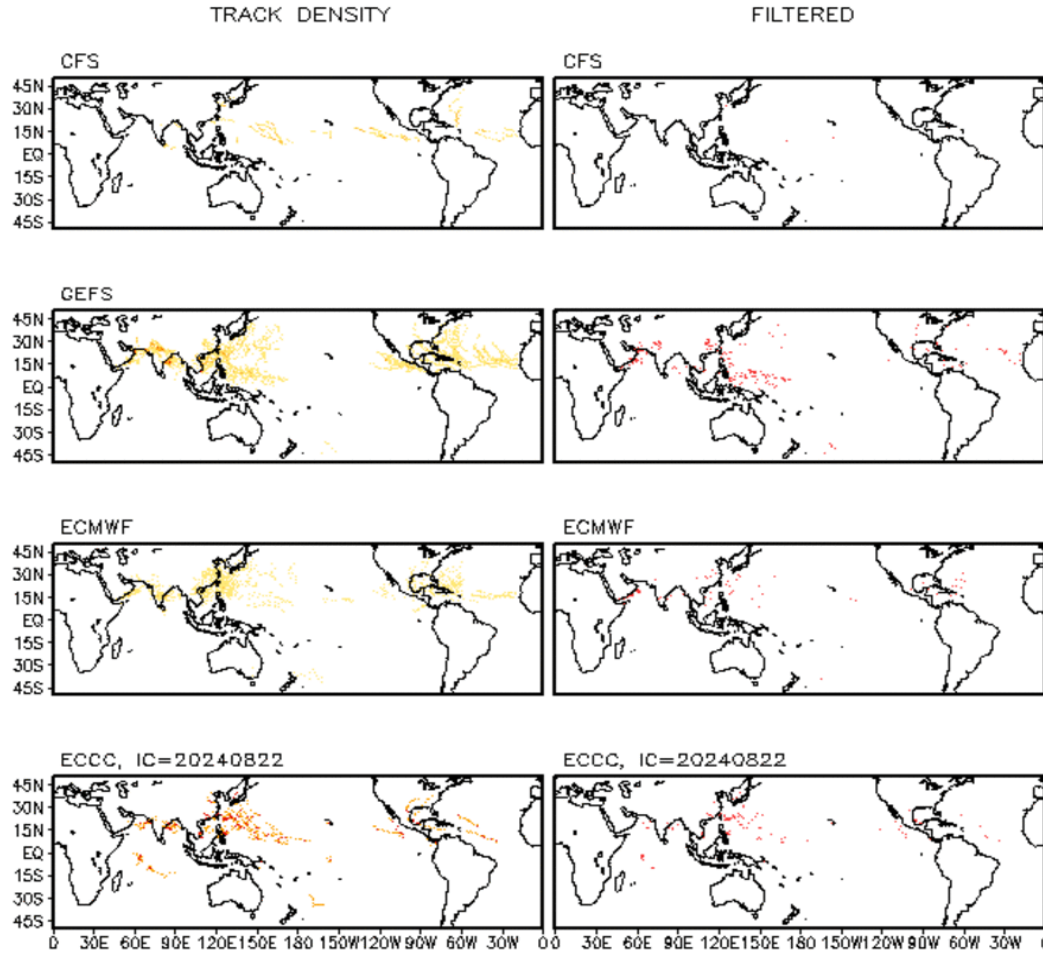


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Wed 04 Sep 2024 00 UTC (T+192)

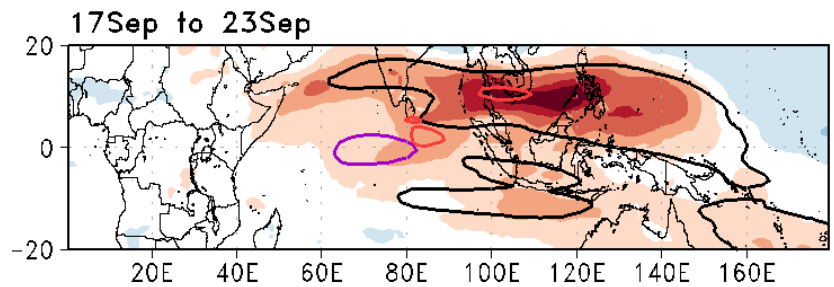
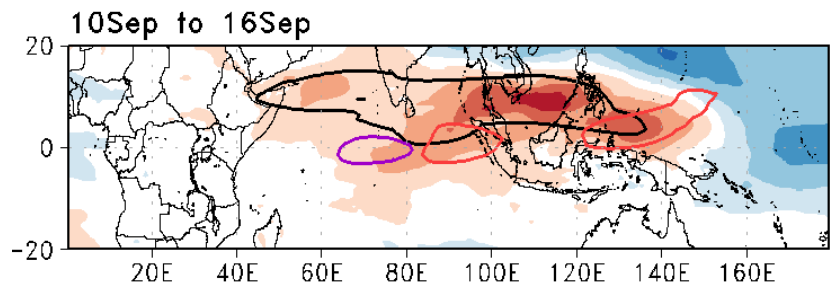
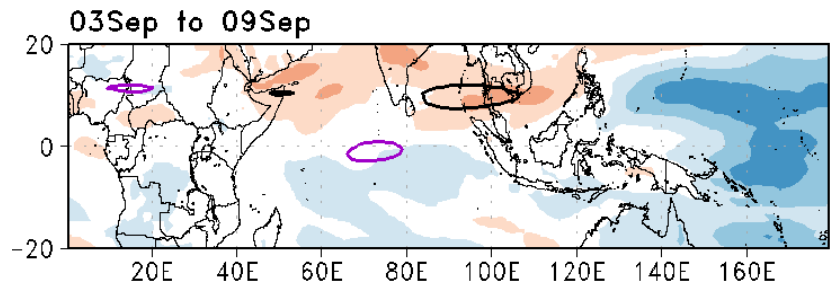
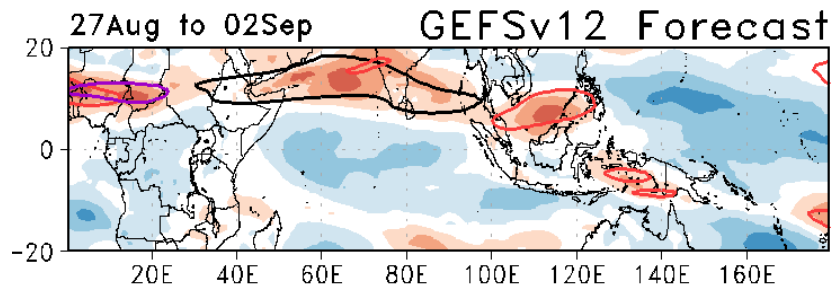
Multi-Model TC Track Densities: Weeks 2+3

Storm Track Density Distribution, IC=20240826
Week 2 Forecast: 0904–0910

Storm Track Density Distribution, IC=20240826
Week 3 Forecast: 0911–0917

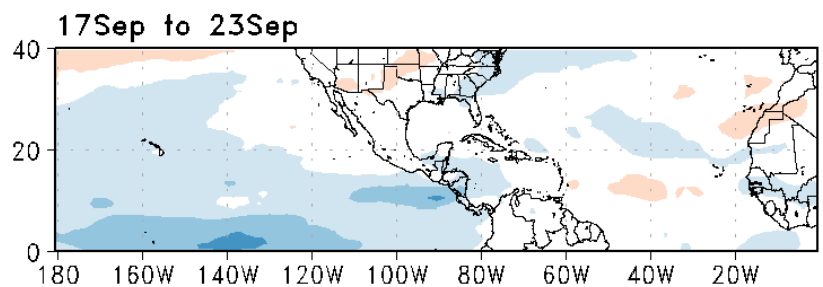
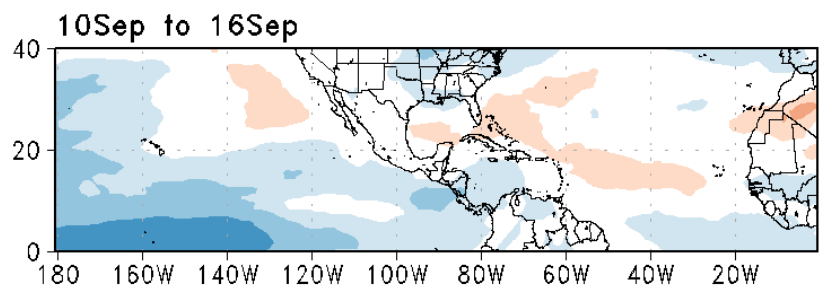
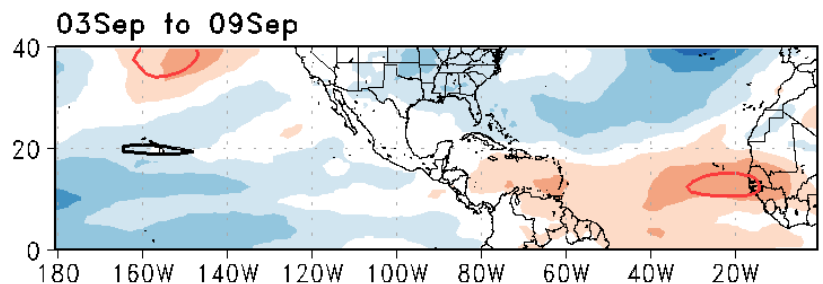
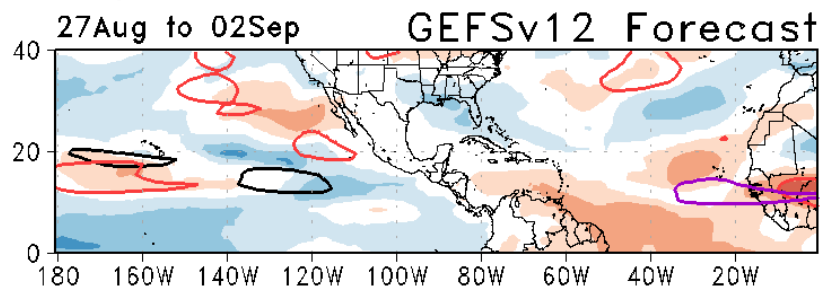


-Day Means



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

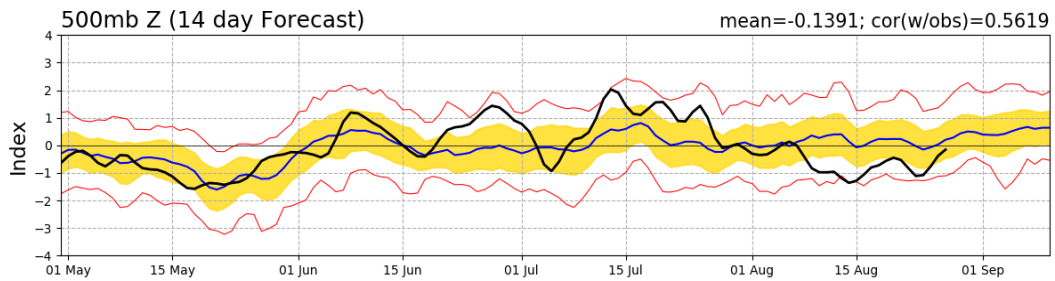
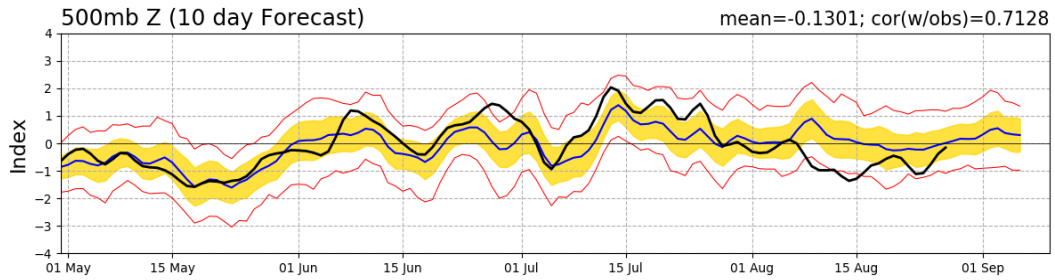
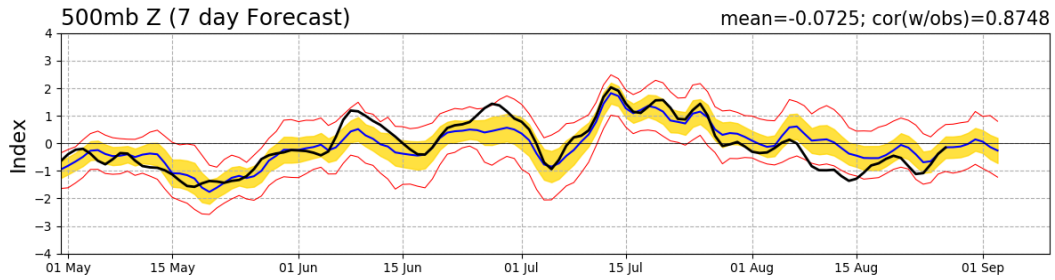
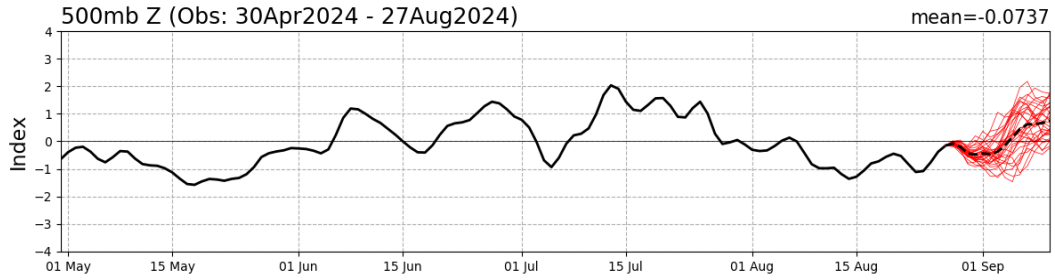
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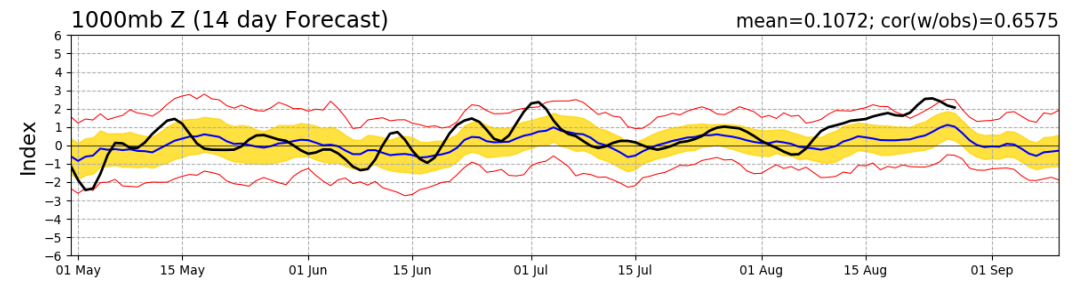
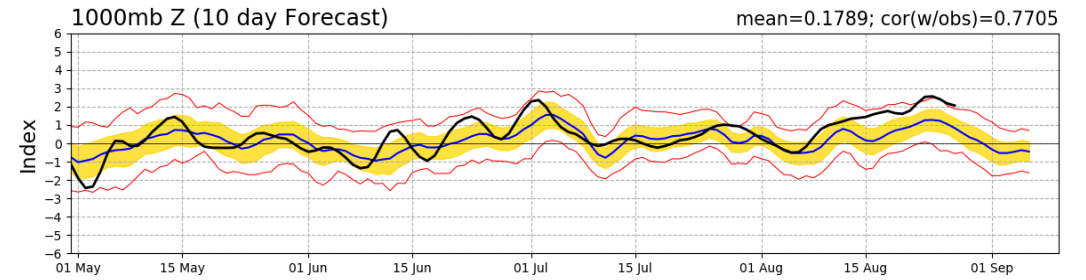
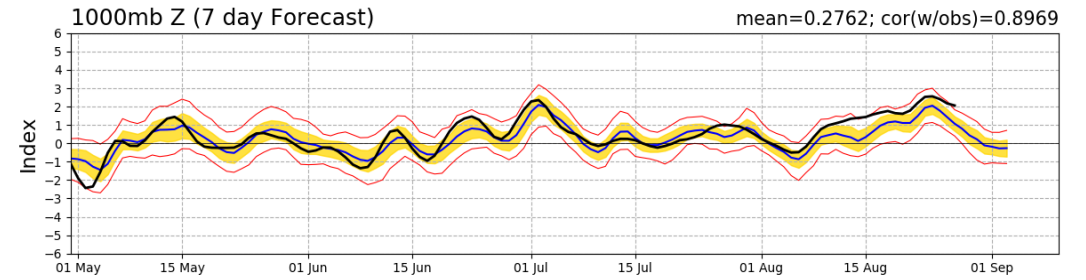
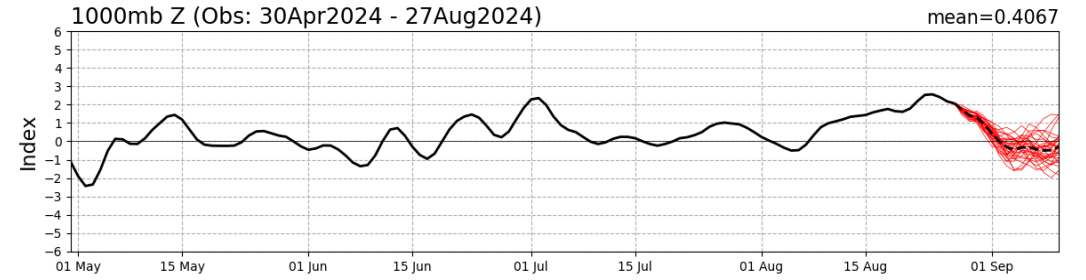
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Teleconnection Indices: PNA / AO:

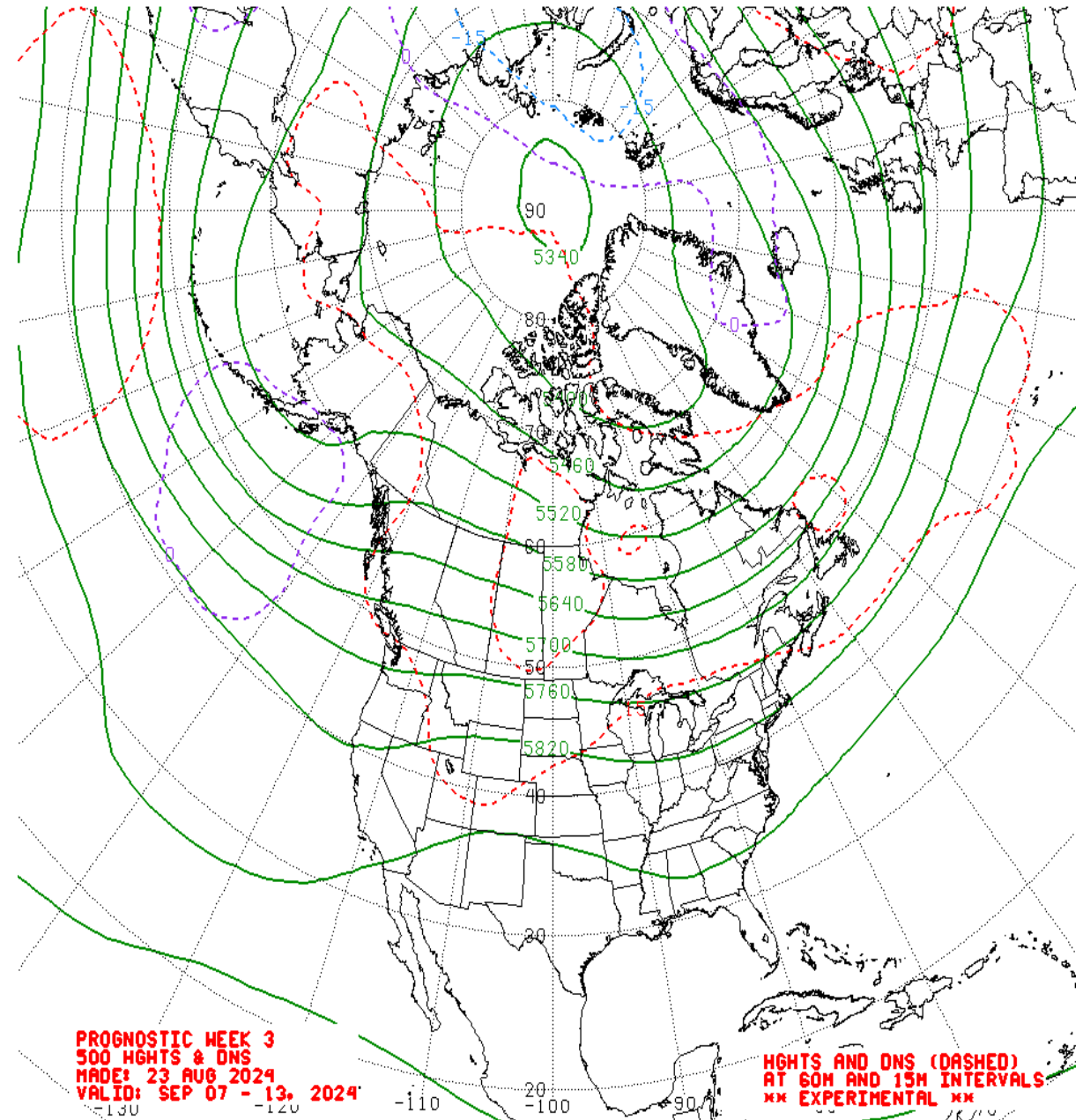
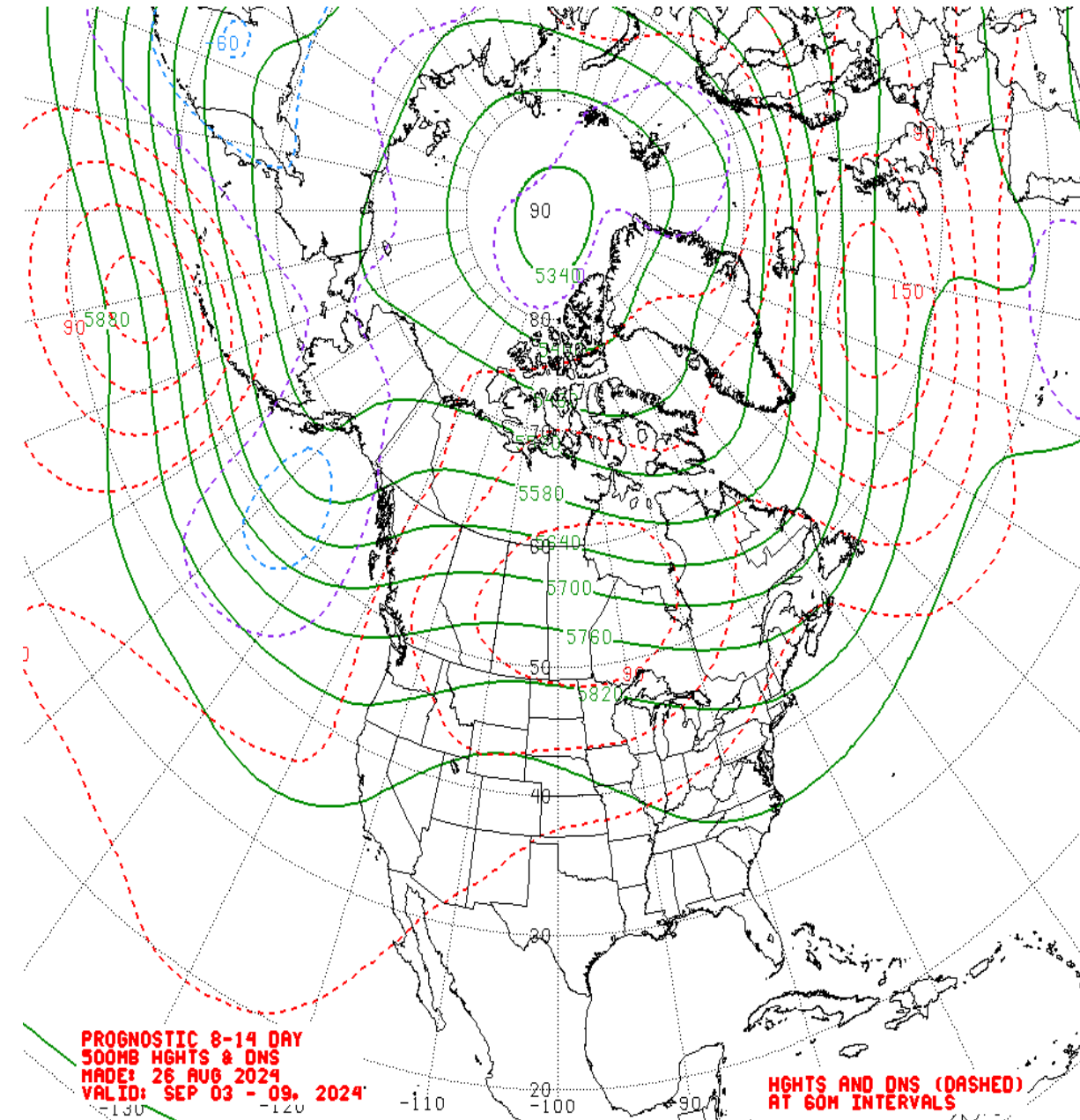
PNA Index: Observed & GEFS Forecasts



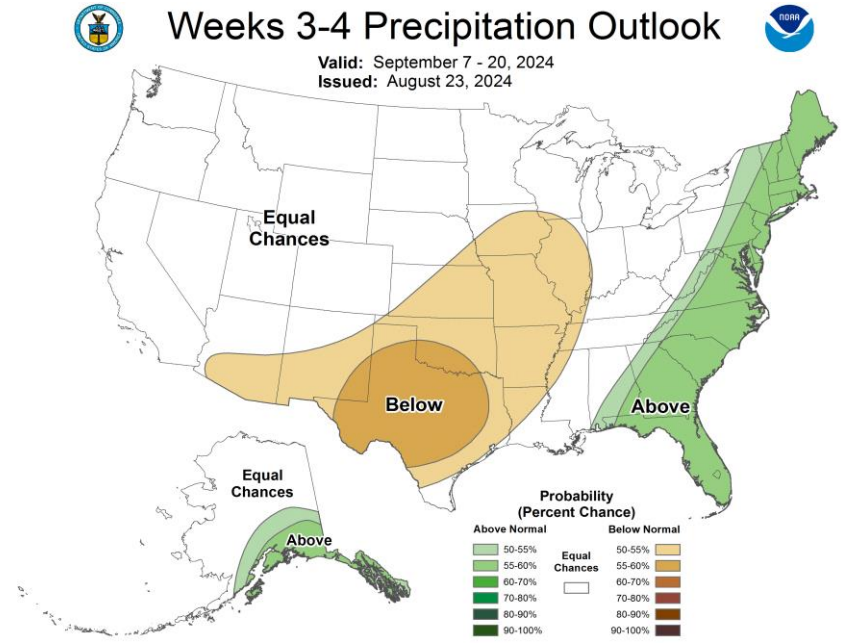
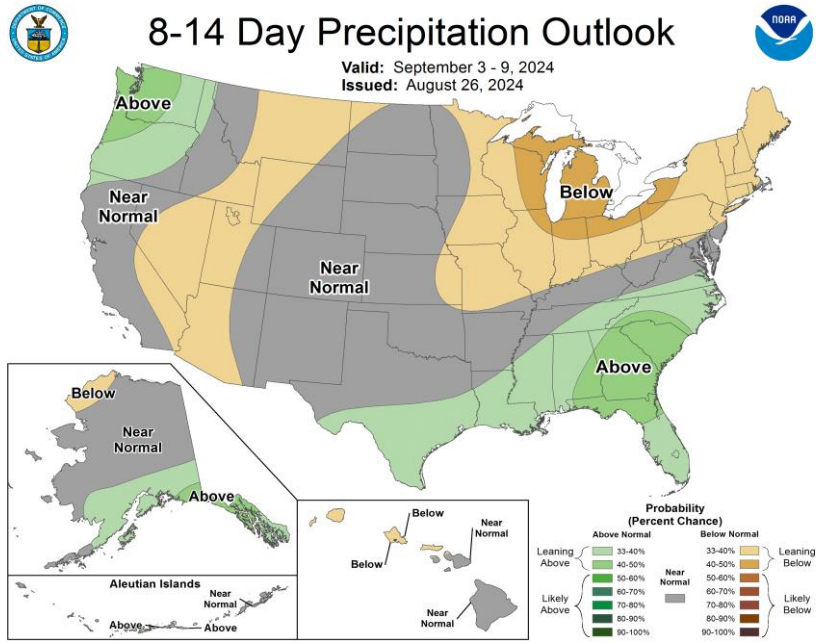
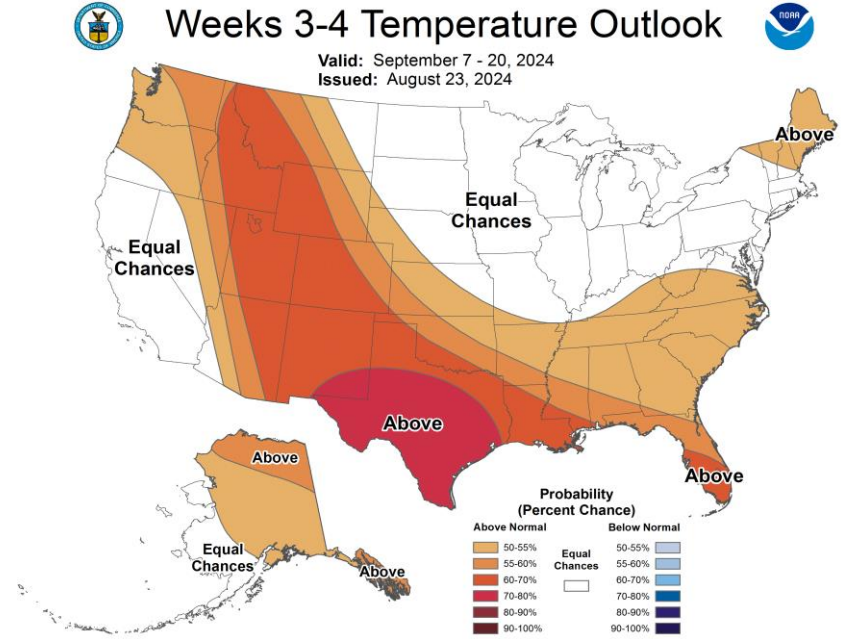
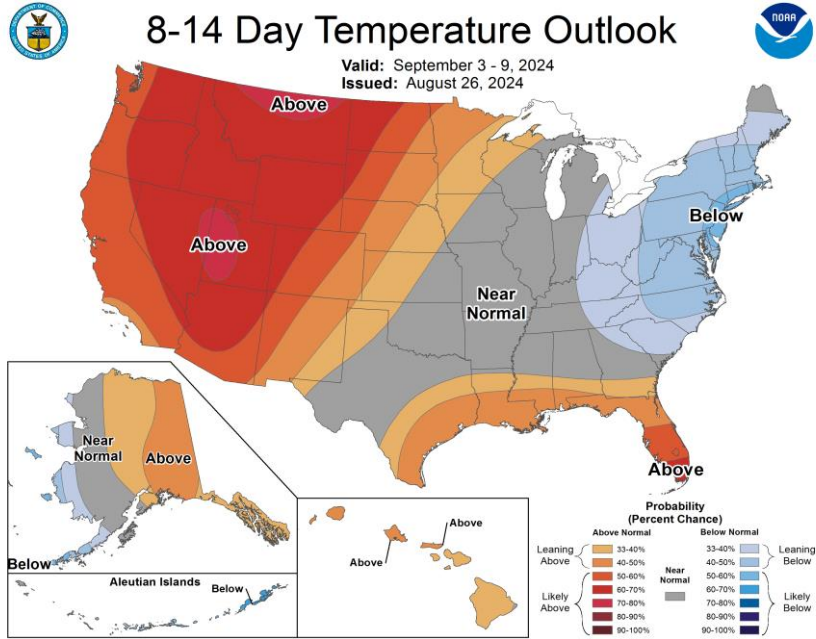
AO Index: Observed & GEFS Forecasts



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



Official Temperature & Precipitation Forecasts:



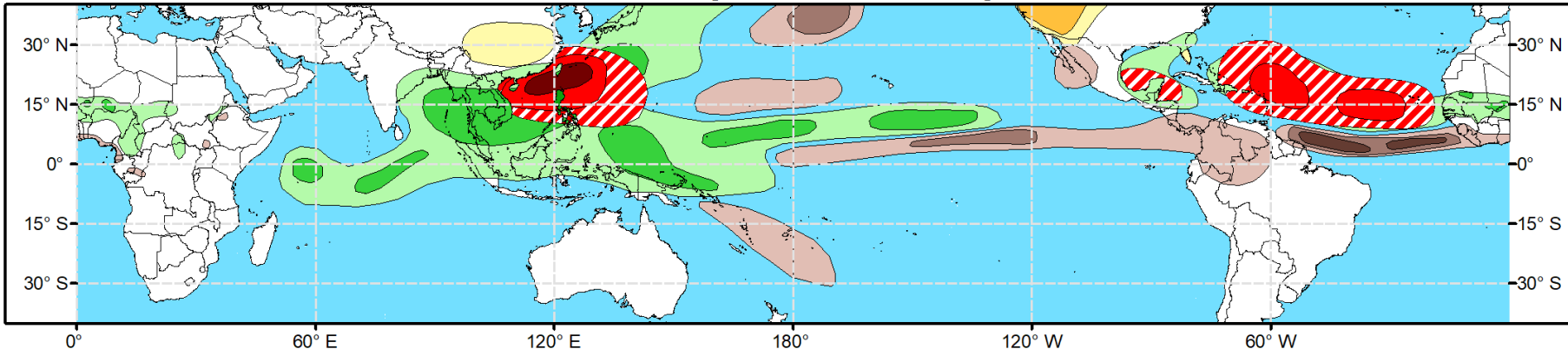


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Climate Prediction Center

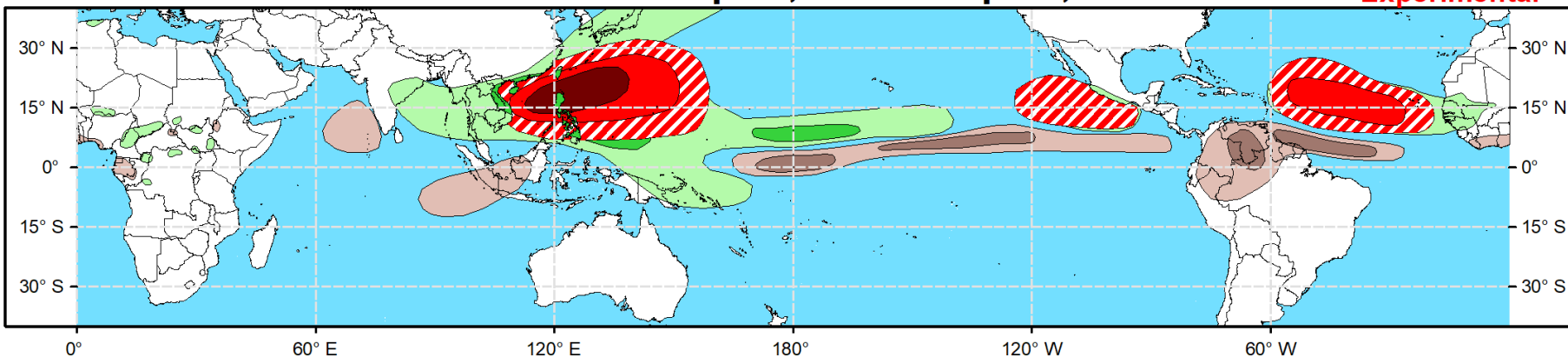


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Forecaster: Novella**

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Consult your local responsible forecast agency.**