



Weeks 2-3 Global Tropics Hazards Outlook

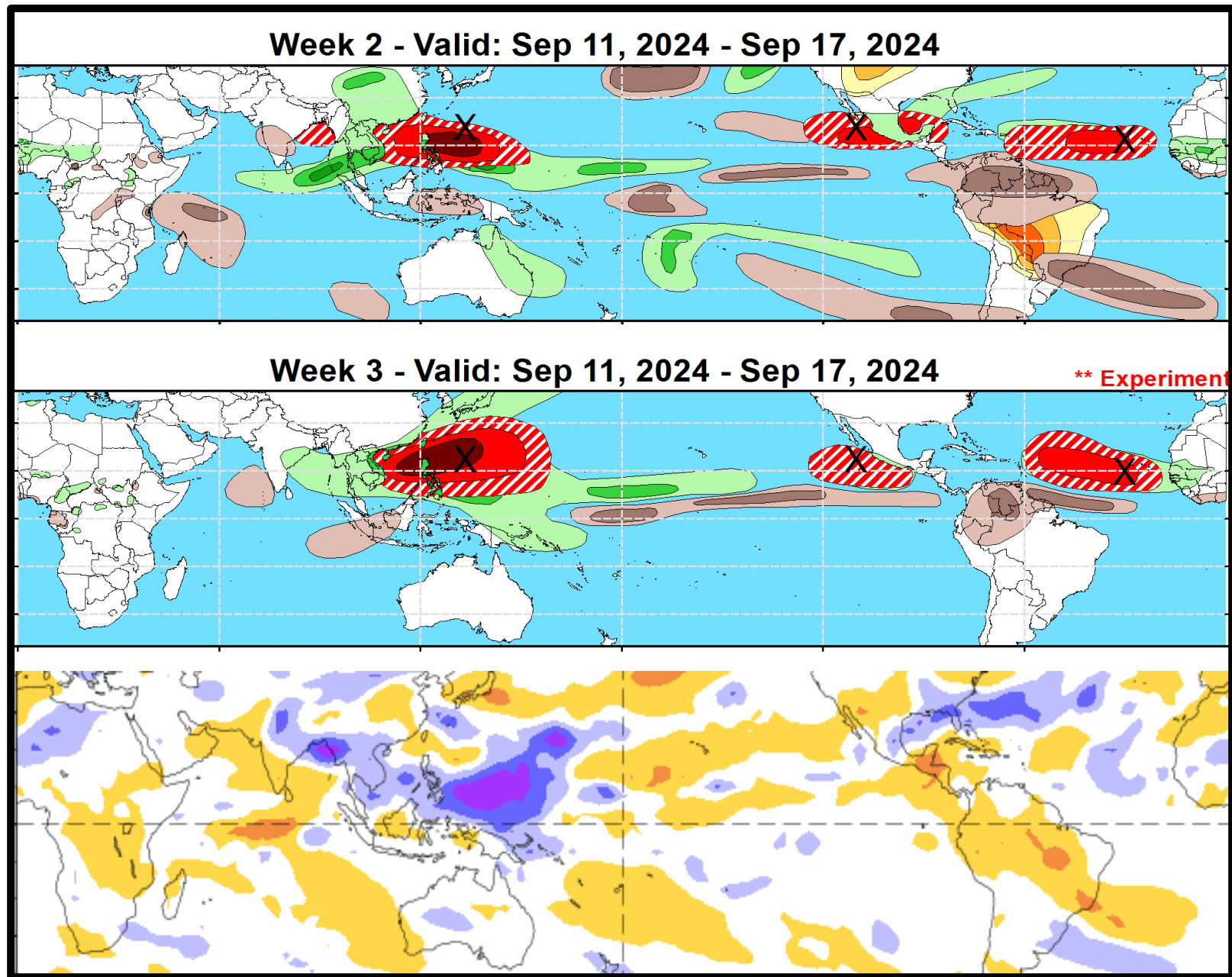
9/17/2024

Nick Novella

NWS / NCEP / Climate Prediction Center

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

- EPAC: Ileana (9/12)
- ATL: Gordon (9/11)
- WPAC: Pulasan (9/16)



Synopsis of Climate Modes:

ENSO: (Sep 12, 2024 Update) *next update on Thursday, Oct 10th*

- ENSO Alert System Status: [La Niña Watch](#)
- La Niña is favored to emerge in Sep-Nov (71% chance) and is expected to persist through Jan-Mar 2025.

MJO and other subseasonal tropical variability:

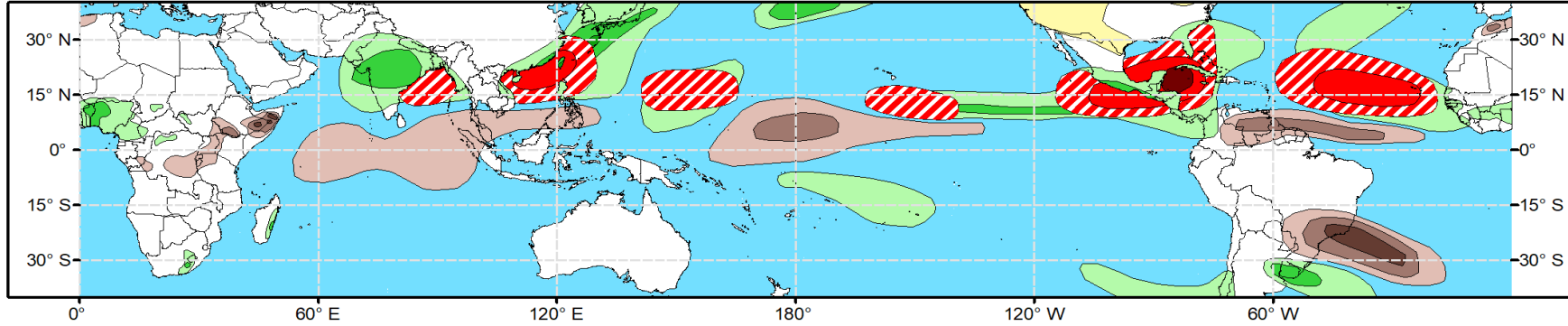
- RMM observations show the MJO signal having stalled over the Maritime Continent since late August, but recently has shown signs of renewed eastward propagation and an uptick in amplitude.
- There is better model agreement in the RMM forecasts favoring an eastward propagating MJO across the Western Pacific and entering the Western Hemisphere. Differences remain in regards to eventual strength and evolution of MJO by the end of the month.
- Combined with strong equatorial Kelvin Wave activity favored, conditions look to become more favorable for tropical cyclogenesis over the tropical Americas during the outlook period. Additional tropical cyclogenesis remains favored over the Western Pacific during week-2, but chances are expected to lower by October.



Global Tropics Hazards Outlook Climate Prediction Center

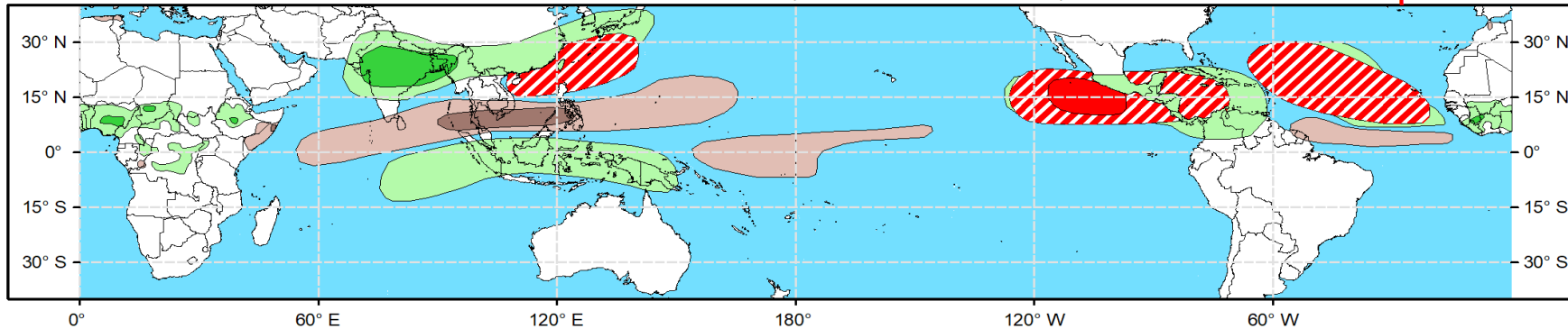


Week 2 - Valid: Sep 25, 2024 - Oct 01, 2024



Week 3 - Valid: Oct 02, 2024 - Oct 08, 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

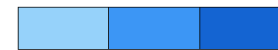
**Above-Average
Temperatures Probability**



>50% >65% >80%

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

**Below-Average
Temperatures Probability**



>50% >65% >80%

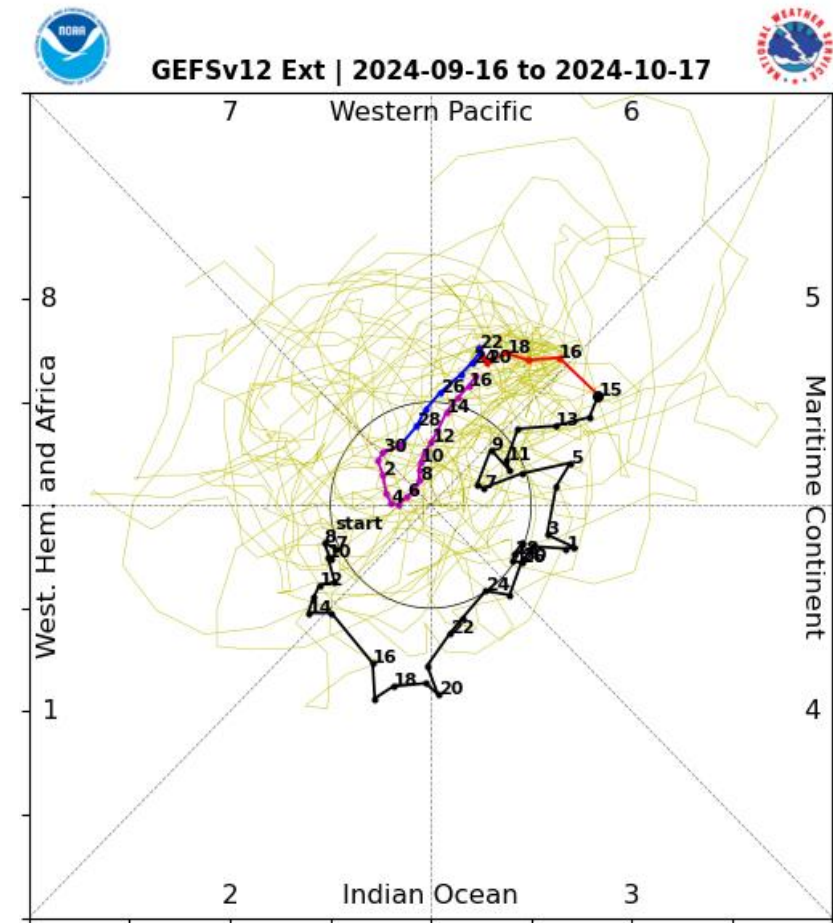
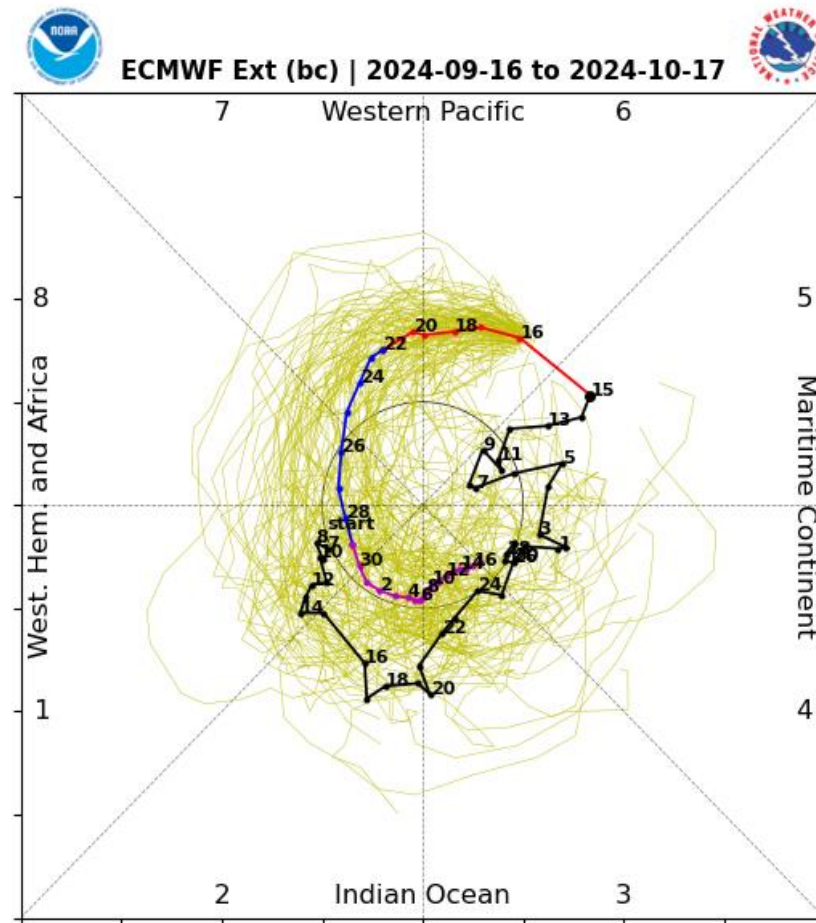
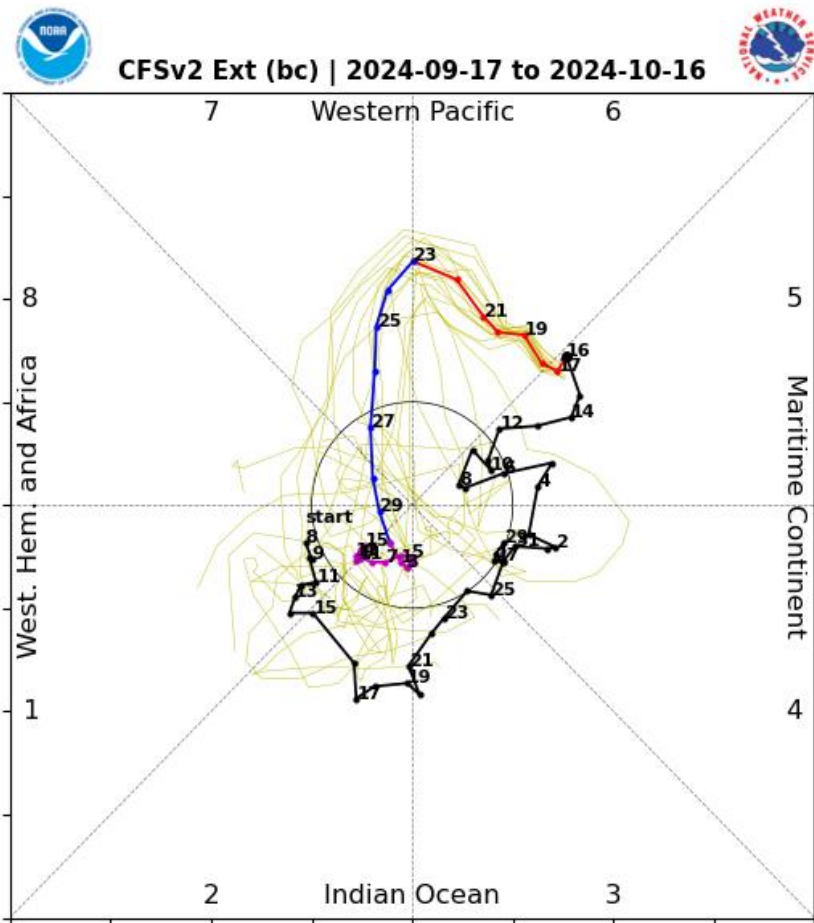
7-day min temperatures in the
Lower third of the historical range

Issued: 09/17/2024

Forecaster: Novella

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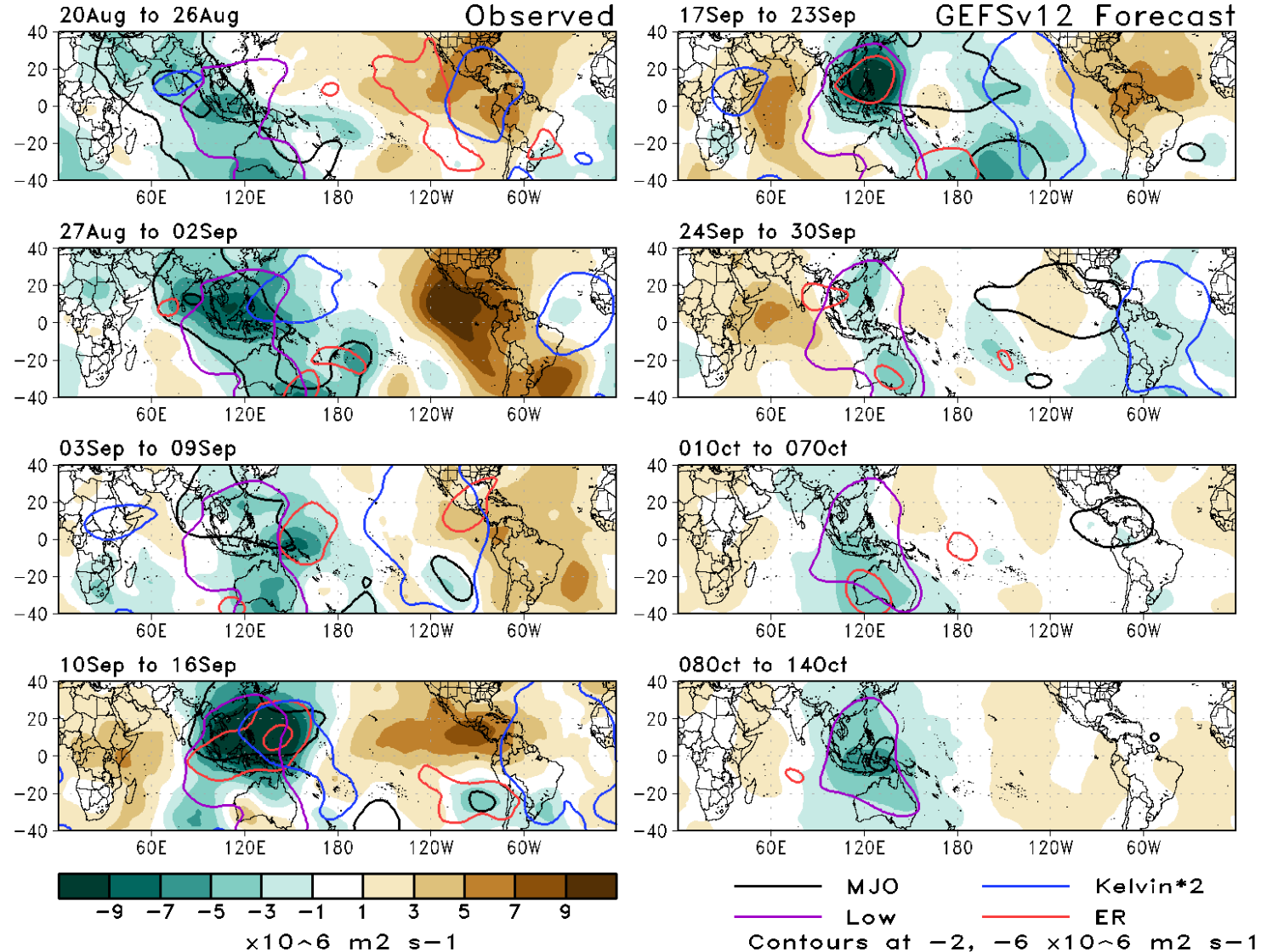
RMM Index Observations & Forecasts:



200-hPa Velocity Potential Anomaly Maps:

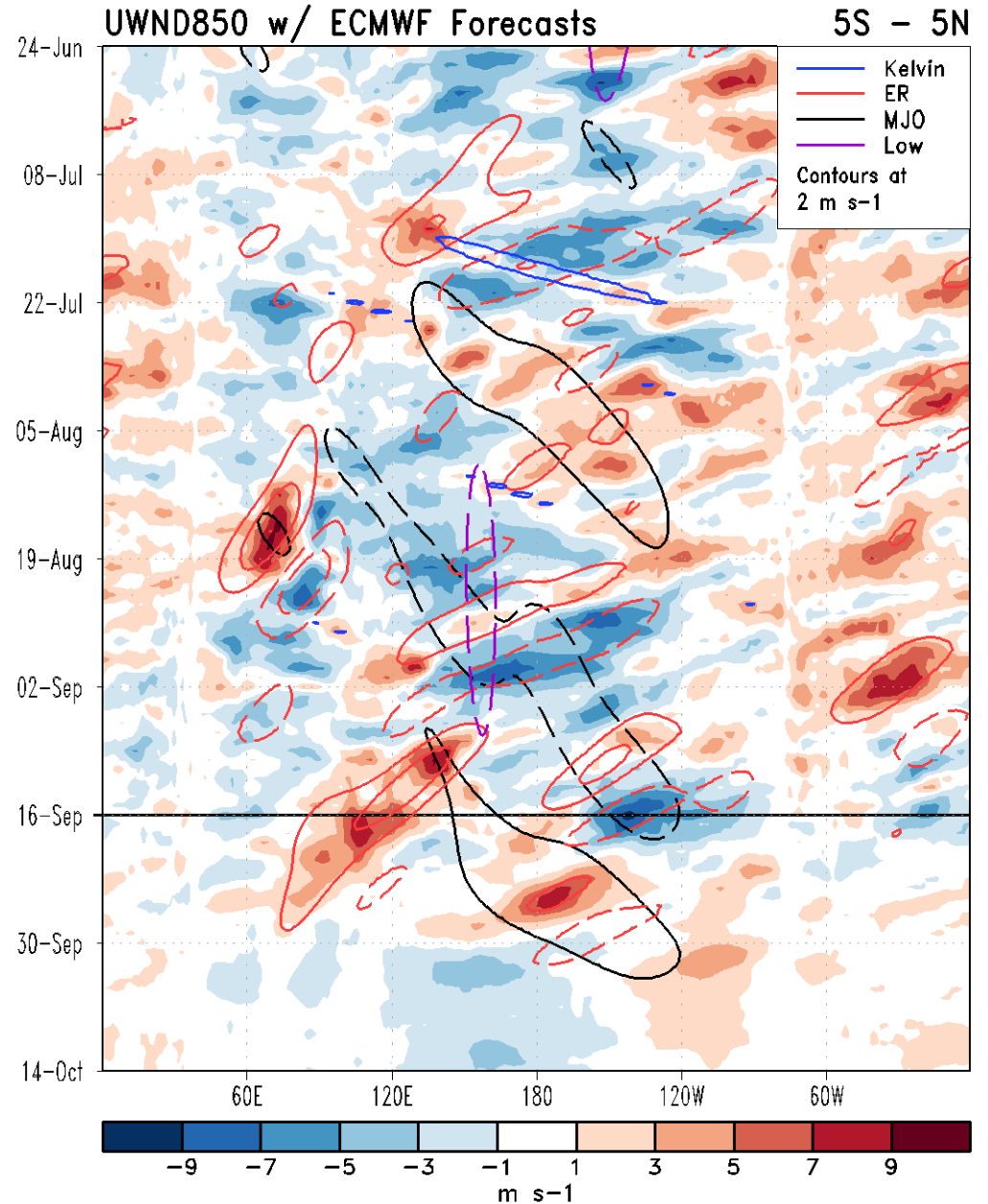
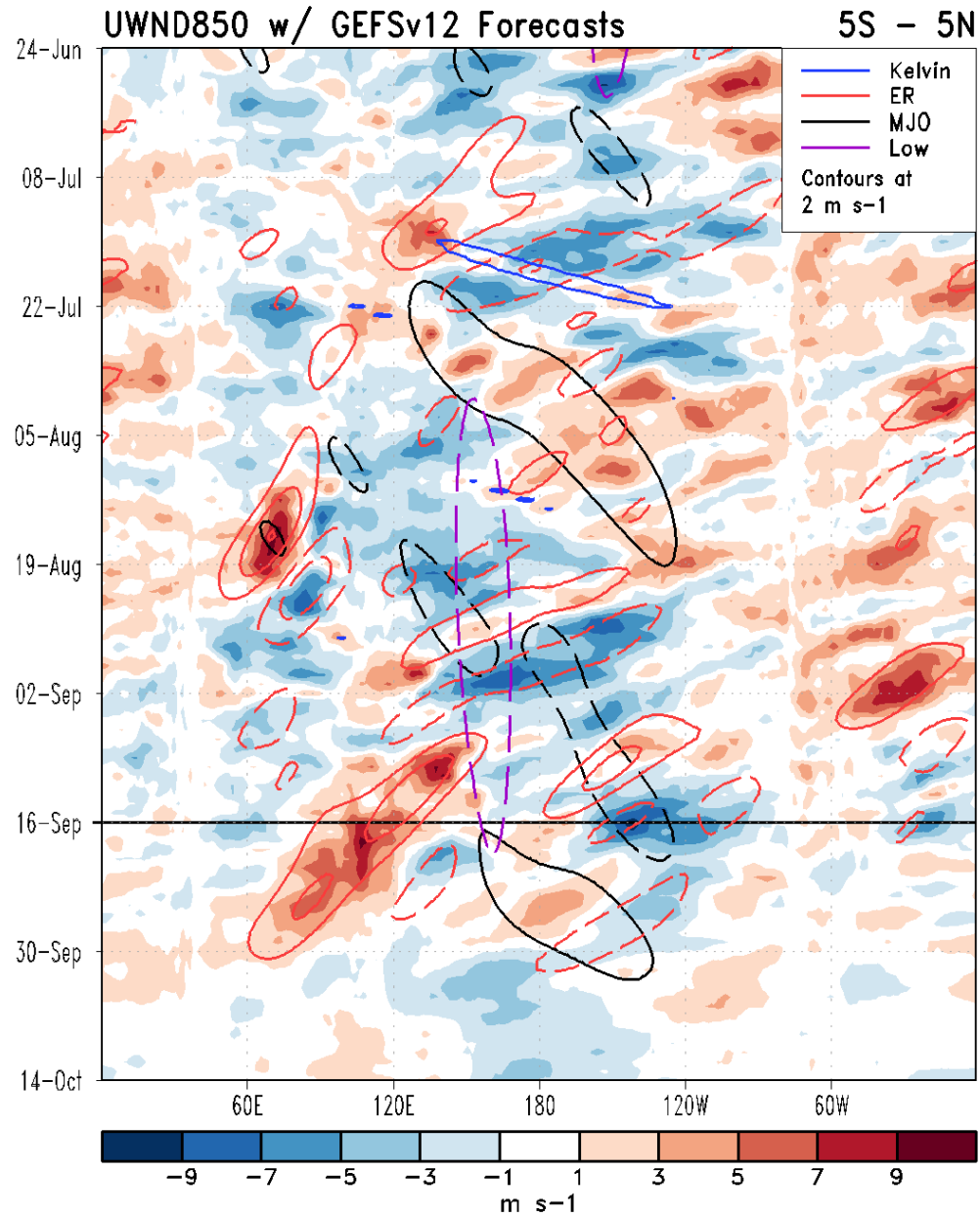
Green: Enhanced Divergence Aloft Brown: Enhanced Convergence Aloft

CHI200 7-Day Means



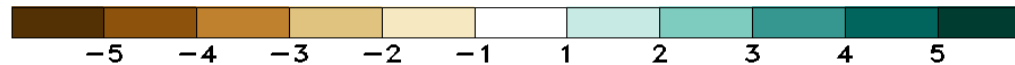
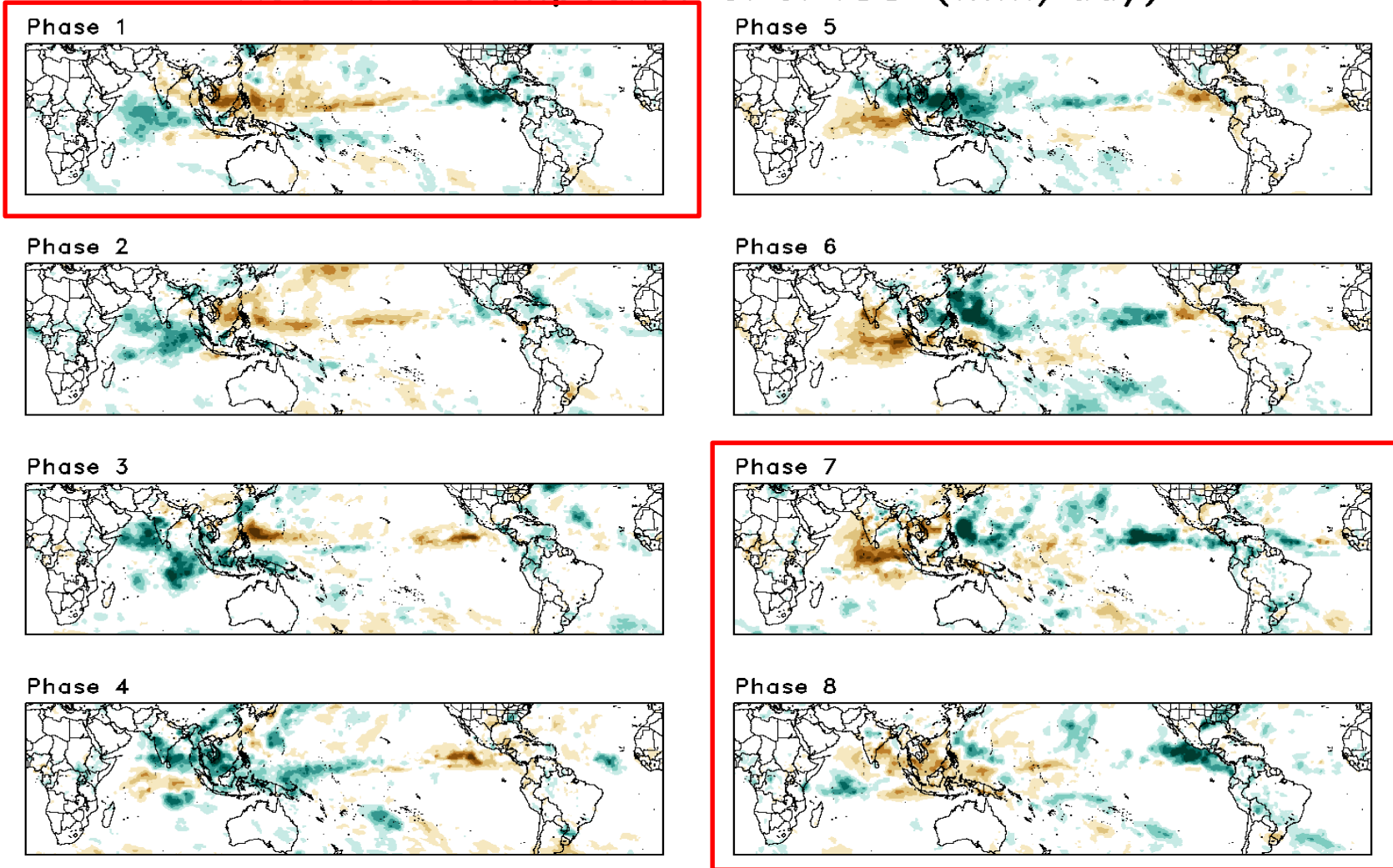
- **MJO activity** and **Low frequency variability** has been observed over the Maritime Continent and western Pacific since late August. Continued **Kelvin Wave activity** is also apparent.
- **MJO activity** is favored to shift eastward, along with an envelope of **Kelvin wave** activity moving ahead over the tropical Americas.
- The erratic return of the signal into phase 6 in the GEFS RMM is likely related to weakening of convective envelope over Western Hemisphere.

Lower-Level Wind Anomaly Time/Lon Plots:



Historical Precipitation Anomalies By MJO Phase:

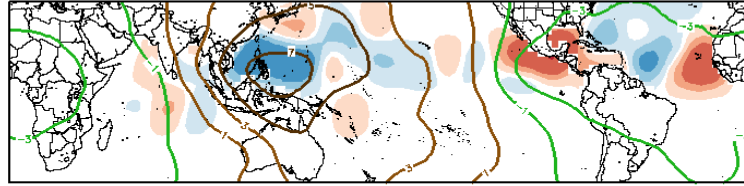
ASO MJO Composite: GPCP1DD (mm/day)



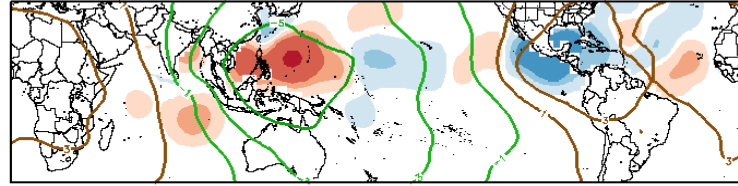
Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

ASO MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)

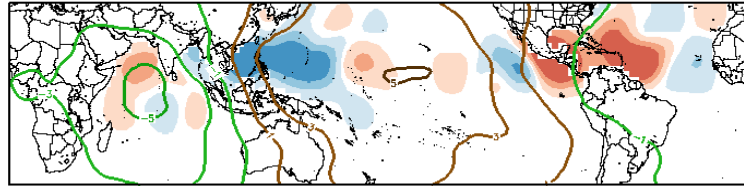
w/ ASO CH200 ($\times 10^{-6} m^2 s^{-1}$) / Contours every $2 \times 10^{-6} m^2 s^{-1}$



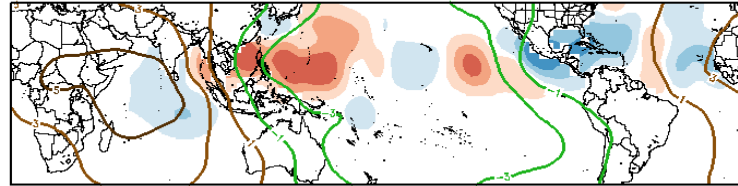
Phase 1



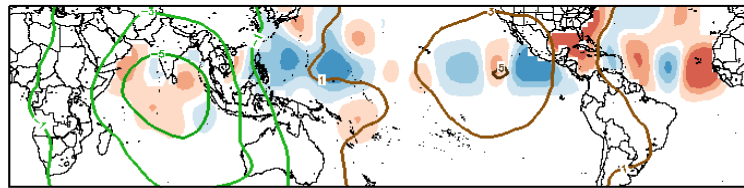
Phase 5



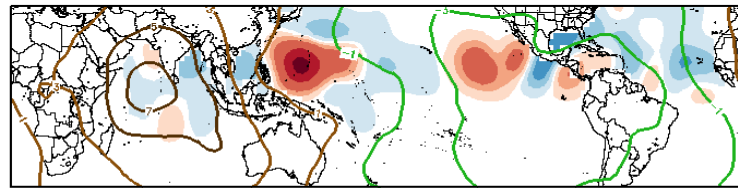
Phase 2



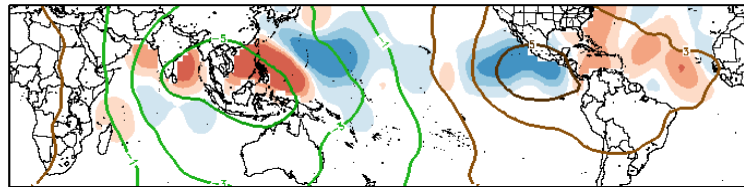
Phase 6



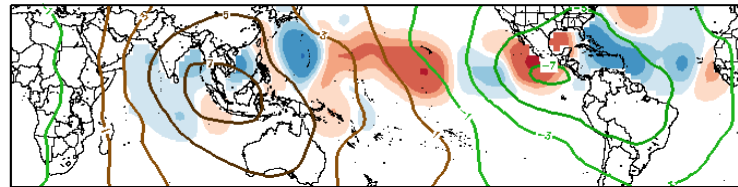
Phase 3



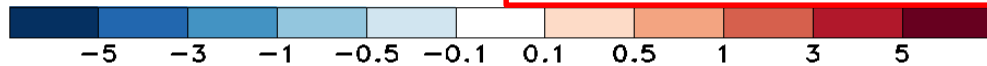
Phase 7



Phase 4

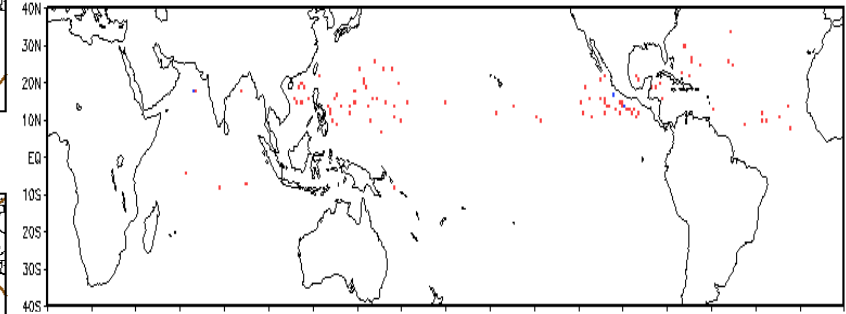


Phase 8



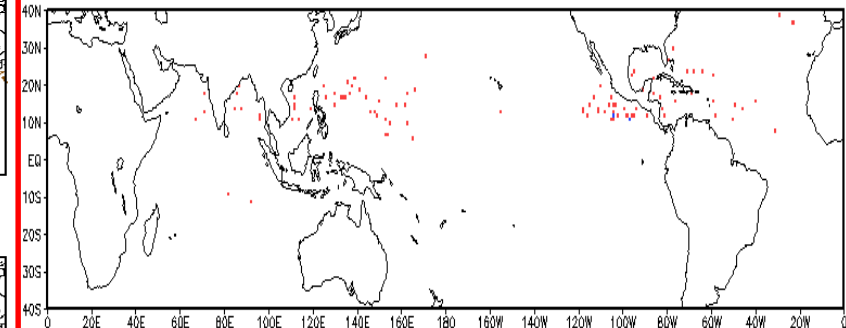
Observed TC Genesis, 1979–2021

7-day Period 0925 to 1001



Observed TC Genesis, 1979–2021

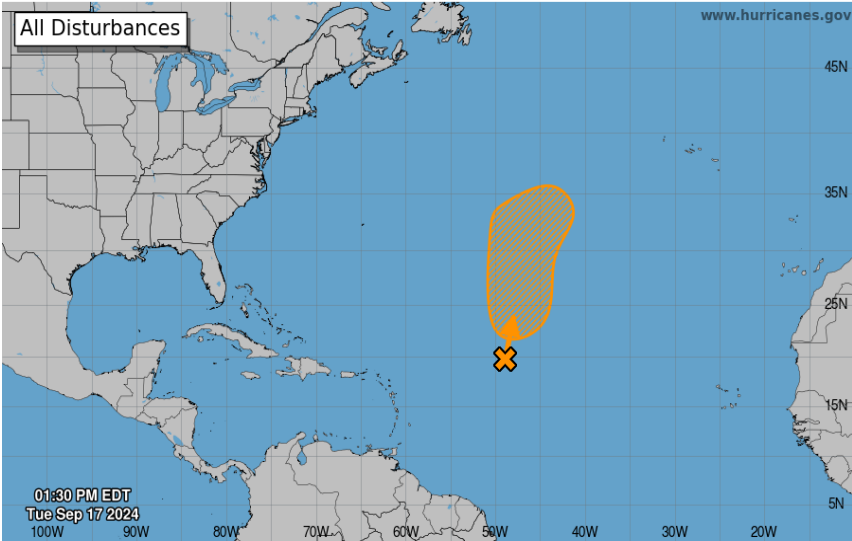
7-day Period 1002 to 1008










Experimental

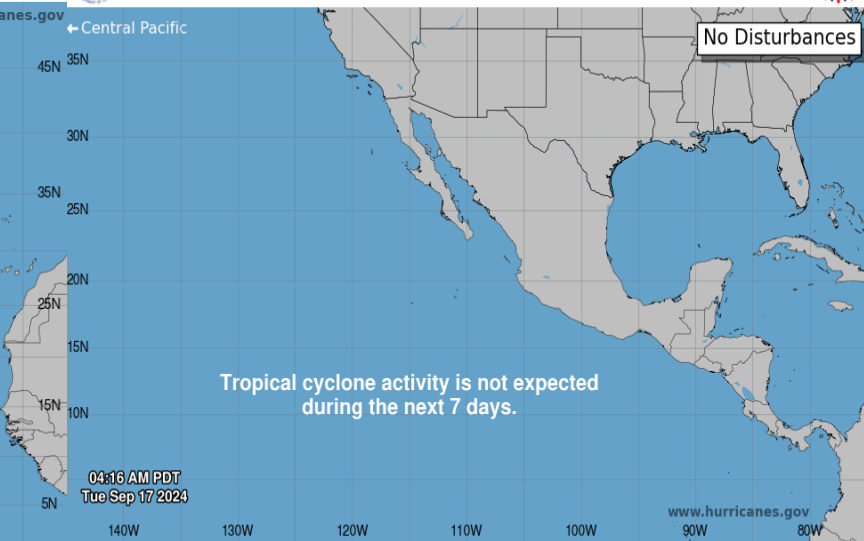
Tropical Cyclone Monitoring/Forecast: NHC / CPHC








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



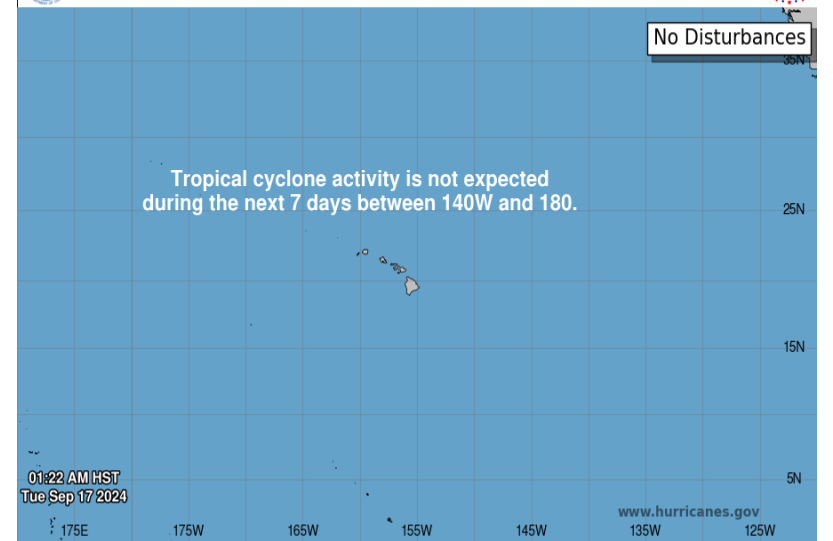
Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants








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



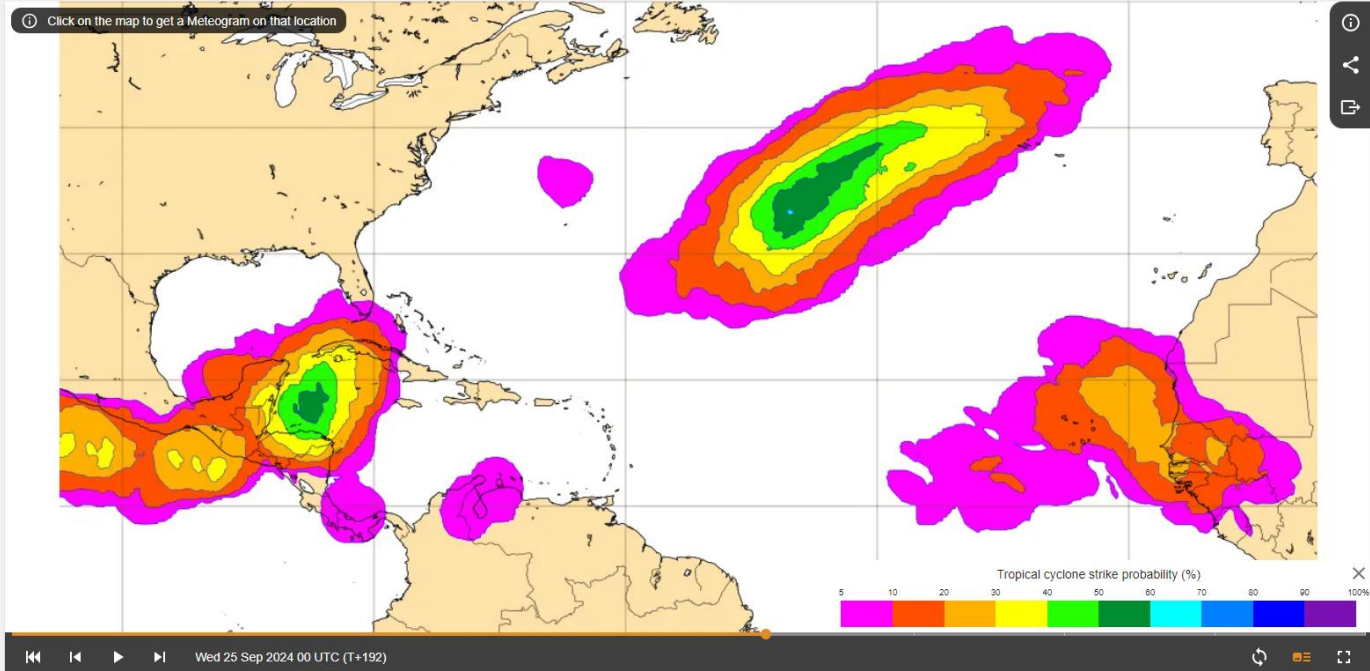
Current Disturbances and Two-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants

Tropical cyclone activity is not expected during the next 7 days.

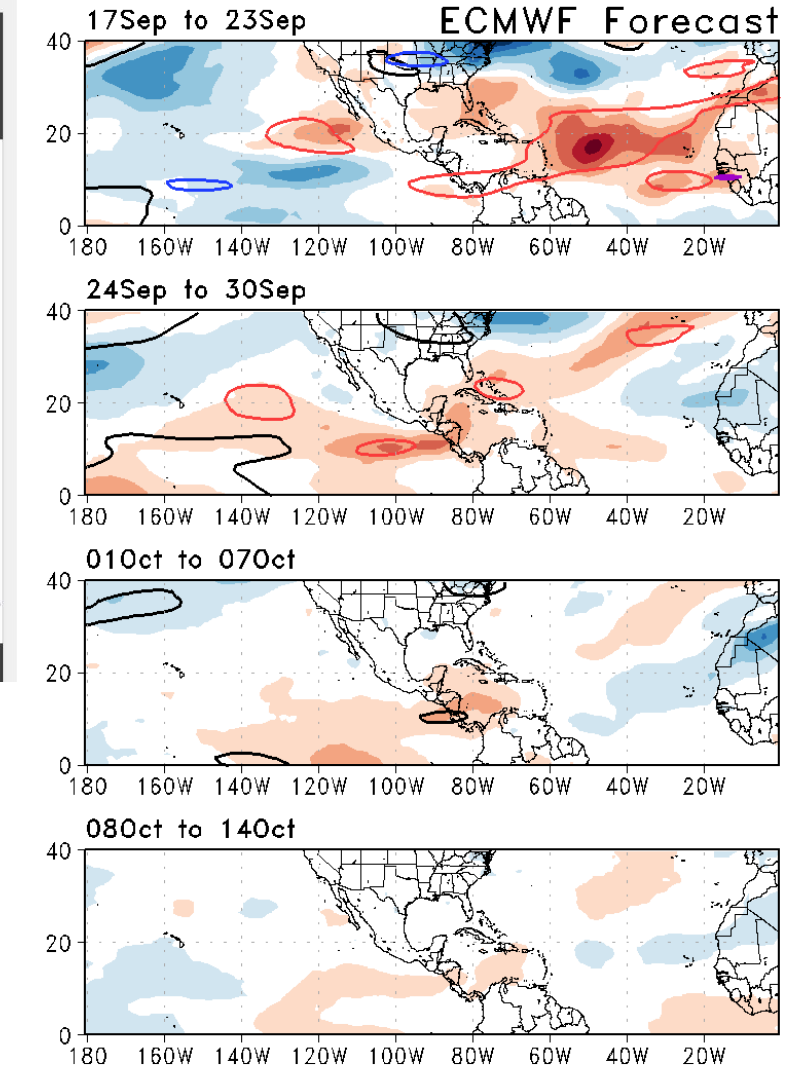
Tropical cyclone activity is not expected during the next 7 days between 140W and 180.

Multi-Model TC Prob Tools: Weeks 2+3

Base time
Tue 17 Sep 2024 00 U...
Valid time
Wed 25 Sep 2024 00 ...
Area
Atlantic Ocean
Intensity
Tropical cyclones



7-Day Means

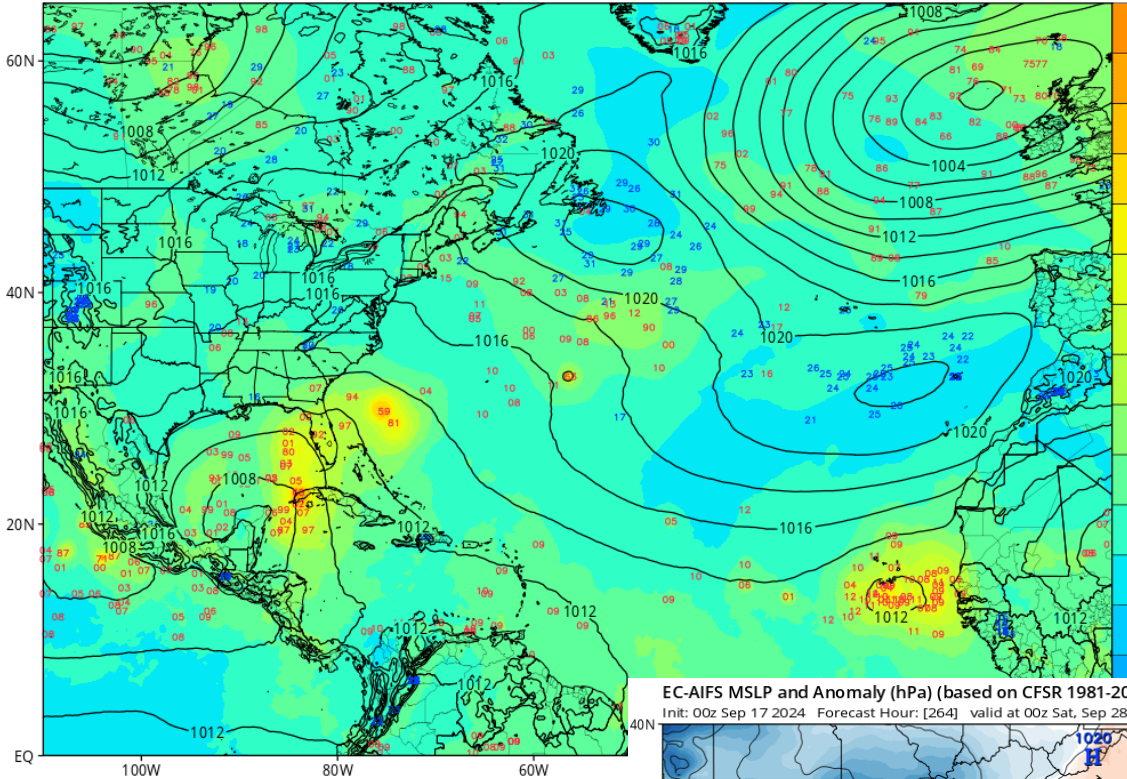


— MJO — Kelvin*2
— Low — ER
Contours at 2, 6 m s⁻¹

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

Init: 00z Sep 17 2024 Forecast Hour: [228] valid at 12z Thu, Sep 26 2024

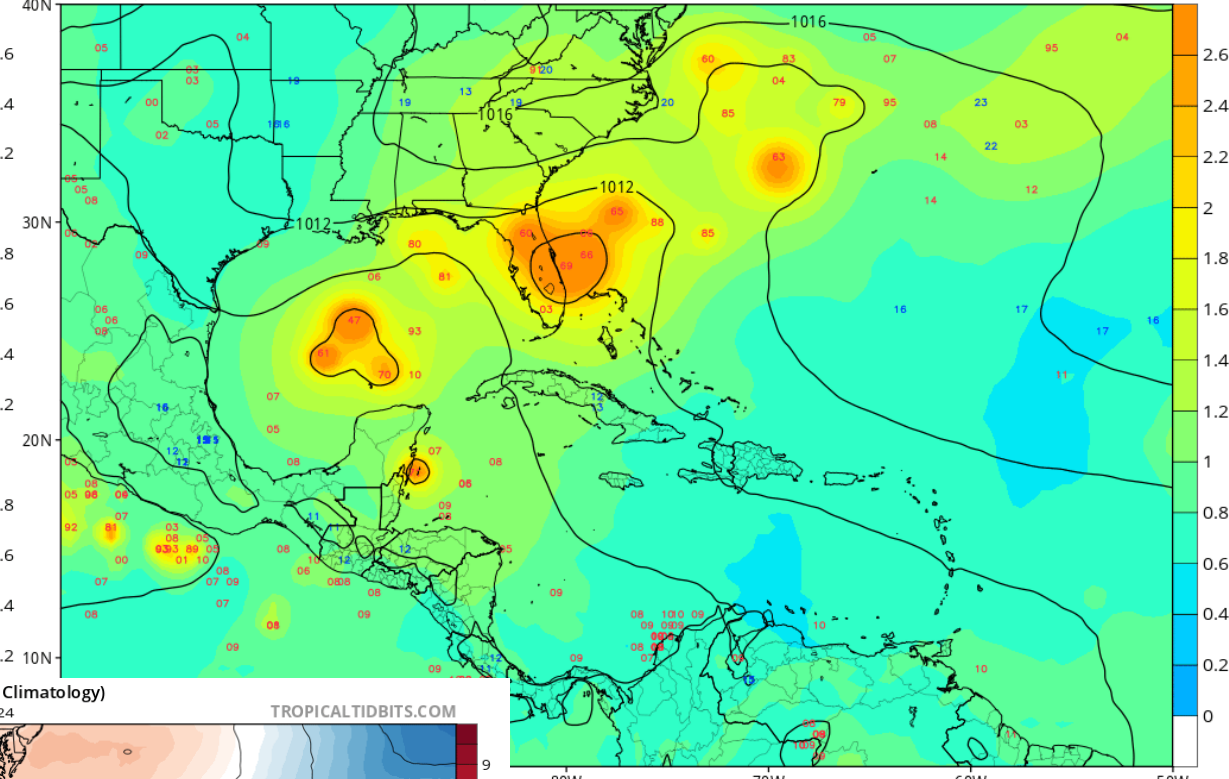
TROPICALTIDBITS.COM



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

Init: 12z Sep 17 2024 Forecast Hour: [240] valid at 12z Fri, Sep 27 2024

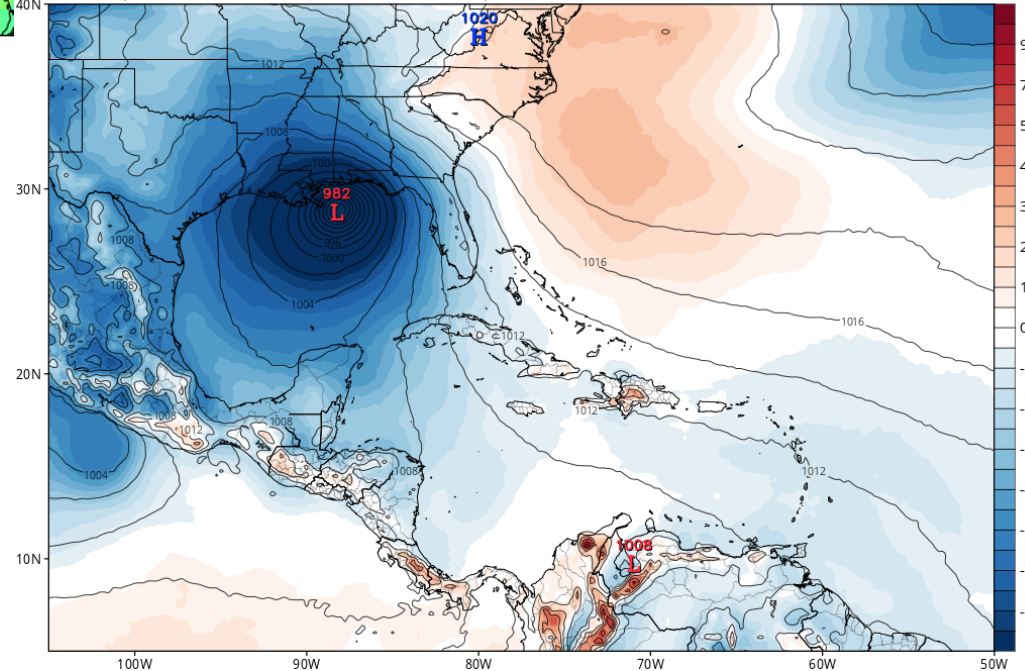
TROPICALTIDBITS.COM



EC-AIFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Sep 17 2024 Forecast Hour: [264] valid at 00z Sat, Sep 28 2024

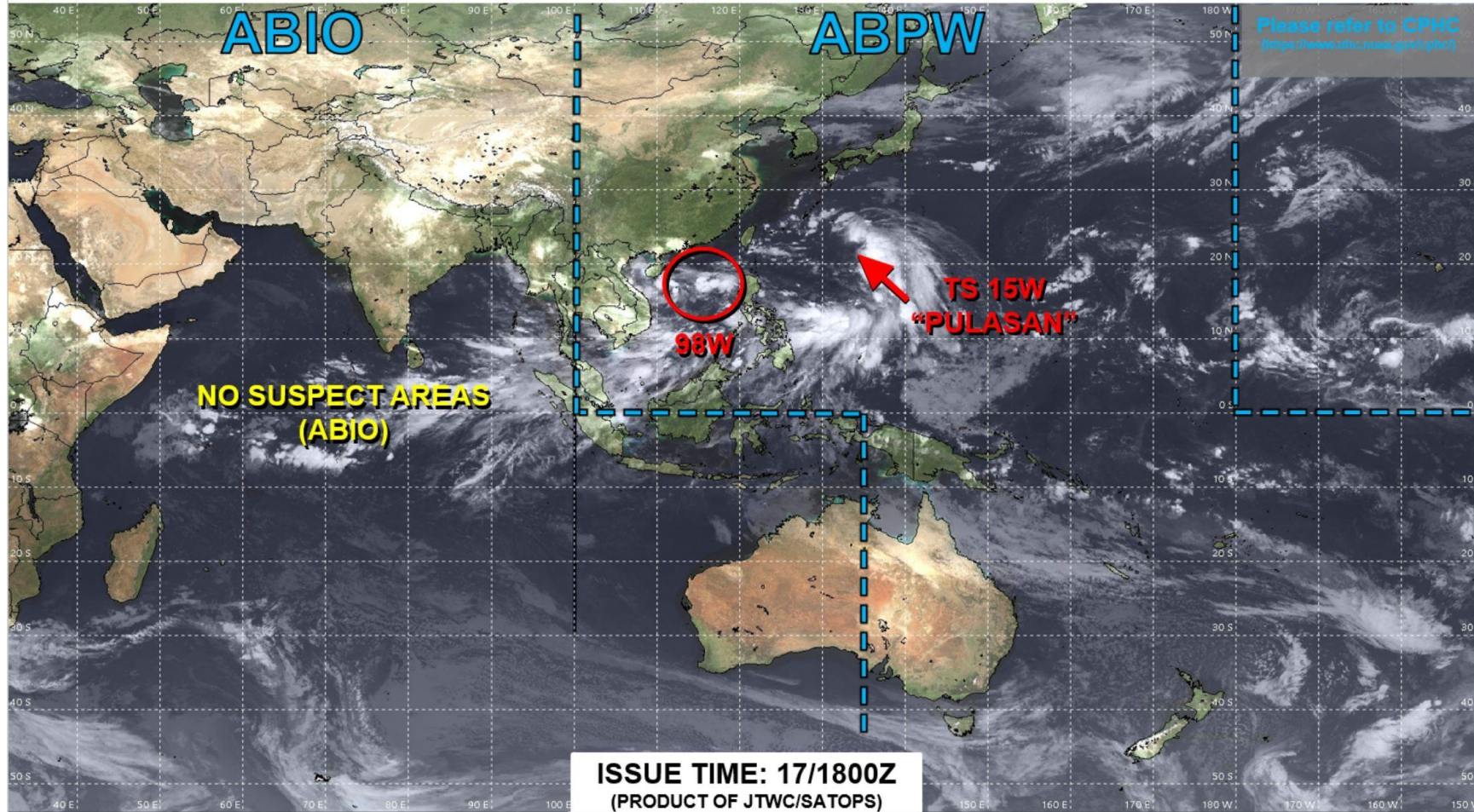
TROPICALTIDBITS.COM



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)

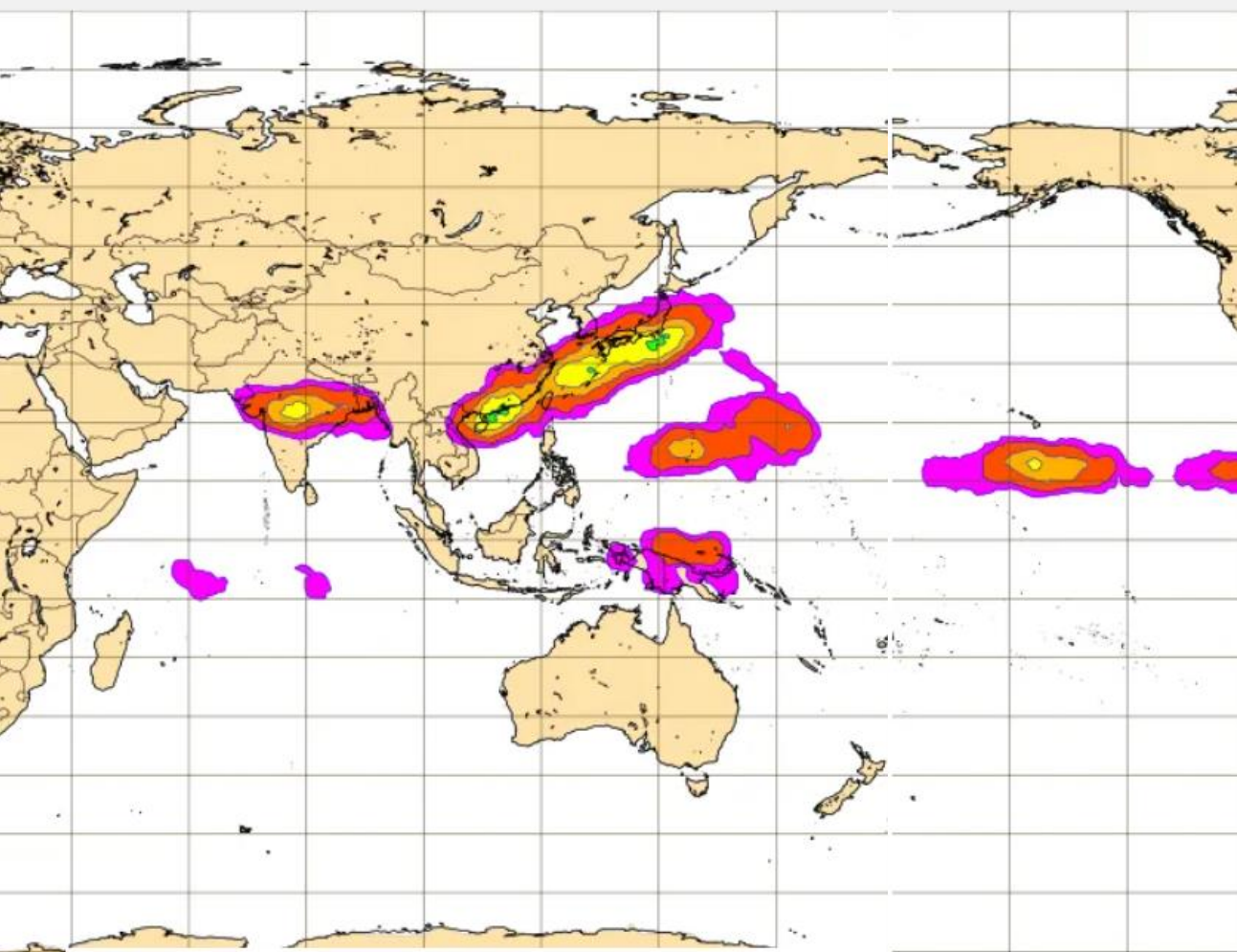


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

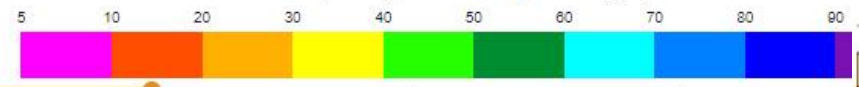


Tropical Cyclone (Reference Warning)

including genesis)

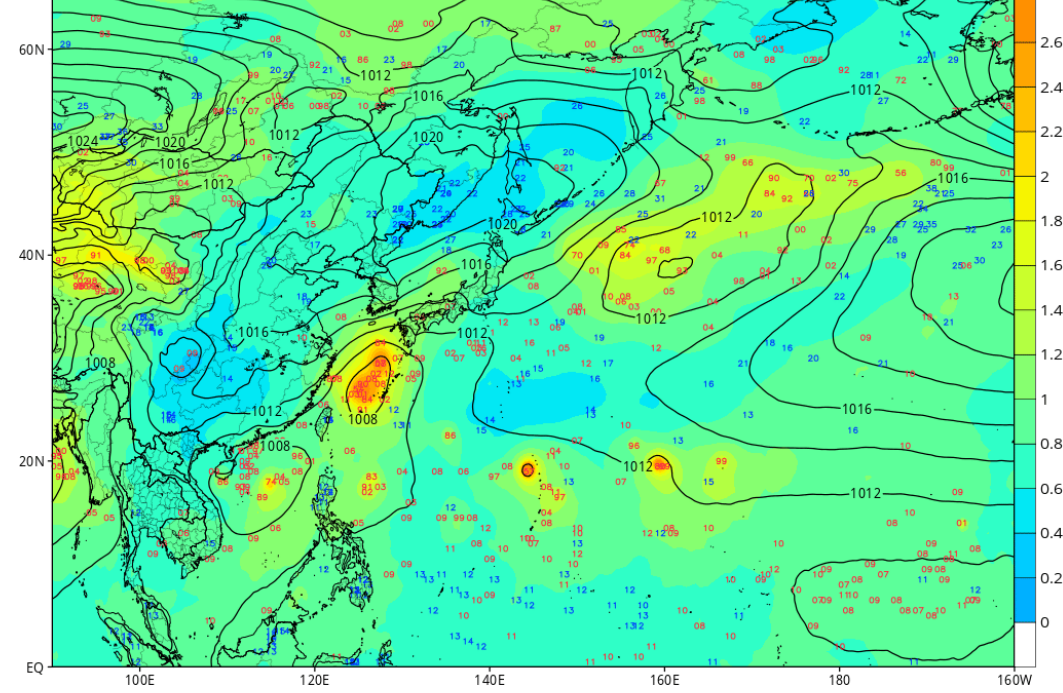


Tropical cyclone strike probability (%)

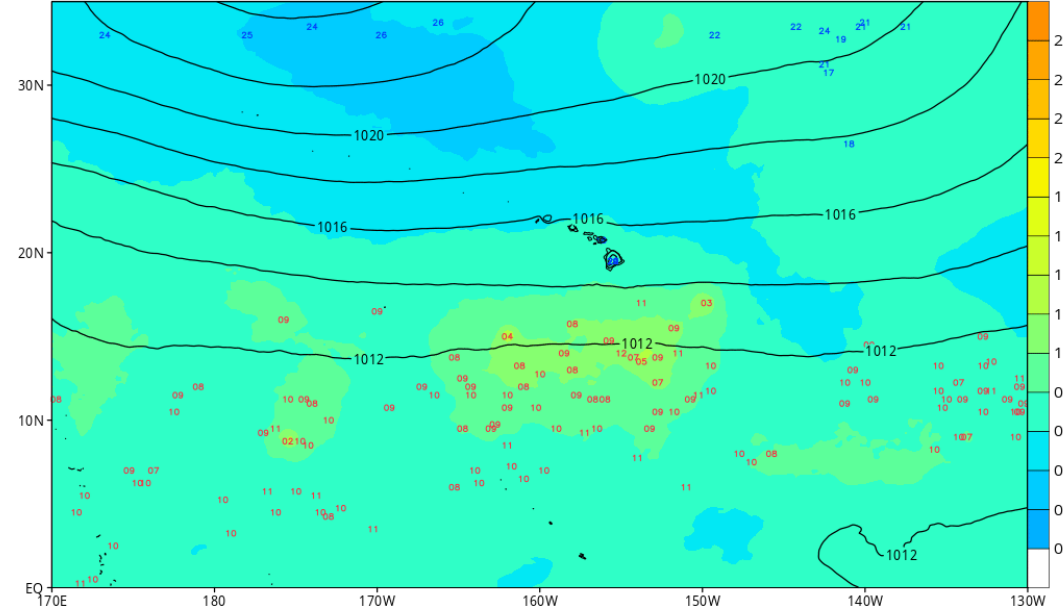


Thu 26 Sep 2

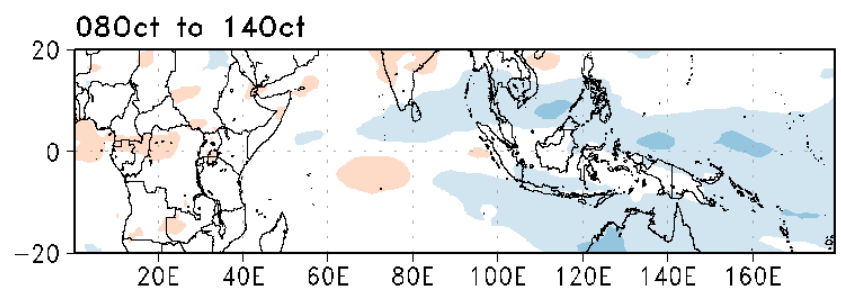
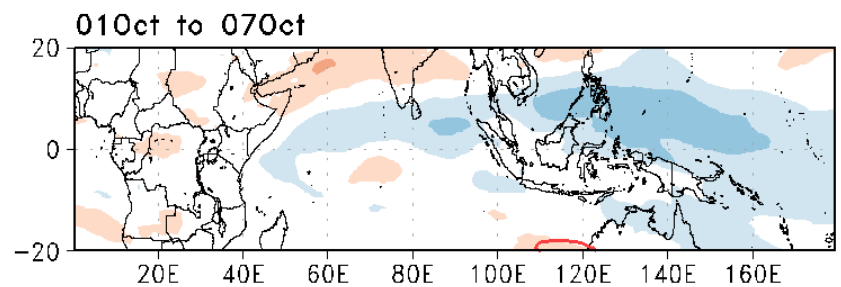
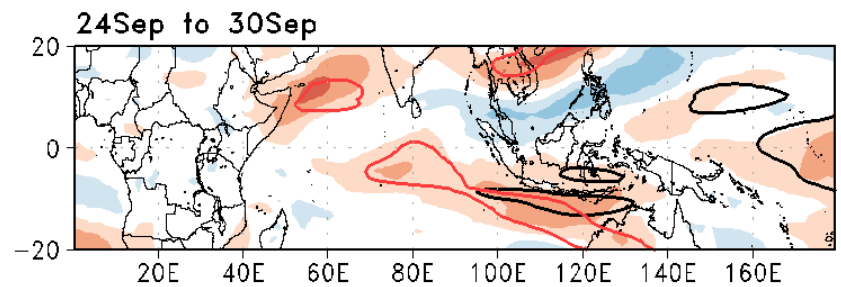
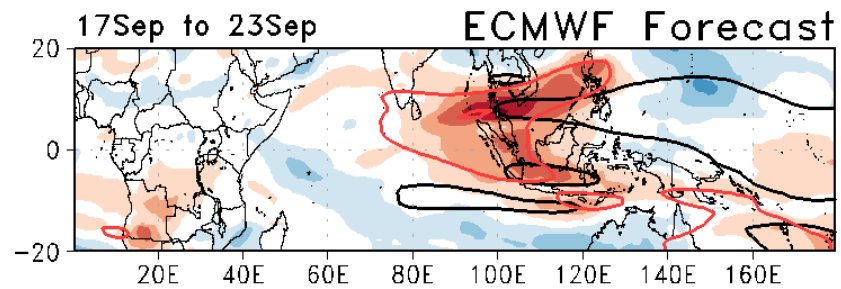
GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)
Init: 06z Sep 17 2024 Forecast Hour: [234] valid at 00z Fri, Sep 27 2024 TROPICALTIDBITS.COM



EPS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)
Init: 00z Sep 17 2024 Forecast Hour: [228] valid at 12z Thu, Sep 26 2024 TROPICALTIDBITS.COM

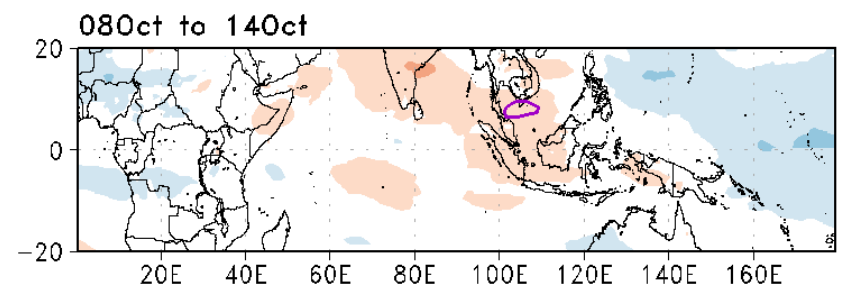
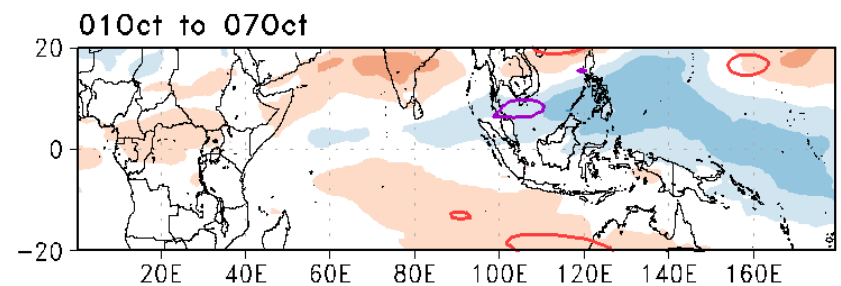
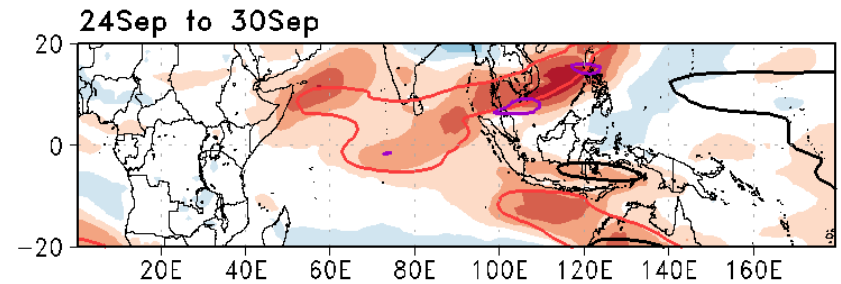
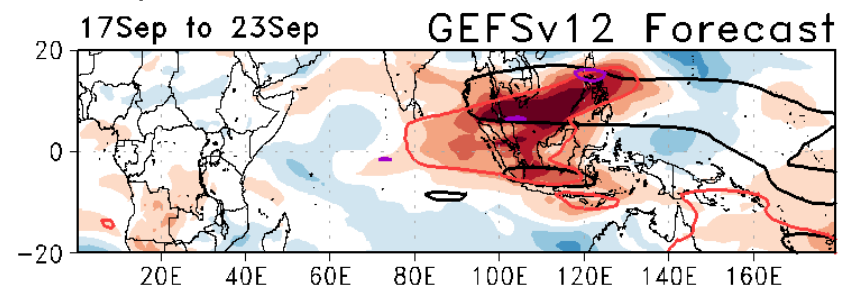


7-Day Means



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Contours at 2, 6 m s⁻¹

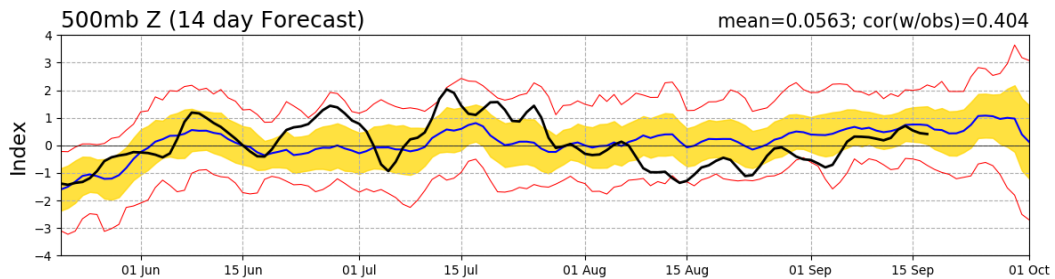
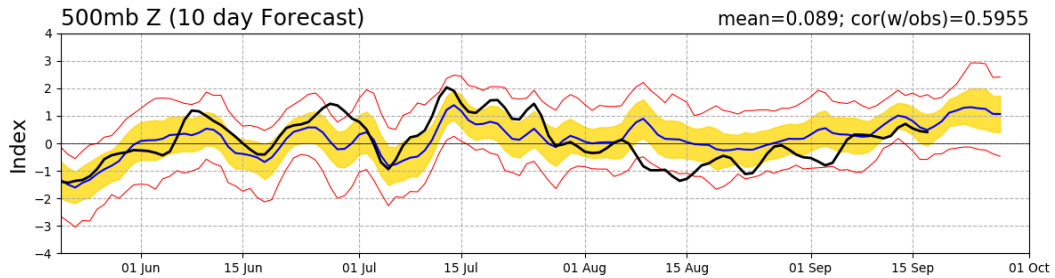
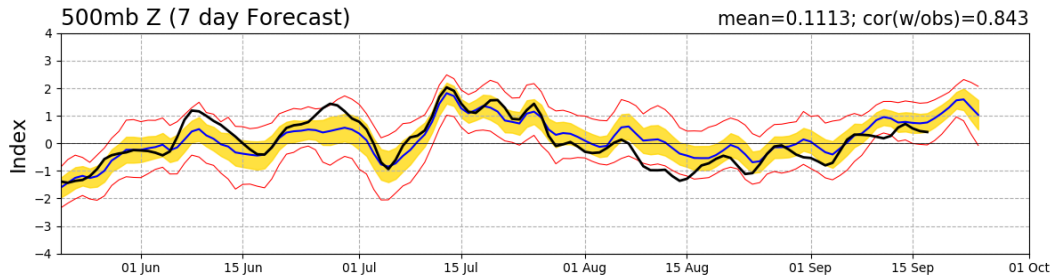
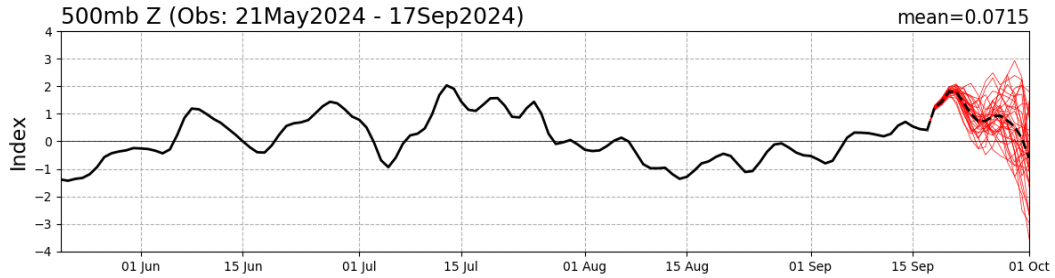
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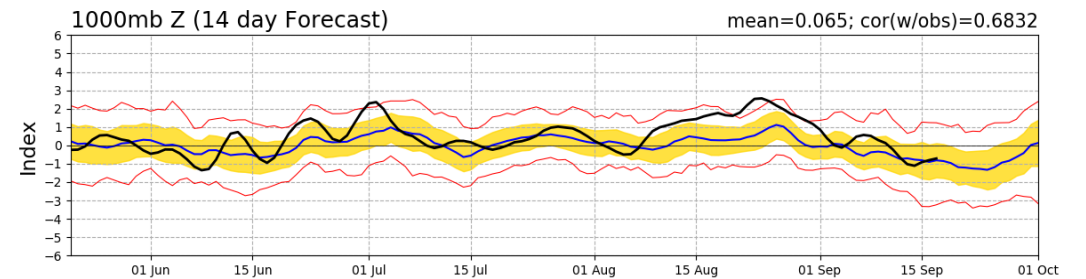
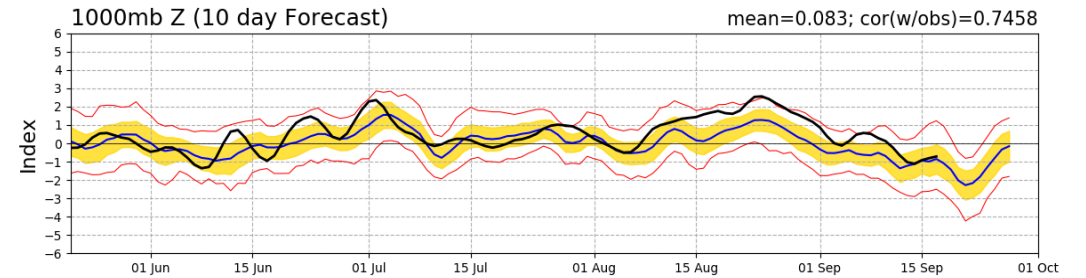
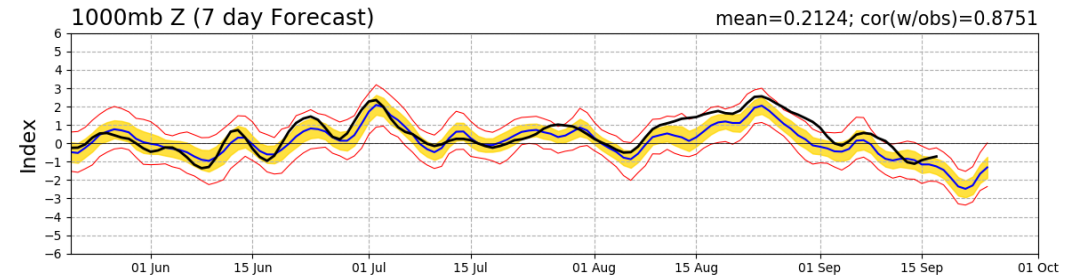
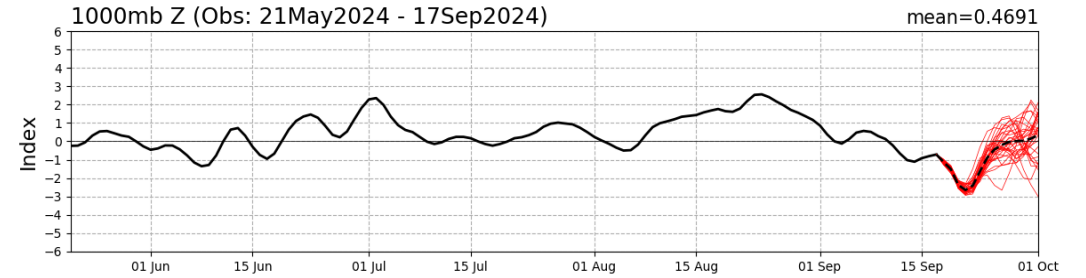
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Teleconnection Indices: PNA / AO:

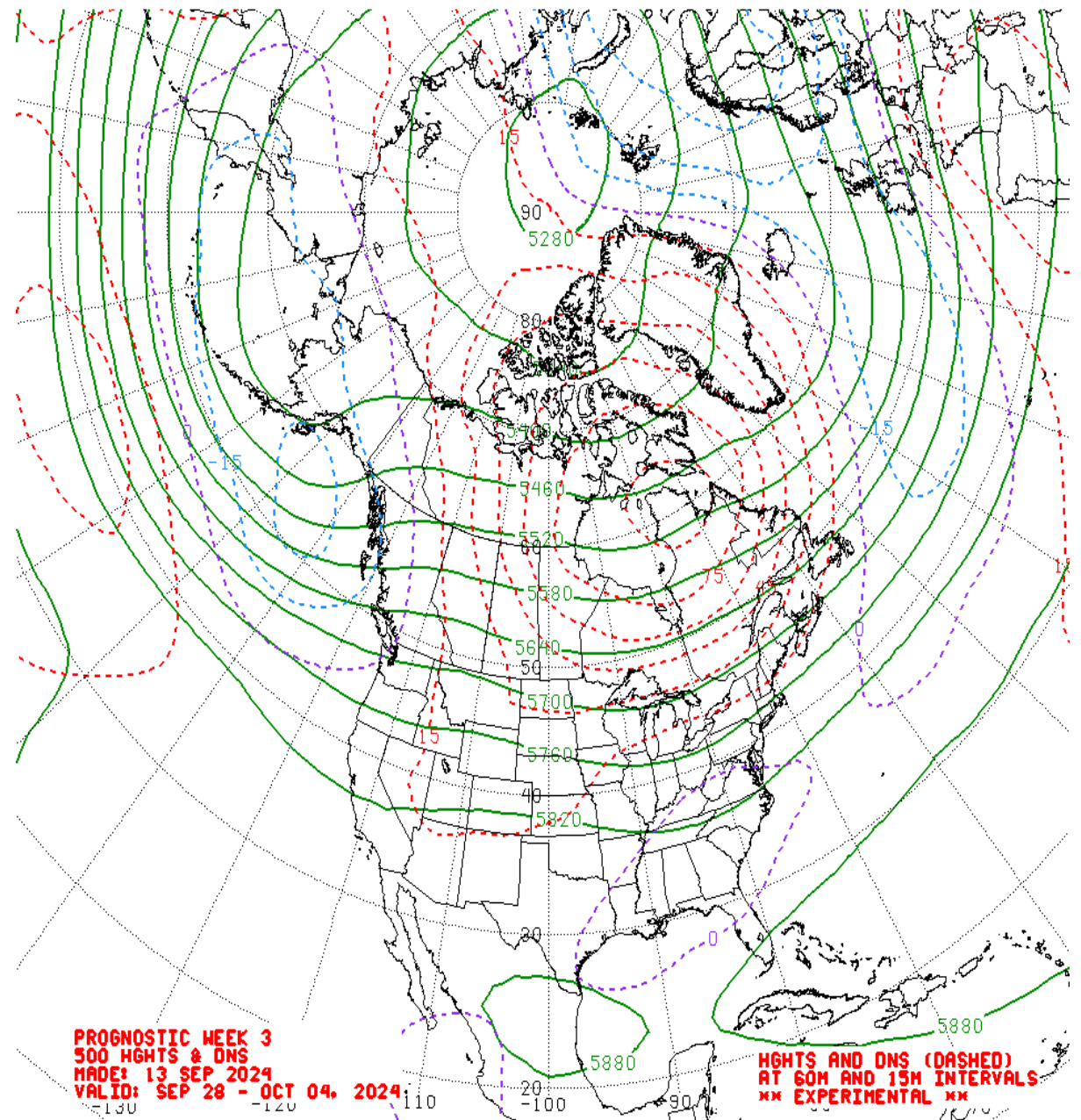
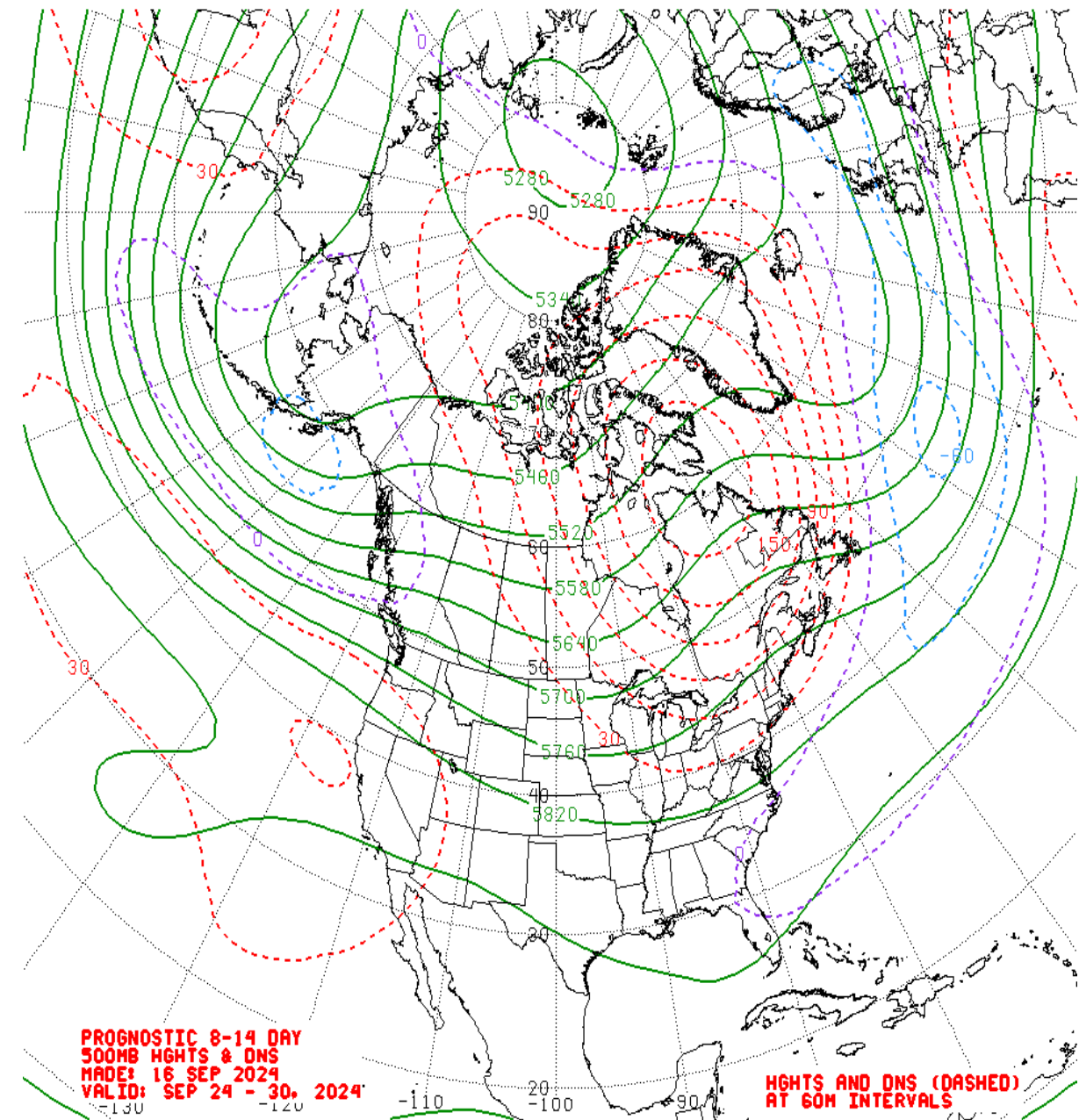
PNA Index: Observed & GEFS Forecasts



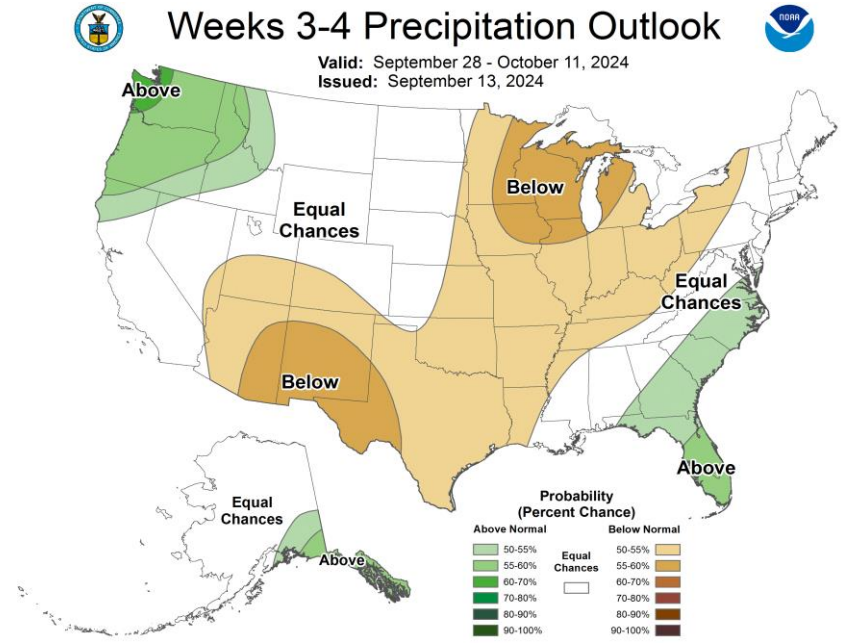
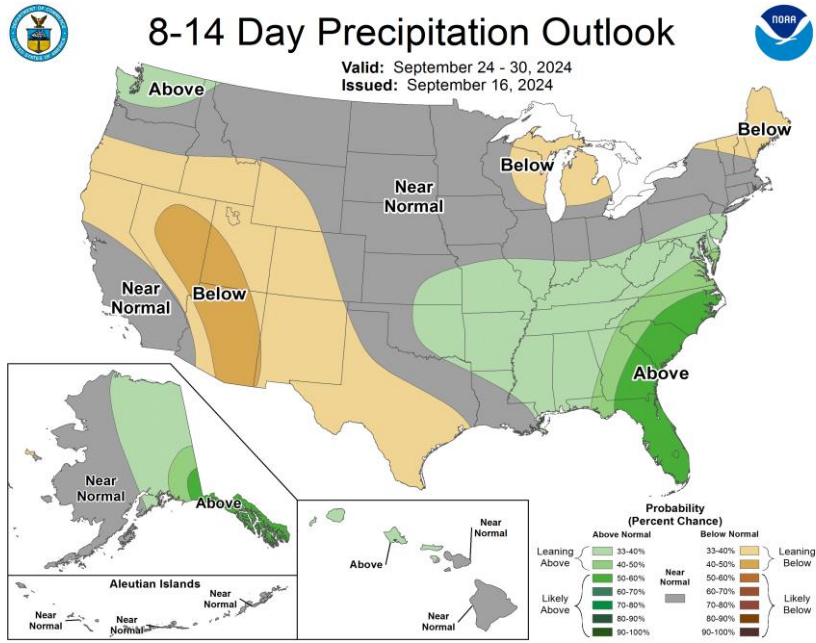
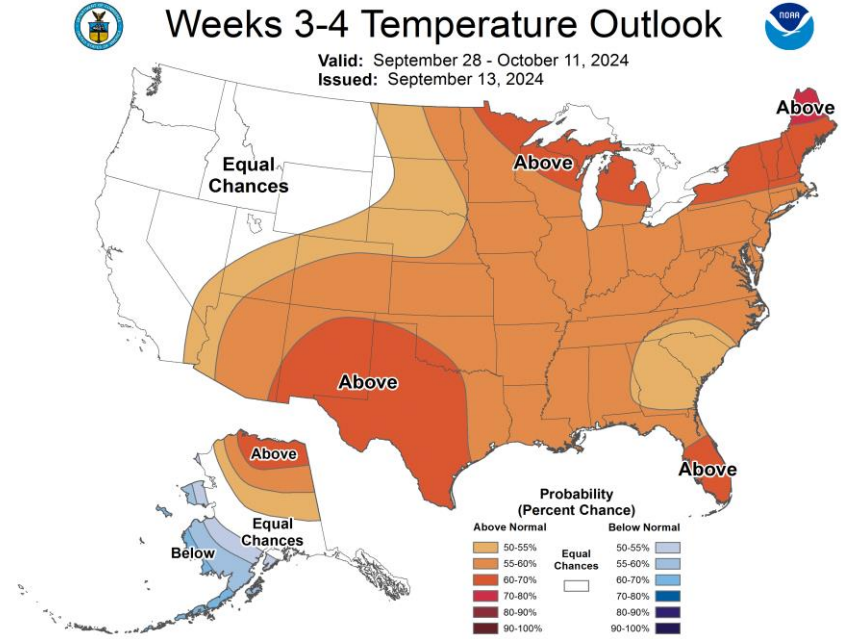
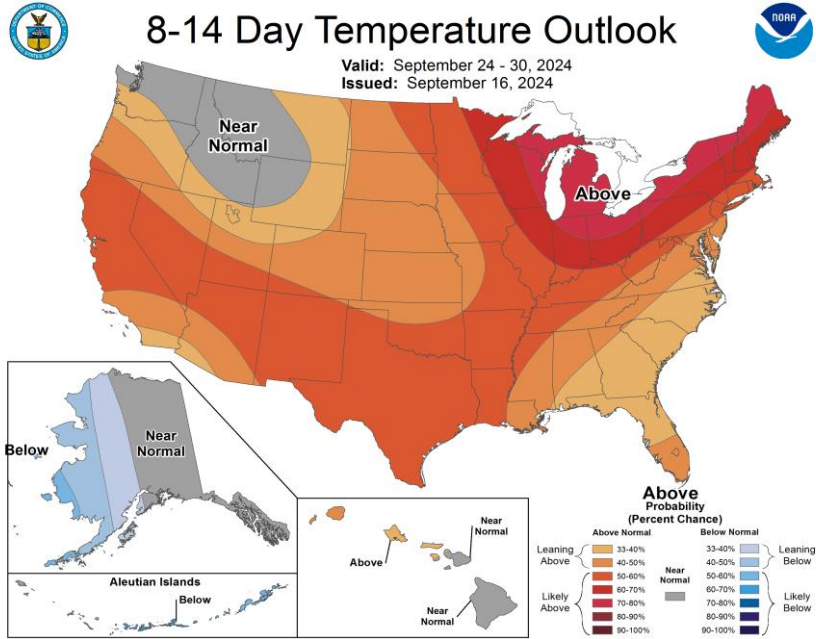
AO Index: Observed & GEFS Forecasts



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



Official Temperature & Precipitation Forecasts:



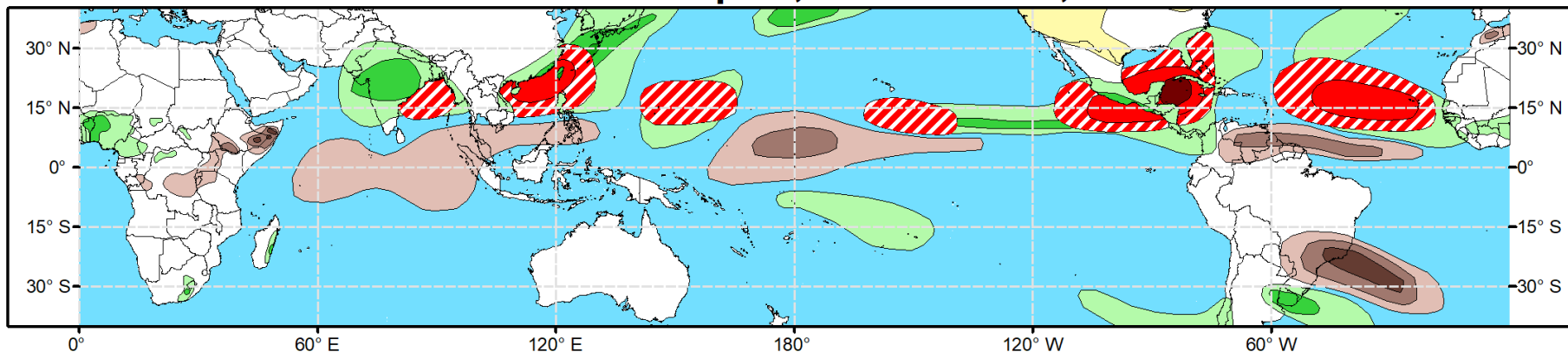


Global Tropics Hazards Outlook

Climate Prediction Center

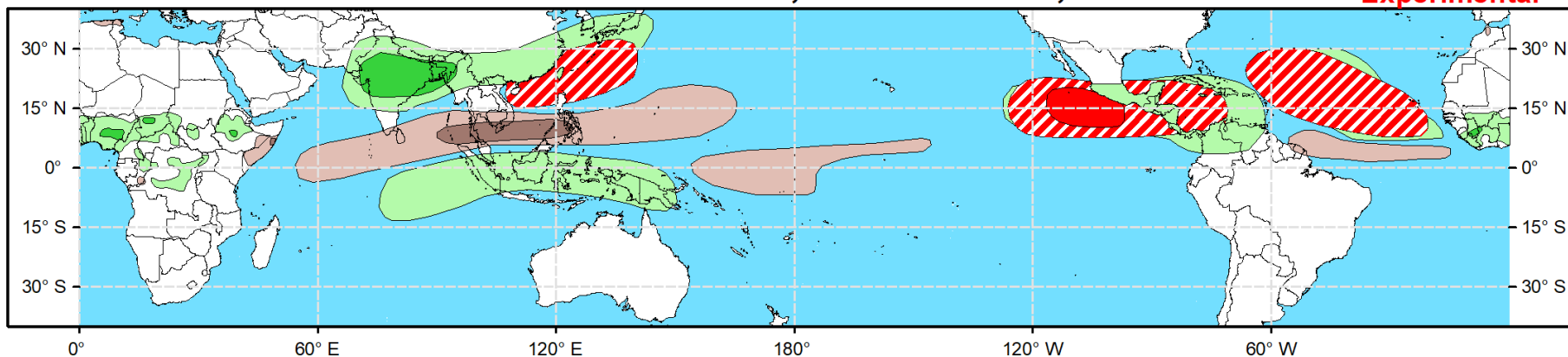


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*7-day max temperatures in the
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Consult your local responsible forecast agency.**