



# Weeks 2-3 Global Tropics Hazards Outlook

9/13/2022

Nick Novella

NWS / NCEP / Climate Prediction Center

# Synopsis of Climate Modes:

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**ENSO:** (Sep 8, 2022 Update)      *next update on Thursday, Oct 13<sup>th</sup>*

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is favored to continue through Northern Hemisphere winter 2022-23, with a 91% chance in Sep-Nov, decreasing to a 54% chance in Jan-Mar 2023.

## **MJO and other subseasonal tropical variability:**

- Following a brief uptick of the MJO signal over the Indian Ocean during late August, the MJO quickly weakened in September where it continues to shift eastward over the Western Pacific at a low amplitude.
- While several RMM forecasts are unresponsive of renewed MJO activity, upper-level velocity potential and OLR forecasts favor an envelope of enhanced conditions shifting eastward over the Western Hemisphere with a more coherent MJO signal developing over the Indian Ocean later in September and into October.
- Given the MJO potential and climatology, the large-scale environment is expected to be favorable for additional tropical cyclogenesis across the Pacific and Atlantic basins.

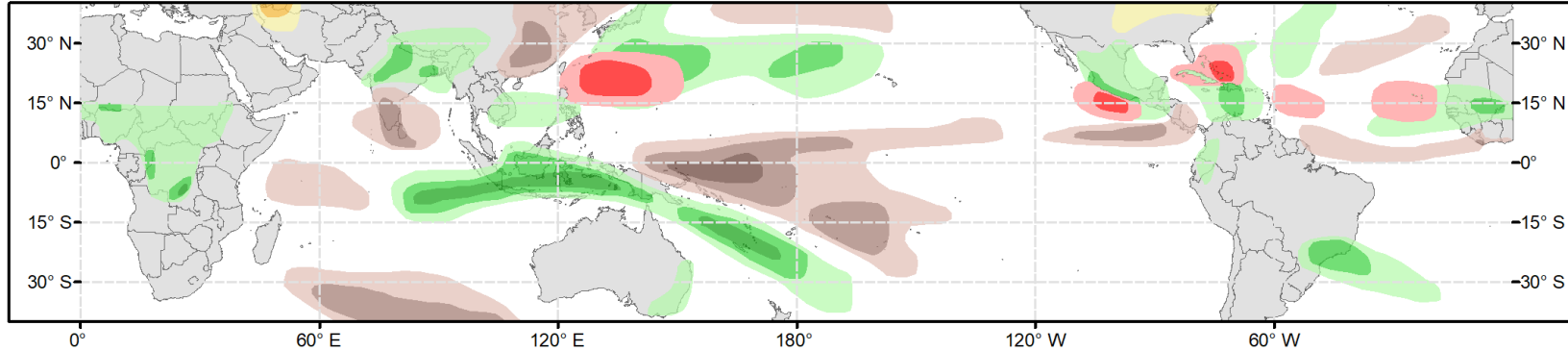
# GTH Outlook:



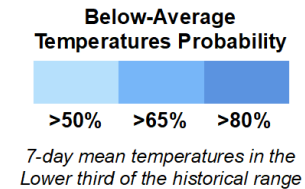
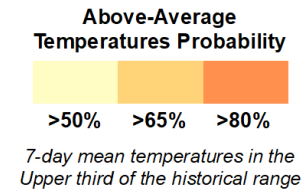
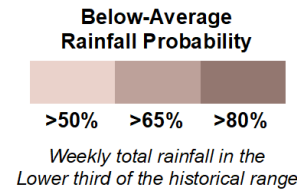
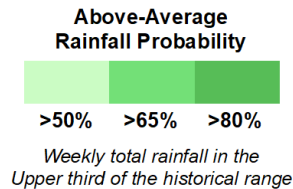
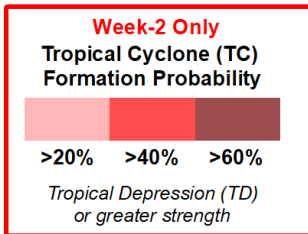
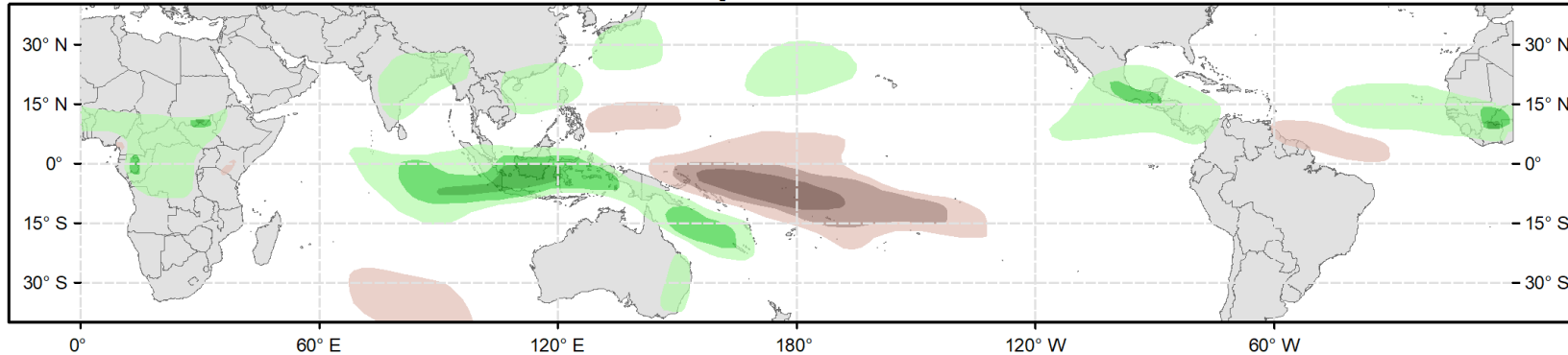
## Global Tropics Hazards Outlook Climate Prediction Center



**Week 2 - Valid: Sep 21, 2022 - Sep 27, 2022**



**Week 3 - Valid: Sep 28, 2022 - Oct 04, 2022**

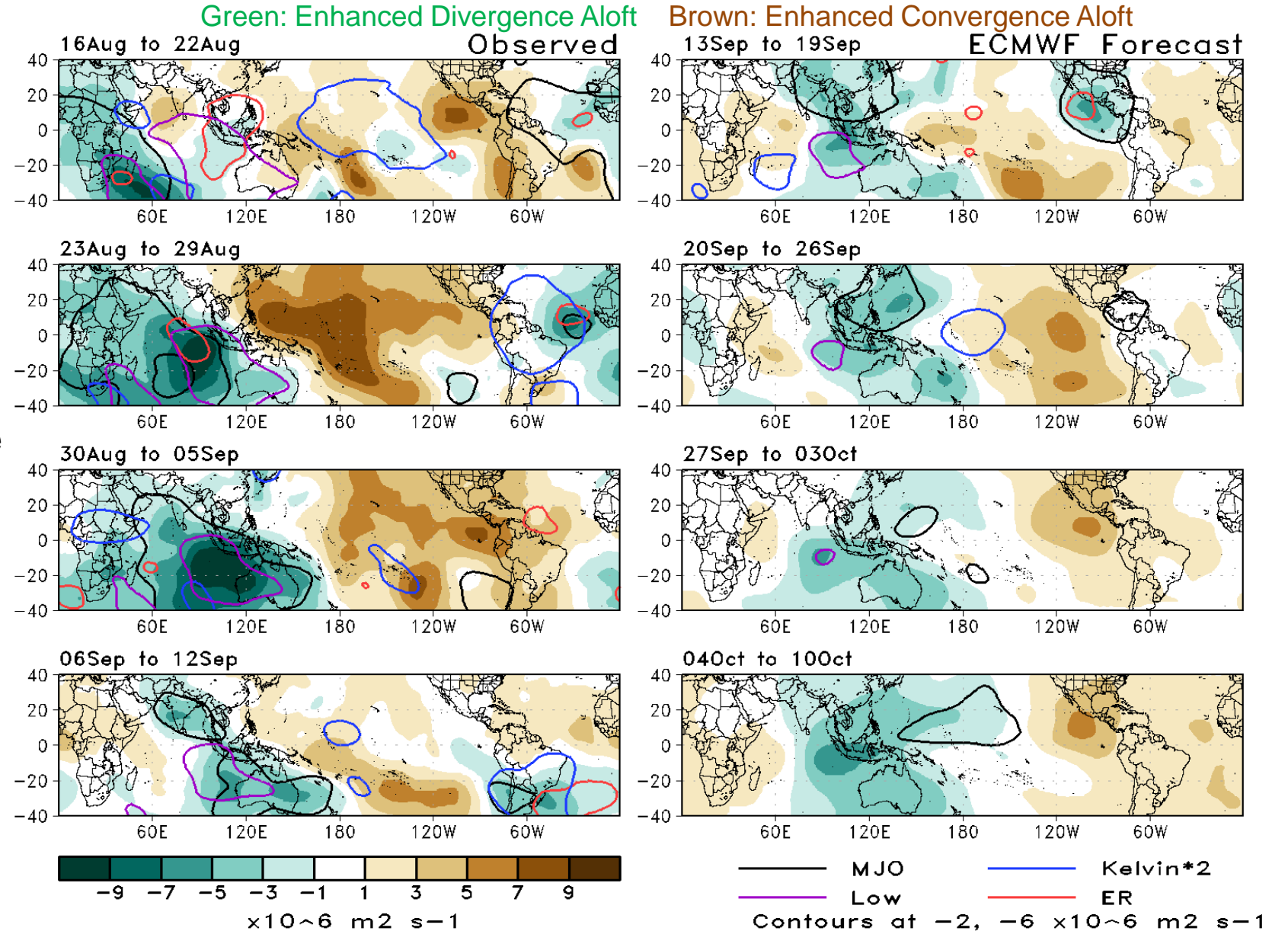


**Issued: 09/13/2022**  
**Forecaster: Novella**

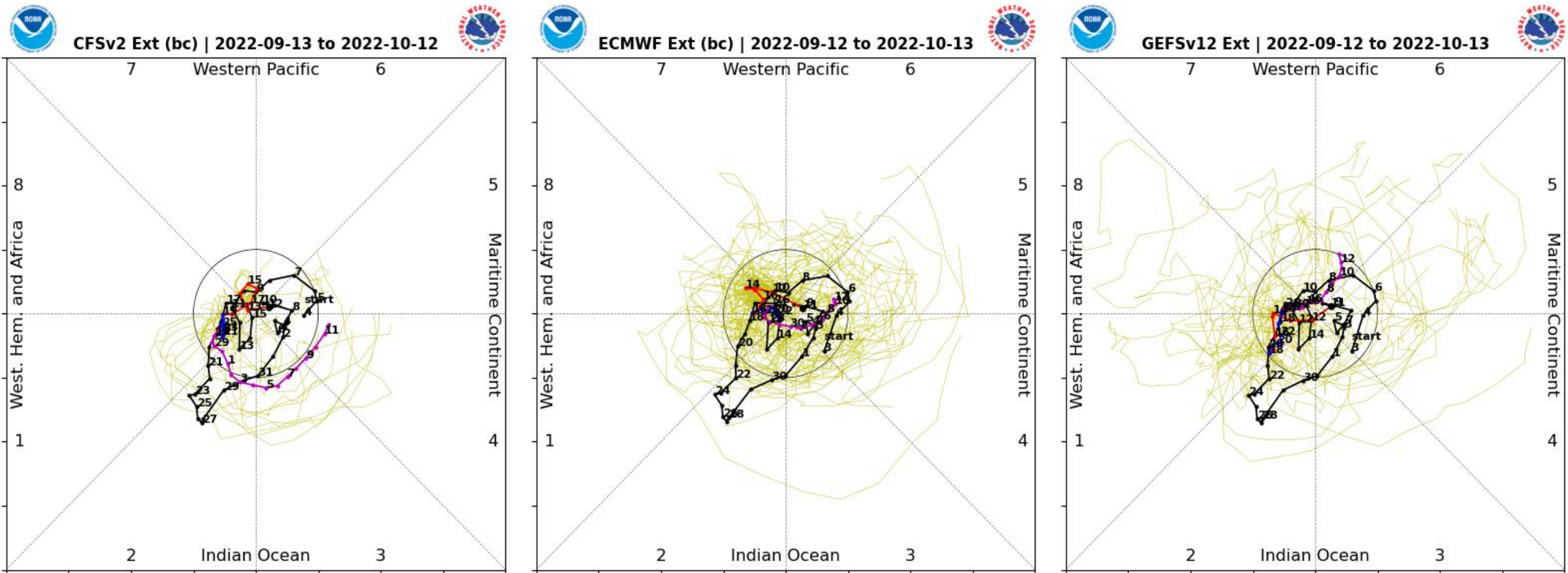
**This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.**

# 200-hPa Velocity Potential Anomaly Maps:

- A broken velocity potential pattern is favored during weeks 1 and 2, however MJO activity is coming through the filtering over the Americas.
- By week-3, a wave-1 pattern is favored to redevelop, suggestive of a more coherent MJO reemerging.



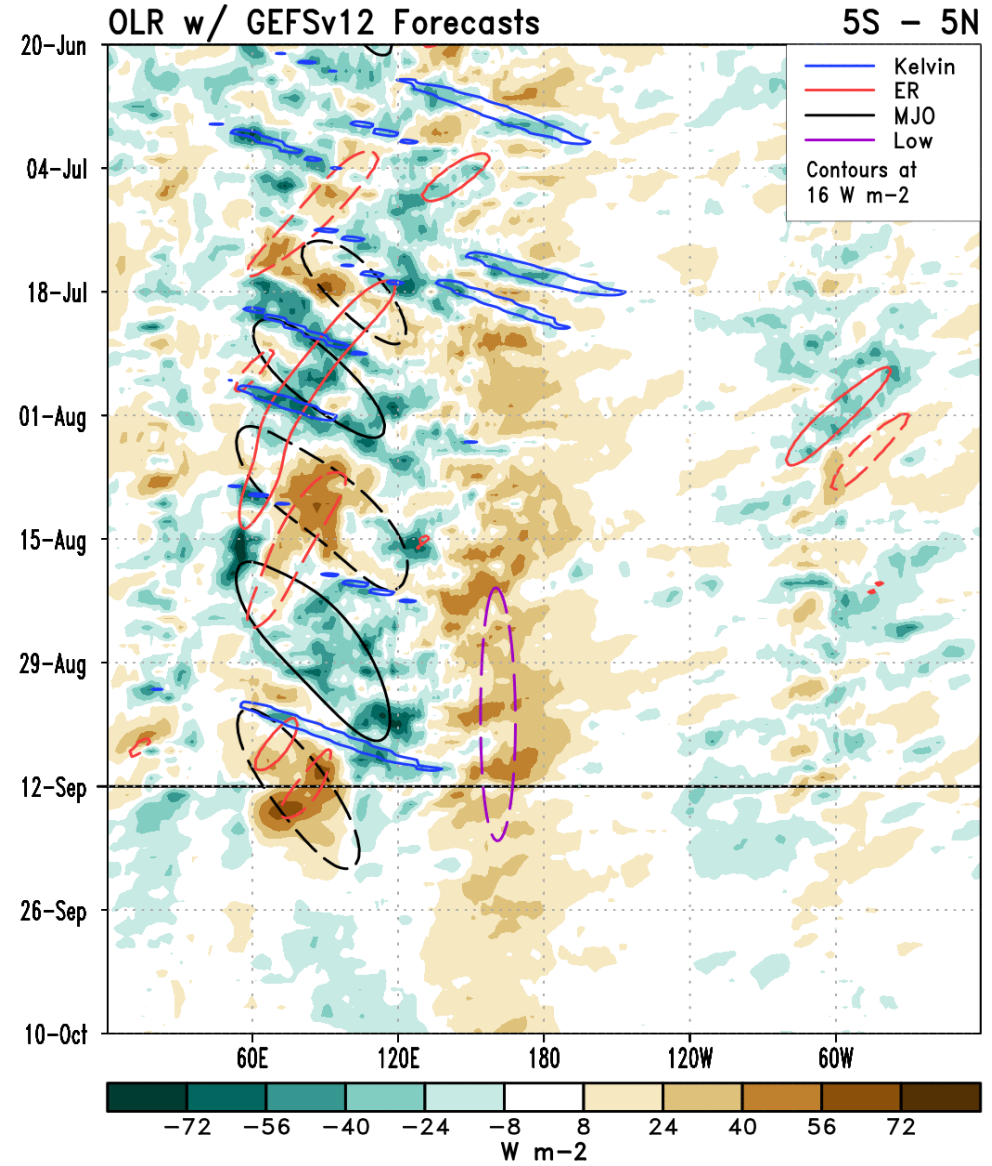
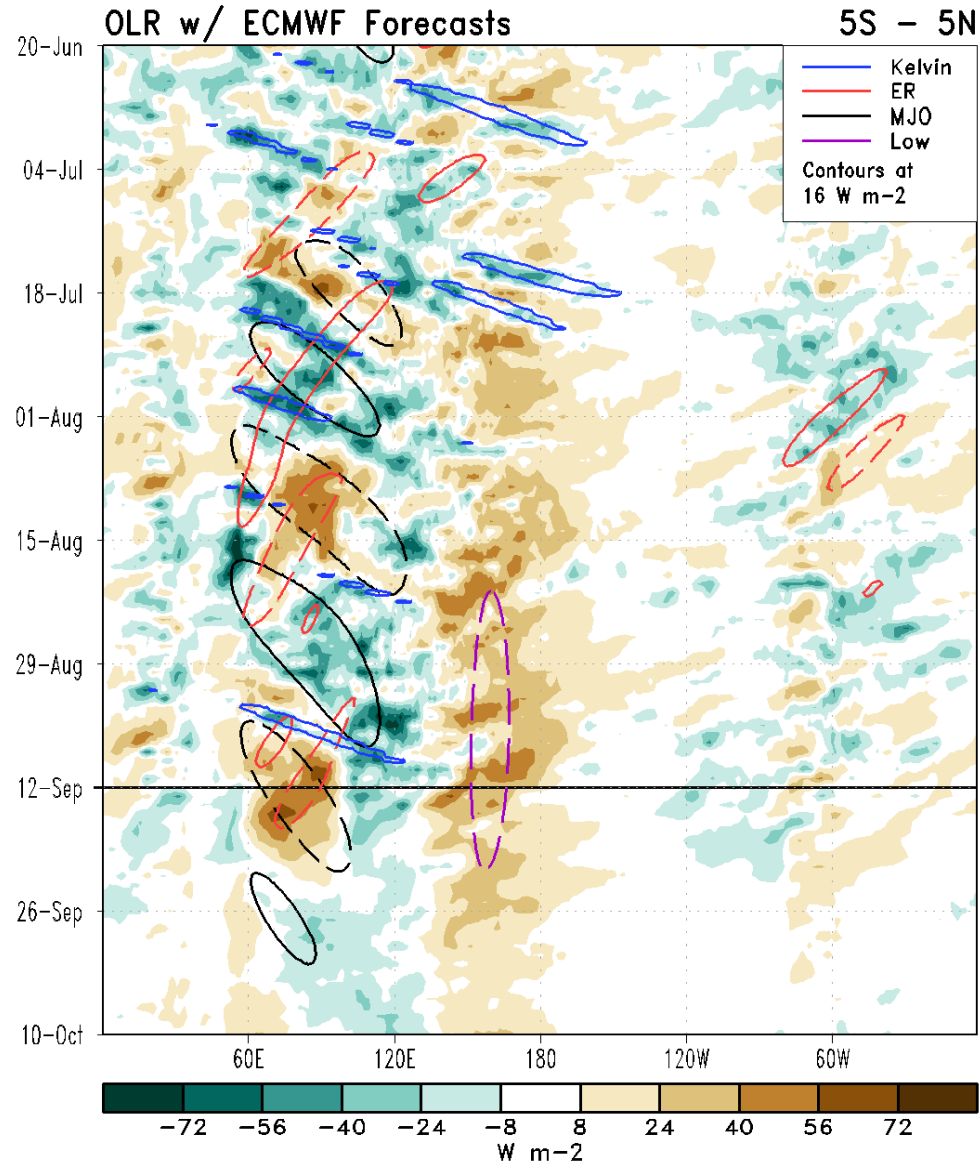
# RMM Index Observations & Forecasts:



- The CFS favors a reemerging MJO over the Indian Ocean by week-3 and is more consistent with objectively filtered OLR and velocity potential forecasts in the models.
- Both the extended GEFS and ECWMT forecasts maintain a low amplitude of the mean MJO signal into October, with large ensemble spread.



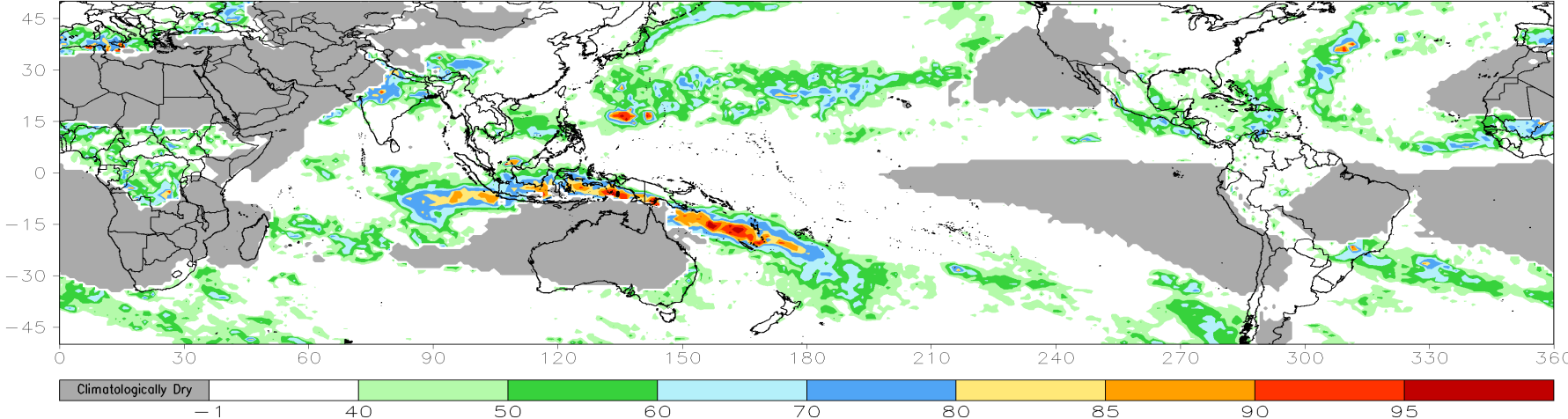
# Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



# Consolidated Probabilistic Precipitation: Week-2

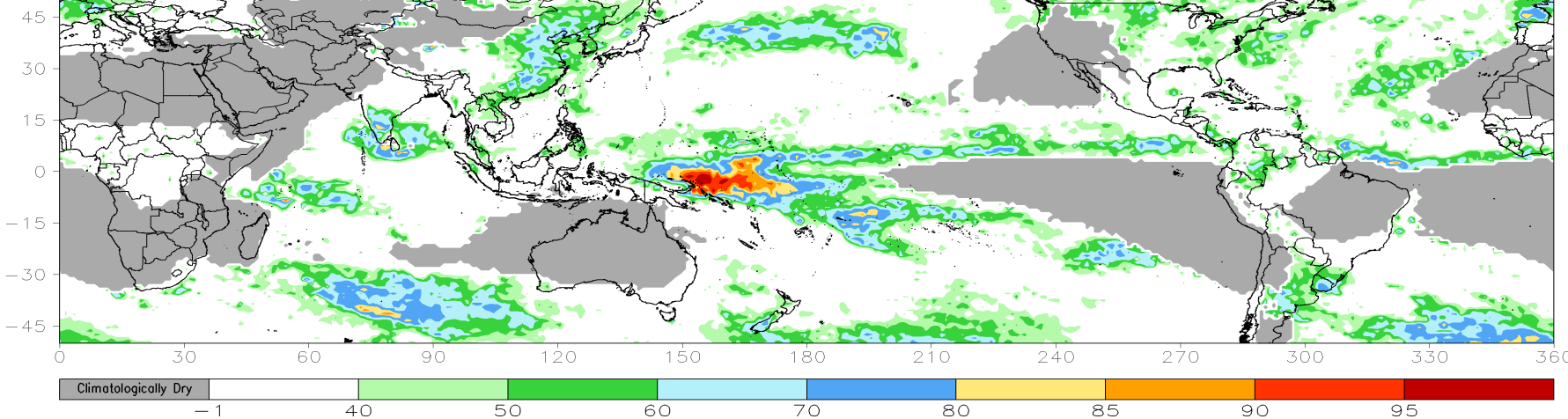
CONS 00z: Week2 Probability for Total Rainfall Above Upper Tercile (%)

Valid: 21Sep2022-27Sep2022



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

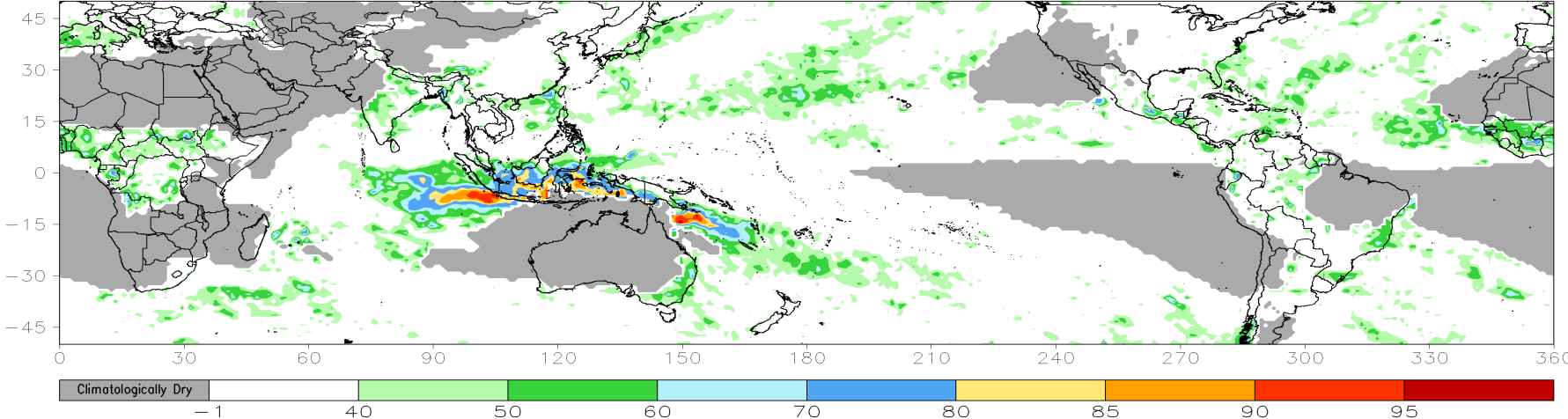
Valid: 21Sep2022-27Sep2022



# Consolidated Probabilistic Precipitation: Week-3

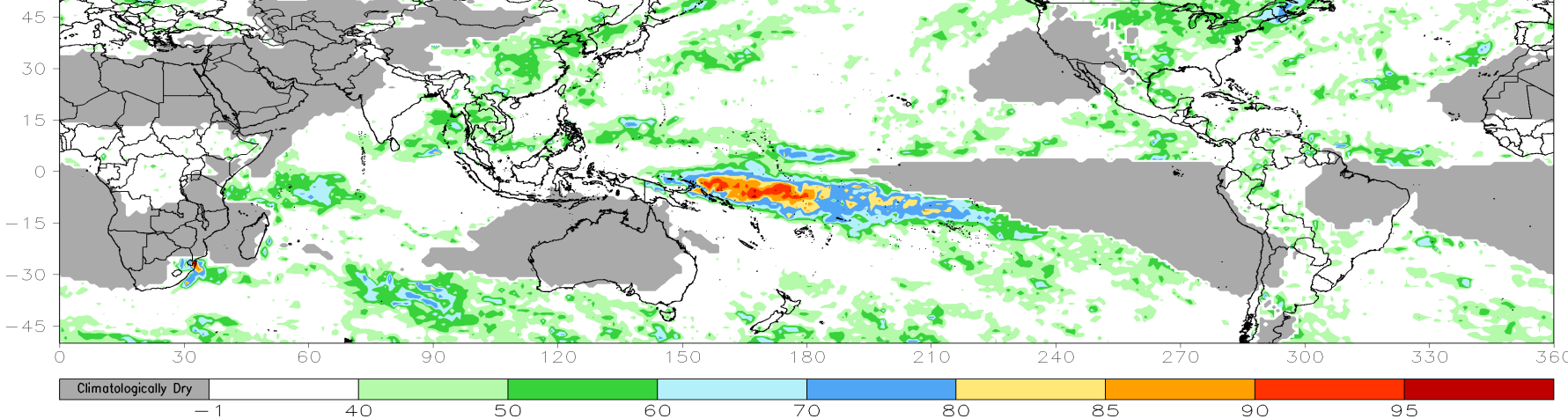
CONS 00z: Week3 Probability for Total Rainfall Above Upper Tercile (%)

Valid: 28Sep2022-04Oct2022



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

Valid: 28Sep2022-04Oct2022

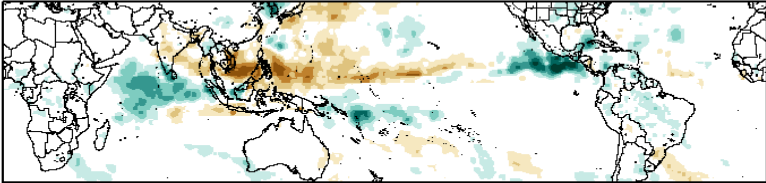




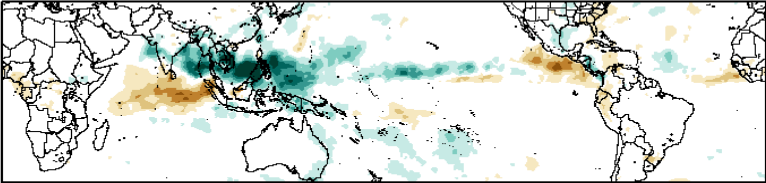
# Historical Precipitation Anomalies By MJO Phase:

ASO MJO Composite: GPCP1DD (mm/day)

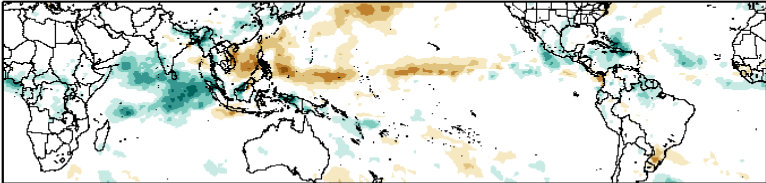
Phase 1



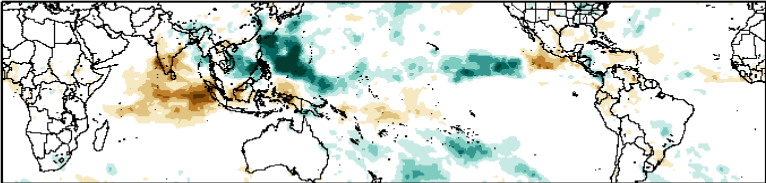
Phase 5



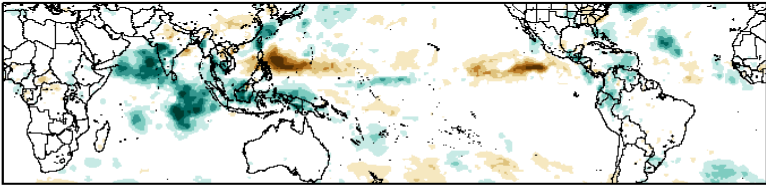
Phase 2



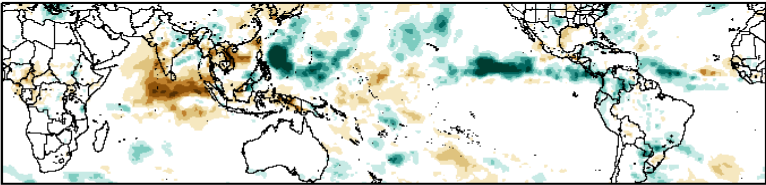
Phase 6



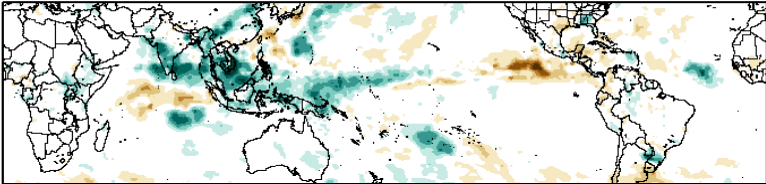
Phase 3



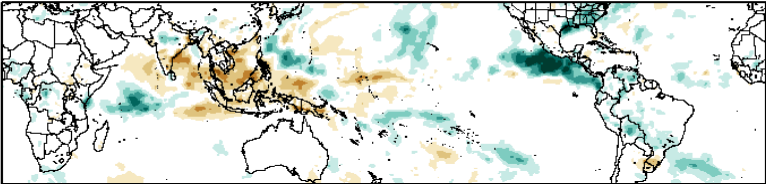
Phase 7



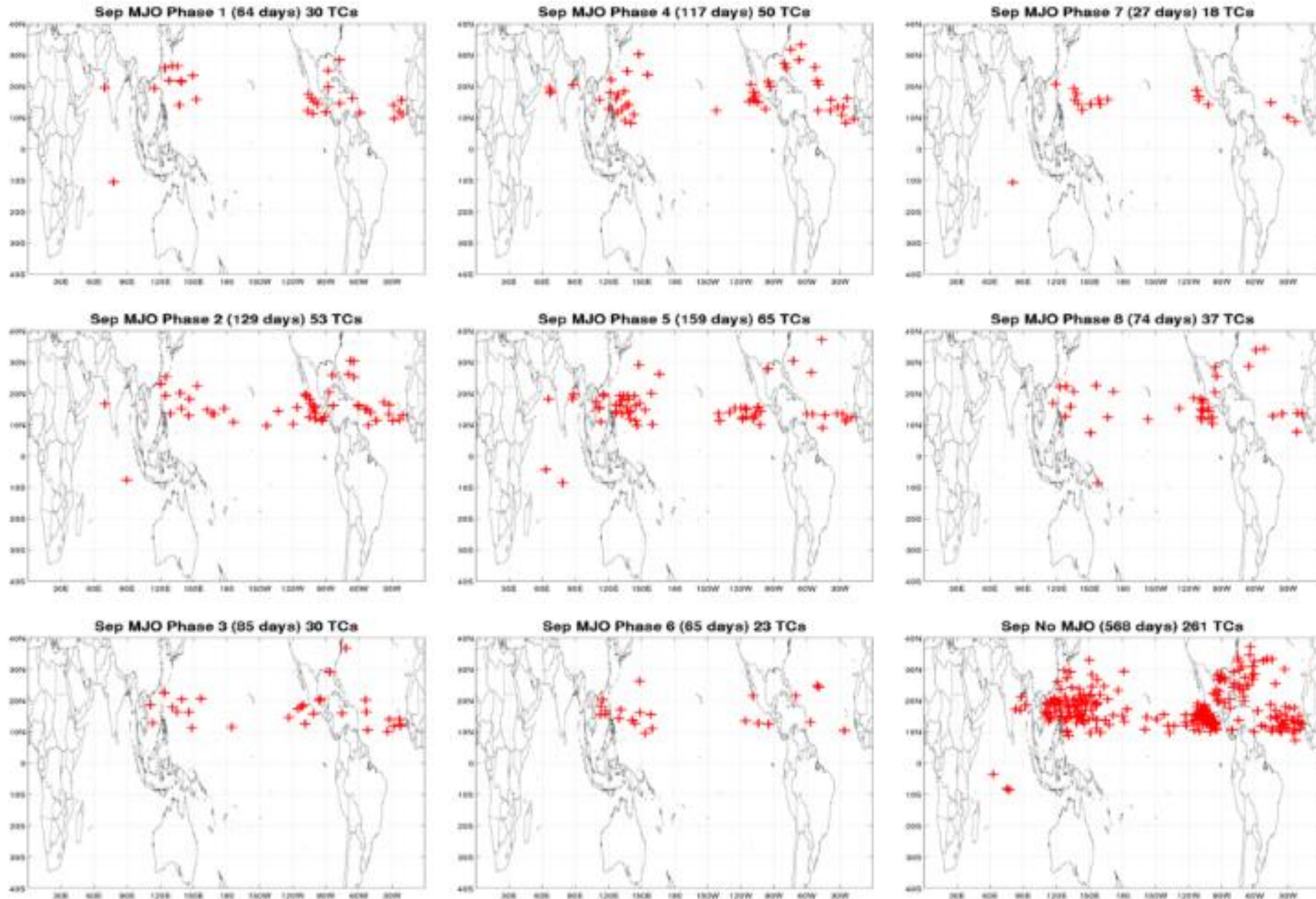
Phase 4



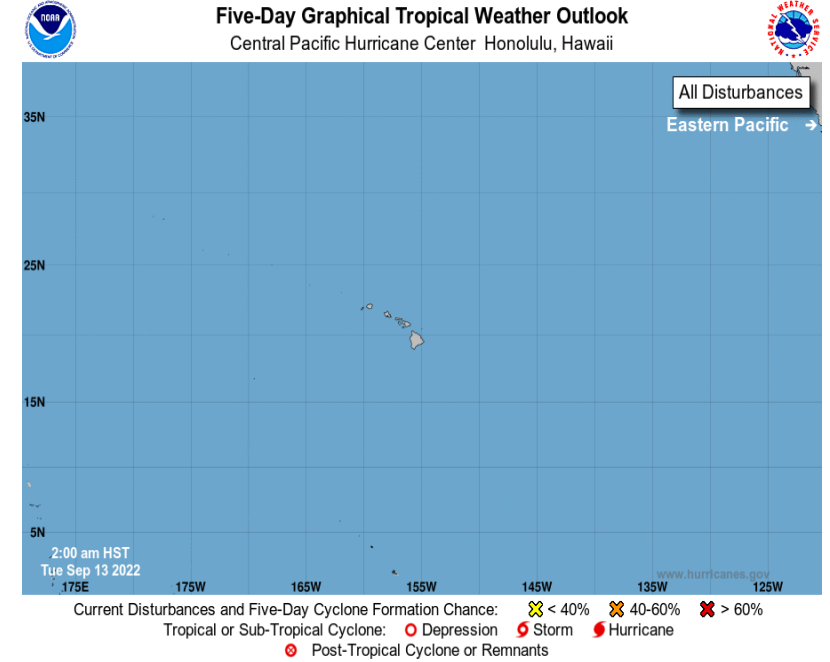
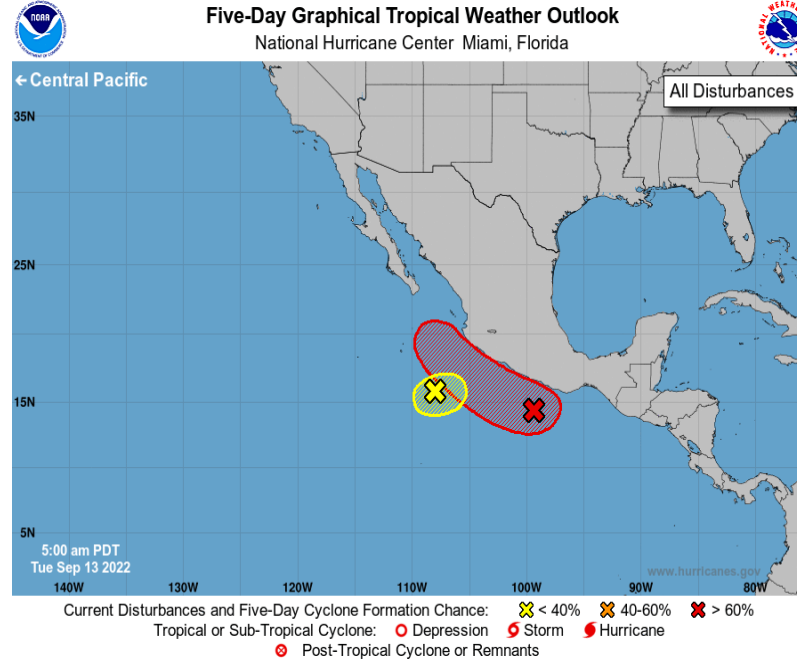
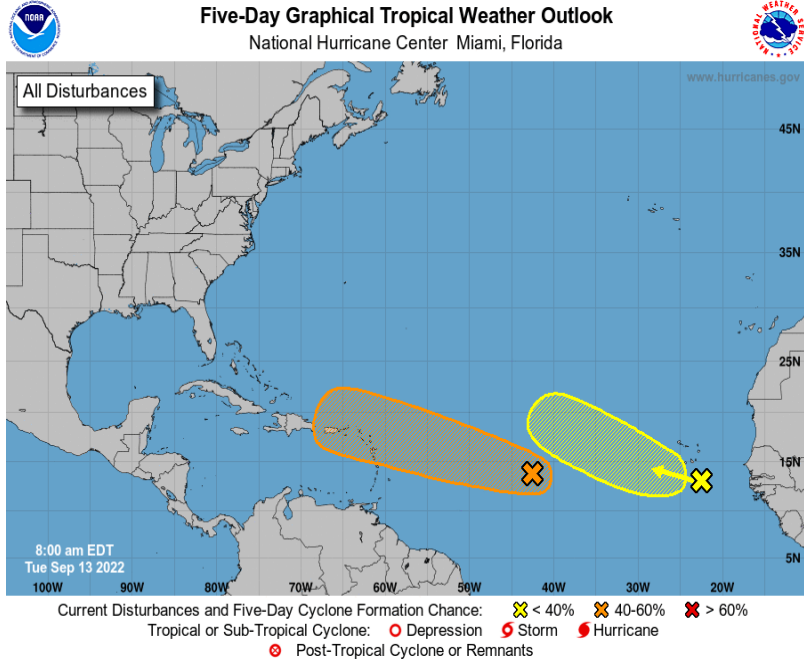
Phase 8



# Historical TC Genesis Origins By MJO Phase:



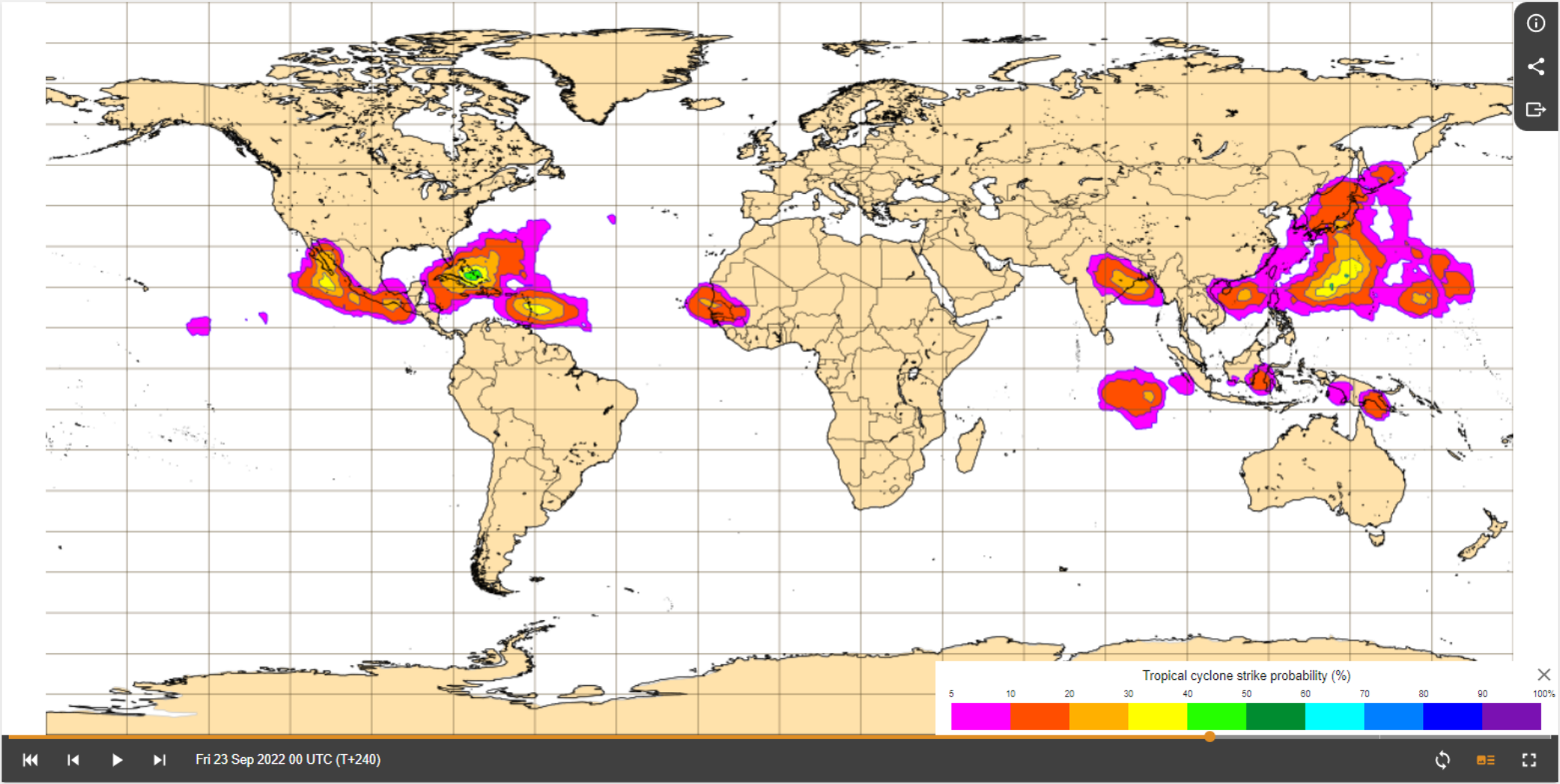
# Tropical Cyclone Monitoring/Forecast: NHC



# Tropical cyclone activity (Including genesis)

Tropical cyclone activity (including genesis)

- Base time  
Tue 13 Sep 2022 00 UTC
- Valid time  
Fri 23 Sep 2022 00 UTC (T+240)
- Area  
Global
- Intensity  
Tropical cyclones

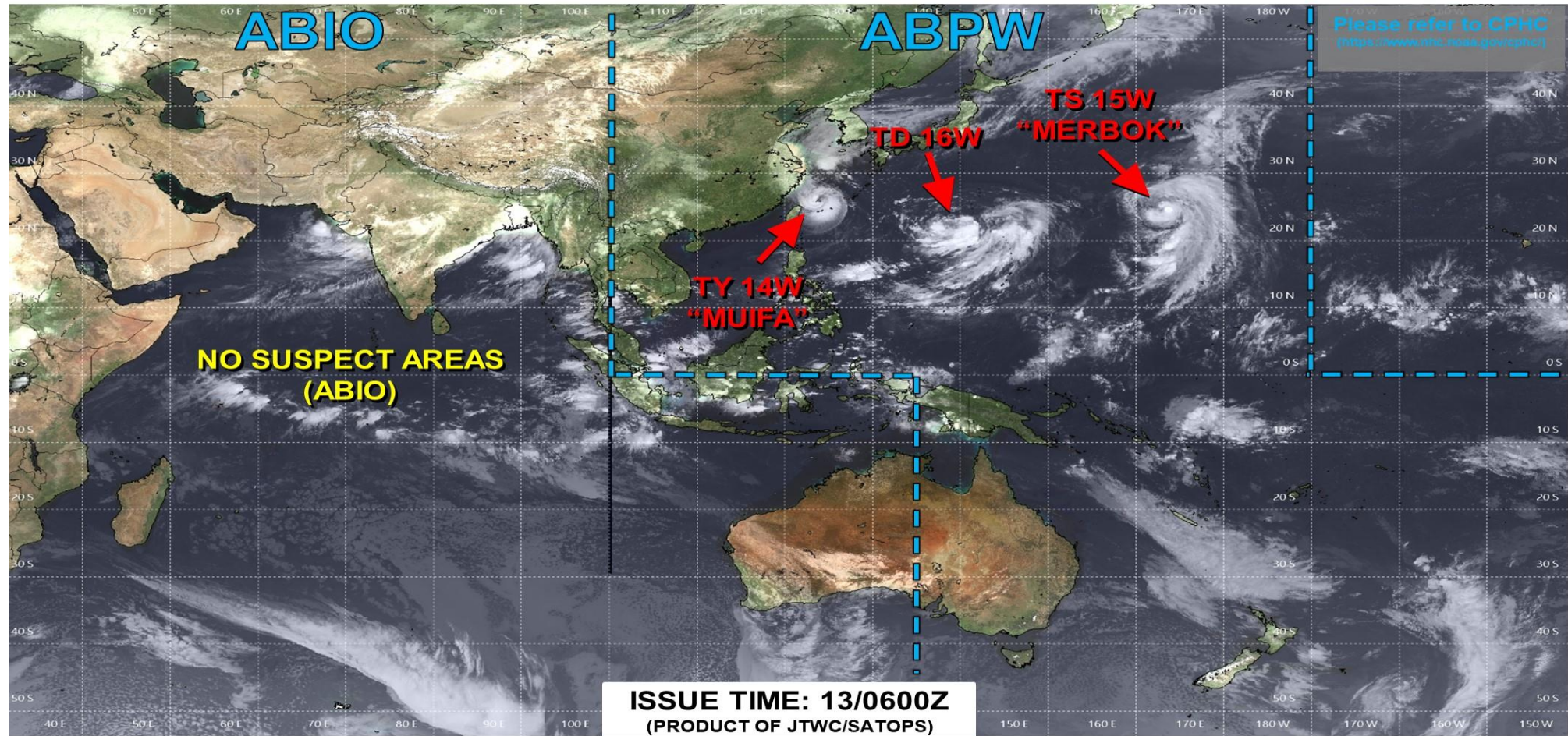




# Tropical Cyclone Monitoring/Forecast: JTWC



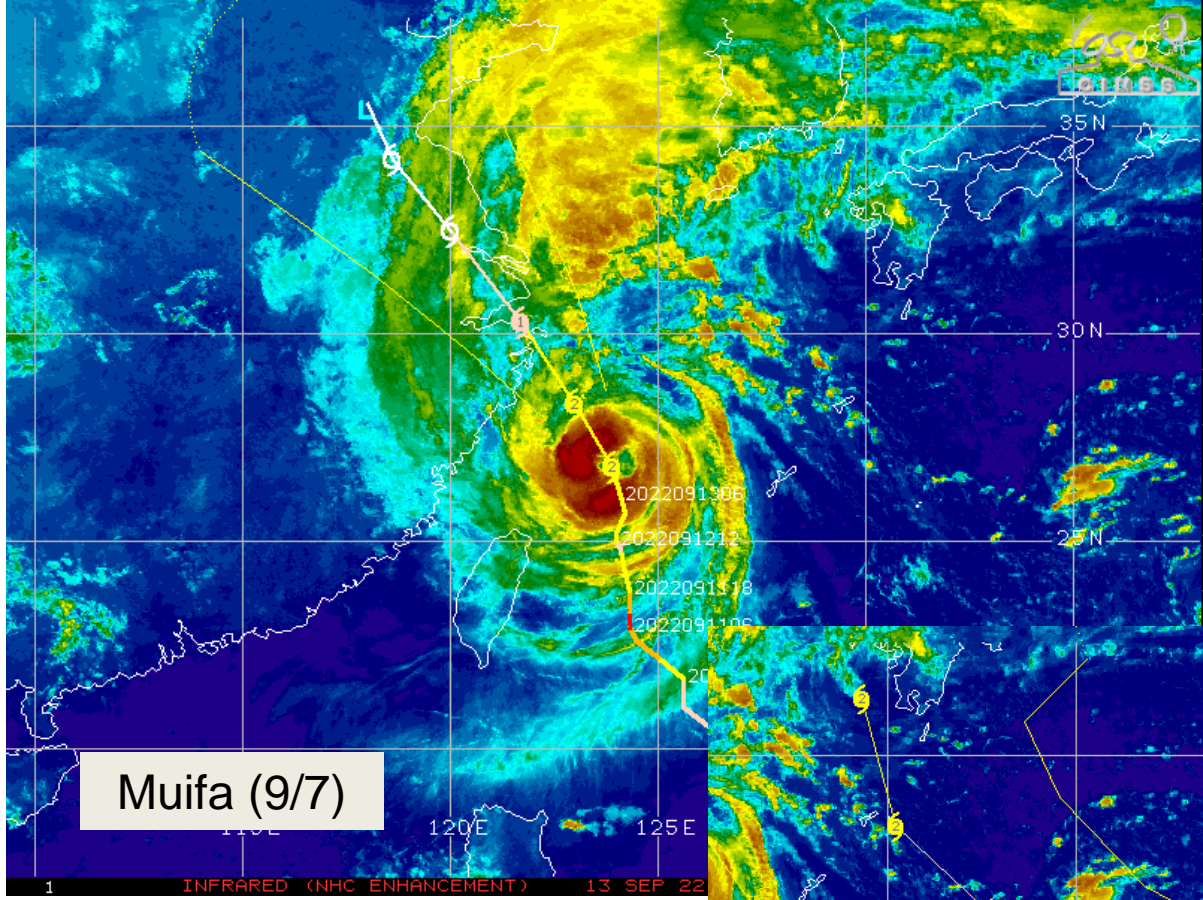
## JOINT TYPHOON WARNING CENTER



**ISSUE TIME: 13/0600Z**  
(PRODUCT OF JTWC/SATOPS)

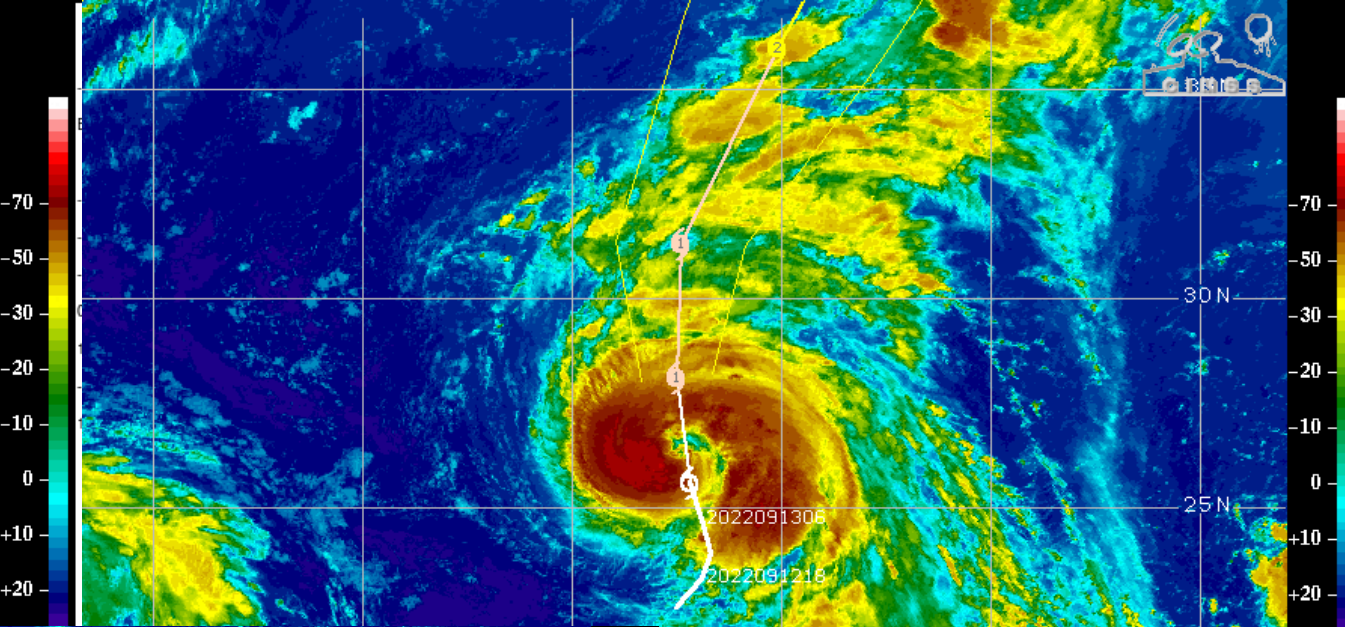
 <p><b>LOW</b> TC development unlikely within 24 hours</p>	 <p><b>MEDIUM</b> TC development likely, but expected to occur beyond 24 hours</p>	 <p><b>HIGH</b> TC development likely within 24 hours (Reference TCFA)</p>	 <p><b>SUB TROPICAL</b> Monitoring for potential transition to TC. Invest label color denotes tropical transition probability</p>	 <p><b>Tropical Cyclone</b> (Reference Warning)</p>
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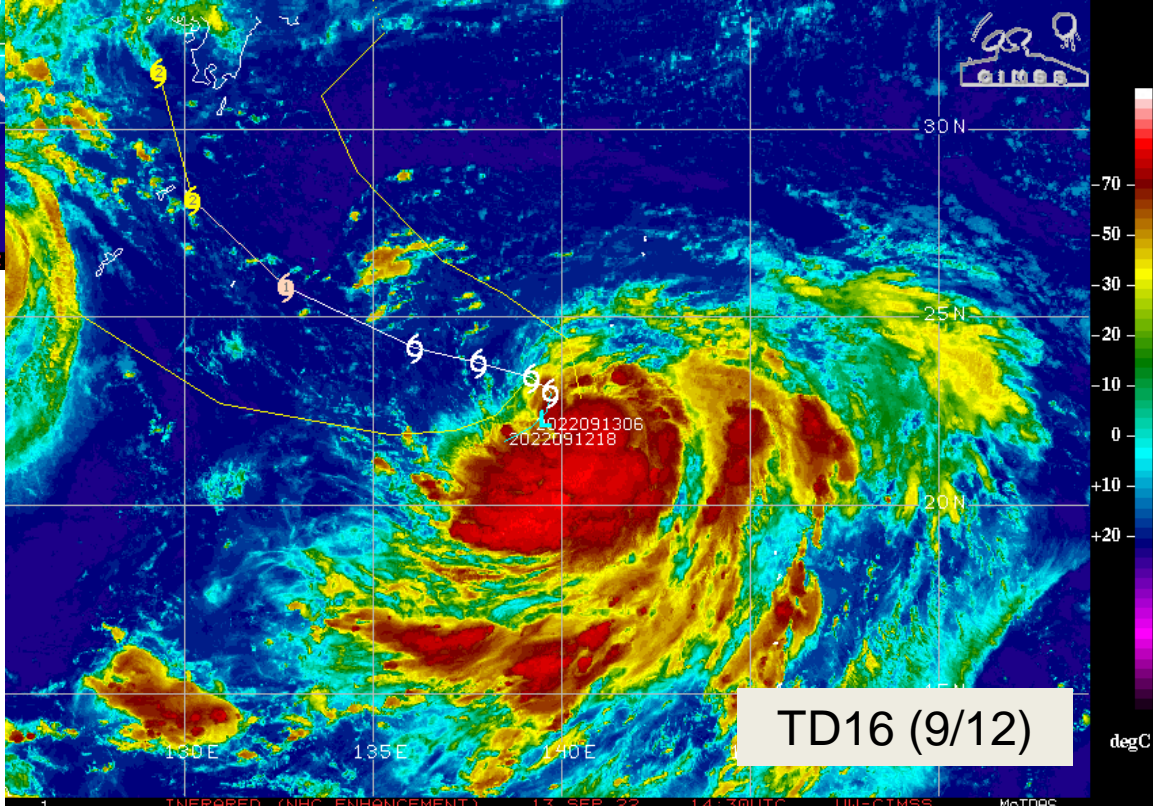
Muifa (9/7)

1 INFRARED (NHC ENHANCEMENT) 13 SEP 22



Merbok (9/11)

13 SEP 22 14:30UTC UW-CIMSS McIDAS degC



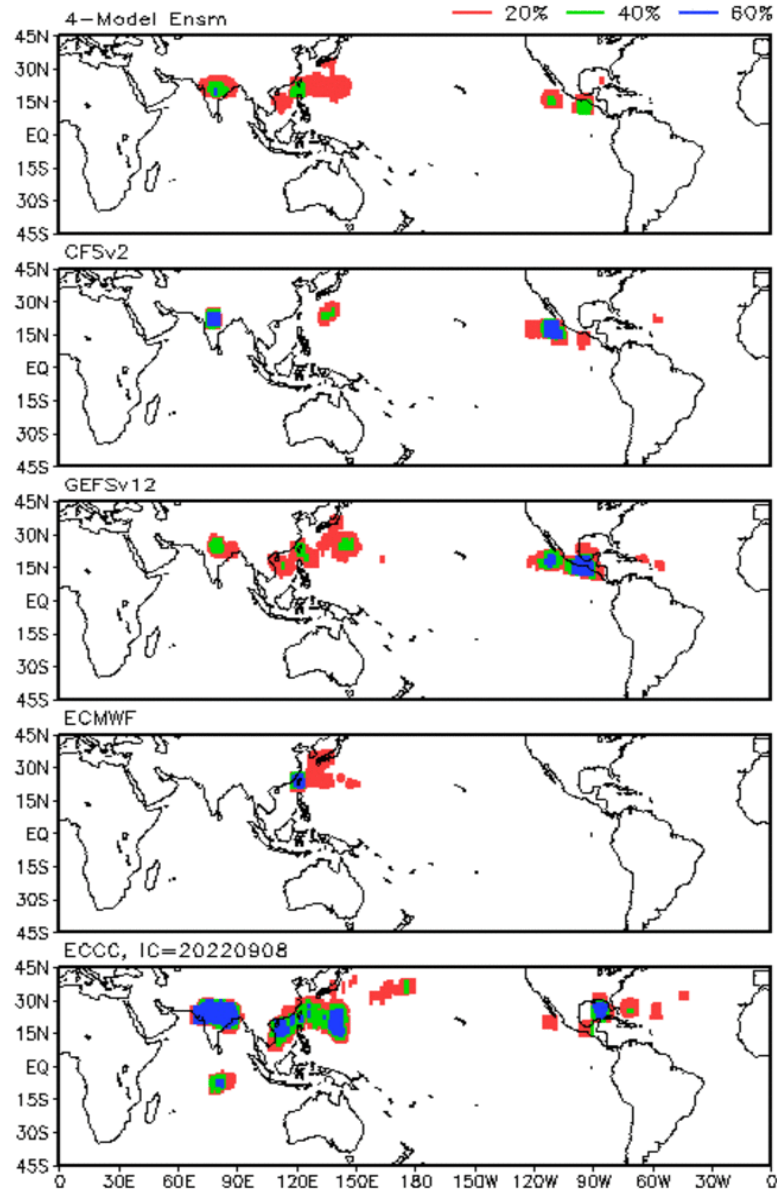
TD16 (9/12)

1 INFRARED (NHC ENHANCEMENT) 13 SEP 22 14:30UTC UW-CIMSS McIDAS degC

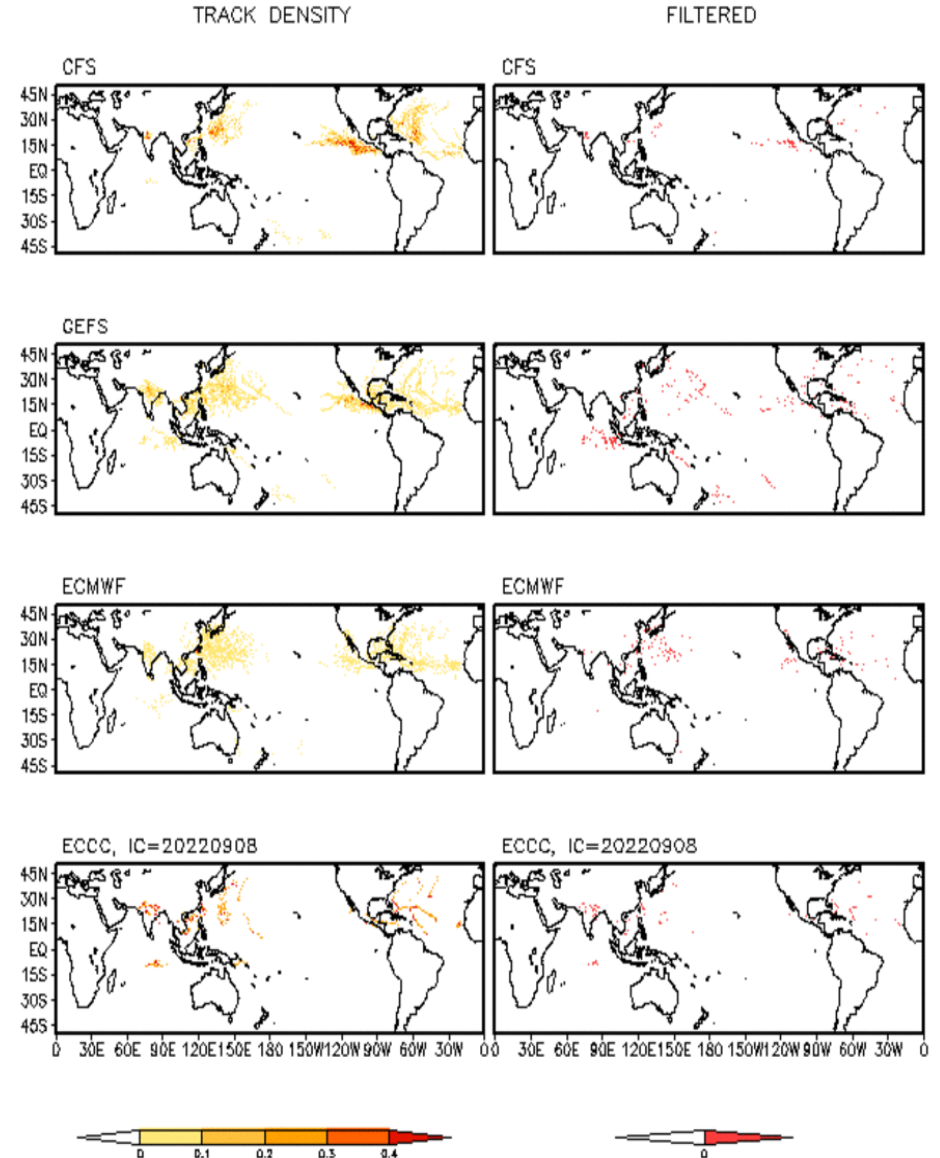


# Multi-Model TC Probabilities:

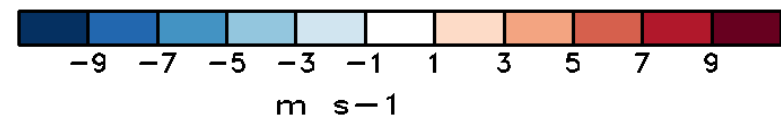
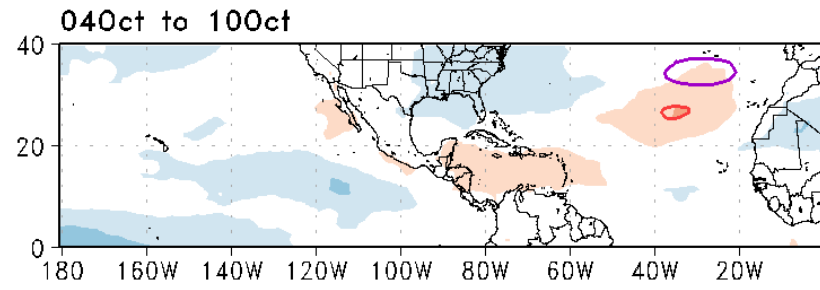
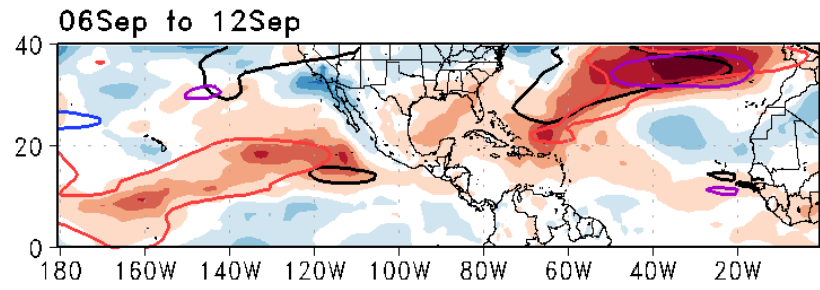
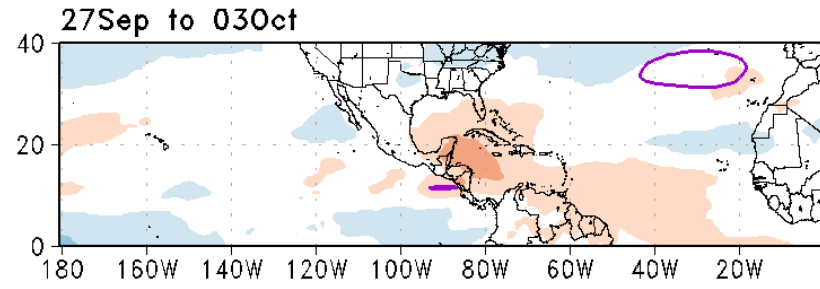
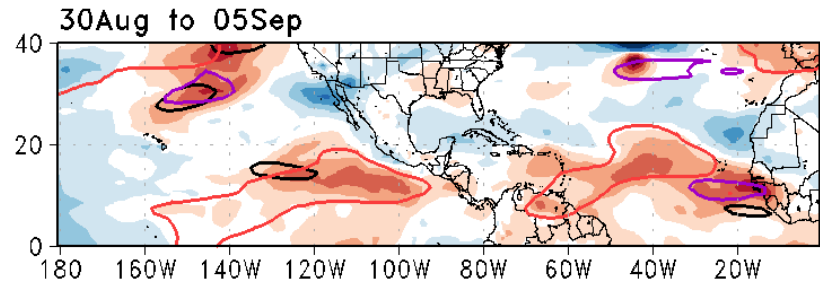
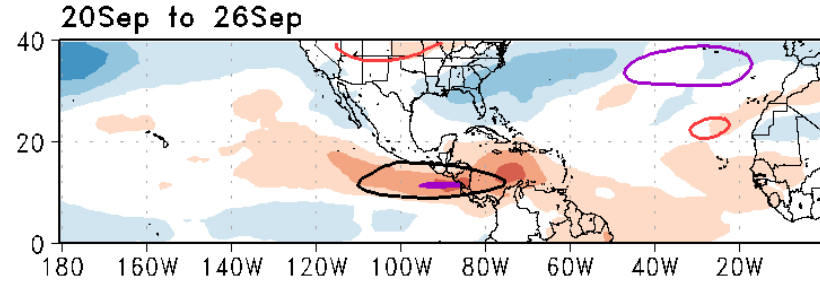
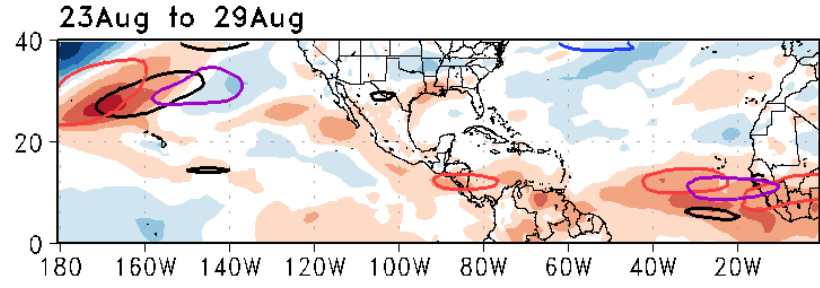
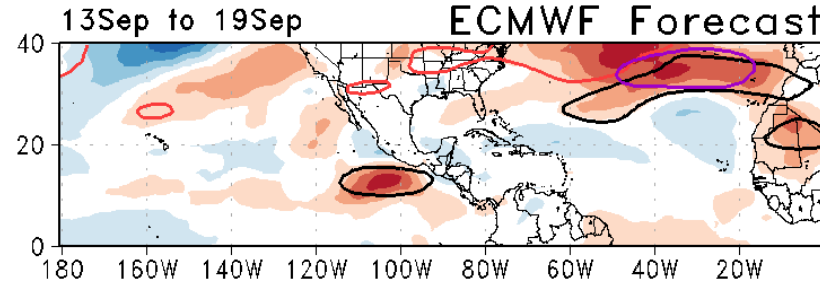
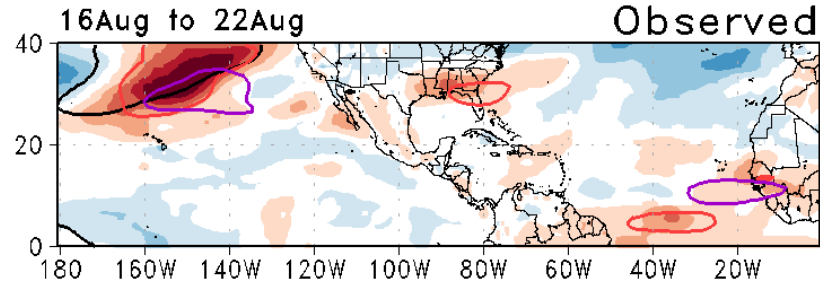
Storm Track Probabilities, IC=20220912  
Week 2: 0921 - 0927



Storm Track Density Distribution, IC=20220912  
Week 2 Forecast: 0921-0927



# UWND850 7-Day Means



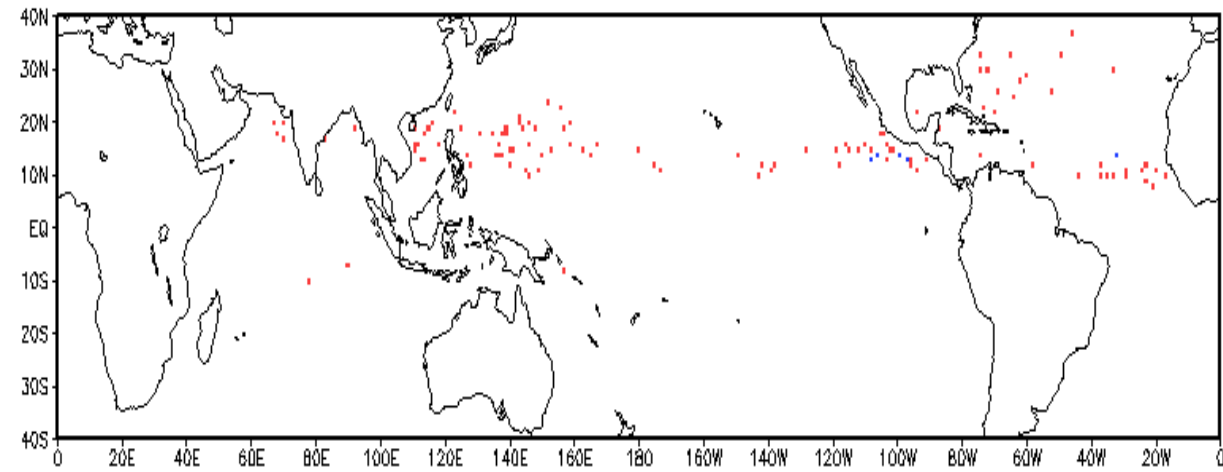
— MJO      — Kelvin\*2  
— Low      — ER  
Contours at 2, 6 m s<sup>-1</sup>



# TC Climatological Genesis:

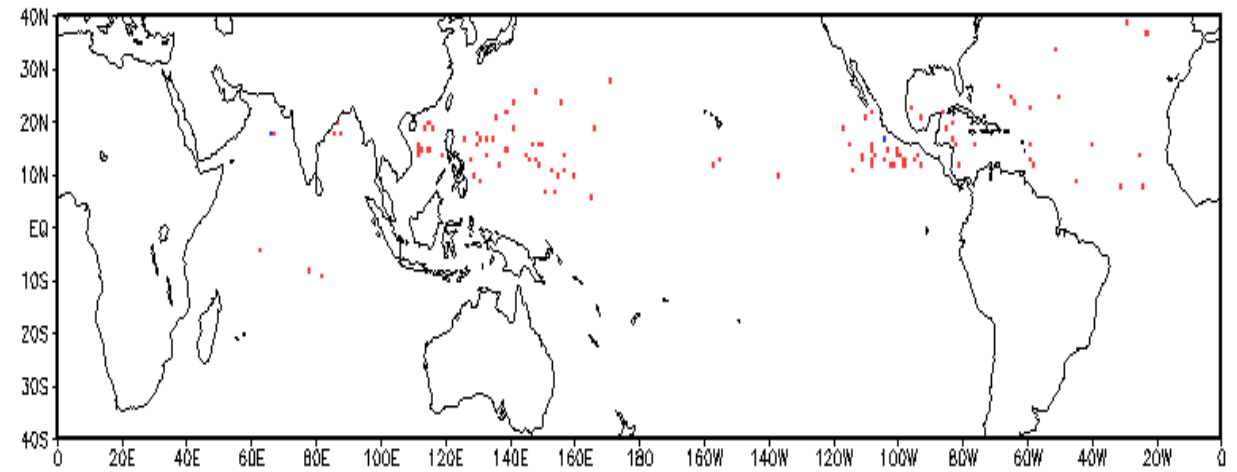
Observed TC Genesis, 1979–2021

7-day Period 0921 to 0927



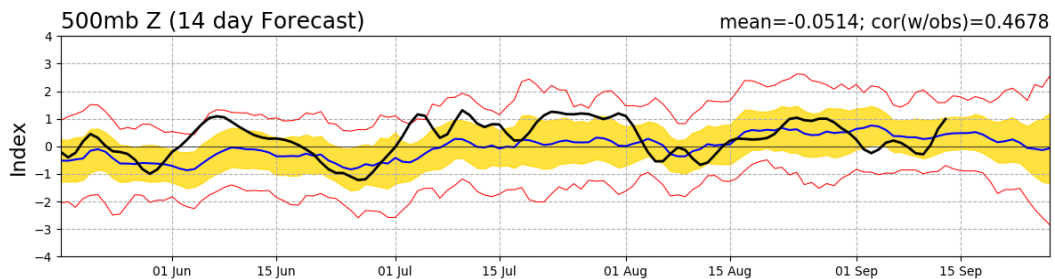
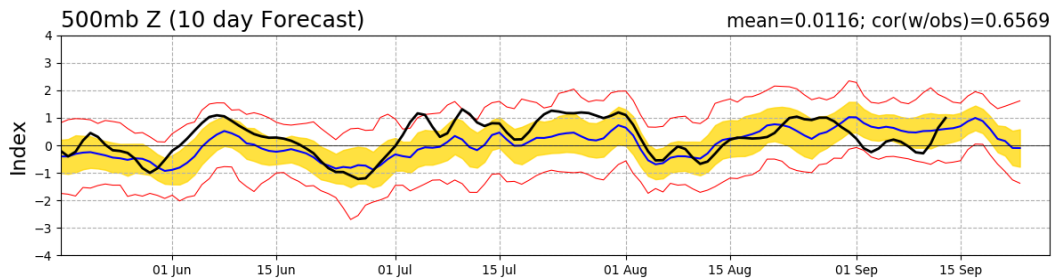
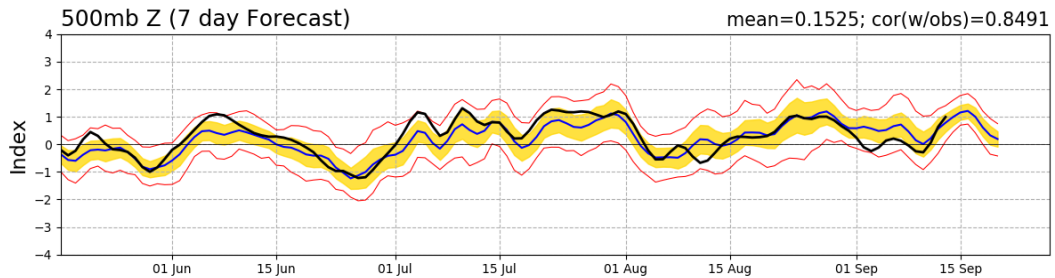
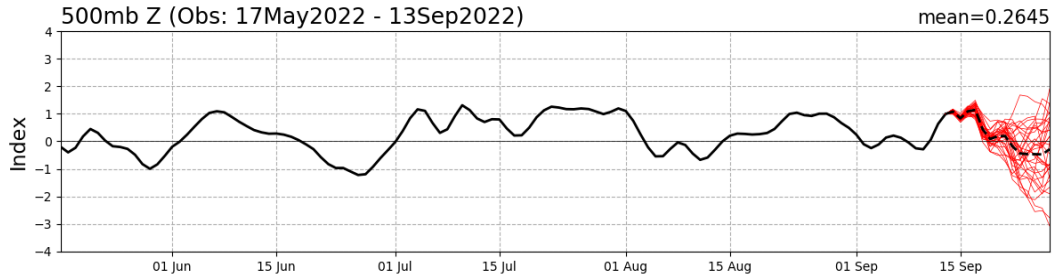
Observed TC Genesis, 1979–2021

7-day Period 0928 to 1004

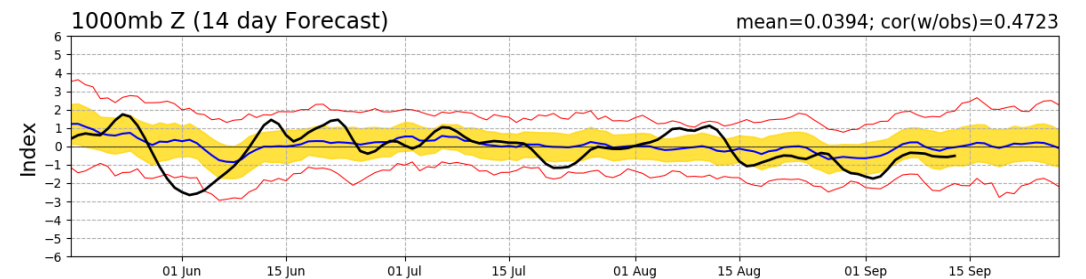
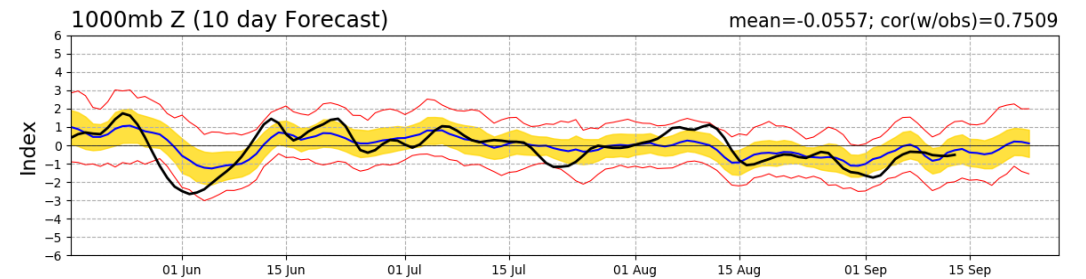
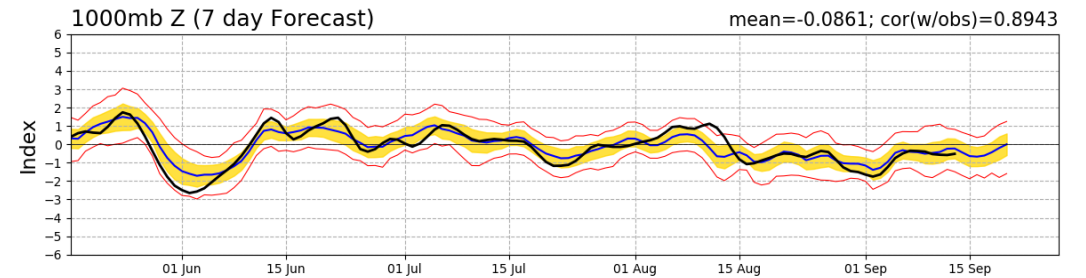
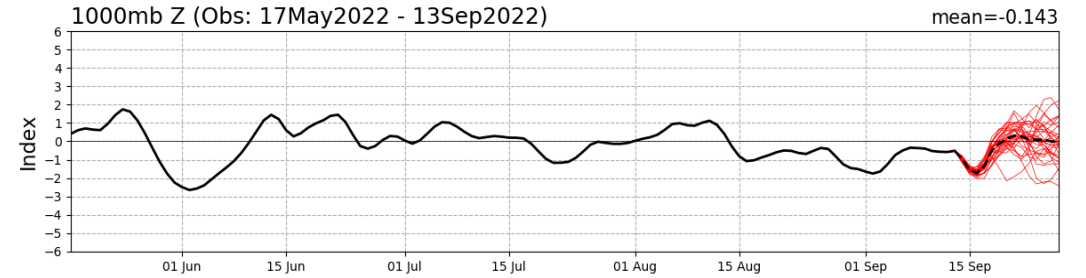


# Teleconnection Indices: PNA / AO:

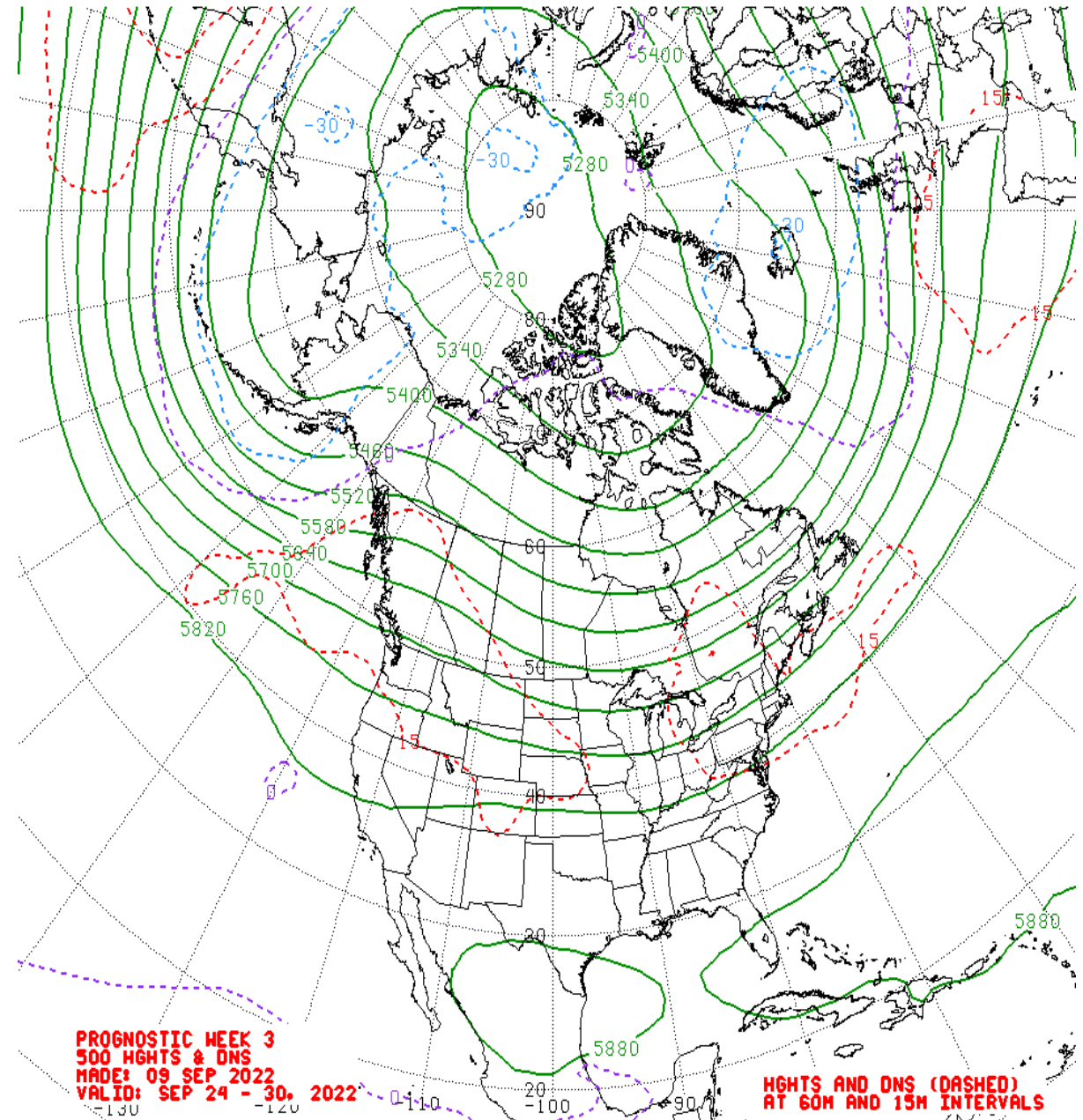
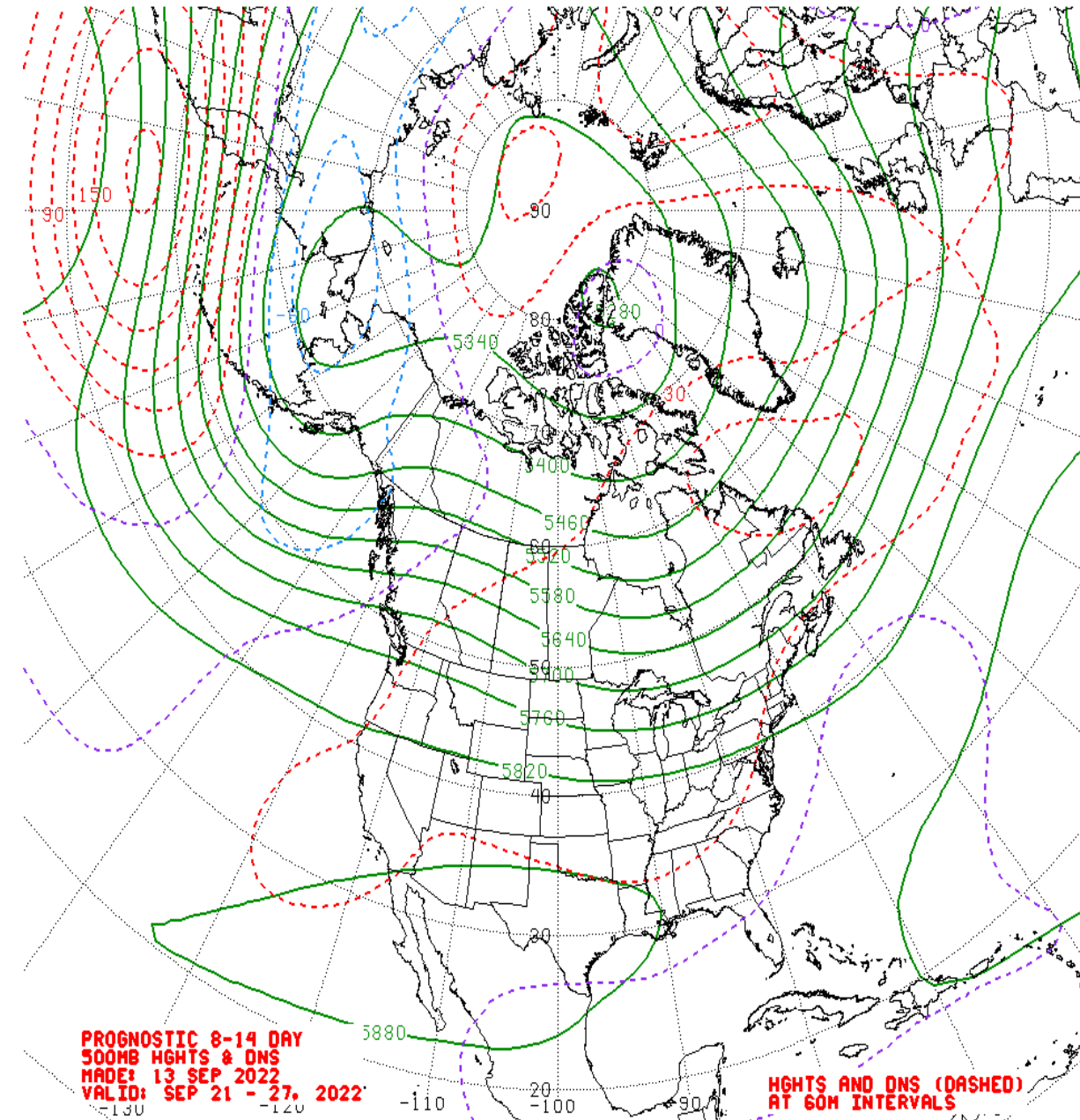
## PNA Index: Observed & GEFS Forecasts



## AO Index: Observed & GEFS Forecasts



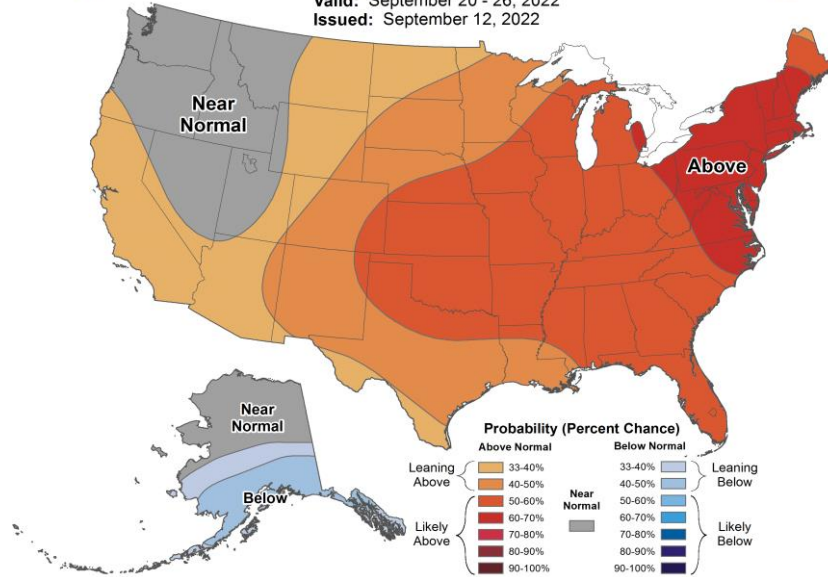
# Mean 500-hPa Height Anomaly Forecasts:



# Official Temperature & Precipitation Forecasts:

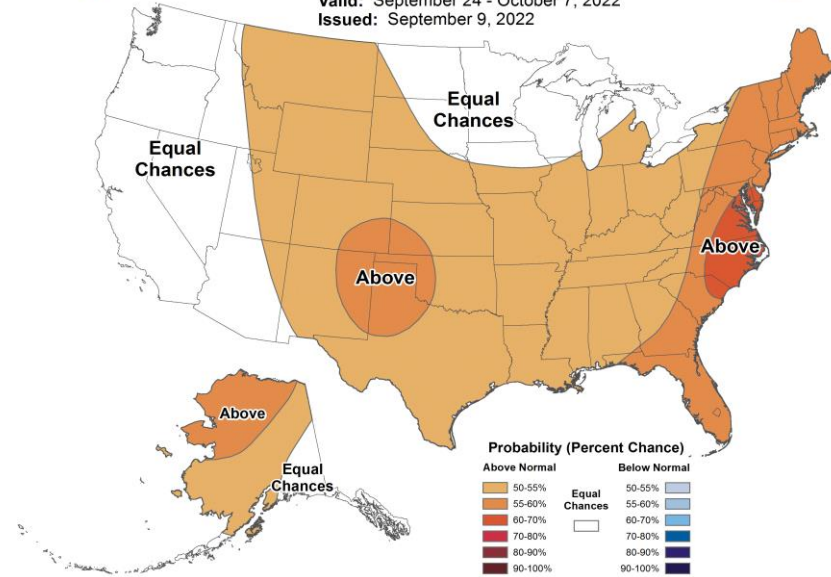
## 8-14 Day Temperature Outlook

Valid: September 20 - 26, 2022  
Issued: September 12, 2022



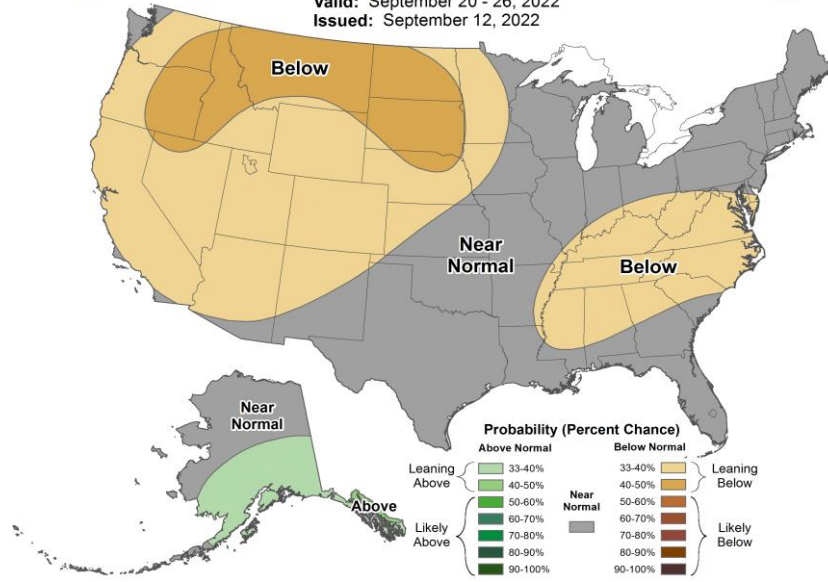
## Weeks 3-4 Temperature Outlook

Valid: September 24 - October 7, 2022  
Issued: September 9, 2022



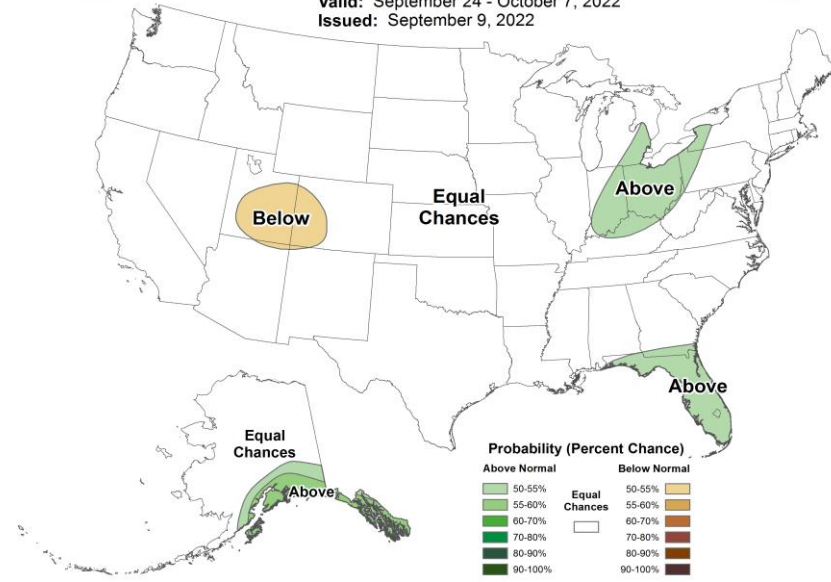
## 8-14 Day Precipitation Outlook

Valid: September 20 - 26, 2022  
Issued: September 12, 2022



## Weeks 3-4 Precipitation Outlook

Valid: September 24 - October 7, 2022  
Issued: September 9, 2022





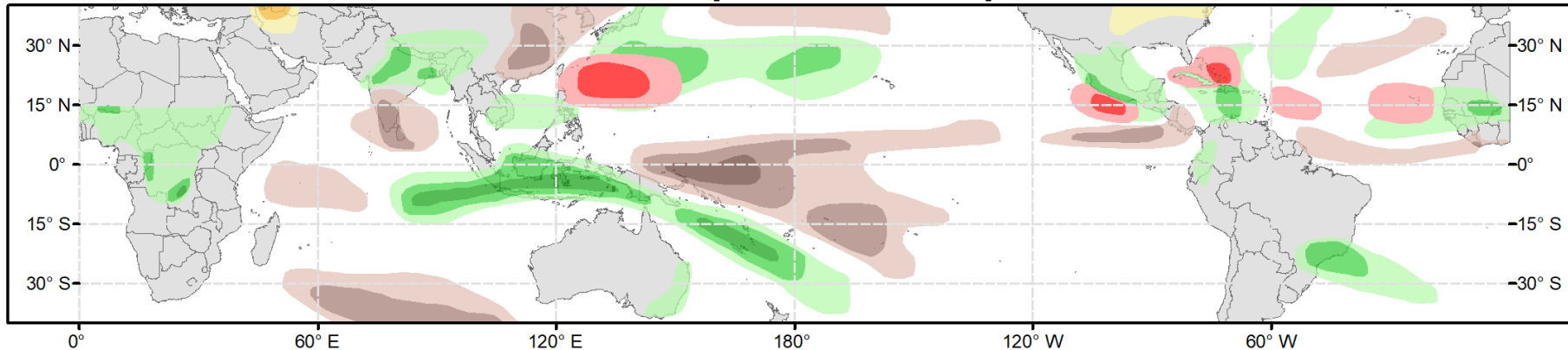


# Global Tropics Hazards Outlook

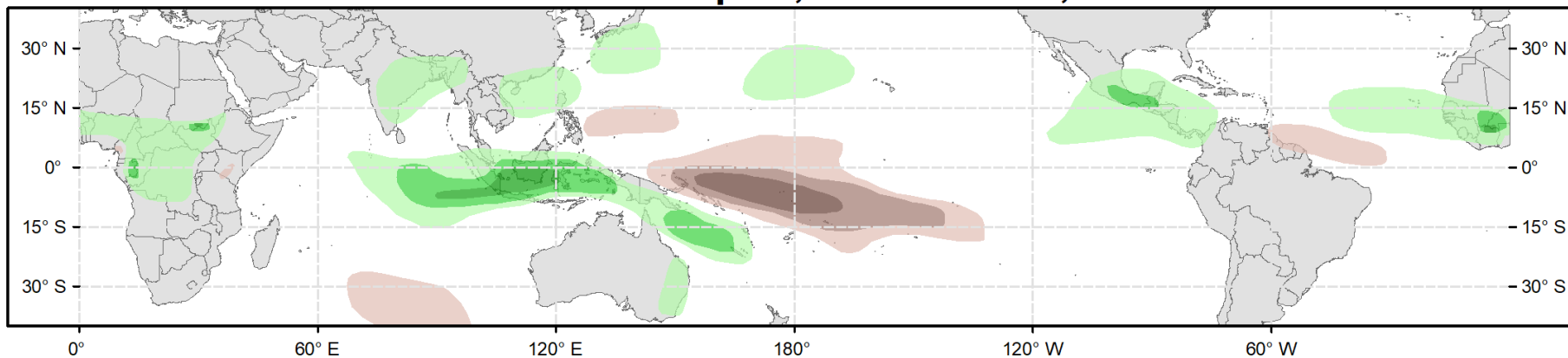
Climate Prediction Center



## Week 2 - Valid: Sep 21, 2022 - Sep 27, 2022



## Week 3 - Valid: Sep 28, 2022 - Oct 04, 2022



**Week-2 Only**

**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 mean temperatures in the Upper third of the historical range*

**Below-Average Temperatures Probability**

>50% >65% >80%

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

Issued: 09/13/2022  
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.