



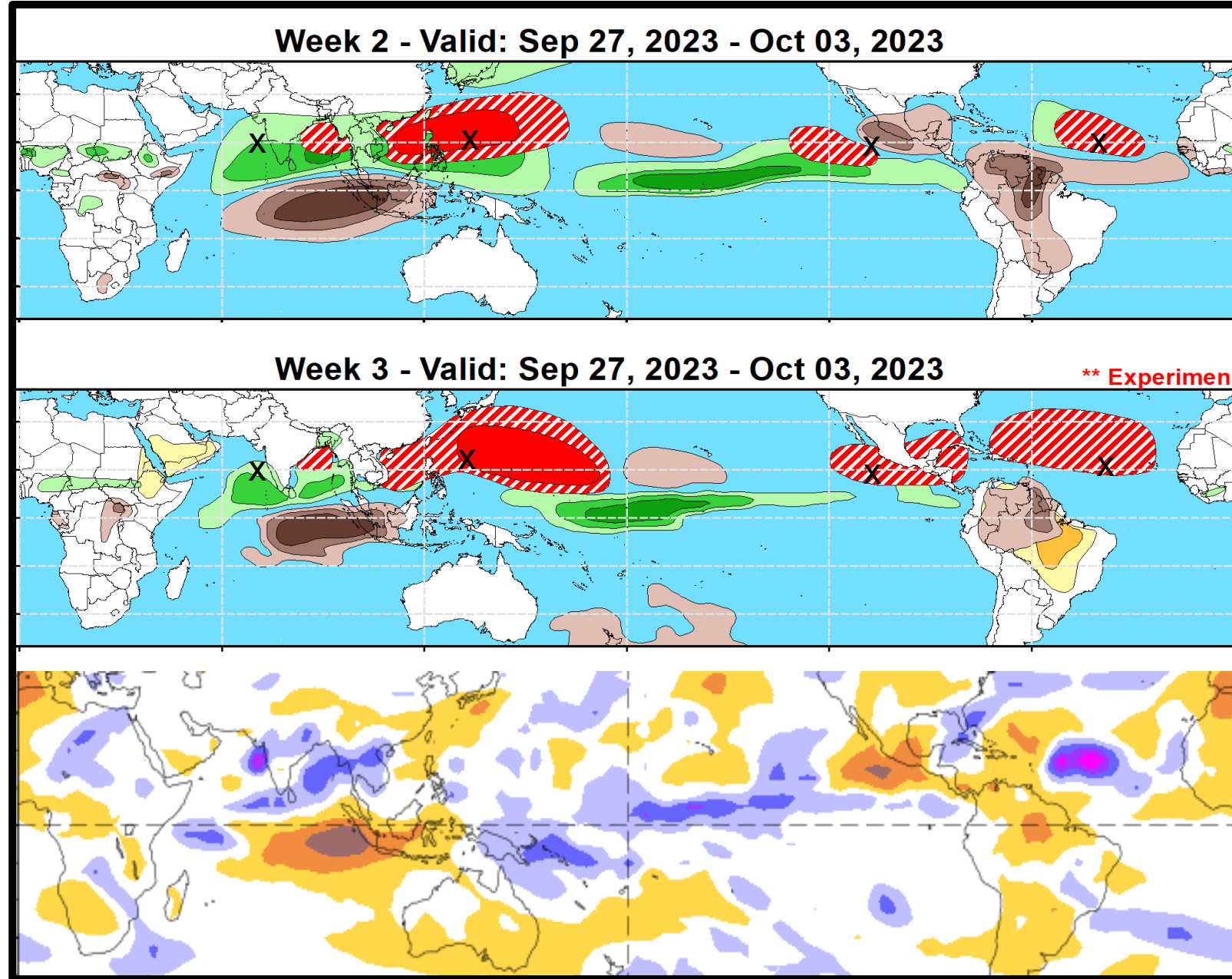
Weeks 2-3 Global Tropics Hazards Outlook

10/3/2023

Danny Barandiaran
NWS / NCEP / Climate Prediction Center

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

- TS Rina (9-28)
- Typhoon Koinu (9-28)
- ARB-02 (9-30)
- TS Lidia (10-3)



Synopsis of Climate Modes:

ENSO: (Sep 14, 2023 Update) *next update on Thursday, Oct 12th*

- ENSO Alert System Status: [El Niño Advisory](#)
- El Niño is anticipated to continue through the Northern Hemisphere winter, with greater than 95% chance through Jan-Mar, 2024.

MJO and other subseasonal tropical variability:

- The RMM-based MJO index remained inside the unit circle, with dynamical models depicting a more continued eastward propagation but at a weak amplitude during the next 2 weeks.
- Despite the weak RMM-based MJO signals, the upper-level velocity potential filtering depicts a much more coherent eastward propagating MJO signal from the Indian Ocean/Maritime Continent to the Western Hemisphere by mid-October.
- With the potential for MJO activity moving through the Western Hemisphere during weeks 2 and 3, probabilities of tropical cyclone (TC) activity are enhanced for the Eastern Pacific, while suppressed convection around the Maritime Continent will likely suppress TC genesis over the Western Pacific.

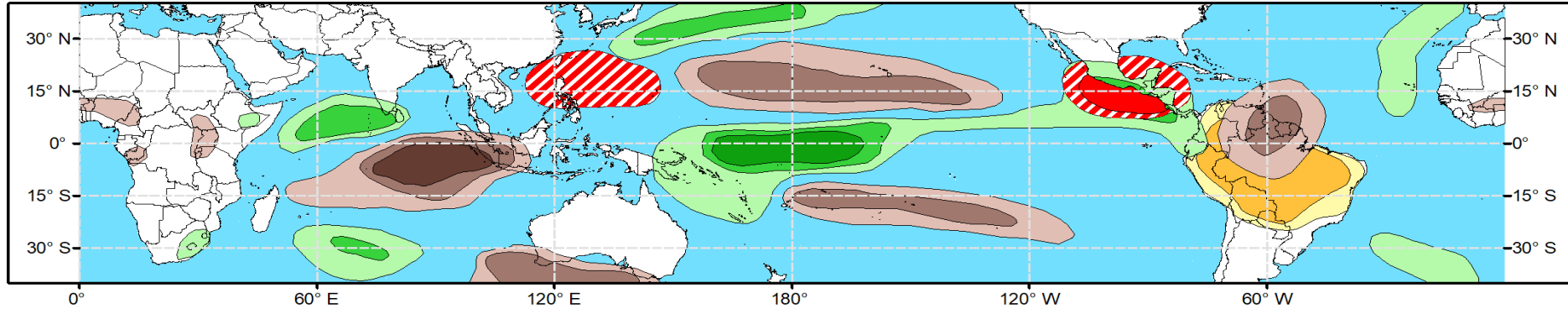
GTH Outlook:



Global Tropics Hazards Outlook Climate Prediction Center

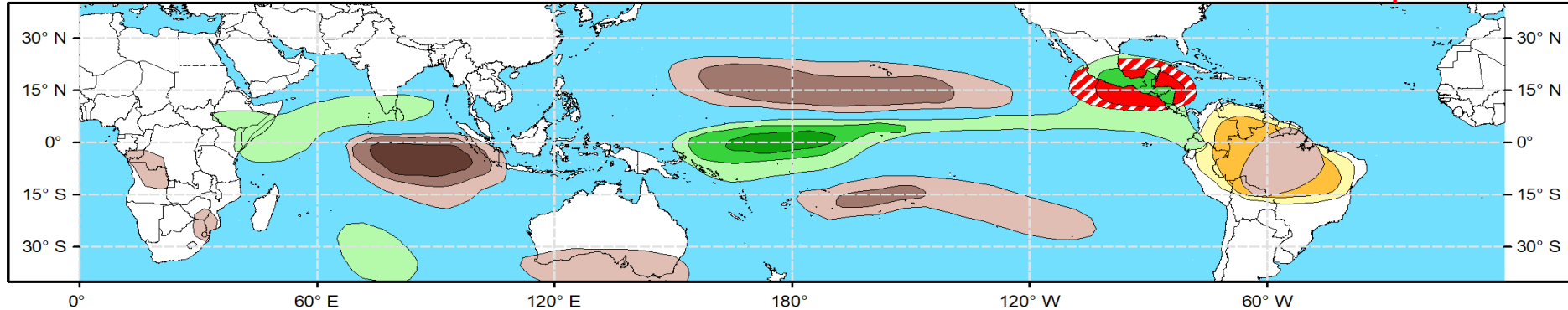


Week 2 - Valid: Oct 11, 2023 - Oct 17, 2023



Week 3 - Valid: Oct 18, 2023 - Oct 24, 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
Temperatures Probability**



>50% >65% >80%

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

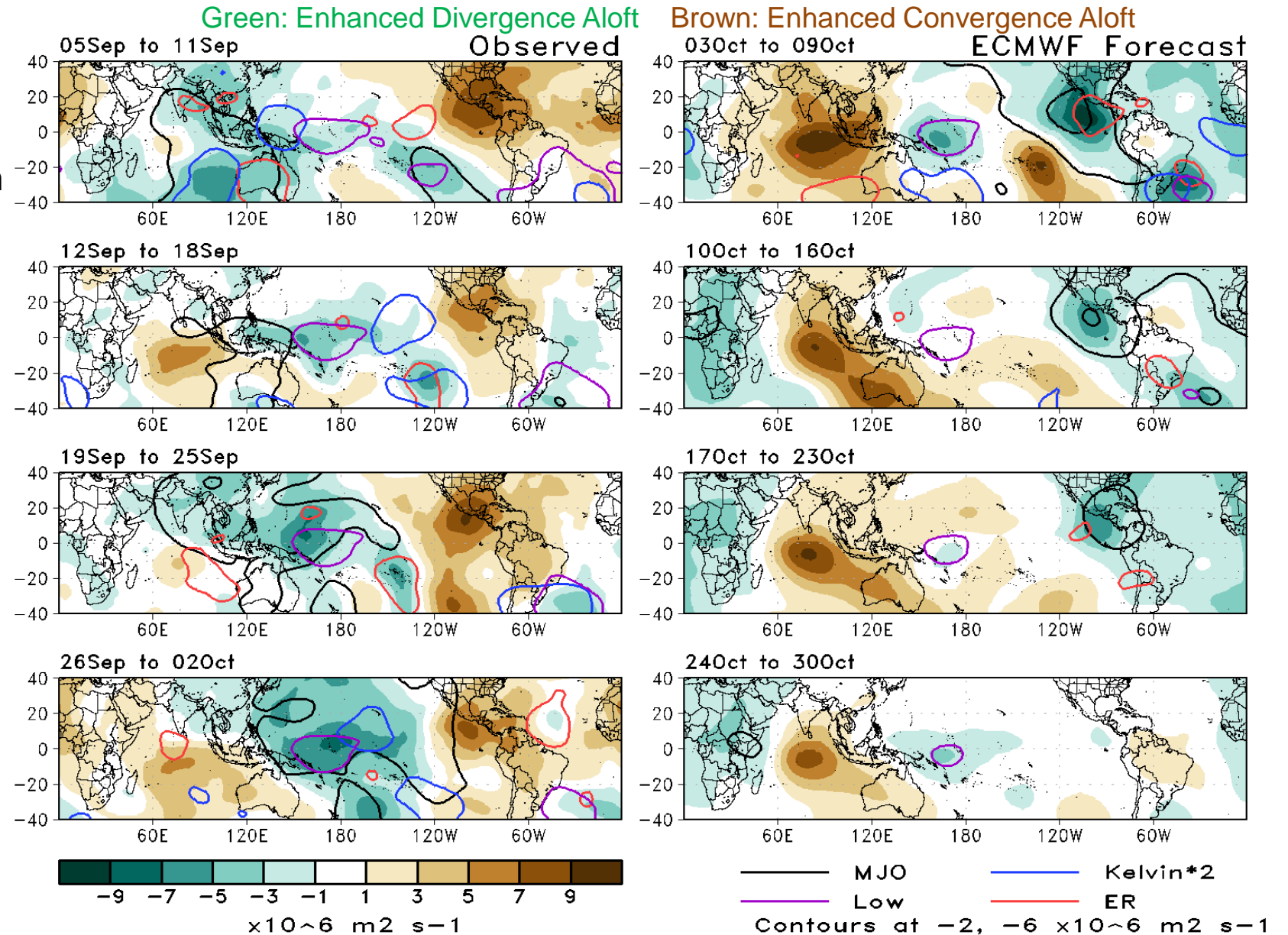
Issued: 10/03/2023

Forecaster: Barandiaran

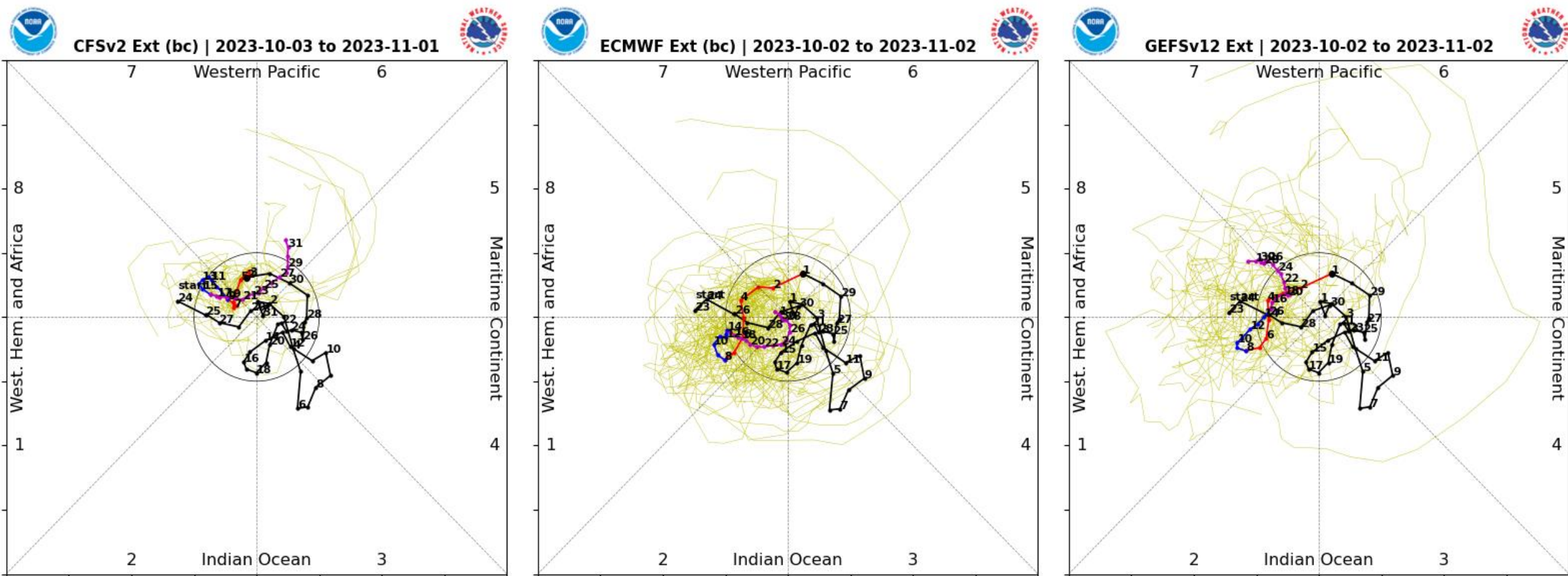
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Over the last month the MJO has become more coherent, with a wave-1 pattern becoming established.
- In the coming weeks the enhanced convective envelope is favored to move into the Western Hemisphere and linger for an extended period as eastward propagation progresses slowly.

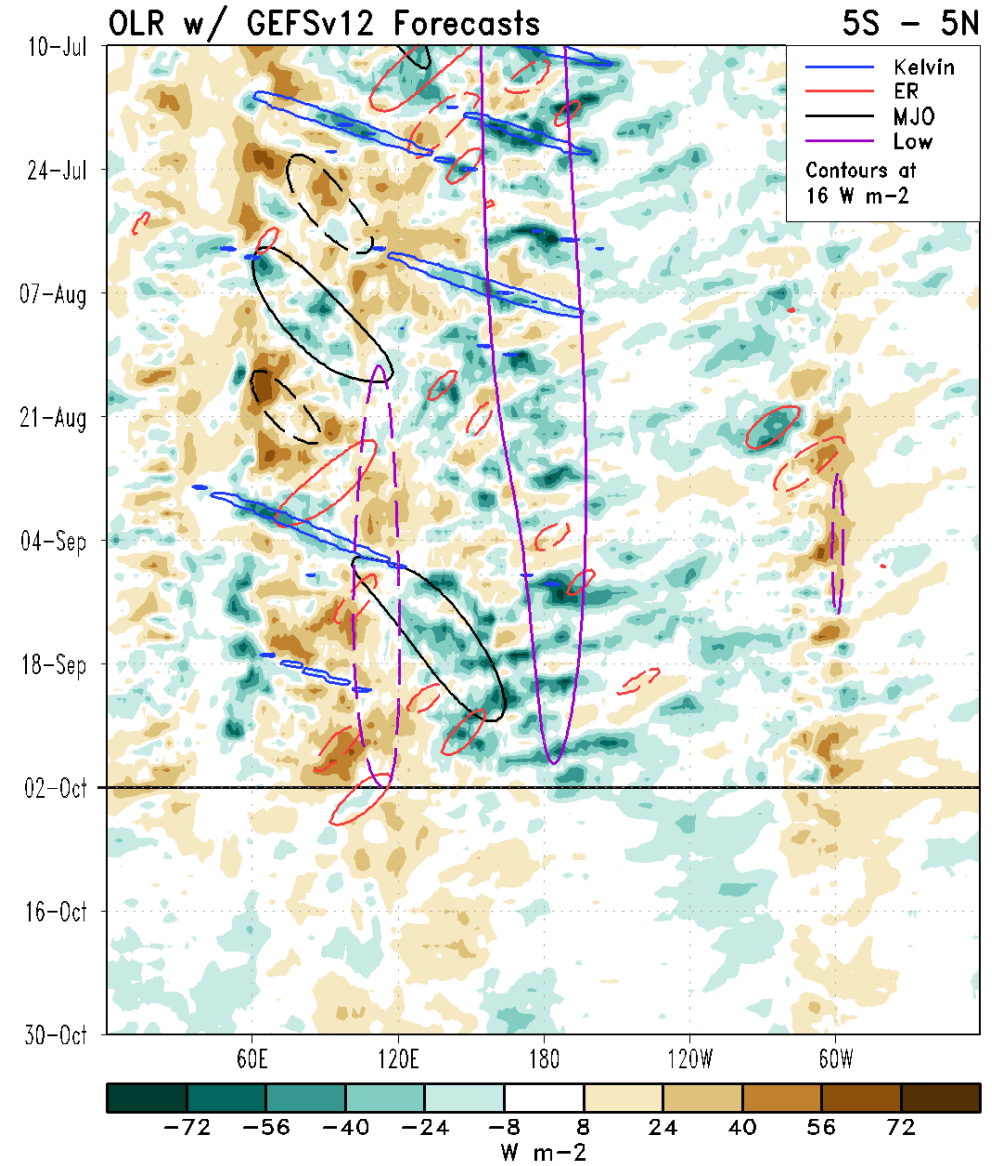
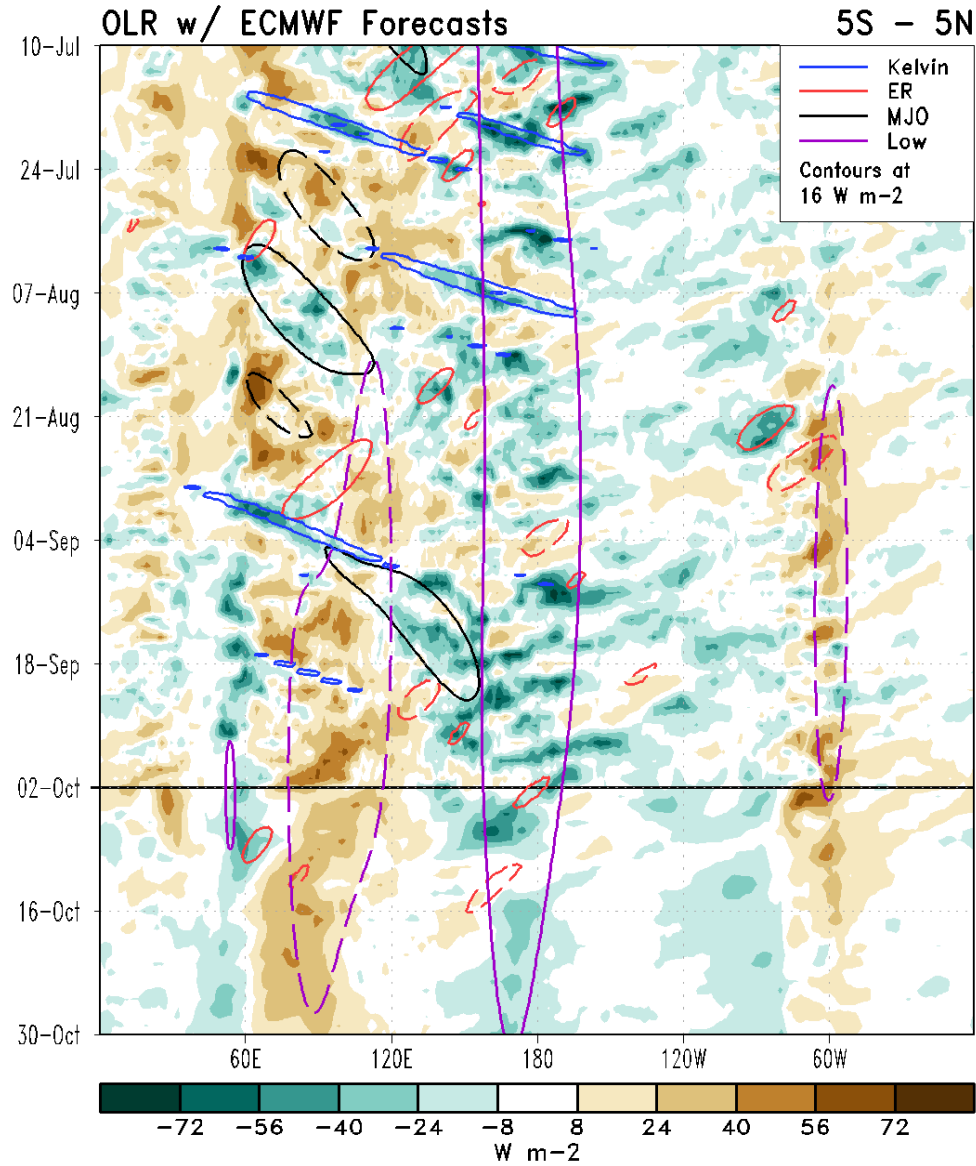


RMM Index Observations & Forecasts:



- Both the GFS and ECMWF model forecasts of the RMM-index generally depict a weak MJO, although there is a much more coherent depiction of eastward propagation of the MJO signal during the next 2 weeks.
- Both models (and others not shown) are in good agreement that the MJO is likely to be in phases 8 or 1 over much of the week 2-3 period.

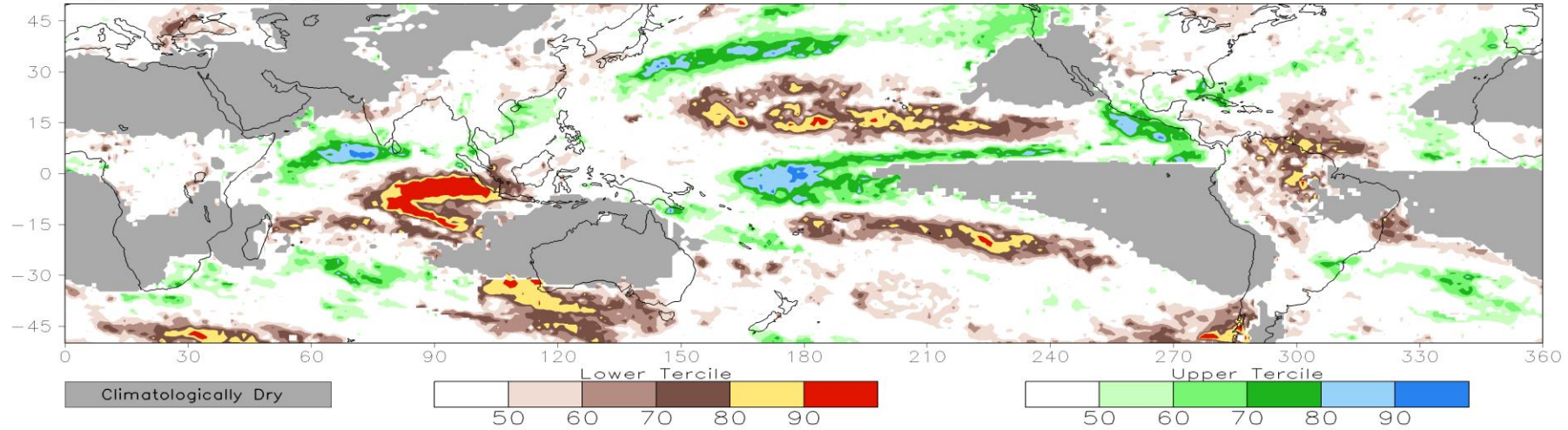
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

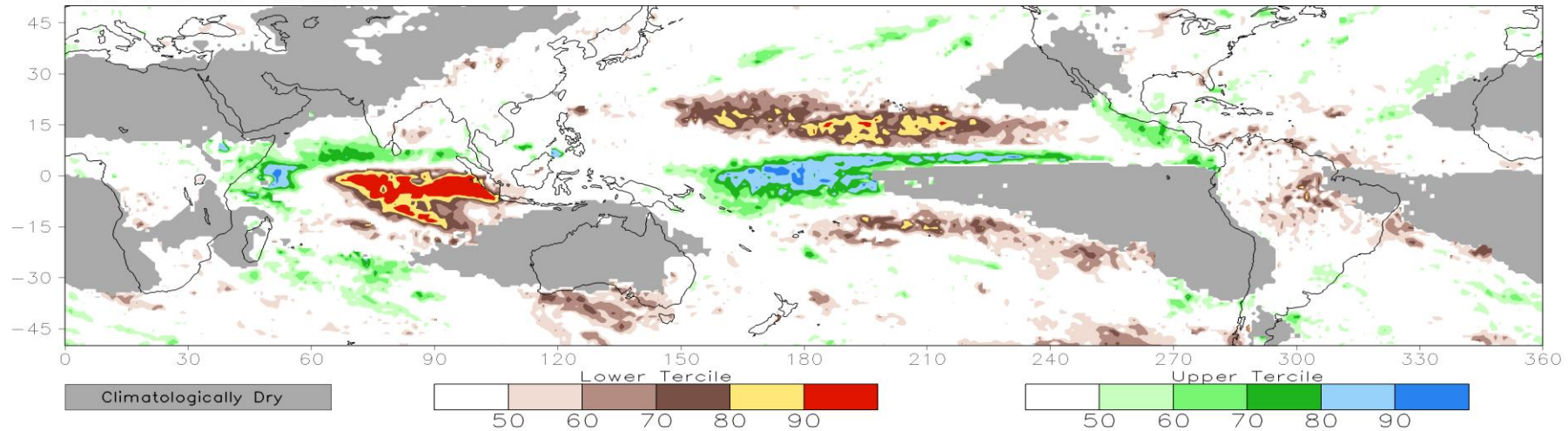
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 110Oct2023–170Oct2023



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

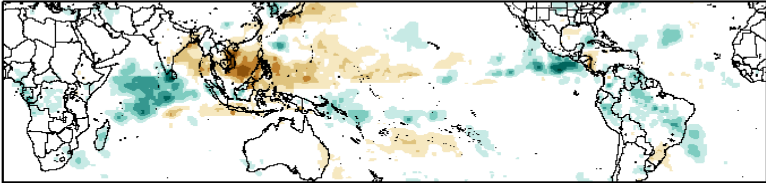
Valid: 180Oct2023–240Oct2023



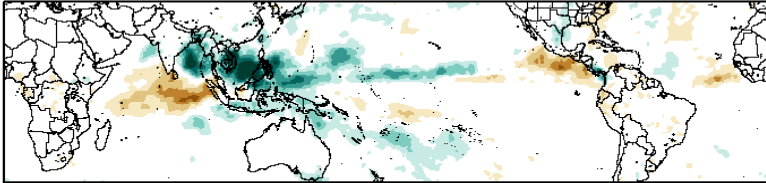
Historical Precipitation Anomalies By MJO Phase:

SON MJO Composite: GPCP1DD (mm/day)

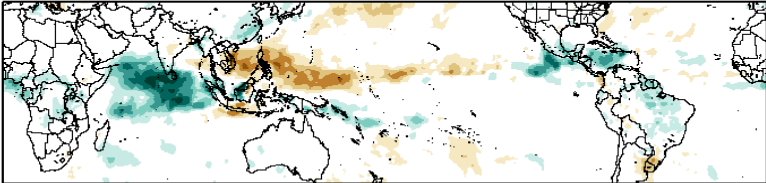
Phase 1



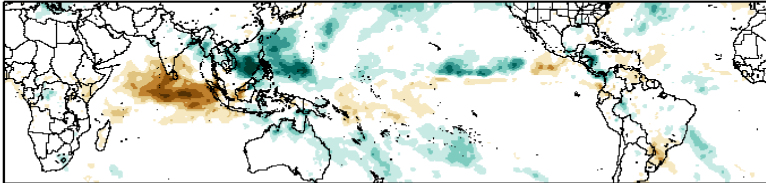
Phase 5



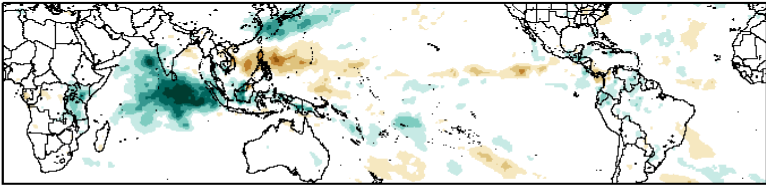
Phase 2



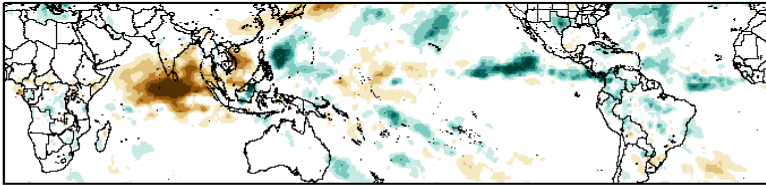
Phase 6



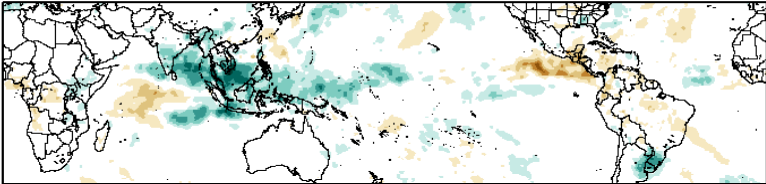
Phase 3



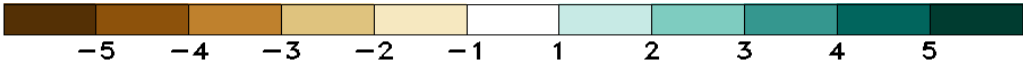
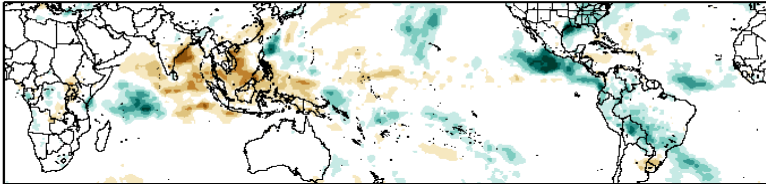
Phase 7



Phase 4

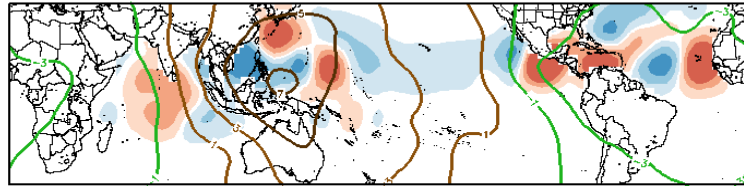


Phase 8

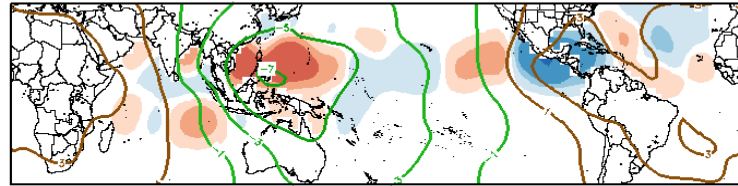


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

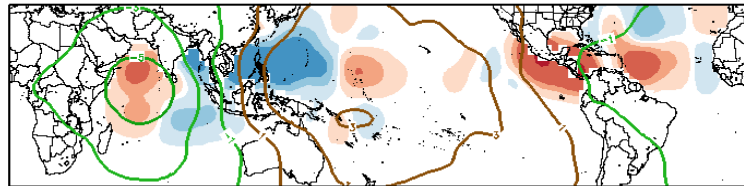
SON MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ SON CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



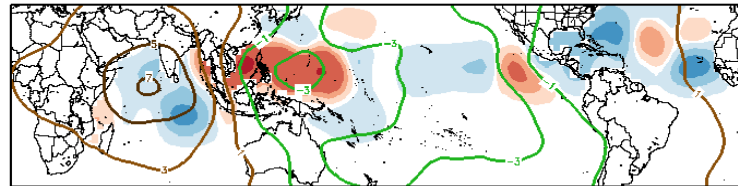
Phase 1



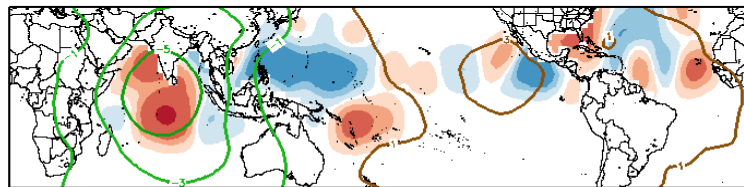
Phase 5



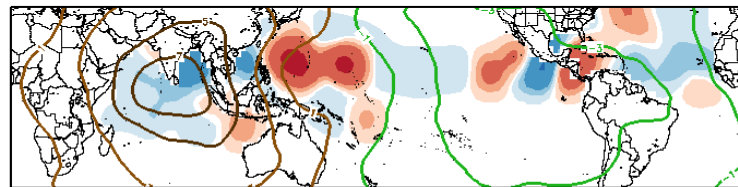
Phase 2



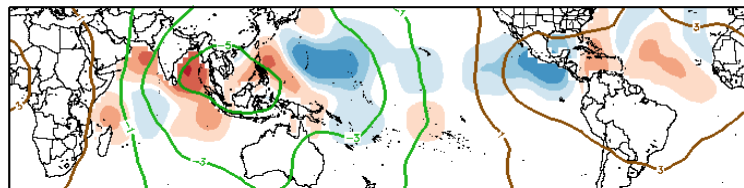
Phase 6



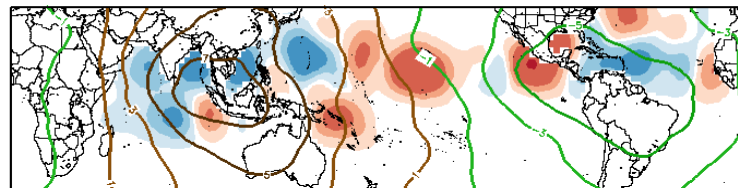
Phase 3



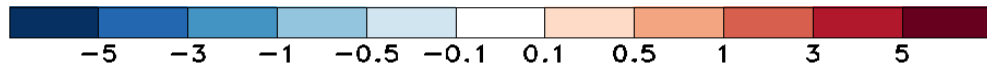
Phase 7



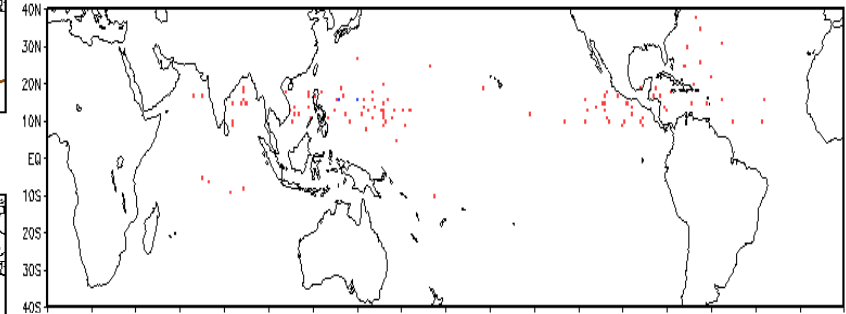
Phase 4



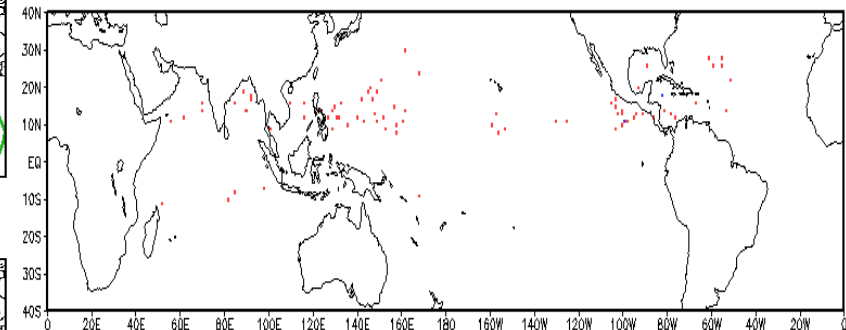
Phase 8



Observed TC Genesis, 1979-2021
7-day Period 1011 to 1017



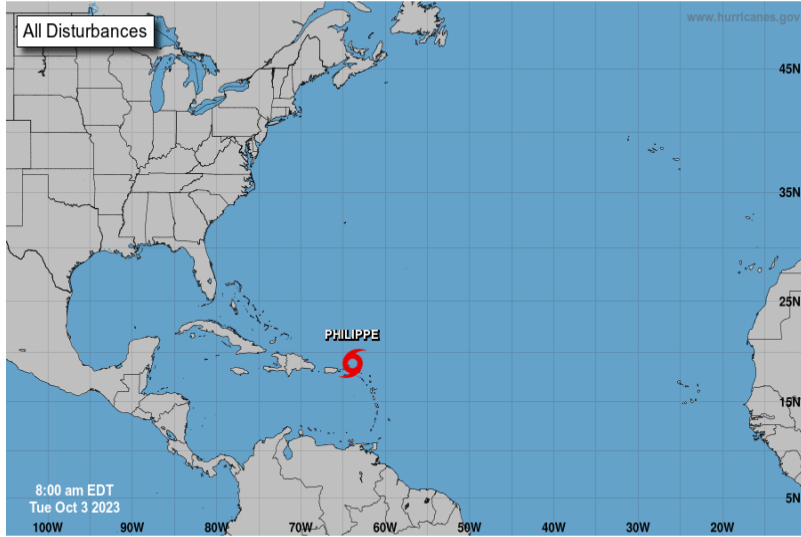
Observed TC Genesis, 1979-2021
7-day Period 1018 to 1024





Experimental

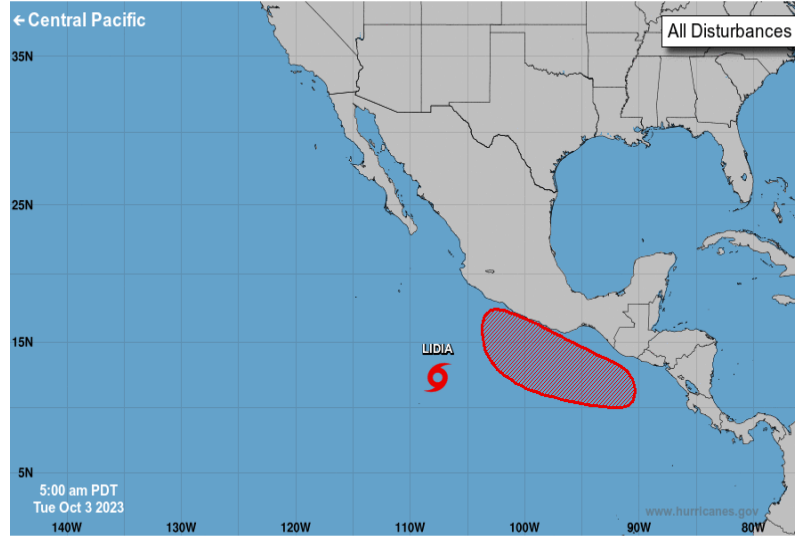
Tropical Cyclone Monitoring/Forecast: NHC / CPHC


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





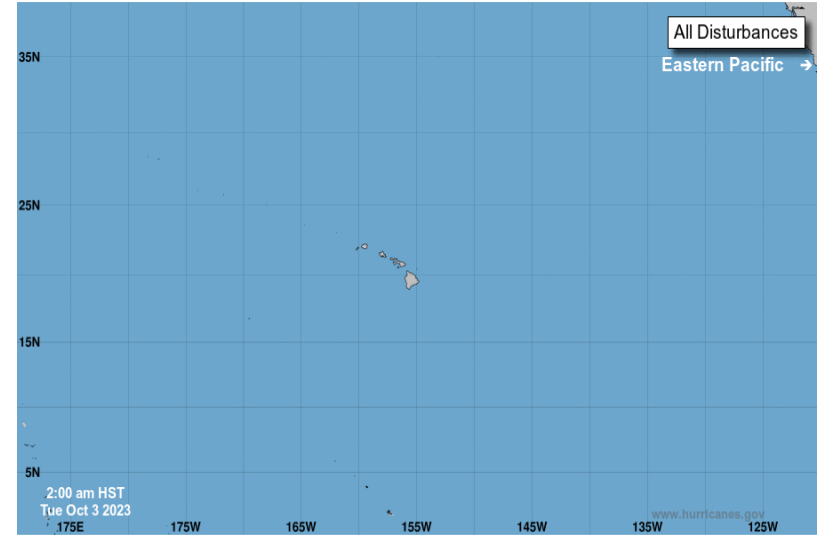
Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants









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


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

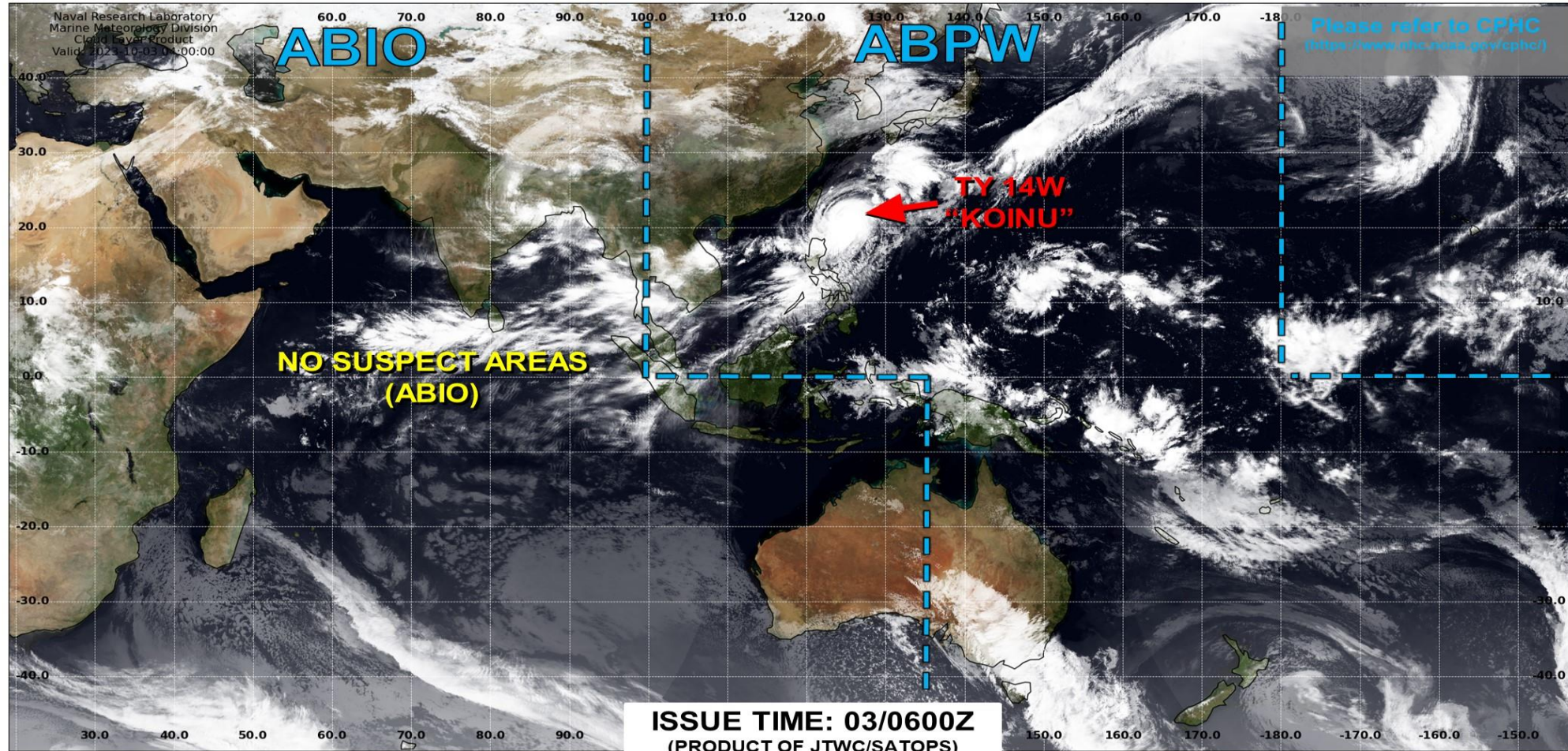


Current Disturbances and Seven-Day Cyclone Formation Chance:  < 40%  40-60%  > 60%
 Tropical or Sub-Tropical Cyclone:  Depression  Storm  Hurricane
 Post-Tropical Cyclone or Remnants

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)



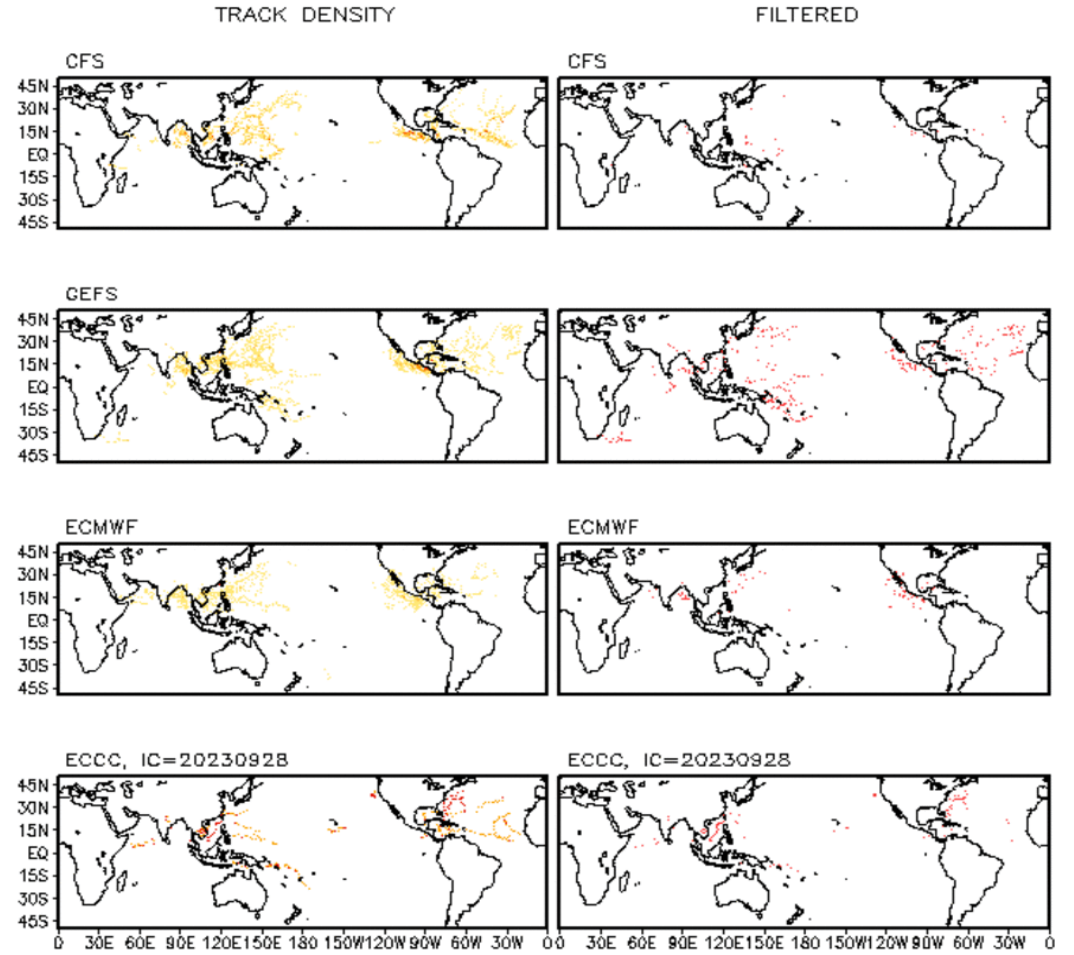
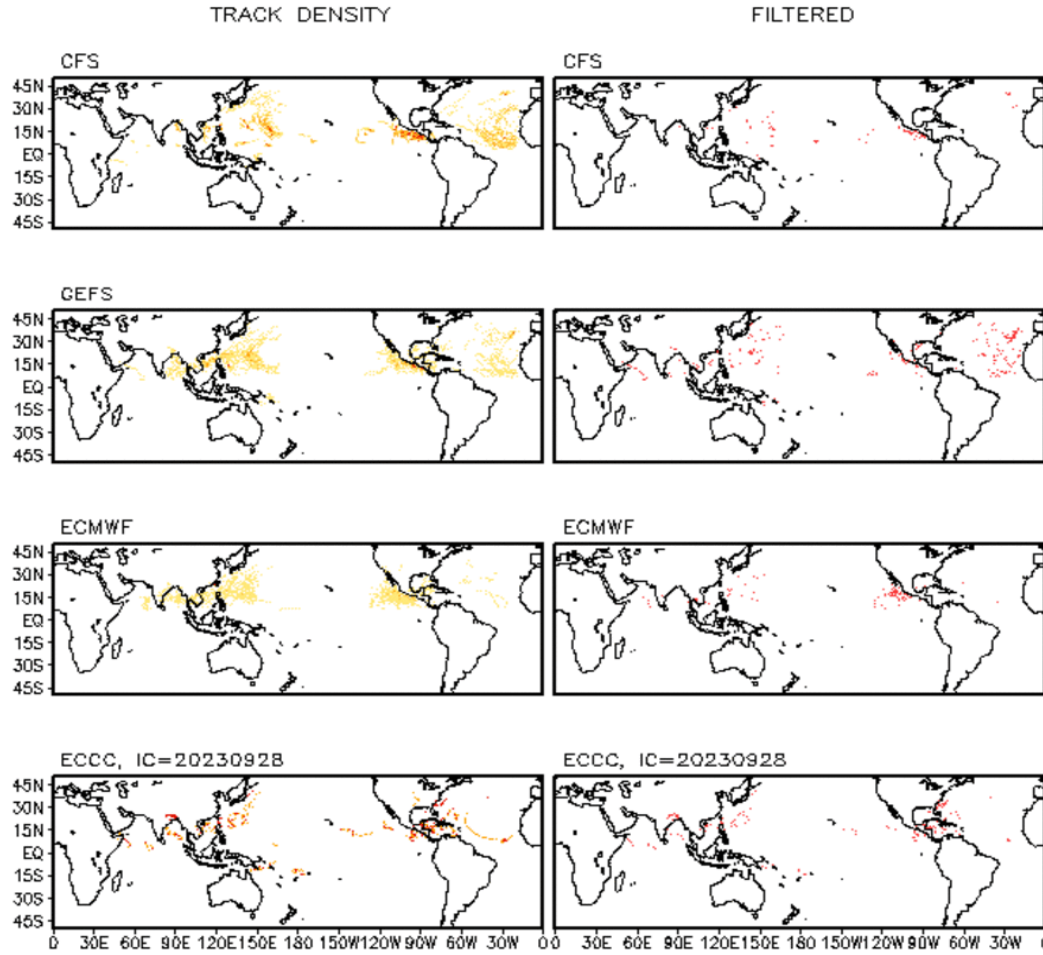
SUB TROPICAL Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

Tropical Cyclone (Reference Warning)

Multi-Model TC Track Densities: Weeks 2+3

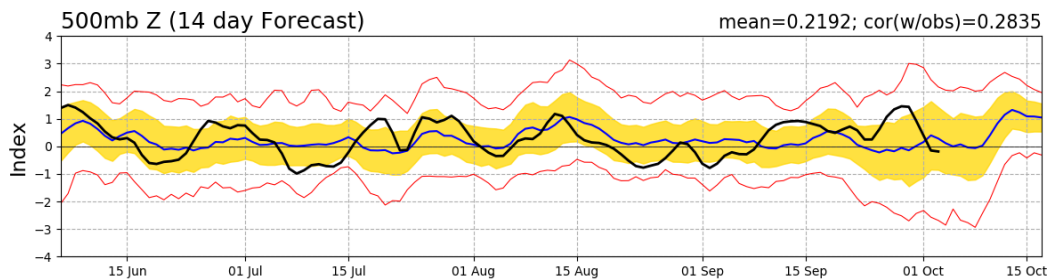
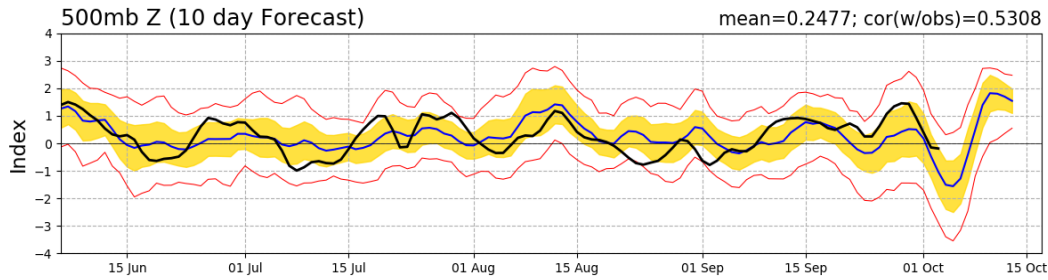
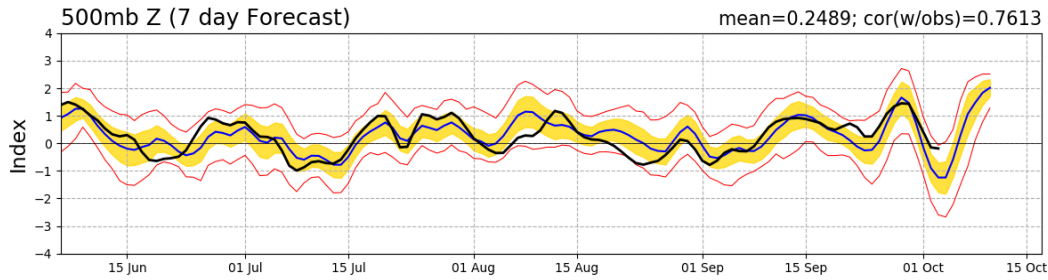
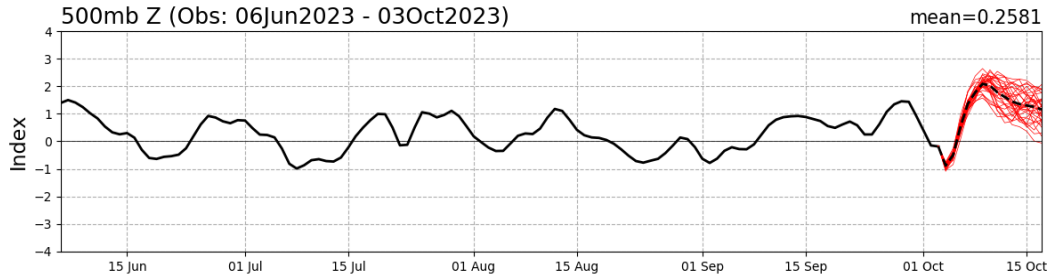
Storm Track Density Distribution, IC=20231002
Week 2 Forecast: 1011–1017

Storm Track Density Distribution, IC=20231002
Week 3 Forecast: 1018–1024

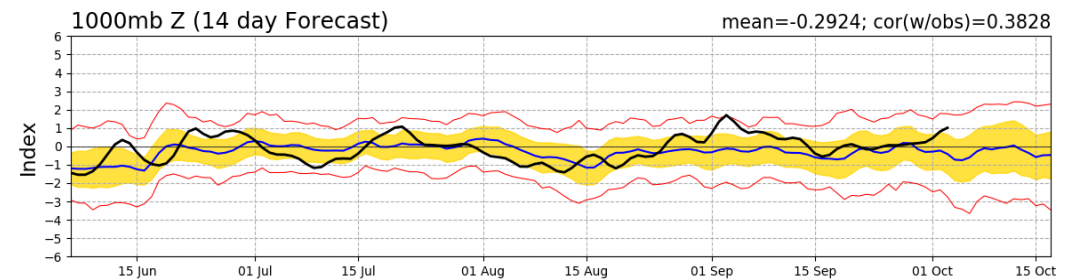
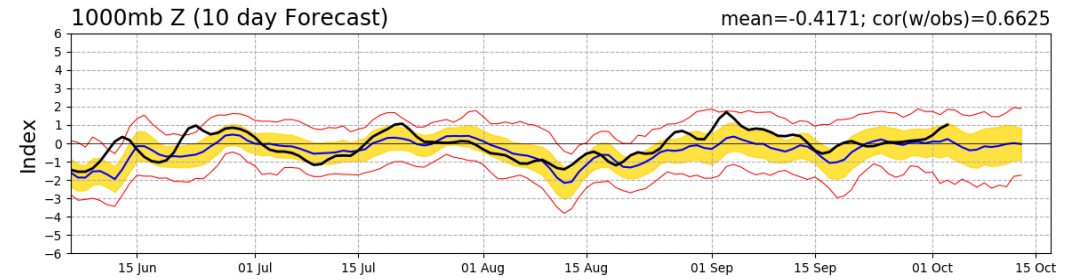
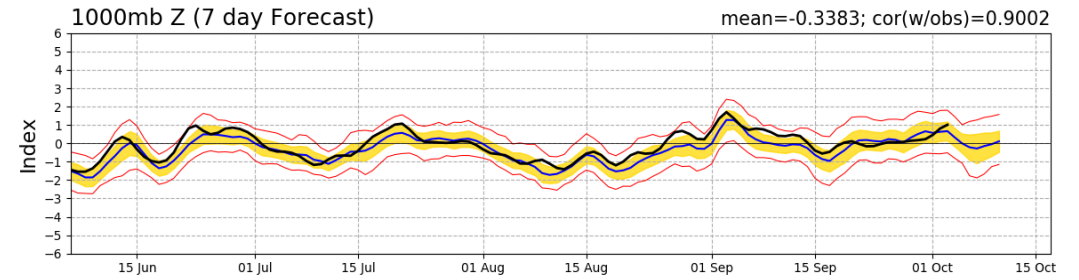
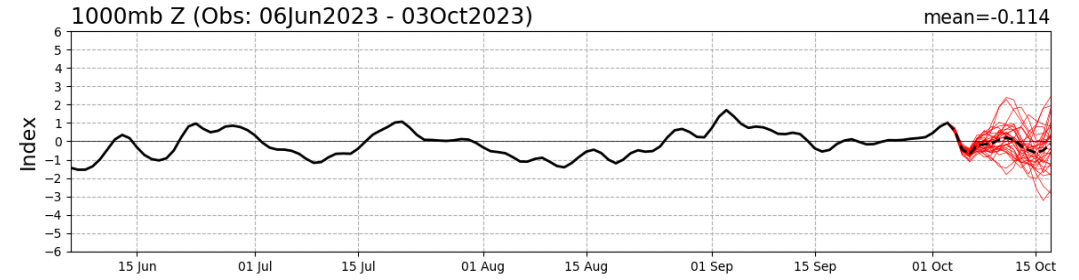


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

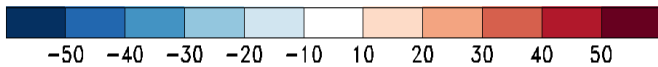
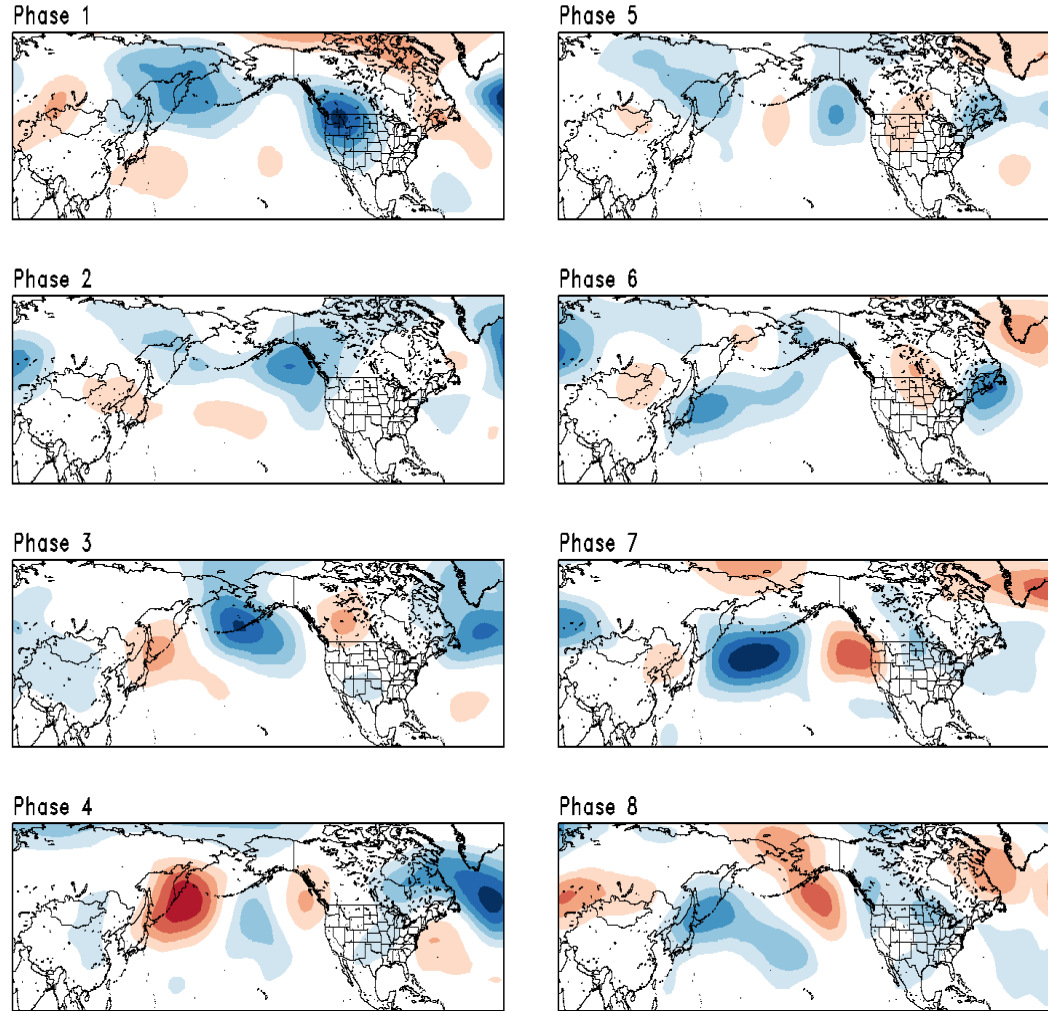


AO Index: Observed & GEFS Forecasts

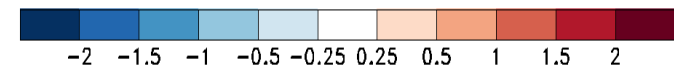
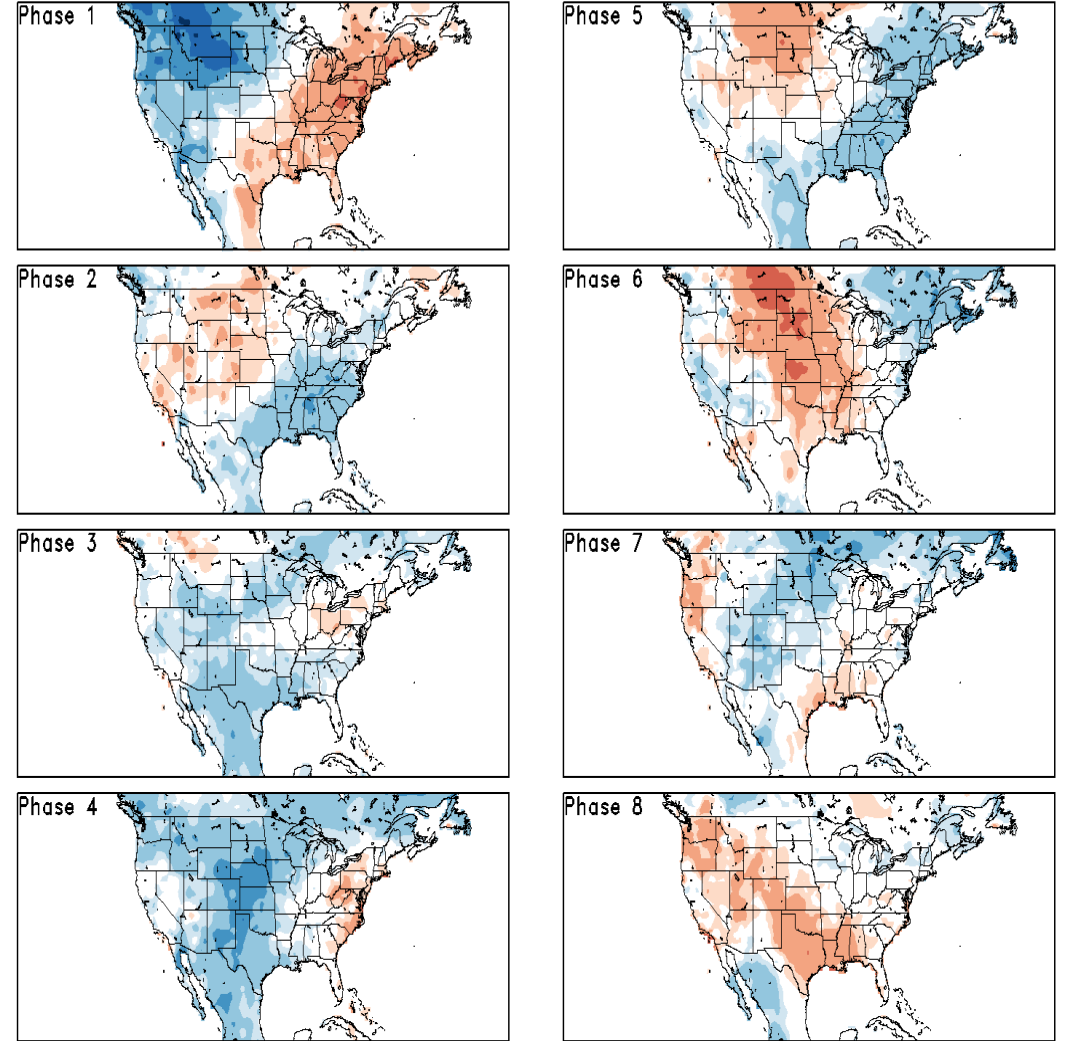


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

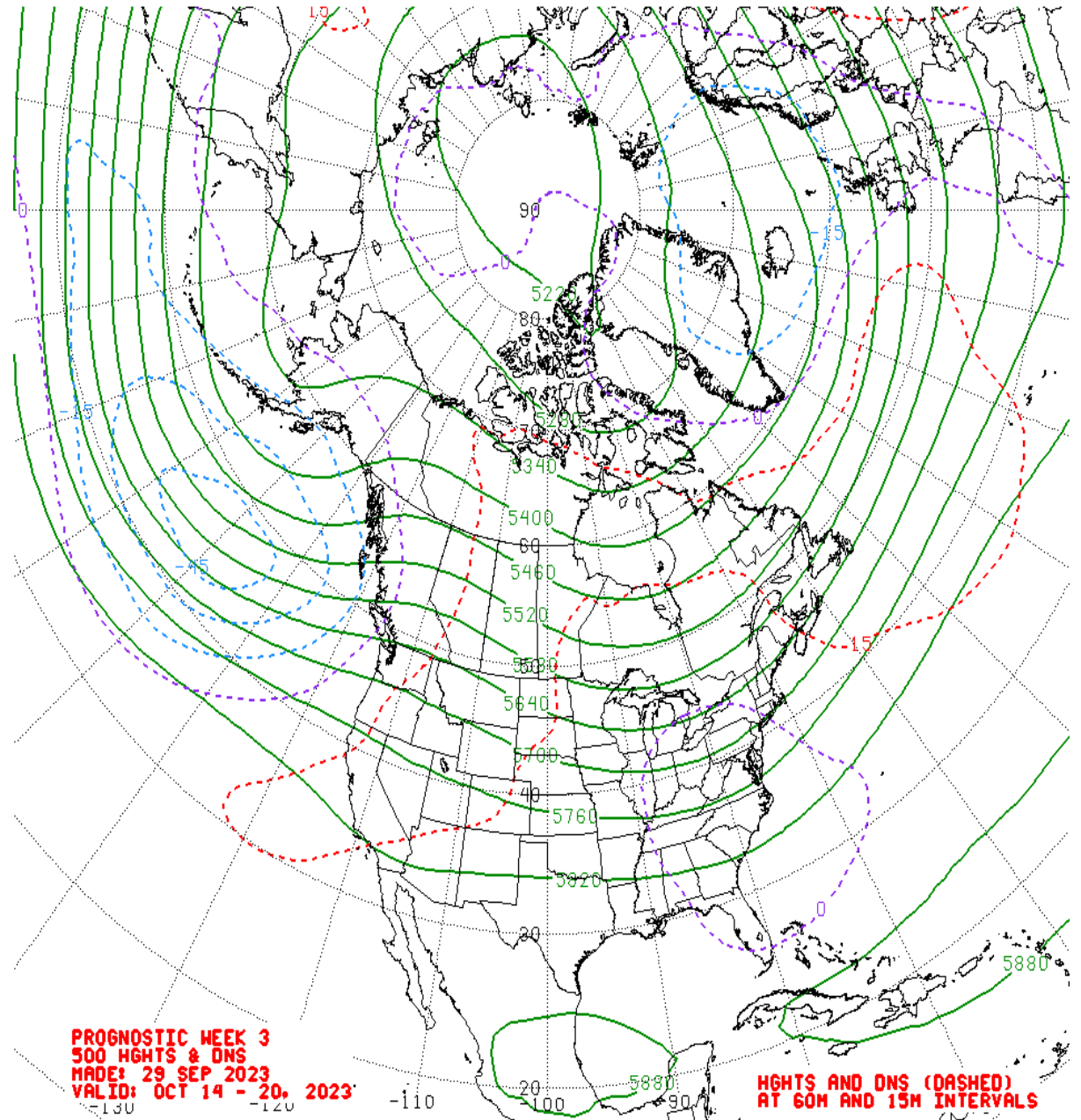
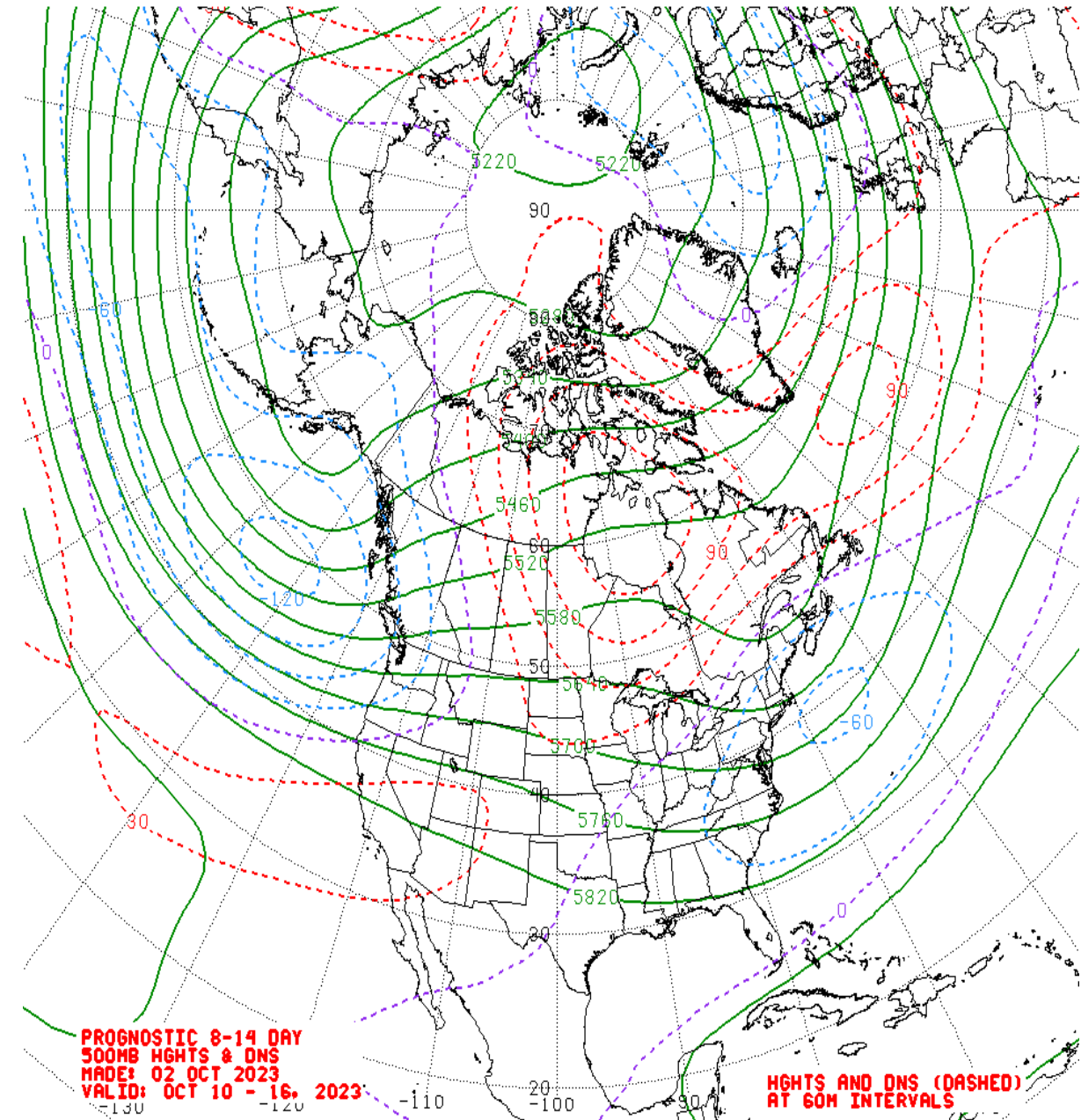
SON MJO Composite: CDAS 500-hPa Height (m)



SON MJO Composite: GLBT (degC)



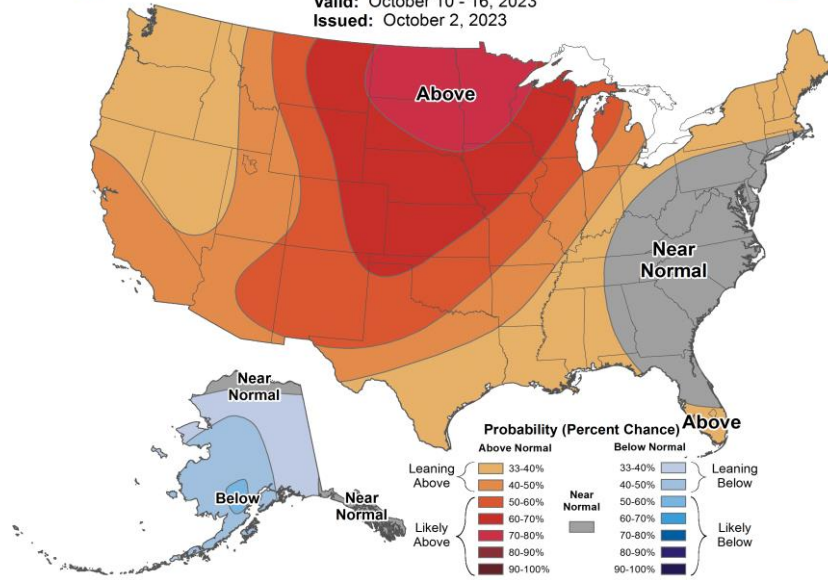
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3



Official Temperature & Precipitation Forecasts:

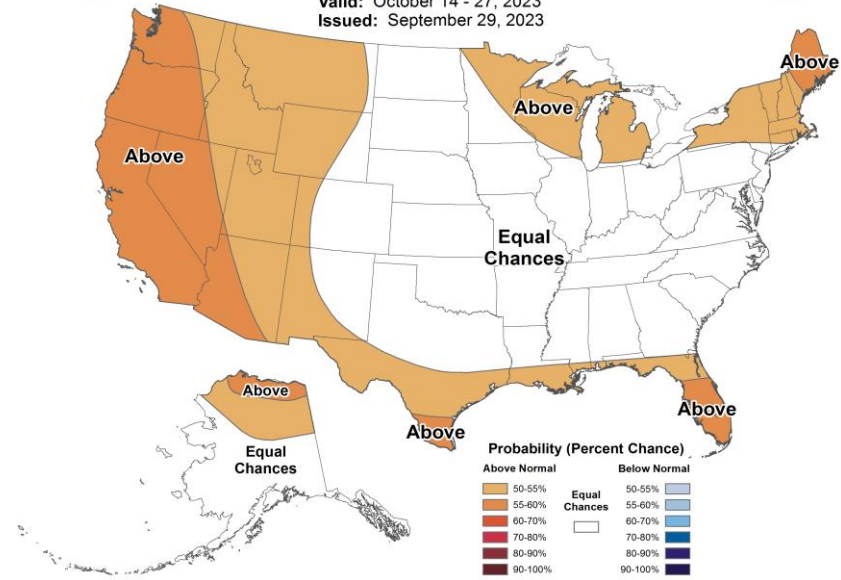
8-14 Day Temperature Outlook

Valid: October 10 - 16, 2023
Issued: October 2, 2023



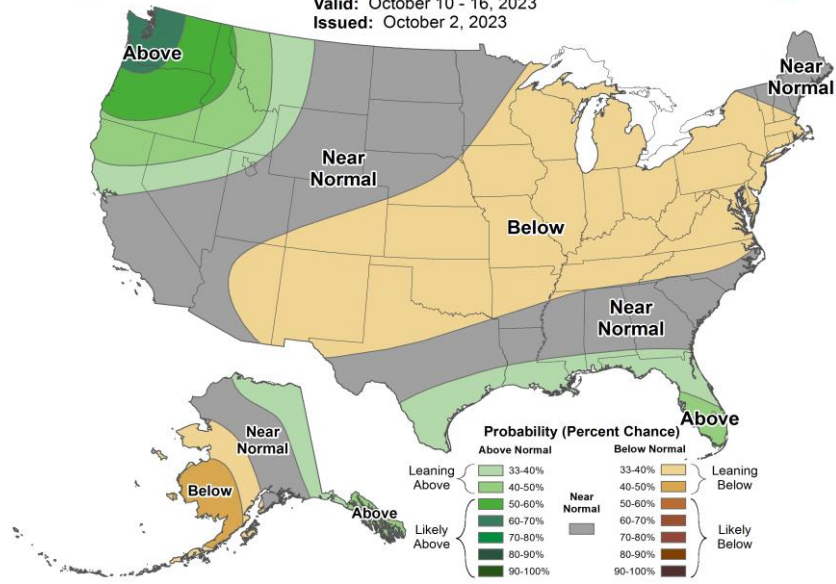
Weeks 3-4 Temperature Outlook

Valid: October 14 - 27, 2023
Issued: September 29, 2023



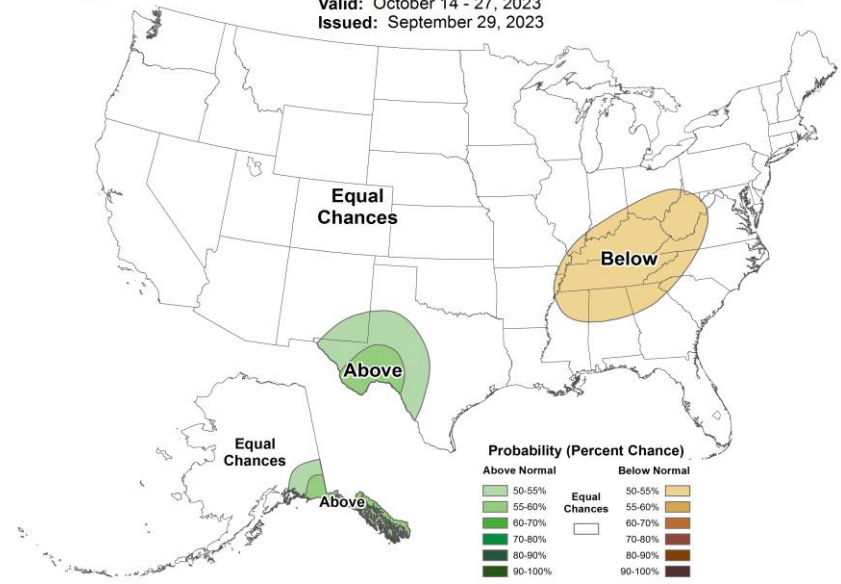
8-14 Day Precipitation Outlook

Valid: October 10 - 16, 2023
Issued: October 2, 2023



Weeks 3-4 Precipitation Outlook

Valid: October 14 - 27, 2023
Issued: September 29, 2023



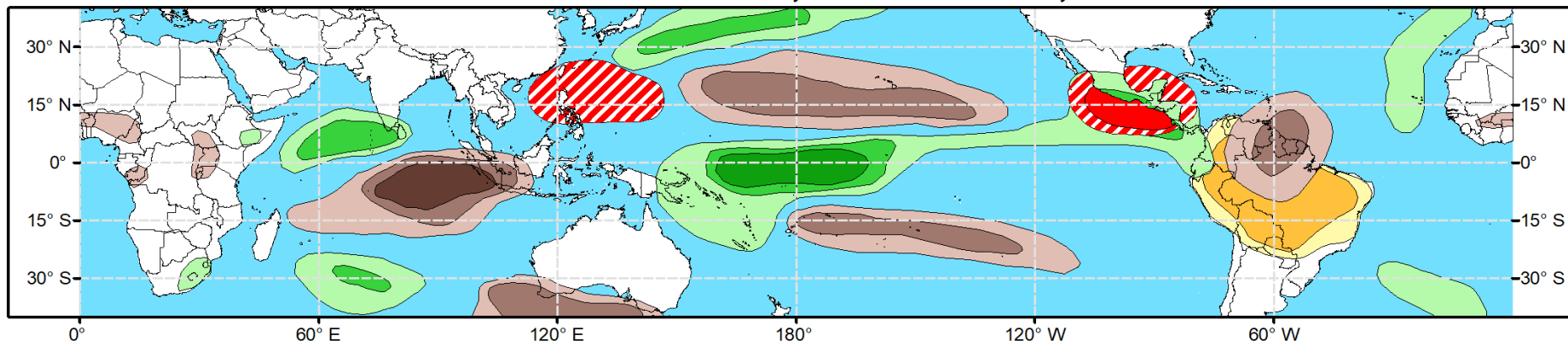


Global Tropics Hazards Outlook

Climate Prediction Center

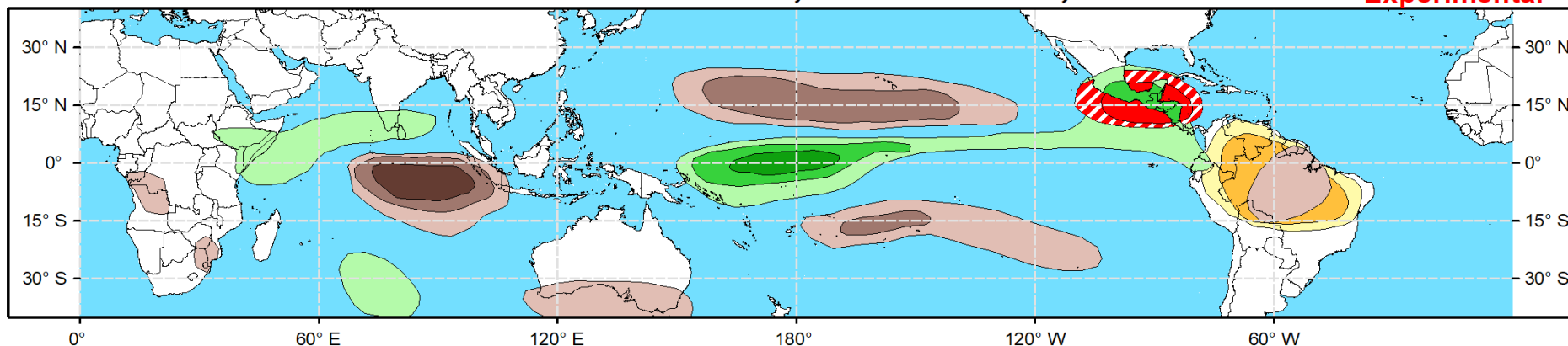


Week 2 - Valid: Oct 11, 2023 - Oct 17, 2023



Week 3 - Valid: Oct 18, 2023 - Oct 24, 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
Temperatures Probability**



>50% >65% >80%

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

Issued: 10/03/2023

Forecaster: Barandiaran

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.