



Weeks 2-3 Global Tropics Hazards Outlook

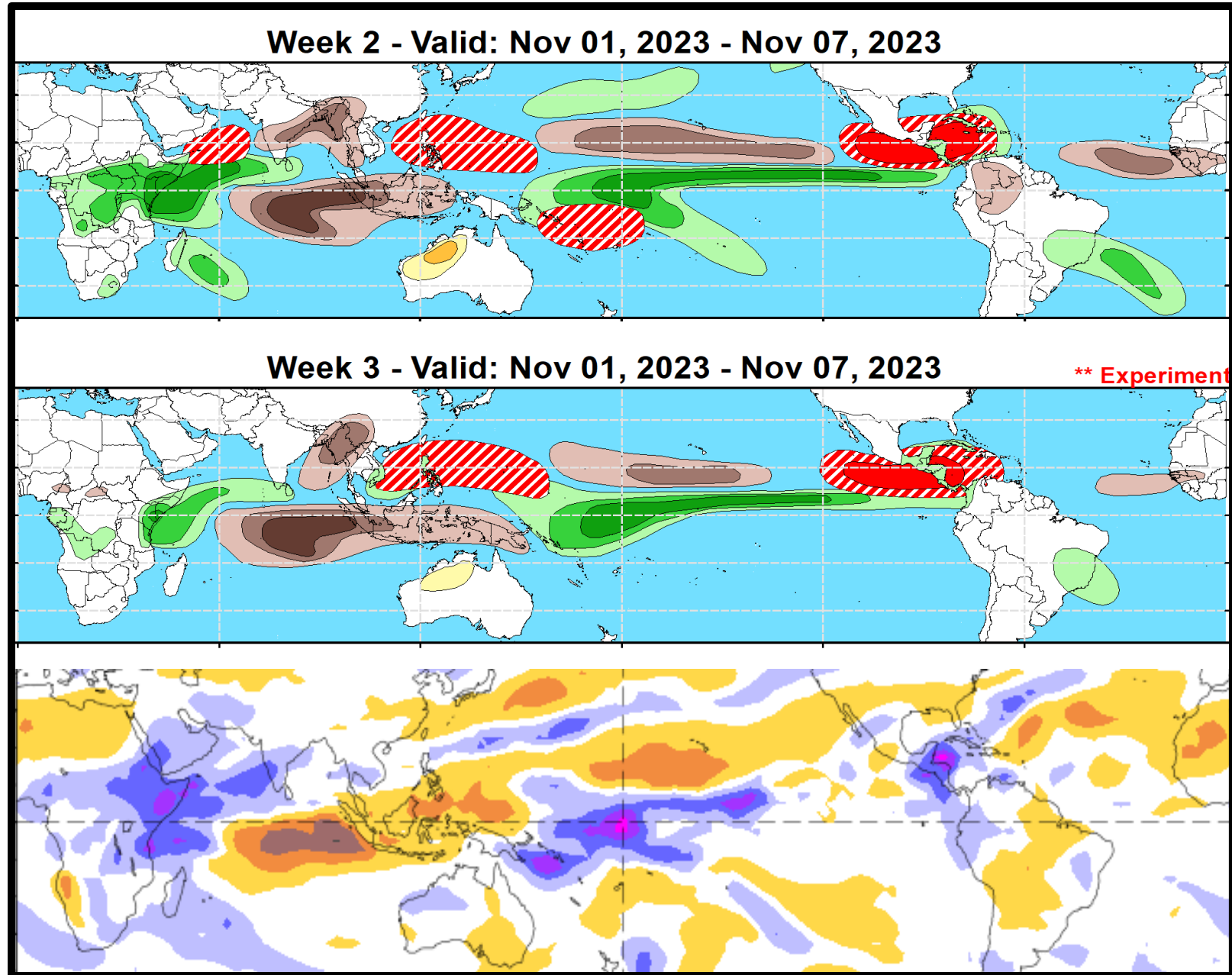
11/7/2023

Adam Allgood

NWS / NCEP / Climate Prediction Center

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

- No new tropical cyclones have formed globally since the start of November.
- CAG has been increasingly active, but no TCs formed in association with it.
- Wet/dry forecasts related to ENSO and the +IOD have been verifying well.



Synopsis of Climate Modes:

ENSO: (Oct 12, 2023 Update) *next update on Thursday, Nov 9th*

- ENSO Alert System Status: [El Niño Advisory](#)
- El Niño is anticipated to continue through the Northern Hemisphere spring (with an 80% chance during March-May 2024).

MJO and other subseasonal tropical variability:

- Other than ENSO (and perhaps moreso), the tropical convective pattern has been primarily influenced by a strongly positive phase of the Indian Ocean Dipole (+IOD).
- Some fast propagating subseasonal activity was observed, with the enhanced convective phase crossing the Western Hemisphere last week and entering the western Indian Ocean Basin.
- A renewed eastward propagating signal is favored to develop over the Pacific in late Week-1. This signal, in conjunction with ongoing Rossby wave activity, favors the development of an unusually strong westerly wind burst northeast of New Guinea.
- WWB and ERW activity may promote TC formations over the NW Pacific, Bay of Bengal, and Arabian Sea (Week-3)

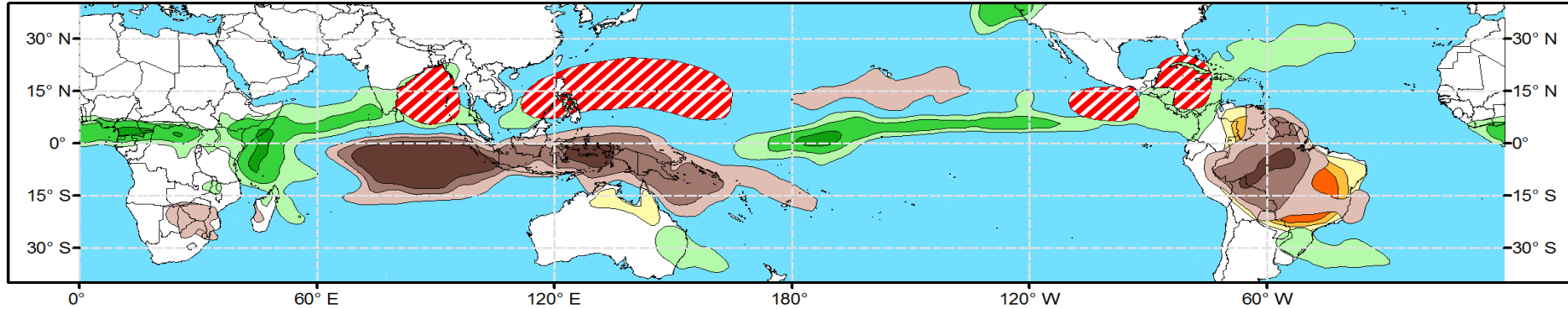
GTH Outlook:



Global Tropics Hazards Outlook Climate Prediction Center

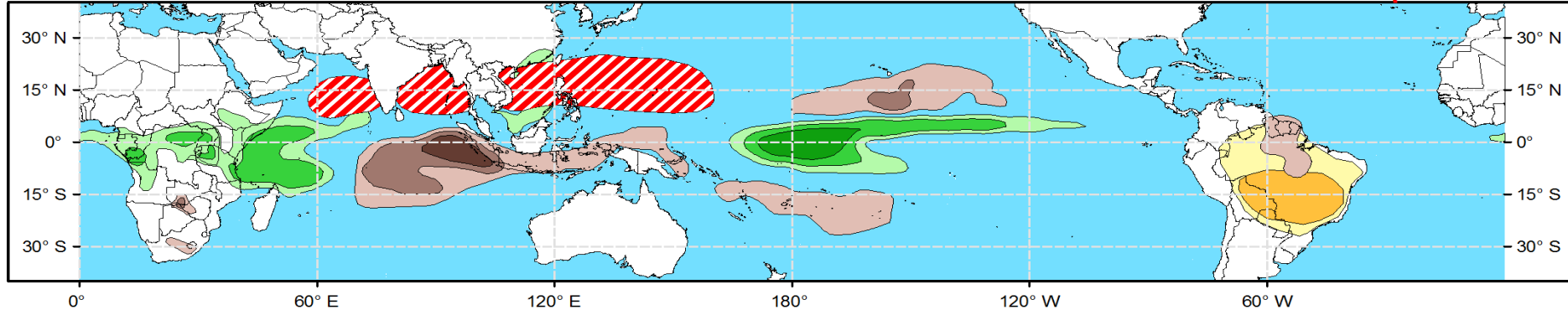


Week 2 - Valid: Nov 15, 2023 - Nov 21, 2023



Week 3 - Valid: Nov 22, 2023 - Nov 28, 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

**Below-Average
Temperatures Probability**



>50% >65% >80%

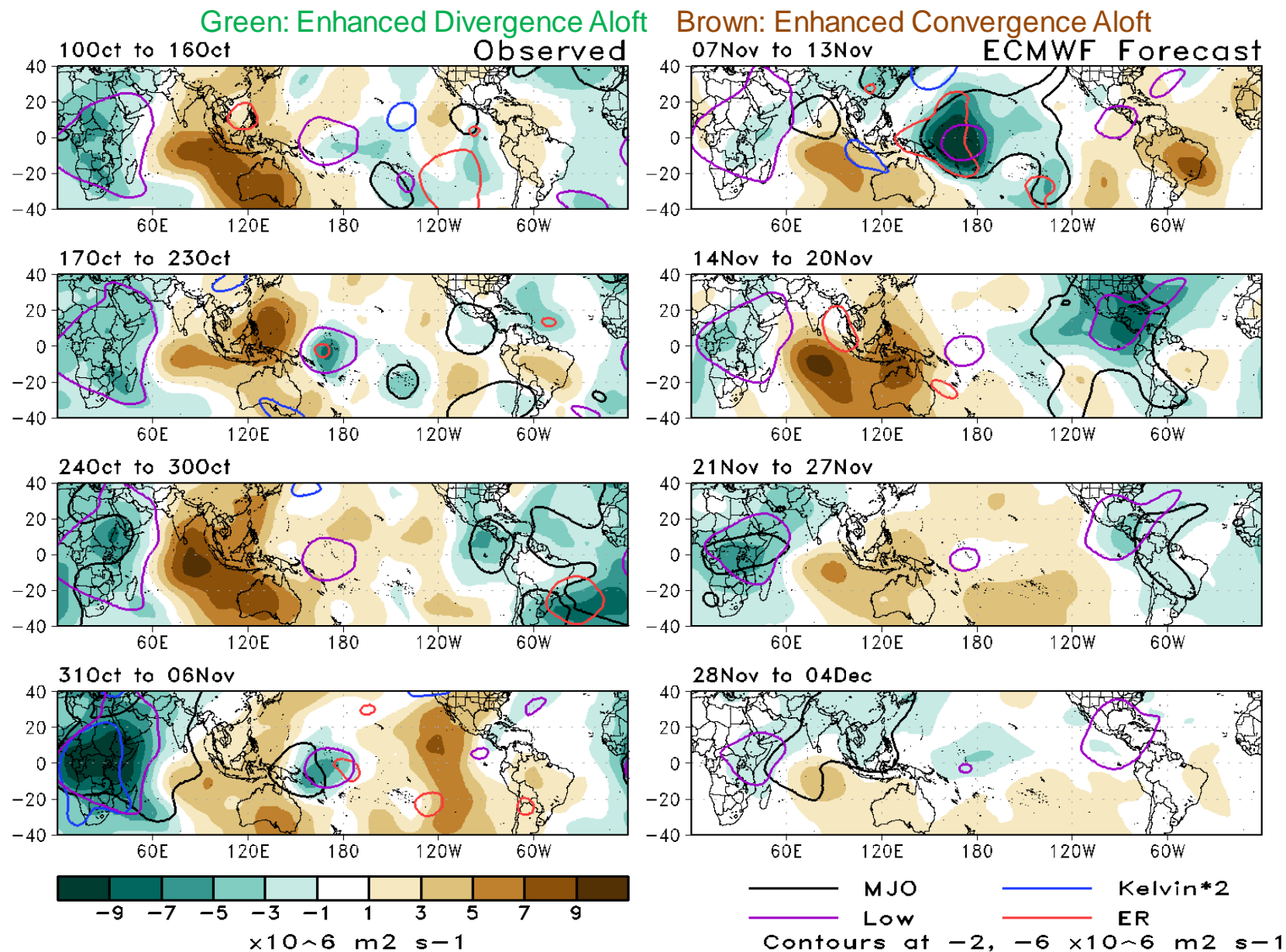
7-day min temperatures in the
Lower third of the historical range

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Forecaster: Allgood

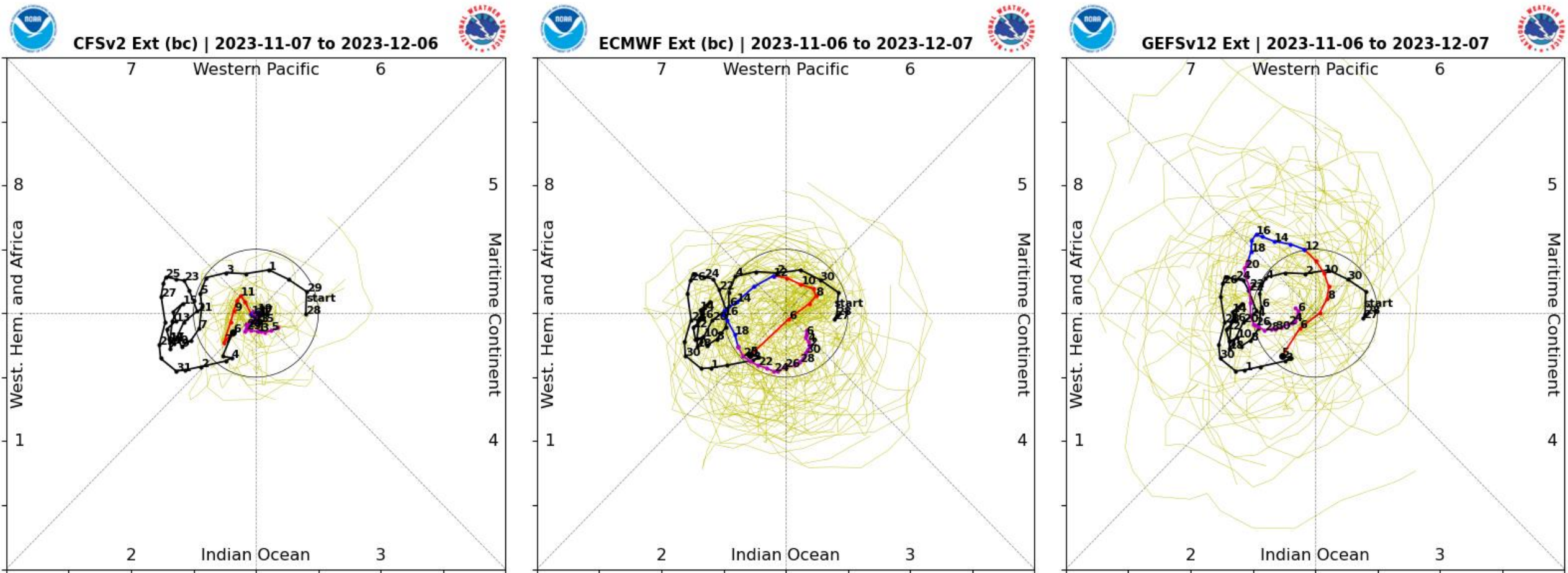
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200-hPa Velocity Potential Anomaly Maps:

- +IOD activity has had the strongest footprint in the upper-level VP field.
- Some eastward propagation of an intraseasonal signal is apparent in the upcoming weeks.
- The stationary low frequency signals are favored to remain the primary influencers of tropical convective anomalies.

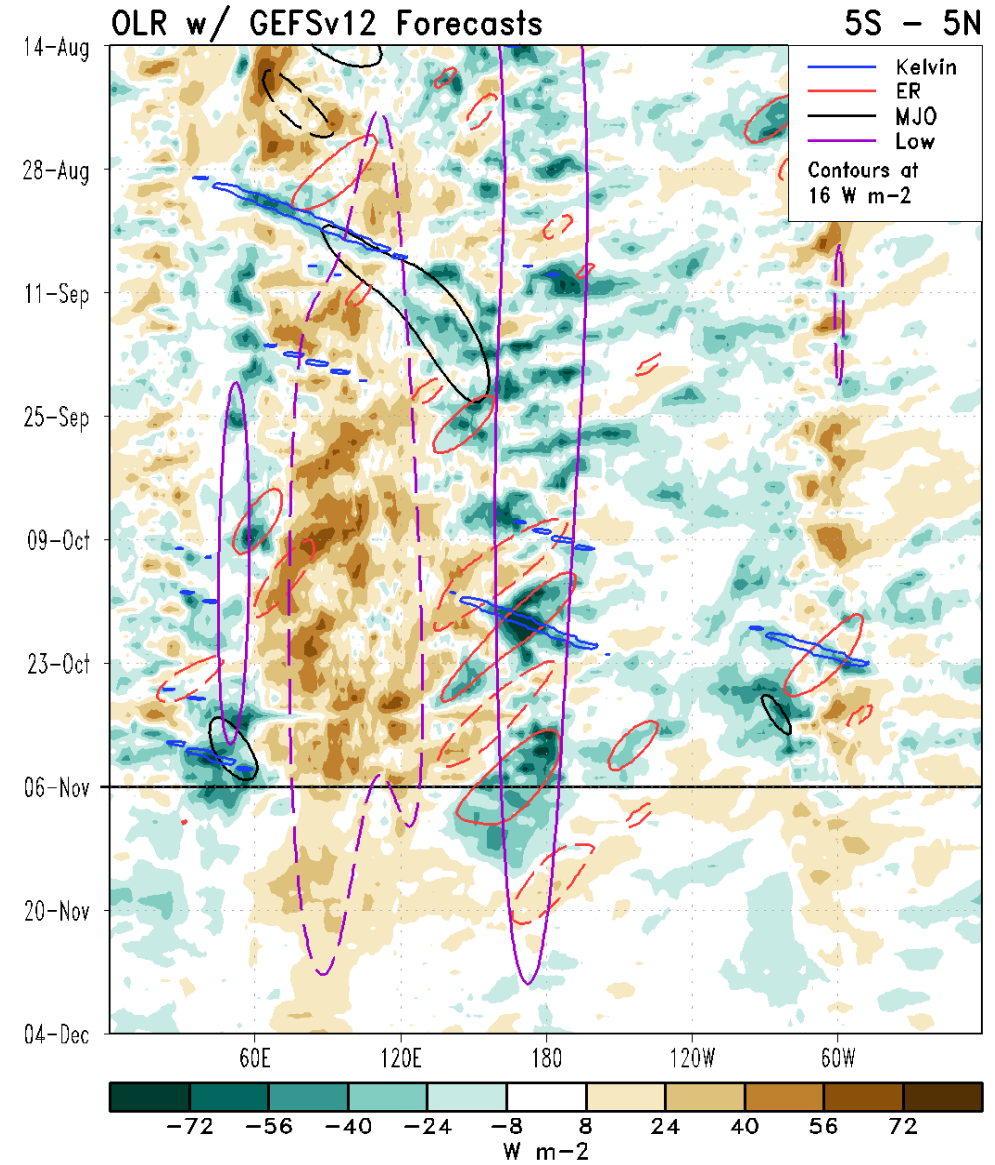
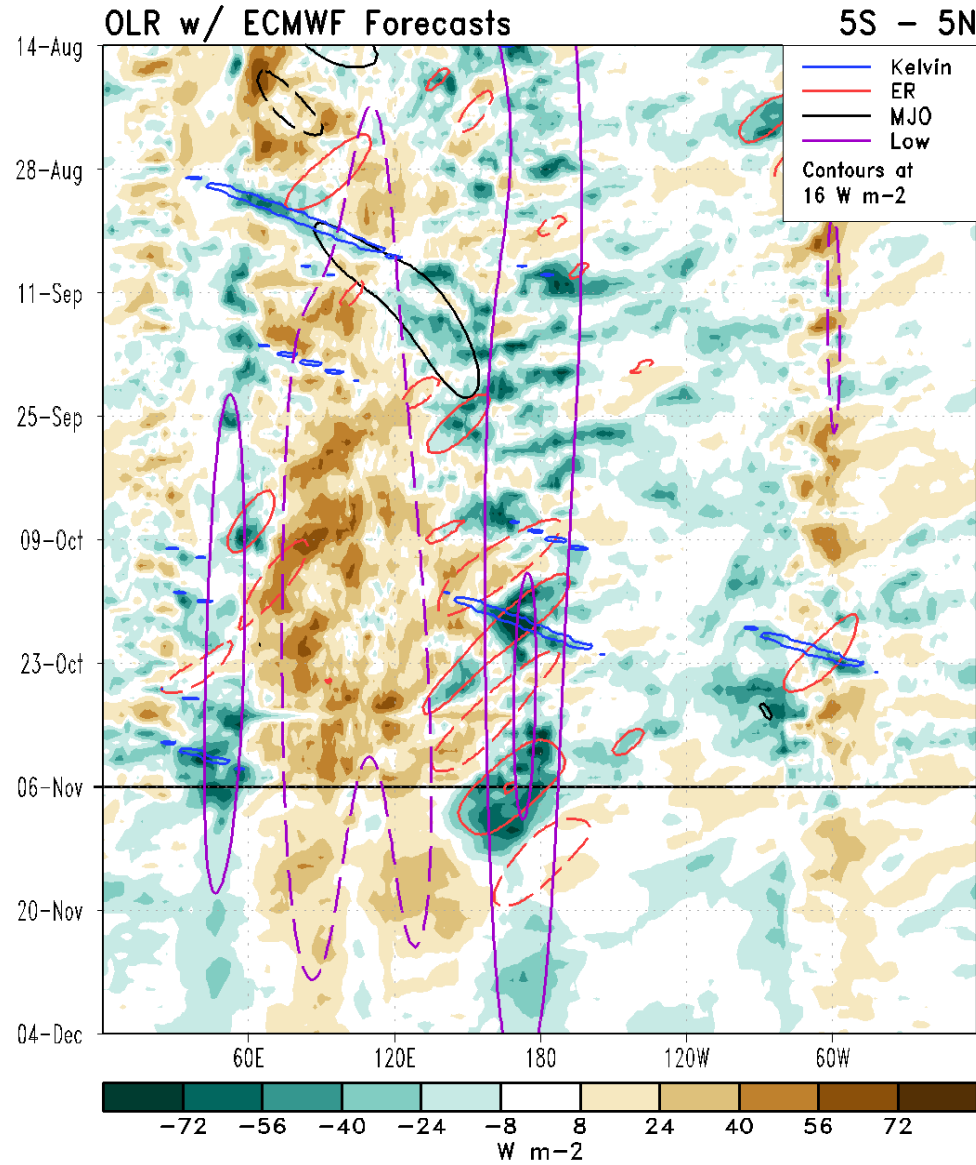


RMM Index Observations & Forecasts:



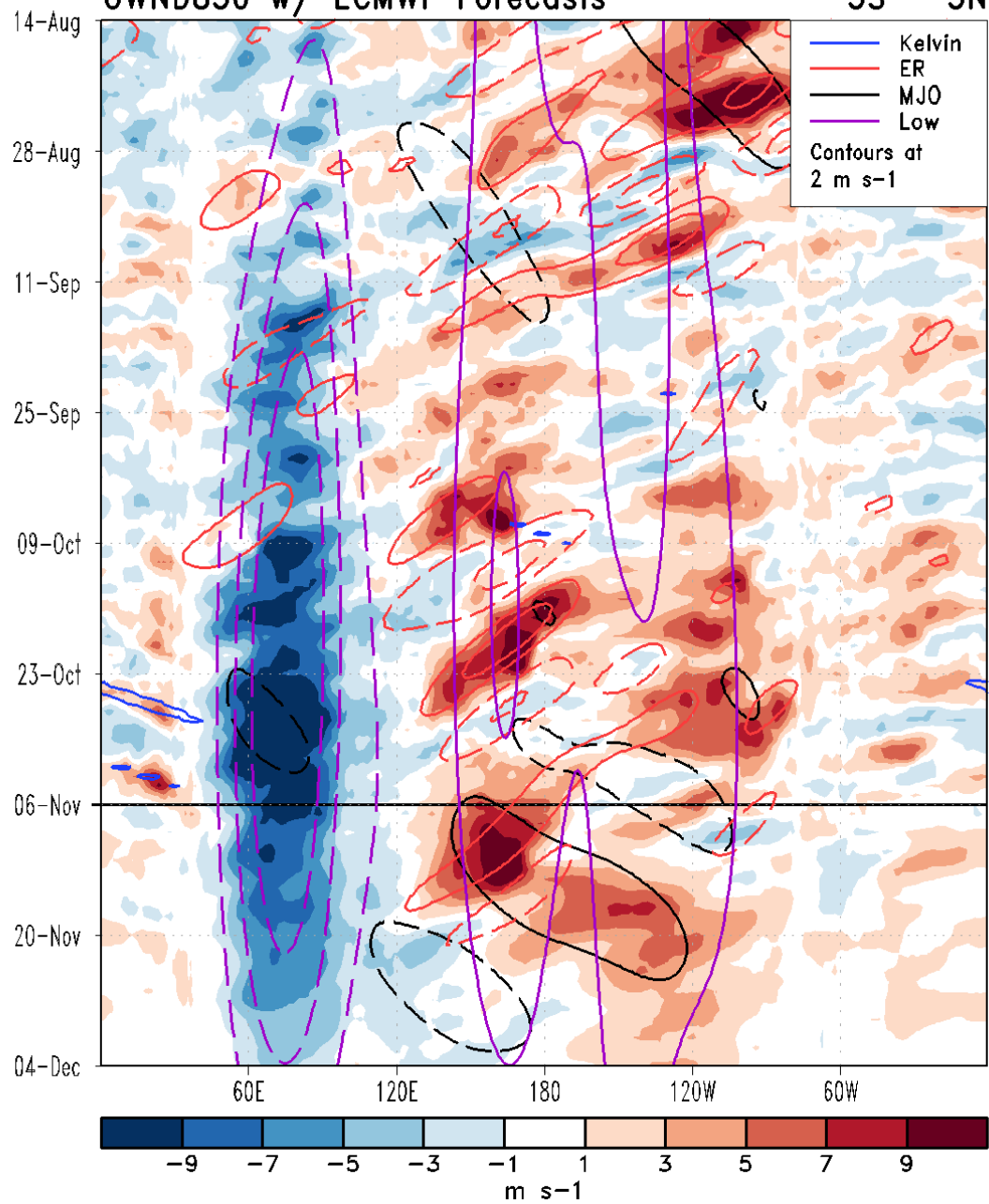
- Dynamical models are increasingly depicting eastward propagation of a fast signal, beginning in the West Pacific during late Week-1.

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



UWND850 w/ ECMWF Forecasts

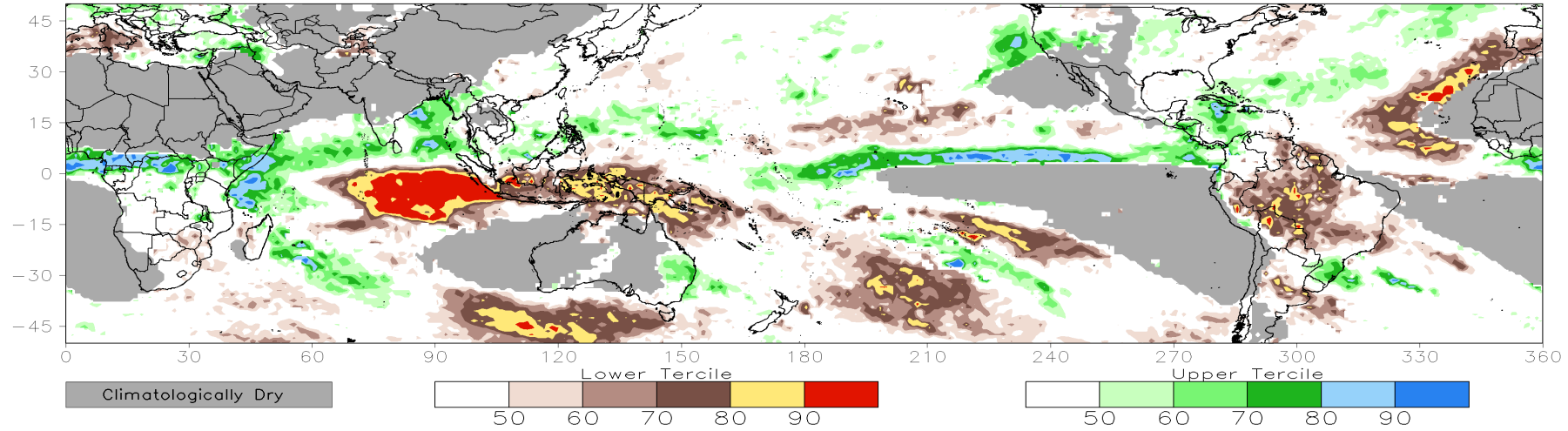
5S - 5N



Consolidated Probabilistic Precipitation: Weeks 2 & 3

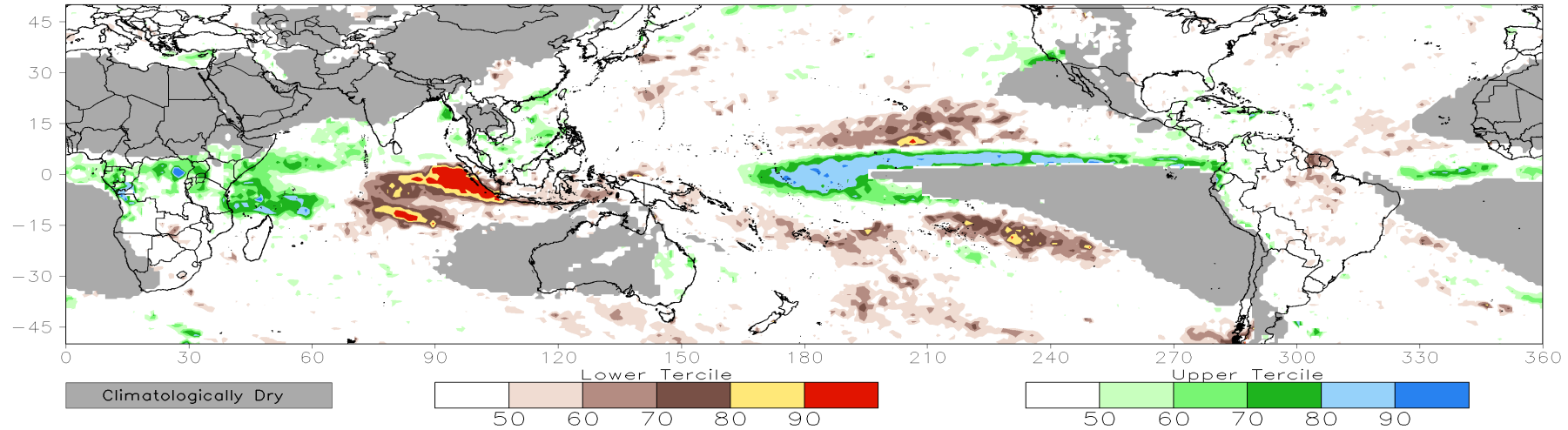
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 15Nov2023–21Nov2023



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

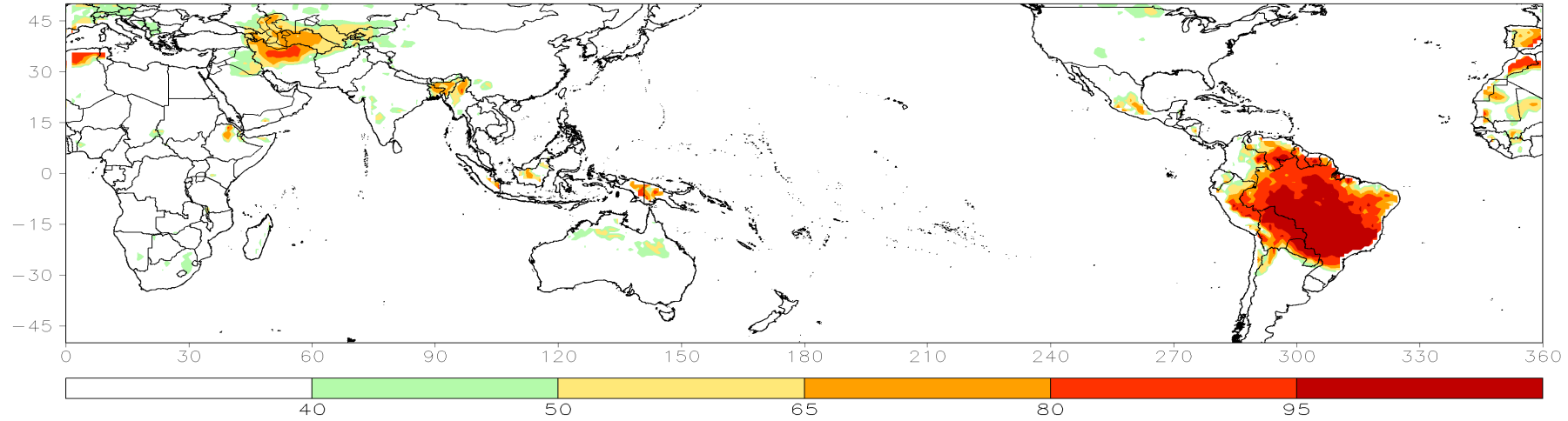
Valid: 22Nov2023–28Nov2023



Consolidated Probabilistic Temperatures: Week-2

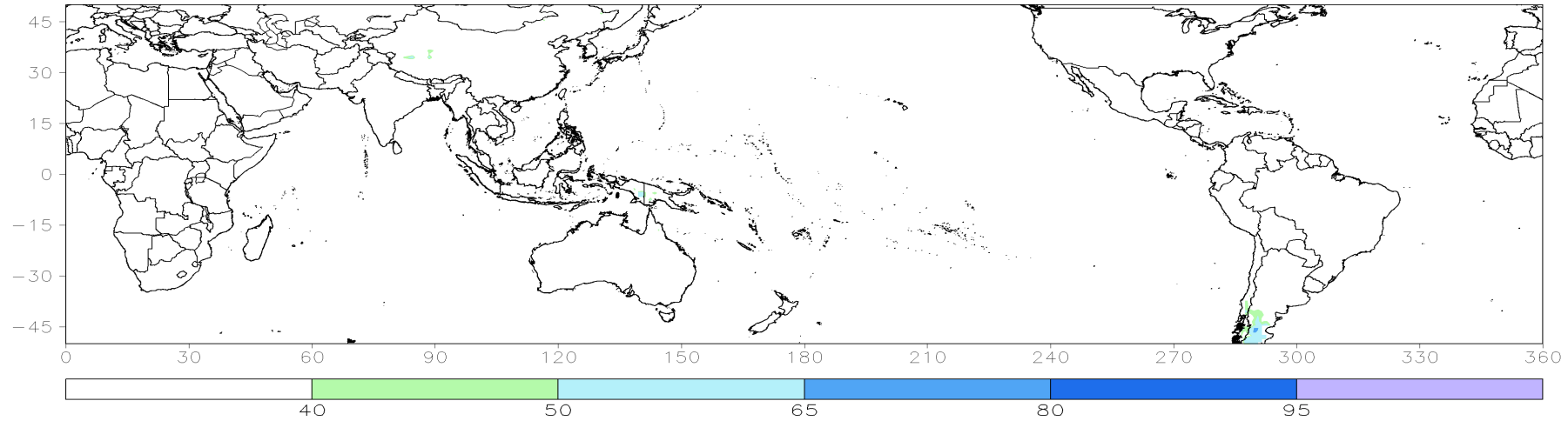
CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmax Above Upper Tercile (%)

Valid: 15Nov2023–21Nov2023



CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmin Below Lower Tercile (%)

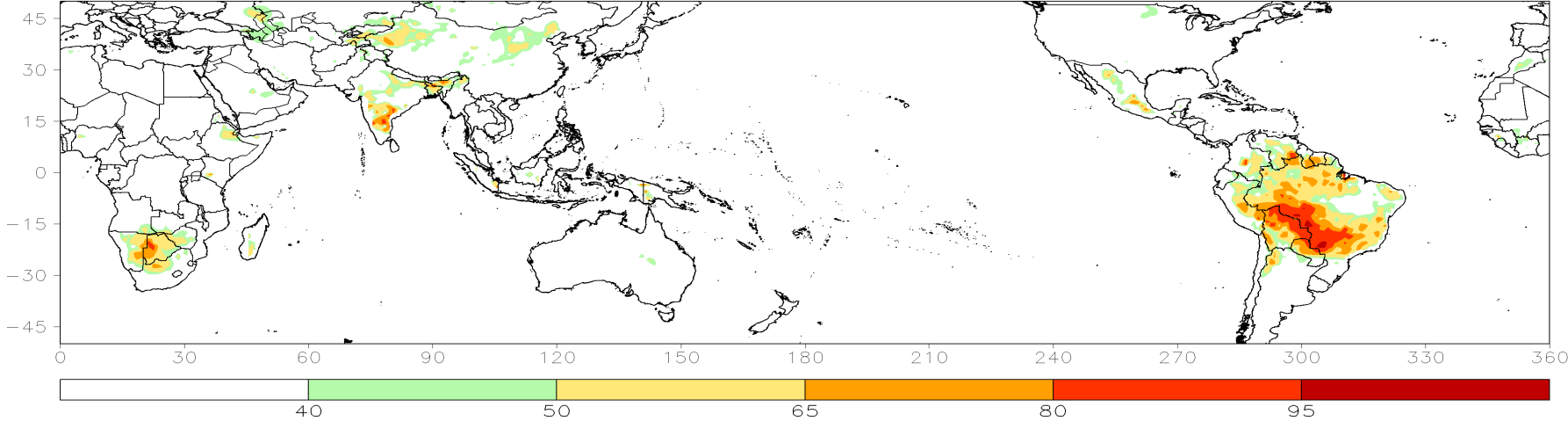
Valid: 15Nov2023–21Nov2023



Consolidated Probabilistic Temperatures: Week-3

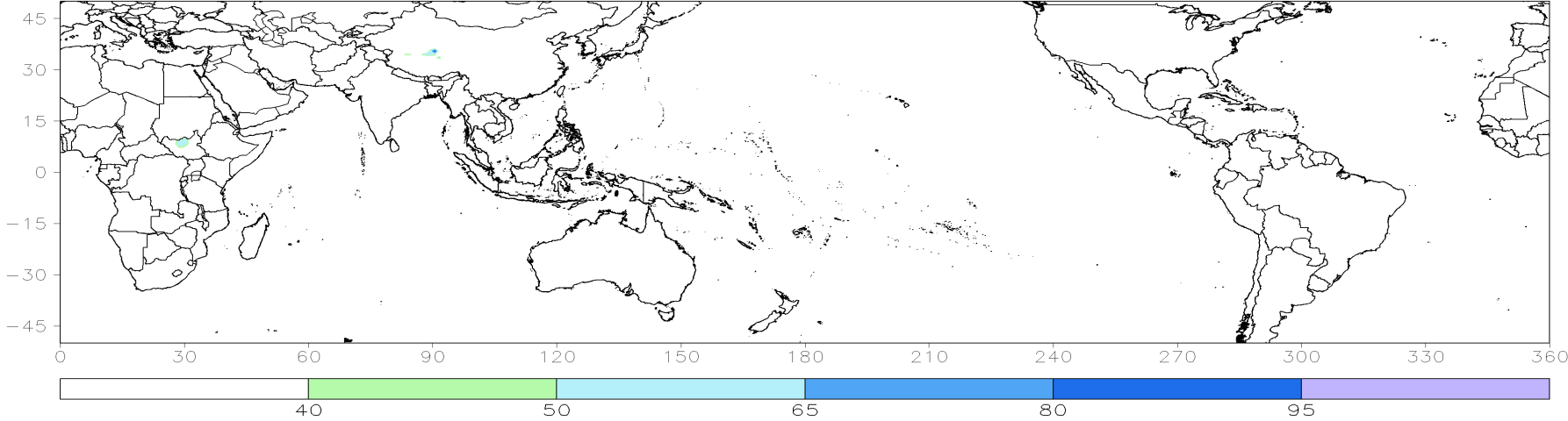
CFS/ECMWF/GEFS Correlation Weighted: Week3 Probability for Tmax Above Upper Tercile (%)

Valid: 22Nov2023-28Nov2023



CFS/ECMWF/GEFS Correlation Weighted: Week3 Probability for Tmin Below Lower Tercile (%)

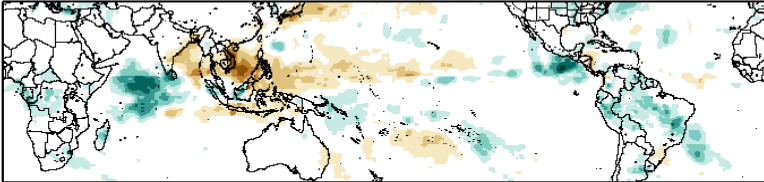
Valid: 22Nov2023-28Nov2023



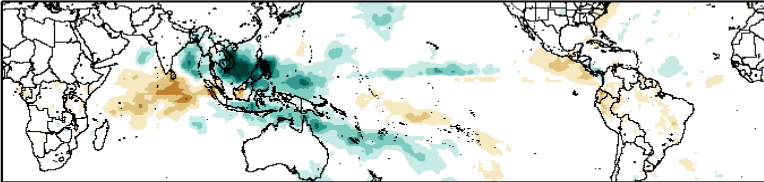
Historical Precipitation Anomalies By MJO Phase:

OND MJO Composite: GPCP1DD (mm/day)

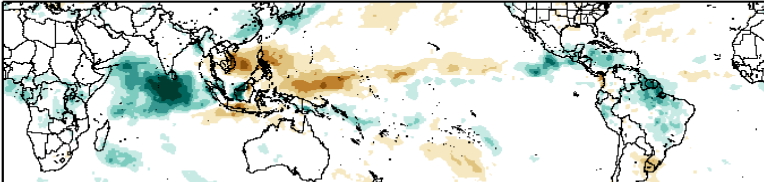
Phase 1



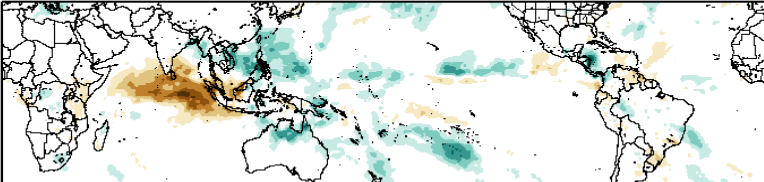
Phase 5



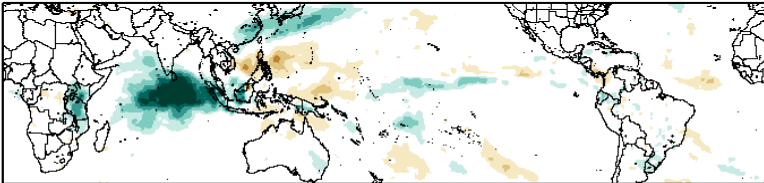
Phase 2



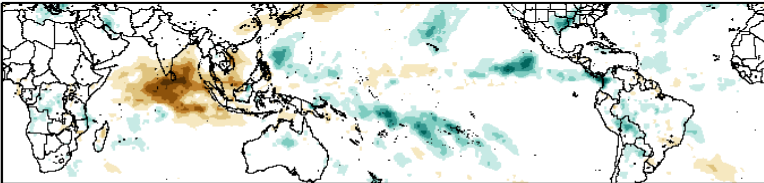
Phase 6



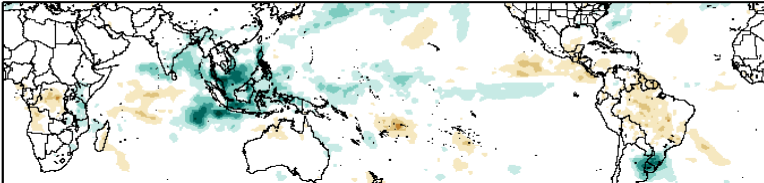
Phase 3



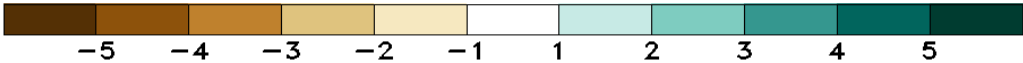
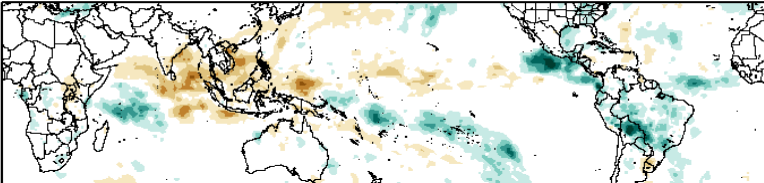
Phase 7



Phase 4

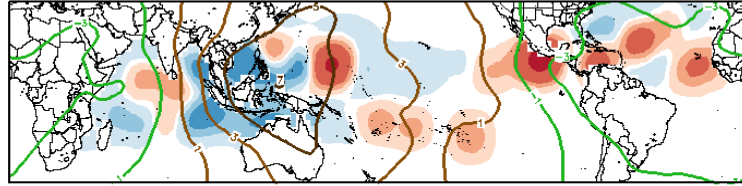


Phase 8

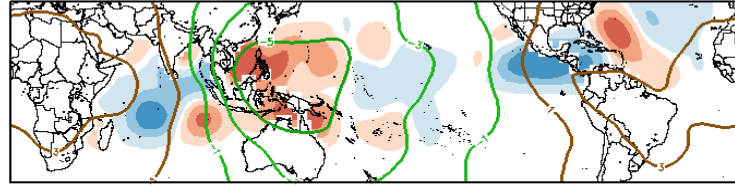


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

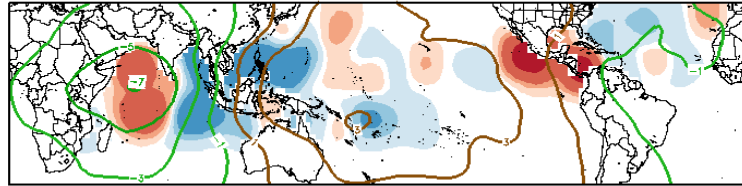
OND MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ OND CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



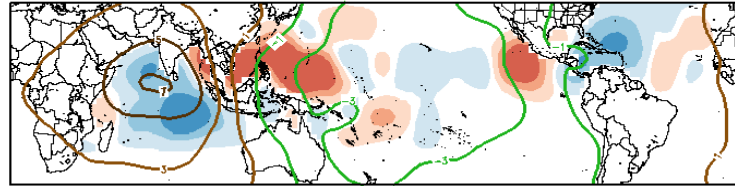
Phase 1



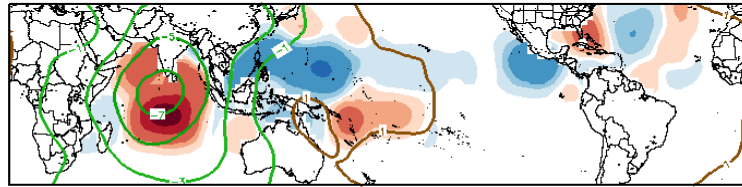
Phase 5



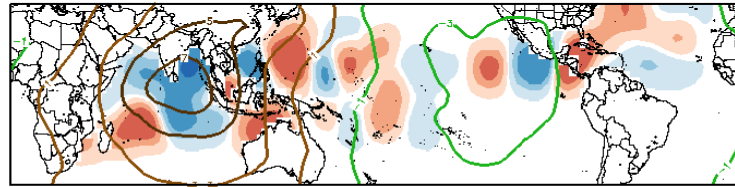
Phase 2



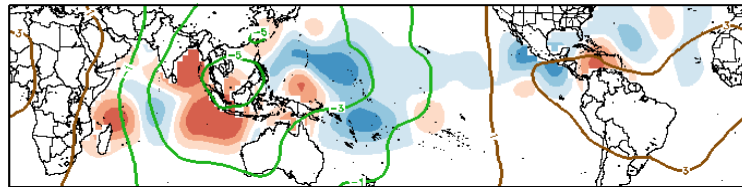
Phase 6



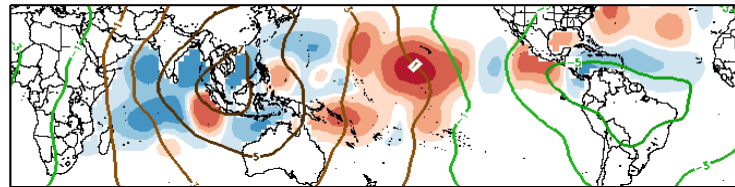
Phase 3



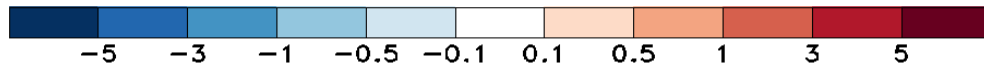
Phase 7



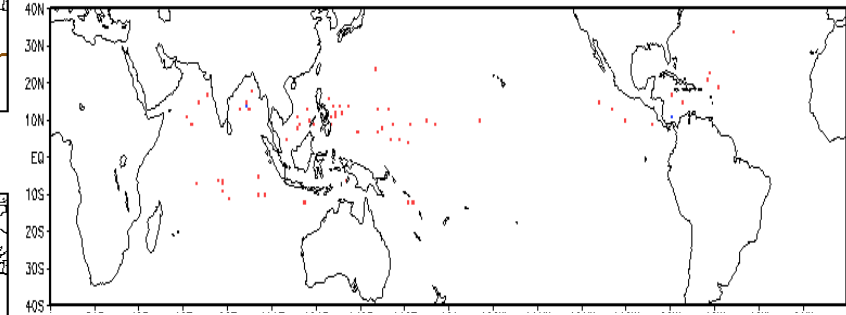
Phase 4



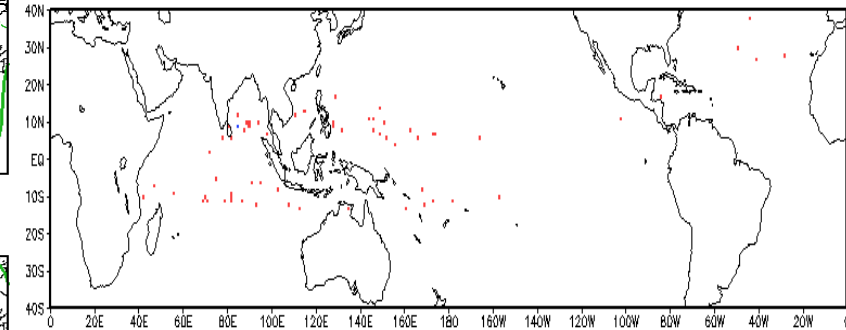
Phase 8



Observed TC Genesis, 1979–2021
7-day Period 1115 to 1121

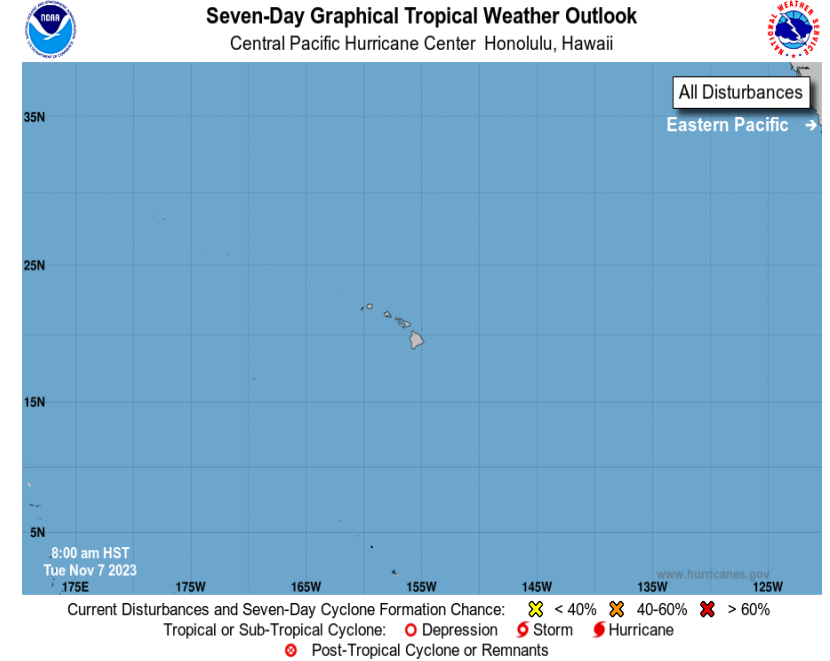
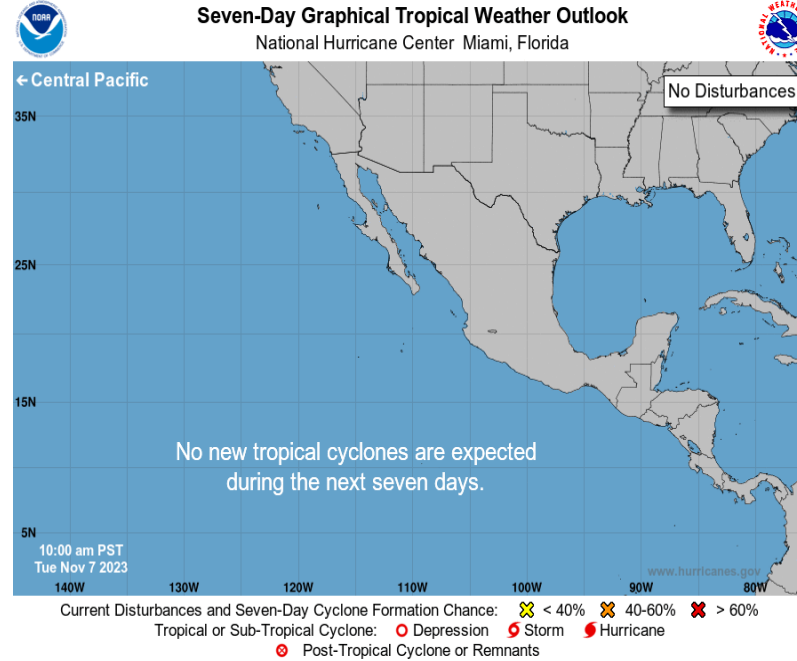
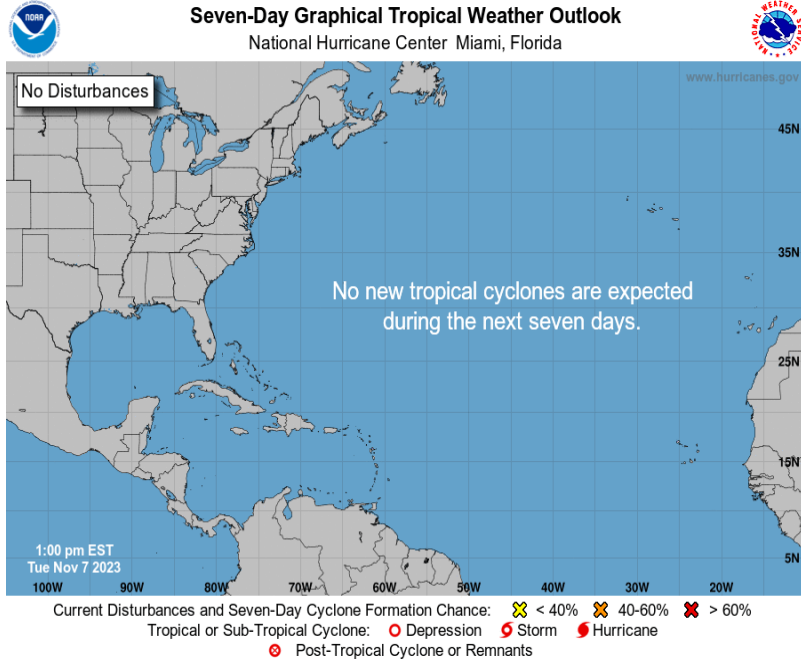


Observed TC Genesis, 1979–2021
7-day Period 1122 to 1128



Experimental

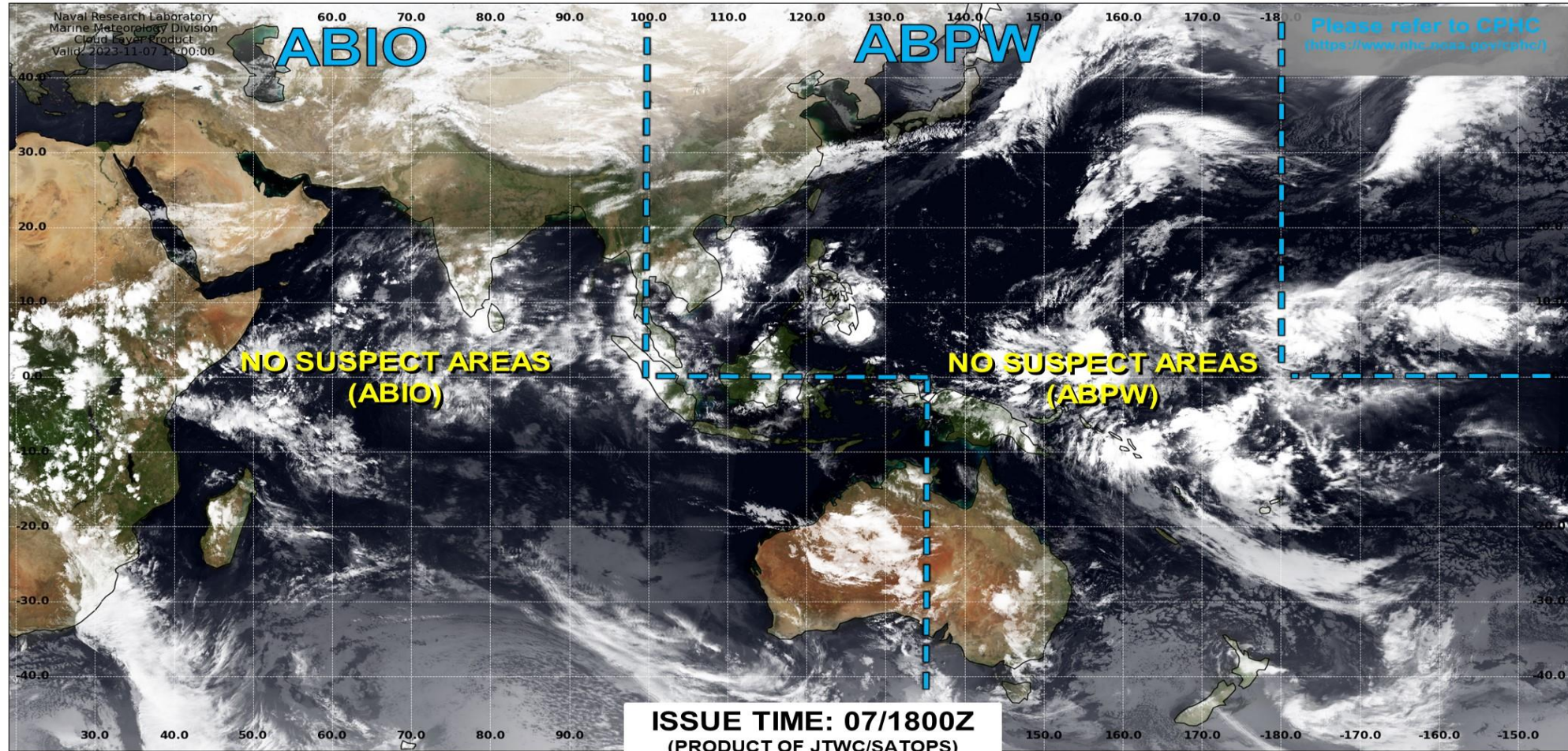
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



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)



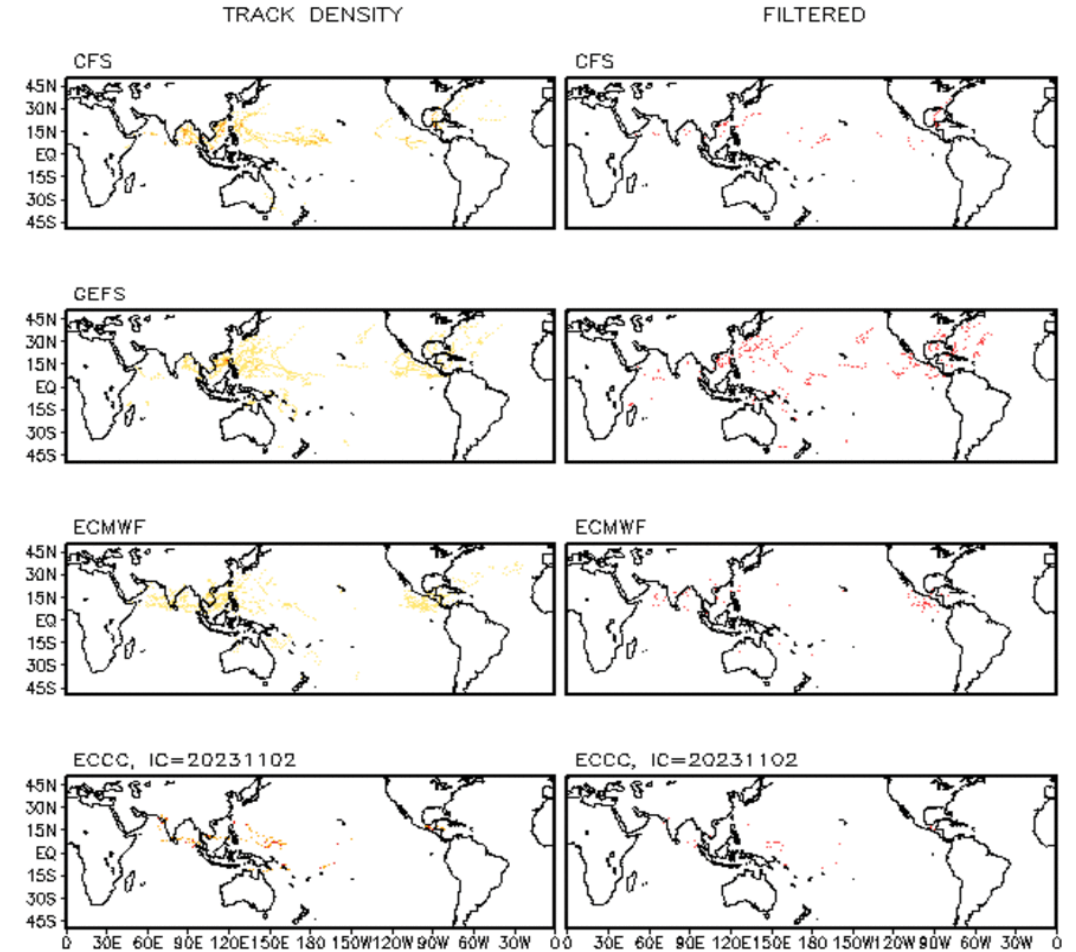
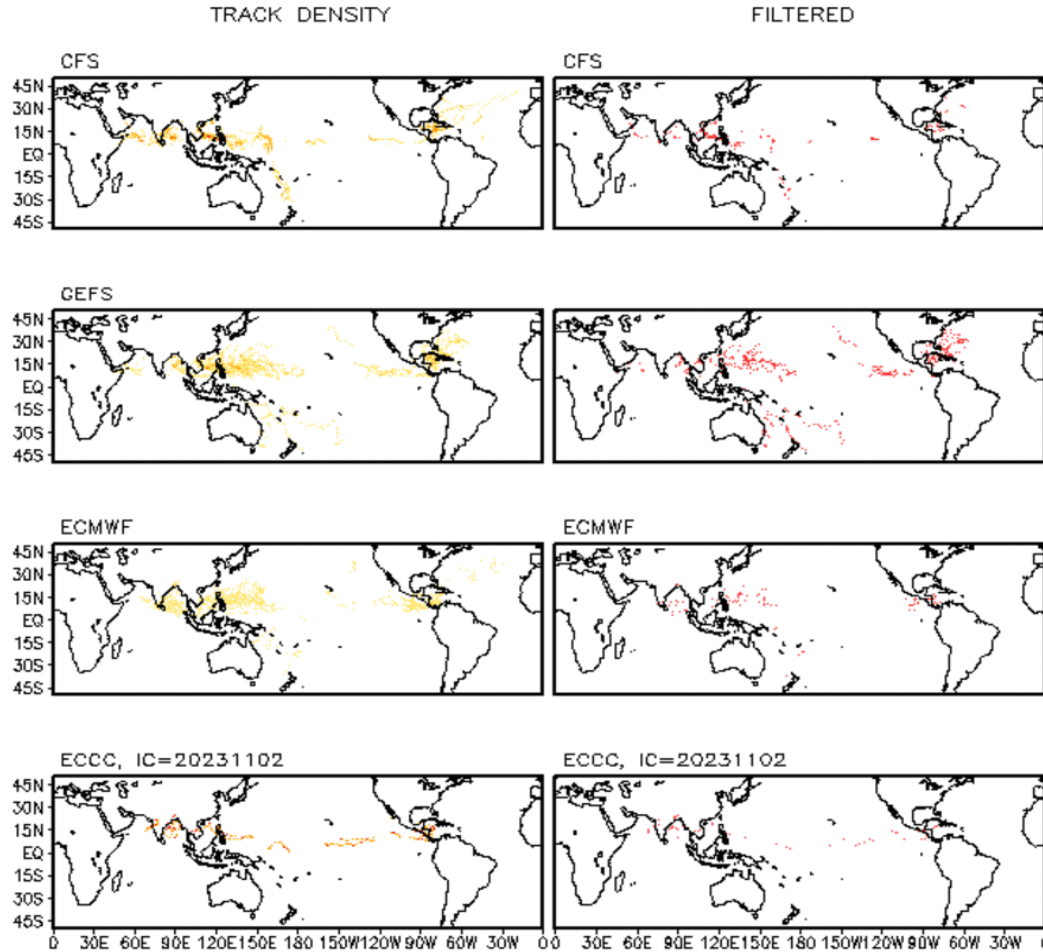
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)

Multi-Model TC Track Densities: Weeks 2+3

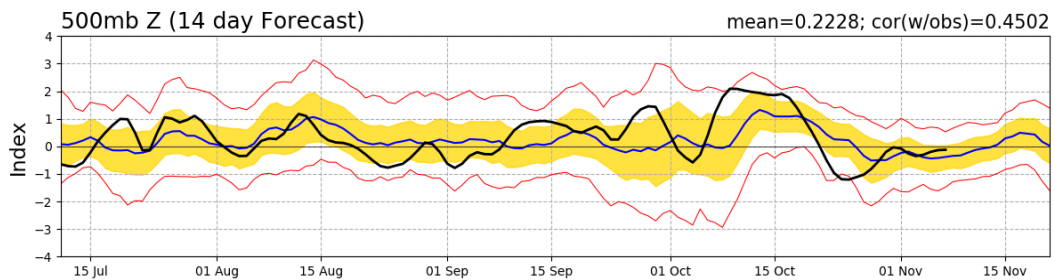
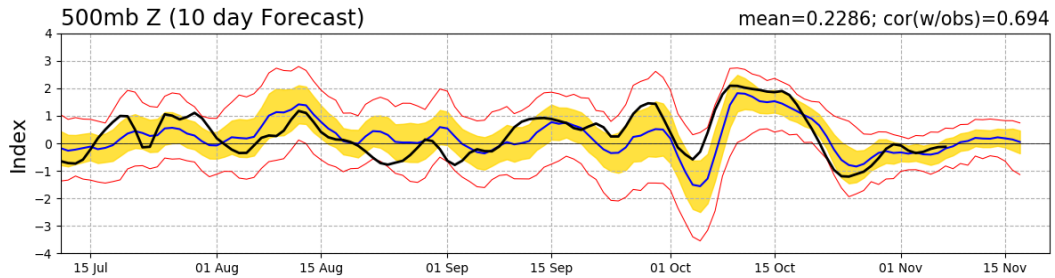
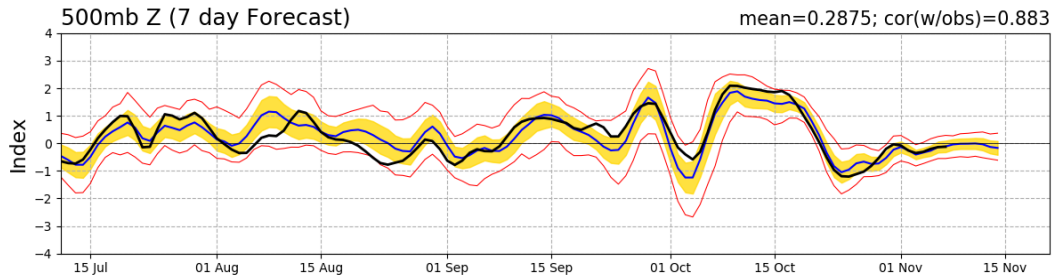
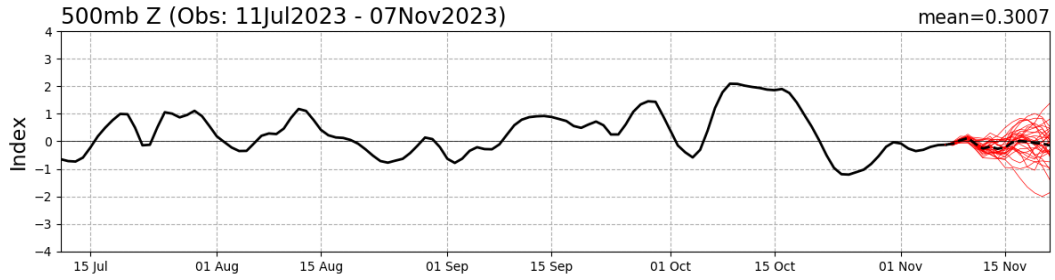
Storm Track Density Distribution, IC=20231106
Week 2 Forecast: 1115-1121

Storm Track Density Distribution, IC=20231106
Week 3 Forecast: 1122-1128

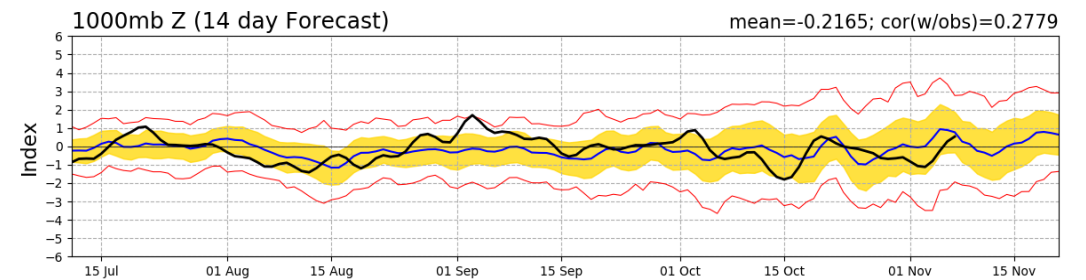
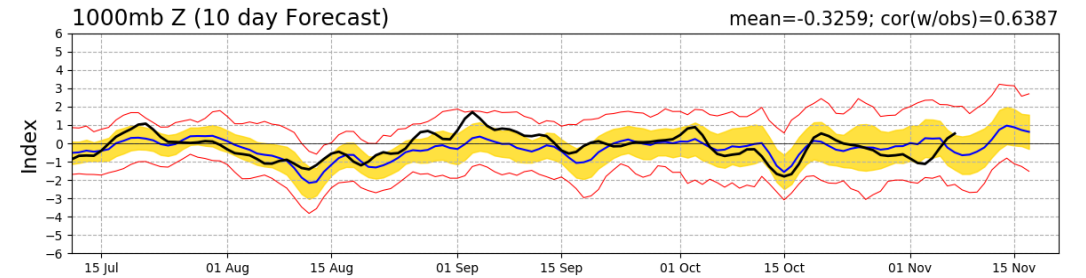
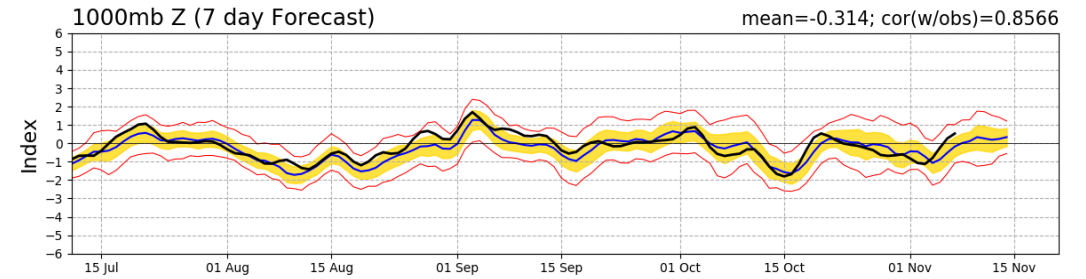
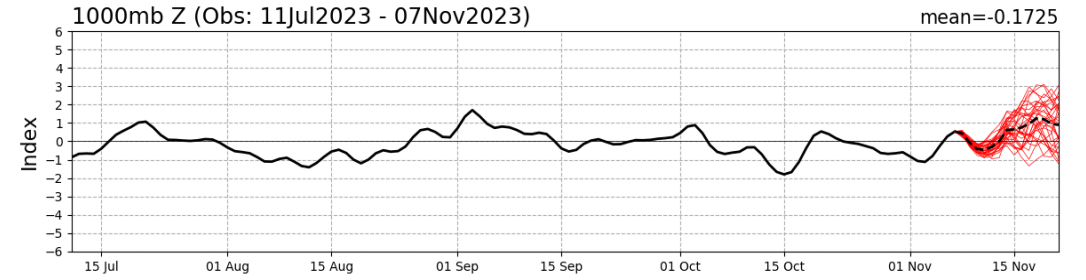


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

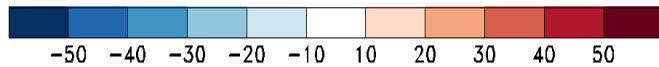
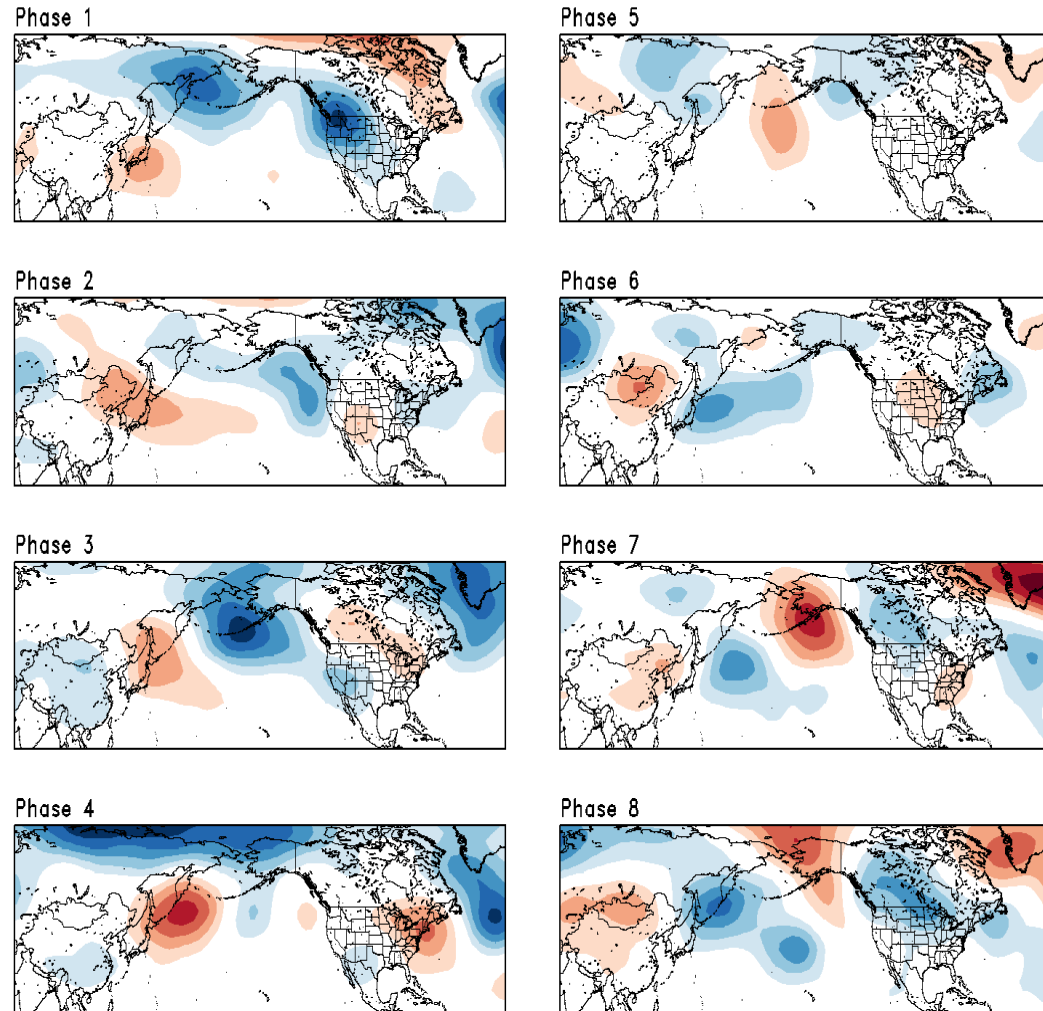


AO Index: Observed & GEFS Forecasts

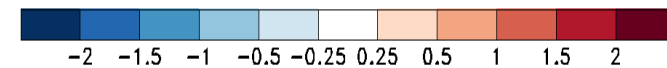
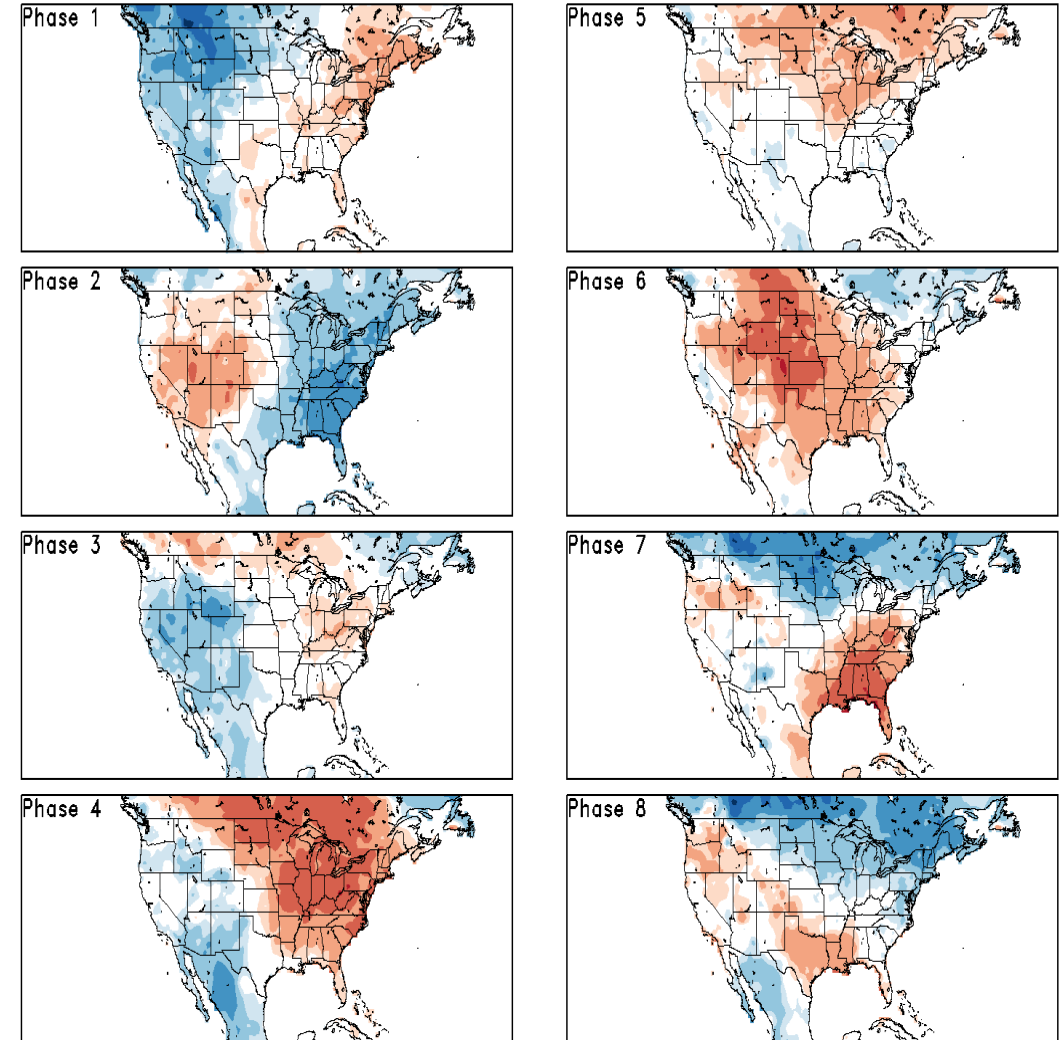


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

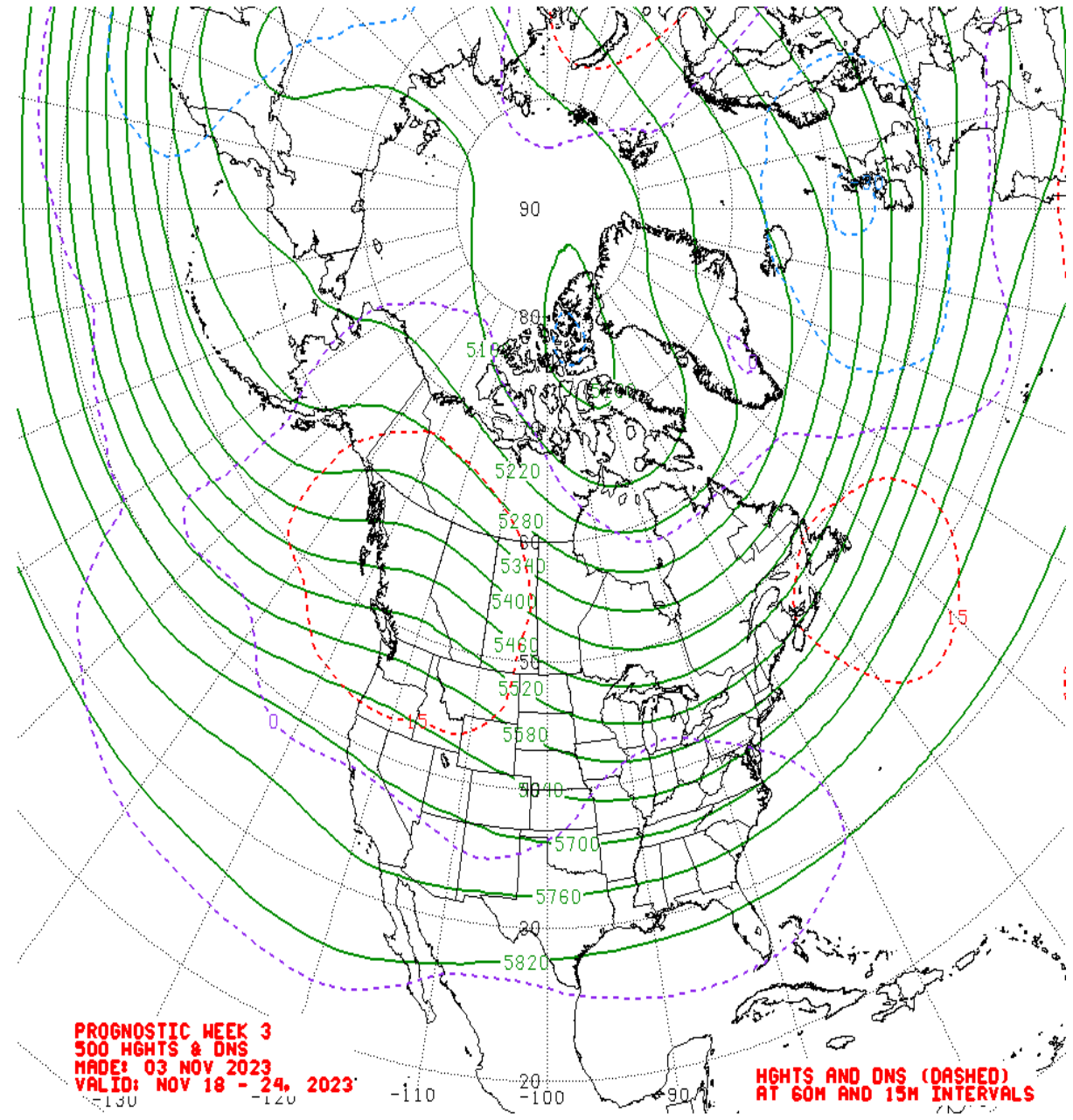
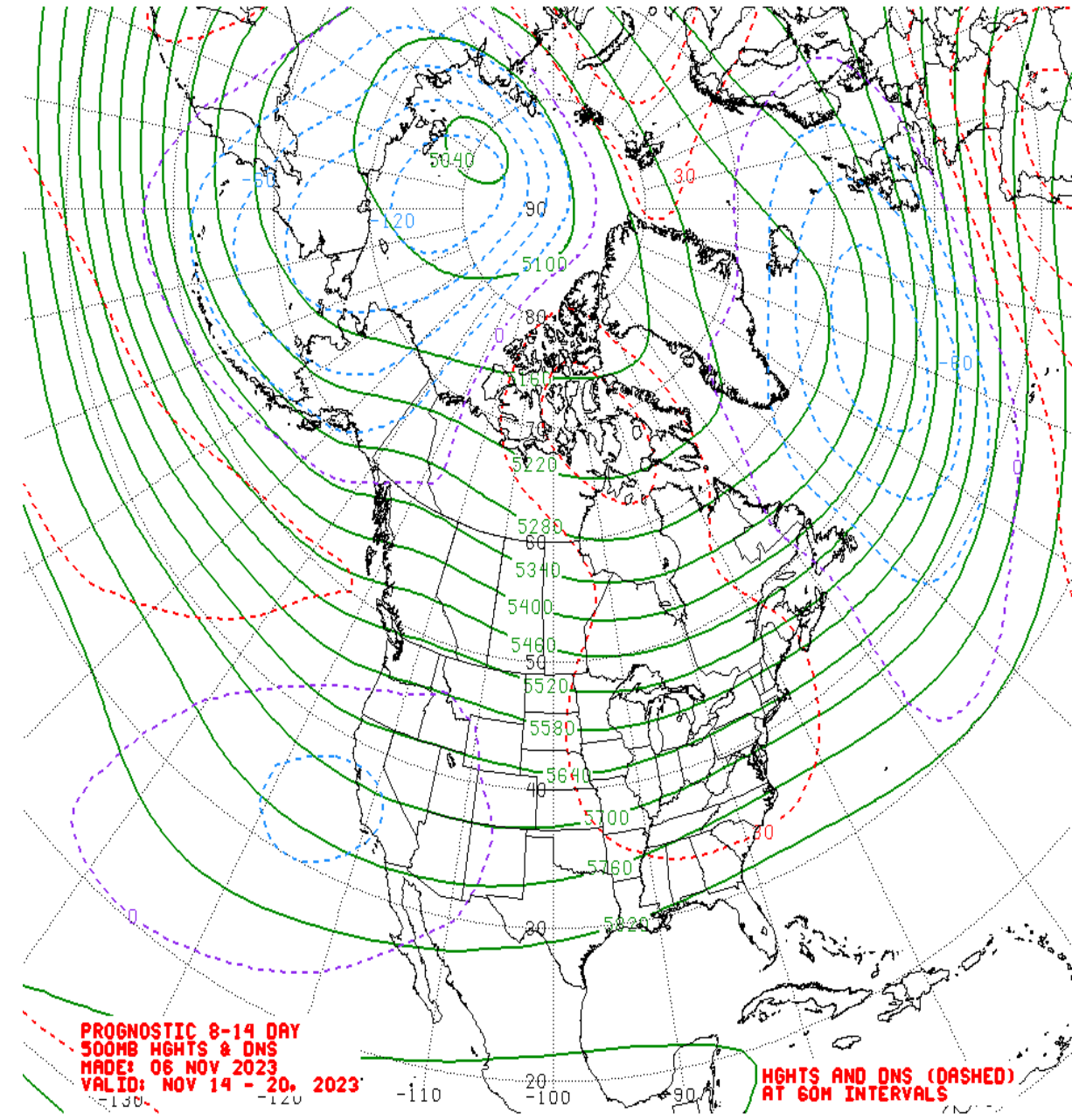
OND MJO Composite: CDAS 500-hPa Height (m)



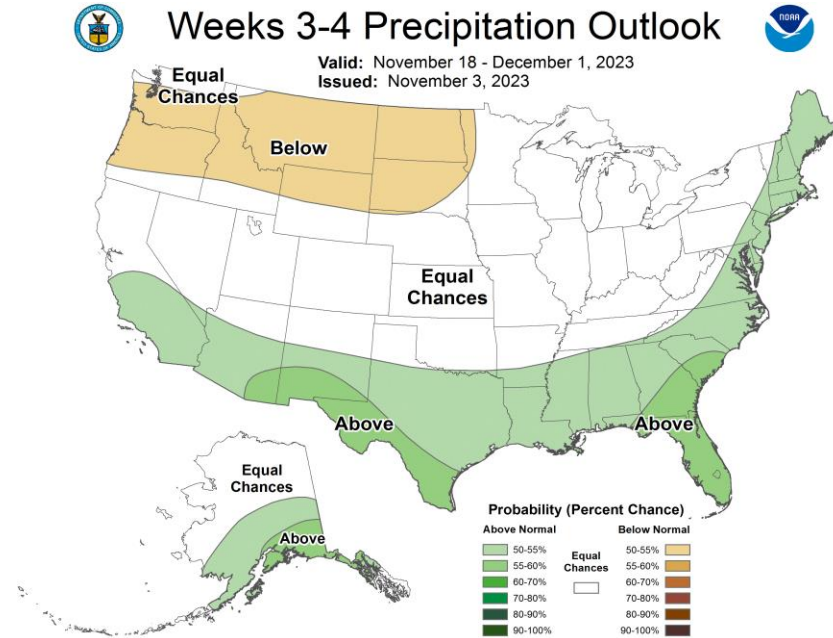
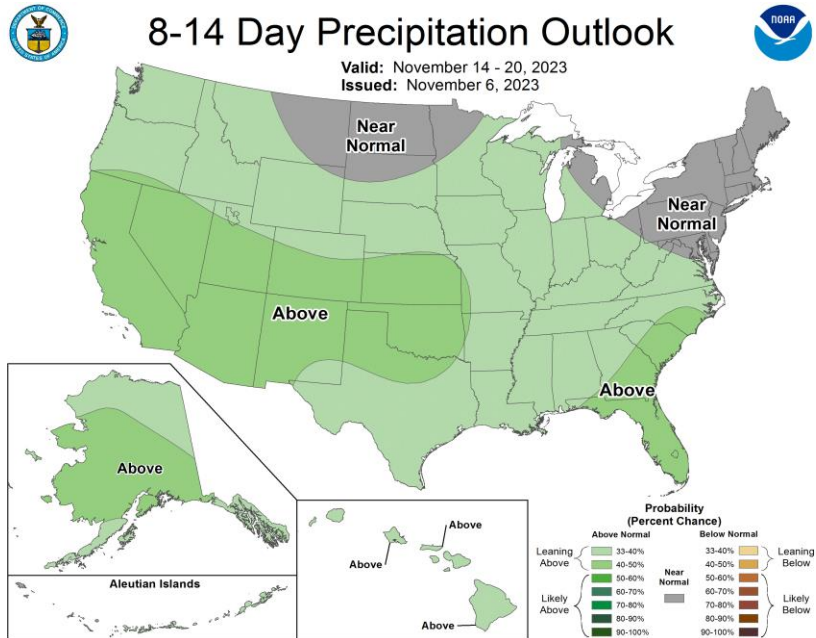
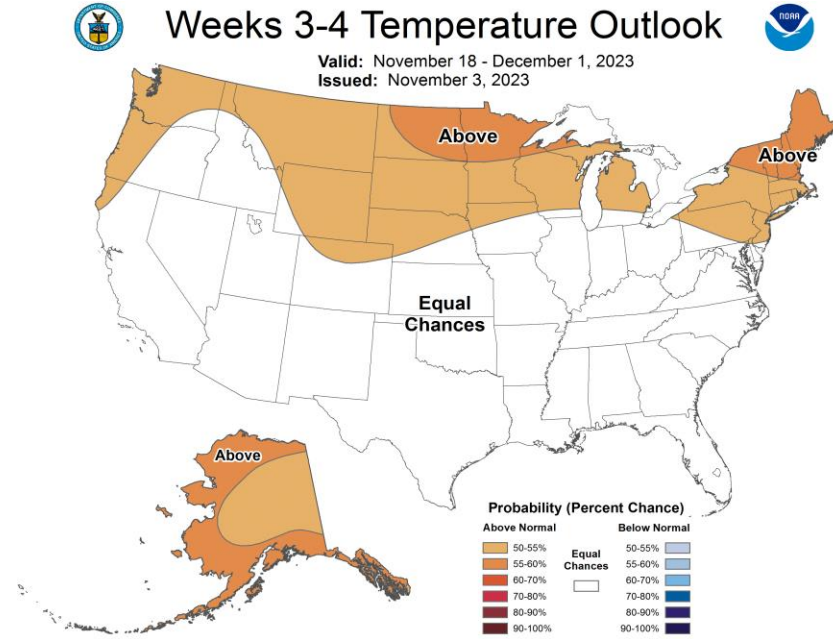
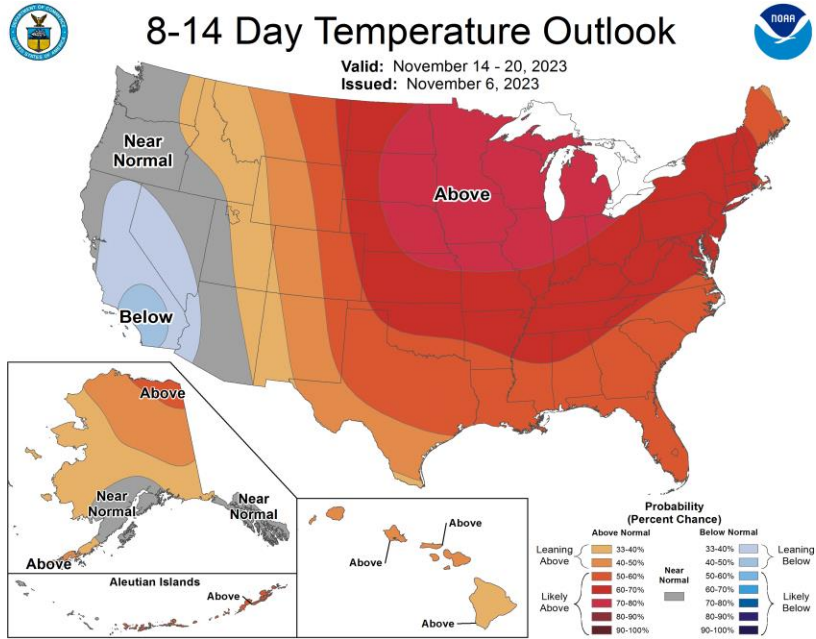
OND MJO Composite: GLBT (degC)



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



Official Temperature & Precipitation Forecasts:



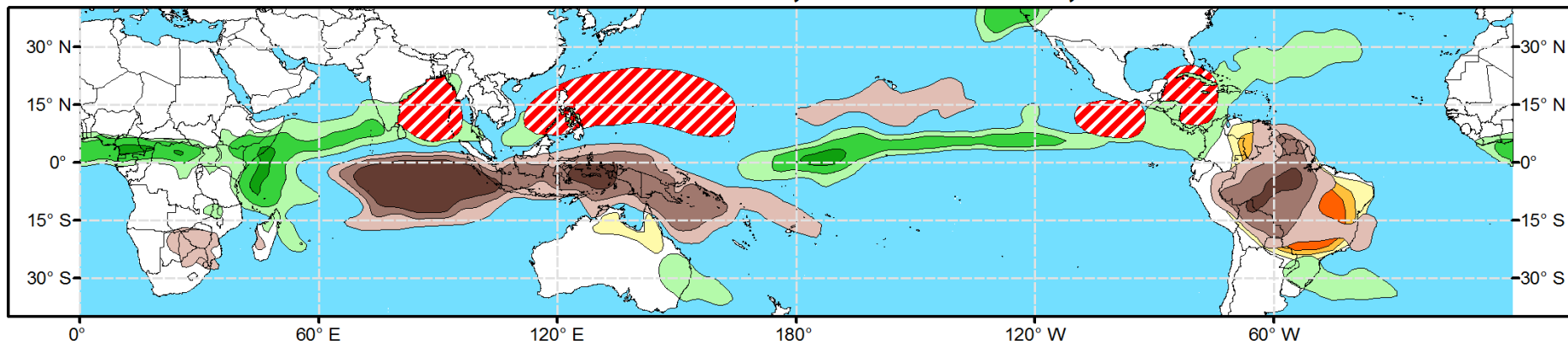


Global Tropics Hazards Outlook

Climate Prediction Center

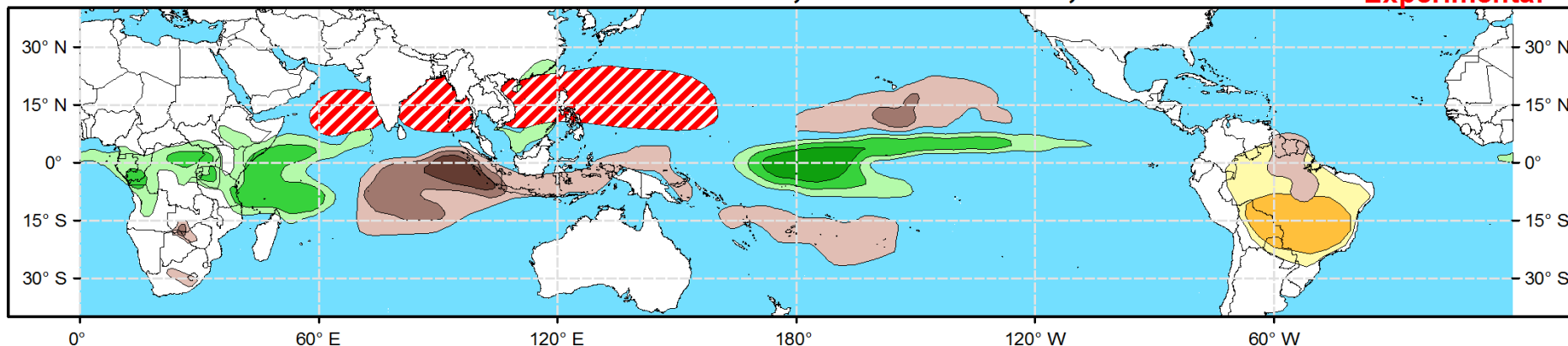


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