



Weeks 2-3 Global Tropics Hazards Outlook

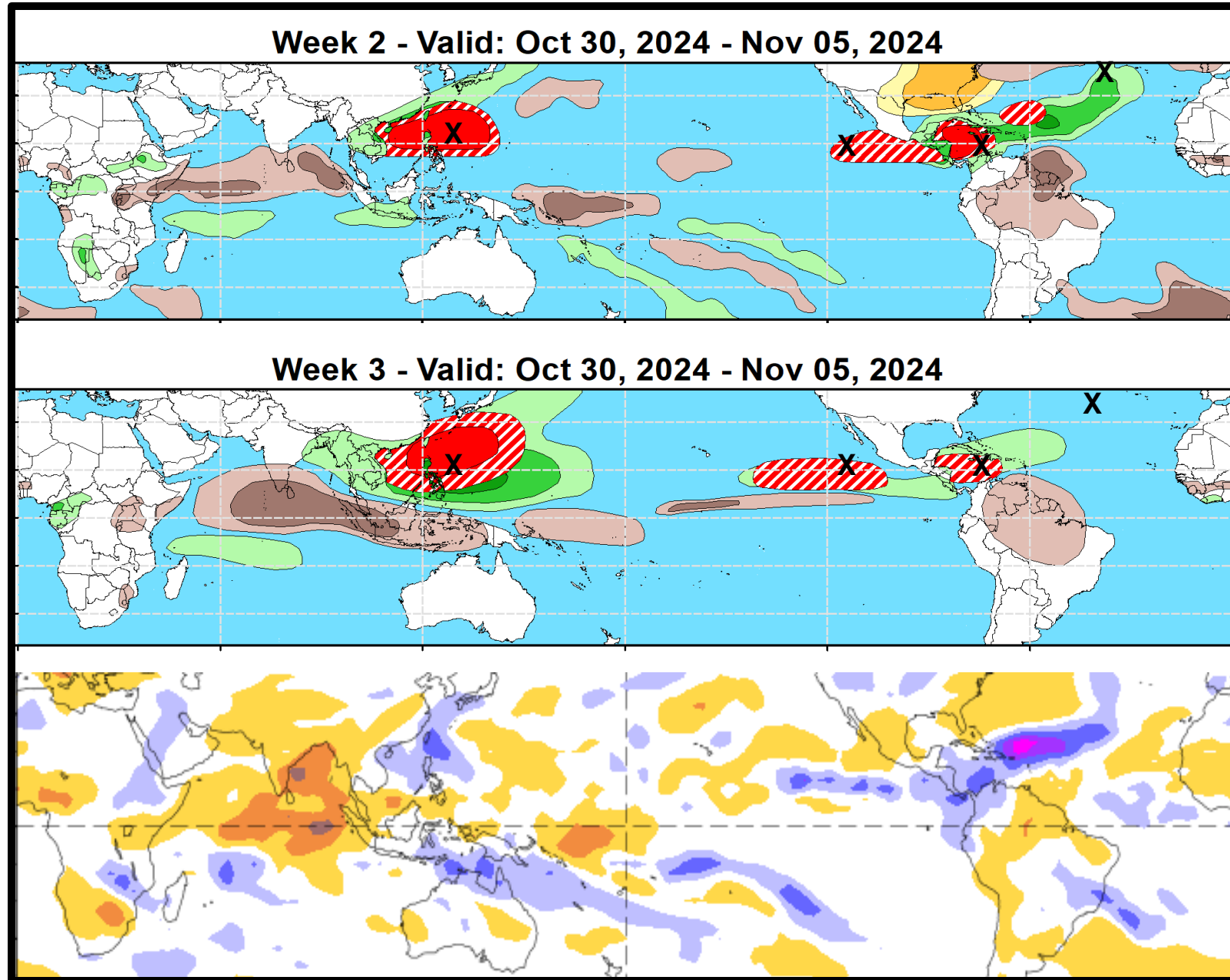
11/5/2024

Adam Allgood

NWS / NCEP / Climate Prediction Center

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

- Lane (East Pac) 11/2
- Patty (North Atl) 11/2
- Yinxing (West Pac) 11/3
- Rafael (Caribbean) 11/4



Synopsis of Climate Modes:

ENSO: (Oct 10, 2024 Update) *next update on Thursday, Nov 14th*

- ENSO Alert System Status: [La Niña Watch](#)
- La Niña is favored to emerge in September-November (60% chance) and is expected to persist through January-March 2025.

MJO and other subseasonal tropical variability:

- Robust MJO activity continues, with the enhanced convective phase now crossing the Western Hemisphere.
- The MJO has helped promote an uptick in late season TC activity across the East Pacific and Atlantic basins, and this enhancement is favored to continue during the Week-2 and Week-3 outlook period.
- Dynamical model MJO index forecasts favor continued MJO activity over the next few weeks.
- The current pattern over the CONUS (western trough, eastern ridge) is likely to be reinforced by extratropical teleconnections from MJO activity.
- Big question is whether MJO activity persists beyond Week-3 as the enhanced signal attempts to re-enter the Pacific.

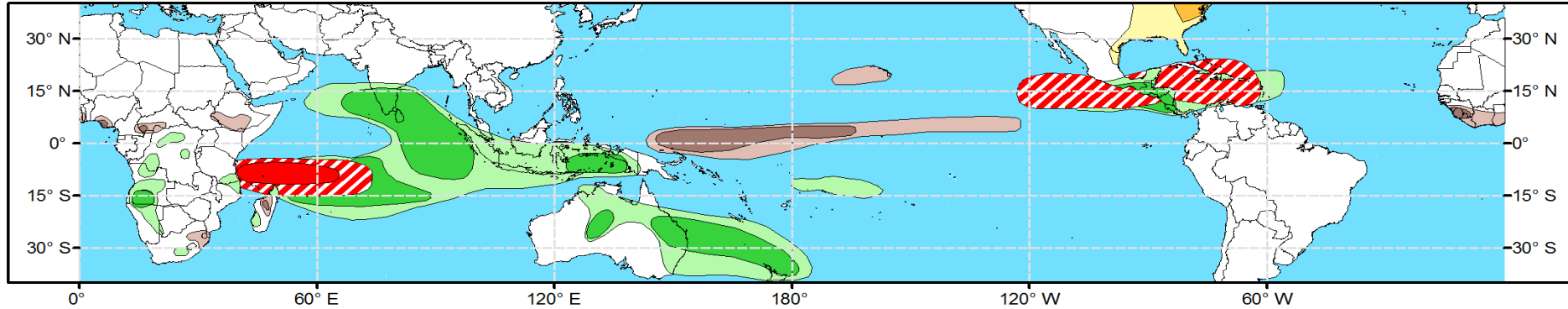
GTH Outlook:



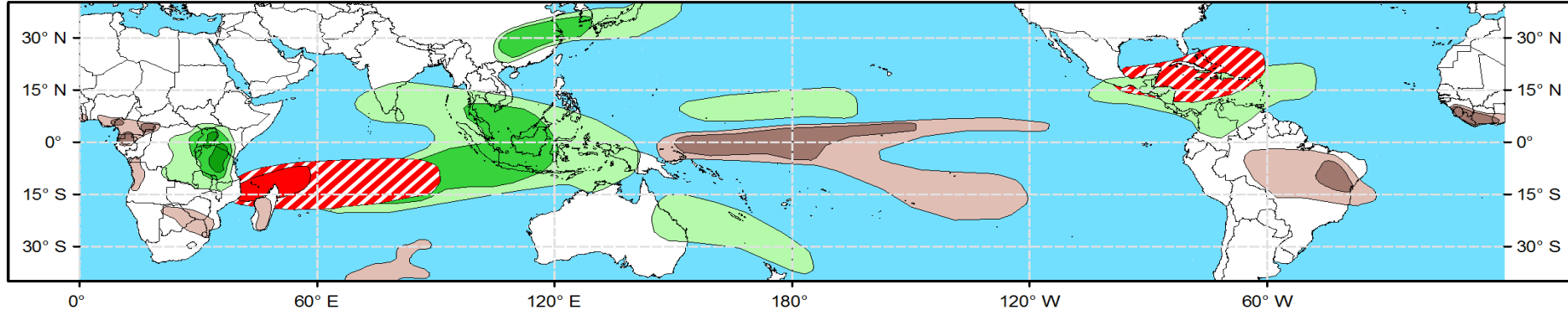
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Nov 13, 2024 - Nov 19, 2024



Week 3 - Valid: Nov 20, 2024 - Nov 26, 2024



**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*

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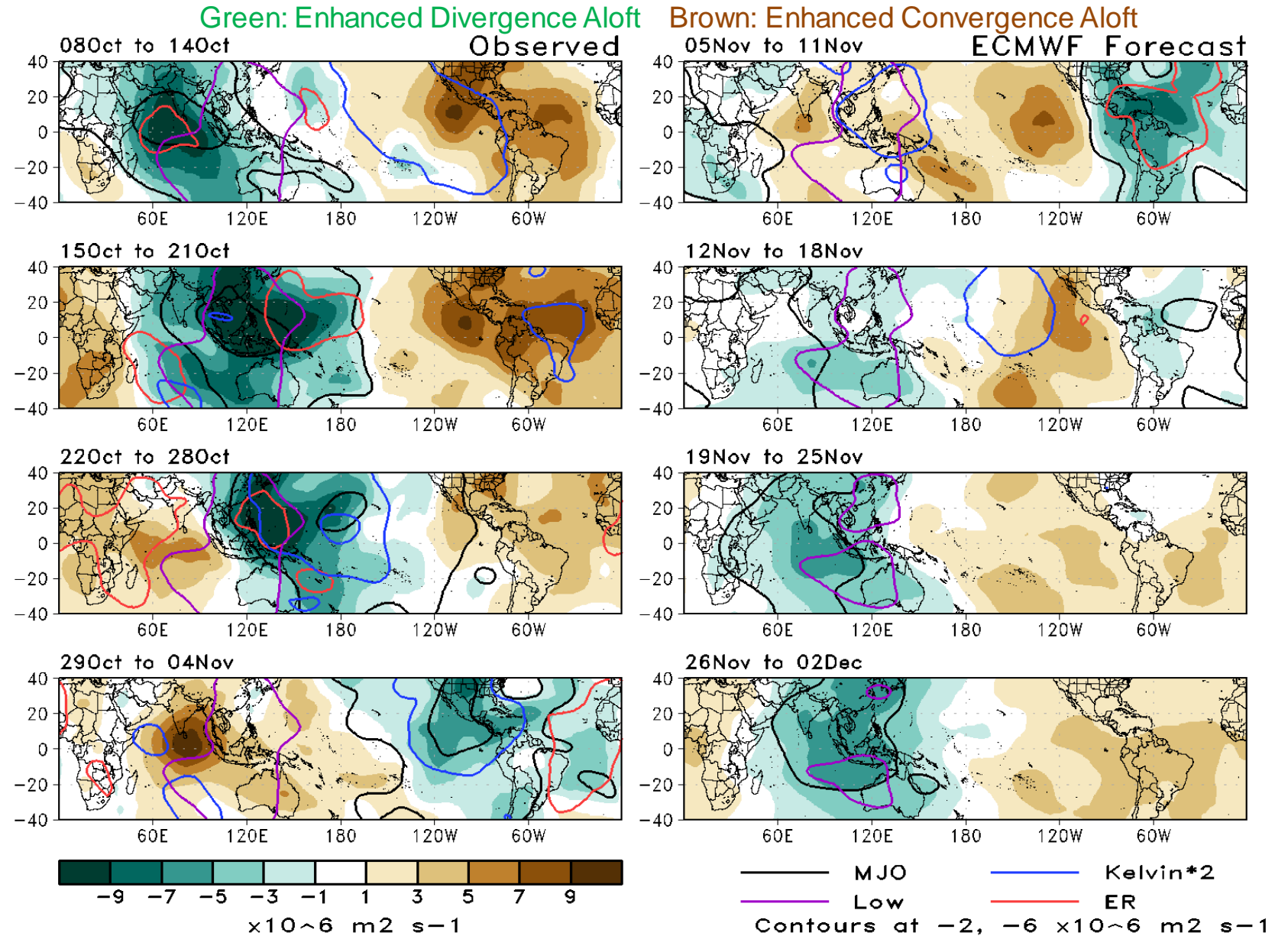
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**Issued: 11/05/2024
Forecaster: Allgood**

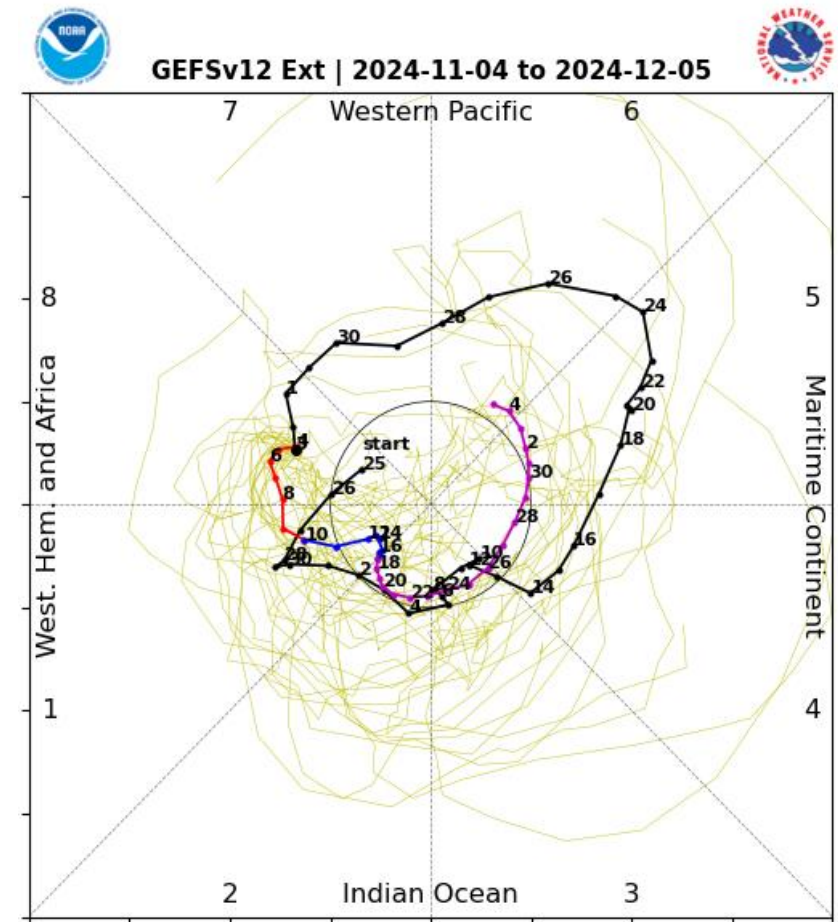
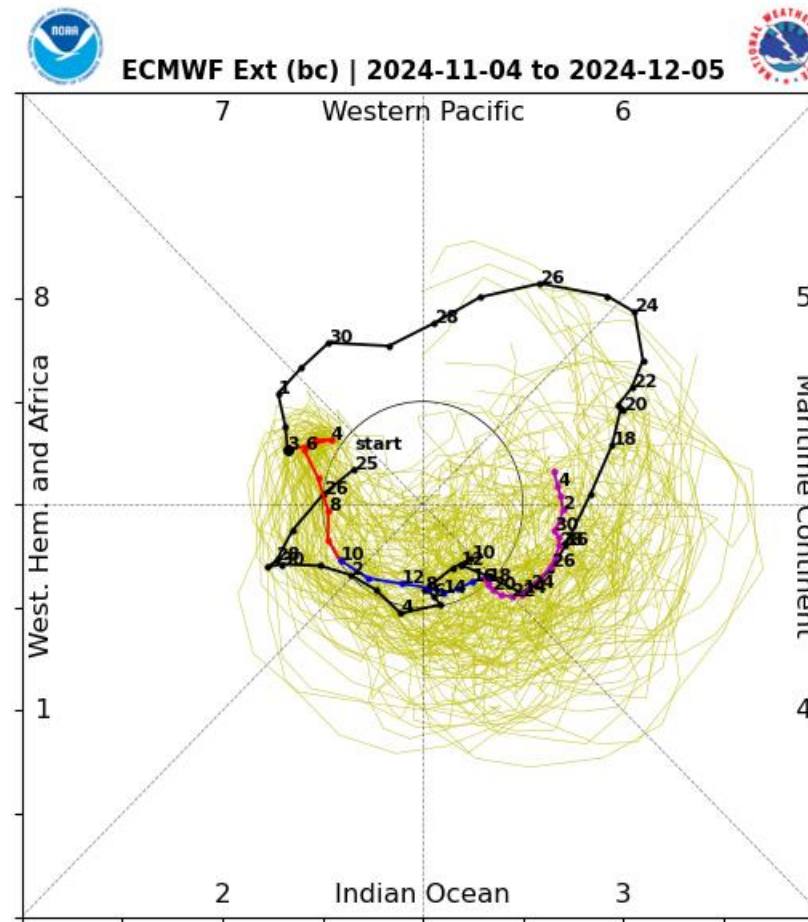
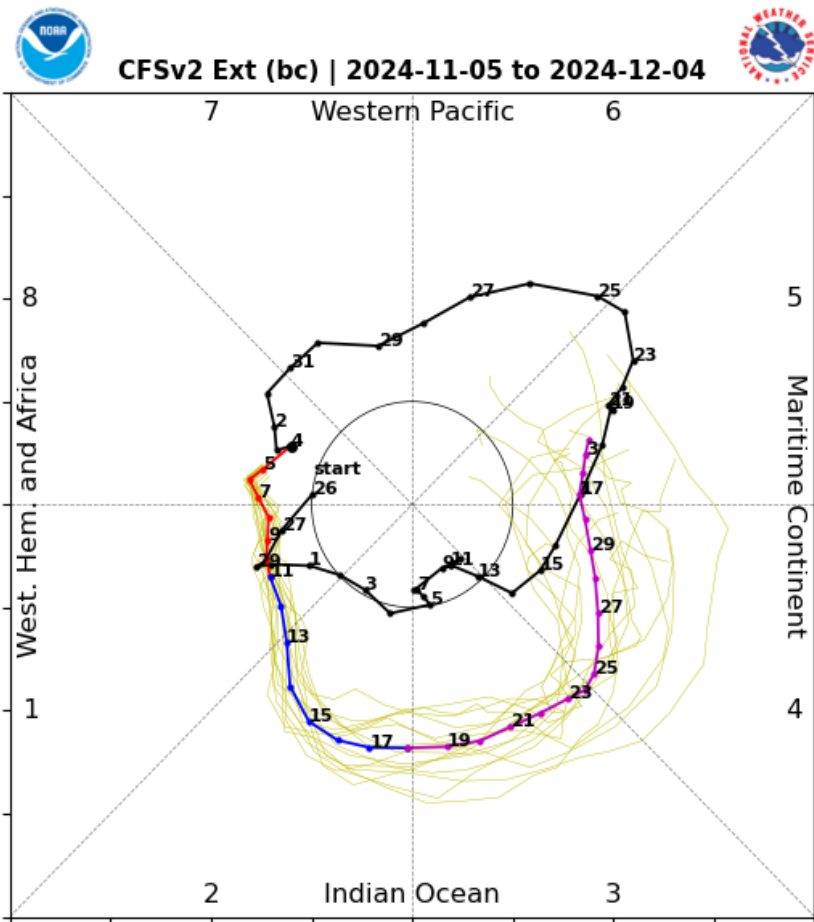
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Textbook MJO propagation during October and early November.
- Continued MJO evolution is favored into Weeks-2 and 3.
- The ECMWF stalls the progression over the Maritime Continent (barrier effect)

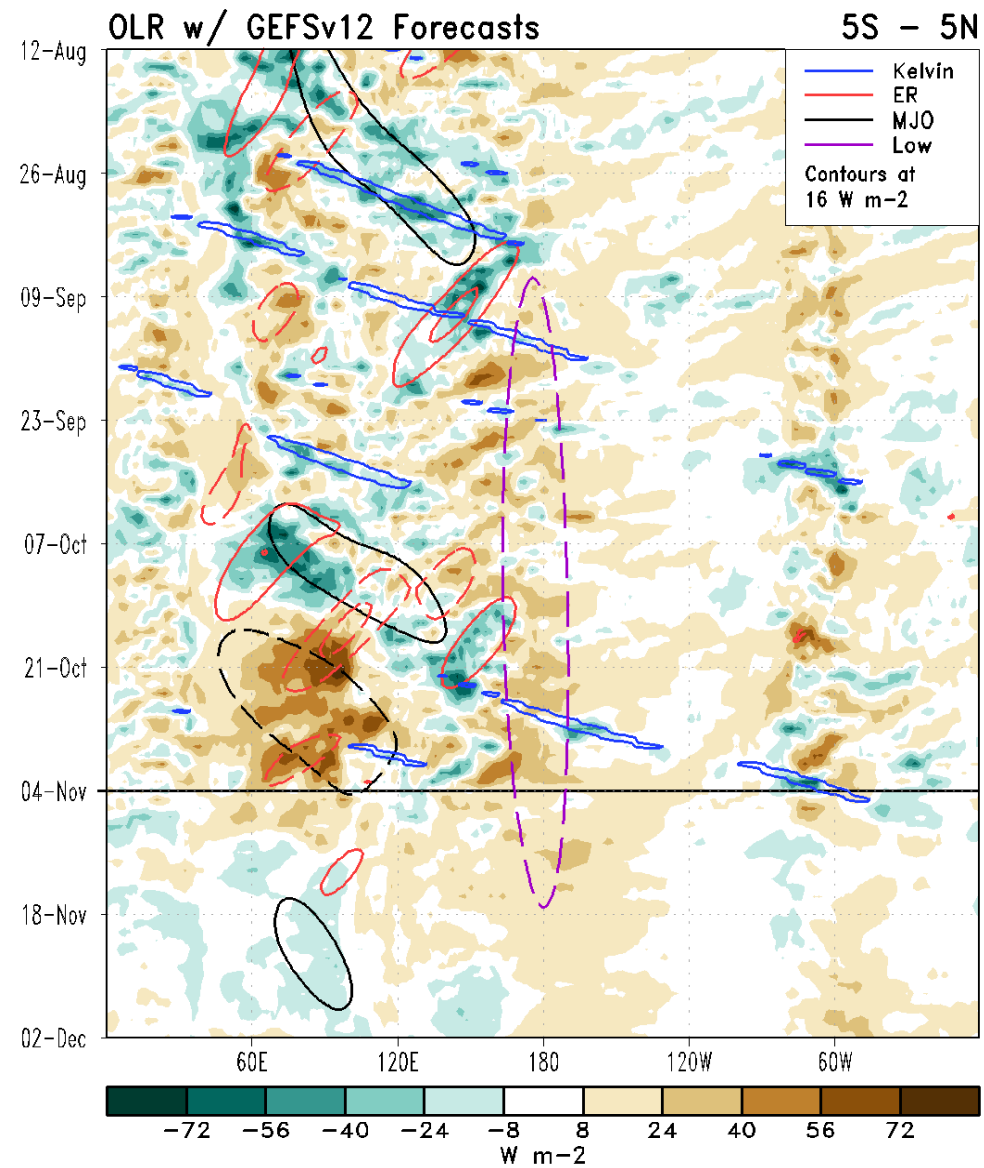
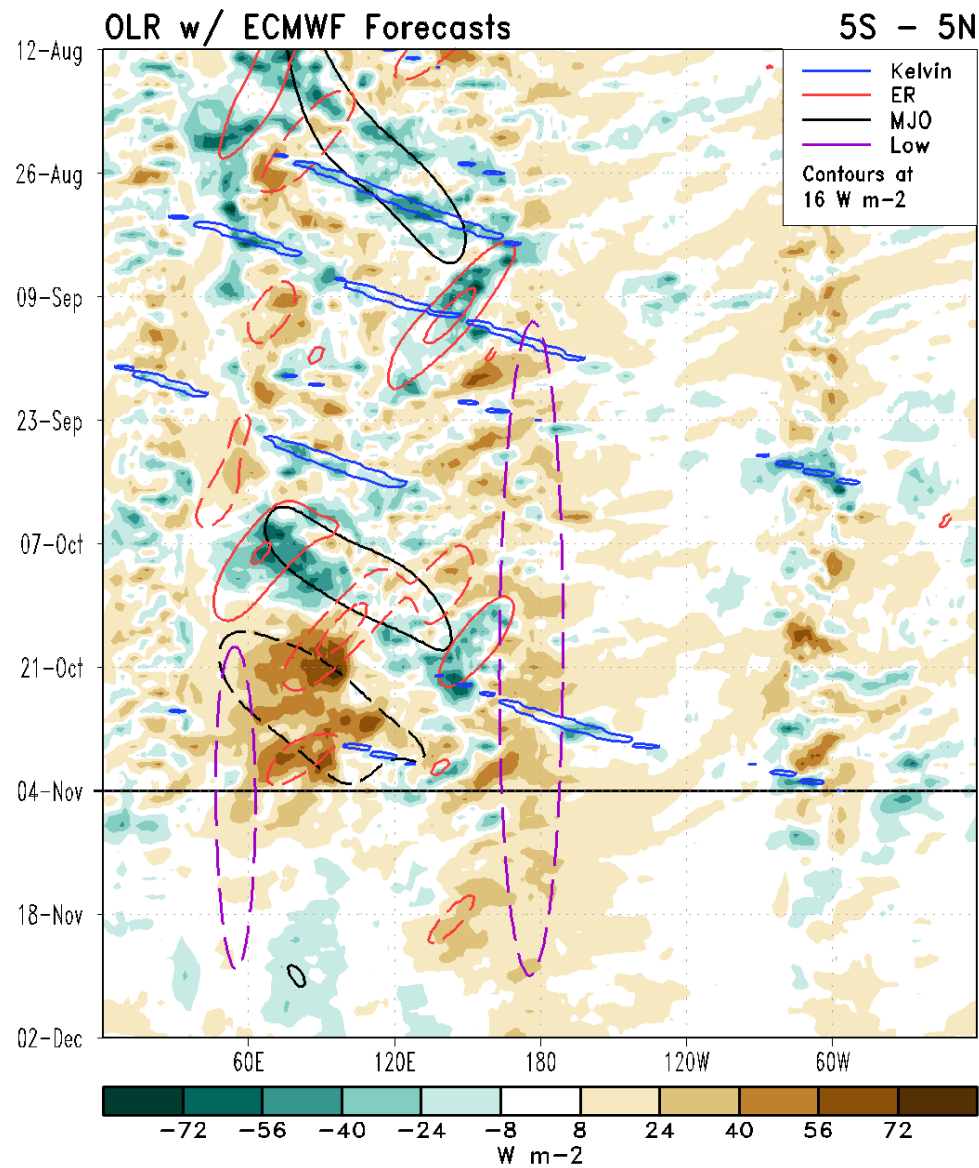


RMM Index Observations & Forecasts:



- All dynamical model systems indicate continued MJO activity through at least Week-3.

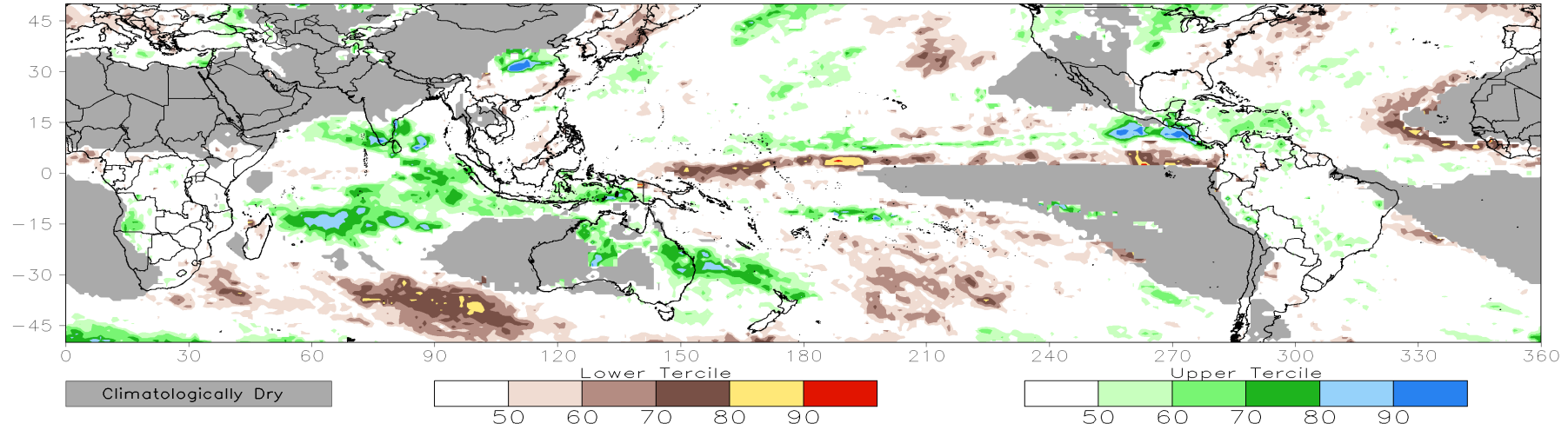
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

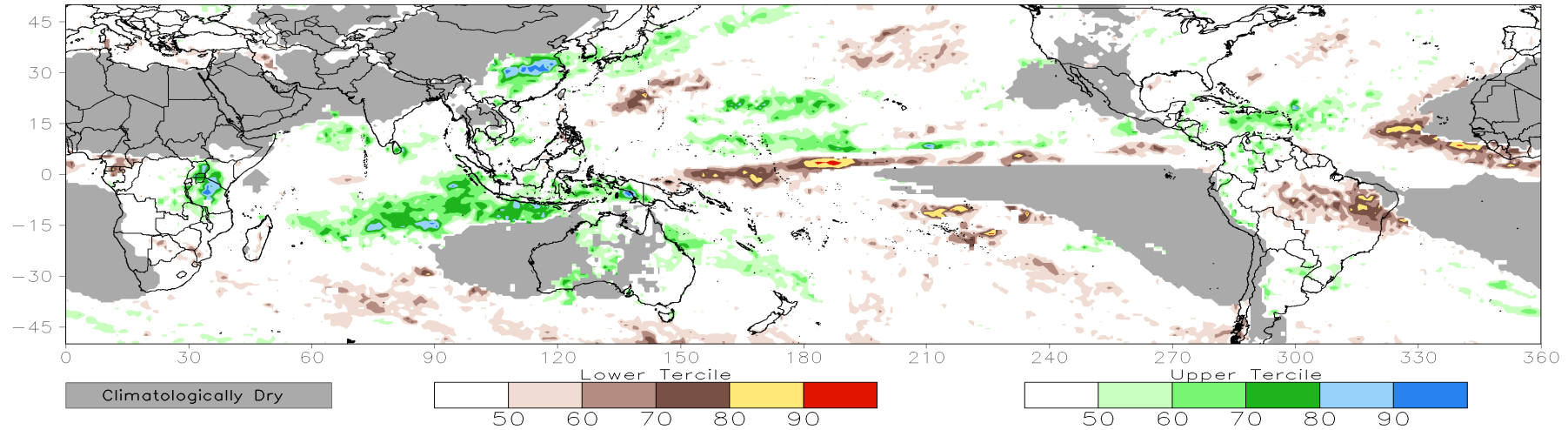
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 13Nov2024–19Nov2024



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

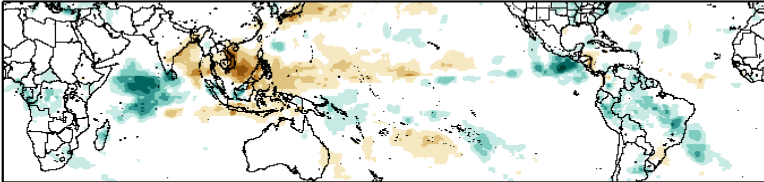
Valid: 20Nov2024–26Nov2024



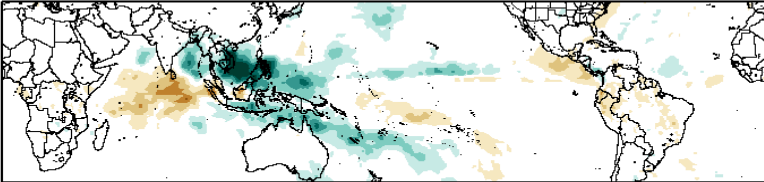
Historical Precipitation Anomalies By MJO Phase:

OND MJO Composite: GPCP1DD (mm/day)

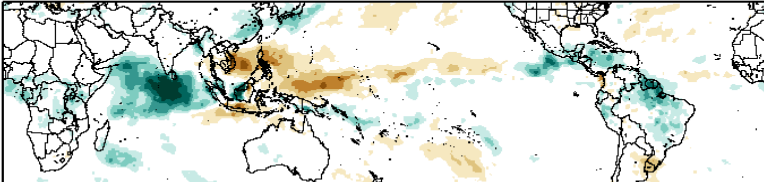
Phase 1



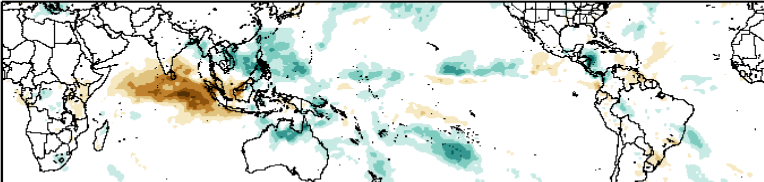
Phase 5



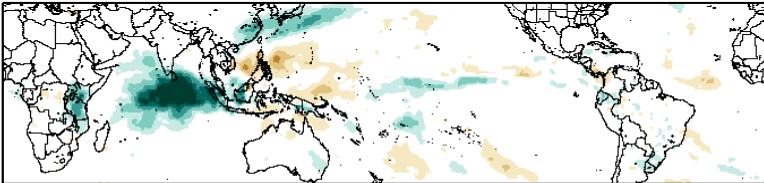
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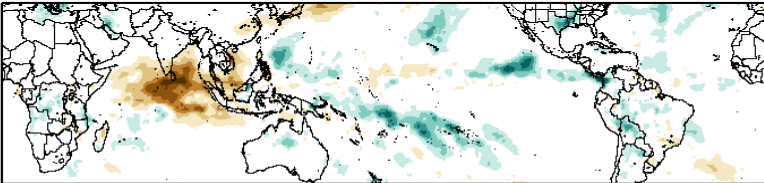
Phase 6



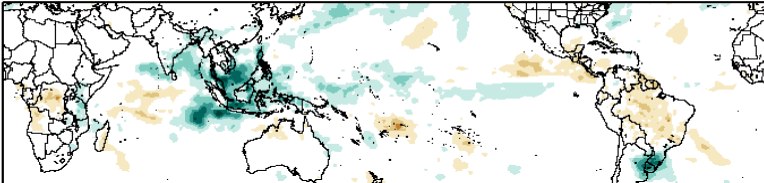
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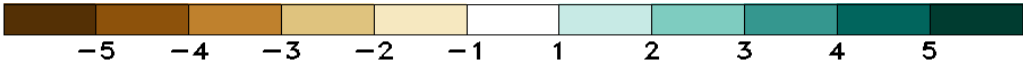
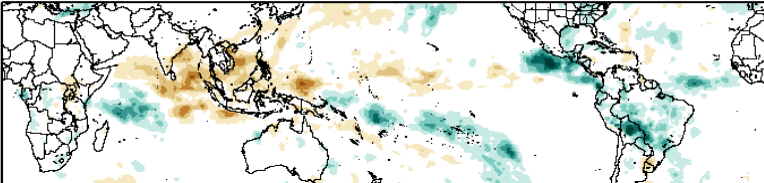
Phase 7



Phase 4

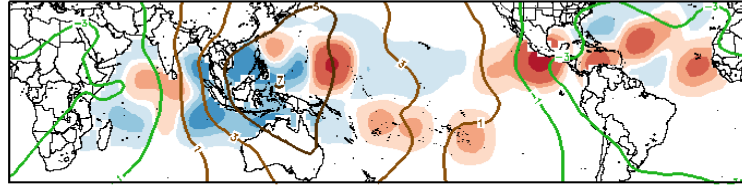


Phase 8

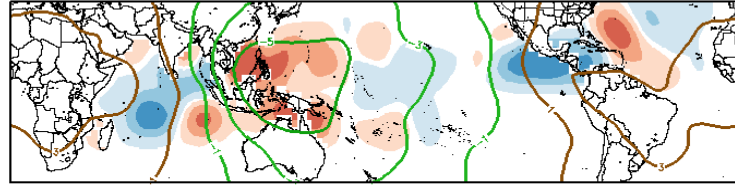


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

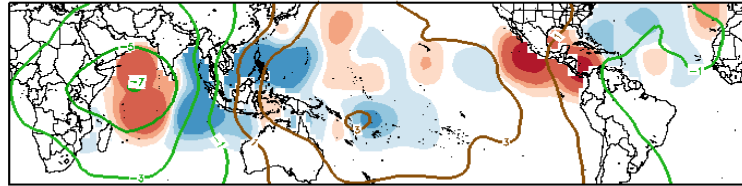
OND MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ OND CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



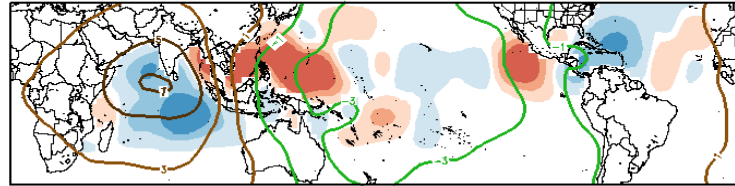
Phase 1



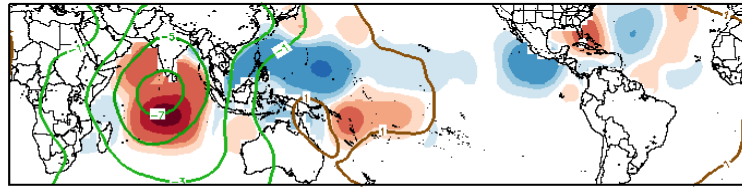
Phase 5



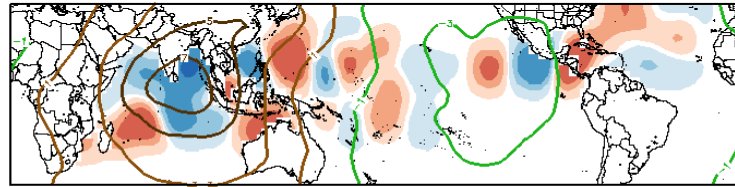
Phase 2



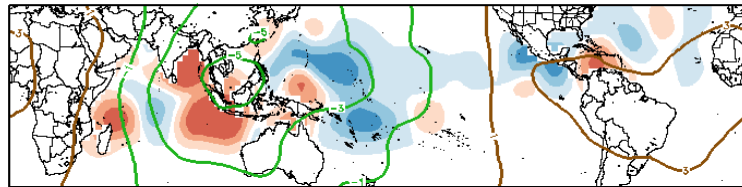
Phase 6



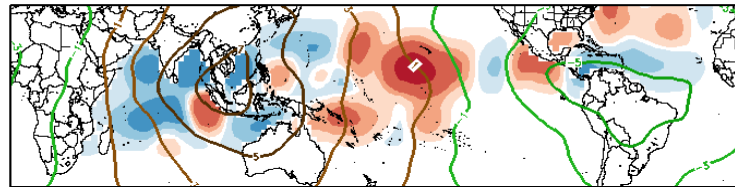
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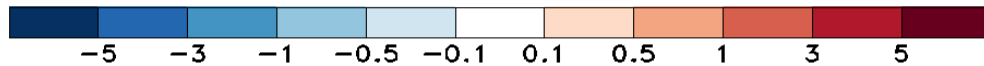
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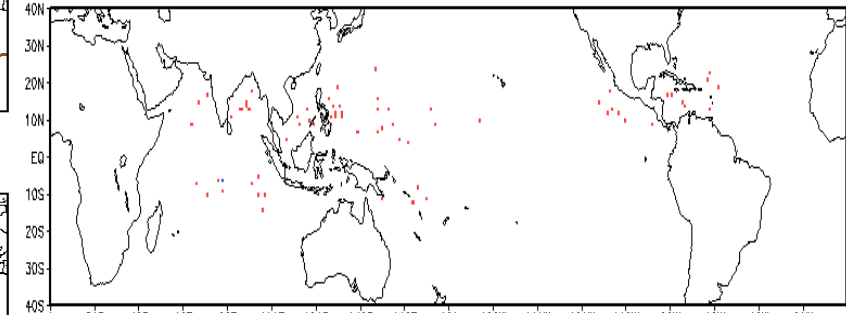
Phase 4



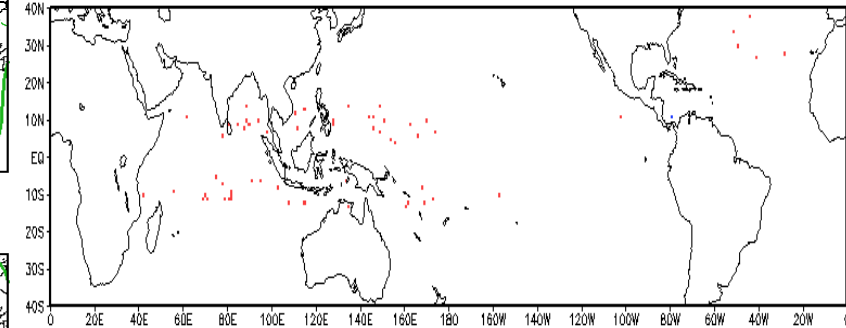
Phase 8



Observed TC Genesis, 1979–2021
7-day Period 1113 to 1119

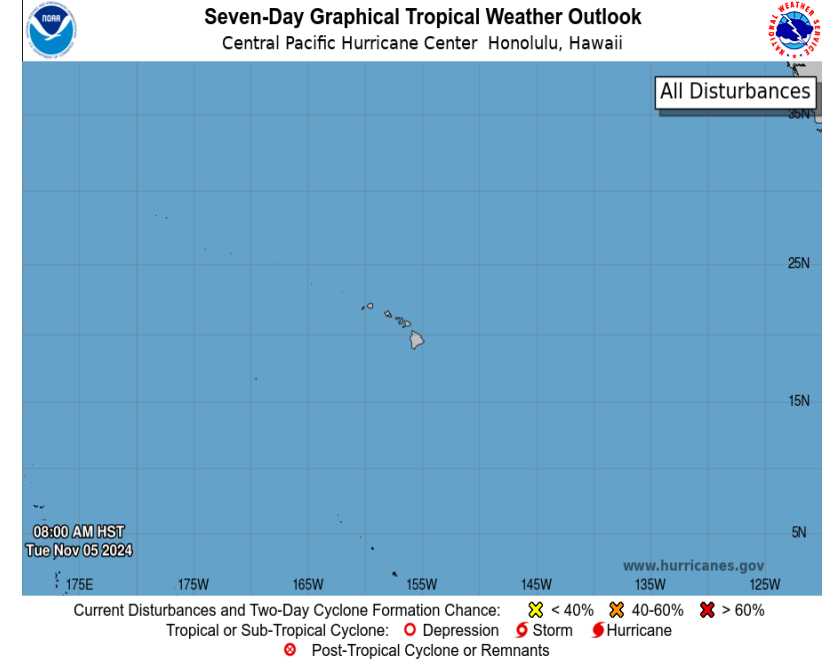
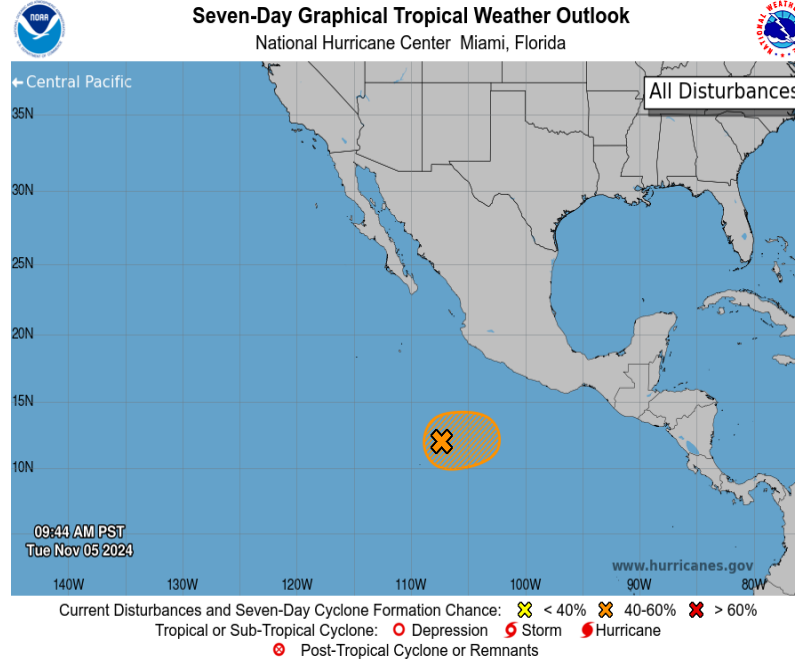
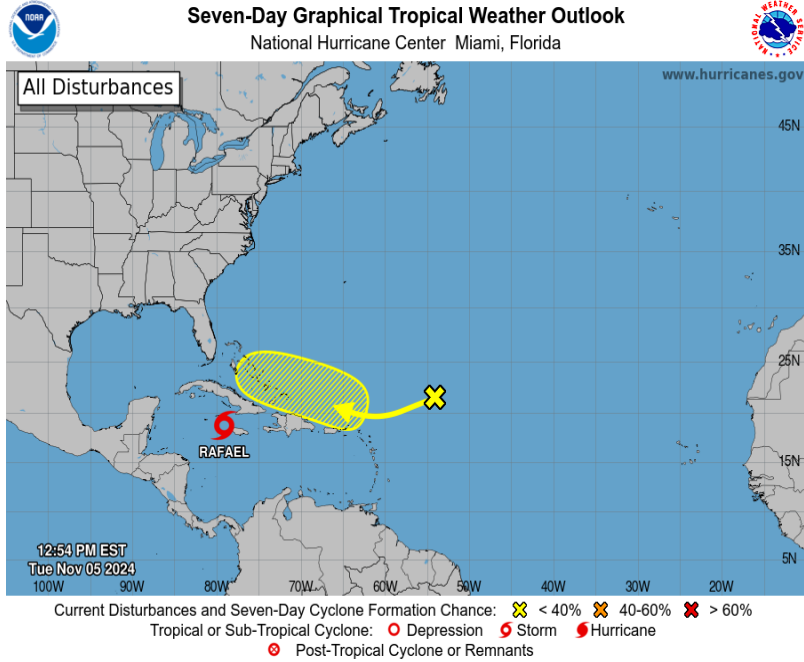


Observed TC Genesis, 1979–2021
7-day Period 1120 to 1126



Experimental

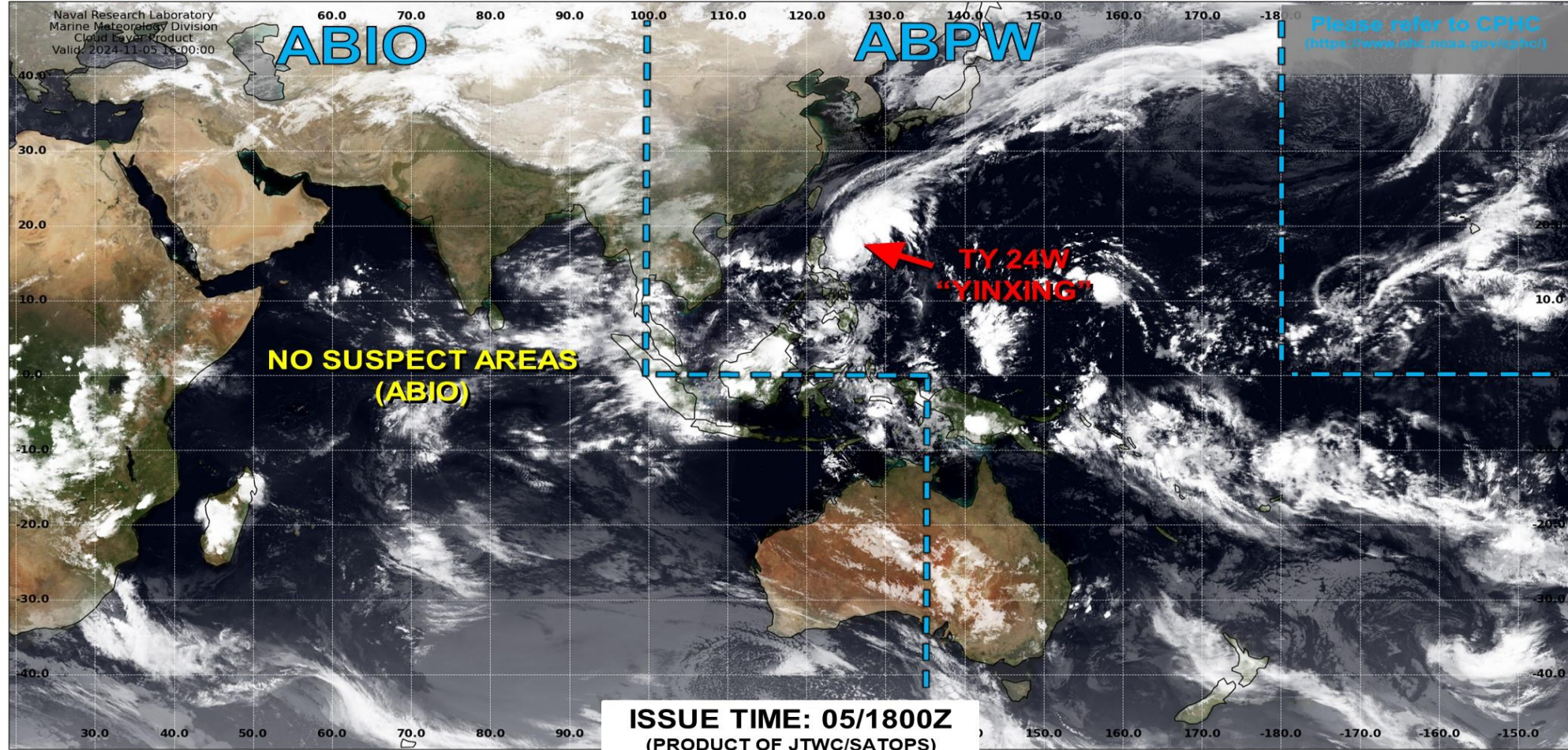
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



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)



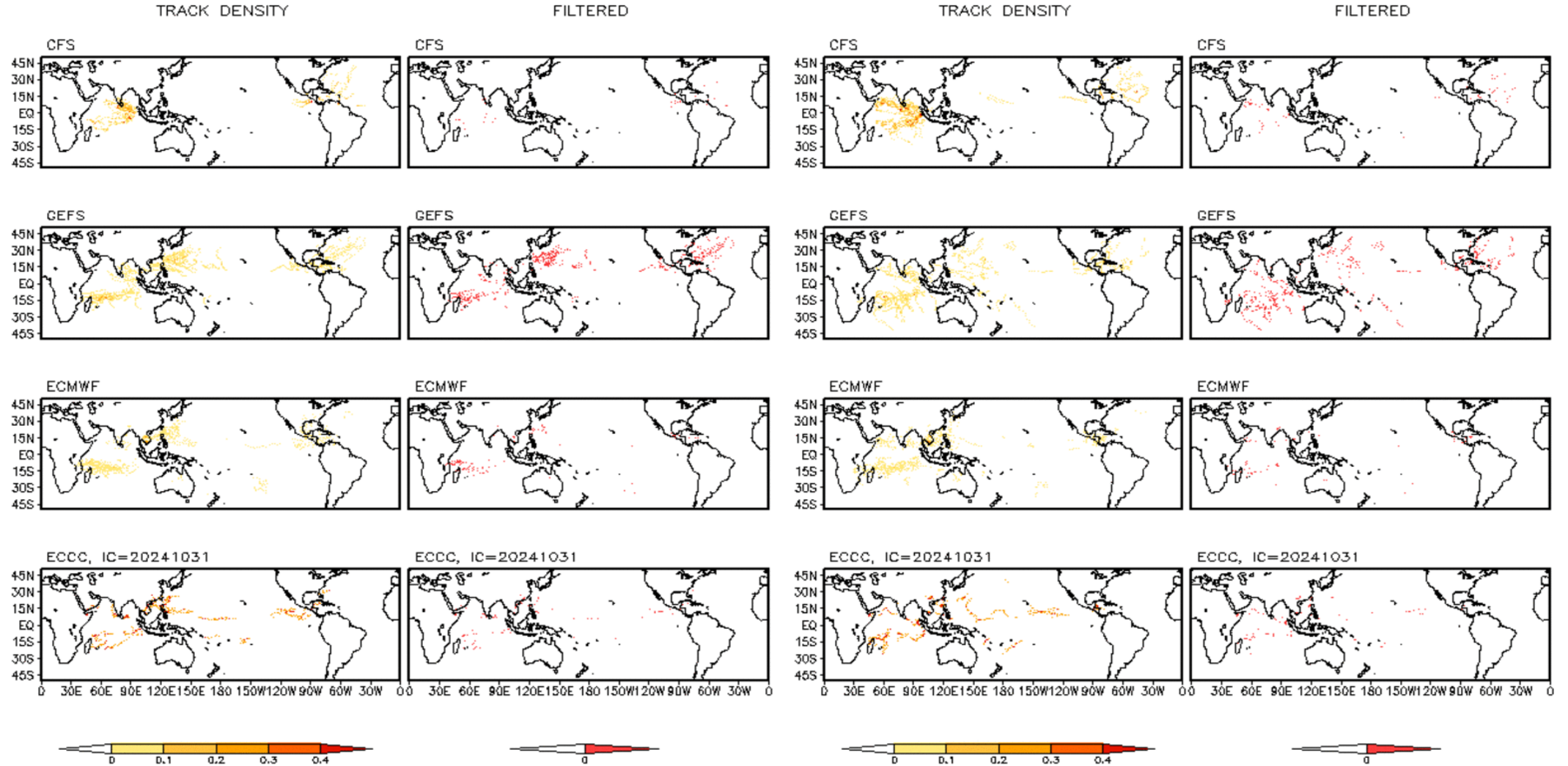
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)

Multi-Model TC Track Densities: Weeks 2+3

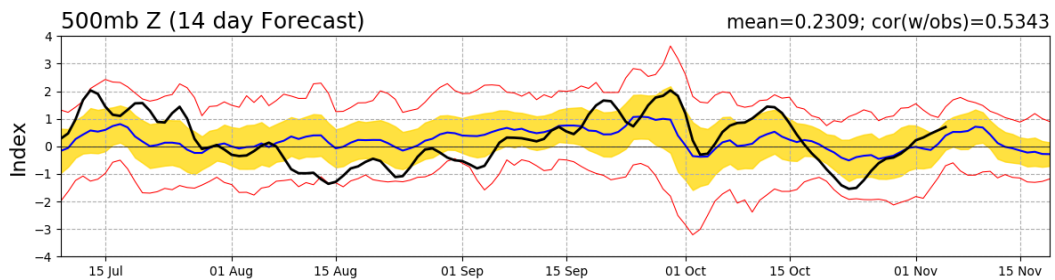
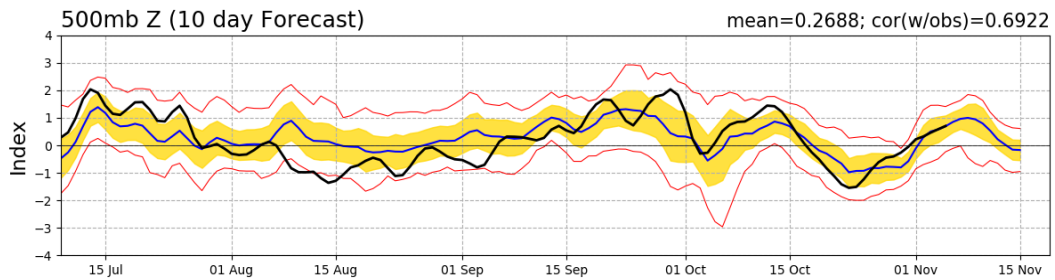
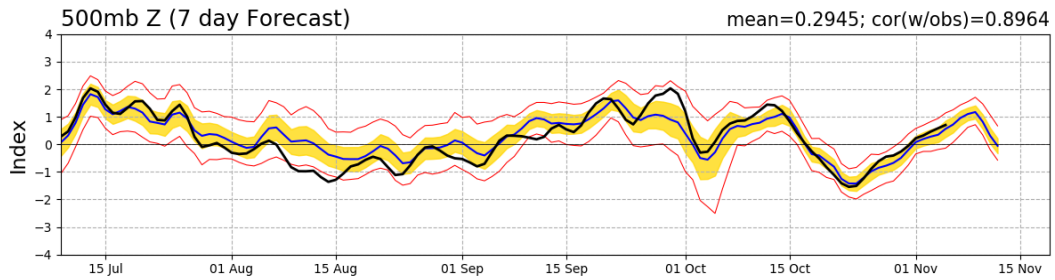
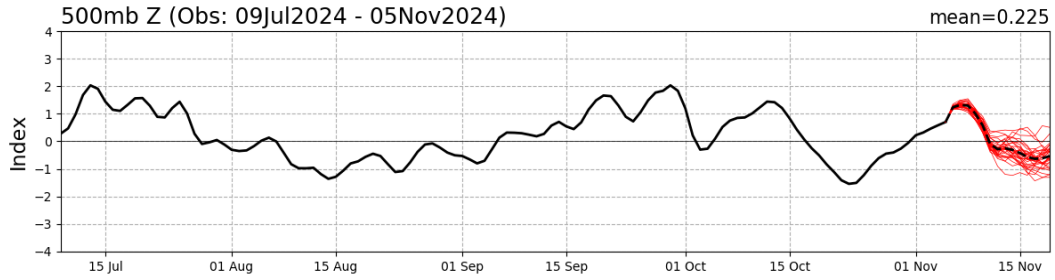
Storm Track Density Distribution, IC=20241104
Week 2 Forecast: 1113–1119

Storm Track Density Distribution, IC=20241104
Week 3 Forecast: 1120–1126

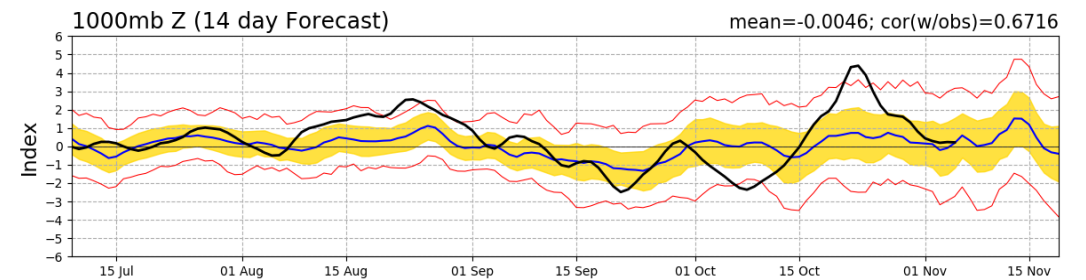
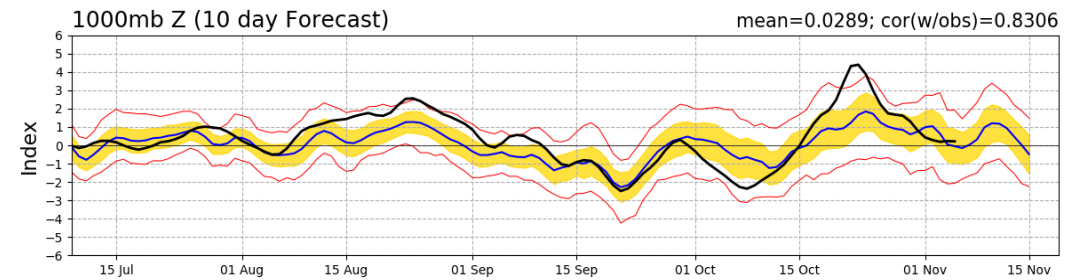
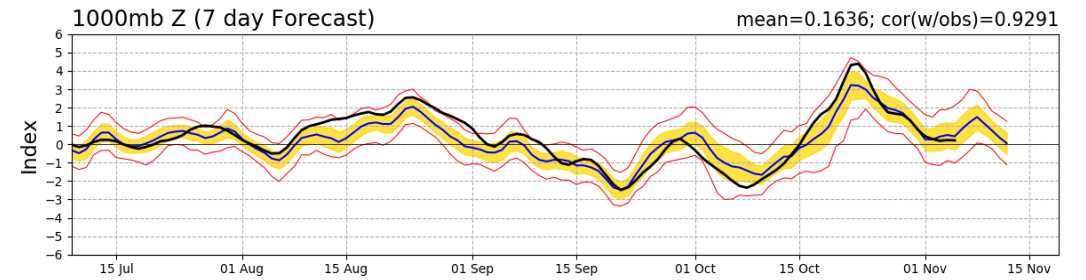
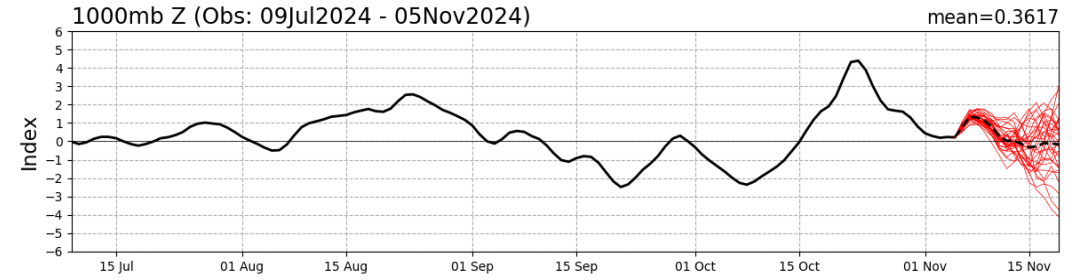


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts



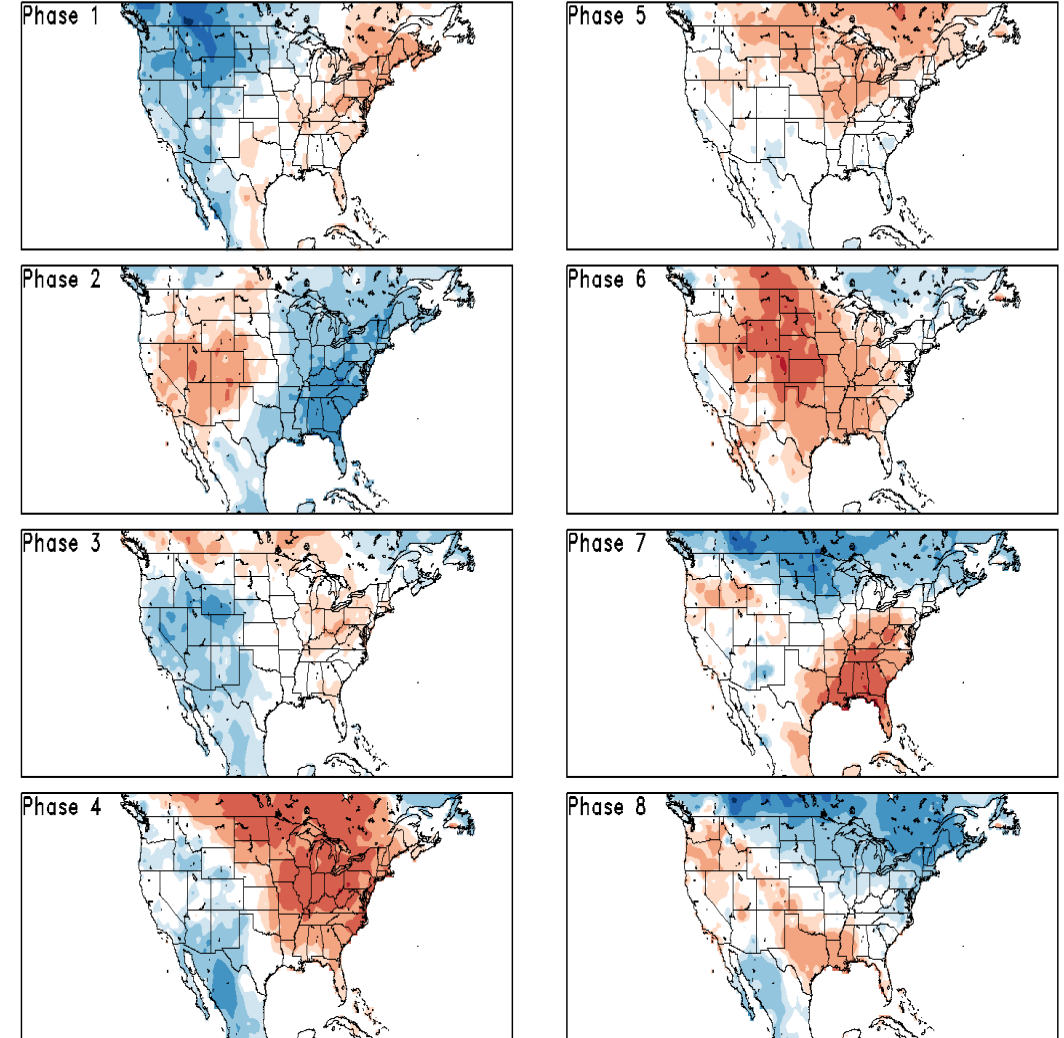
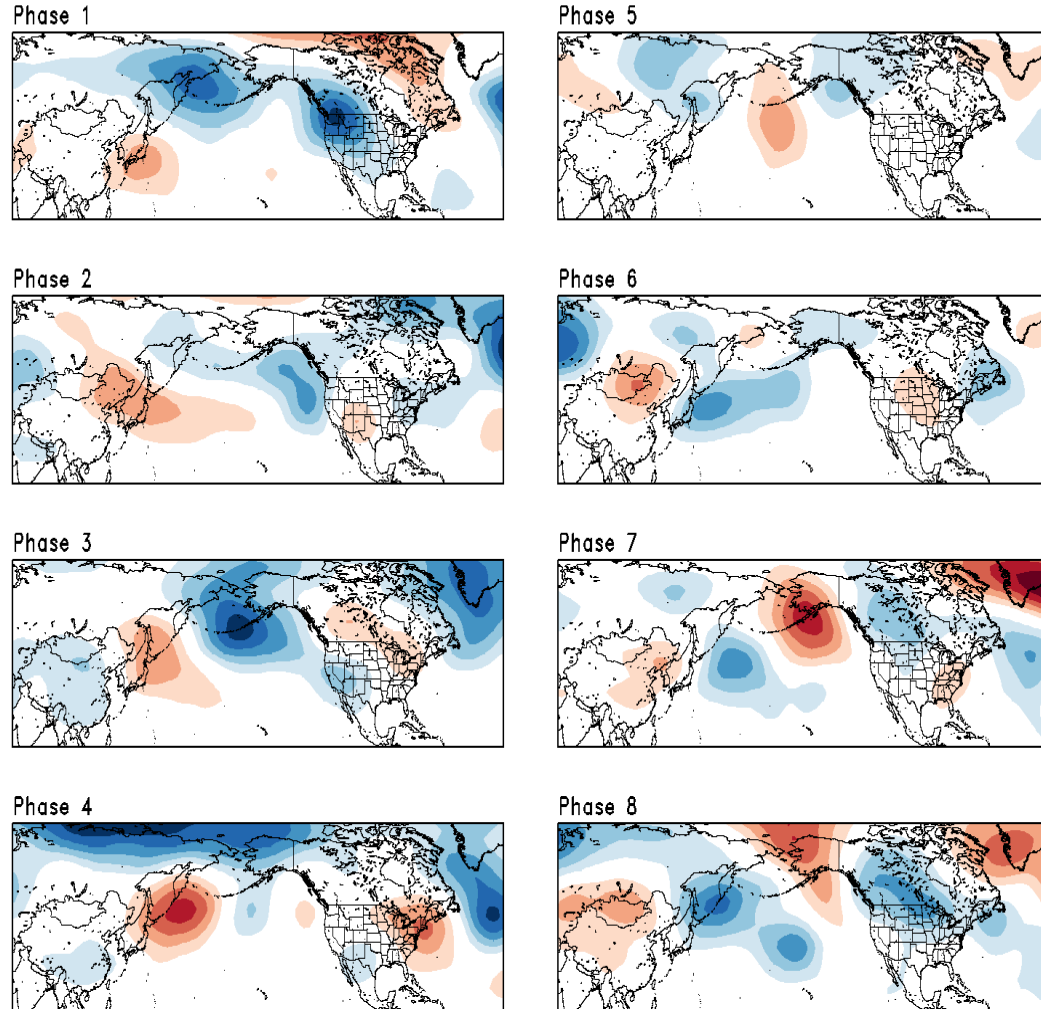
AO Index: Observed & GEFS Forecasts



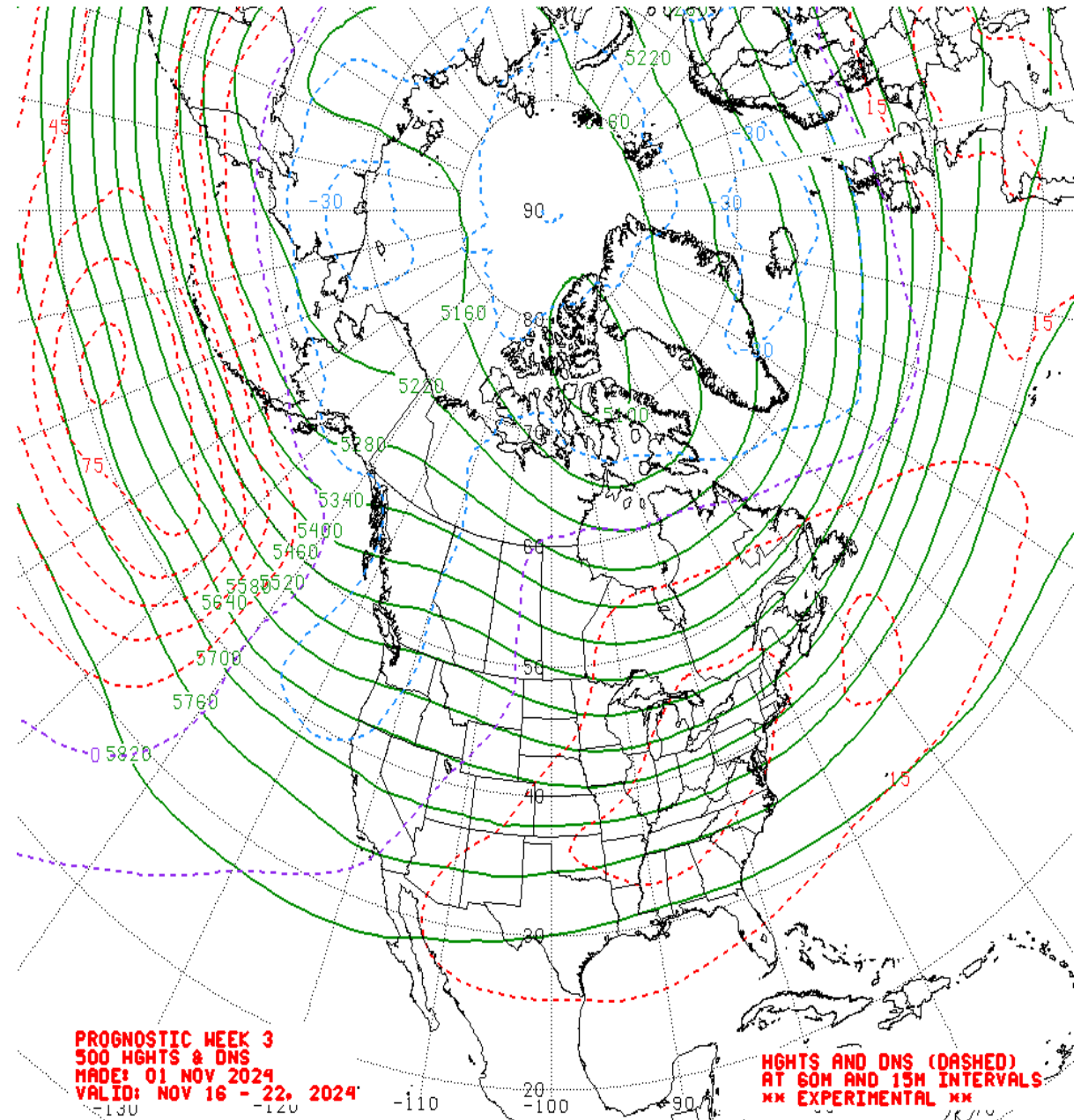
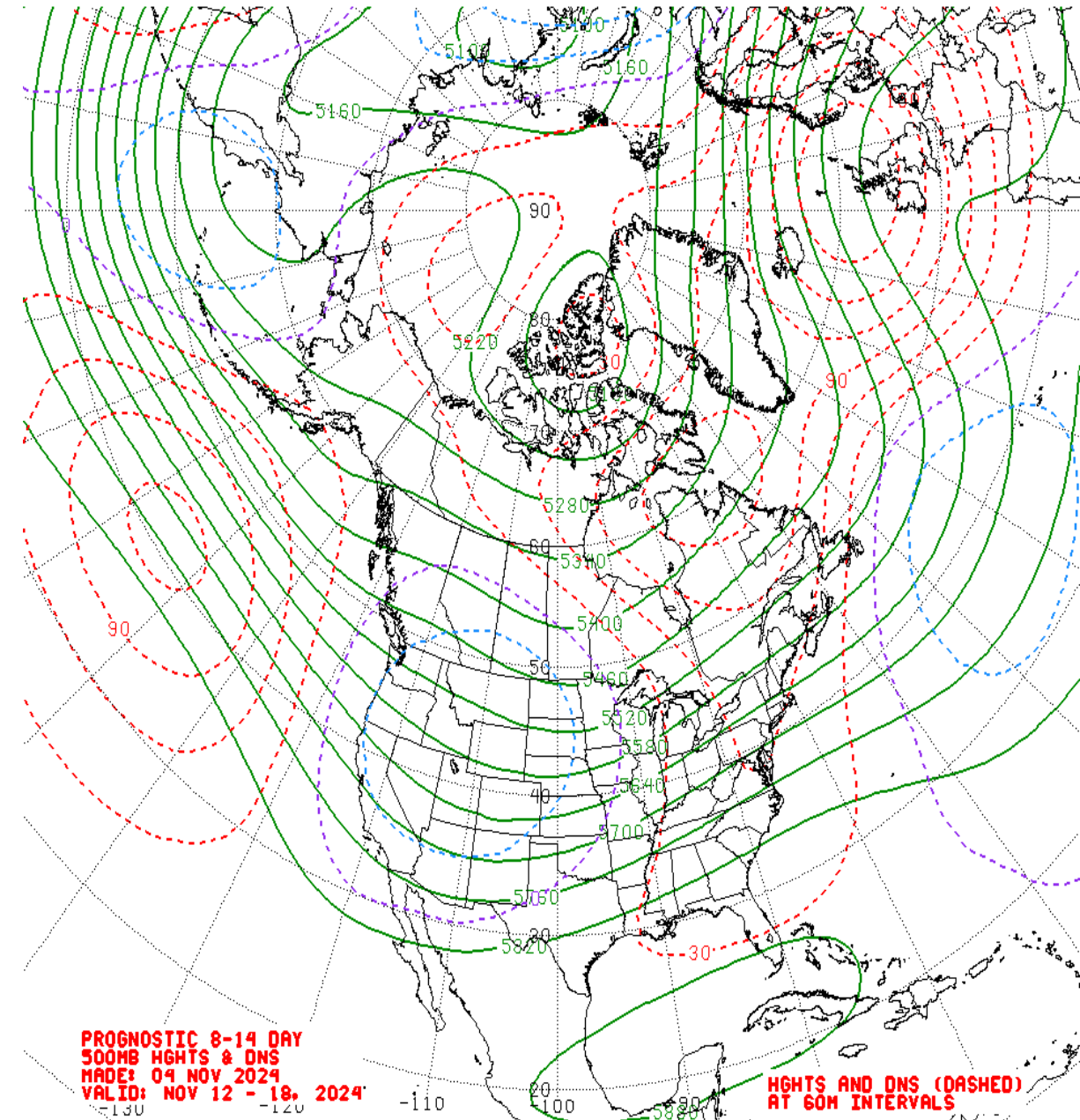
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

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

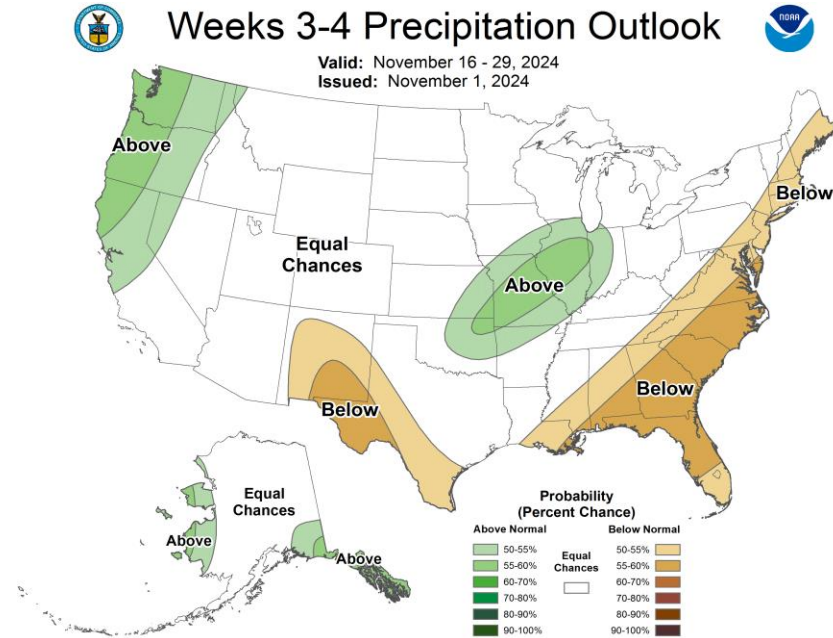
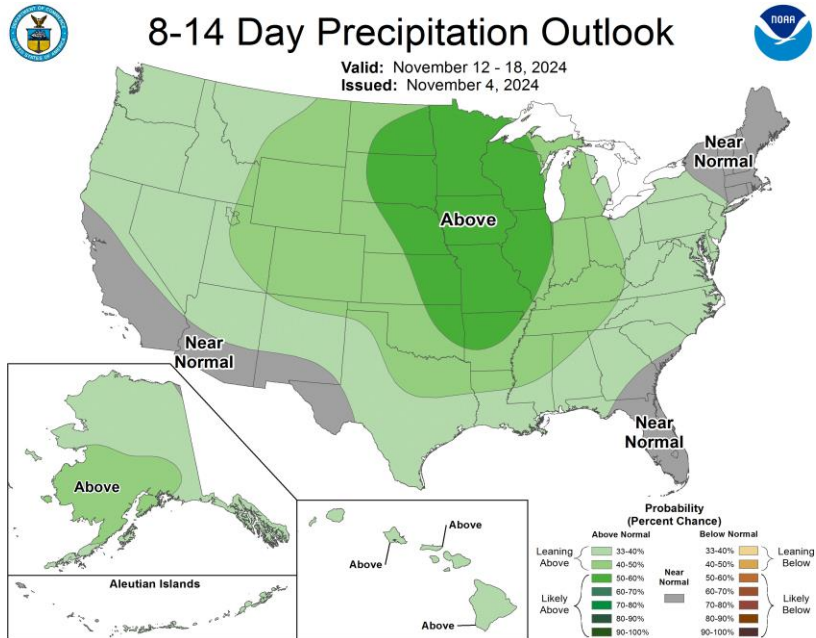
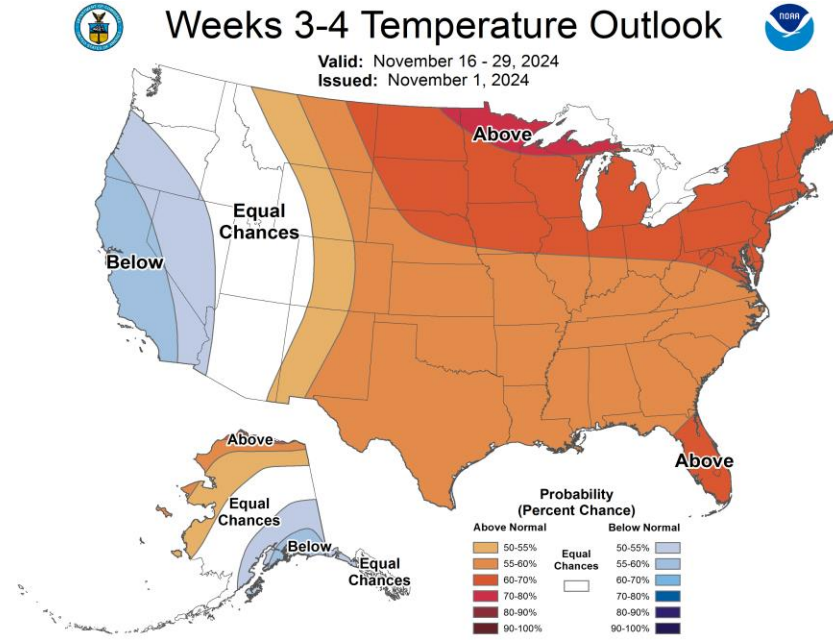
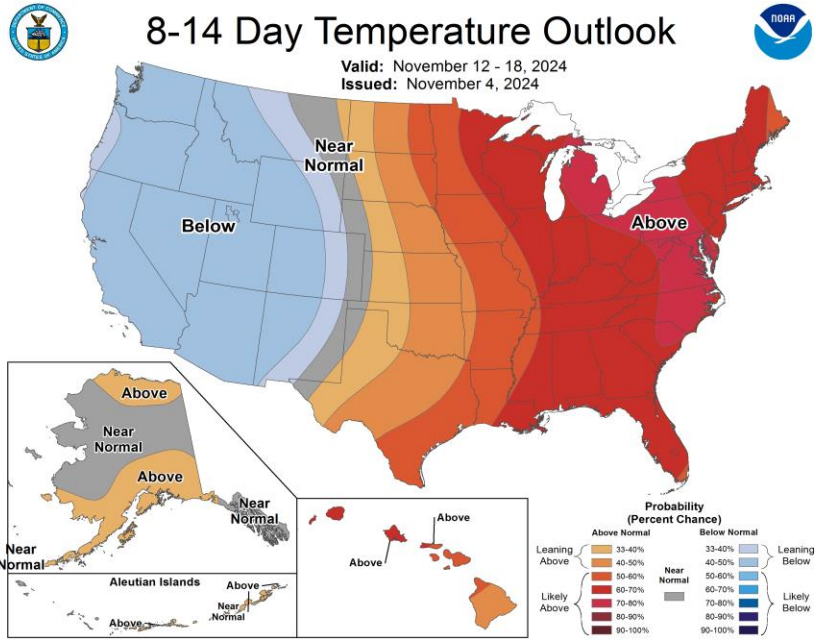
OND MJO Composite: GLBT (degC)



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



Official Temperature & Precipitation Forecasts:



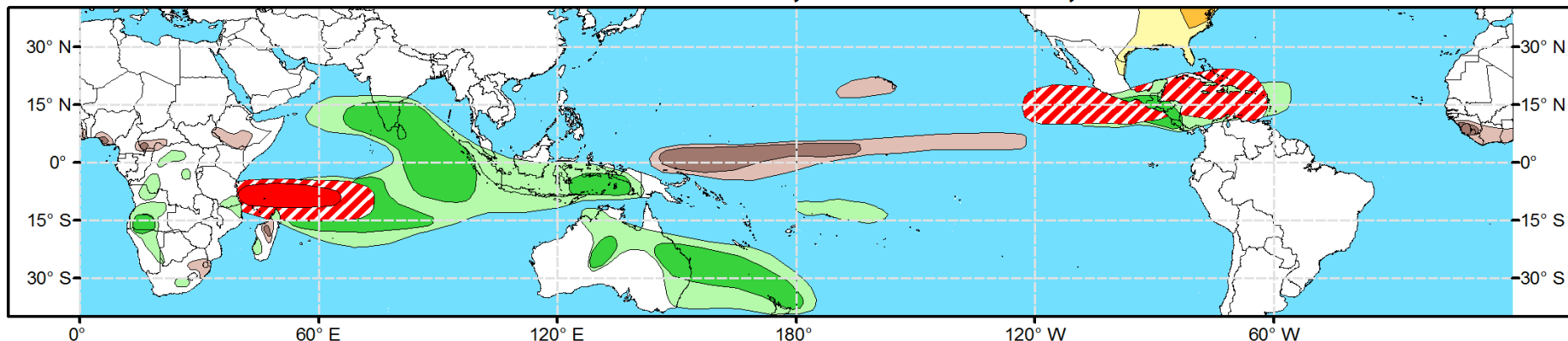


Global Tropics Hazards Outlook

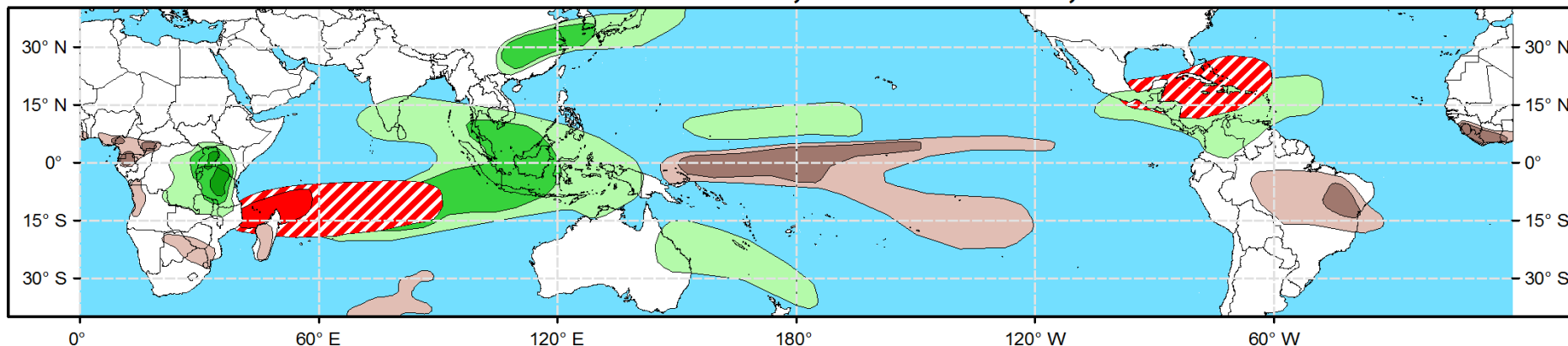
Climate Prediction Center



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