Weeks 2-3 Global Tropics Hazards Outlook

12/17/2024

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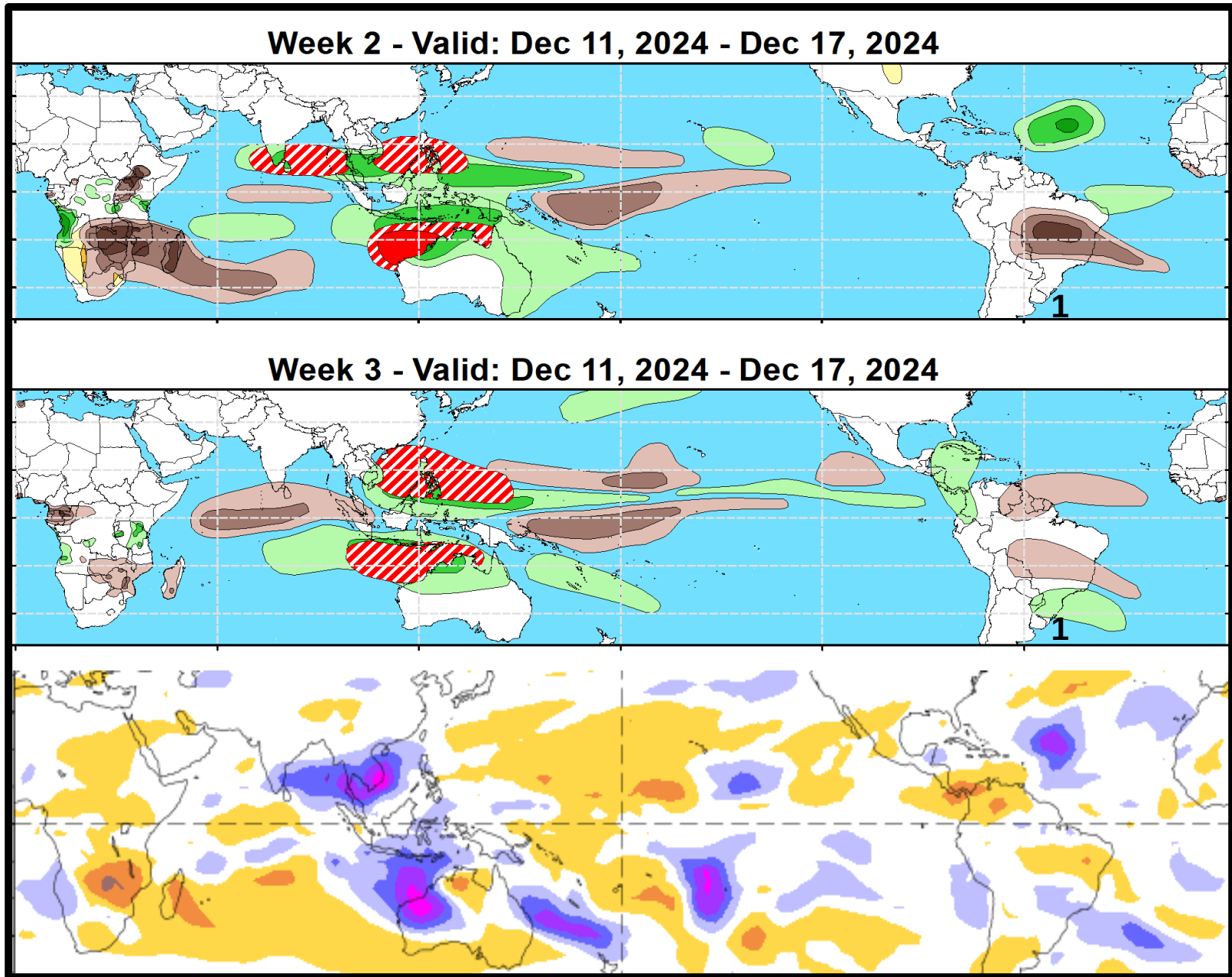
NWS / NCEP / Climate Prediction Center

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

- 1: Bigua, Dec 15
- TC development imminent east of the Philippines



Synopsis of Climate Modes:

ENSO: (Dec 12, 2024 Update) ***next update on Thursday, Jan 9th***

- ENSO Alert System Status: La Niña Advisory

- La Niña conditions are most likely to emerge in November 2024 - January 2025 (59% chance), with a transition to ENSO-neutral most likely by March-May 2025 (61% chance).

MJO and other subseasonal tropical variability:

•The MJO has continued to be a significant player in the tropics. However, the emerging La Niña base state has been a growing source of interference with both the propagation and amplitude of the MJO.

•Dynamical model forecasts depict continued eastward propagation of the MJO signal with a slow phase. Extended range RMM-index solutions indicate the potential for a surge in the strength of the MJO during weeks 3&4 as it moves out into the Central Pacific and La Niña interference lessens.

•A continued eastward MJO propagation over the Pacific would favor a period of below-normal temperatures across the northeastern U.S. to start off the New Year, as well as a wet start for the West Coast.

GTH Outlook:

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Climate Prediction Center

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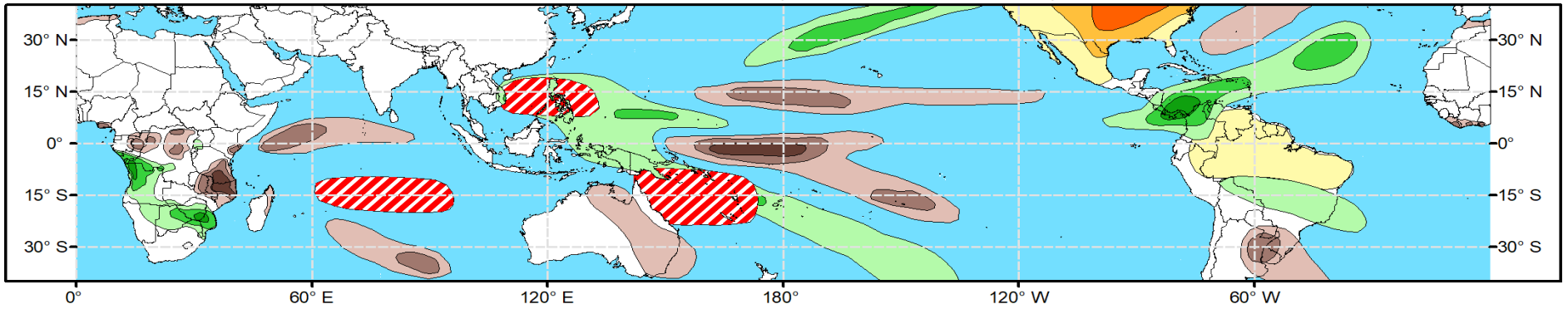

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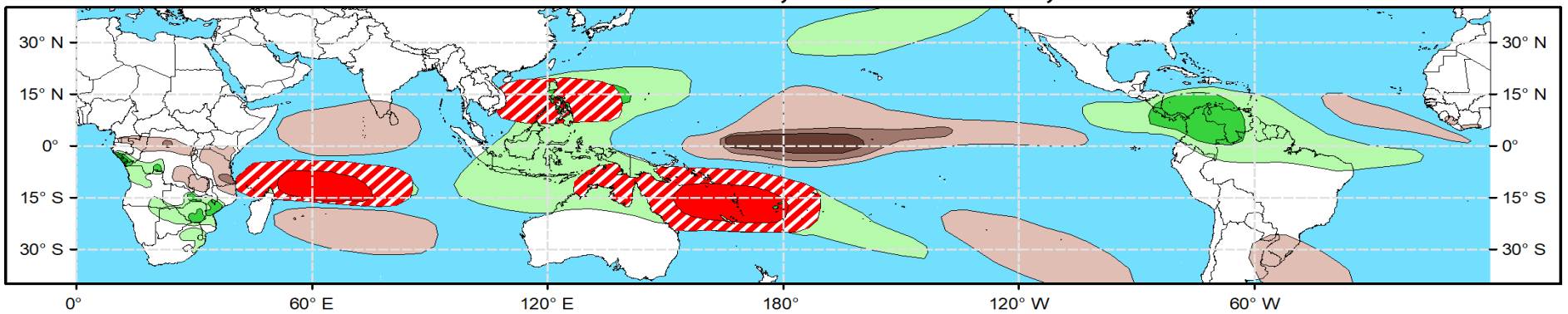

Tropical Cyclone (TC) Formation Probability

>20% >40% >60%

Tropical Depression (TD) or greater strength

Above-Average Rainfall Probability

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Weekly total rainfall in the Upper third of the historical range

Below-Average Rainfall Probability

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

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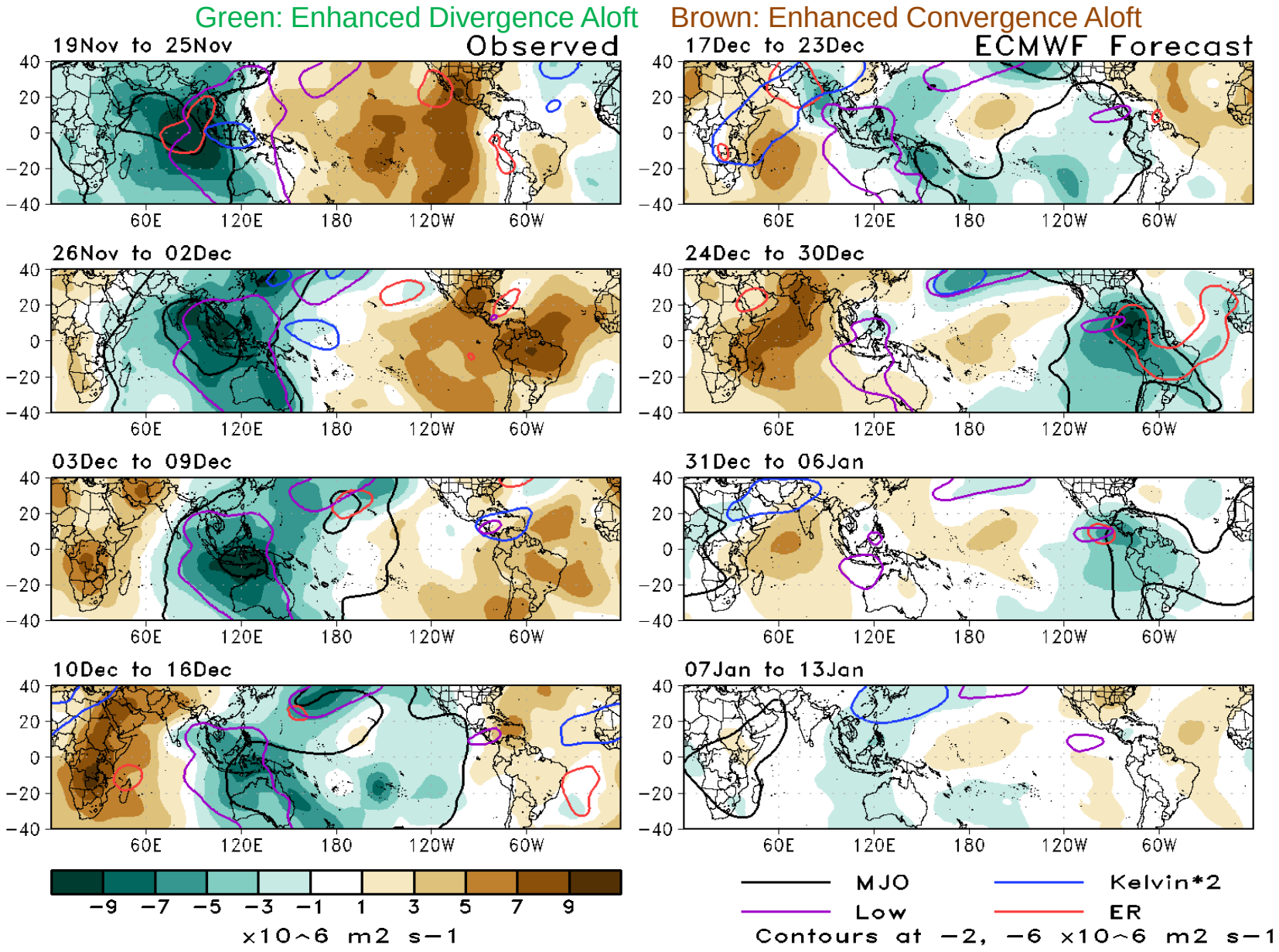
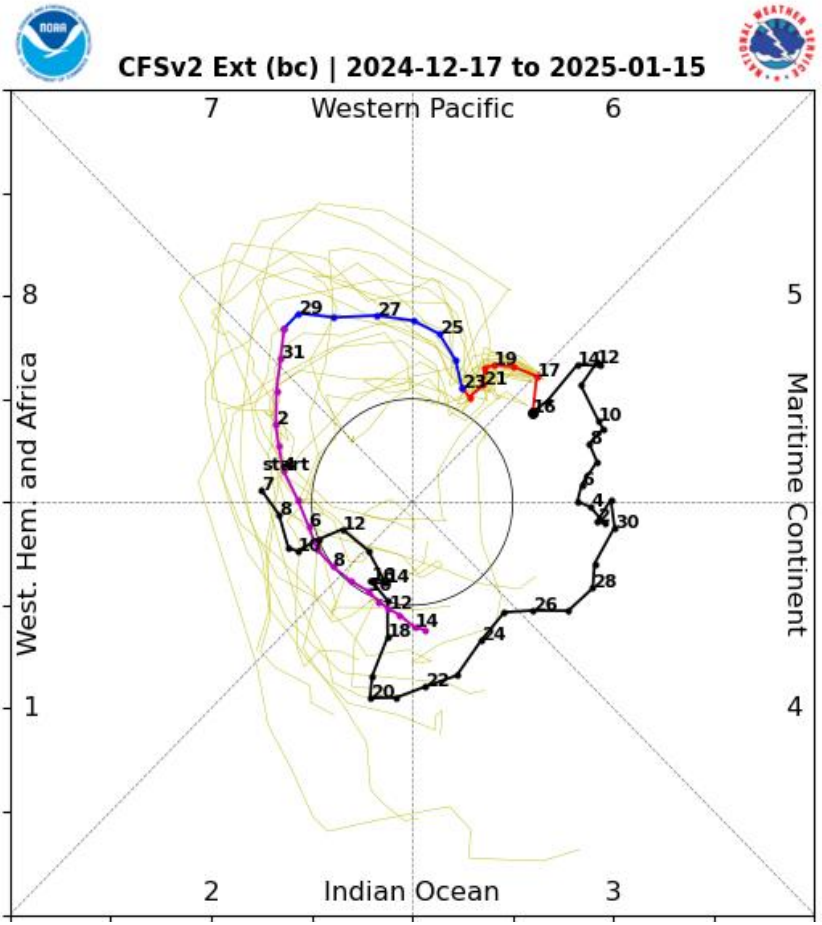
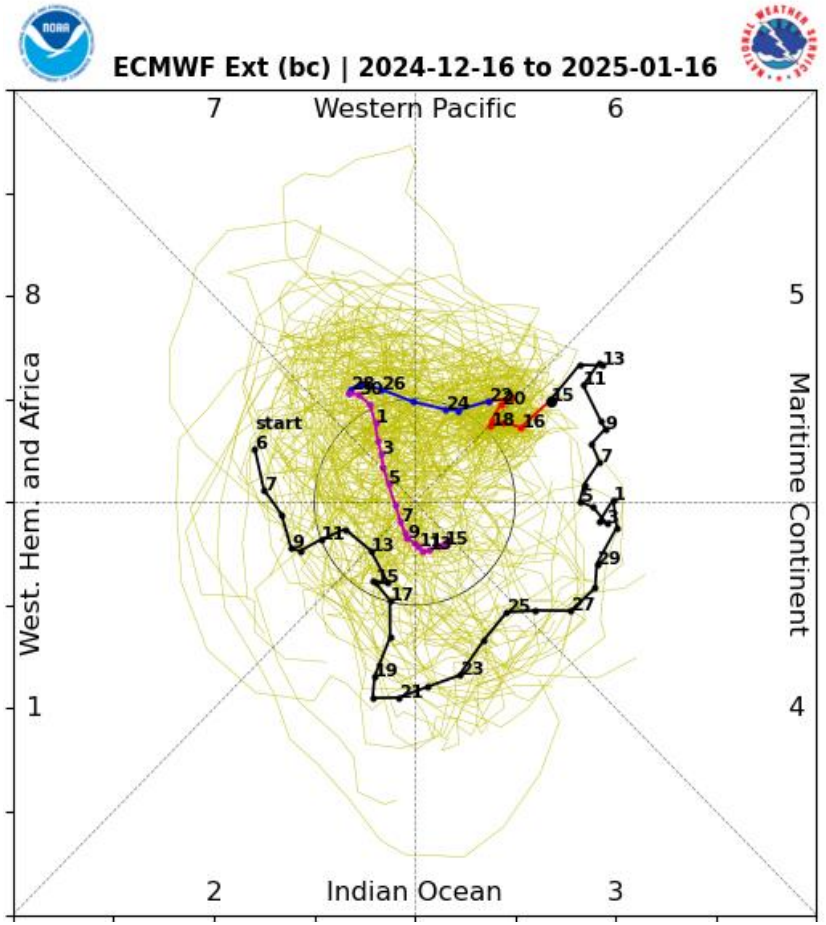
200-hPa Velocity Potential Anomaly Maps:

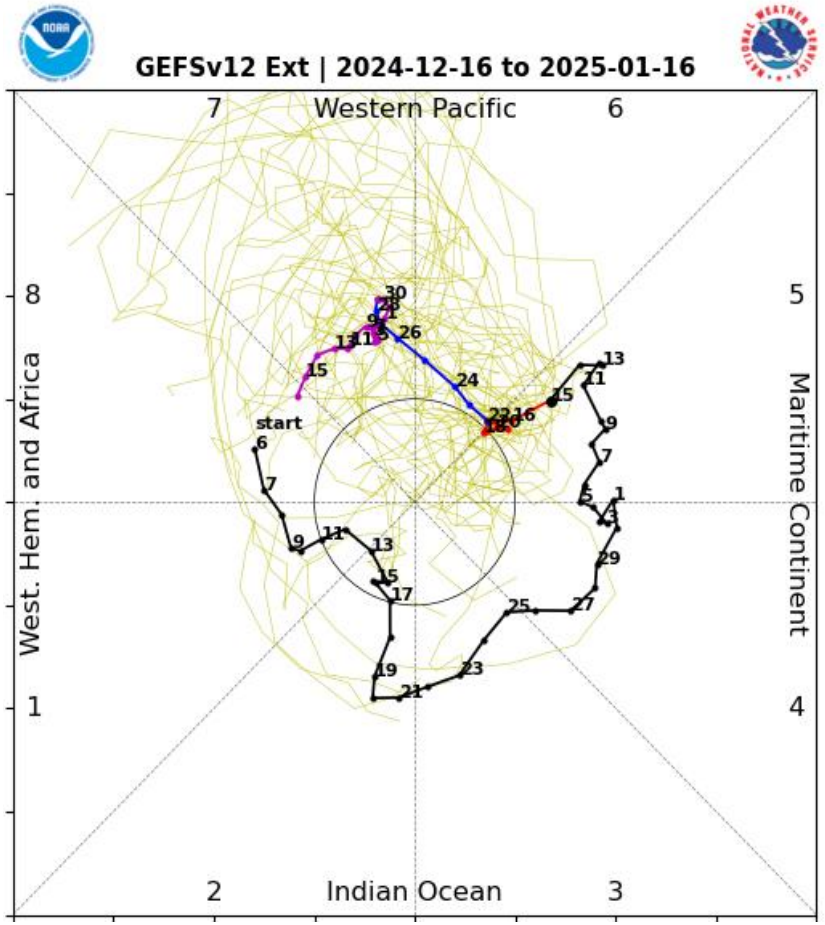
- Strong MJO activity is noted over the last month with a clear and amplified wave-1 asymmetry moving from the Indian Ocean into the Western Pacific.
- Looking ahead, other models are generally in good agreement with the ECMWF forecast to the right, with the MJO moving into the Western Hemisphere by week-2 and Africa by week-4.



RMM Index Observations & Forecasts:

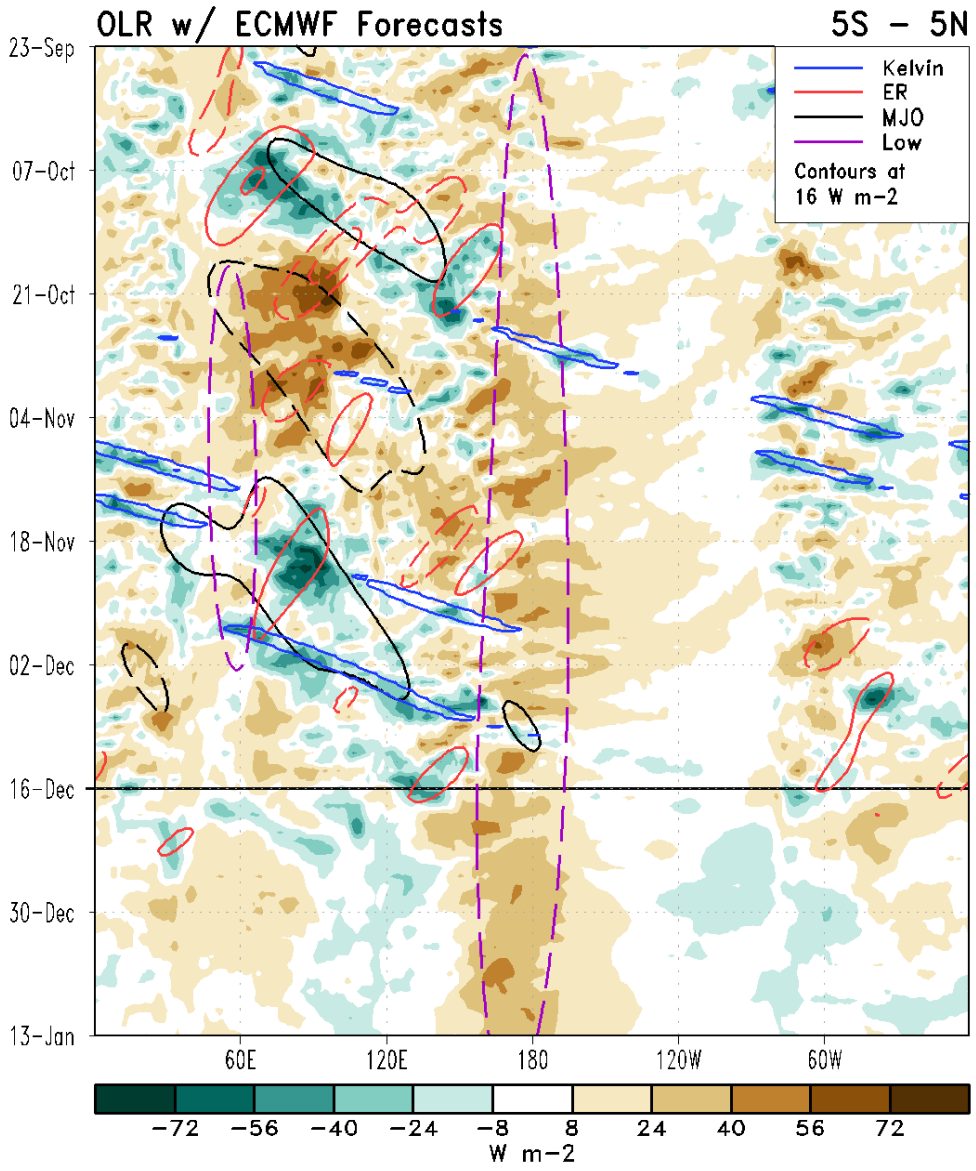


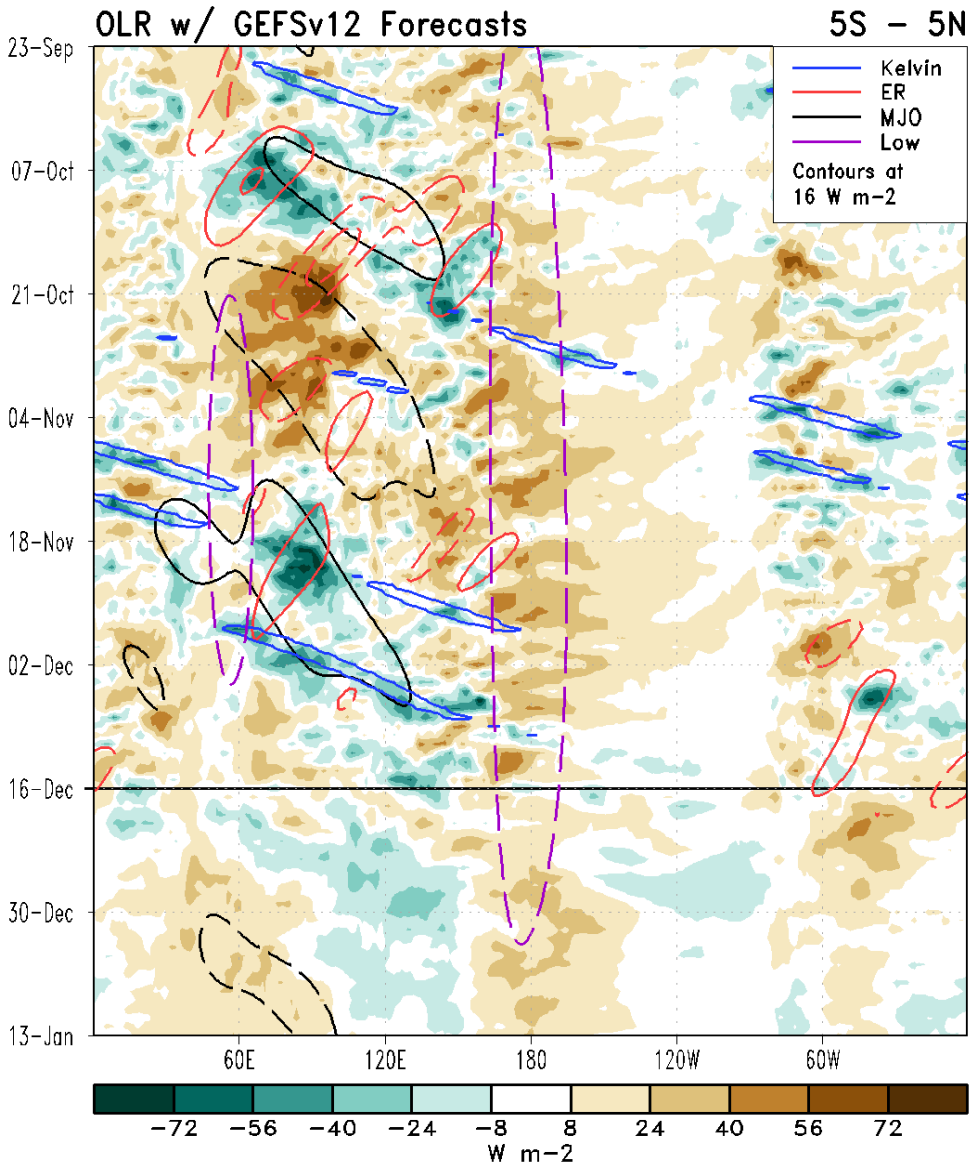




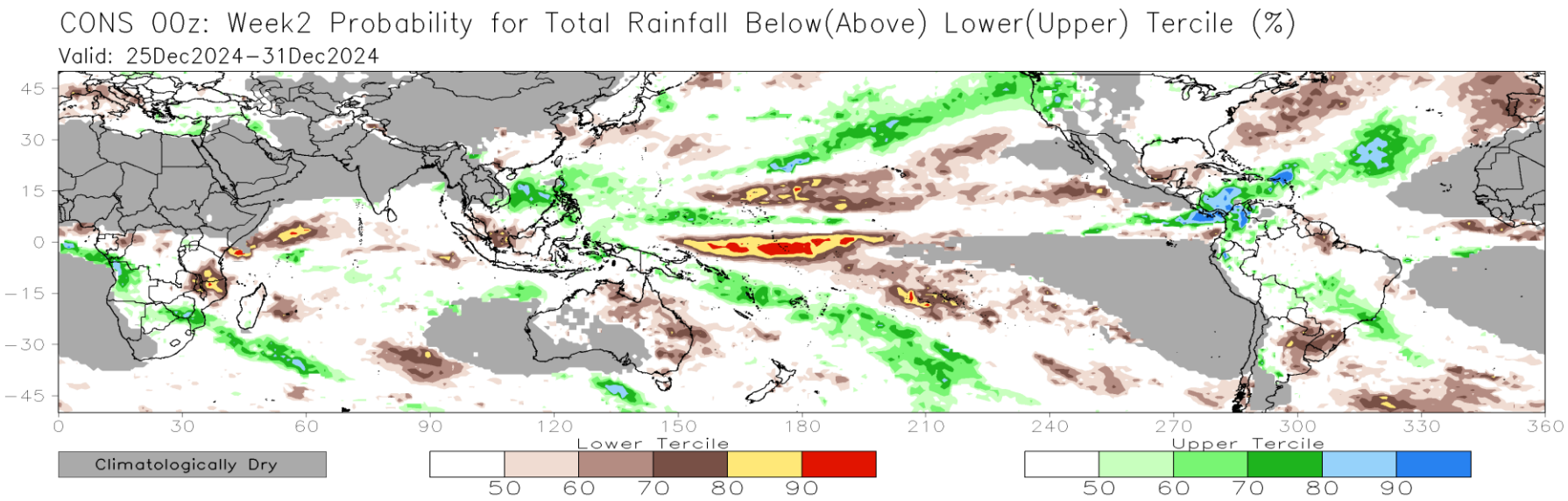
- RMM index forecasts are a little out pf phase with regard to velocity potential forecasts as seen on previous slide, with the index appearing to be right-shifted. This kind of shift can occur during changes to the ENSO regime, complication RMM interpretation.
- Regardless, model consensus depicts a continuation of MJO activity well into the New Year.

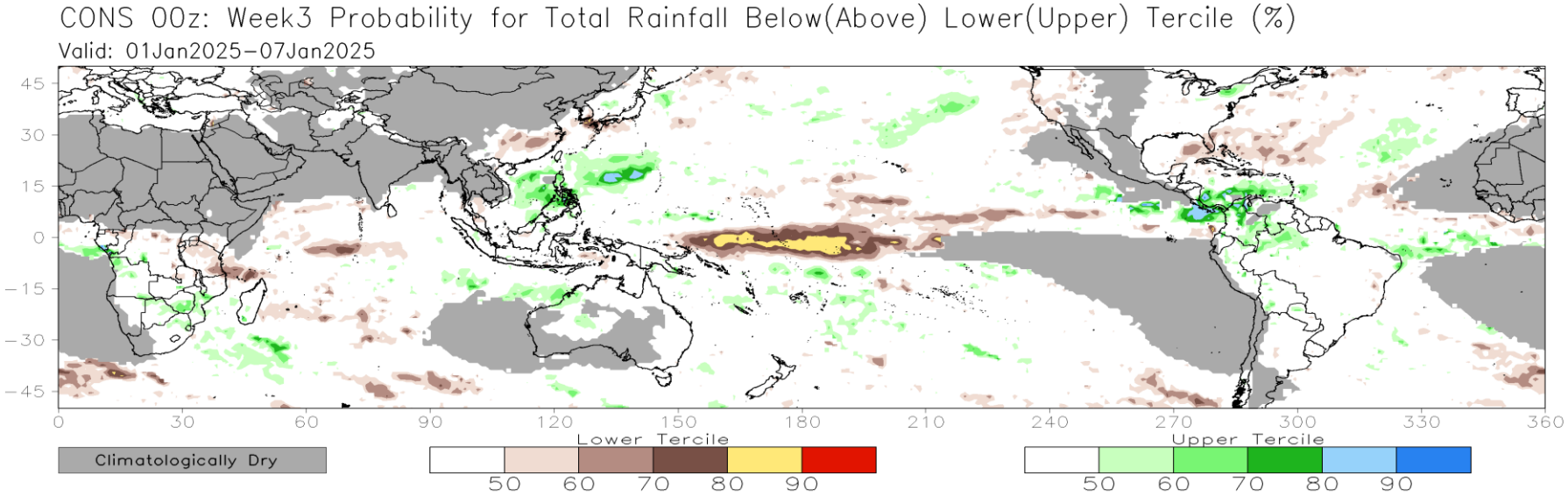
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



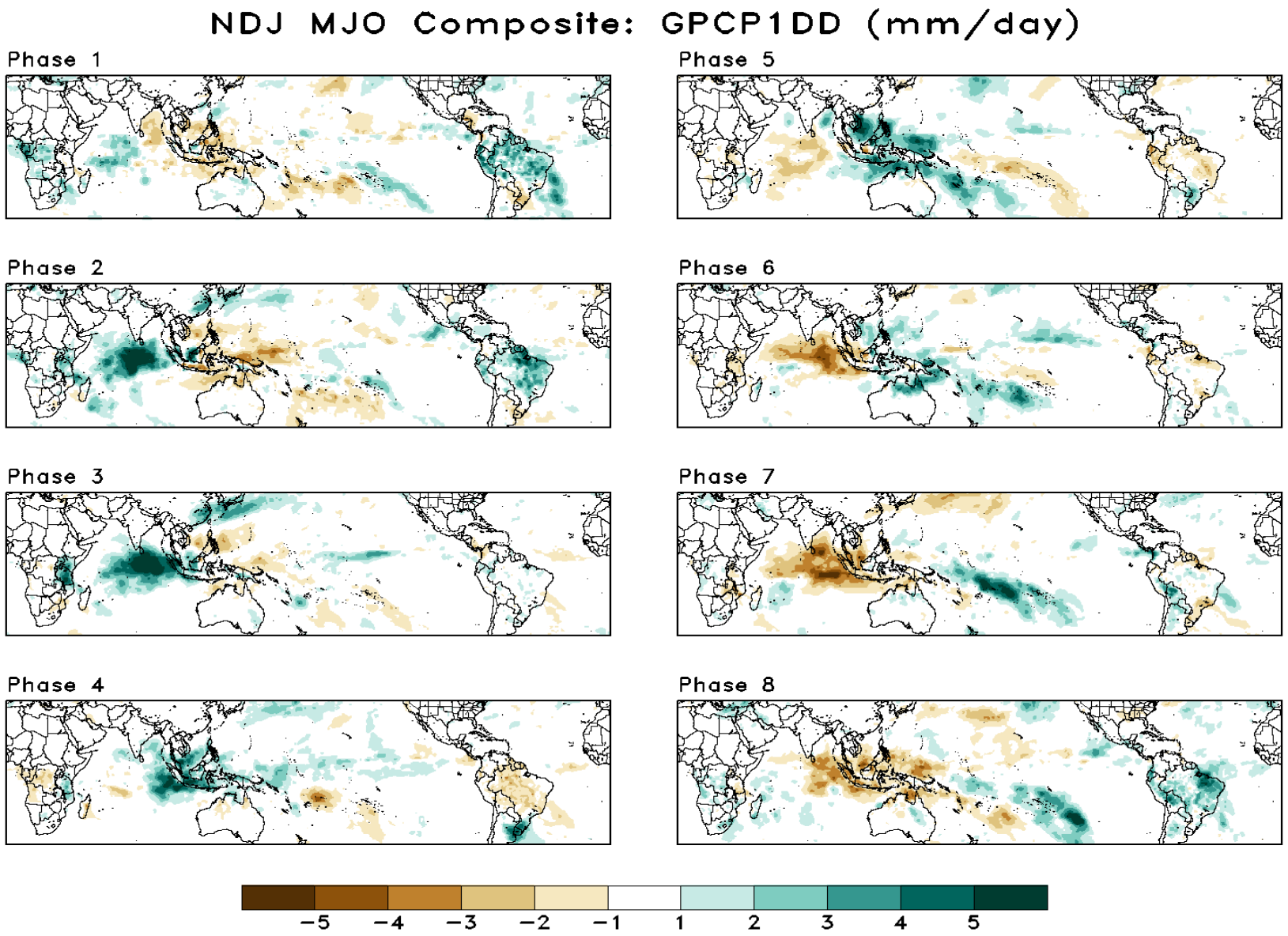


Consolidated Probabilistic Precipitation: Weeks 2 & 3

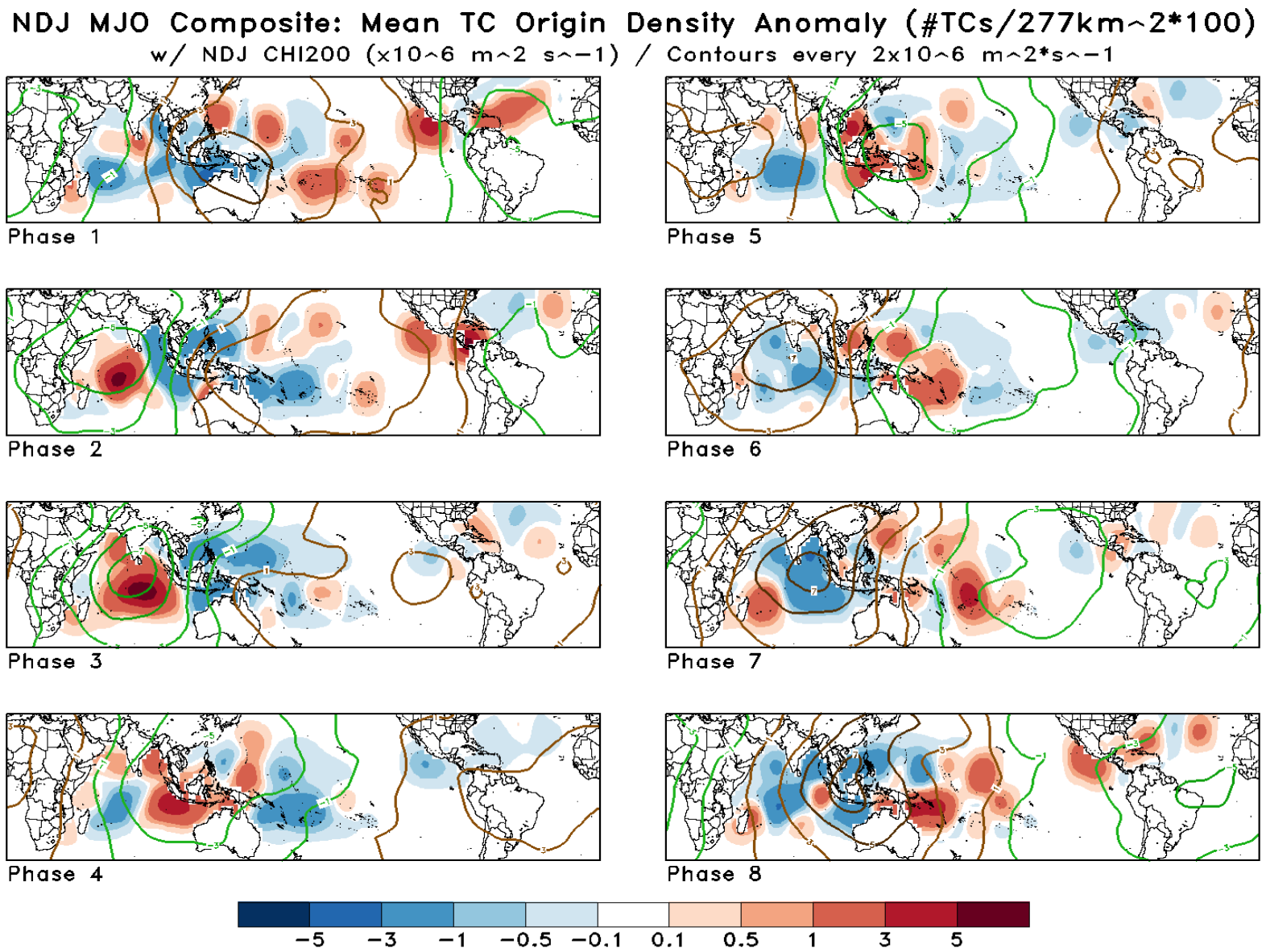


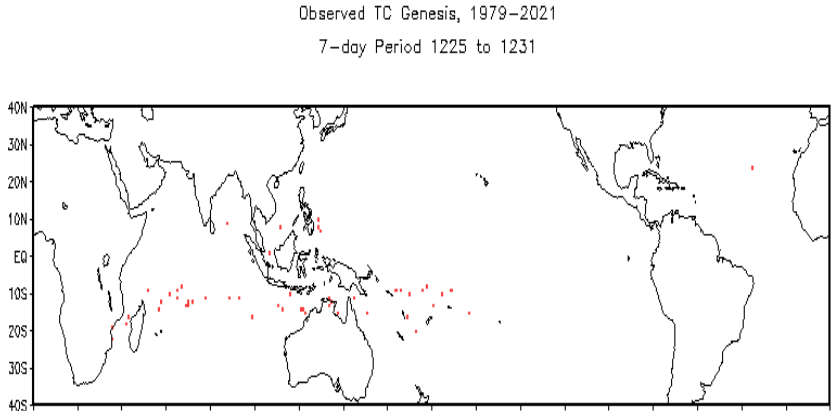


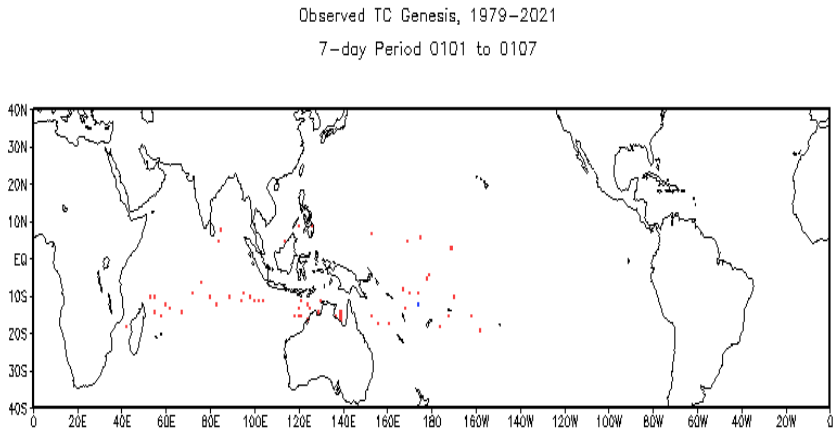
Historical Precipitation Anomalies By MJO Phase:



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

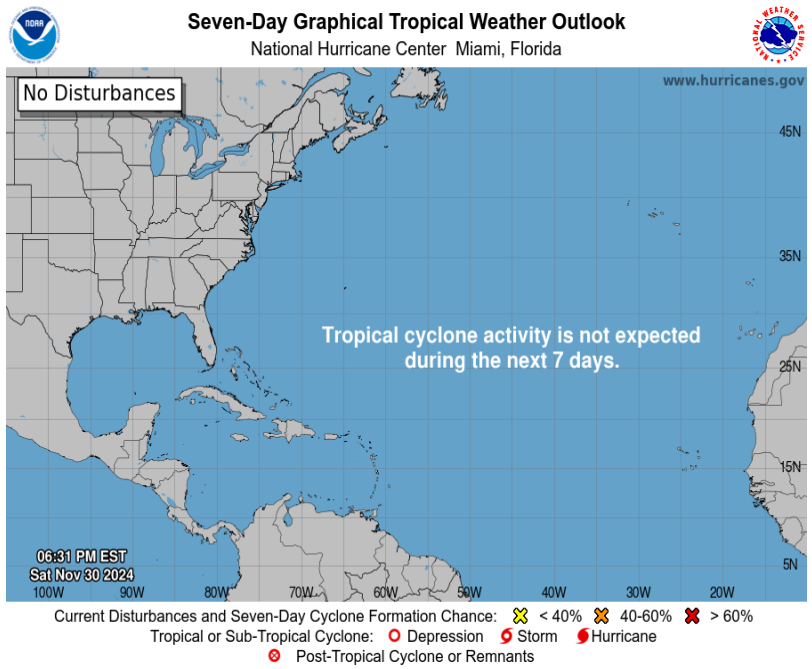




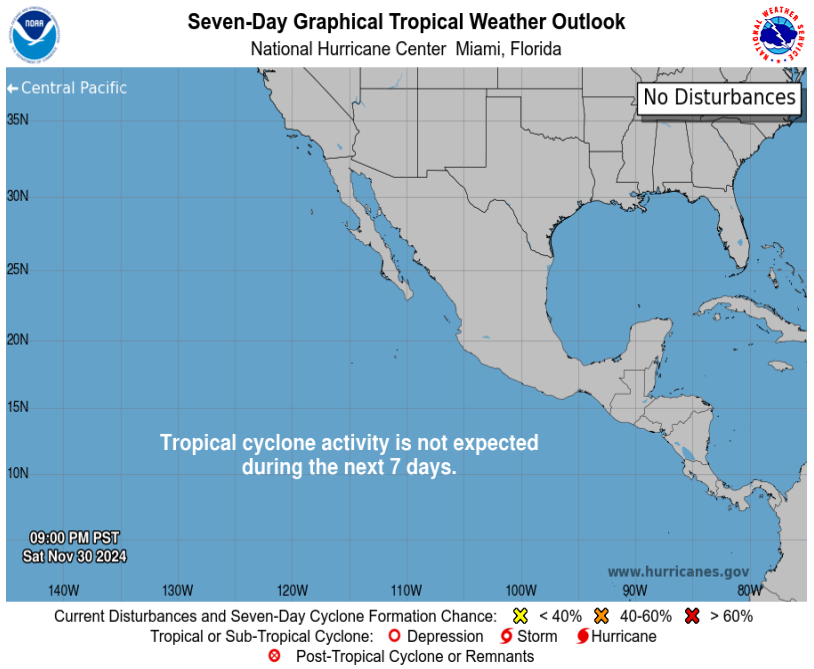


Experimental

Tropical Cyclone Monitoring/Forecast: NHC / CPHC



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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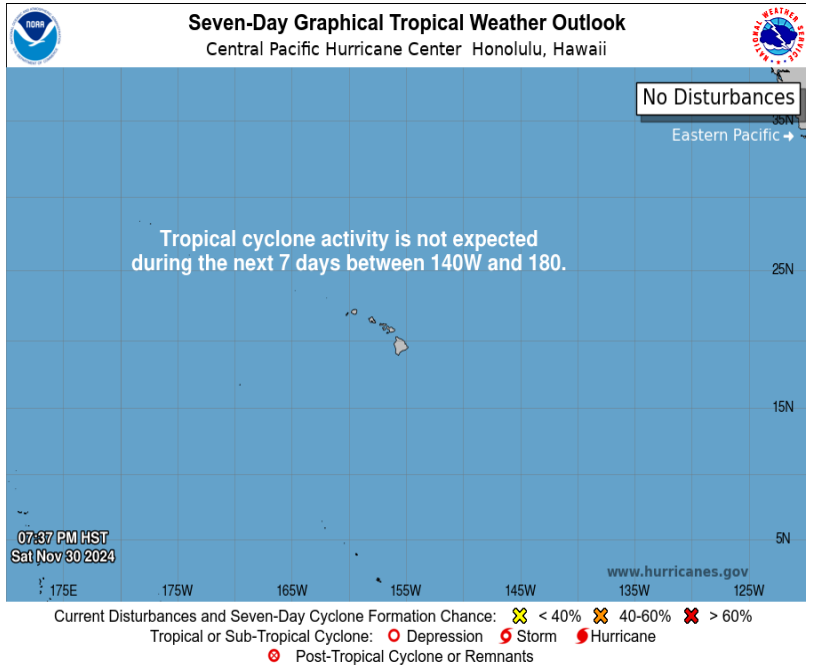

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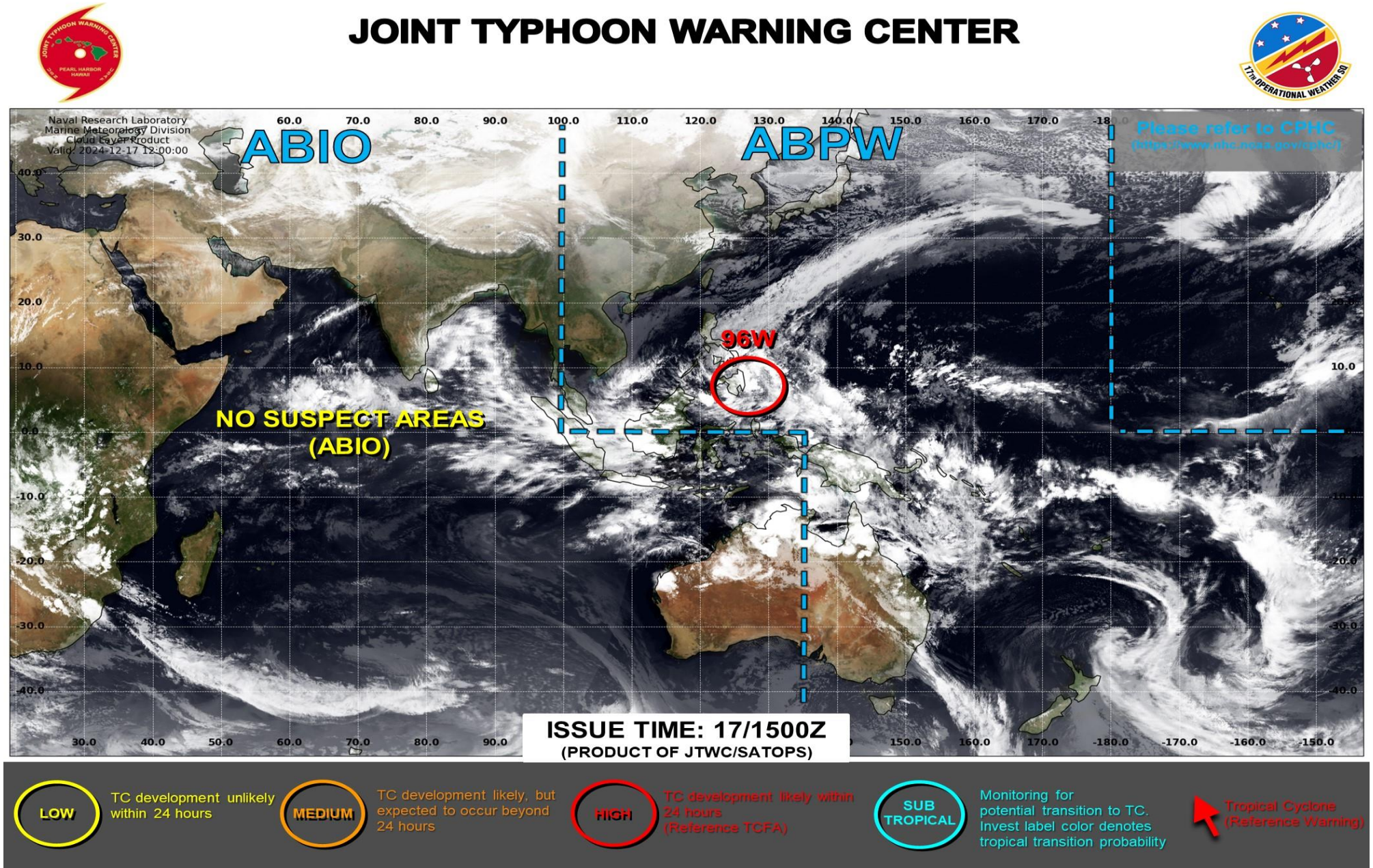
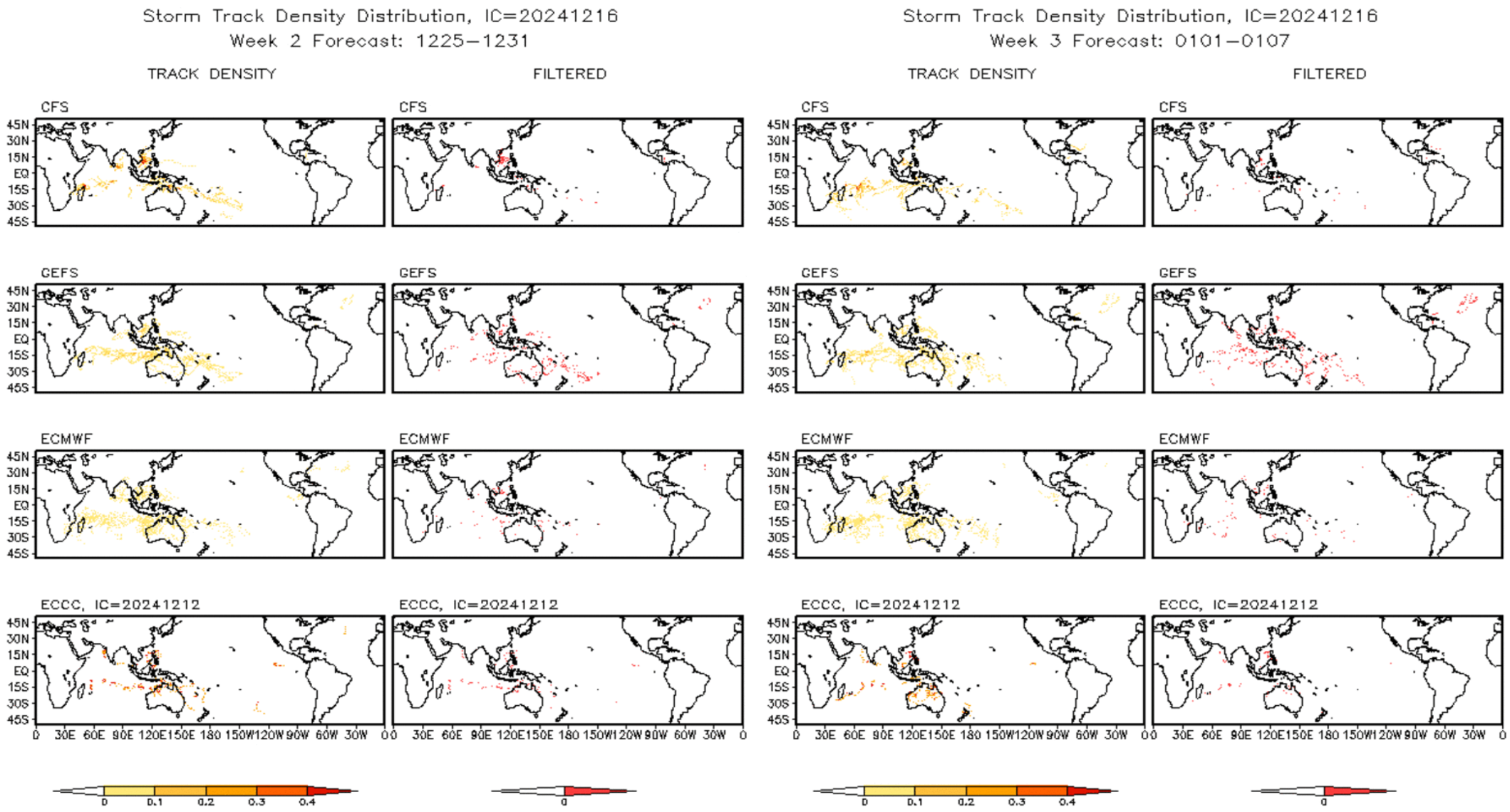
Tropical Cyclone Monitoring/Forecast: JTWC

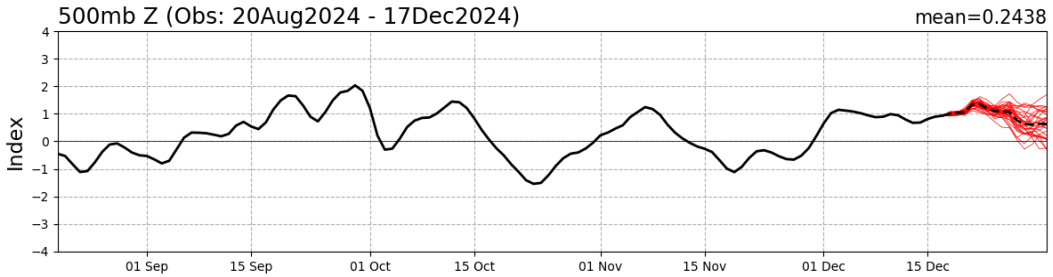


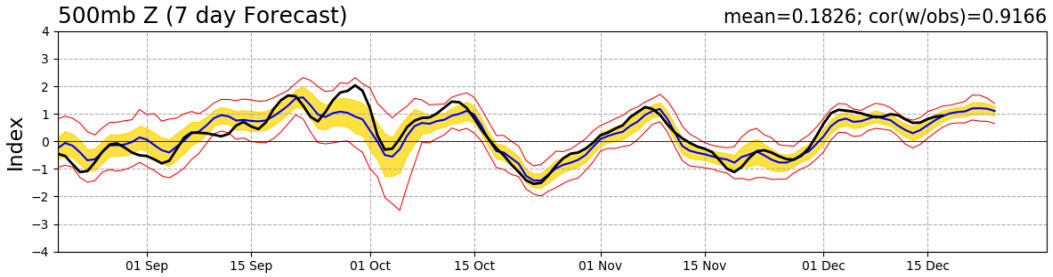
Multi-Model TC Track Densities: Weeks 2+3

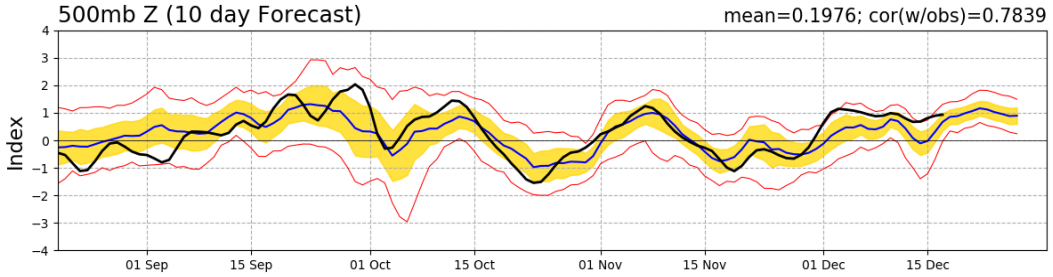


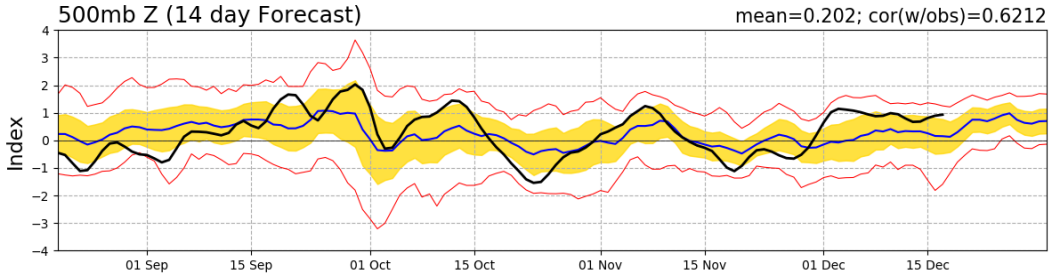
Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

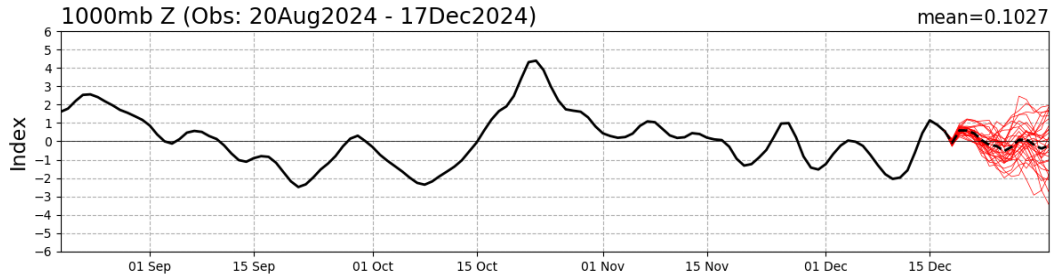


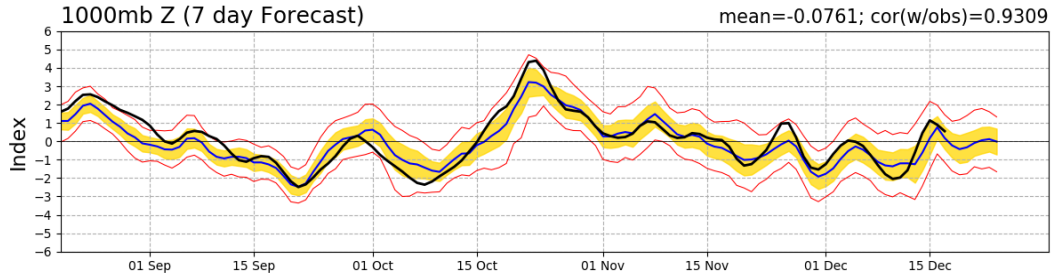


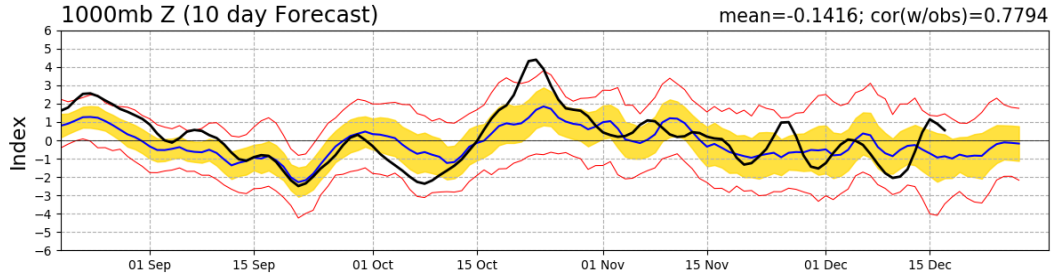


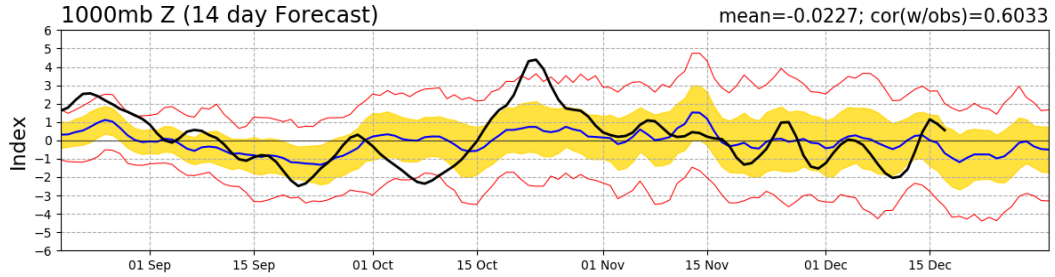


AO Index: Observed & GEFS Forecasts

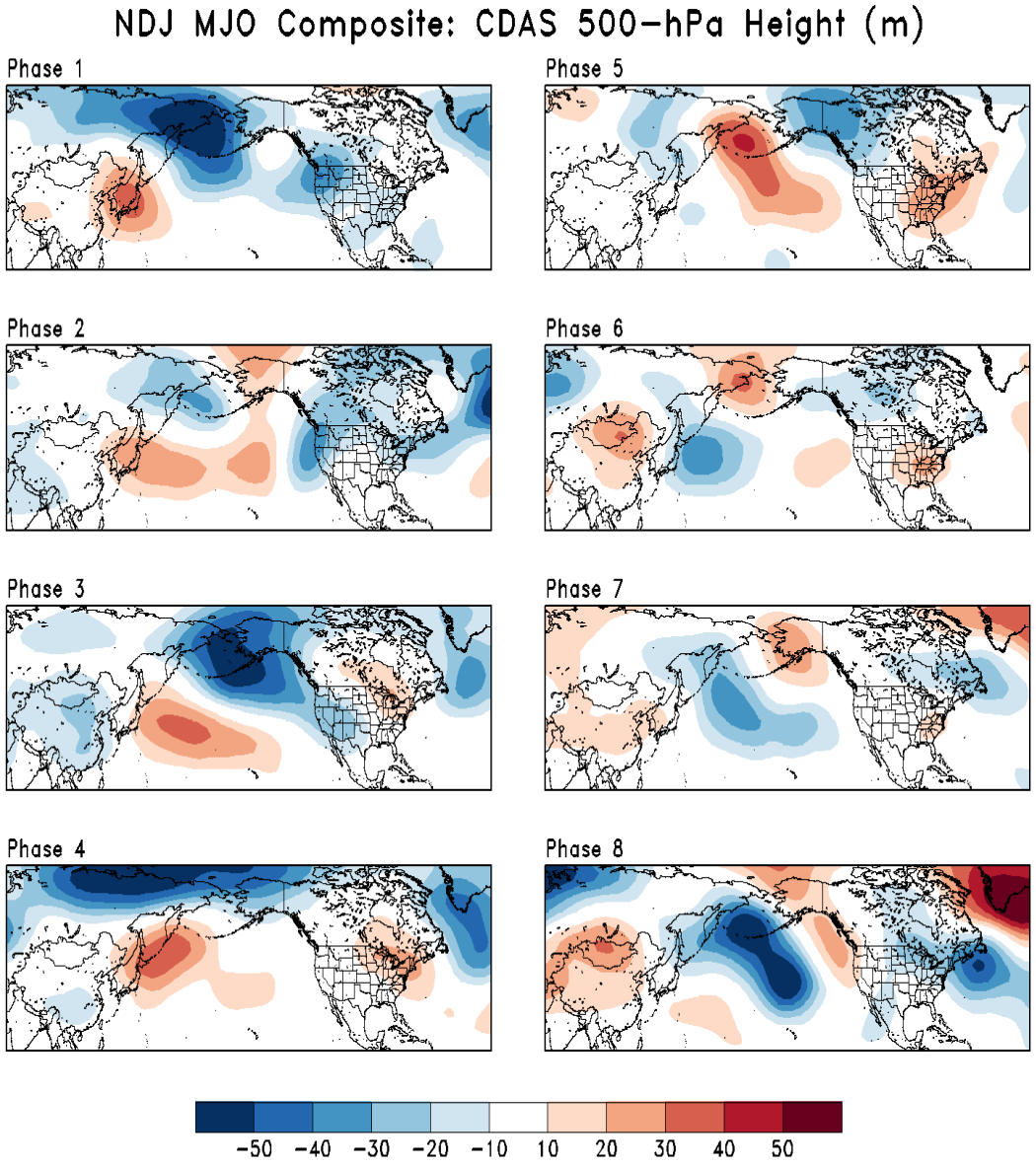


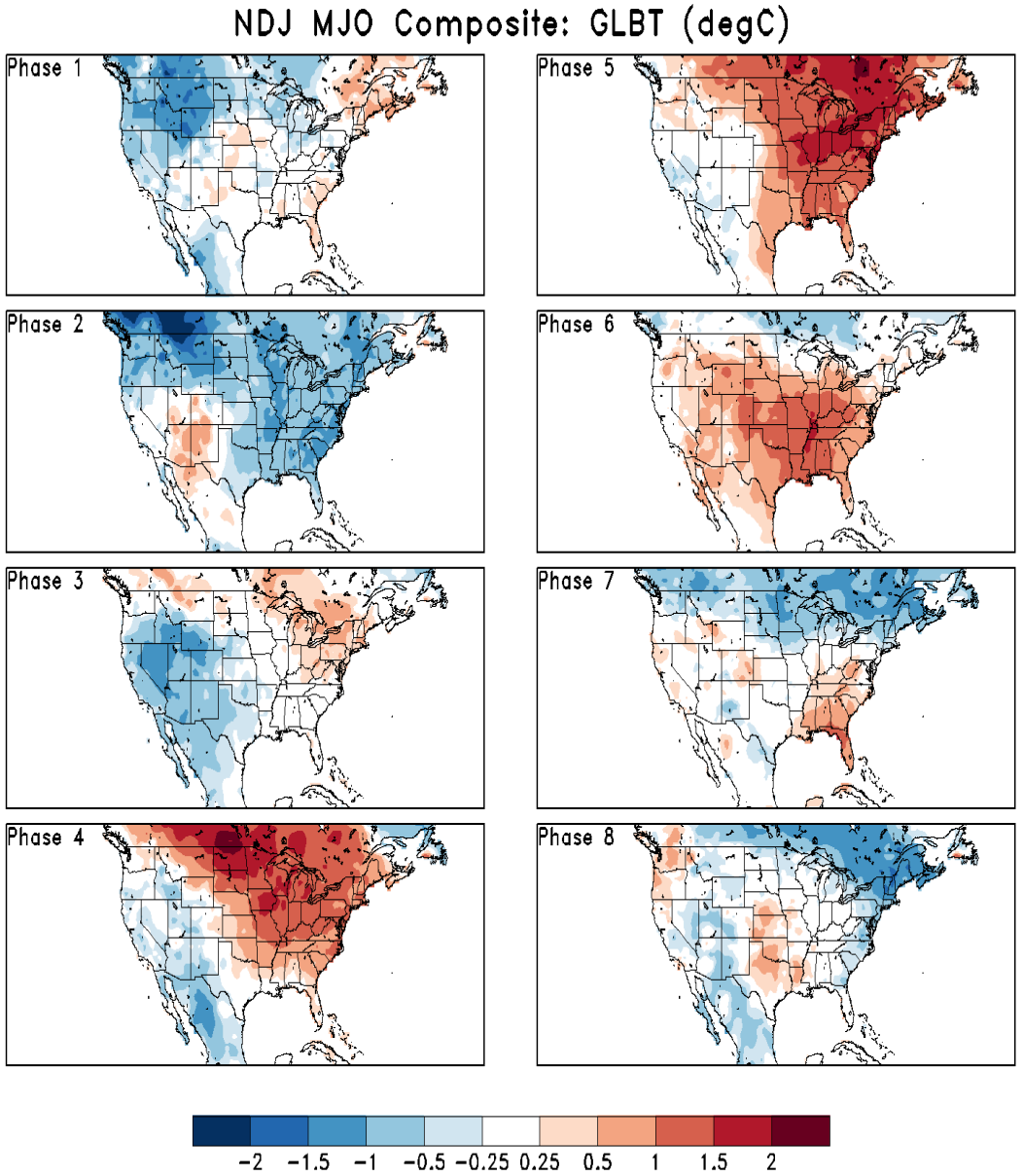




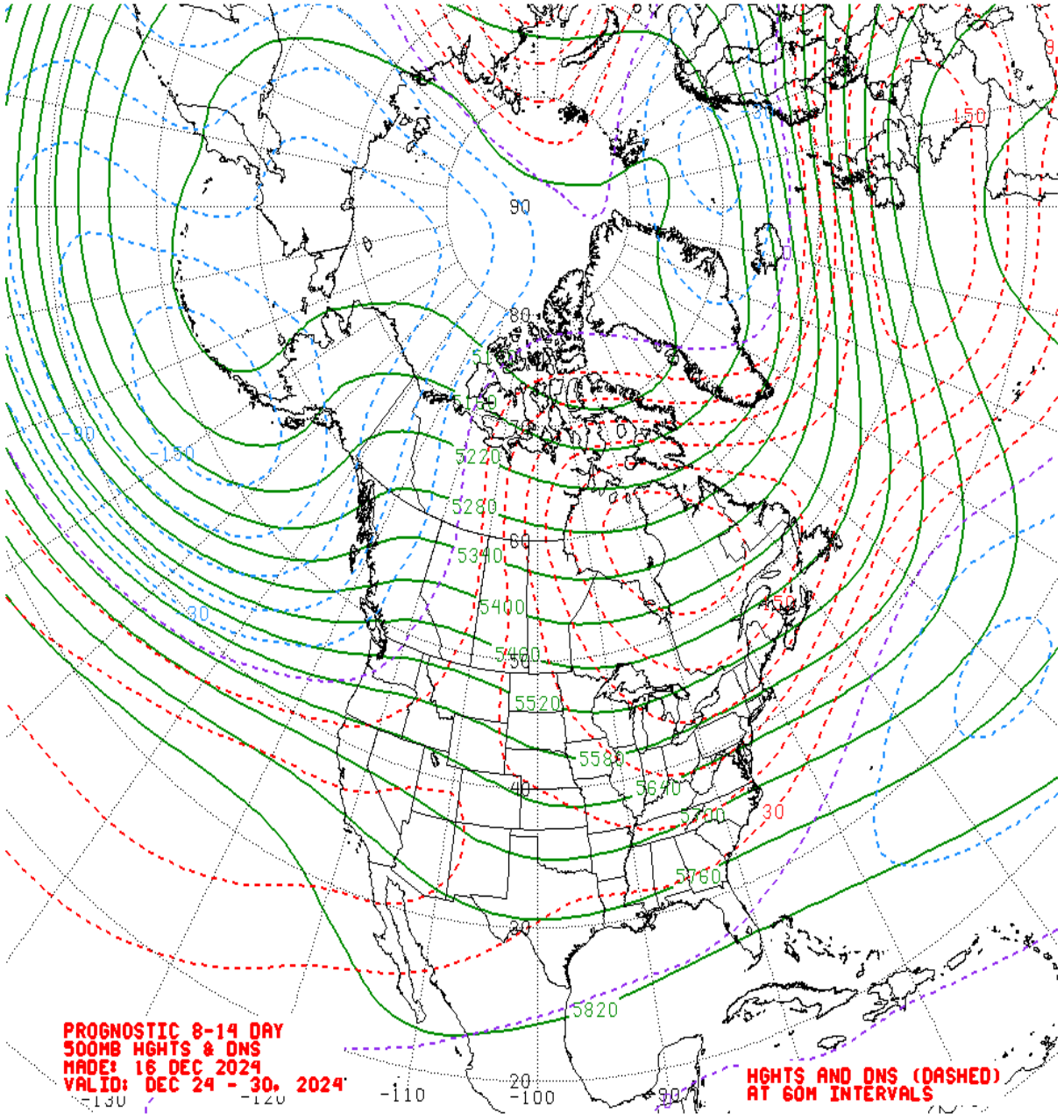


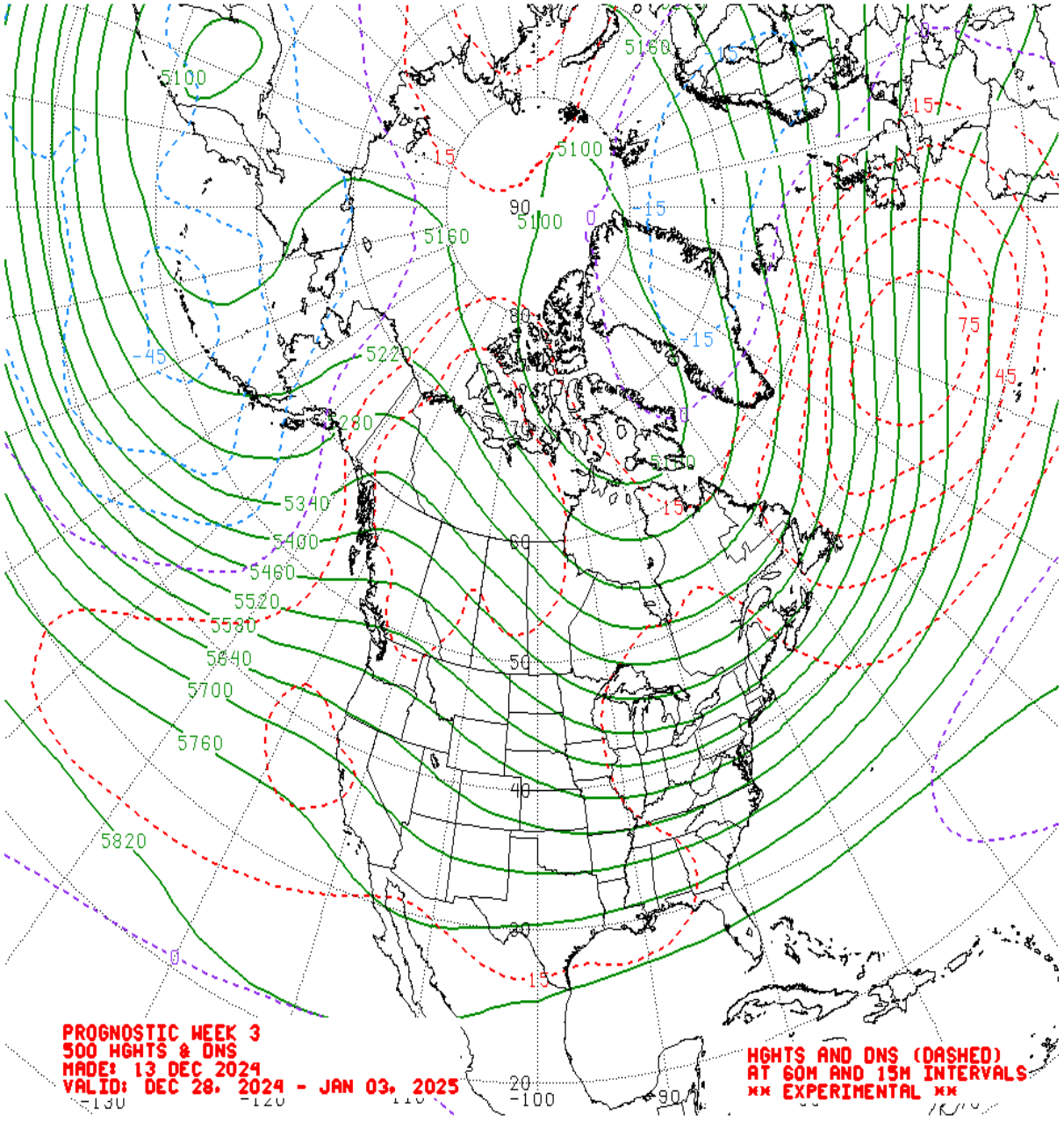
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:



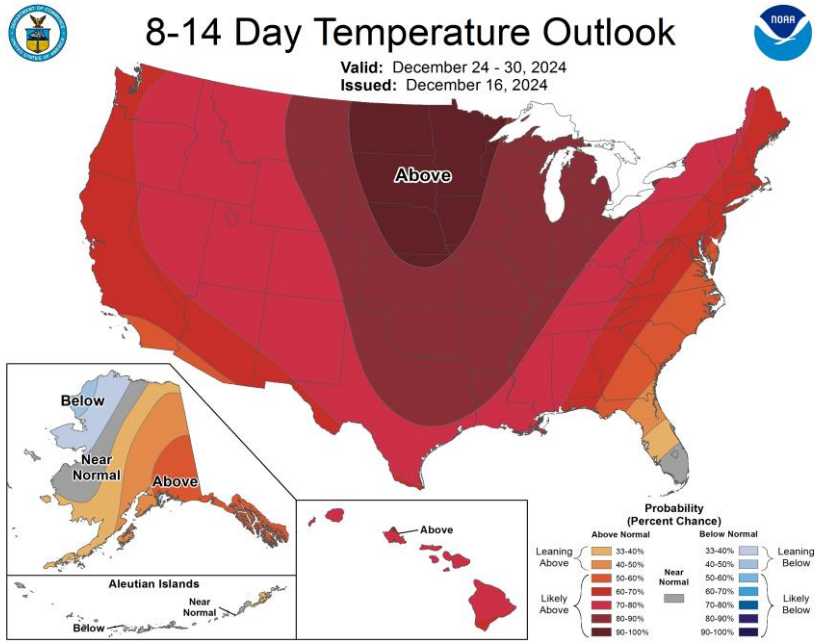


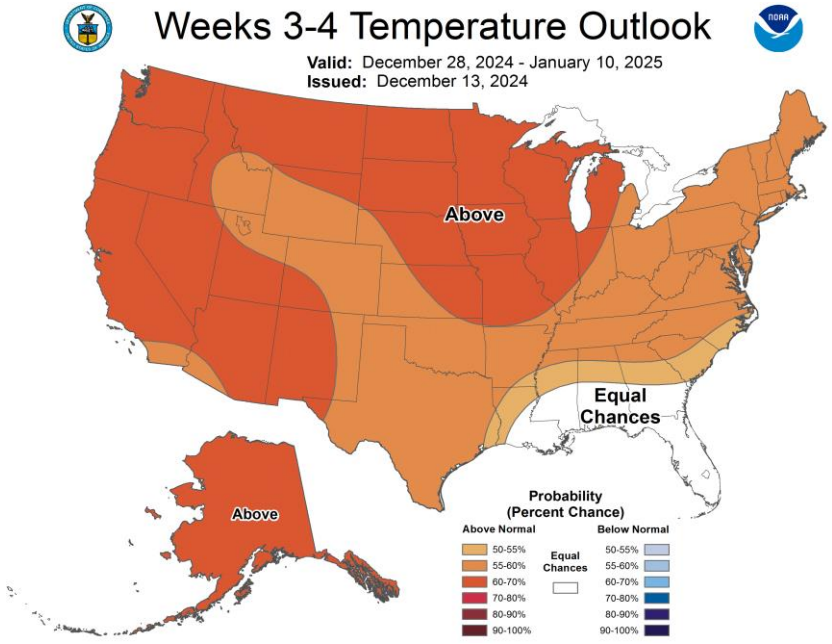
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

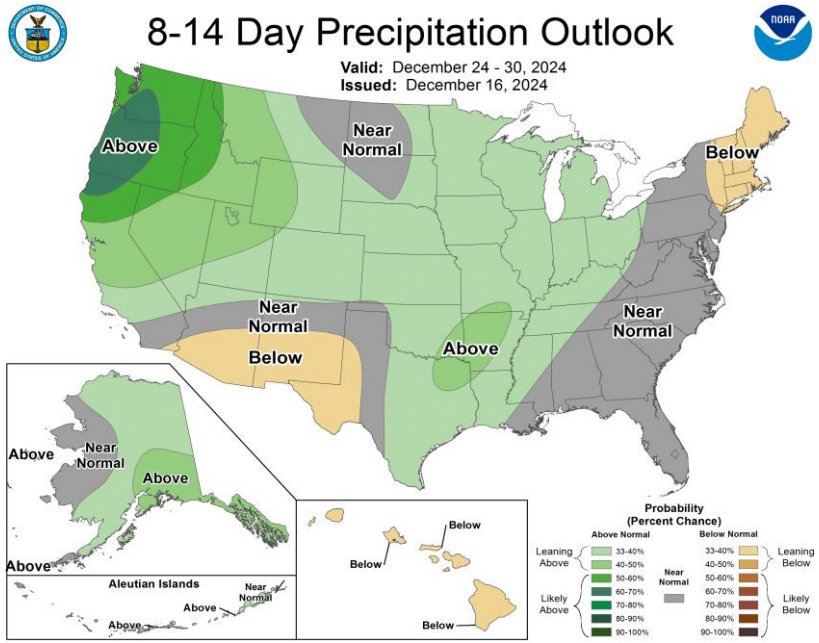


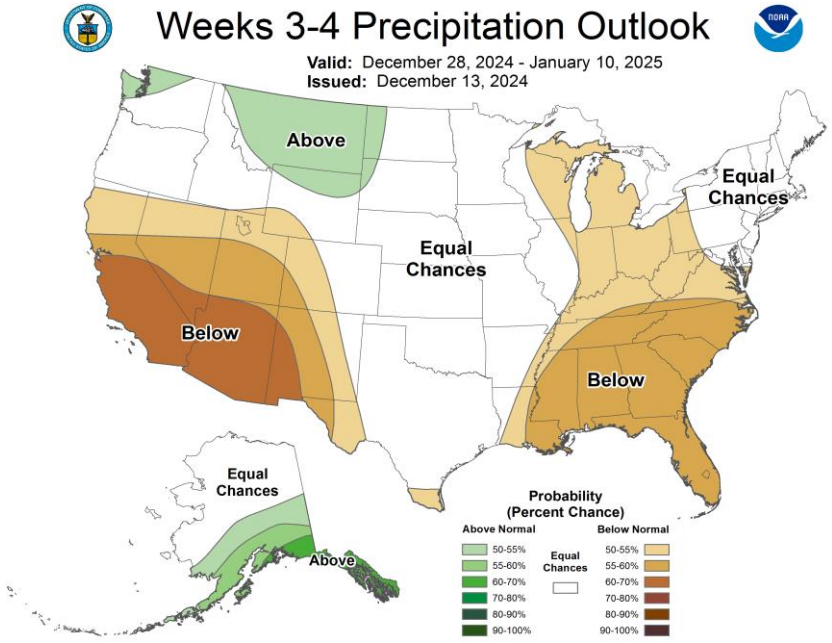


Official Temperature & Precipitation Forecasts:









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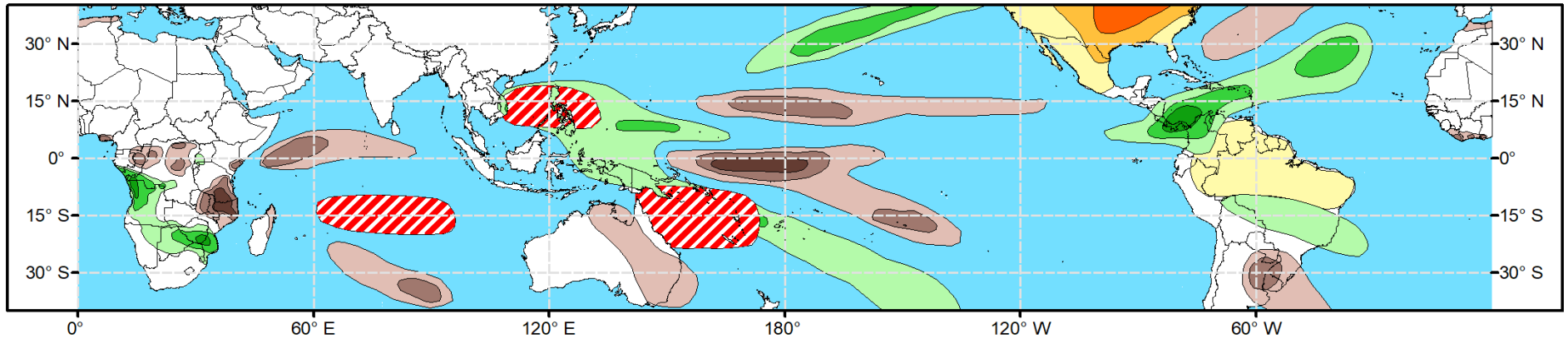

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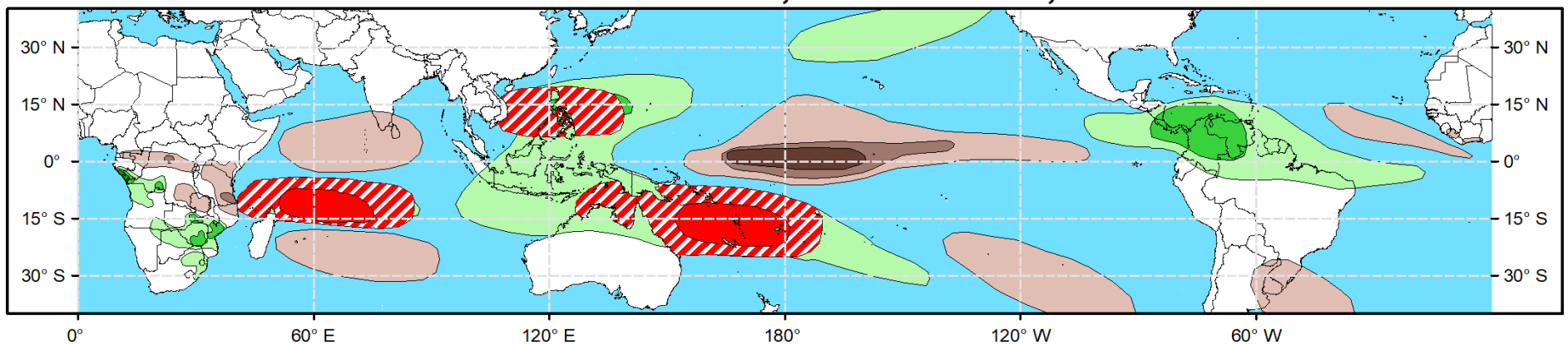

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