Weeks 2-3 Global Tropics Hazards Outlook

12/3/2024

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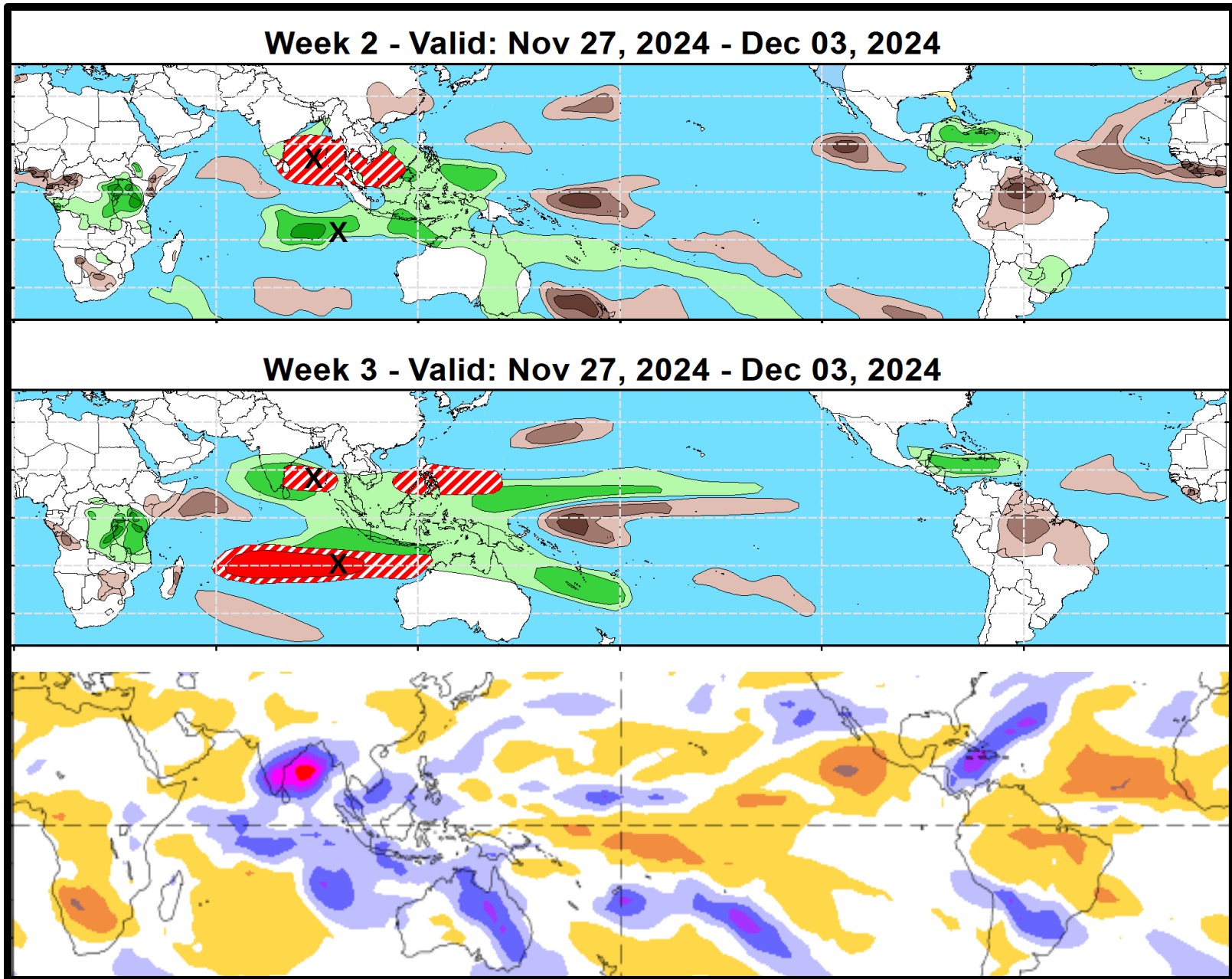
NWS / NCEP / Climate Prediction Center

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

Twin tropical cyclones

- Tropical Storm Robyn (Nov 27), SE IO
- Tropical Storm Fengal (Nov 29), Bay of Bengal



Synopsis of Climate Modes:

ENSO: (Nov 14, 2024 Update) ***next update on Thursday, Dec 12th!***

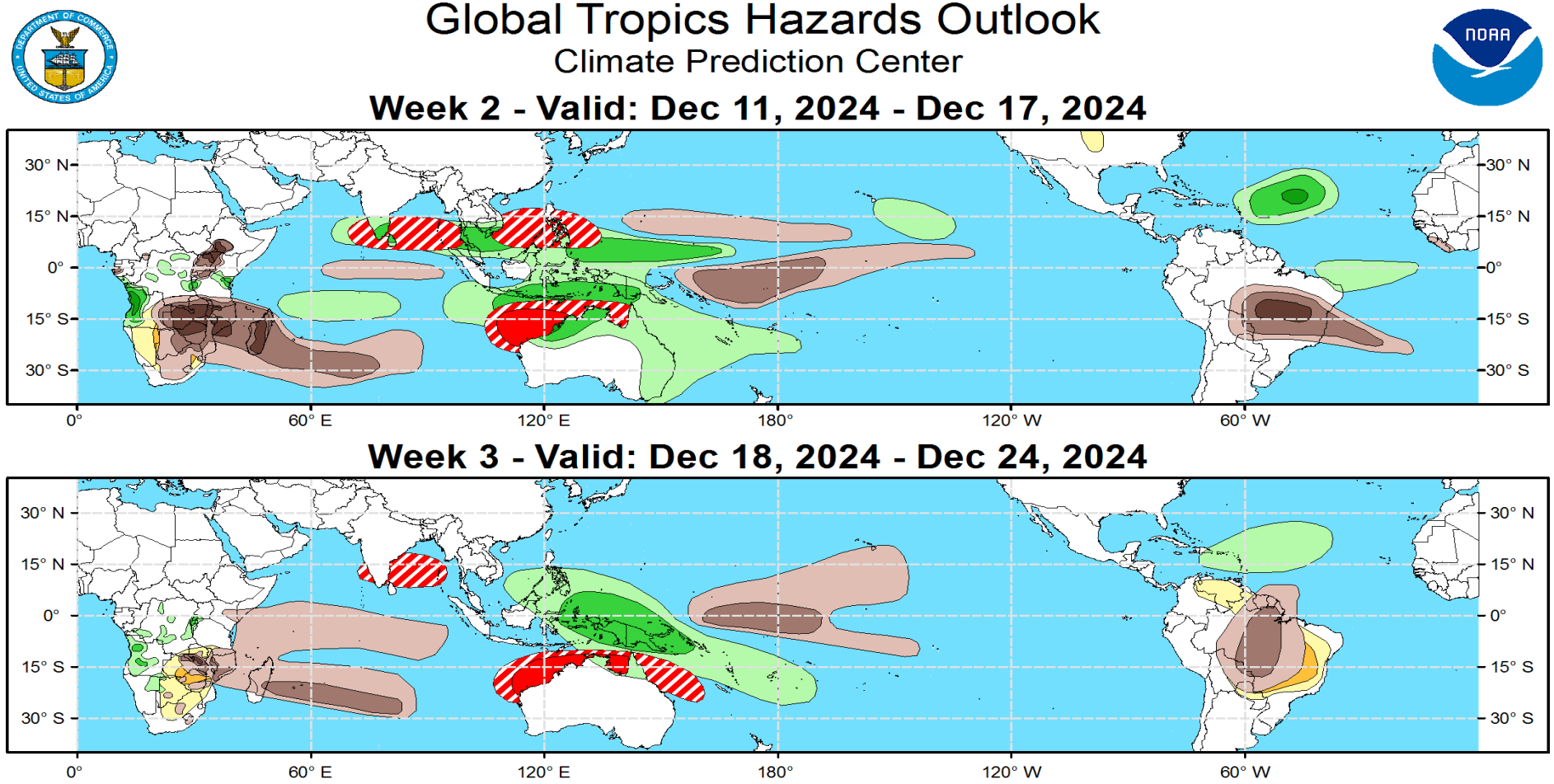
- ENSO Alert System Status: La Niña Watch

- La Niña is most likely to emerge in October-December 2024 (57% chance) and is expected to persist through January-March 2025.

MJO and other subseasonal tropical variability:

- The MJO remains active, with the enhanced convective phase now crossing the Maritime Continent, where it is constructively interfering with the base state (cold ENSO, -IOD).
- A strong WWB is ongoing over the east-central Indian Ocean, which may help trigger additional tropical cyclogenesis.
- Rossby wave activity is interacting with the MJO, resulting in a slowdown of the eastward propagation.
- This Rossby wave activity may help reinforce the ENSO base state and disrupt the MJO's ability to generate widespread convection and disrupted trade winds across the Pacific. The upper-level signal is favored to continue propagating, and the GEFS is more bullish on a robust MJO evolution
- The atmospheric response to La Niña is favored to play a greater role in the tropical pattern, with uncertainty regarding how much West Pacific convection the MJO can generate.

GTH Outlook:


Global Tropics Hazards Outlook
Climate Prediction Center
Week 2 - Valid: Dec 11, 2024 - Dec 17, 2024
Week 3 - Valid: Dec 18, 2024 - Dec 24, 2024
30° N
15° N
0°
15° S
30° S
0°
60° E
120° E
180°
120° W
60° W
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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Issued: 12/03/2024
Forecaster: Allgood
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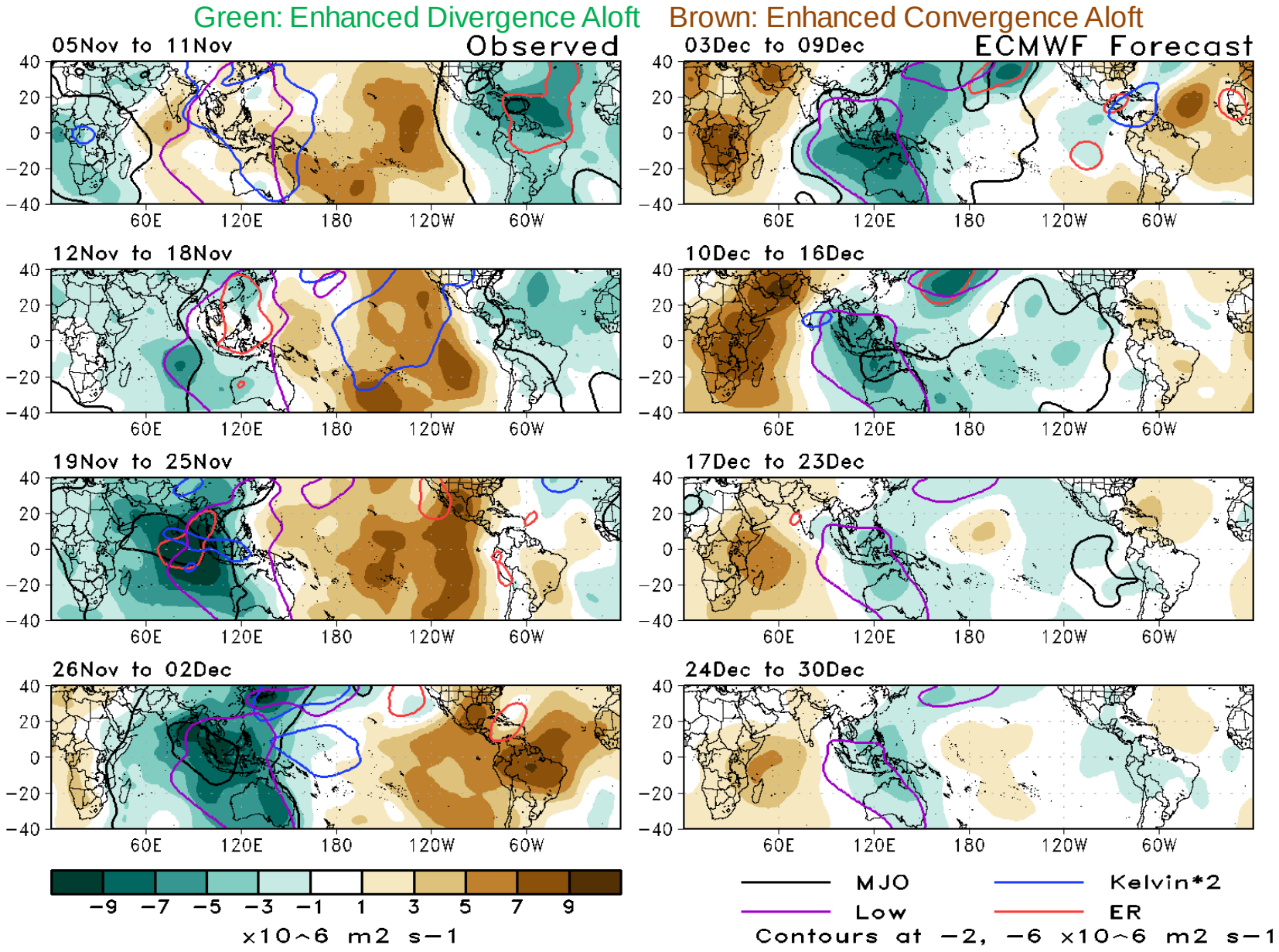
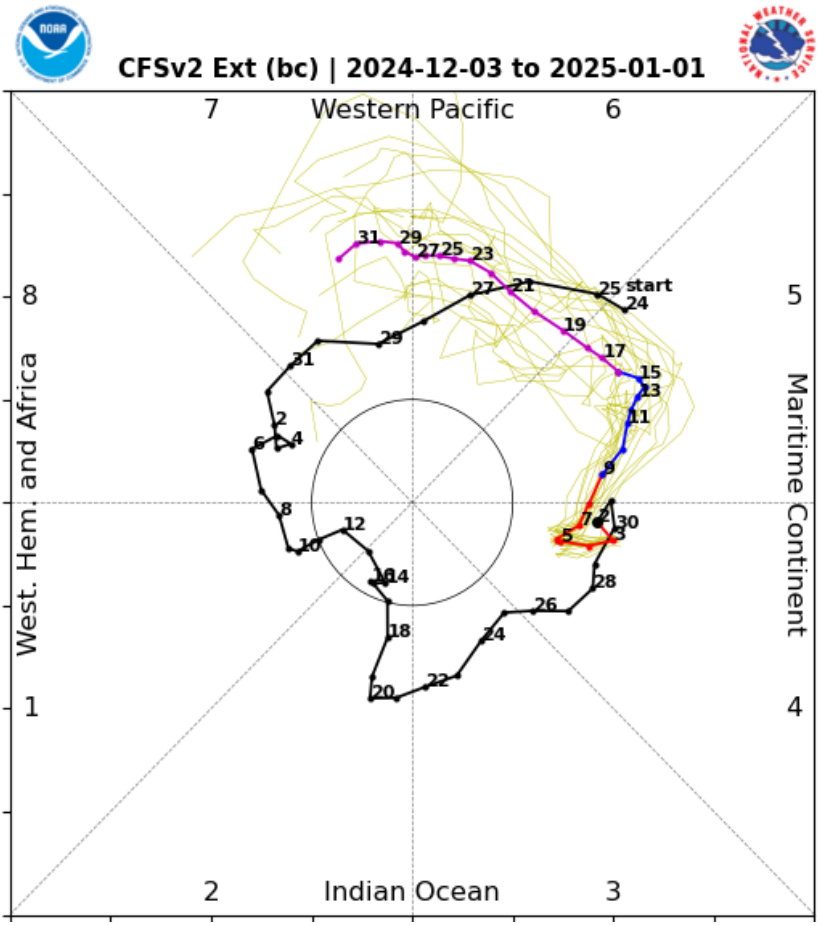
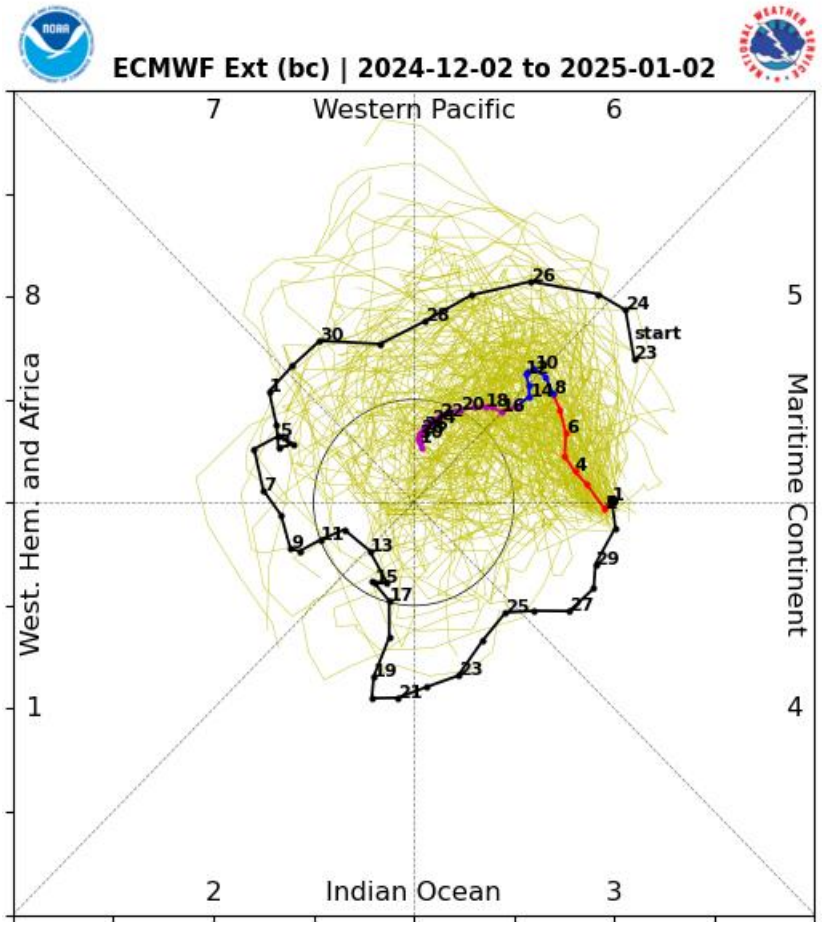
200-hPa Velocity Potential Anomaly Maps:

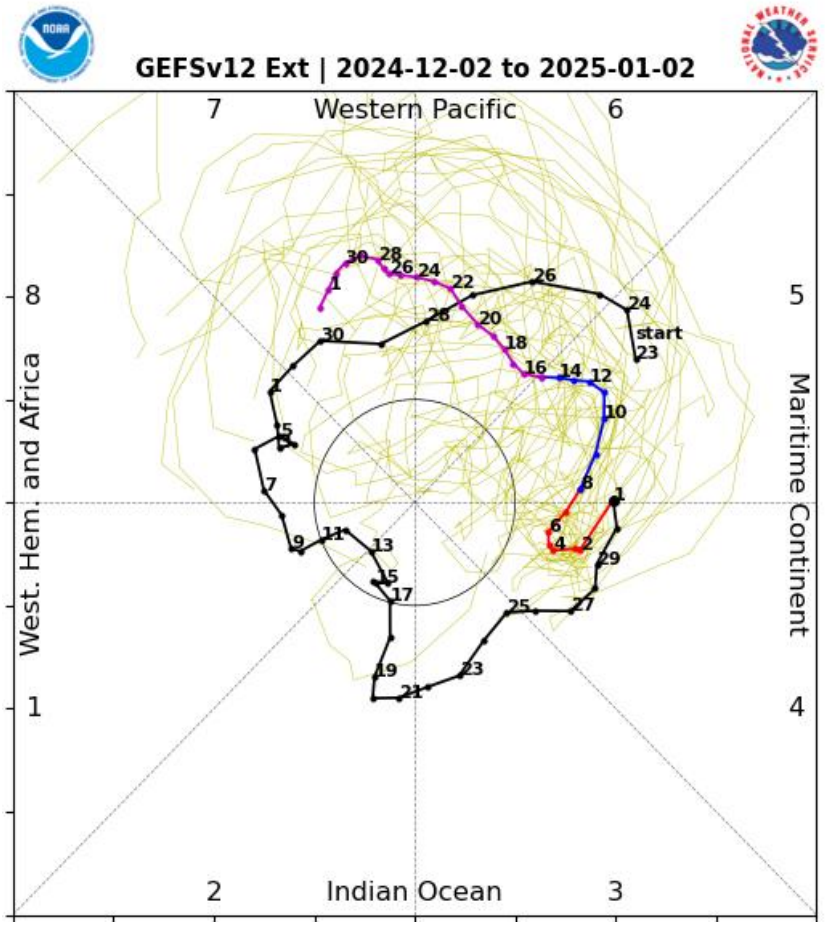
- Textbook MJO evolution was observed during November, with a brief disruption of the pattern during mid-November.
- The upper-level VP signal is favored to continue propagating eastward during Weeks 1 and 2, but the pattern appears more responsive to –IOD and La Niña activity towards the end of December.



RMM Index Observations & Forecasts:

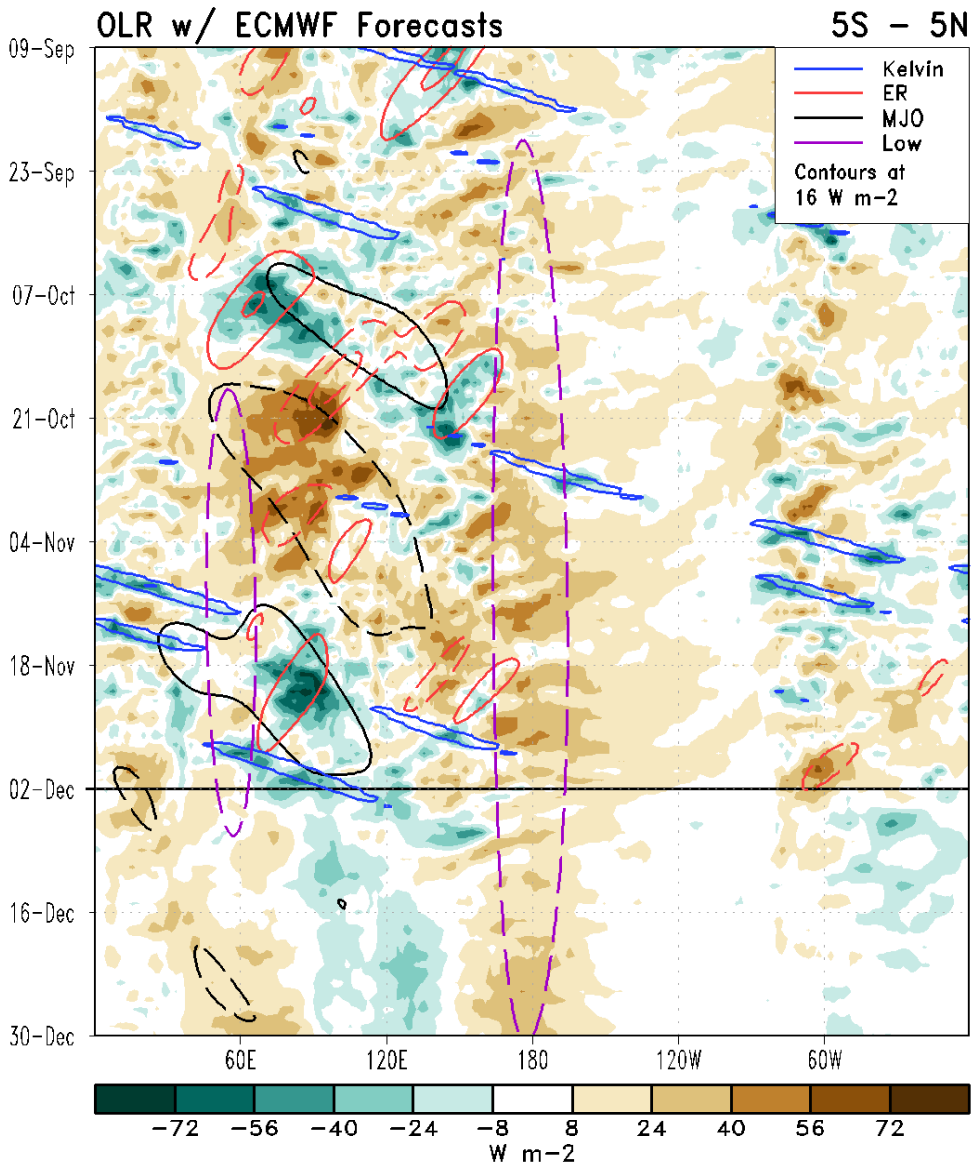


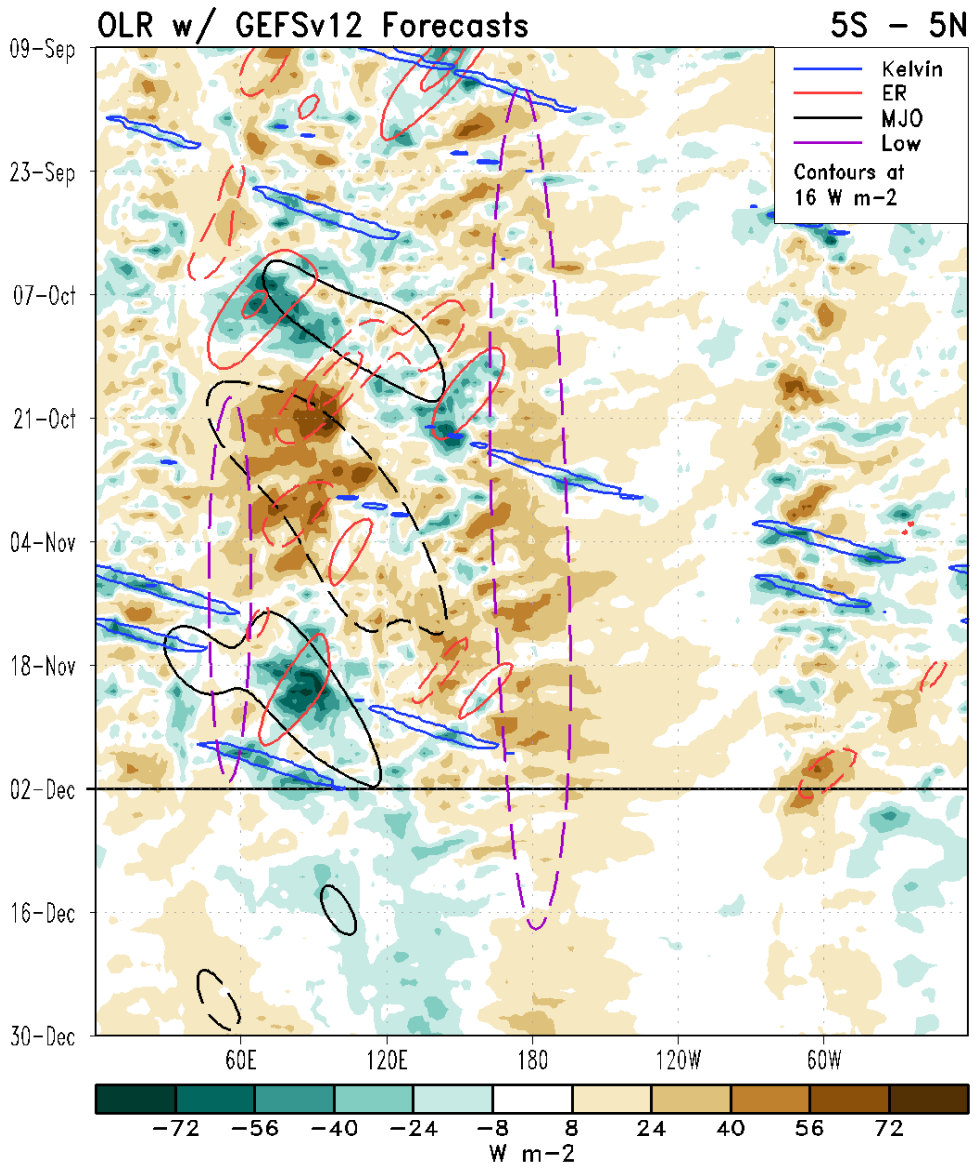




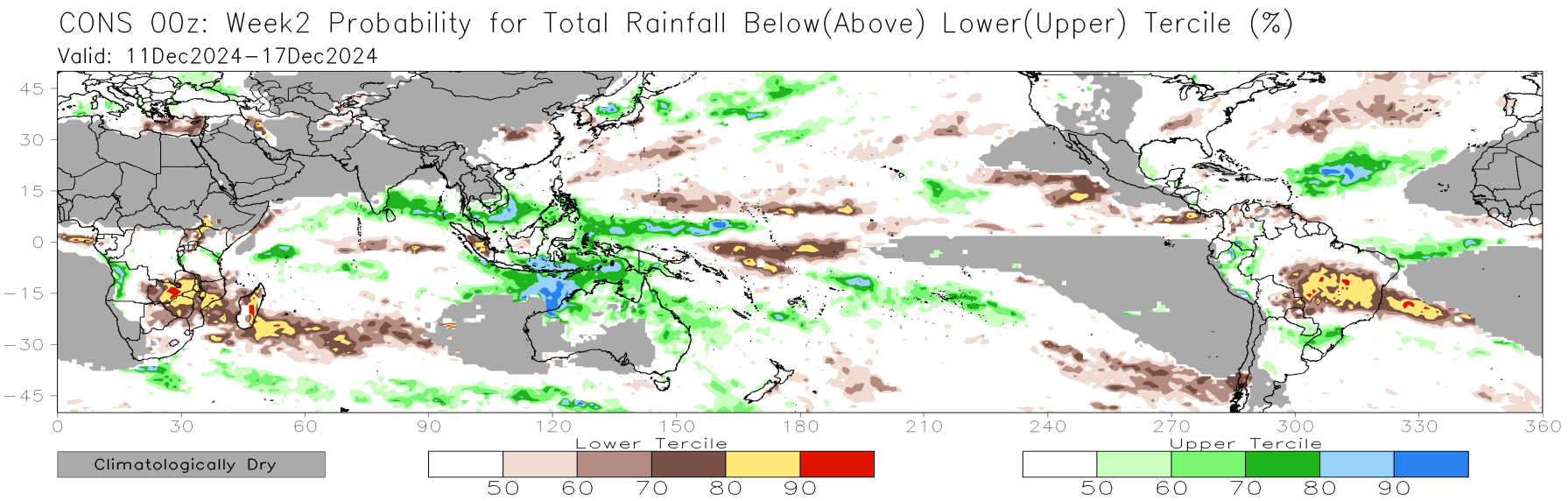
- The GEFS and CFS are more bullish on continued MJO evolution following the interaction with Rossby waves over the MT.
- The ECMWF shows a weaker signal overall, as the upper-level signal continues to propagate while de-coupling from the lower atmospheric response.

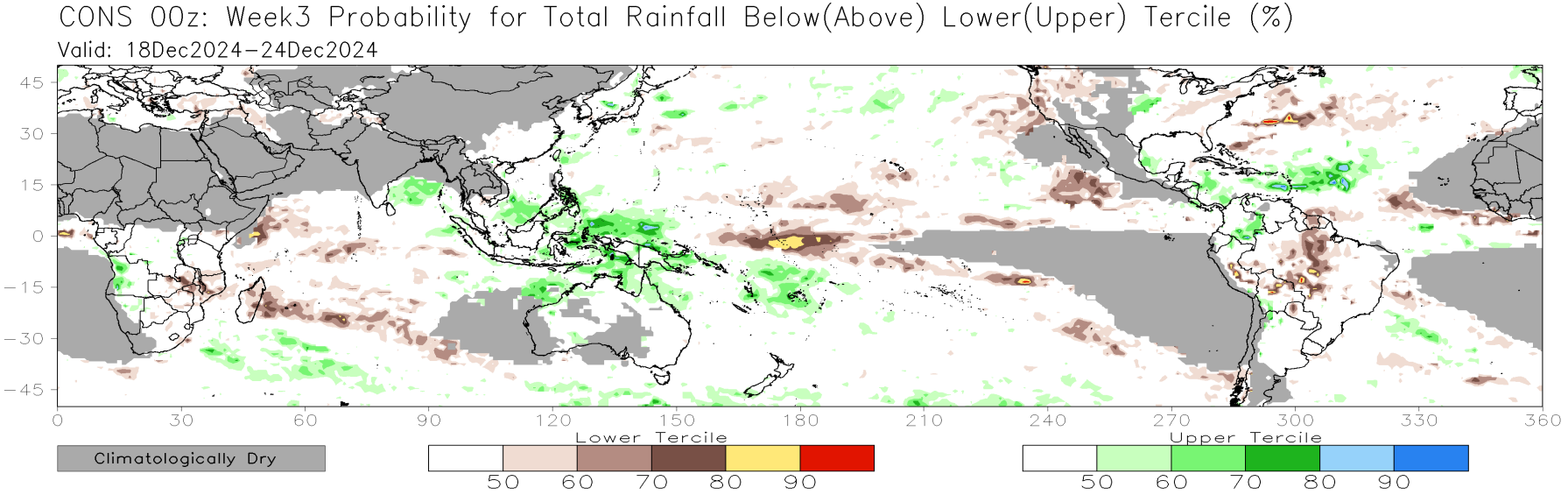
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



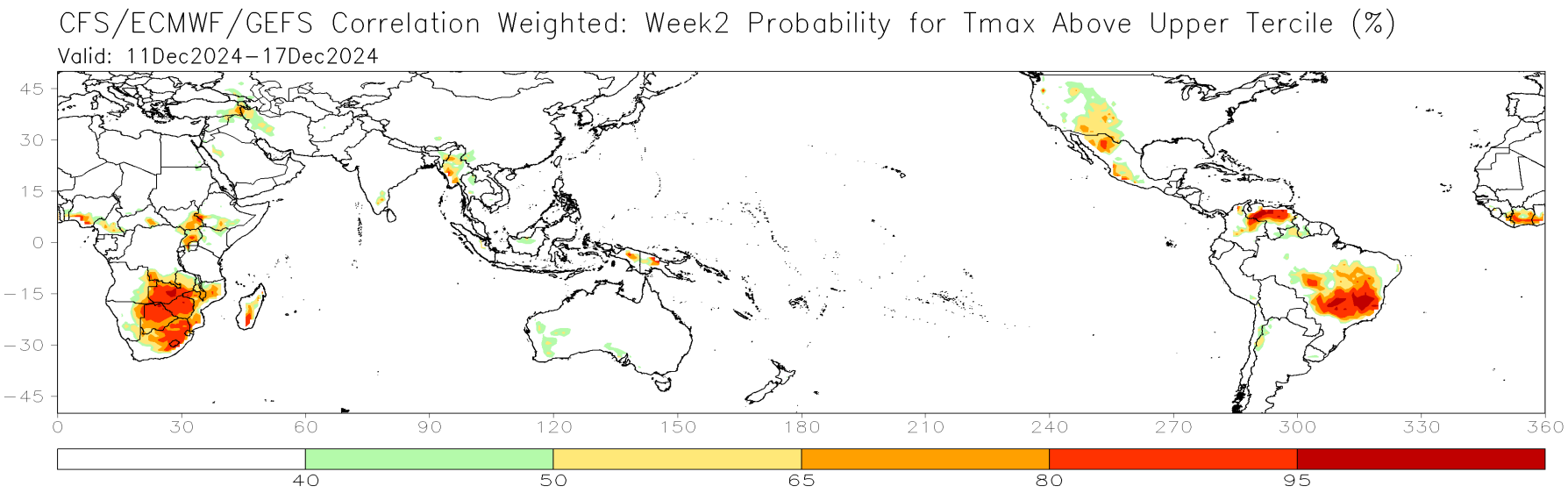


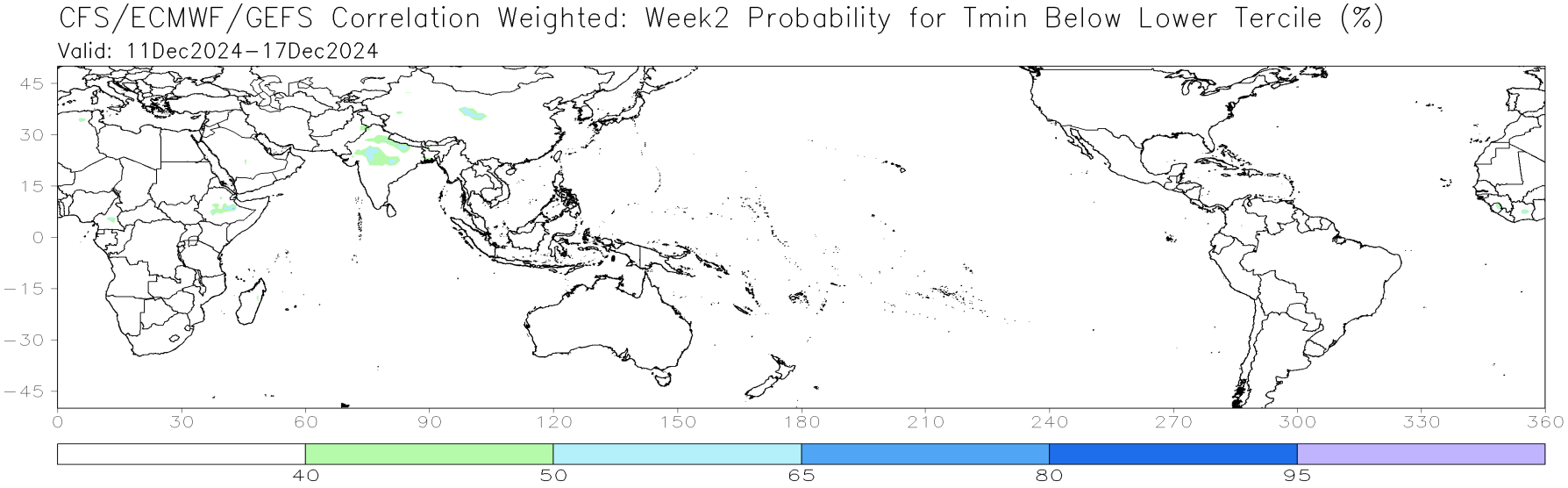
Consolidated Probabilistic Precipitation: Weeks 2 & 3



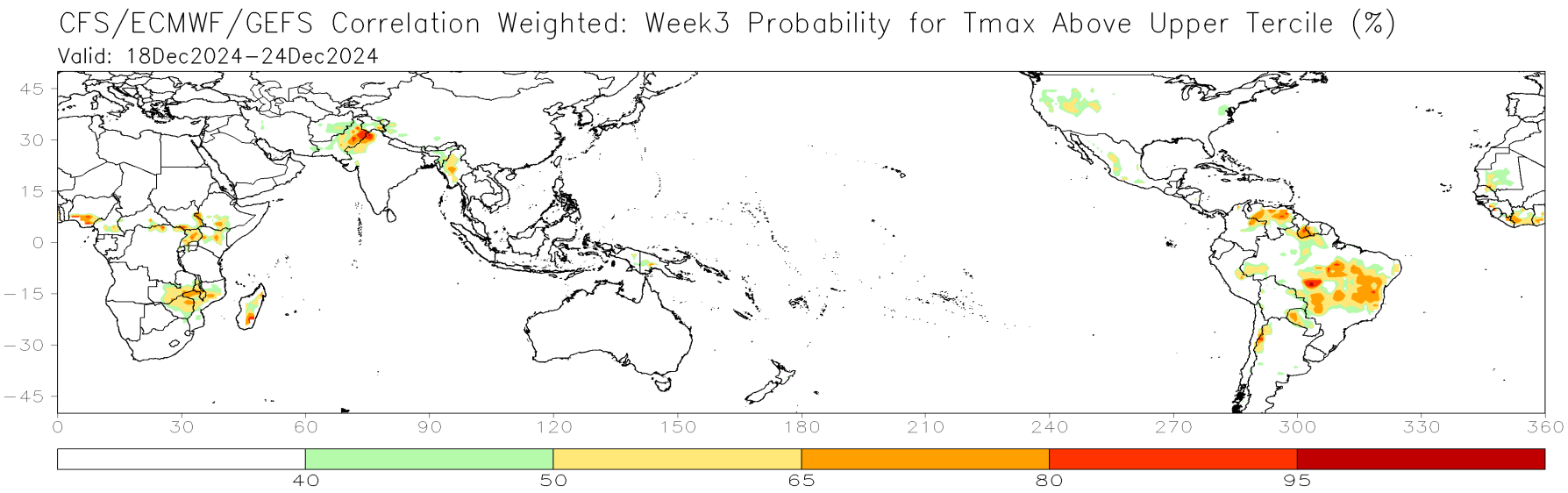


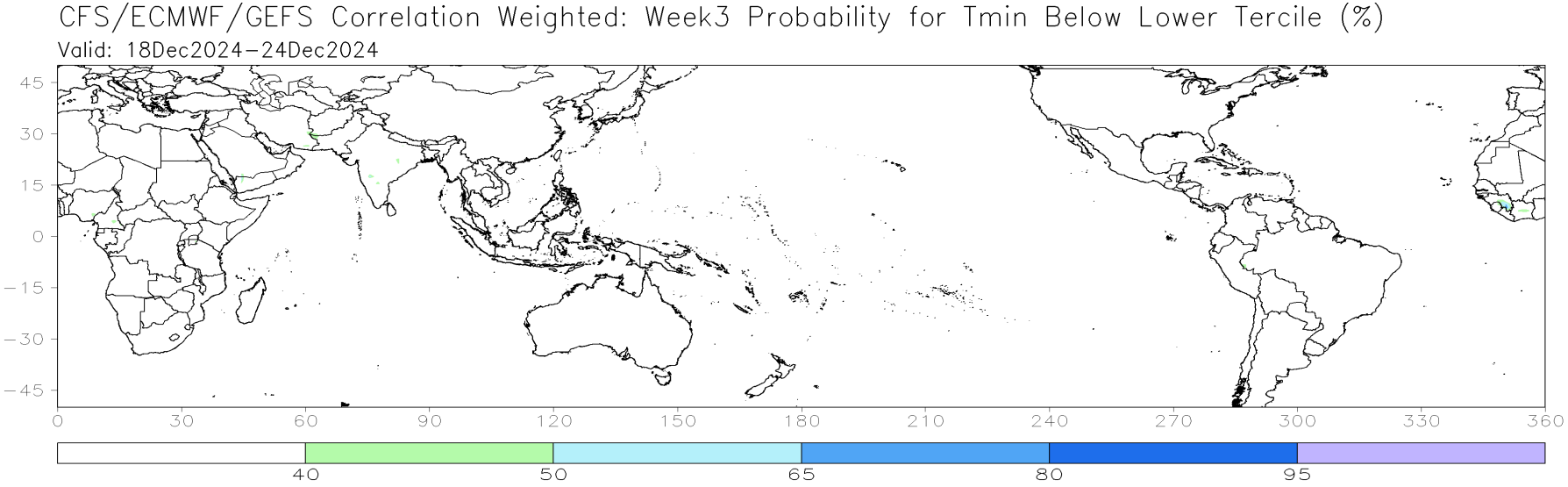
Consolidated Probabilistic Temperatures: Week-2



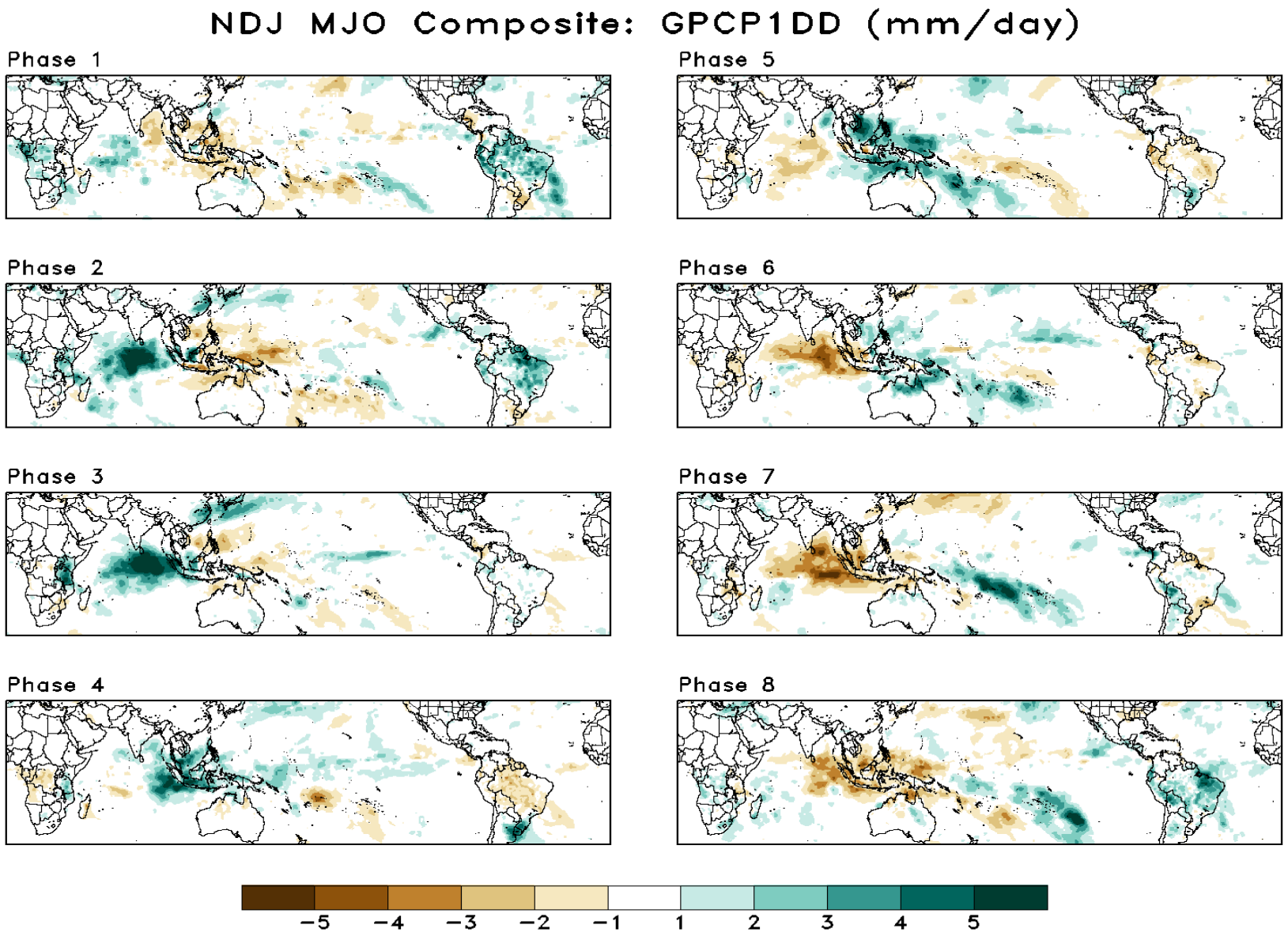


Consolidated Probabilistic Temperatures: Week-3

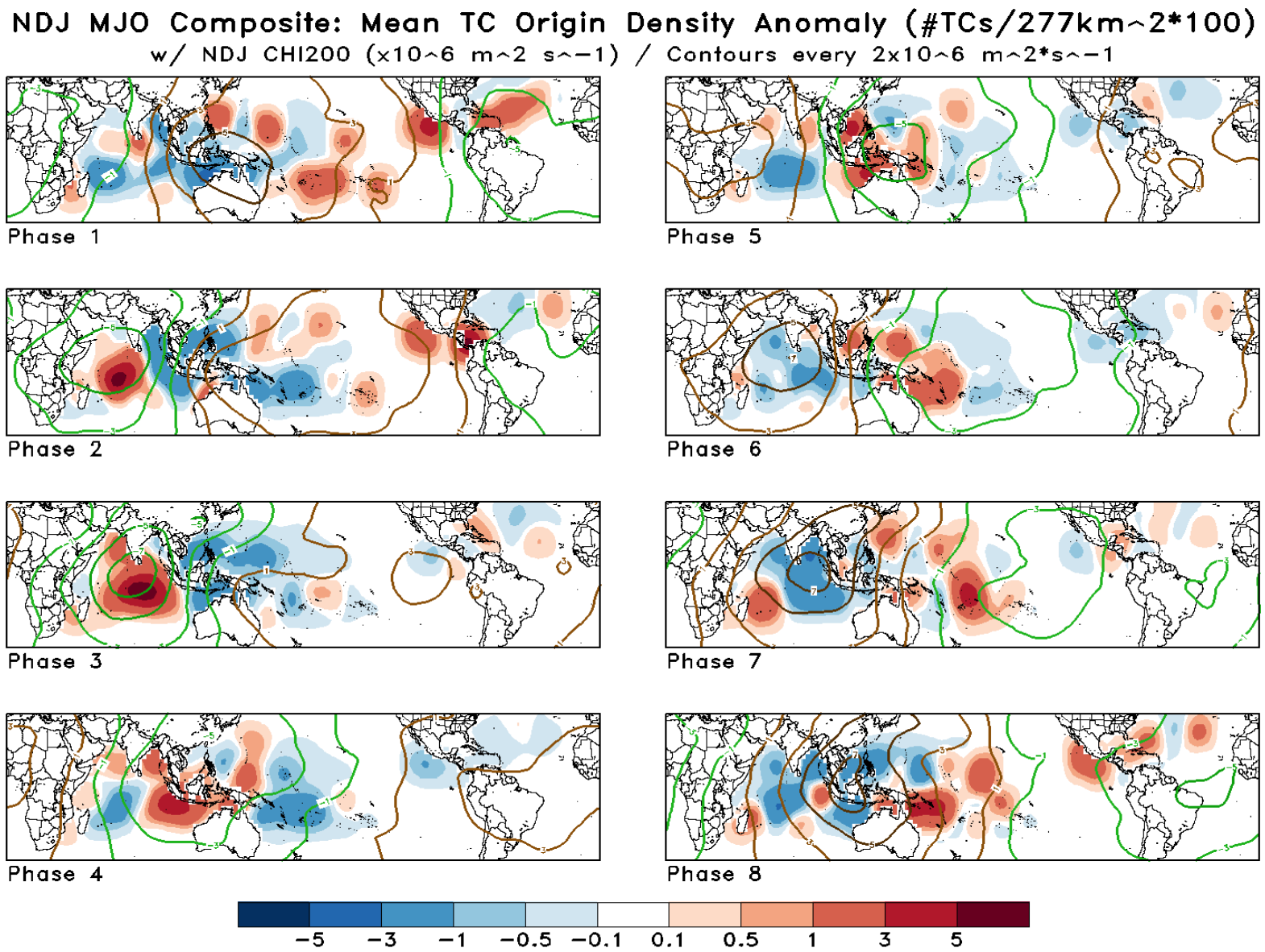


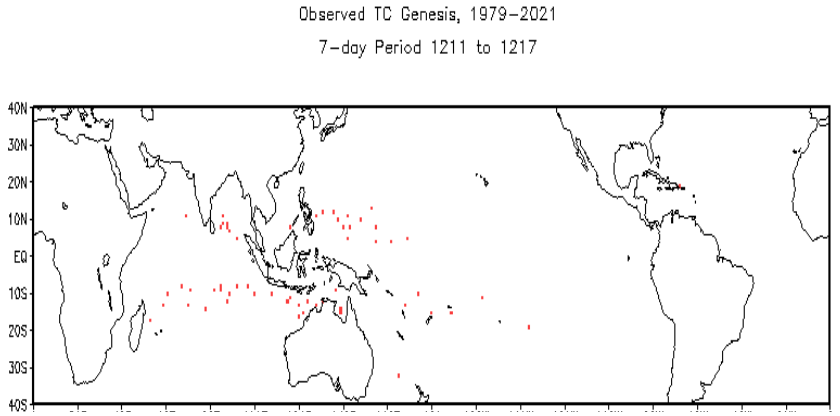


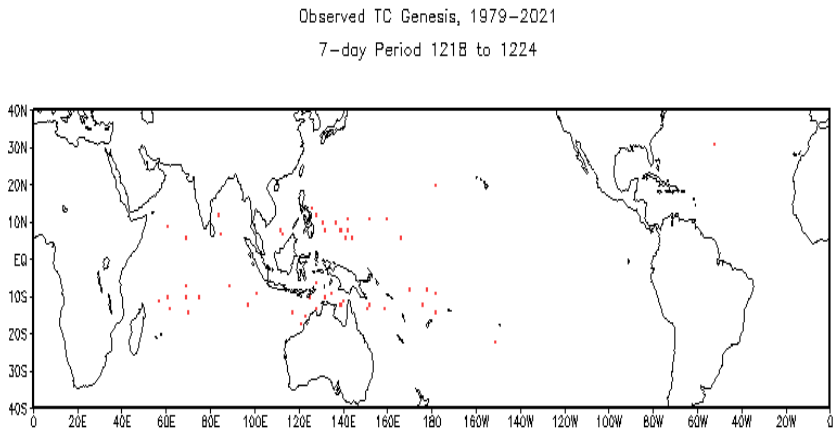
Historical Precipitation Anomalies By MJO Phase:



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

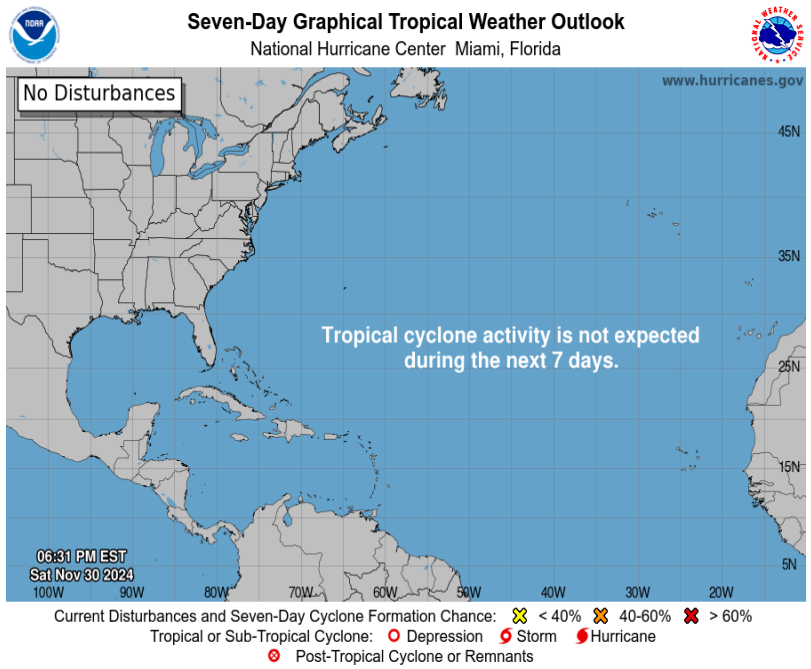


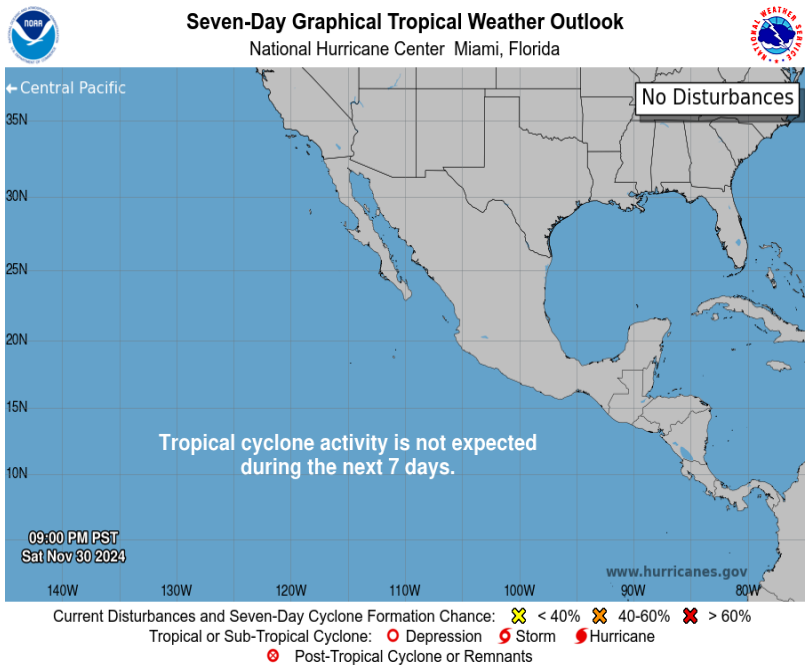


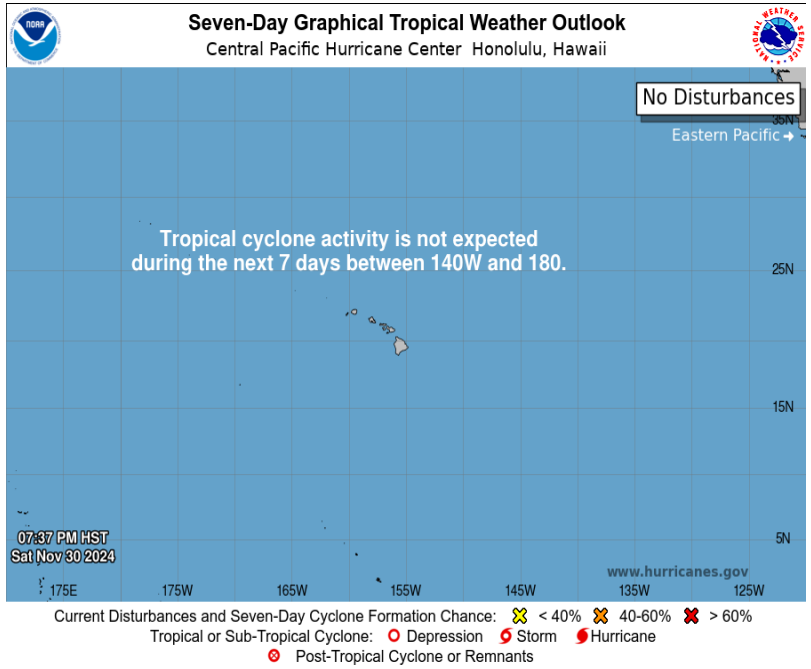


Experimental

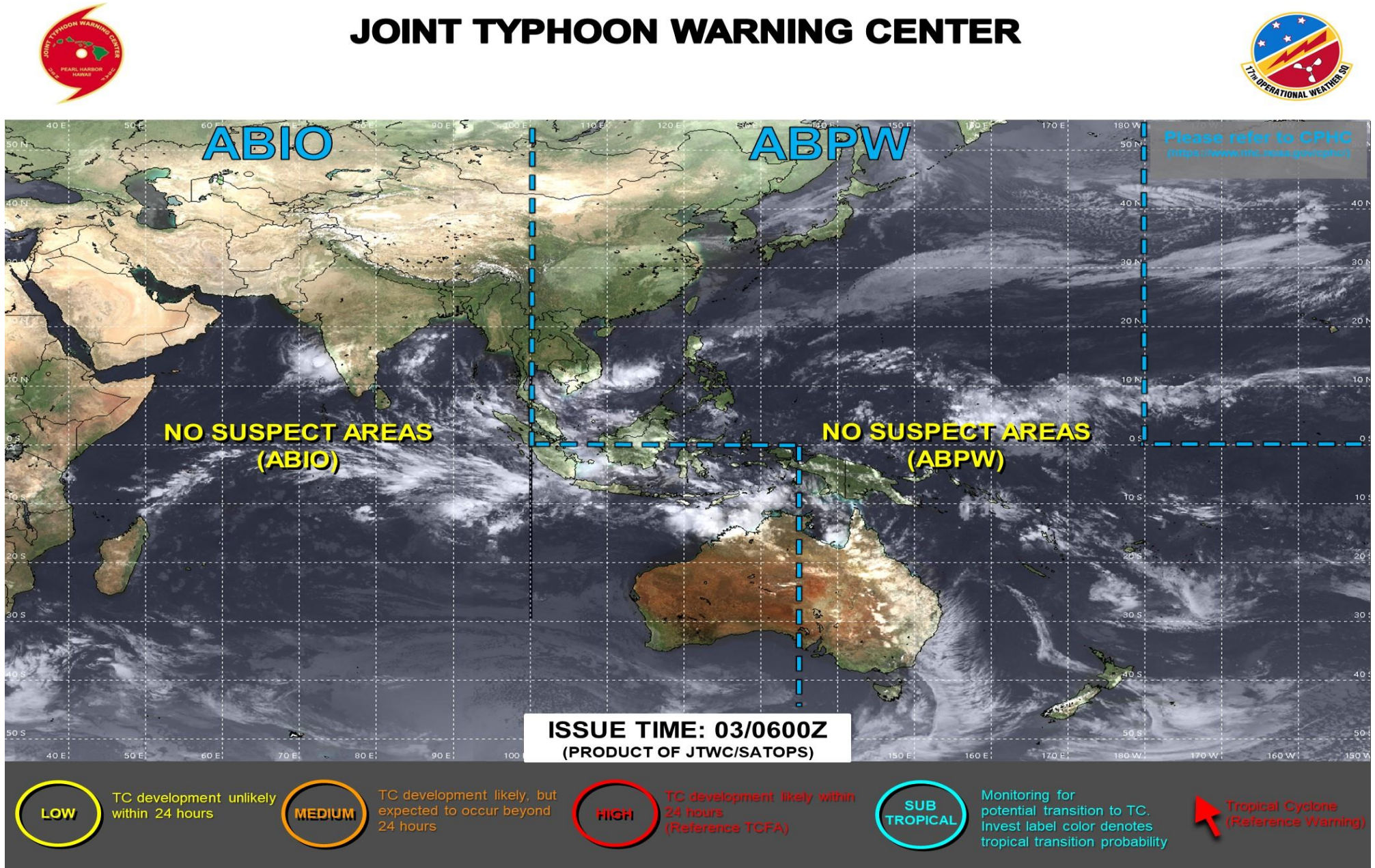
Tropical Cyclone Monitoring/Forecast: NHC / CPHC



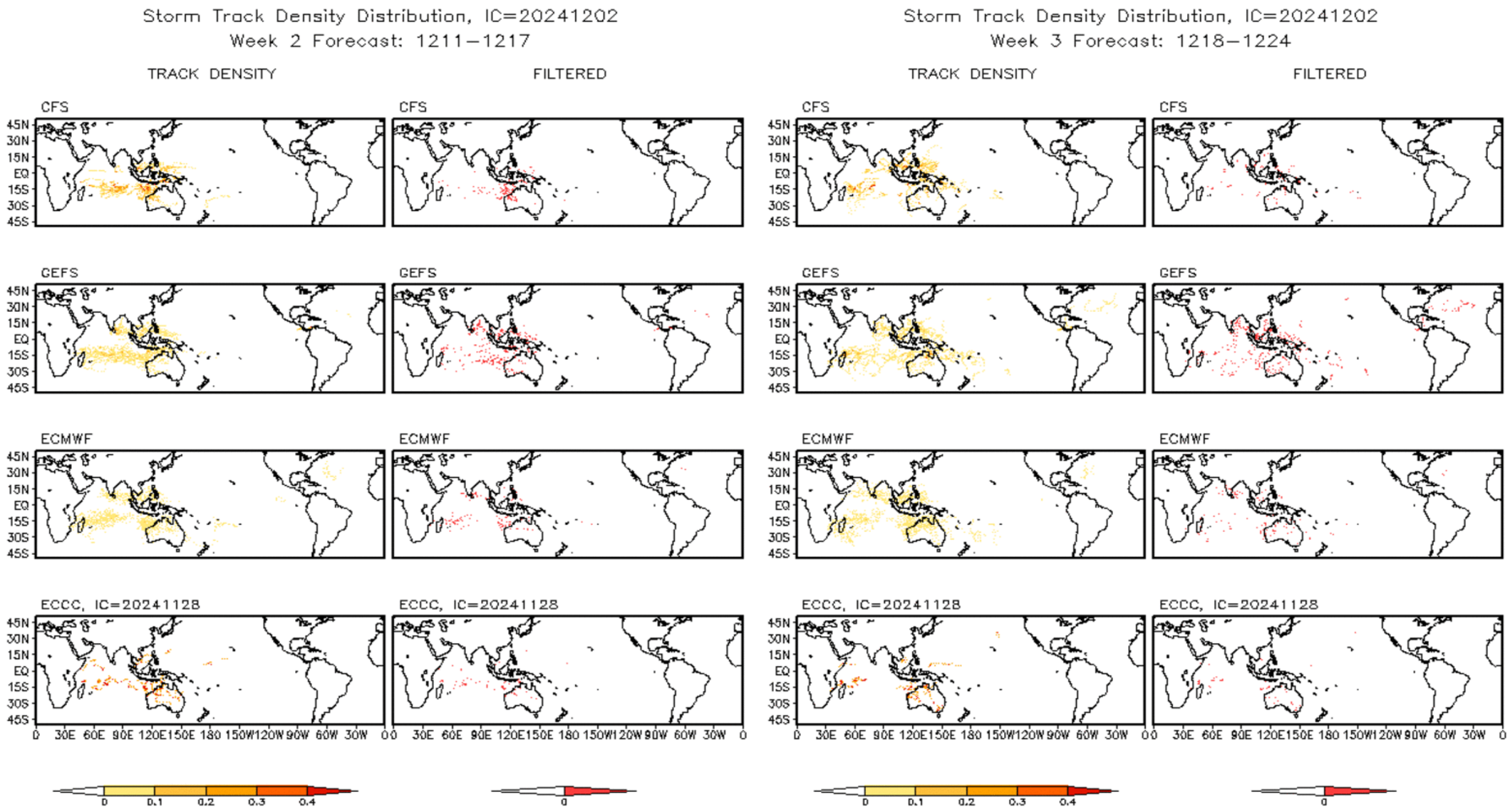




Tropical Cyclone Monitoring/Forecast: JTWC

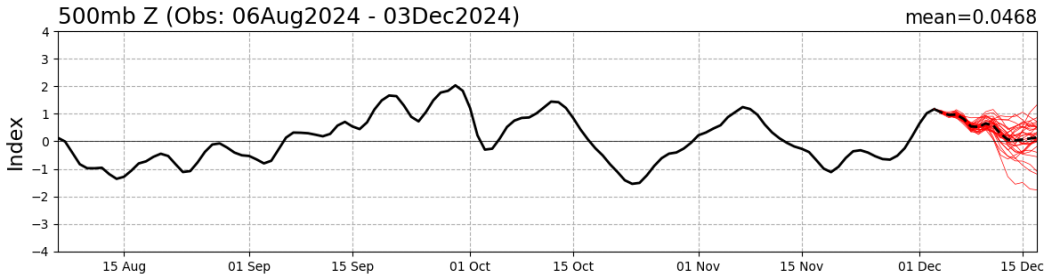


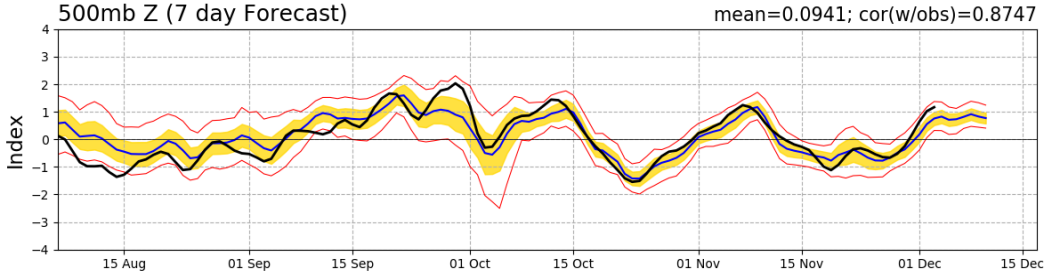
Multi-Model TC Track Densities: Weeks 2+3

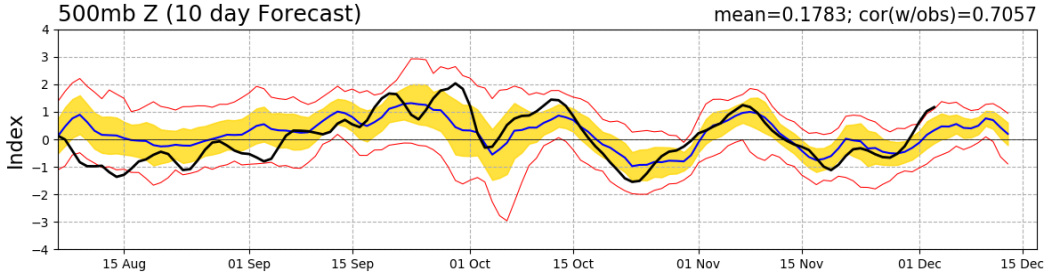


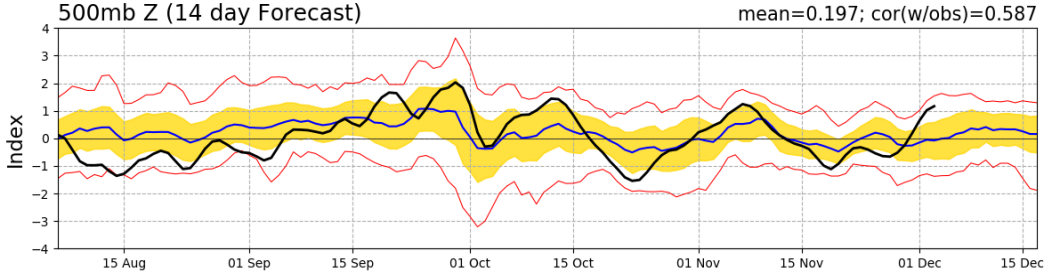
Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

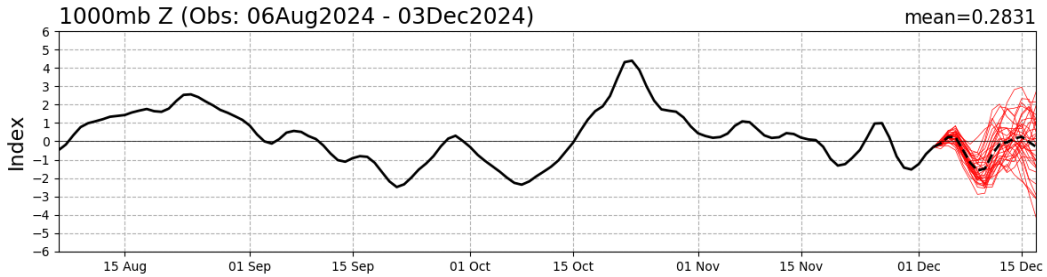


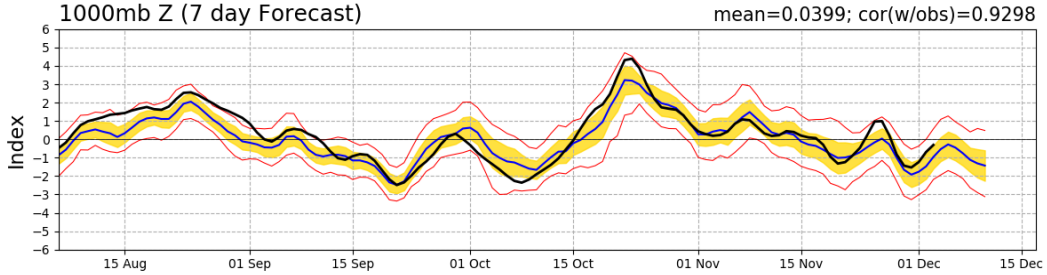


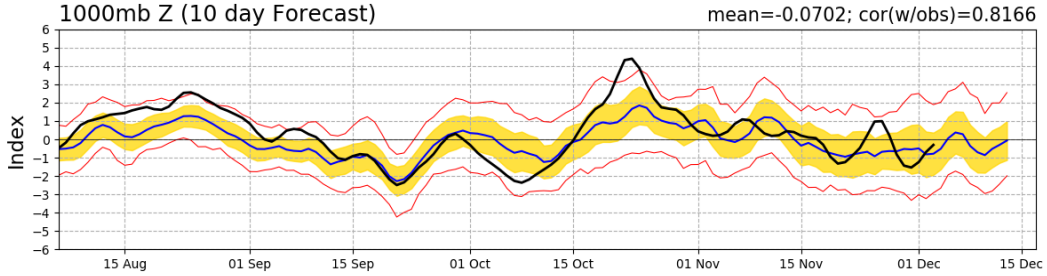


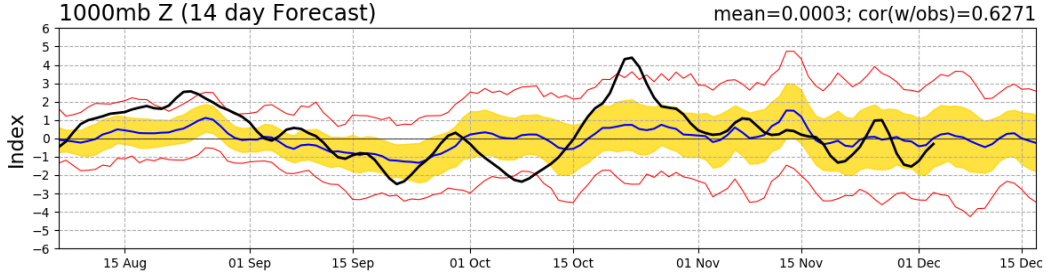


AO Index: Observed & GEFS Forecasts

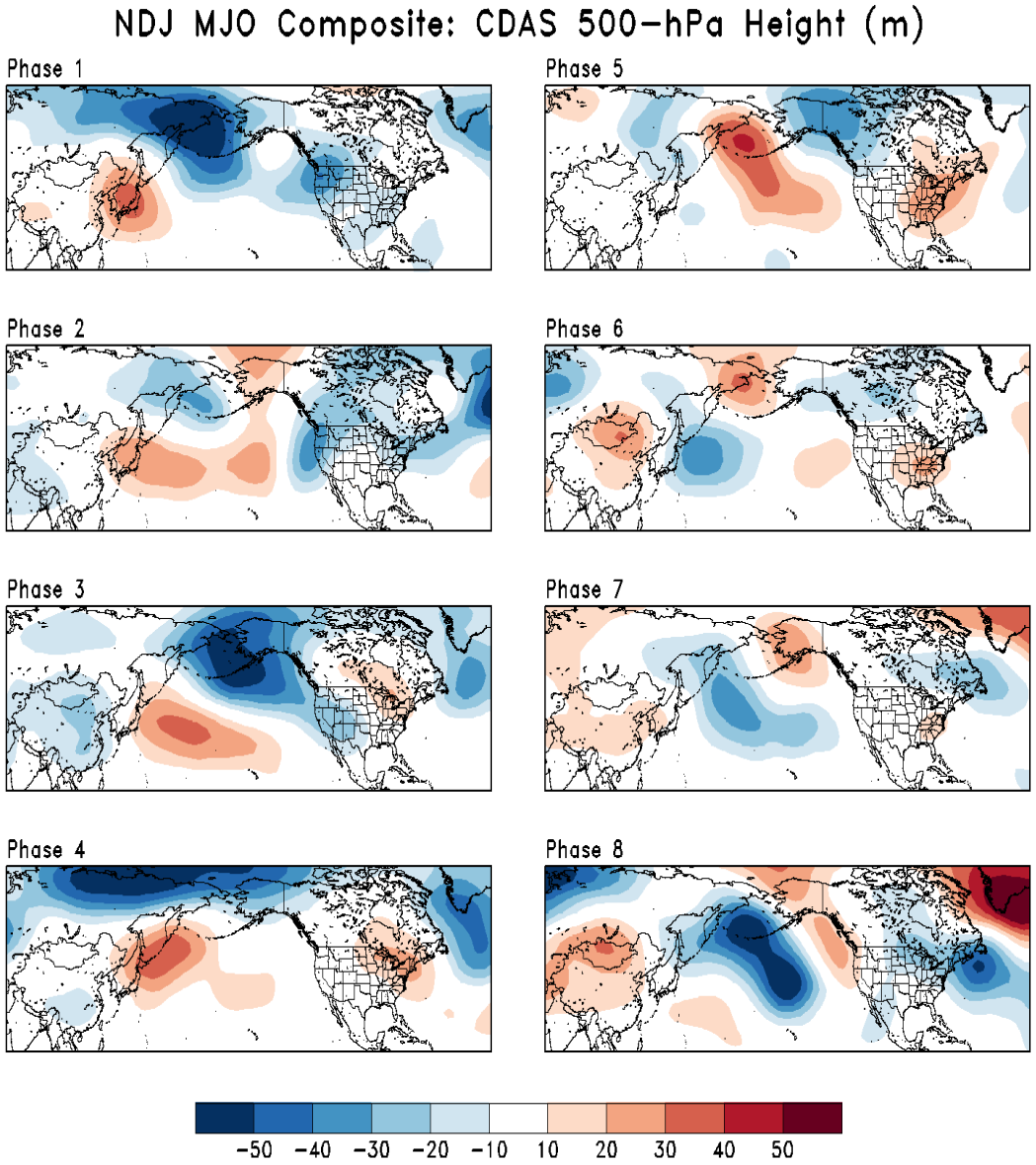


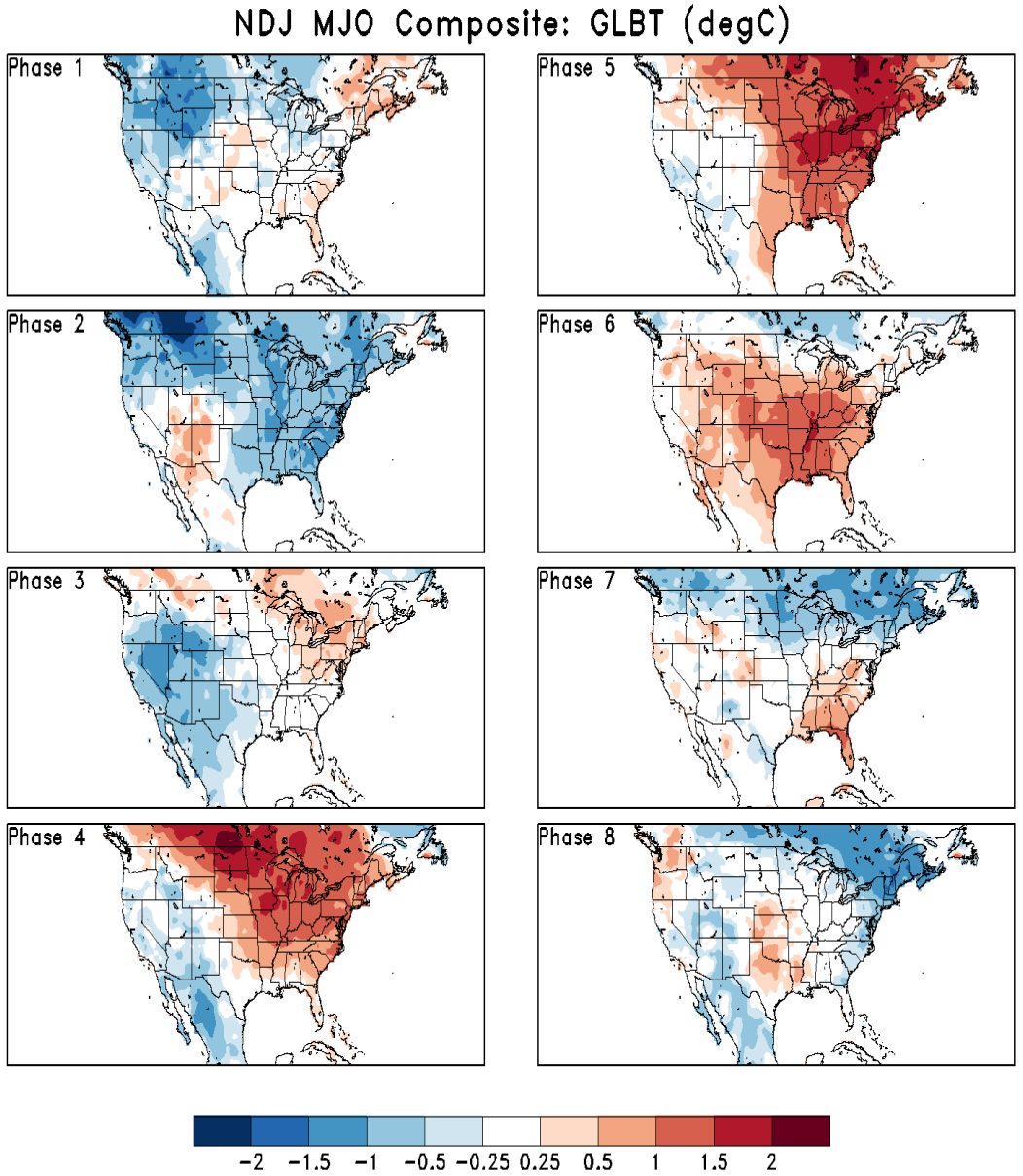




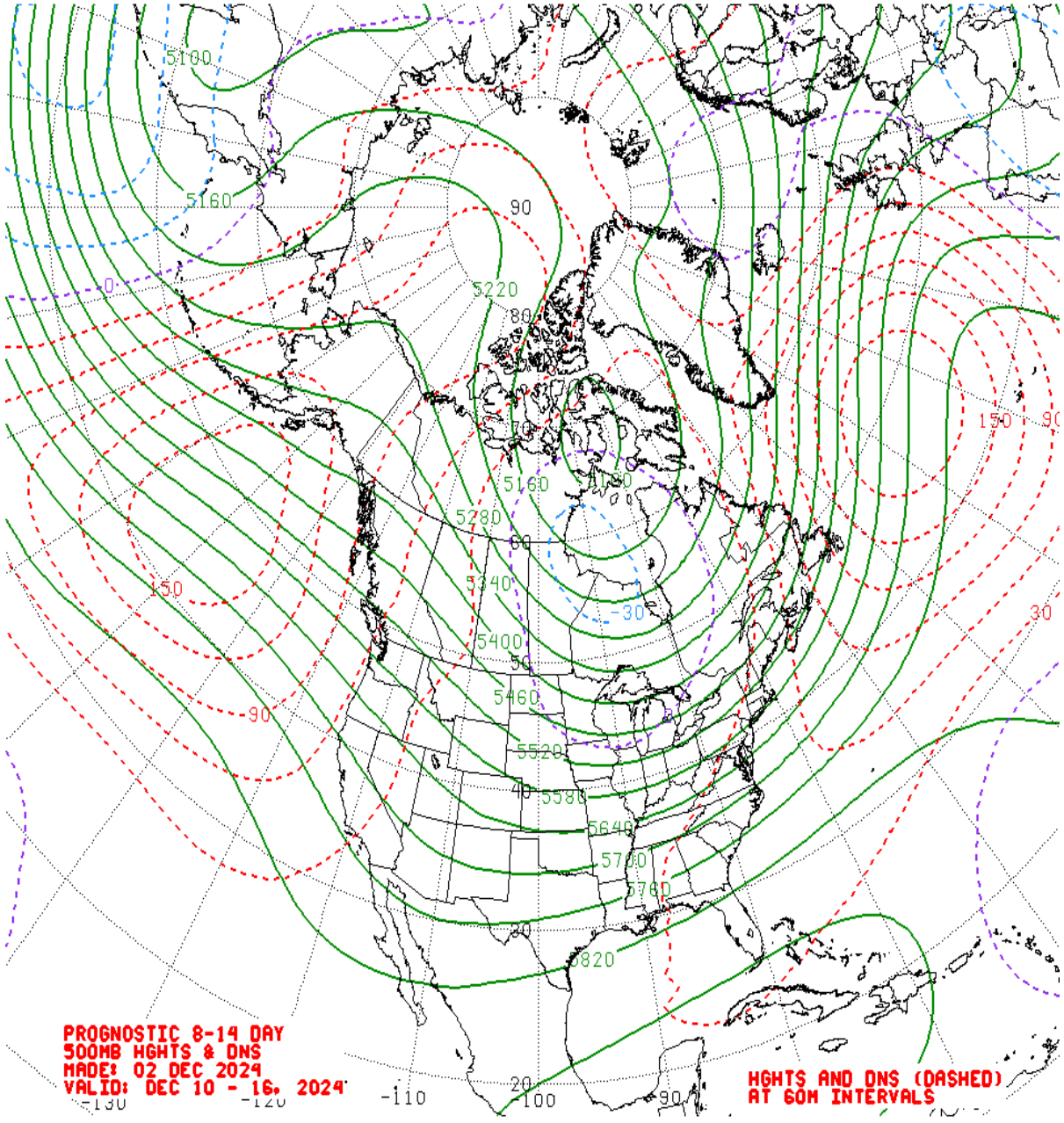


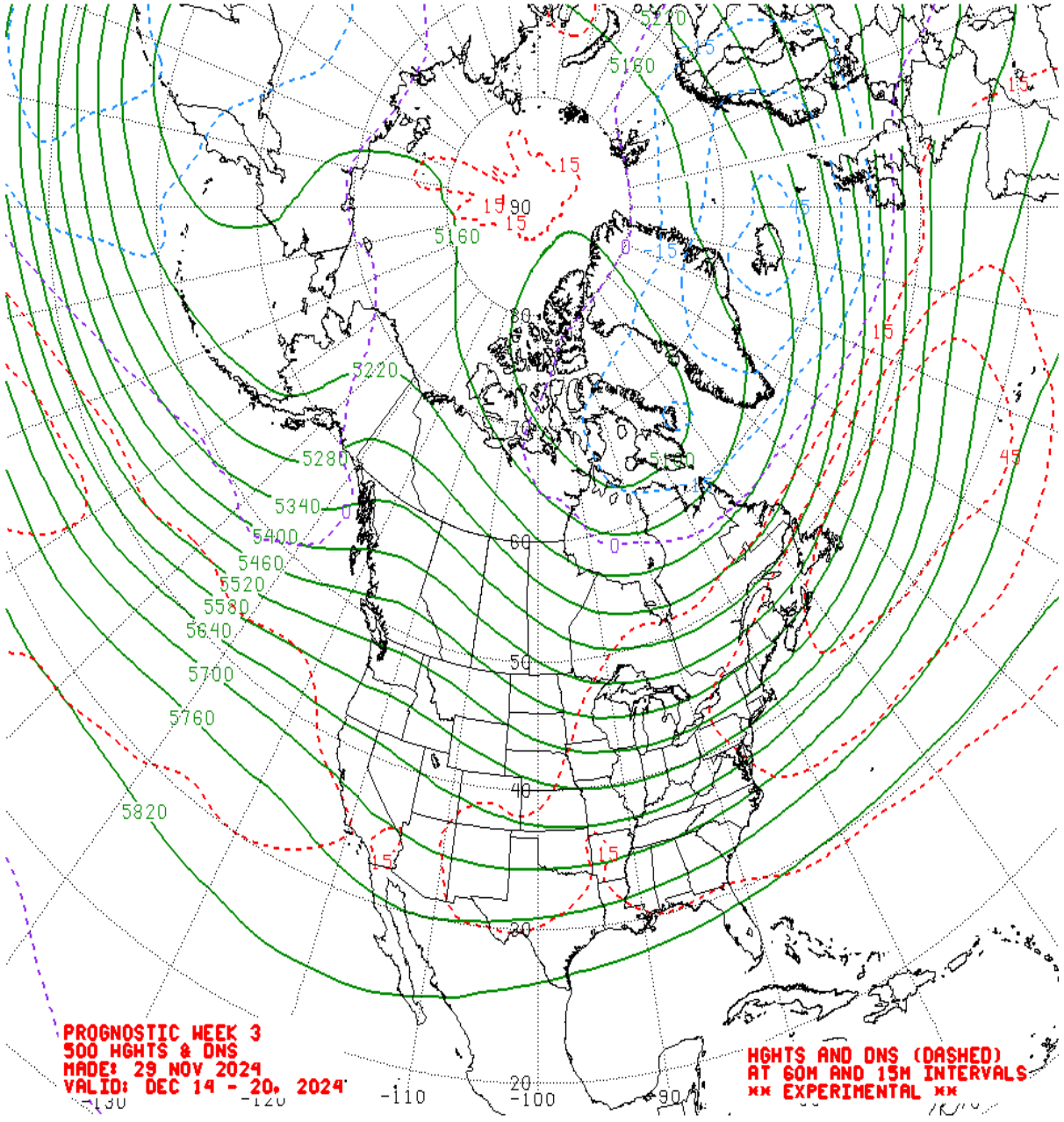
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:



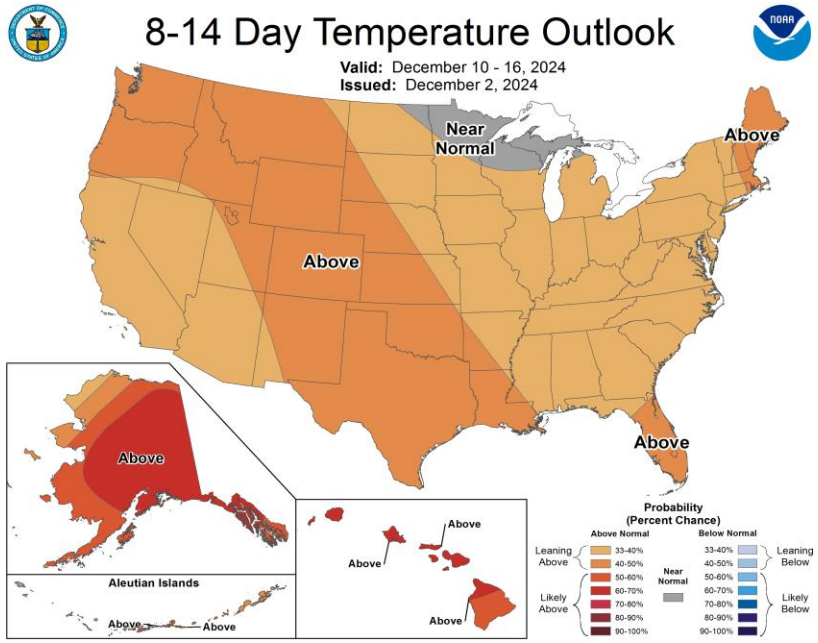


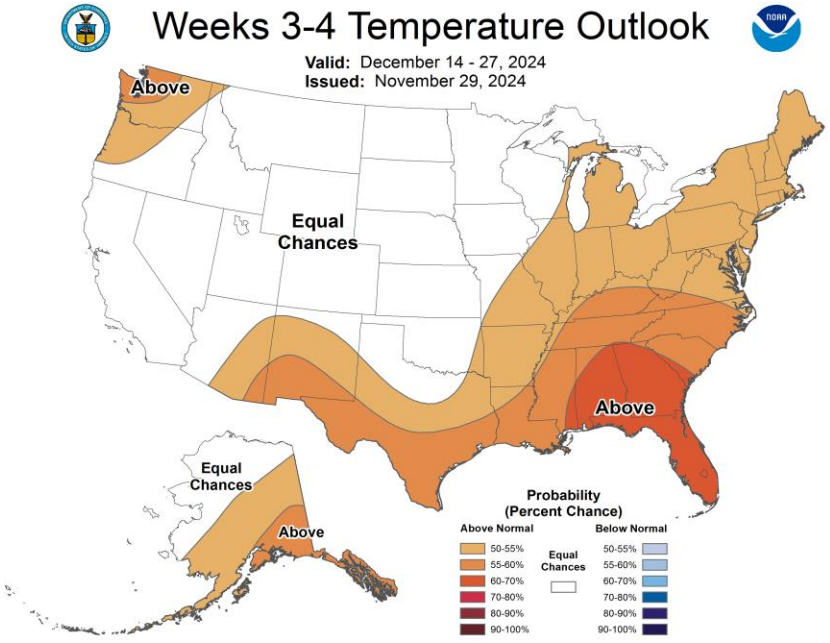
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

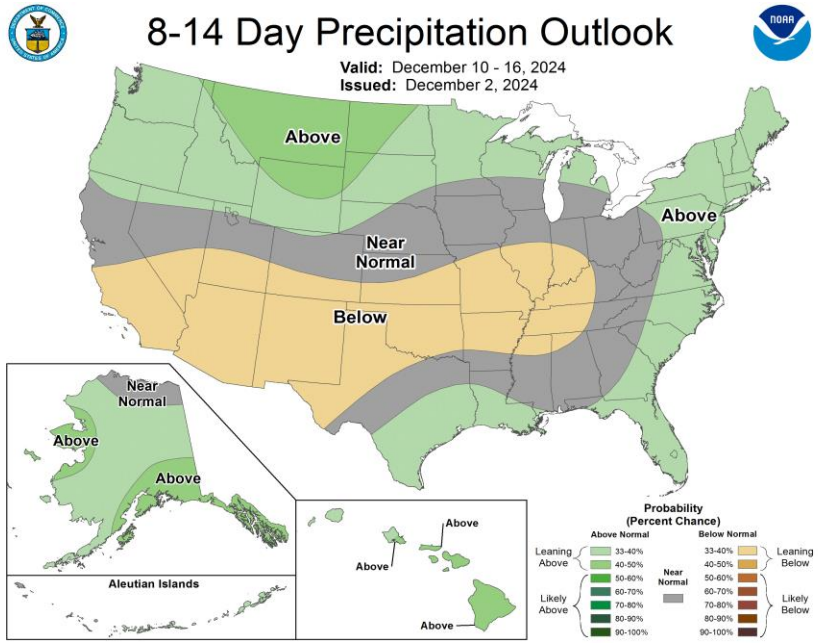


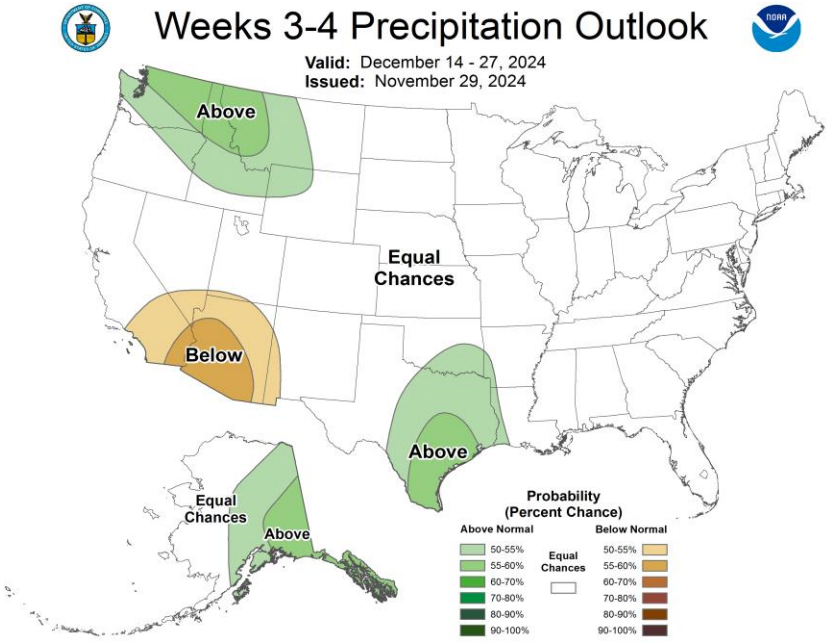


Official Temperature & Precipitation Forecasts:









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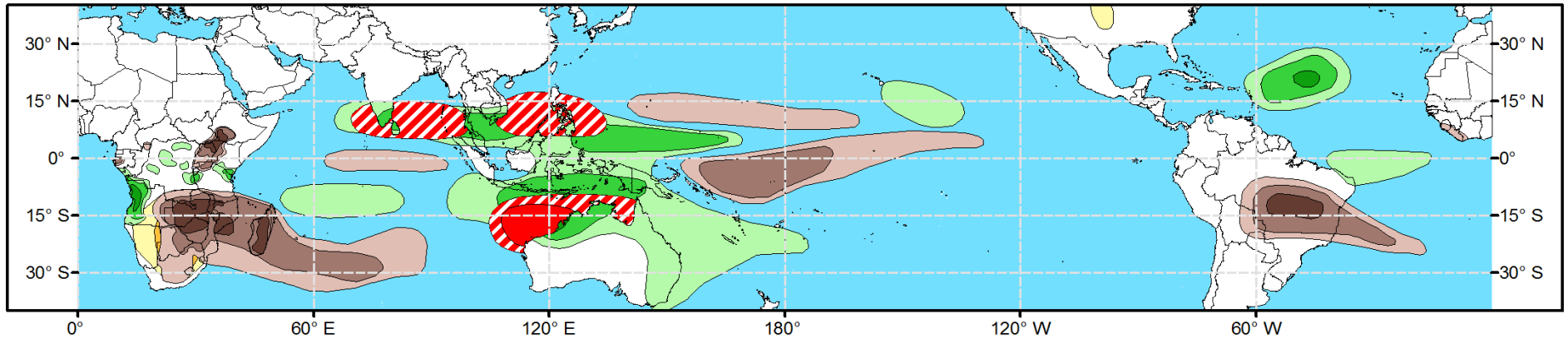

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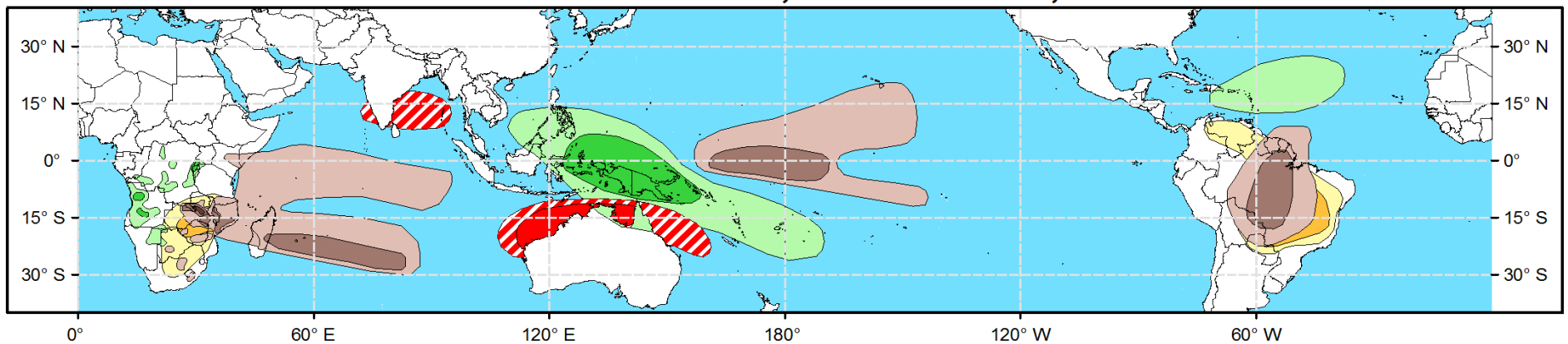

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