Weeks 2-3 Global Tropics Hazards Outlook

2/11/2025

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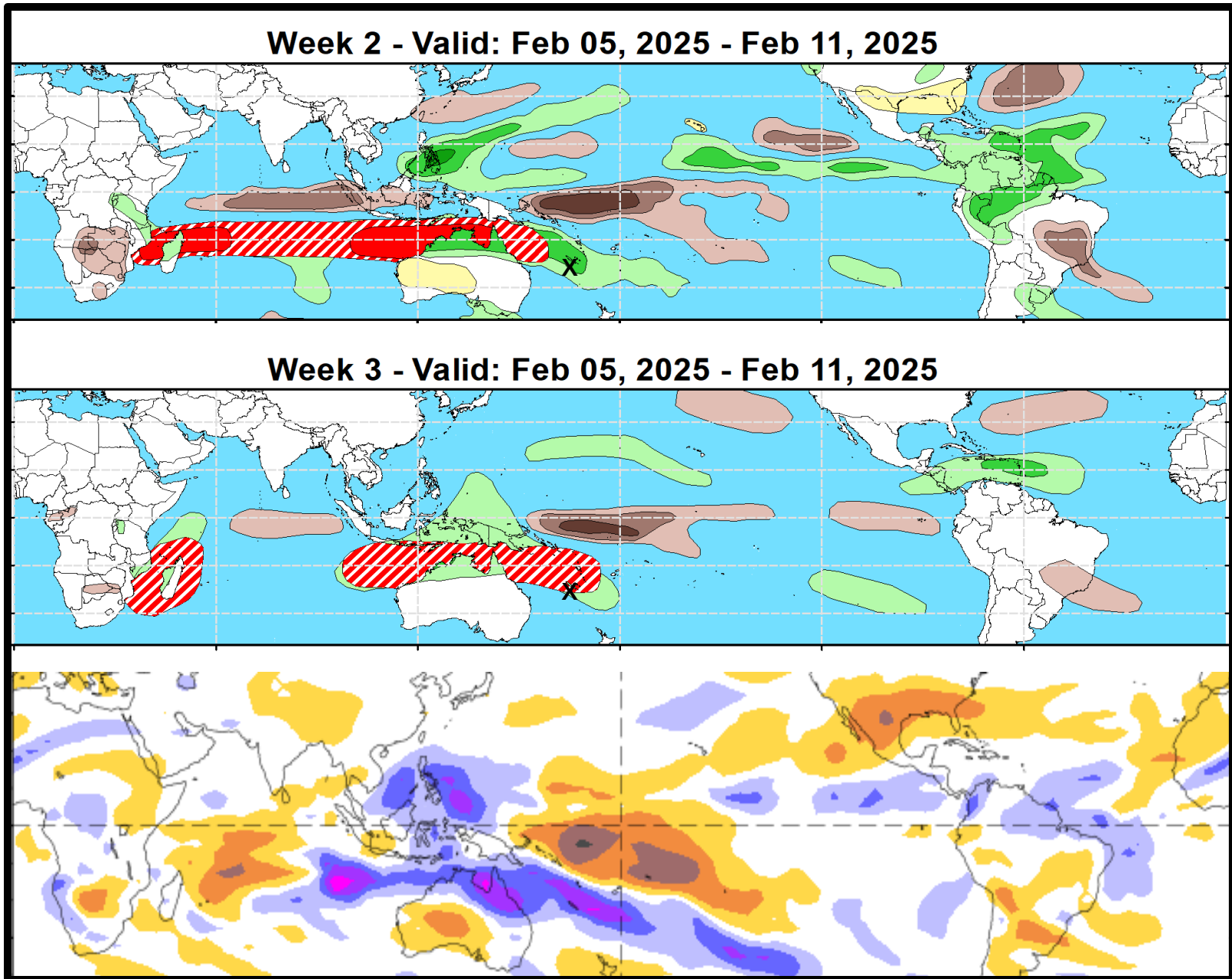
Outlook Review: TC development & anomalous precipitation during the past week

- Although only one TC formed since Feb 5, the southern Indian Ocean basin is extremely active, with 3 ongoing TCs that formed prior to Feb 5.
- The pronounced wet signal over the Maritime Continent was well forecast.



Synopsis of Climate Modes:

ENSO: (Jan 9, 2025 Update) ***next update on Thursday, Feb 13th***

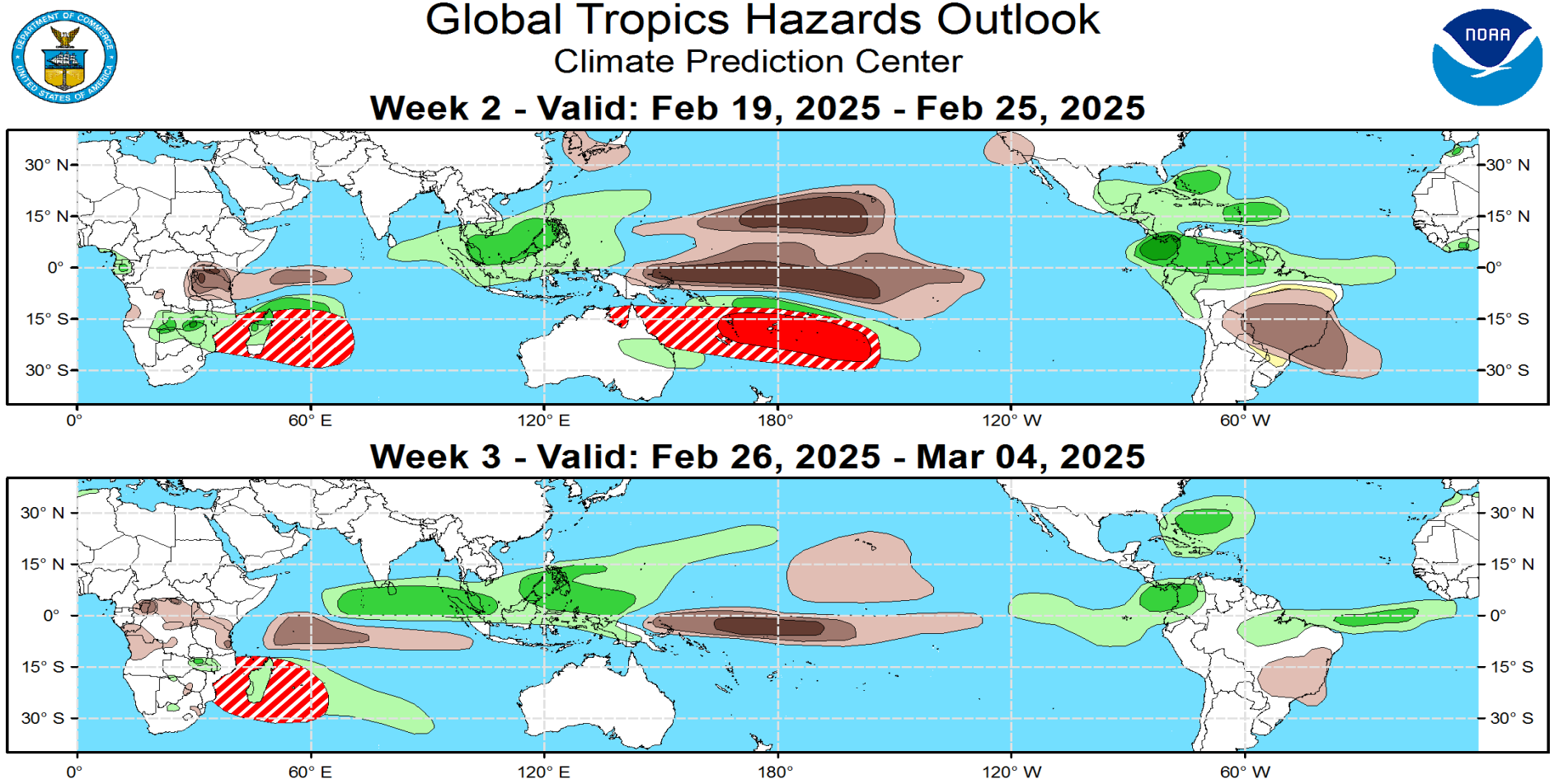
- ENSO Alert System Status: La Niña Advisory

- La Niña conditions are present and are expected to persist through February-April 2025 (59% chance), with a transition to ENSO-neutral likely during March-May 2025 (60% chance).

MJO and other subseasonal tropical variability:

- The MJO remains active, with the enhanced convective phase now crossing the Pacific.
- Destructive interference between the La Niña base state and the MJO is likely during Week-1, resulting in a weakening of the trade wind regime.
- Dynamical model MJO forecasts generally support continued evolution of the signal, with the enhanced phase crossing the Western Hemisphere during Week-2, and possibly returning to the Indian Ocean by Week-3.
- As the suppressed phase of the MJO begins crossing the Pacific, constructive interference between the intraseasonal signal and ENSO is likely.
- The MJO is likely to contribute to the evolution of the extratropical pattern, with ridging over the western CONUS and troughing across the East. Strong troughing south of the Aleutians is much more consistent with an MJO response than La Niña.

GTH Outlook:



Issued: 02/11/2025

Forecaster: Allgood

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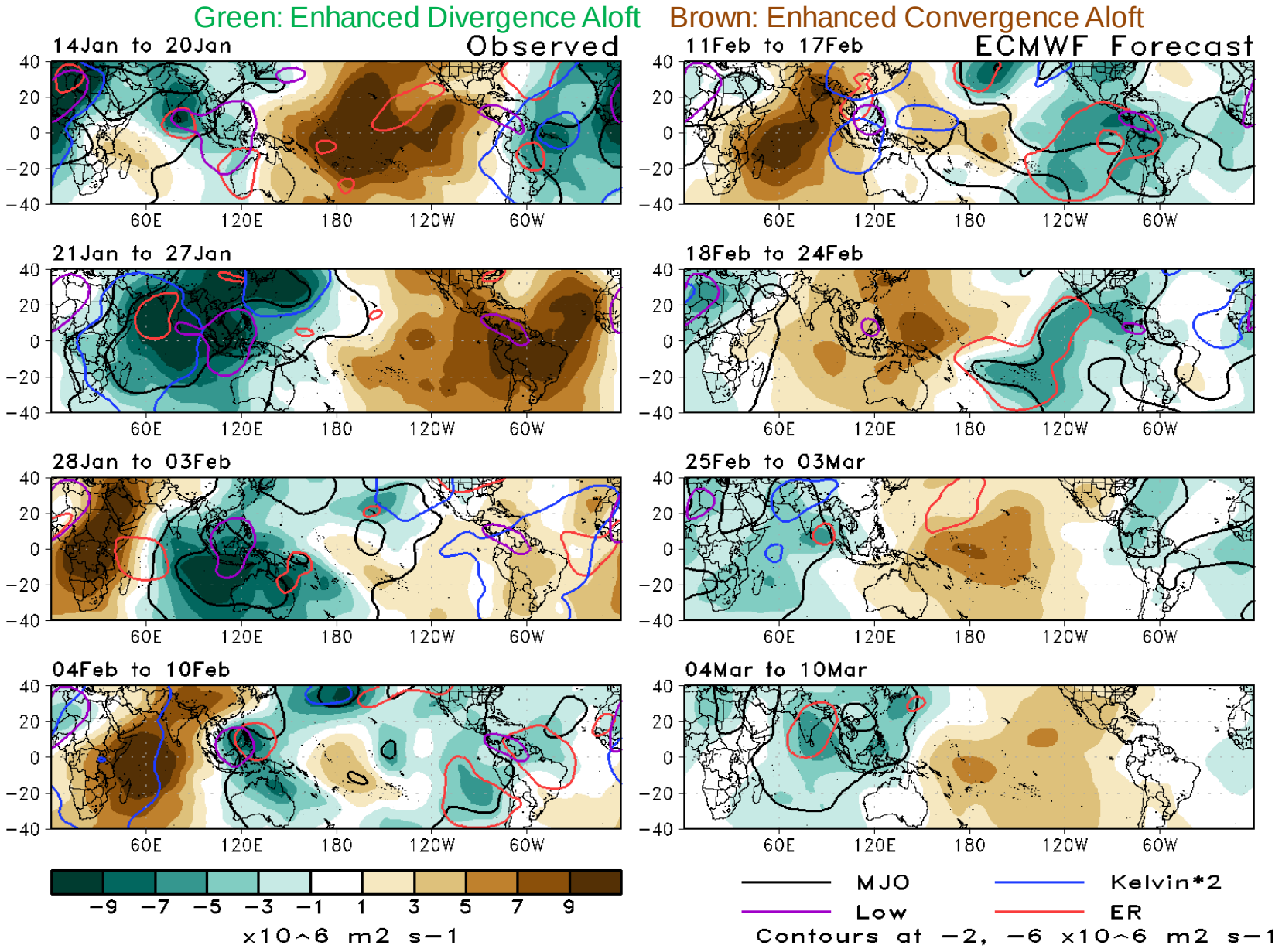
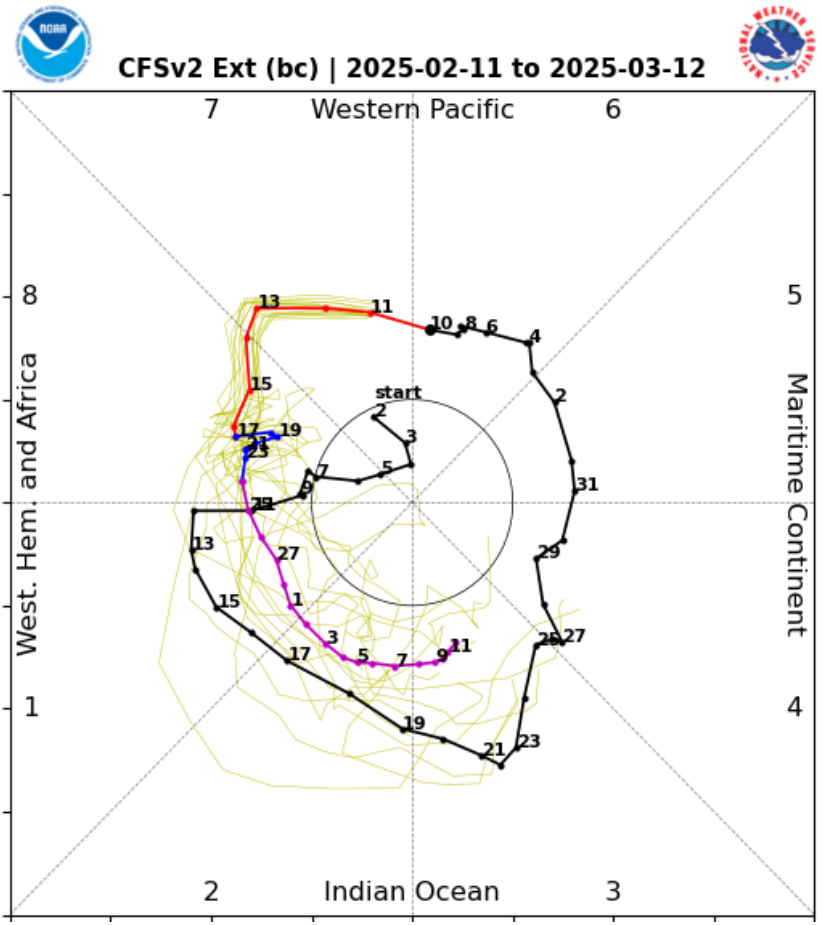
Consult your local responsible forecast agency.

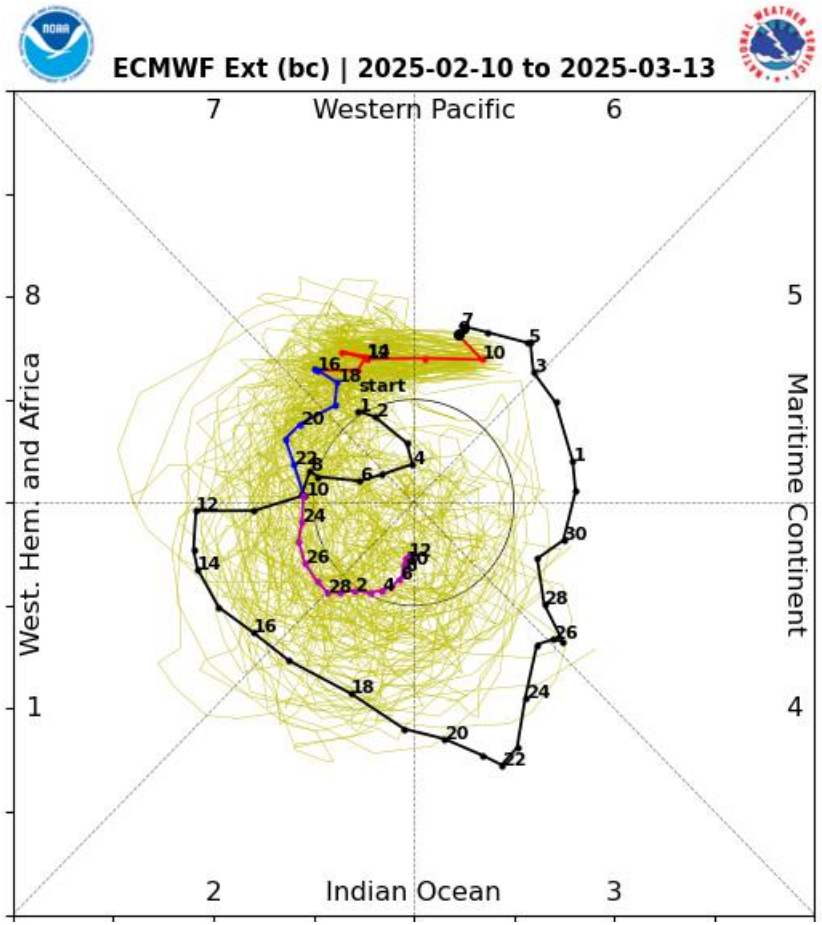
200-hPa Velocity Potential Anomaly Maps:

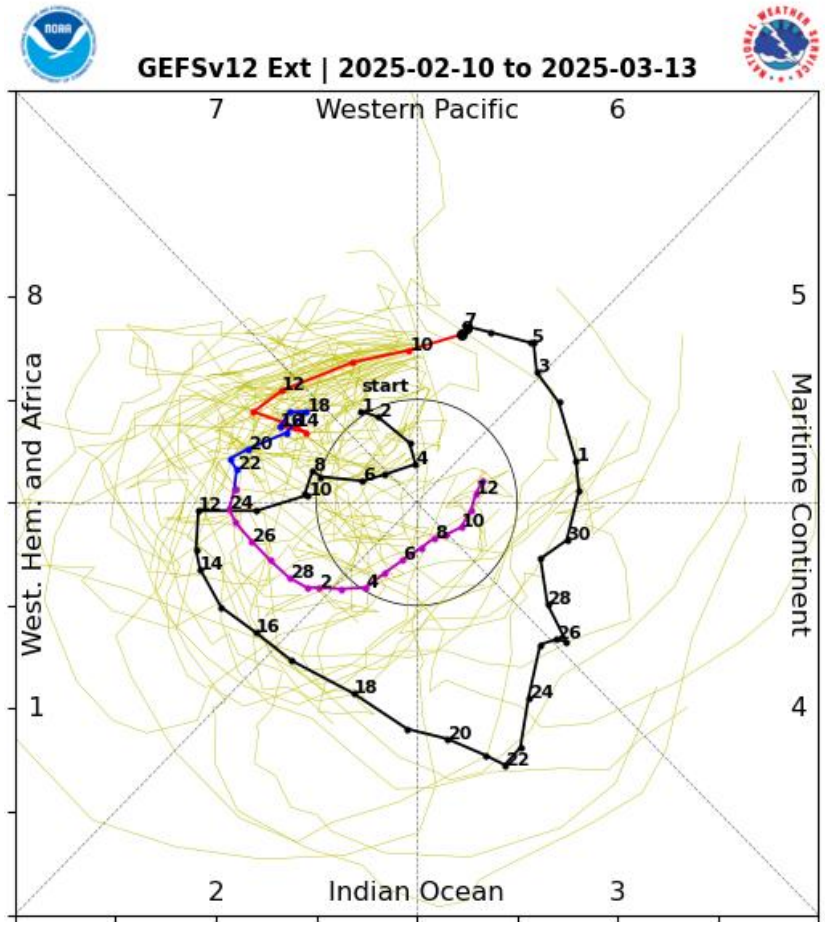
- Robust MJO evolution is apparent in the upper-level VP anomaly field from mid-January through early February.
- Destructive interference between the MJO enhanced phase and La Niña is apparent during the Feb 4-10 period.
- The ECMWF depicts a continuation of robust MJO evolution, with the enhanced phase crossing the Western Hemisphere during Week-2 and returning to the Indian Ocean by Week-3.



RMM Index Observations & Forecasts:

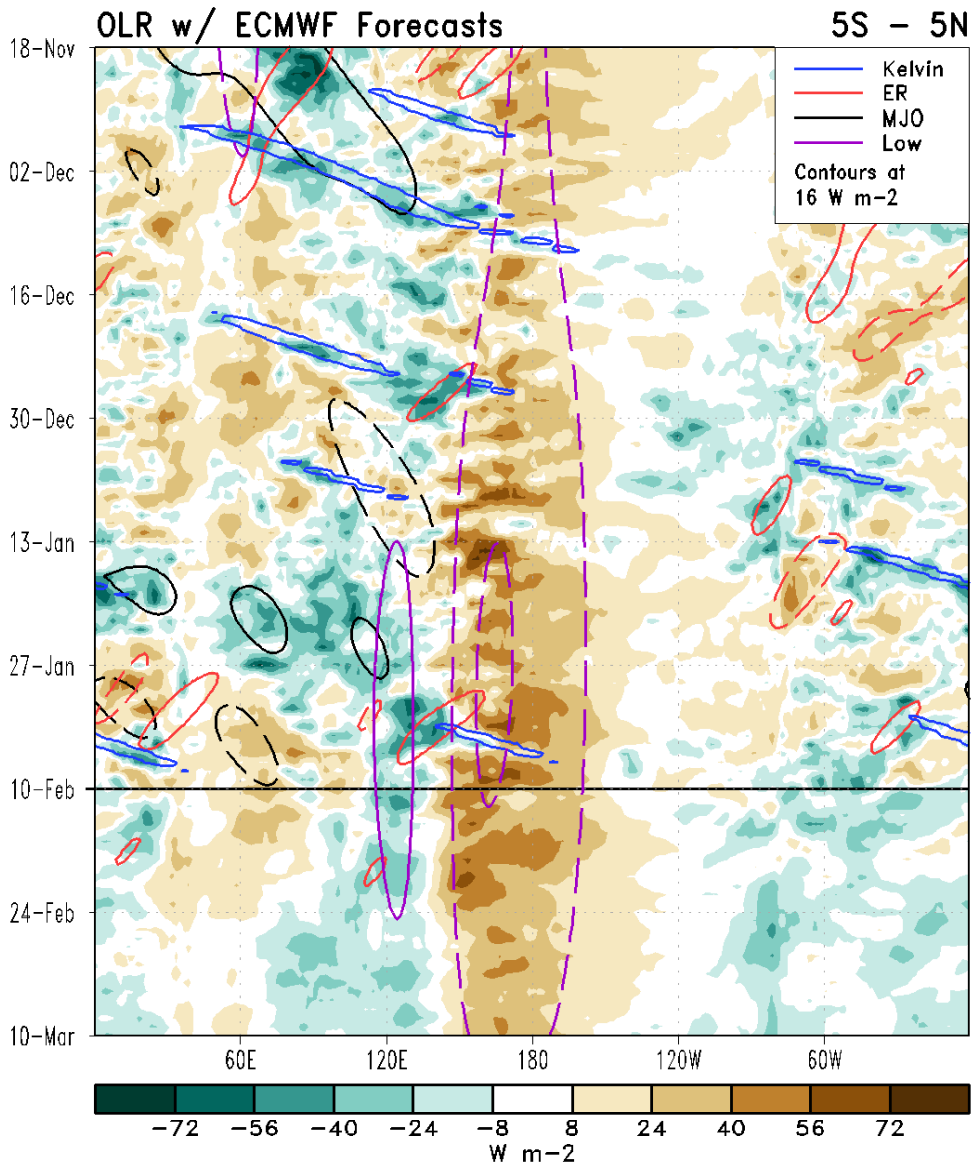


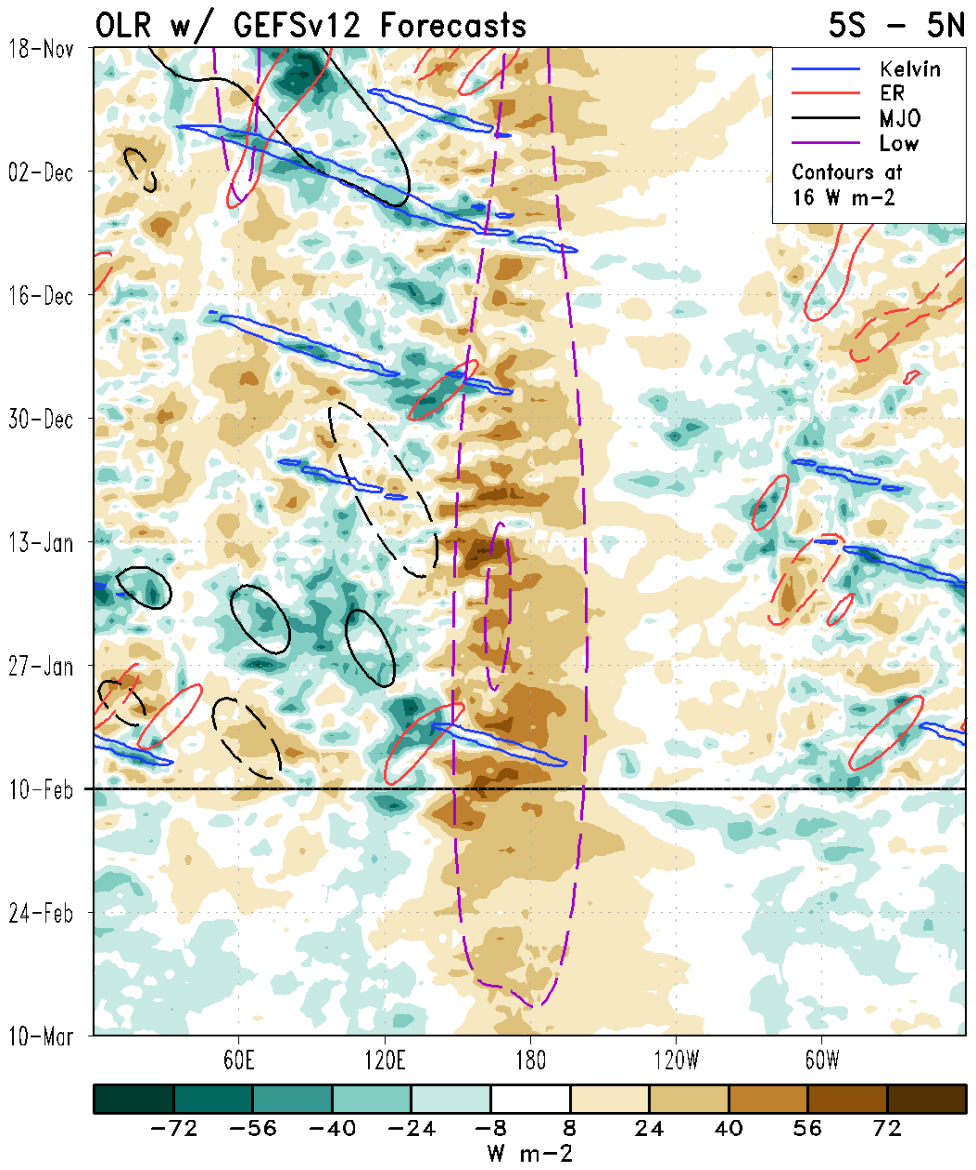




- Robust MJO activity is favored by all model systems during Week-2, as the signal propagates from the Pacific to the Western Hemisphere.
- Uncertainty increases during Week-3, as ensemble members begin to diverge in their amplitude and phase speed solutions. A clear eastward propagation remains well established in the bulk of the guidance.

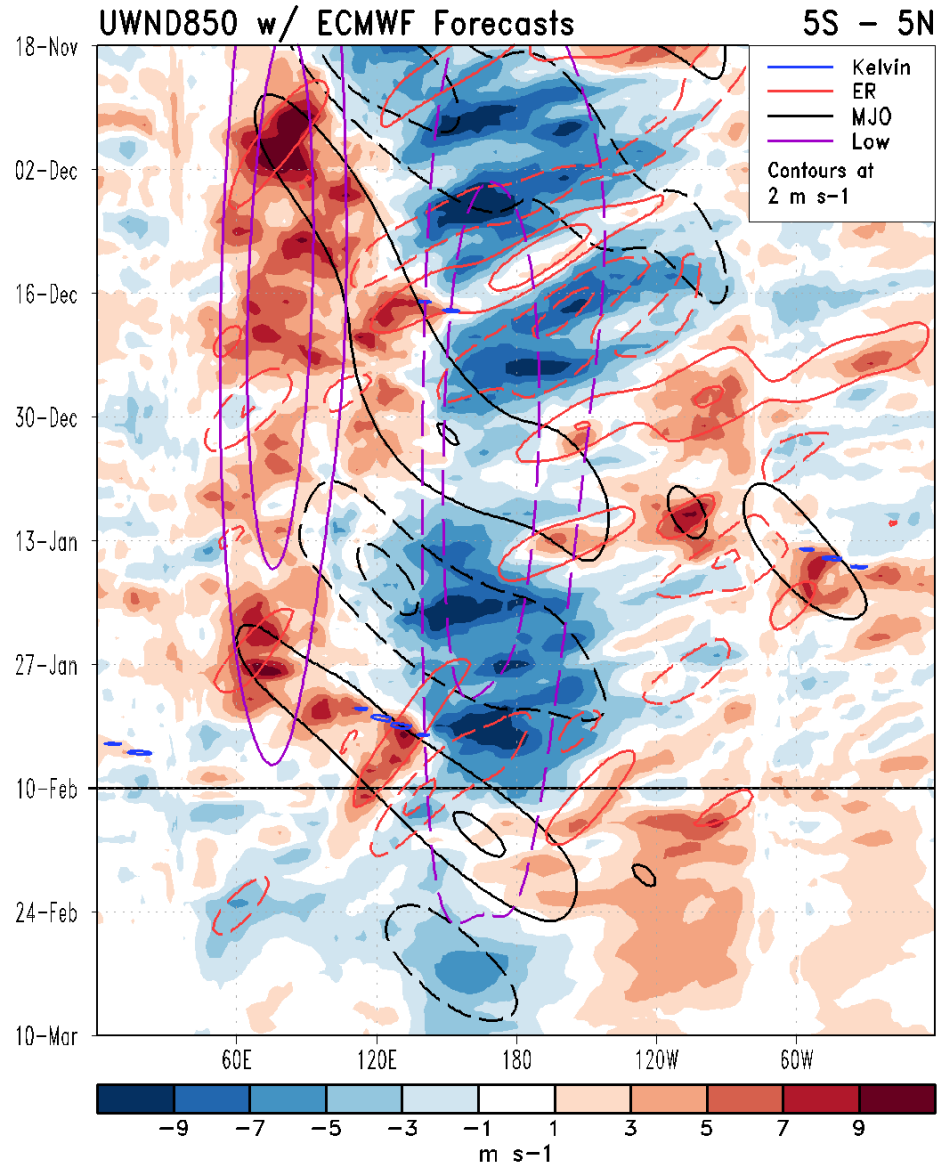
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:

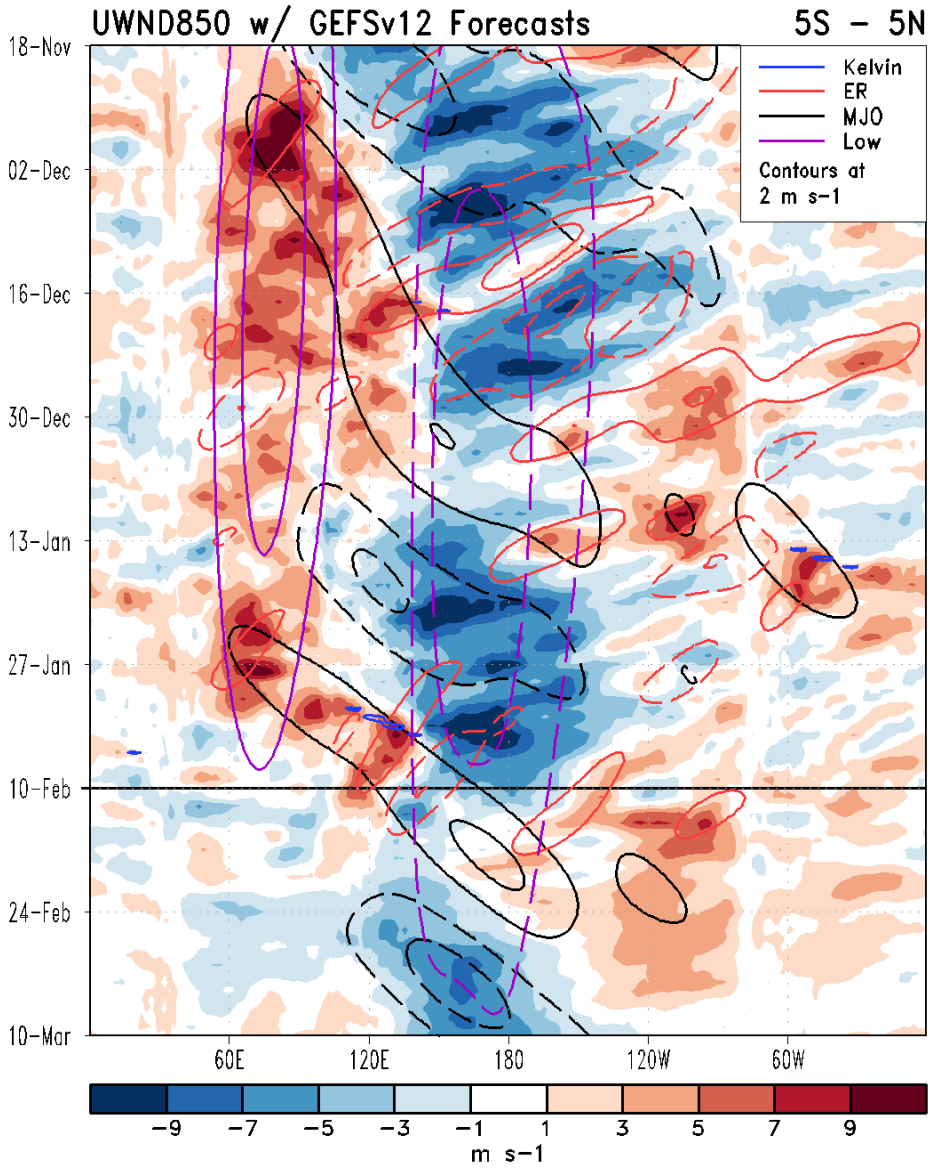




While the MJO is a heavy hitter in the upper levels and even the low-level zonal winds, La Niña continues to dominate the convective pattern over the central Pacific.

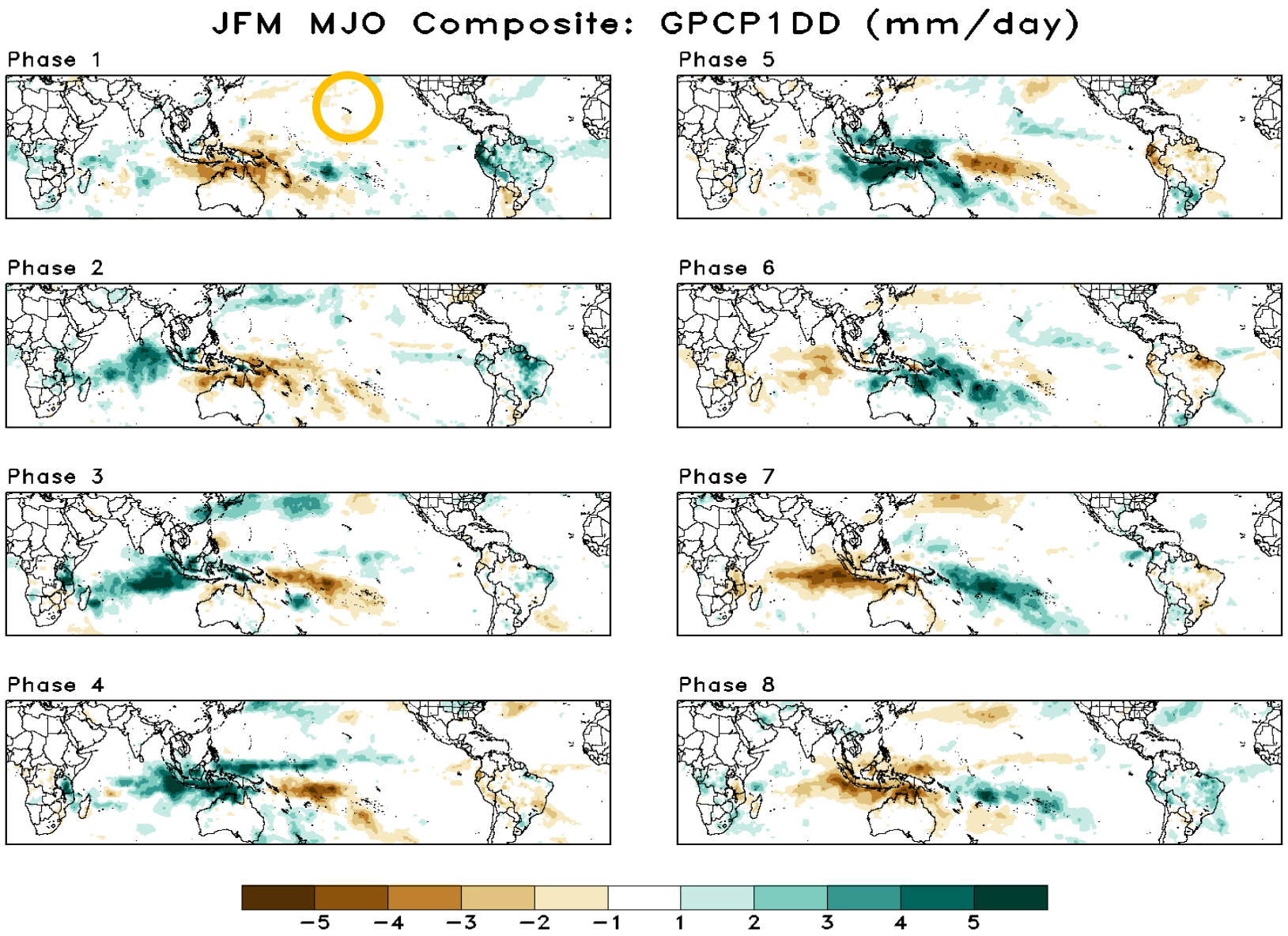
850mb Zonal Wind Anomaly Time/Lon Plots:



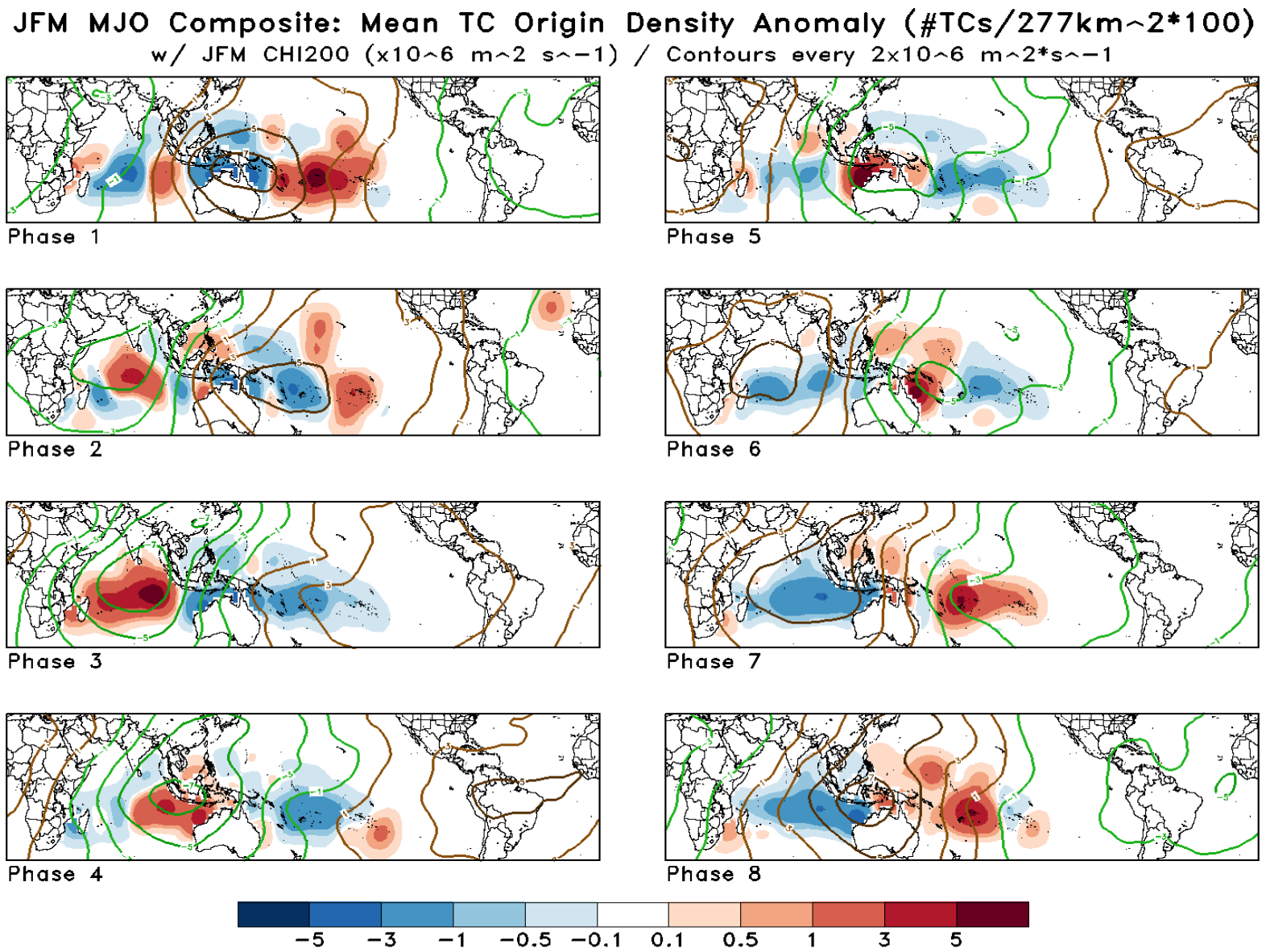


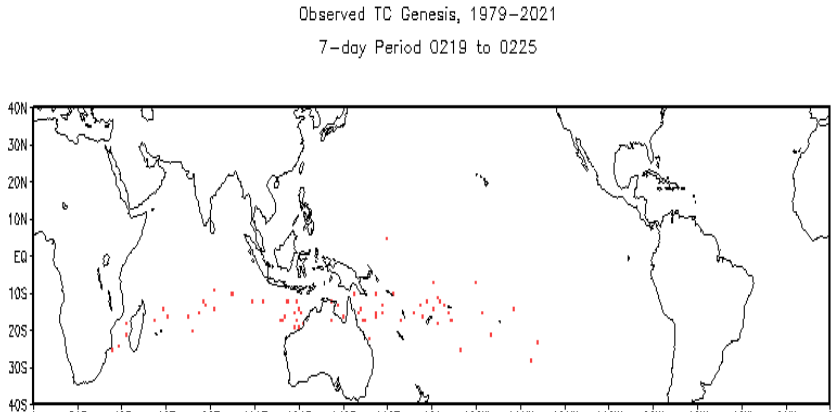
A disruption of the trade wind regime is favored during the next week due to MJO interference, similar to the event in late Dec 2024/early Jan 2025. The GEFS shows a stronger trade wind surge towards the end of February as the suppressed phase crosses the Pacific.

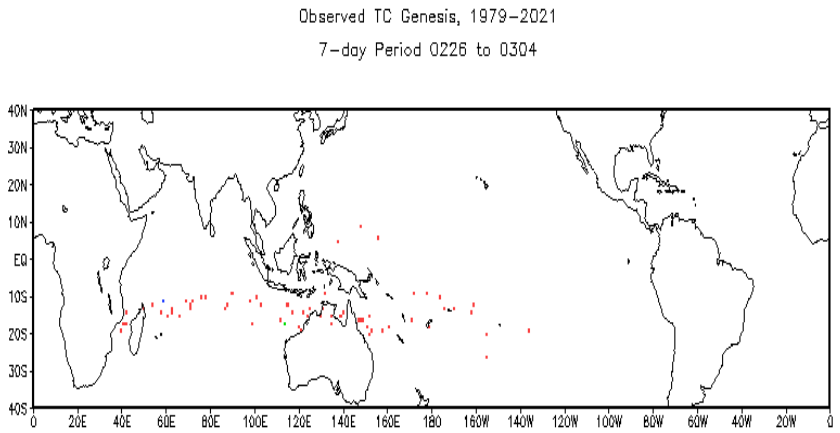
Historical Precipitation Anomalies By MJO Phase:



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

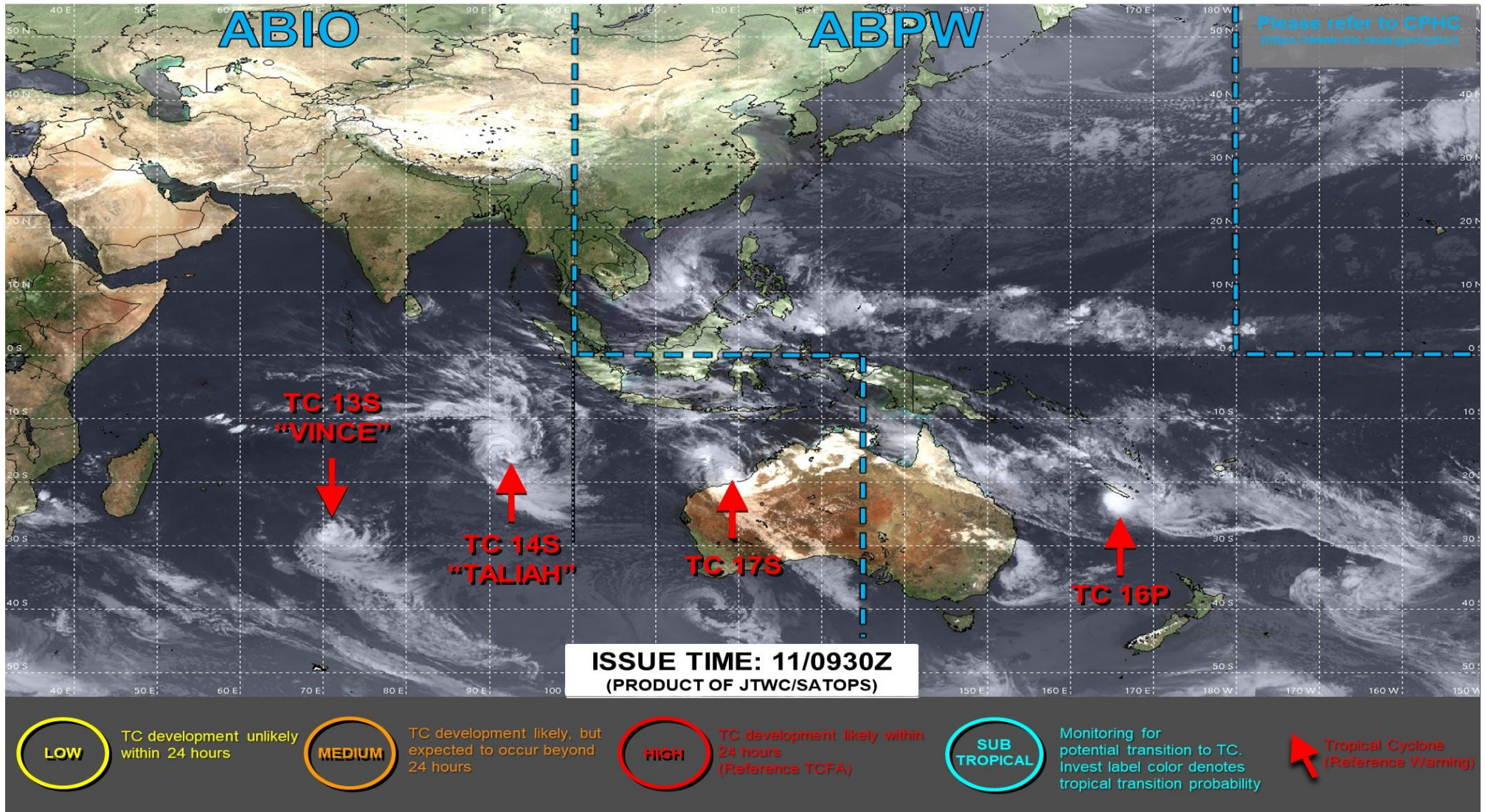




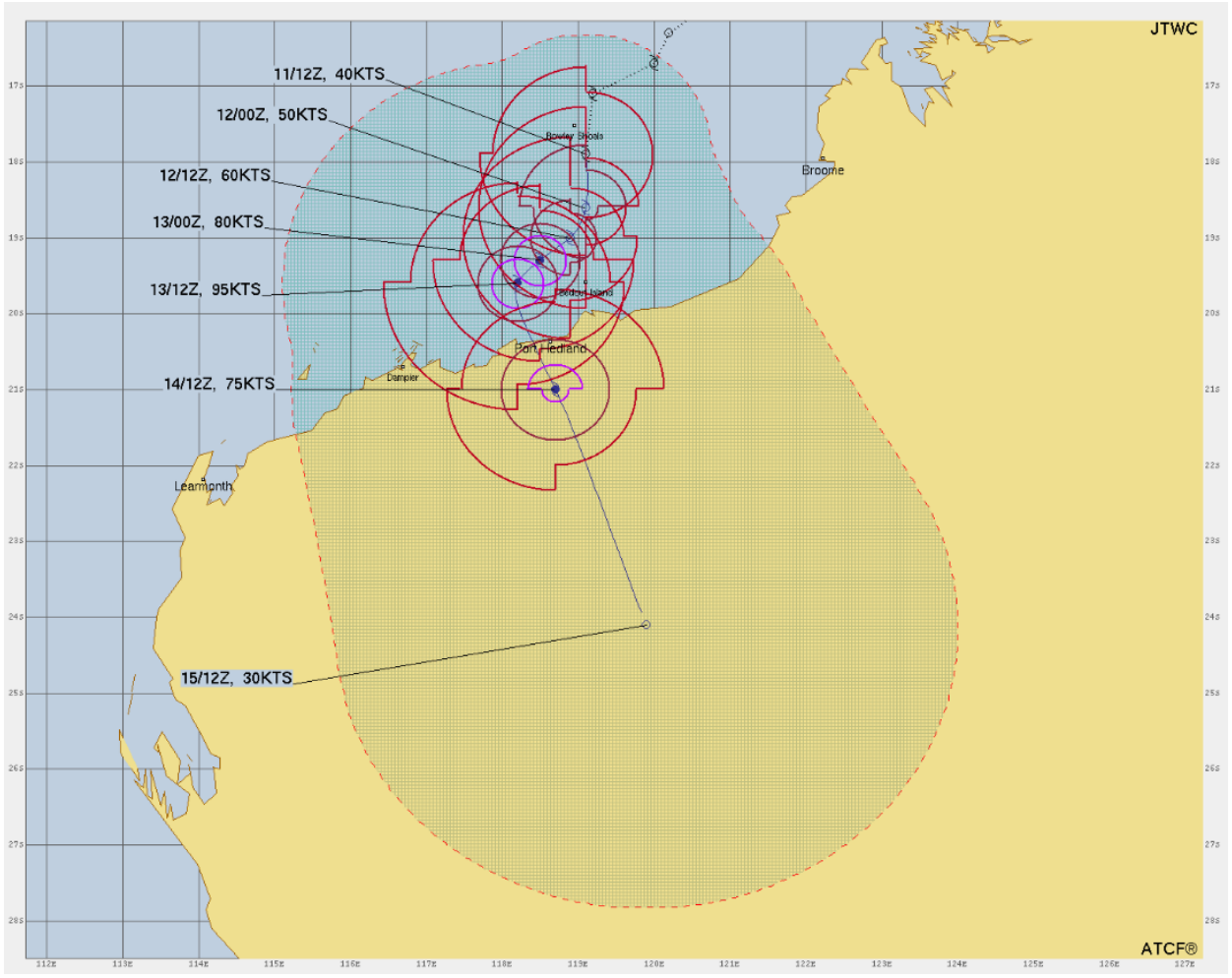


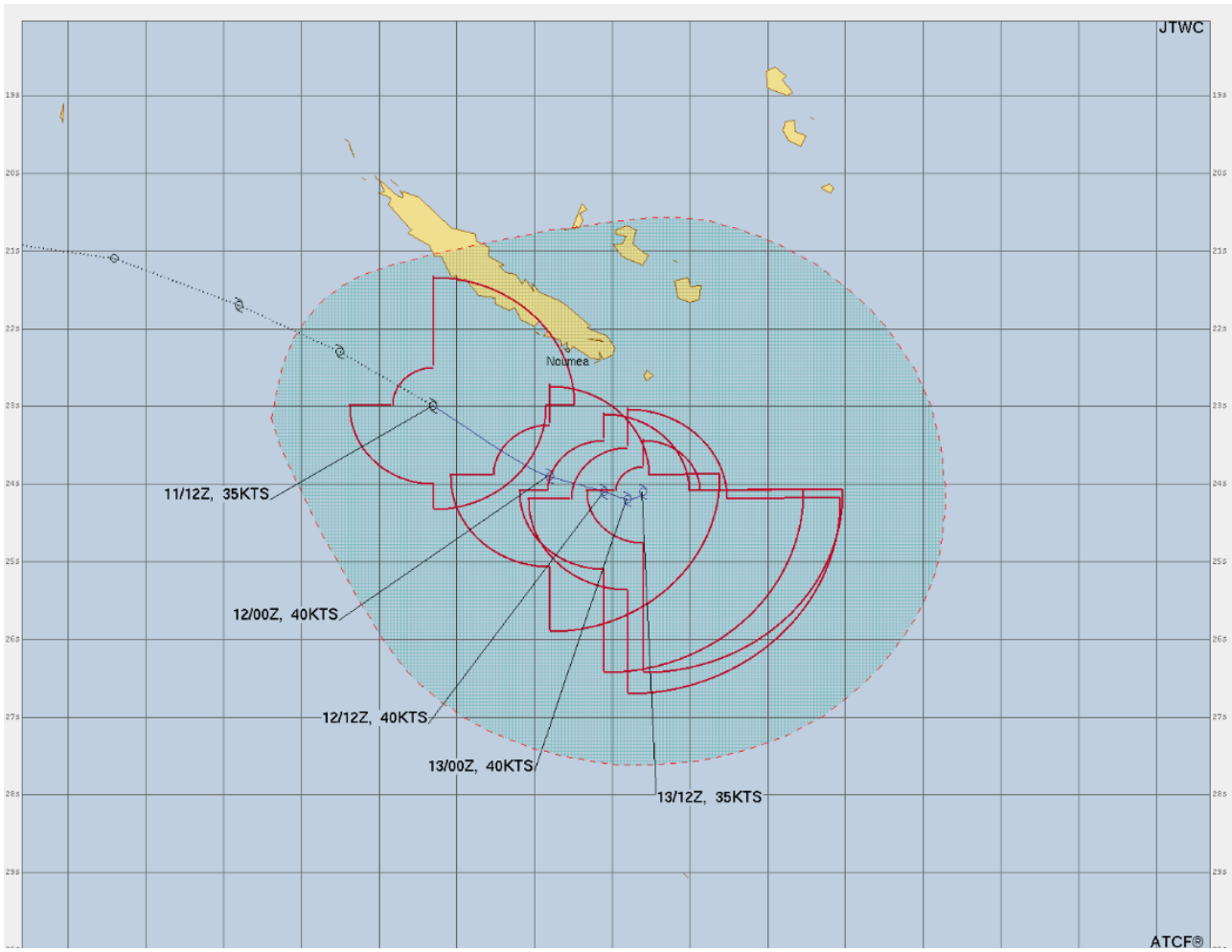
Experimental

Tropical Cyclone Monitoring/Forecast: JTWC



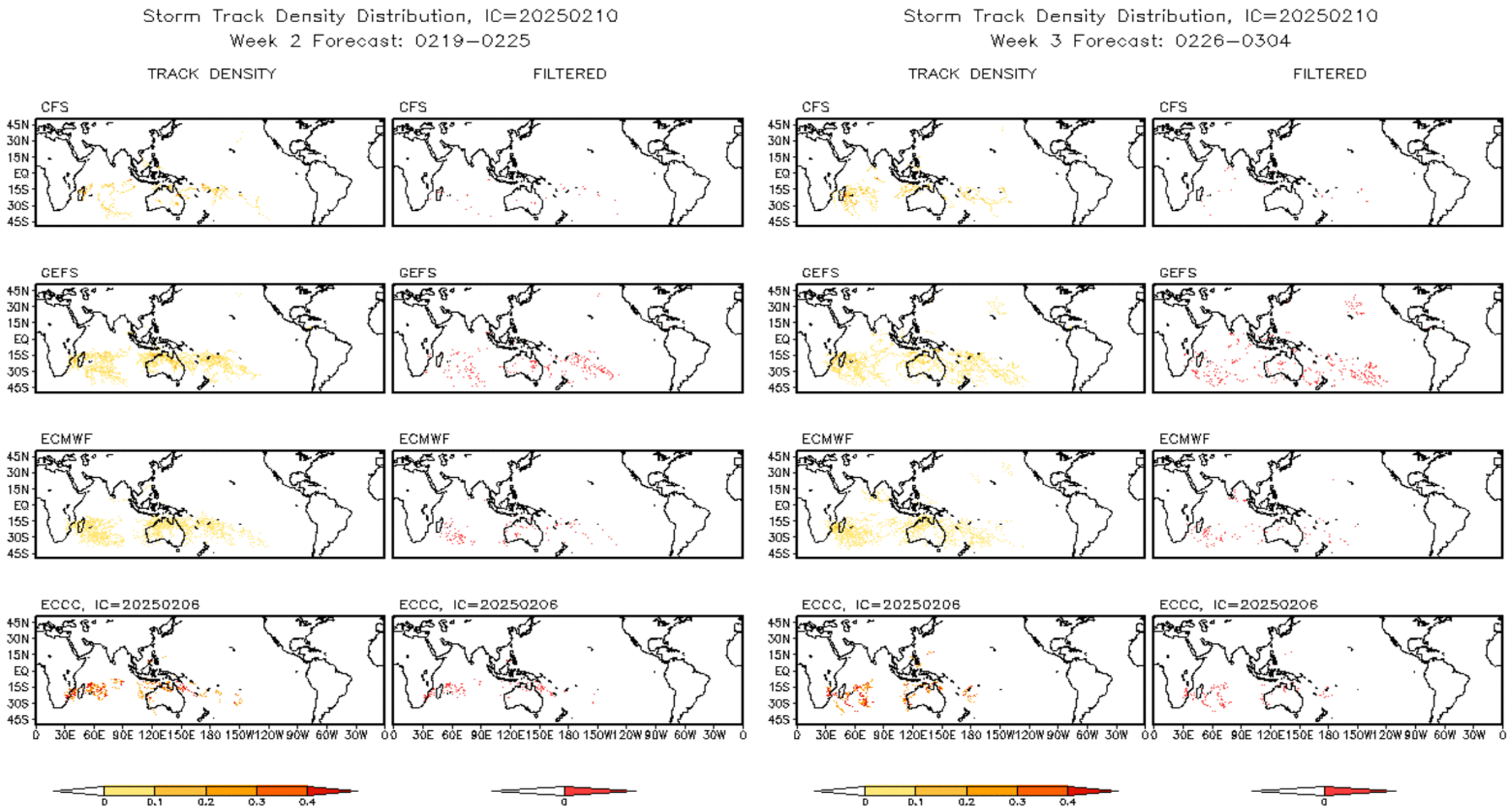
Tropical Cyclone Monitoring/Forecast: JTWC





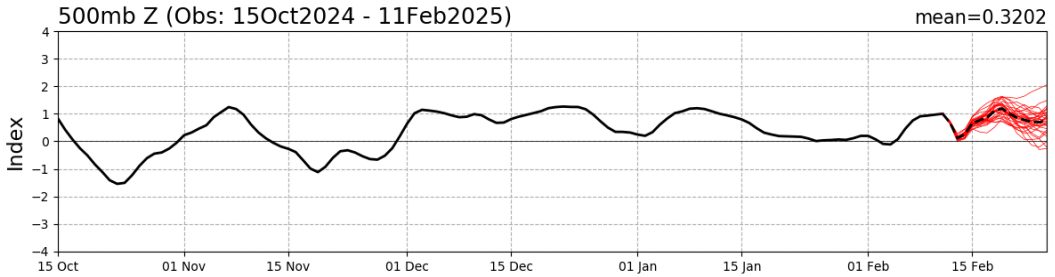
5-day track forecasts from the JTWC. TS-17S is forecast to reach an intensity of 95kt prior to landfall over Australia's Kimberley Coast.

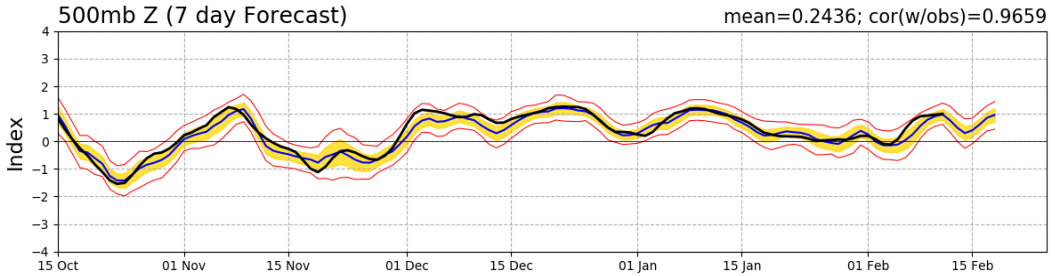
Multi-Model TC Track Densities: Weeks 2+3

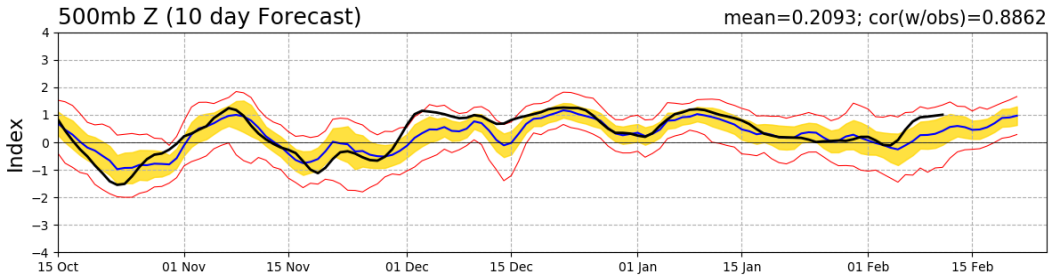


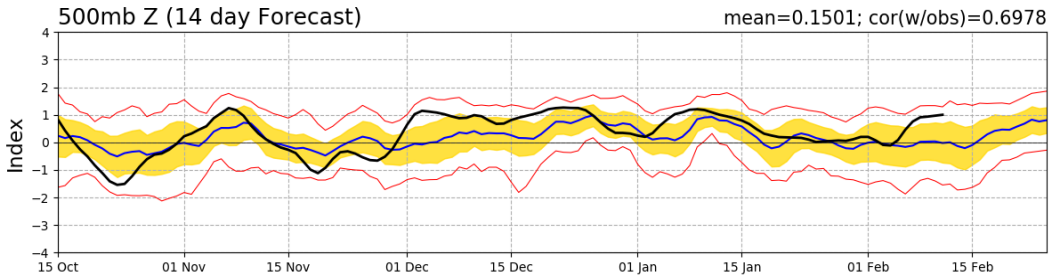
Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

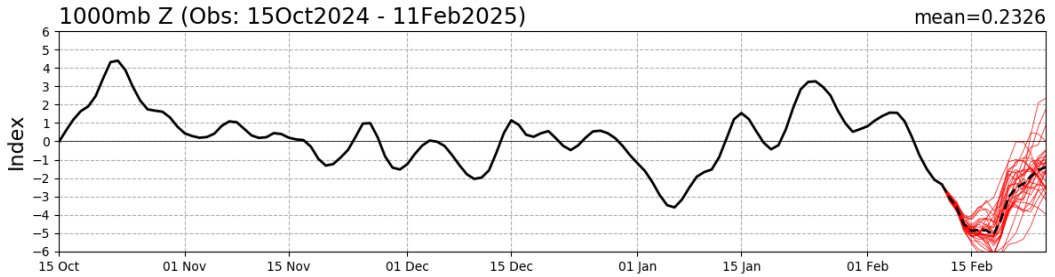


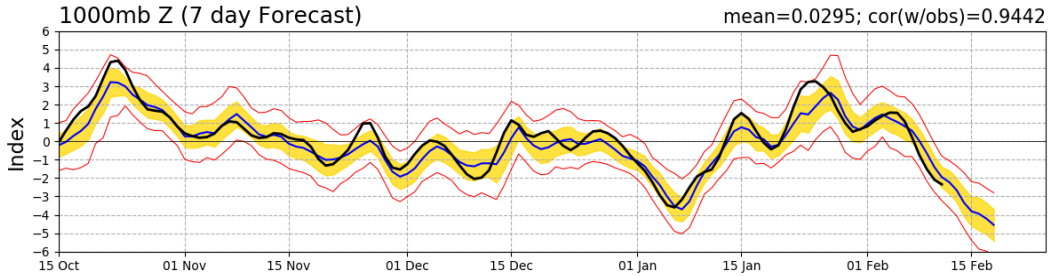


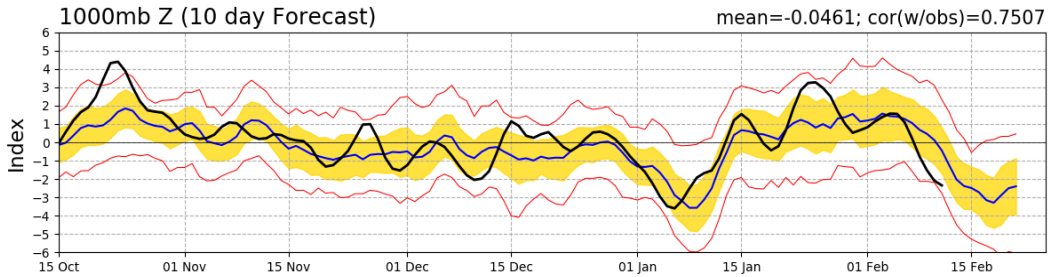


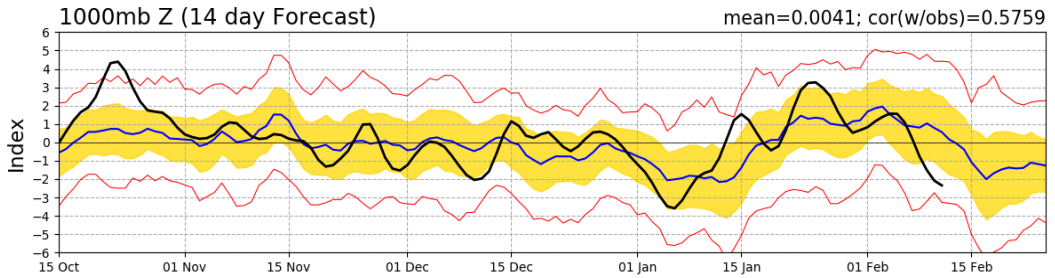


AO Index: Observed & GEFS Forecasts

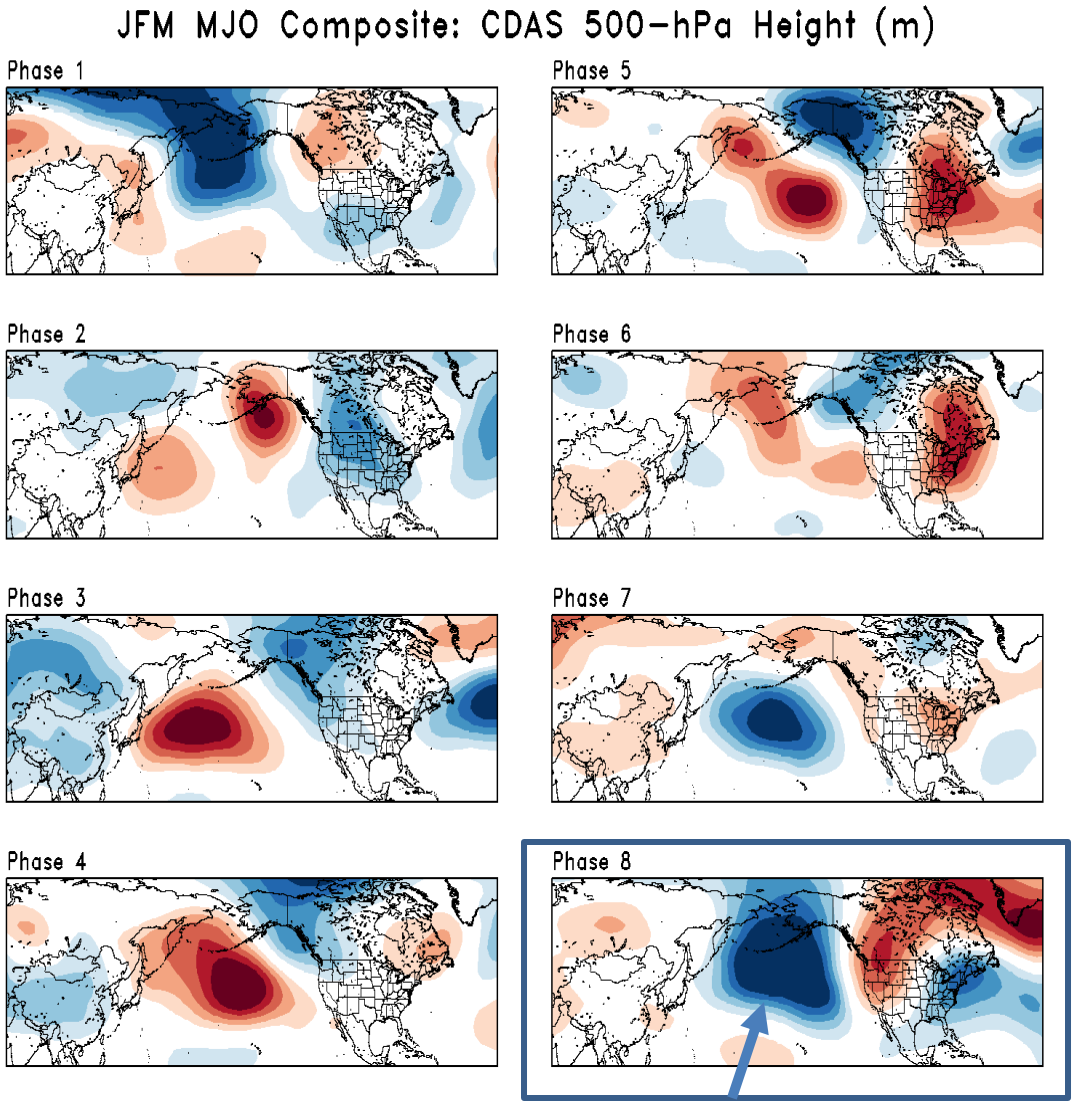


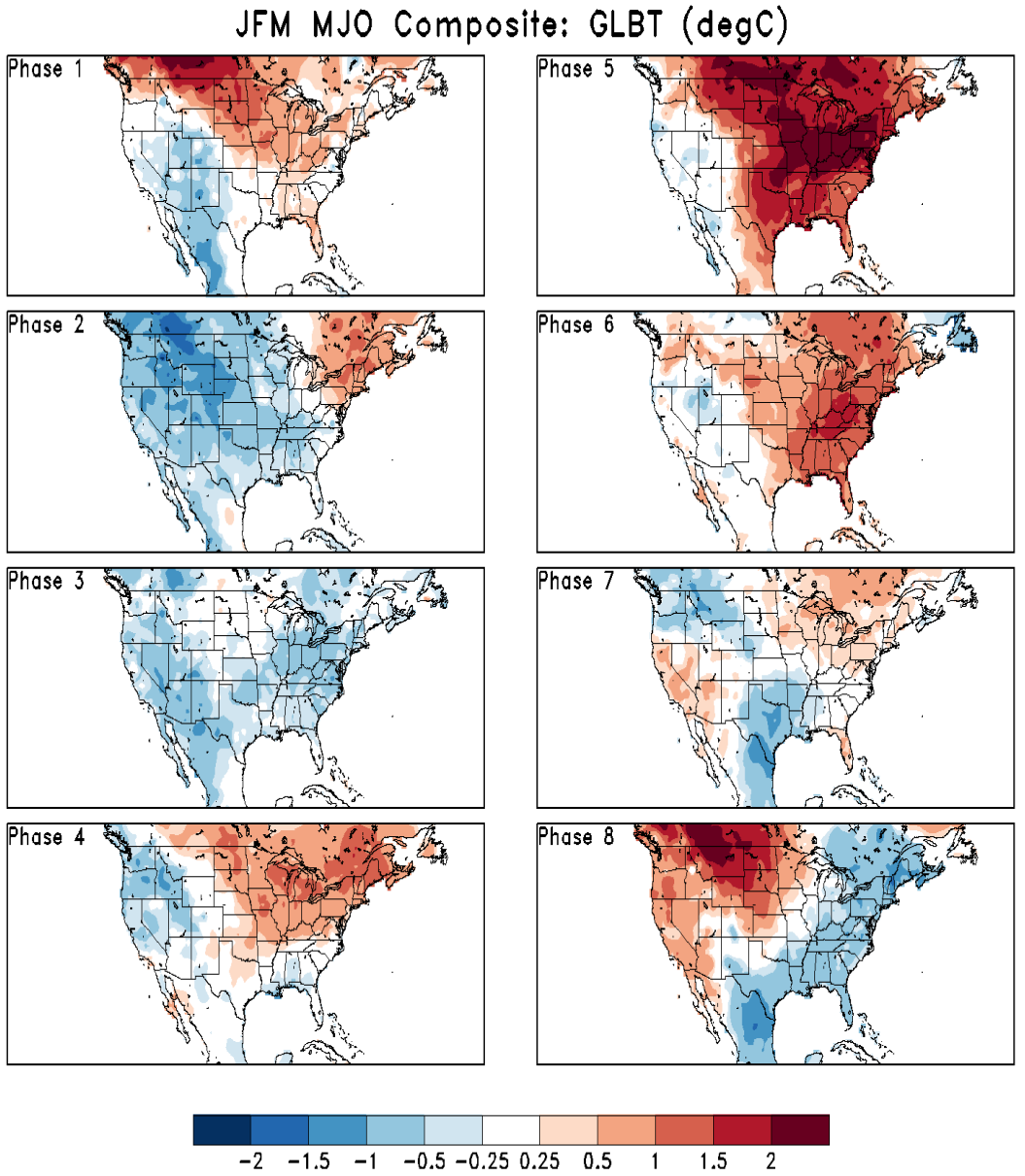




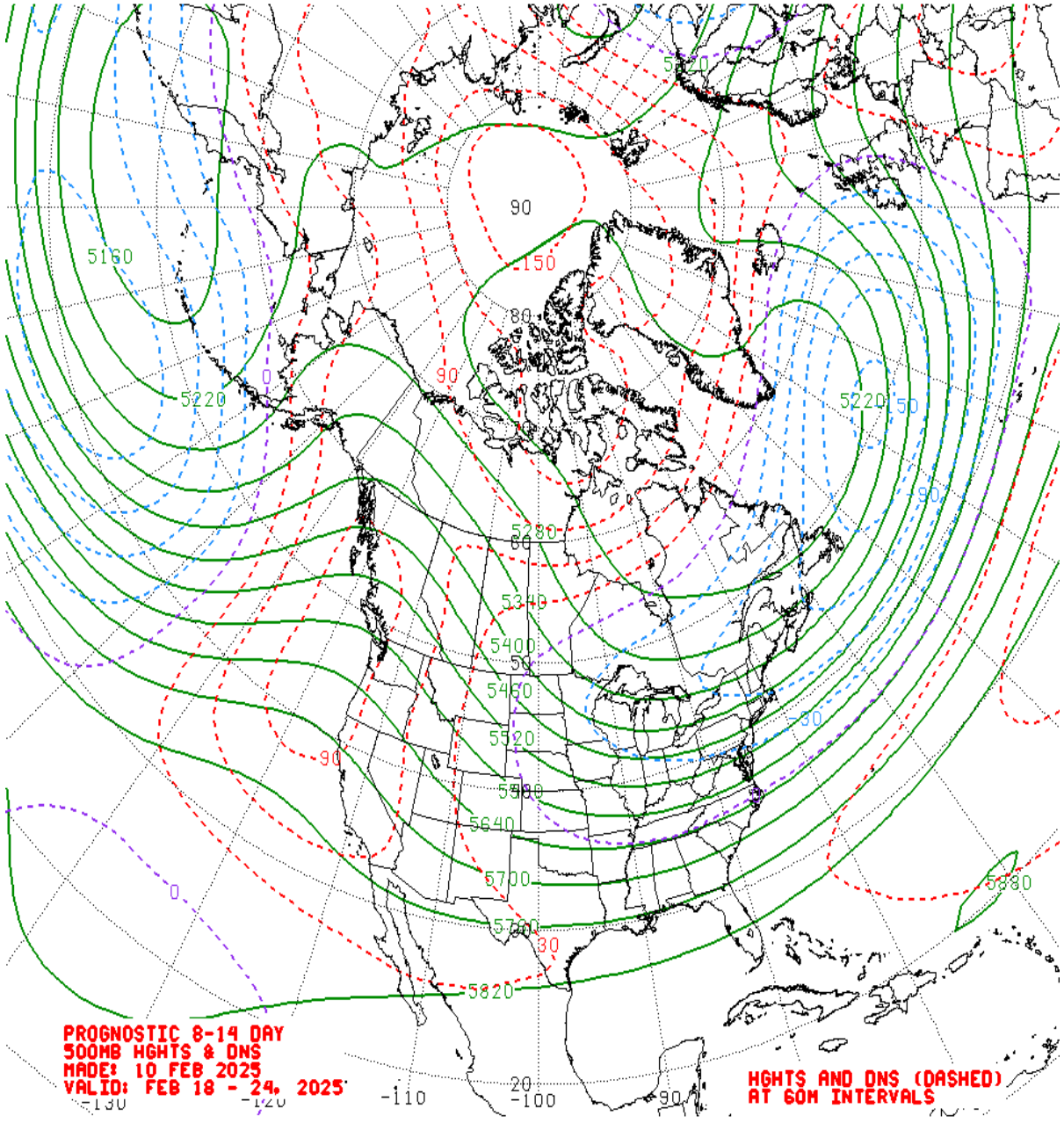


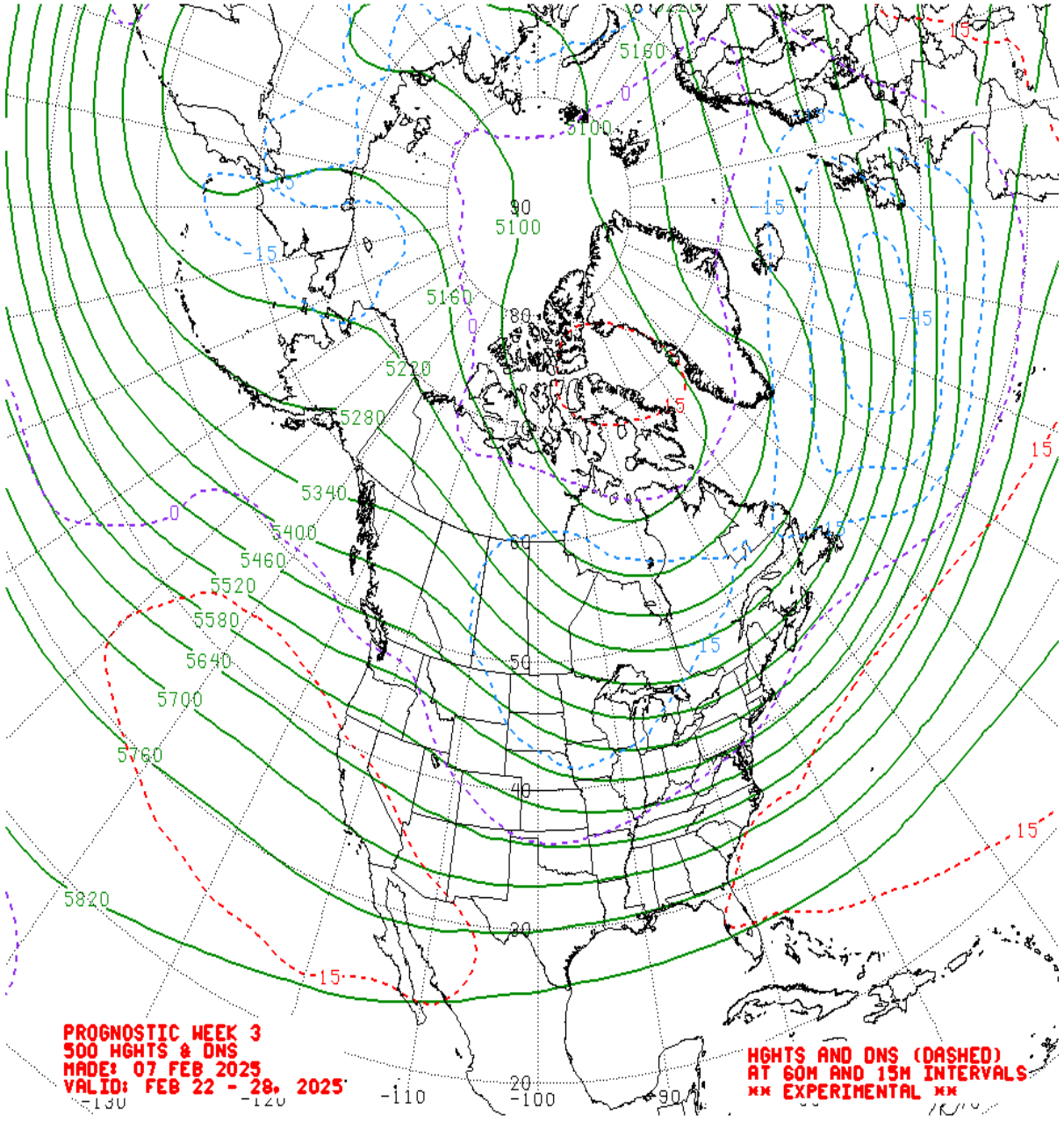
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:



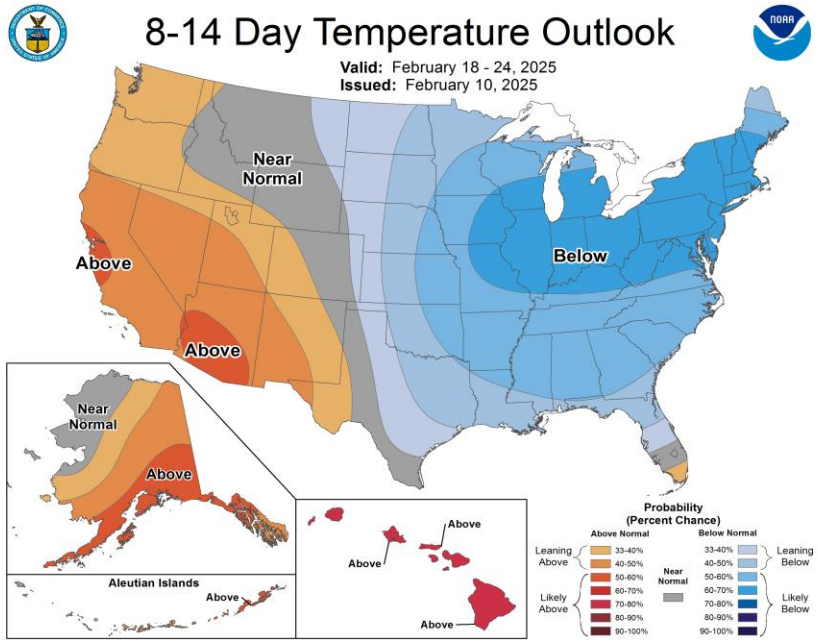


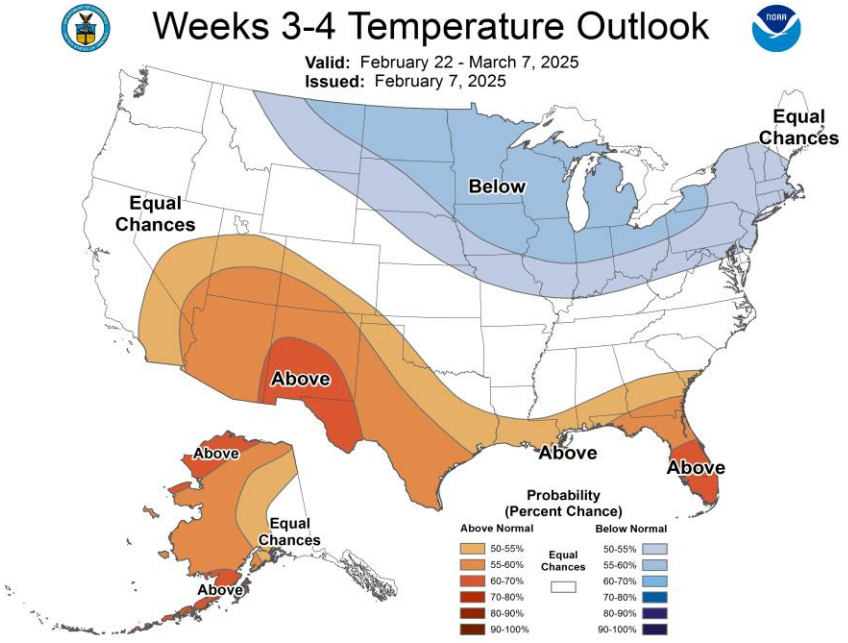
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

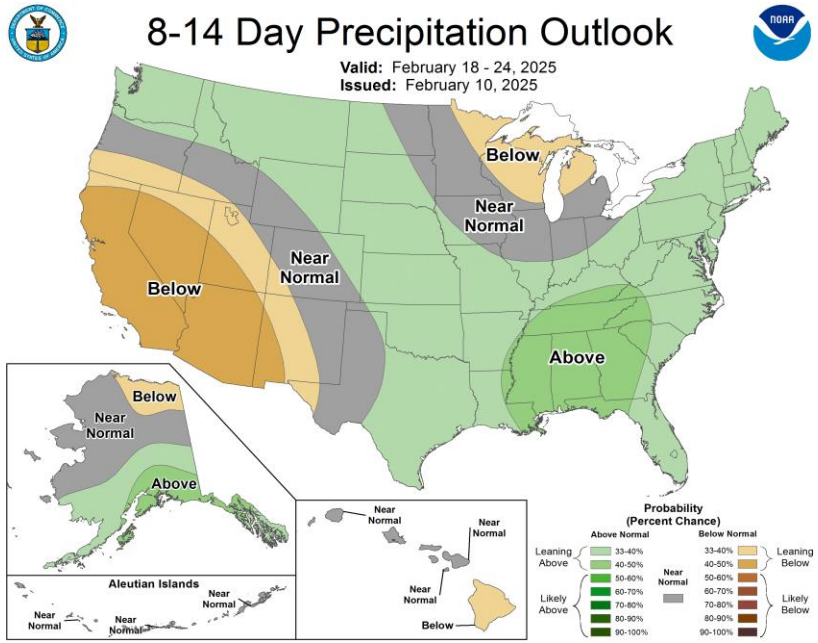


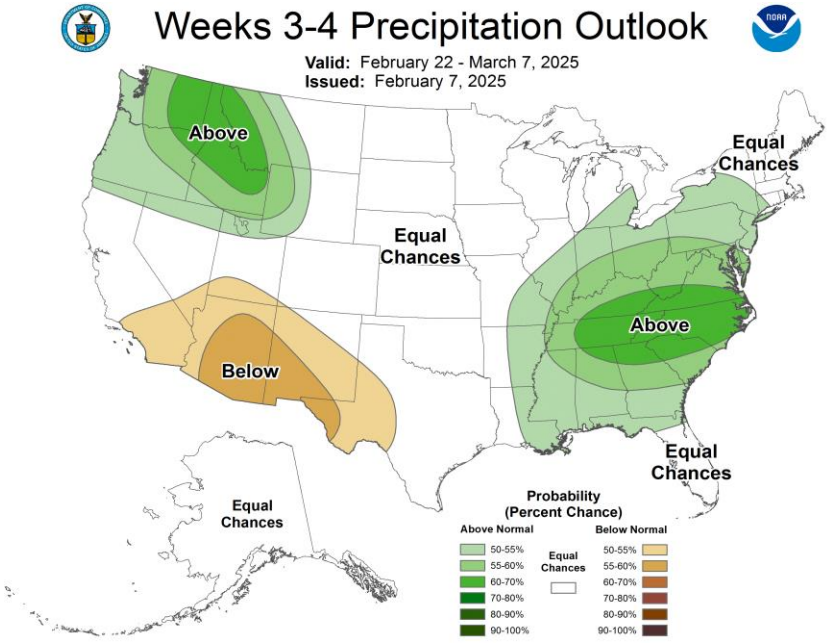


Official Temperature & Precipitation Forecasts:





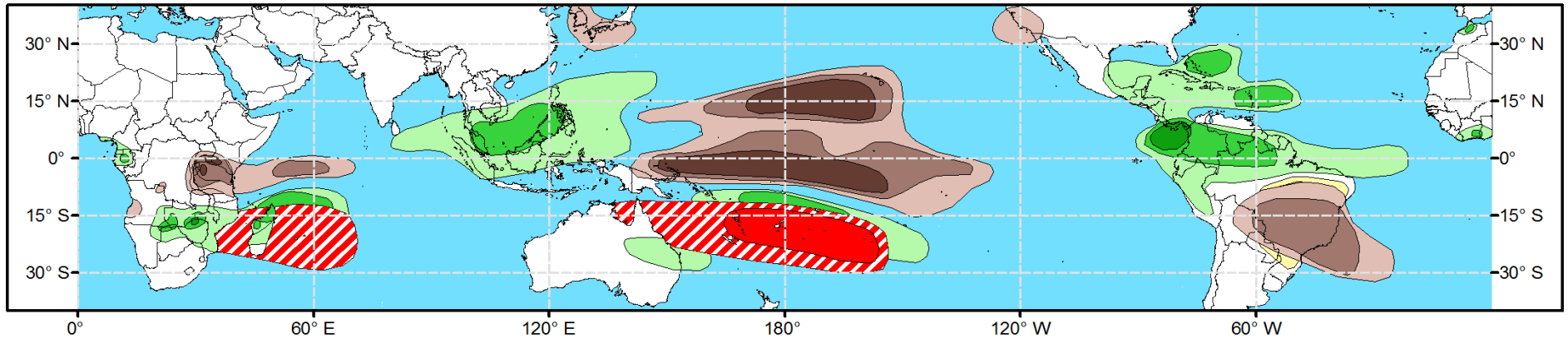




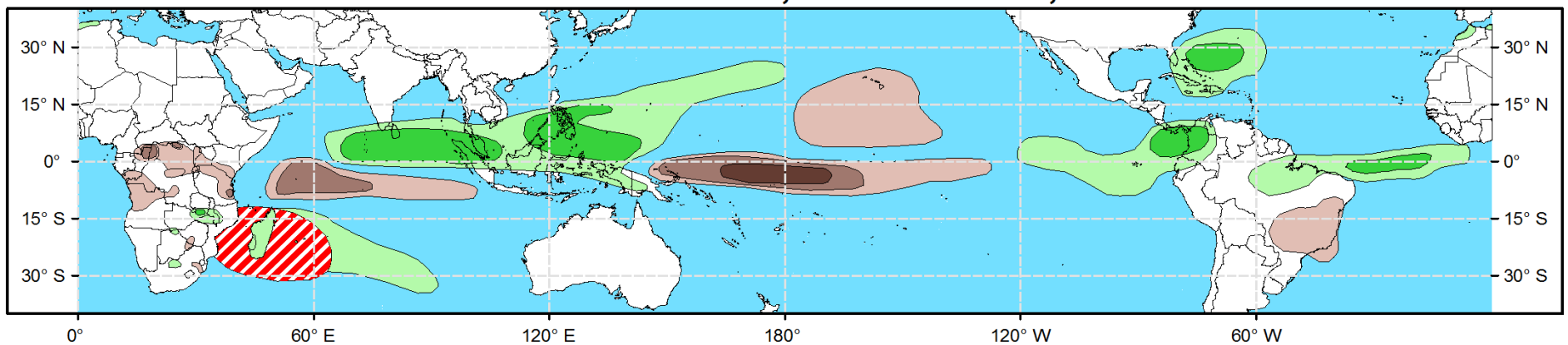
Global Tropics Hazards Outlook

Climate Prediction Center

Week 2 - Valid: Feb 19, 2025 - Feb 25, 2025



Week 3 - Valid: Feb 26, 2025 - Mar 04, 2025



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

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