



Weeks 2-3 Global Tropics Hazards Outlook

2/4/2025

Thomas Collow

NWS / NCEP / Climate Prediction Center

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

South Indian:

Faida (1/28)*

Elvis (1/29)

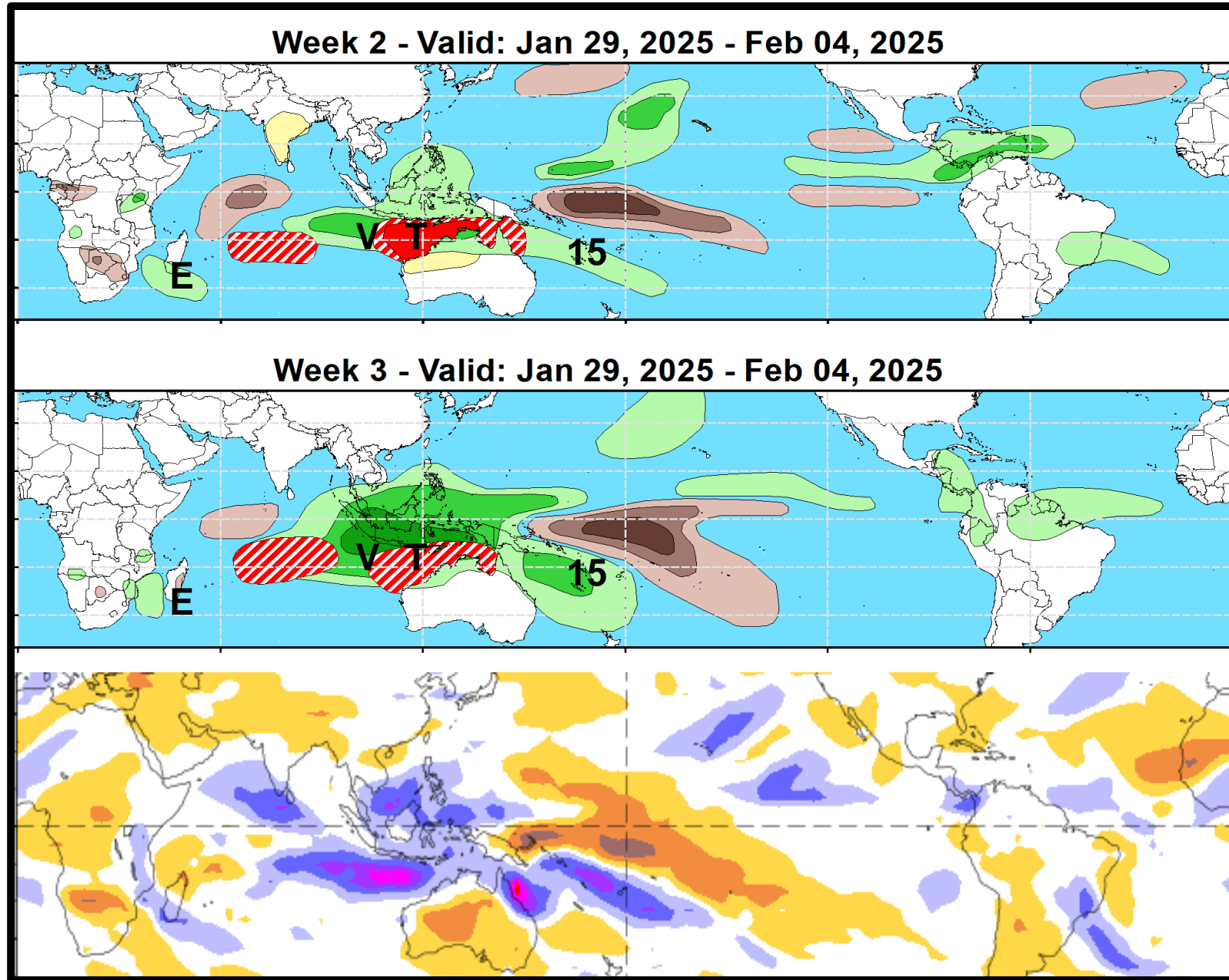
Vince (2/1)

Taliah (2/2)

Southwest Pacific:

Fifteen (2/2)

*Falls in previous verification period



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 Feb-Apr 2025 (59% chance), with a transition to ENSO-neutral likely during Mar-May 2025 (60% chance)

MJO and other subseasonal tropical variability:

- The MJO has been active and propagated across the Indian Ocean and into the far Western Pacific (phase 6), further enhanced by constructive interference with the background La Niña.
- While some weakening of the intraseasonal signal is possible as it crosses the Date Line, dynamical models generally favor continued eastward propagation of the MJO into the Western Hemisphere by mid-February.
- Increased tropical cyclone activity is forecast to continue across the northern coast of Australia, and extending east across the southwestern Pacific.

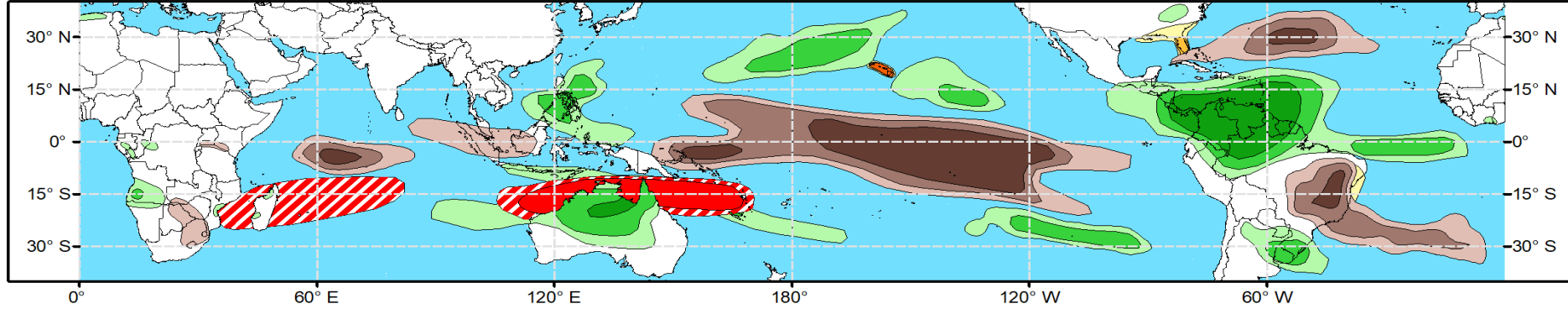
GTH Outlook:



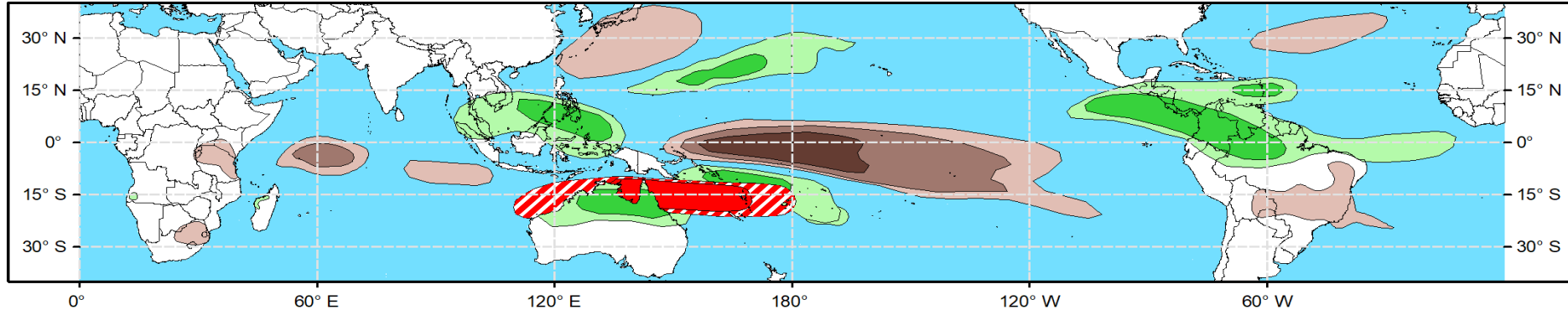
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Feb 12, 2025 - Feb 18, 2025



Week 3 - Valid: Feb 19, 2025 - Feb 25, 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**



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

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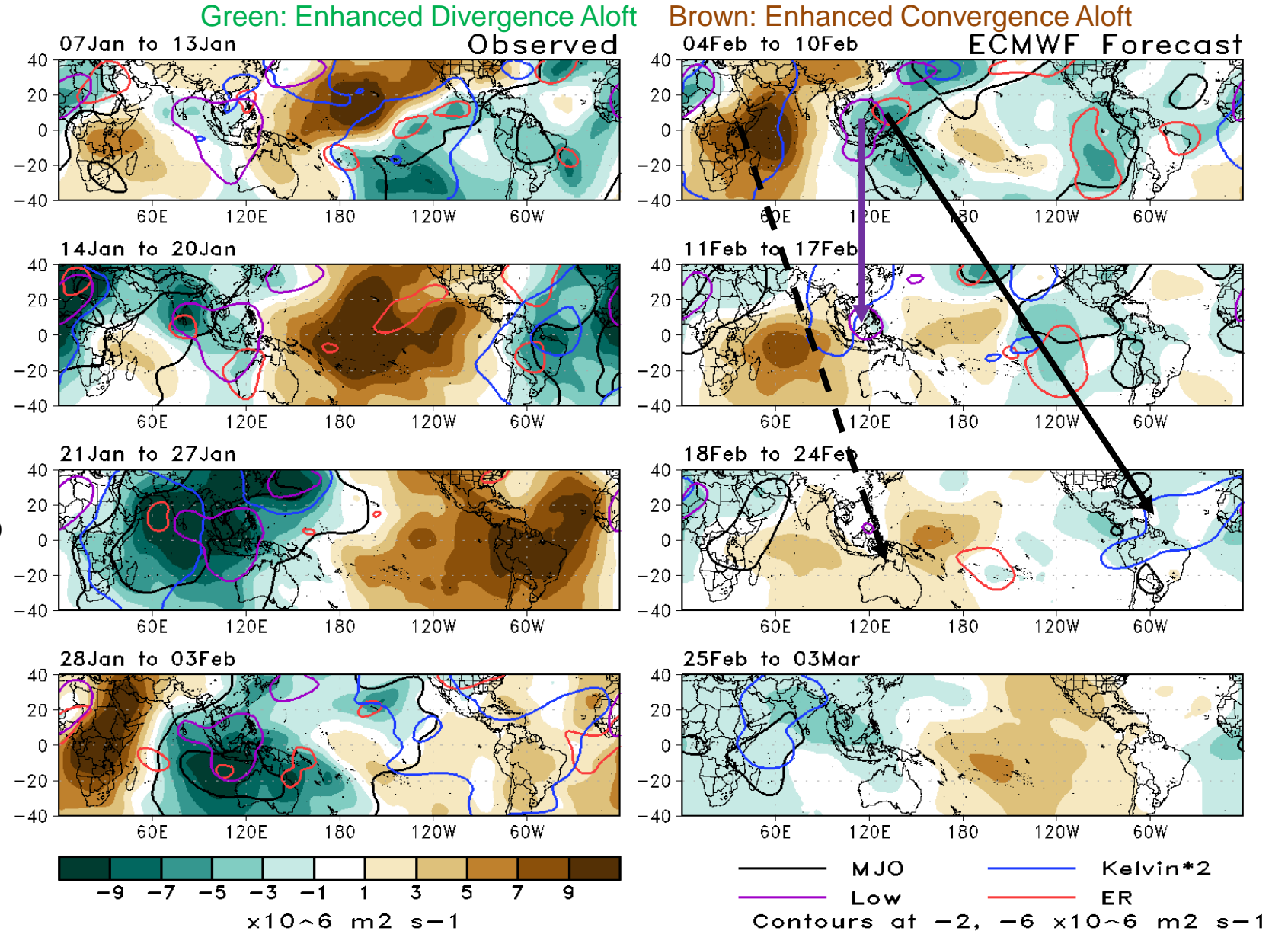
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**Issued: 02/04/2025
Forecaster: Collow**

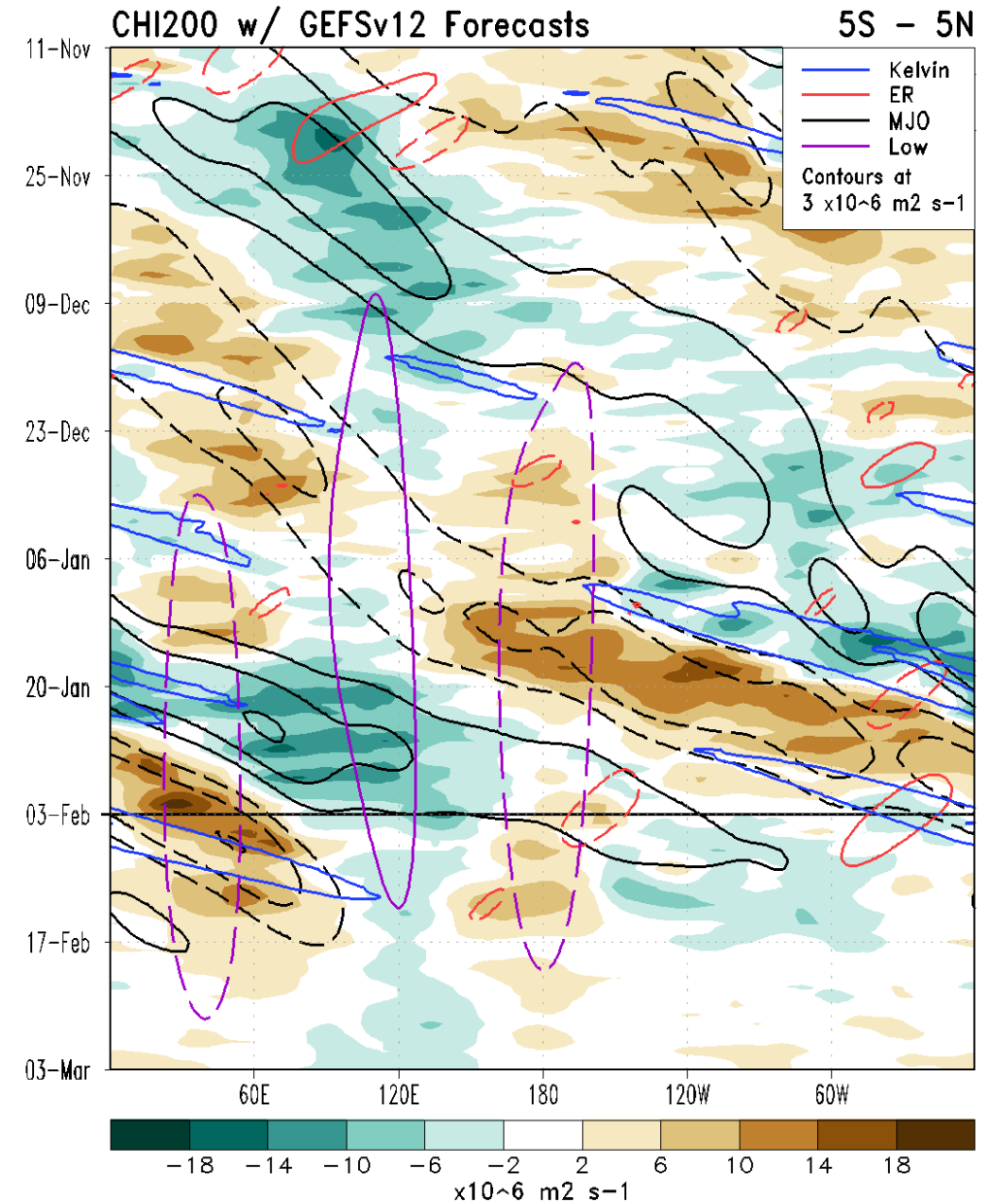
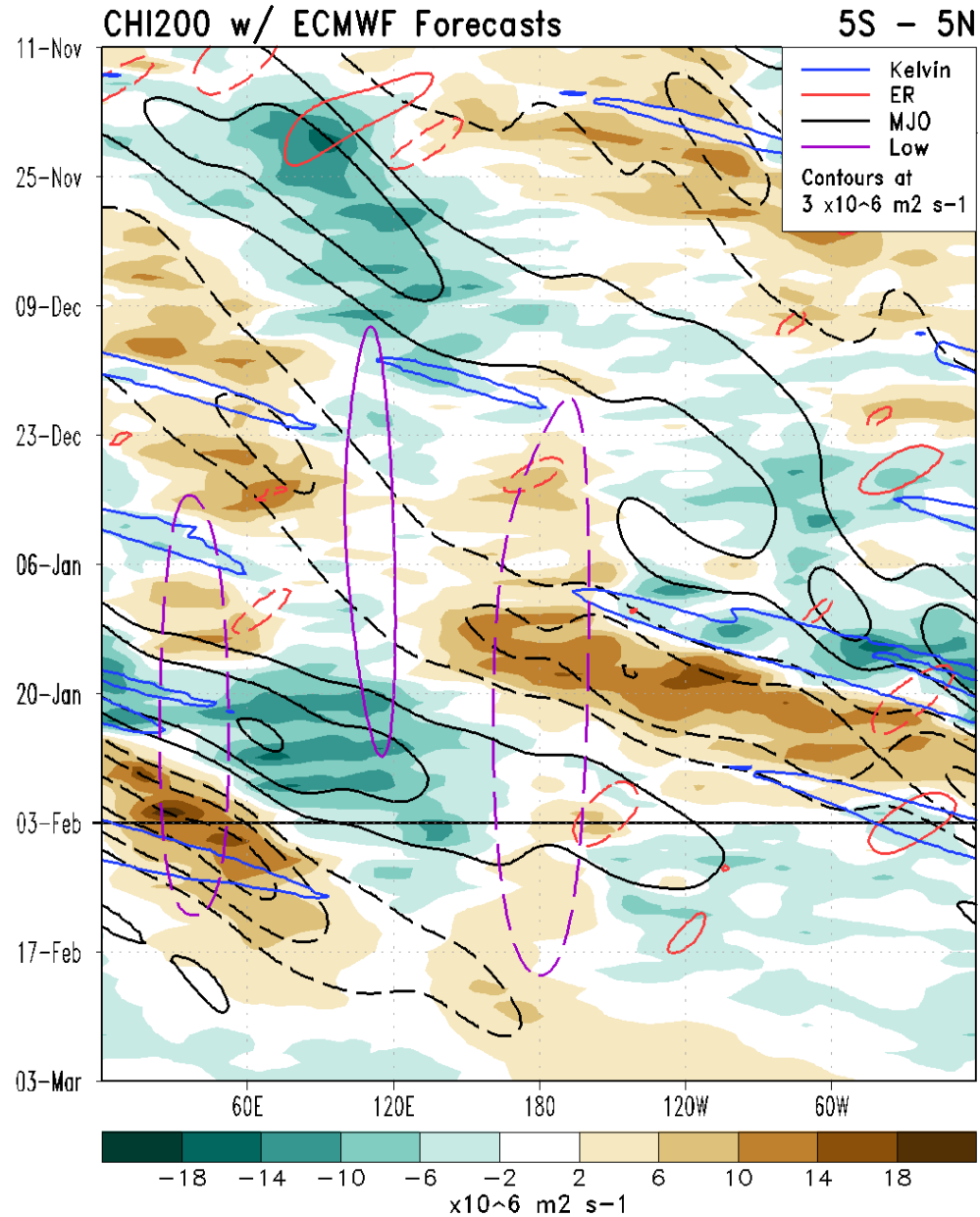
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Consult your local responsible forecast agency.**

200-hPa Velocity Potential Anomaly Maps:

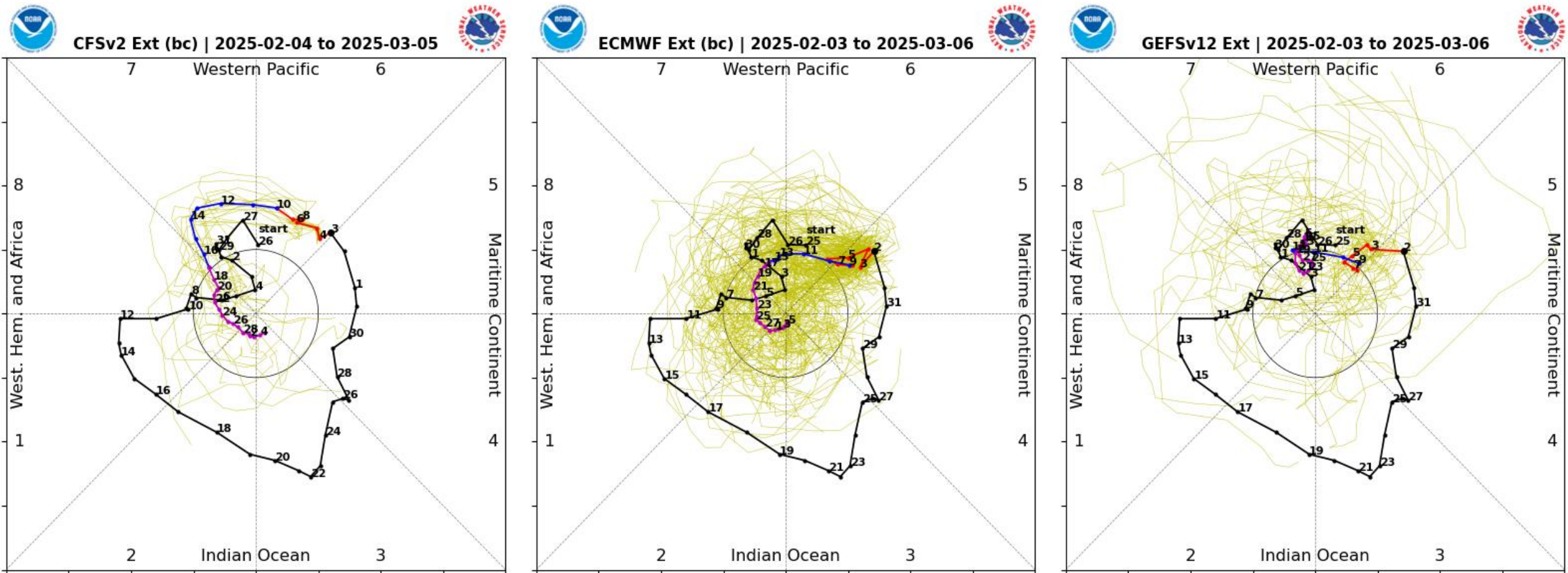
- The wave-1 asymmetry pattern in the upper-level velocity potential field observed during late January is starting to become more disorganized.
- Enhanced convection aloft is forecast to increase across the eastern Pacific and Americas during the next 2-3 weeks tied to the **MJO**.
- The ECMWF depicts the suppressed phase of the **MJO** destructively interfering with the **low frequency** enhanced convection across the Maritime Continent in mid-February.



200-hPa Velocity Potential Anomaly Time/Lon Plots:



RMM Index Observations & Forecasts:

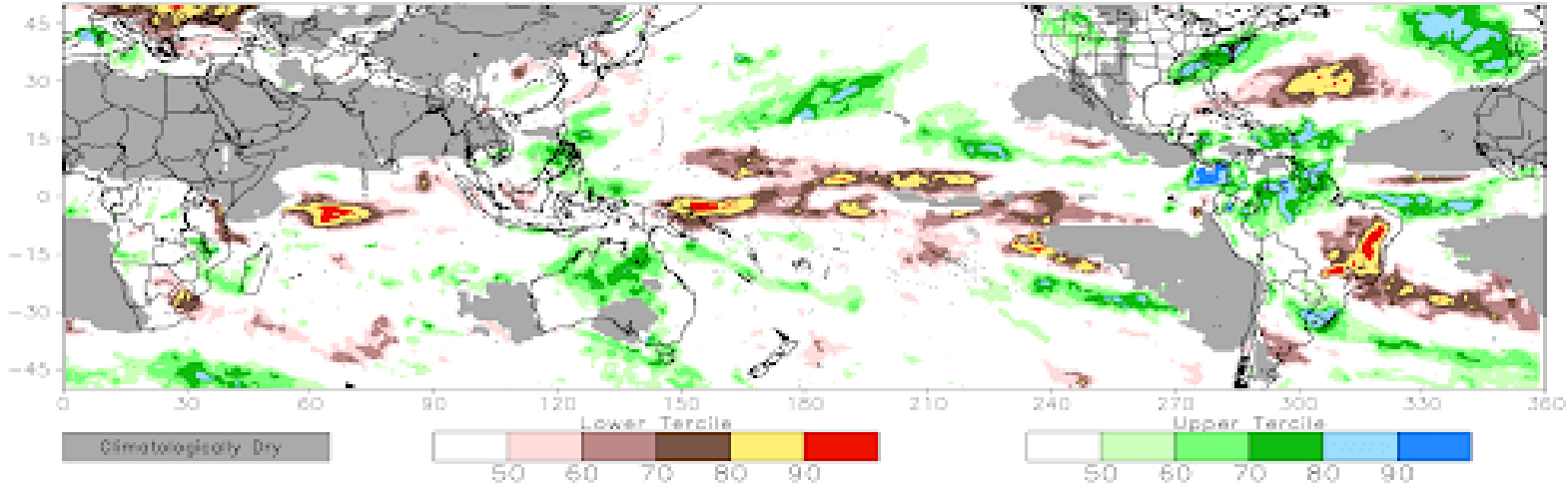


- Dynamical models generally agree on continued MJO propagation across the Pacific, although the amplitude is uncertain due to the suppressed convection over the Central Pacific tied to La Niña.
- Ensemble spread is very large in the ECMWF and GEFS.

Consolidated Probabilistic Precipitation: Weeks 2 & 3

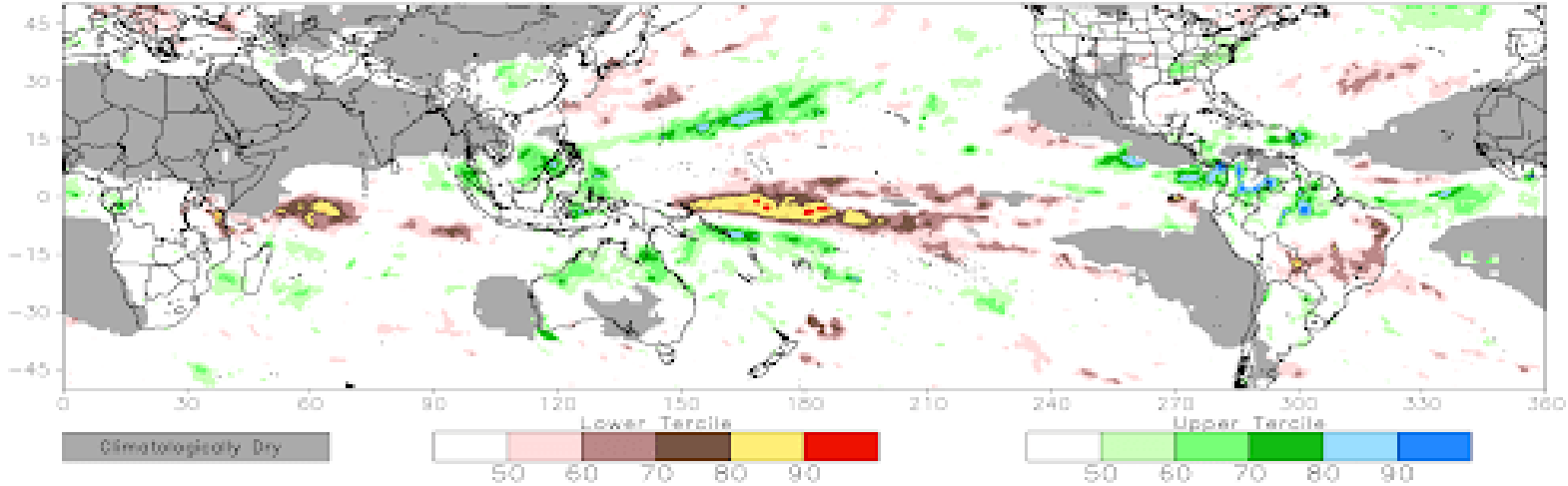
CONS (CFS+ECMWF+GEFS): Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 12Feb2025-18Feb2025



CONS (CFS+ECMWF+GEFS): Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

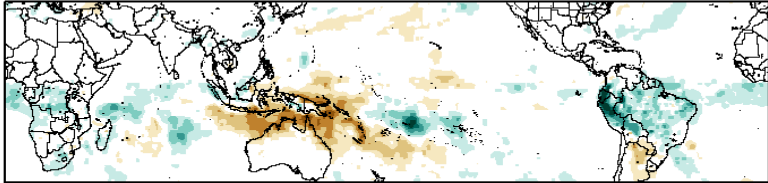
Valid: 19Feb2025-25Feb2025



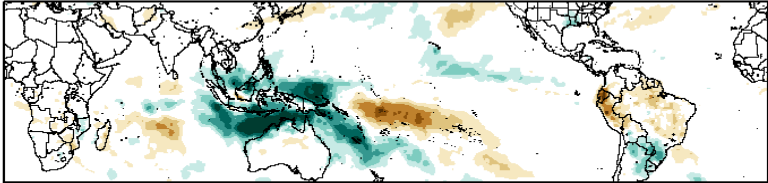
Historical Precipitation Anomalies By MJO Phase:

JFM MJO Composite: GPCP1DD (mm/day)

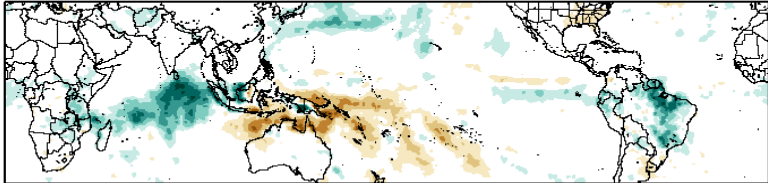
Phase 1



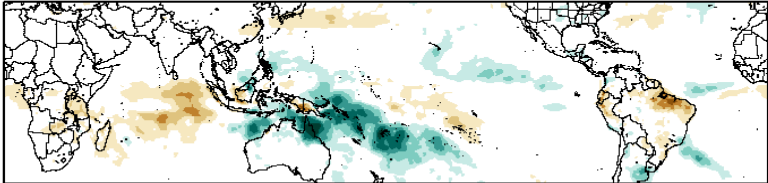
Phase 5



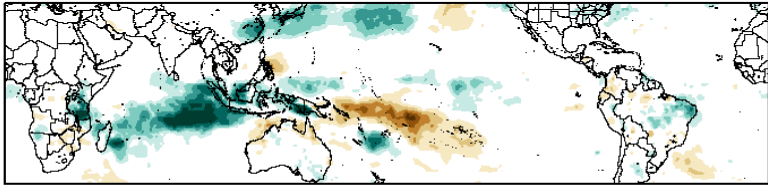
Phase 2



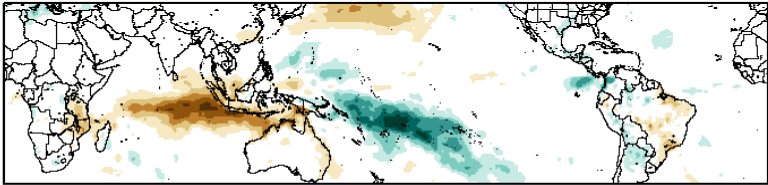
Phase 6



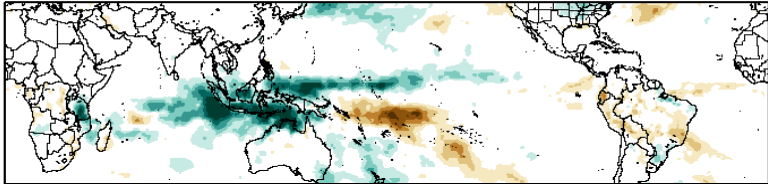
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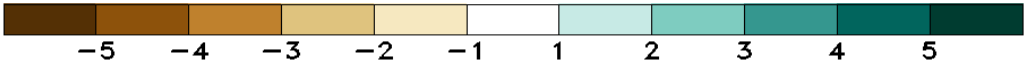
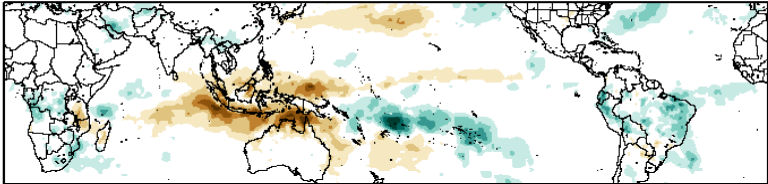
Phase 7



Phase 4

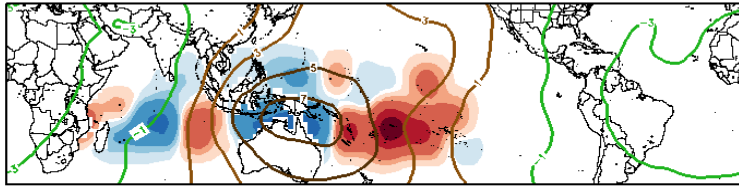


Phase 8

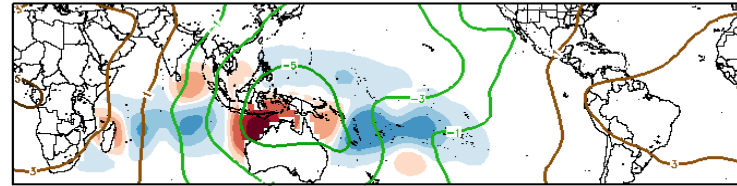


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

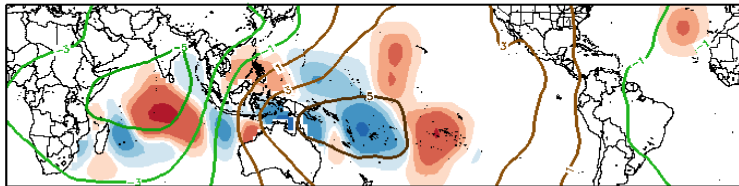
JFM MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JFM CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



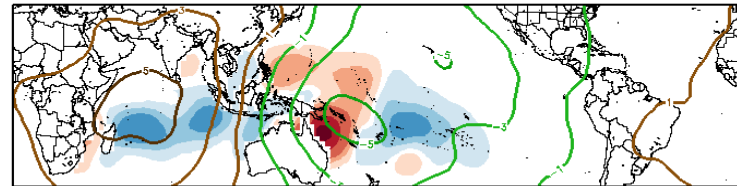
Phase 1



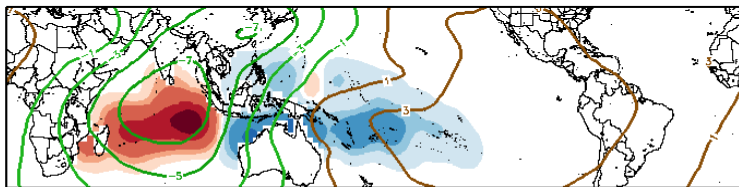
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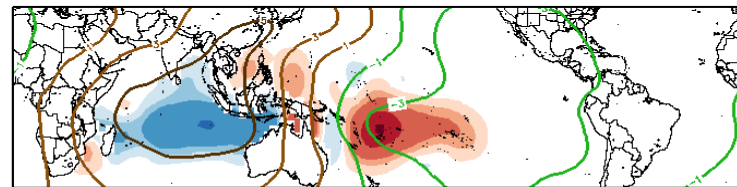
Phase 2



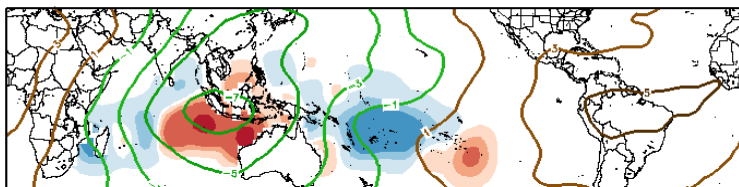
Phase 6



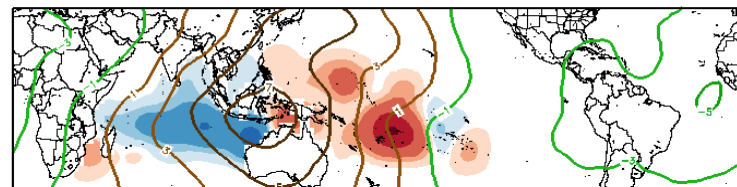
Phase 3



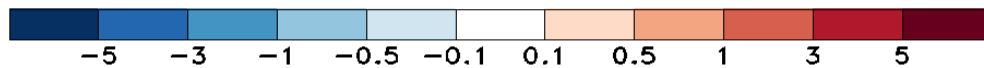
Phase 7



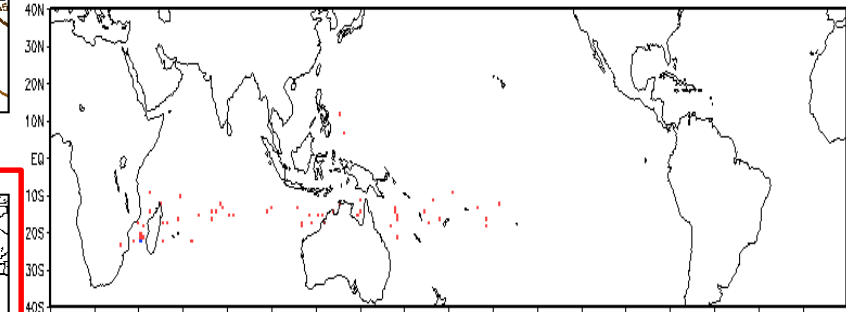
Phase 4



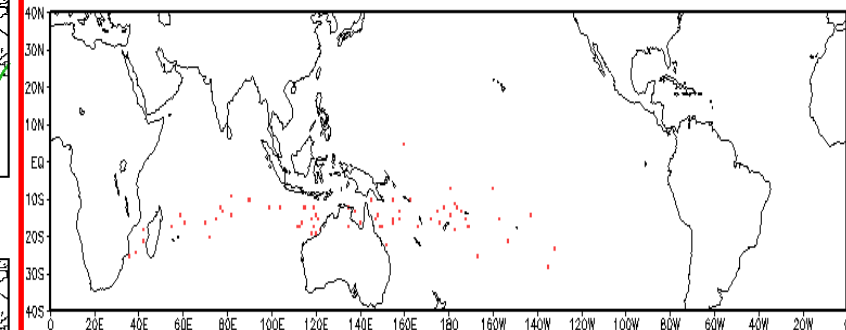
Phase 8



Observed TC Genesis, 1979–2021
7-day Period 0212 to 0218



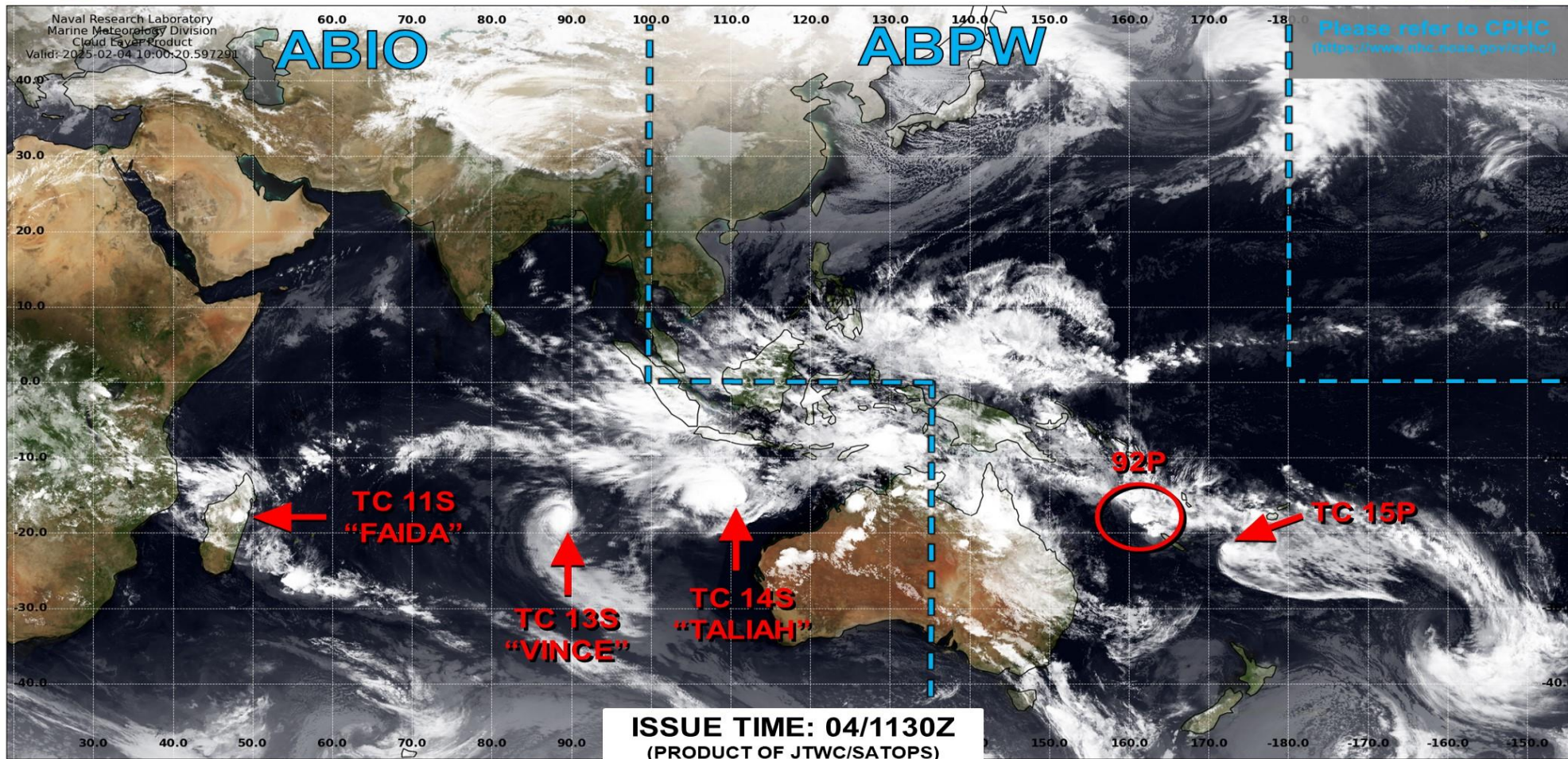
Observed TC Genesis, 1979–2021
7-day Period 0219 to 0225



Experimental



JOINT TYPHOON WARNING CENTER

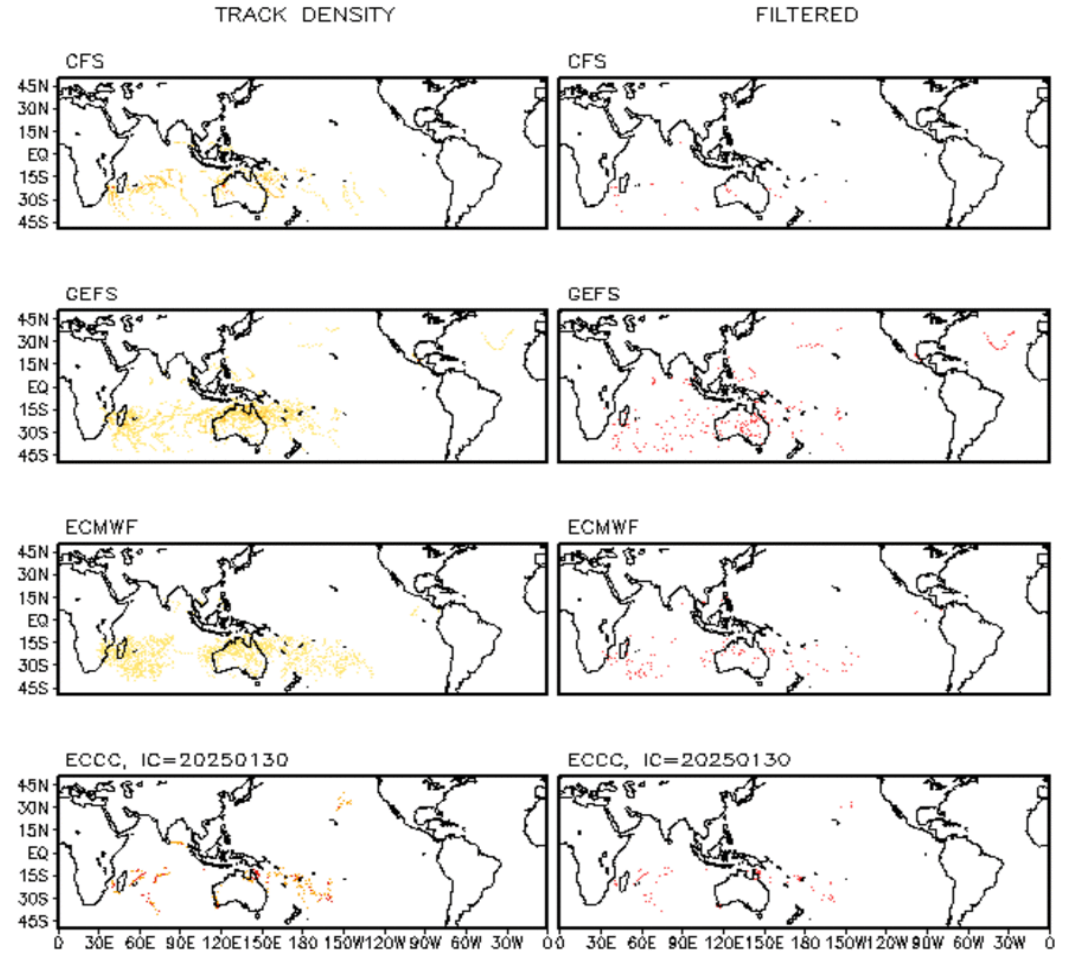
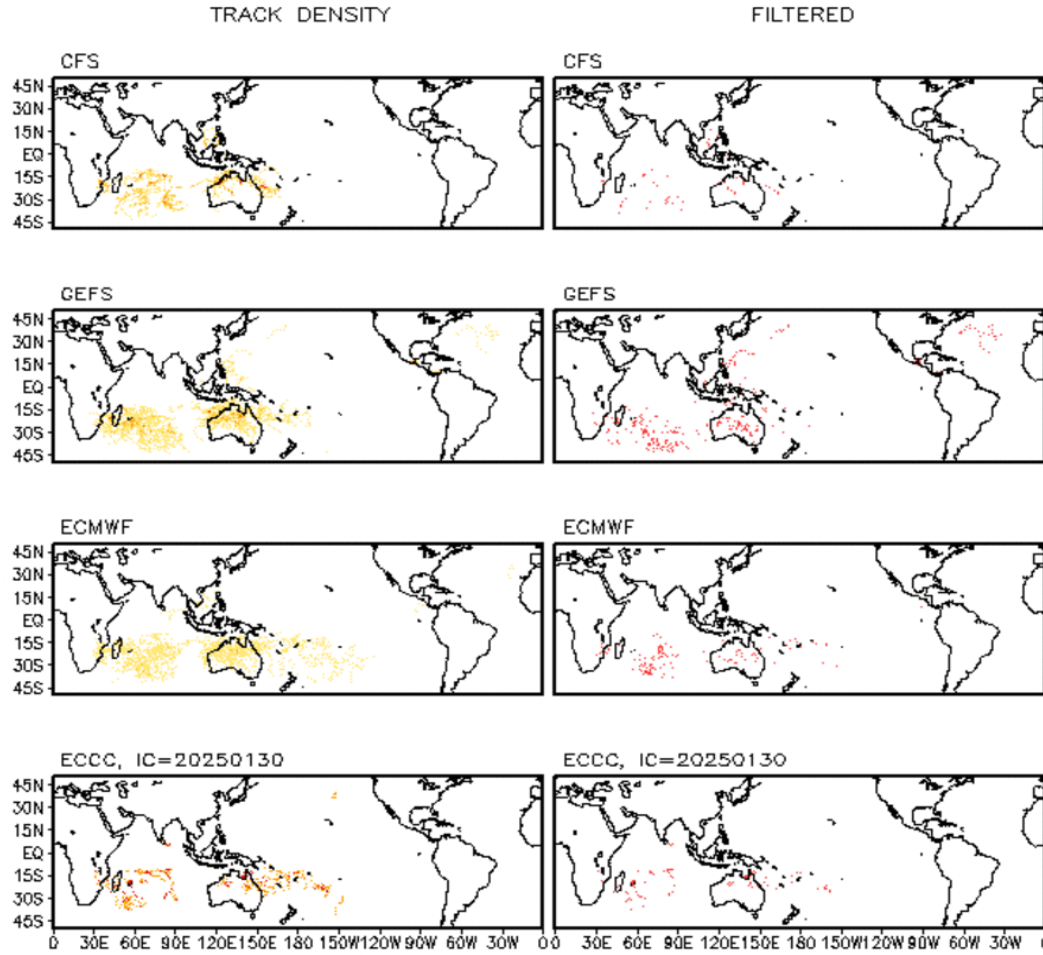


 <p>LOW TC development unlikely within 24 hours</p>	 <p>MEDIUM TC development likely, but expected to occur beyond 24 hours</p>	 <p>HIGH TC development likely within 24 hours (Reference TCFA)</p>	 <p>SUB TROPICAL Monitoring for potential transition to TC. Invest label color denotes tropical transition probability</p>	 <p>Tropical Cyclone (Reference Warning)</p>
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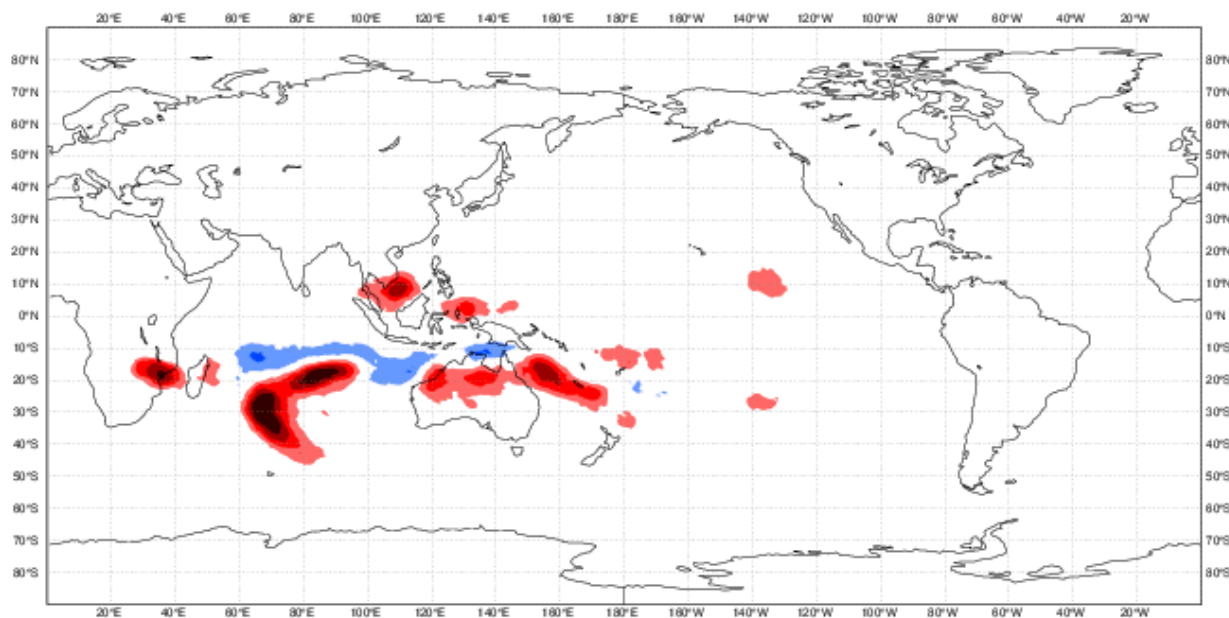
Multi-Model TC Track Densities: Weeks 2+3

Storm Track Density Distribution, IC=20250203
Week 2 Forecast: 0212-0218

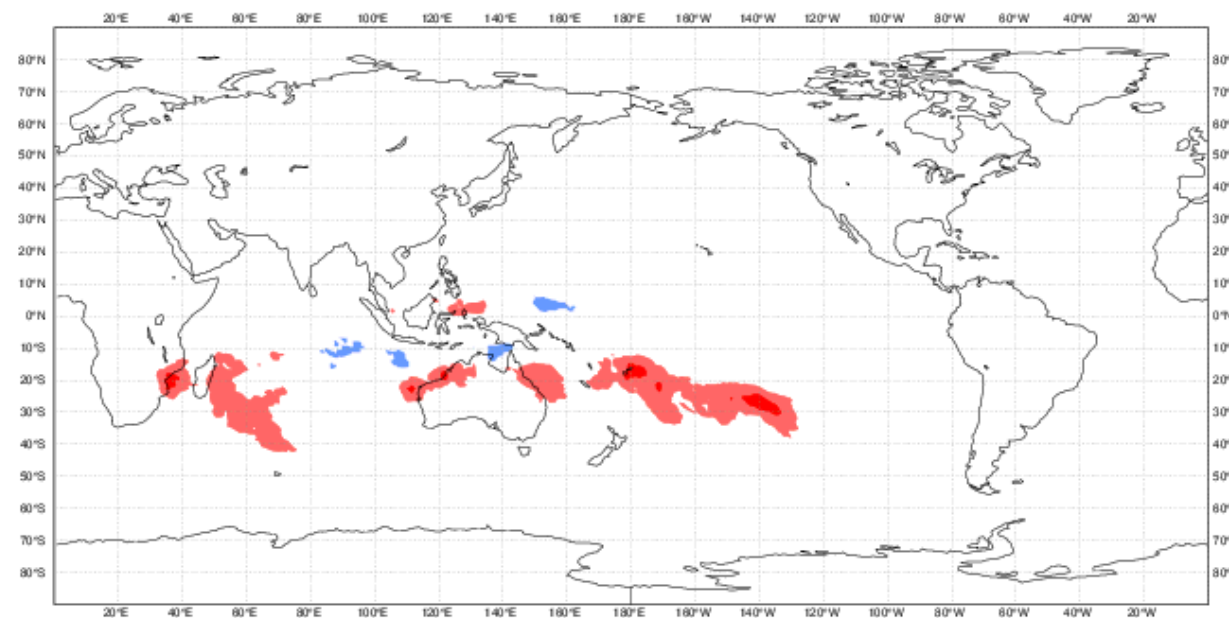
Storm Track Density Distribution, IC=20250203
Week 3 Forecast: 0219-0225



Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20250203 0 UTC t+(168-336)
Probability of a TC passing within 300km radius

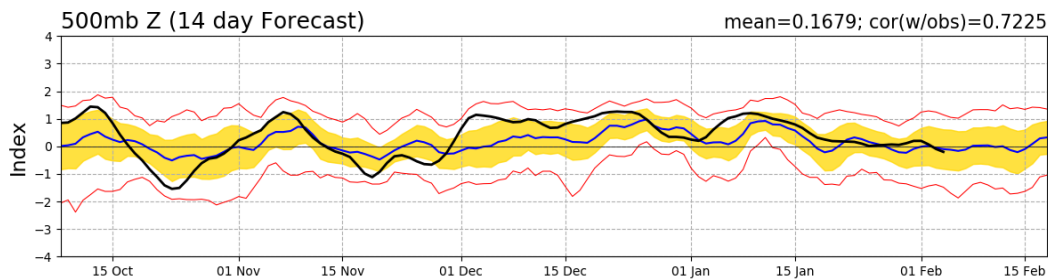
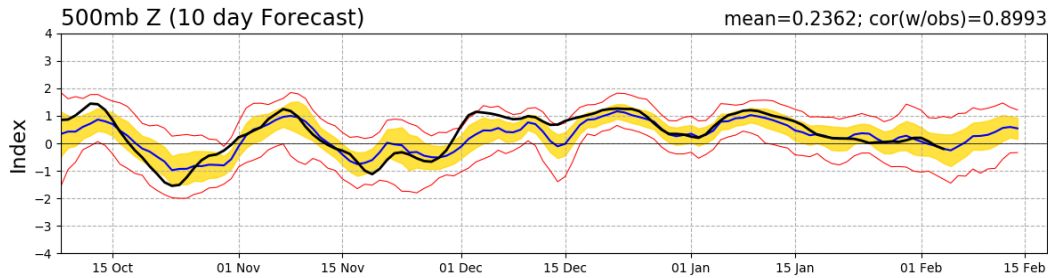
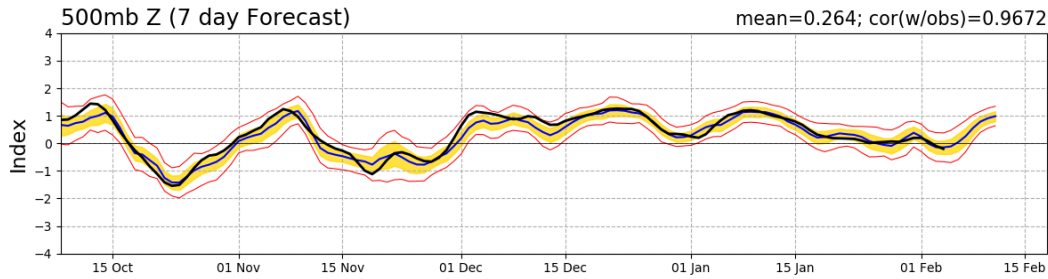
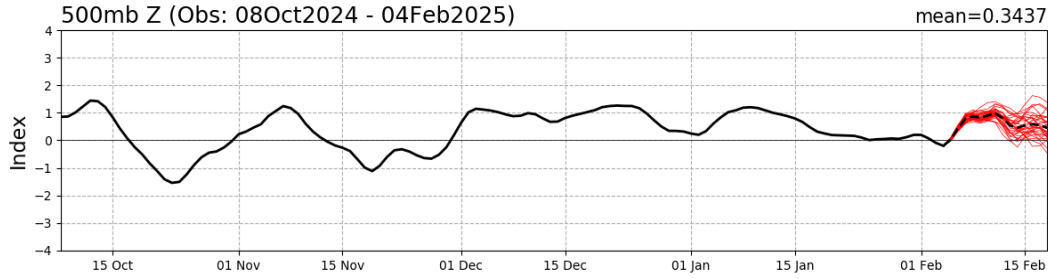


Weekly Mean Anomaly of Tropical Cyclone Strike Probability. Date:20250203 0 UTC t+(336-504)
Probability of a TC passing within 300km radius

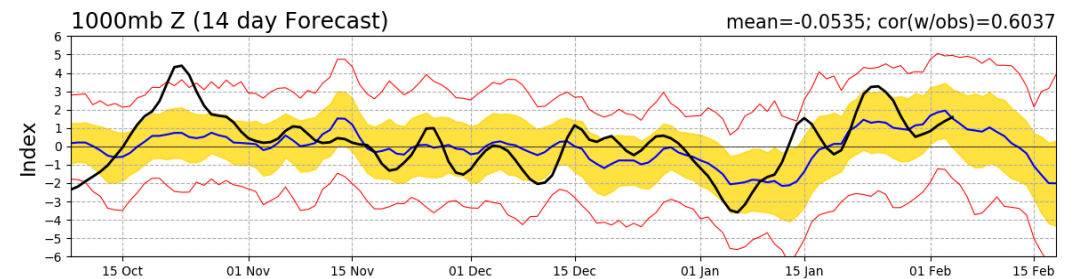
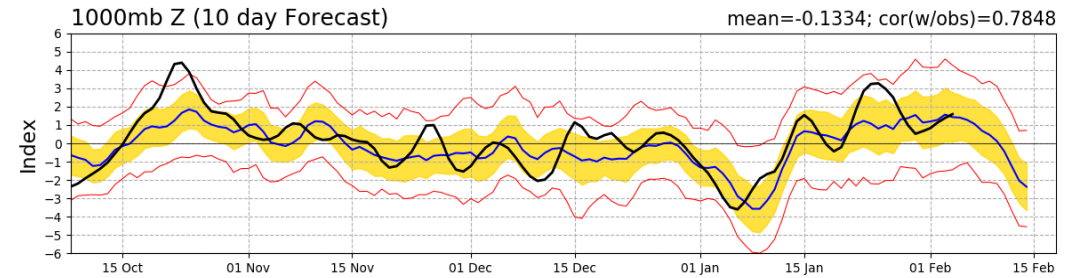
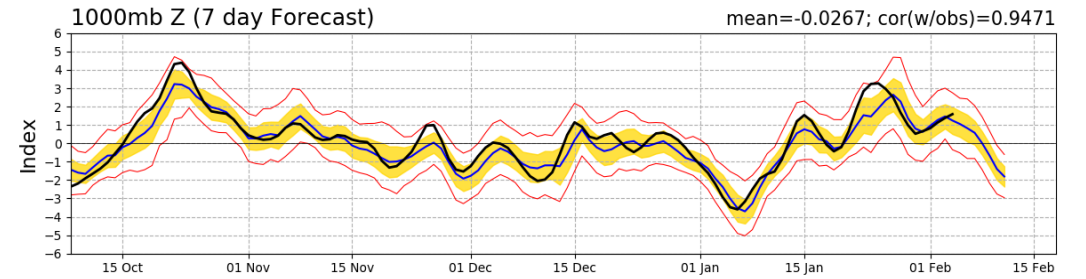
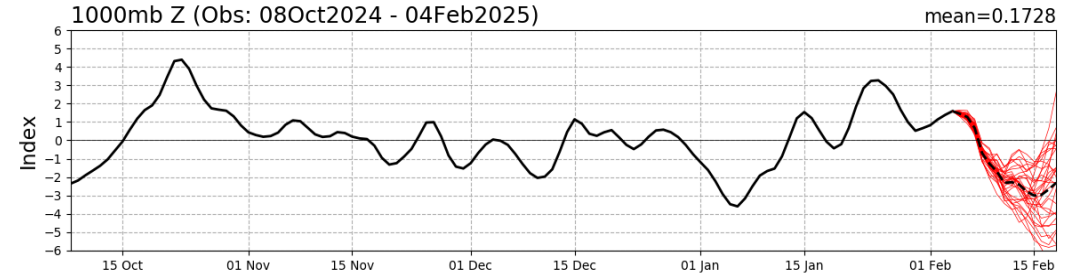


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts



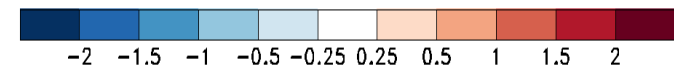
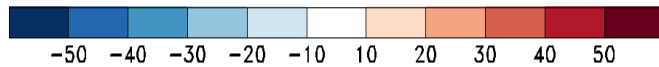
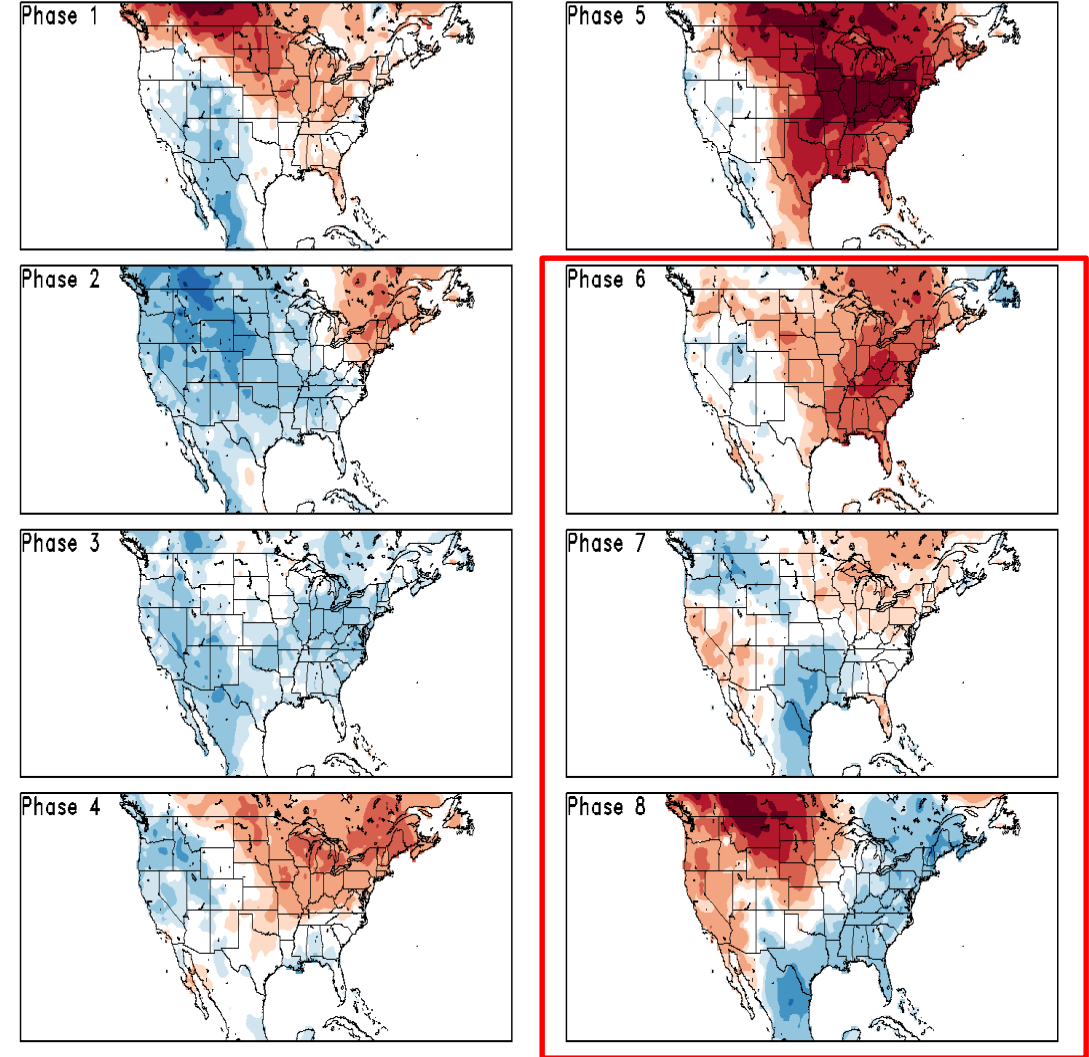
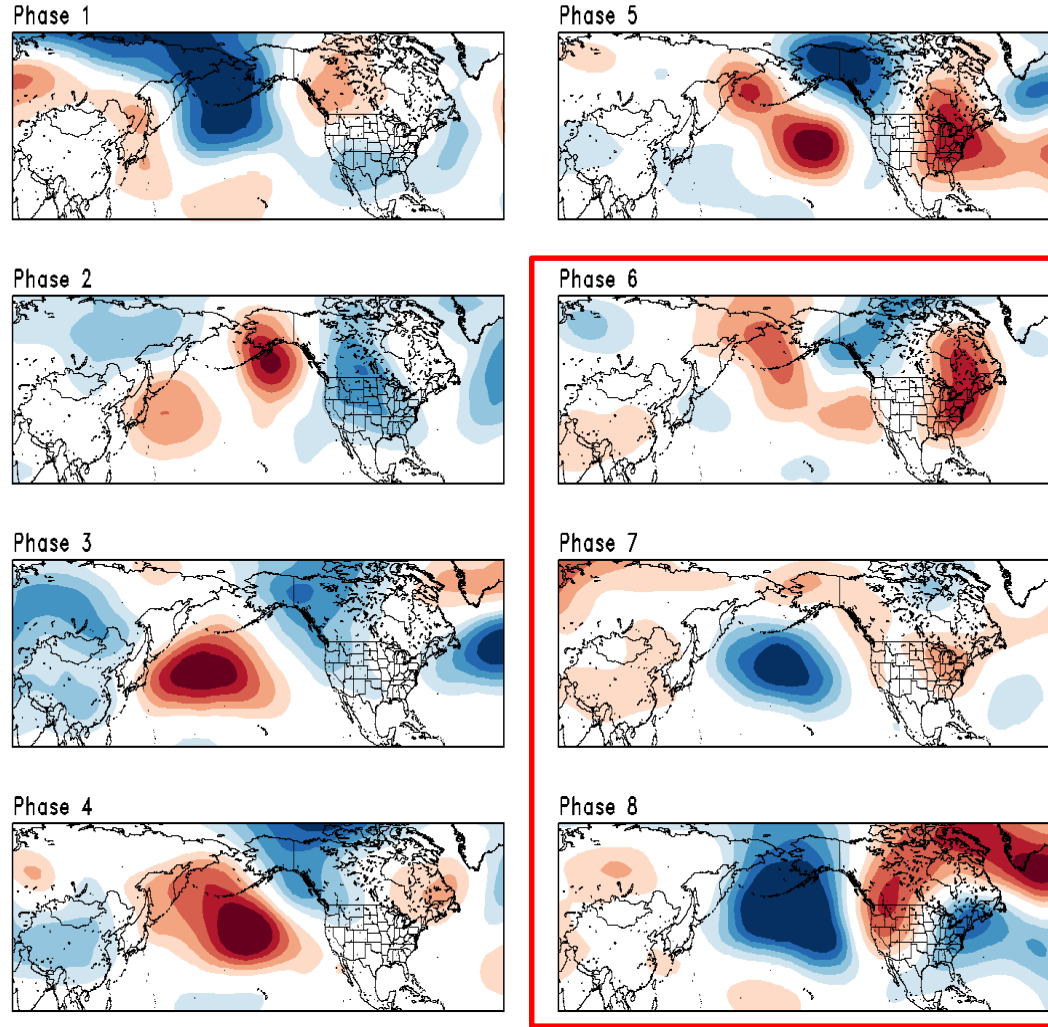
AO Index: Observed & GEFS Forecasts



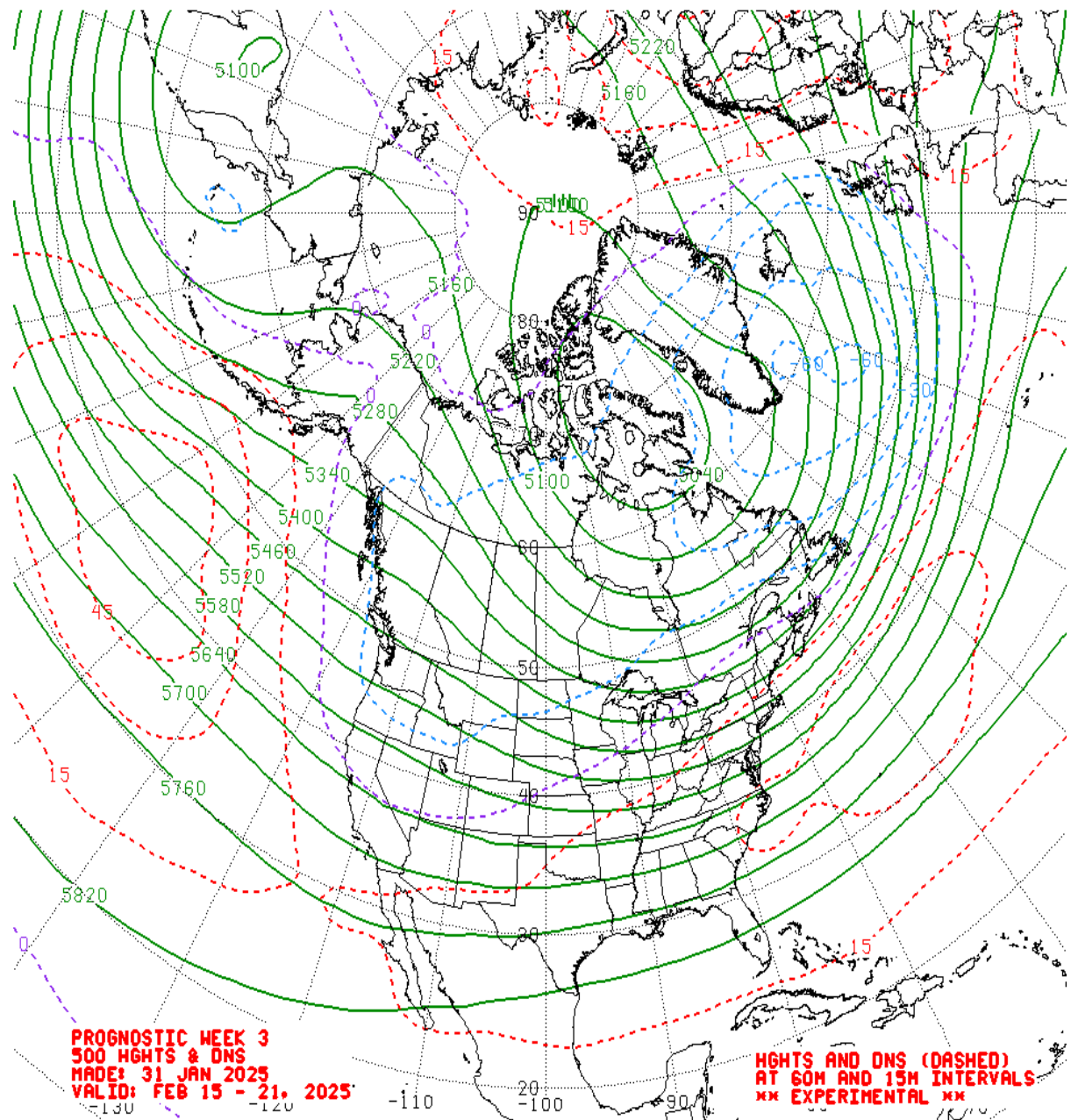
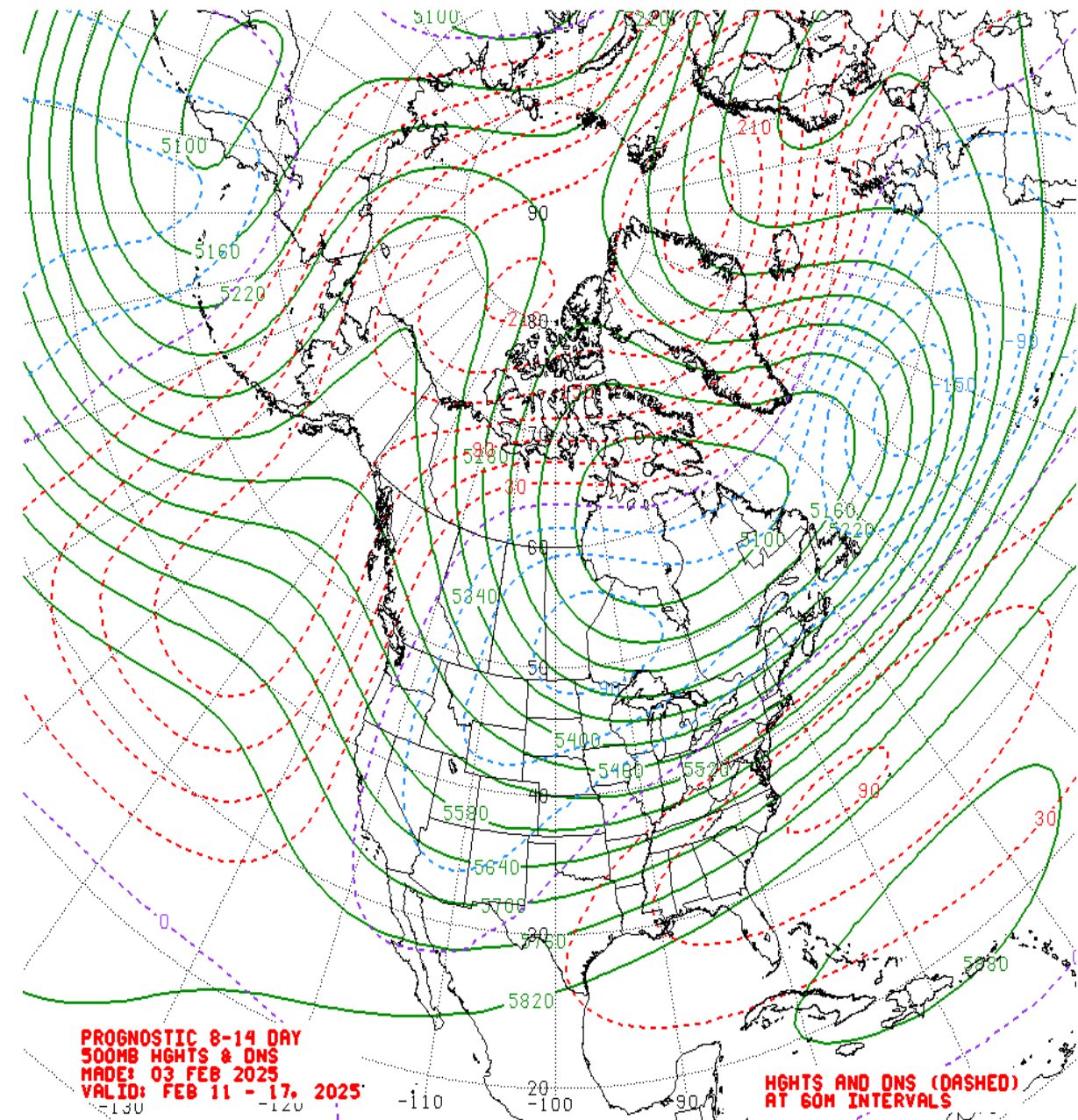
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

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

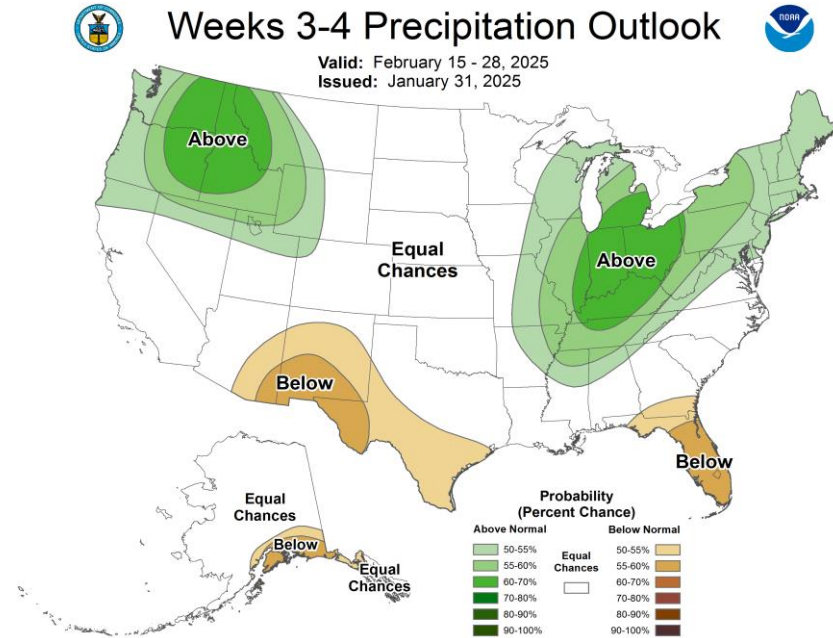
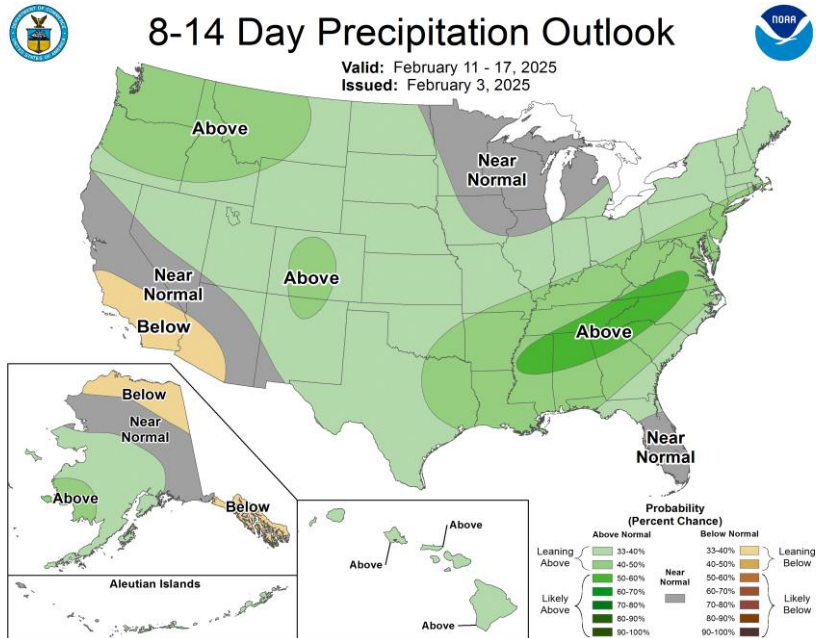
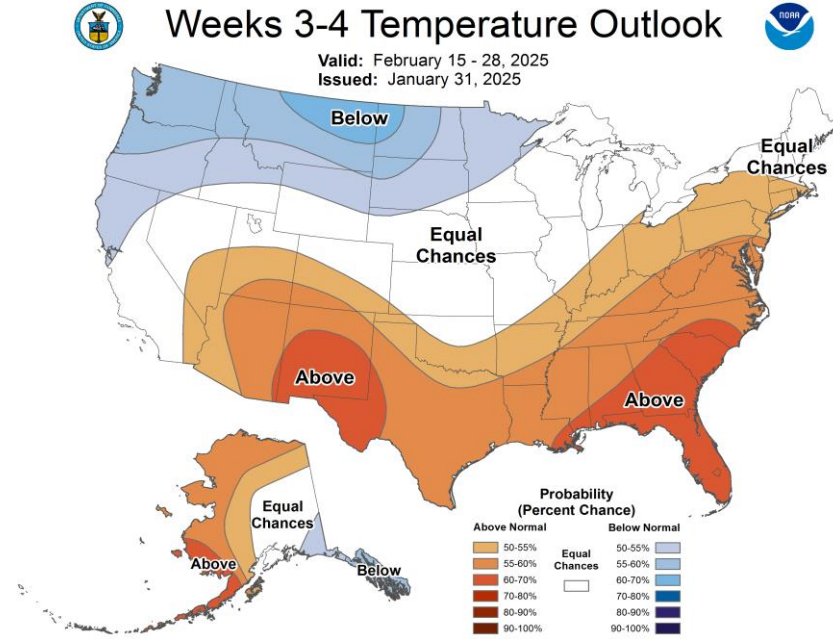
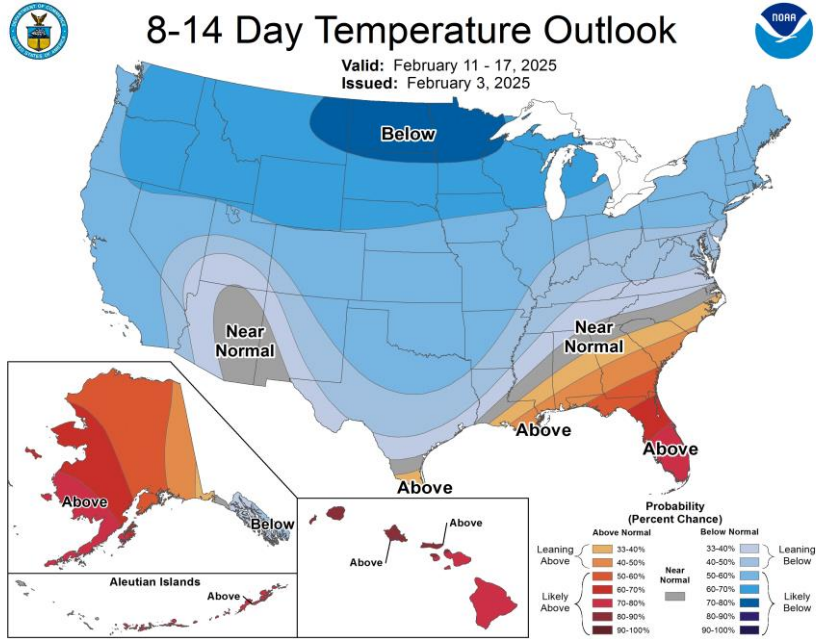
JFM MJO Composite: GLBT (degC)



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



Official Temperature & Precipitation Forecasts:



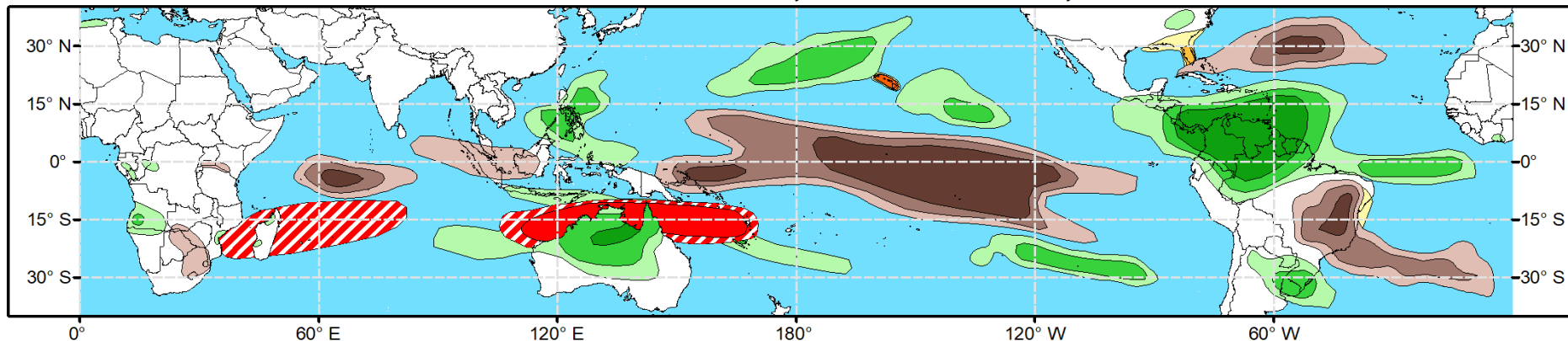


Global Tropics Hazards Outlook

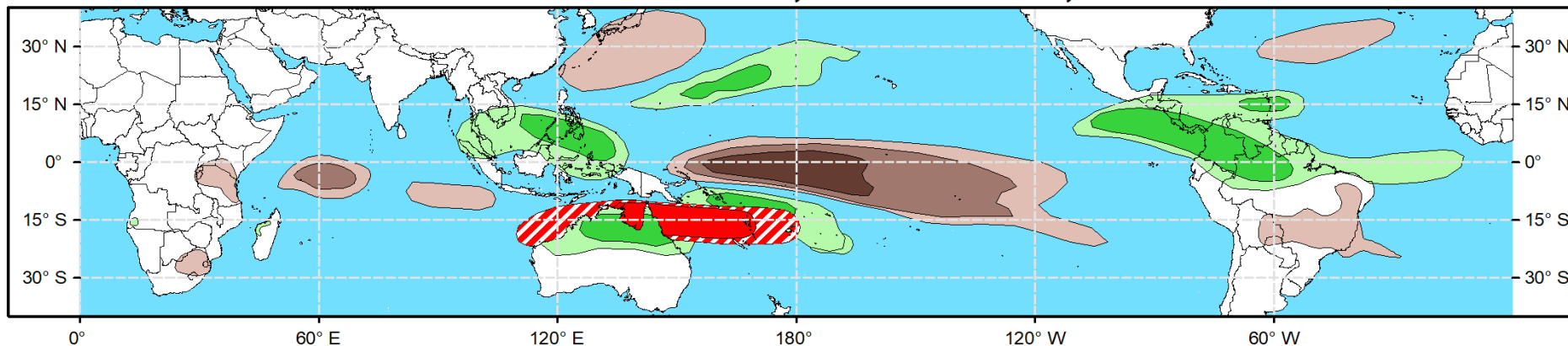
Climate Prediction Center



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