



Weeks 2-3 Global Tropics Hazards Outlook

1/28/2025

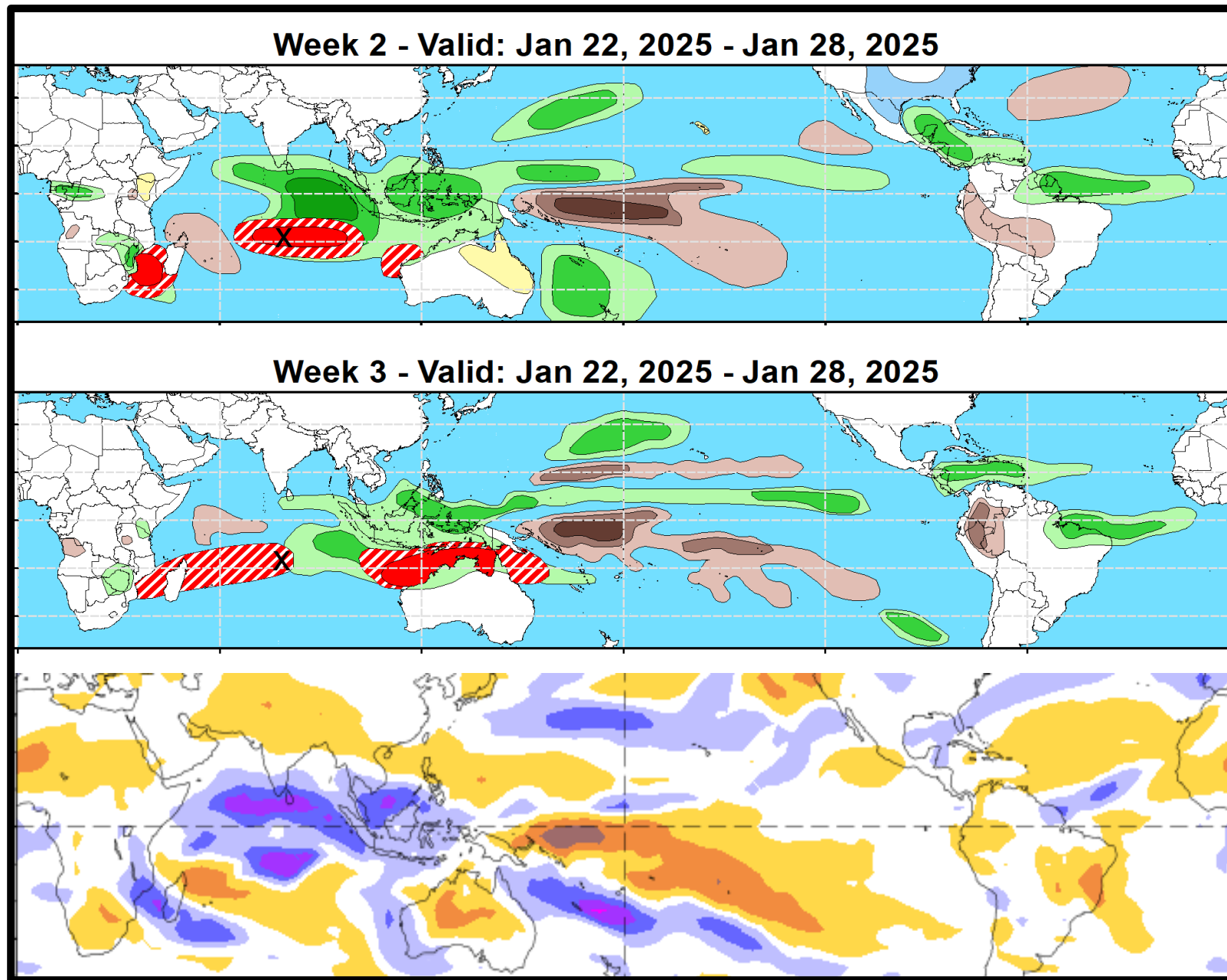
Brad Pugh

NWS / NCEP / Climate Prediction Center

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

January 28: Tropical Cyclone 11S

Joint Typhoon Warning Center:
monitoring Mozambique Channel
and Coral Sea



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:

- A robust MJO propagated eastward over the Indian Ocean to the Maritime Continent during late January.
- Dynamical models are in good agreement that the MJO continues its eastward propagation to the West Pacific through early February.
- Multiple tropical cyclones are expected to develop over the South Indian Ocean during the next two weeks. Areas near northern Australia and the South Pacific are also favored to be quite active through mid-February.

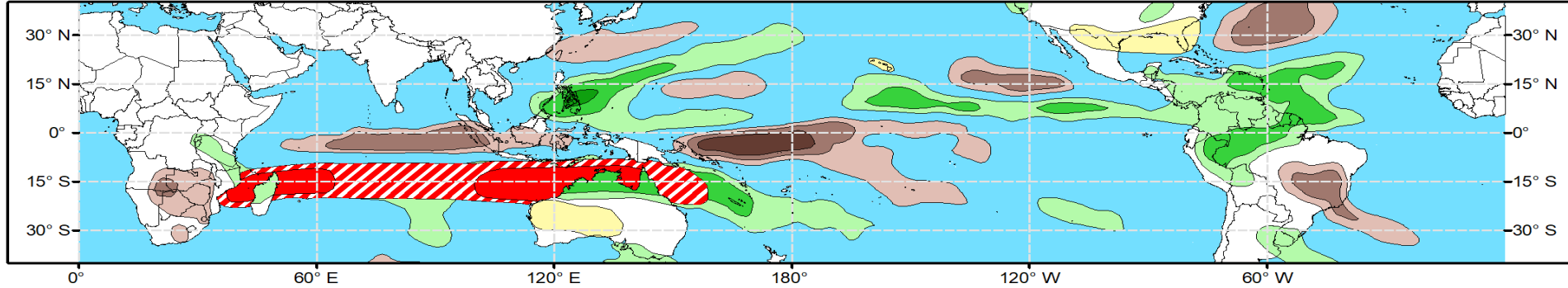
GTH Outlook:



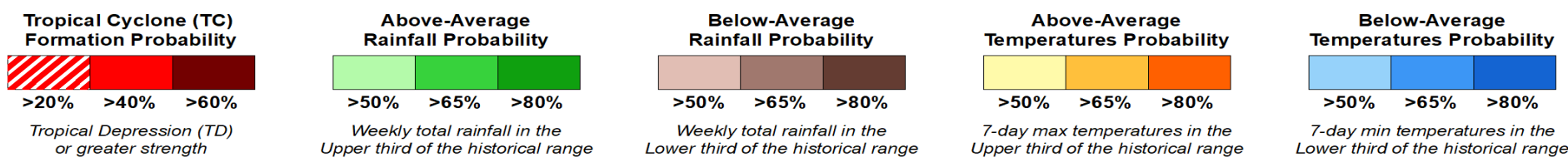
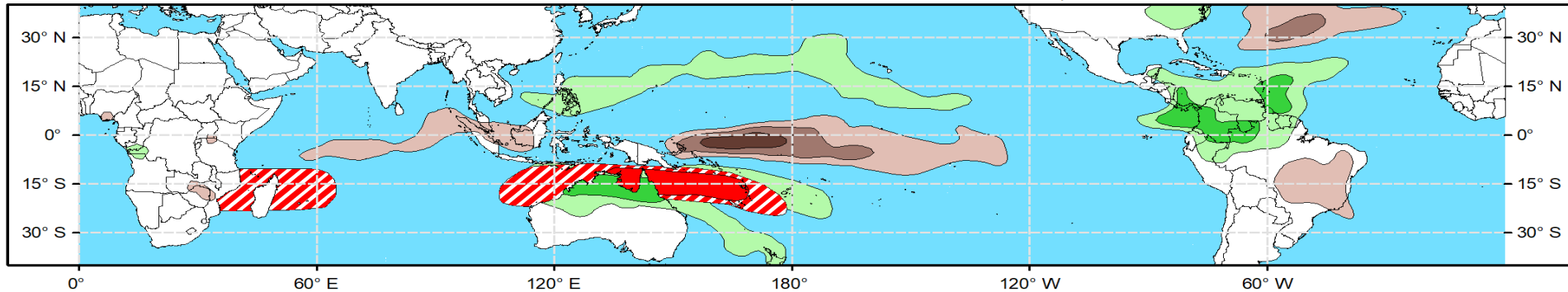
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Week 2 - Valid: Feb 05, 2025 - Feb 11, 2025



Week 3 - Valid: Feb 12, 2025 - Feb 18, 2025

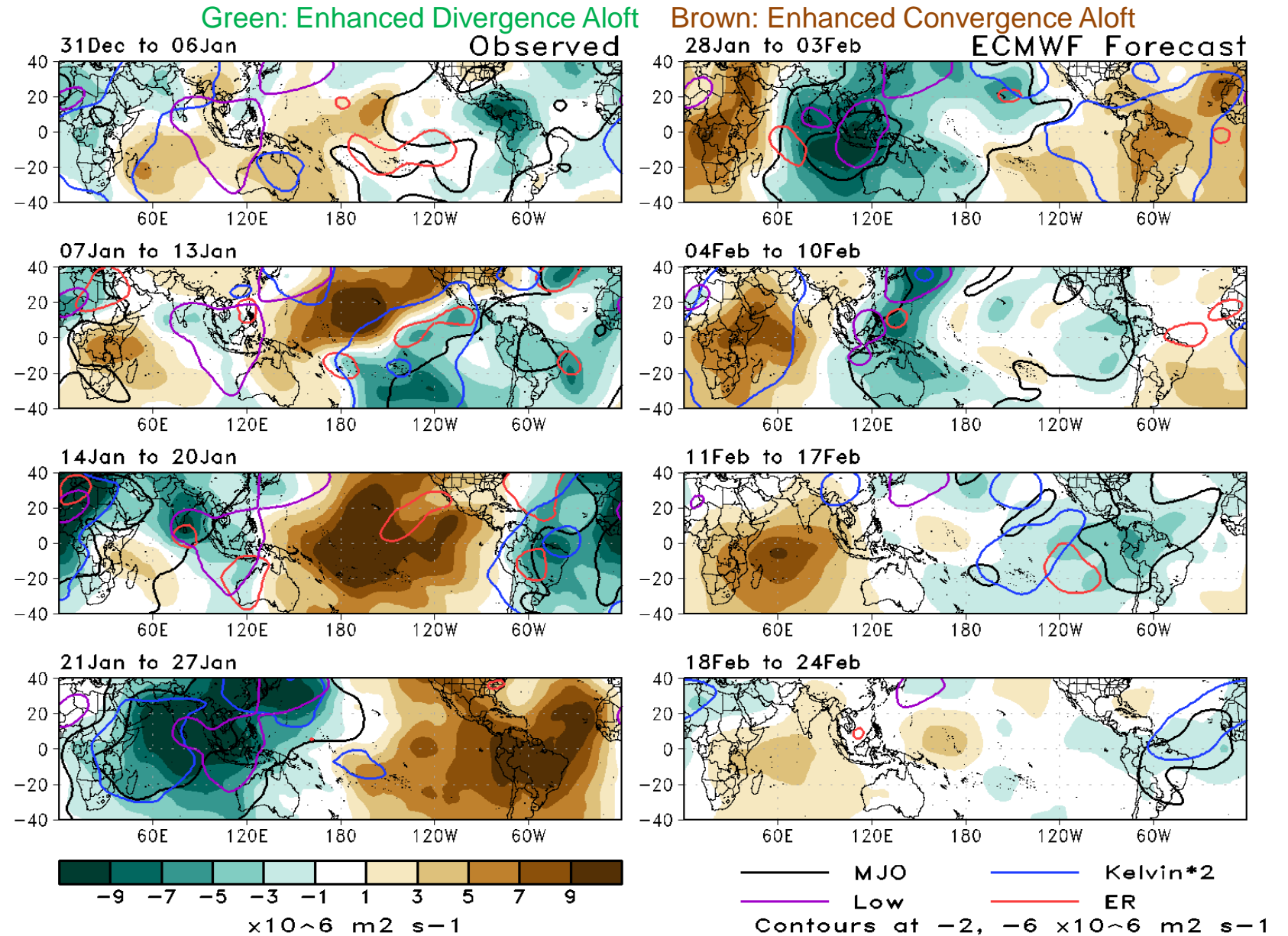


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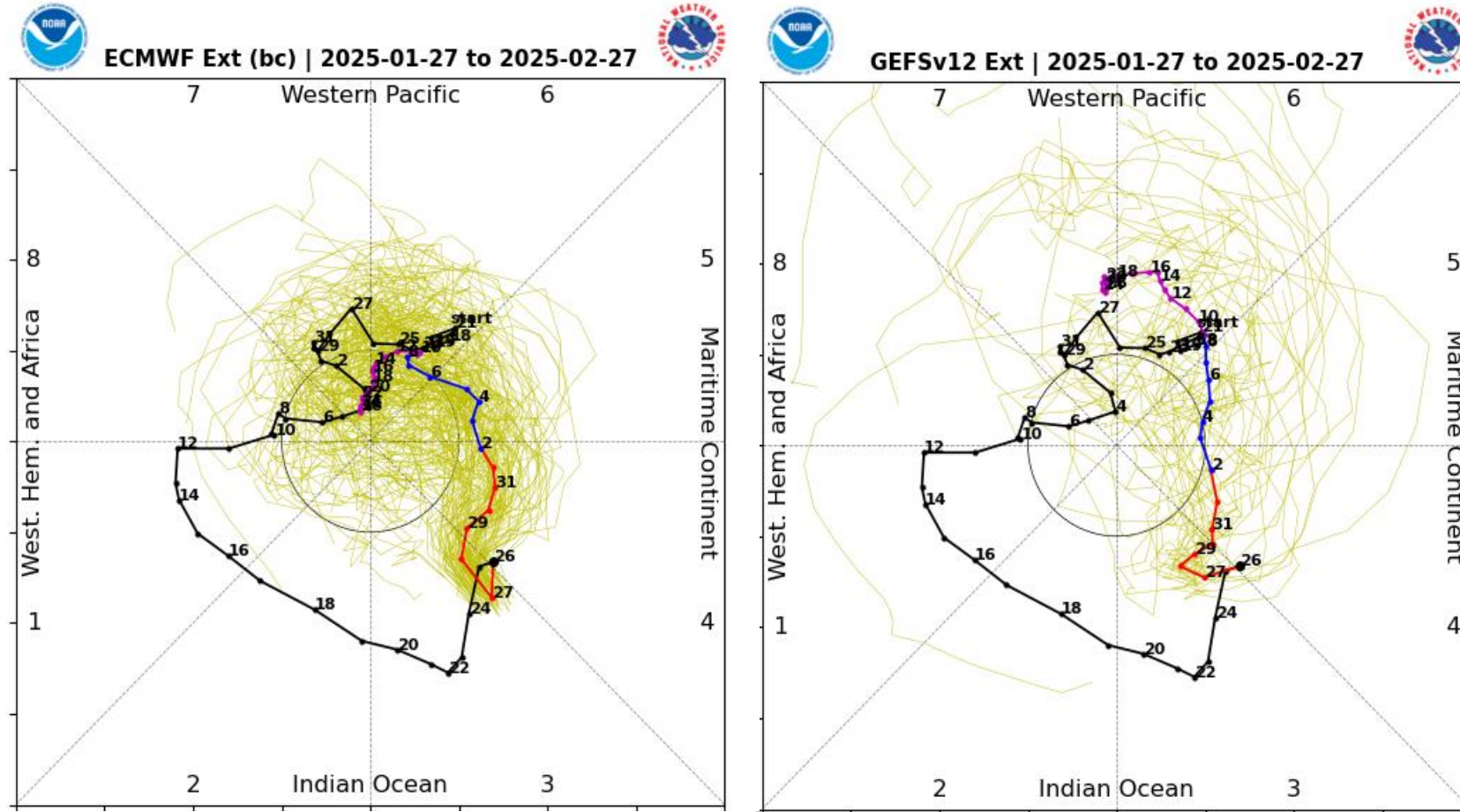
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200-hPa Velocity Potential Anomaly Maps:

- Late January: wave-1 pattern of strong anomalous upper-level divergence (convergence) over the Indian Ocean and Maritime Continent (Americas)
- MJO may begin to weaken by mid-February as it destructively interferes with La Nina



RMM Index Observations & Forecasts:

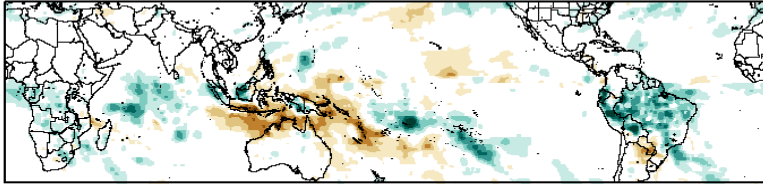


- Good model agreement on continued eastward propagation to the West Pacific.
- Ensemble spread is large on the amplitude of the RMM index (MJO strength) by early February.

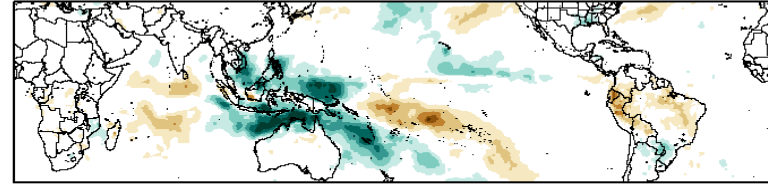
Historical Precipitation Anomalies By MJO Phase:

DJF MJO Composite: GPCP1DD (mm/day)

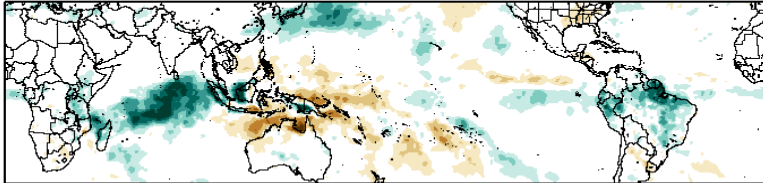
Phase 1



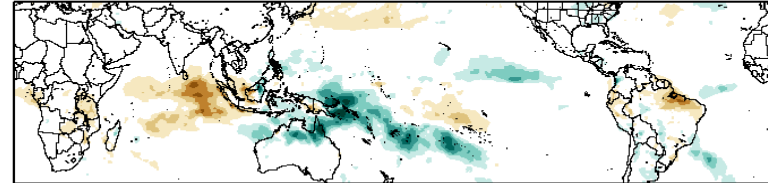
Phase 5



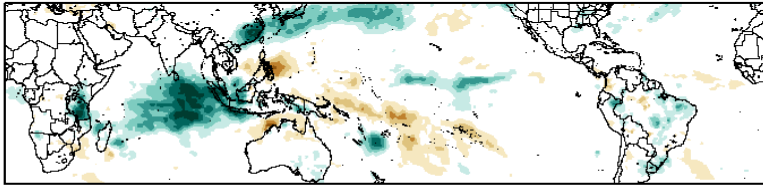
Phase 2



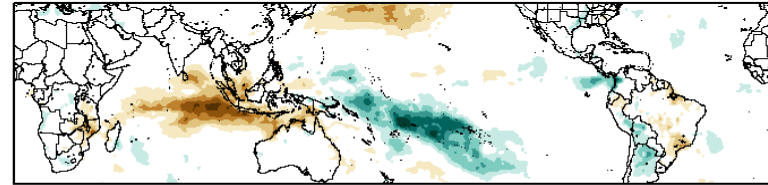
Phase 6



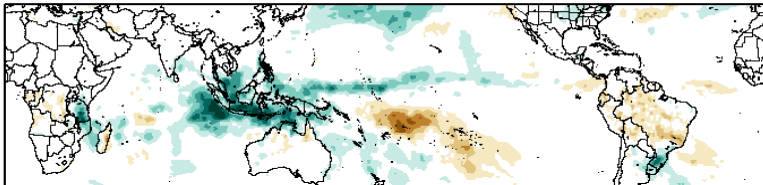
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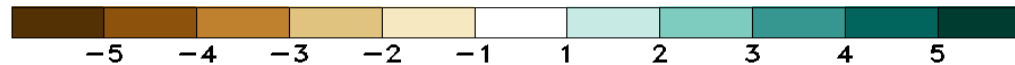
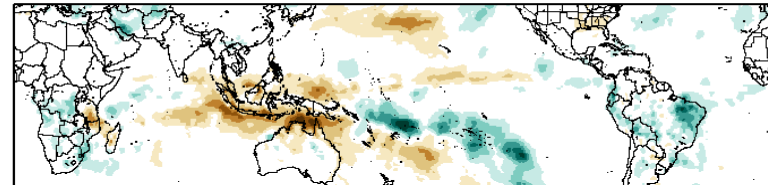
Phase 7



Phase 4

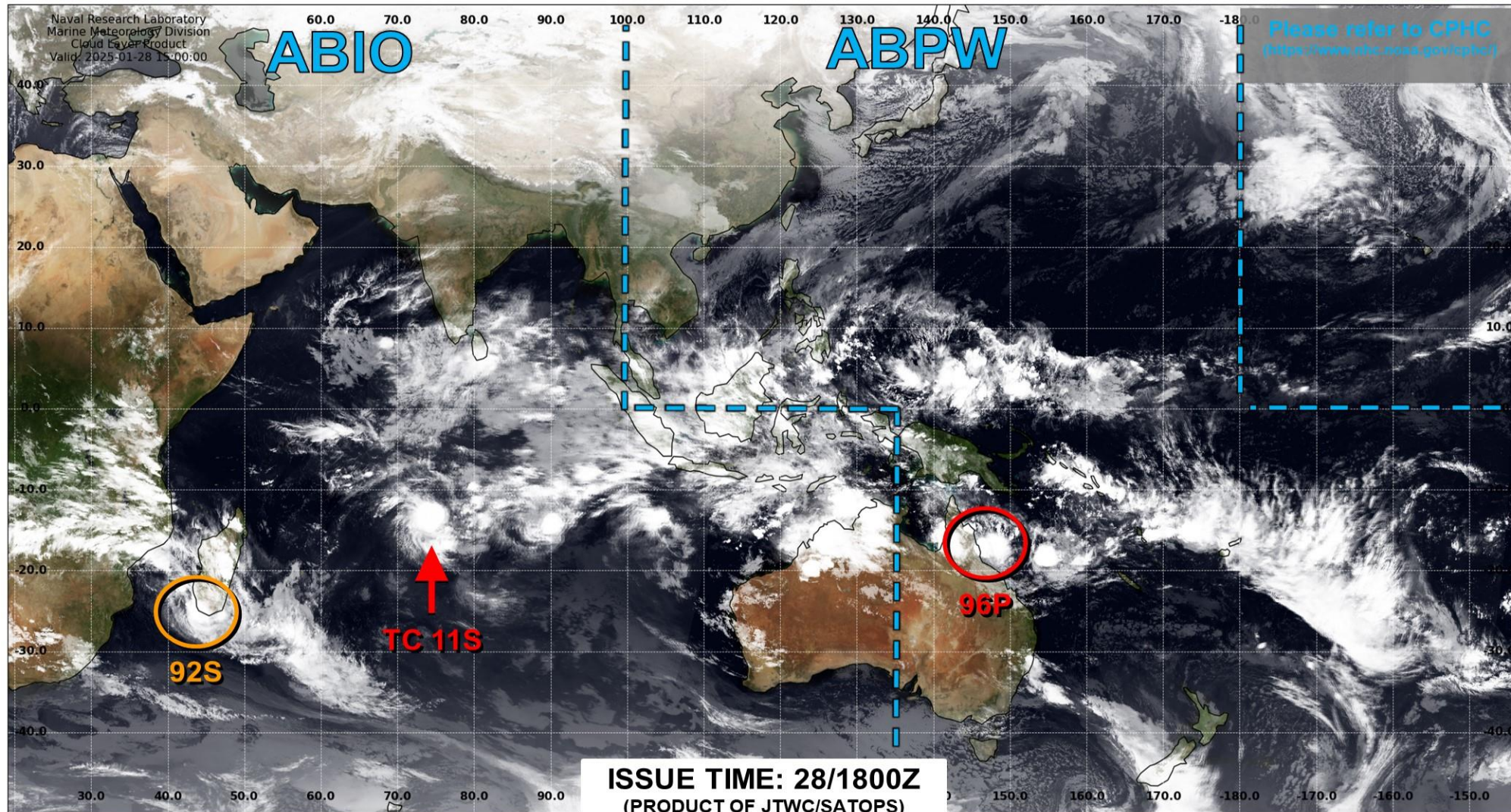


Phase 8





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)



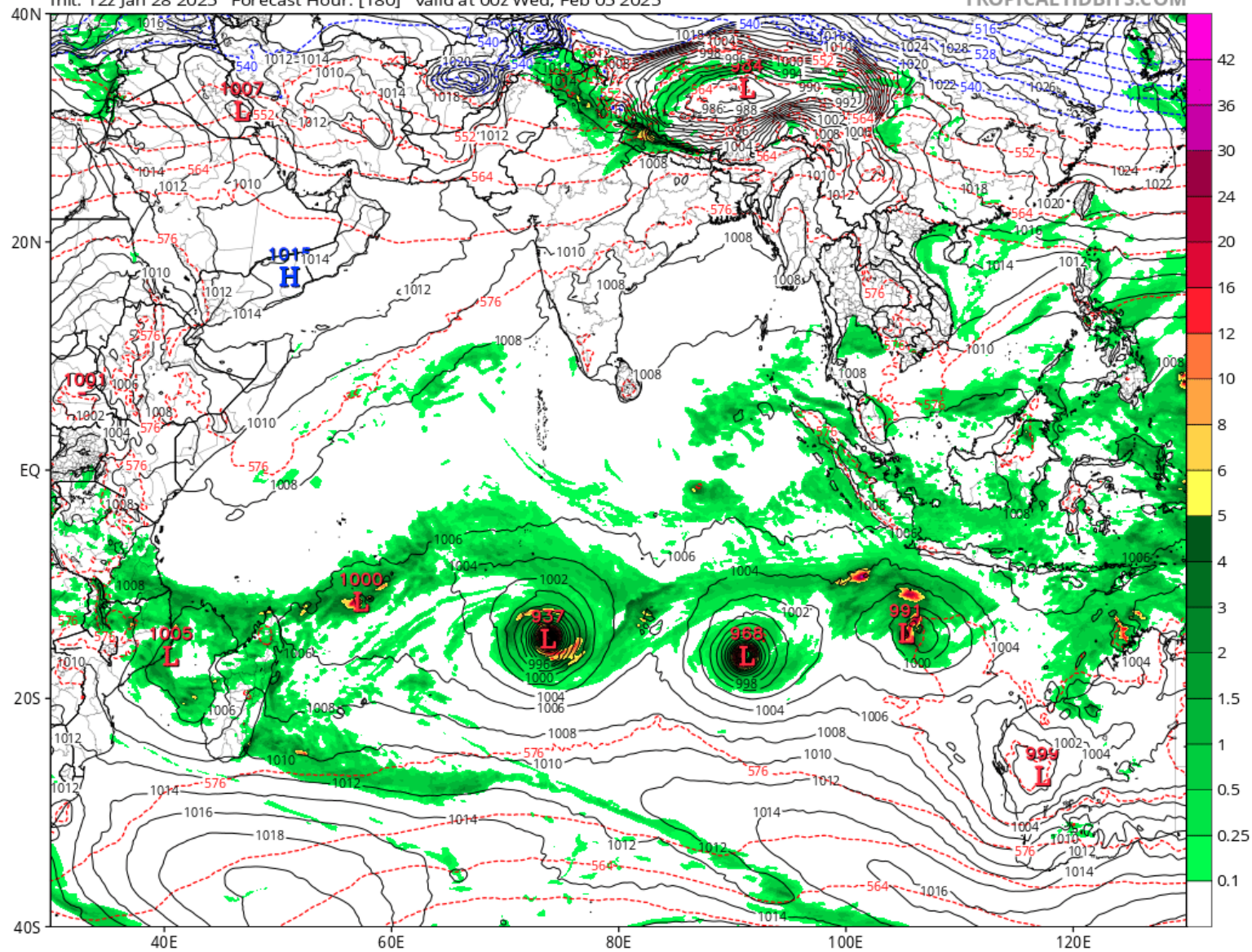
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



GFS 6-hour Averaged Precip Rate (mm/hr), MSLP (hPa) & 1000-500mb Thickness (dam)

Init: 12z Jan 28 2025 Forecast Hour: [180] valid at 00z Wed, Feb 05 2025

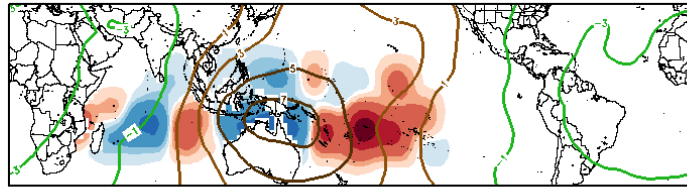
TROPICALTIDBITS.COM



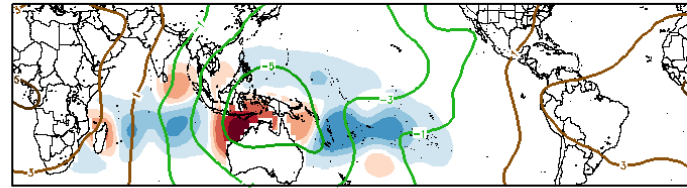
South Indian Ocean: increased chance of multiple TCs next week

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

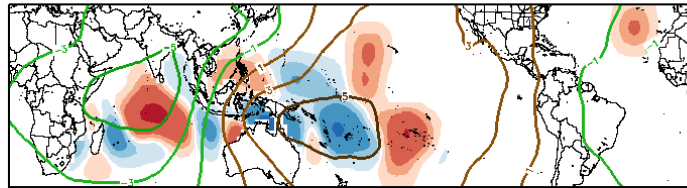
JFM MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JFM CHI200 ($\times 10^{-6} m^2 s^{-1}$) / Contours every $2 \times 10^{-6} m^2 s^{-1}$



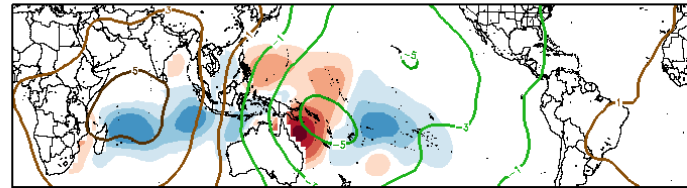
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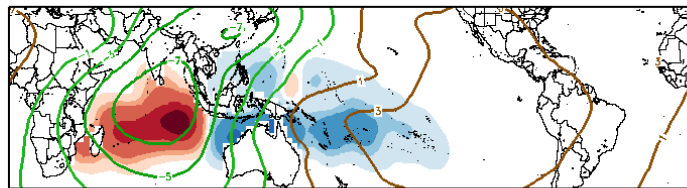
Phase 5



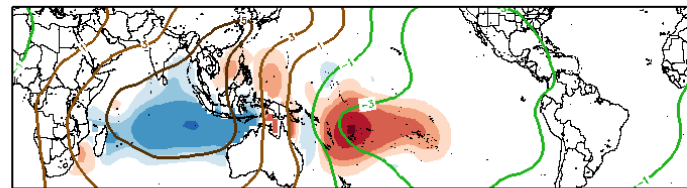
Phase 2



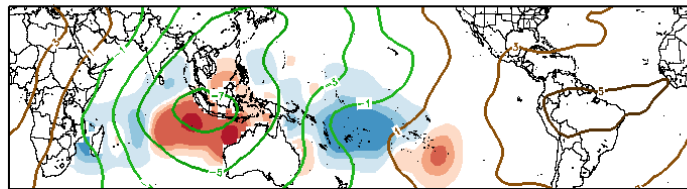
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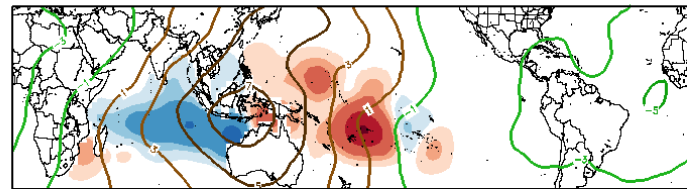
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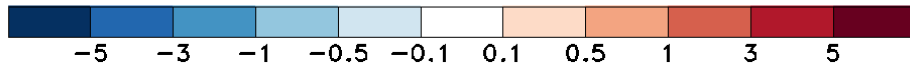
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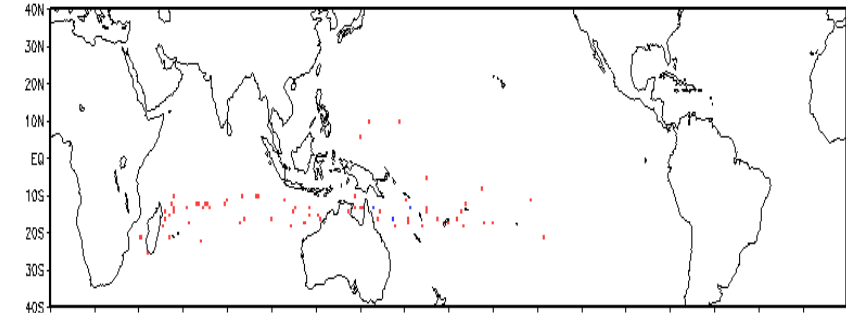
Phase 8



Experimental

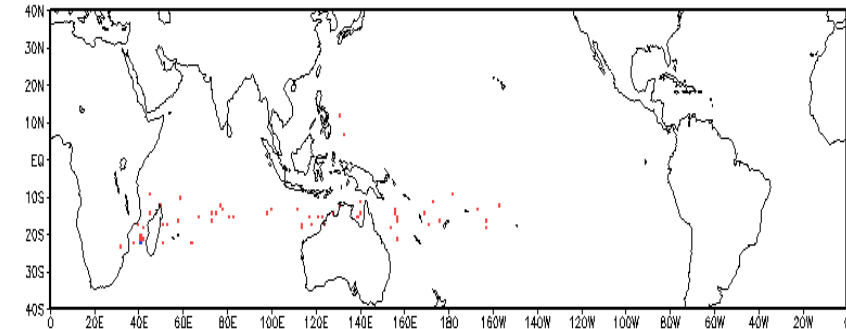
Observed TC Genesis, 1979-2021

7-day Period 0205 to 0211



Observed TC Genesis, 1979-2021

7-day Period 0212 to 0218



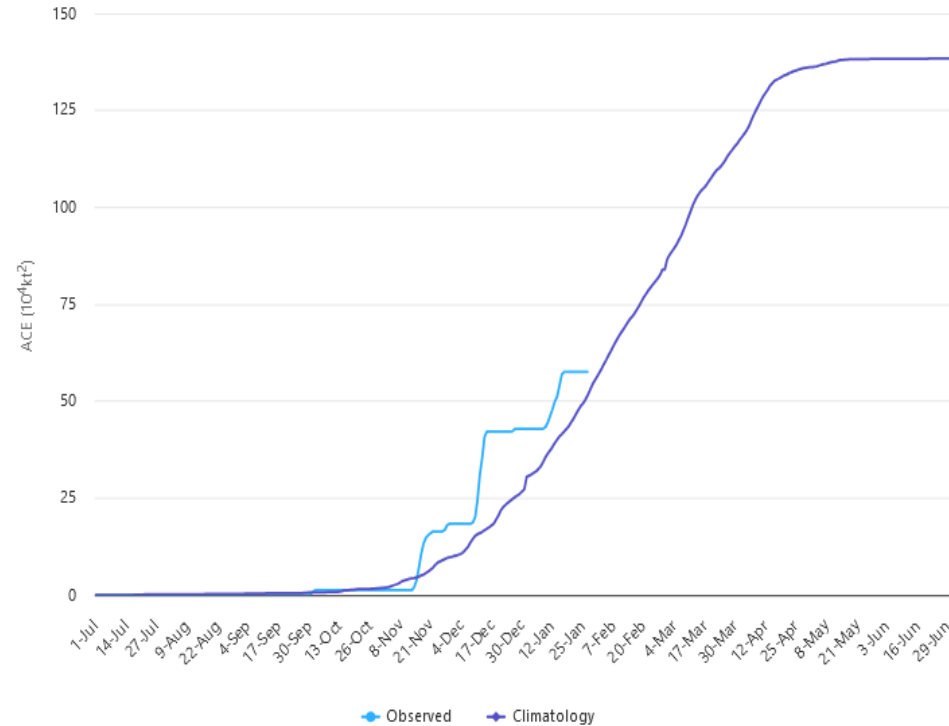


Real-Time South Indian Ocean Statistics by Storm for 2024/2025

Year	Storm#	Name	Dates TC Active	Max Wind (kts)	MSLP (mb)	Named Storm Days	Hurricane Days	Major Hurricane Days	Accumulated Cyclone Energy
2024	1	ANCHA	10/1-10/3	50	954	1.75	0.00	0.00	1.3
2024	2	BHEKI	11/14-11/22	115	947	8.00	4.50	1.25	15.1
2024	3	ROBYN	11/27-11/29	50	988	2.75	0.00	0.00	2.0
2024	4	CHIDO	12/9-12/15	135	929	6.00	4.50	3.50	23.9
2024	5	FIVE	12/27-12/28	35	1001	1.50	0.00	0.00	0.7
2025	6	DIKELEDI	1/9-1/17	100	950	8.00	4.50	0.50	14.7

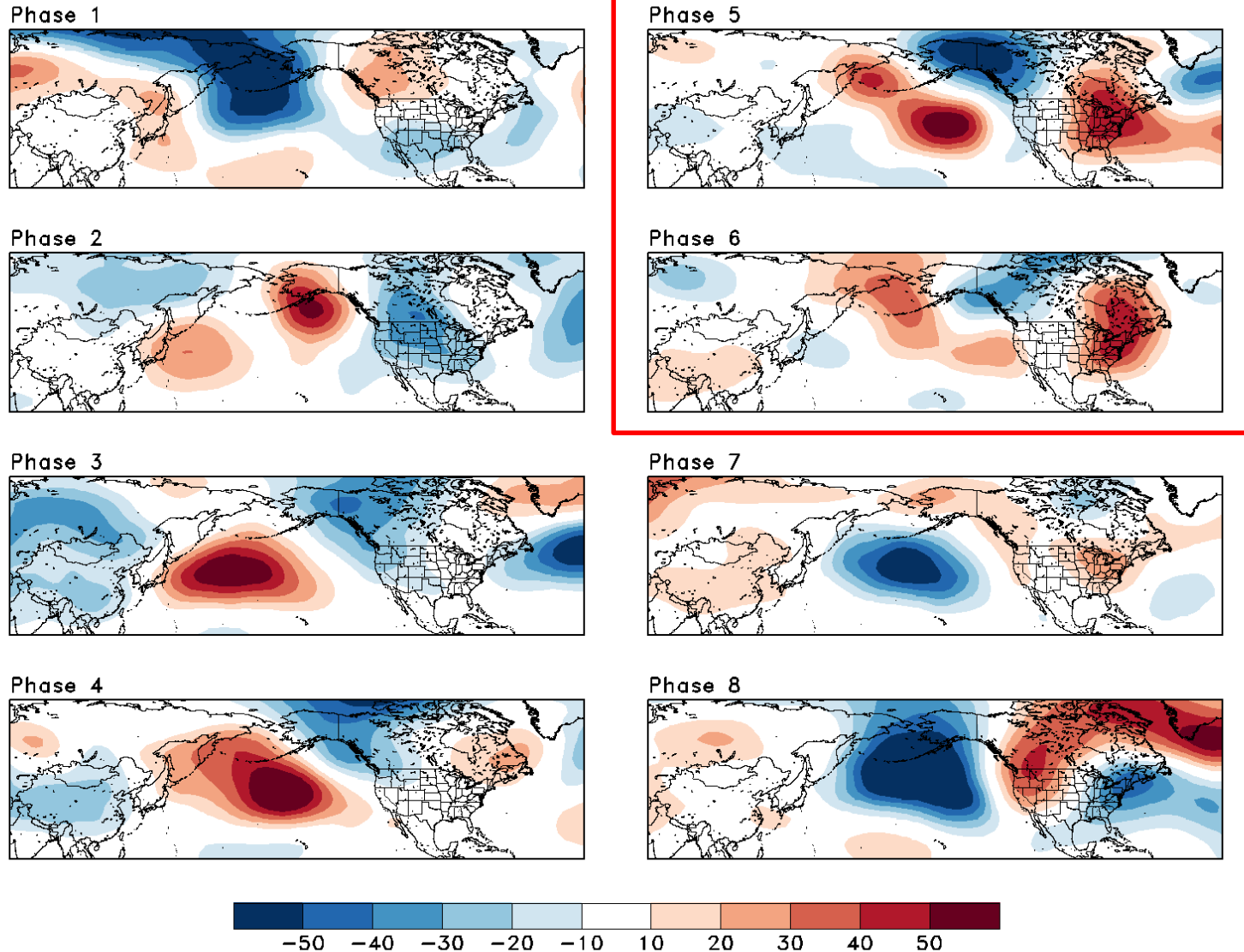
All columns that are underlined are sortable.

Current Season South Indian Ocean ACE (1991-2020 Climatology)

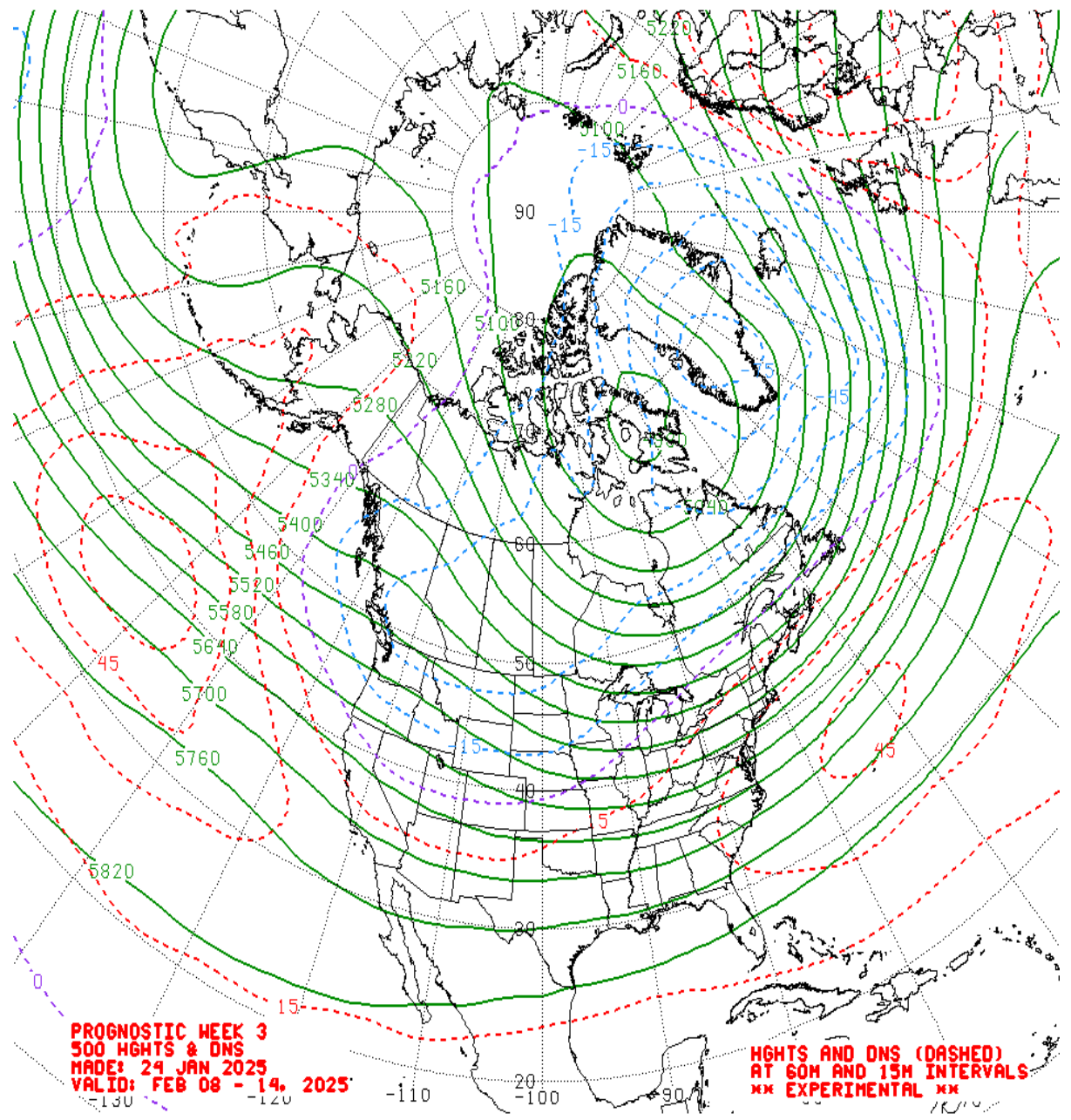
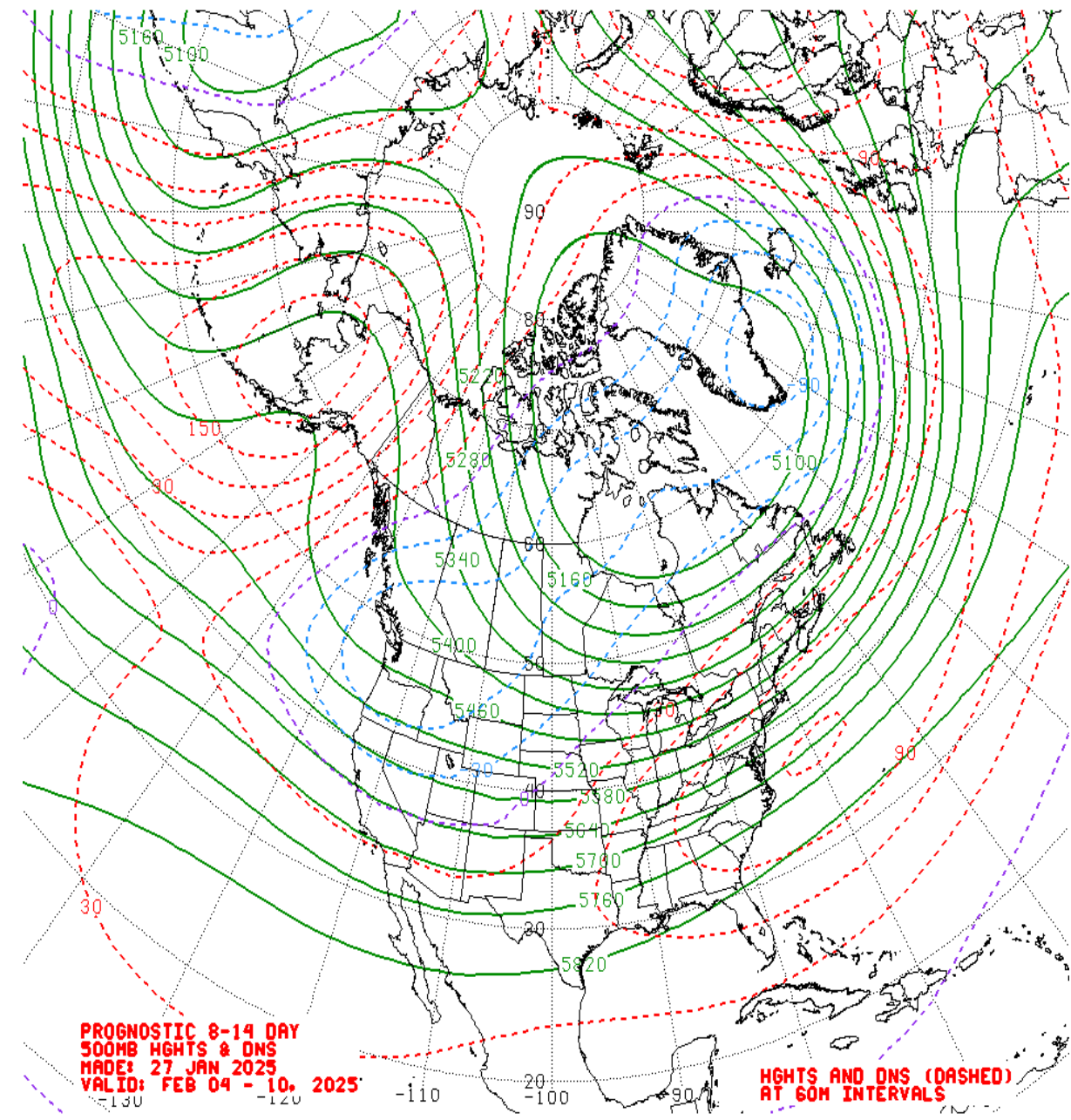


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

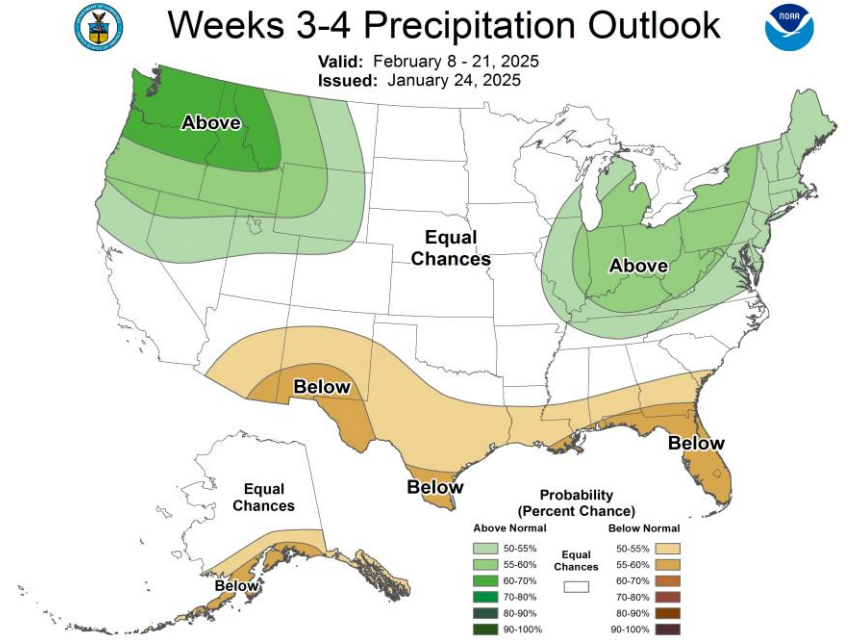
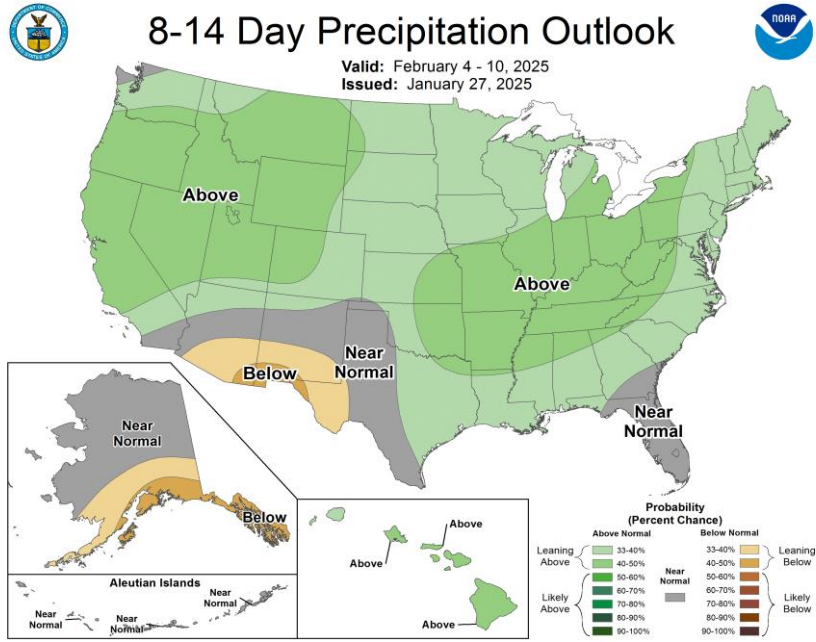
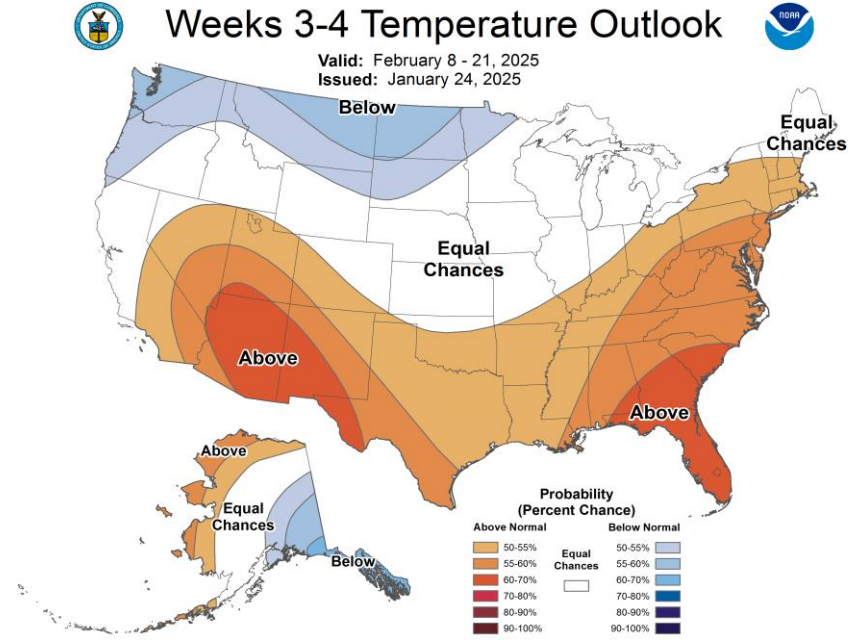
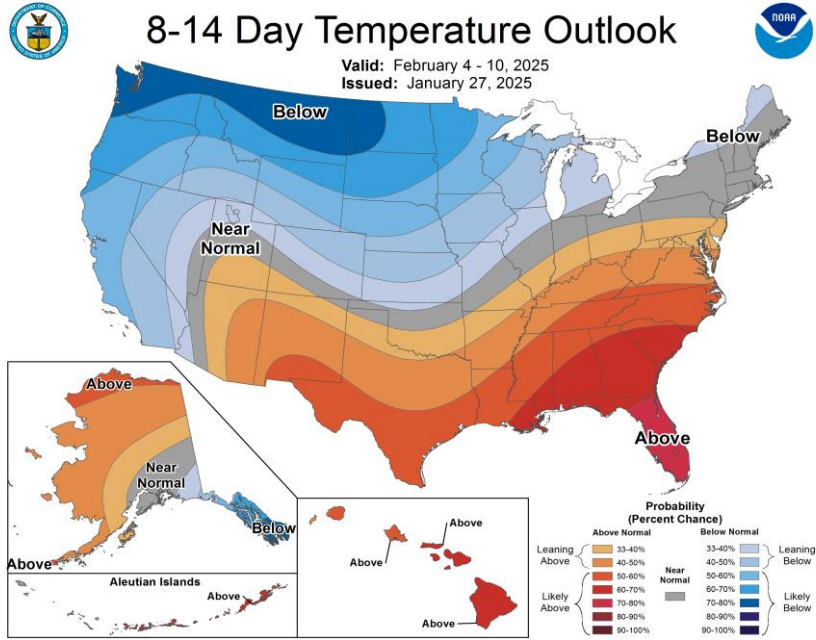
JFM MJO Composite: CDAS 500-hPa Height (m)



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



Official Temperature & Precipitation Forecasts:



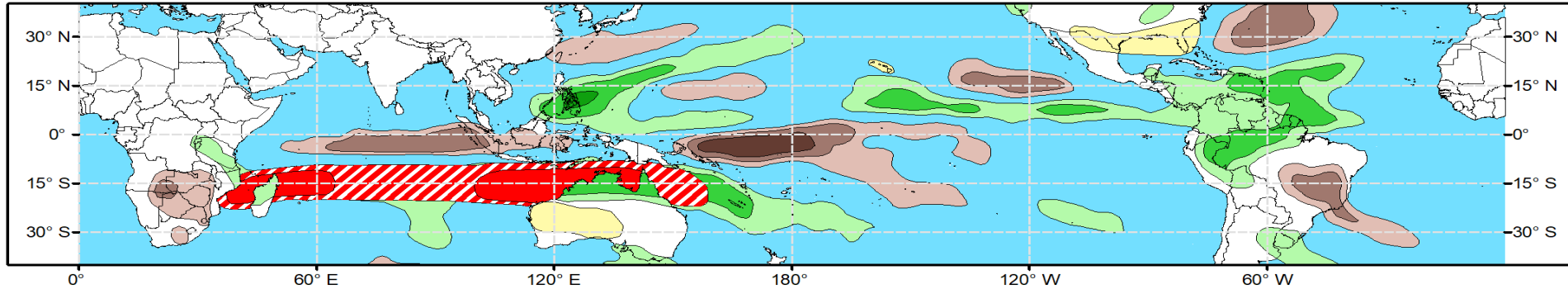
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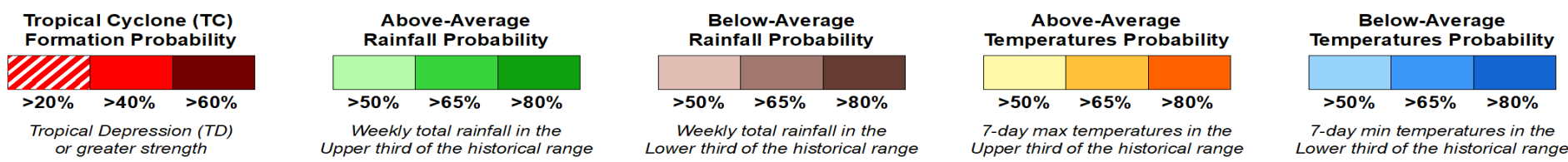
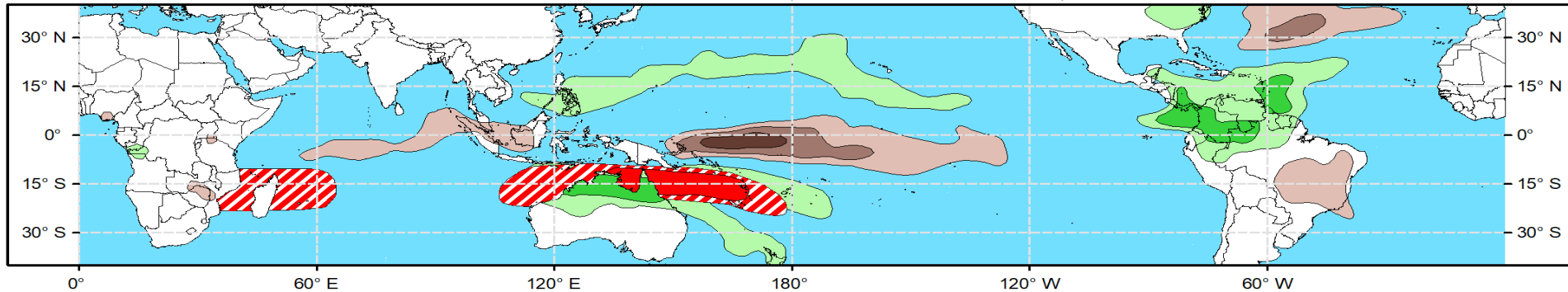
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