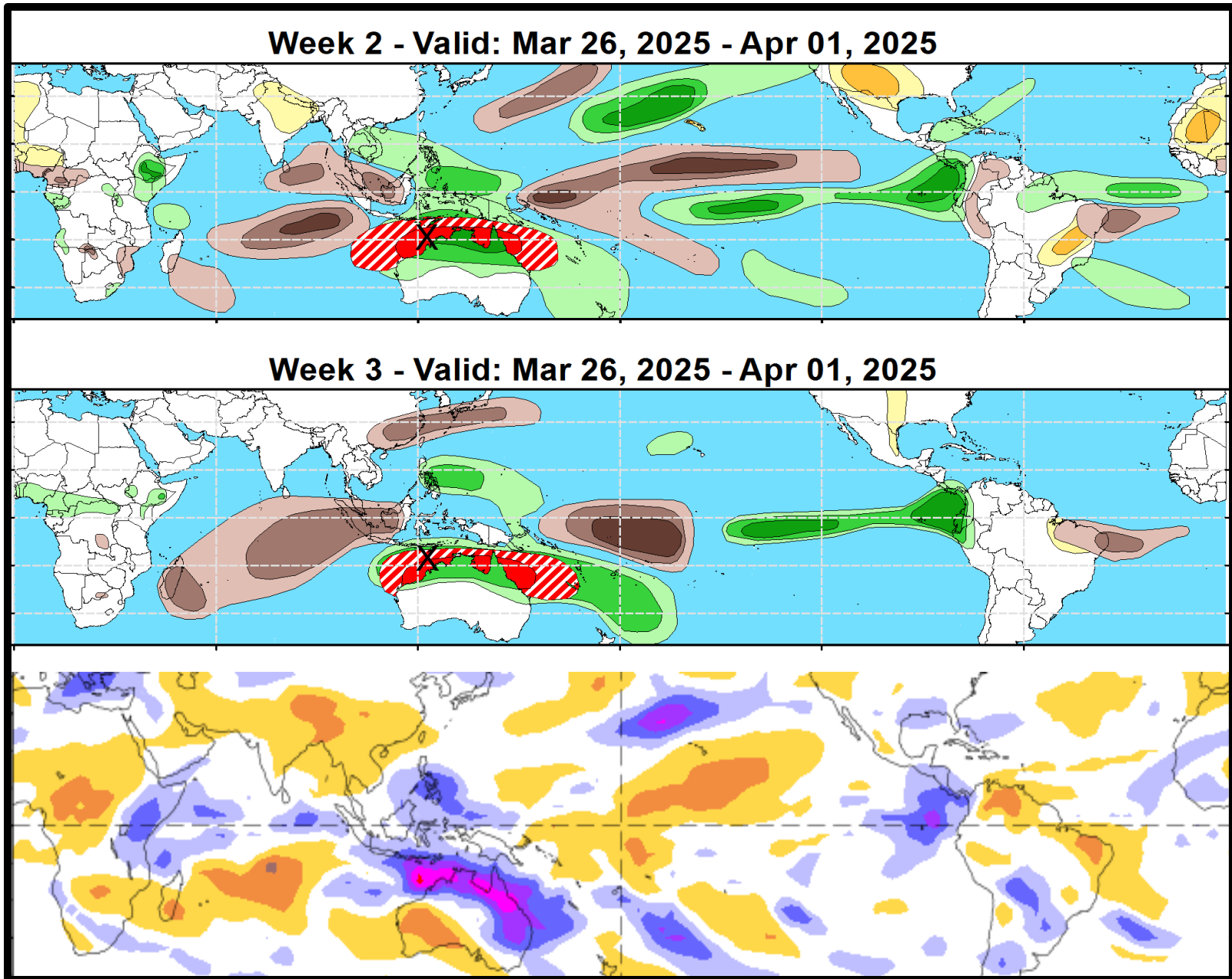
Weeks 2-3 Global Tropics Hazards Outlook

4/1/2025

Lindsey Long
NWS / NCEP / Climate Prediction Center

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

- TC Dianne (3/28)



Synopsis of Climate Modes:

ENSO: (Mar 13, 2025 Update) ***next update on Thursday, Apr 10th***

- ENSO Alert System Status: La Niña Advisory

- ENSO-neutral is favored to develop in the next month and persist through the Northern Hemisphere summer (62% chance in JJA, 2025).

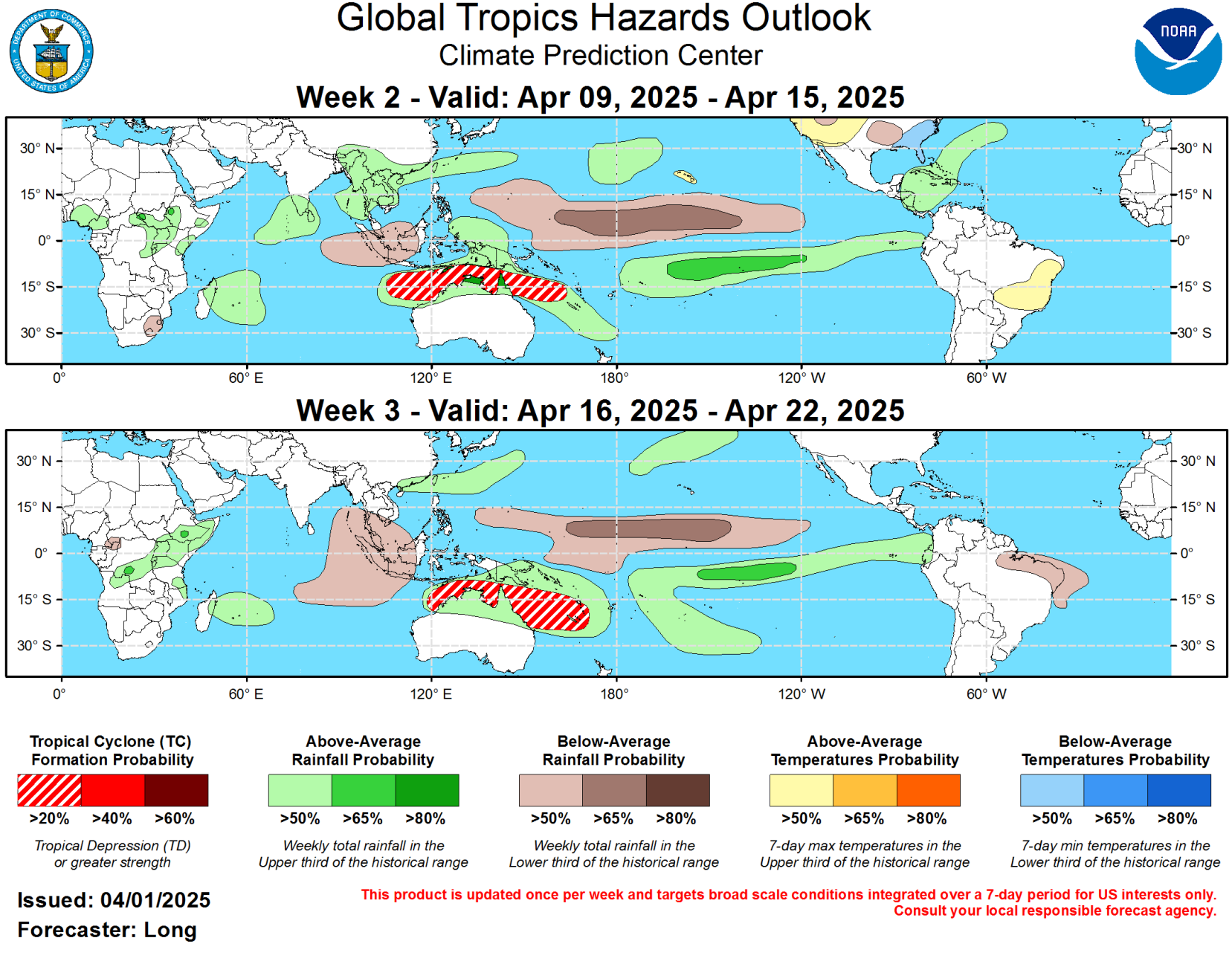
MJO and other subseasonal tropical variability:

- RMM observations show the MJO signal retrograding westward before moving into the unit circle.

- Dynamical model RMM forecasts show a continuing weak MJO during Weeks 1-2, but diverge at Week-3 with the GEFS forecasting a robust MJO emerging in Phase 6 and propagating to Phase 7 while the ECMWF keeps the MJO signal inside the unit circle.

- Tropical cyclone development is most likely near northern Australian during Weeks 2-3. Climatologically, mid-April is the quietest period globally for tropical cyclogenesis.

GTH Outlook:


Global Tropics Hazards Outlook
Climate Prediction Center
Week 2 - Valid: Apr 09, 2025 - Apr 15, 2025
Week 3 - Valid: Apr 16, 2025 - Apr 22, 2025
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
>50% >65% >80%
7-day max temperatures in the Upper third of the historical range
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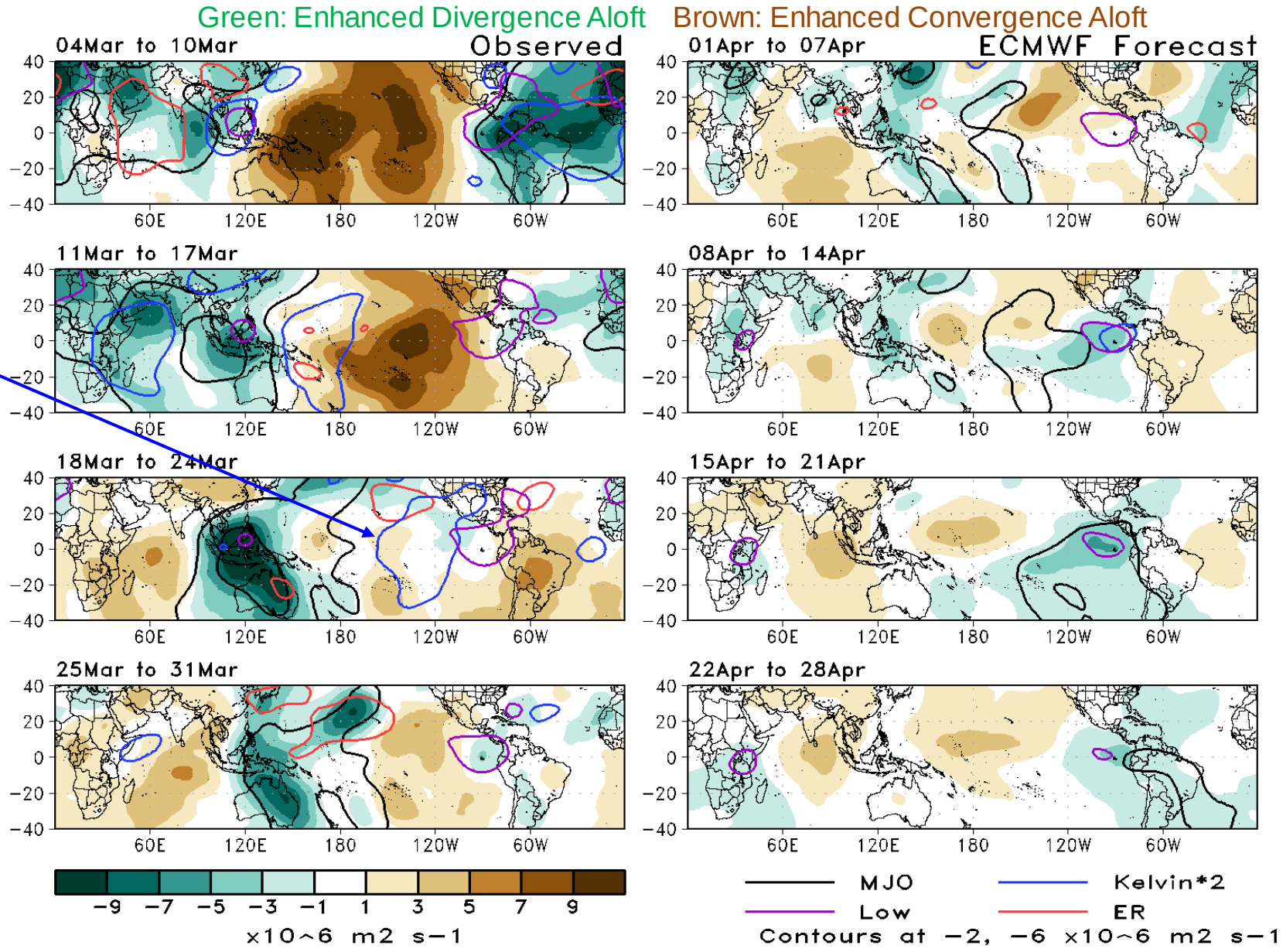
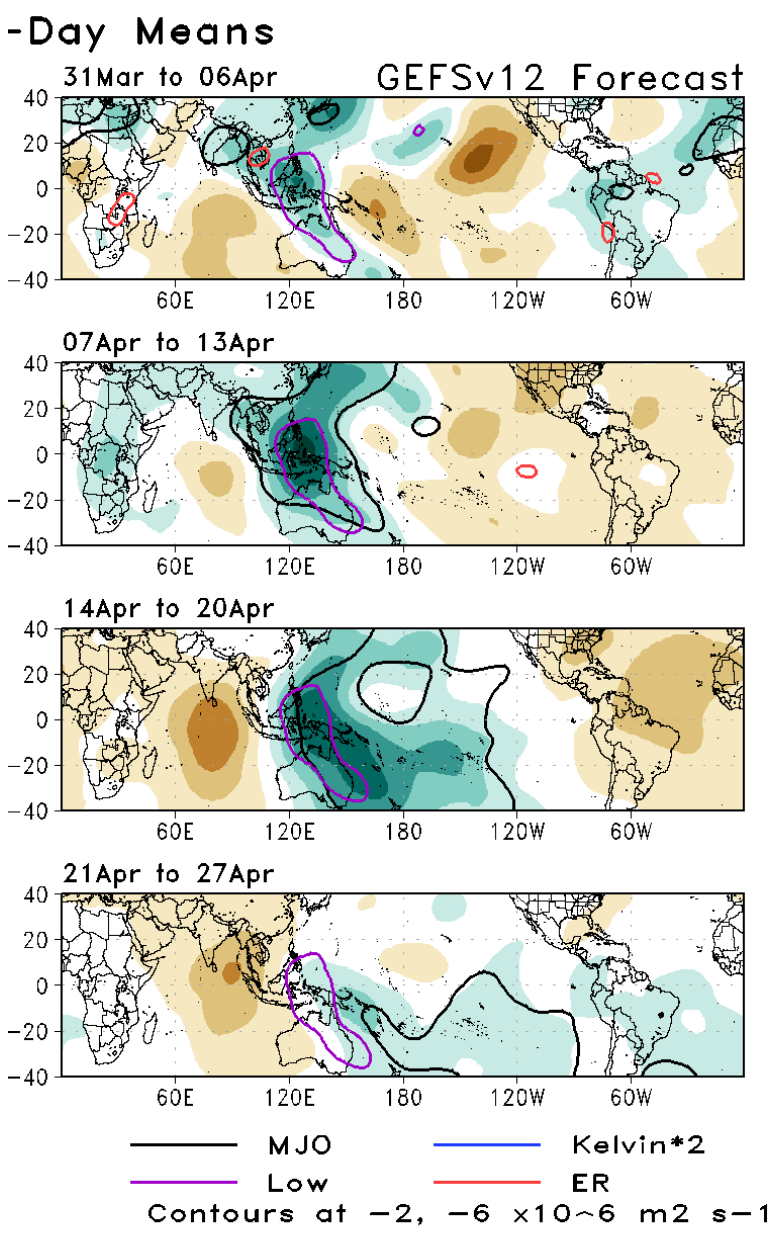
7-day min temperatures in the Lower third of the historical range
Issued: 04/01/2025
Forecaster: Long
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only.
Consult your local responsible forecast agency.

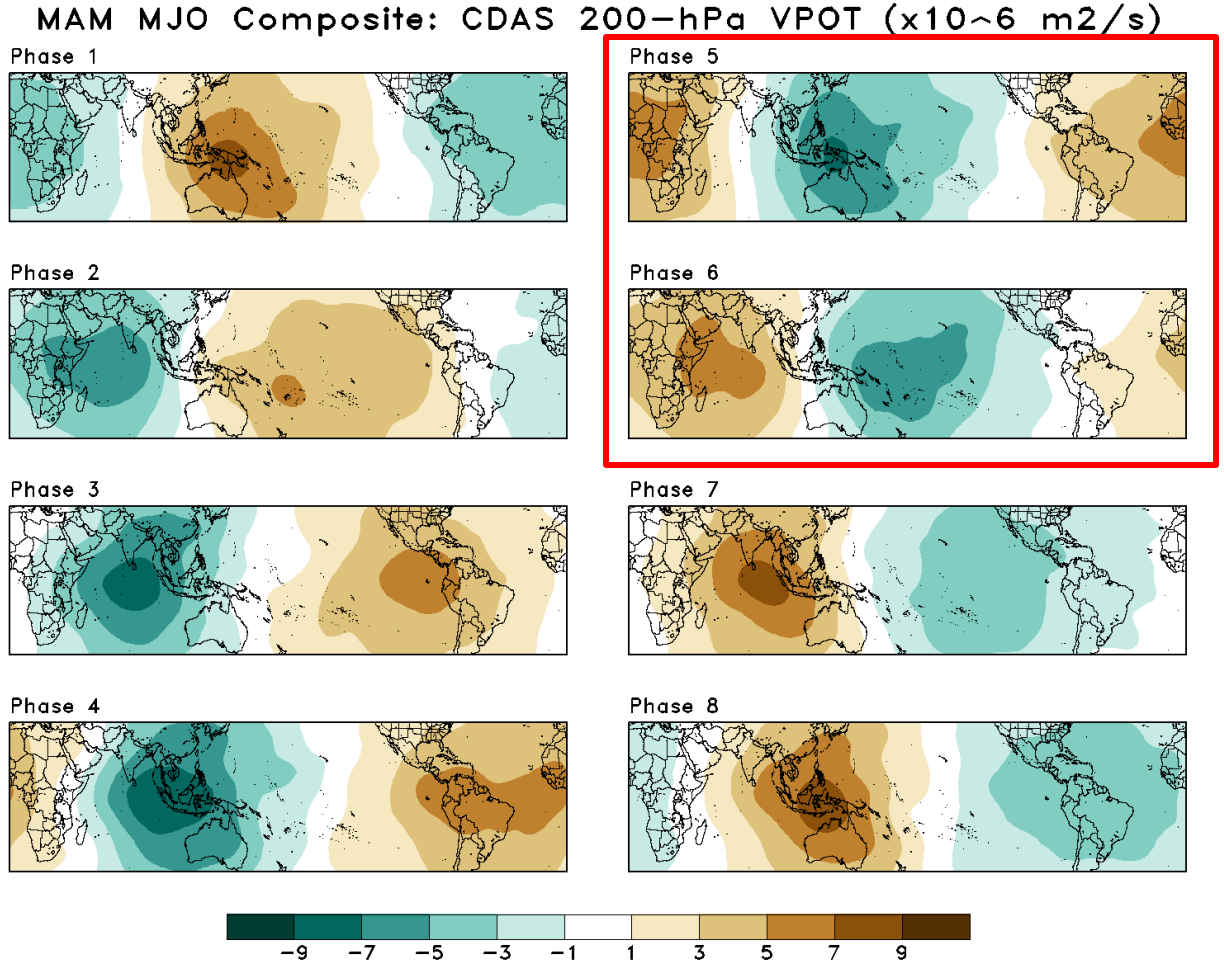
200-hPa Velocity Potential Anomaly Maps:

- The strong Wave-1 pattern seen in early to mid-March began breaking down over the past few weeks, partially due to destructive interference with a Kelvin Wave in the Atlantic.
- Week-1 gives way to an incoherent pattern that persists in the ECMWF through Week-3.
- Note the continued presence of a Low frequency signal in the eastern Pacific in the ECMWF.



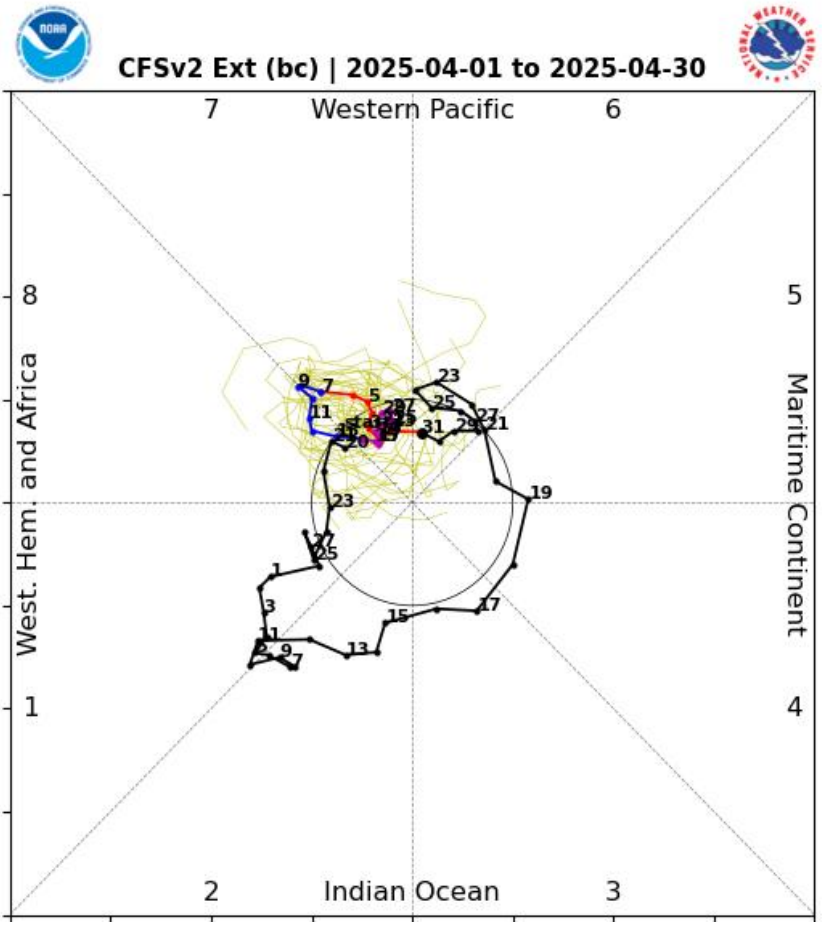
GEFS

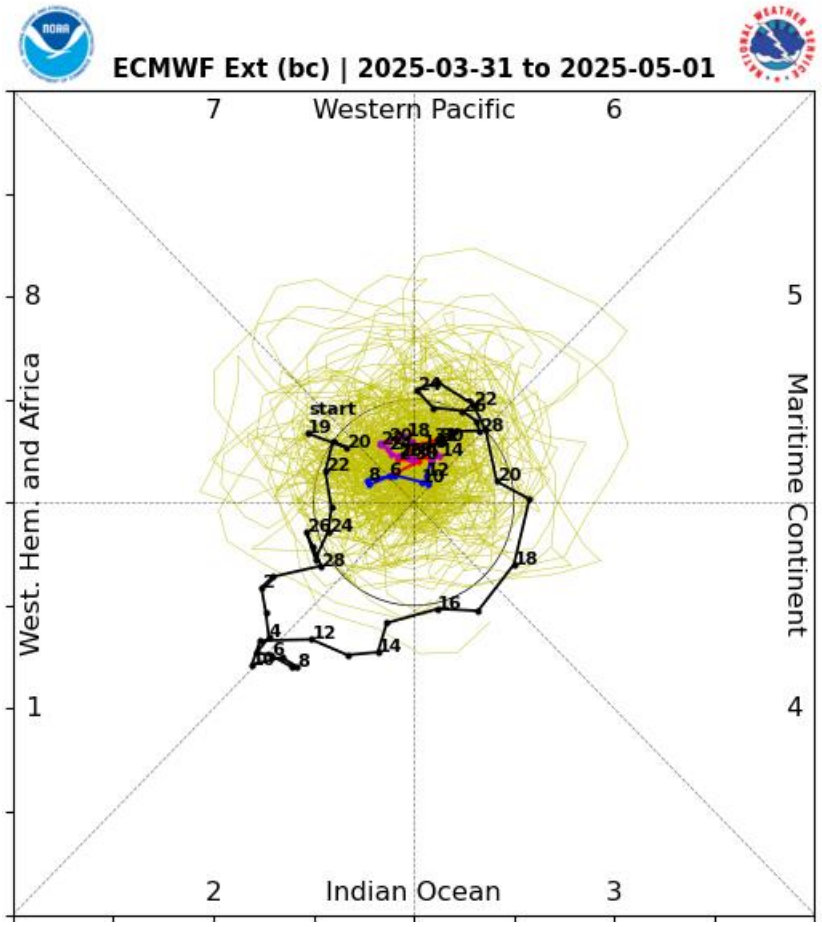


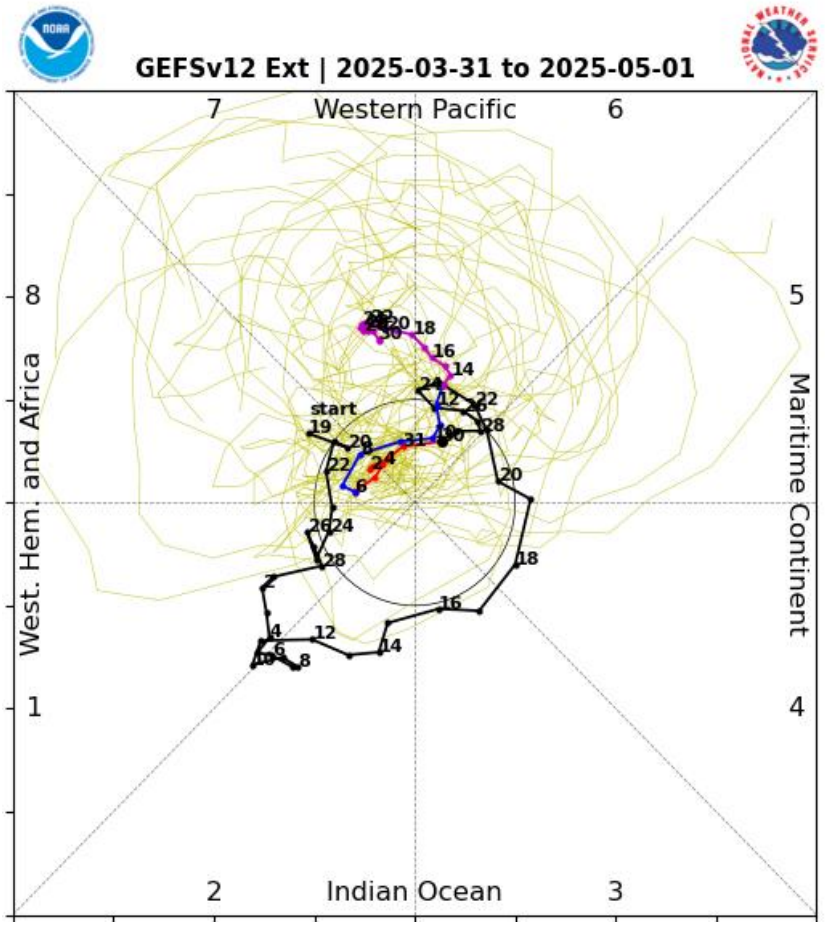


- GEFS differs from ECMWF with an envelope of enhanced divergence remaining over the Maritime Continent and a Wave-1 pattern emerging by Week-3.
- This is enhanced by a different Low frequency signal remaining in the GEFS.

RMM Index Observations & Forecasts:

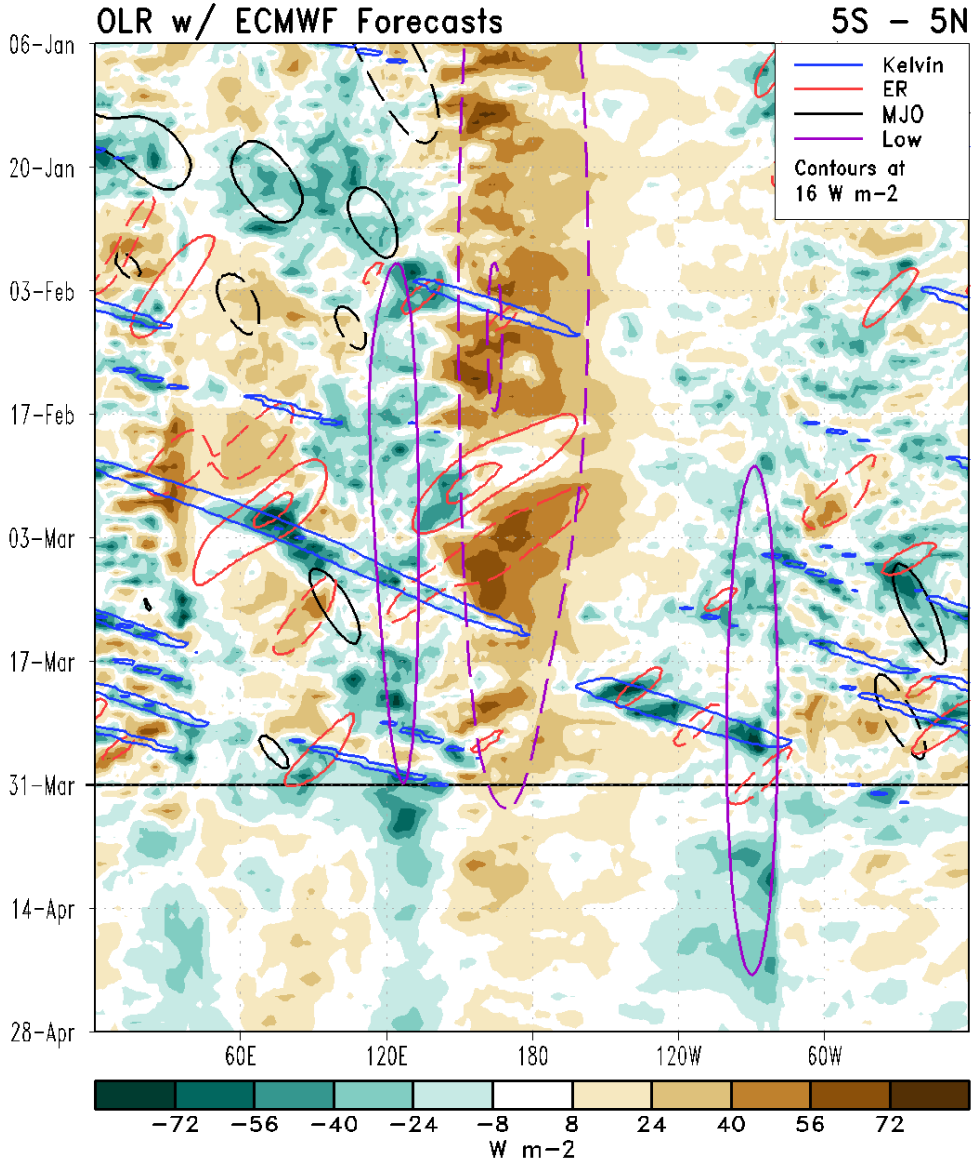


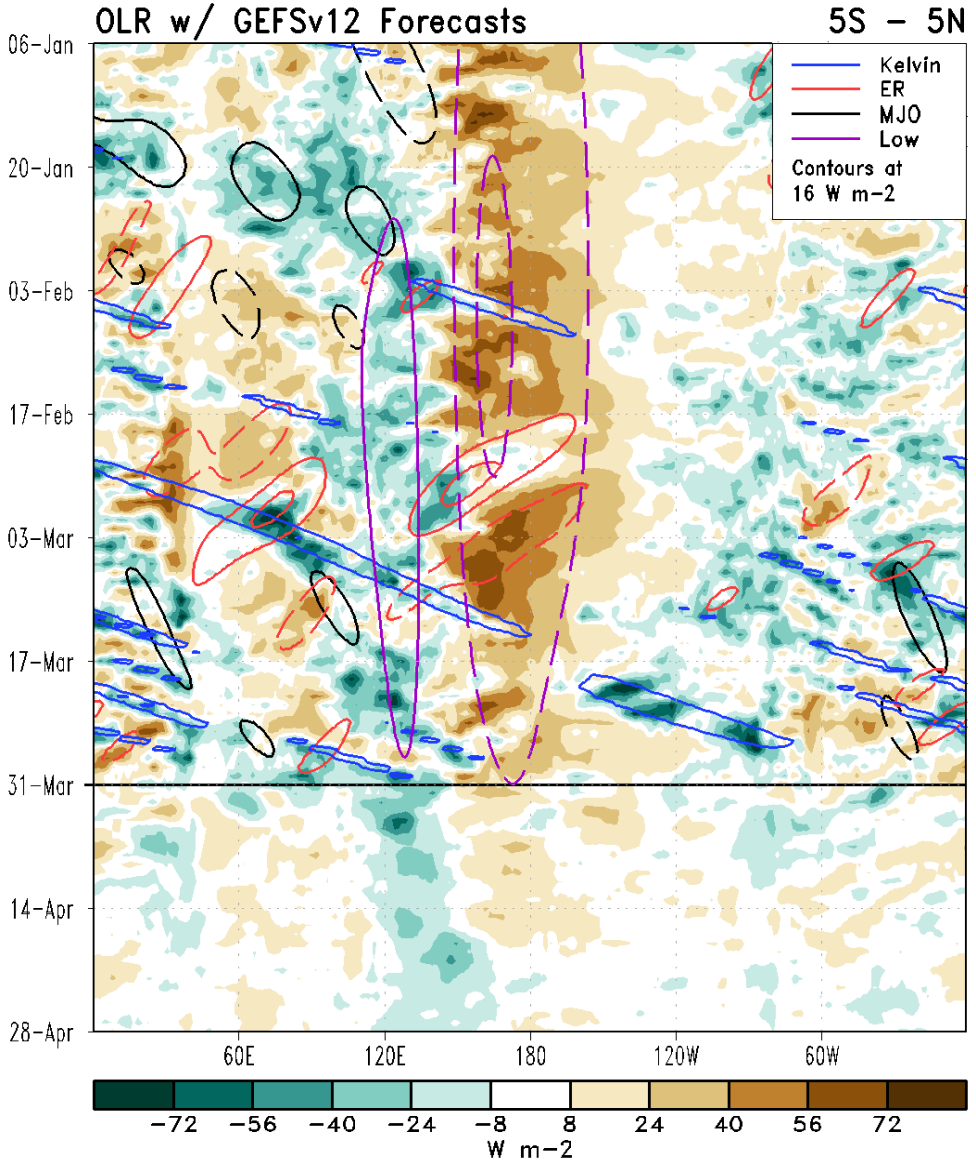




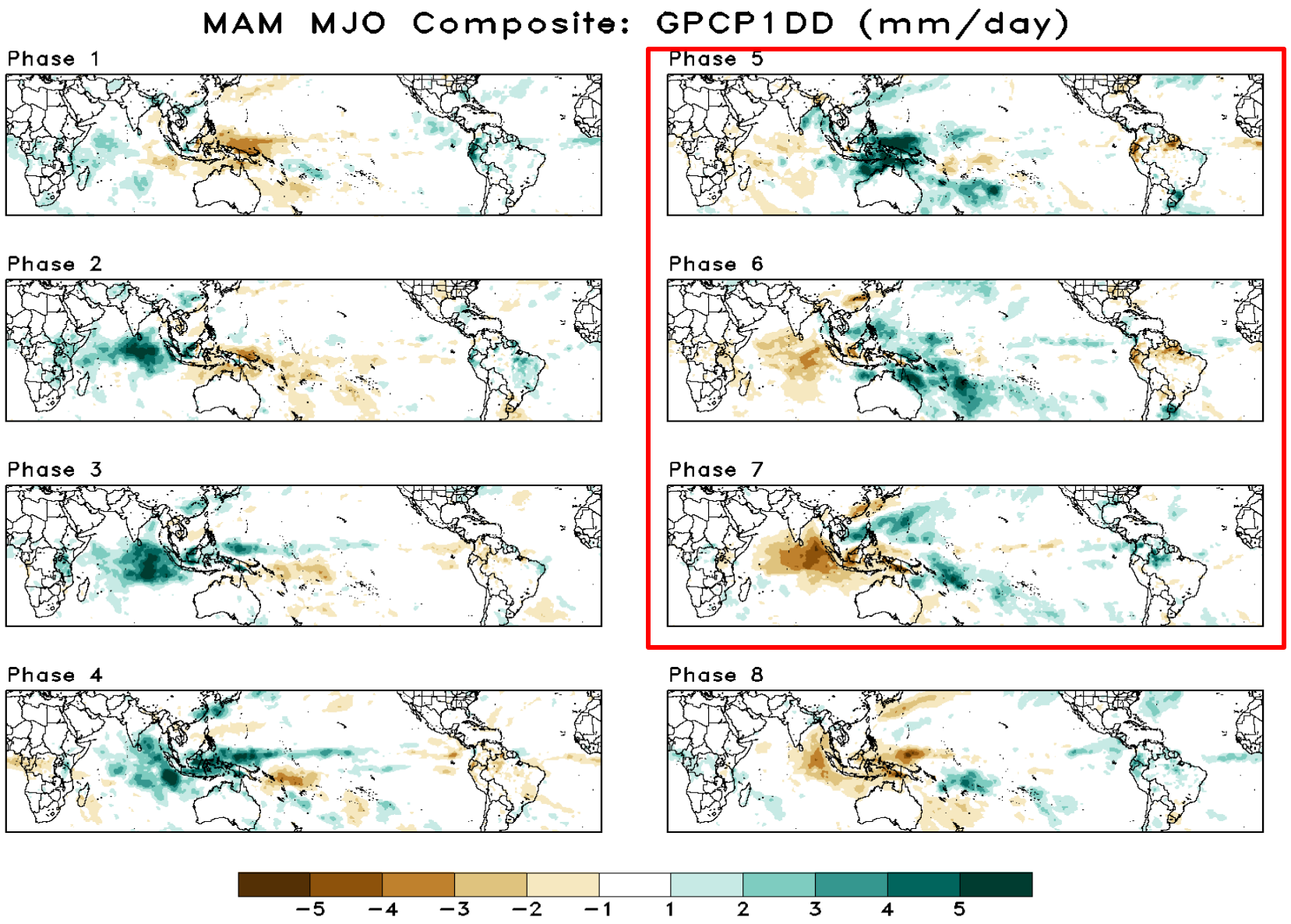
- The ECMWF and GEFS show fairly good agreement with a weak MJO signal propagating eastward towards phase 8 during Week-1 and retrograding westward during Week-2.
- The models diverge at Week-3, with the GEFS showing a strong MJO emerging into Phase 6 and 7 while the ECMWF signal remains inside the unit circle.
- Ensemble spread also remains quite high in later weeks among the dynamical models.

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

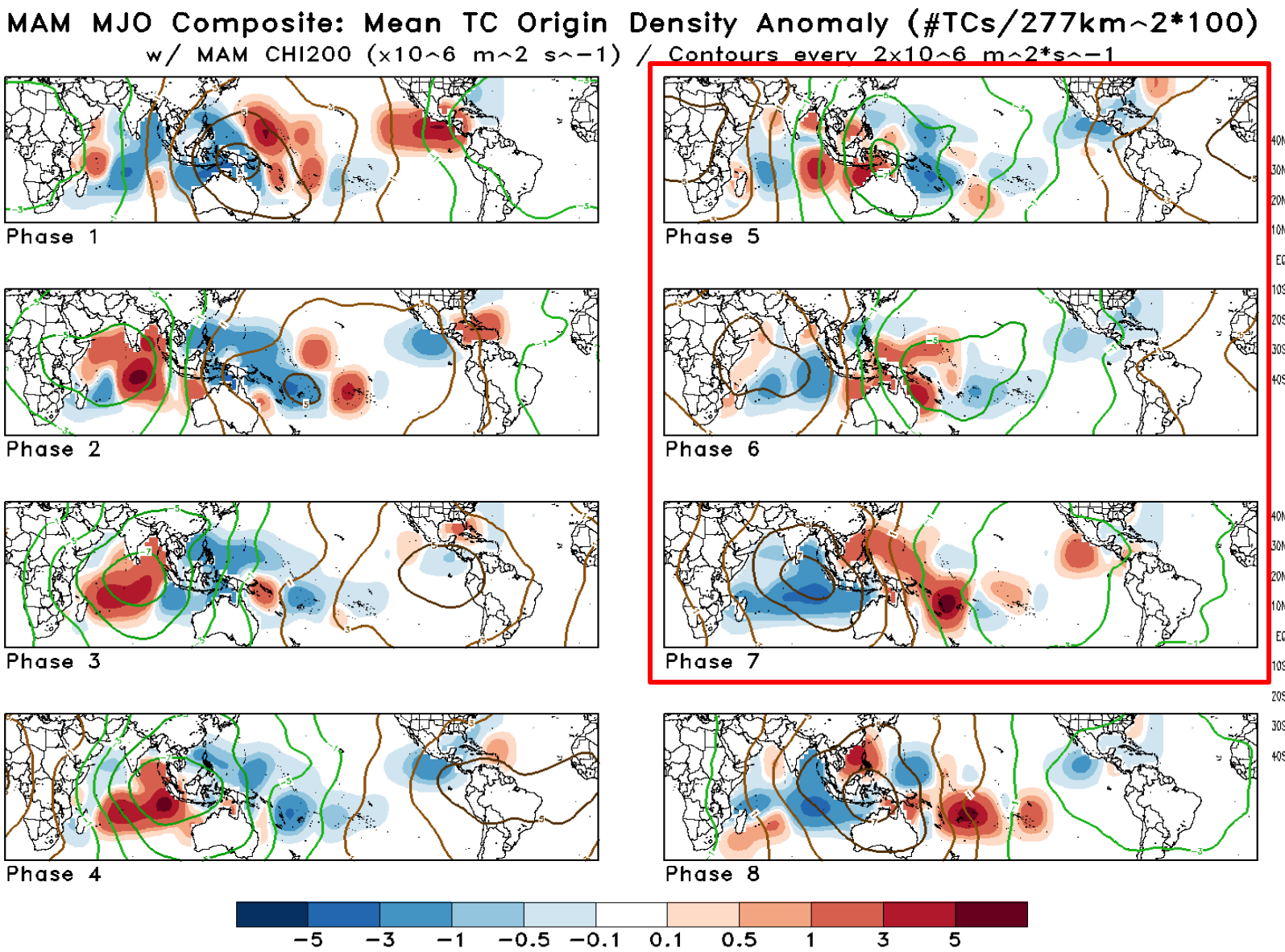


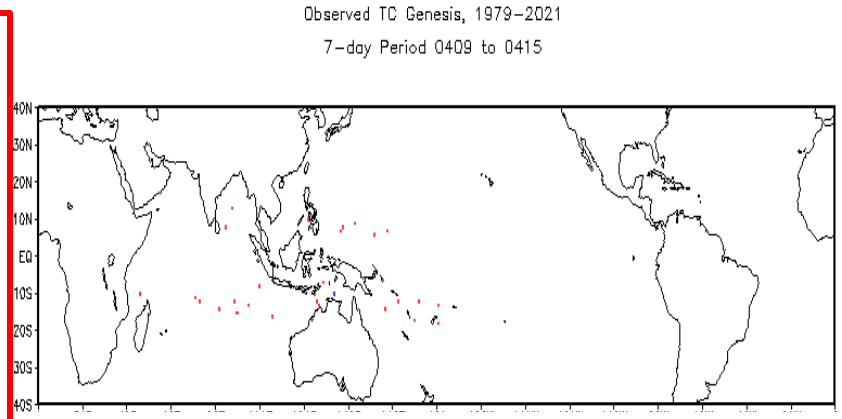


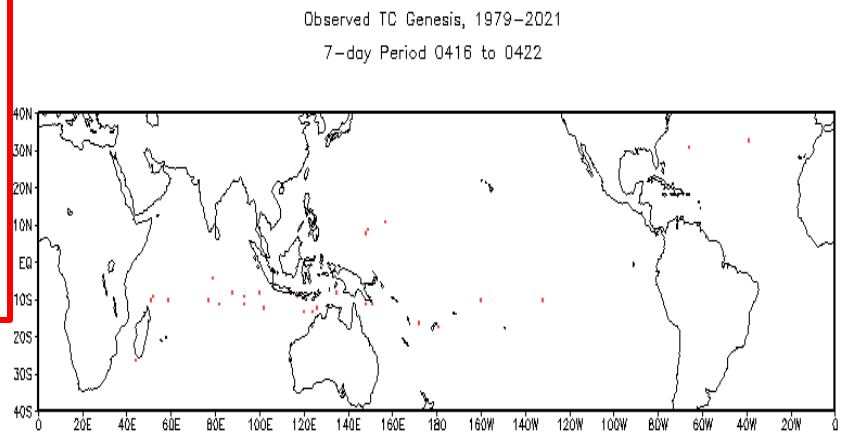
Historical Precipitation Anomalies By MJO Phase:



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

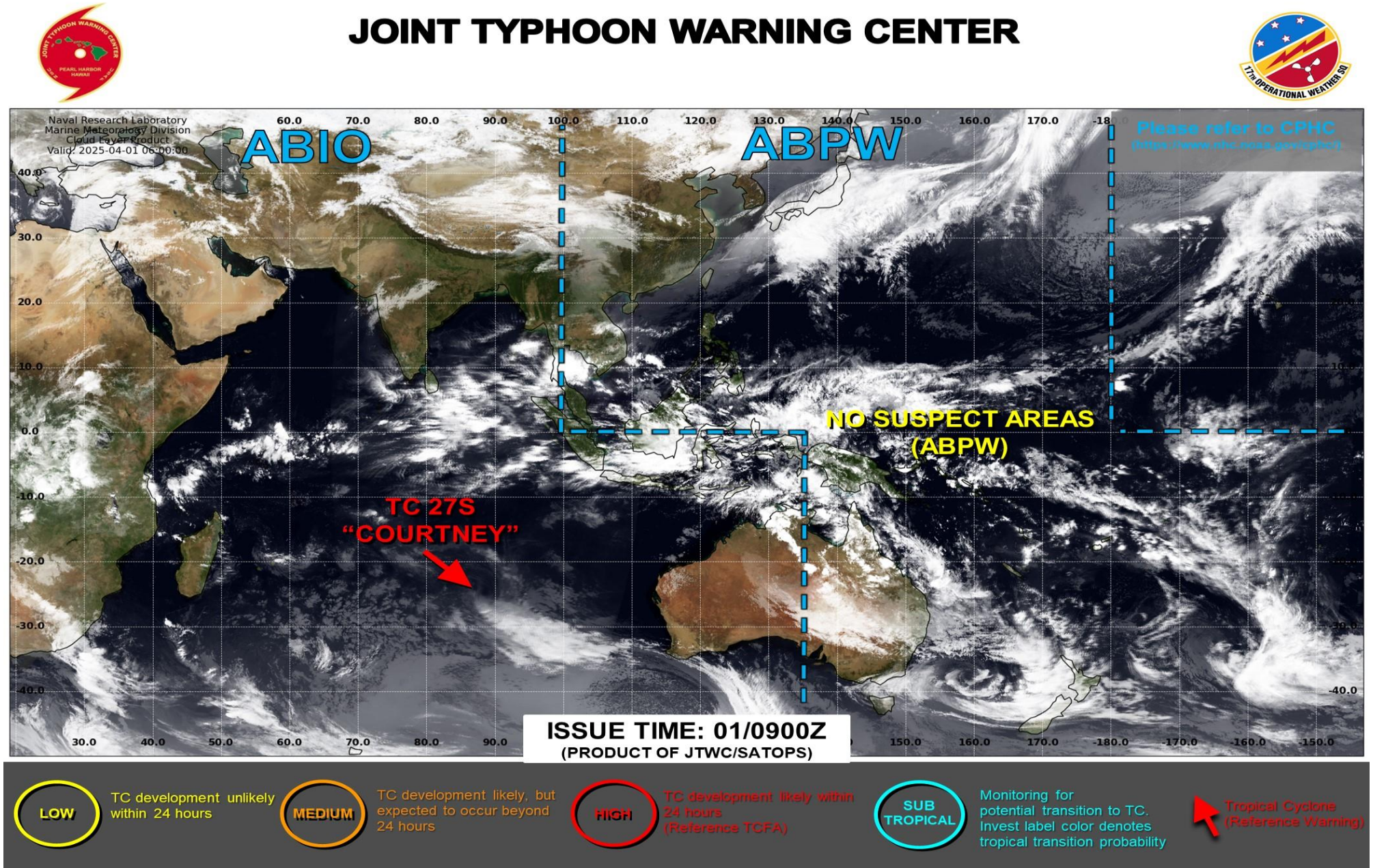


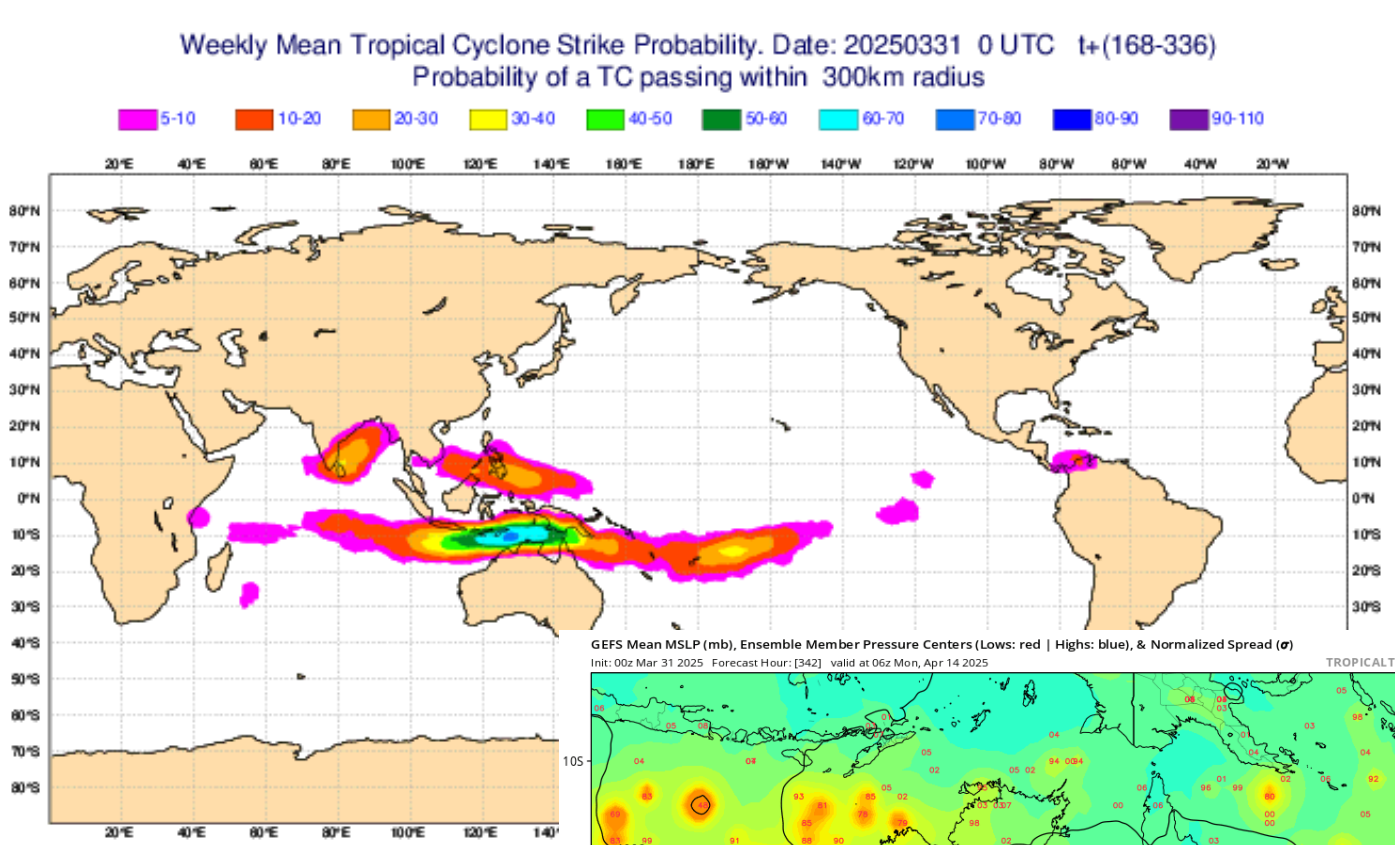


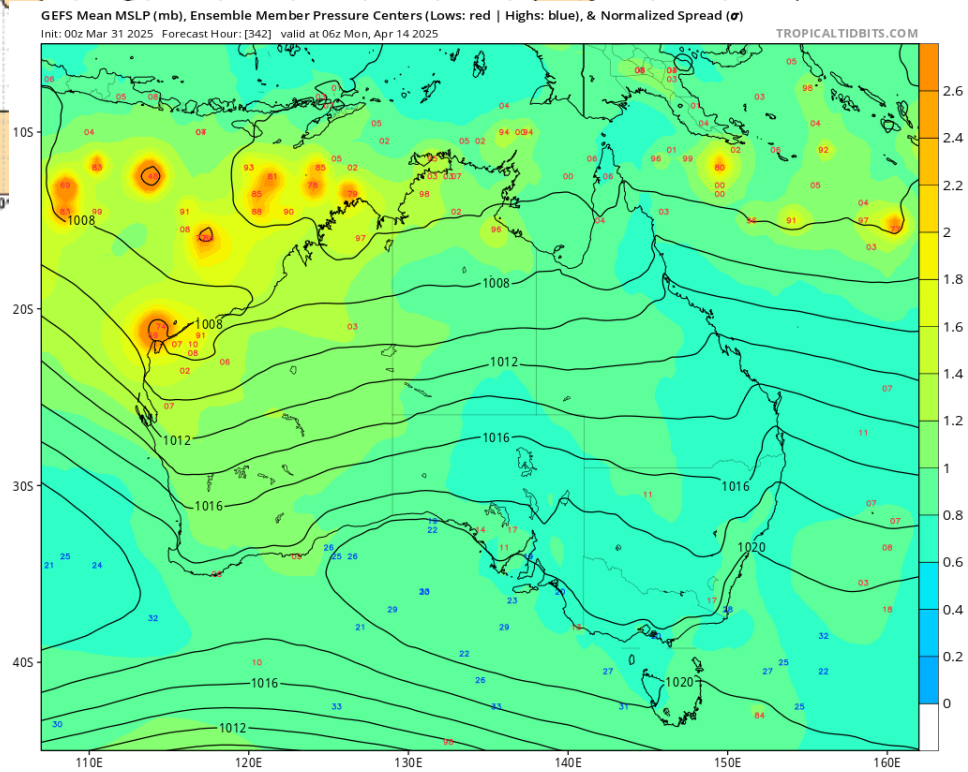


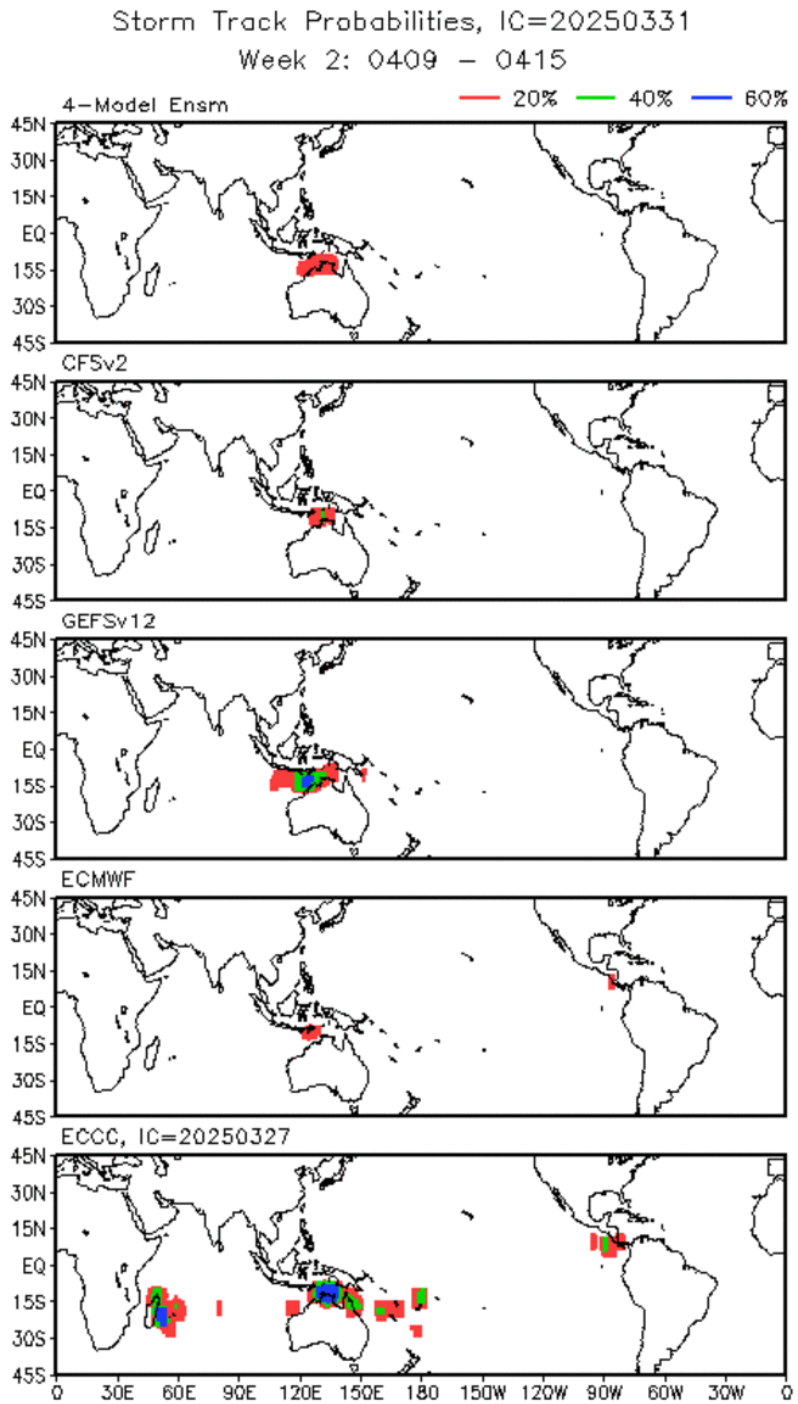
Experimental

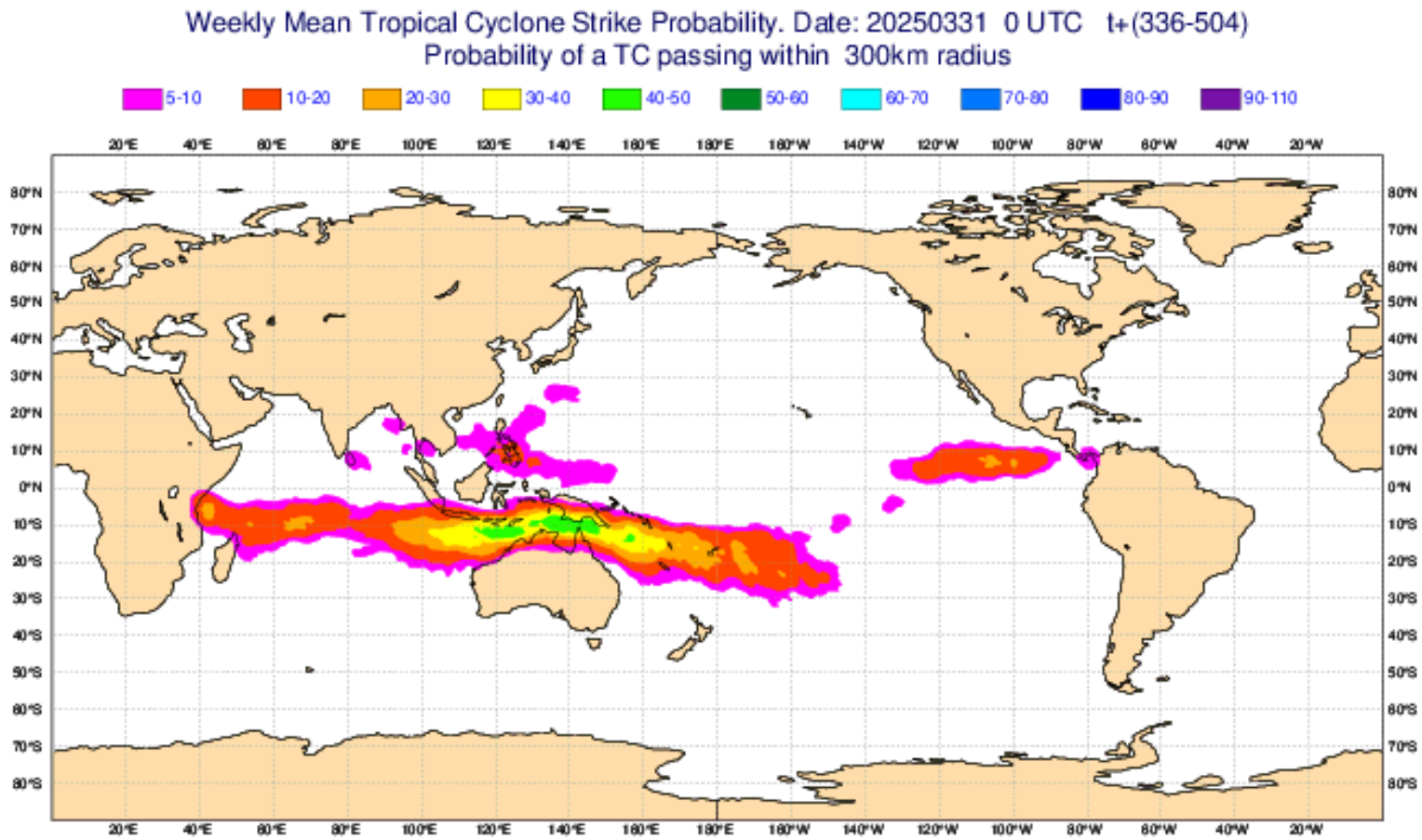
Tropical Cyclone Monitoring/Forecast: JTWC




Weekly Mean Tropical Cyclone Strike Probability. Date: 20250331 0 UTC t+(168-336)
Probability of a TC passing within 300km radius
5-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-110


GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)
Init: 00z Mar 31 2025 Forecast Hour: [342] valid at 06z Mon, Apr 14 2025
TROPICALTIDBITS.COM


Storm Track Probabilities, IC=20250331
Week 2: 0409 – 0415
4-Model Ensm
20%
40%
60%
CFSv2
GEFSv12
ECMWF
ECCC, IC=20250327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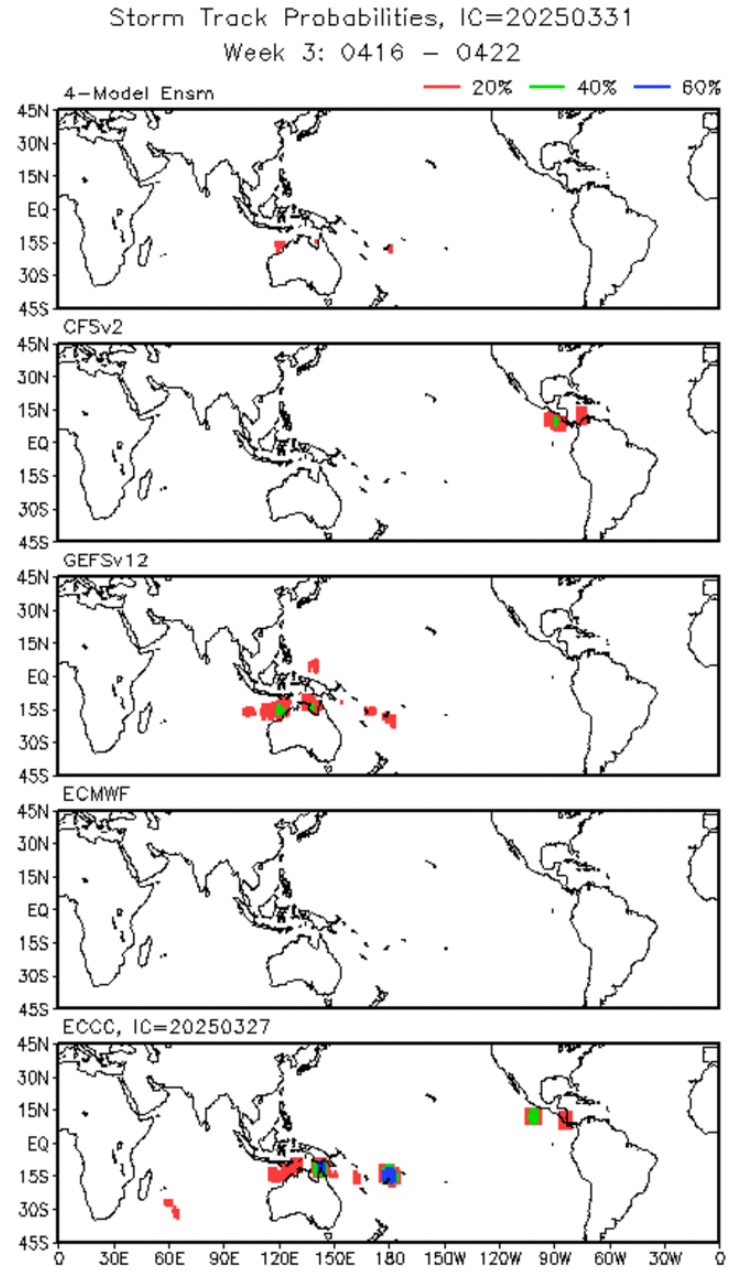
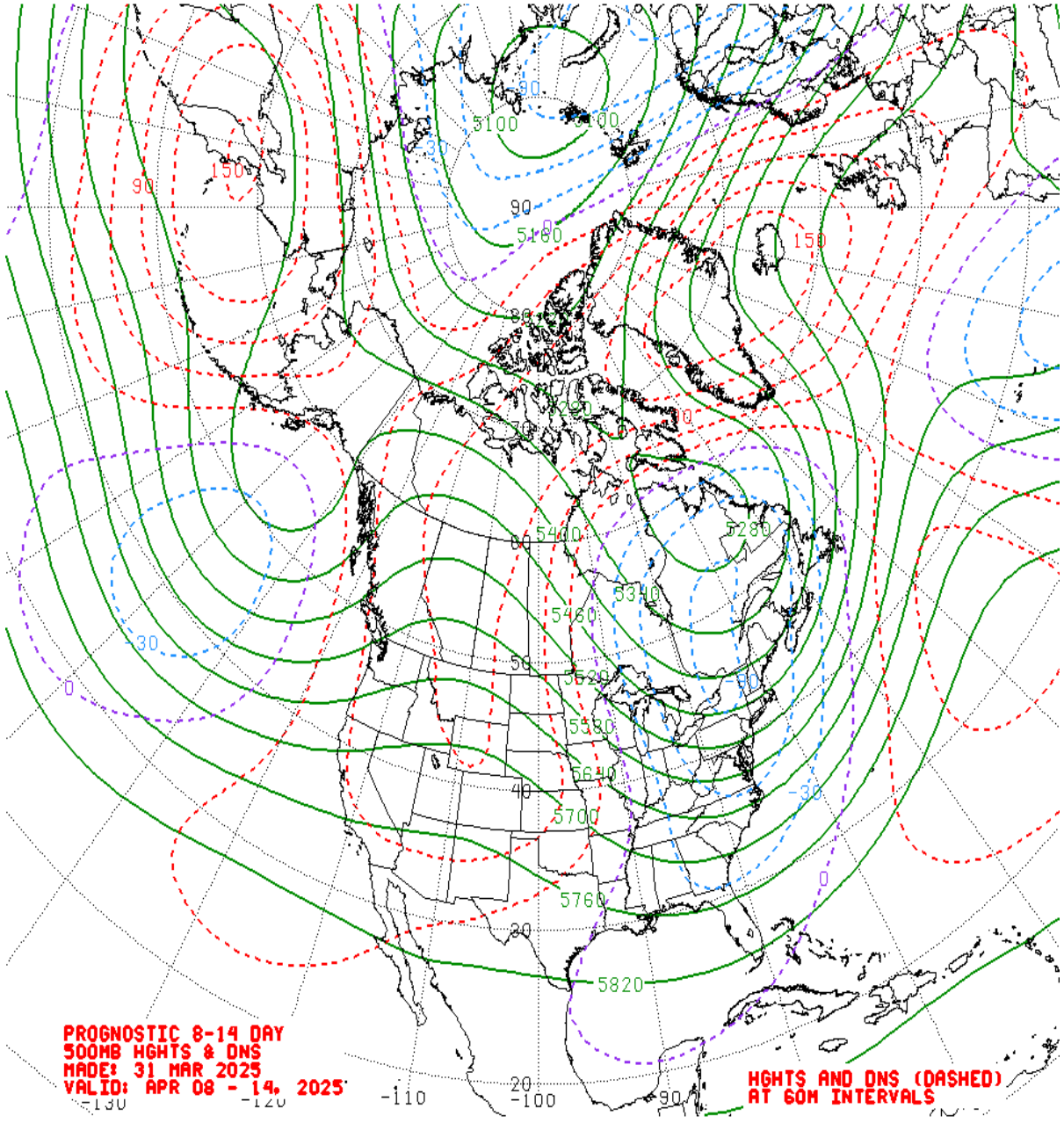
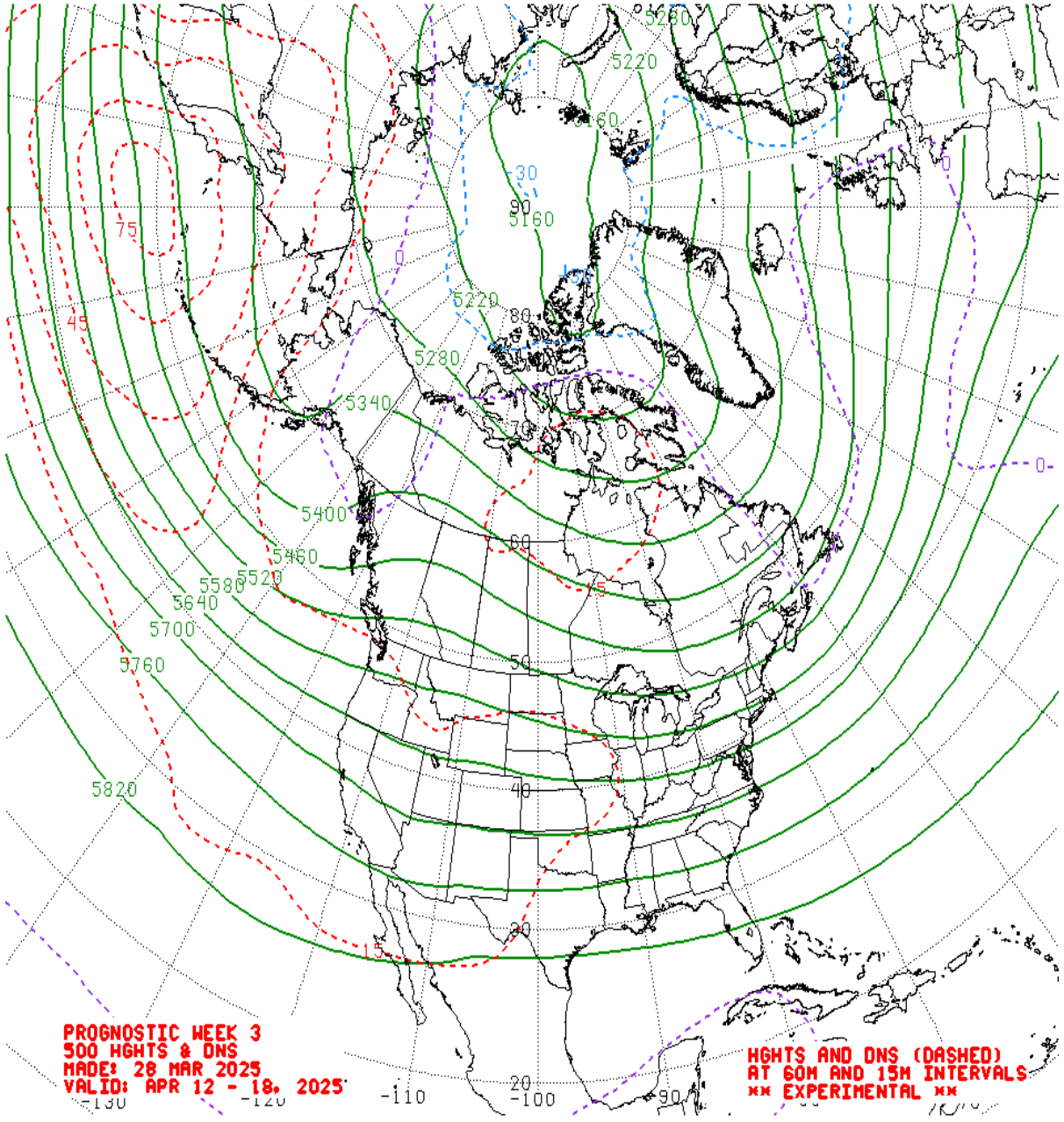
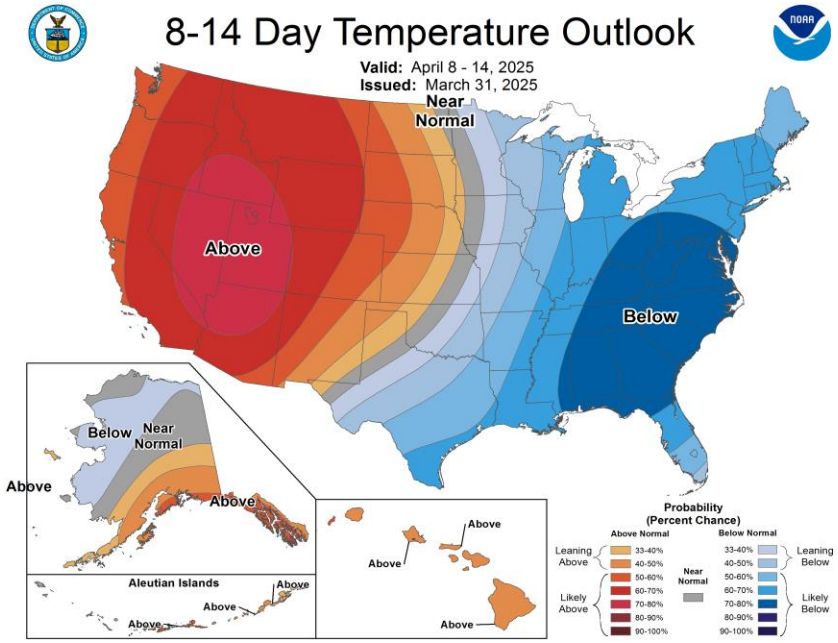

Storm Track Probabilities, IC=20250331
Week 3: 0416 – 0422
4-Model Ensm
20%
40%
60%
CFSv2
GEFSv12
ECMWF
ECCC, IC=20250327

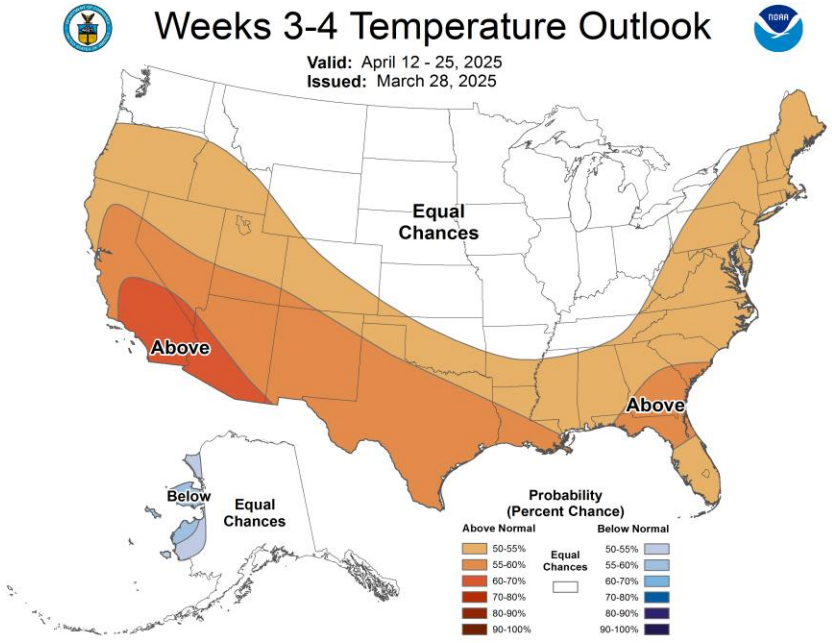
Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3

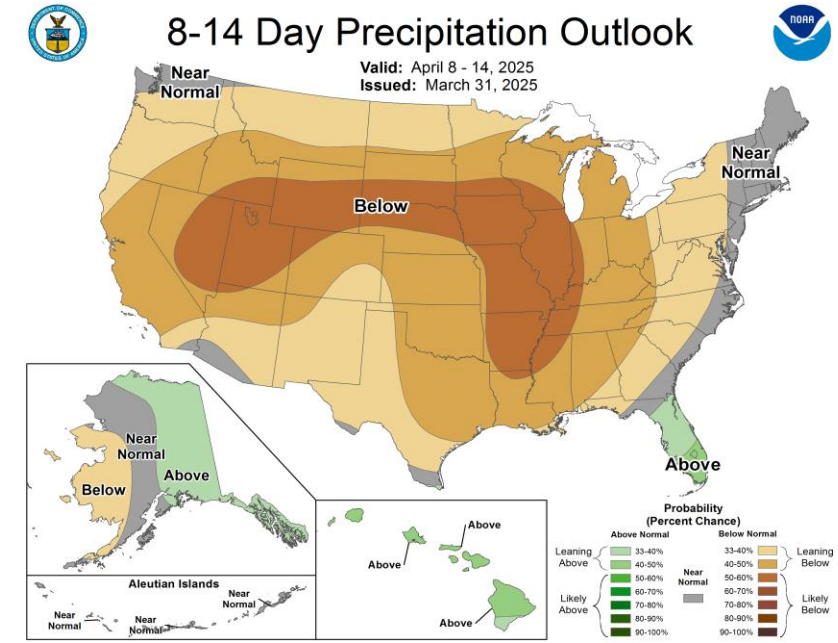


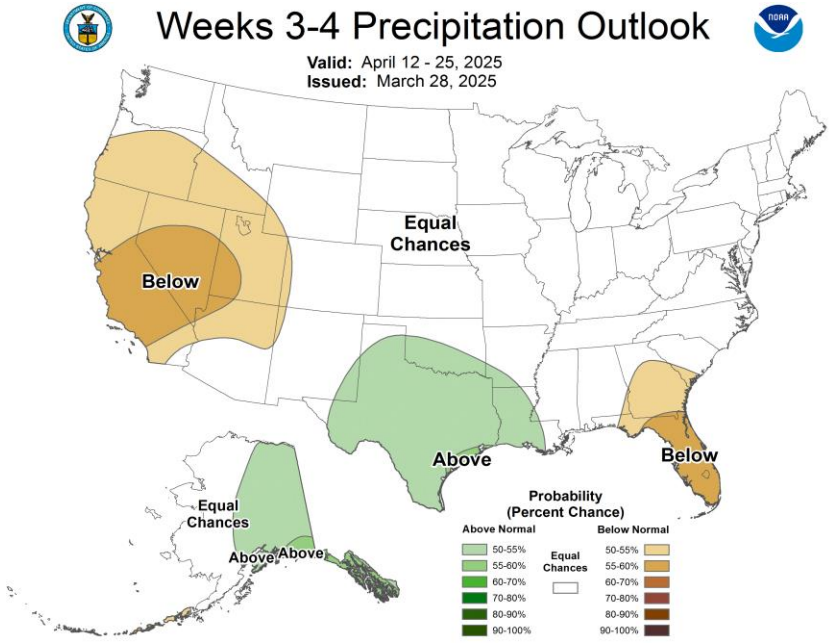


Official Temperature & Precipitation Forecasts:









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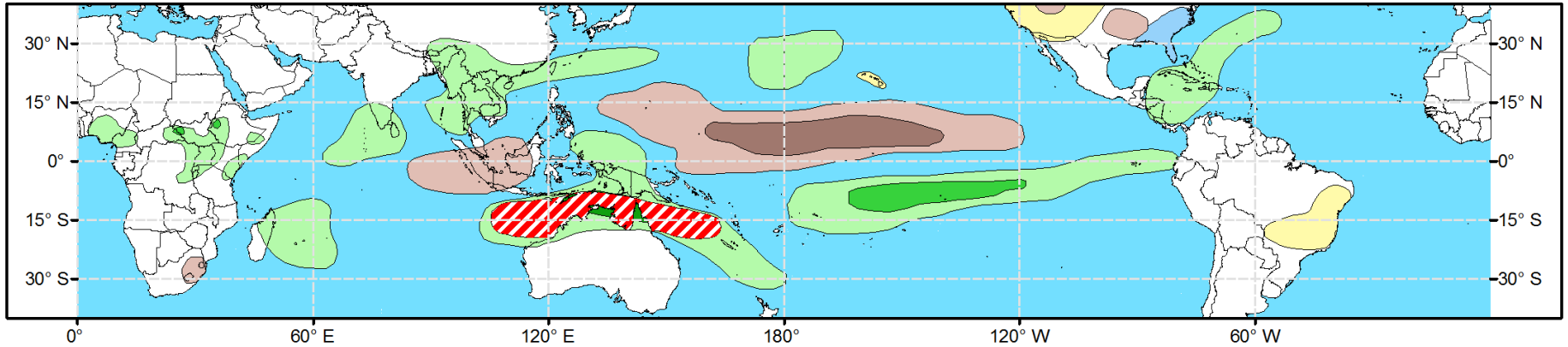

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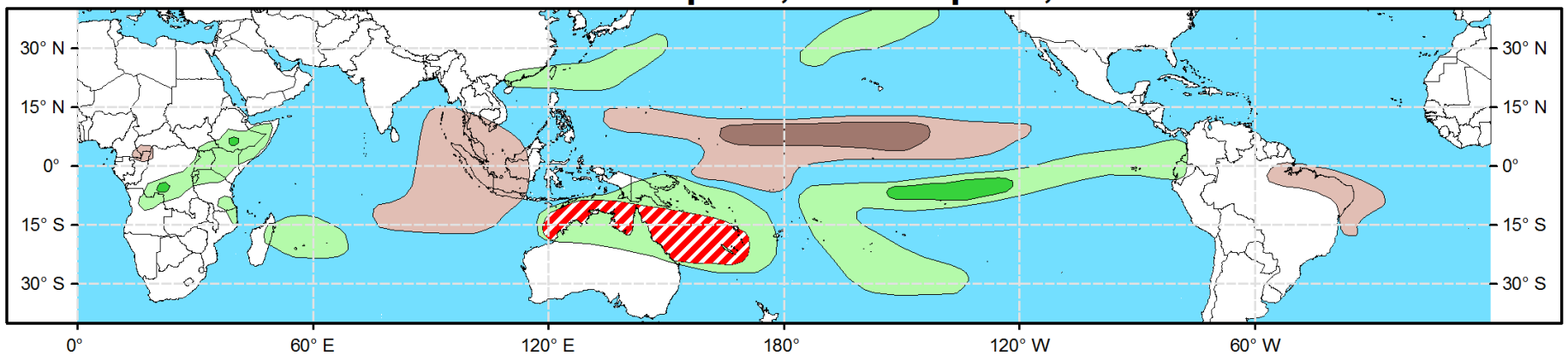

Tropical Cyclone (TC) Formation Probability

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