



Weeks 2-3 Global Tropics Hazards Outlook

10/22/2024

Brad Pugh

NWS / NCEP / Climate Prediction Center

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

Atlantic Basin

Tropical Storm Nadine and
Hurricane Oscar

East Pacific

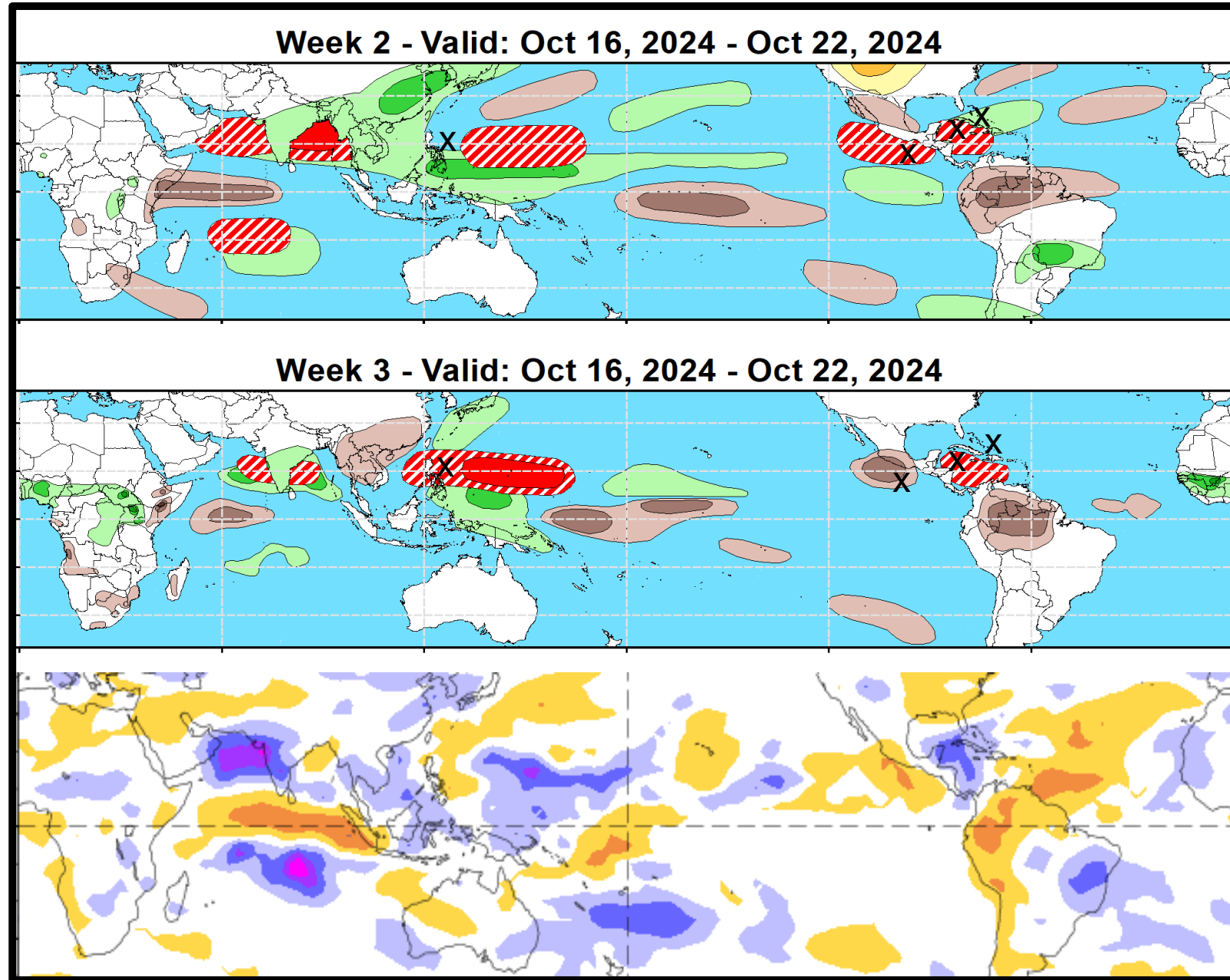
Hurricane Kristy

West Pacific

Tropical Storm Trami

Bay of Bengal

TC development imminent



Synopsis of Climate Modes:

ENSO: (Oct 10, 2024 Update) *next update on Thursday, Nov 14th*

- ENSO Alert System Status: [La Niña Watch](#)
- La Niña is favored to emerge in September-November (60% chance) and is expected to persist through January-March 2025.

MJO and other subseasonal tropical variability:

- The MJO recently completed a circumnavigation of the global tropics with its enhanced phase over the Maritime Continent and West Pacific.
- A robust MJO is forecast to propagate eastward over the western Hemisphere and return to Africa and the Indian Ocean by mid-November.
- **Caribbean Sea:** expecting one or two tropical cyclones to develop across the Caribbean Sea through early to mid-November
- **West Pacific:** remaining active through the beginning of November and then a less active period

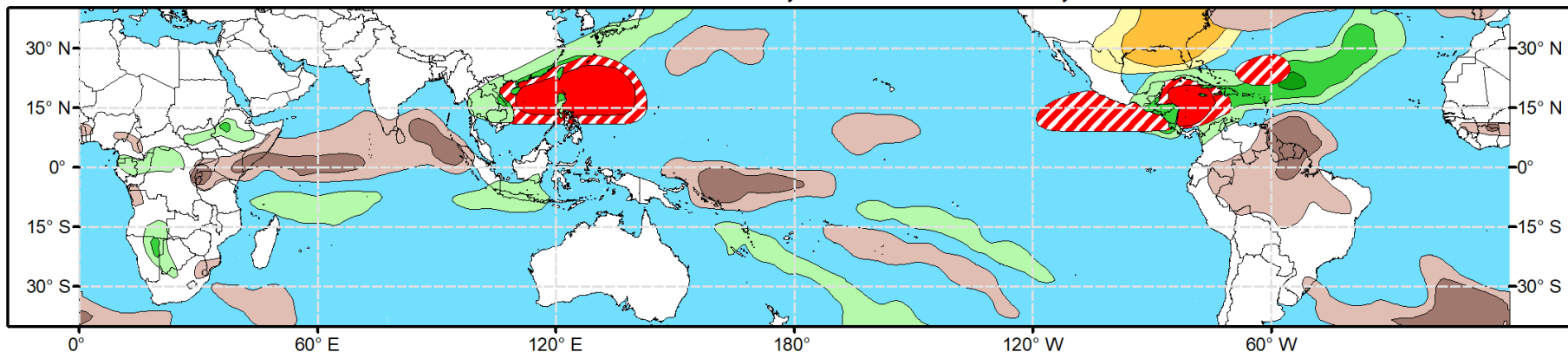


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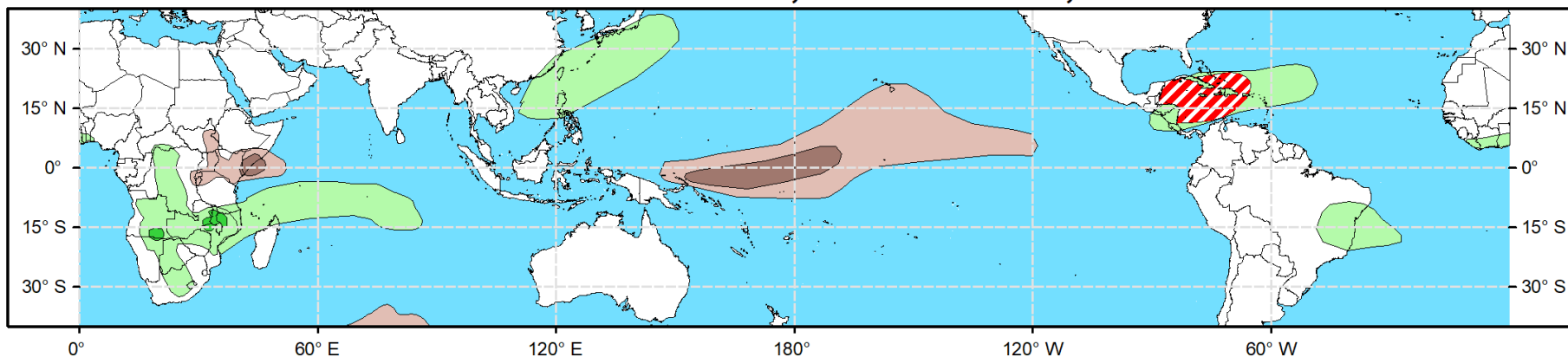
Climate Prediction Center



Week 2 - Valid: Oct 30, 2024 - Nov 05, 2024



Week 3 - Valid: Nov 06, 2024 - Nov 12, 2024



**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**



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*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
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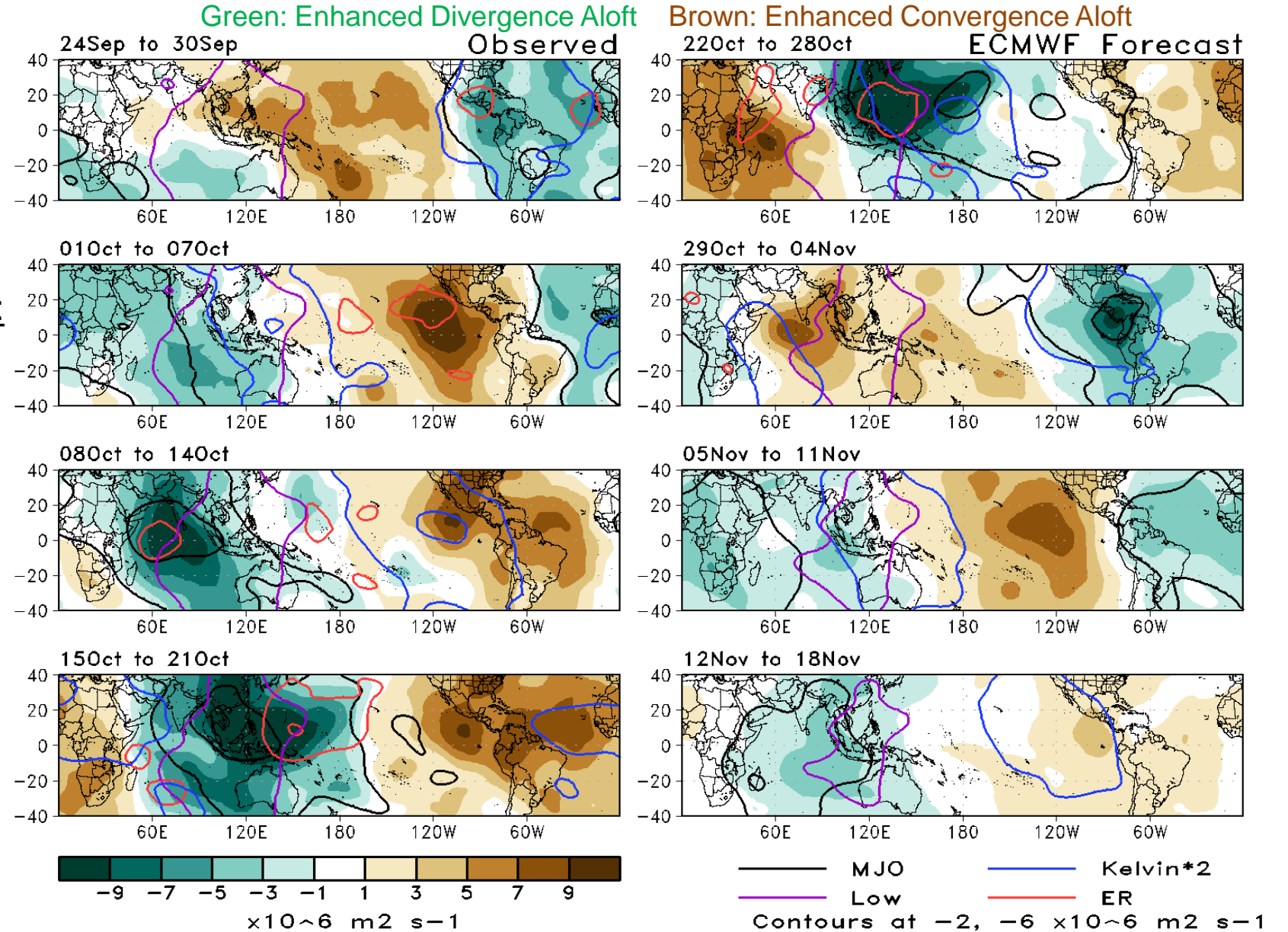
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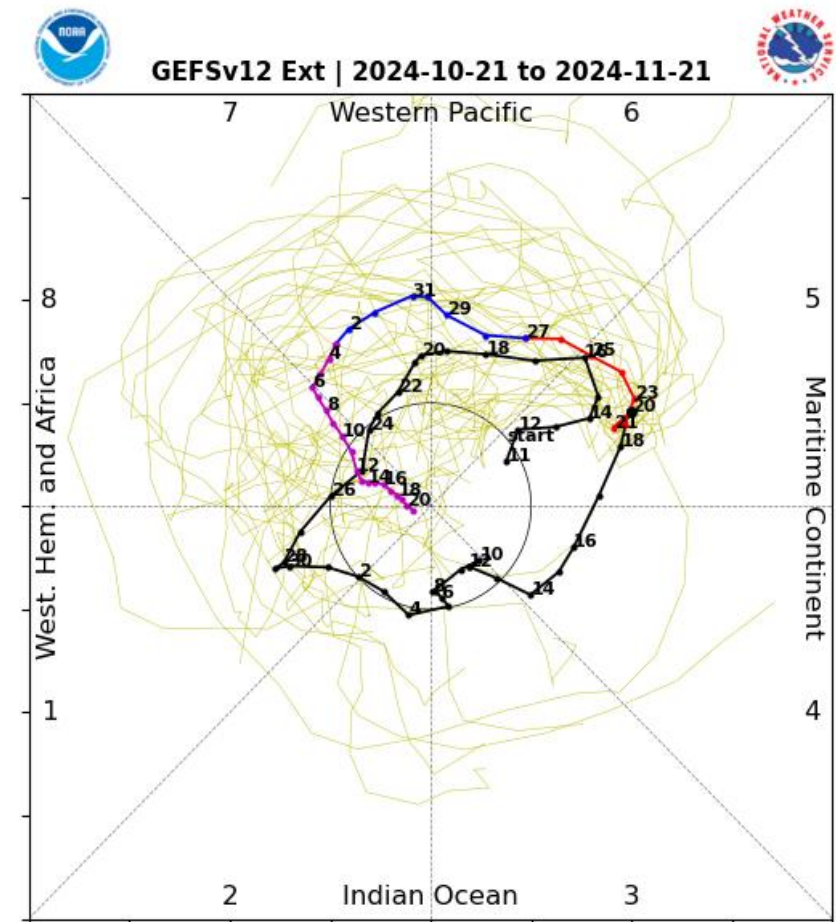
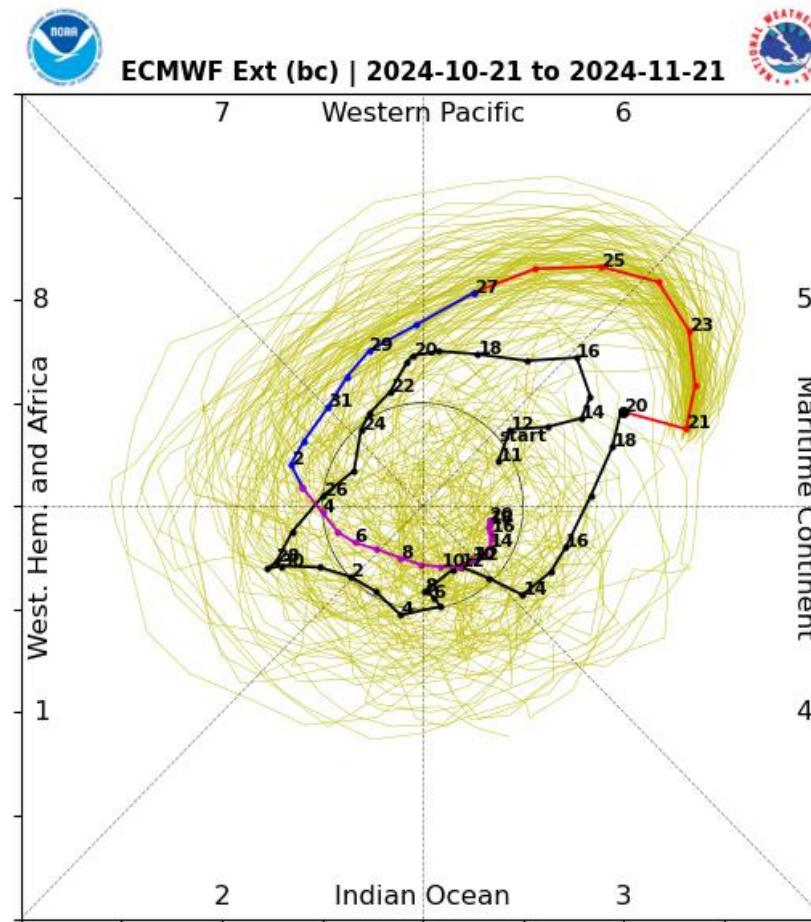
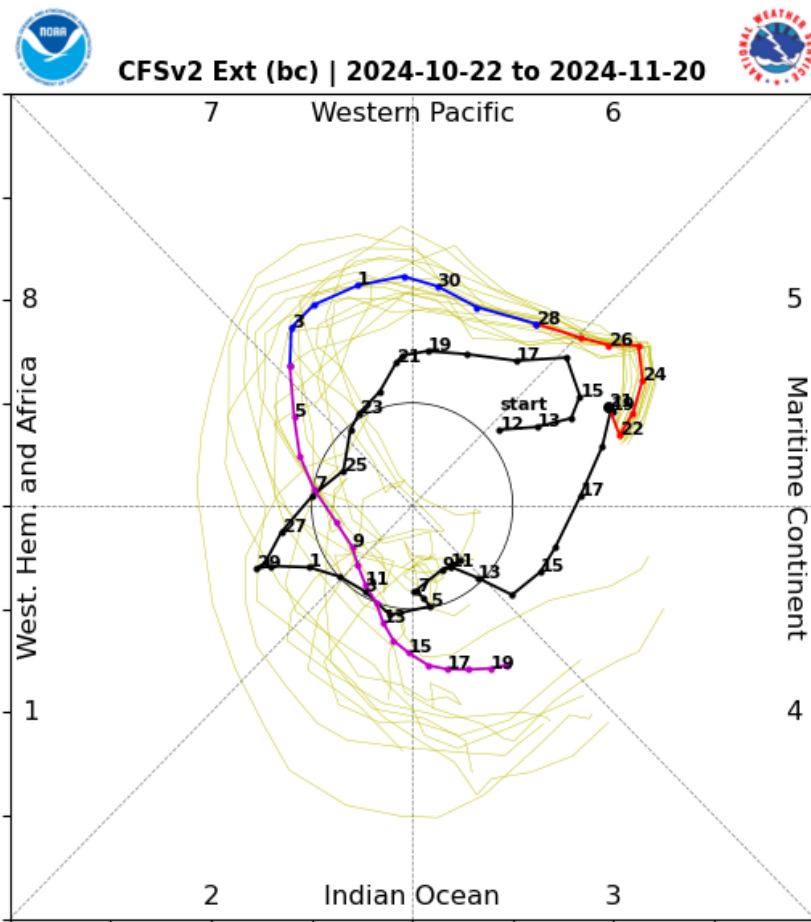
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200-hPa Velocity Potential Anomaly Maps:

- Mid-October: Strengthening MJO as it shifted east to the Maritime Continent
- Late October to early November: Enhanced phase overspreading the western Hemisphere while the West Pacific transitions to the suppressed phase



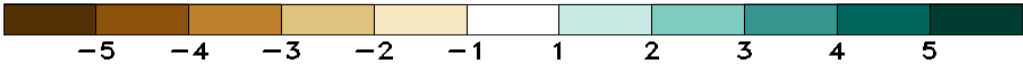
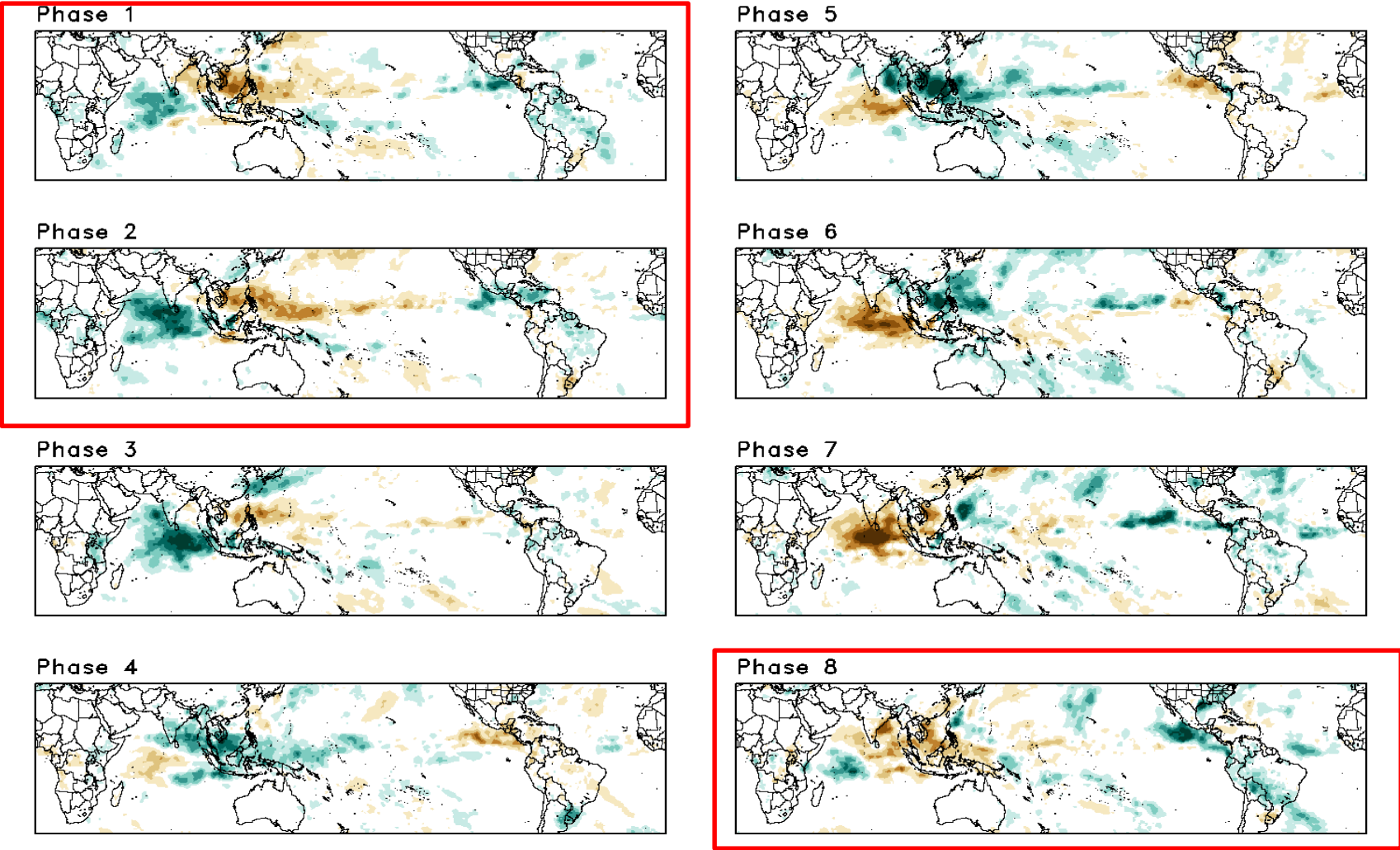
RMM Index Observations & Forecasts:



- CFS, ECMWF ensemble mean, and GEFS are in good agreement and consistent with continued eastward propagation
- Relatively low ensemble spread through the end of October with increasing spread on the MJO amplitude by mid-November

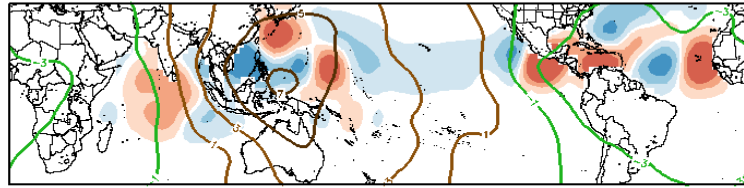
Historical Precipitation Anomalies By MJO Phase:

SON MJO Composite: GPCP1DD (mm/day)

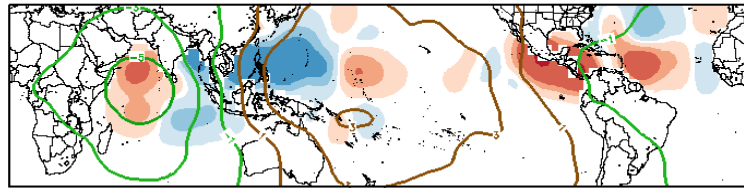


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

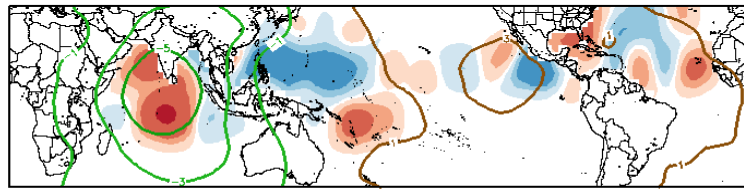
SON MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ SON CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



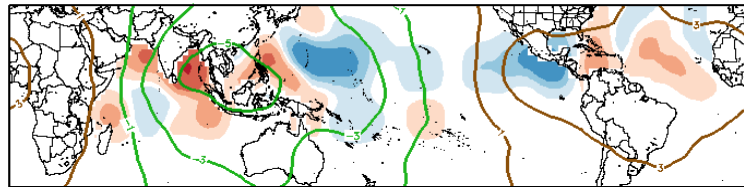
Phase 1



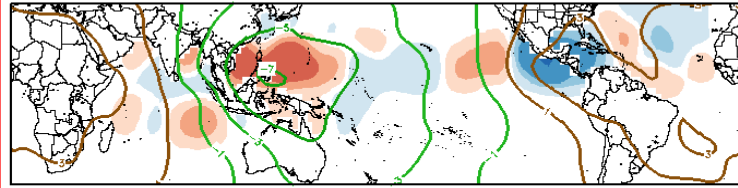
Phase 2



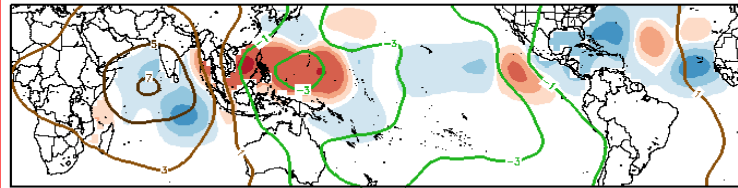
Phase 3



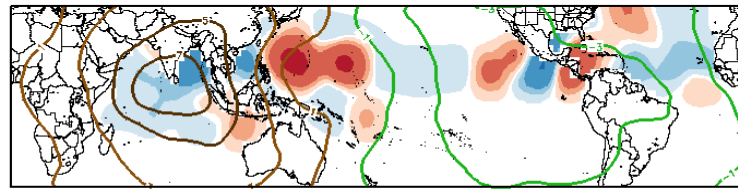
Phase 4



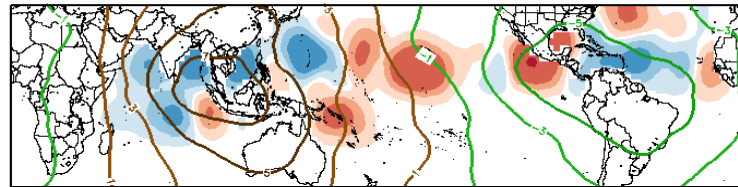
Phase 5



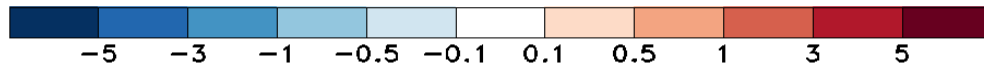
Phase 6



Phase 7

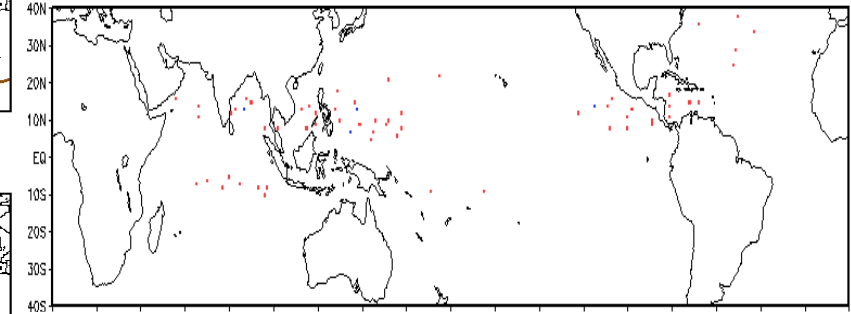


Phase 8

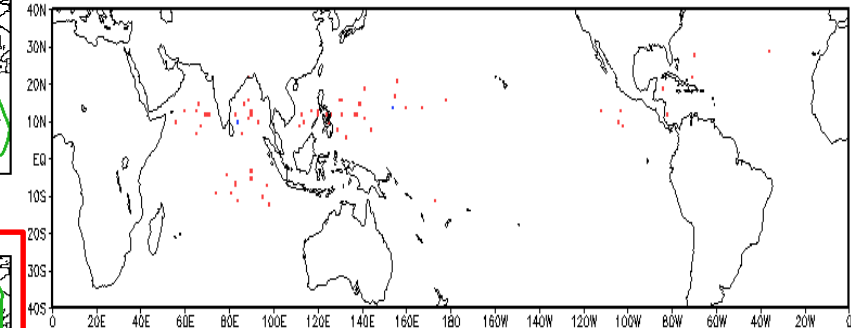


Experimental

Observed TC Genesis, 1979-2021
7-day Period 1030 to 1105



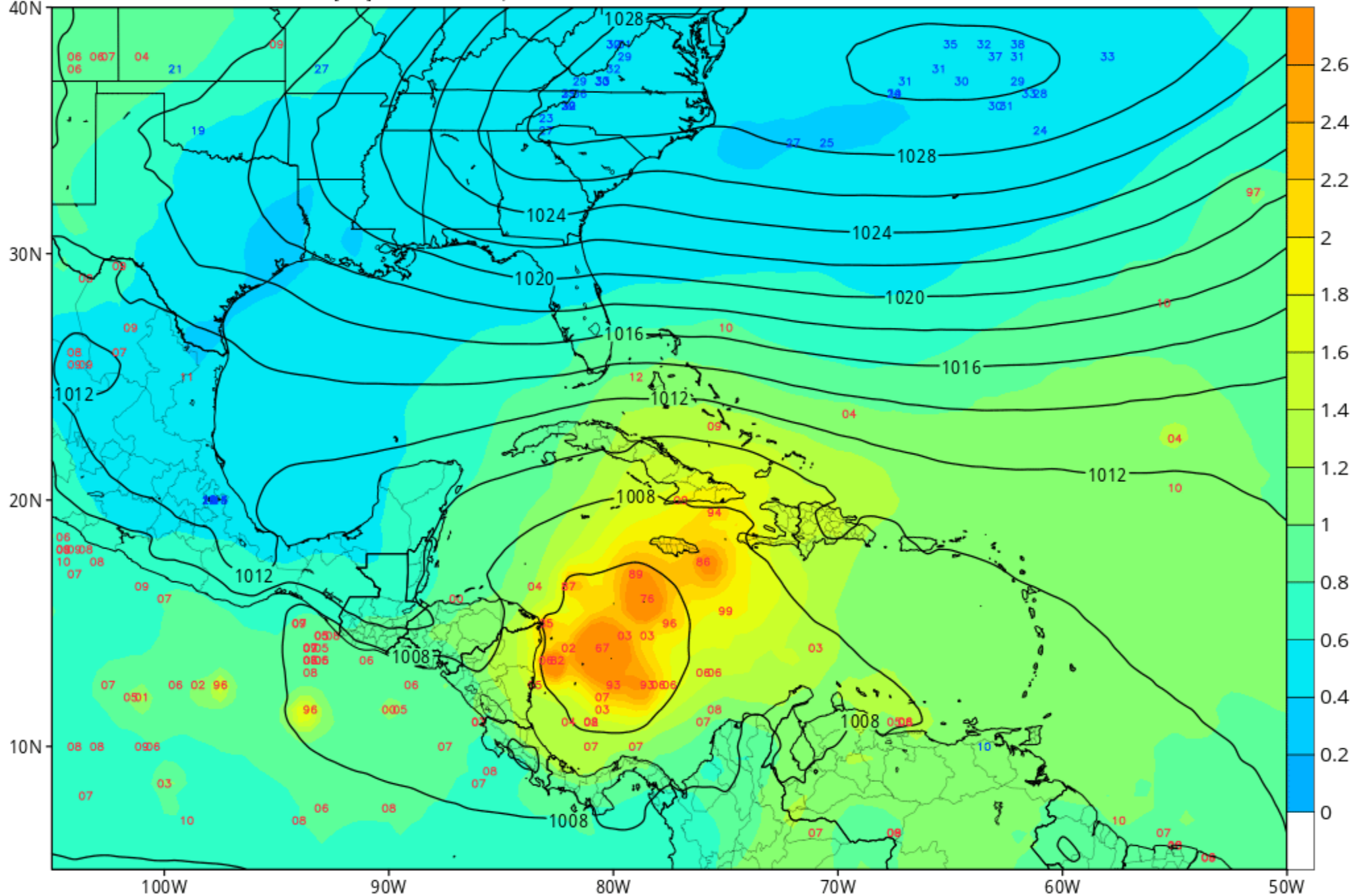
Observed TC Genesis, 1979-2021
7-day Period 1106 to 1112



GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)

Init: 12z Oct 22 2024 Forecast Hour: [216] valid at 12z Thu, Oct 31 2024

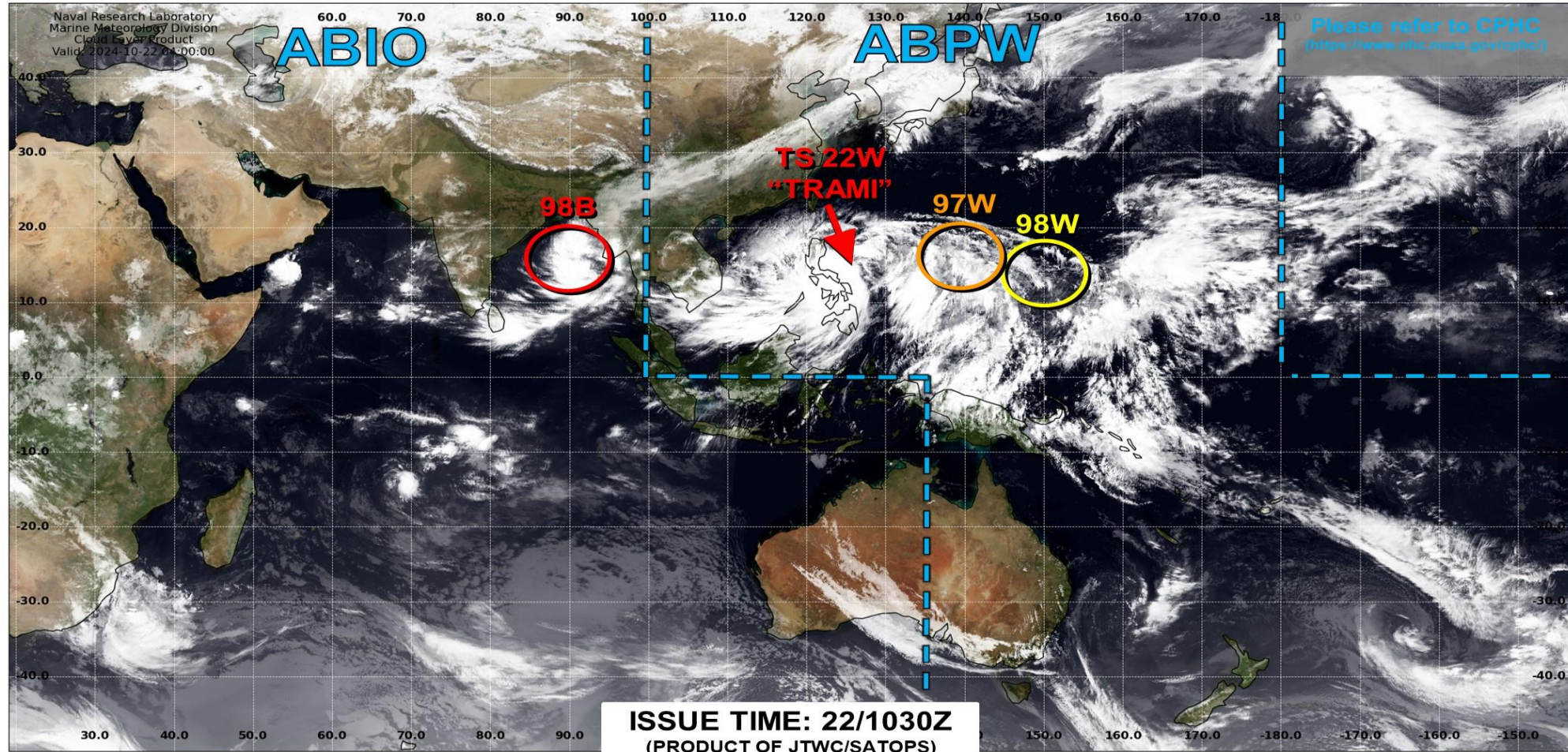
TROPICALTIDBITS.COM



Tropical Cyclone Monitoring/Forecast: JTWC



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)

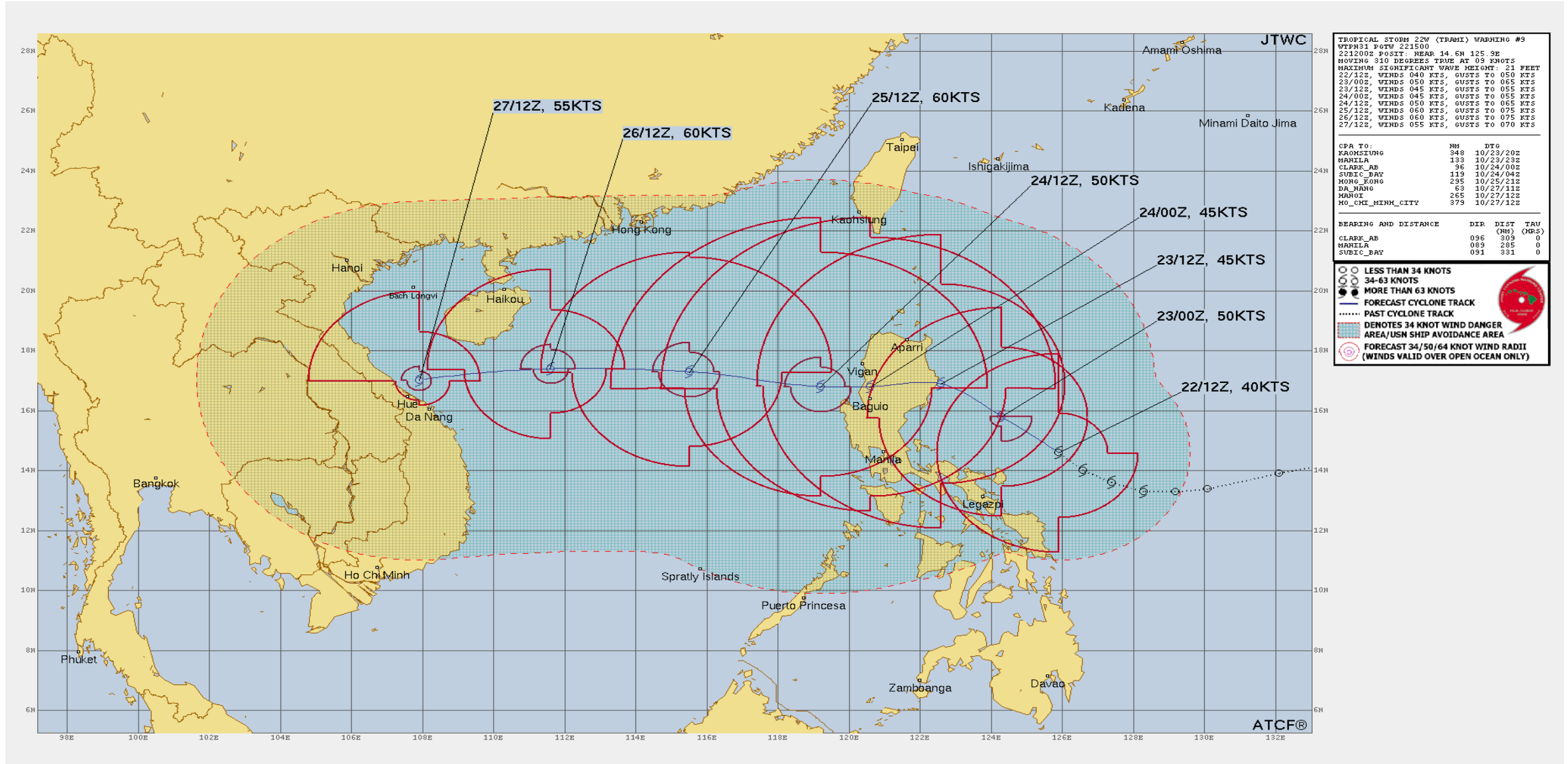


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



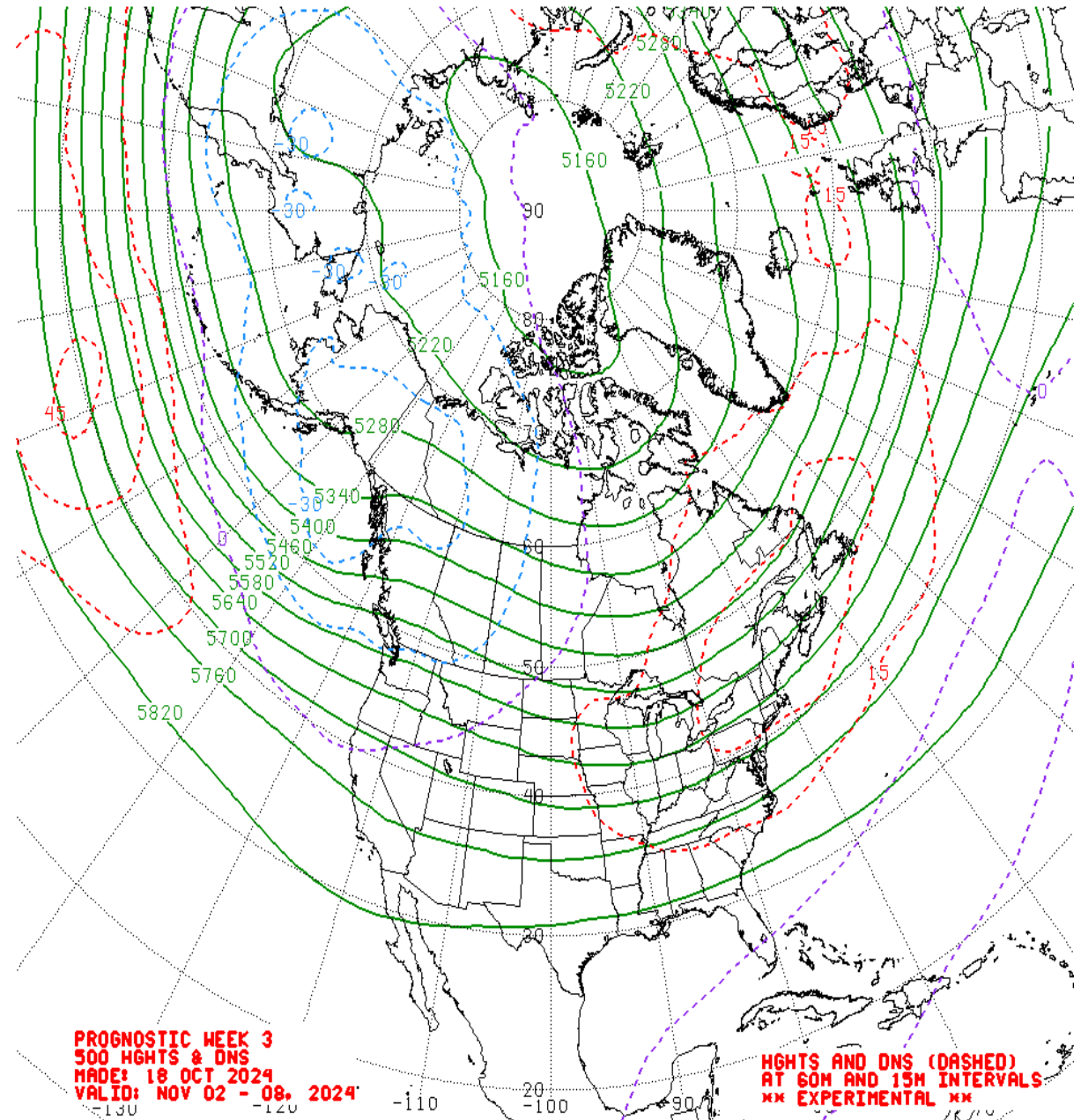
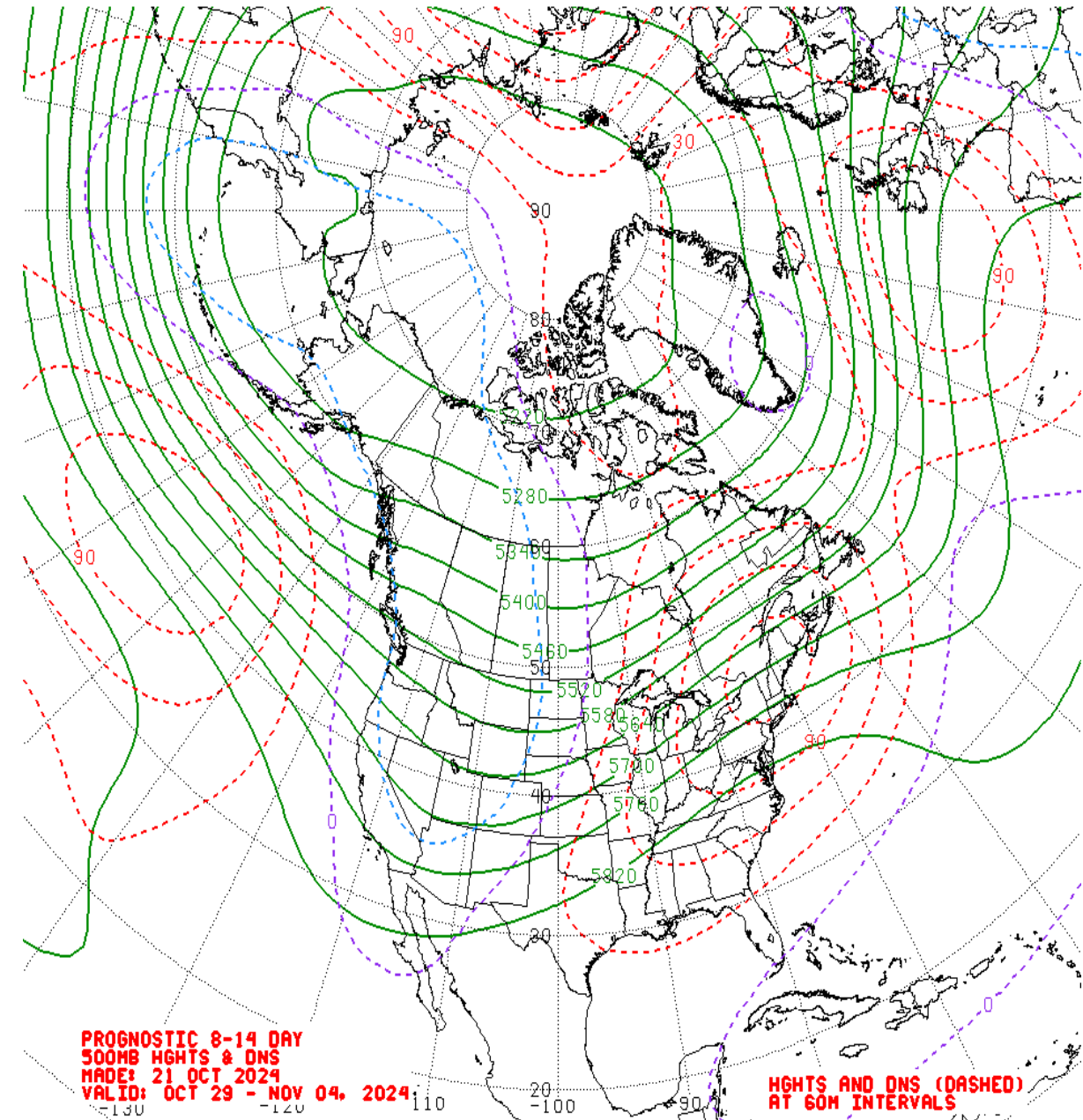
Tropical Cyclone (Reference Warning)

Joint Typhoon Warning Center

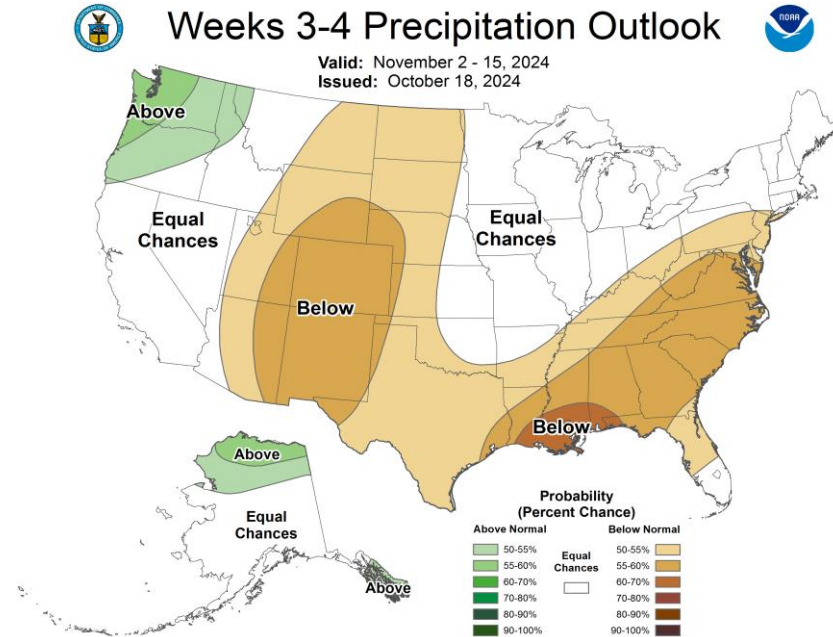
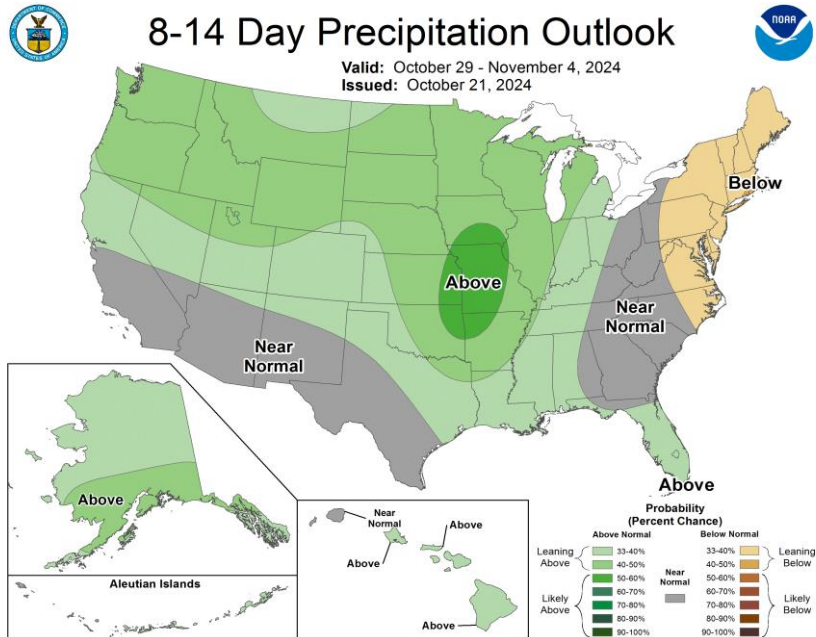
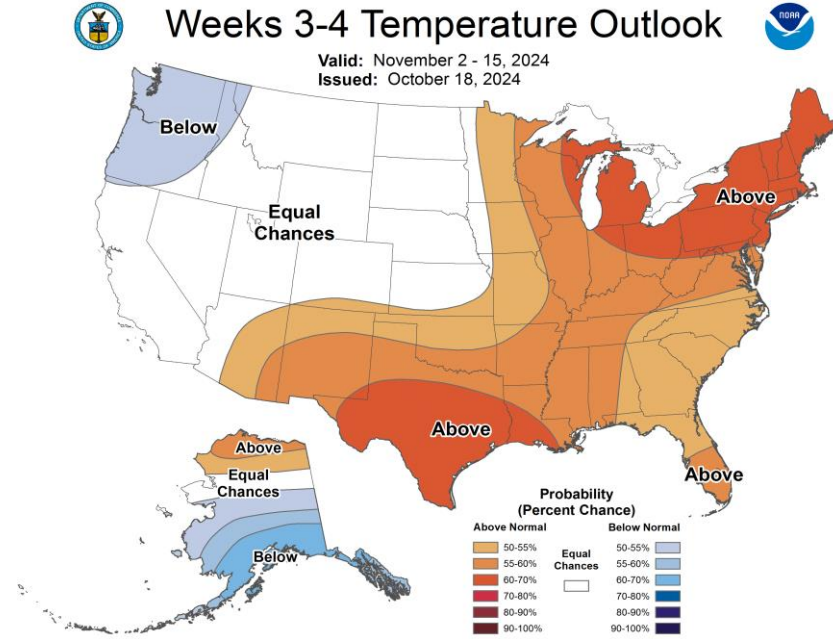
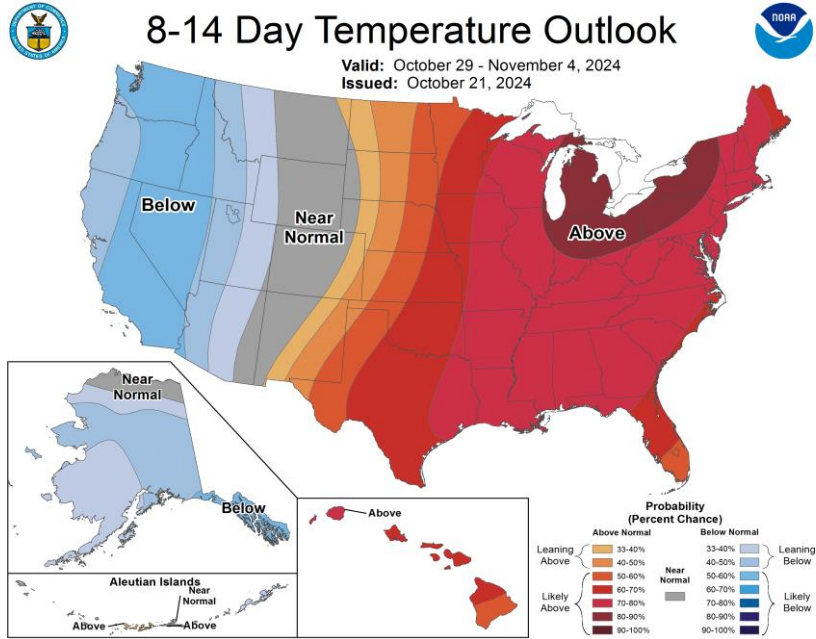


No signs of recurving strong Typhoons over the Northwest Pacific
 CPC forecasters will closely monitor

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



Official Temperature & Precipitation Forecasts:



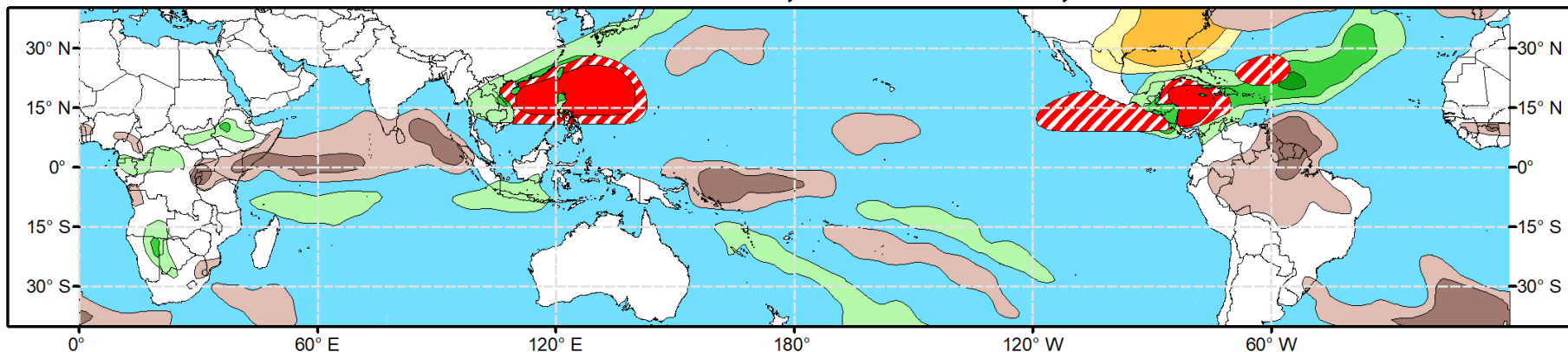


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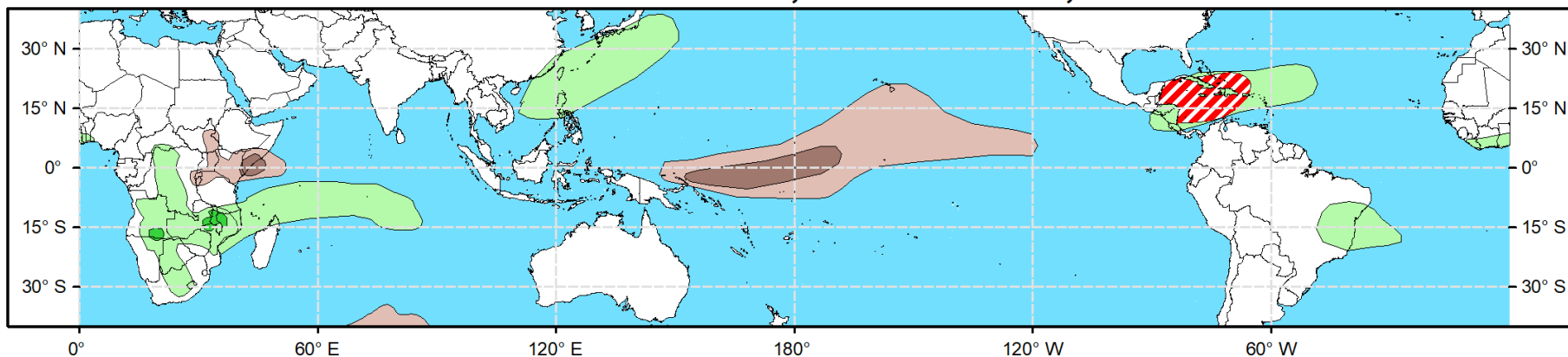
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