



Weeks 2-3 Global Tropics Hazards Outlook

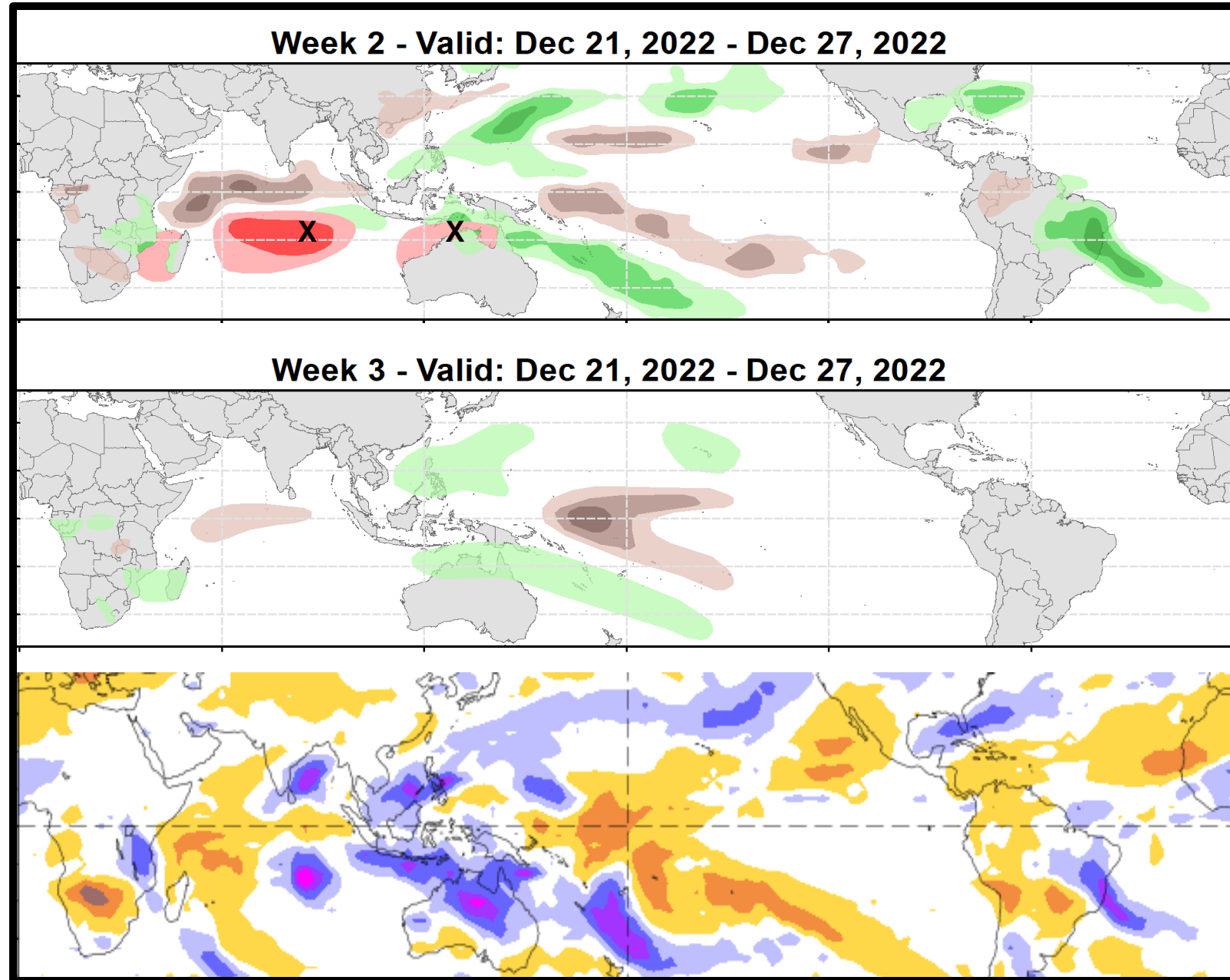
12/27/2022

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NWS / NCEP / Climate Prediction Center

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

- One TC developed – TS Ellie (12/22). Cyclone Darian formed on 12/18
- Forecasts for below and above-average precipitation match up quite well with recent OLR anomaly observations.



Synopsis of Climate Modes:

ENSO: (Dec 8, 2022 Update) *next update on Thursday, Jan 12th*

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is expected to continue into the winter, with equal chances of La Niña and ENSO-neutral during January-March 2023. In February-April 2023, there is a 71% chance of ENSO-neutral.

MJO and other subseasonal tropical variability:

- Following a weak presentation of the MJO over the Indian Ocean due to Rossby wave interference, the MJO has become more robust and the enhanced phase is crossing the Maritime Continent.
- RMM-index forecasts are supportive of continued MJO evolution over the next few weeks, with the enhanced phase crossing the West Pacific during Weeks 1-2, the Western Hemisphere during Weeks 2-3, and possibly returning to the Indian Ocean by Week-4.
- The MJO supports potential tropical cyclogenesis in the vicinity of Australia and the Coral Sea during Week-2. Dynamical models are not supportive of SPCZ development, while the GEFS indicates potential formations near the Philippines.
- The MJO teleconnects well with the midlatitude pattern during the Boreal winter. Typical lagged MJO responses favor warmth over the eastern US during Week2, with a potential pattern change during Weeks 3-4.

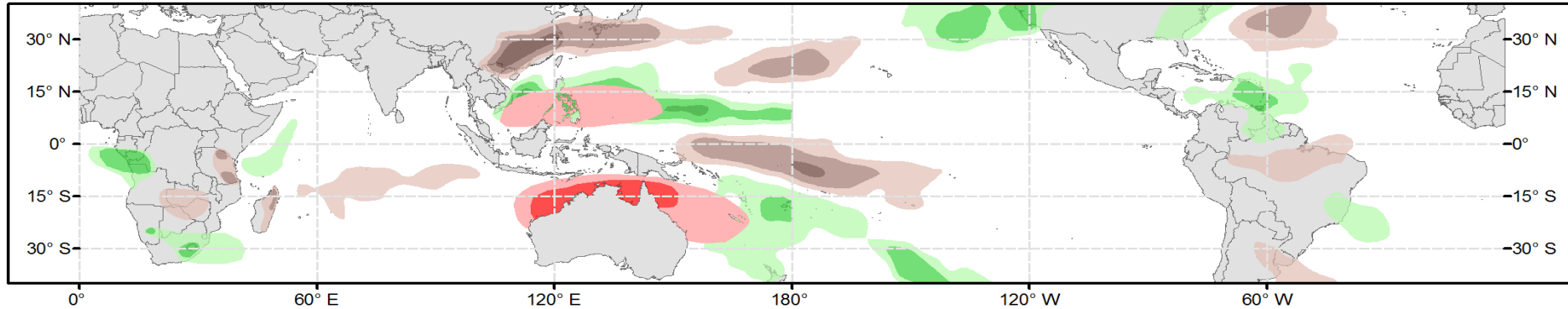
GTH Outlook:



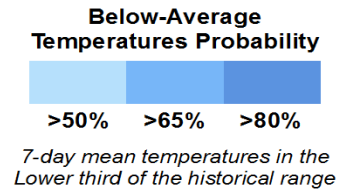
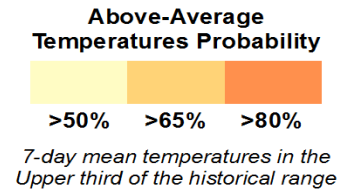
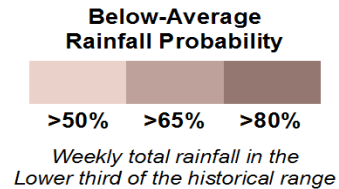
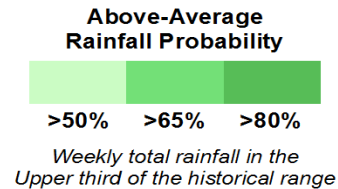
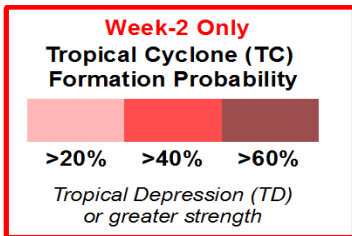
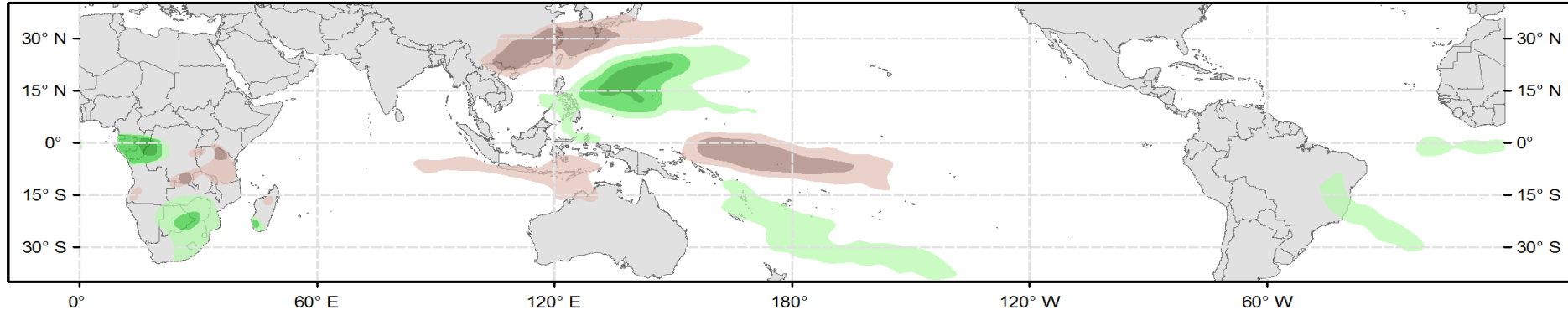
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Jan 04, 2023 - Jan 10, 2023



Week 3 - Valid: Jan 11, 2023 - Jan 17, 2023

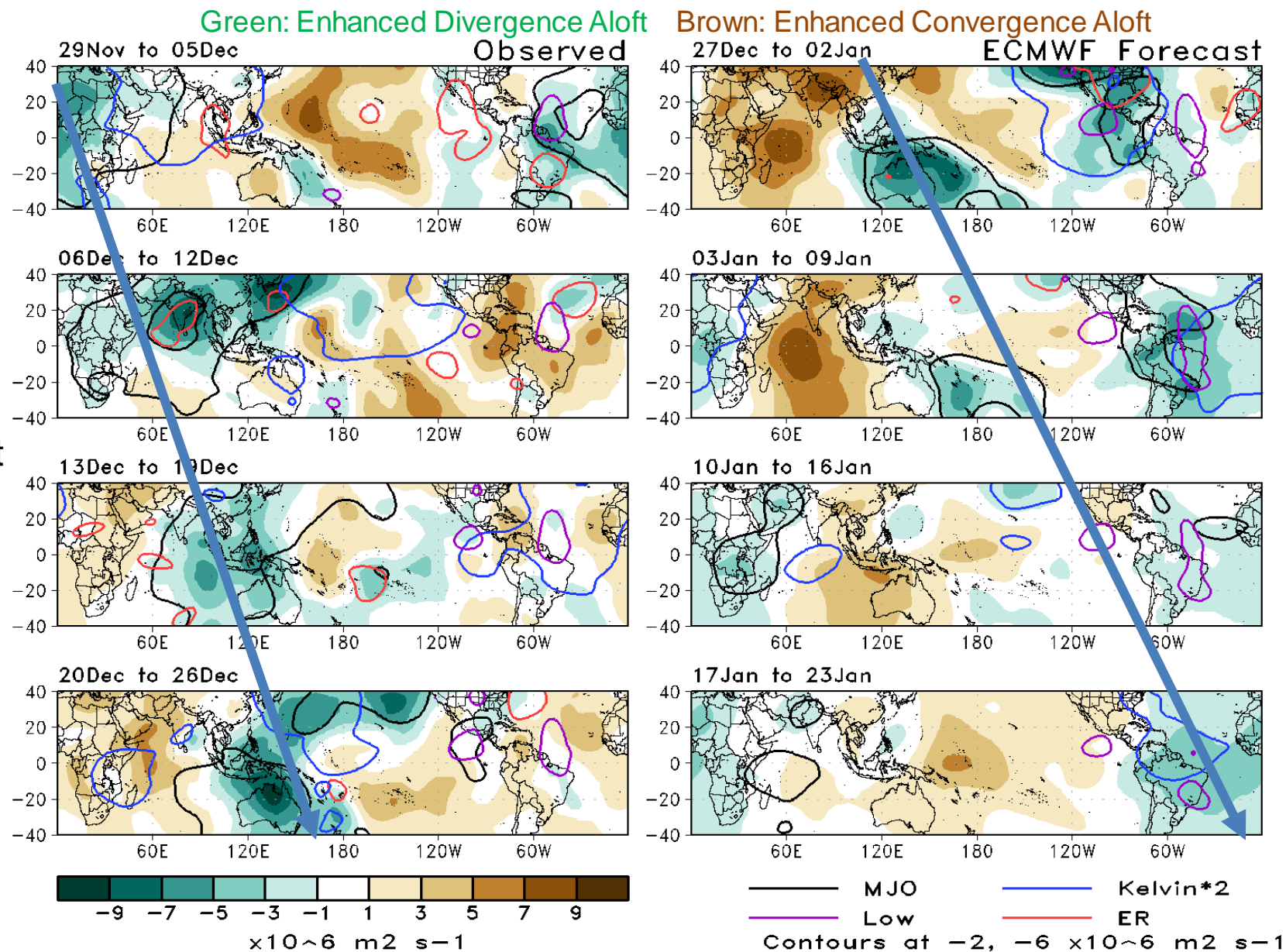


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Forecaster: Allgood

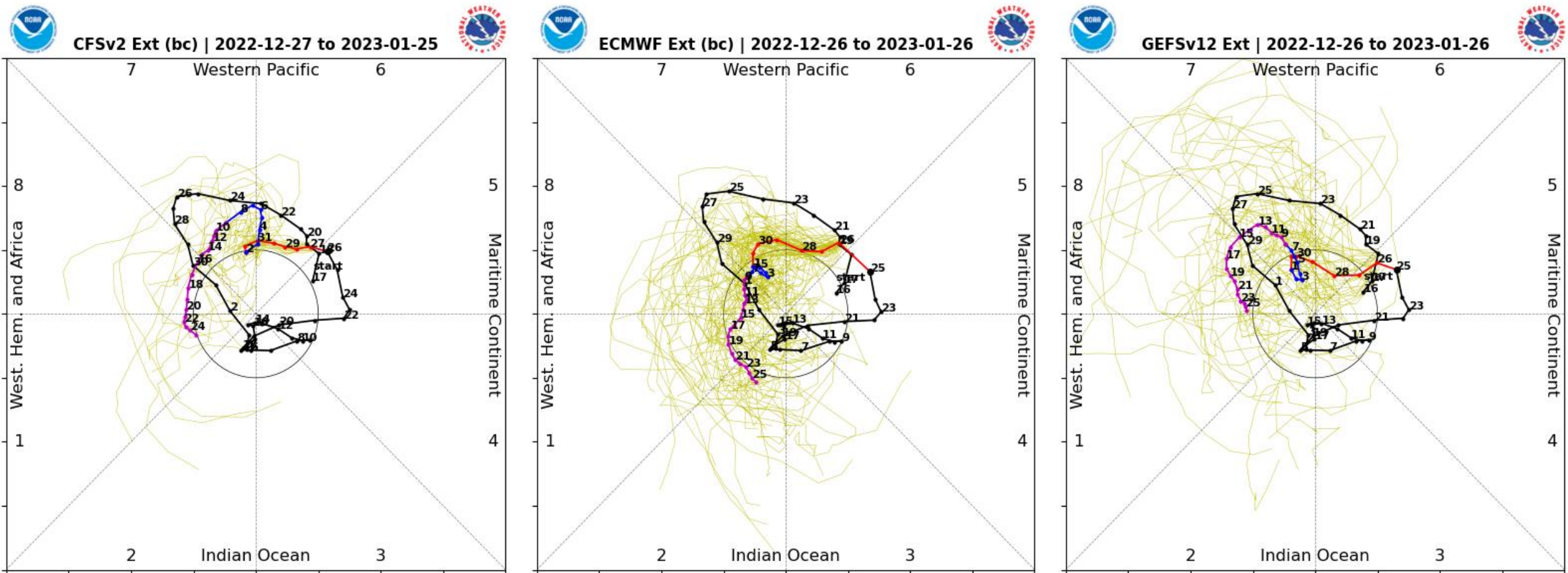
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Despite the weak projection on the RMM-index, eastward propagation of enhanced divergence aloft was well established through most of December.
- The upper-level signature is a bit weaker over the next several weeks due to destructive interference with La Niña, but clear eastward propagation to the Western Hemisphere by mid-late January is evident.

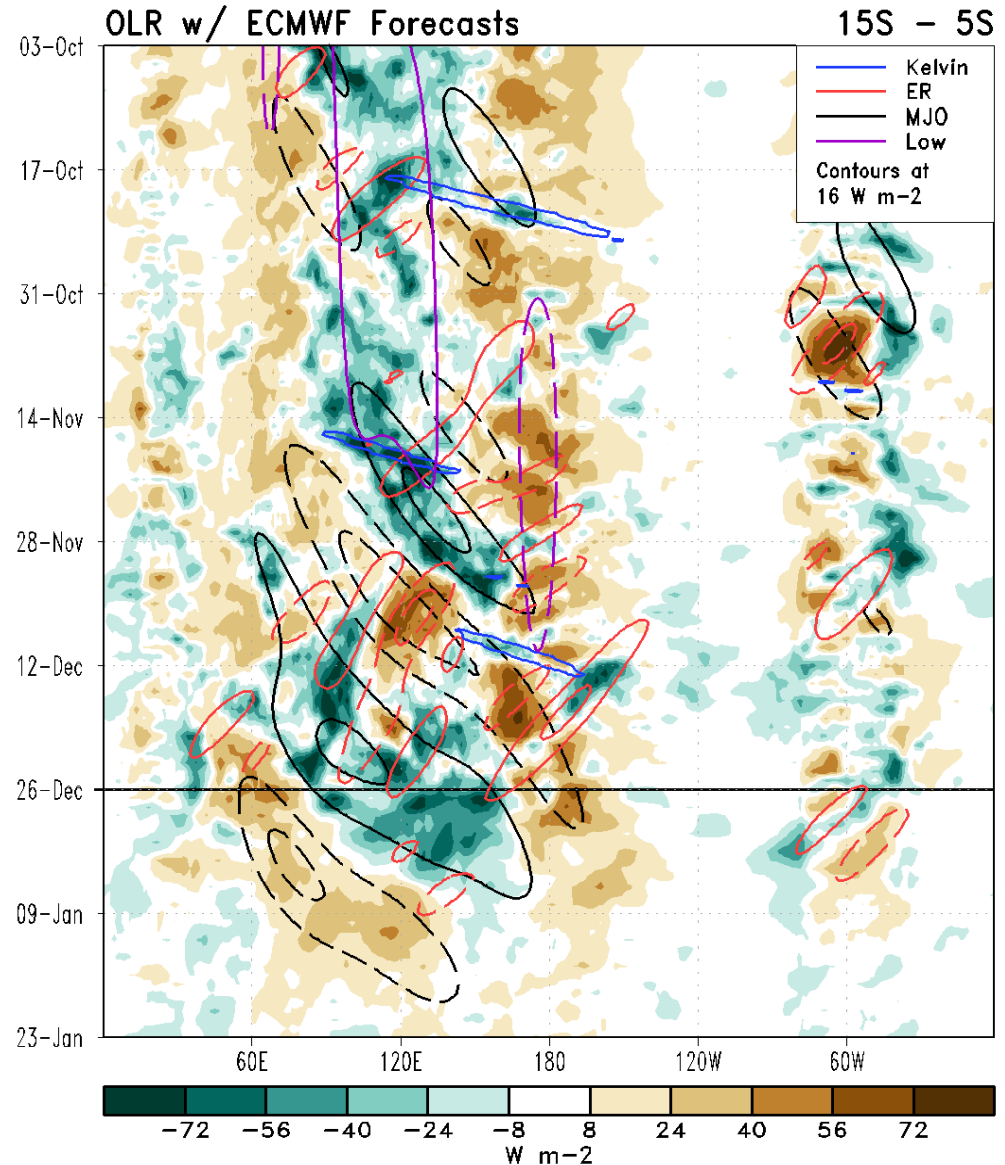
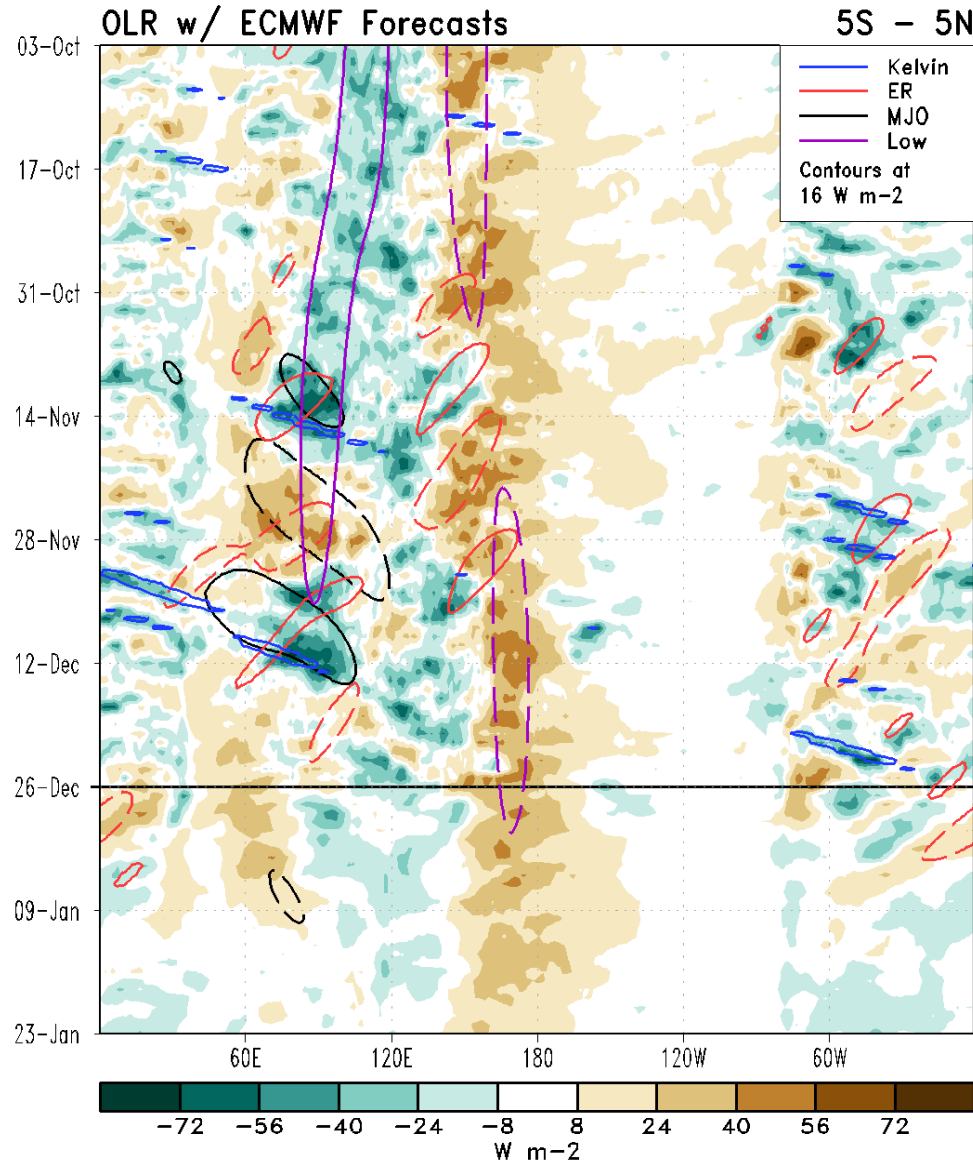


RMM Index Observations & Forecasts:



- There is good dynamical model support for continued MJO evolution, with the enhanced phase crossing the West Pacific and Western Hemisphere over the next several weeks.
- Some ensemble members depict re-emergence over the Indian Ocean by Week-4.

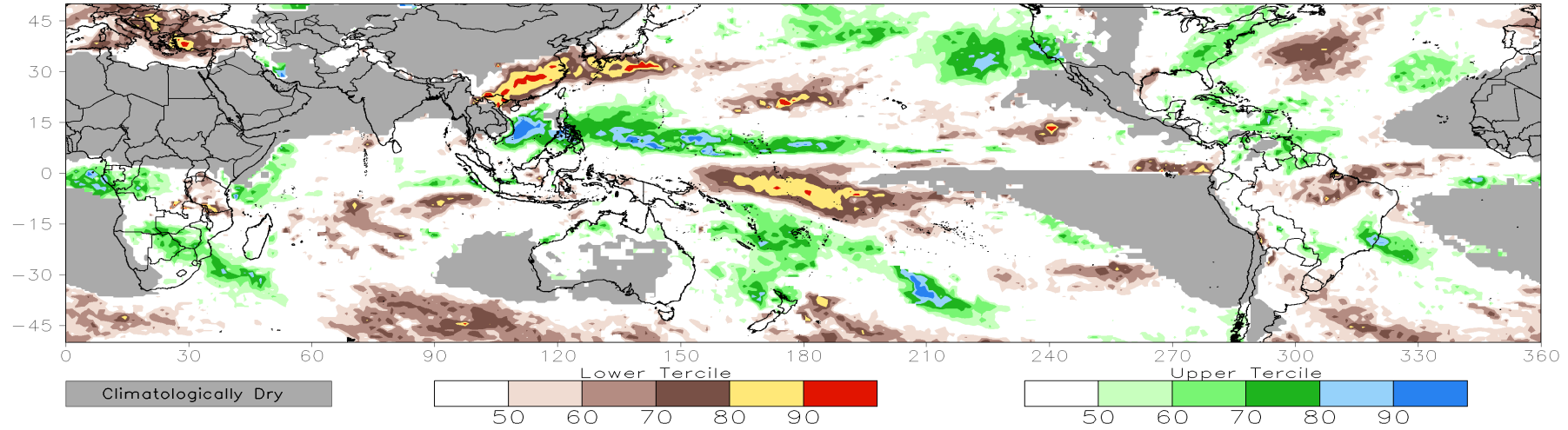
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

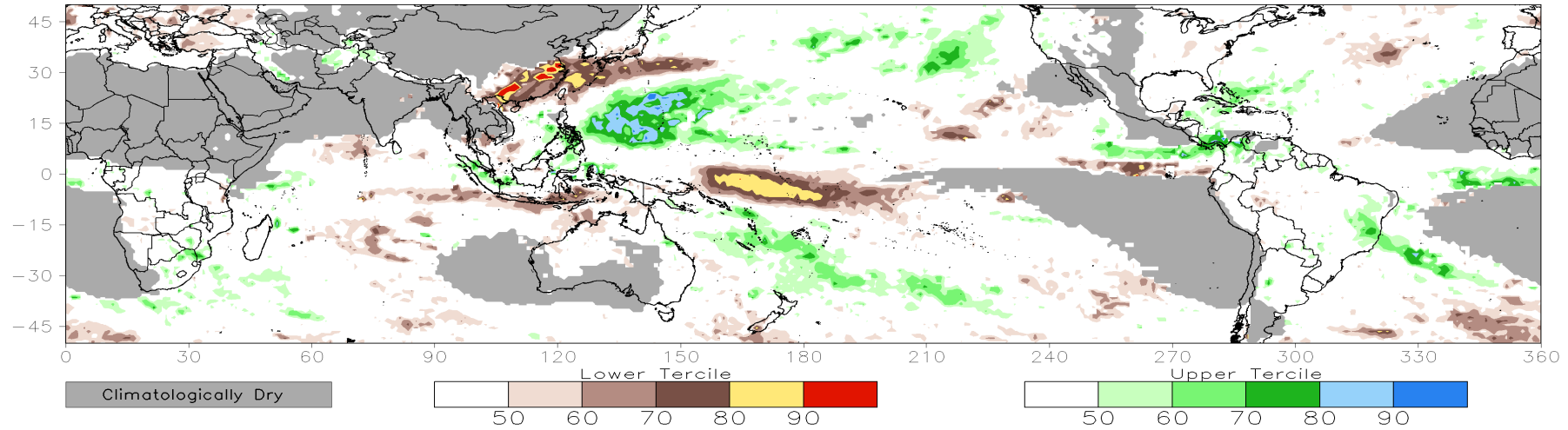
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 04Jan2023–10Jan2023



CONS 00z: Week3 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

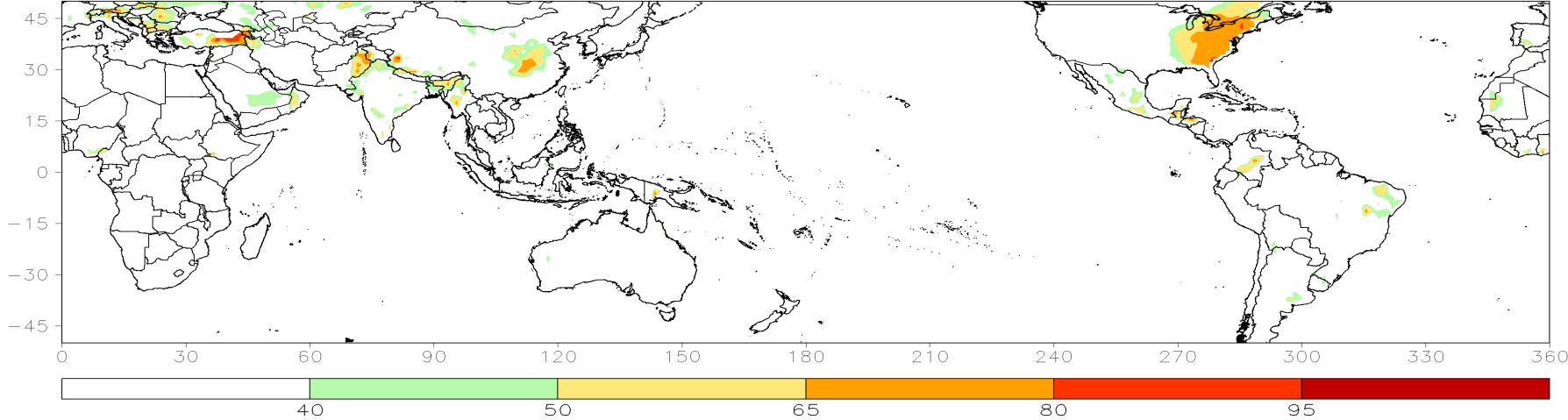
Valid: 11Jan2023–17Jan2023



Consolidated Probabilistic Temperatures: Week-2

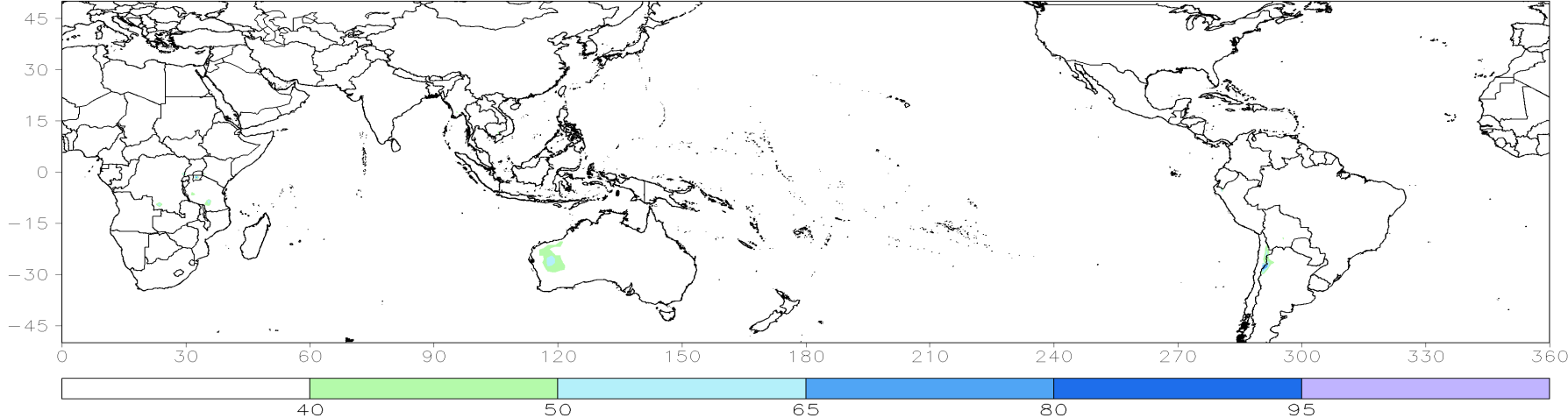
CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmax Above Upper Tercile (%)

Valid: 04Jan2023-10Jan2023



CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmin Below Lower Tercile (%)

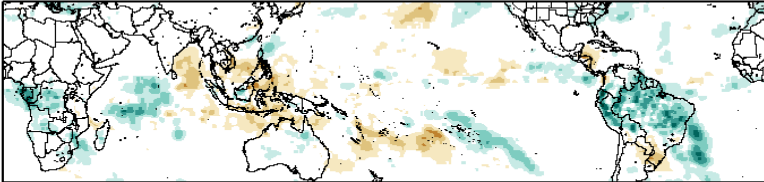
Valid: 04Jan2023-10Jan2023



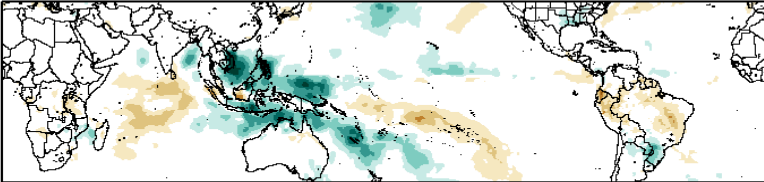
Historical Precipitation Anomalies By MJO Phase:

NDJ MJO Composite: GPCP1DD (mm/day)

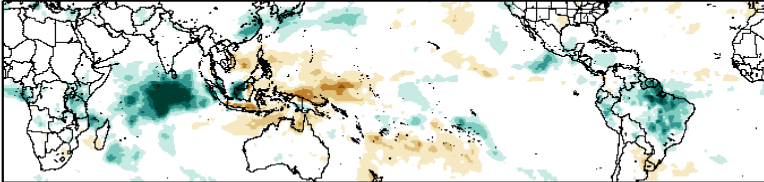
Phase 1



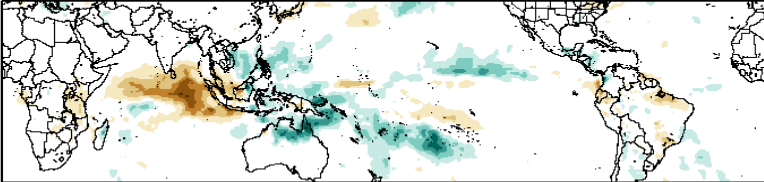
Phase 5



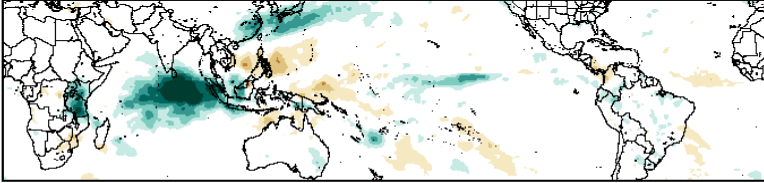
Phase 2



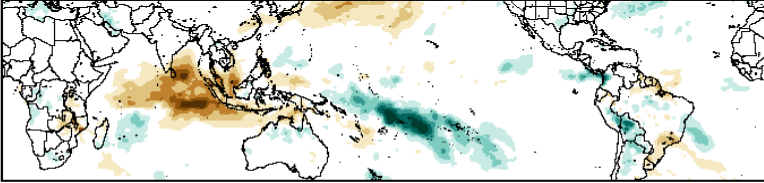
Phase 6



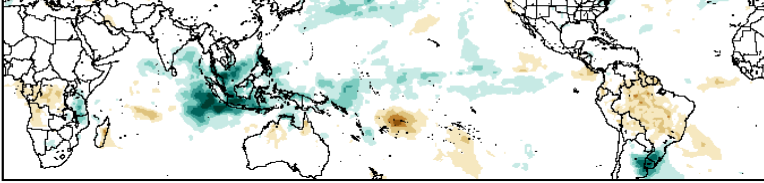
Phase 3



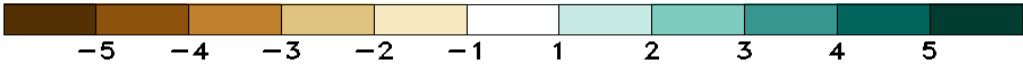
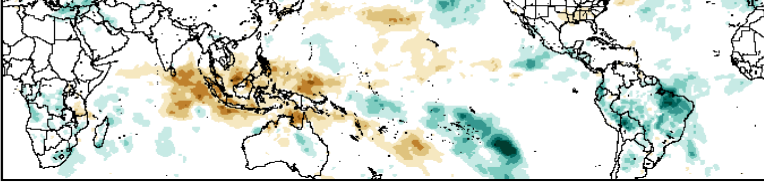
Phase 7



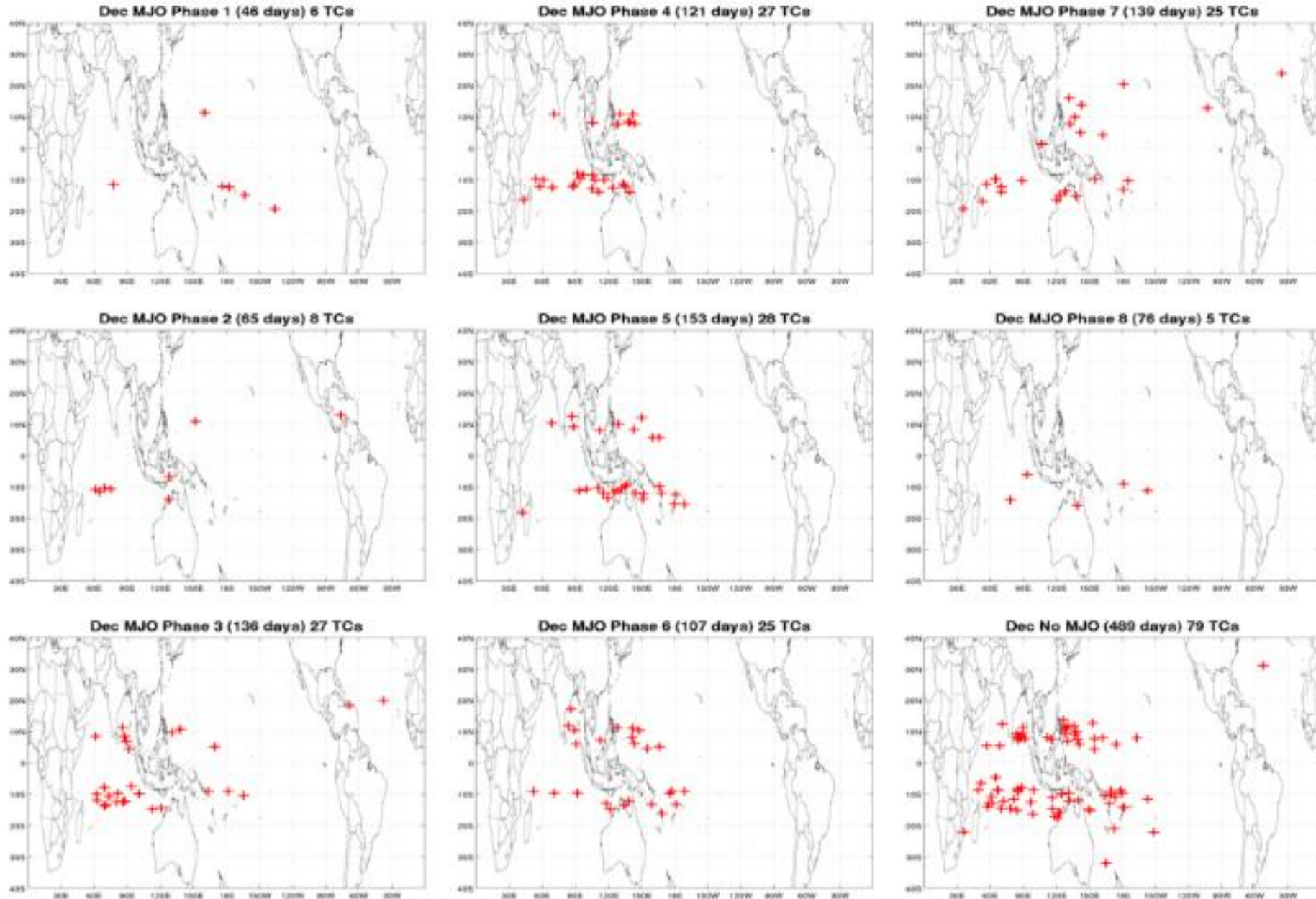
Phase 4



Phase 8



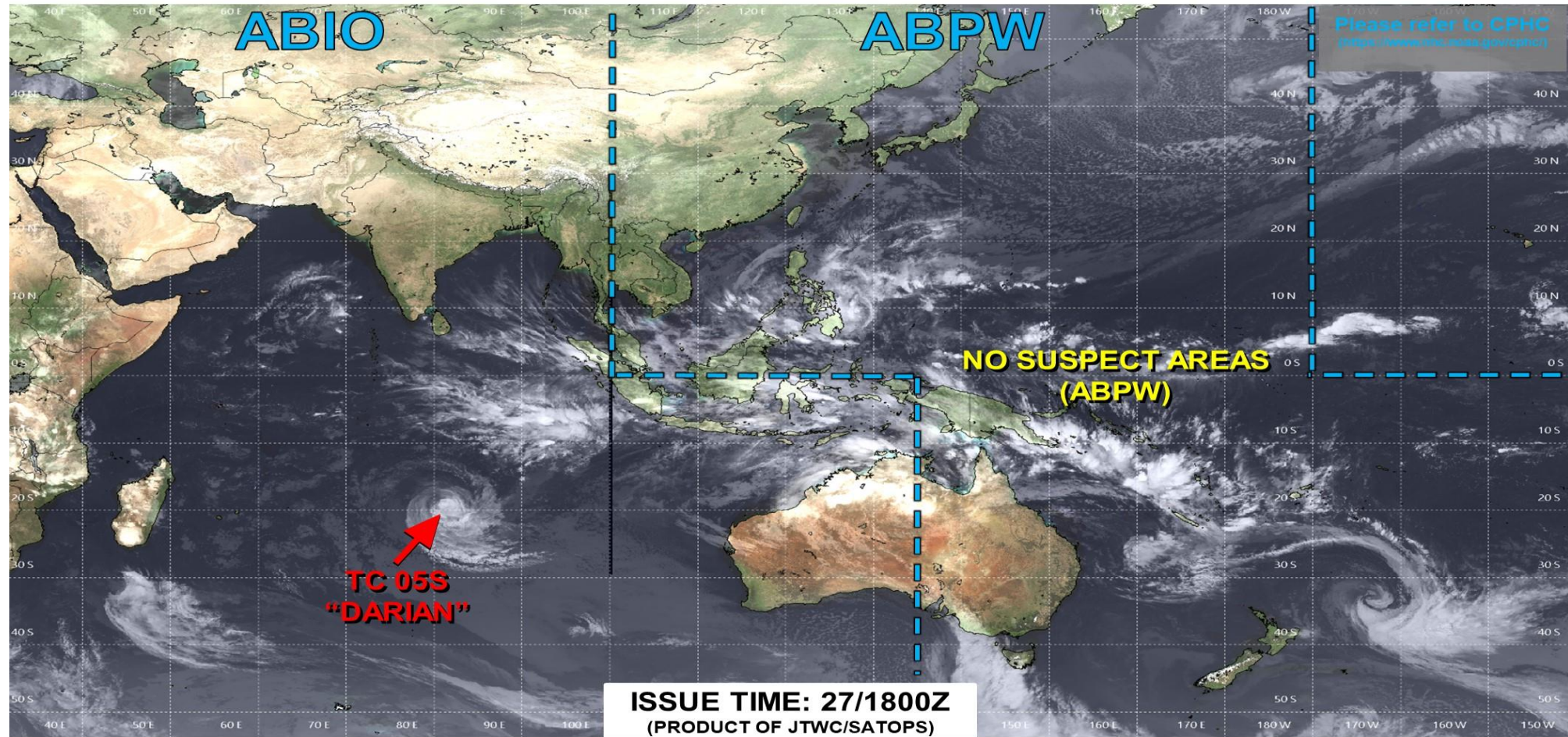
Historical TC Genesis Origins By MJO Phase:



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)

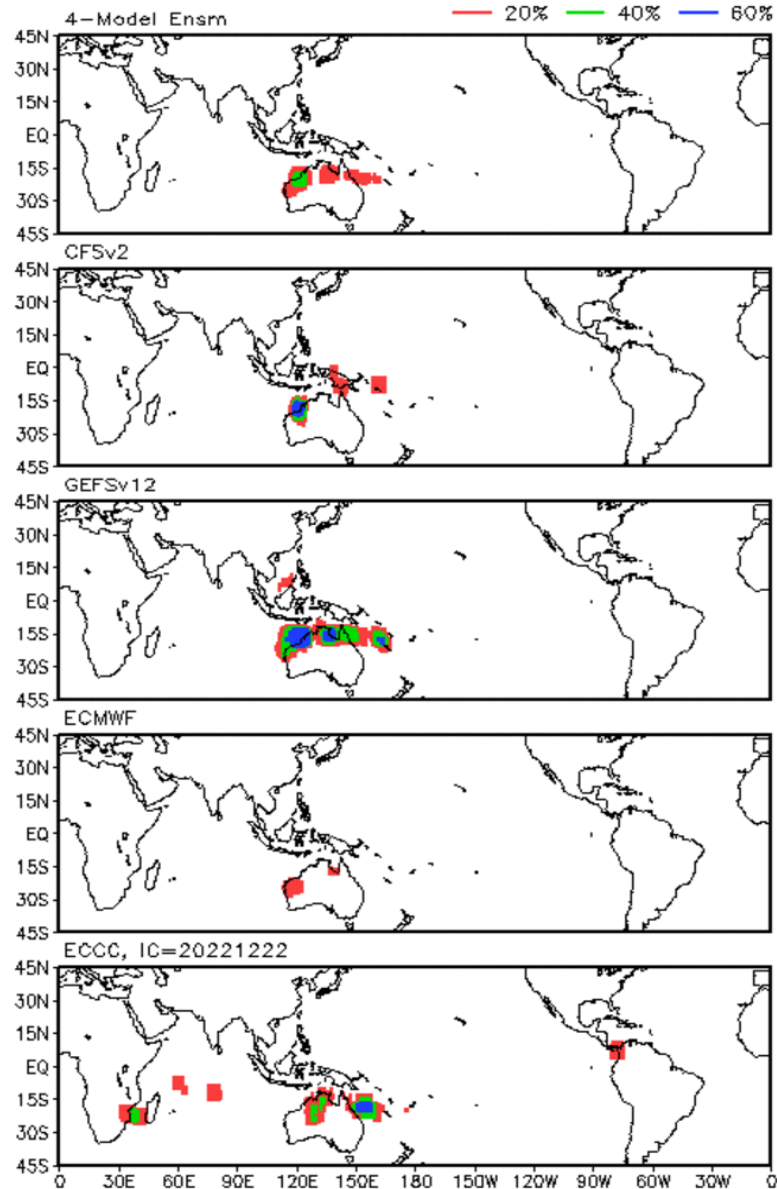


Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

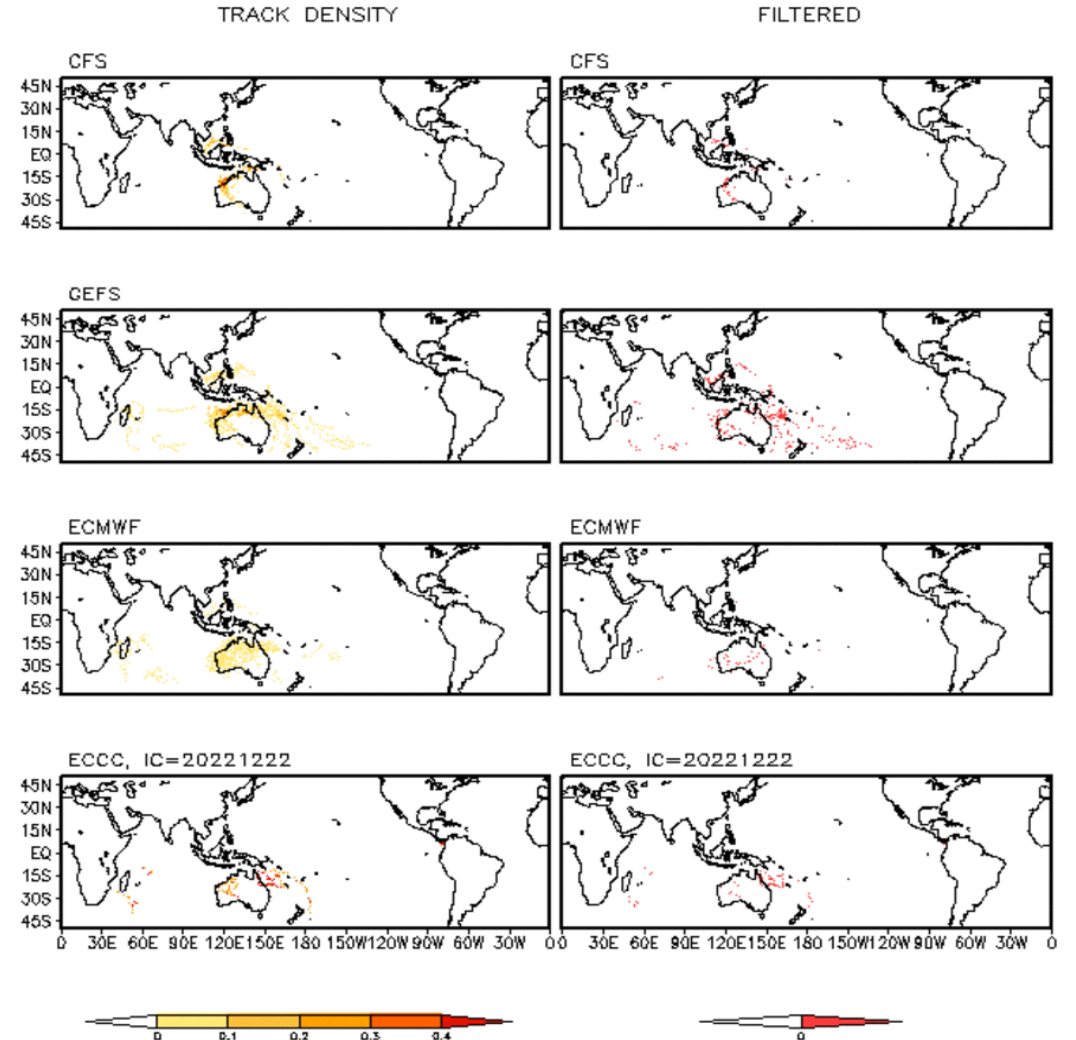
 Tropical Cyclone (Reference Warning)

Multi-Model TC Track Probabilities/Densities: Week-2

Storm Track Probabilities, IC=20221226
Week 2: 0104 - 0110



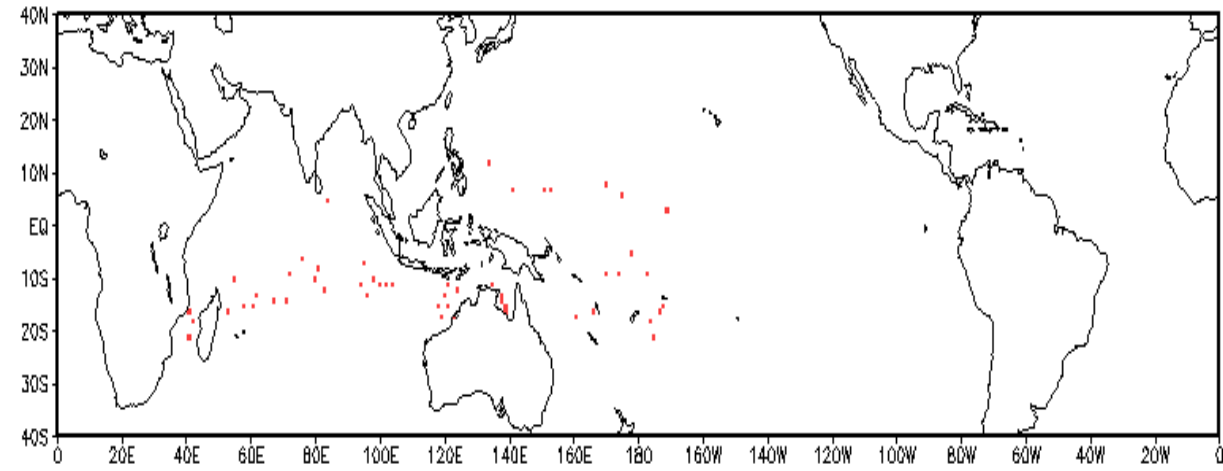
Storm Track Density Distribution, IC=20221226
Week 2 Forecast: 0104-0110



TC Climatological Genesis: Weeks 2 & 3

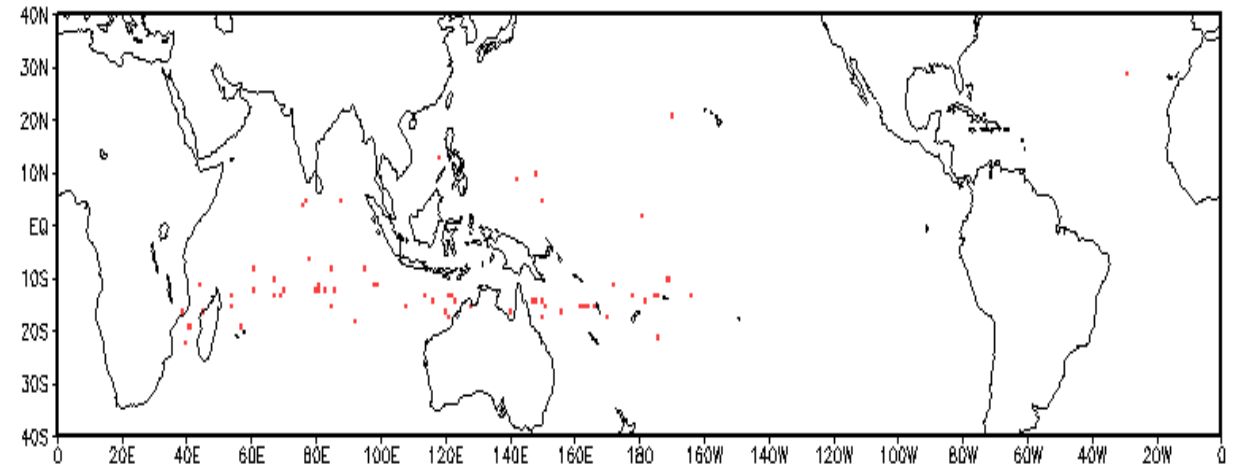
Observed TC Genesis, 1979–2021

7-day Period 0104 to 0110



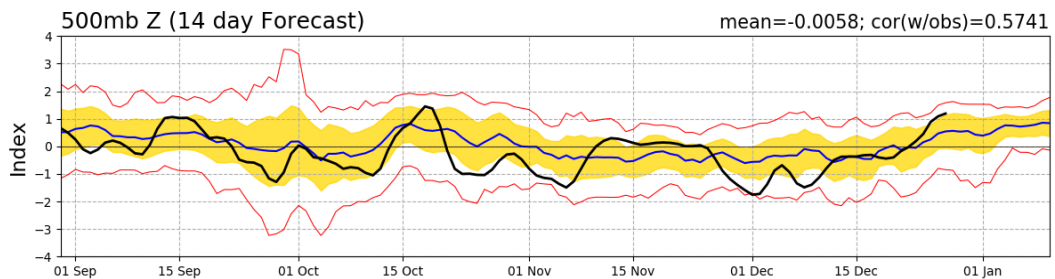
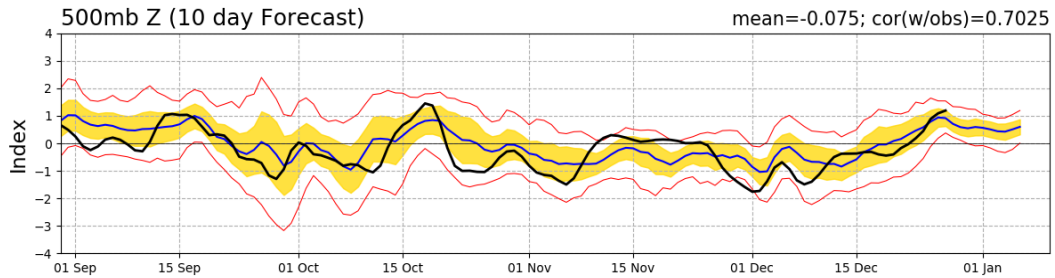
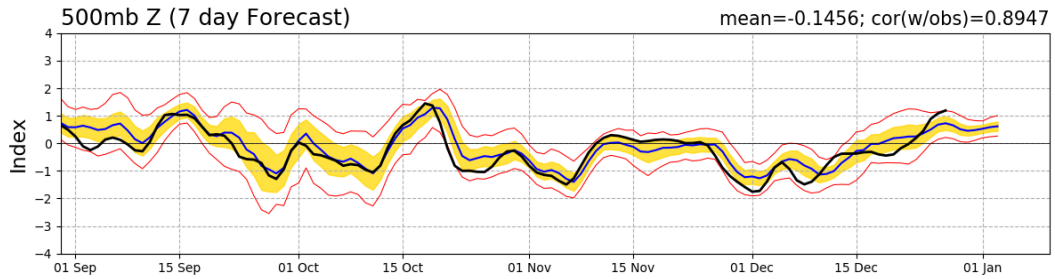
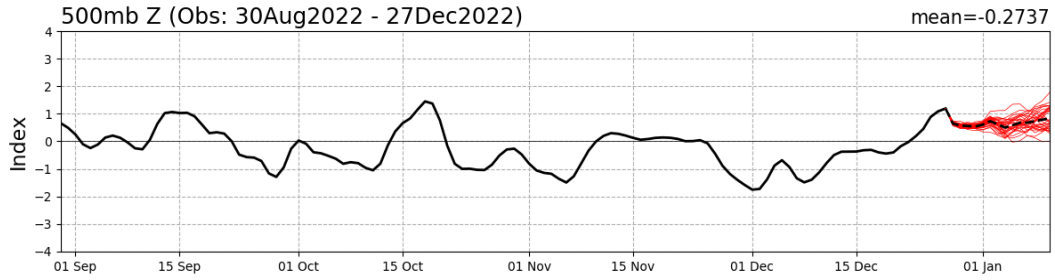
Observed TC Genesis, 1979–2021

7-day Period 0111 to 0117

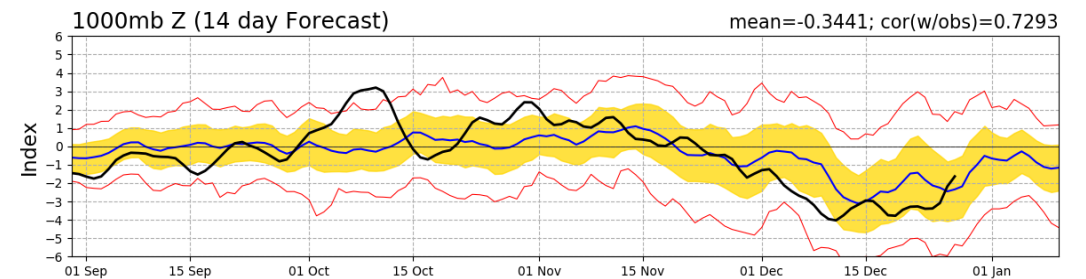
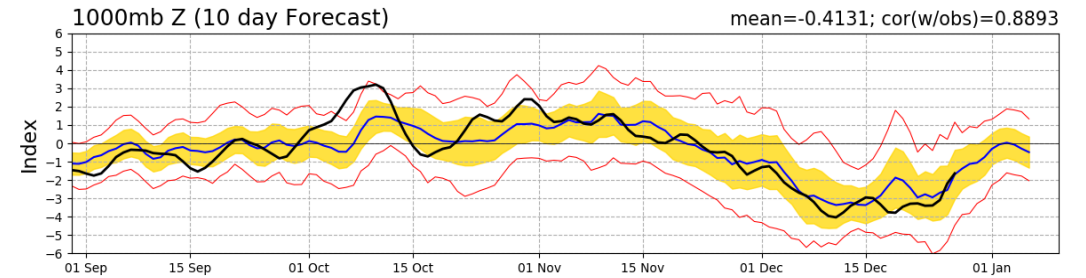
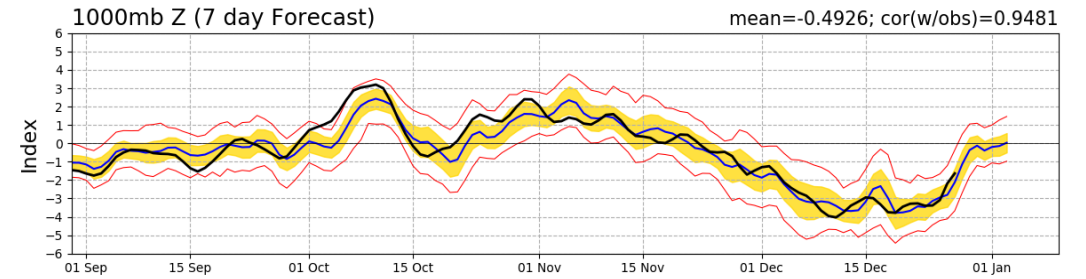
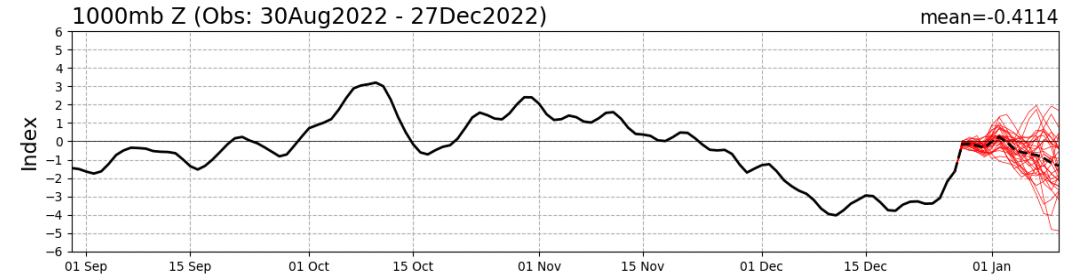


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

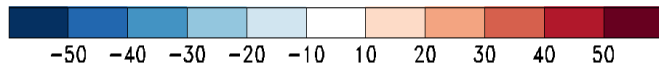
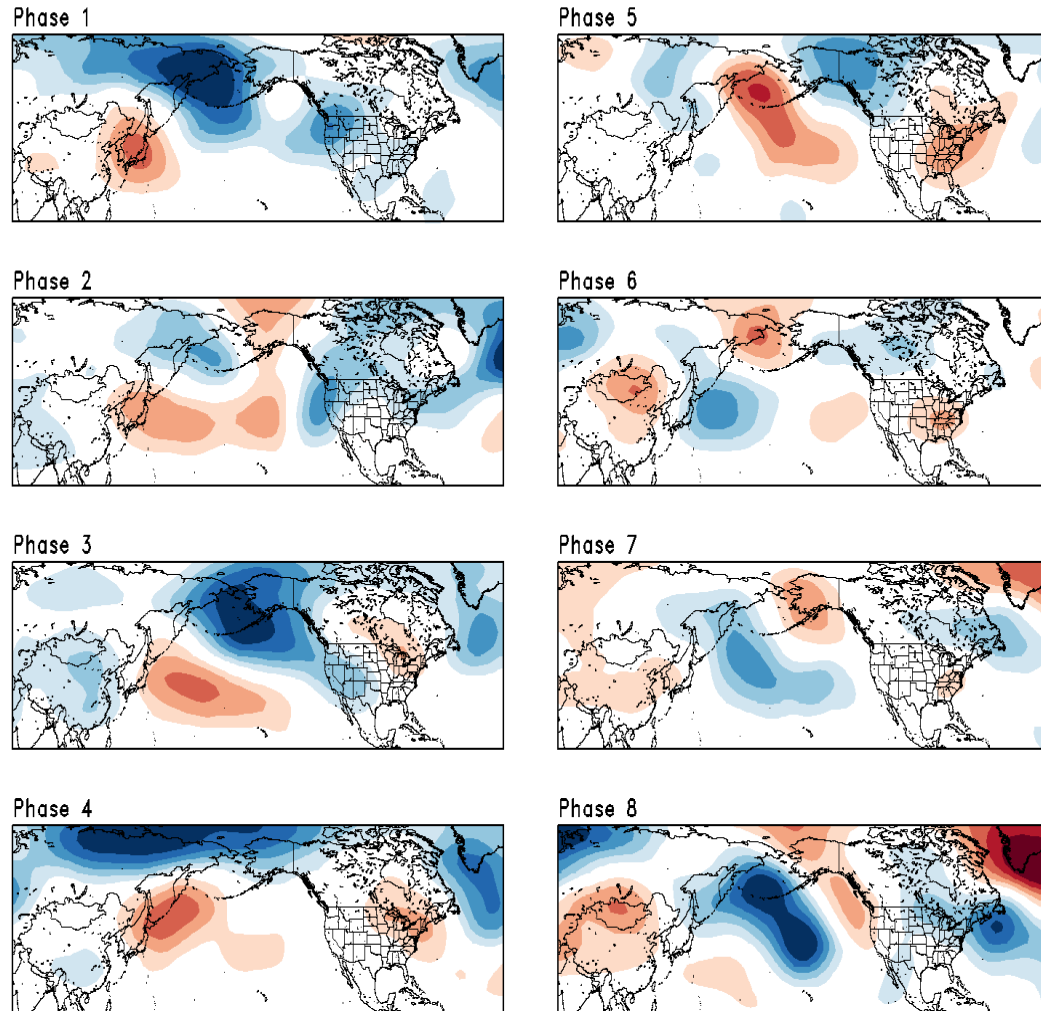


AO Index: Observed & GEFS Forecasts

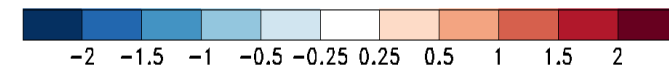
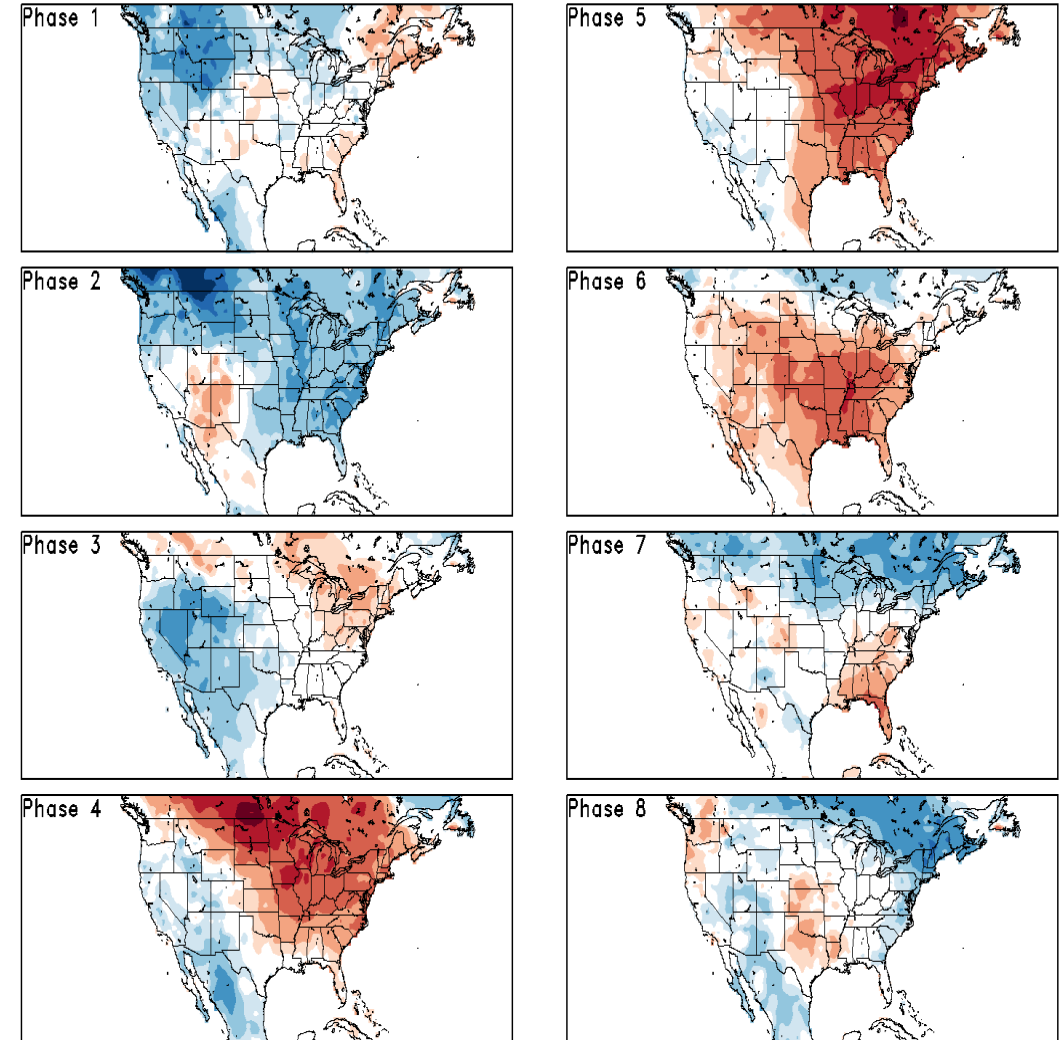


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

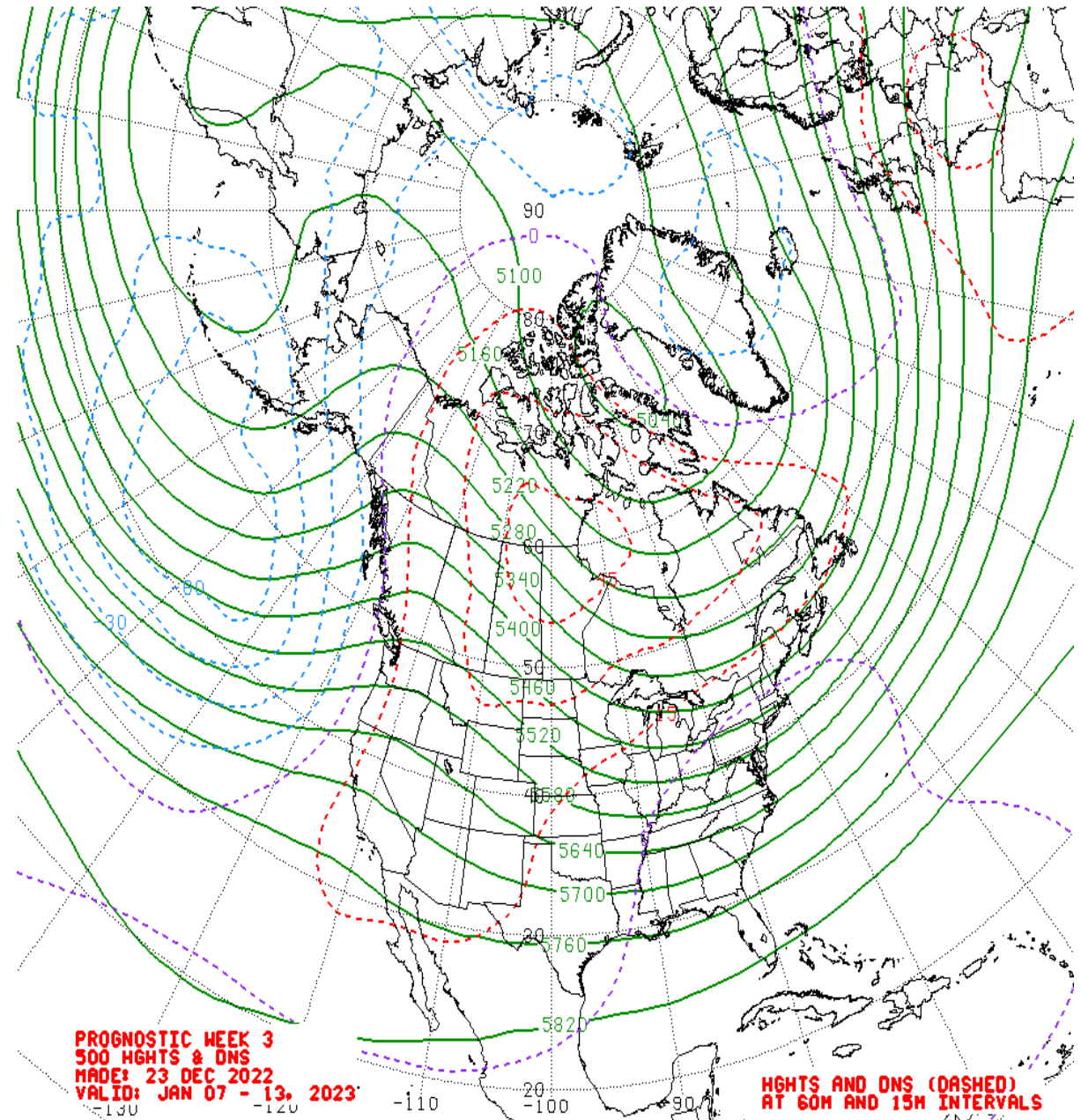
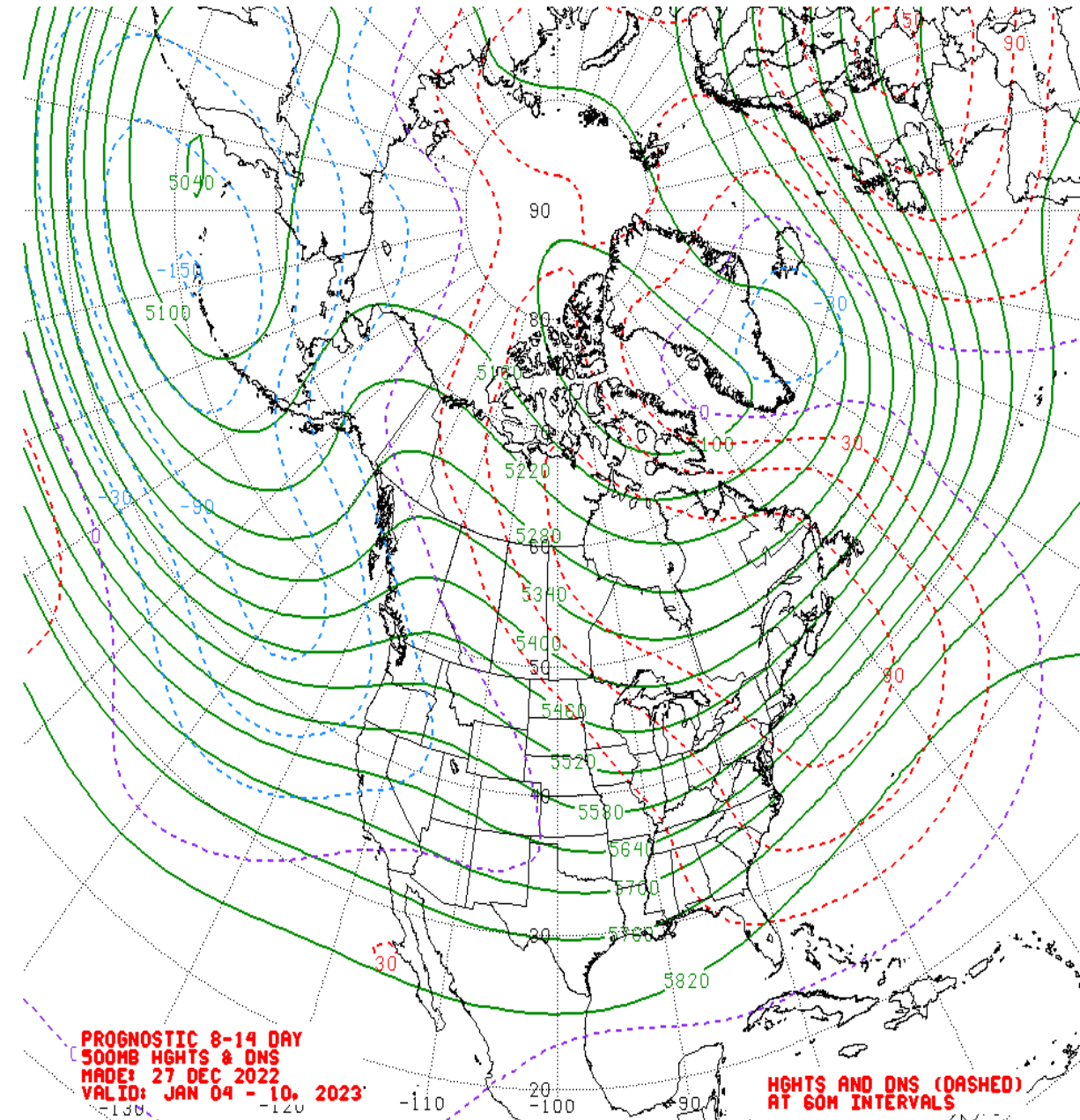
NDJ MJO Composite: CDAS 500-hPa Height (m)



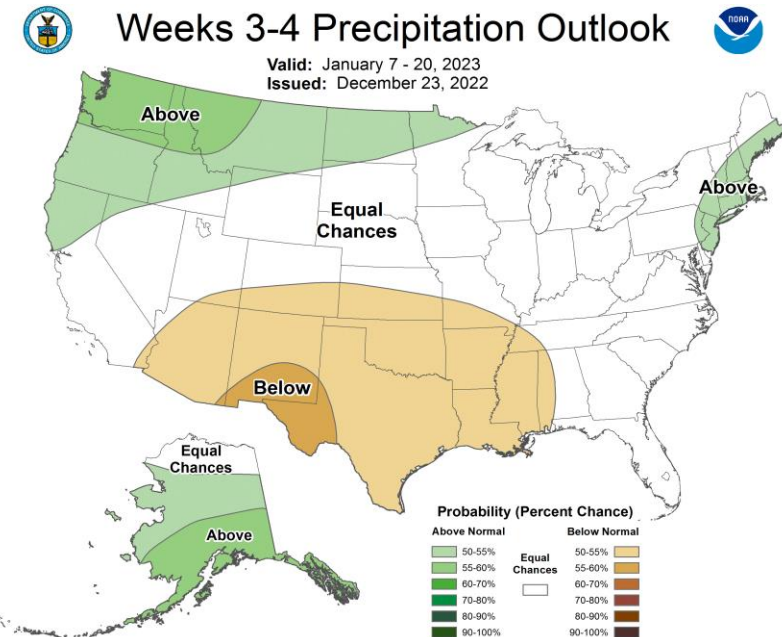
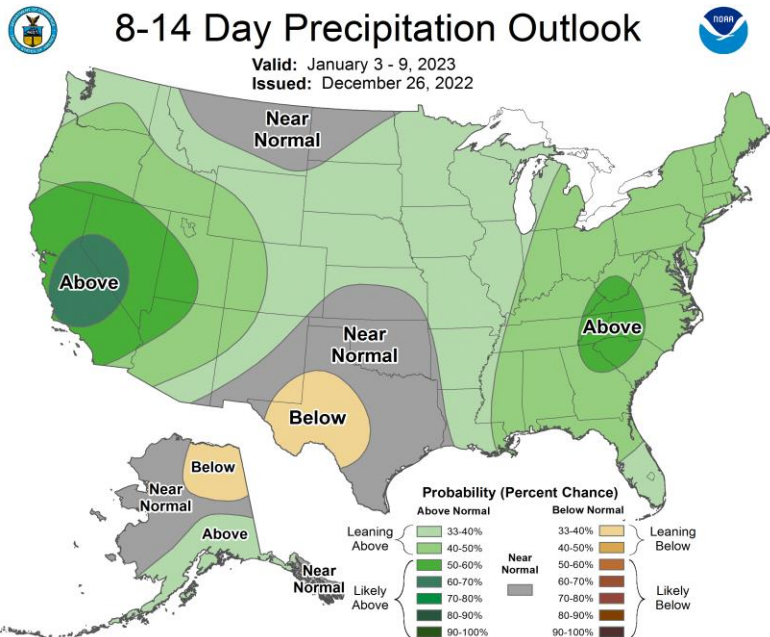
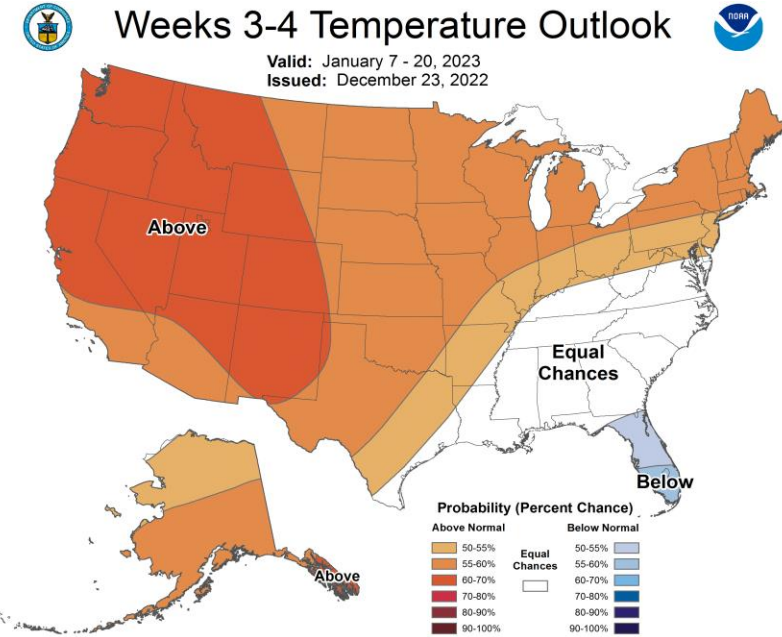
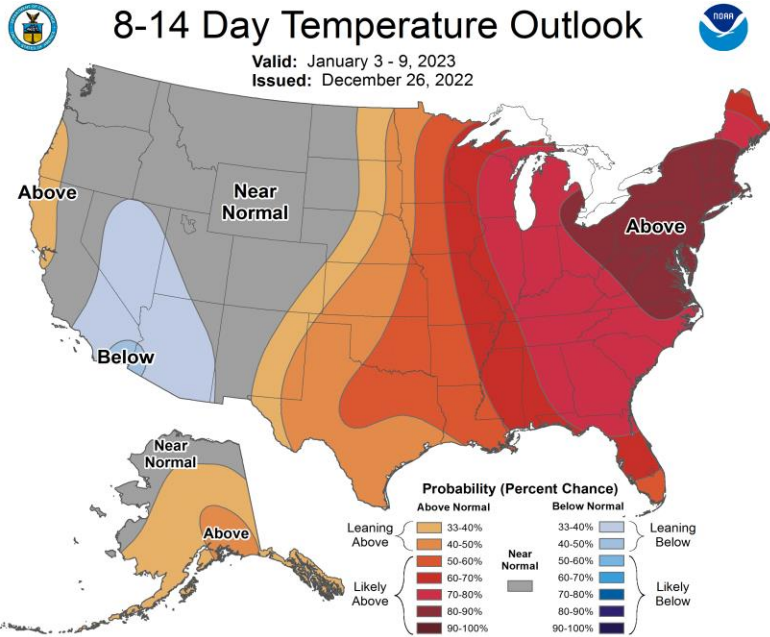
NDJ MJO Composite: GLBT (degC)



Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:



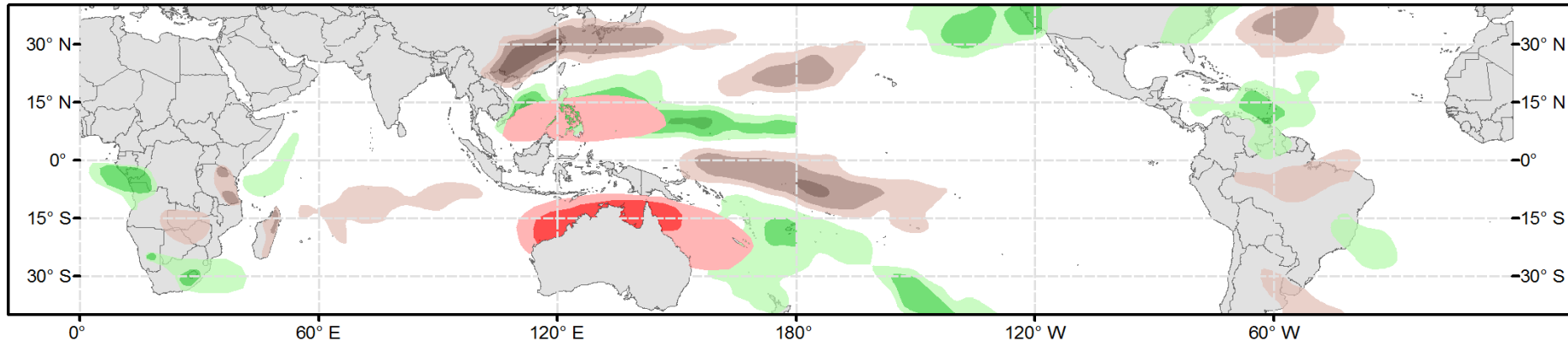


Global Tropics Hazards Outlook

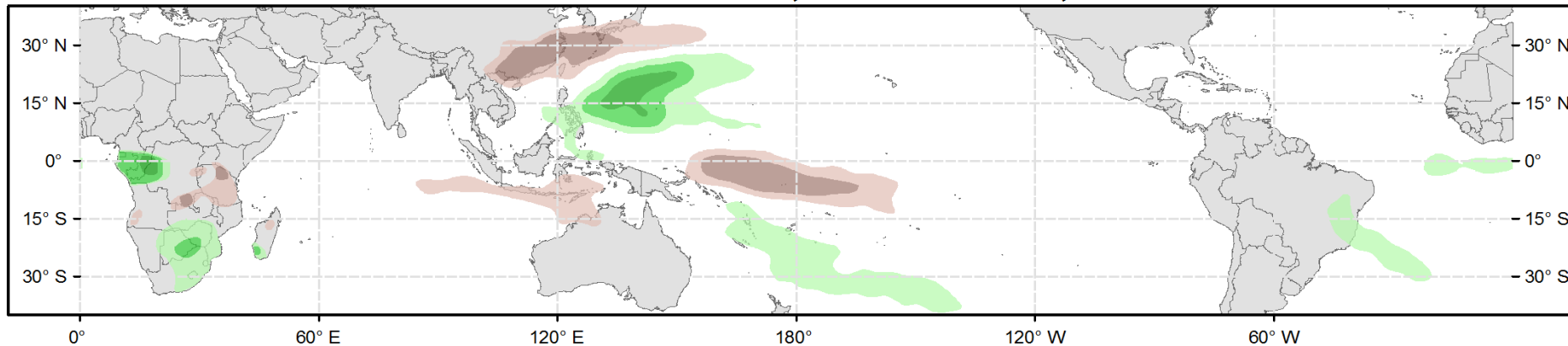
Climate Prediction Center



Week 2 - Valid: Jan 04, 2023 - Jan 10, 2023



Week 3 - Valid: Jan 11, 2023 - Jan 17, 2023



Week-2 Only

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 mean temperatures in the Upper third of the historical range

Below-Average Temperatures Probability

>50% >65% >80%

7-day mean temperatures in the Lower third of the historical range

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