



Weeks 2-3 Global Tropics Hazards Outlook

1/3/2023

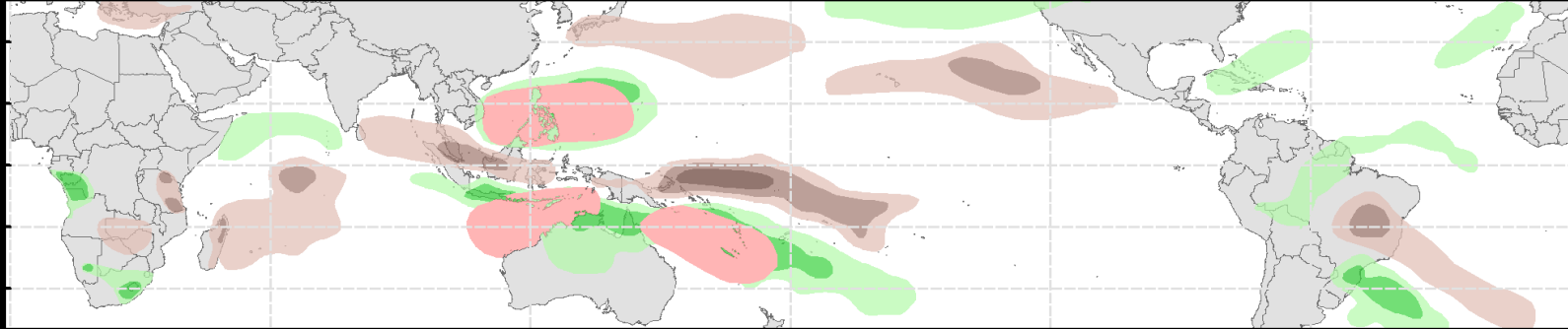
Thomas Collow

NWS / NCEP / Climate Prediction Center

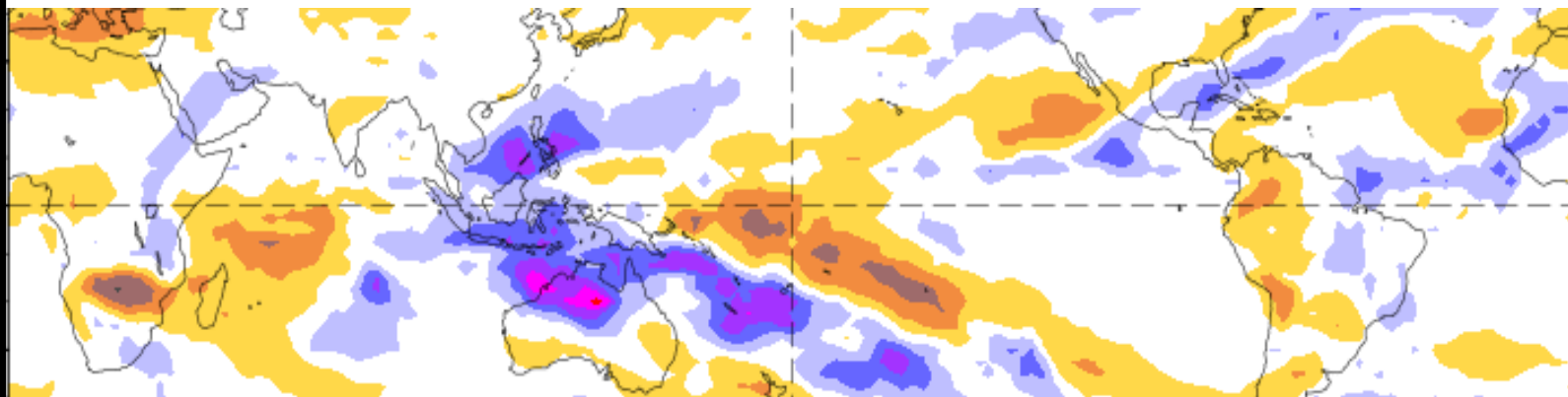
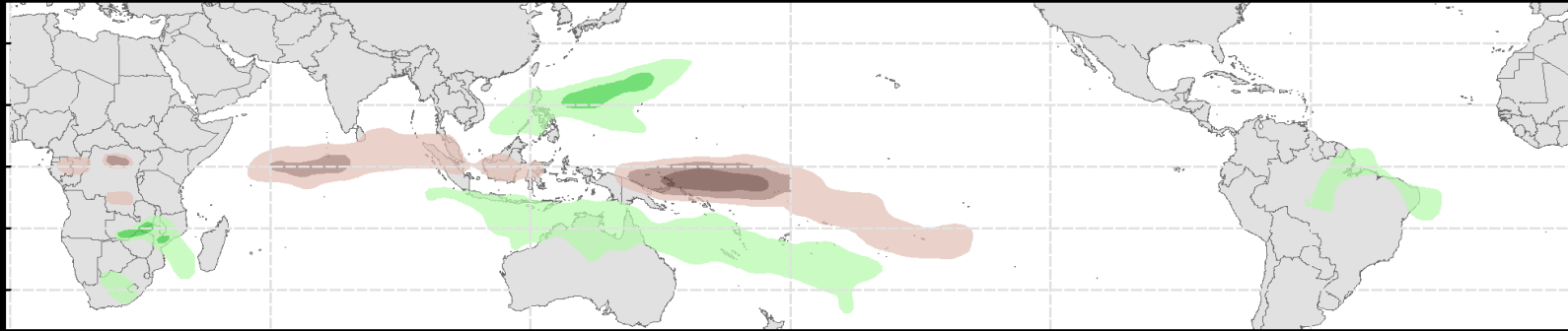
Outlook Review: TC development & anomalous precipitation during the past week

- No new TCs formed during the past week.
- Tropical disturbance (Invest 91P) noted to the south of Vanuatu on 12/29.

Week 2 - Valid: Dec 28, 2022 - Jan 03, 2023



Week 3 - Valid: Dec 28, 2022 - Jan 03, 2023



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:

- An active MJO signal is noted across the Western Pacific.
- Despite enhanced Rossby Wave activity, the enhanced intraseasonal signal has continued to propagate eastward, and is beginning to destructively interfere with the La Niña base state.
- During the next week to 10 days, the MJO may enhance chances of tropical cyclone (TC) development across the southwestern Pacific, with some potential for TC development increasing later in week-2 across the western Indian Ocean as the convective envelope circumnavigates the globe.
- While MJO propagation into phases 8 and 1 may ultimately favor a relatively cooler pattern to develop across much of the continental U.S., the dynamical models continue to persist above normal temperatures across the country through at least mid-January.

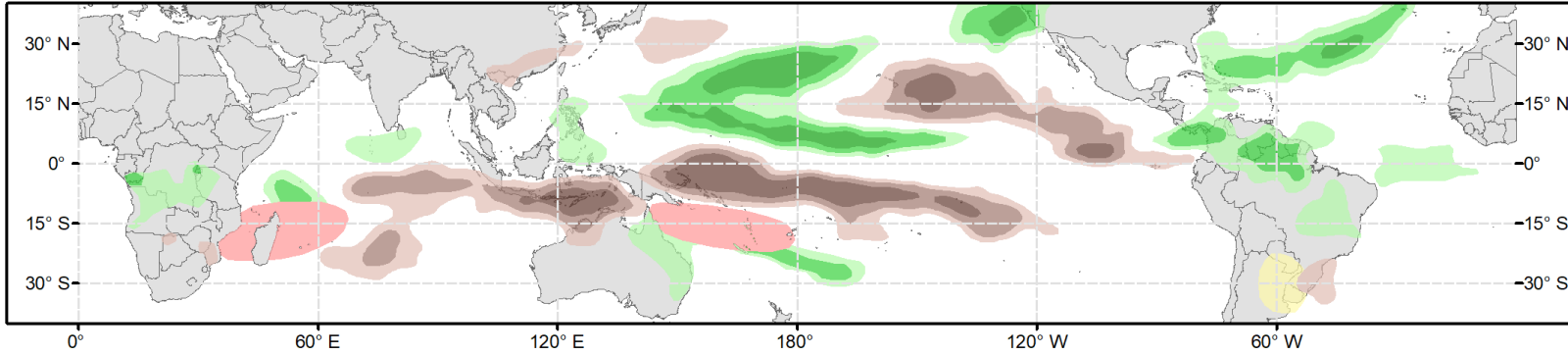
GTH Outlook:



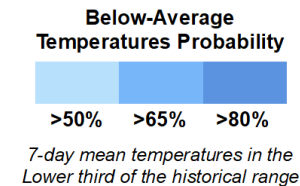
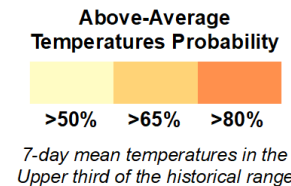
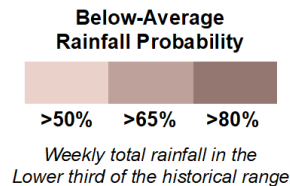
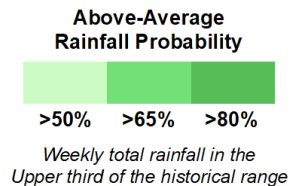
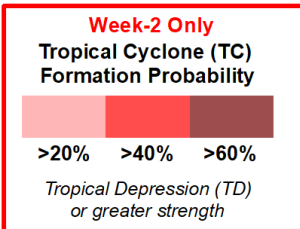
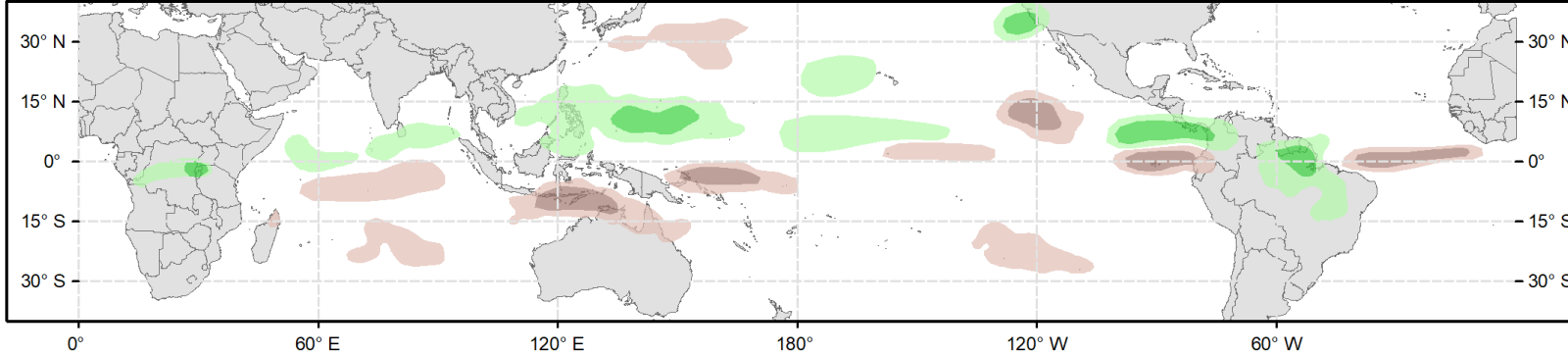
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Jan 11, 2023 - Jan 17, 2023



Week 3 - Valid: Jan 18, 2023 - Jan 24, 2023

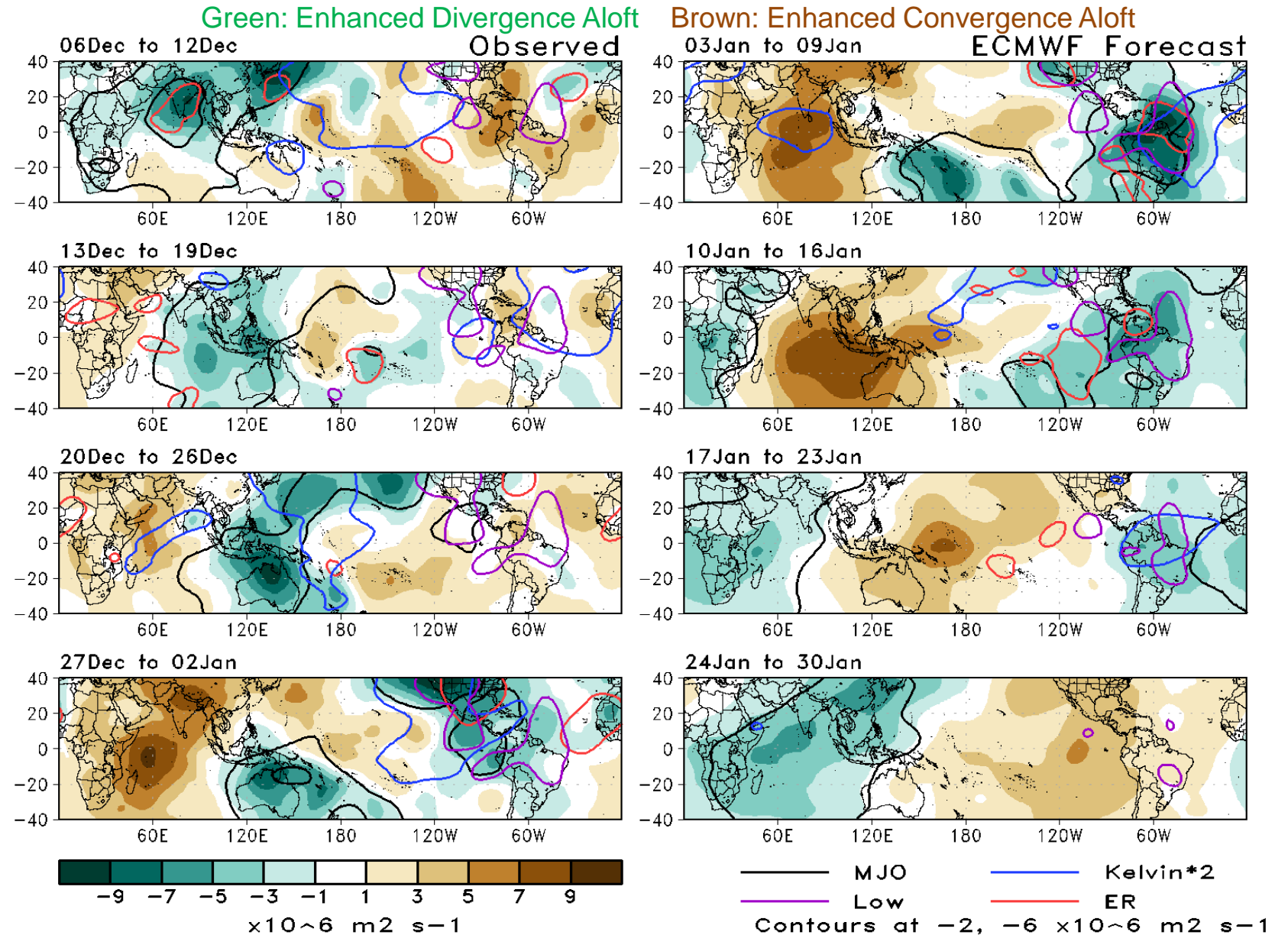


Issued: 01/03/2023
Forecaster: Collow

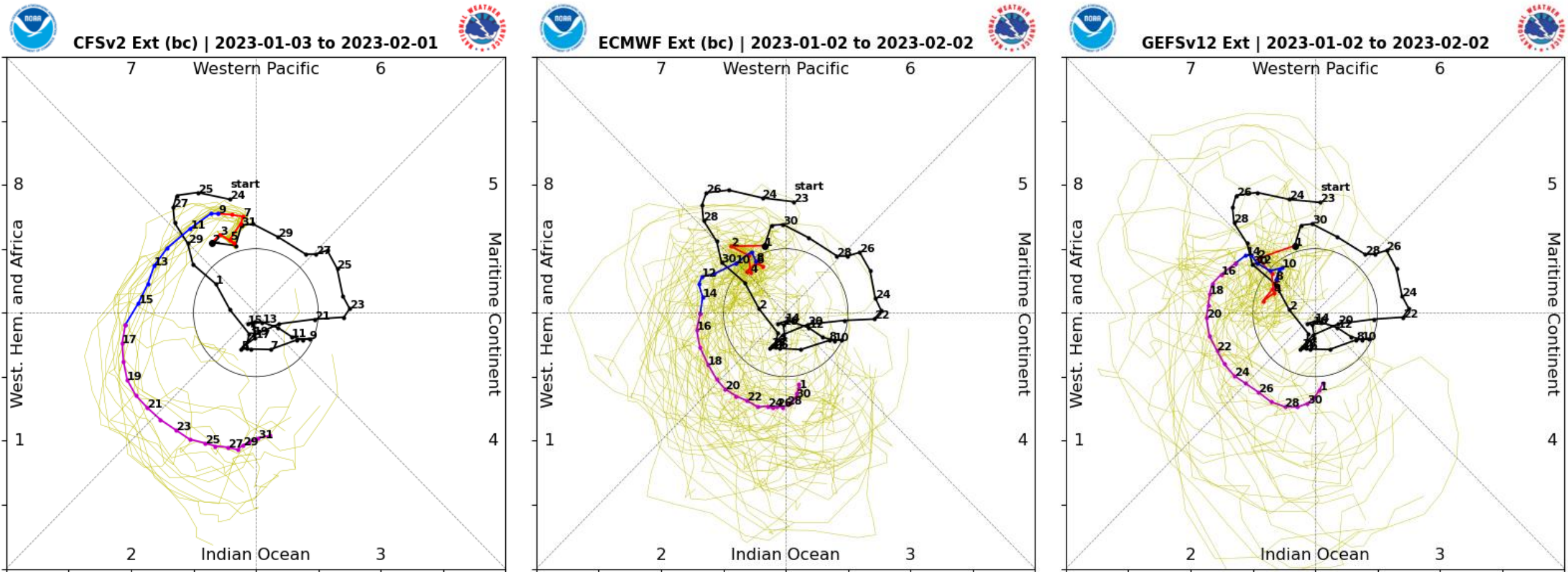
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Following a gradual eastward shift during December, enhanced divergence aloft (increased convection) is dominant across the southwestern Pacific.
- During the next 2-3 weeks, enhanced convergence aloft (suppressed convection) is forecast to expand across the Pacific.
- Enhanced divergence aloft is favored to continue to shift eastward, and reach the Indian Ocean by mid to late-January.

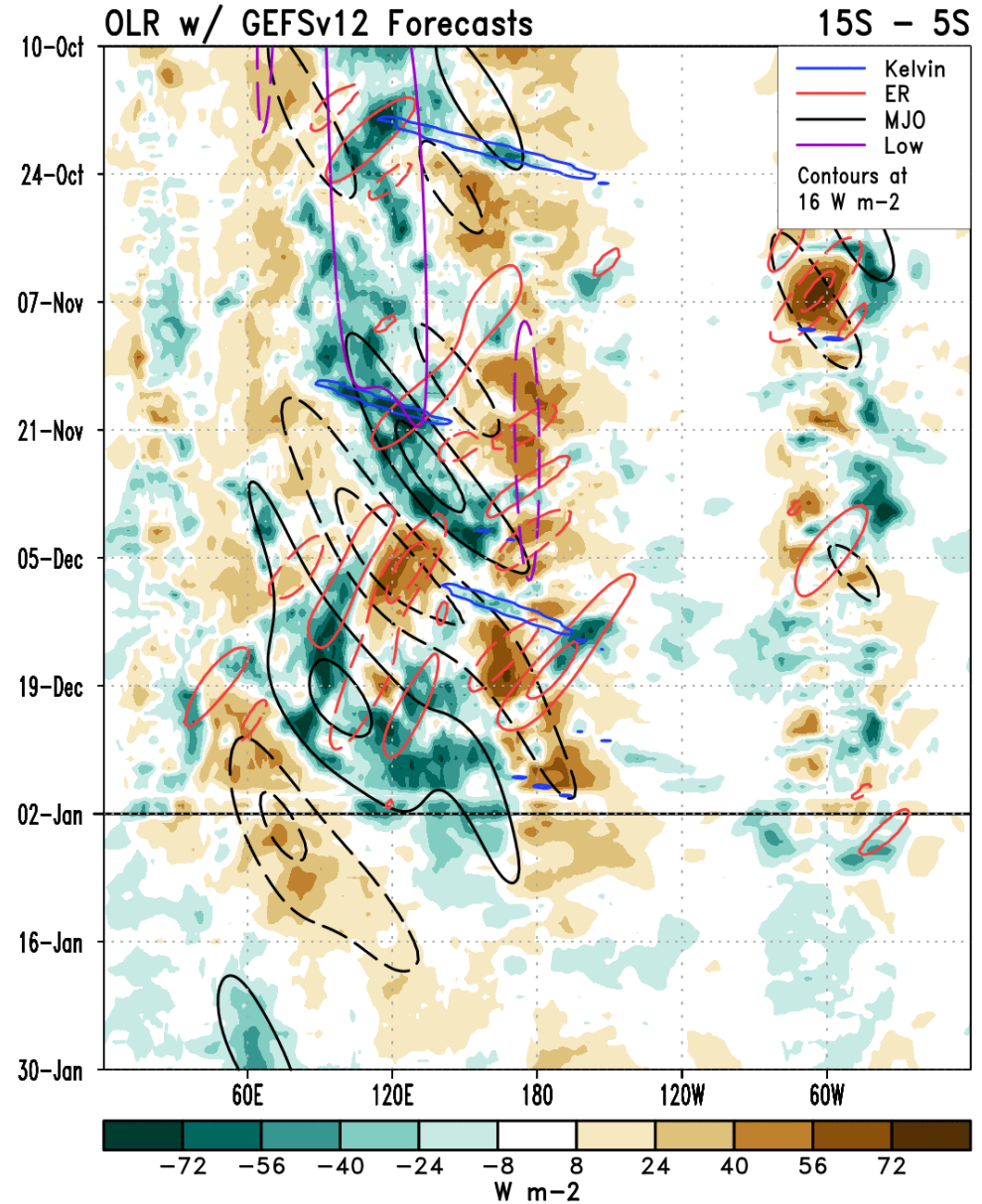
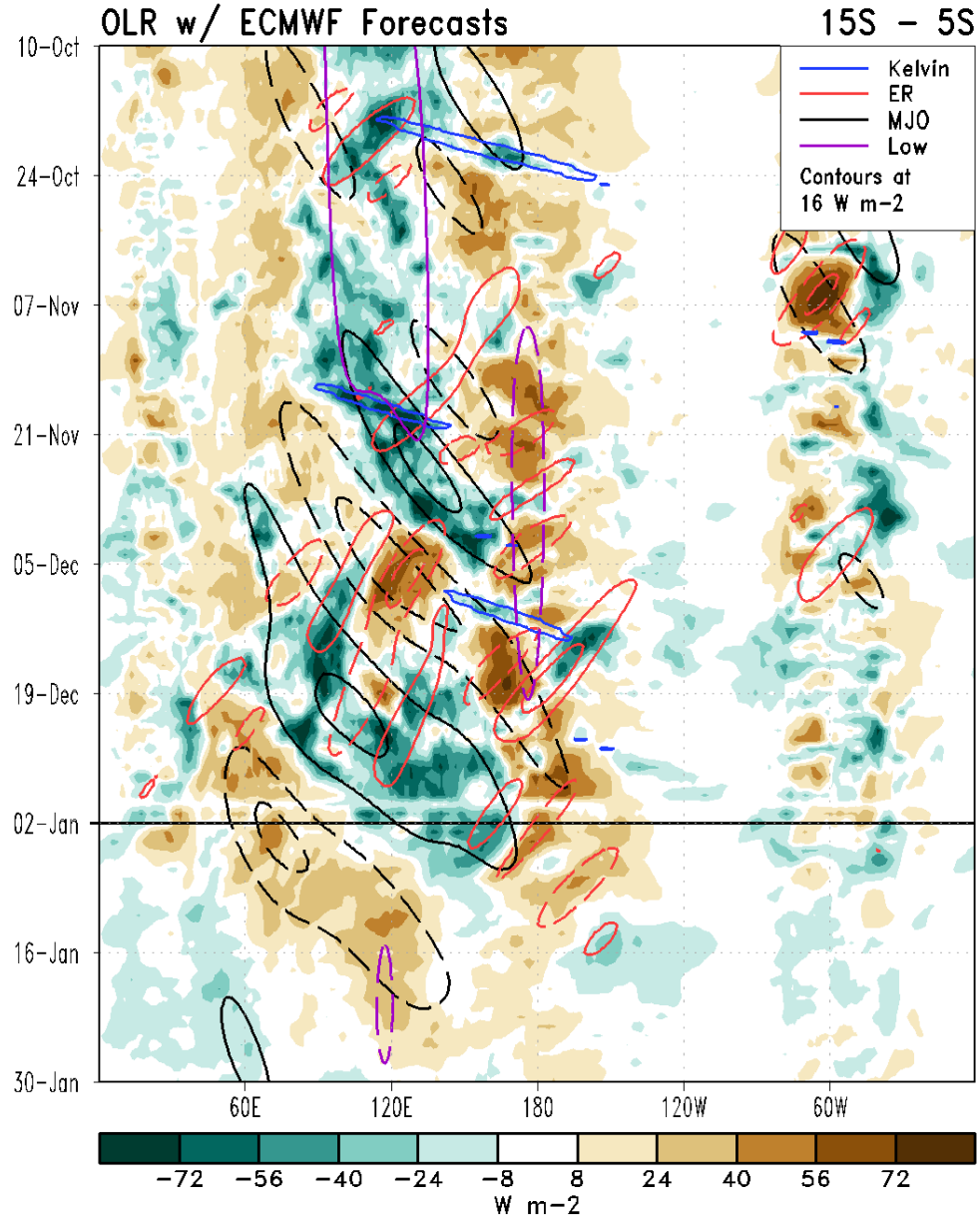


RMM Index Observations & Forecasts:



- Strong model agreement regarding continued eastward propagation of the MJO.
- The ECMWF and CFSv2 ensembles are faster compared to the GFS, with the intraseasonal signal reaching the Indian Ocean during week-3 in their ensemble means.

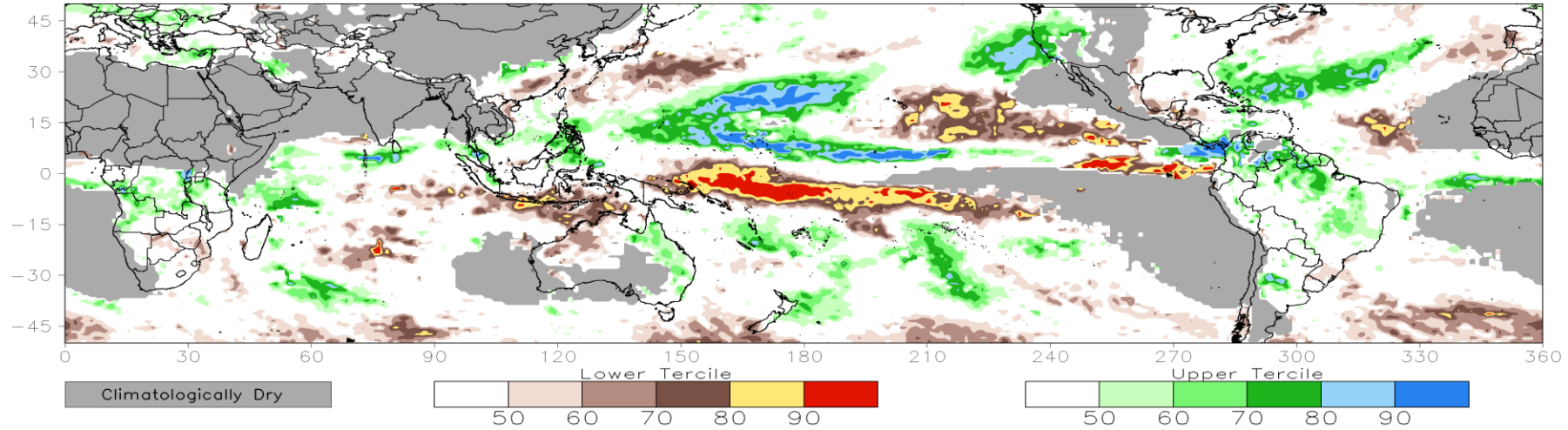
Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:



Consolidated Probabilistic Precipitation: Weeks 2 & 3

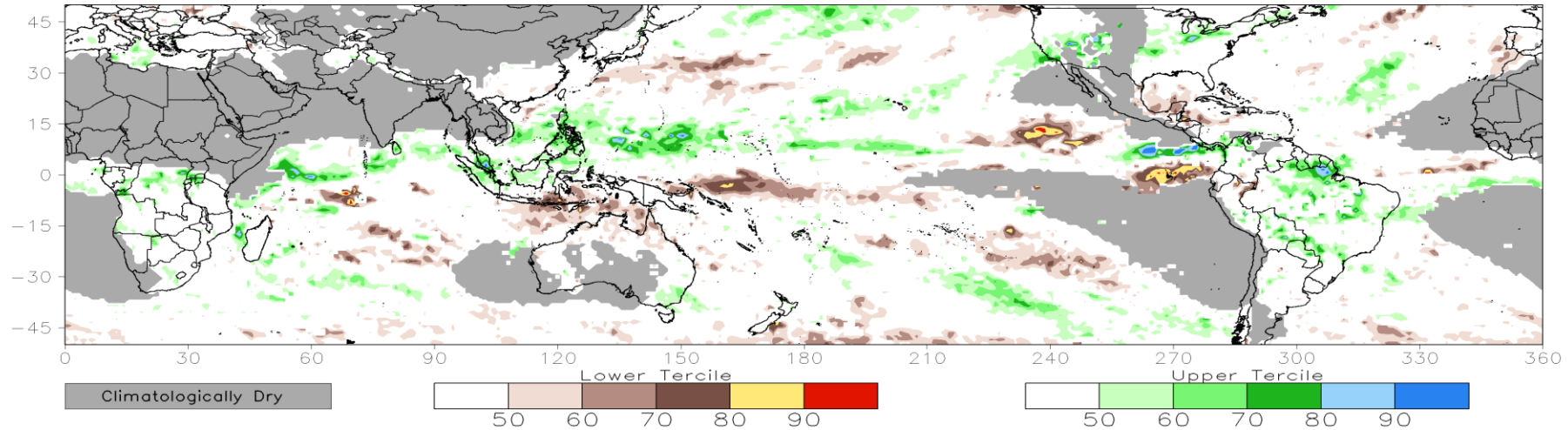
CONS 00z: Week2 Probability for Total Rainfall Below(Above) Lower(Upper) Tercile (%)

Valid: 11Jan2023–17Jan2023



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

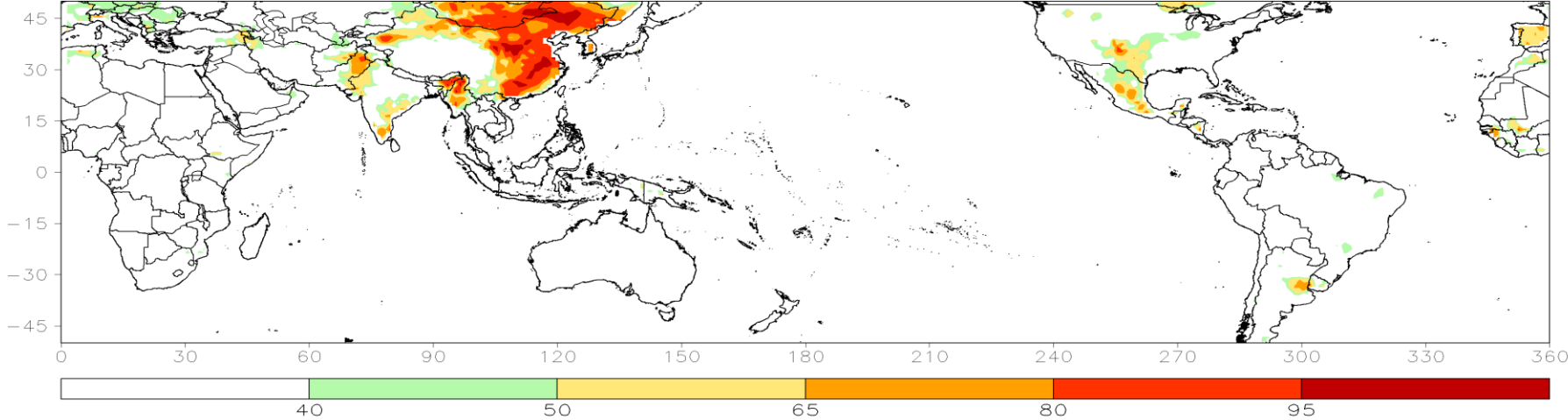
Valid: 18Jan2023–24Jan2023



Consolidated Probabilistic Temperatures: Week-2

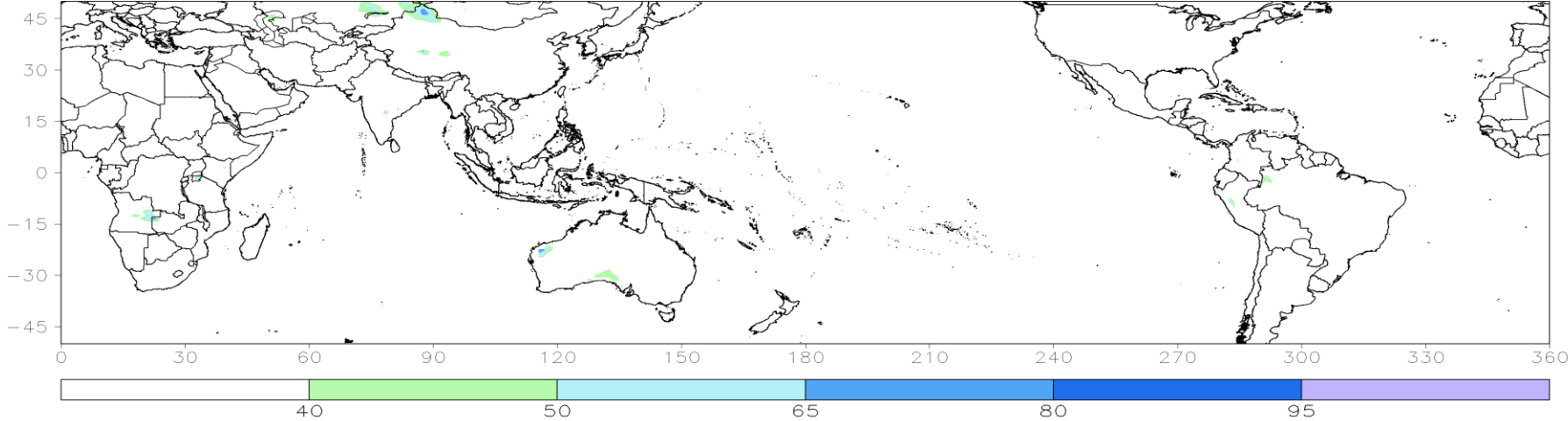
CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmax Above Upper Tercile (%)

Valid: 11Jan2023-17Jan2023



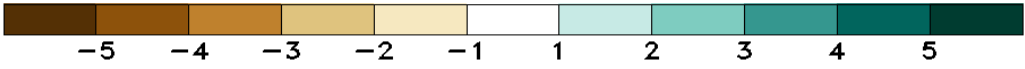
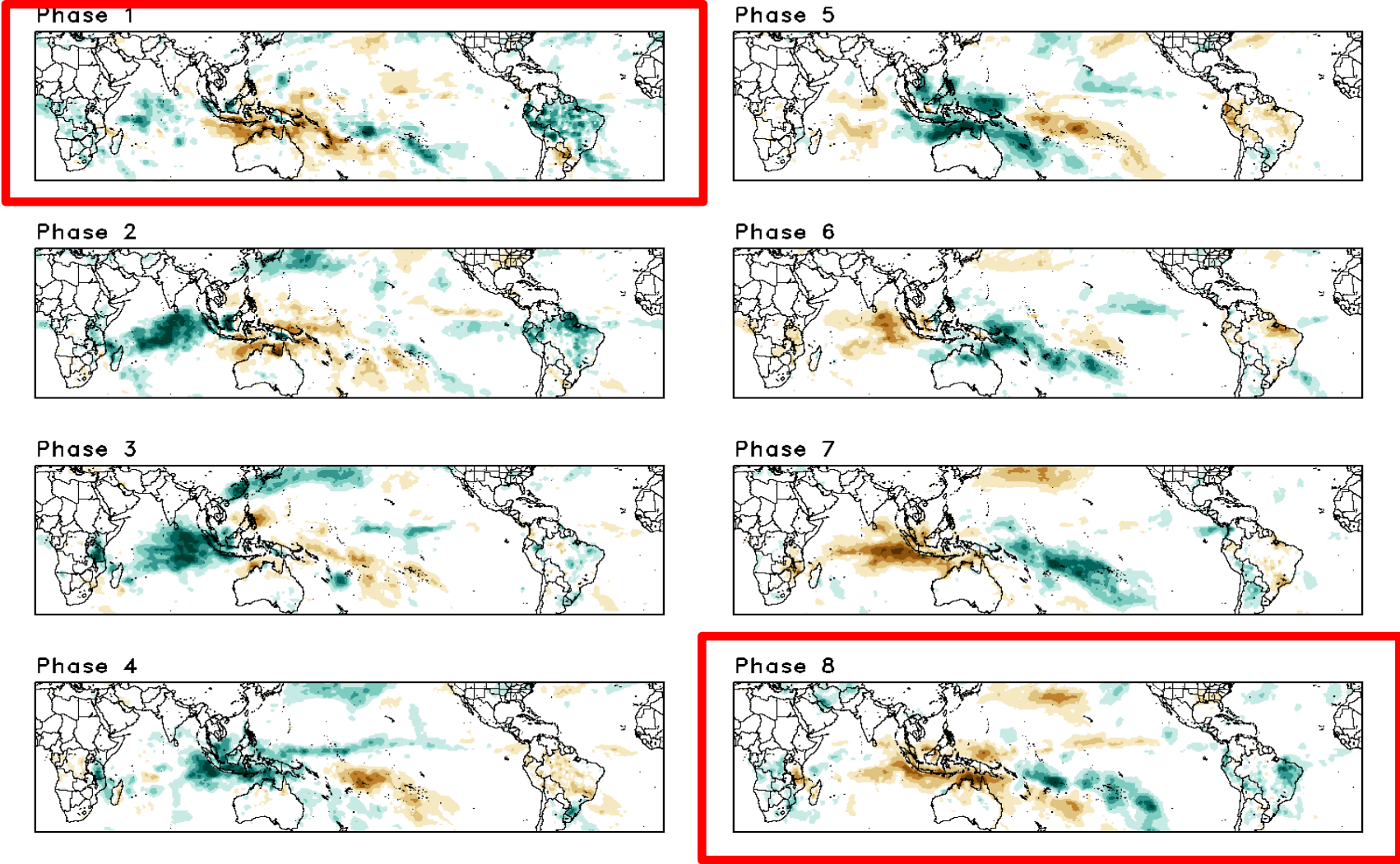
CFS/ECMWF/GEFS Correlation Weighted: Week2 Probability for Tmin Below Lower Tercile (%)

Valid: 11Jan2023-17Jan2023

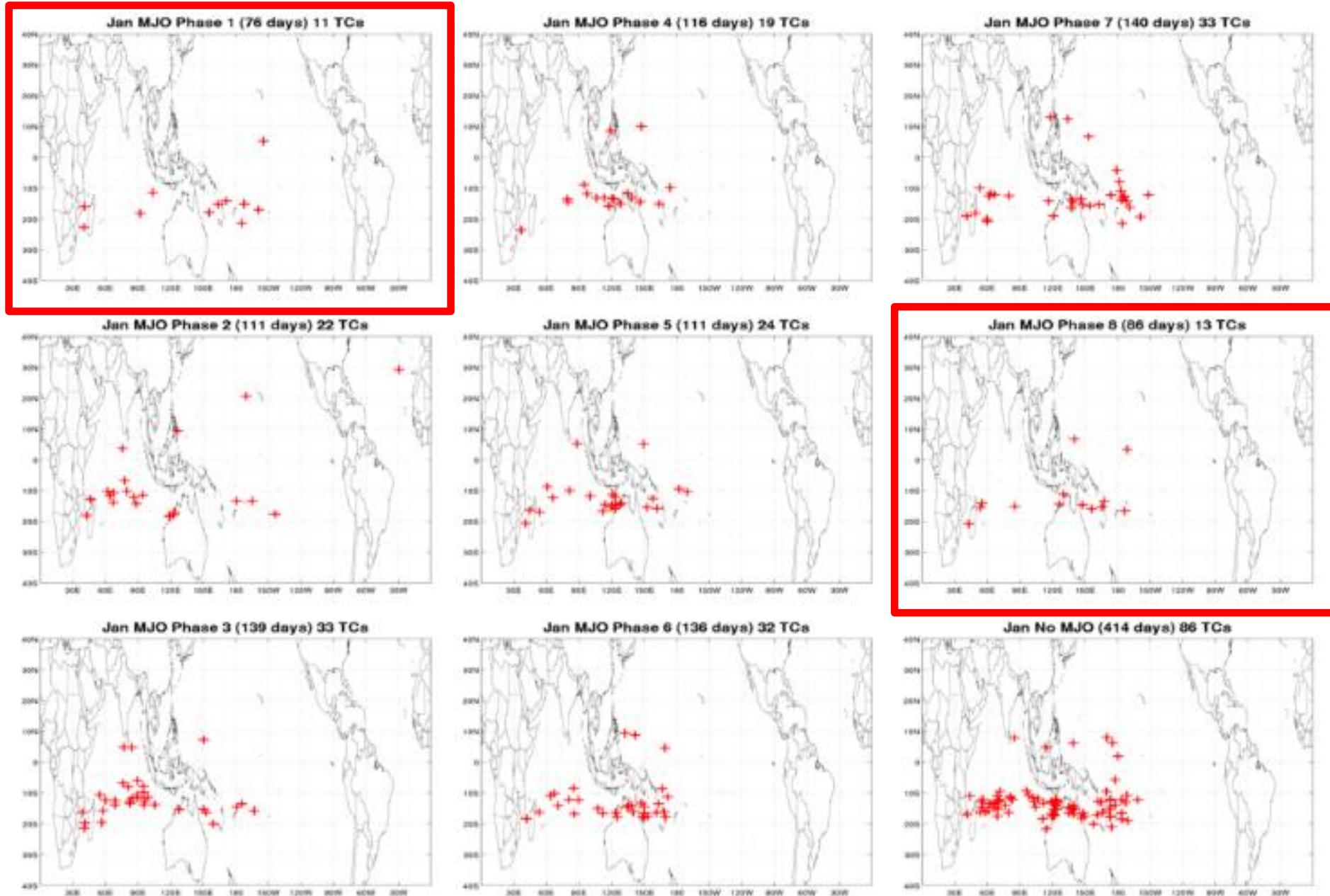


Historical Precipitation Anomalies By MJO Phase:

DJF MJO Composite: GPCP1DD (mm/day)



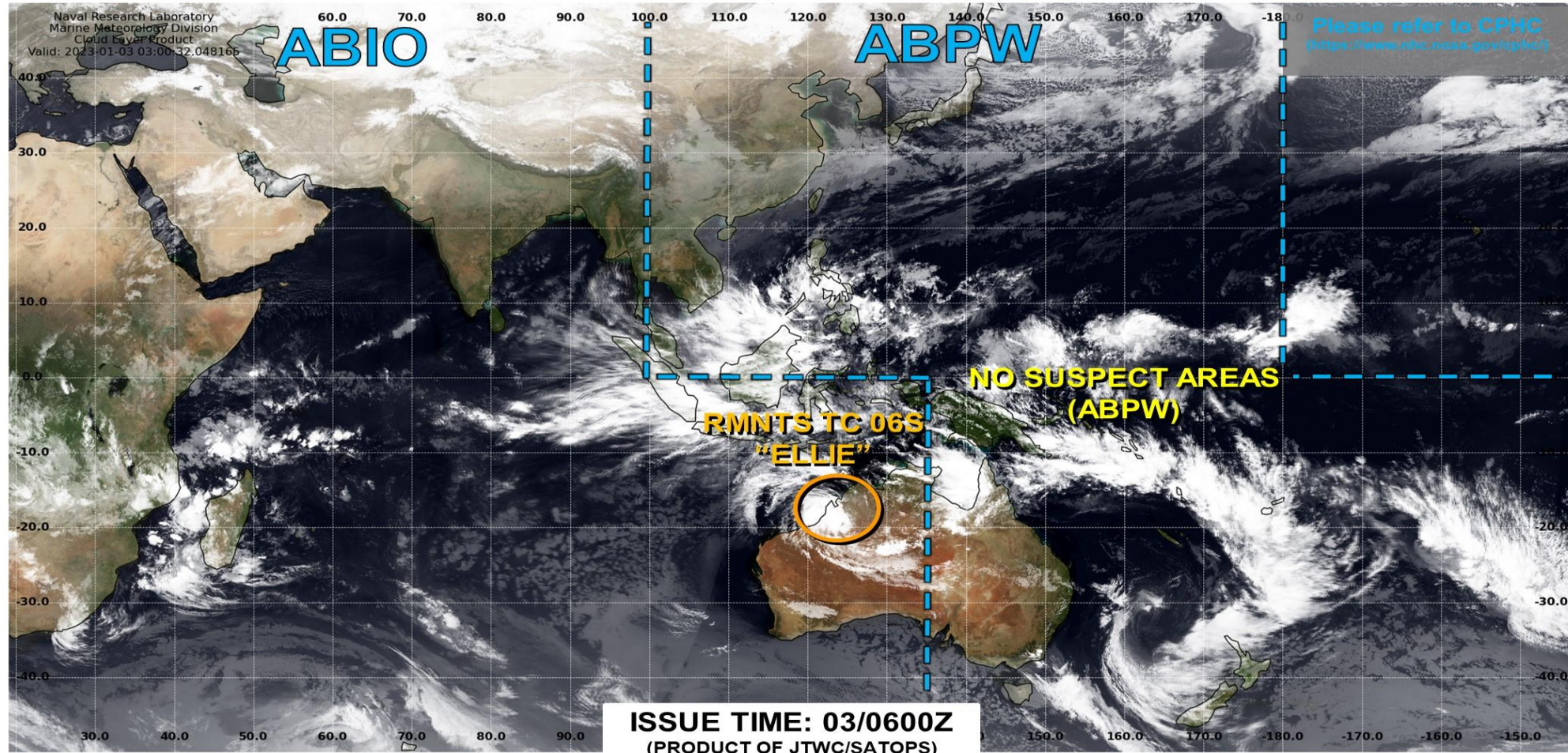
Historical TC Genesis Origins By MJO Phase:



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)



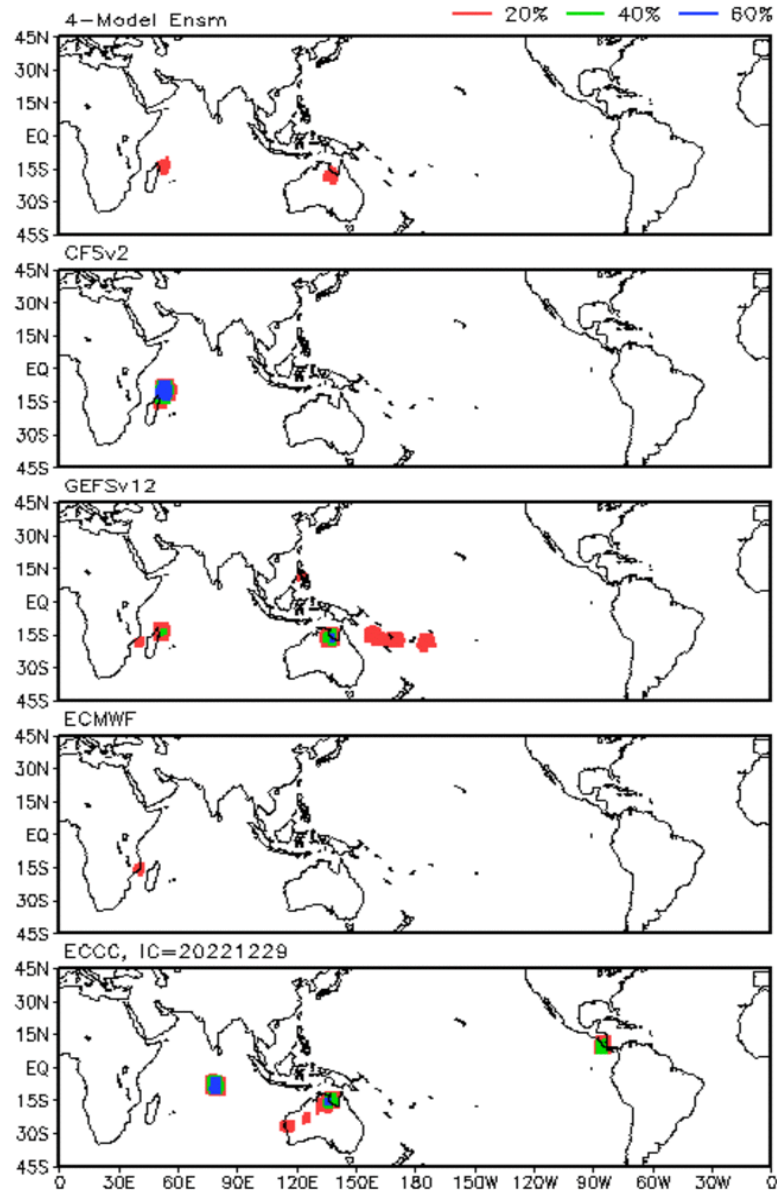
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability



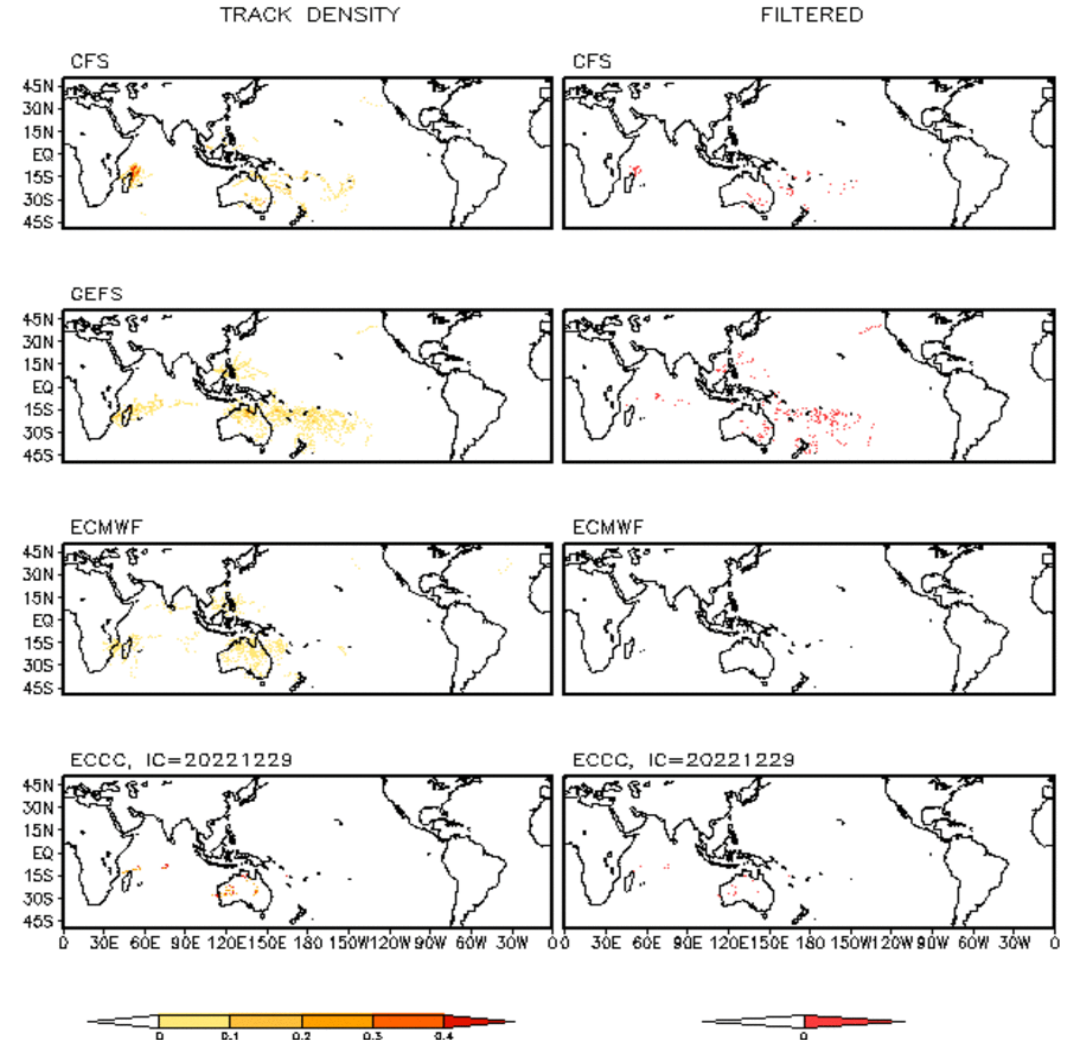
Tropical Cyclone (Reference Warning)

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

Storm Track Probabilities, IC=20230102
Week 2: 0111 - 0117



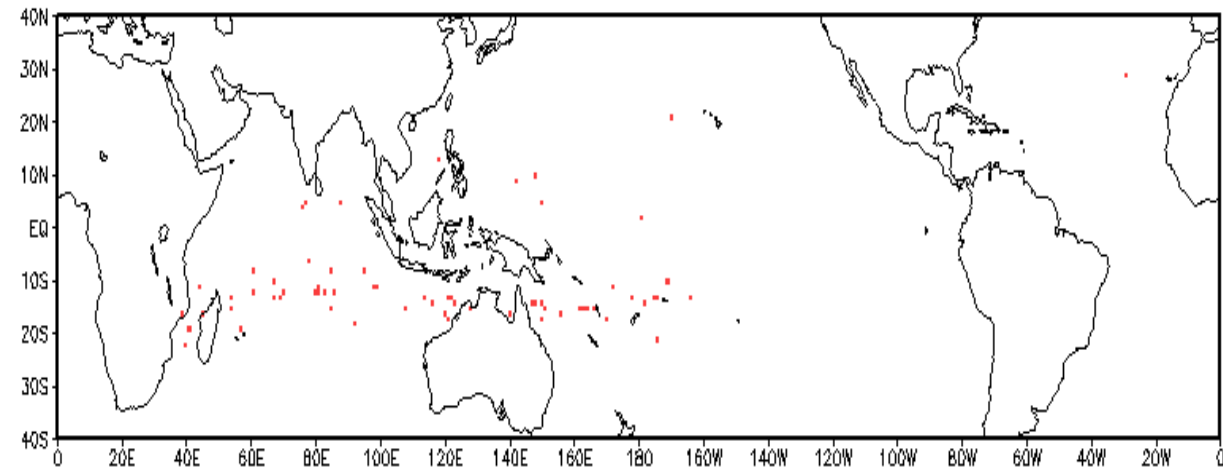
Storm Track Density Distribution, IC=20230102
Week 2 Forecast: 0111-0117



TC Climatological Genesis: Weeks 2 & 3

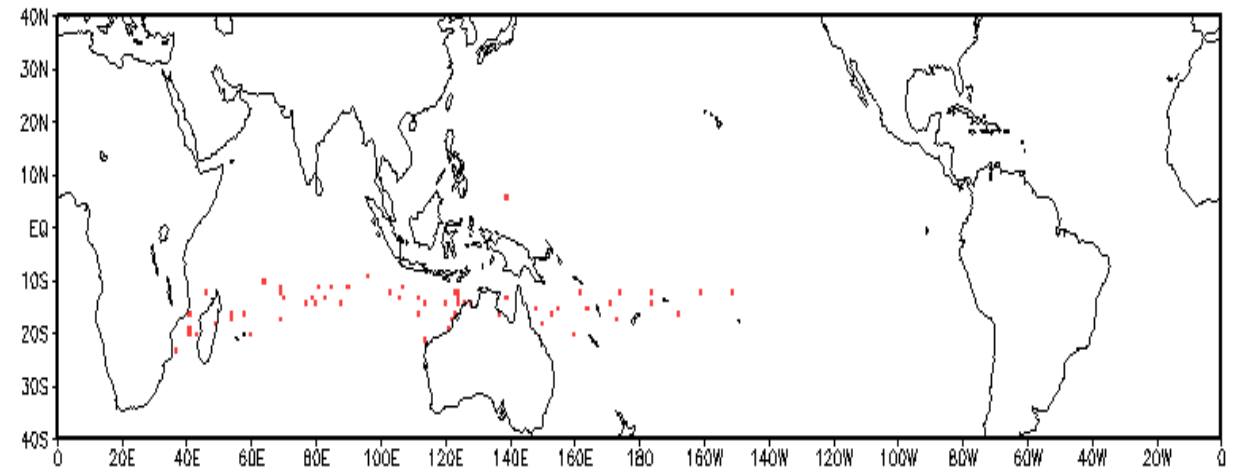
Observed TC Genesis, 1979–2021

7-day Period 0111 to 0117



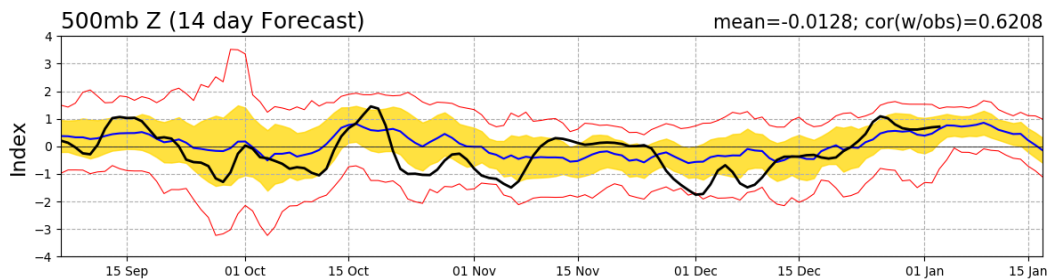
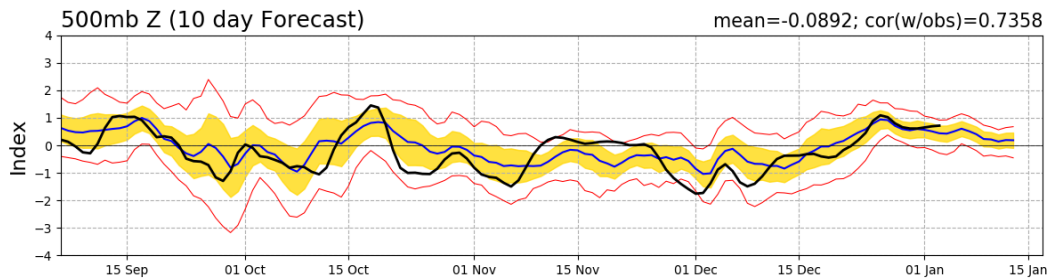
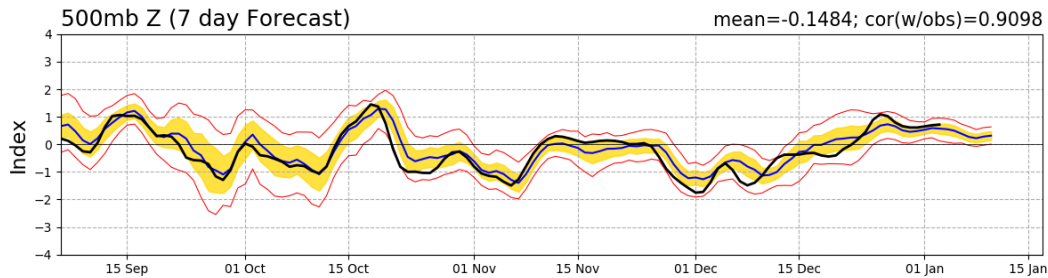
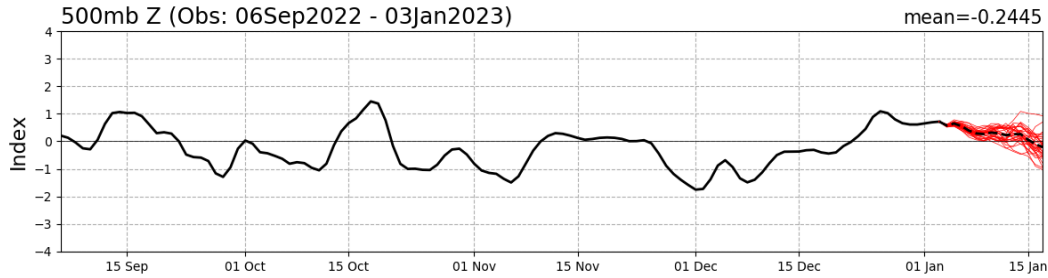
Observed TC Genesis, 1979–2021

7-day Period 0118 to 0124

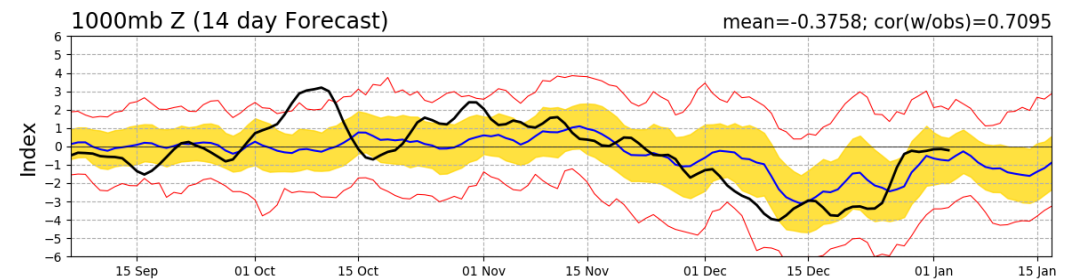
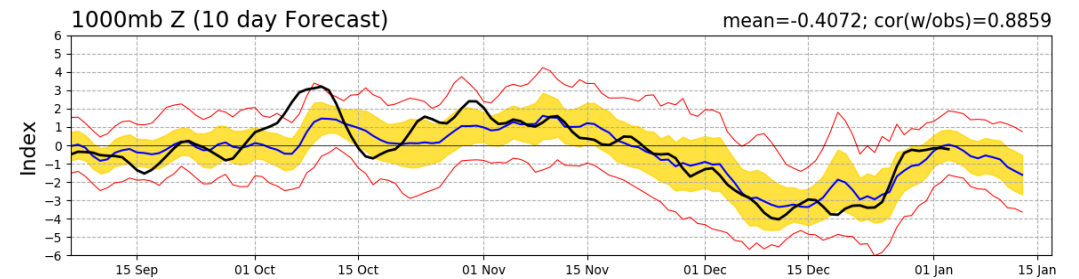
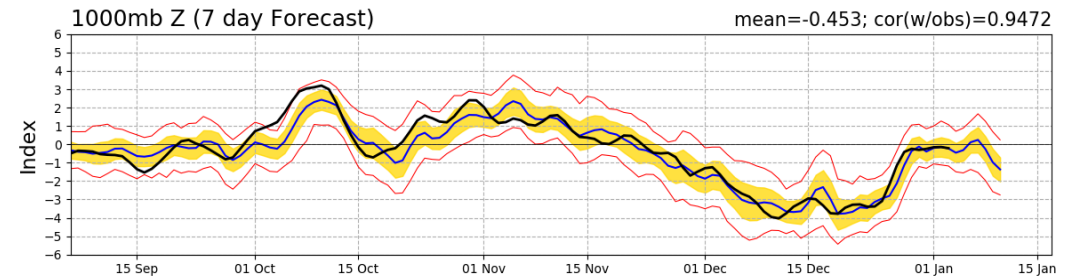
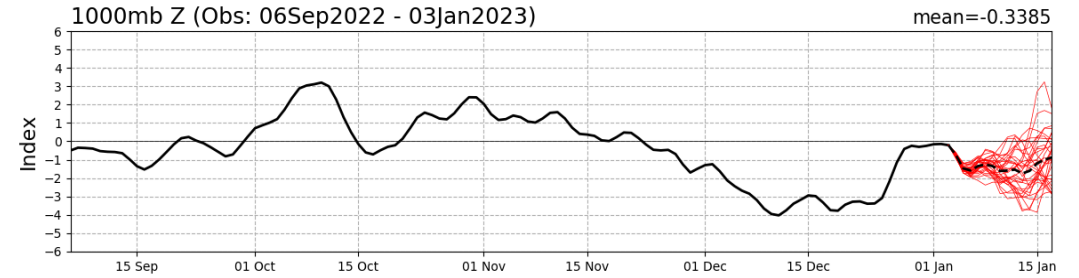


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts

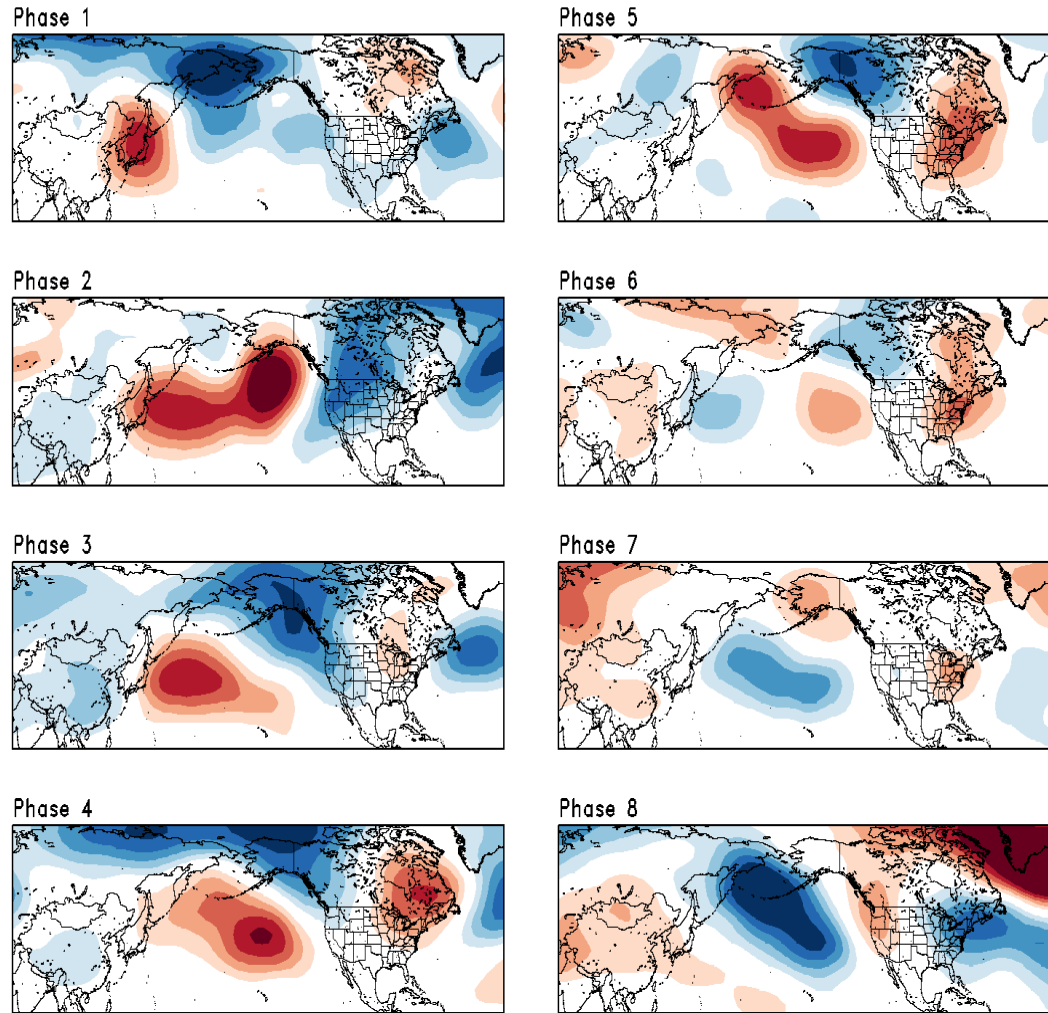


AO Index: Observed & GEFS Forecasts

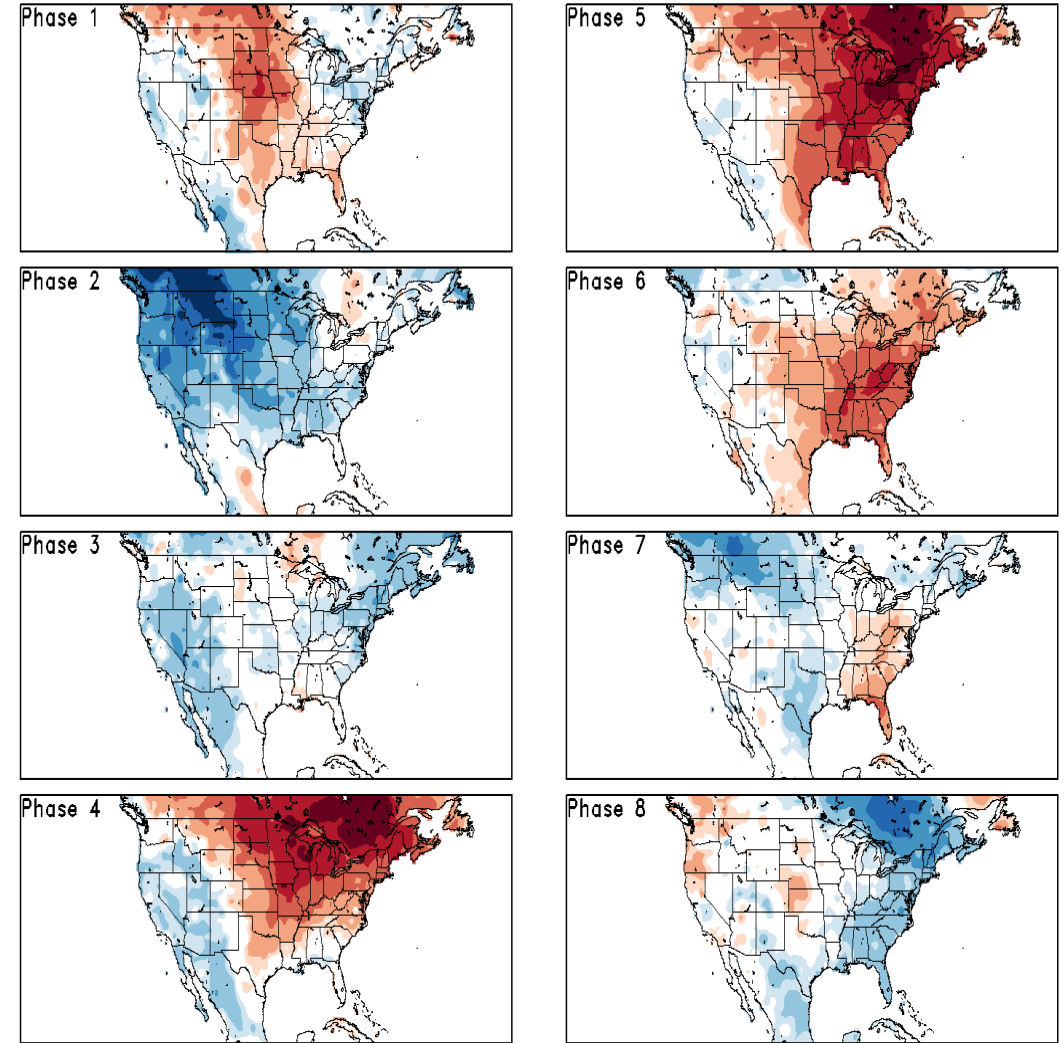


Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

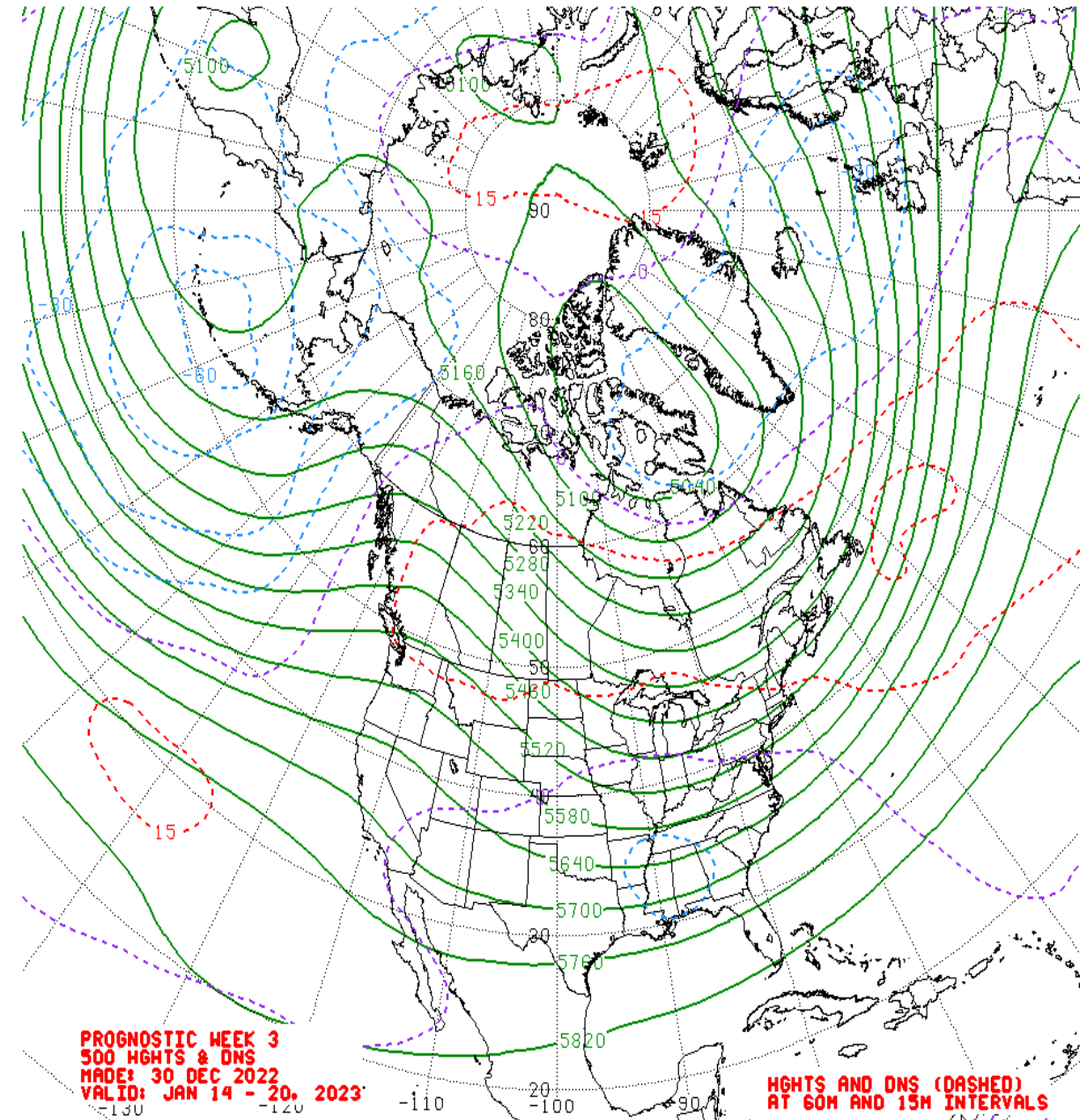
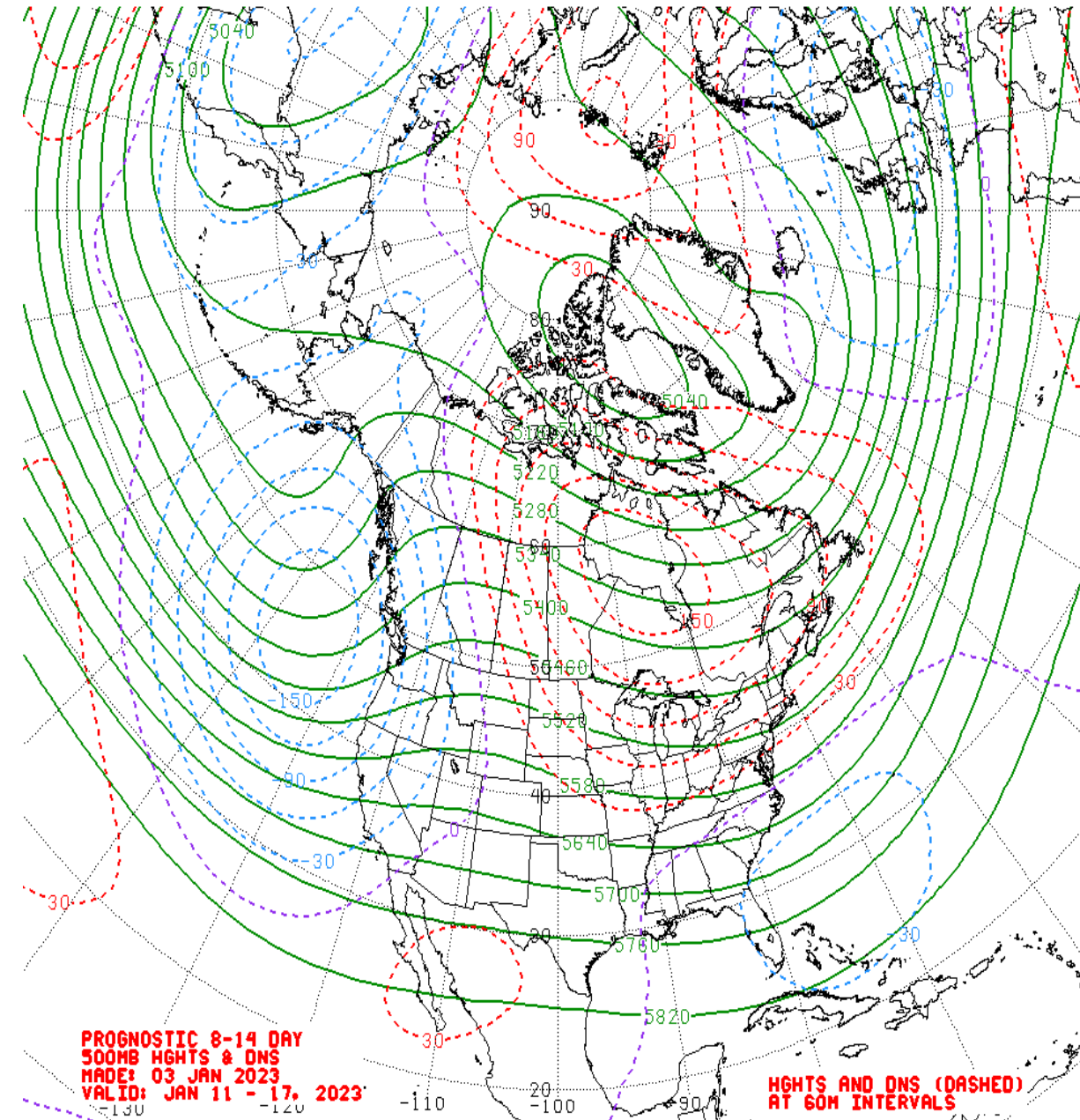
DJF MJO Composite: CDAS 500-hPa Height (m)



DJF MJO Composite: GLBT (degC)



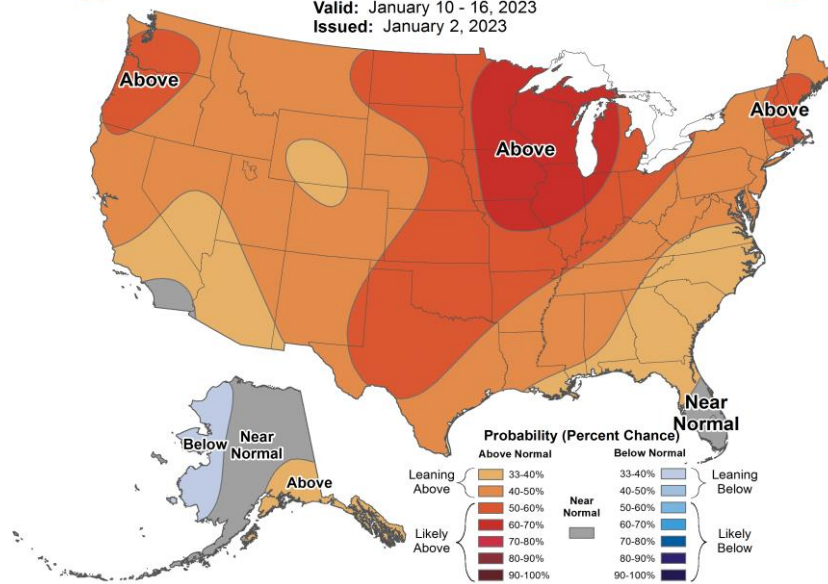
Mean 500-hPa Height Anomaly Forecasts:



Official Temperature & Precipitation Forecasts:

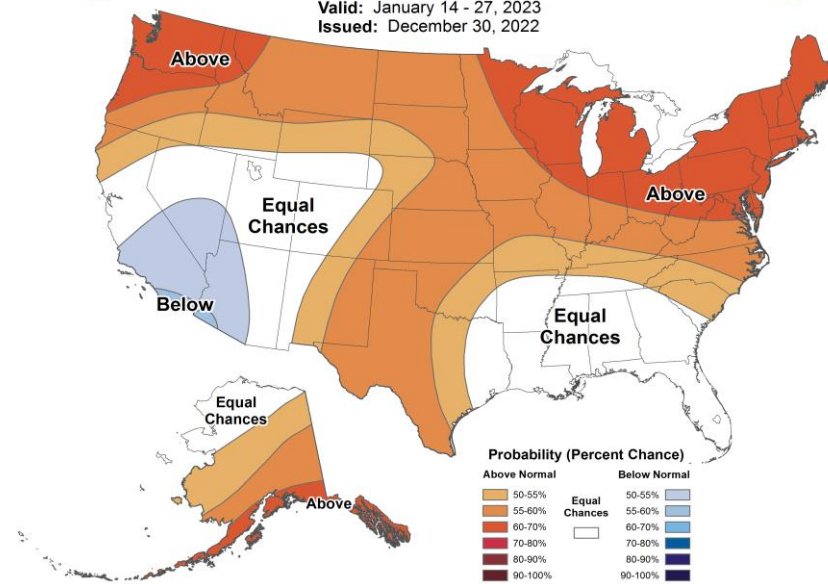
8-14 Day Temperature Outlook

Valid: January 10 - 16, 2023
Issued: January 2, 2023



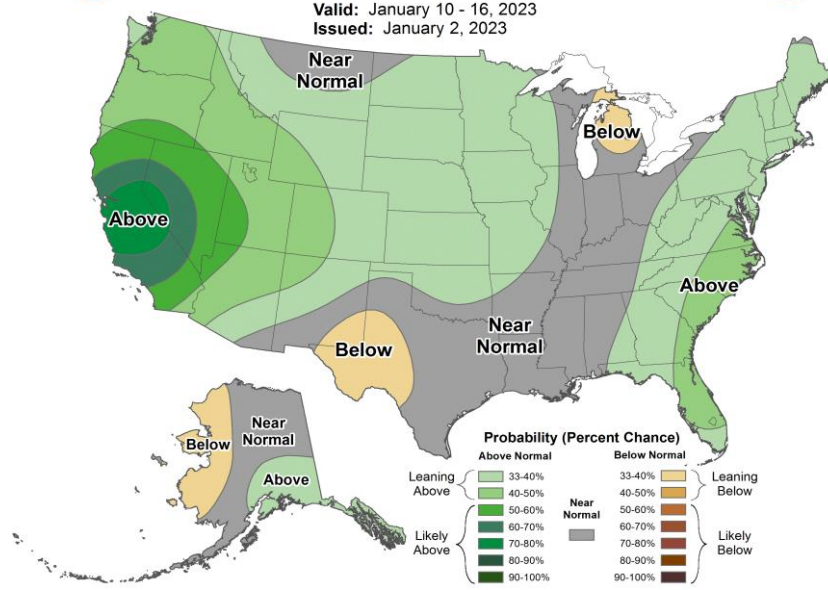
Weeks 3-4 Temperature Outlook

Valid: January 14 - 27, 2023
Issued: December 30, 2022



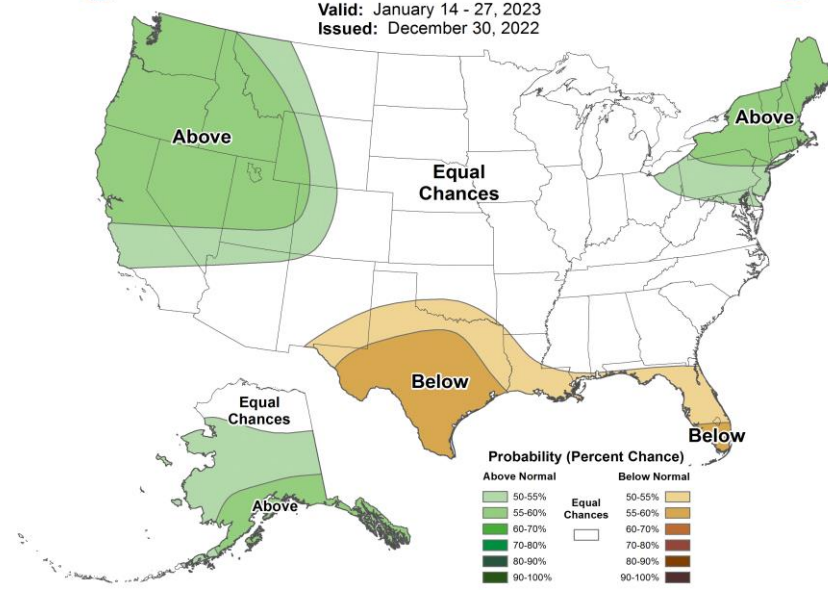
8-14 Day Precipitation Outlook

Valid: January 10 - 16, 2023
Issued: January 2, 2023



Weeks 3-4 Precipitation Outlook

Valid: January 14 - 27, 2023
Issued: December 30, 2022



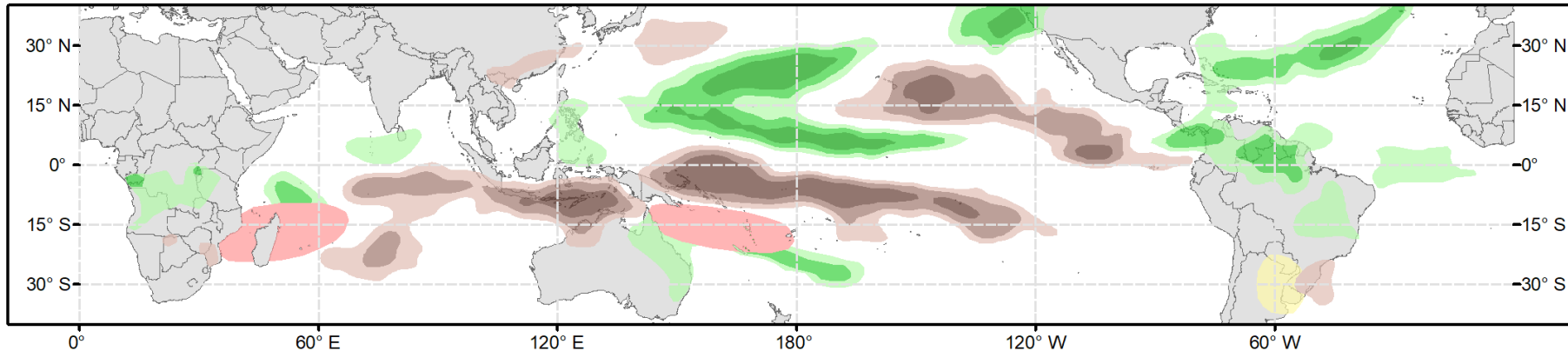


Global Tropics Hazards Outlook

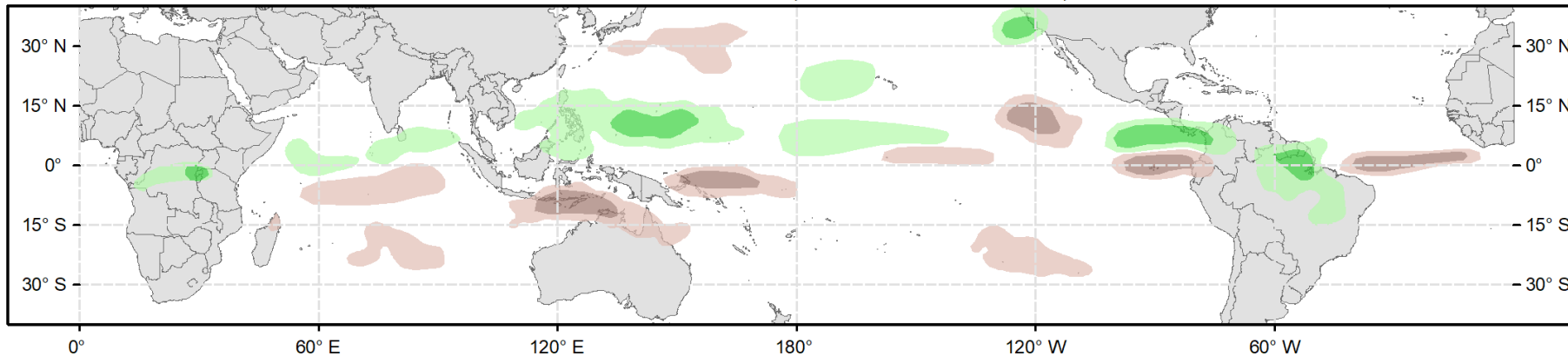
Climate Prediction Center



Week 2 - Valid: Jan 11, 2023 - Jan 17, 2023



Week 3 - Valid: Jan 18, 2023 - Jan 24, 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

Issued: 01/03/2023
Forecaster: Collow

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