



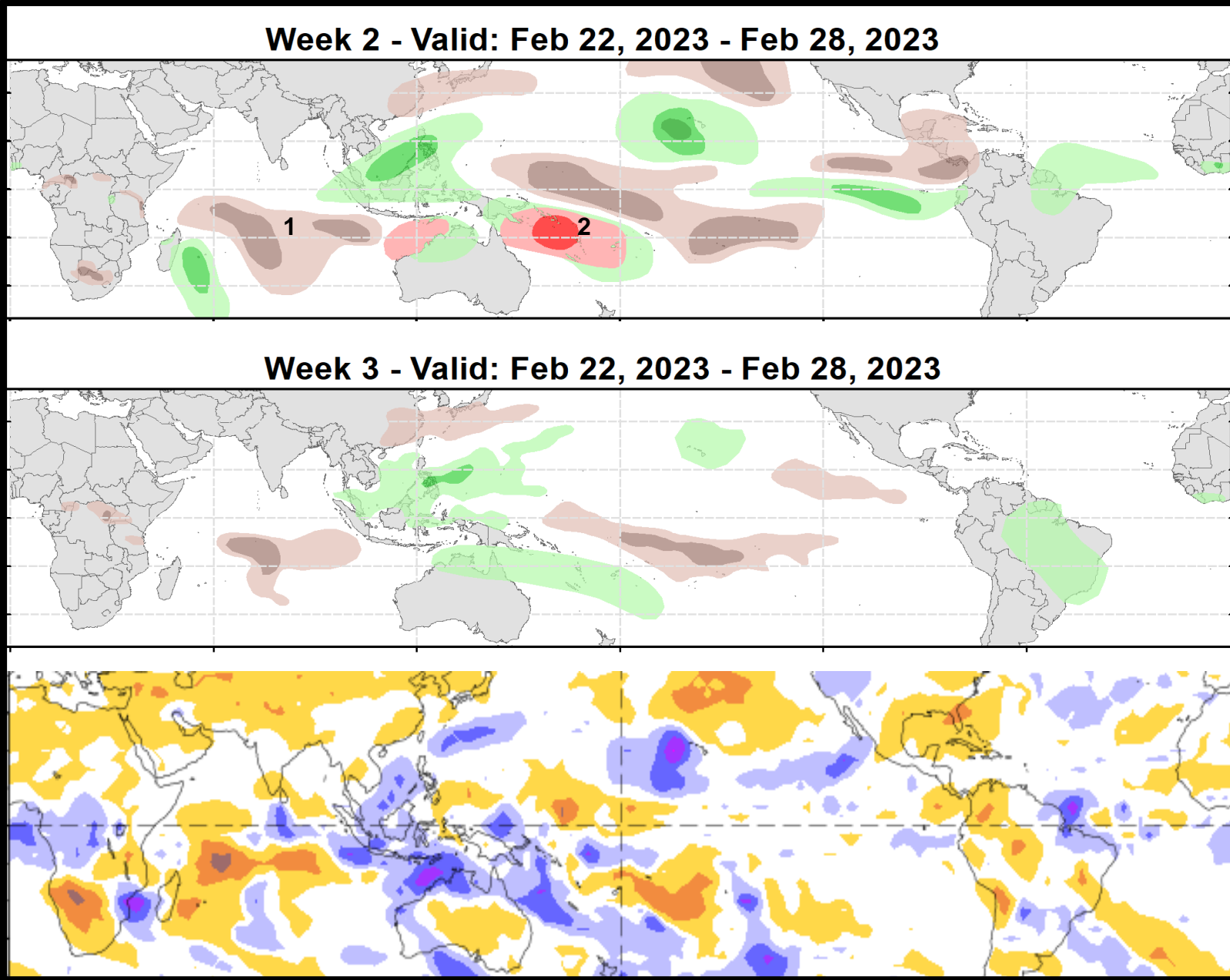
Weeks 2-3 Global Tropics Hazards Outlook

2/28/2022

Danny Barandiaran
NWS / NCEP / Climate Prediction Center

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

- 1: Enala, 2/22
- 2: Judy, 2/26



Synopsis of Climate Modes:

ENSO: (February 9, 2023 Update)

next update on Thursday, Mar 9th

- ENSO Alert System Status: [La Niña Advisory](#)
- ENSO-neutral conditions are expected to begin within the next couple of months, and persist through the Northern Hemisphere spring and early summer.

MJO and other subseasonal tropical variability:

- The MJO signal has weakened over the last week after several weeks of a robust signal with typical eastward propagation from the Indian Ocean into the Central Pacific.
- Interference from various modes, including the ongoing La Niña, have resulted in period of erratic behavior in the RMM index.
- Dynamical model MJO index forecasts generally depict a re-emerging stronger Pacific signal during week-1, followed by a resumption of eastward propagation of the signal during week-2.
- Pacific MJO activity may help further weaken the La Niña signal through low-level westerly wind anomalies promoting eastward propagation of warmer water across the Pacific.

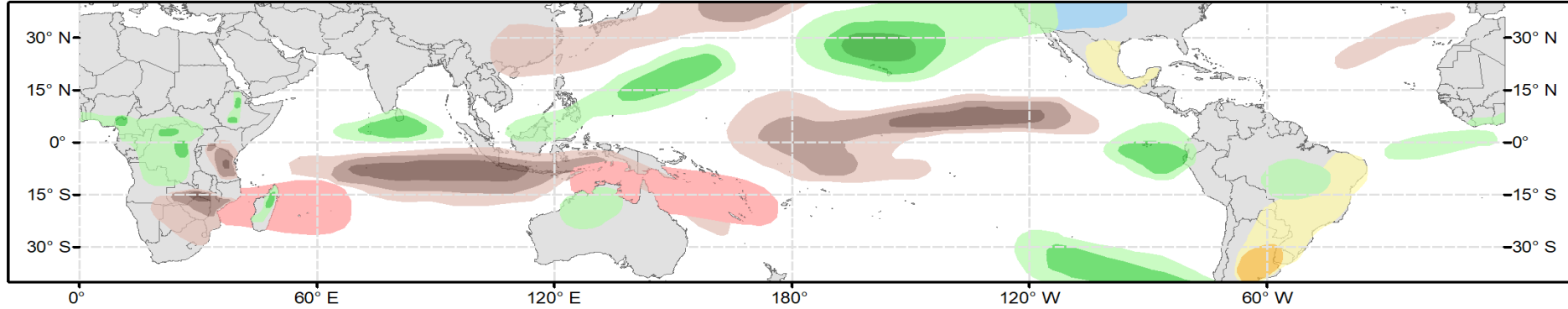
GTH Outlook:



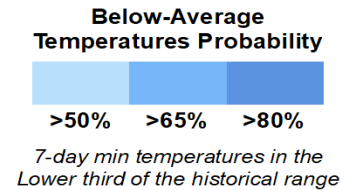
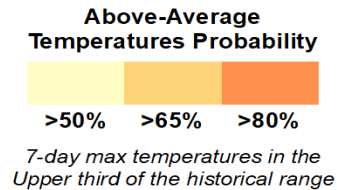
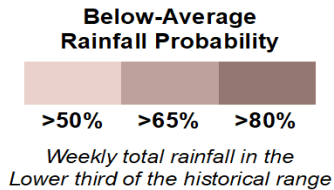
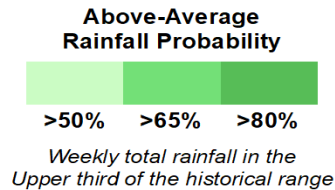
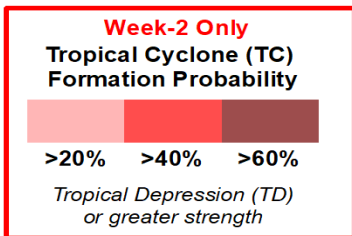
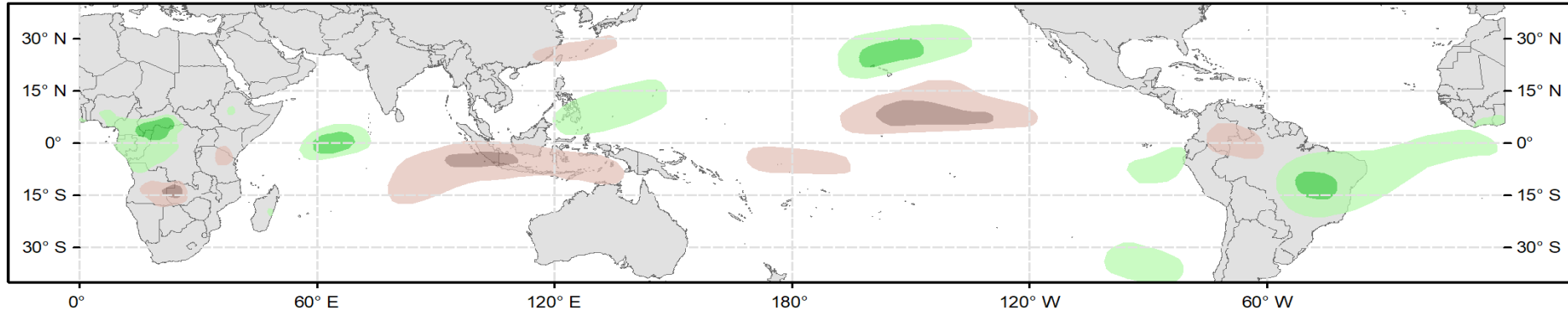
Global Tropics Hazards Outlook Climate Prediction Center



Week 2 - Valid: Mar 08, 2023 - Mar 14, 2023



Week 3 - Valid: Mar 15, 2023 - Mar 21, 2023

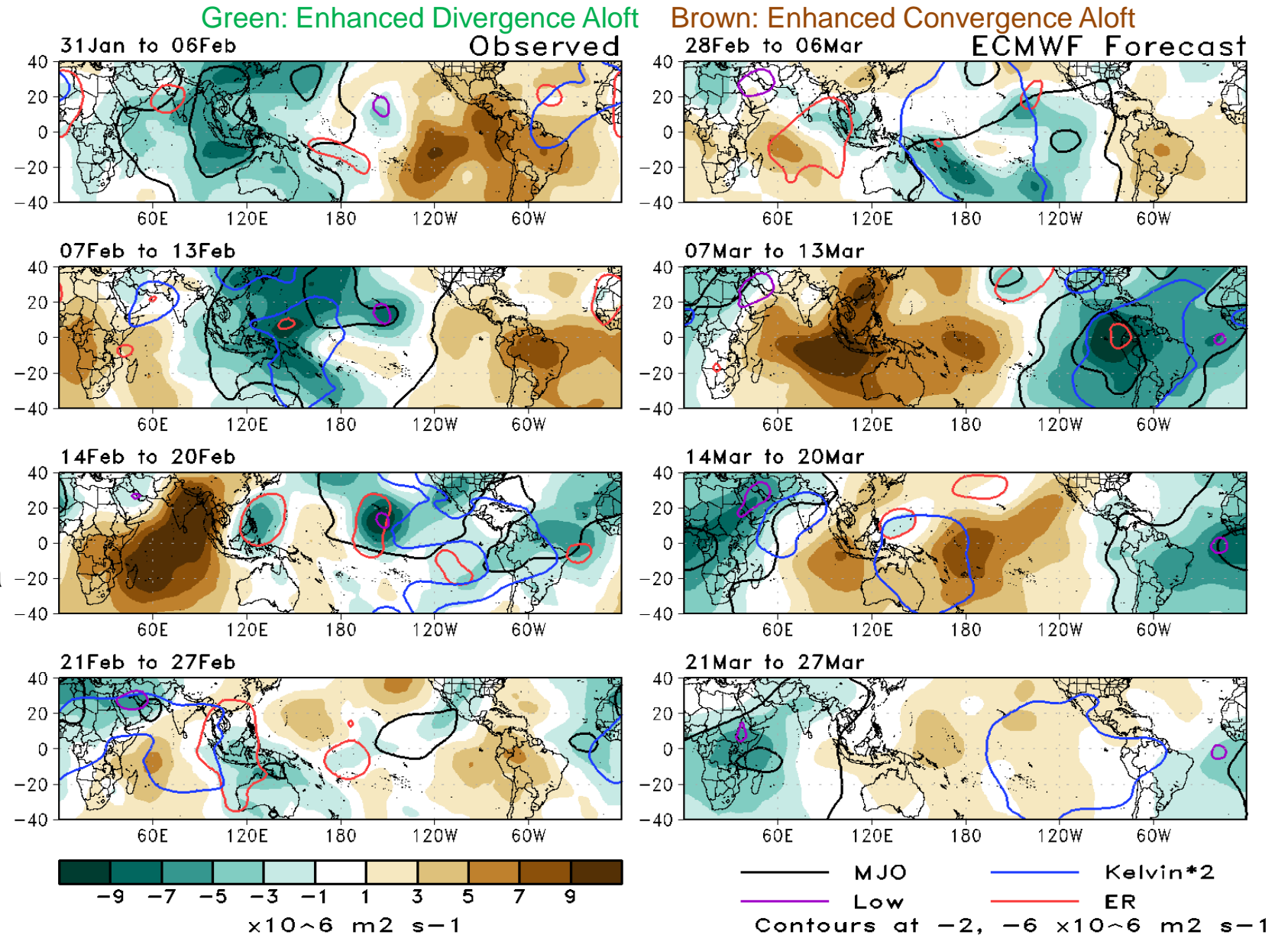


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Forecaster: Barandiaran

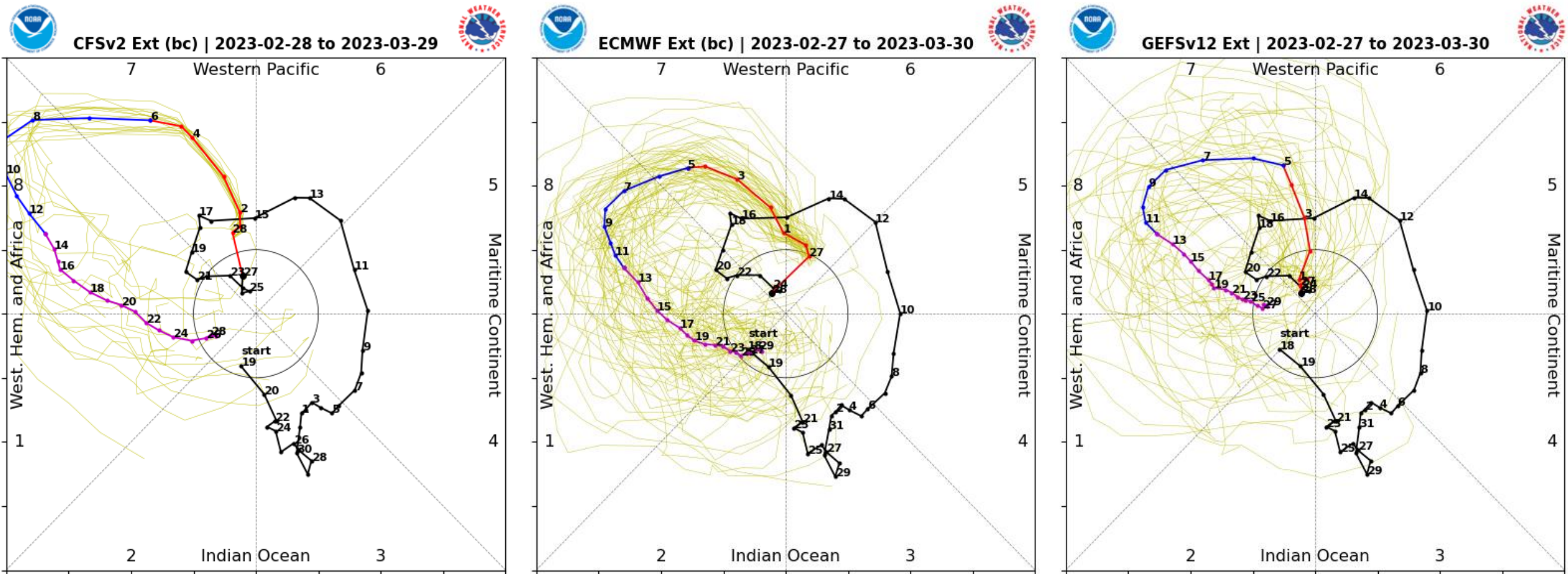
This product is updated once per week and targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

200-hPa Velocity Potential Anomaly Maps:

- Global tropical convection is disorganized at present, with no clear wave structure.
- Strong wave-1 pattern quickly emerges by week-2, with enhanced convective envelope over the Americas.
- Eastward propagation takes enhanced convection over Africa into weeks 3-4.

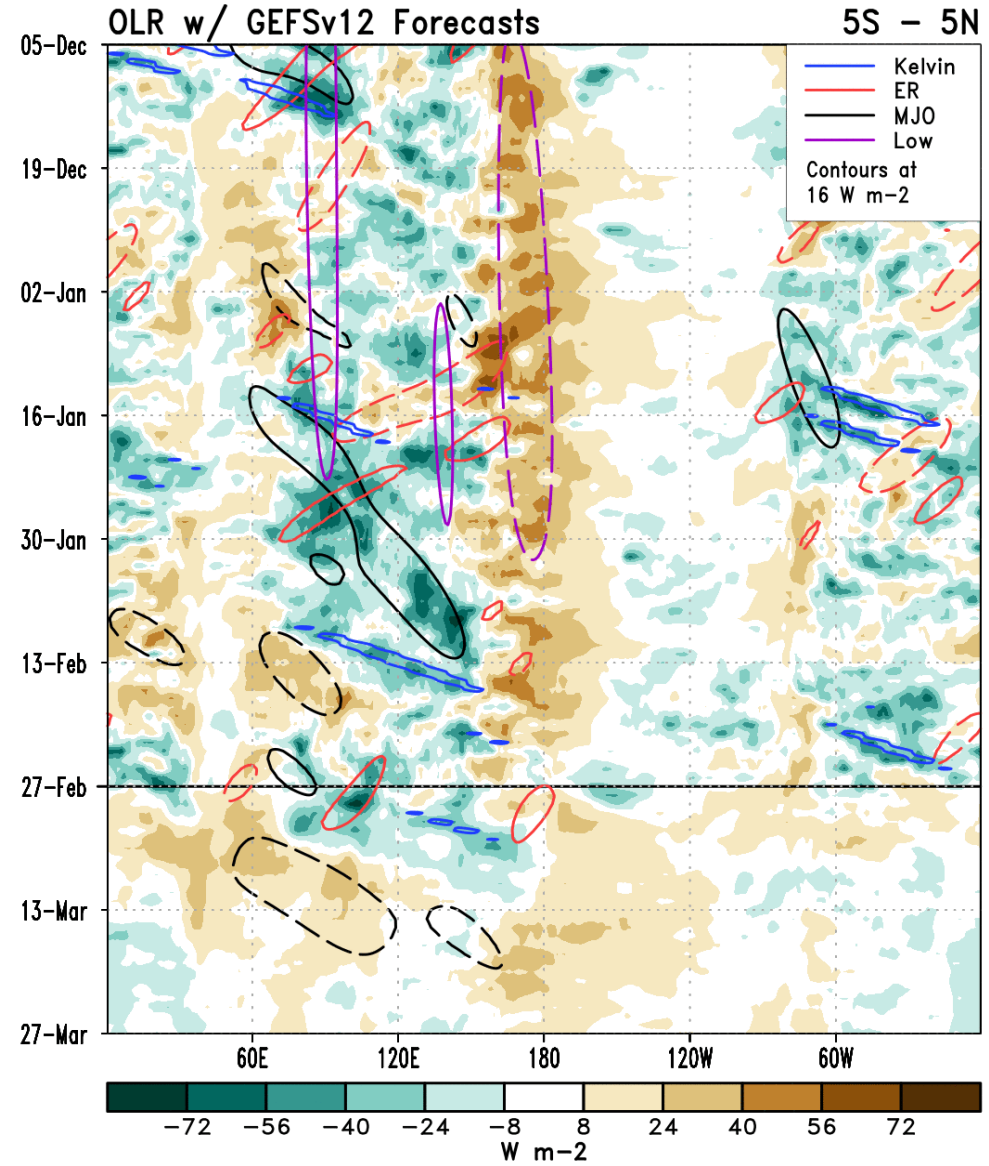
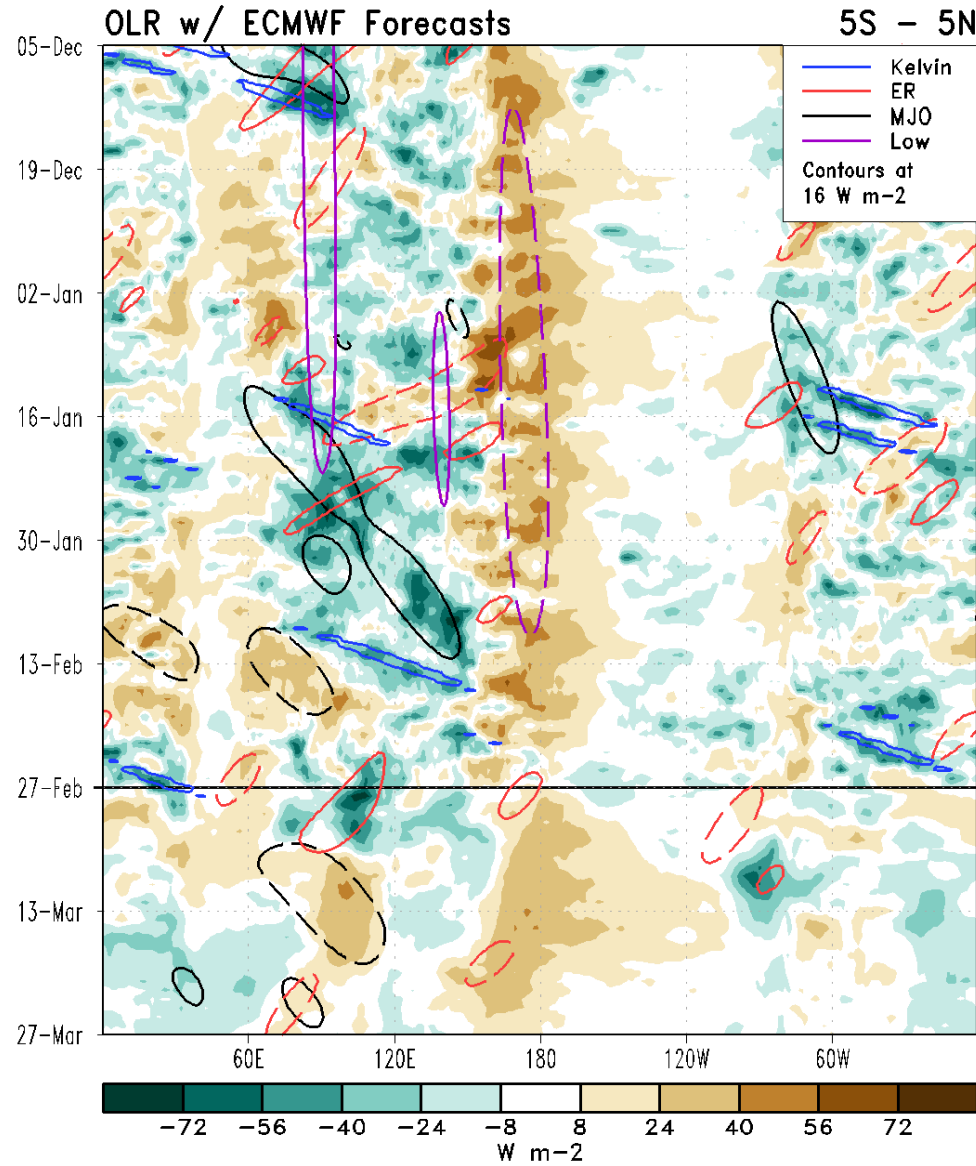


RMM Index Observations & Forecasts:



- Dynamical model MJO index forecasts generally show a strengthening signal during Week-1, followed by a resumption of eastward propagation during Week-2.
- The frequent changes in signal strength may reflect other modes interfering with the broader MJO signal.

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

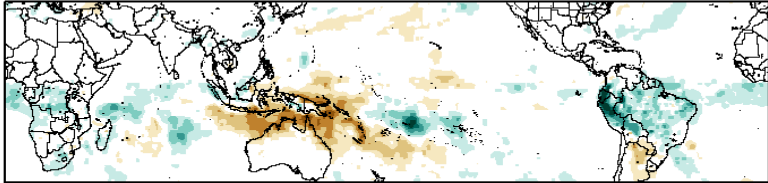


Consolidated Probabilistic Precipitation: Weeks 2 & 3

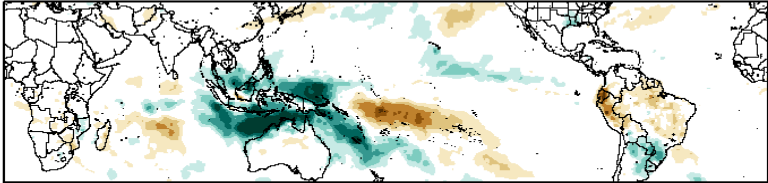
Historical Precipitation Anomalies By MJO Phase:

JFM MJO Composite: GPCP1DD (mm/day)

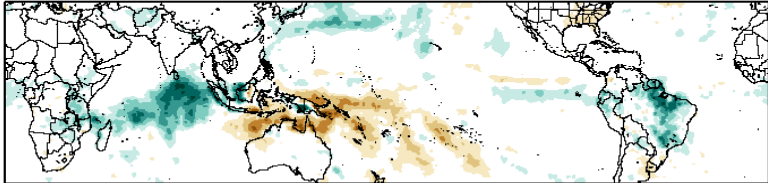
Phase 1



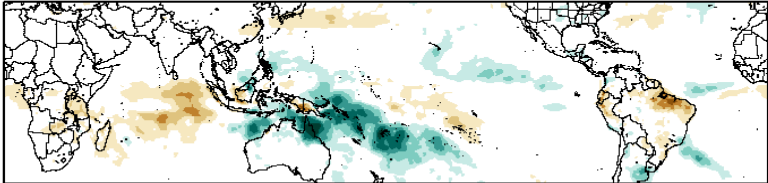
Phase 5



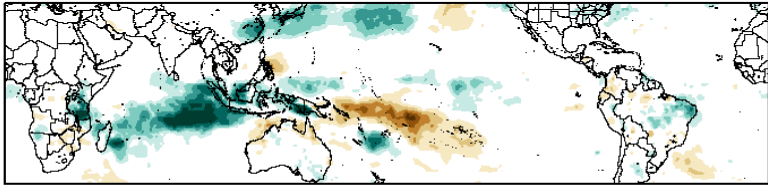
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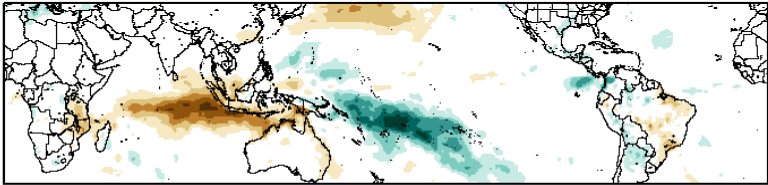
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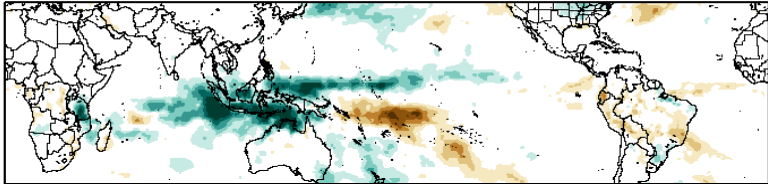
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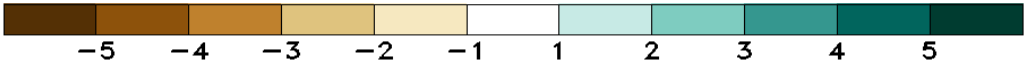
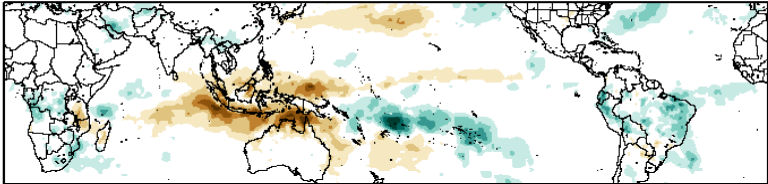
Phase 7



Phase 4

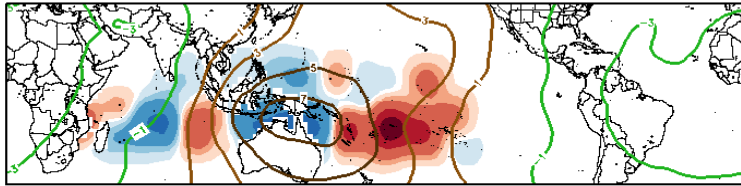


Phase 8

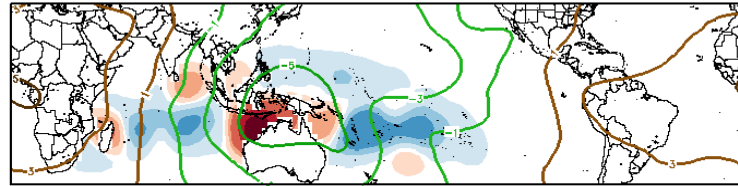


Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:

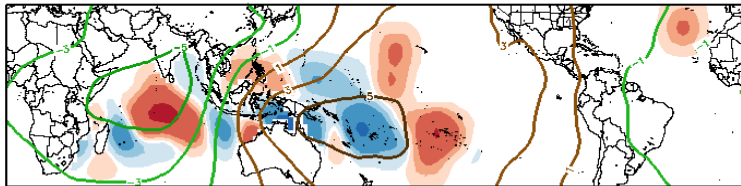
JFM MJO Composite: Mean TC Origin Density Anomaly ($\#TCs/277km^2*100$)
w/ JFM CHI200 ($\times 10^6 m^2 s^{-1}$) / Contours every $2 \times 10^6 m^2 s^{-1}$



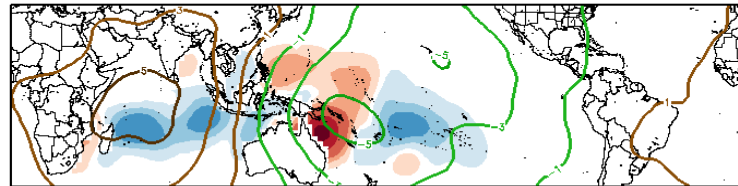
Phase 1



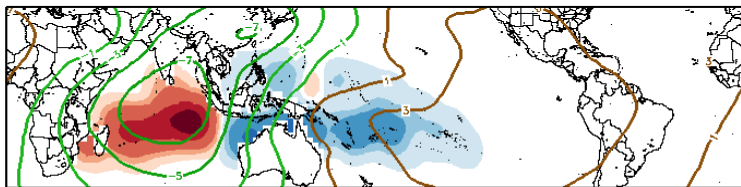
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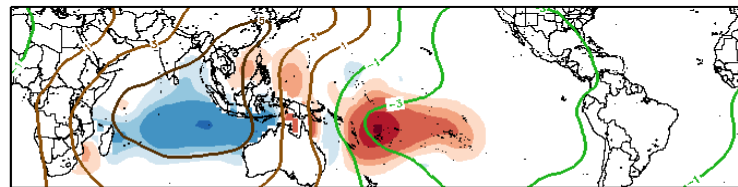
Phase 2



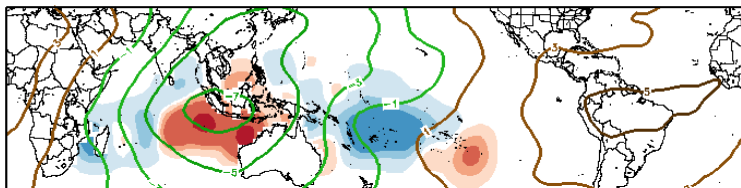
Phase 6



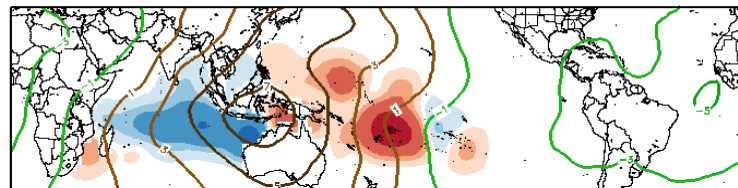
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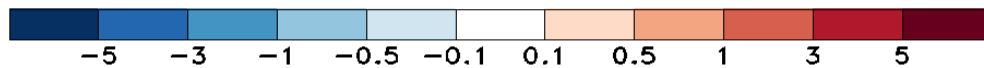
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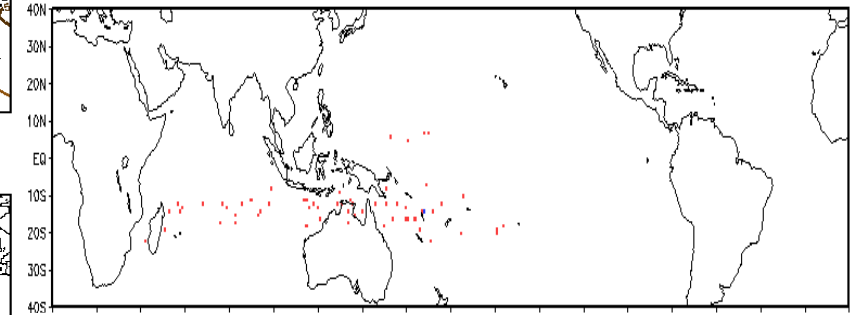
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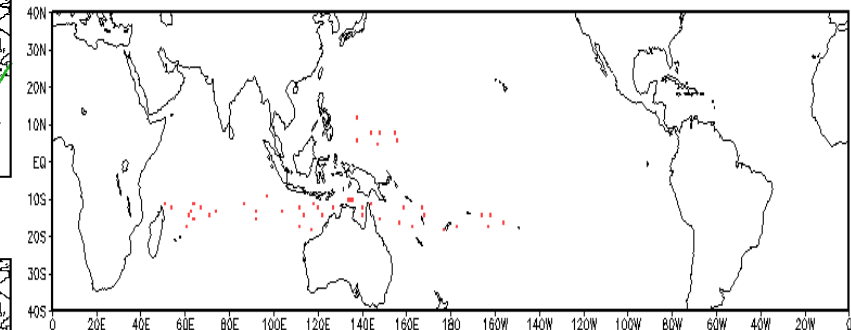
Phase 8



Observed TC Genesis, 1979–2021
7-day Period 0308 to 0314

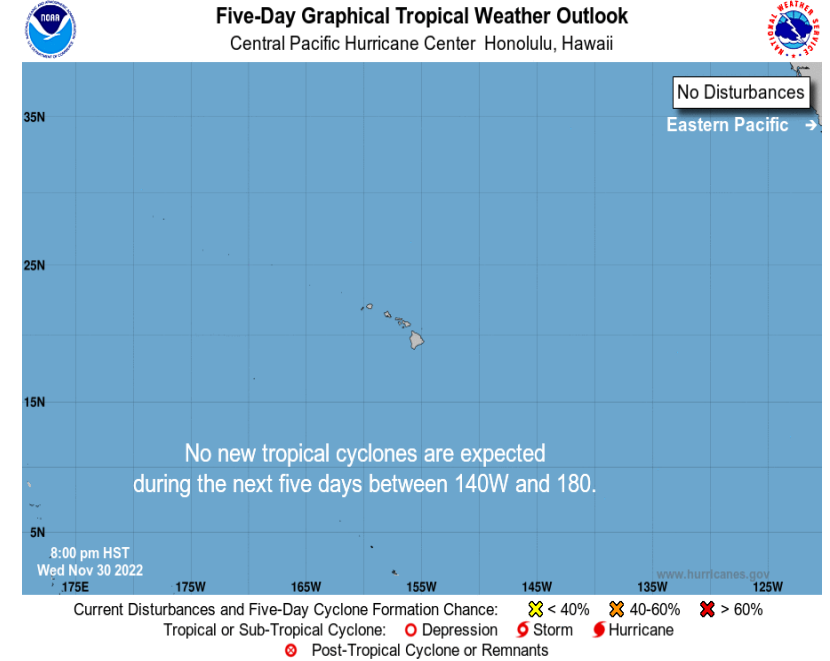
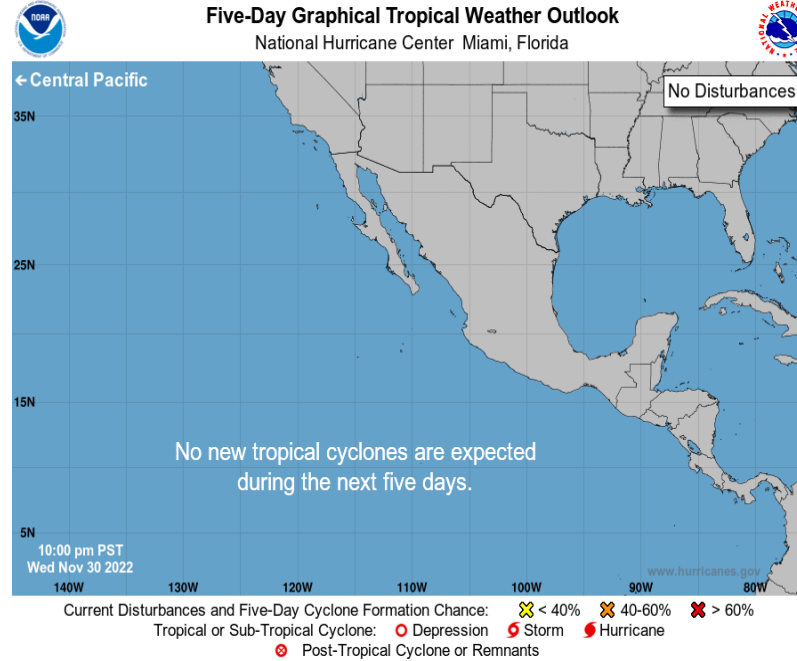
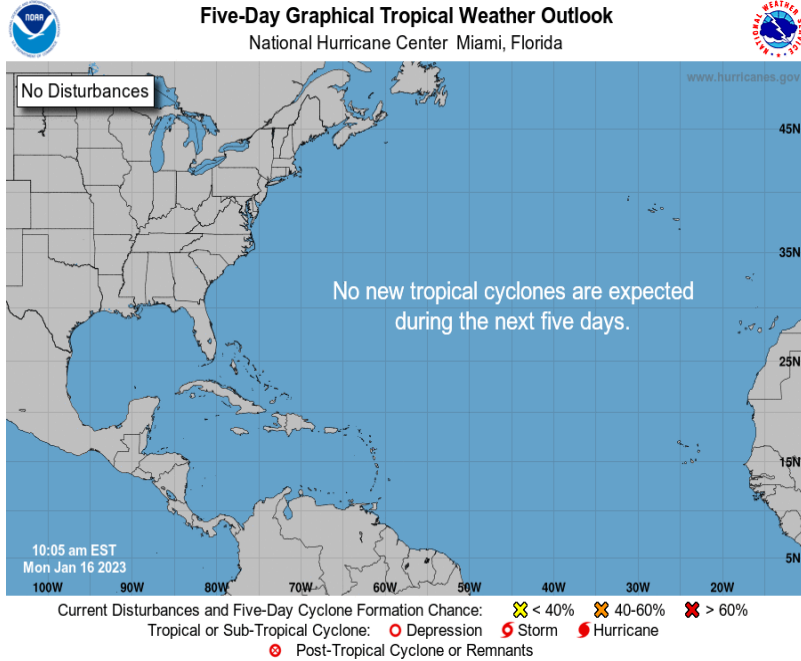


Observed TC Genesis, 1979–2021
7-day Period 0315 to 0321



Experimental

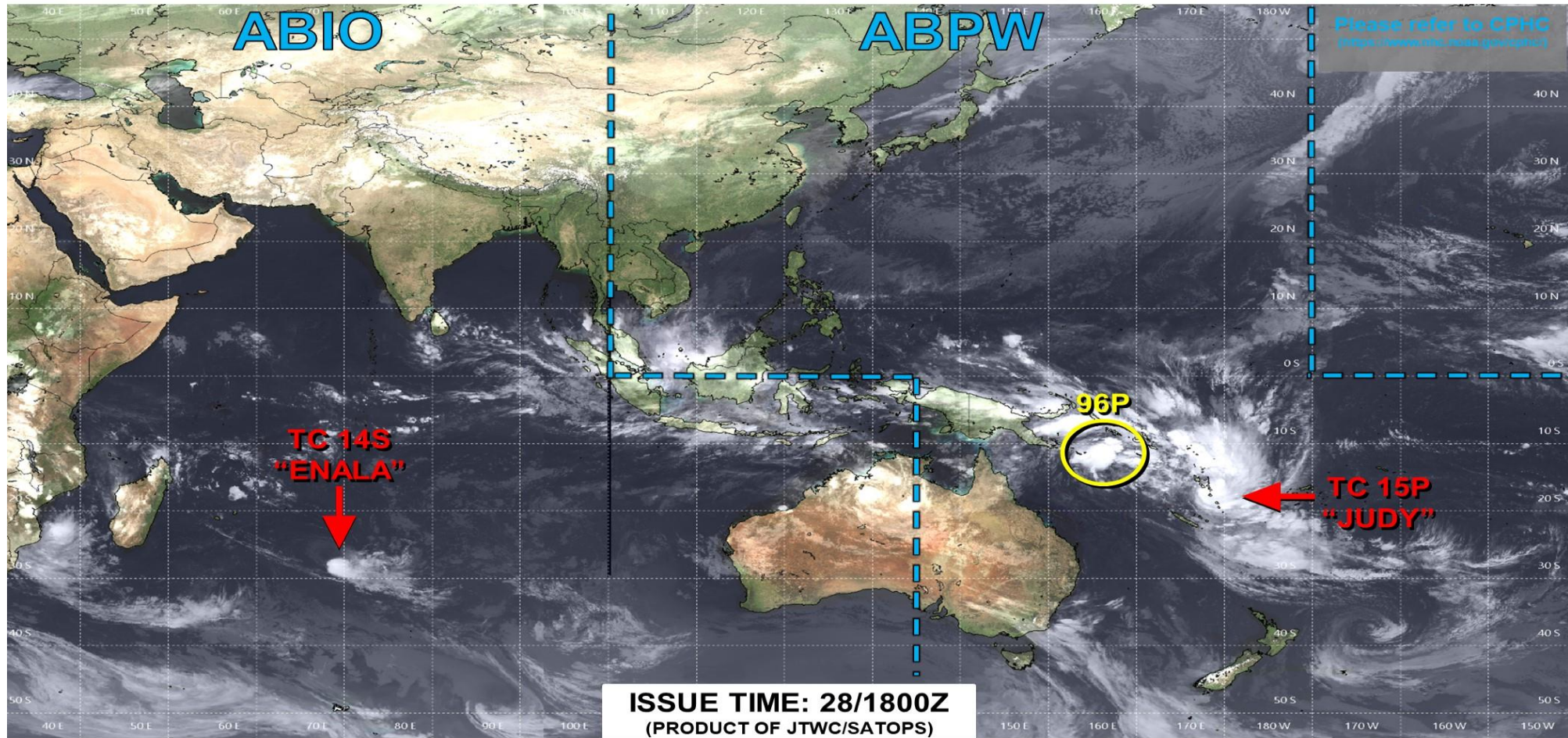
Tropical Cyclone Monitoring/Forecast: NHC



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

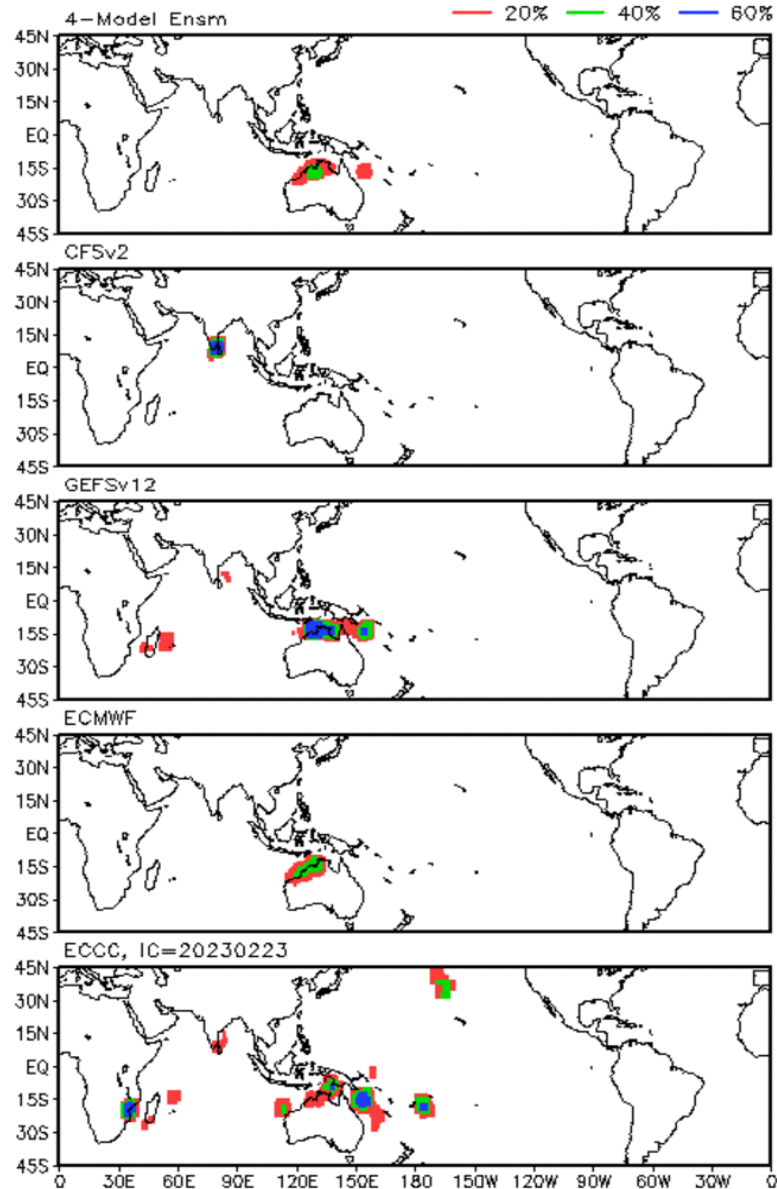


Tropical Cyclone (Reference Warning)

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

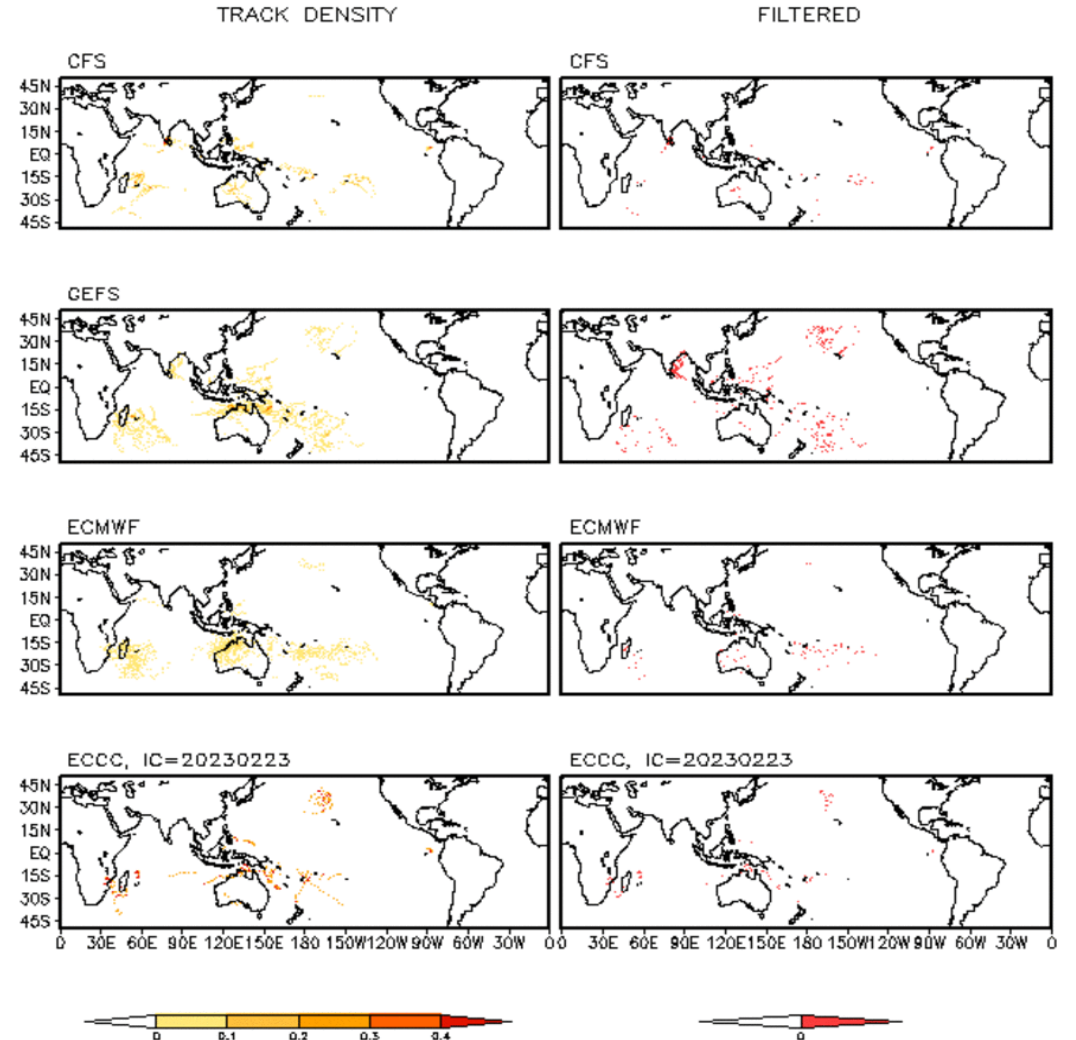
Storm Track Probabilities, IC=20230227

Week 2: 0308 - 0314



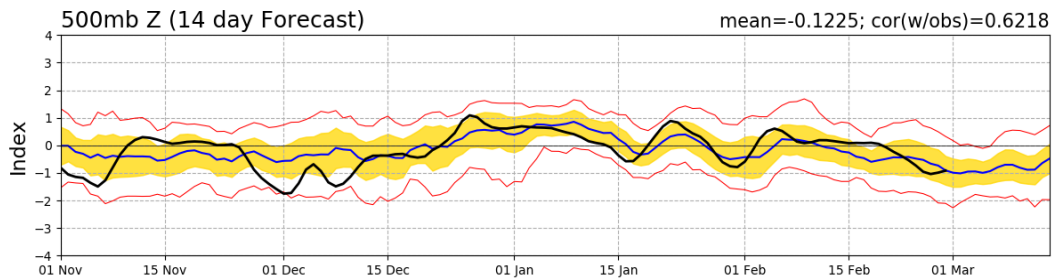
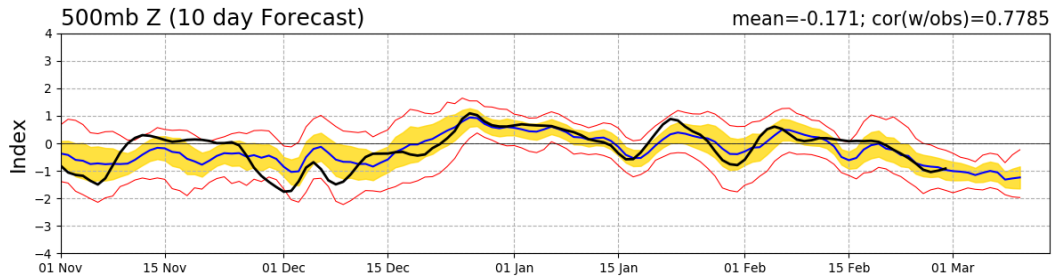
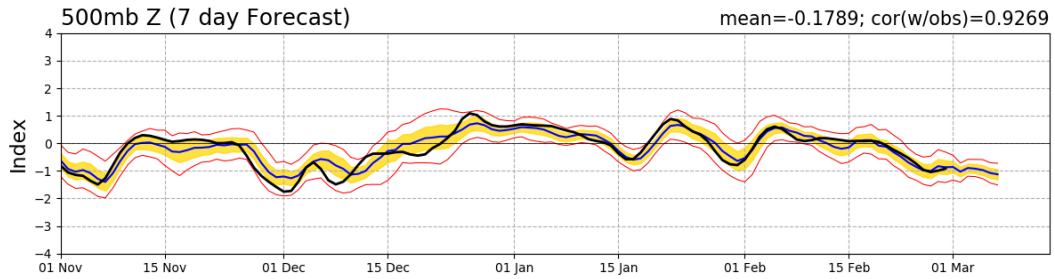
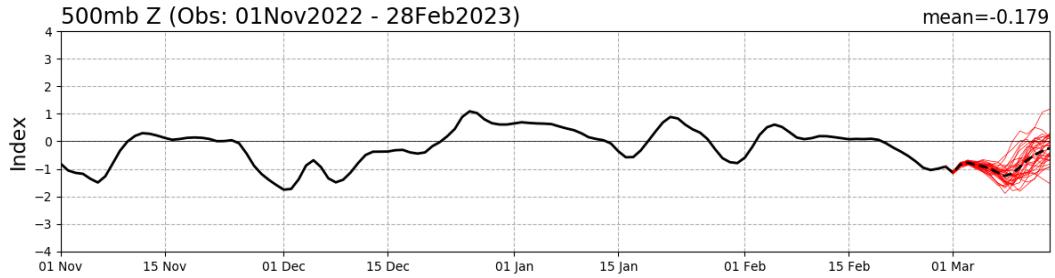
Storm Track Density Distribution, IC=20230227

Week 2 Forecast: 0308-0314

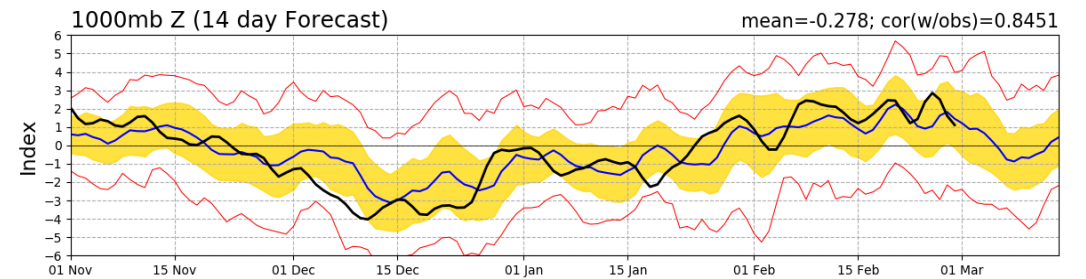
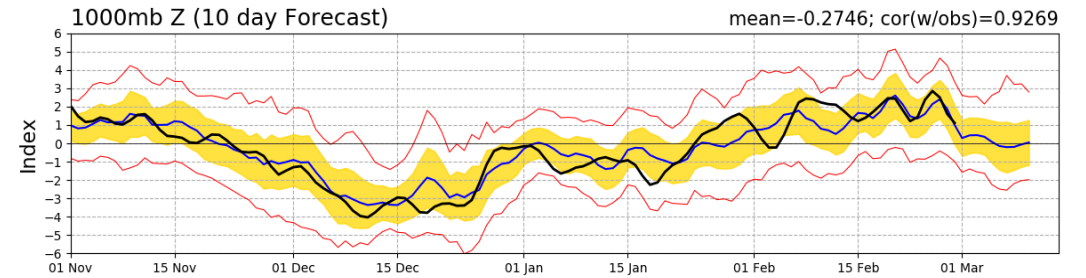
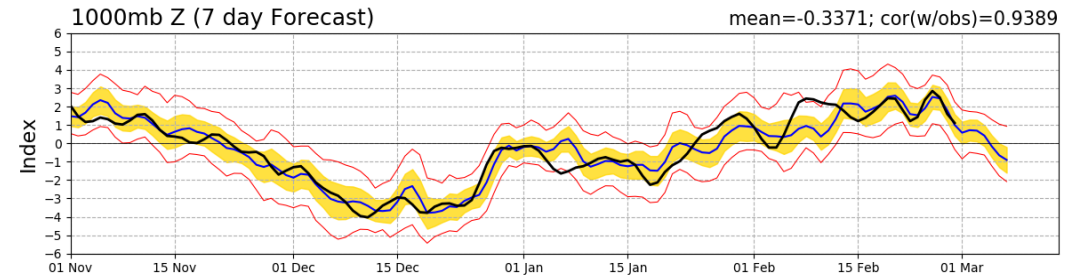
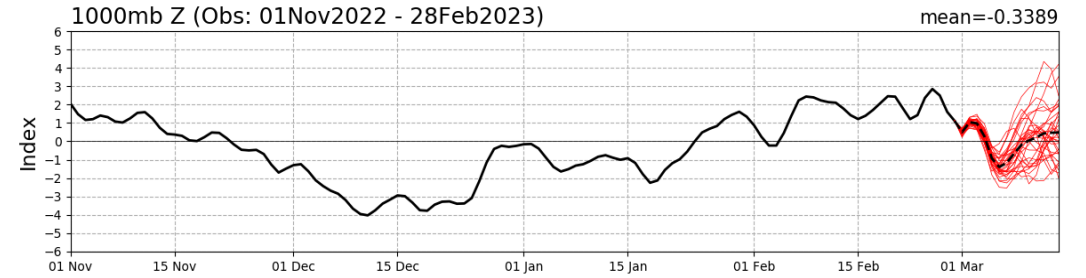


Teleconnection Indices: PNA / AO:

PNA Index: Observed & GEFS Forecasts



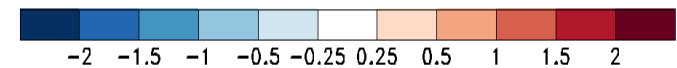
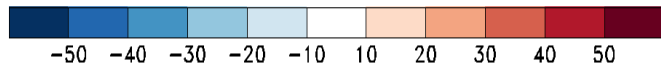
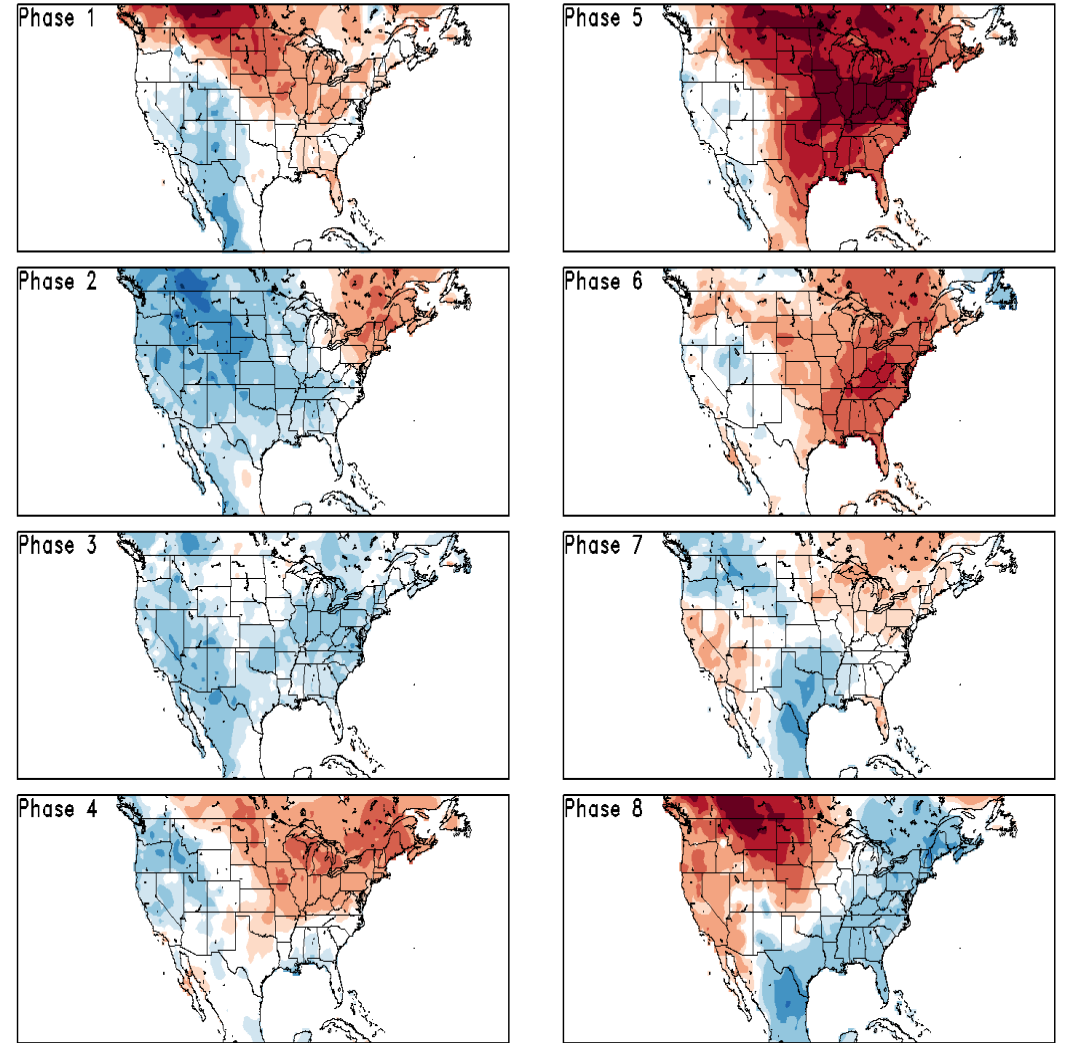
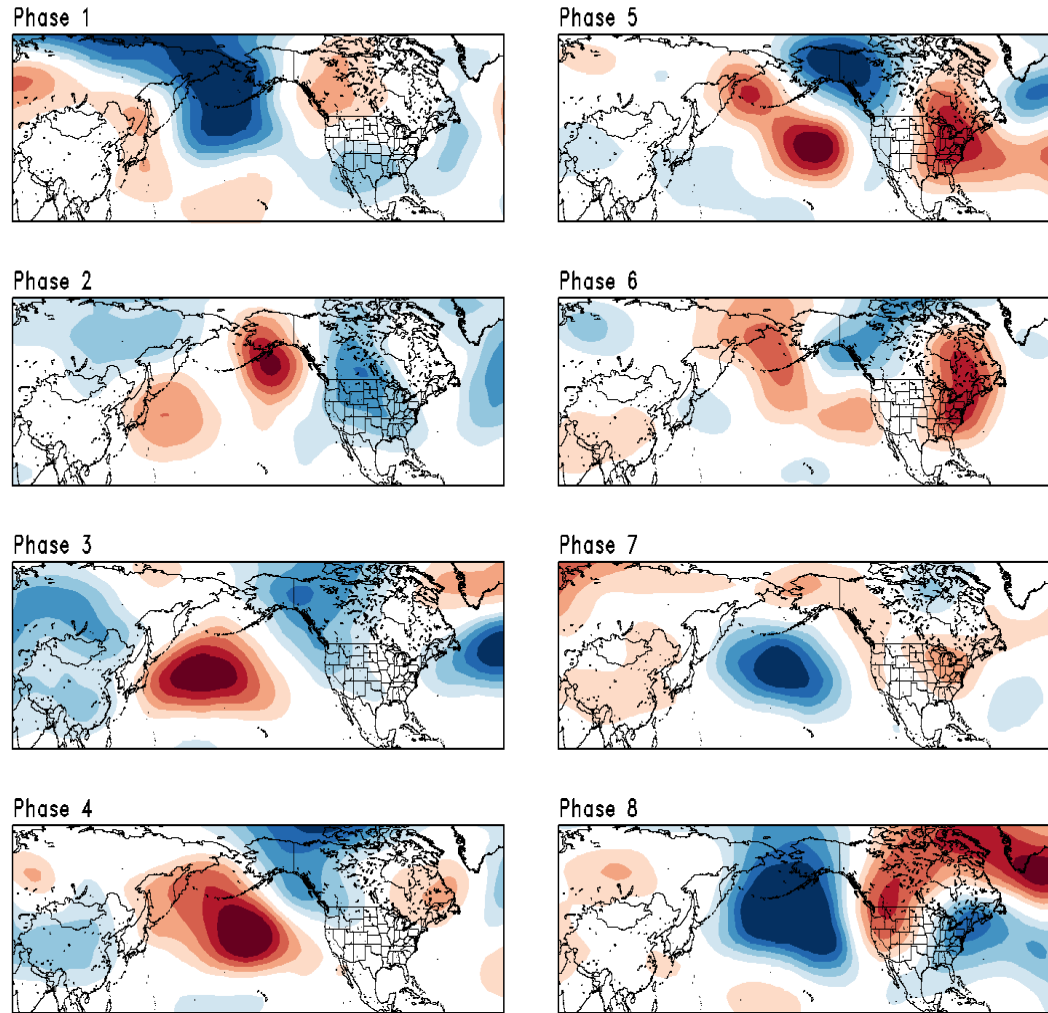
AO Index: Observed & GEFS Forecasts



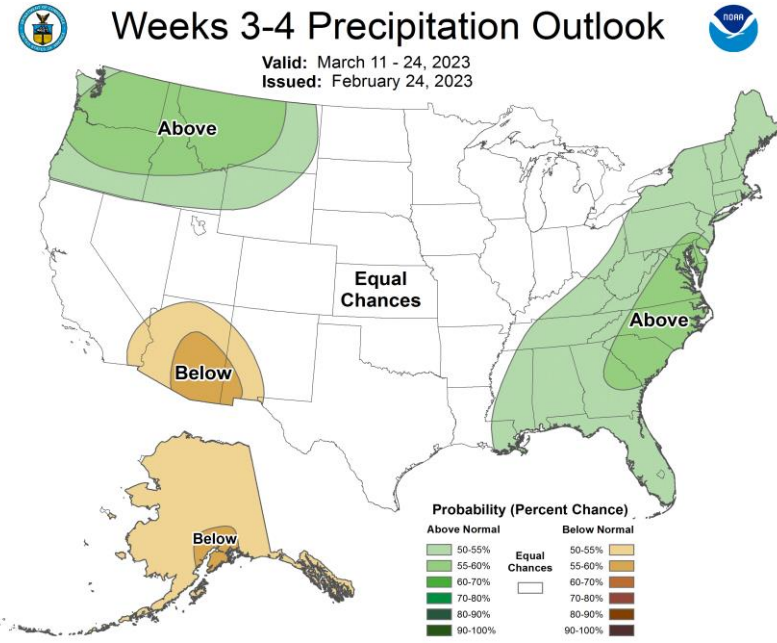
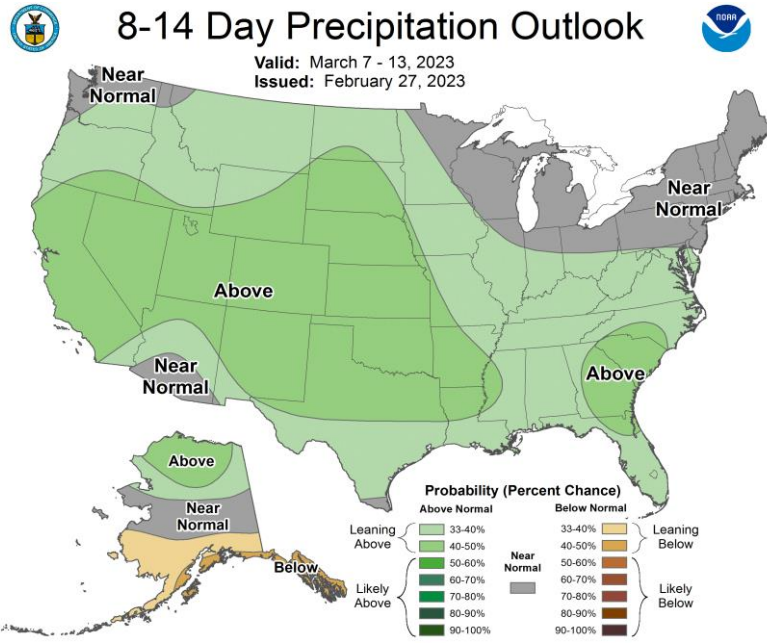
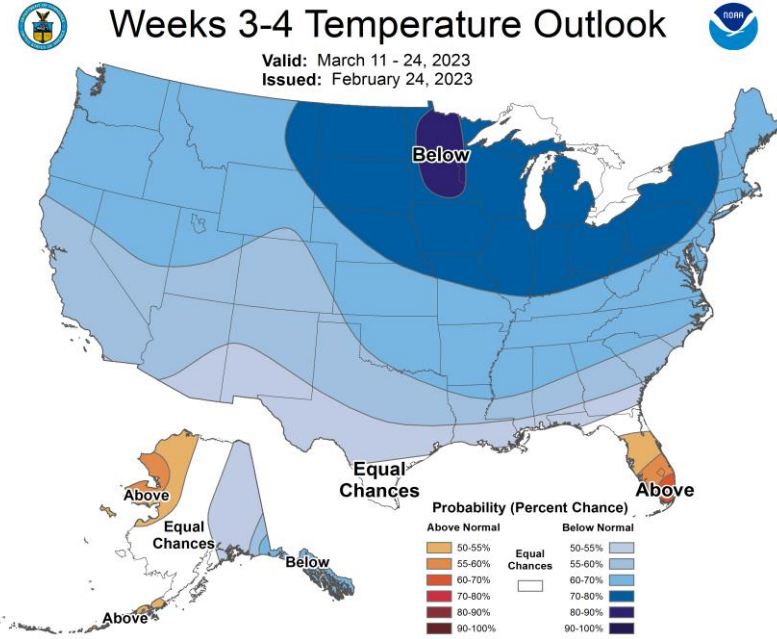
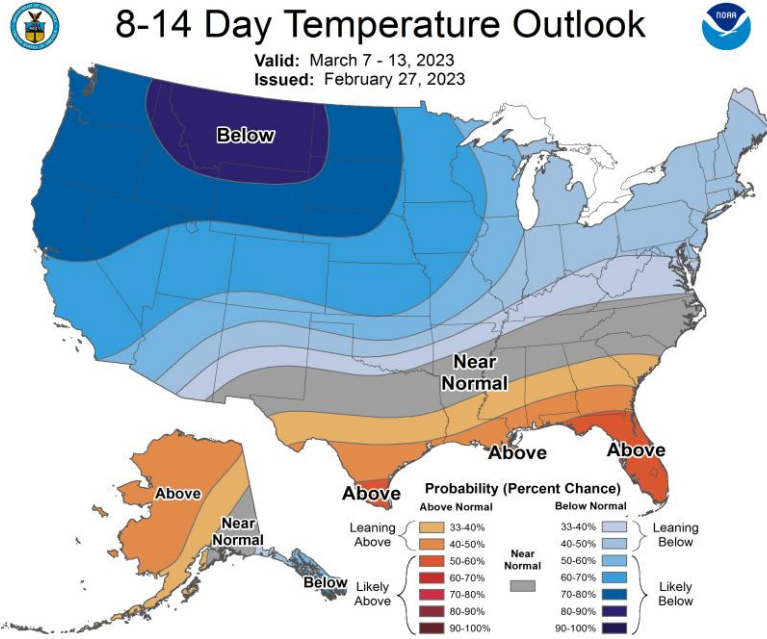
Historical 500-hPa Height & U.S. Temperatures By MJO Phase:

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

JFM MJO Composite: GLBT (degC)



Official Temperature & Precipitation Forecasts:



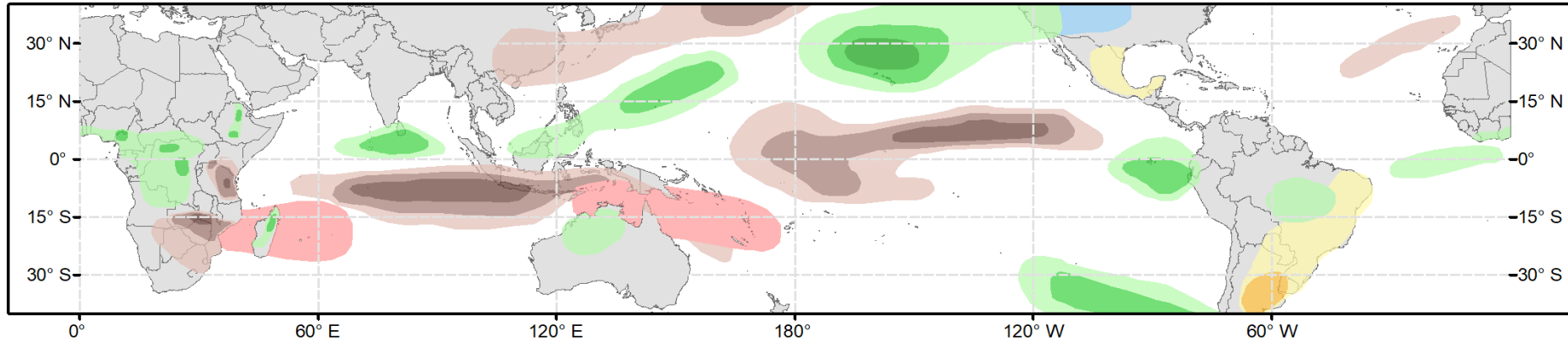


Global Tropics Hazards Outlook

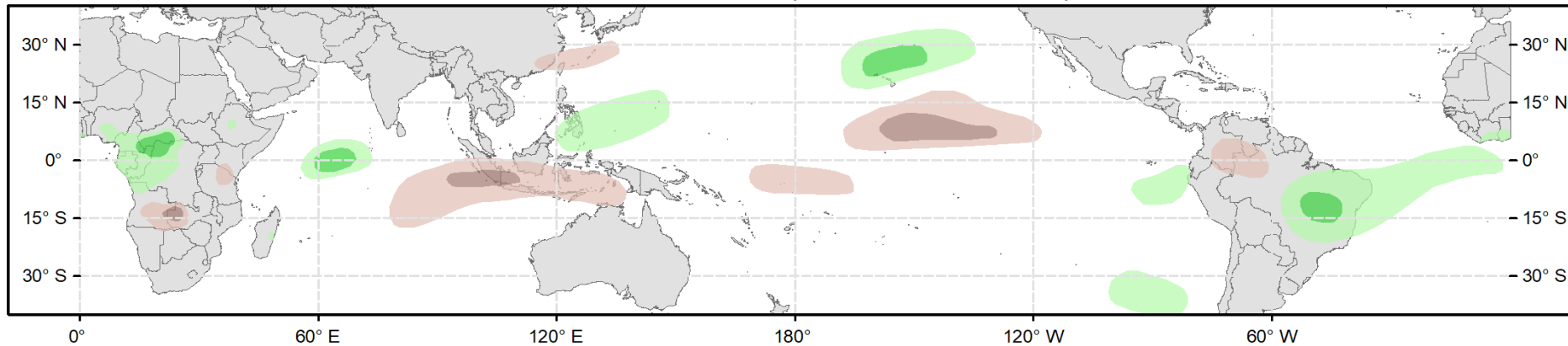
Climate Prediction Center



Week 2 - Valid: Mar 08, 2023 - Mar 14, 2023



Week 3 - Valid: Mar 15, 2023 - Mar 21, 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 max temperatures in the Upper third of the historical range

Below-Average Temperatures Probability

>50% >65% >80%

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

Issued: 02/28/2023
Forecaster: Barandiaran

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