

# Global Tropics Hazards And Benefits Outlook

3/1/2022

Adam Allgood

## Outline

1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

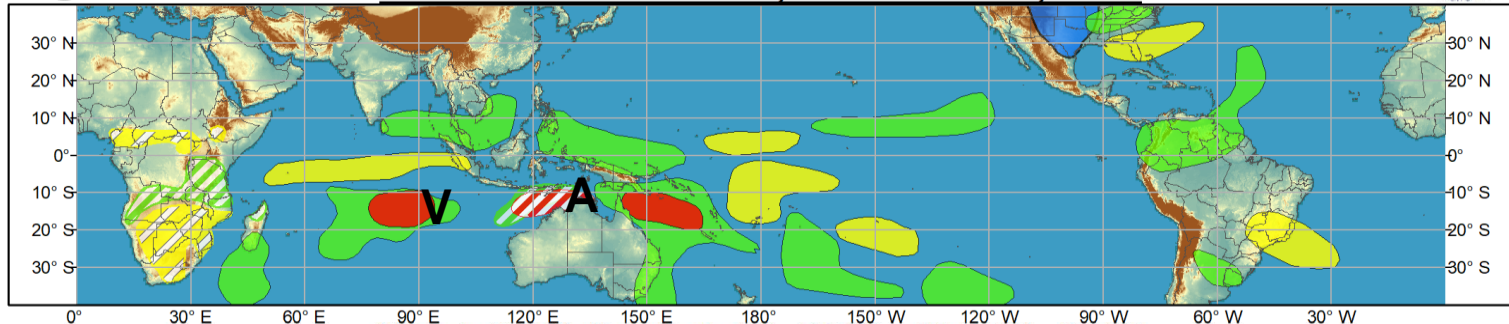
# Outlook Review

V= Tropical  
Cyclone Vernon

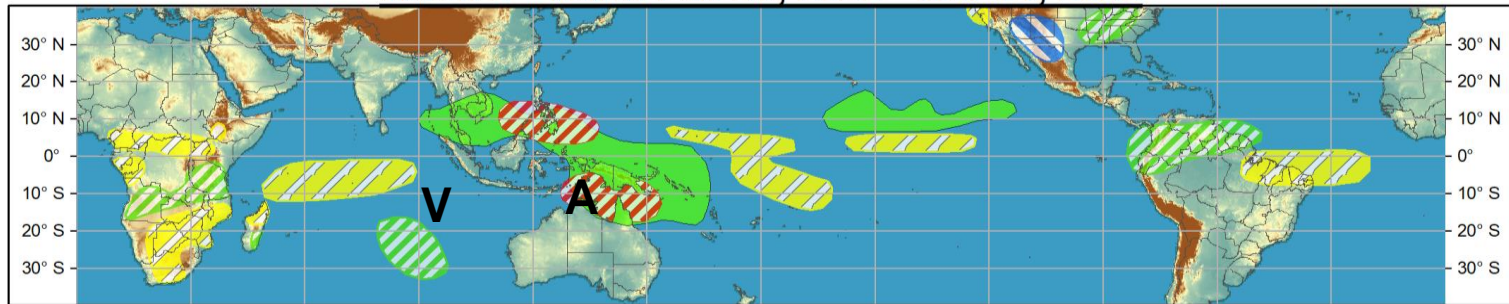
A= Tropical  
Cyclone Anika



**Week 1 - Valid: Feb 23, 2022 - Mar 01, 2022**



**Week 2 - Valid: Feb 23, 2022 - Mar 01, 2022**

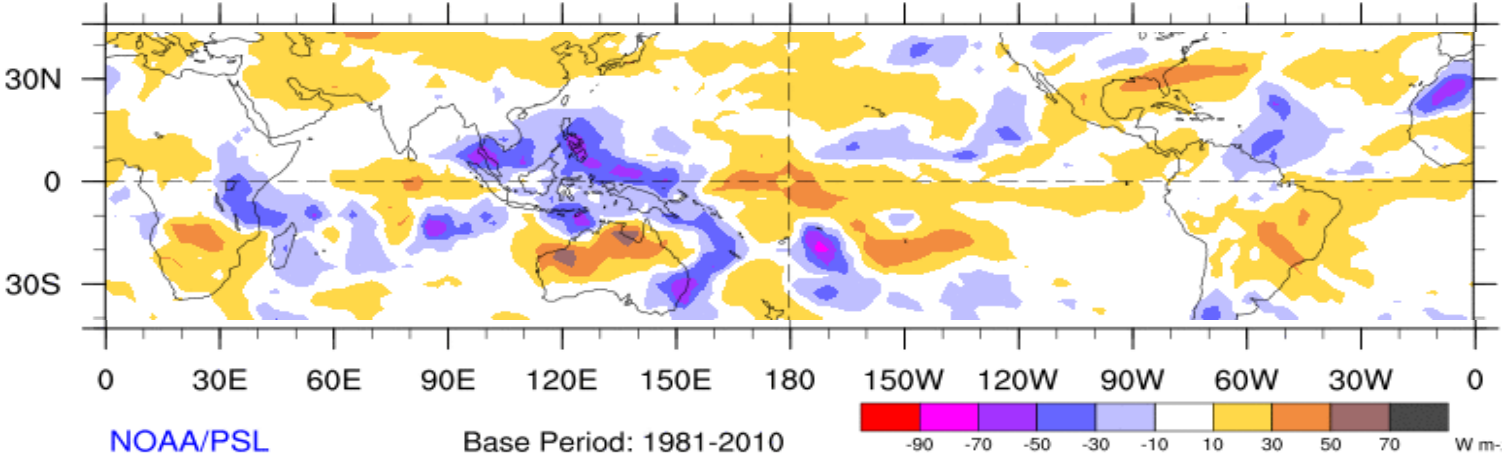


7-Day Average OLR Anomaly

2022/02/21 - 2022/02/27

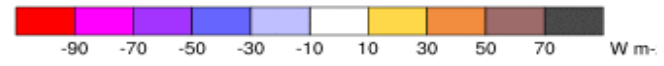
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain



NOAA/PSL

Base Period: 1981-2010



# Synopsis of Climate Modes

## **ENSO: (February 10, 2022 Update)**

*next update on 10<sup>th</sup> of Mar.!*

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is likely to continue into the Northern Hemisphere spring (77% chance during March-May 2022) and then transition to ENSO-neutral (56% chance during May-July 2022)

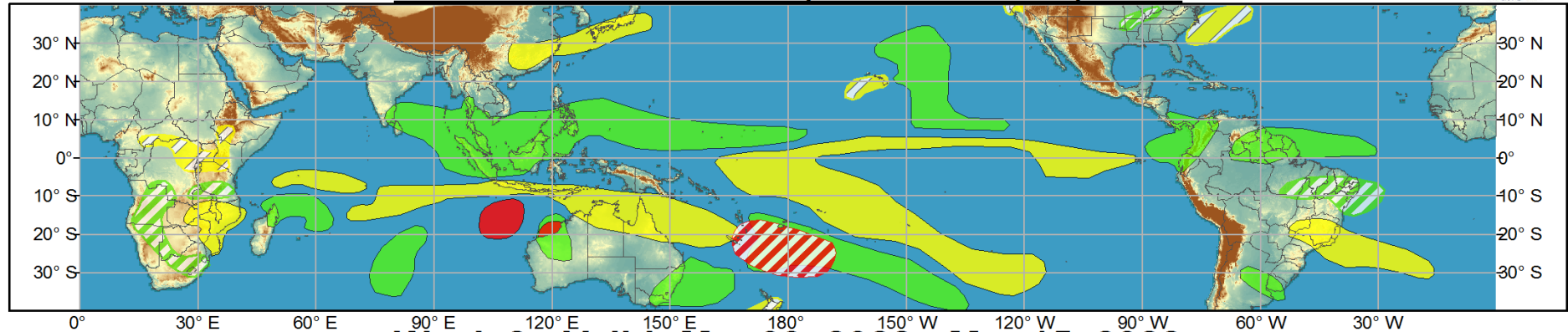
## **MJO and other subseasonal tropical variability:**

- The MJO was active during the past week, with the enhanced phase crossing the Maritime Continent.
- The leading edge of the enhanced convective envelope is encountering destructive interference from the La Niña background state, with enhanced trades across the entire Pacific, South China Sea, and Southeast Asia.
- Given the resurgent La Niña response, the lack of low-level westerlies over the far western Pacific associated with the MJO, and the lack of a canonical response in the Northern Hemisphere, the future evolution of the MJO is uncertain. The signal is strongest at the upper levels, and this feature may propagate around the globe, promoted enhanced rainfall across northern South America.

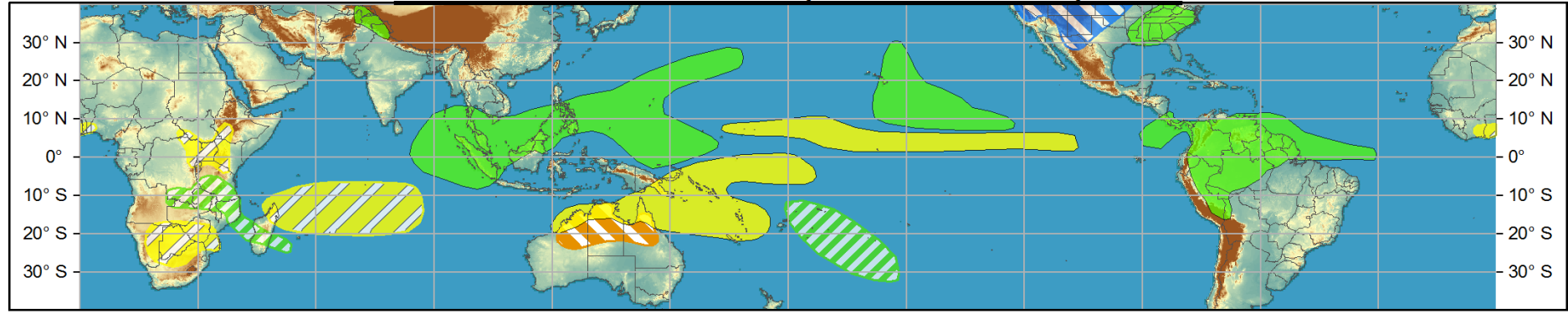


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Mar 02, 2022 - Mar 08, 2022



## Week 2 - Valid: Mar 09, 2022 - Mar 15, 2022



Produced: 03/01/2022  
Forecaster: Allgood

	Confidence		
	High	Moderate	
<b>Tropical Cyclone Formation</b>			Development of a tropical cyclone (tropical depression - TD, or greater strength).
<b>Above-average rainfall</b>			Weekly total rainfall in the upper third of the historical range.
<b>Below-average rainfall</b>			Weekly total rainfall in the lower third of the historical range.
<b>Above-normal temperatures</b>			7-day mean temperatures in the upper third of the historical range.
<b>Below-normal temperatures</b>			7-day mean temperatures in the lower third of the historical range.

Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



# IR Satellite & 200-hpa Velocity Potential Anomalies

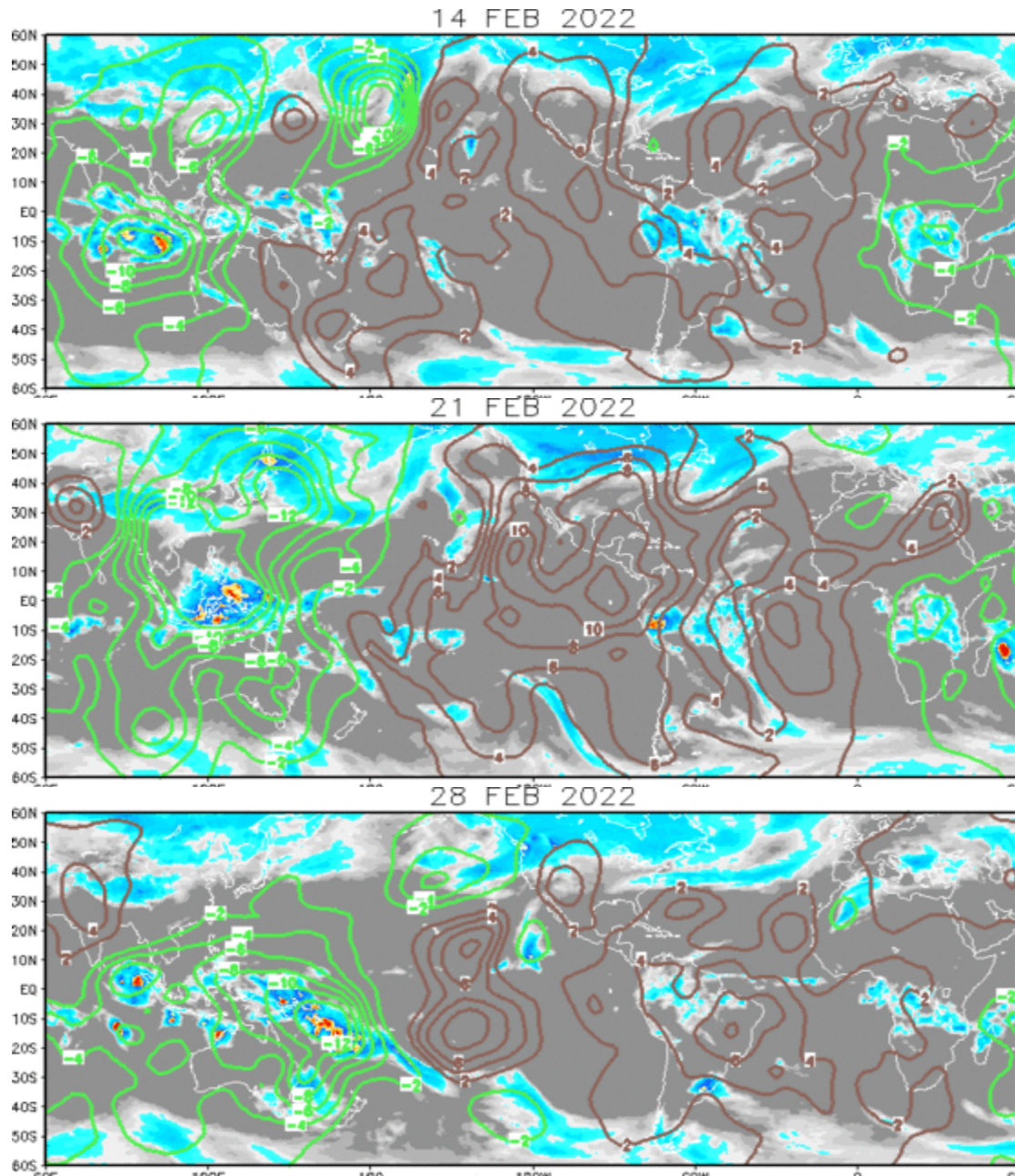
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-1 pattern consistent with MJO activity (and La Niña)

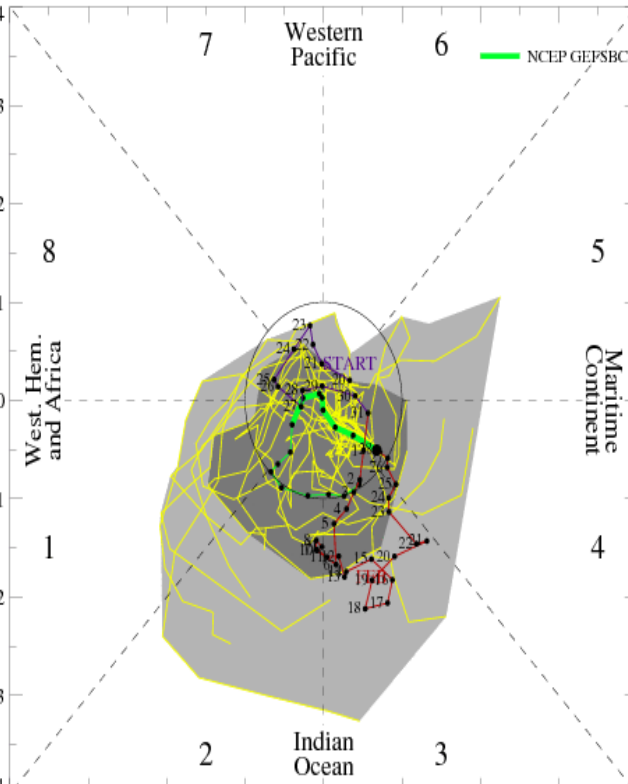
The anomaly pattern strengthened, but little eastward propagation was evident through much of Feb.

Eastward propagation became more apparent by the end of February.

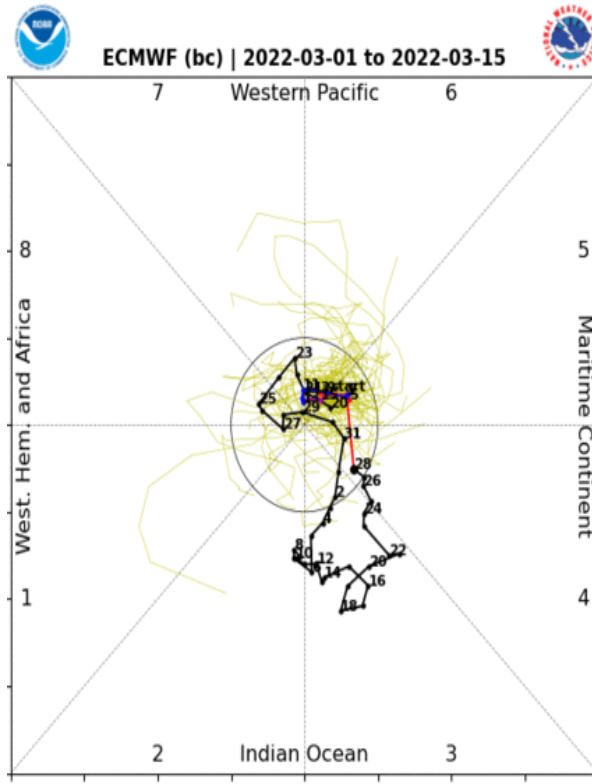


# MJO Observation/Forecast

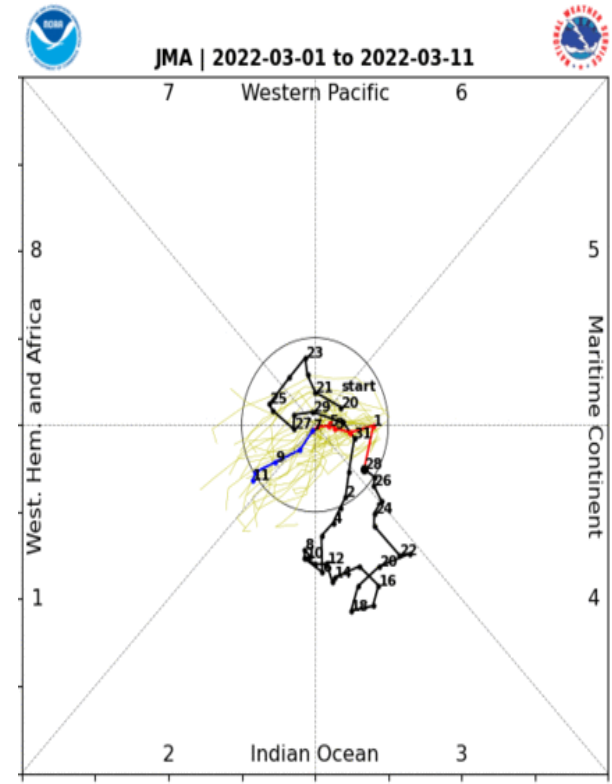
[RMM1, RMM2] forecast for Mar-01-2022 to Mar-15-2022



GEFS



ECMWF

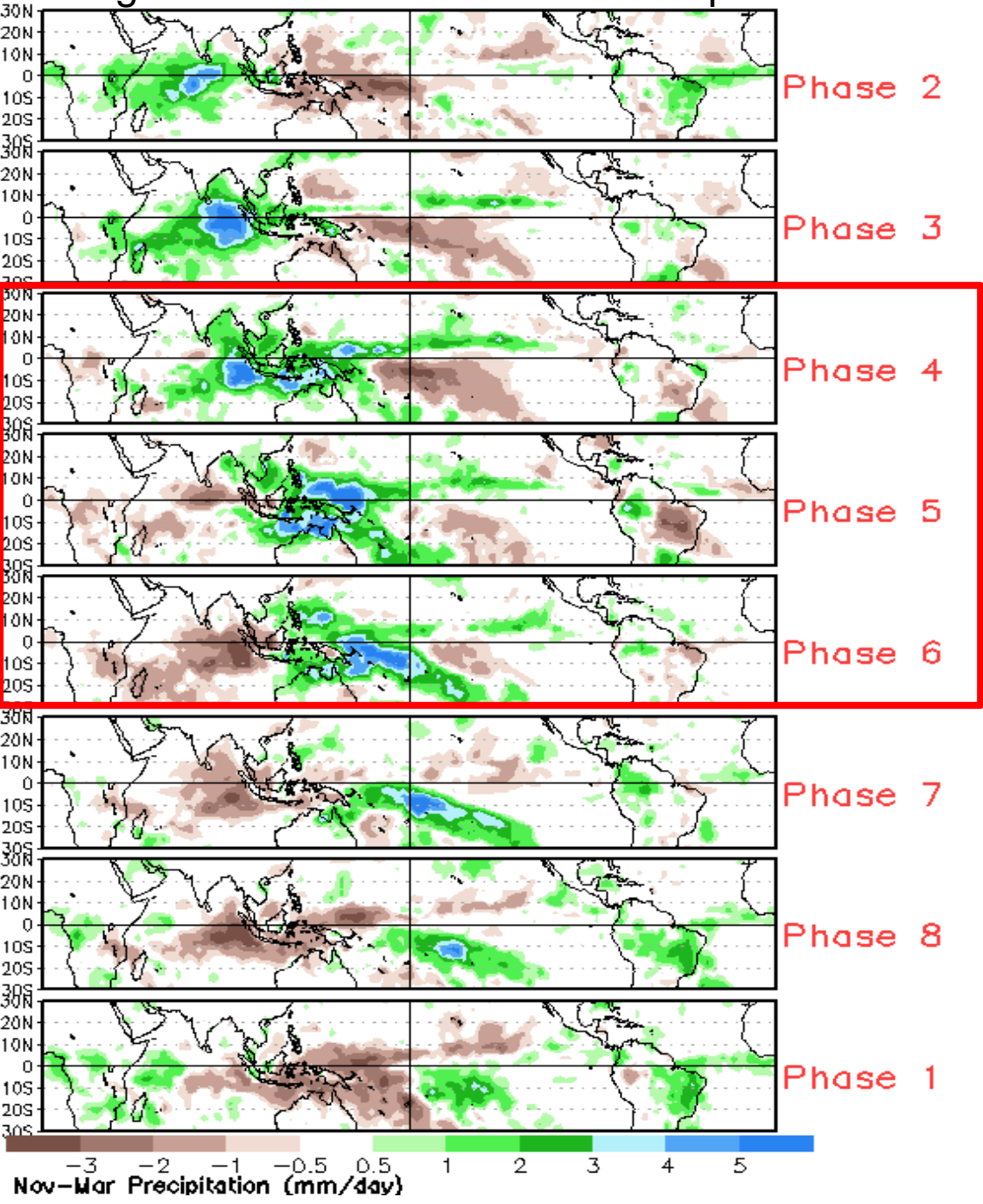


JMA

GEFS and JMA depict no MJO activity reaching the Pacific, with a faster signal returning quickly to the Indian Ocean.

The ECMWF generally also depicts a weak signal, but has multiple ensemble members propagating the MJO to the Pacific.

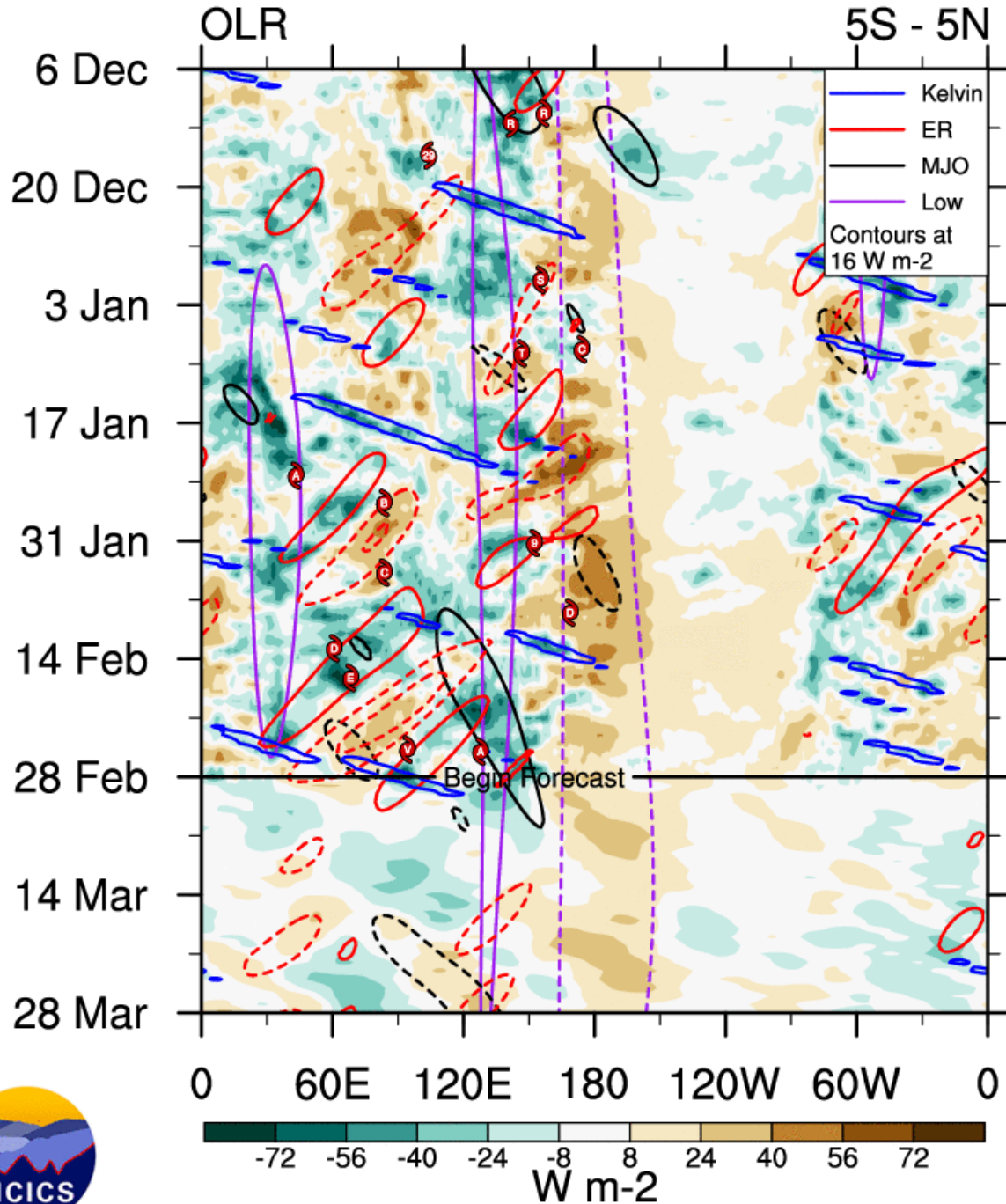
# Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

**MJO** activity is coming through the filtering near the Equator in the OLR field.

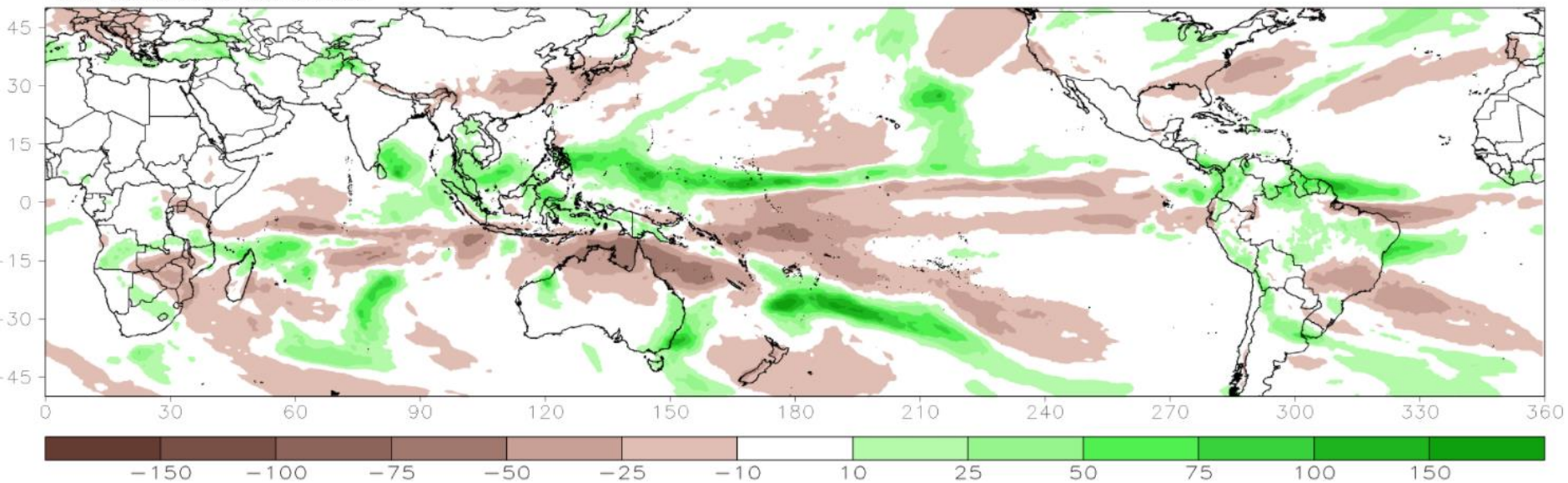
**Low frequency** contours depict ENSO cold conditions.





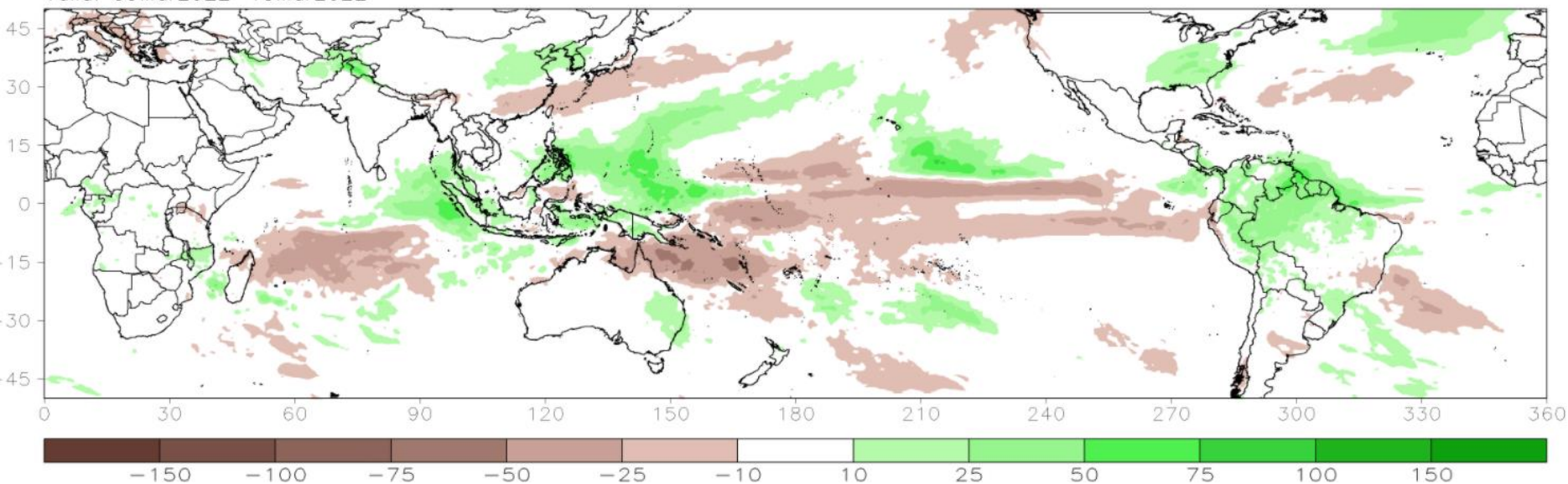
# GEFSv12 00z Ensemble Mean: Week1 Total Rainfall Anomaly (mm)

Valid: 02Mar2022-08Mar2022



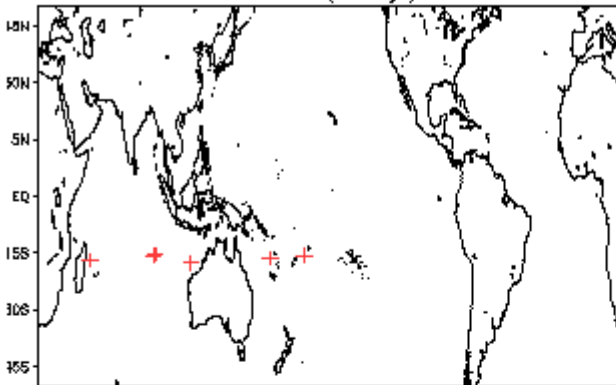
# GEFSv12 00z Ensemble Mean: Week2 Total Rainfall Anomaly (mm)

Valid: 09Mar2022-15Mar2022

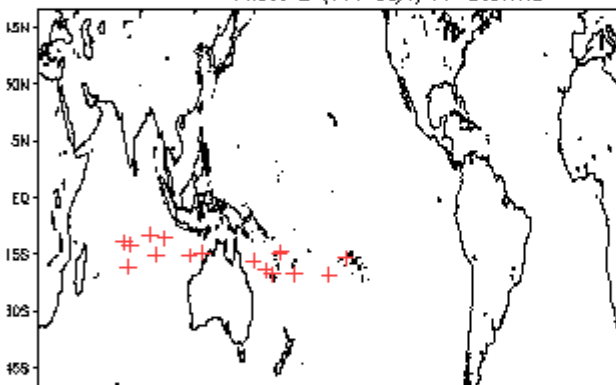


# March Tropical Storm Formation by MJO phase

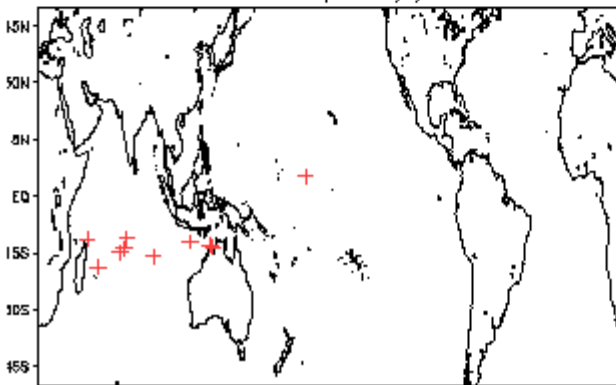
Phase 1 (98 days) 7 storms



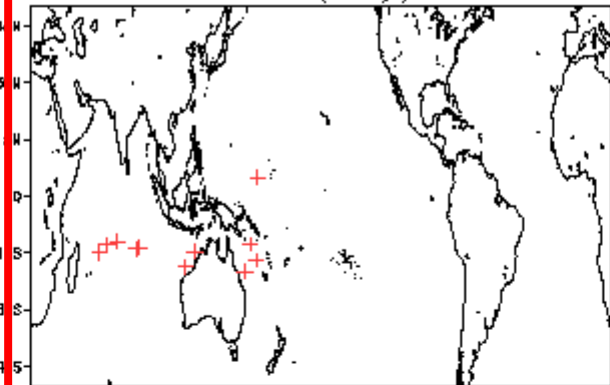
Phase 2 (111 days) 17 storms



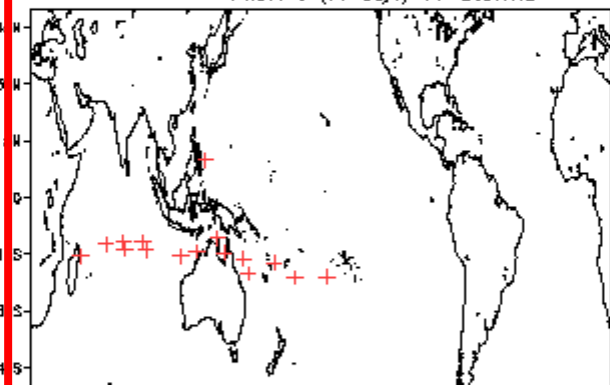
Phase 3 (108 days) 11 storms



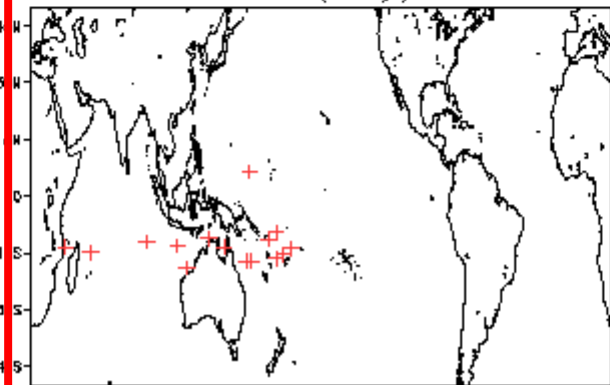
Phase 4 (72 days) 12 storms



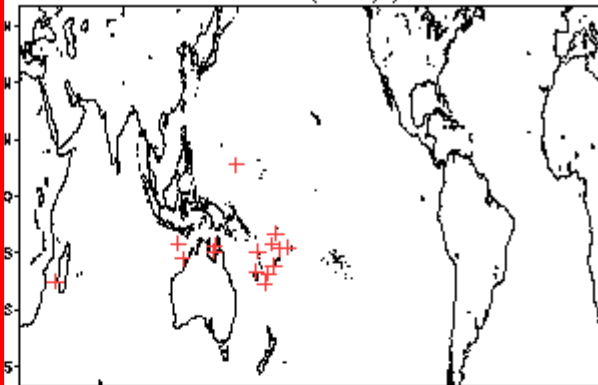
Phase 5 (77 days) 17 storms



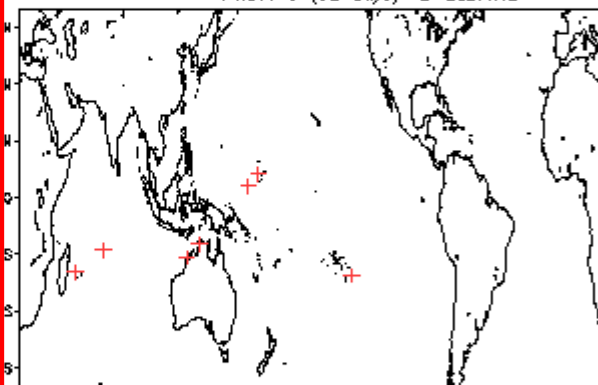
Phase 6 (78 days) 16 storms



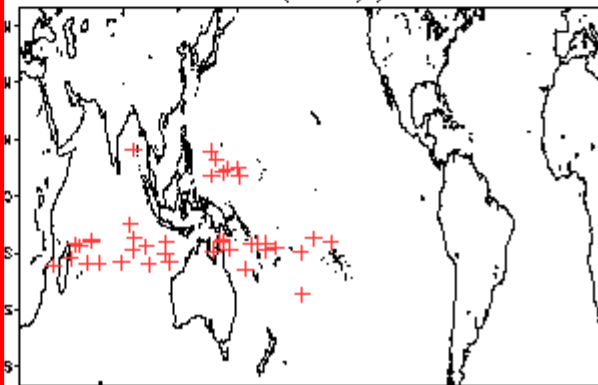
Phase 7 (81 days) 16 storms



Phase 8 (92 days) 8 storms

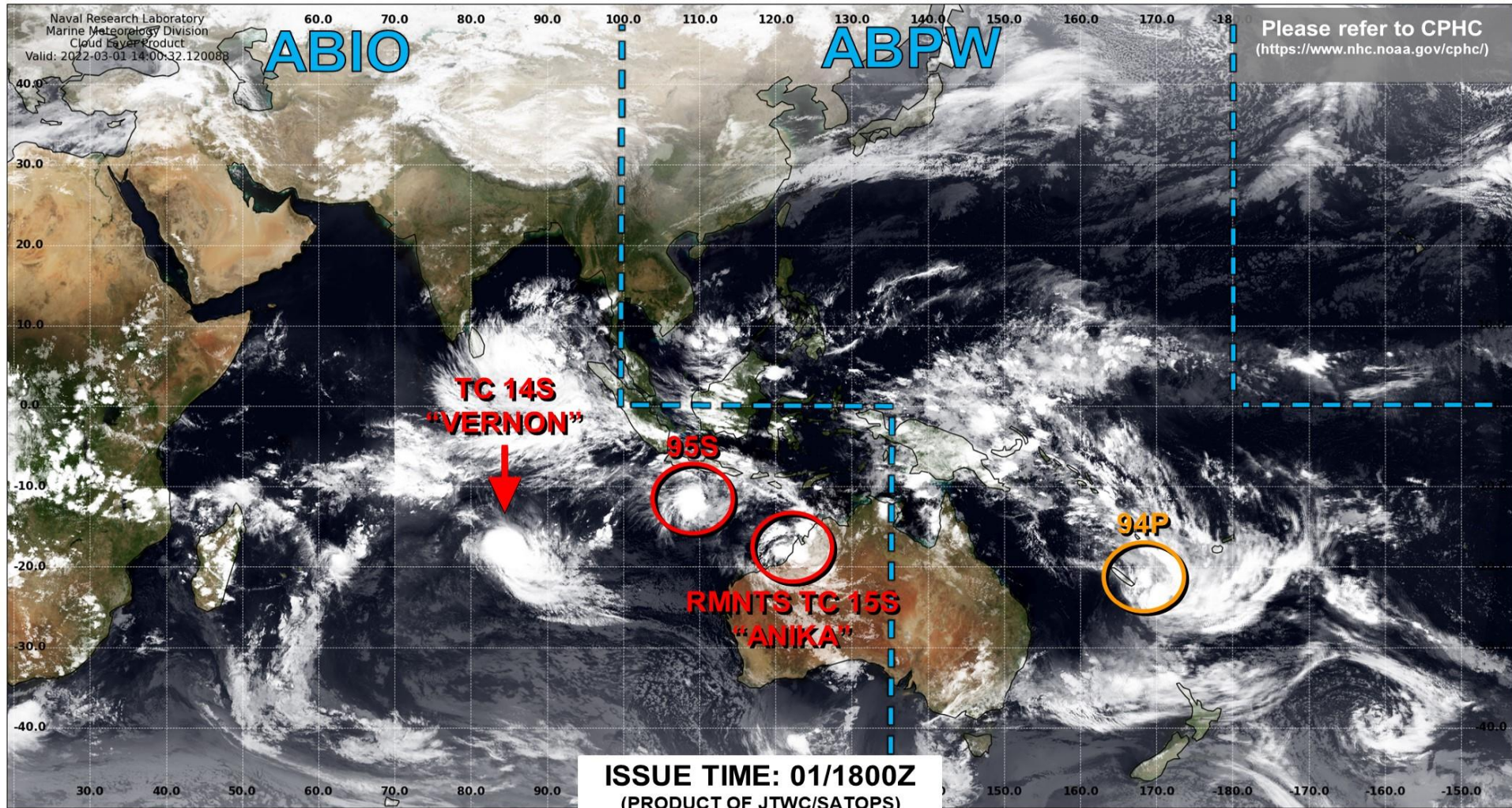


Null (322 days) 40 storms





# JOINT TYPHOON WARNING CENTER



**LOW** TC development unlikely within 24 hours

**MEDIUM** TC development likely, but expected to occur beyond 24 hours

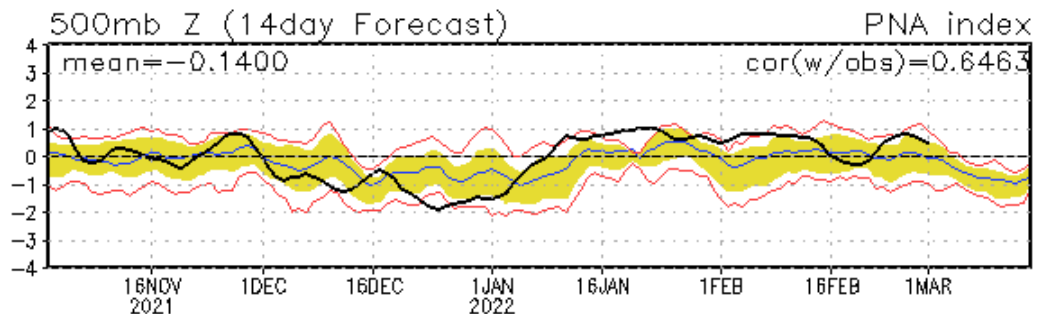
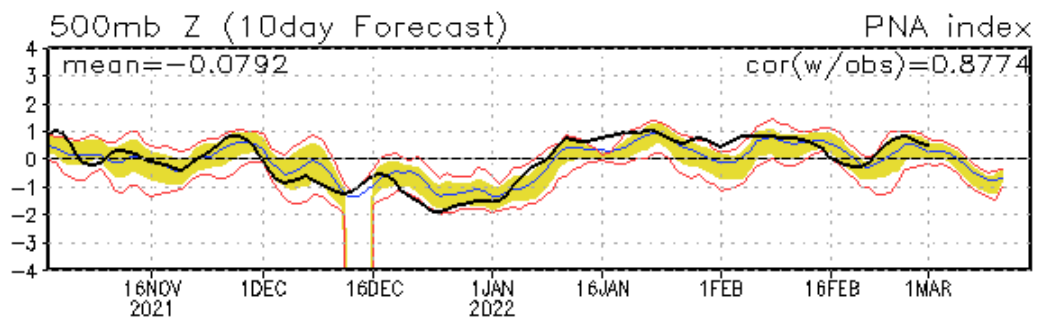
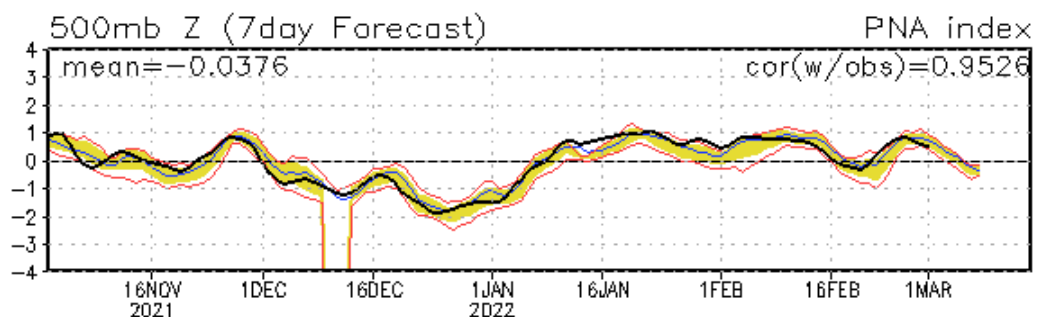
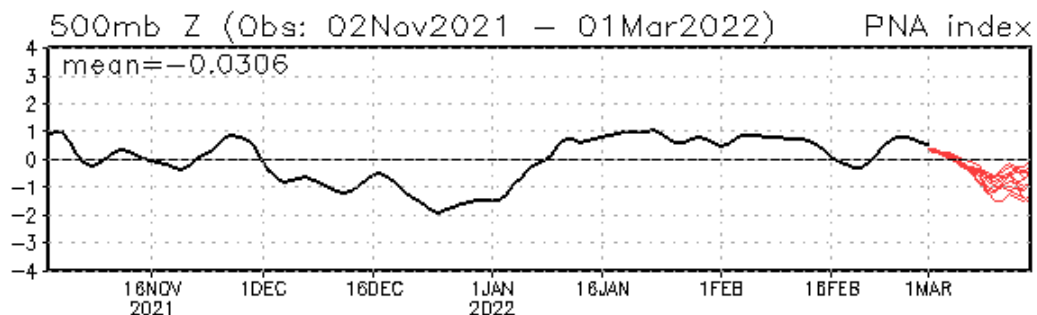
**HIGH** TC development likely within 24 hours (Reference TCFA)

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

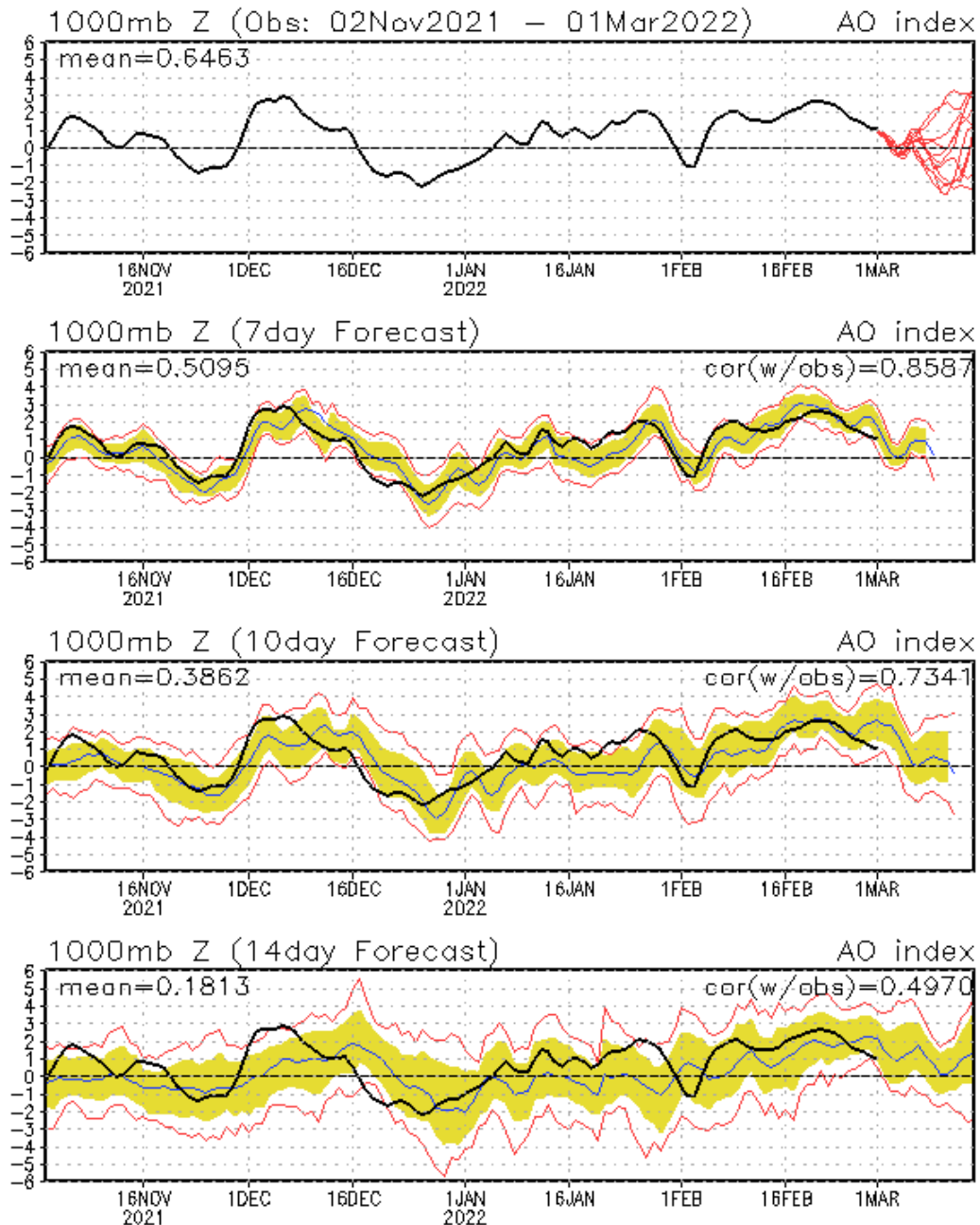
Tropical Cyclone (Reference Warning)

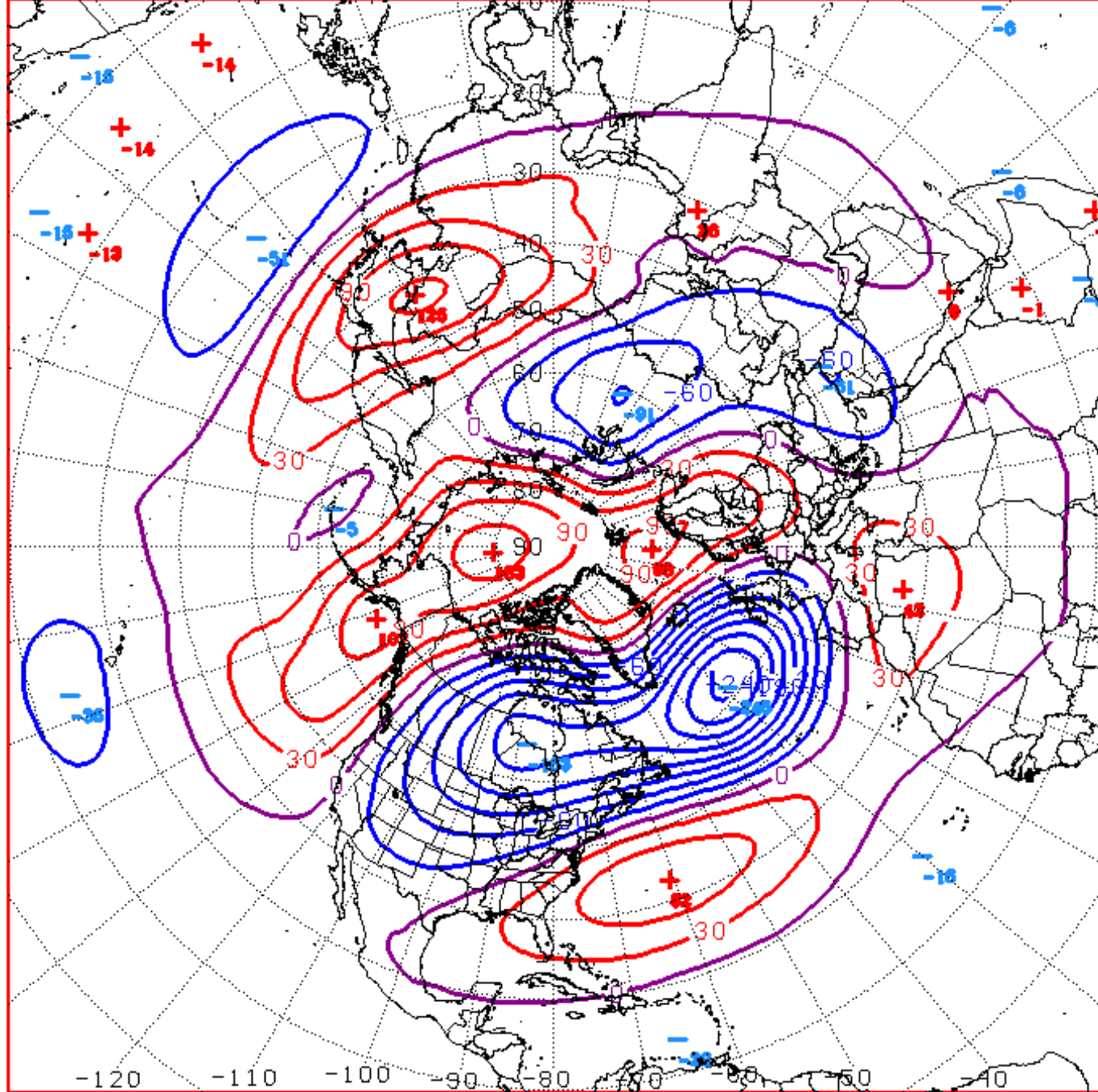
# Connections to U.S. Impacts

## PNA: Observed & ENSM forecasts



## AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM  
CPC MAP MADE MAR 01 2022 1355 UTC CNTD MAR 12 2022

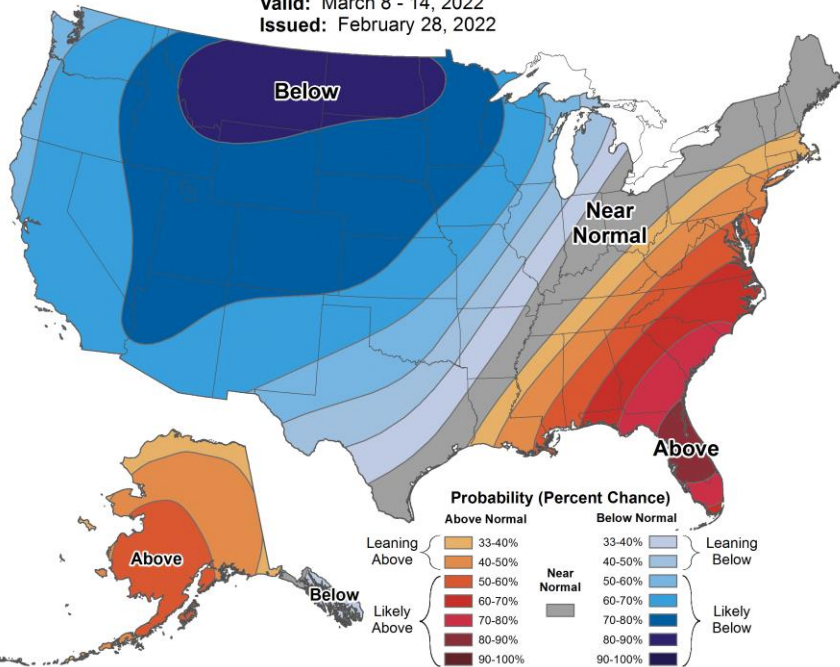
# Week 2 – Temperature and Precipitation



## 8-14 Day Temperature Outlook



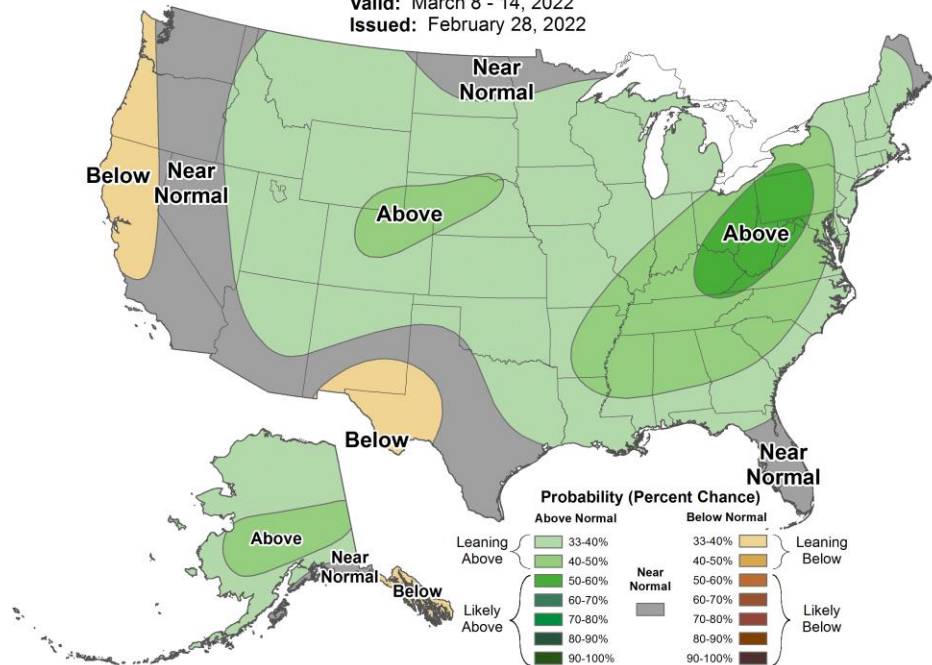
Valid: March 8 - 14, 2022  
 Issued: February 28, 2022



## 8-14 Day Precipitation Outlook



Valid: March 8 - 14, 2022  
 Issued: February 28, 2022

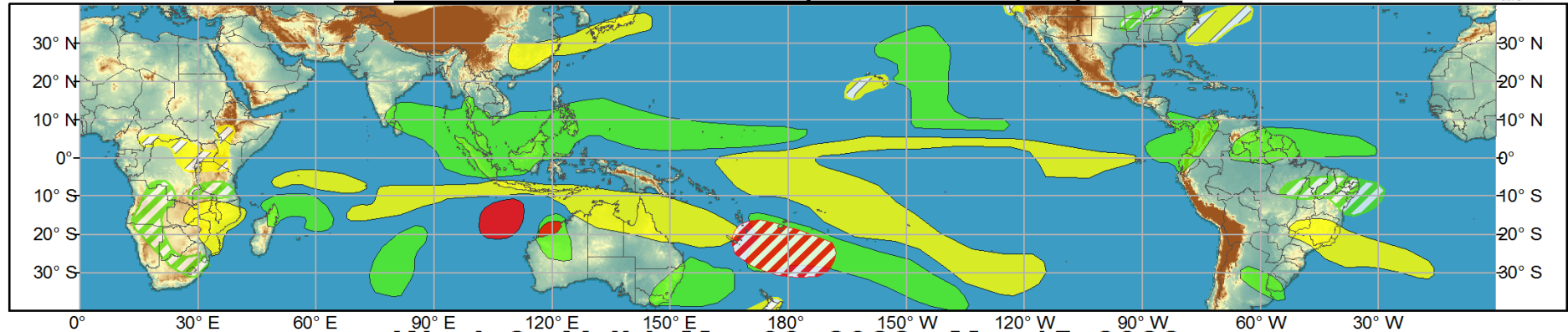




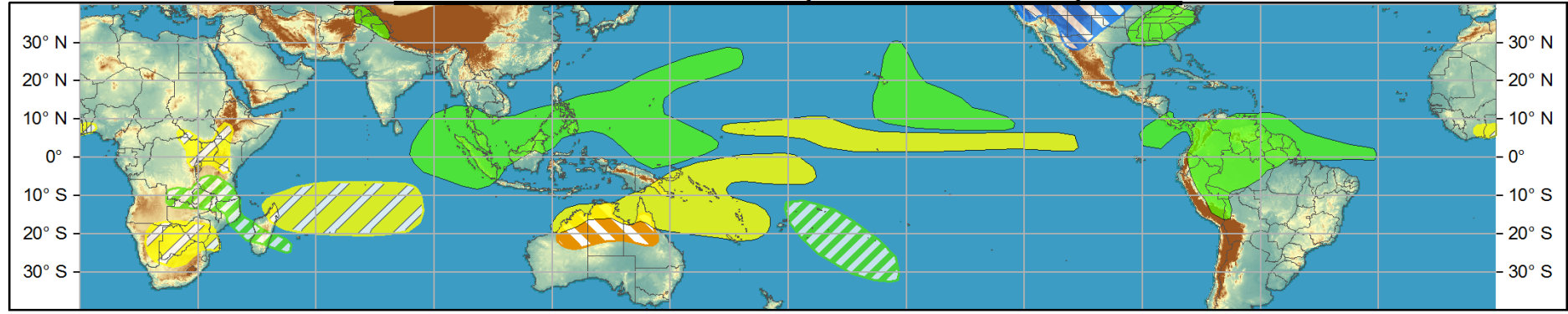


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