

# Global Tropics Hazards And Benefits Outlook

4/26/2022

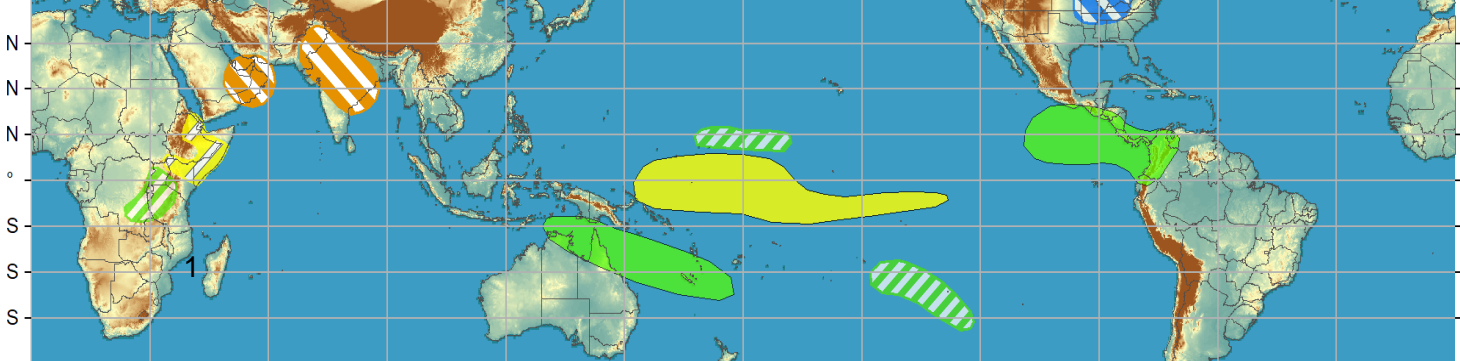
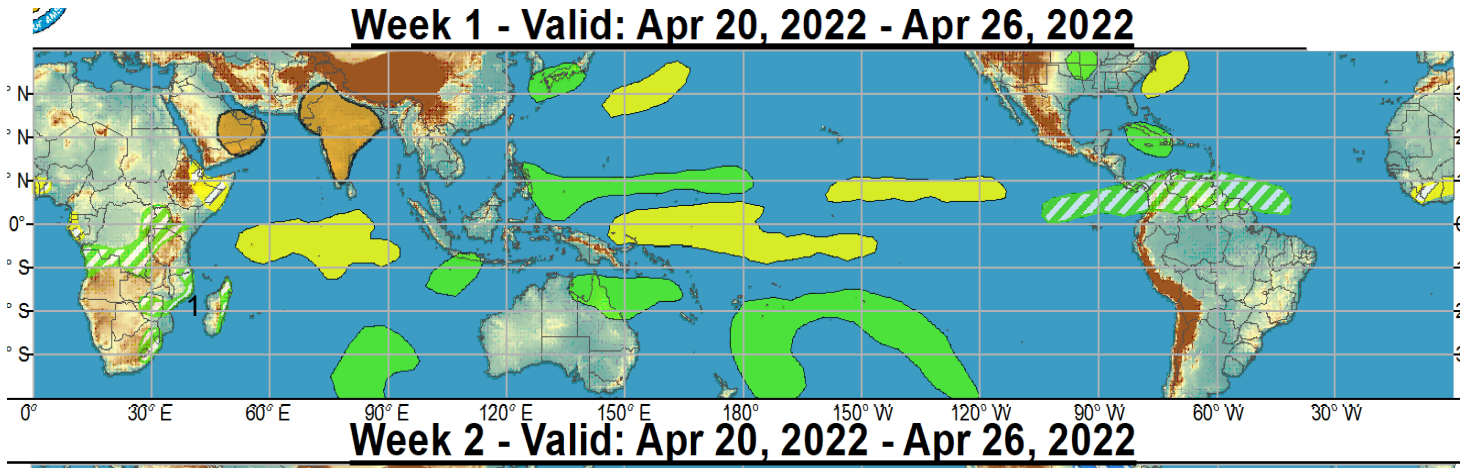
Danny Barandiaran

## Outline

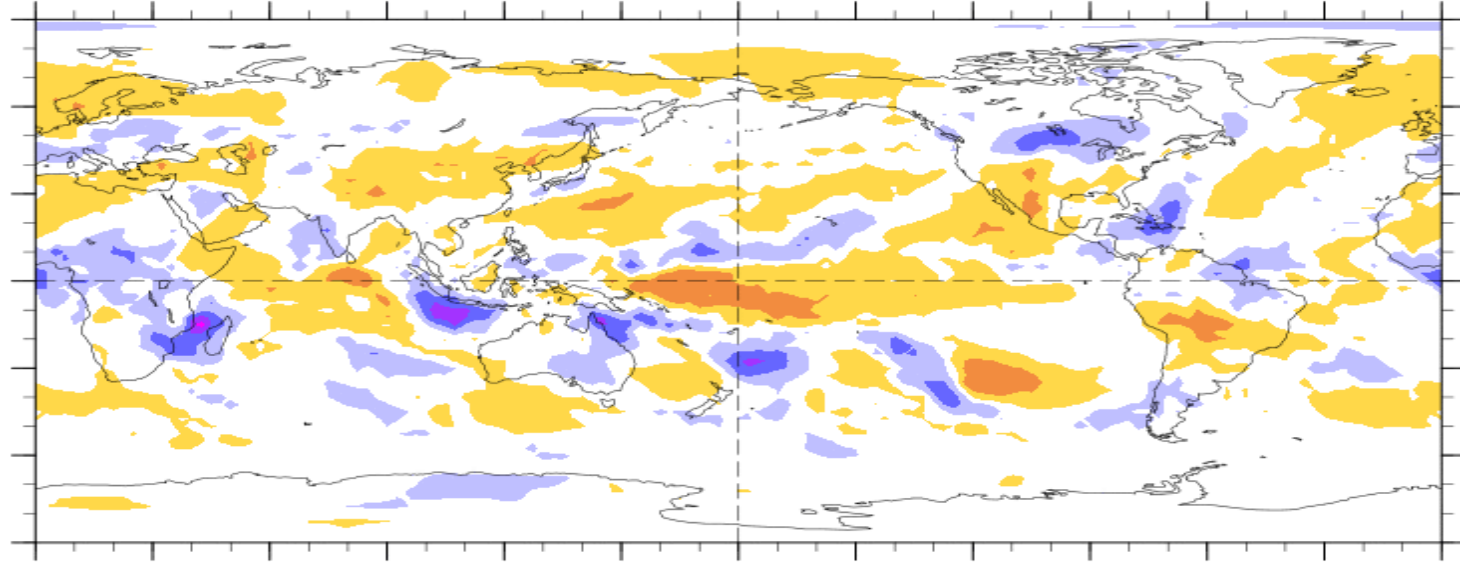
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

# Outlook Review

1: TC Jasmine 4/24



7-Day Average OLR Anomaly 2022/04/18 - 2022/04/24



Green shading  
More clouds/rain

Brown shading  
Less clouds/rain

# Synopsis of Climate Modes

## **ENSO: (April 14, 2022 Update)**

ENSO Alert System Status: [La Niña Advisory](#)

- La Niña is favored to continue through the Northern Hemisphere summer (59% chance during June-August 2022), with a 50-55% chance through the fall.

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

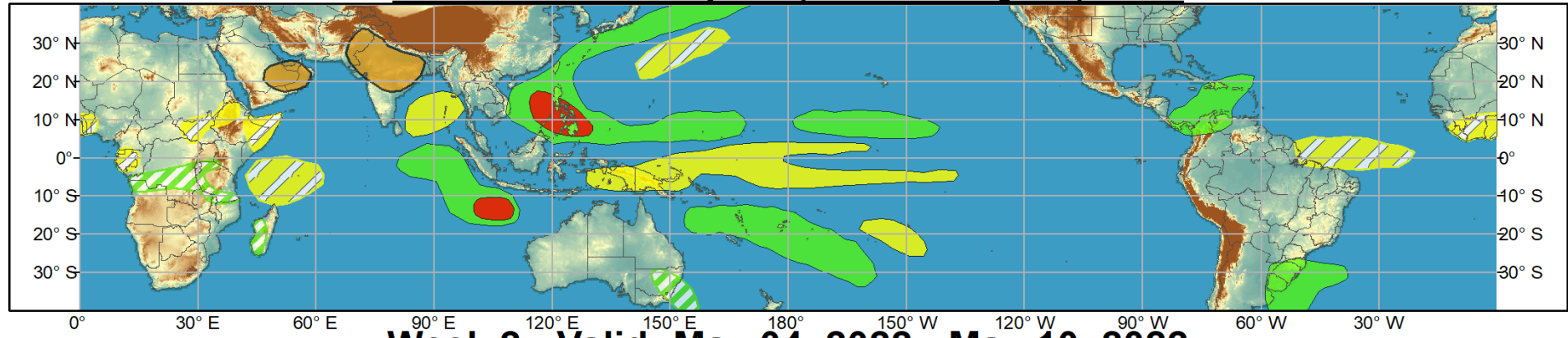
- After moving steadily around the edge of the unit circle over the last few weeks, the RMM-based MJO signal has weakened over the last few days but continues to propagate eastward.
- There is continued uncertainty into the MJO evolution during the next 2 weeks with the GEFS and ECMWF disagreeing on how far east the MJO will progress during the forecast period, but both models seem to agree that the signal will strengthen over the next 2 weeks.
- Probabilities of TC formation over the Western Pacific are increasing with enhanced convection over the region and environmental conditions that favor development.



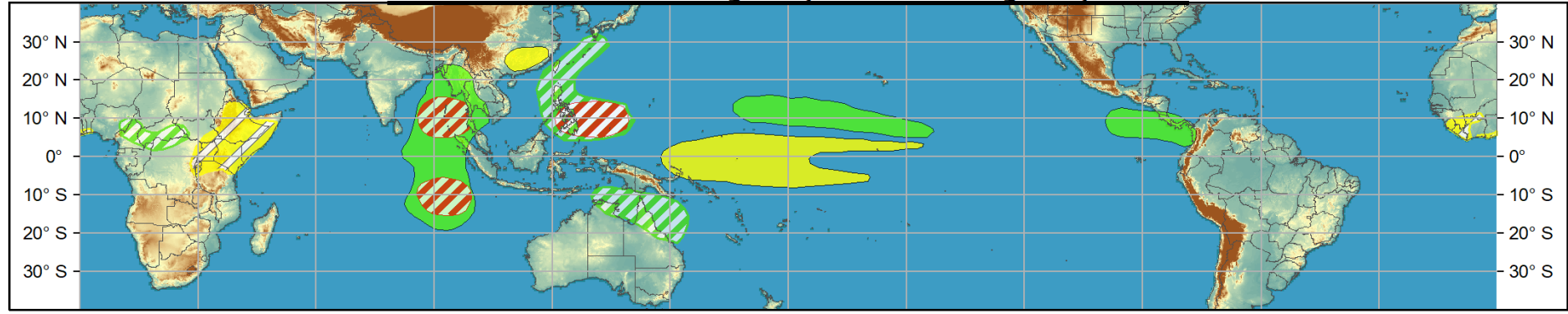
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Apr 27, 2022 - May 03, 2022



## Week 2 - Valid: May 04, 2022 - May 10, 2022



Produced: 04/26/2022

Forecaster: Barandiaran

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

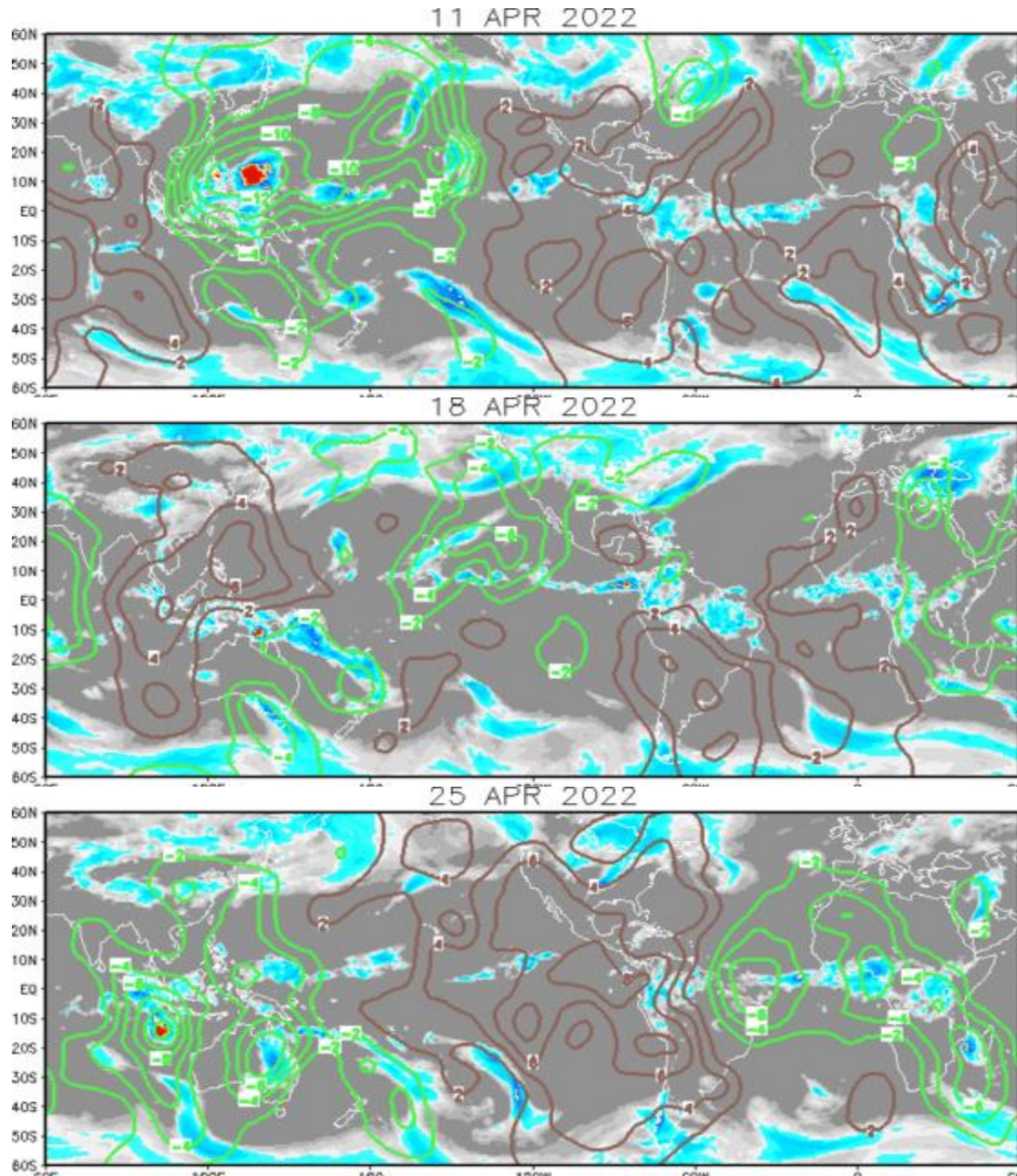
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-1 pattern is seen as enhanced convection increases over the Maritime Continent, while suppressed convection becomes prevalent for the rest of the tropics.

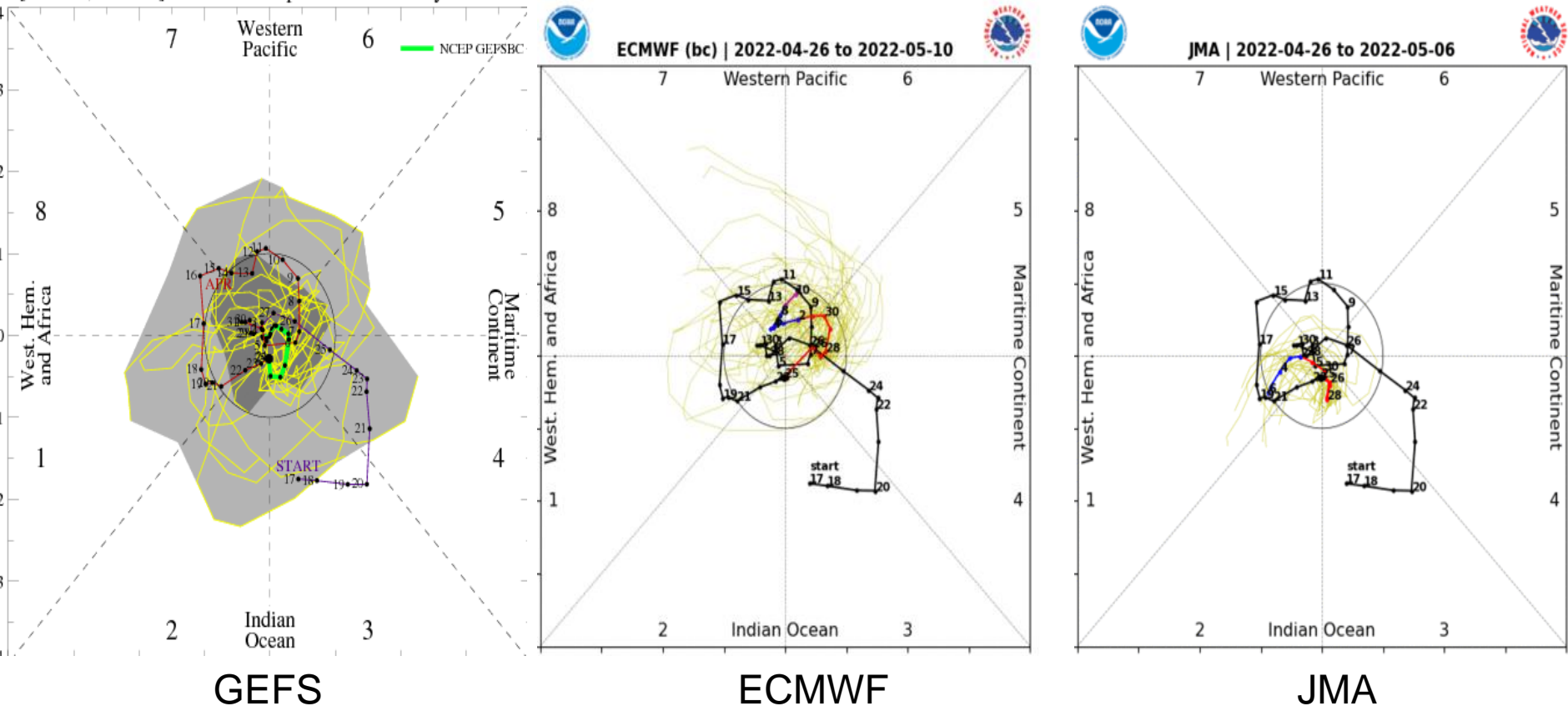
Wave-2 pattern emerges and suppressed/enhanced convection over the Indian Ocean/Maritime Continent begins eastward propagation.

Wave-1 pattern re-emerges with enhanced convection stretching from South America east to the West Pacific, while upper-level convergence is located over the central and eastern Pacific.



# MJO Observation/Forecast

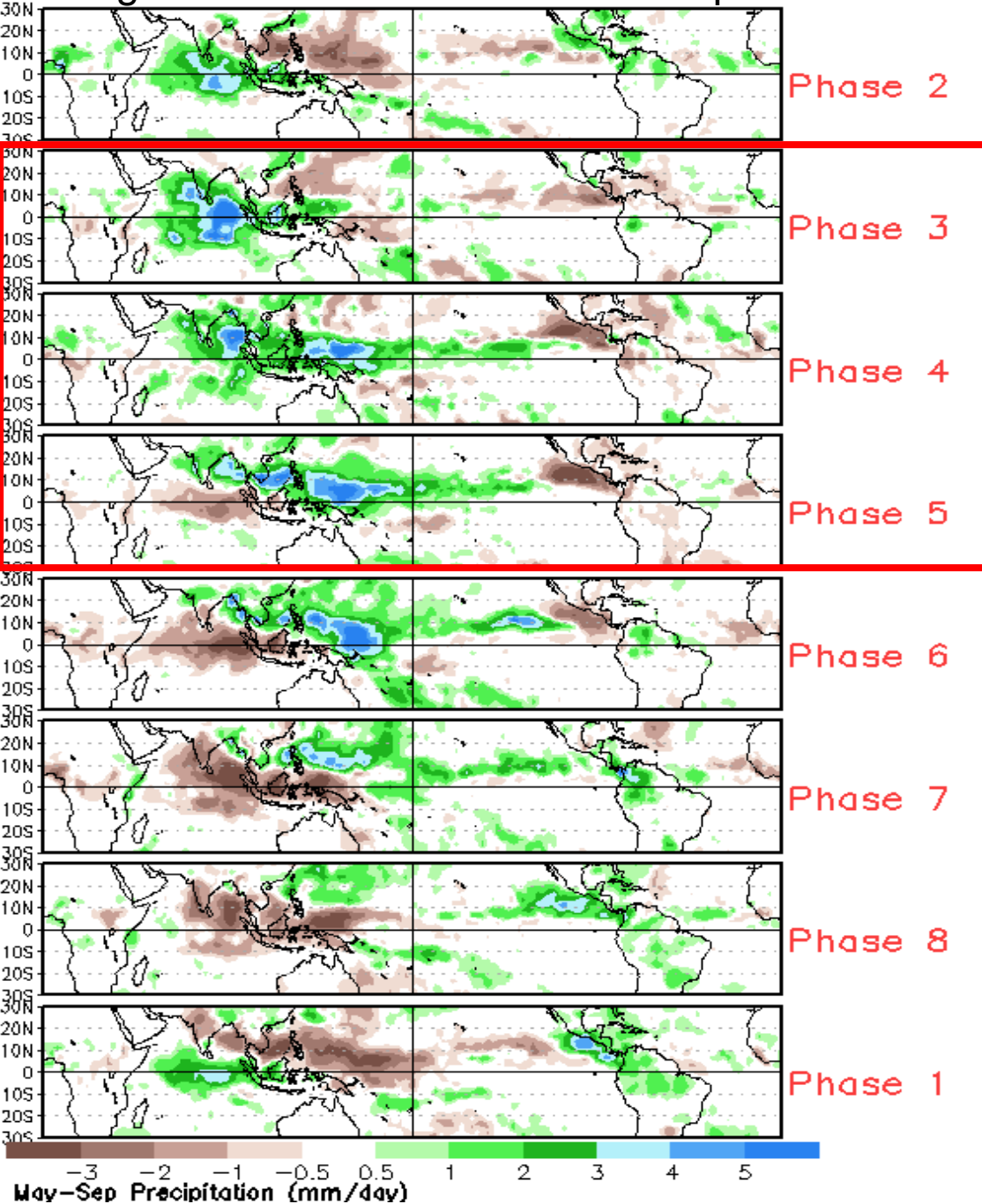
[RMM1, RMM2] forecast for Apr-26-2022 to May-10-2022



GEFS, ECWMF, and JMA ensemble means generally agree in terms of a weak MJO signal with all three models keep the RMM-based index within the unit circle for the next two weeks.

GEFS and ECMWF ensemble members display much more spread with a few members depicting an intensification of the MJO late in the forecast when compared to the JMA ensemble.

# Average Conditions when the MJO is present



Note: April is an “in-between” month with regard to these composites

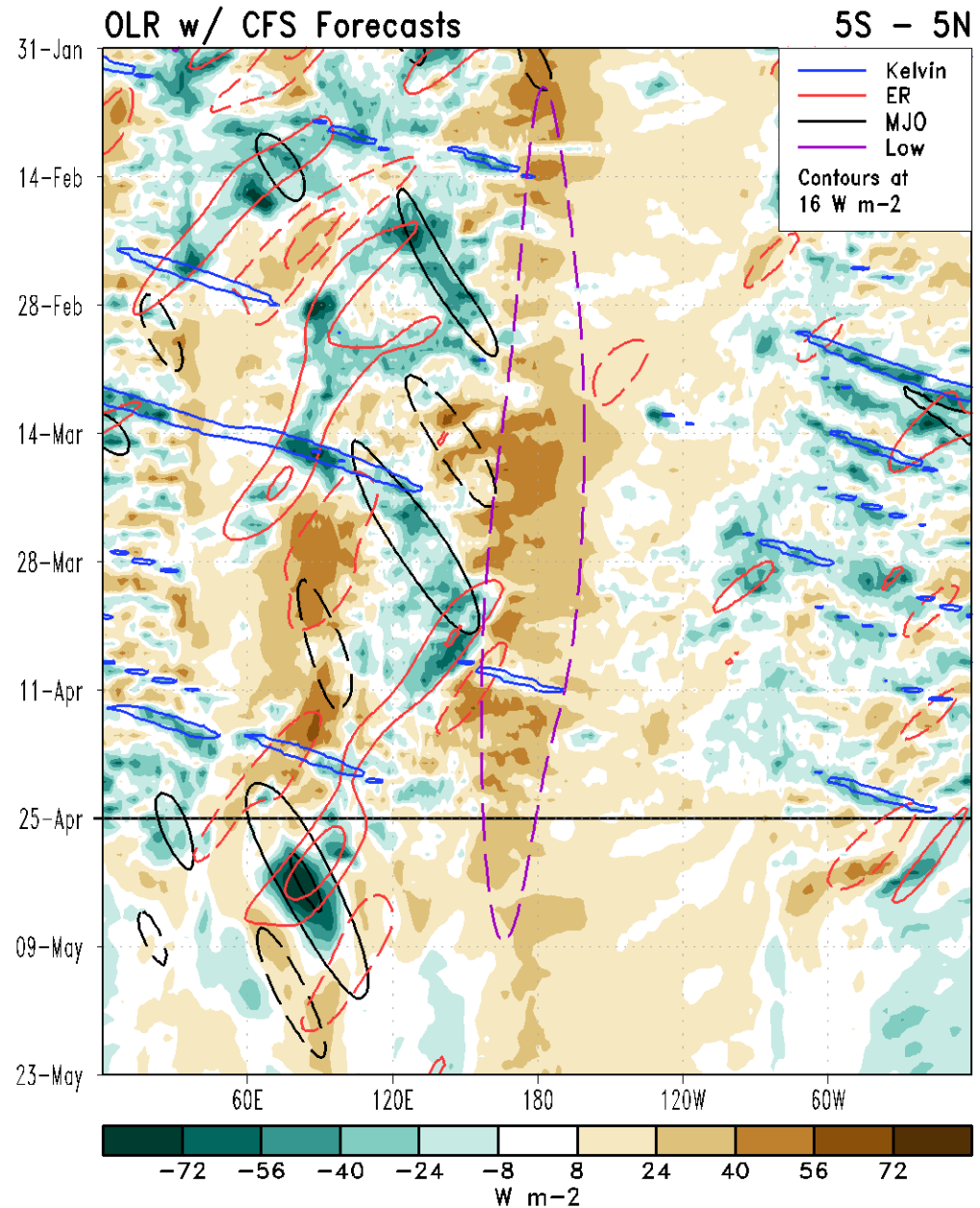
CAVEAT: These panels are representative of robust MJO events.



**MJO** activity has been relatively subdued for the past few weeks, while **Rossby Wave** activity has been more dominant since early April. In coming weeks a possible re-emergence of **MJO** interacting with a **RW** could bring a strong convective event to the tropical Indian Ocean.

Long-lived **Kelvin wave** activity is coupled with convection east of the Prime Meridian.

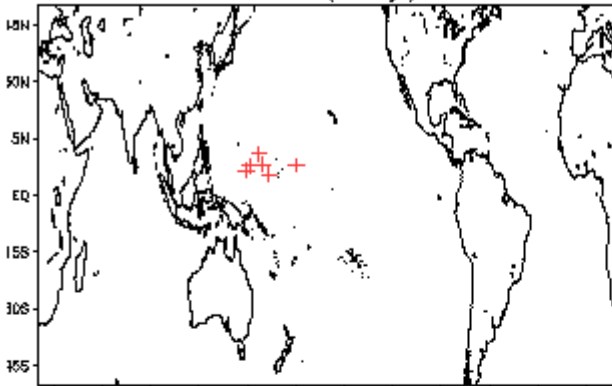
**Low frequency** contours depict ENSO cold conditions, and are currently the most prominent signal.



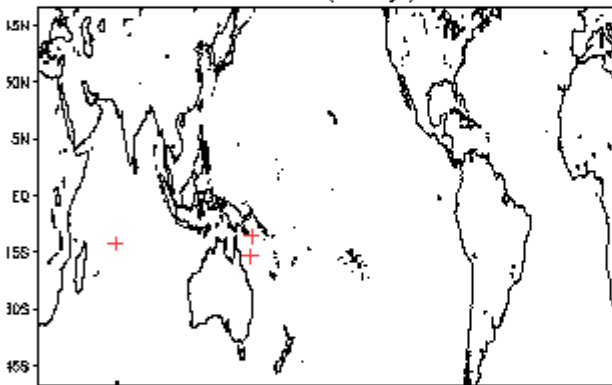


# April Tropical Storm Formation by MJO phase

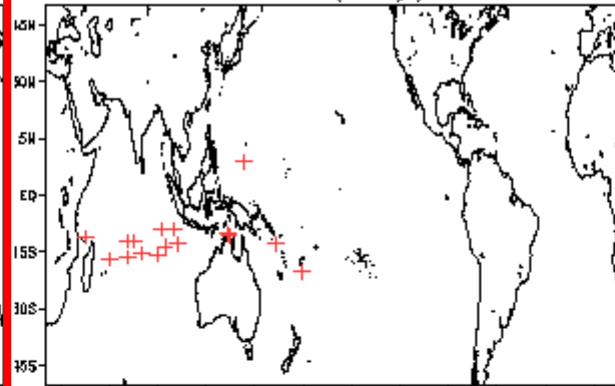
Phase 1 (70 days) 7 storms



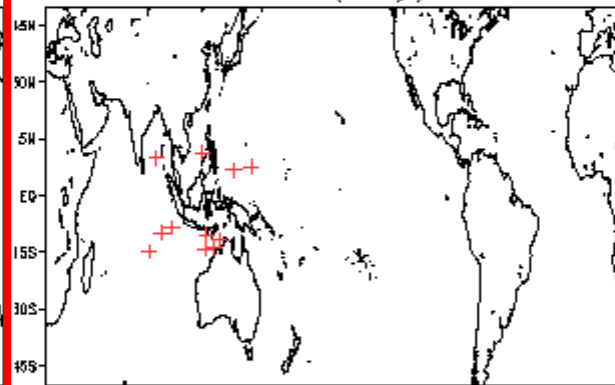
Phase 2 (65 days) 4 storms



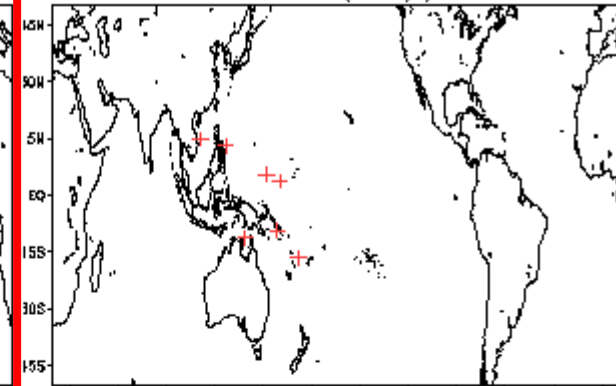
Phase 4 (95 days) 17 storms



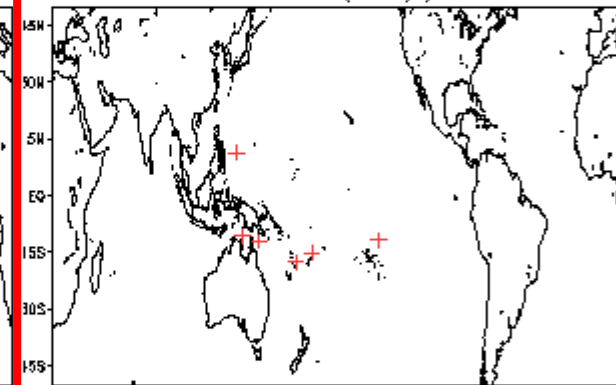
Phase 5 (77 days) 12 storms



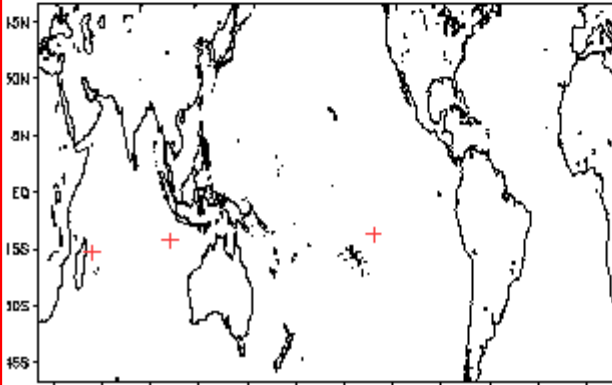
Phase 7 (87 days) 8 storms



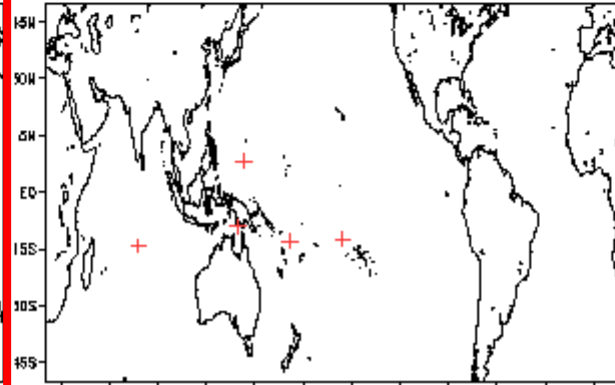
Phase 8 (75 days) 7 storms



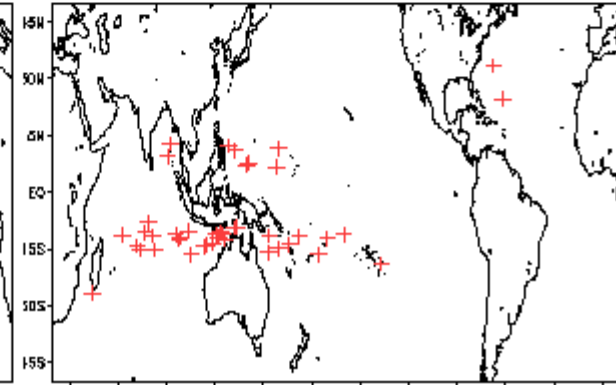
Phase 3 (68 days) 4 storms



Phase 6 (65 days) 8 storms

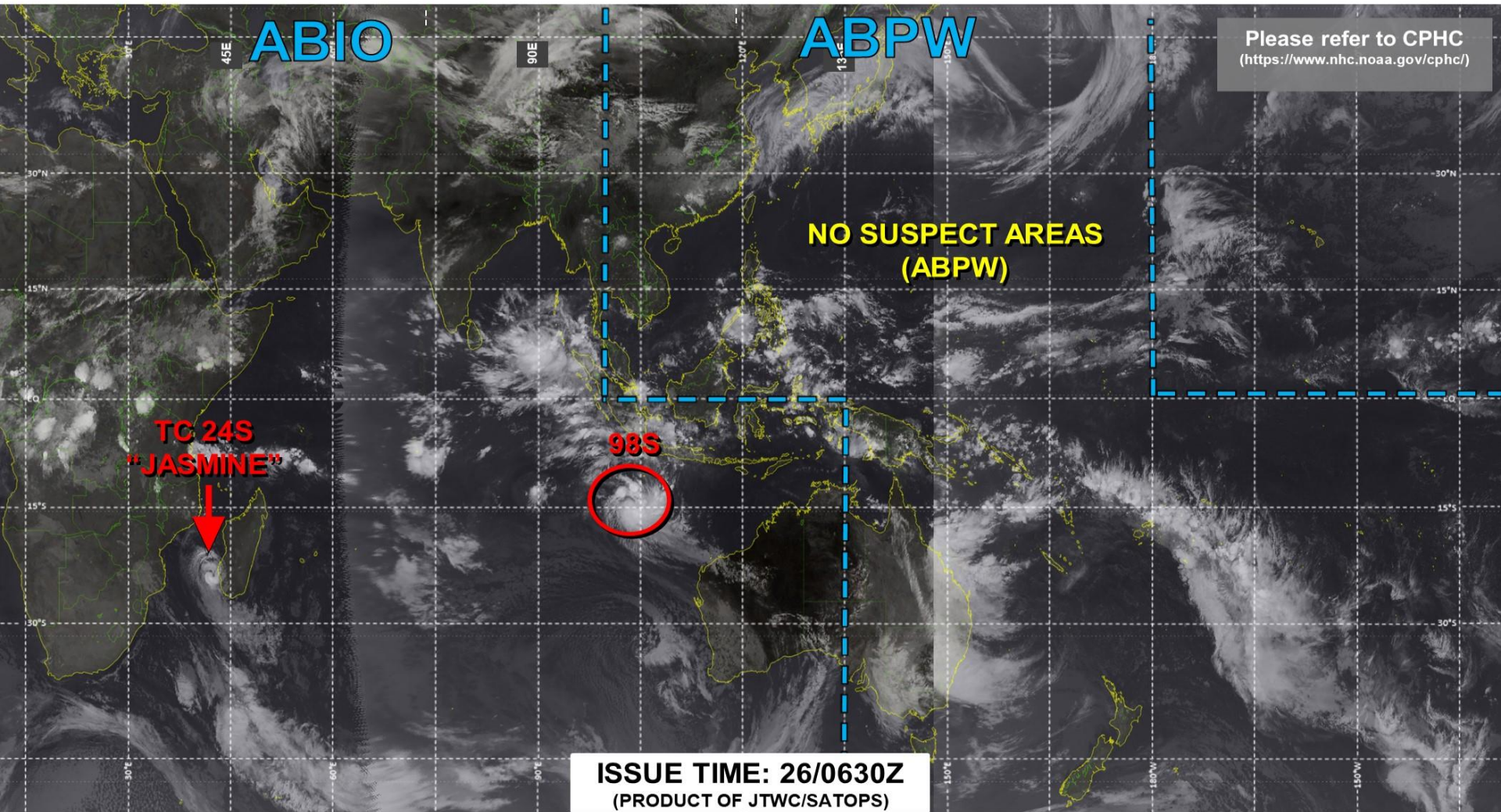


Null (388 days) 43 storms





# JOINT TYPHOON WARNING CENTER



**LOW** TC development unlikely within 24 hours

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

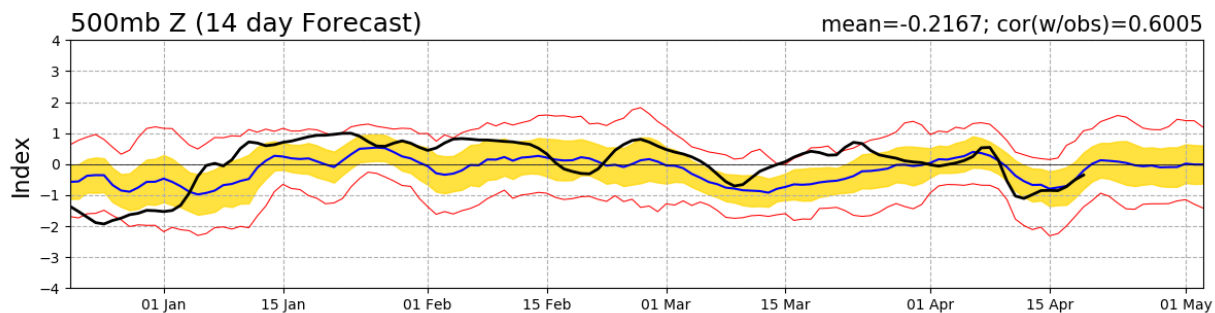
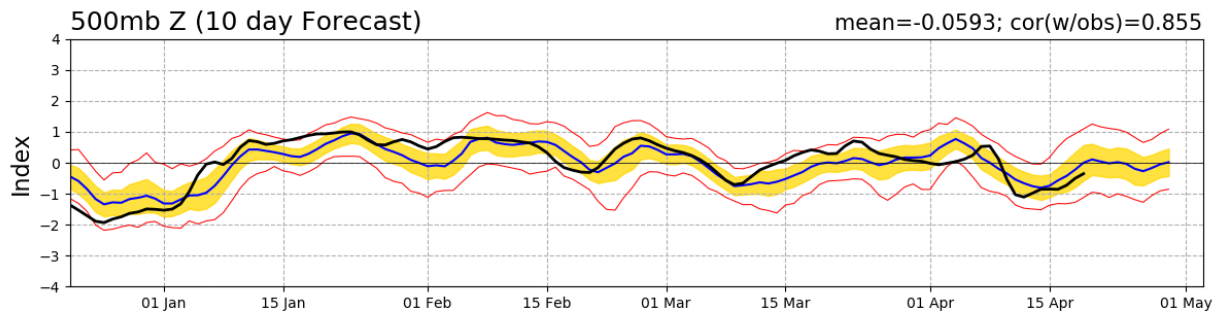
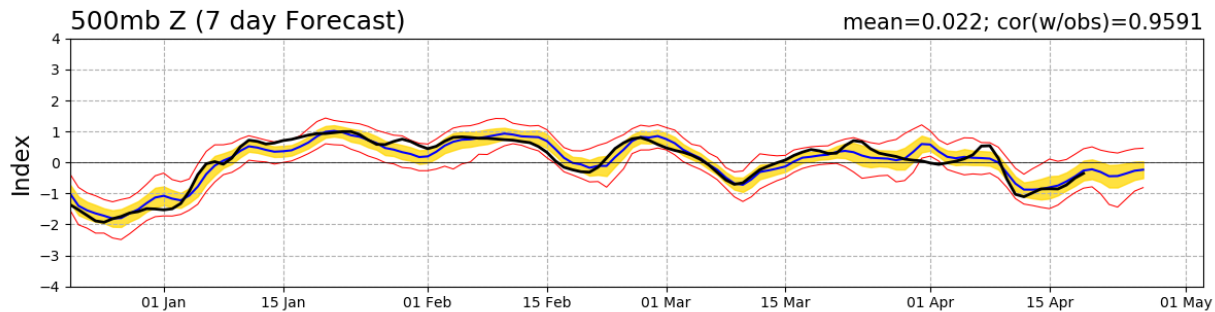
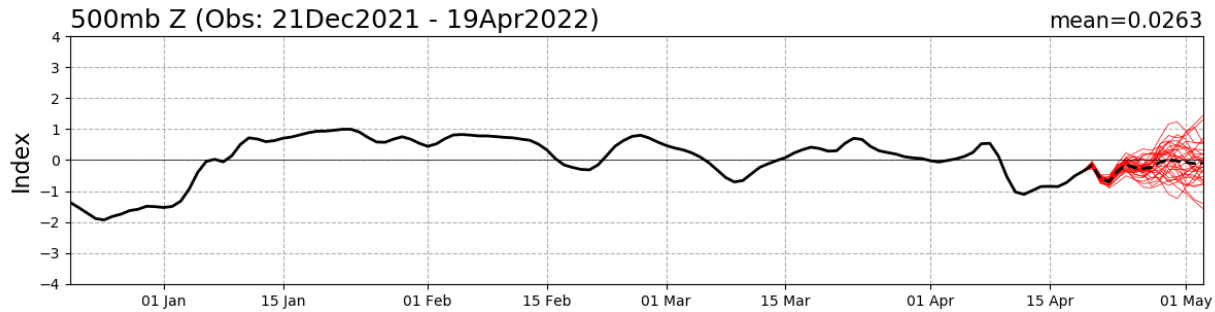
**HIGH** TC development likely within 24 hours (Reference TCFA)

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

Tropical Cyclone (Reference Warning)

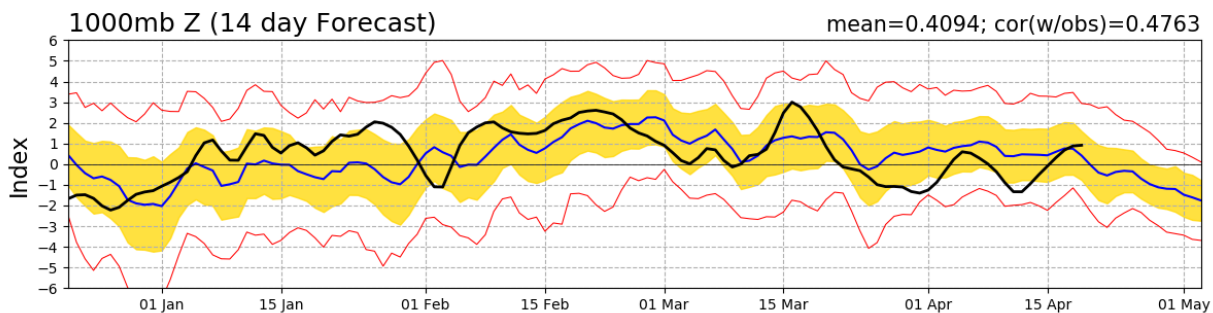
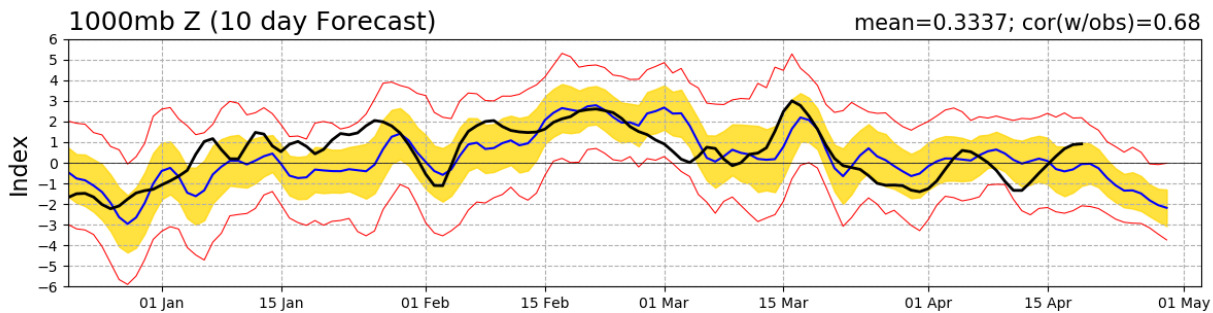
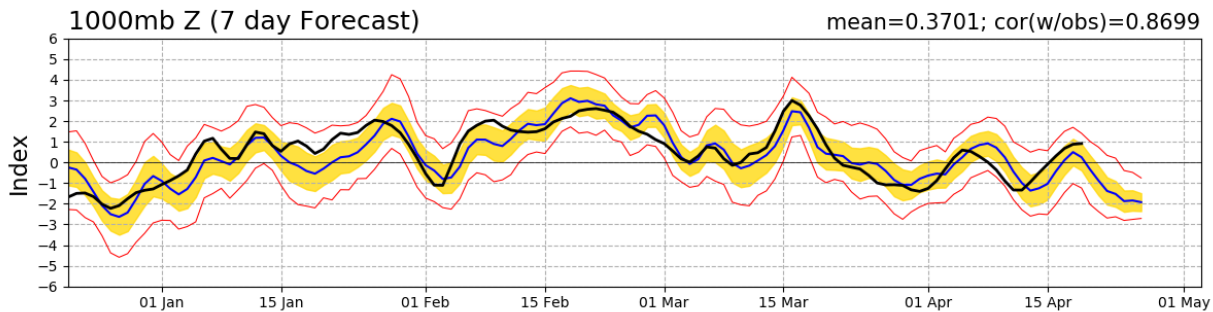
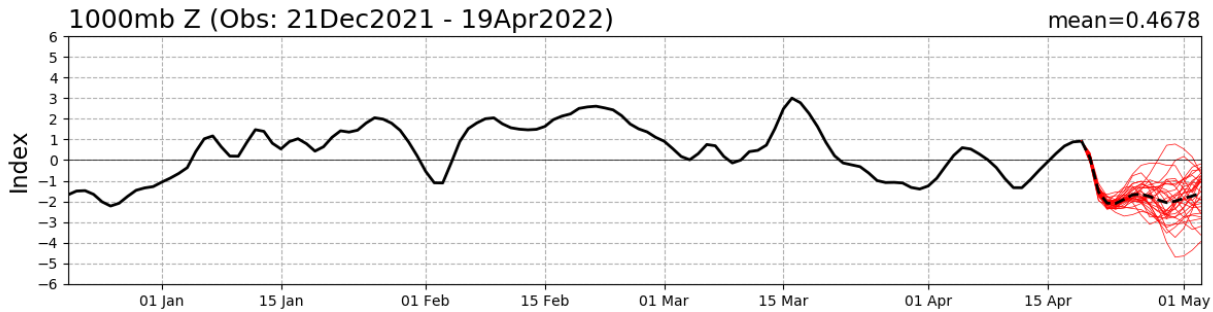
# Connections to U.S. Impacts

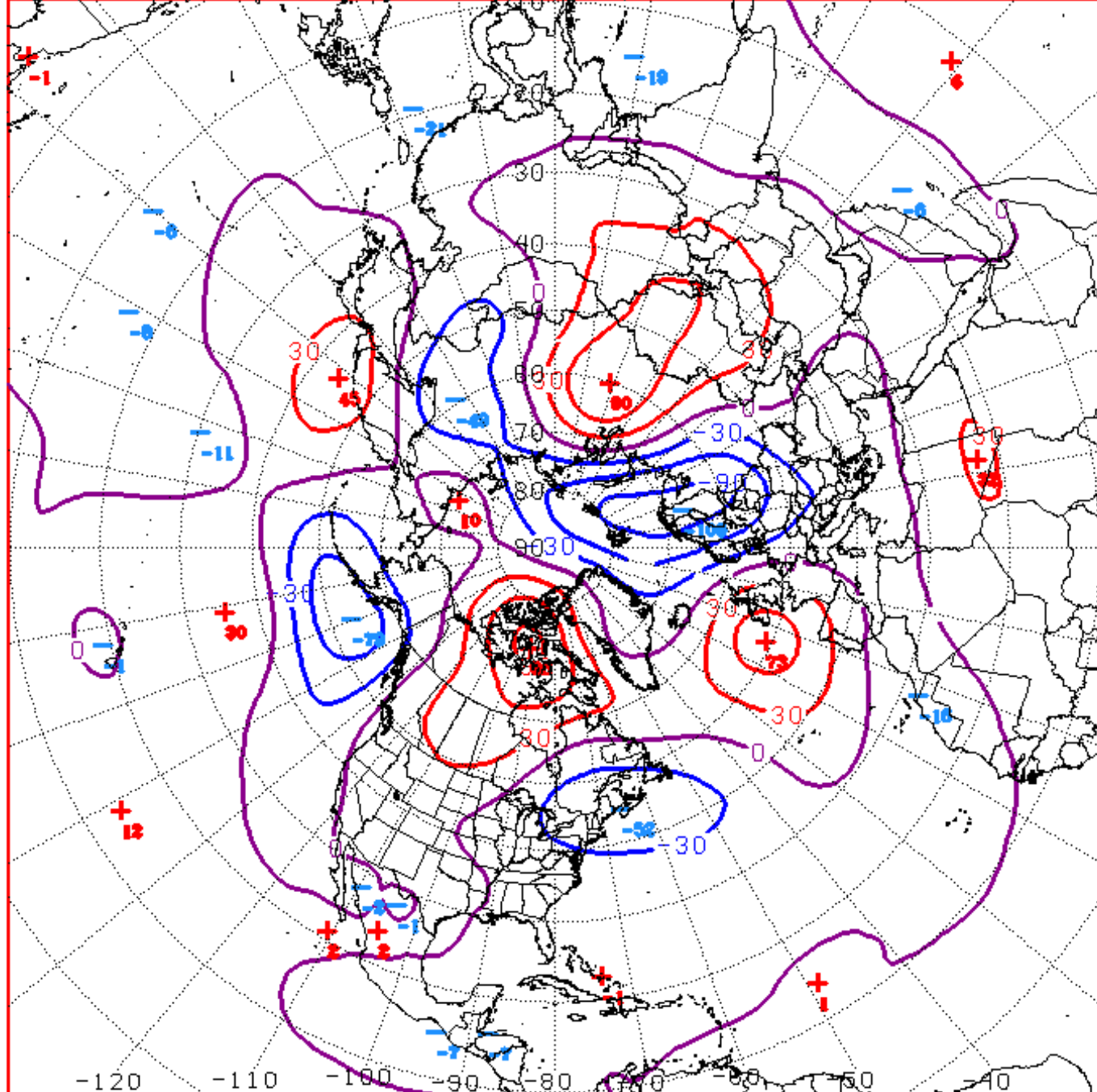
# PNA Index: Observed & GEFS Forecasts





# AO Index: Observed & GEFS Forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM  
CPC MAP MADE APR 26 2022 1358 UTC CNTD MAY 07 2022

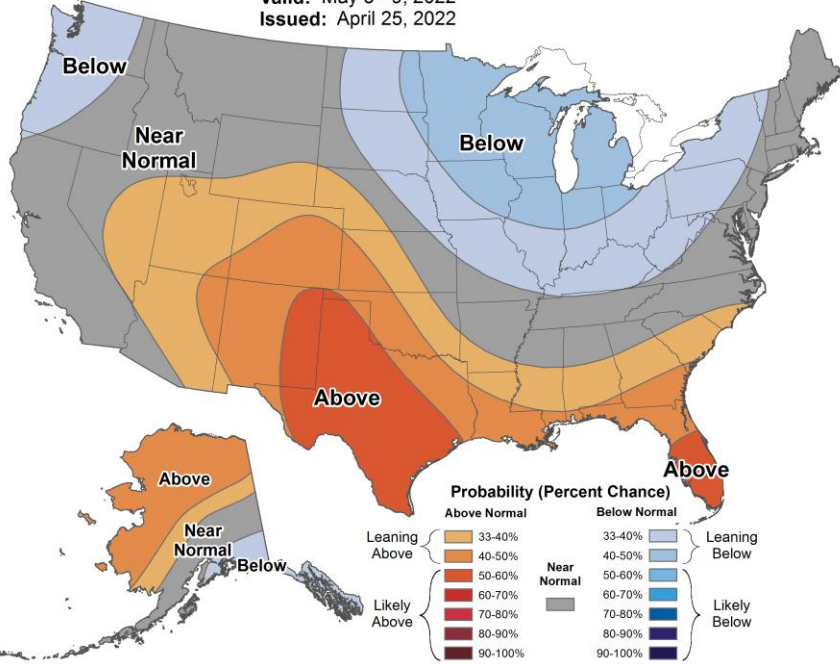
# Week 2 – Temperature and Precipitation



## 8-14 Day Temperature Outlook



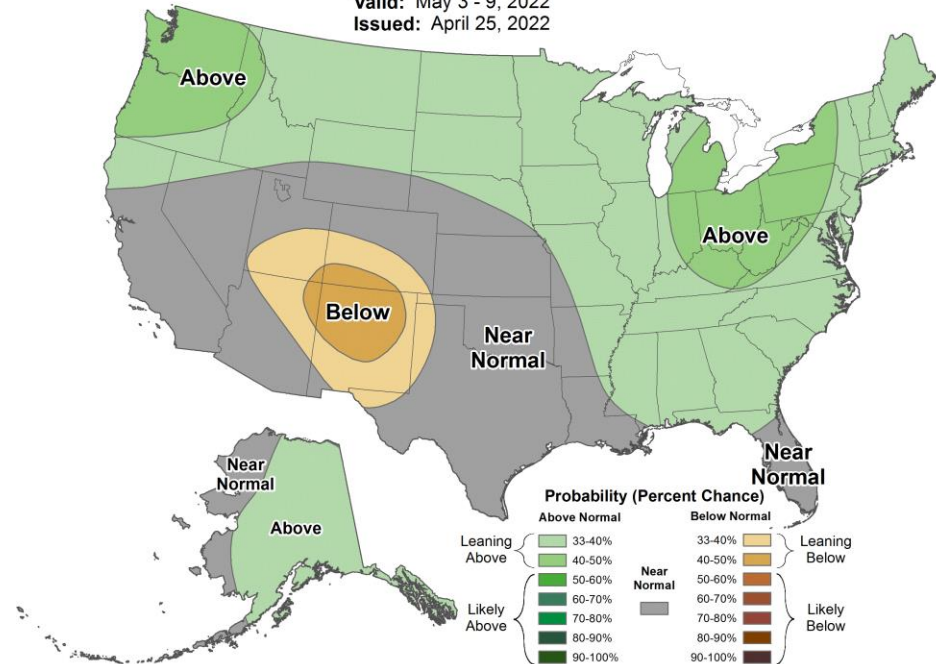
Valid: May 3 - 9, 2022  
 Issued: April 25, 2022



## 8-14 Day Precipitation Outlook



Valid: May 3 - 9, 2022  
 Issued: April 25, 2022



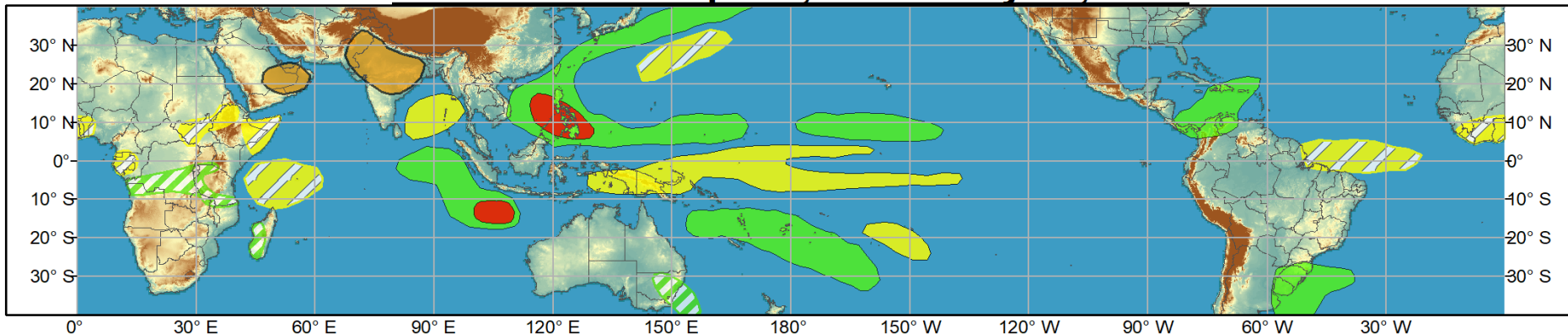




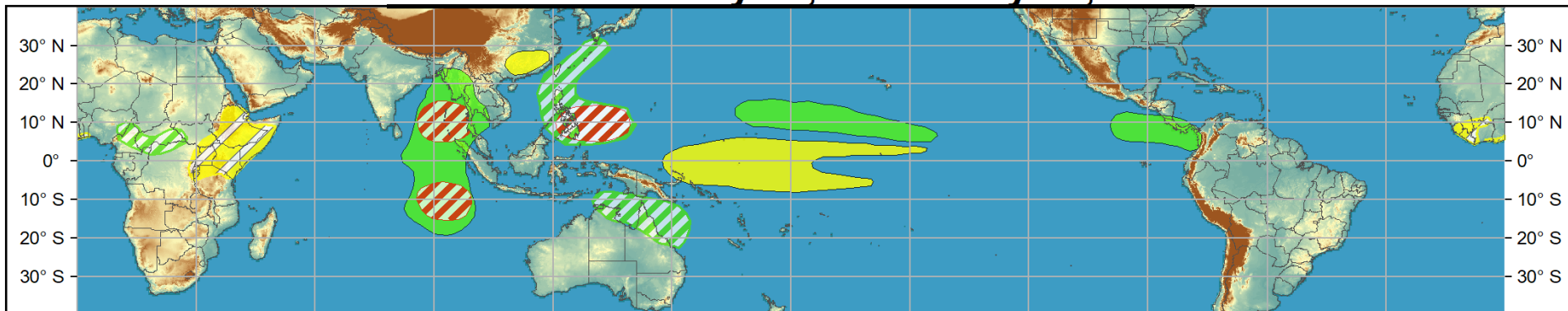
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## Week 1 - Valid: Apr 27, 2022 - May 03, 2022













## Week 2 - Valid: May 04, 2022 - May 10, 2022



Produced: 04/26/2022

Forecaster: Barandiaran

Confidence		
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