

Global Tropics Hazards And Benefits Outlook

4/19/2022

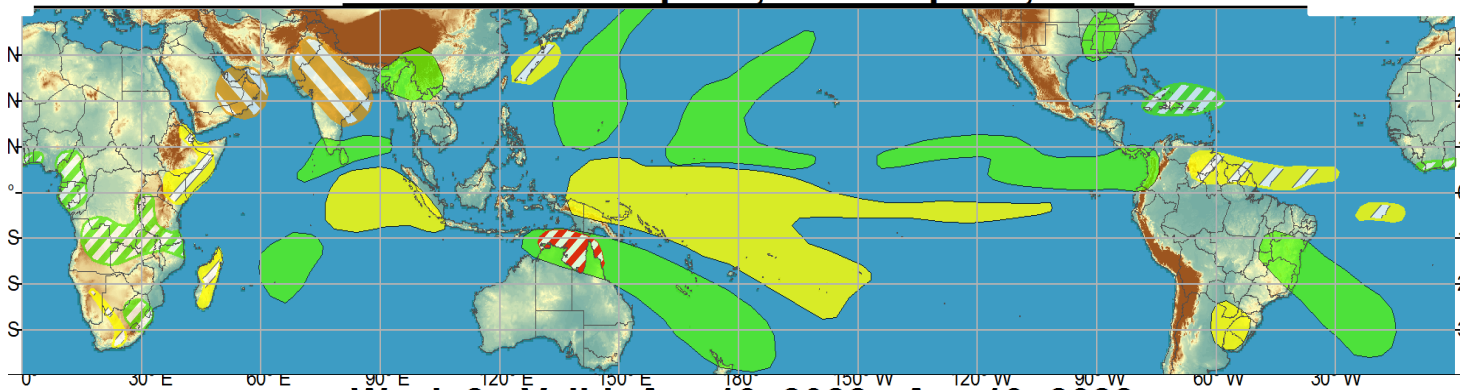
Danny Barandiaran

Outline

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

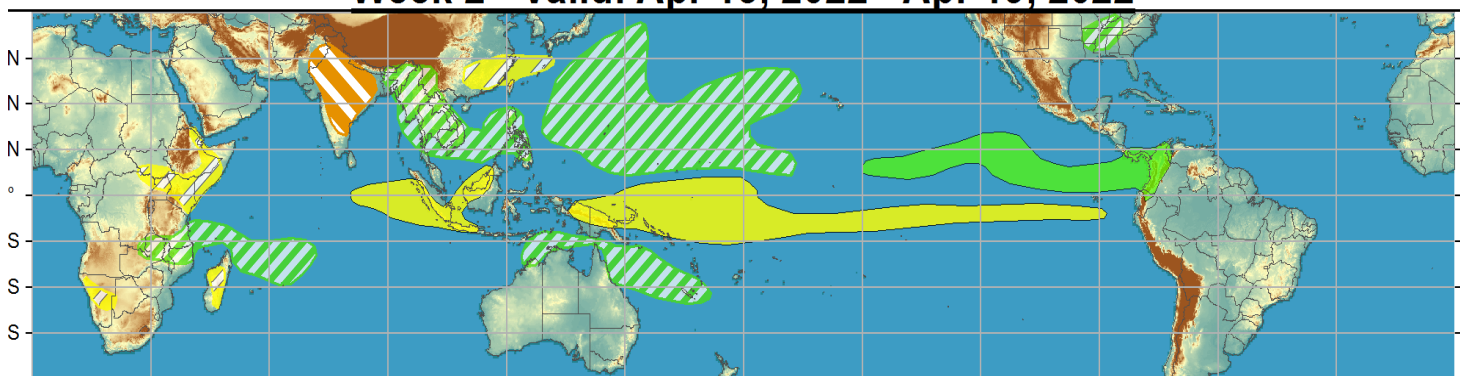
Outlook Review

Week 1 - Valid: Apr 13, 2022 - Apr 19, 2022



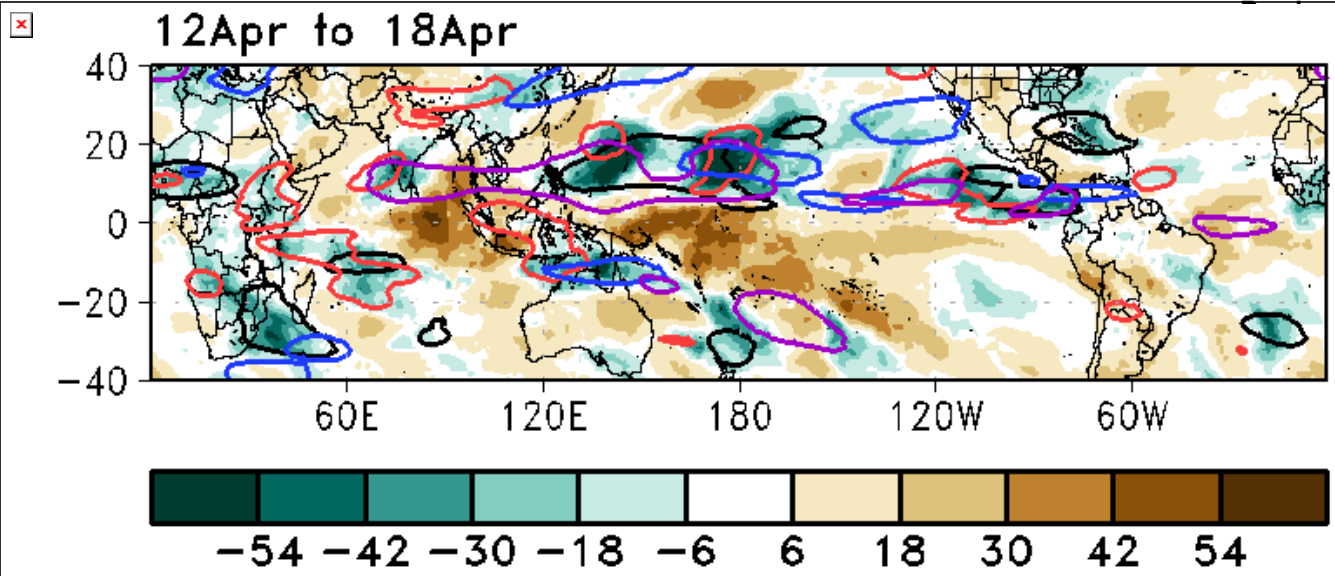
No TC formation in the last week.

Week 2 - Valid: Apr 13, 2022 - Apr 19, 2022



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:

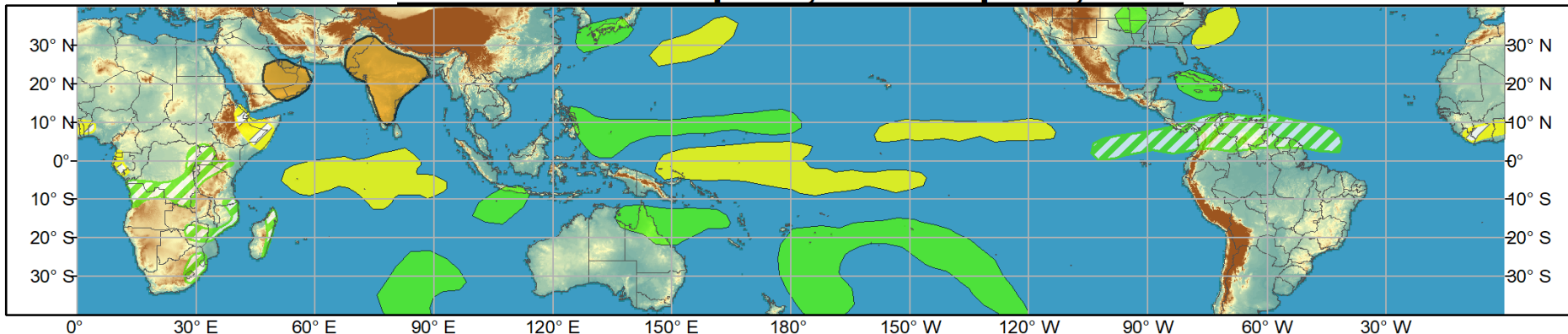
- The MJO signal remains mostly within the RMM-based unit circle, but has emerged over the Western Hemisphere during the last few days.
- There is some uncertainty into the MJO evolution during the next 2 weeks with the GEFS and ECMWF disagreeing on the strength of the MJO over the next week, but both models depict a much weaker MJO signal by week 2.
- TC formation will be diminished in the near future due to widespread upper-level convergence over the Indian Ocean and only moderate upper-level divergence over the Western Pacific.



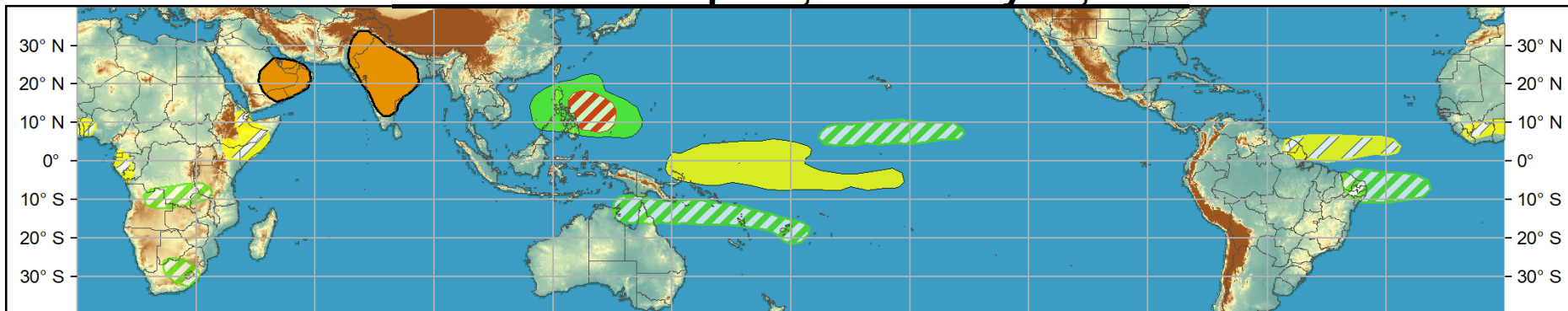
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Apr 20, 2022 - Apr 26, 2022



Week 2 - Valid: Apr 27, 2022 - May 03, 2022



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.

Produced: 04/19/2022

Forecaster: Barandiaran

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

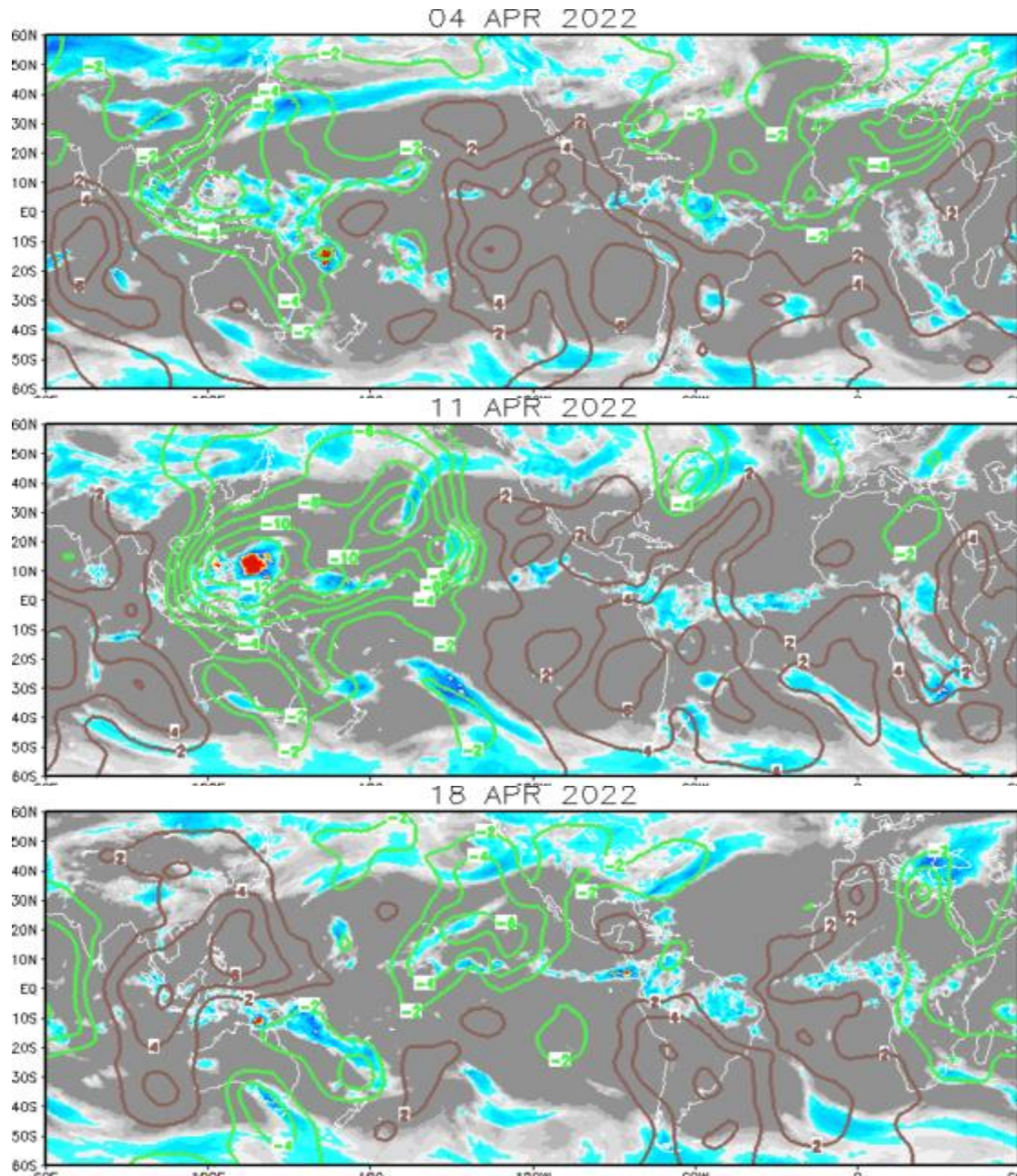
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-2 pattern seen in the upper level velocity potential field, with enhanced convection across the western Pacific and North Africa, and suppressed convection over the eastern Pacific, S. America, and the Indian Ocean.

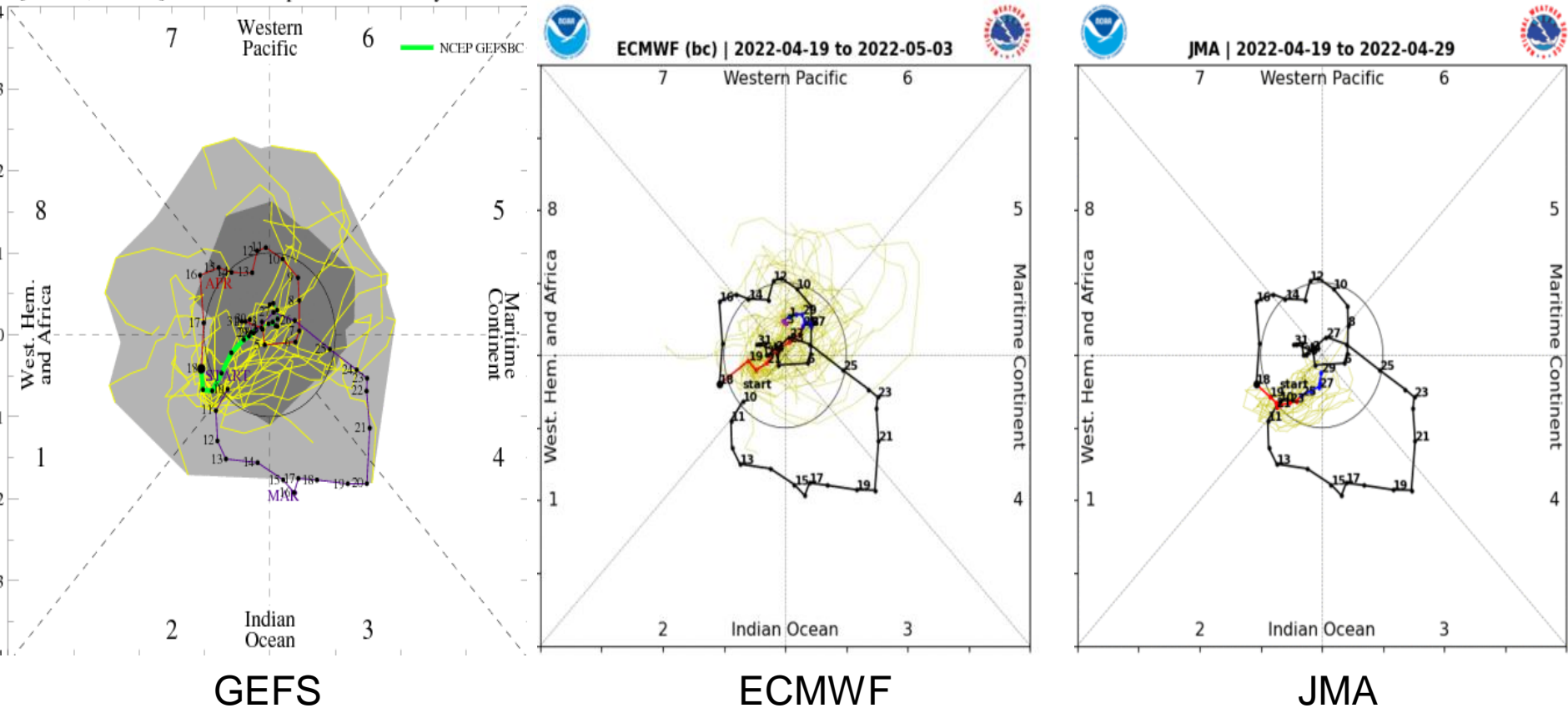
Wave-1 pattern emerges as enhanced convection increases over the Maritime Continent, while suppressed convection becomes prevalent for the rest of the tropics.

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



MJO Observation/Forecast

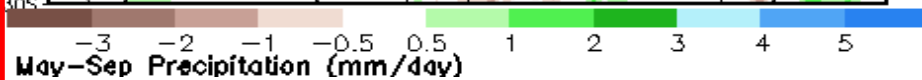
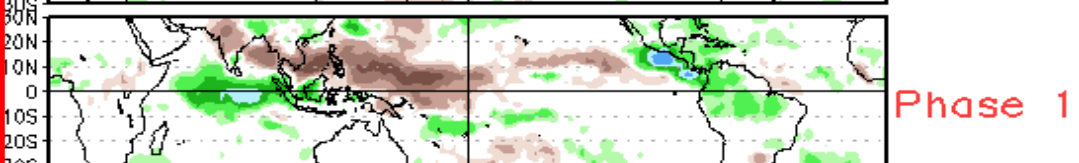
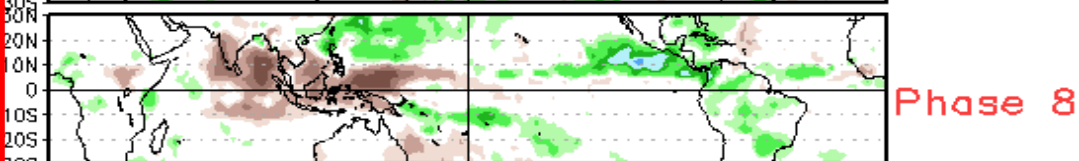
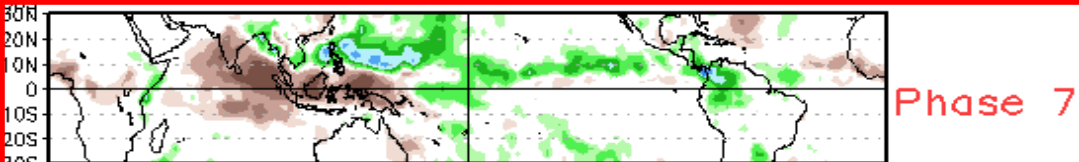
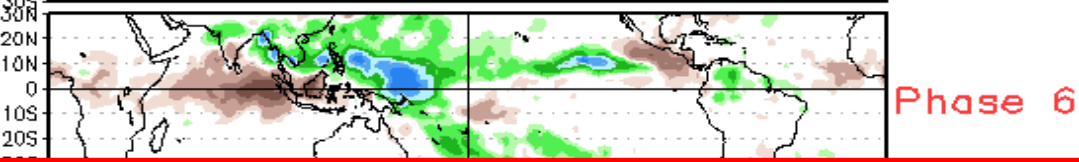
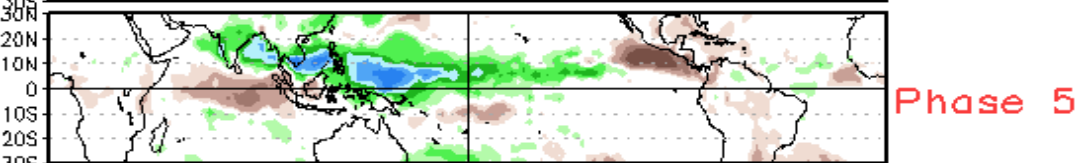
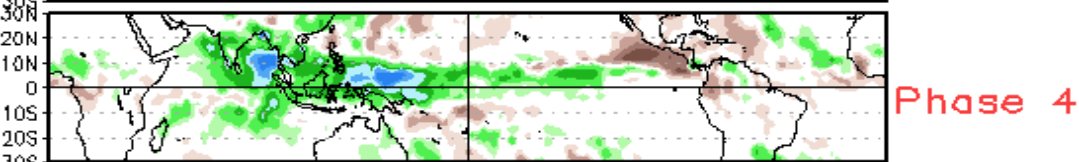
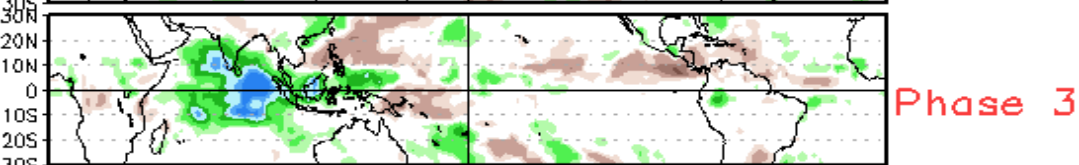
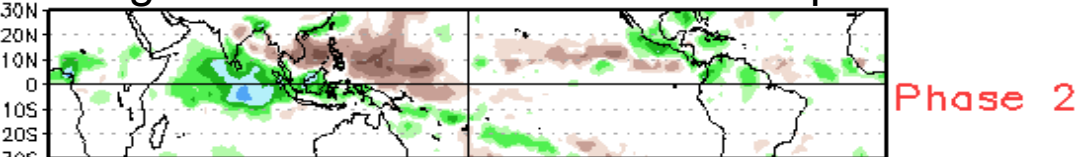
[RMM1, RMM2] forecast for Apr-19-2022 to May-03-2022



GEFS, ECMWF, and JMA ensemble means generally agree in terms of a weak MJO signal quickly diminishing in intensity then lingering near the origin for the next two weeks.

GEFS ensemble members display much more spread when compared to the ECMWF and JMA ensembles.

Average Conditions when the MJO is present



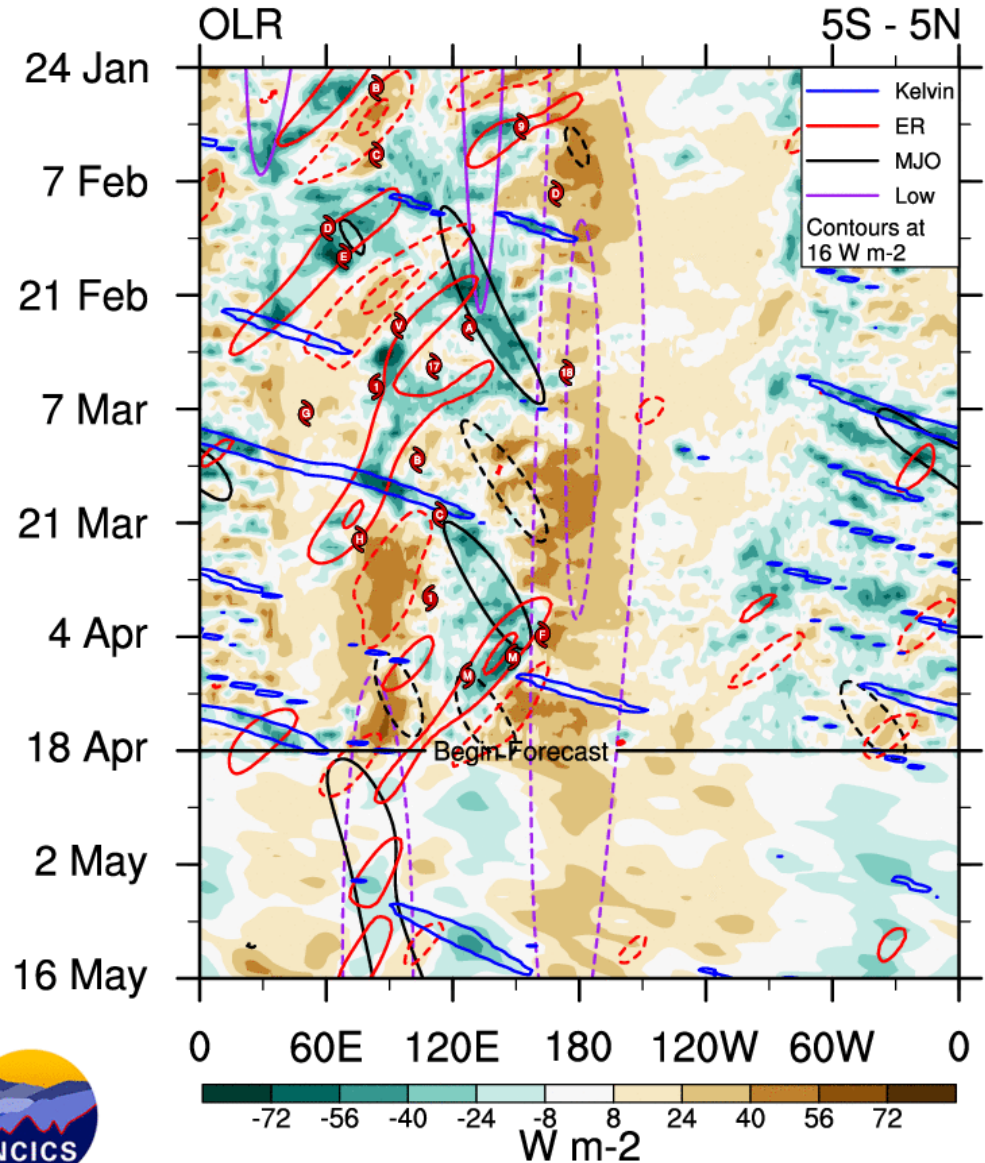
Note: April is an “in-between” month with regard to these composites

CAVEAT: These panels are representative of robust MJO events.

MJO activity was depicted coming through the OLR filtering over the Maritime Continent and Western Pacific during March, with **Rossby Wave** activity becoming more dominant in early to mid-April.

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.

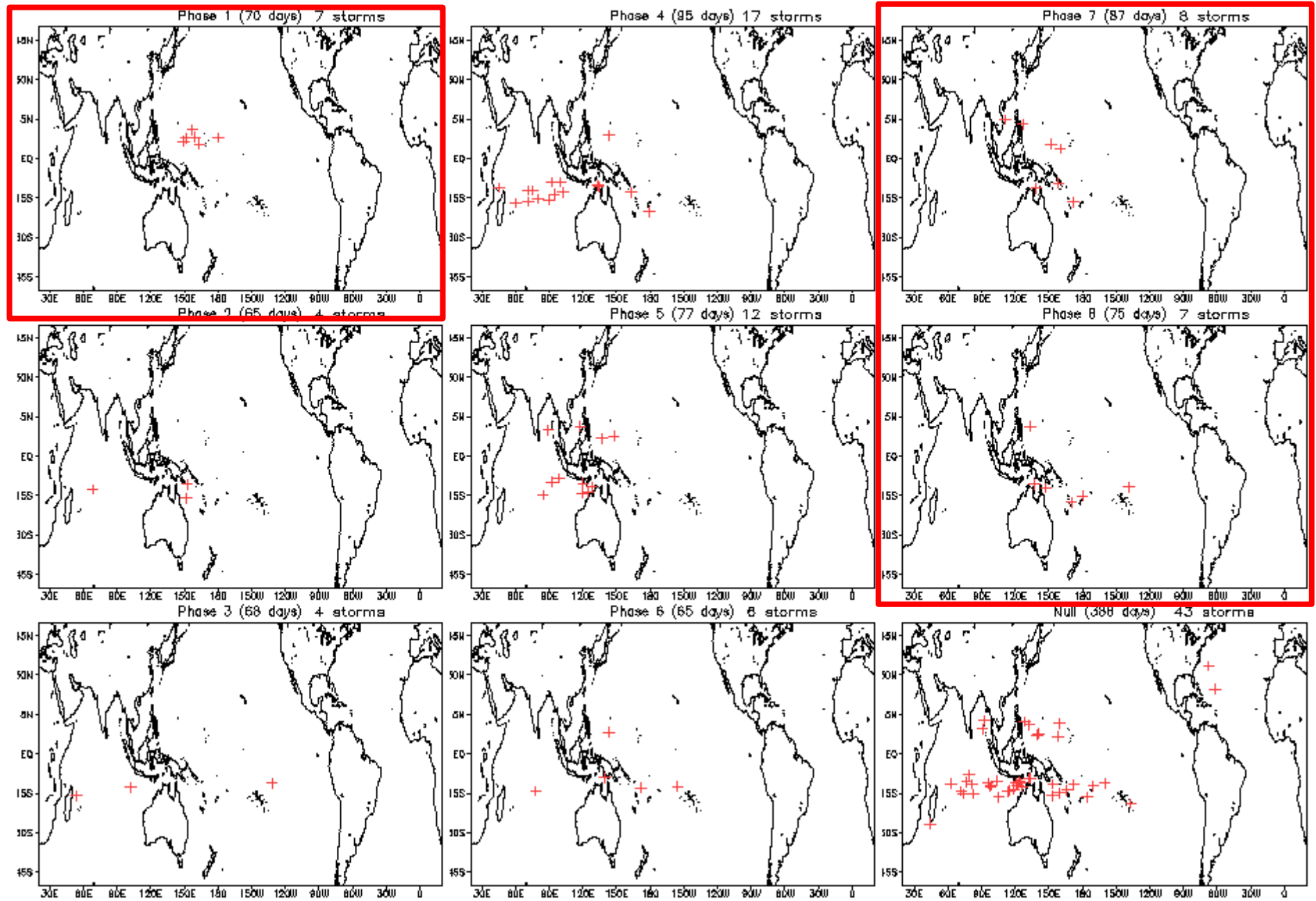


ncics.org/mjo

Tue 2022-04-19 15:53 UTC

Carl Schreck
carl_schreck@ncsu.edu

April Tropical Storm Formation by MJO phase





JOINT TYPHOON WARNING CENTER



Naval Research Laboratory
Marine Meteorology Division
Cloud Layer Product
Valid: 2022-04-19 03:00:00

FABIO

ABPW

Please refer to CPHC
(<https://www.nhc.noaa.gov/cphc/>)

**NO SUSPECT AREAS
(ABPW)**

**NO SUSPECT AREAS
(ABIO)**

**ISSUE TIME: 19/0600Z
(PRODUCT OF JTWC/SATOPS)**

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)

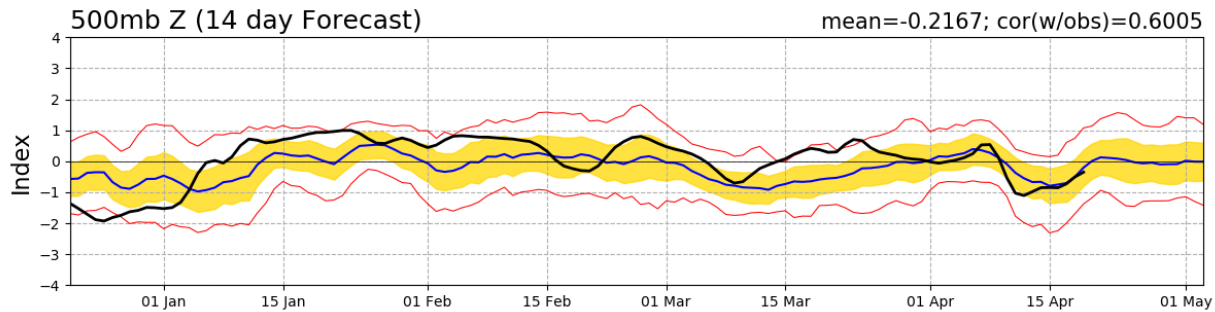
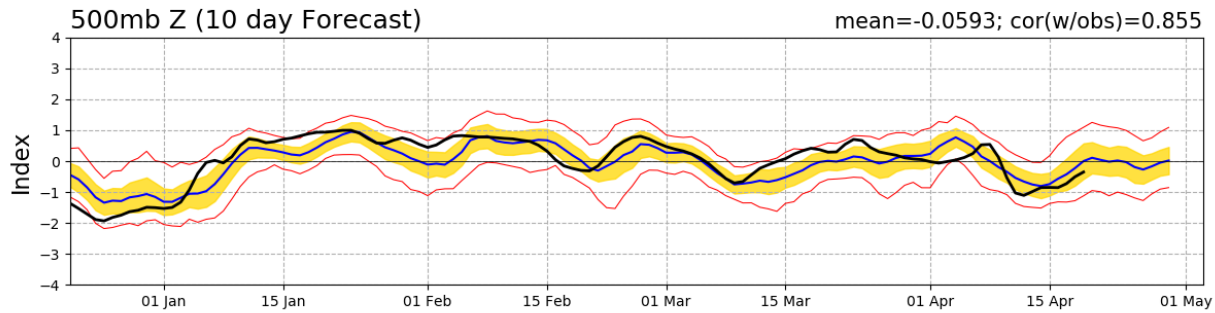
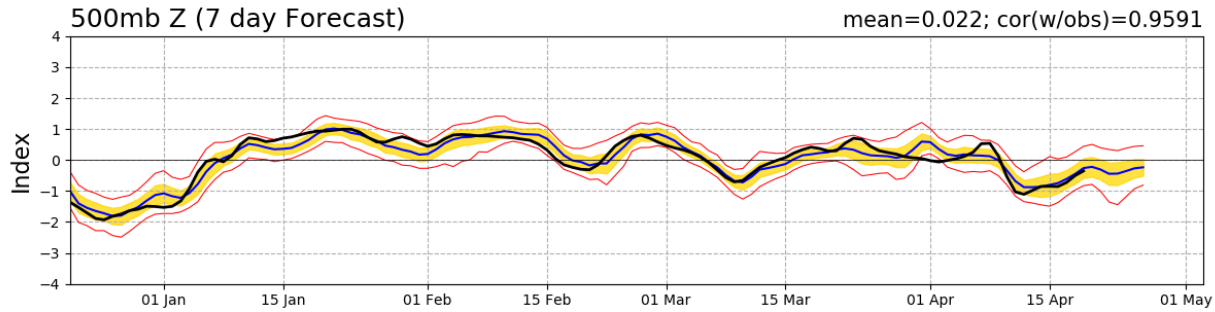
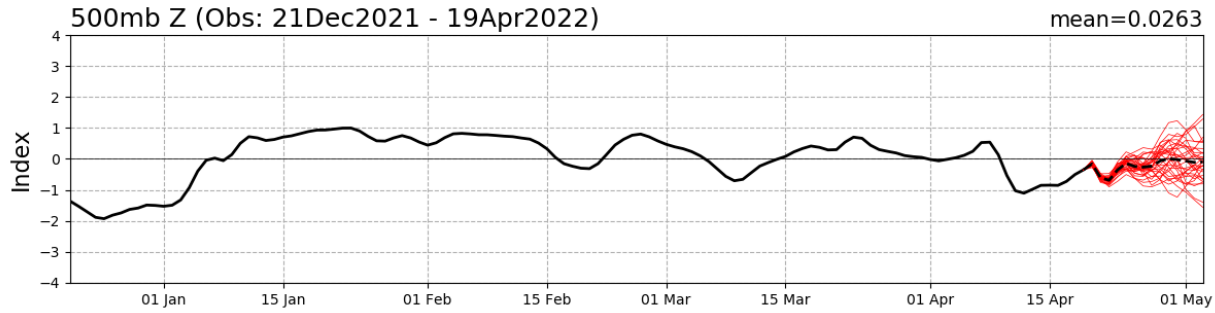
**SUB
TROPICAL**

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

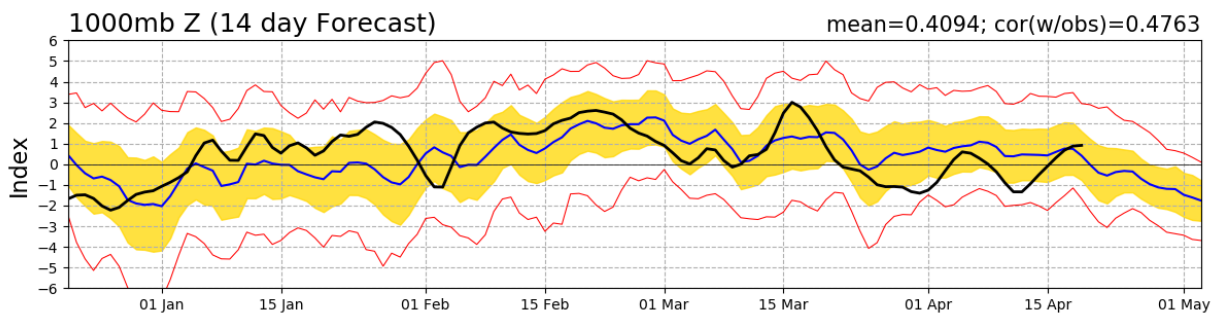
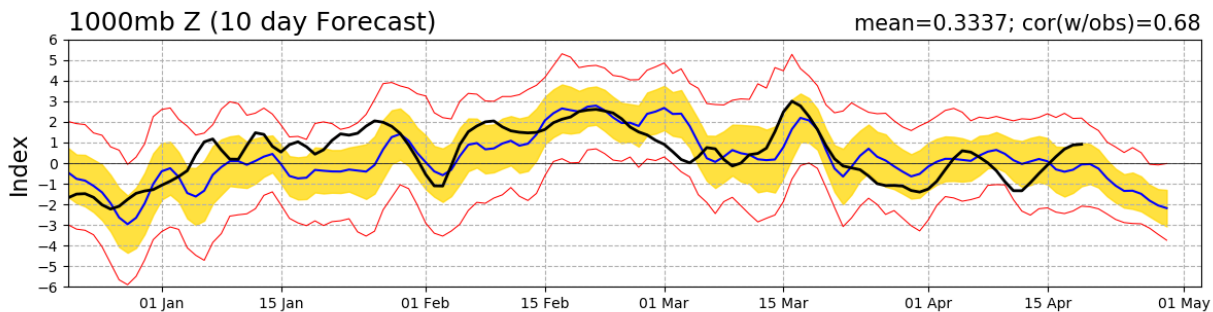
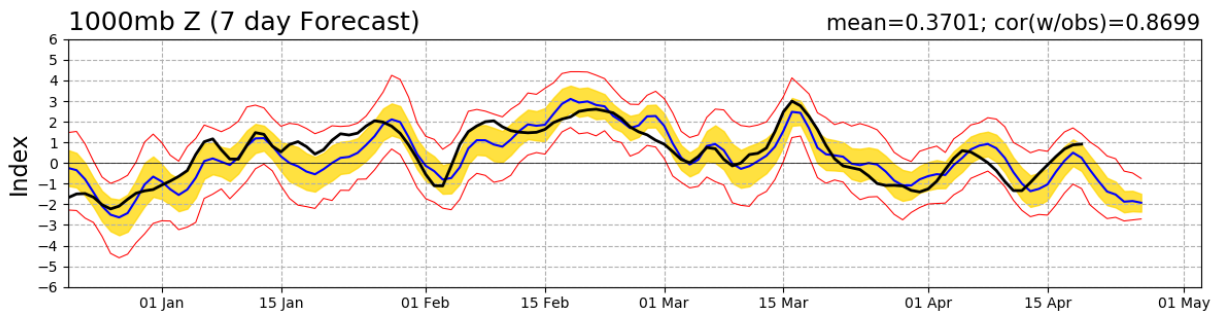
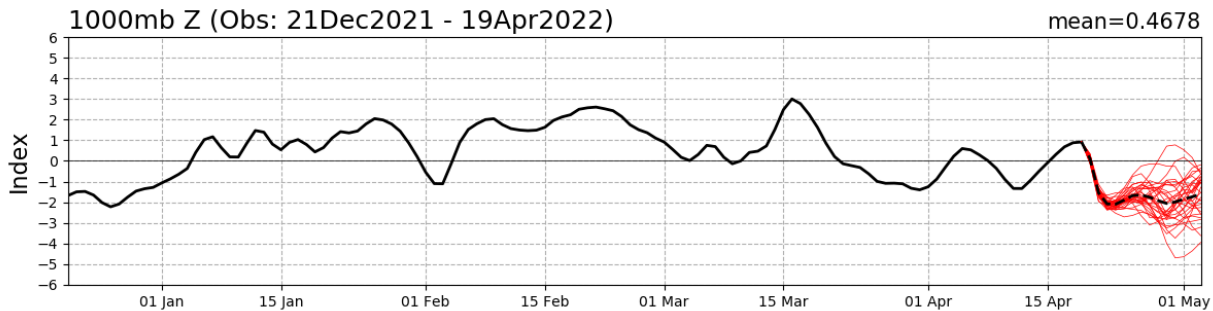
Tropical Cyclone
(Reference Warning)

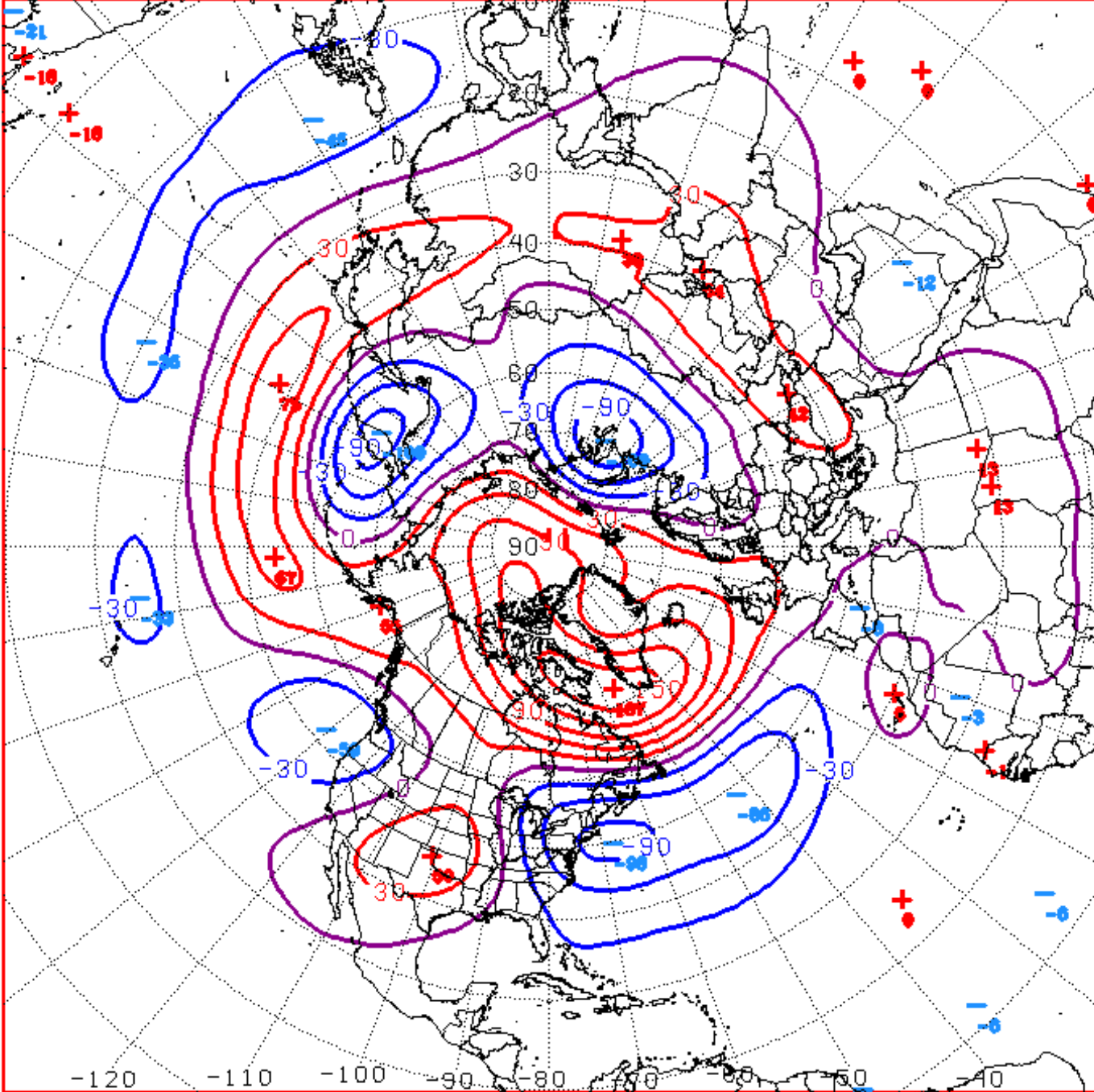
Connections to U.S. Impacts

PNA Index: Observed & GEFS Forecasts



AO Index: Observed & GEFS Forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE APR 19 2022 1357 UTC CNTD APR 30 2022

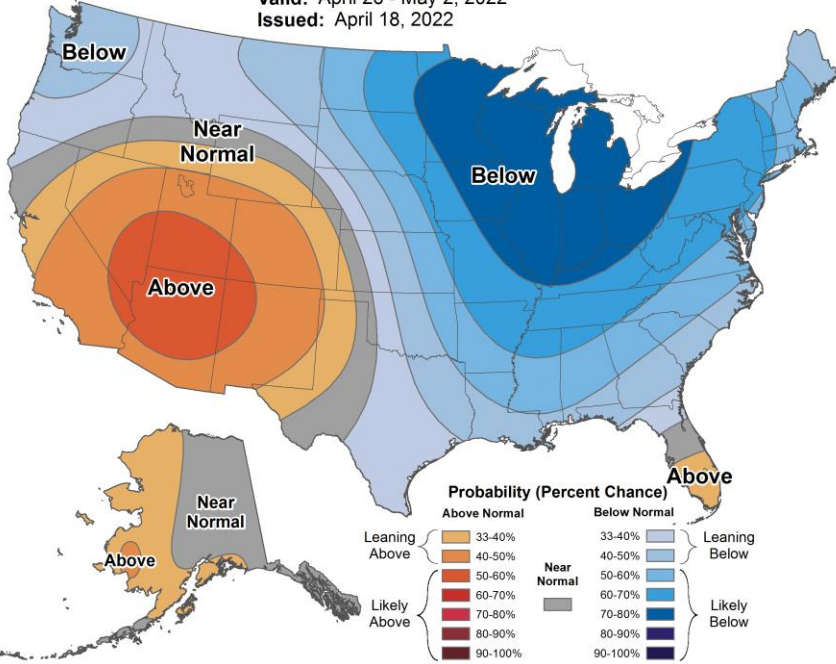
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



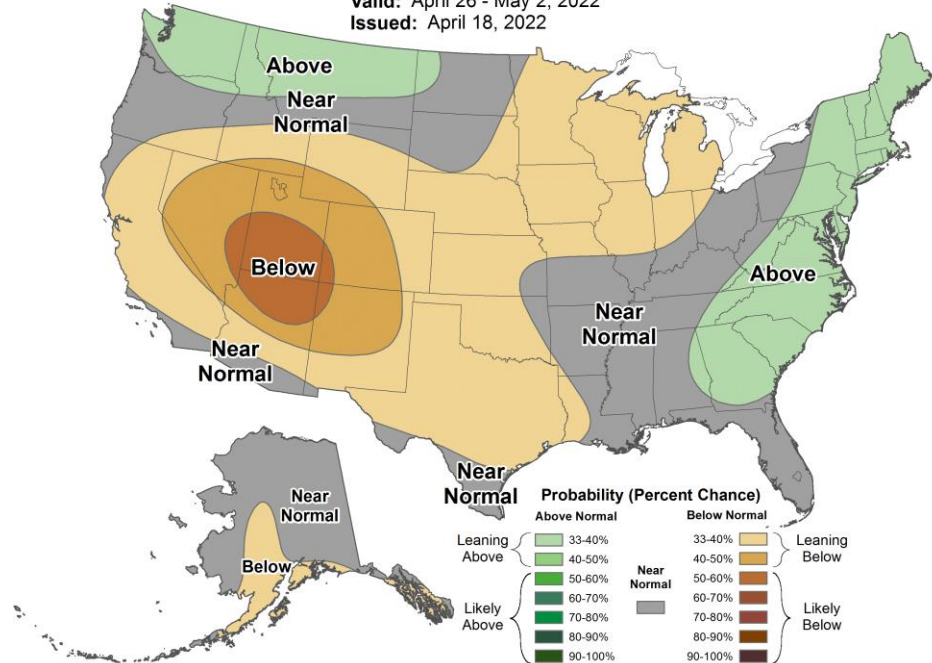
Valid: April 26 - May 2, 2022
 Issued: April 18, 2022



8-14 Day Precipitation Outlook



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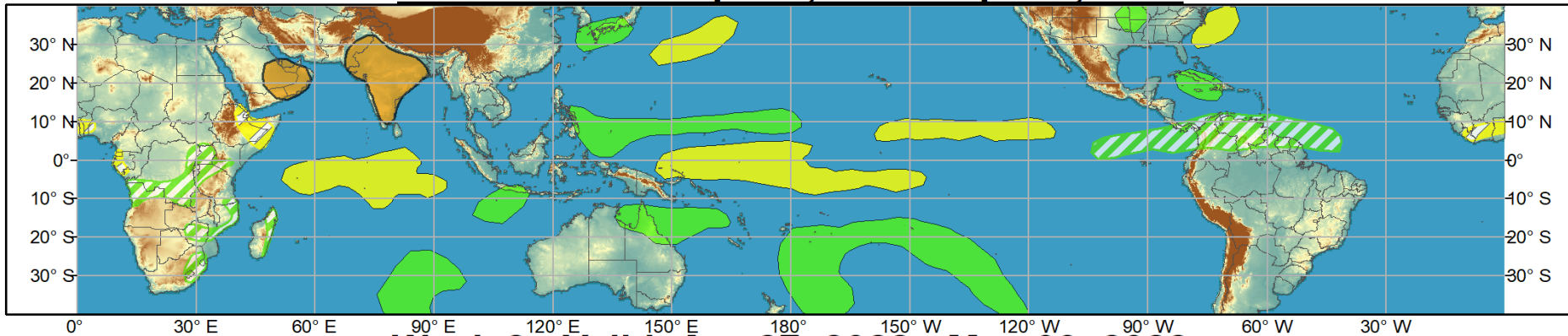




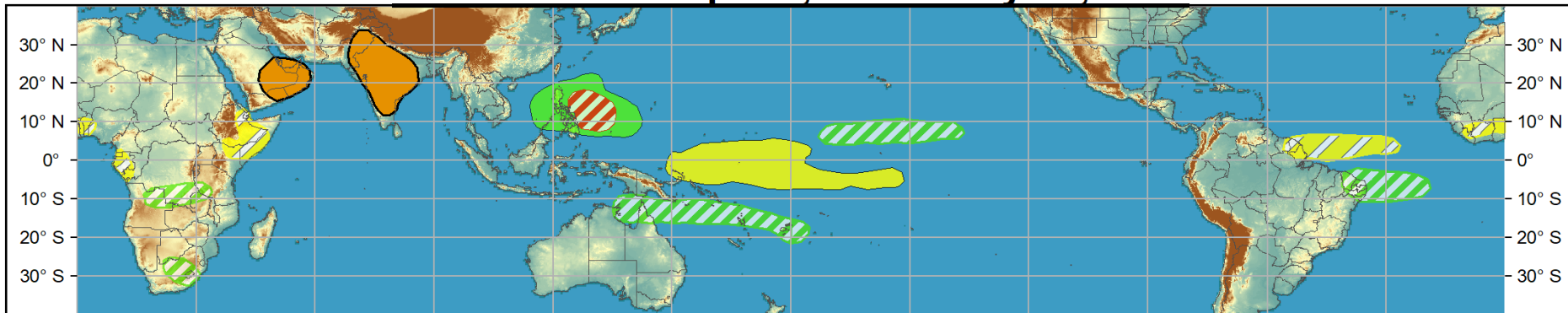
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Weekly total rainfall in the lower third of the historical range.

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