

Global Tropics Hazards And Benefits Outlook

4/21/2020

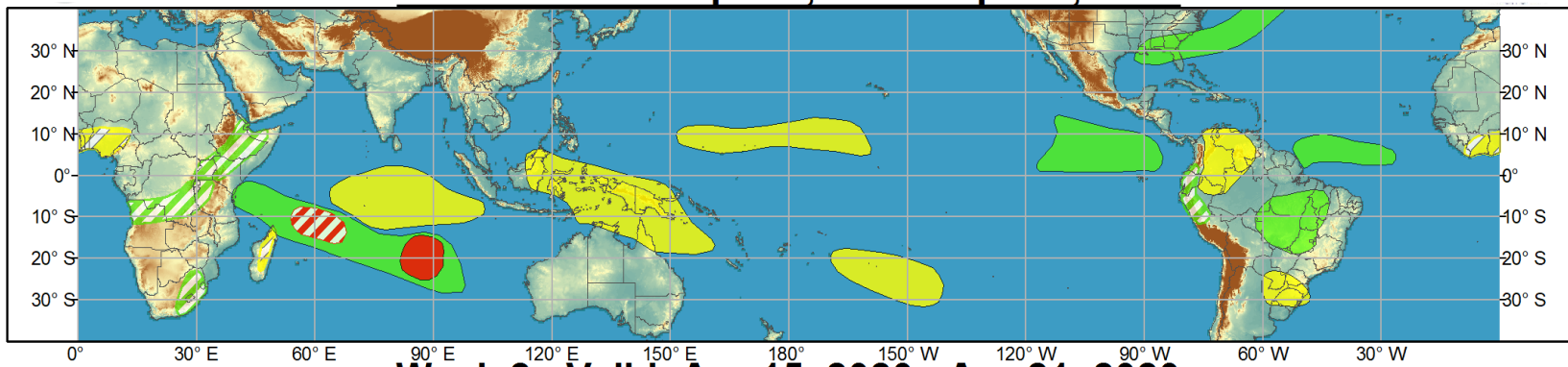
Adam Allgood

Outline

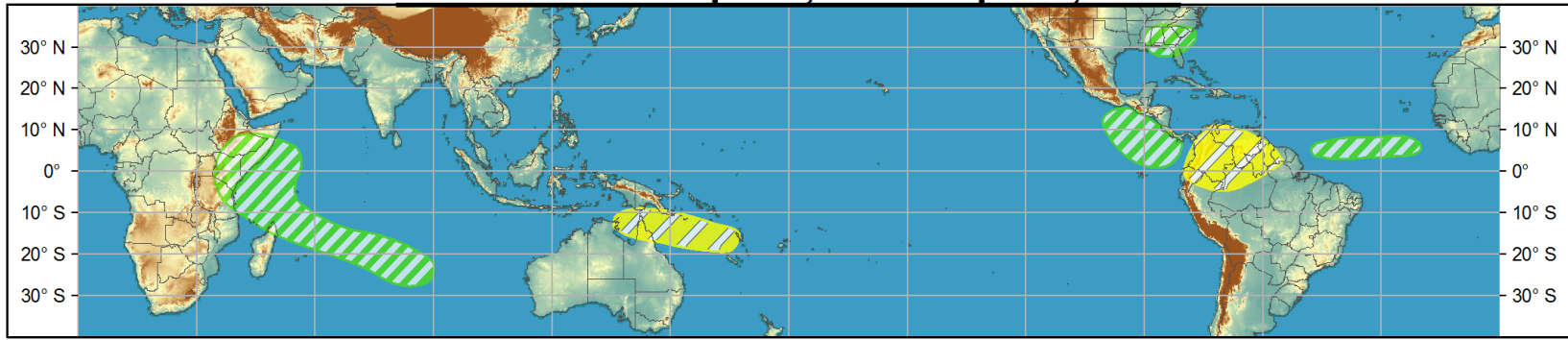
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Week 1 - Valid: Apr 15, 2020 - Apr 21, 2020

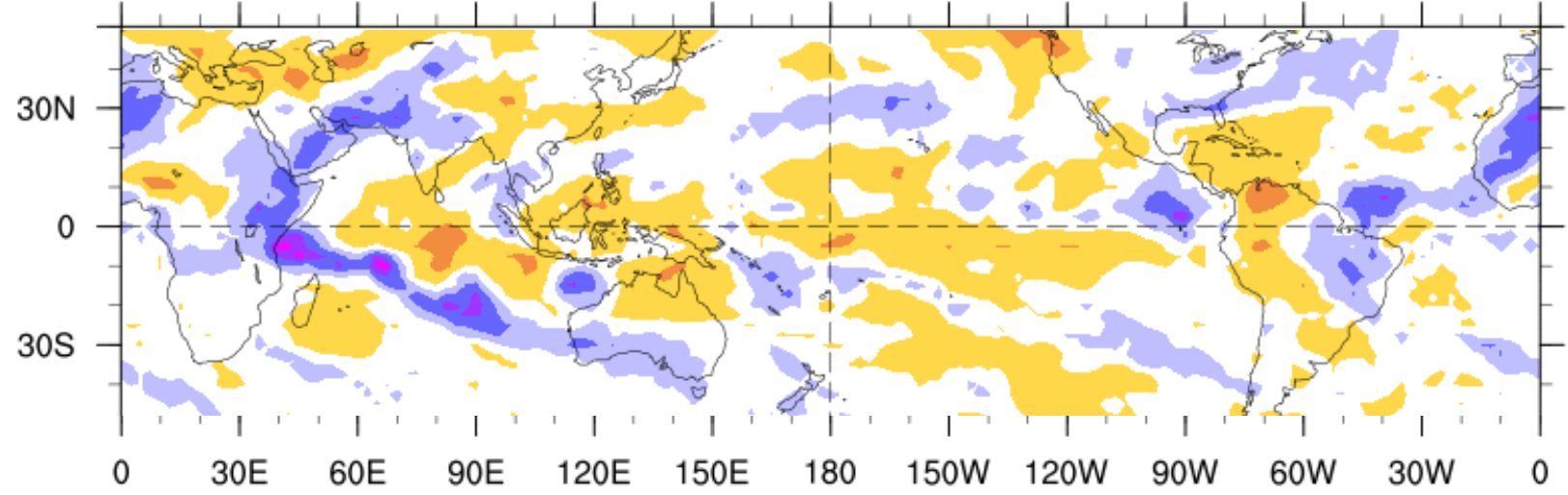


Week 2 - Valid: Apr 15, 2020 - Apr 21, 2020



7-Day Average OLR Anomaly

2020/04/13 - 2020/04/19



Synopsis of Climate Modes

ENSO: (April 9, 2020 Update)

next update on 14th of May!

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored for the Northern Hemisphere summer 2020 (~60% chance), remaining the most likely outcome through autumn.

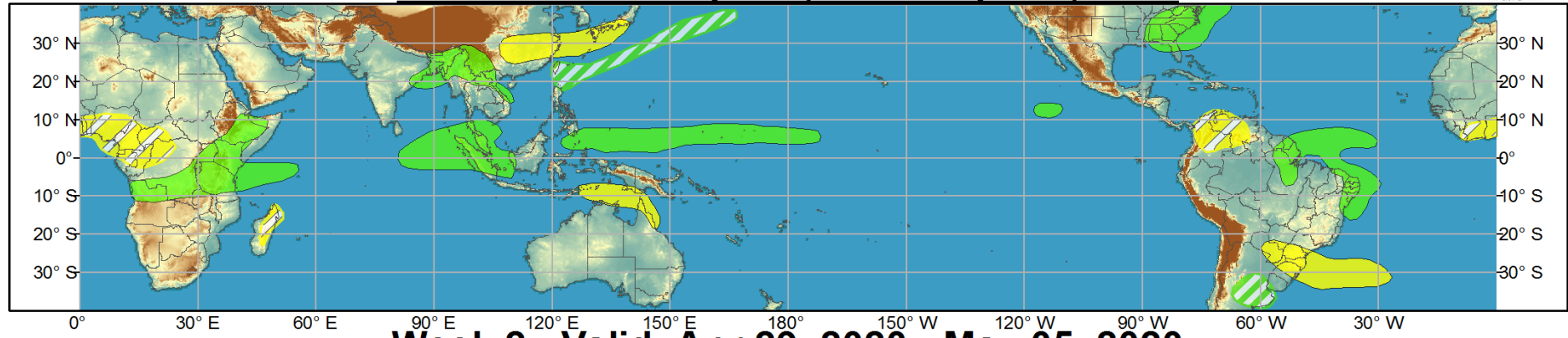
MJO and other subseasonal tropical variability:

- A fast and coherent upper-level intraseasonal signal continues to circumnavigate the globe. The enhanced phase is currently over Africa.
- Trade winds have increased over the Pacific, which may erode the positive SST anomalies that are sitting above an increasingly shallow thermocline.
- Rossby wave activity over the west-central Pacific may interfere with the fast intraseasonal signal as it approaches the Maritime Continent.
- Little impact from the MJO on the midlatitudes is anticipated.
- Tropical cyclone activity is favored to remain quiet over the next two weeks.

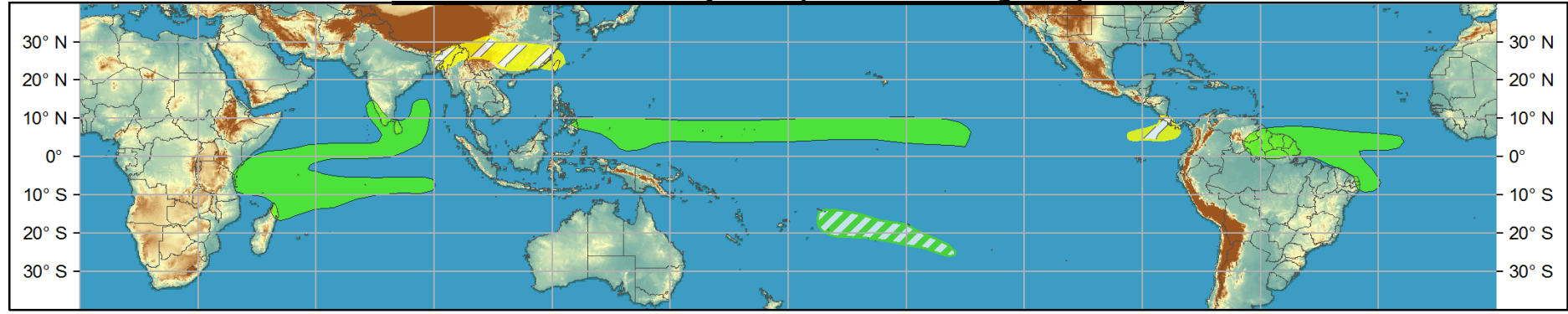


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 22, 2020 - Apr 28, 2020



Week 2 - Valid: Apr 29, 2020 - May 05, 2020



Produced: 04/21/2020
Forecaster: Allgood

| 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

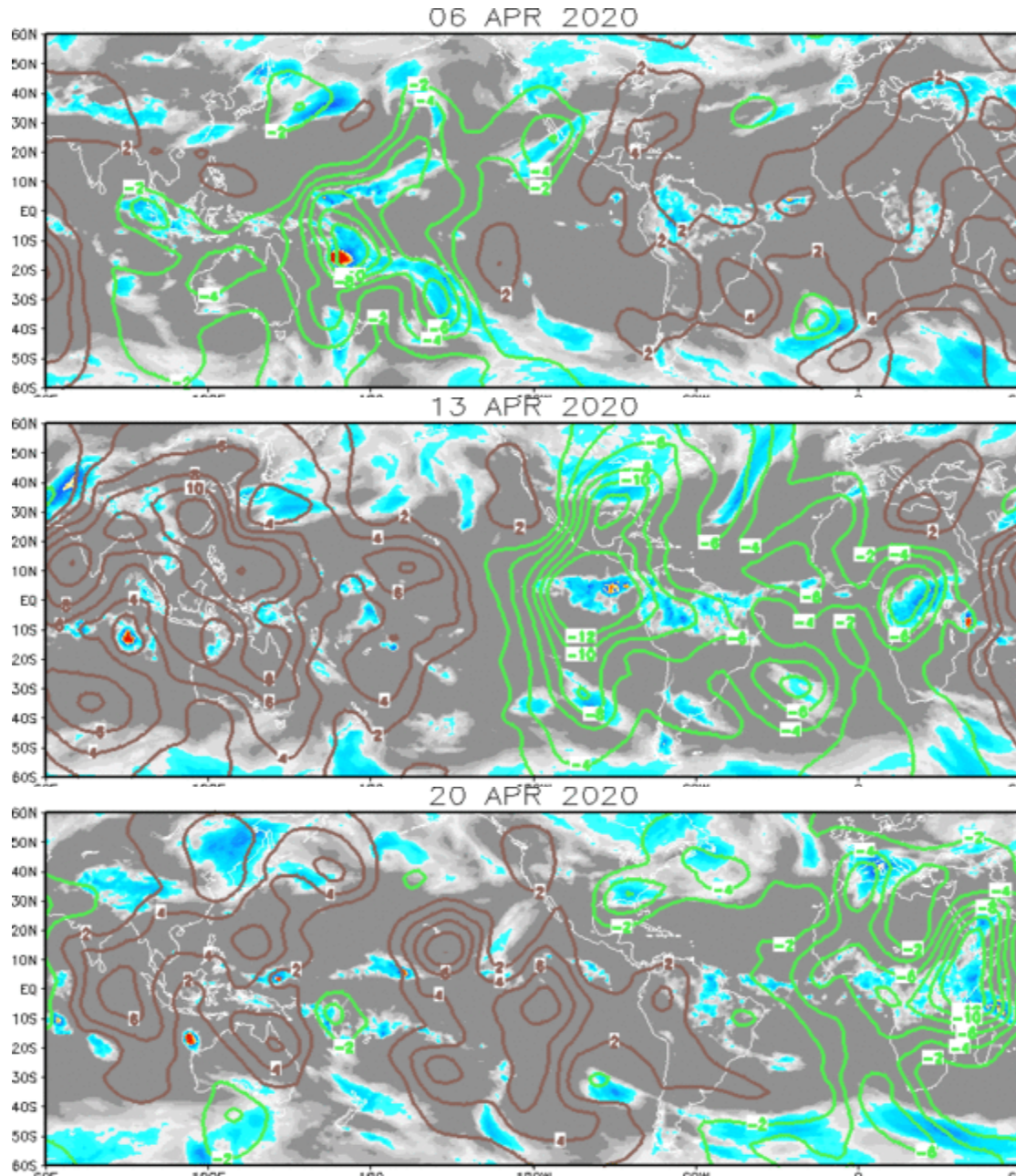
Green: Enhanced Divergence

Brown: Enhanced Convergence

Fast upper-level signal over the Pacific, provided favorable environment for extremely intense Cyclone Harold.

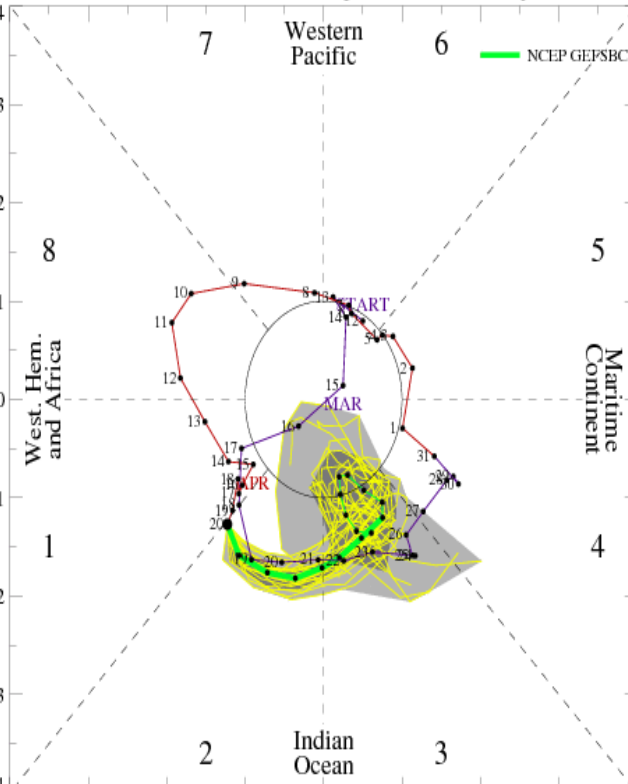
Signal rapidly crossed the Pacific to the Western Hemisphere by mid-April.

Signal now over Africa and the far western Indian Ocean. Enhanced phase is becoming zonally narrow (interference?)



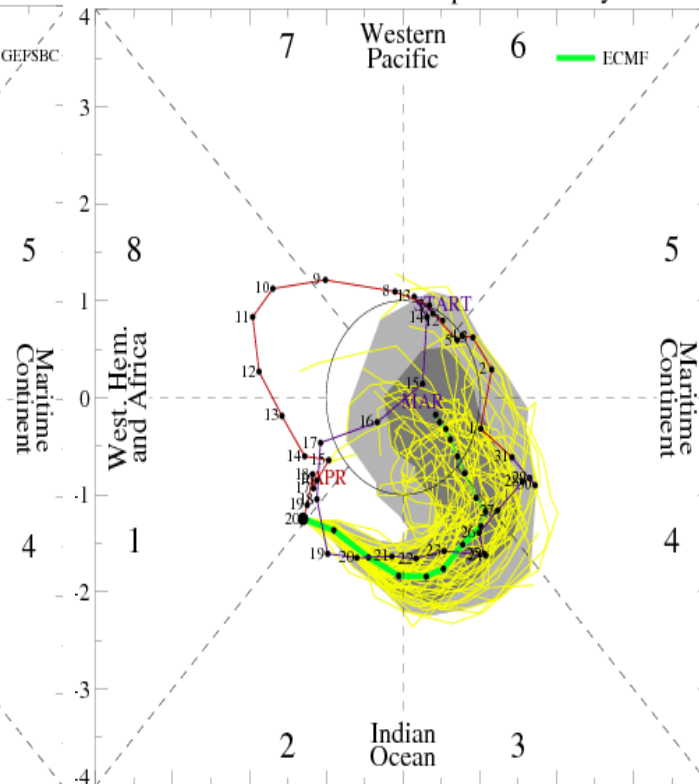
MJO Observation/Forecast

[RMM1, RMM2] forecast for Apr-21-2020 to May-05-2020



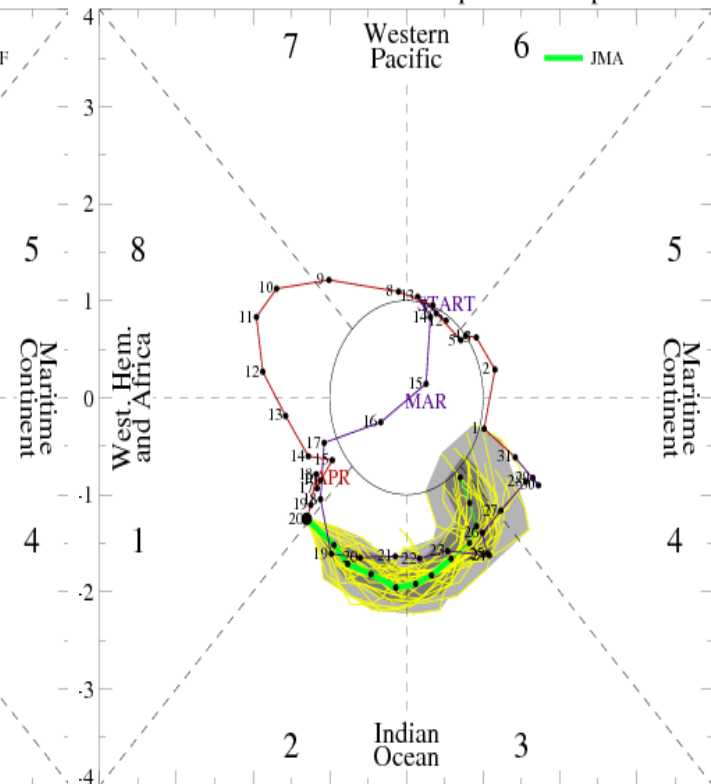
GEFS

MJO Index Forecast for 21Apr2020-05May2020



ECMWF

MJO Index Forecast for 21Apr2020-29Apr2020

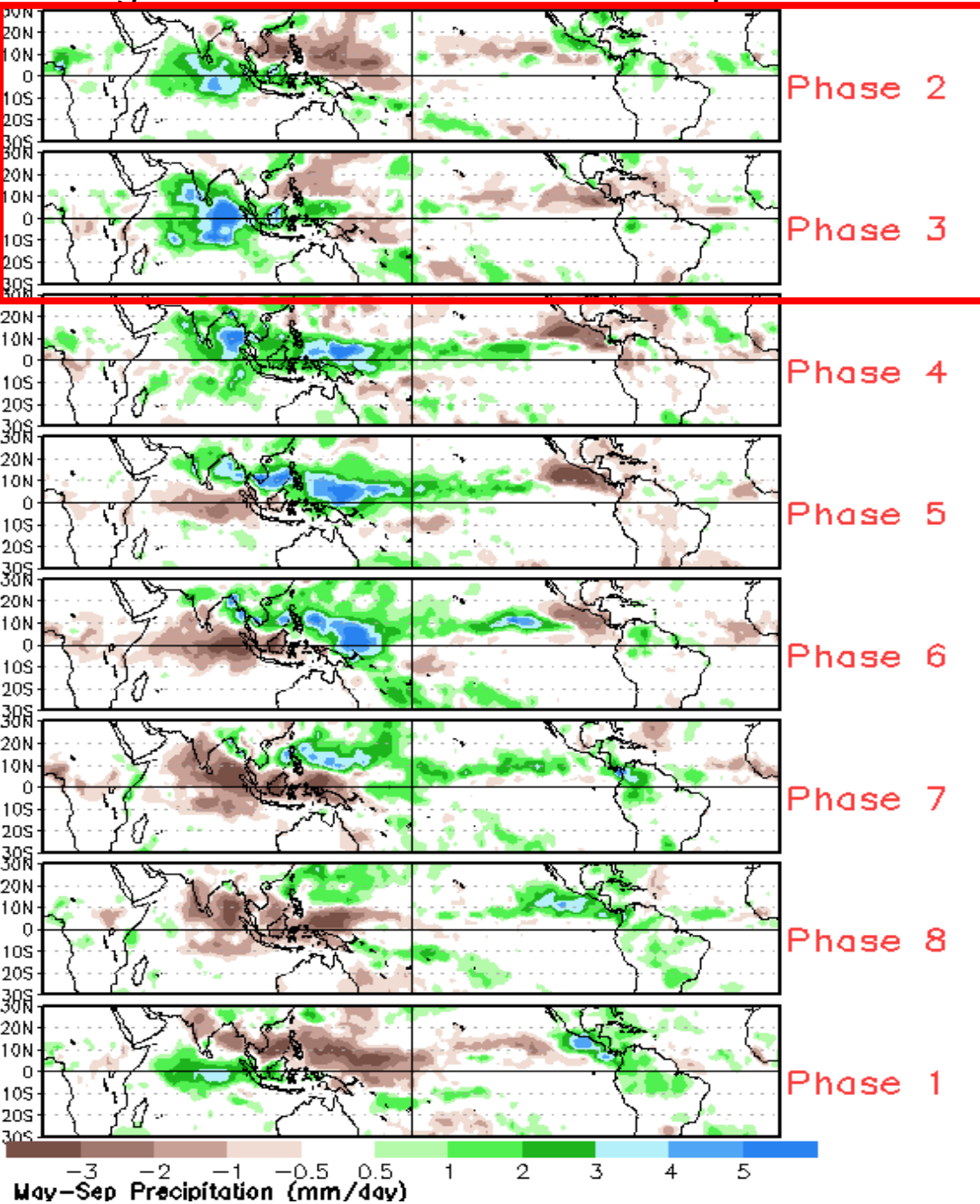


JMA

Models are in good agreement. All depict continued eastward propagation over the Indian Ocean, followed by a pronounced “left turn”

The left turn is indicative of interference from Rossby wave activity.

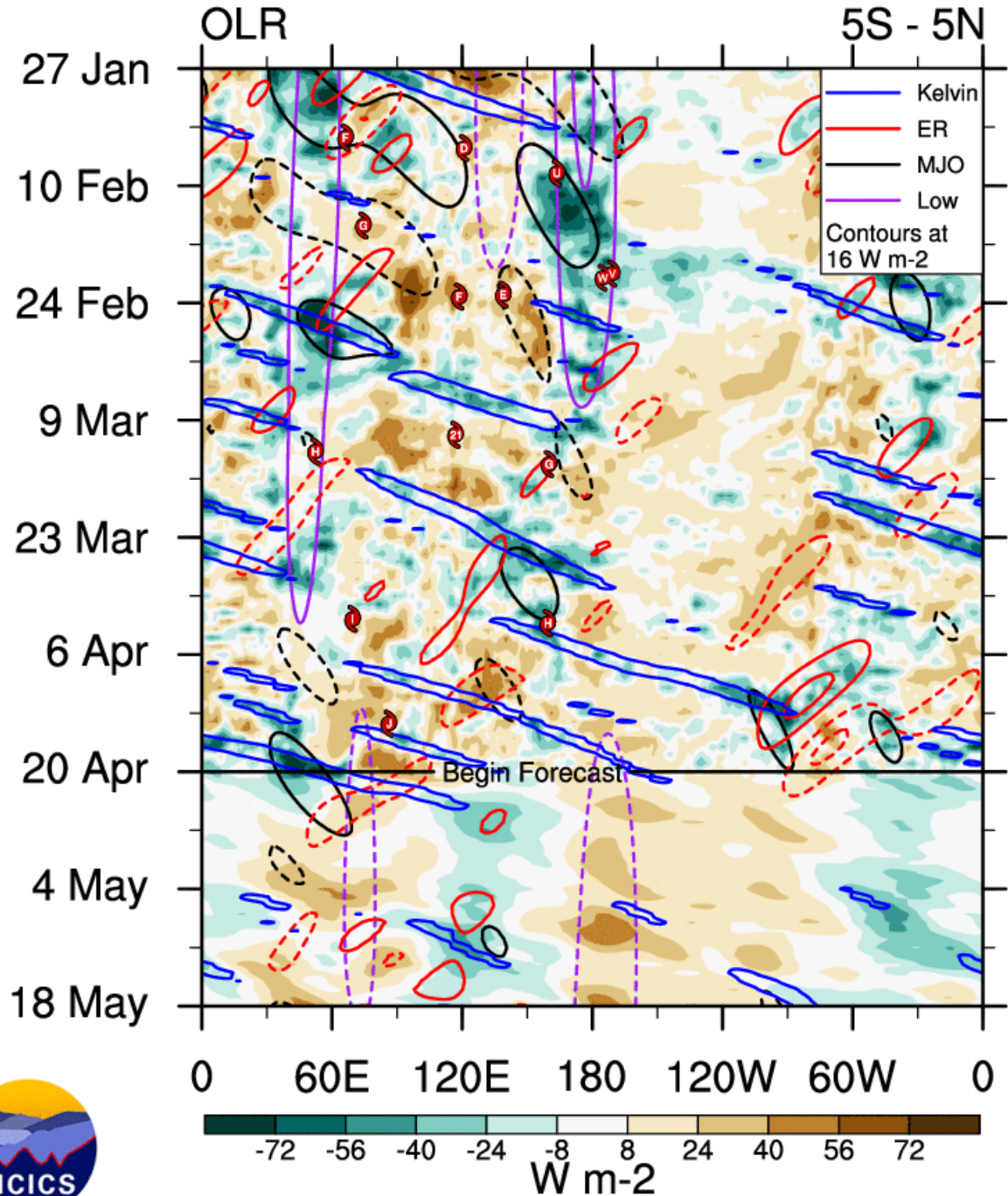
Average Conditions when the MJO is present



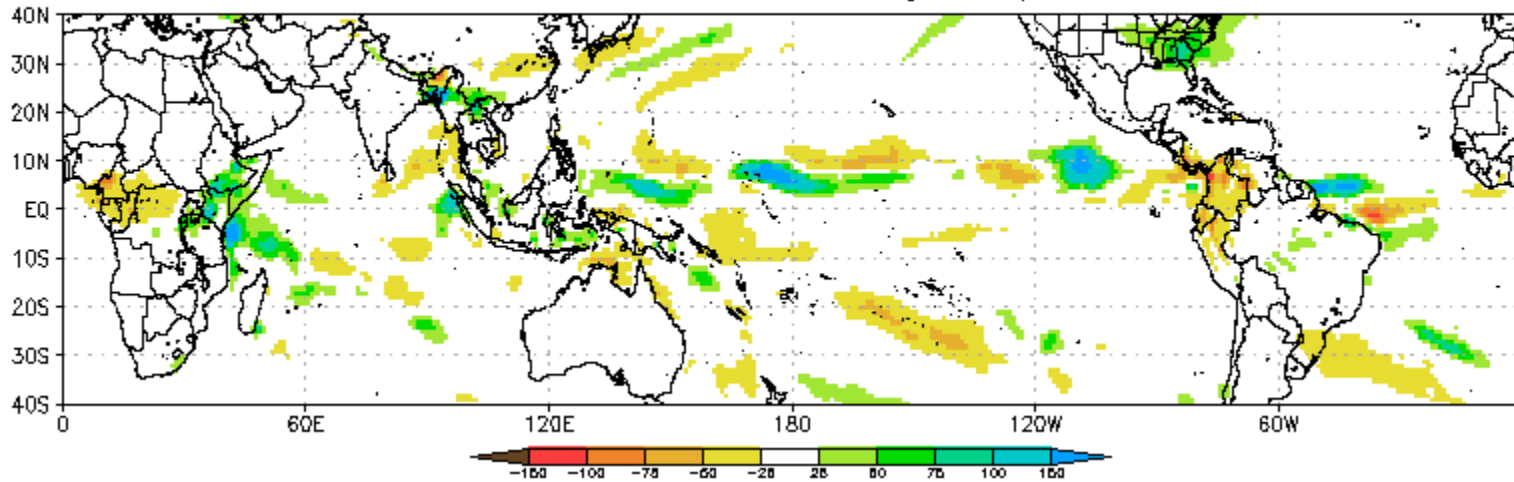
CAVEAT: These panels are representative of robust MJO events during May - Sep.

Kelvin wave activity has been the dominant feature in the absence of widespread convective anomalies.

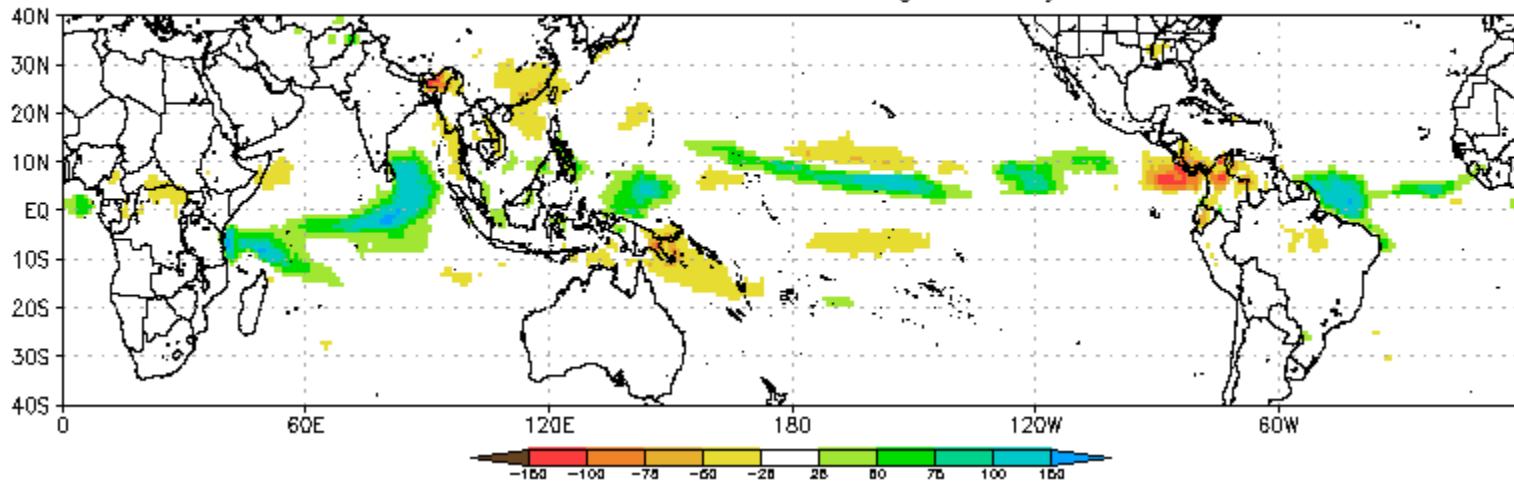
Low frequency signal favoring enhanced convection near/west of the Date Line appears to be weakening (or moving off-equator).



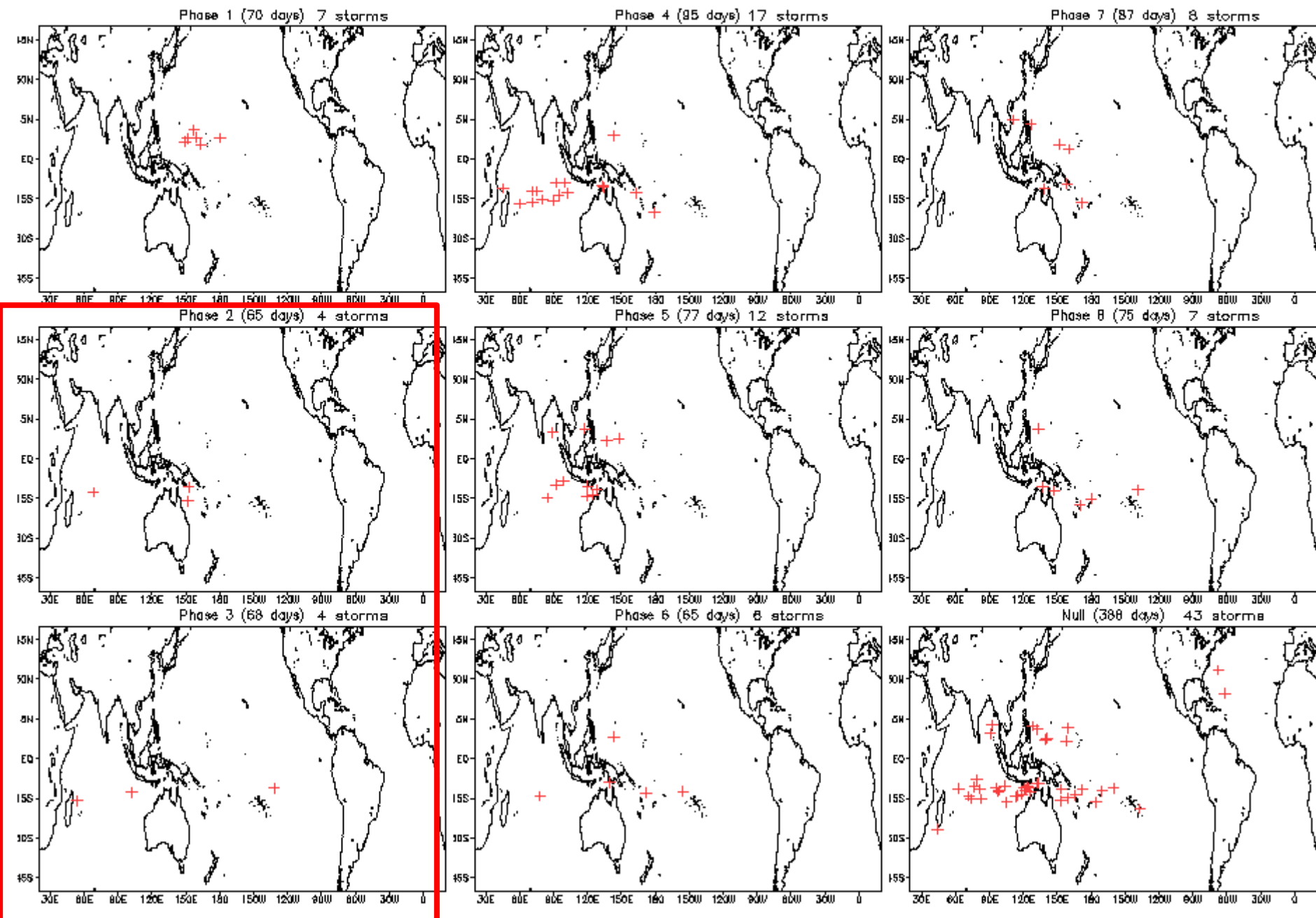
CFS Precipitation Anomalies (mm) Issued 20Apr2020
Week-1 Forecast Ending 28Apr2020



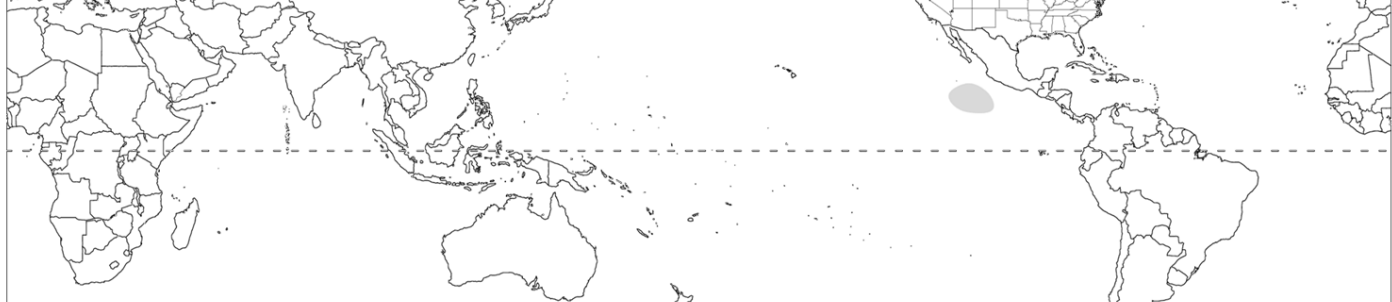
CFS Precipitation Anomalies (mm) Issued 20Apr2020
Week-2 Forecast Ending 05May2020



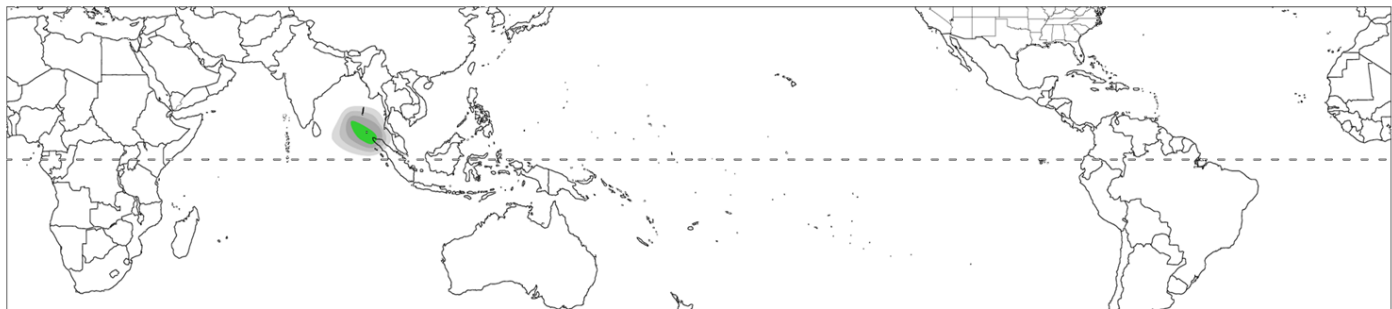
April Tropical Storm Formation by MJO phase



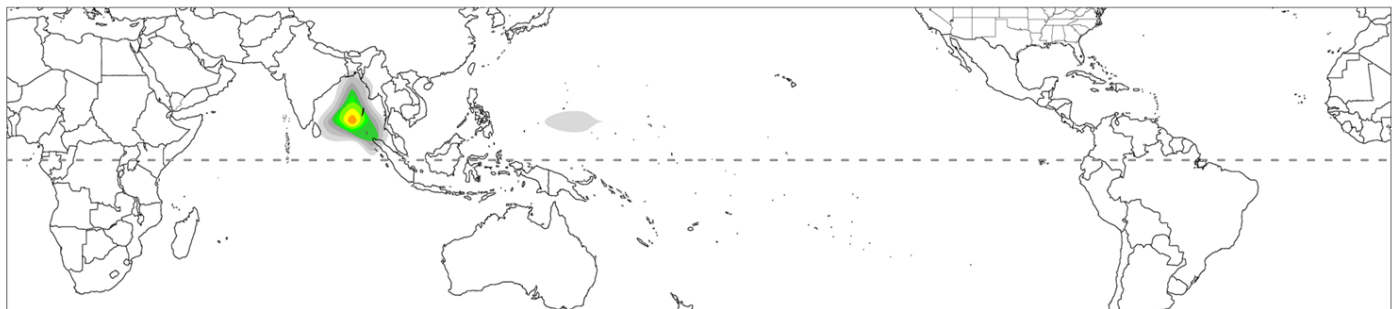
Days 1-4



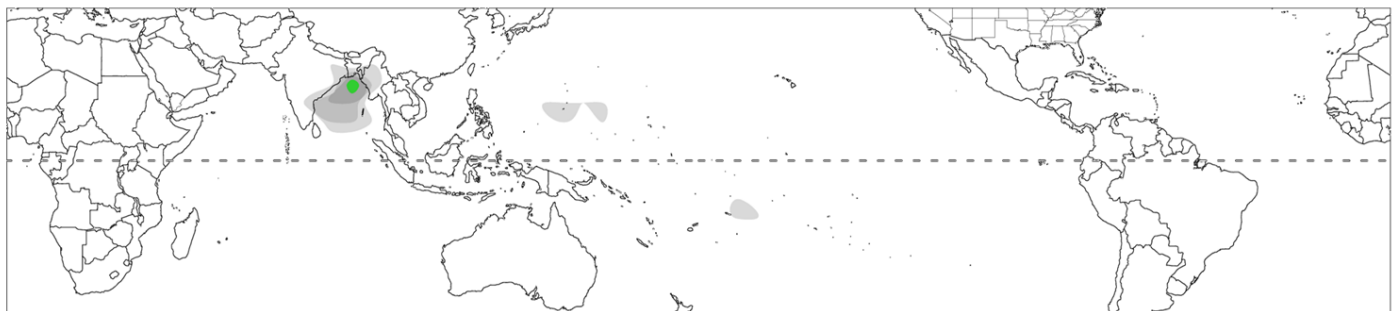
Day 5-8



Day 9-12

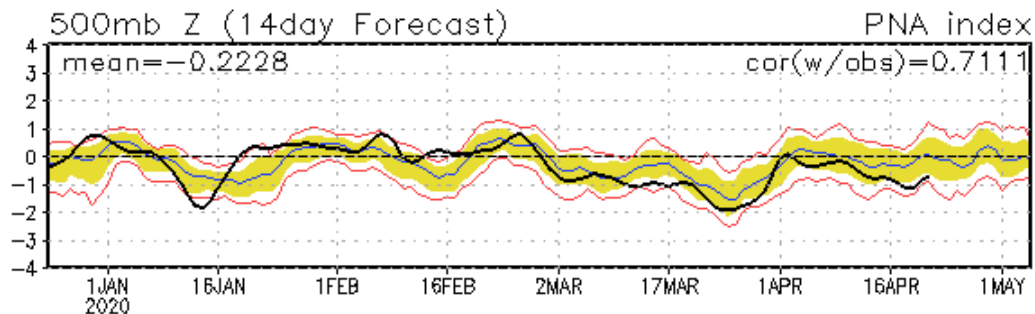
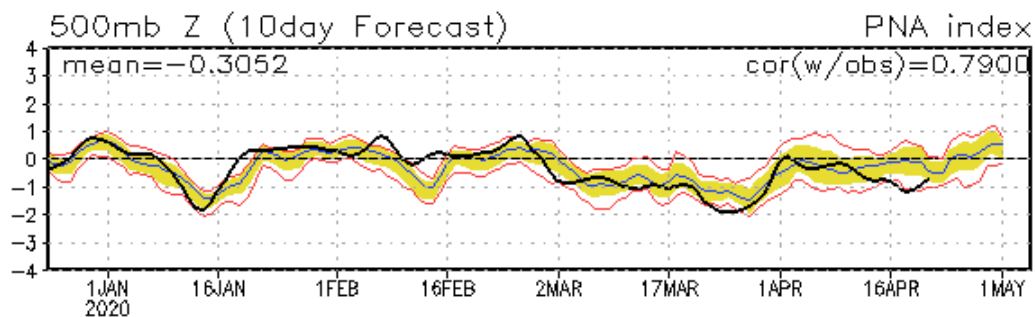
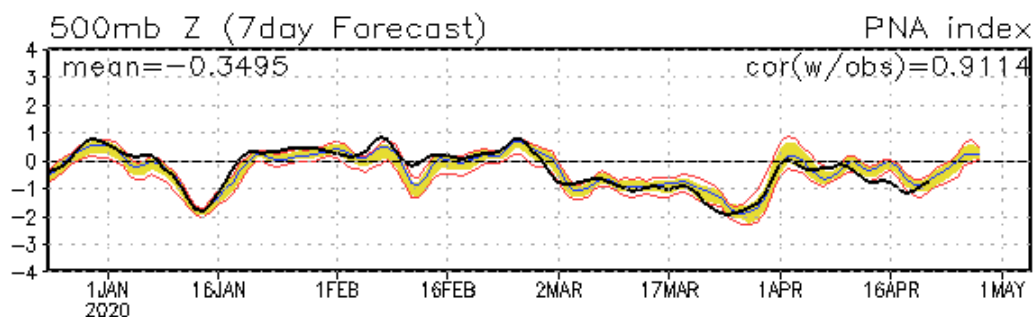
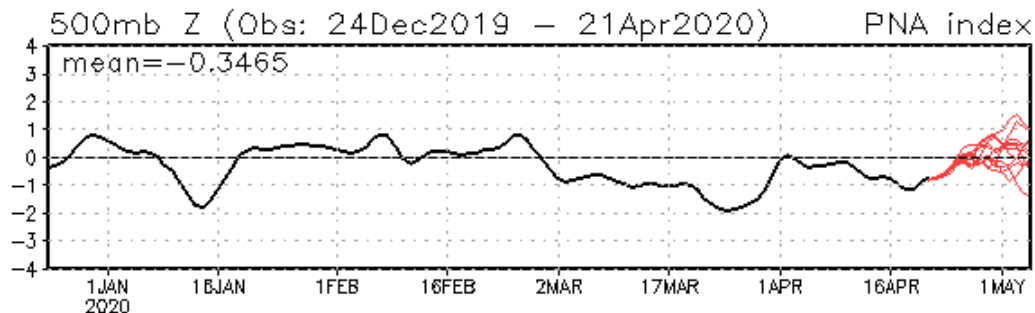


Day 13-15

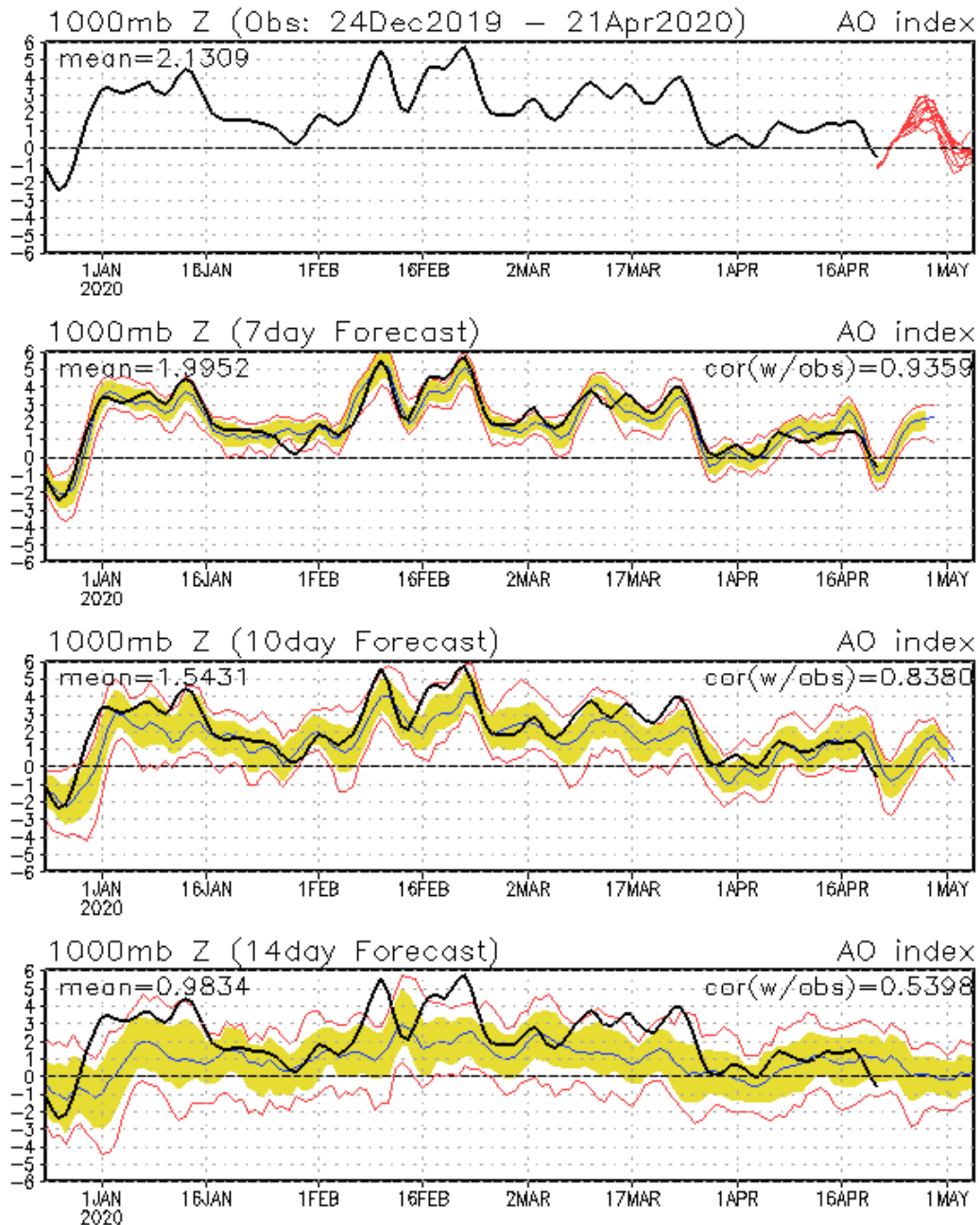


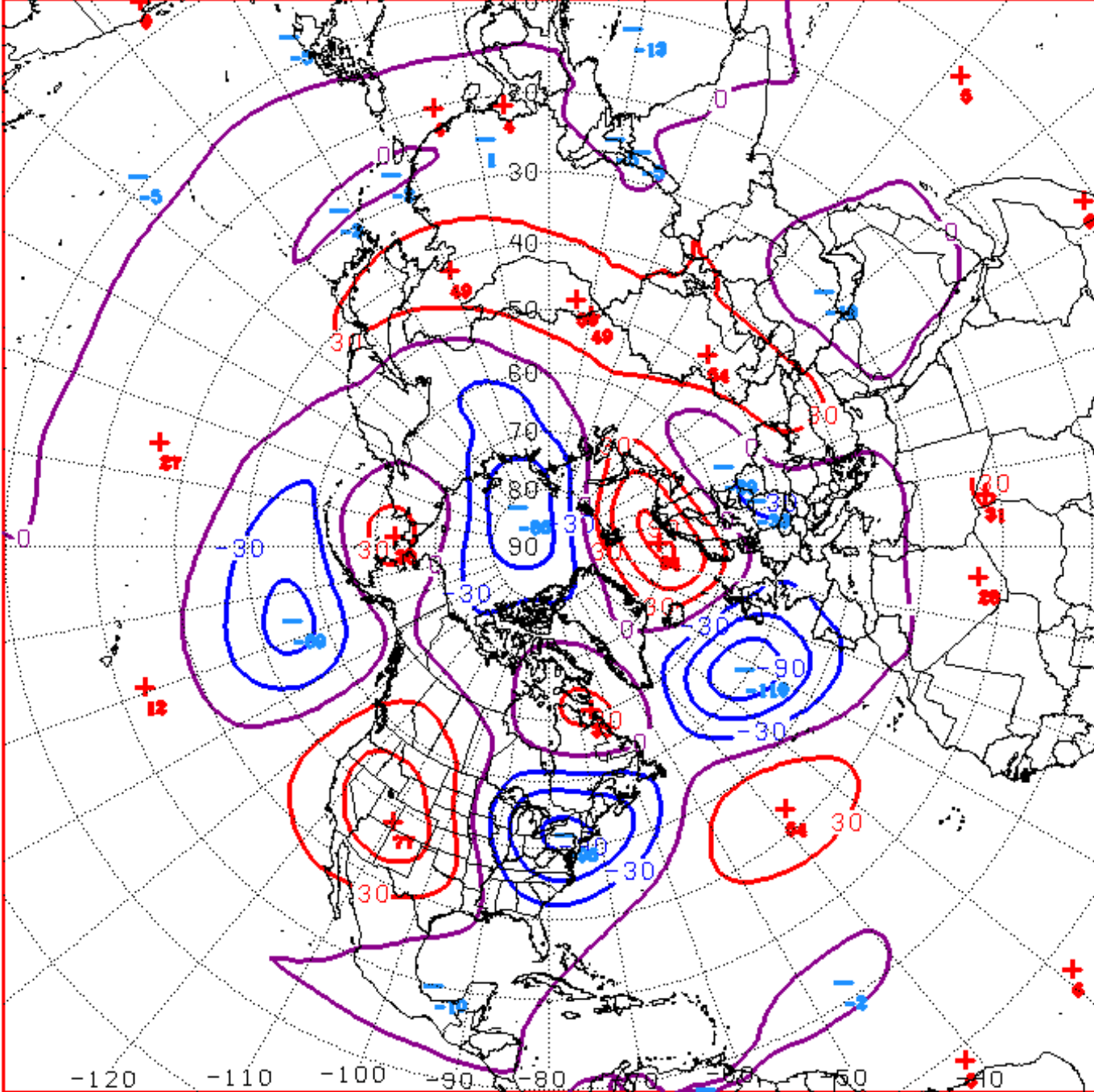
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts



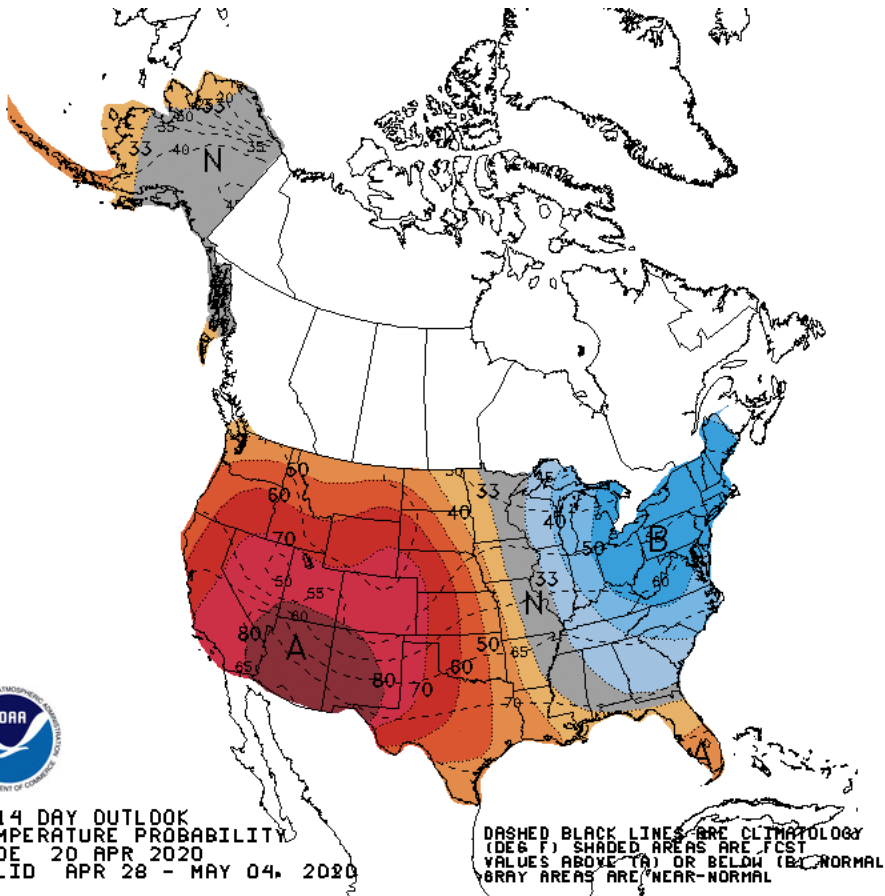
AO: Observed & ENSM forecasts





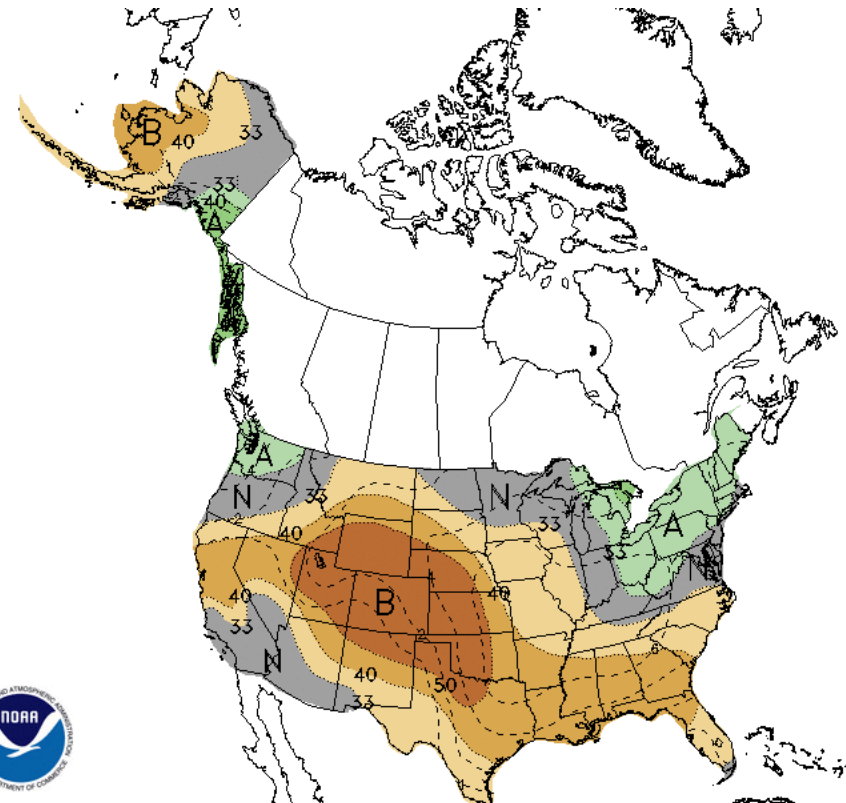
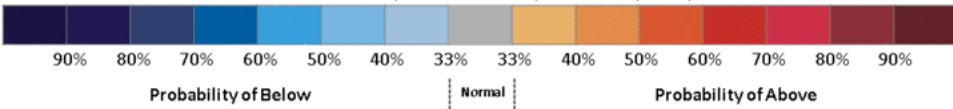
D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE APR 21 2020 1319 UTC CNTD MAY 02 2020

Week 2 – Temperature and Precipitation



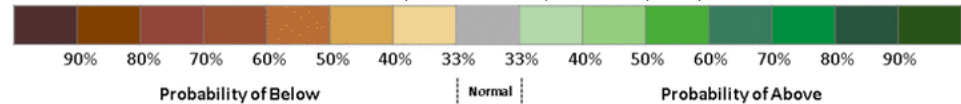
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 20 APR 2020
VALID APR 28 - MAY 04, 2020

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 20 APR 2020
VALID APR 28 - MAY 04, 2020

DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.

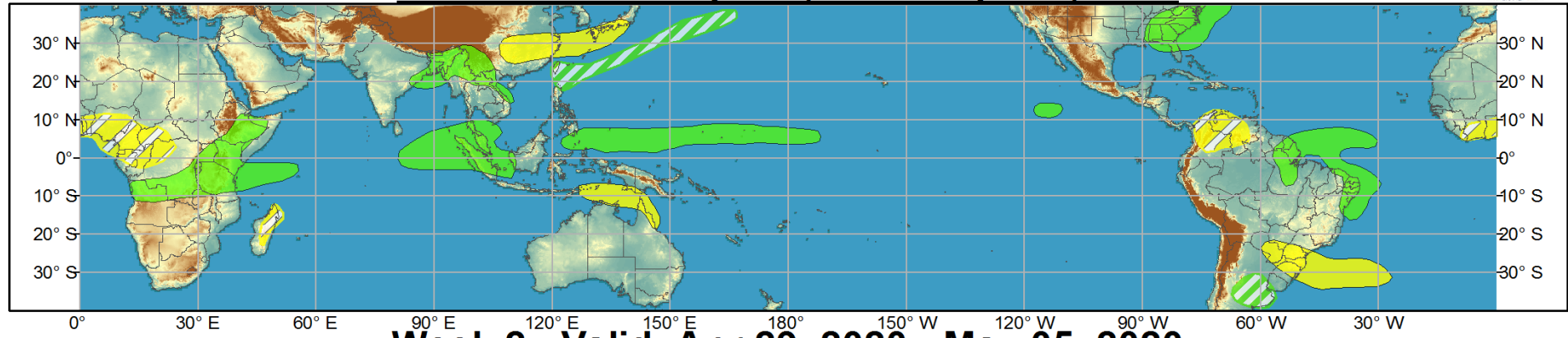


Since we are in an amplified, stable pattern today's outlooks are likely to be similar.

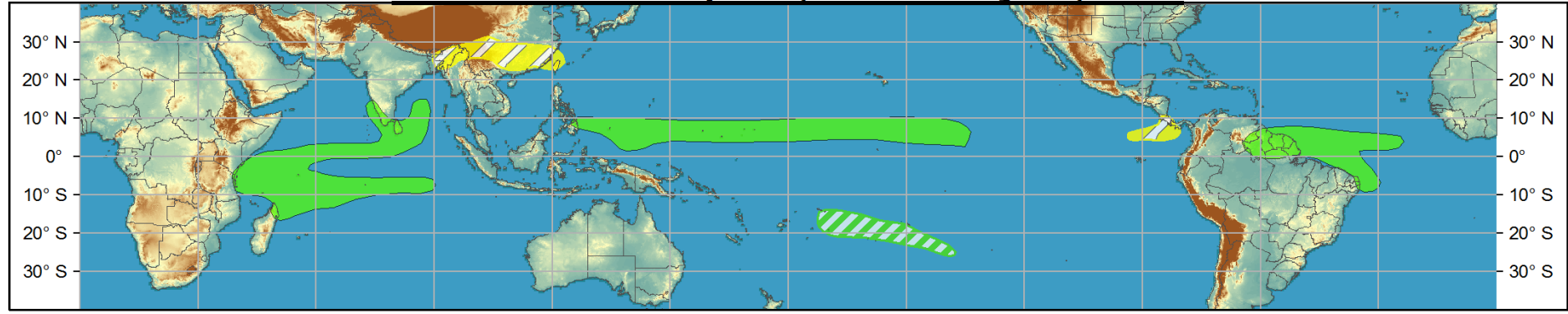


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 22, 2020 - Apr 28, 2020



Week 2 - Valid: Apr 29, 2020 - May 05, 2020



Produced: 04/21/2020
Forecaster: Allgood

| 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.

