Global Tropics Hazards And Benefits Outlook

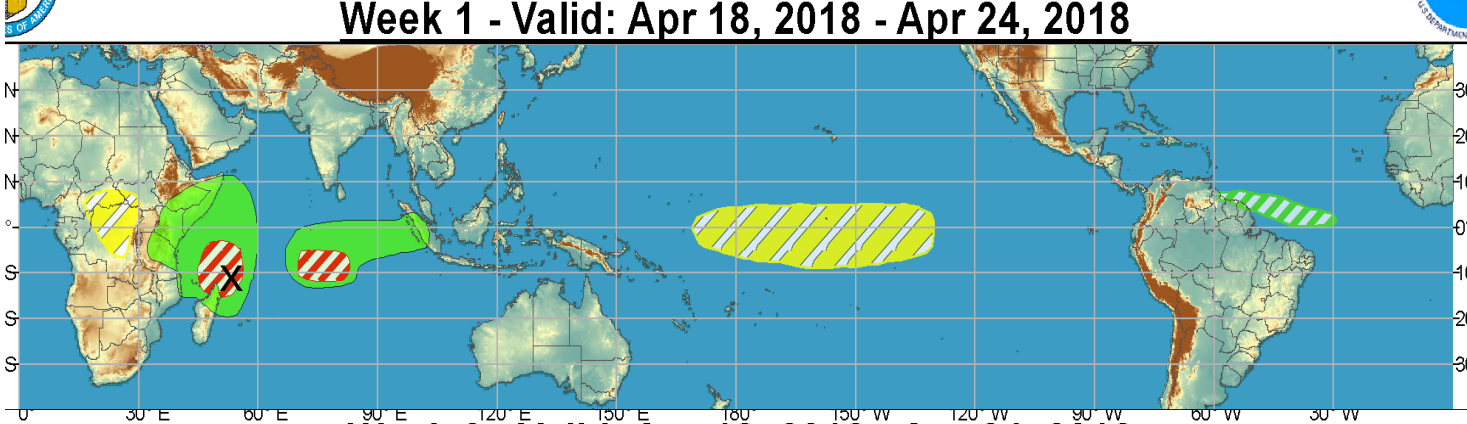
04/24/2018

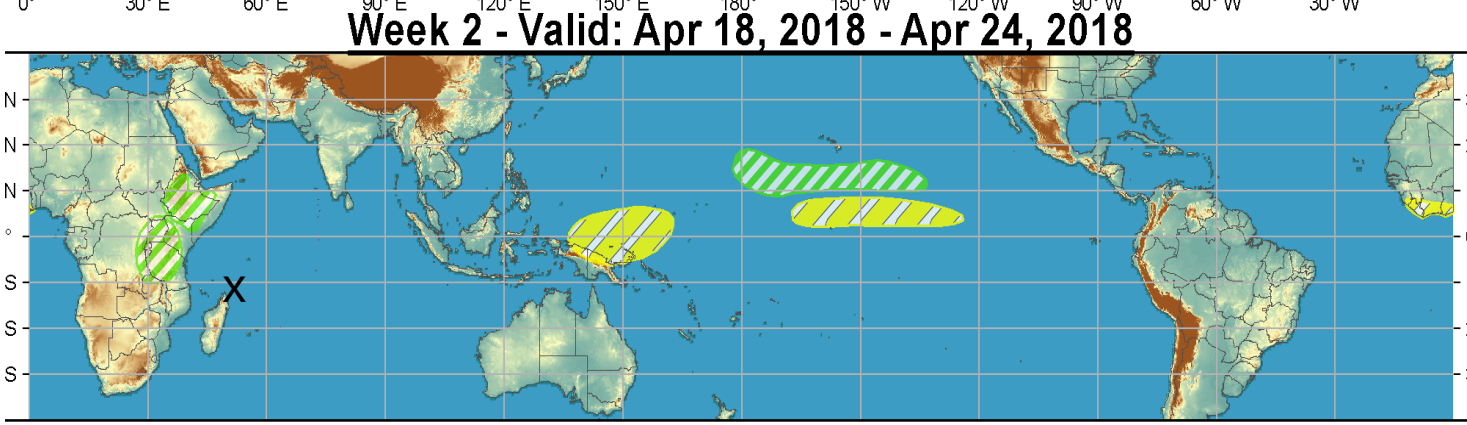
Stephen Baxter

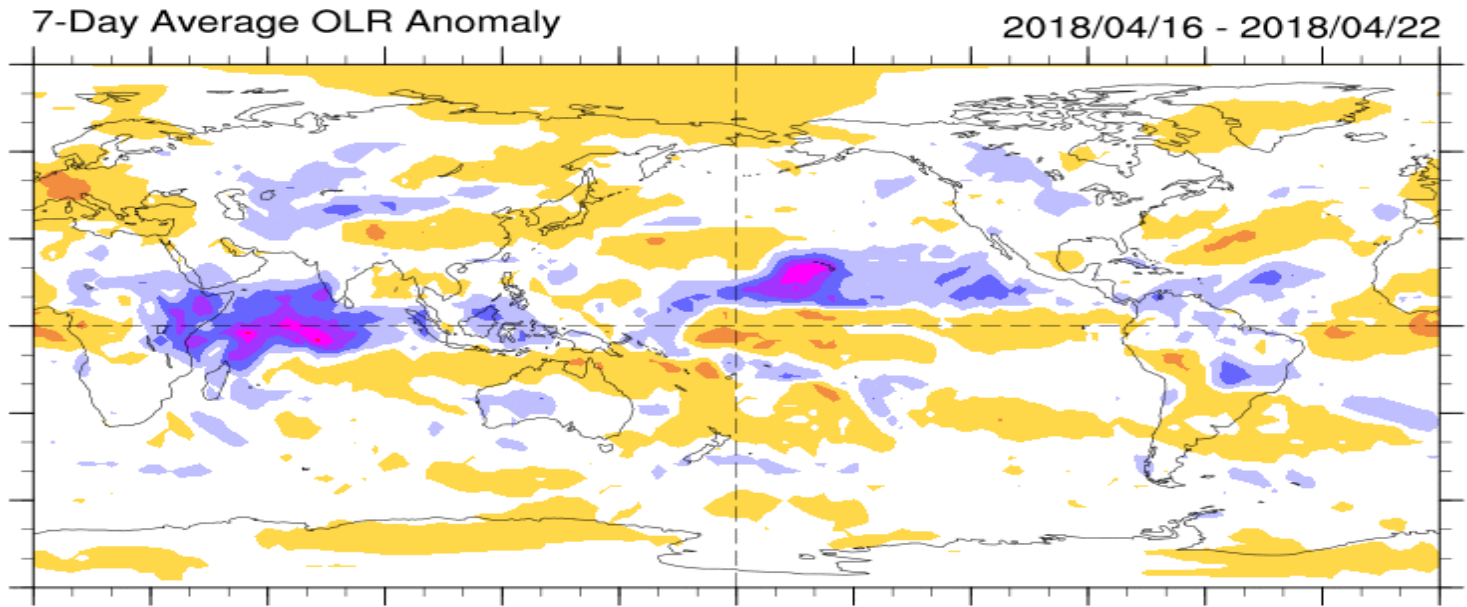
Outline

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

Outlook Review



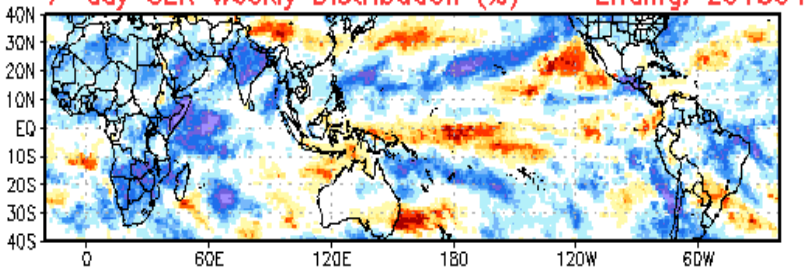


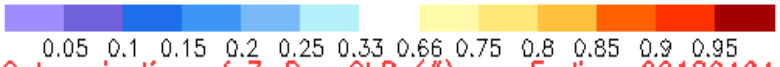


Cool shading
More clouds/rain

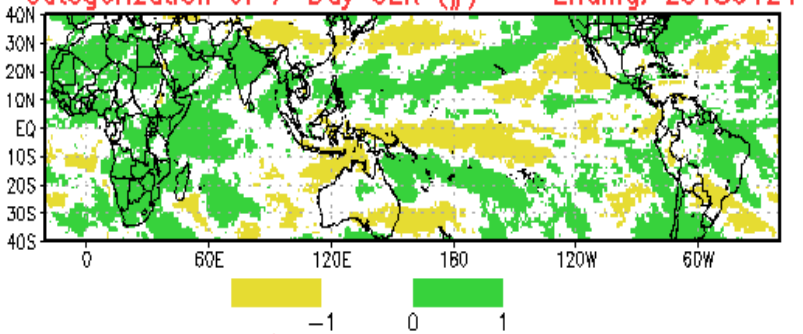
Warm shading
Less clouds/rain

7-day OLR Weekly Distribution (%) -- Ending: 20180424

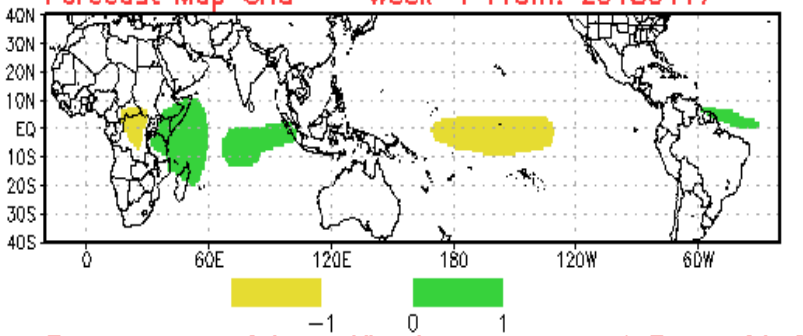




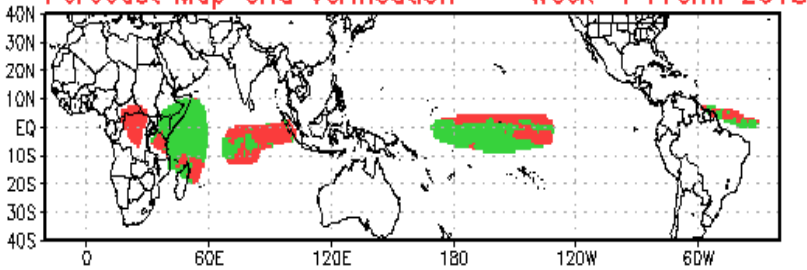
Categorization of 7-Day OLR (#) -- Ending: 20180424



Forecast Map Grid -- Week-1 From: 20180417

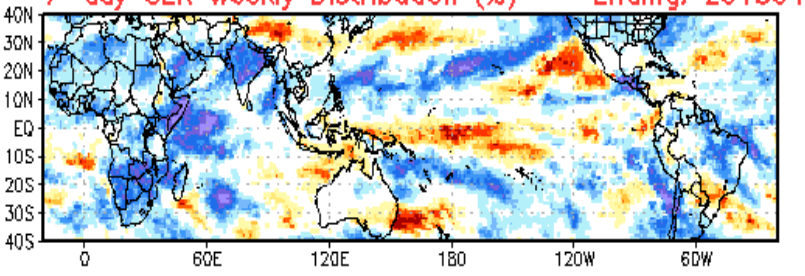


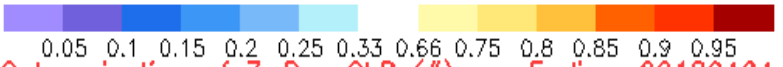
Forecast Map Grid Verification -- Week-1 From: 20180417



Hit: Green, Miss: Red
Heidke Skill Score: 37.2975

7-day OLR Weekly Distribution (%) -- Ending: 20180424





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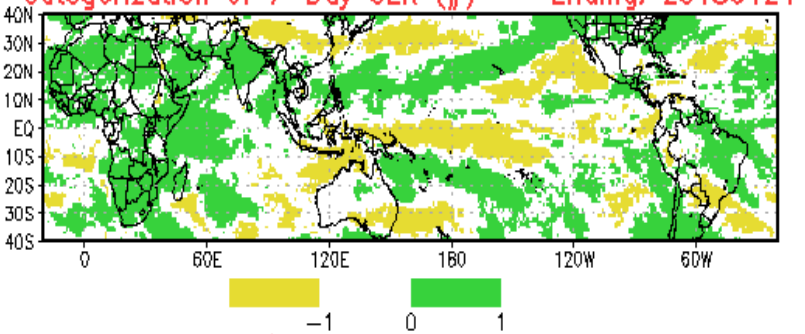
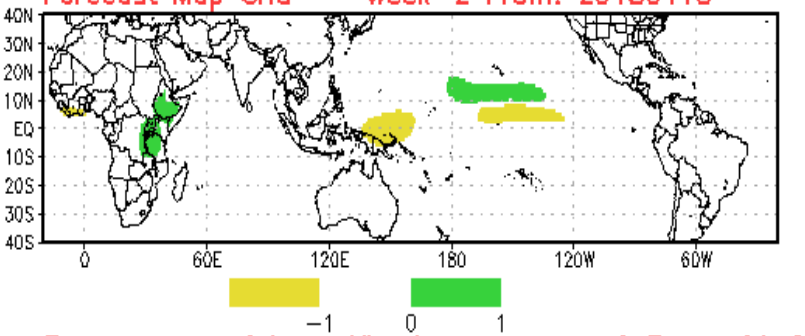
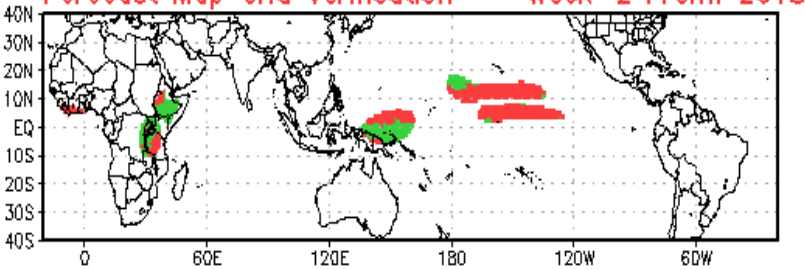


Forecast Map Grid -- Week-2 From: 20180410



Forecast Map Grid Verification -- Week-2 From: 20180410



Hit: Green, Miss: Red
Heidke Skill Score: 2.4345

Synopsis of Climate Modes

ENSO:

- La Niña is transitioning to ENSO-neutral, with ENSO-neutral likely (greater than 50% chance) to continue through the Northern Hemisphere summer 2018. (Updated April 12, 2018)

MJO and other subseasonal tropical variability:

• The MJO has weakened; the remnant enhanced phase is over the western Maritime Continent.

• Equatorial Rossby wave activity is prominent over the Indian Ocean as well as the West Pacific.

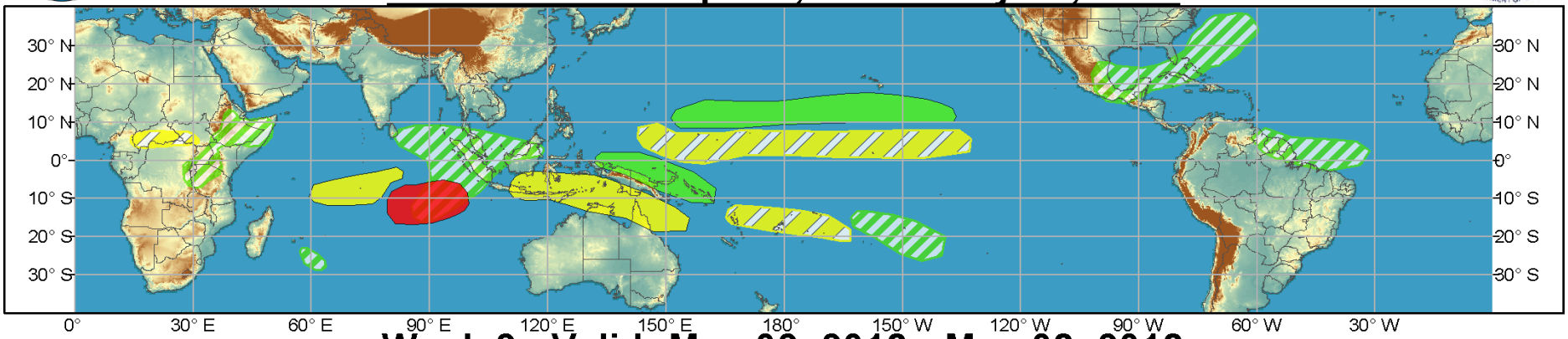
• All of the dynamical models forecast a weak MJO signal to propagate to the Western Hemisphere during Week-2. This is due in part to extratropical variability influencing the tropics and causing a more rapid eastward propagation of the upper-level wind field.

Extratropics:

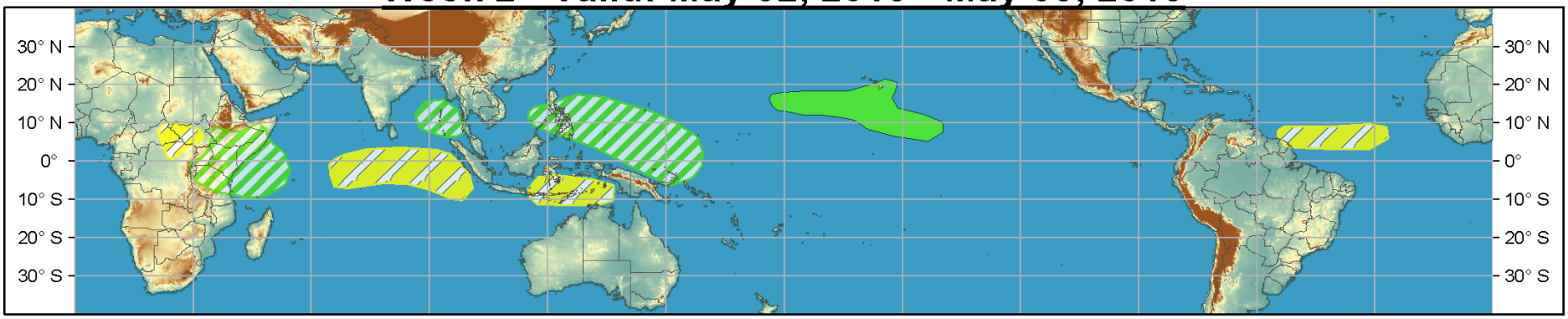
• The weakening MJO is unlikely to have a strong impact on the mid-latitudes.
• However, the lagged MJO response is consistent with the current GEFS forecasts over eastern North America during the 6-14 day period.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 25, 2018 - May 01, 2018



Week 2 - Valid: May 02, 2018 - May 08, 2018



Produced: 04/24/2018

Forecaster: Baxter

	Confidence: High	Confidence: 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.
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EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

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NPS PRAESTANTIA PER SCIENTIAM

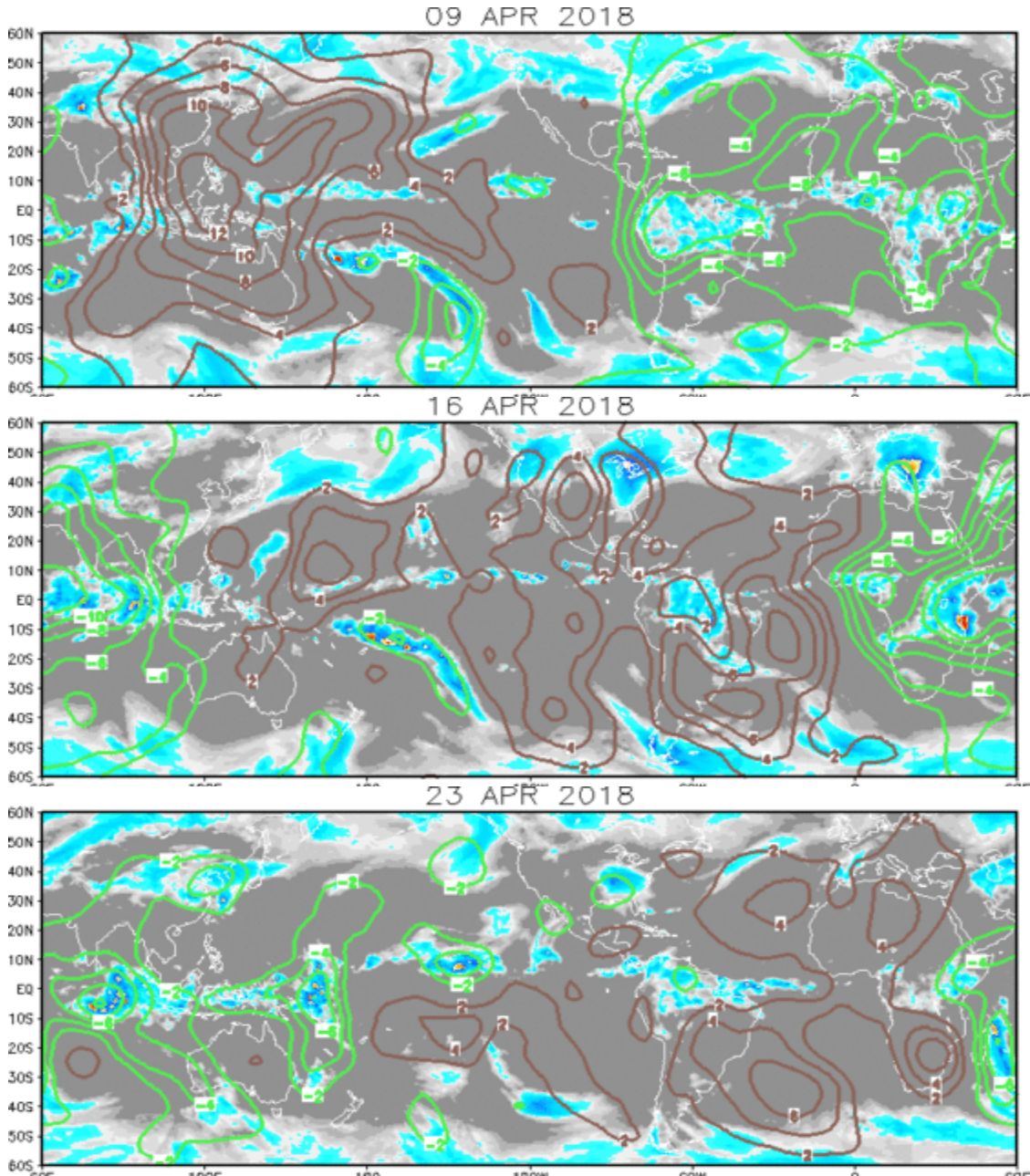
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

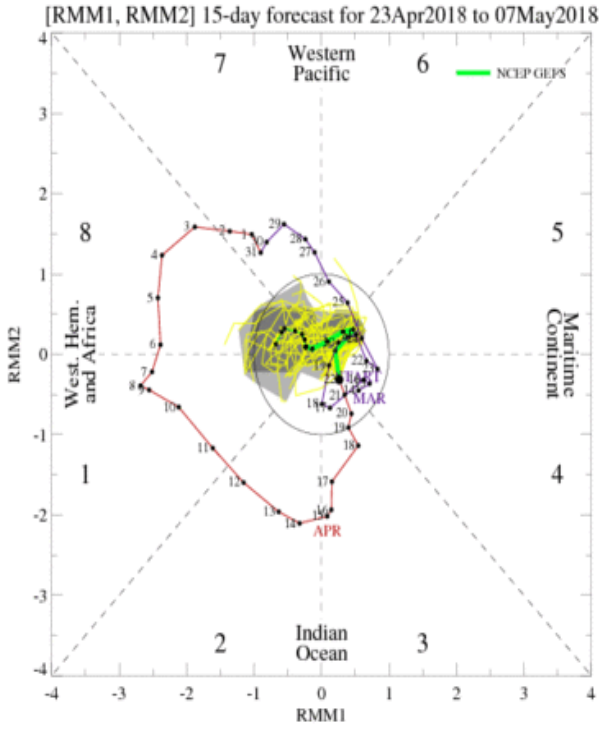
Wave-1 pattern with MJO enhanced phase over Western Hemisphere.

MJO shifted east over Africa to the western Indian Ocean.

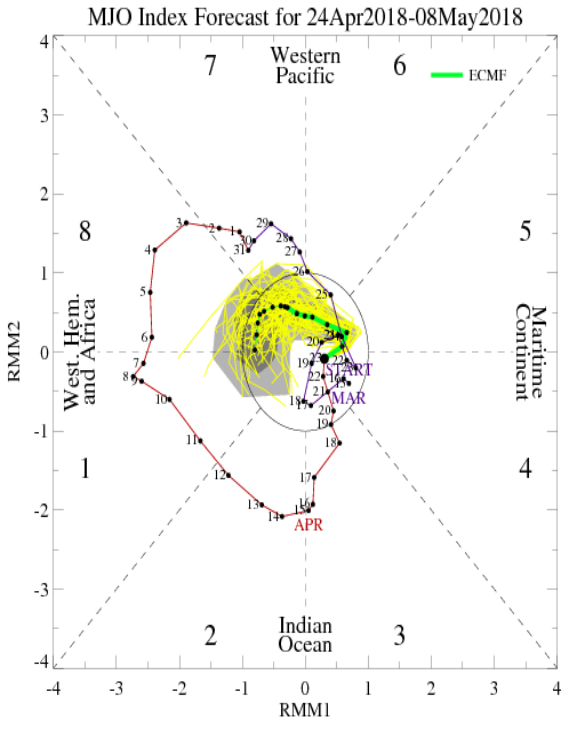
Pattern has broken down substantially, enhanced phase centered over western Maritime Continent.



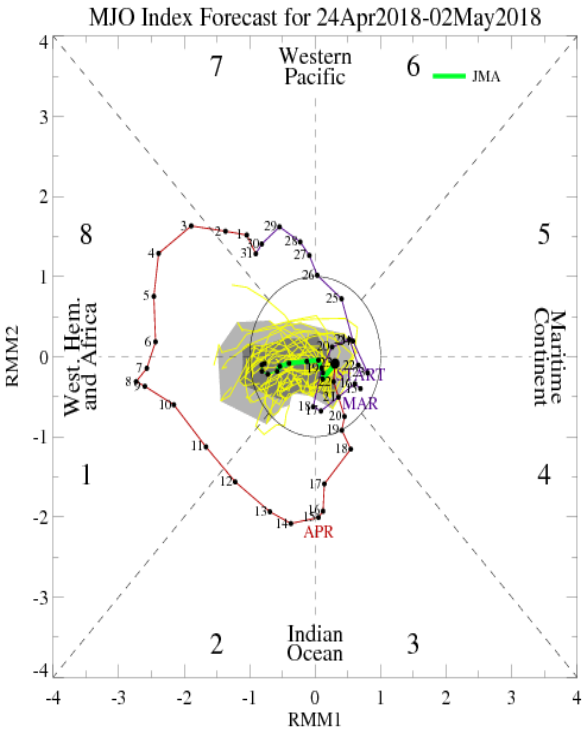
MJO Observation/Forecast



GEFS



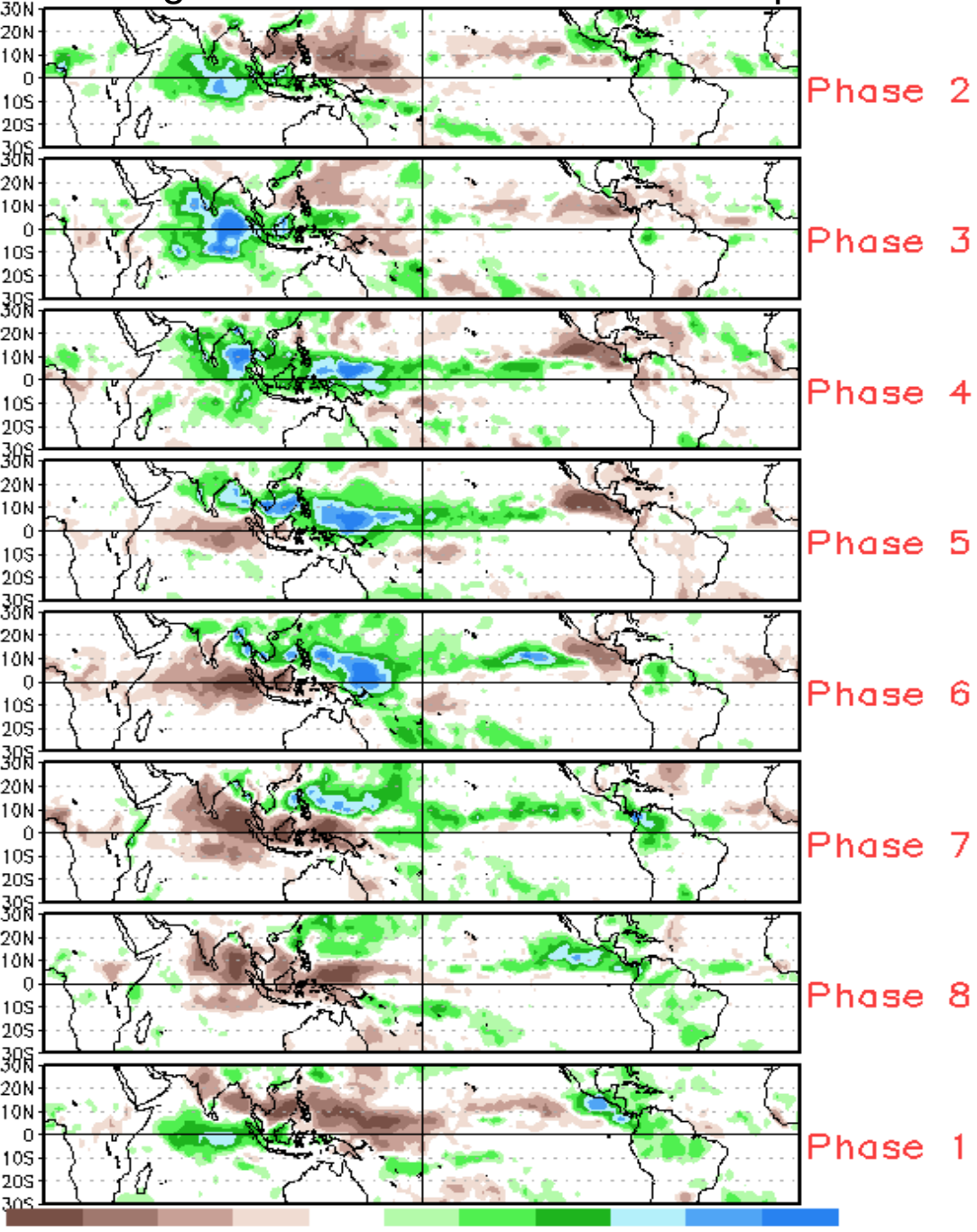
ECMM



JMA

Wheeler-Hendon RMM diagrams from the GEFS, ECMWF, and JMA, show a continued weak MJO signal.

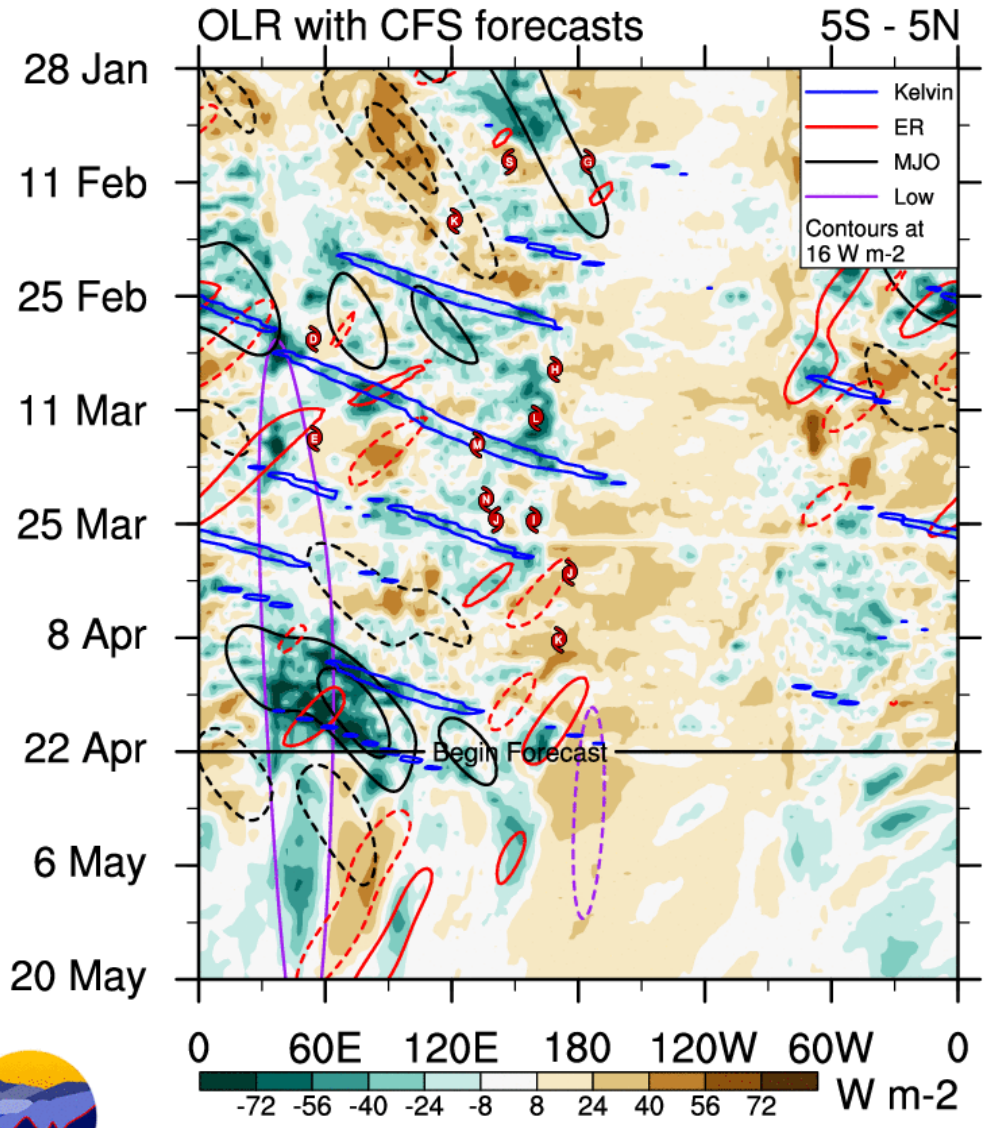
Average Conditions when the MJO is present



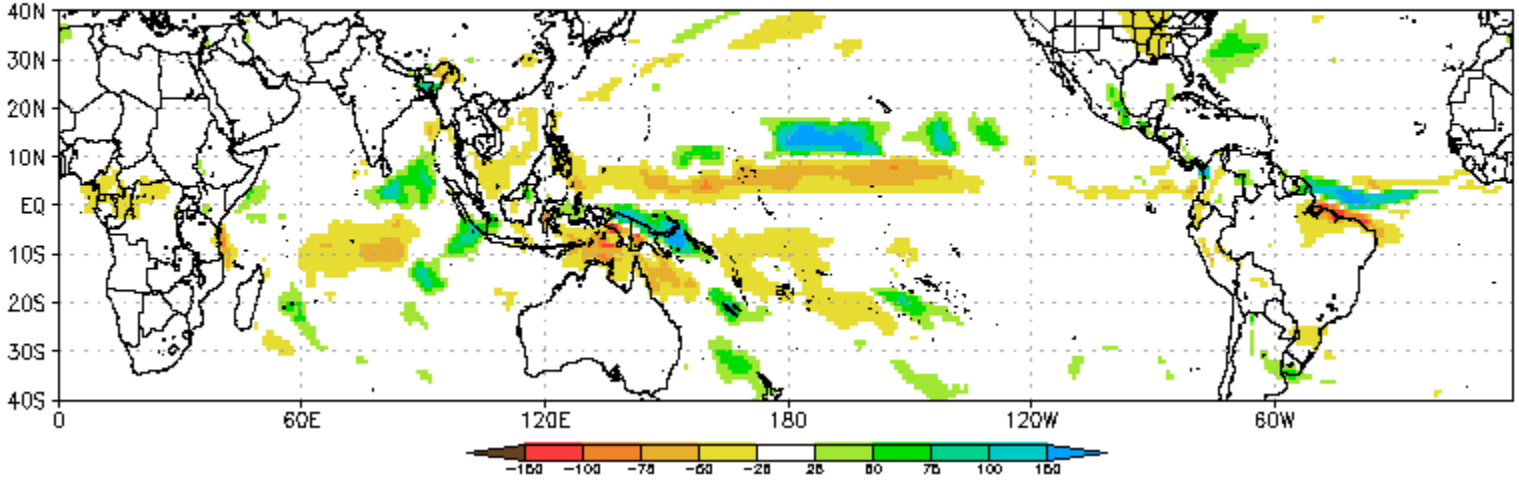
CAVEAT: These panels are representative of robust MJO events.

MJO forecast to weaken during Week-1.

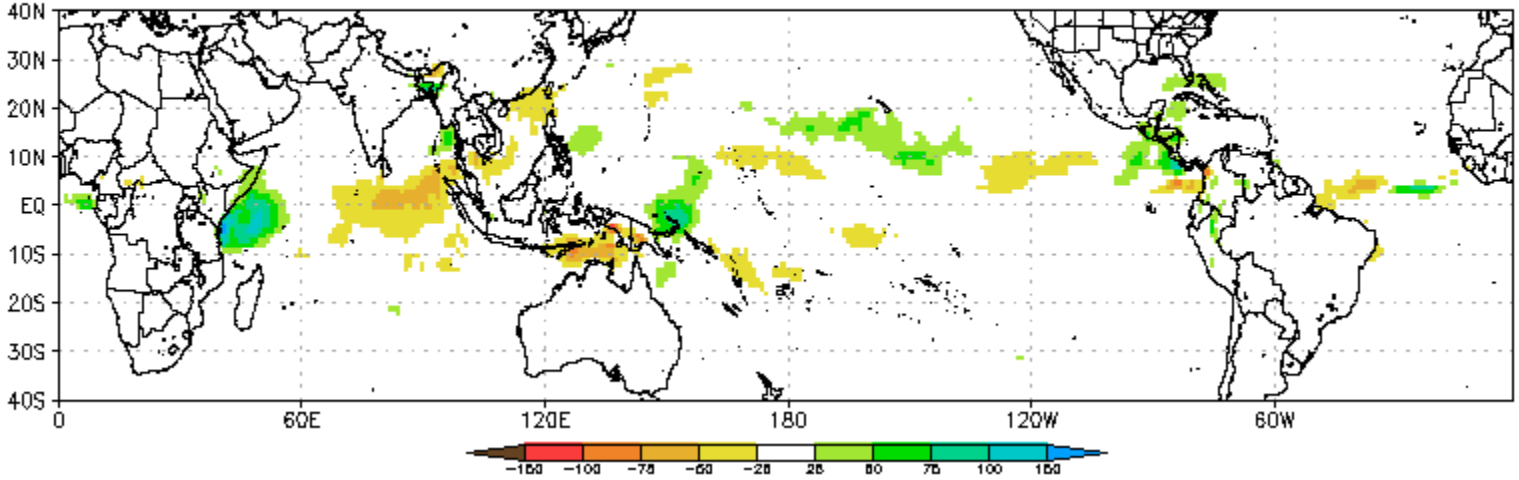
Equatorial Rossby waves forecast to dominate over Indian Ocean (possible TC influence) and West Pacific.

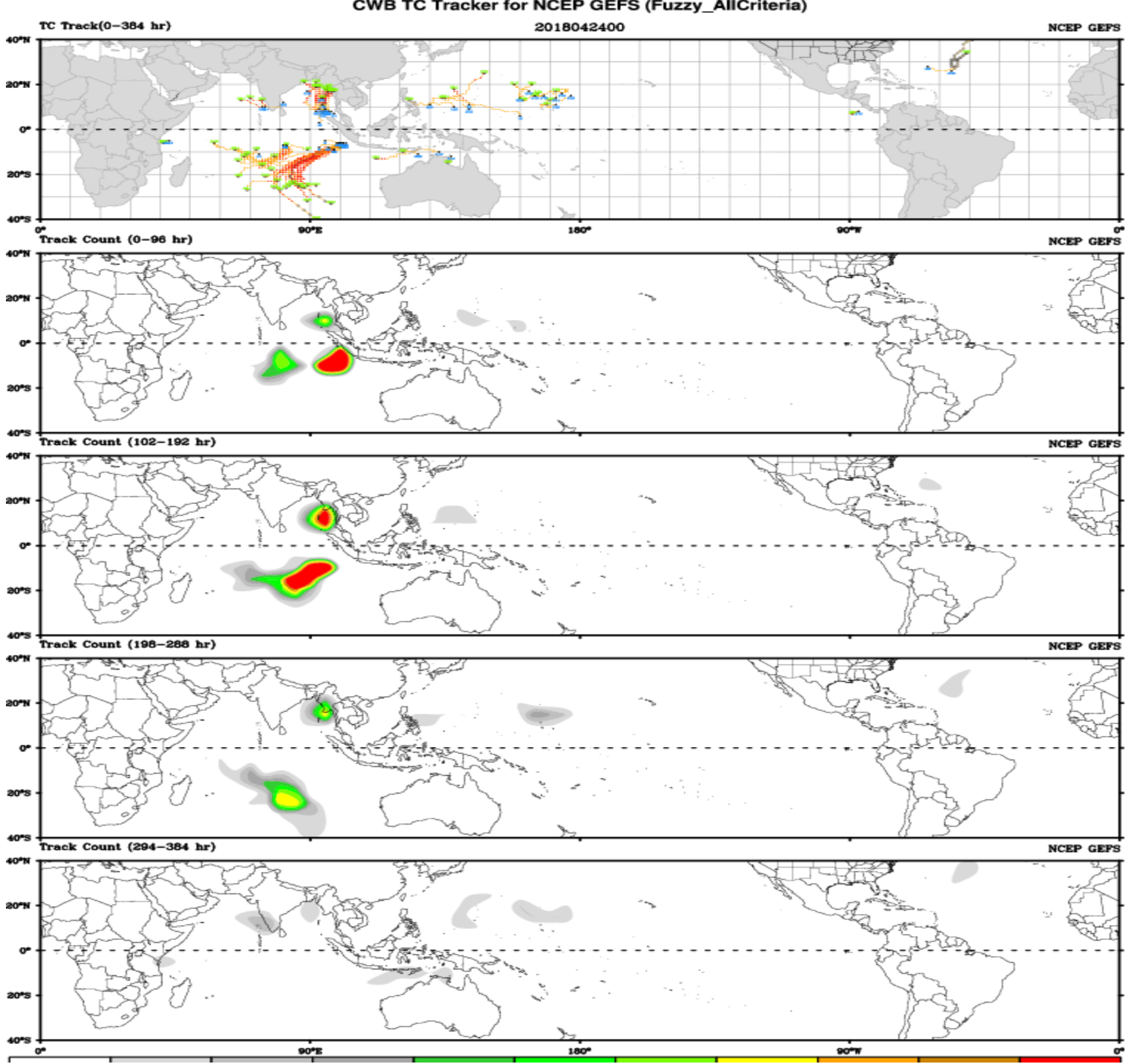


CFS Precipitation Anomalies (mm) Issued 23Apr2018
Week-1 Forecast Ending 01May2018



CFS Precipitation Anomalies (mm) Issued 23Apr2018
Week-2 Forecast Ending 08May2018





Days 1-4

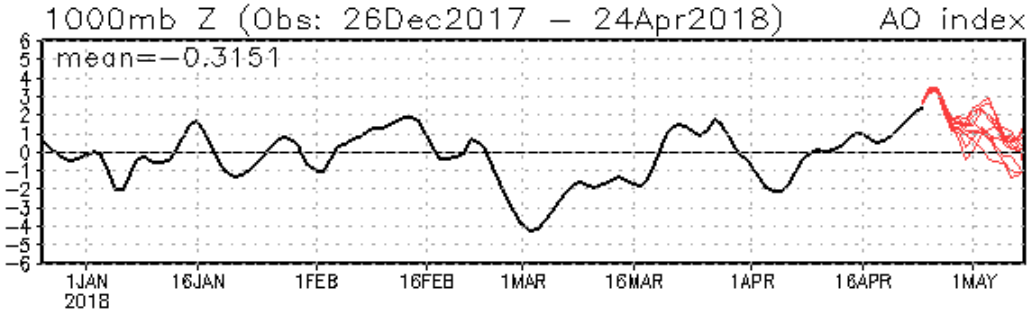
Day 5-8

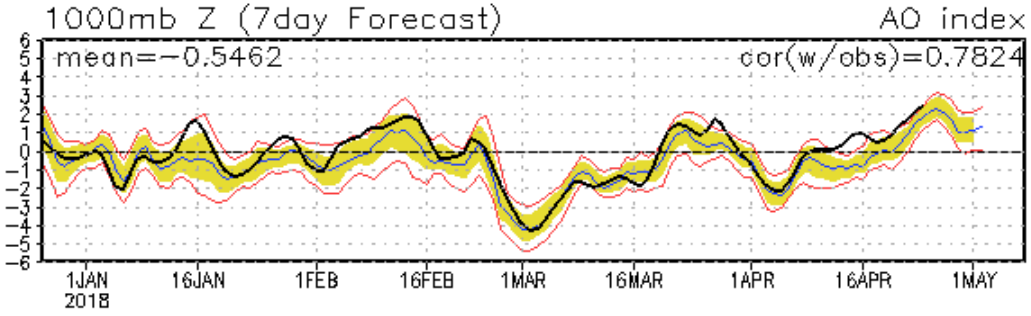
Day 9-12

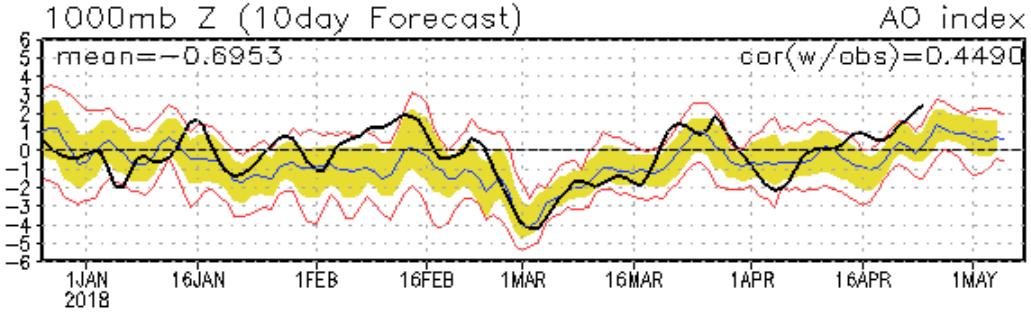
Day 13-15

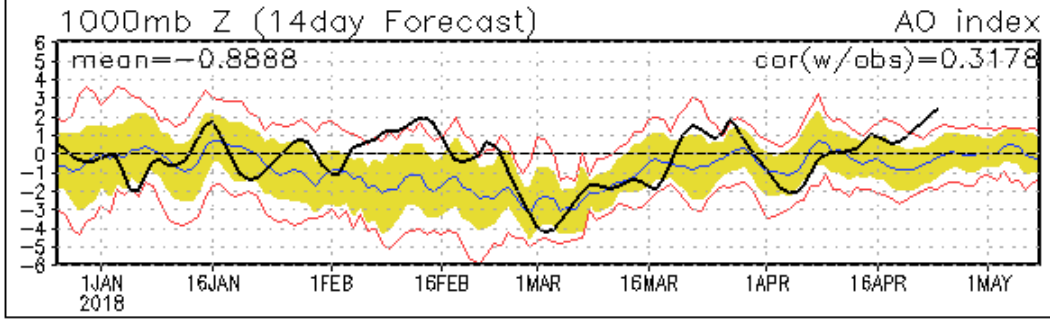
Connections to U.S. Impacts

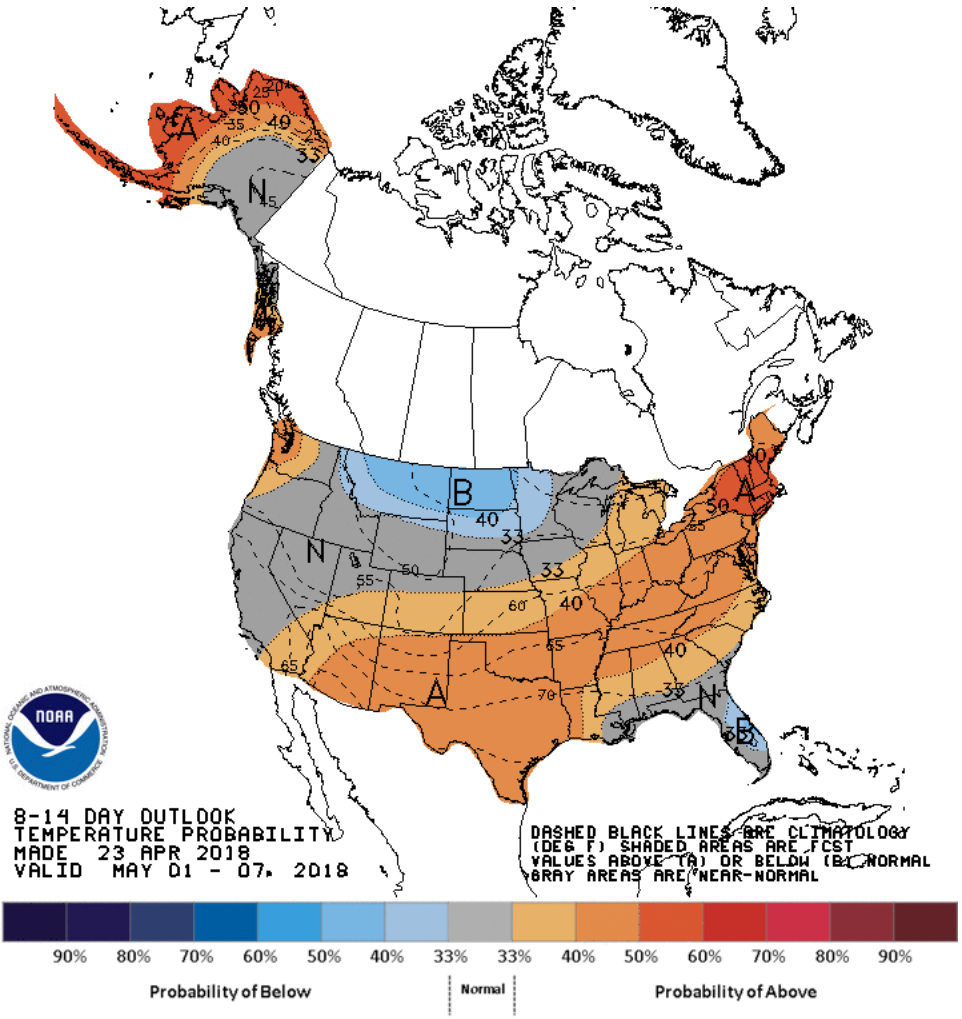
AO: Observed & ENSM forecasts

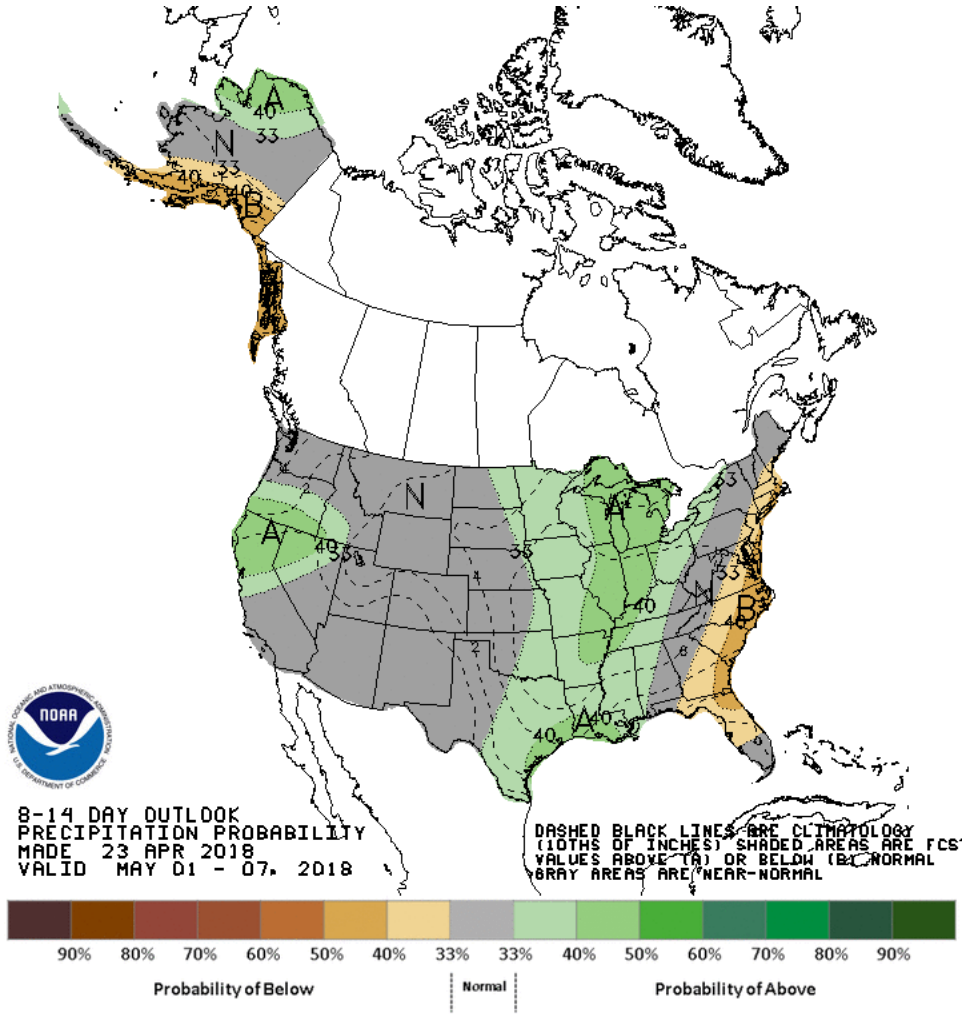









8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 23 APR 2018
VALID MAY 01 - 07, 2018
DASHED BLACK LINES ARE CLIMATOLOGY (DEG F) SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL GRAY AREAS ARE NEAR-NORMAL
90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%
Probability of Below
Normal
Probability of Above


8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 23 APR 2018
VALID MAY 01 - 07, 2018
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES) SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL GRAY AREAS ARE NEAR-NORMAL
90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%
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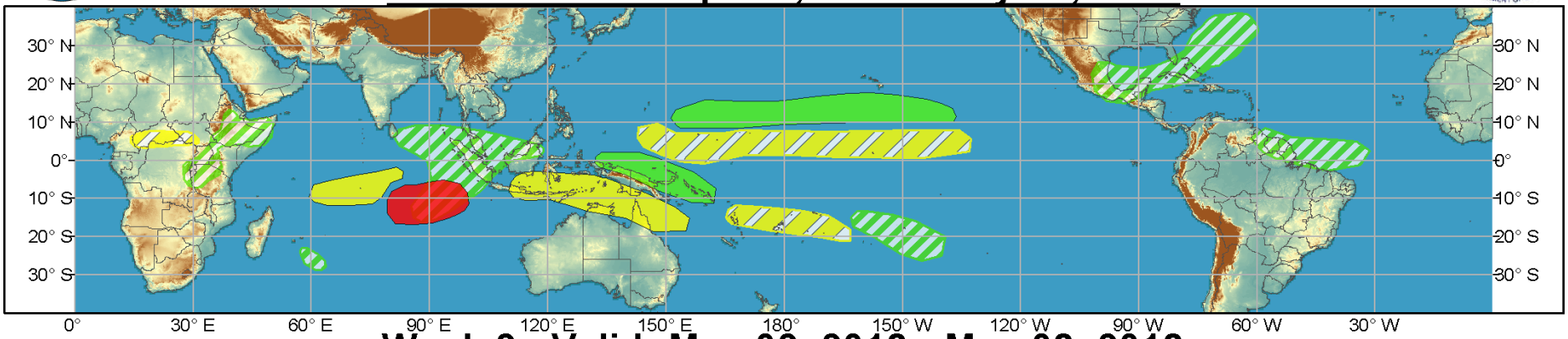

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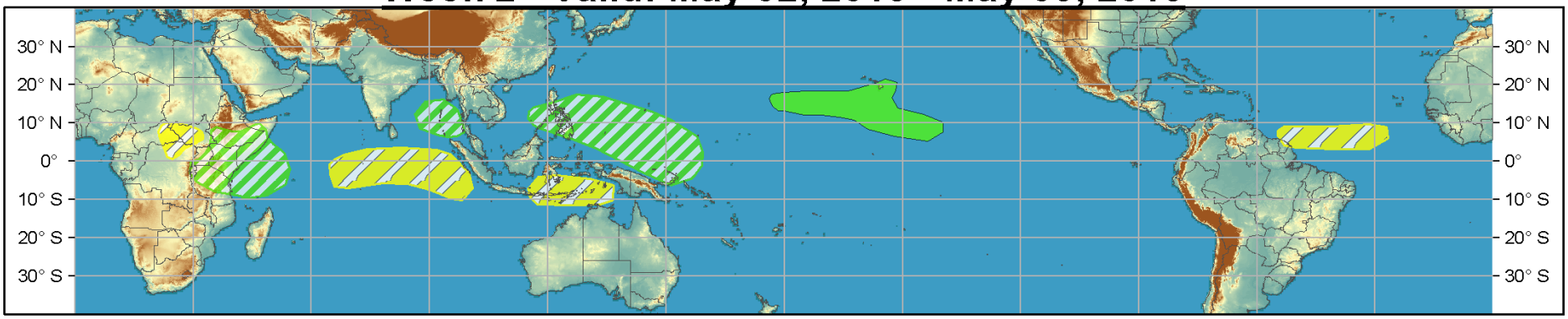

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