

Global Tropics Hazards And Benefits Outlook

5/7/2019

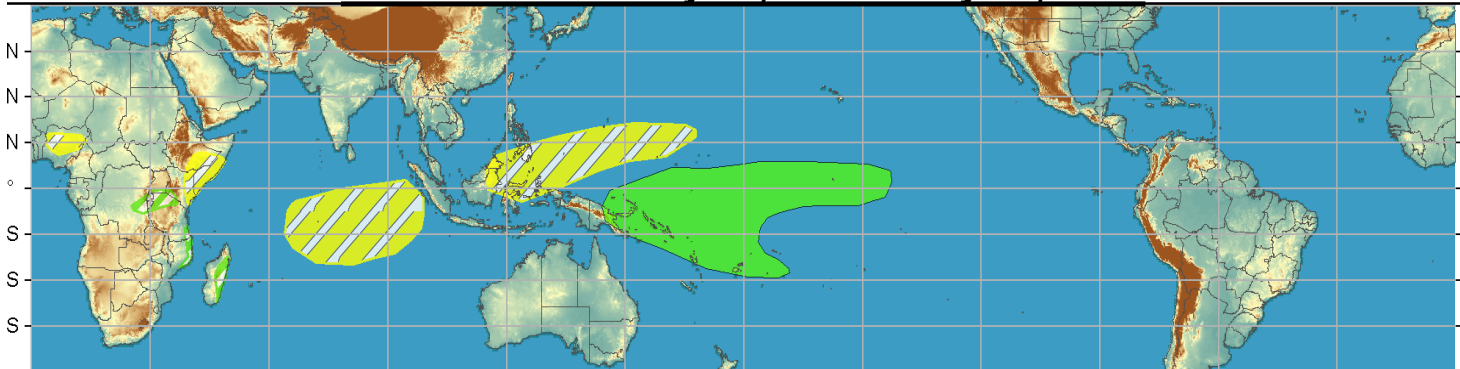
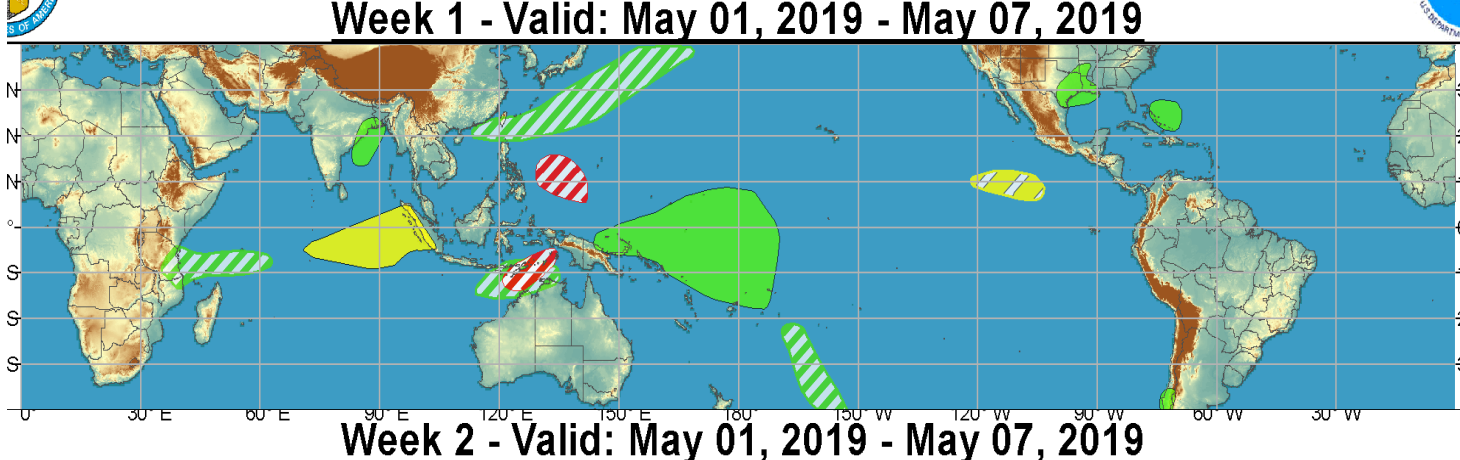
Dan Harnos & Nick Novella

Outline

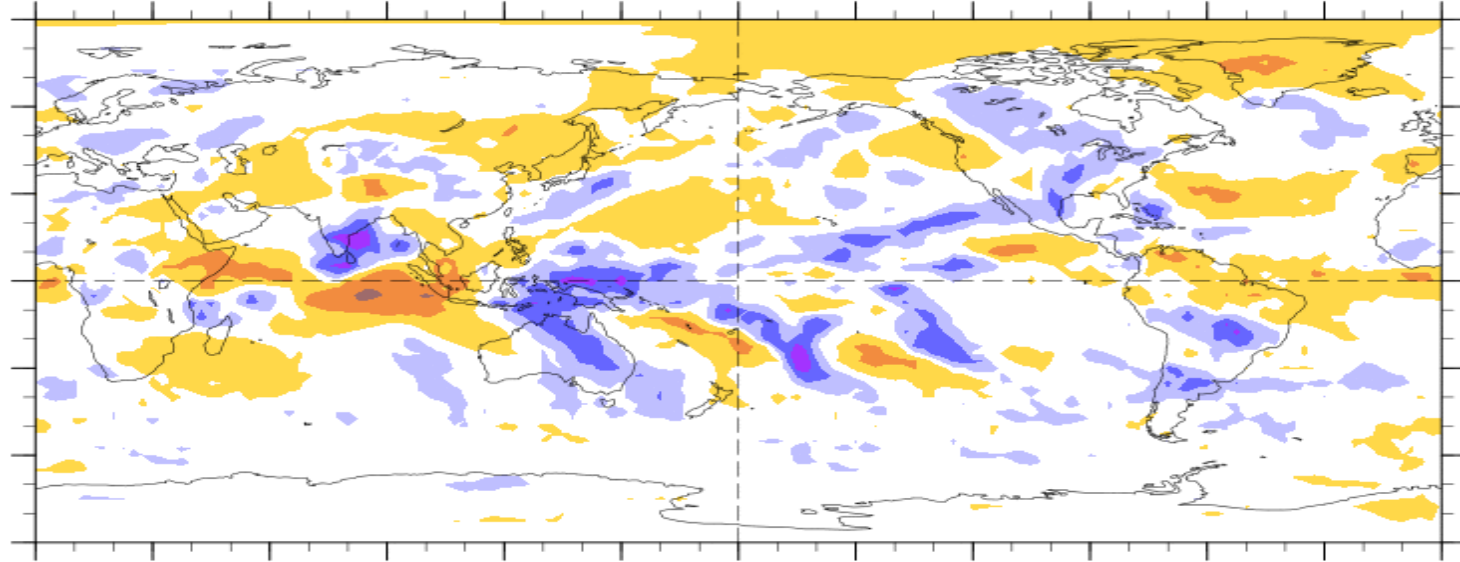
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

*No TCs formed
last week.*



7-Day Average OLR Anomaly 2019/04/29 - 2019/05/05



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (April 11, 2019 Update)

- ENSO Alert System Status: [El Niño Advisory](#)
- A weak El Niño is likely to continue through the Northern Hemisphere summer 2019 (65% chance) and possibly fall (50-55% chance).
- ENSO diagnostic discussion will be updated this Thursday, May 9th.

MJO and other subseasonal tropical variability:

- The MJO crossed from the Maritime Continent to the West Pacific during the past week.
- Dynamical models indicate that this signal is likely to cross the West Pacific during Week-1 (Phases 6/7), and reach the Western Hemisphere during Week-2 (Phases 8/1). Some weakening of the signal is possible during Week-2.

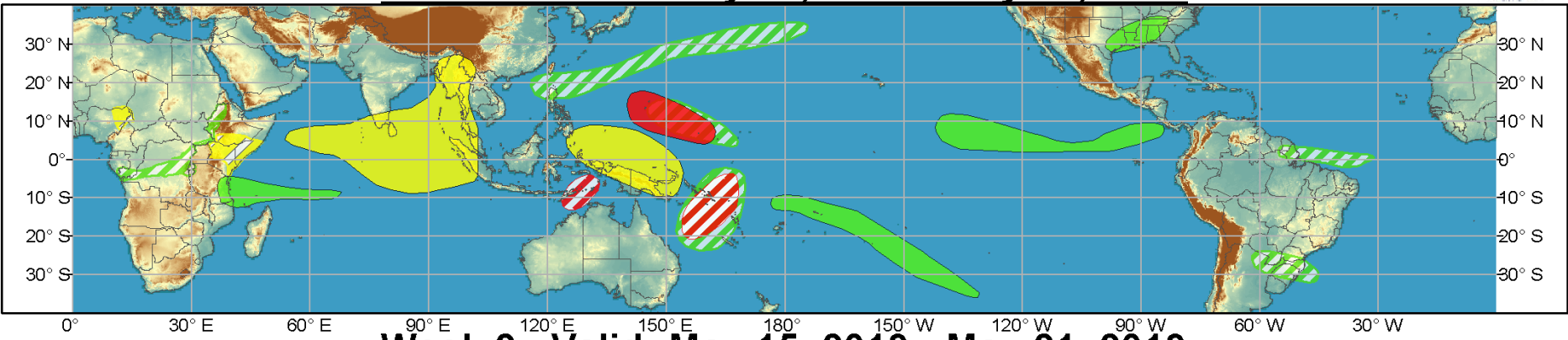
Extratropics:

- The MJO over the West Pacific serves to constructively interfere with the ongoing El Niño and serves to strengthen and extend the subtropical jet over the Pacific. This is likely at least partially the culprit for the enhanced moisture across the southern tier of the country over the next 5-10 days.

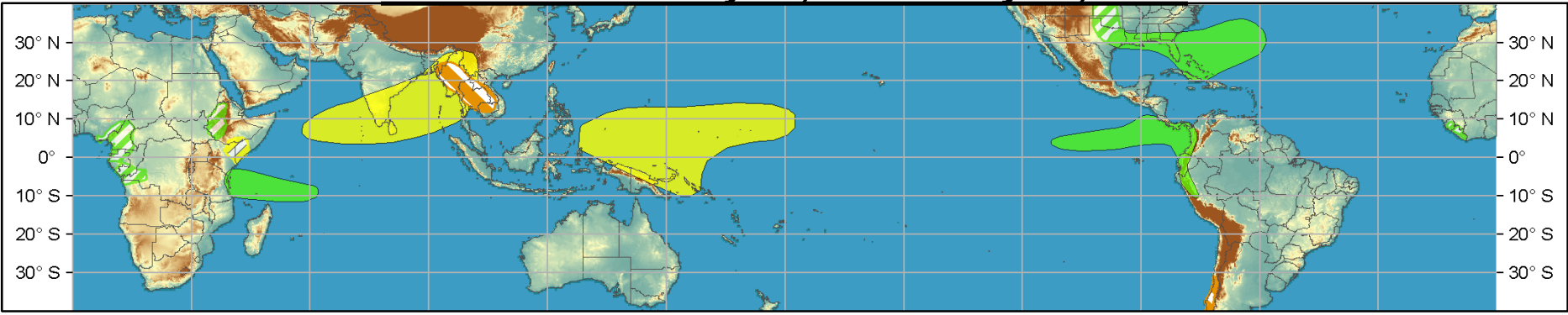


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 08, 2019 - May 14, 2019



Week 2 - Valid: May 15, 2019 - May 21, 2019



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.
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- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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Produced: 05/07/2019
Forecaster: D.Harnos

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

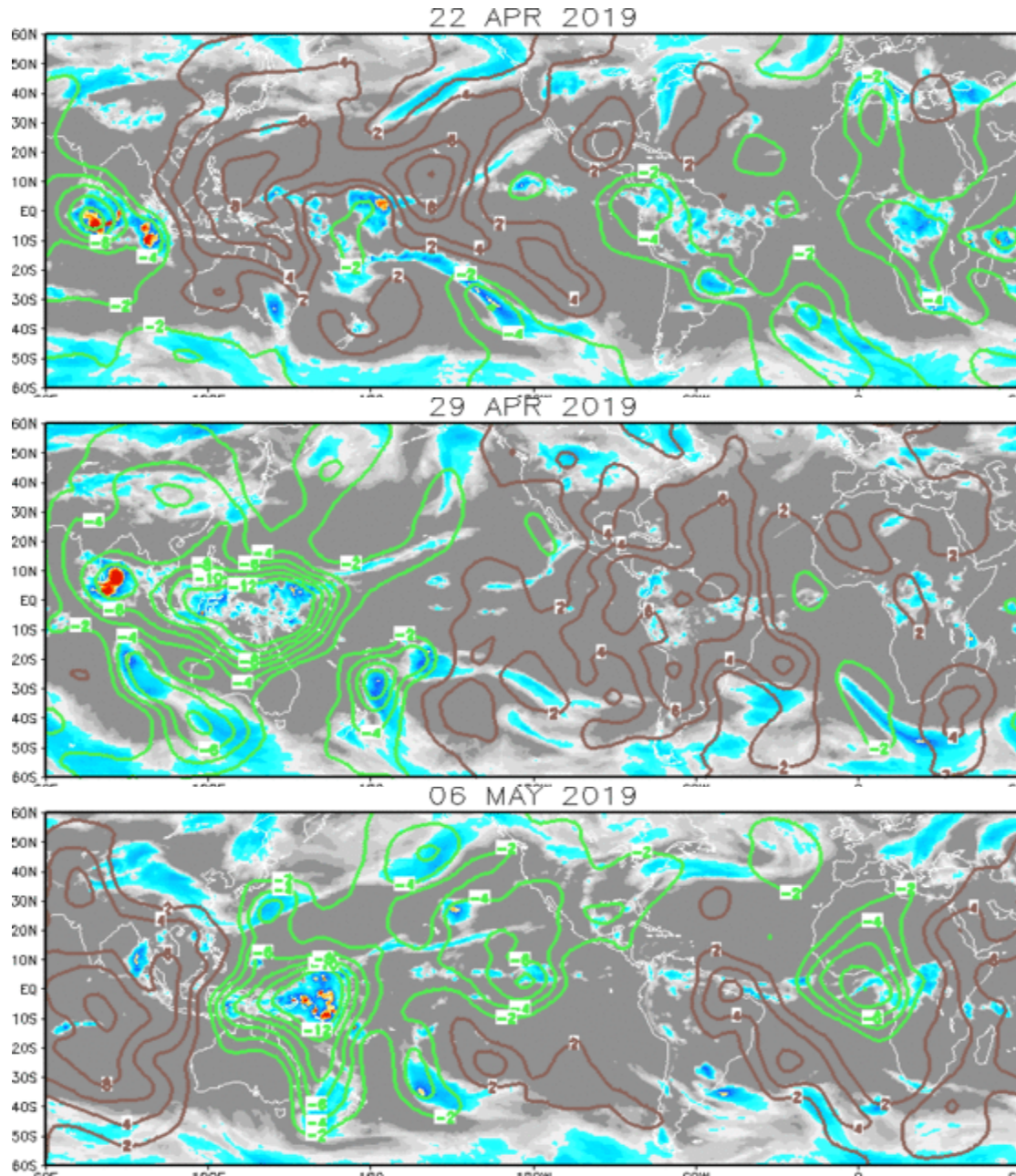
Green: Enhanced Divergence

Brown: Enhanced Convergence

Coherent Wave-1 pattern, with the main center of amplified convection over the Indian Ocean. Some suppression of El Niño convection occurred.

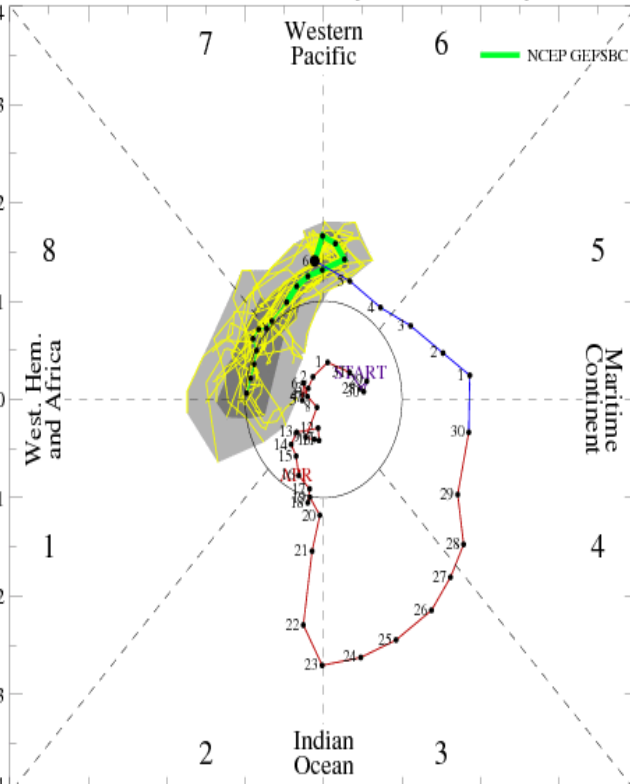
Continued coherent wave-1 pattern indicative of a robust MJO, with enhanced convection from the Indian Ocean through West Pacific.

Shift to somewhat more of a wave-2 pattern, with a Rossby wave over Africa partially to blame for the split.



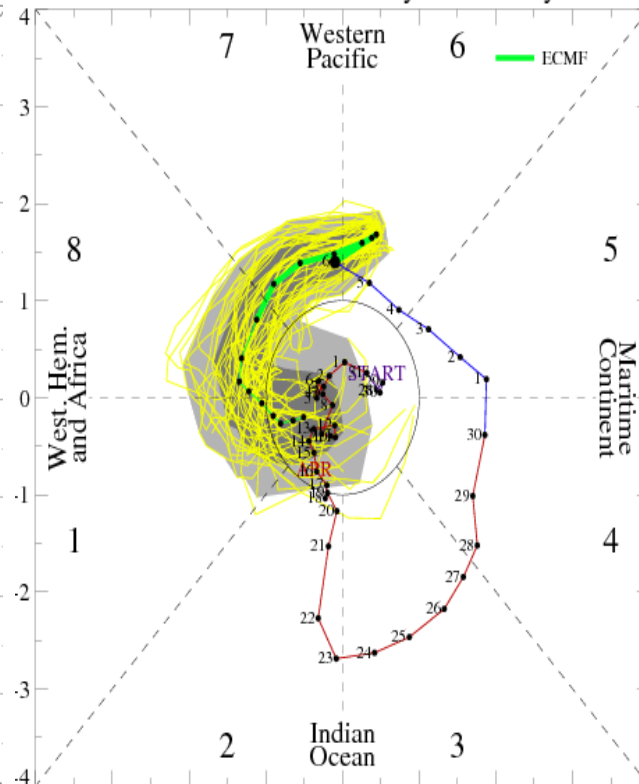
MJO Observation/Forecast

[RMM1, RMM2] forecast for May-07-2019 to May-21-2019



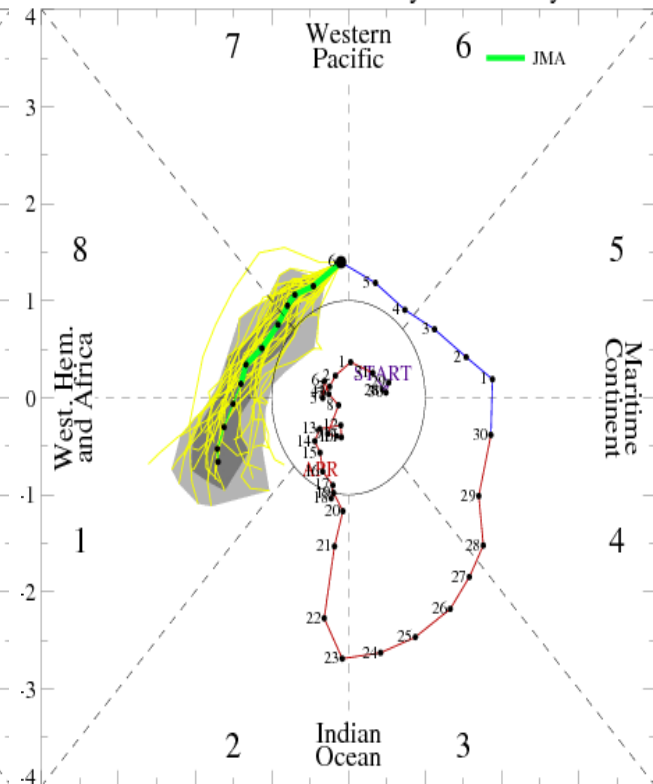
GEFS

MJO Index Forecast for 07May2019-21May2019



ECMWF

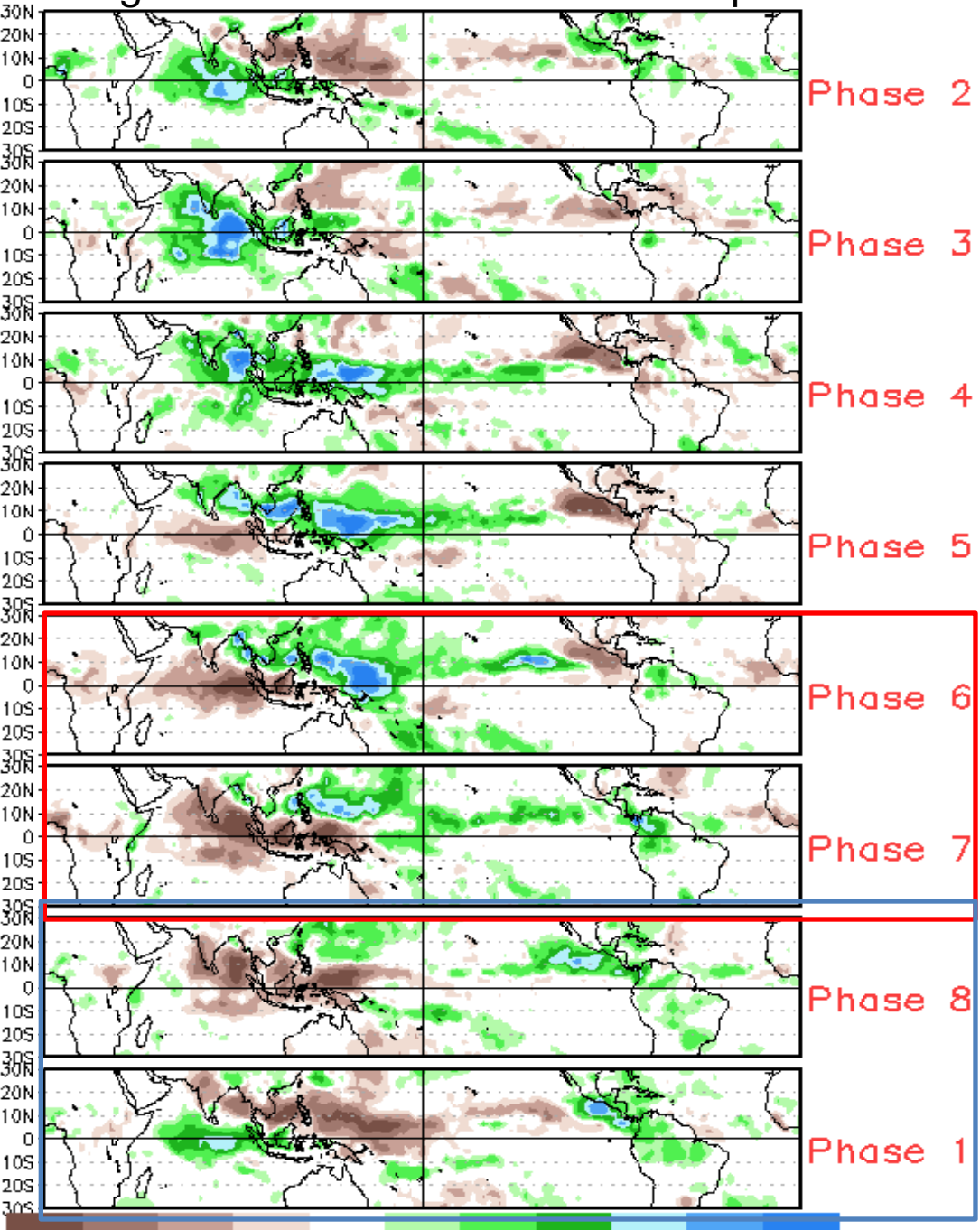
MJO Index Forecast for 07May2019-15May2019



JMA

The GEFS and ECMWF models show an initial westward progression, tied to possible tropical cyclone activity over the West Pacific, before continuing eastward over the next two weeks. The ECMWF model shows some weakening of the MJO late in Week-2, while the GEFS and JMA maintain the MJO's intensity.

Average Conditions when the MJO is present



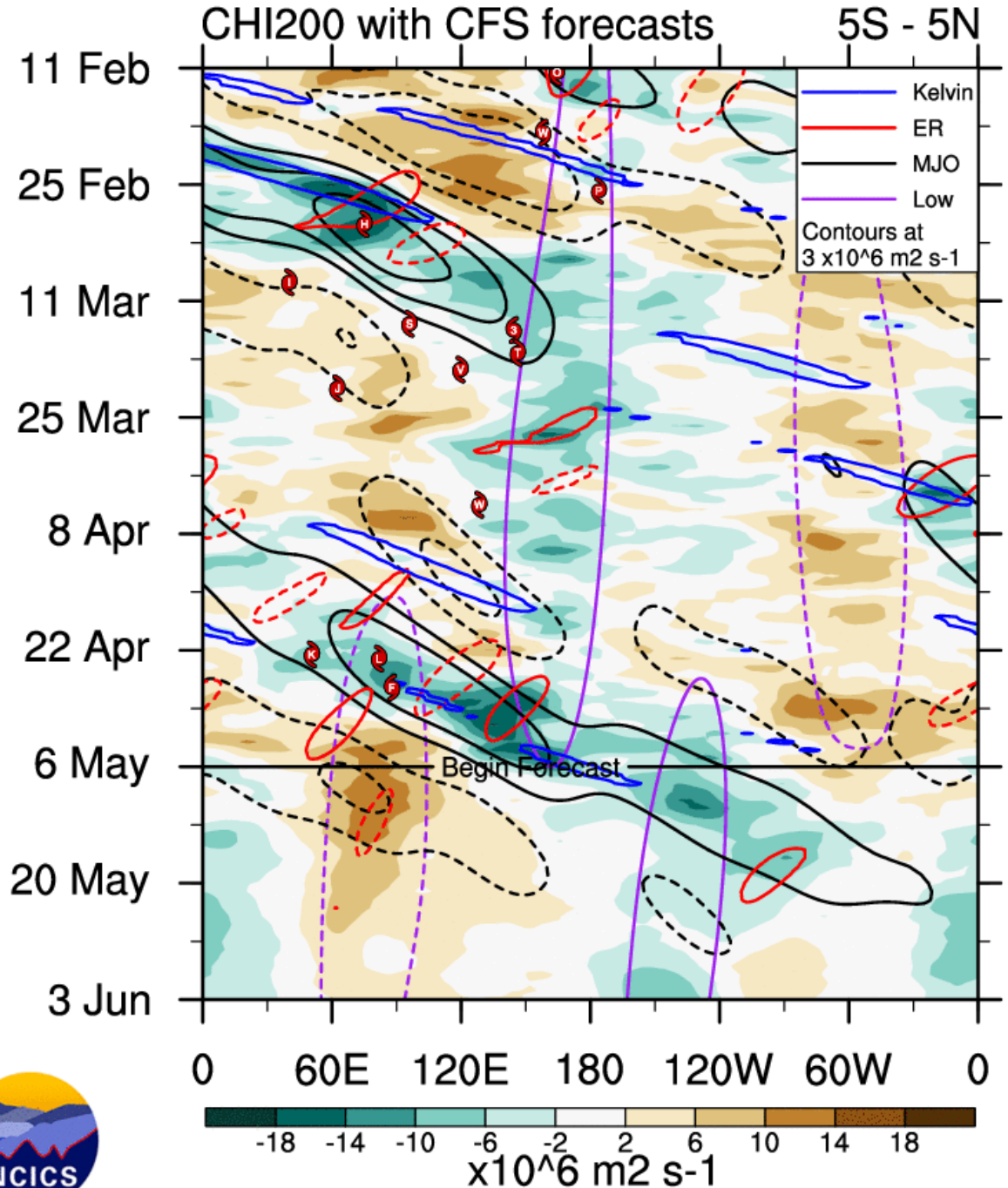
Week-1: Phases 6/7
Week-2: Phases 8/1

CAVEAT: These panels are representative of robust MJO events.

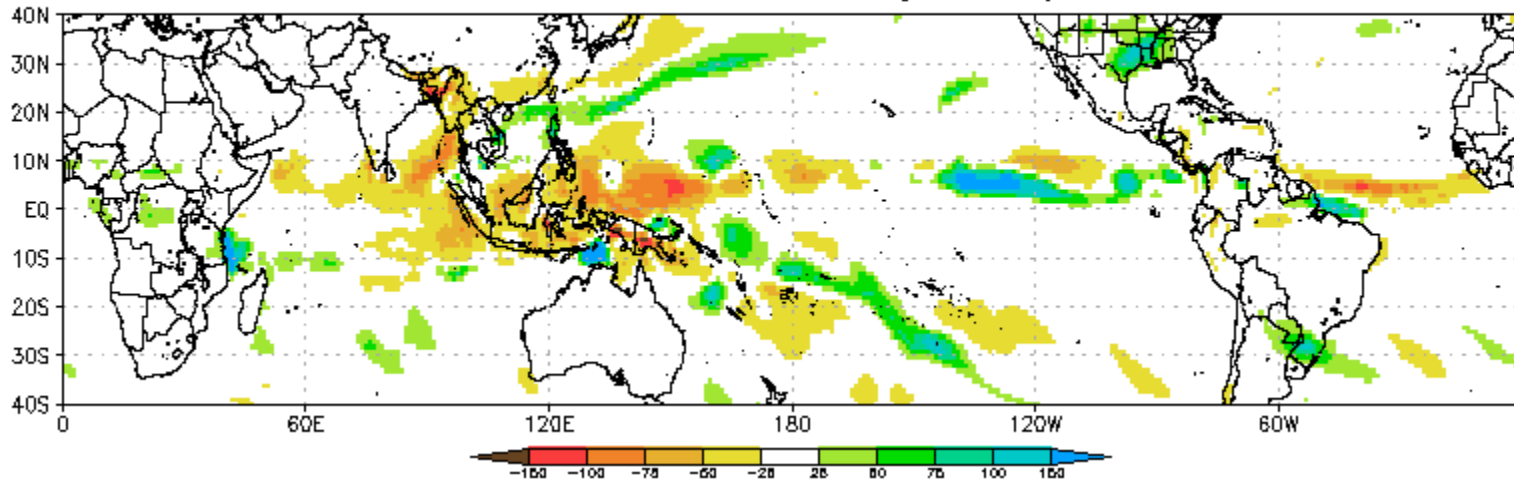
MJO crosses the West Pacific and reaches the Western Hemisphere late in Week-1.

A **Kelvin wave** is analyzed just west of the Date Line, embedded within the **MJO**.

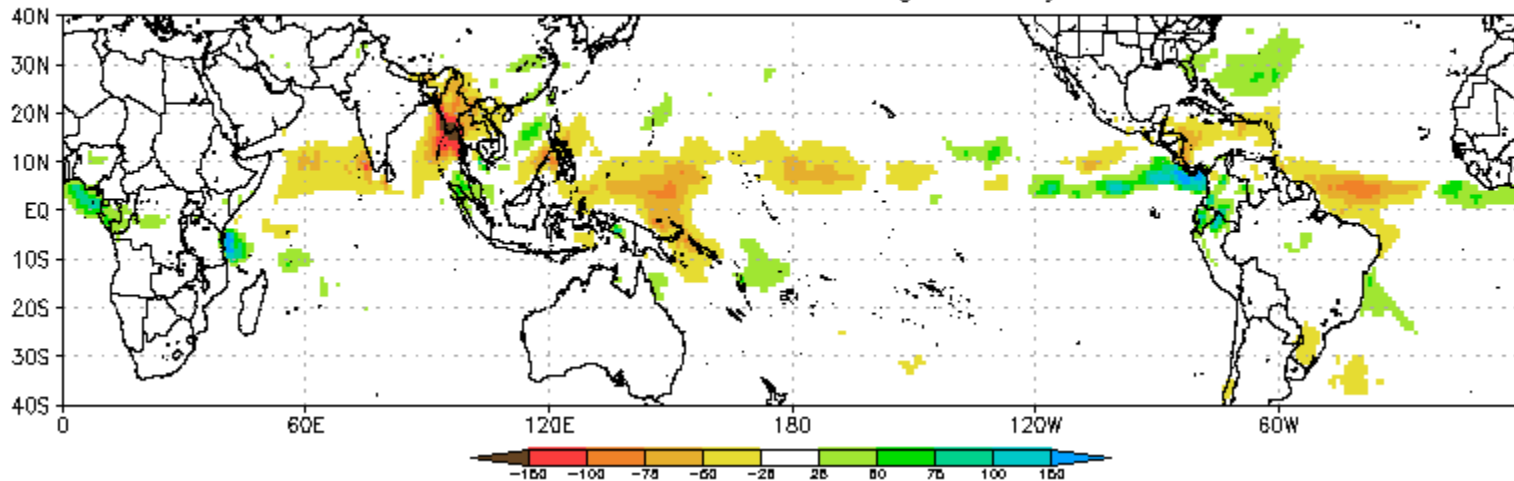
Low-frequency enhanced convection continues to be anchored west of the Antimeridian, although there is some sign the suppressed phase of the **MJO** may break this down later in May.



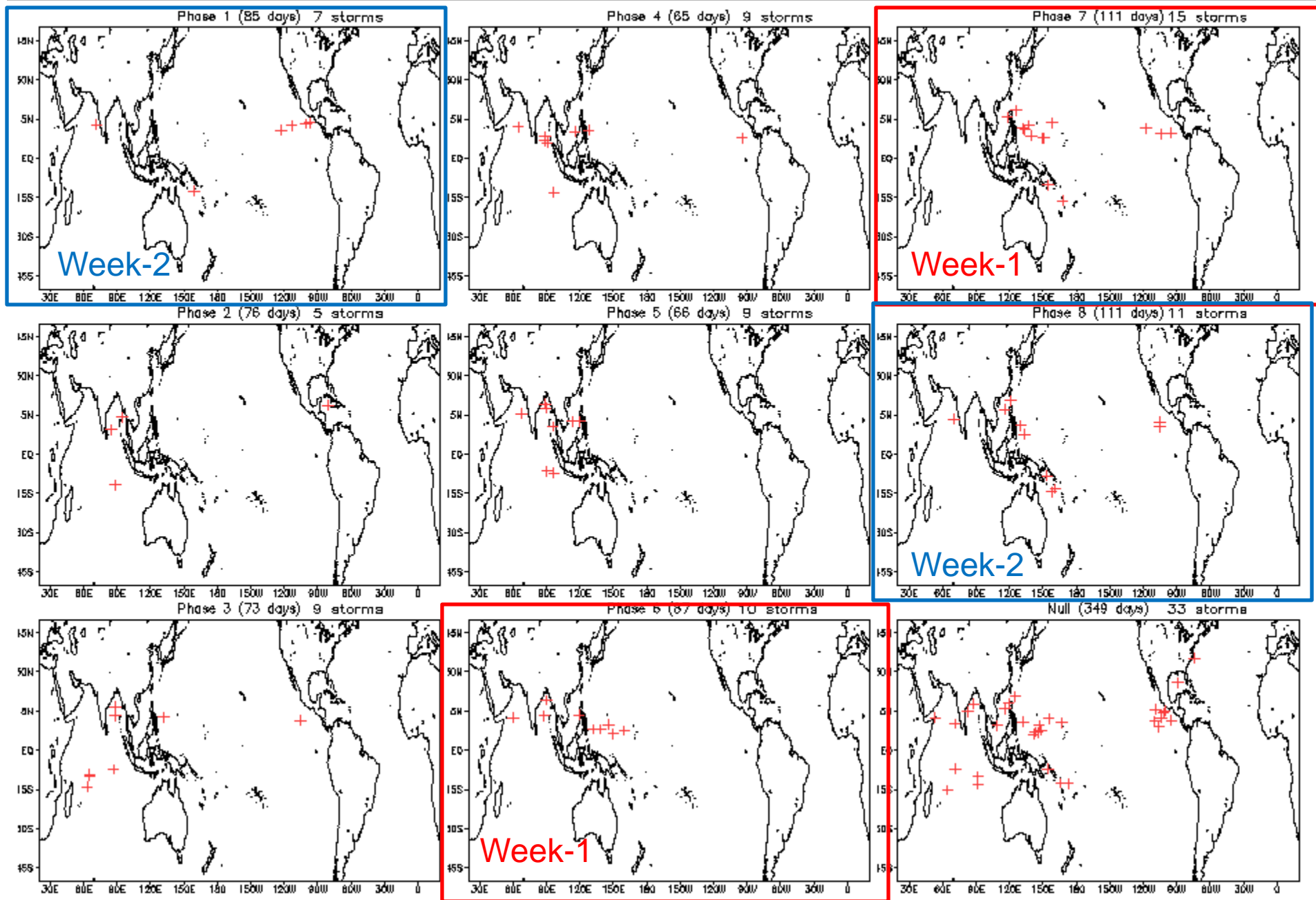
CFS Precipitation Anomalies (mm) Issued 06May2019
Week-1 Forecast Ending 14May2019

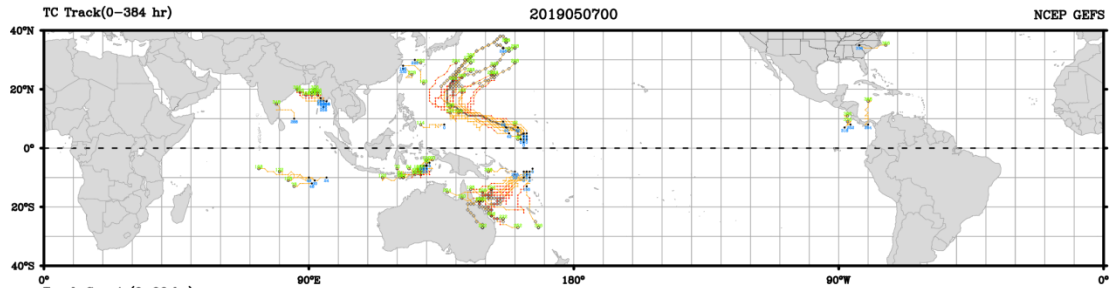


CFS Precipitation Anomalies (mm) Issued 06May2019
Week-2 Forecast Ending 21May2019



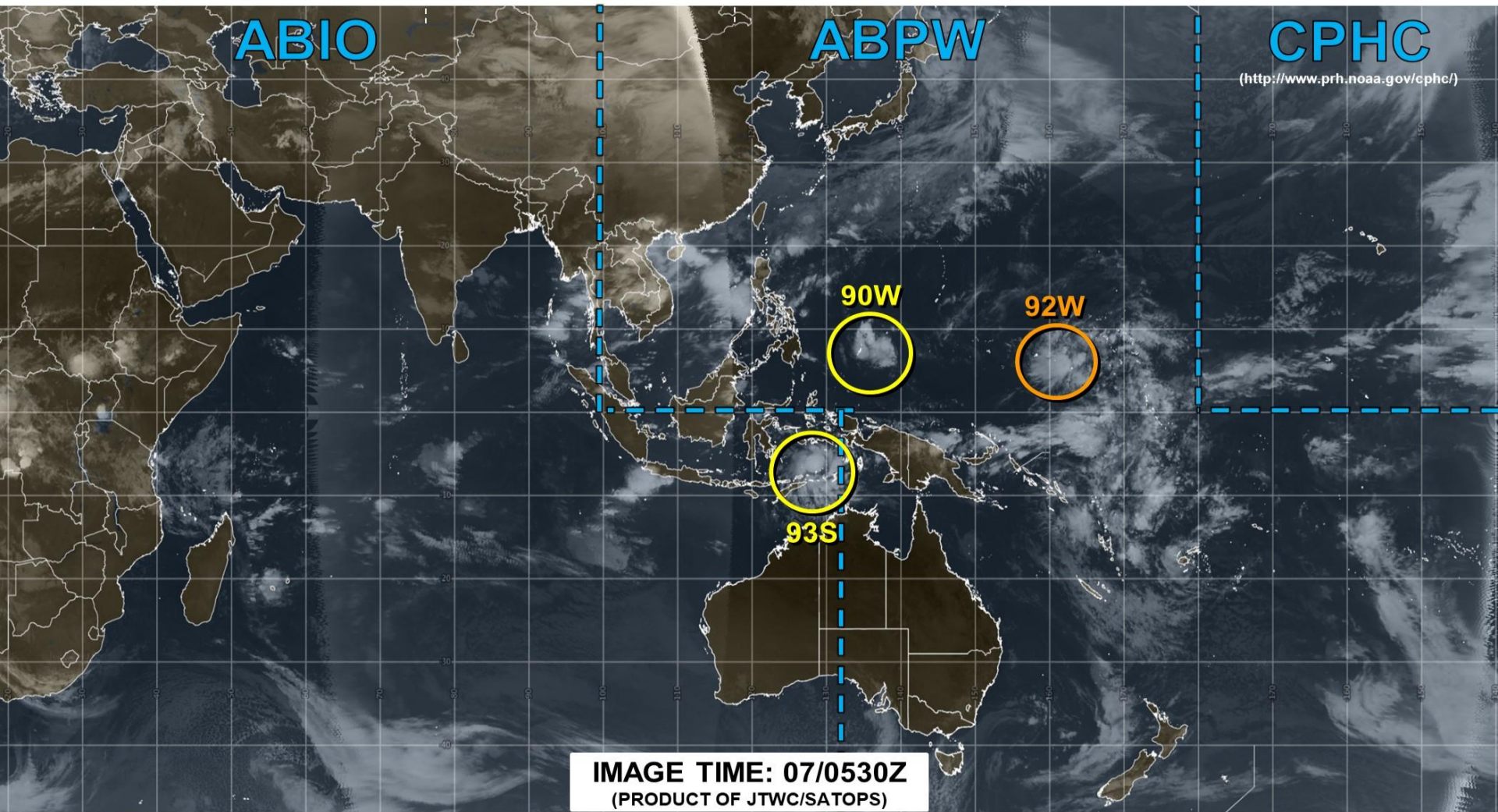
May Tropical Storm Formation by MJO phase







JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours



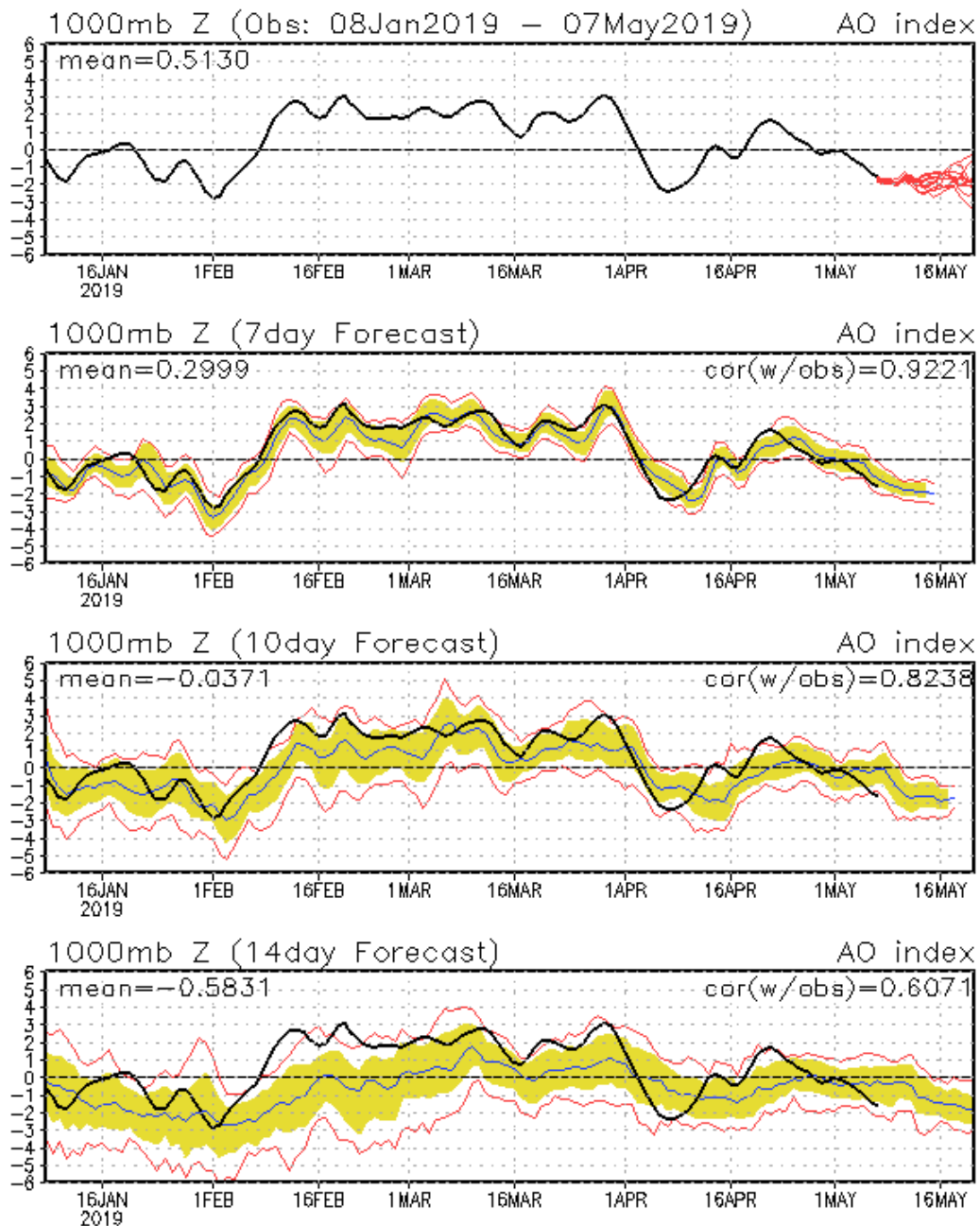
TC development likely within 24 hours (Reference TCFA)

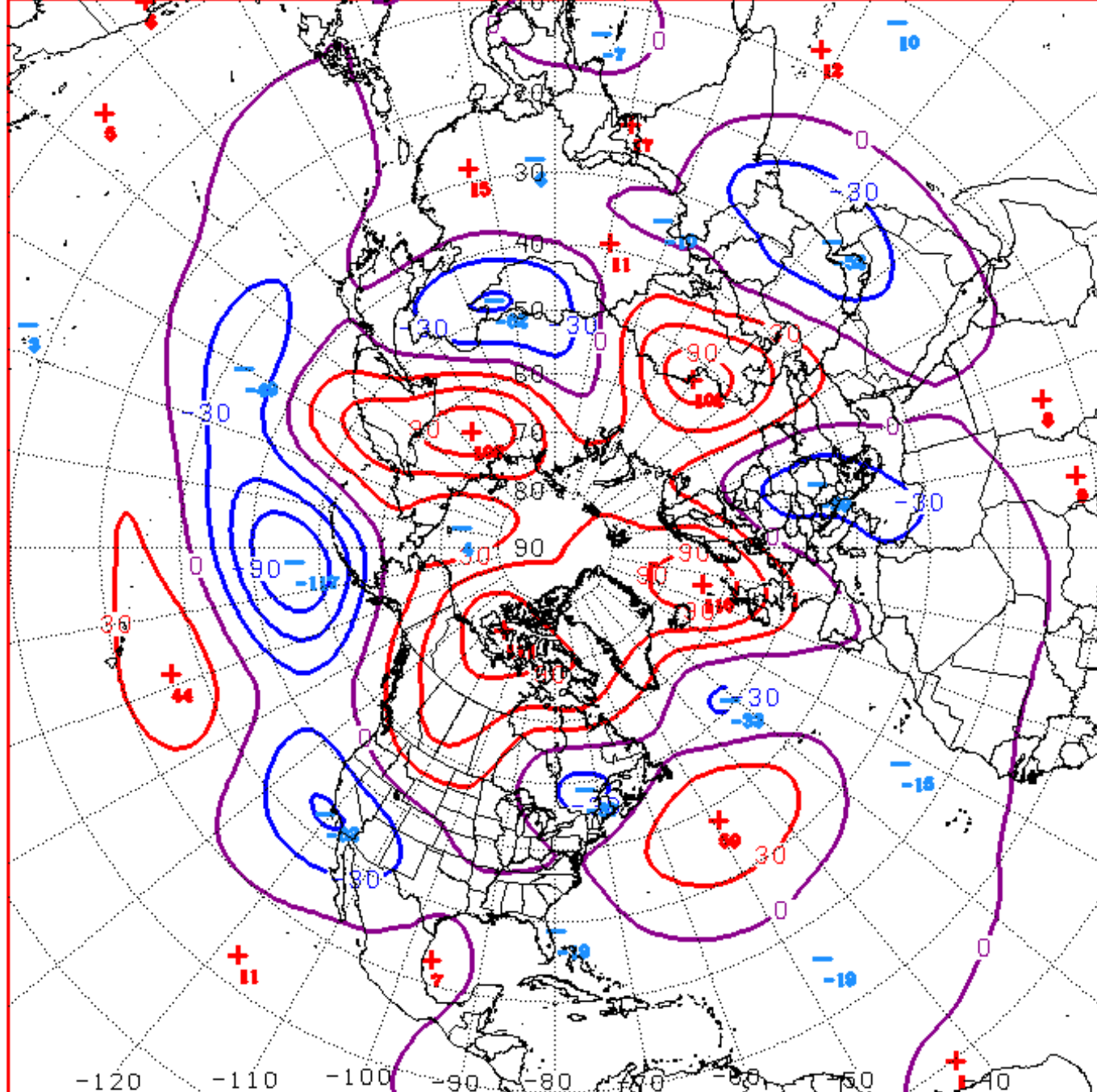


Tropical Cyclone (Reference Warning)

Connections to U.S. Impacts

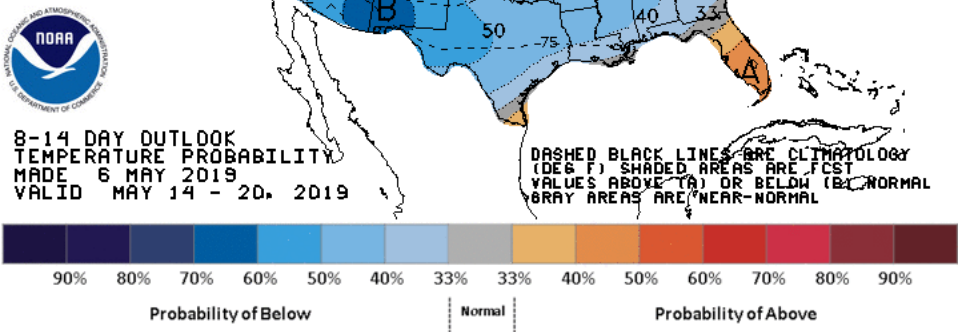
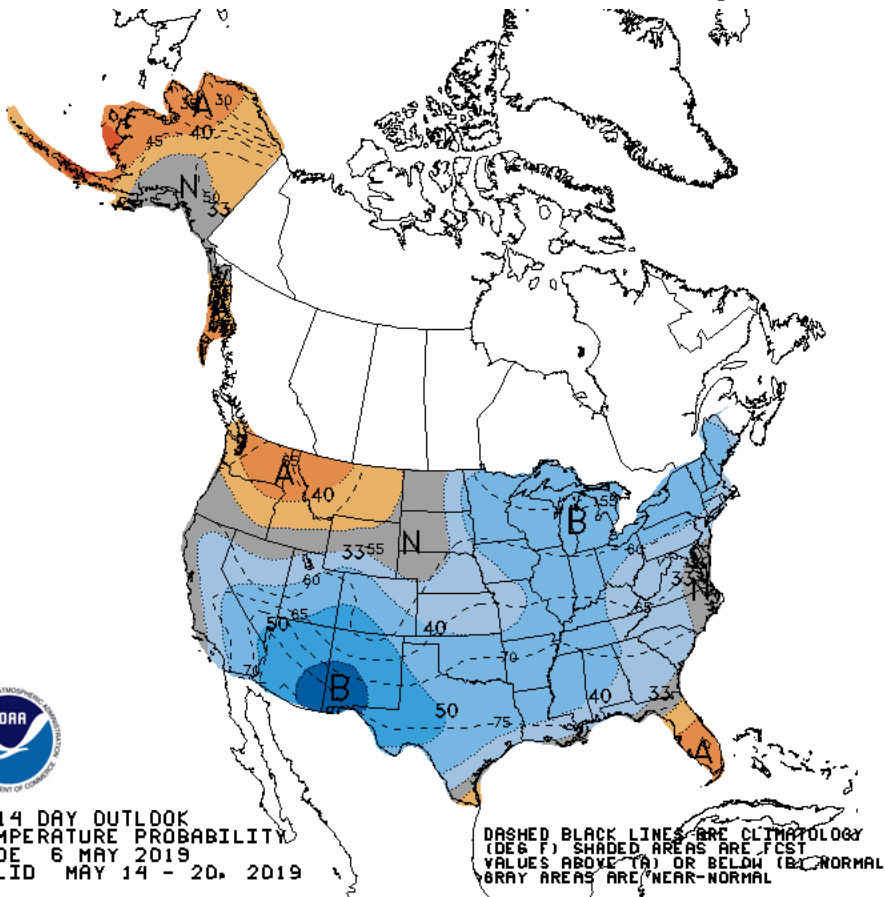
AO: Observed & ENSM forecasts



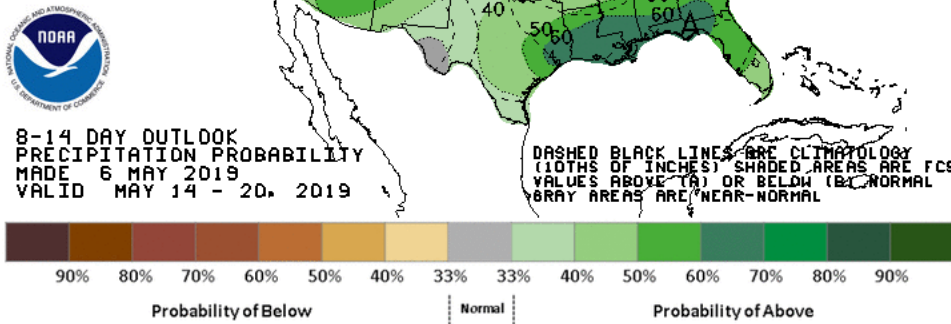
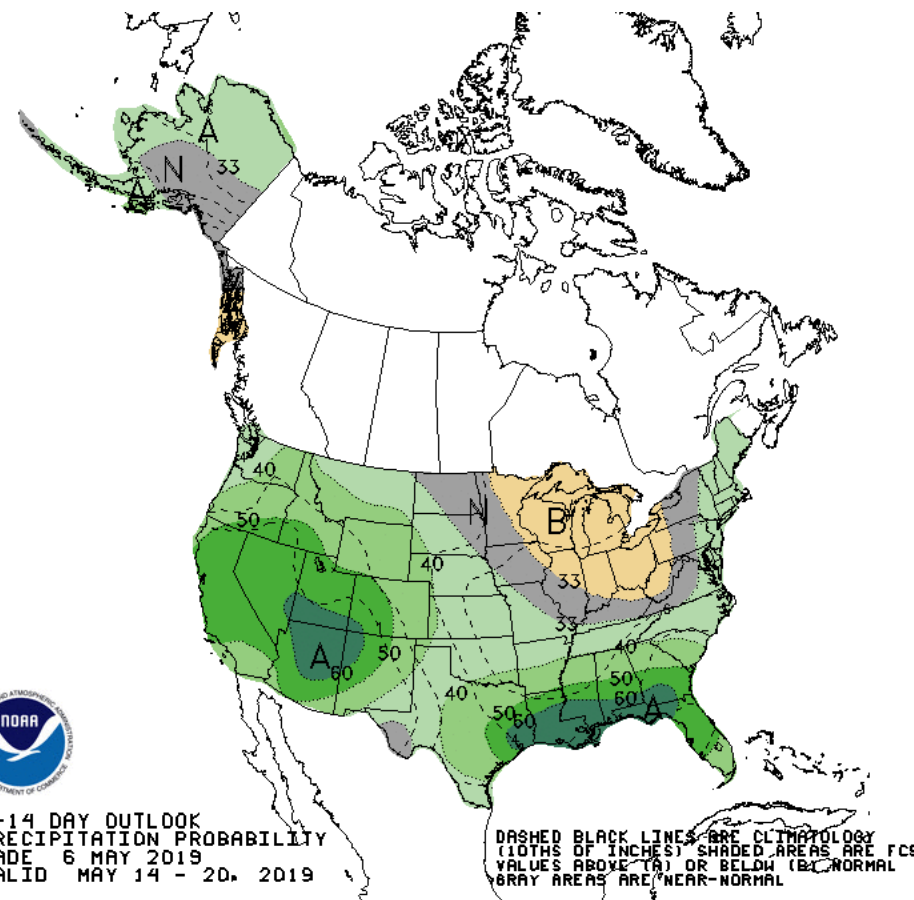


D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAY 07 2019 1351 UTC CNTD MAY 18 2019

Week 2 – Temperature and Precipitation



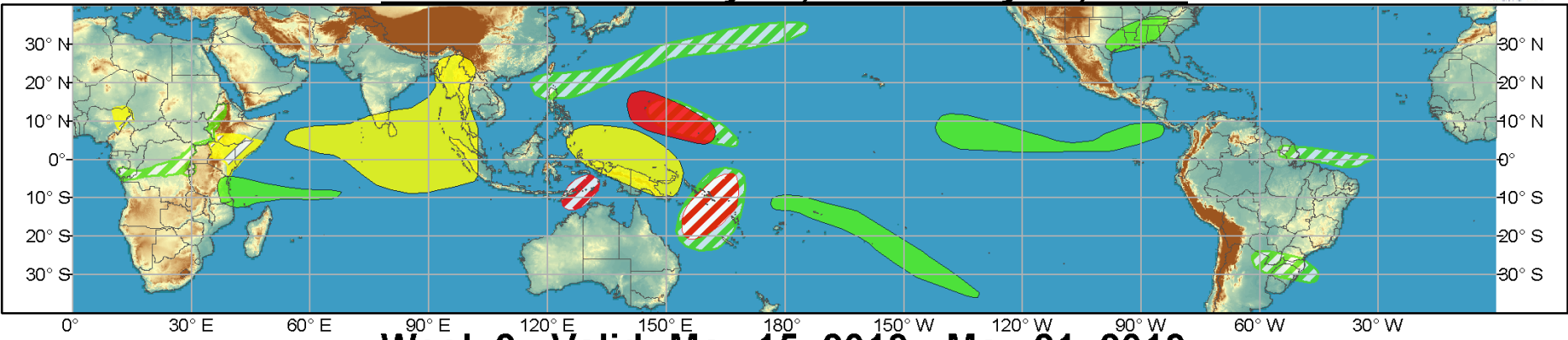
Likely slightly wetter across the West today, and drier across the Great Lakes. Probabilities also likely to decrease some for wet across the Gulf Coast.



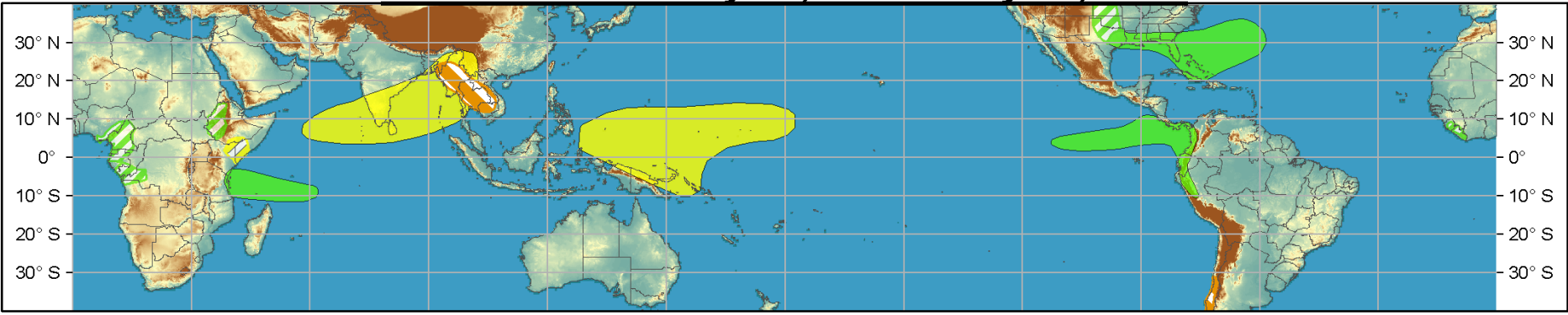


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