

Global Tropics Hazards And Benefits Outlook

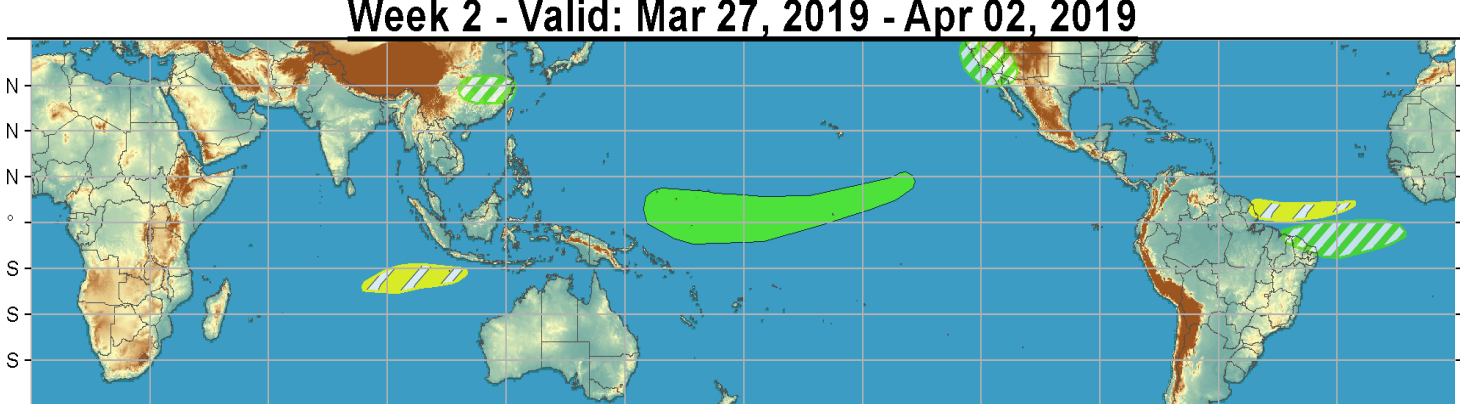
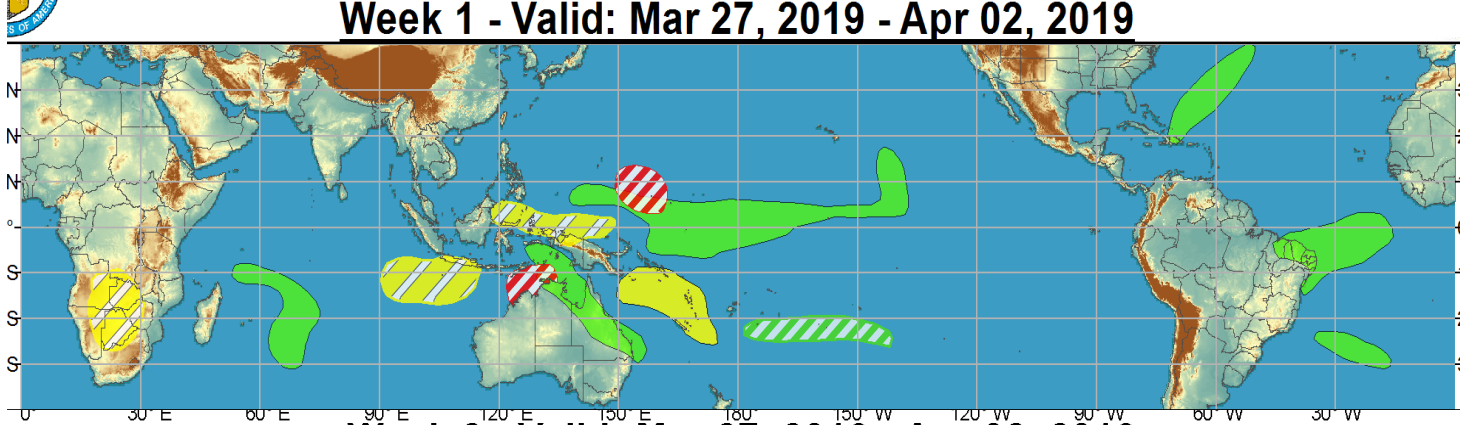
04/02/2019

Kyle MacRitchie

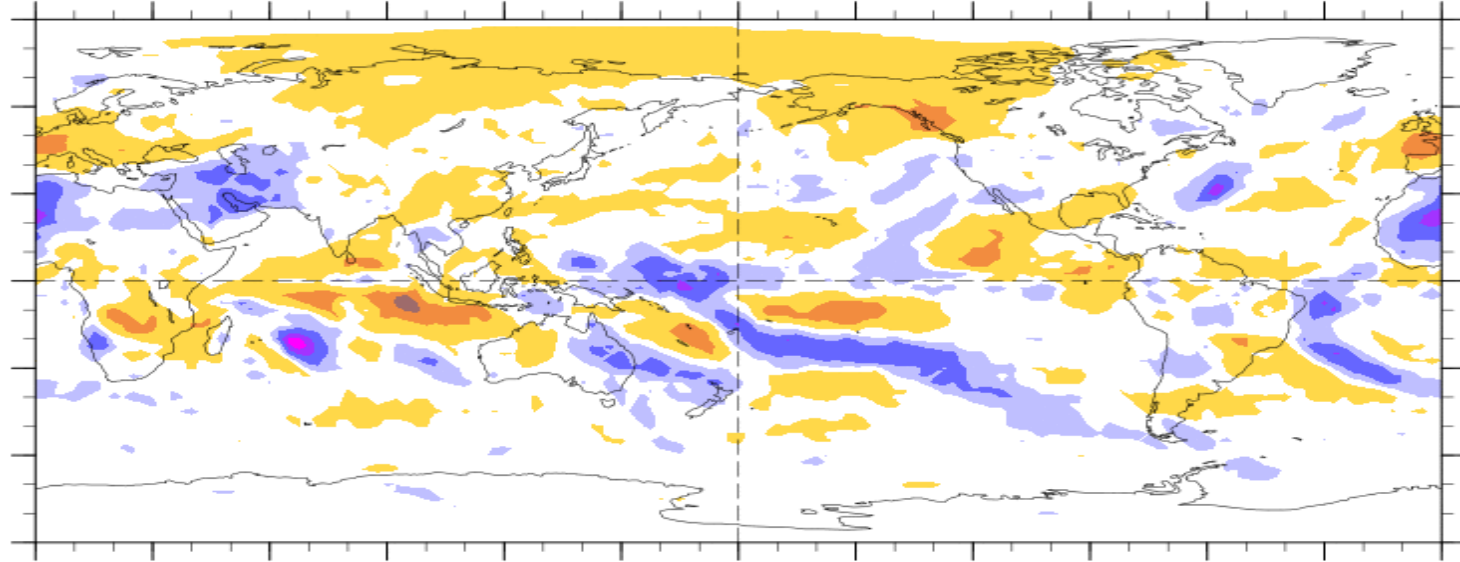
Outline

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

Outlook Review



7-Day Average OLR Anomaly 2019/03/25 - 2019/03/31



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (March 14, 2019 Update)

- ENSO Alert System Status: [El Niño Advisory](#)
- Weak El Niño conditions are likely to continue through the Northern Hemisphere spring 2019 (~80% chance) and summer (~60% chance).

MJO and other subseasonal tropical variability:

- The MJO remains weak in an RMM sense. It hasn't left the circle in over a week.
- Model forecasts are for the MJO to remain weak during most of the forecast period.
 - A handful of ensemble members suggest it might become active again at the end of Week-2.

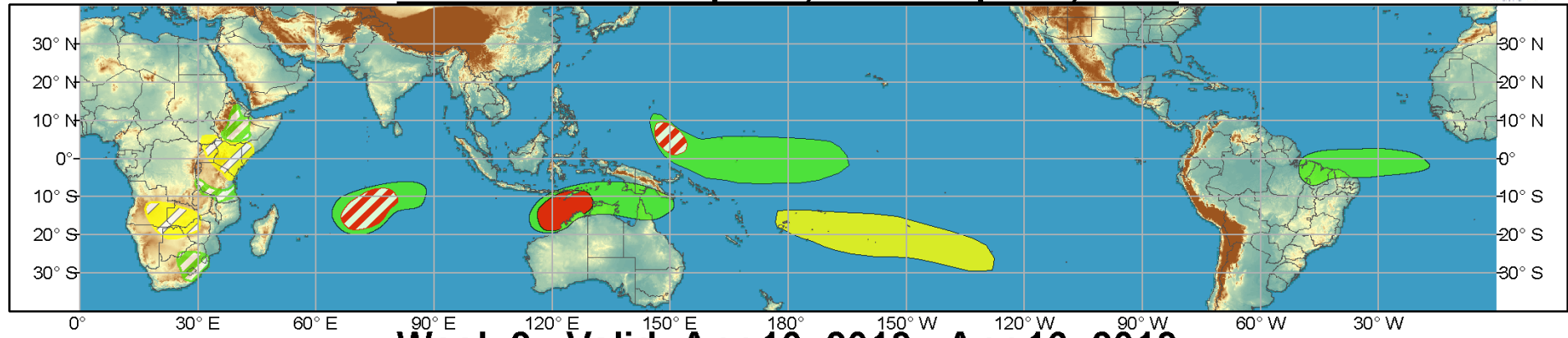
Extratropics:

- The MJO is not likely to play an observable role in any tropical-extratropical interactions. The ENSO signal is likely to be the most reliable mode producing long lasting convective anomalies.

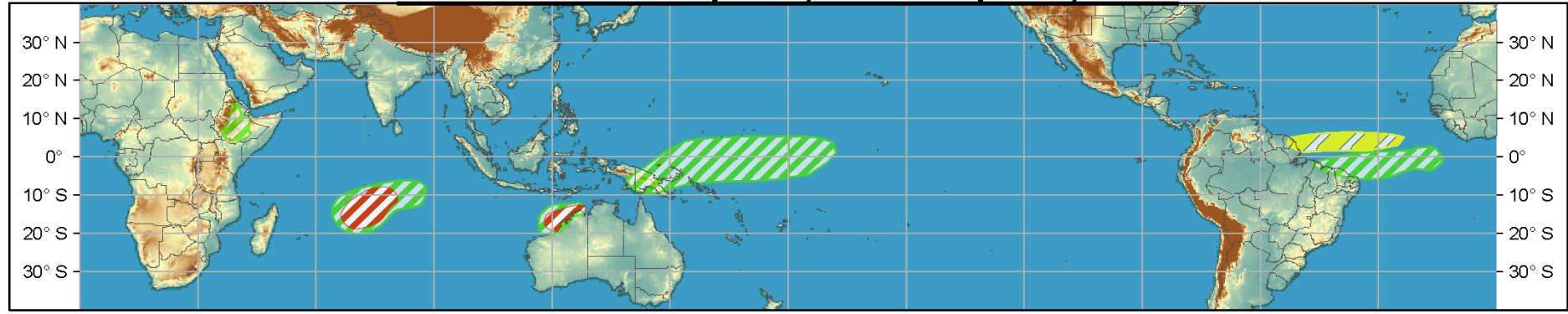


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 03, 2019 - Apr 09, 2019



Week 2 - Valid: Apr 10, 2019 - Apr 16, 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: 04/02/2019

Forecaster: MacRitchie

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IR Satellite & 200-hpa Velocity Potential Anomalies

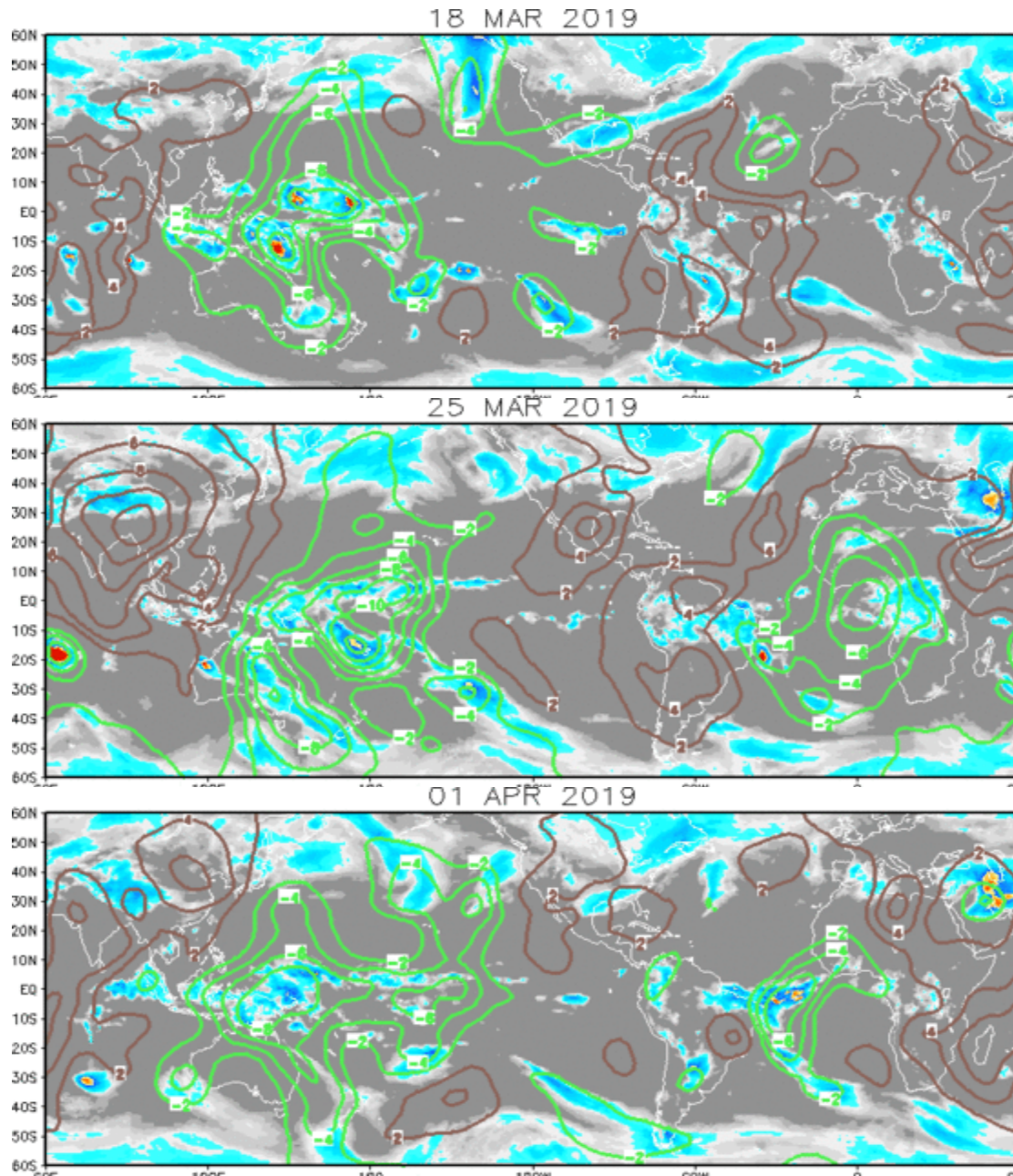
Green: Enhanced Divergence

Brown: Enhanced Convergence

Robust MJO signal with the enhanced phase over the Maritime Continent (interfering with ENSO).

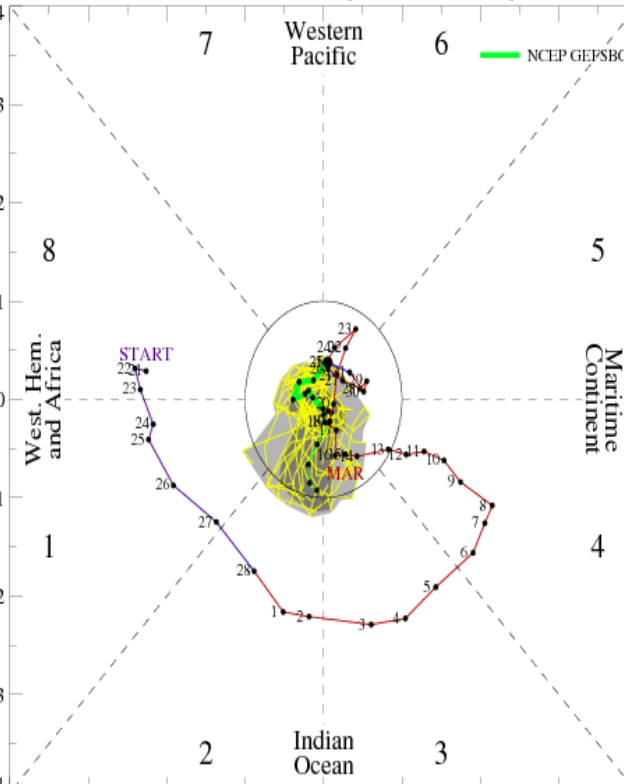
Wave-2 projection. The convective regions are anchored by low-frequency, Kelvin, and ER waves throughout the tropics.

The Wave-2 projection is a bit noisier than before. Main areas of convection are in the western Pacific and southern Atlantic.



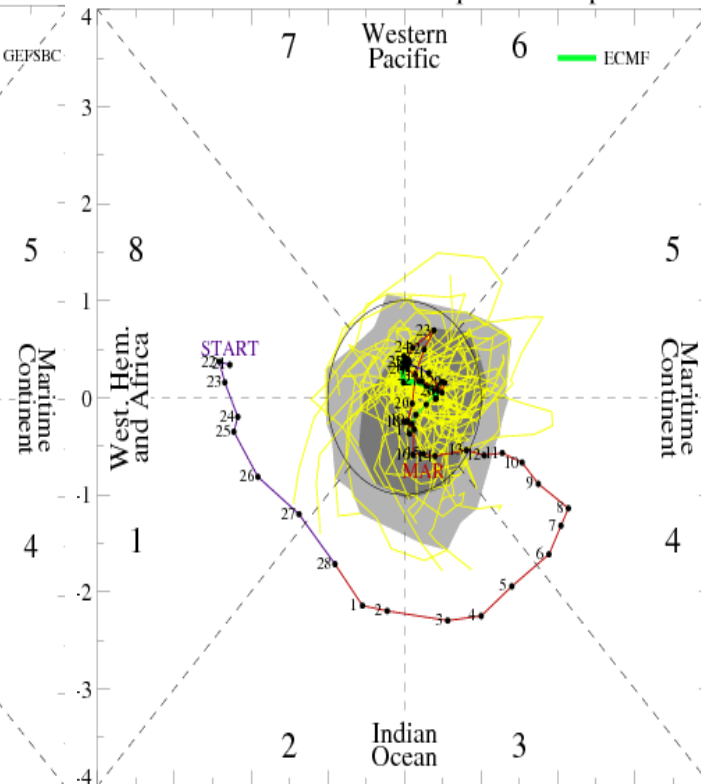
MJO Observation/Forecast

[RMM1, RMM2] forecast for Apr-02-2019 to Apr-16-2019



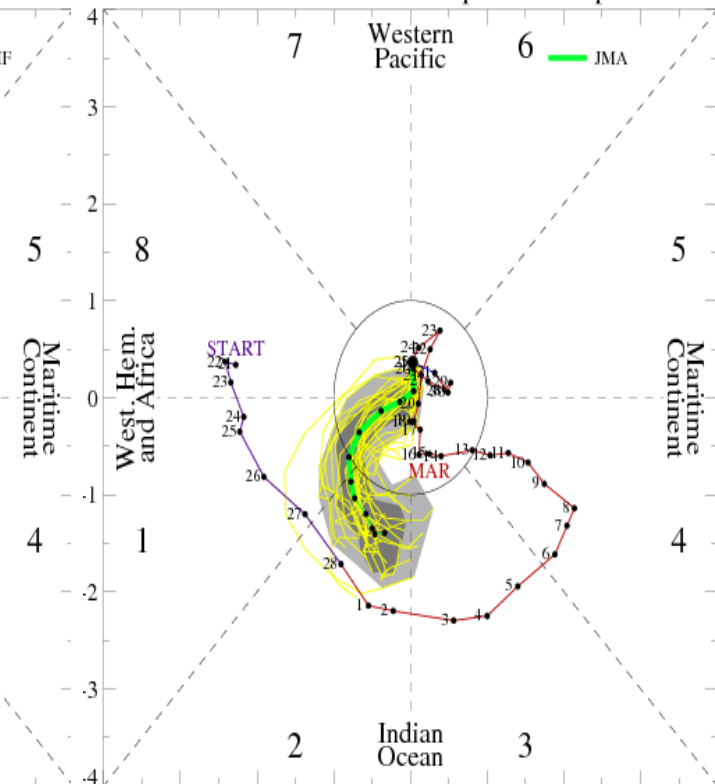
GEFS

MJO Index Forecast for 02Apr2019-16Apr2019



ECMWF

MJO Index Forecast for 02Apr2019-10Apr2019

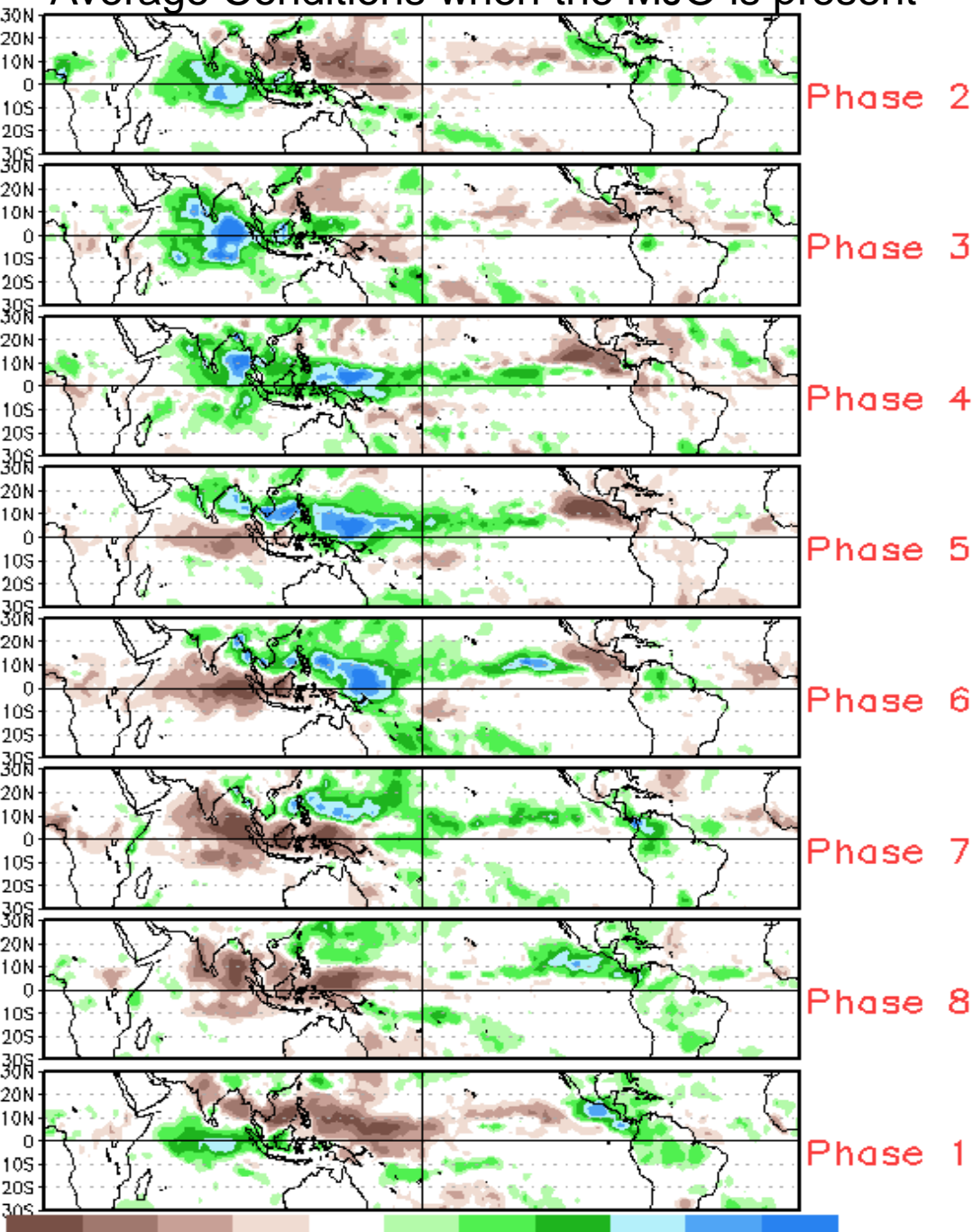


JMA

All models depict weak MJO activity over the next two weeks.

A handful of ensemble members in the GEFS and ECMWF as well as most of the JMA ensemble members suggest that the MJO will strengthen in Week-2. However, probability of a weak MJO signal is higher than that of a strong MJO signal.

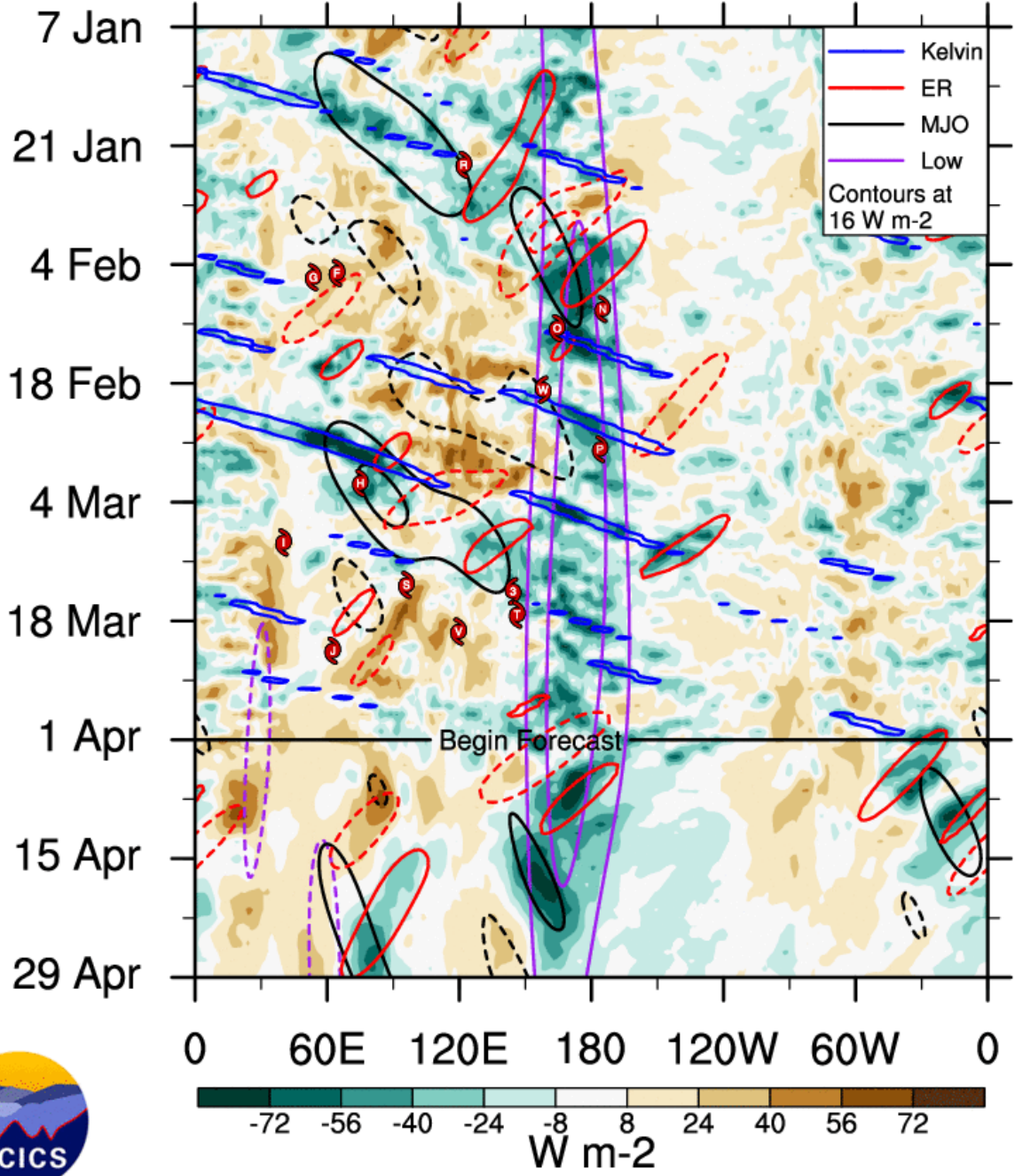
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

OLR with CFS forecasts

5S - 5N



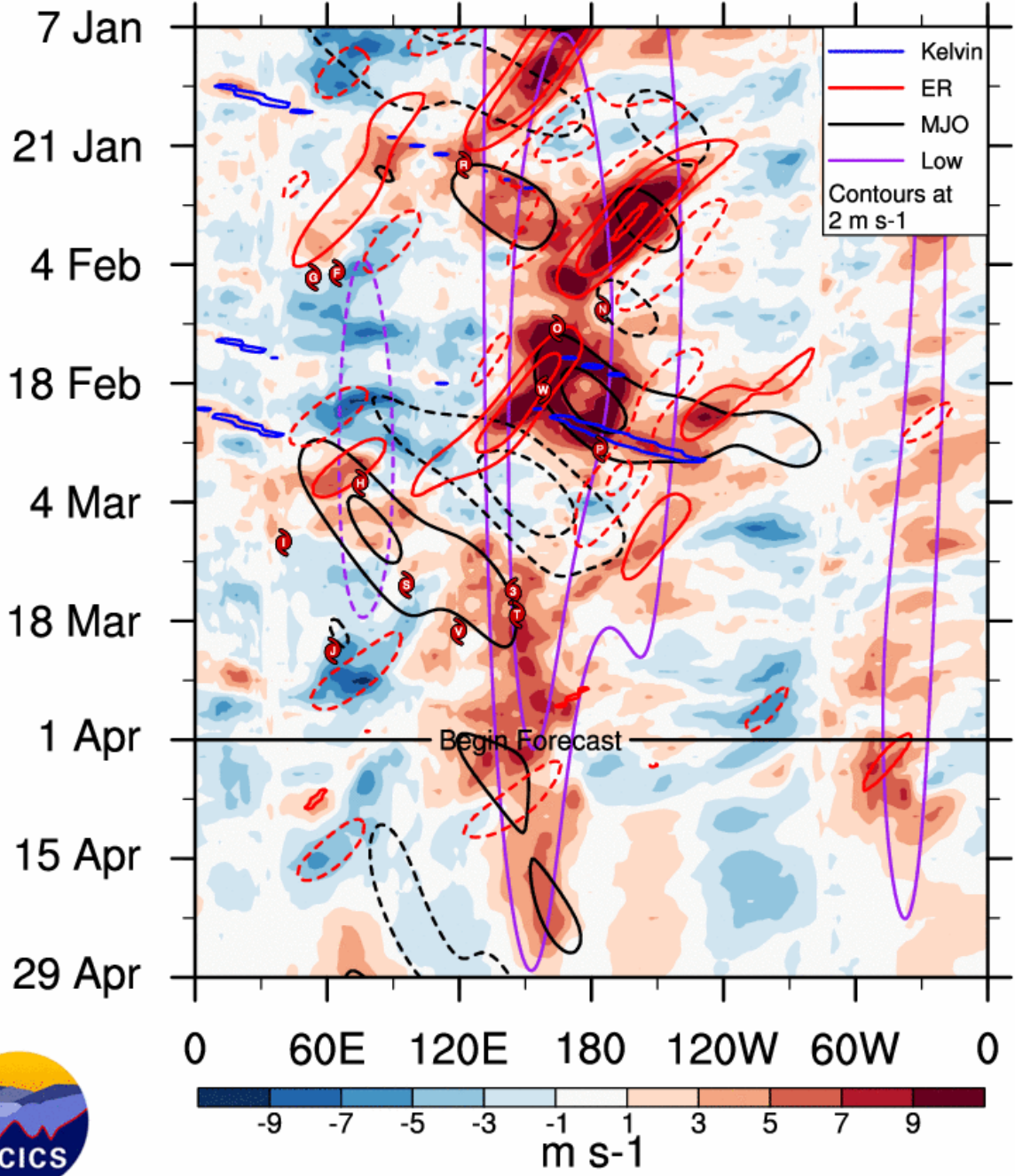
There is no strong MJO signal.

There is a low frequency El Nino signal over the central Pacific.

Kelvin and ER waves are also active.



UWND850 with CFS forecasts 5S - 5N



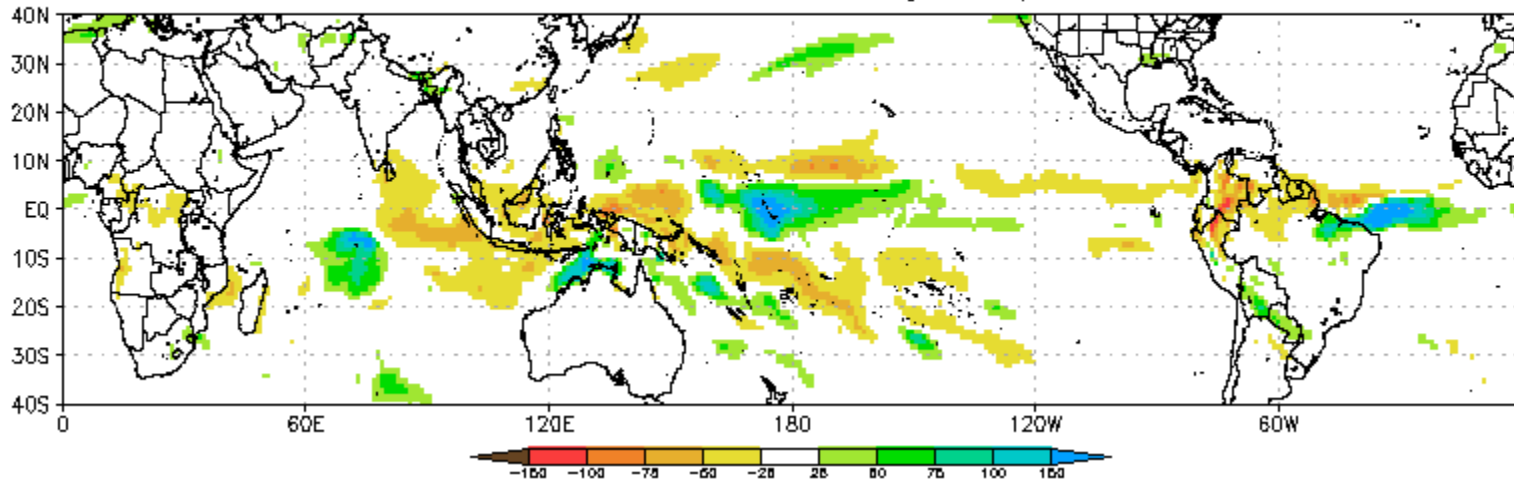
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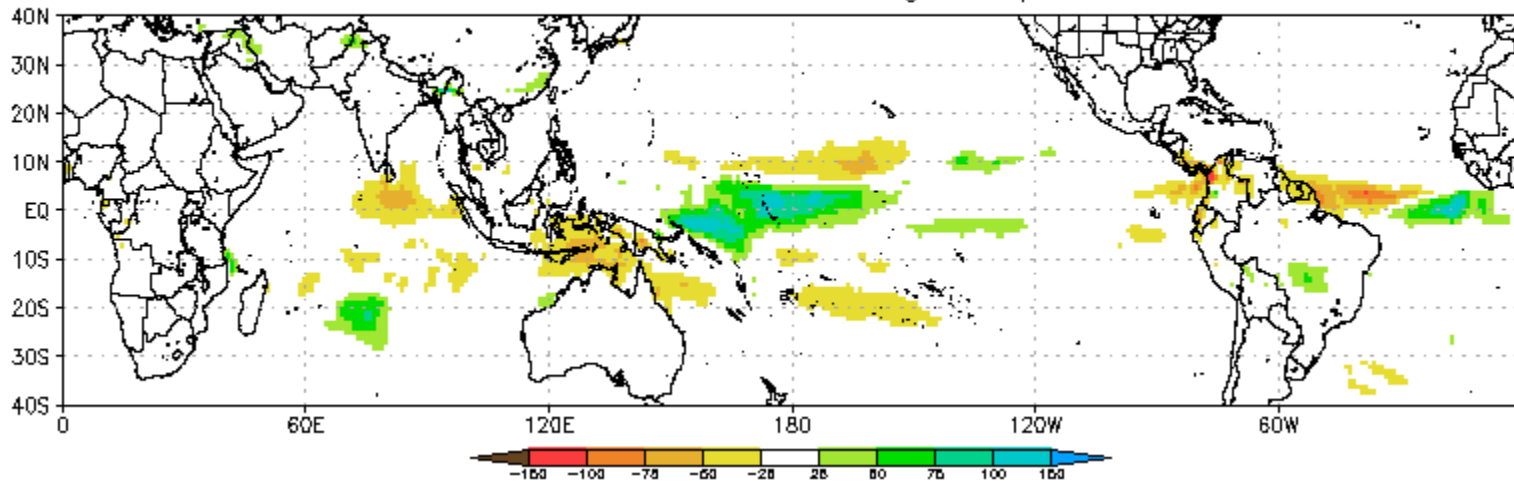
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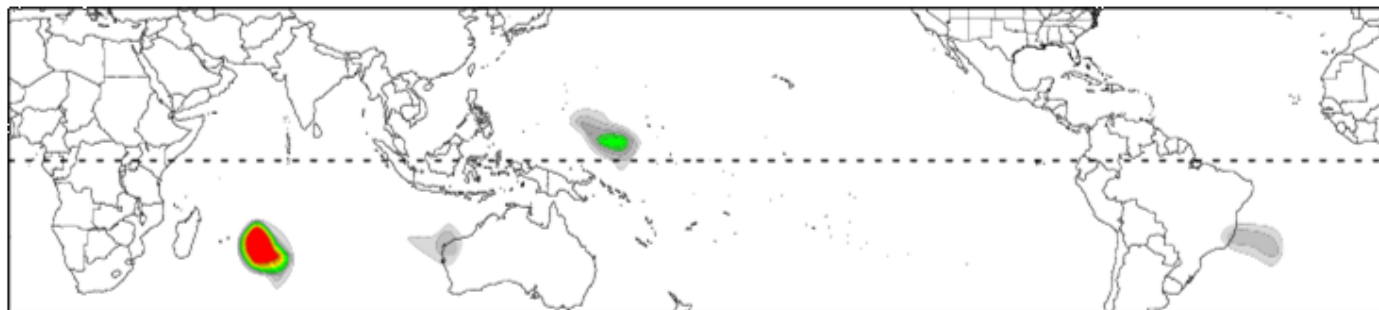
CFS Precipitation Anomalies (mm) Issued 01Apr2019
Week-1 Forecast Ending 09Apr2019



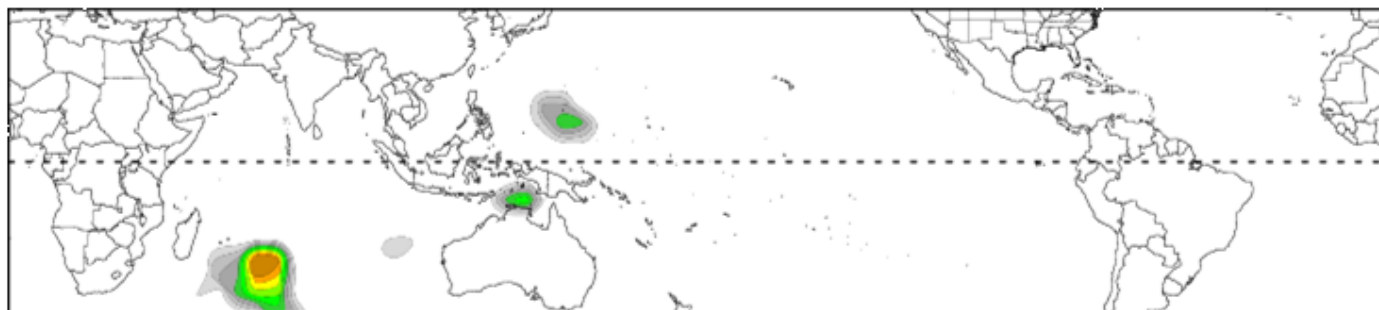
CFS Precipitation Anomalies (mm) Issued 01Apr2019
Week-2 Forecast Ending 16Apr2019



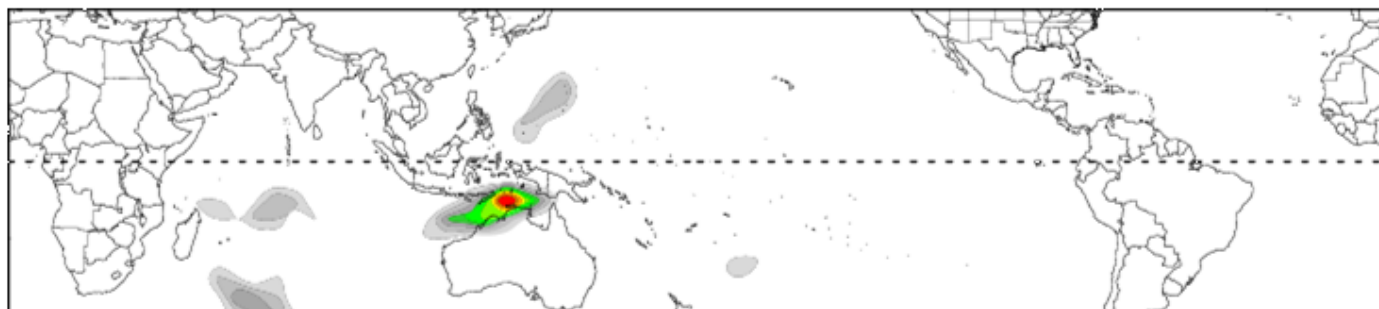
Days 1-4



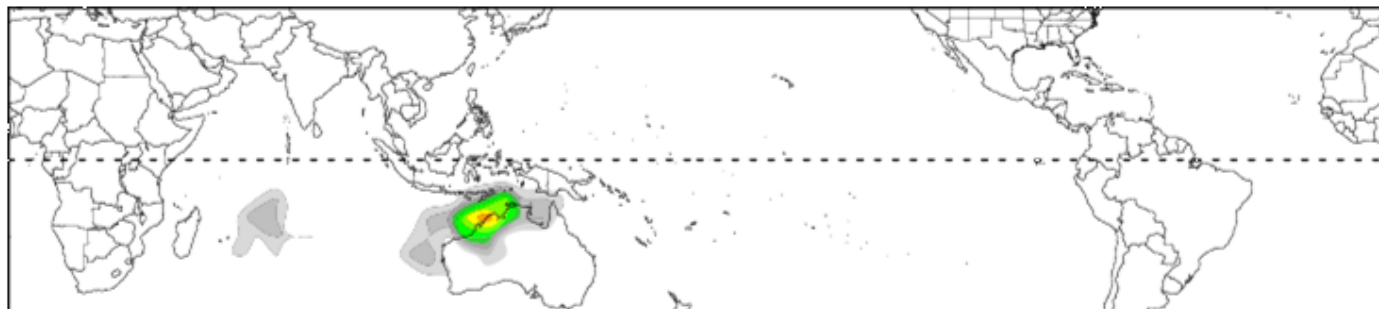
Day 5-8



Day 9-12

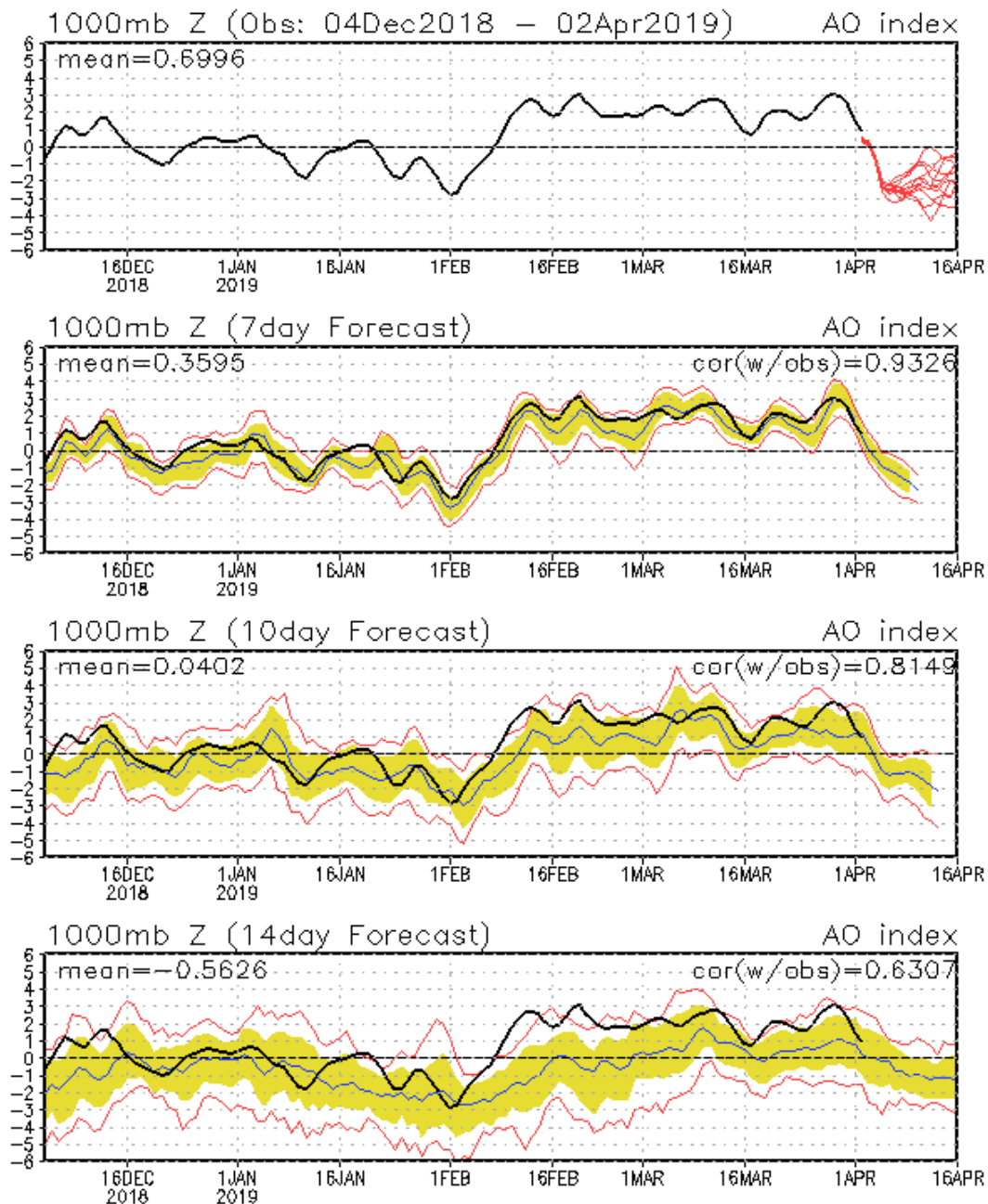


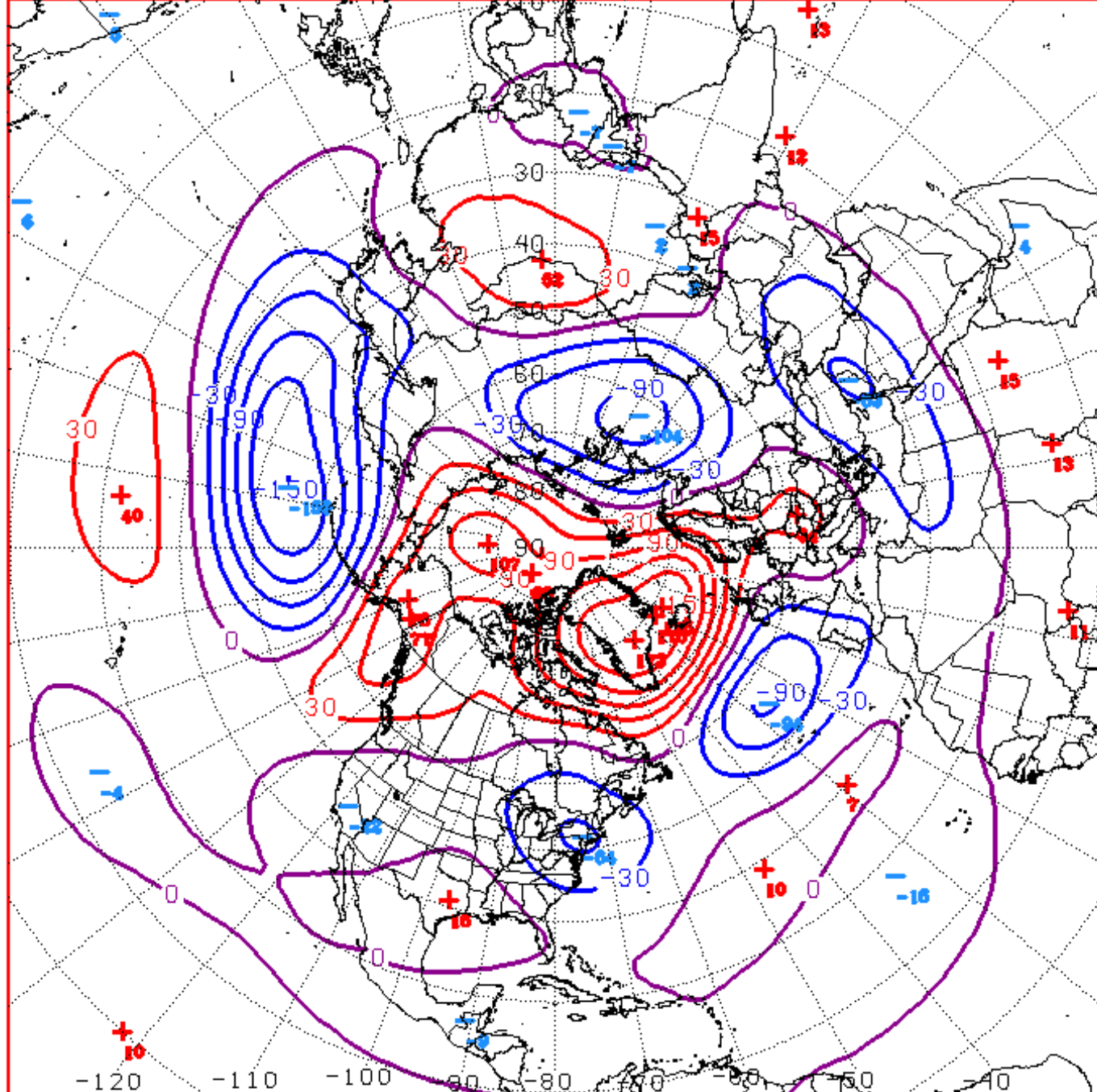
Day 13-15



Connections to U.S. Impacts

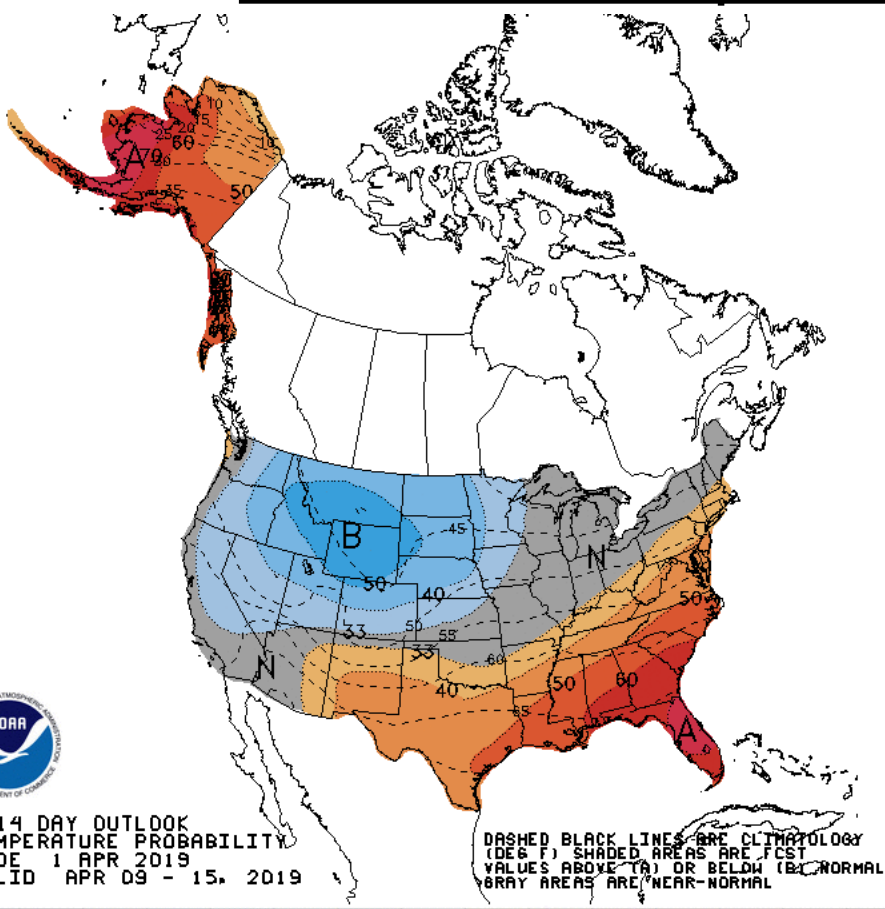
AO: Observed & ENSM forecasts



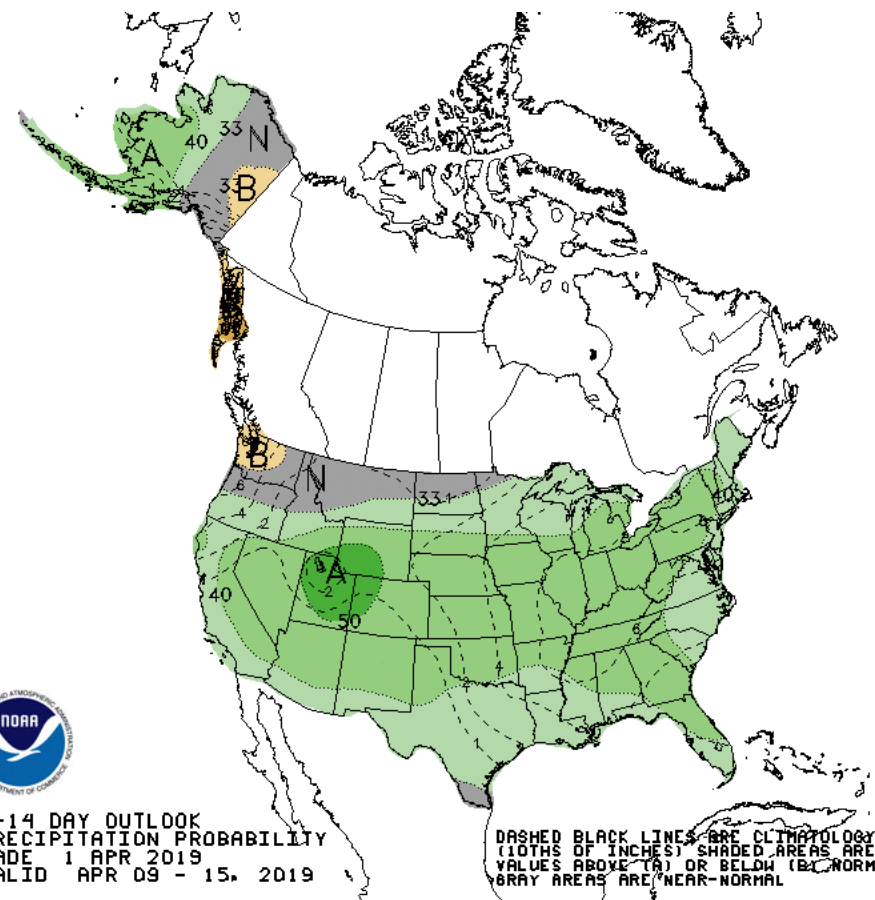
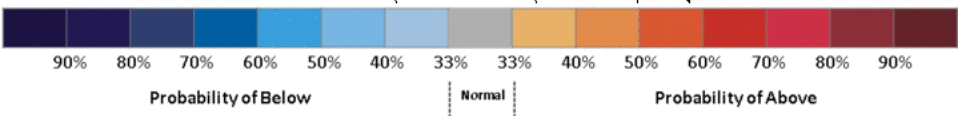


D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE APR 02 2019 1329 UTC CNTD APR 13 2019

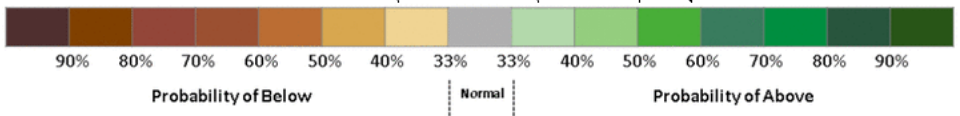
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 1 APR 2019
VALID APR 09 - 15, 2019



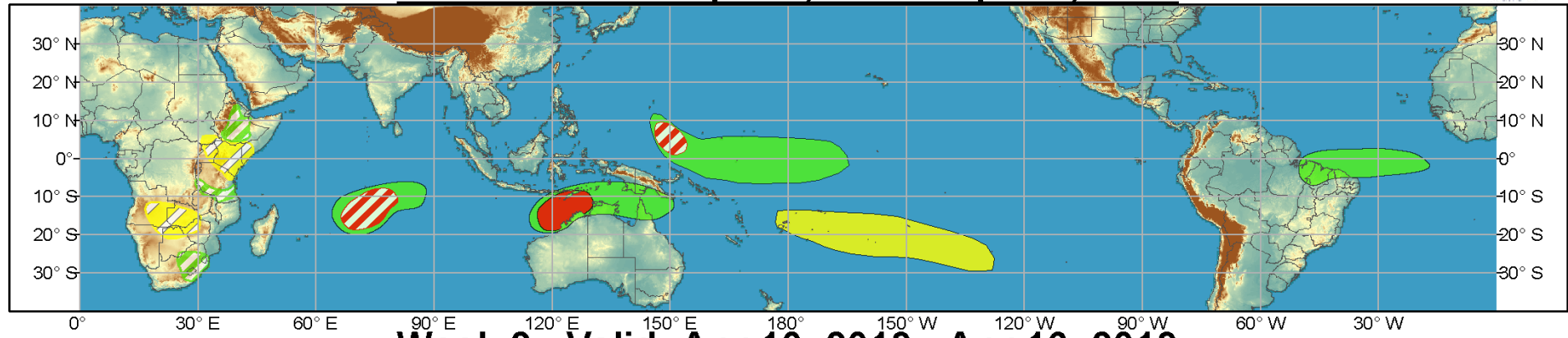
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 1 APR 2019
VALID APR 09 - 15, 2019



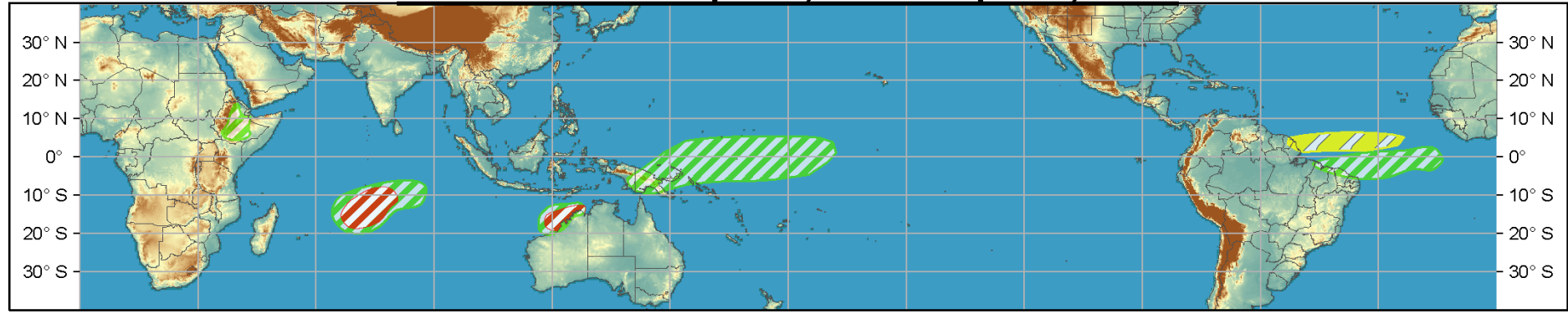


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