

# Global Tropics Hazards And Benefits Outlook

06/11/2019

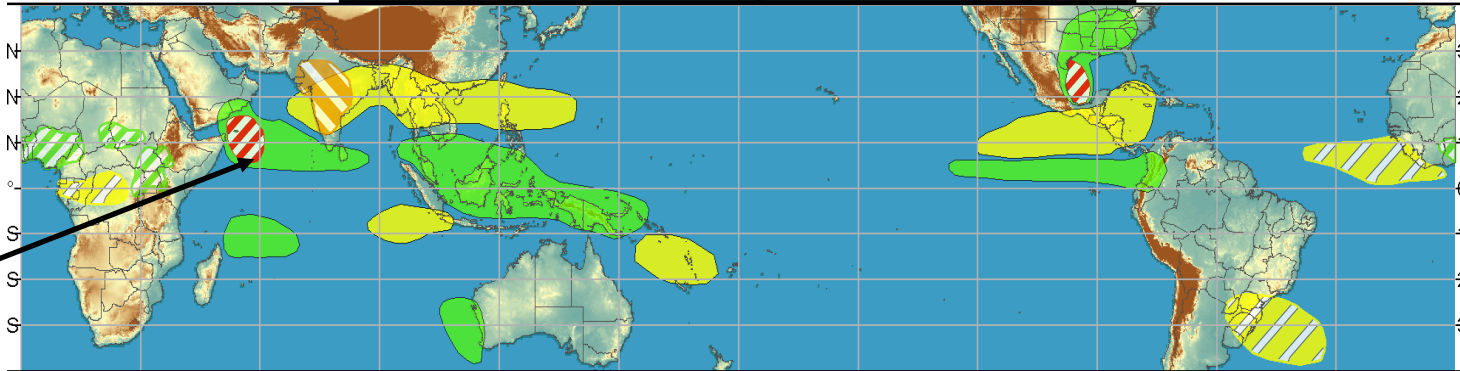
Kyle MacRitchie

## Outline

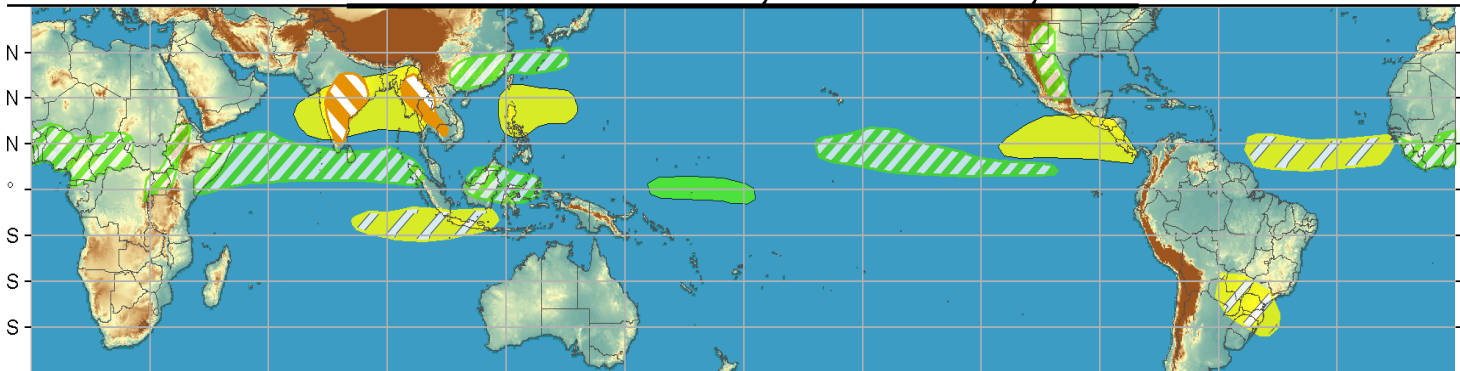
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

# Outlook Review

**Week 1 - Valid: Jun 05, 2019 - Jun 11, 2019**



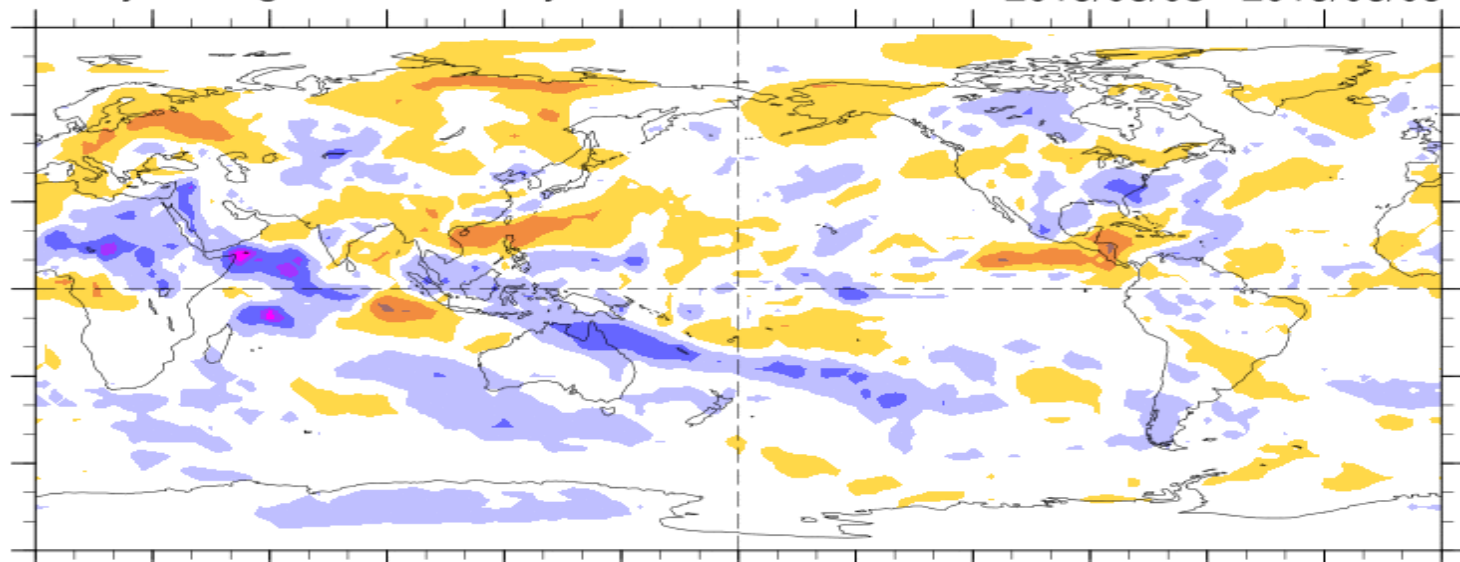
**Week 2 - Valid: Jun 05, 2019 - Jun 11, 2019**



TC Vayu  
Formed June 10

7-Day Average OLR Anomaly

2019/06/03 - 2019/06/09



Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

## **ENSO: (May 9, 2019 Update – next update is June 13)**

- ENSO Alert System Status: El Niño Advisory
- El Niño is favored through Northern Hemisphere summer 2019, with a ~55-60% chance of persisting through winter 2019-20.

## **MJO and other subseasonal tropical variability:**

- The MJO has stalled over the Indian Ocean (RMM Phase 3).
- The models agree that the MJO will strengthen and propagate eastward over the Maritime Continent over the next two weeks.
- The active region of the MJO is likely to constructively interfere with an atmospheric Kelvin wave, which may enhance convection over the Maritime Continent early next week.

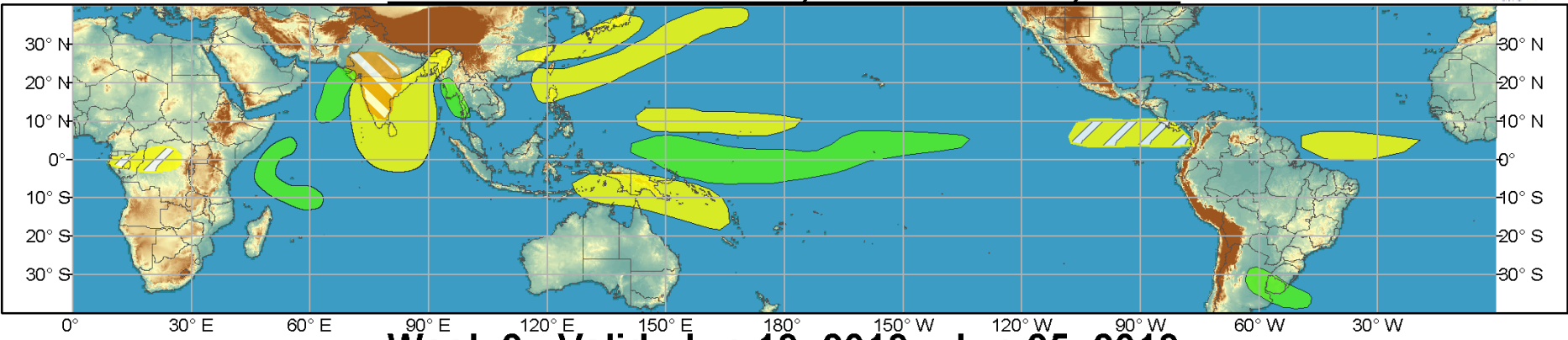
## **Impacts:**

- The tropics are expected to be relatively quiet in terms of TC activity.
- Conditions over the East Pacific and Atlantic are expected to become less favorable for TC activity over the one to two weeks with the suppressed phase of MJO.
- The continuation of anomalous lower-level easterlies across India, along with the forecast path of the MJO, are likely to result in monsoon onset being further delayed.

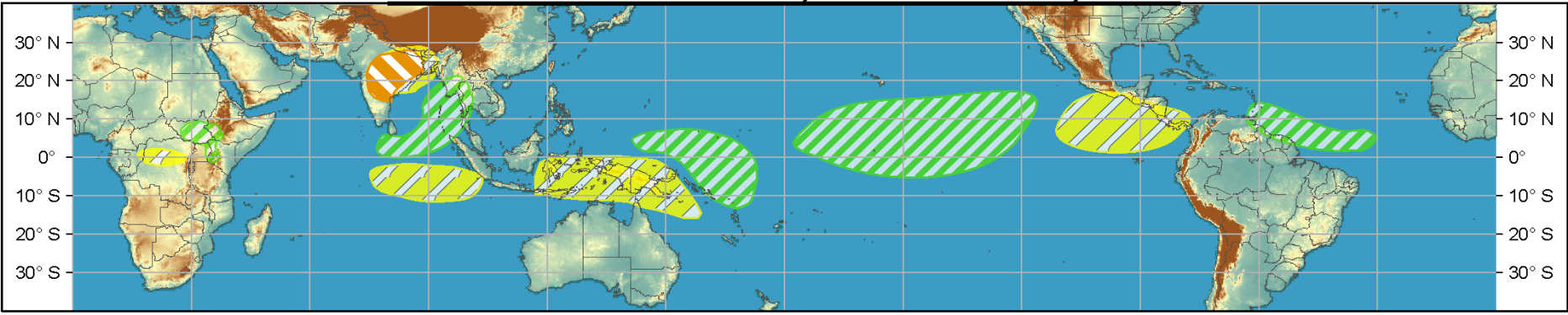


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Jun 12, 2019 - Jun 18, 2019



## Week 2 - Valid: Jun 19, 2019 - Jun 25, 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.
- 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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Produced: 06/11/2019

Forecaster: MacRitchie

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# IR Satellite & 200-hpa Velocity Potential Anomalies

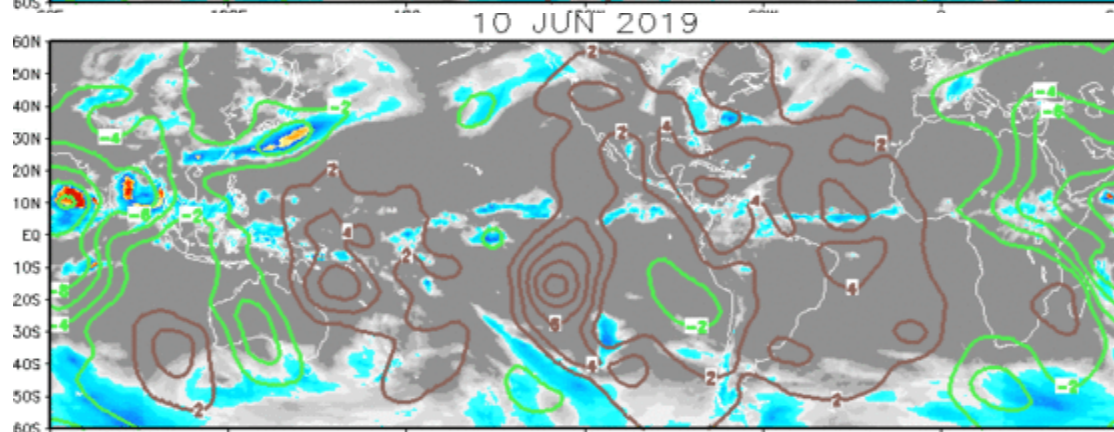
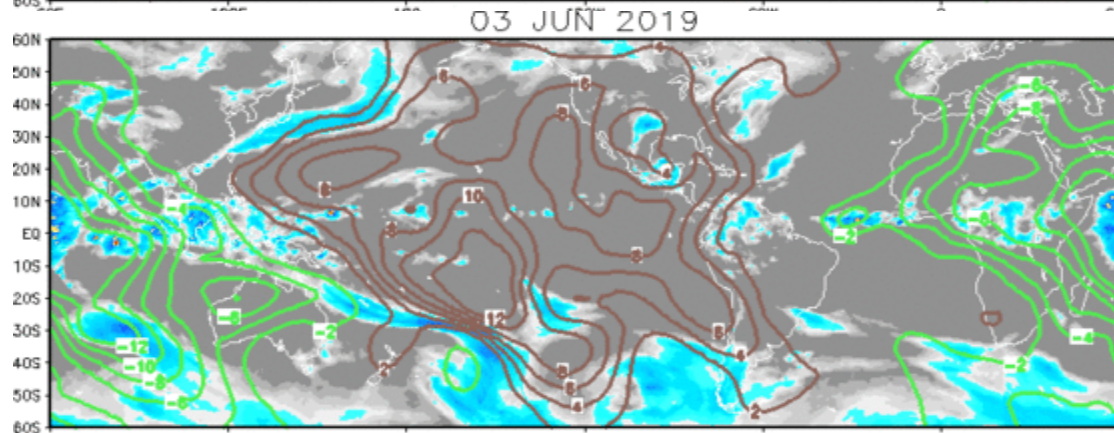
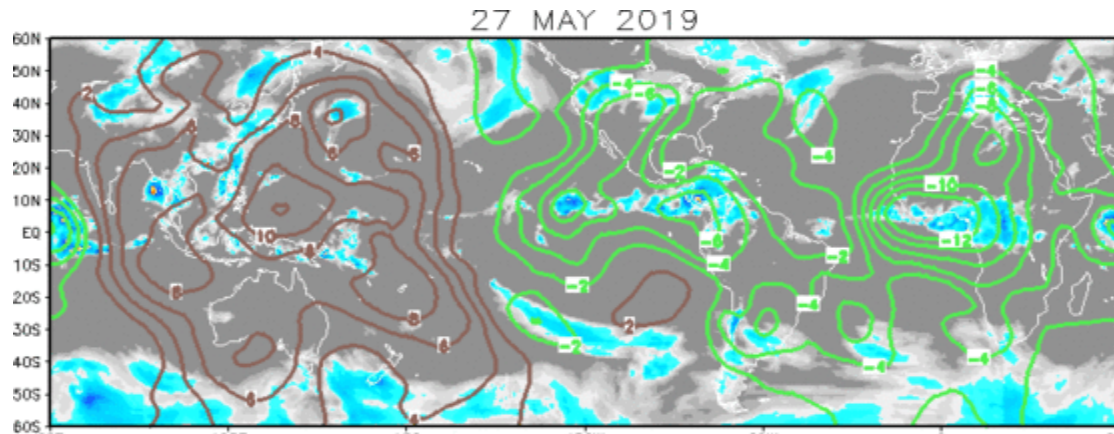
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-1 pattern with enhanced convection over the Western Hemisphere.

Wave-1 pattern remains.

A little noise over the central Pacific creeps into the pattern, but still overall Wave-1.

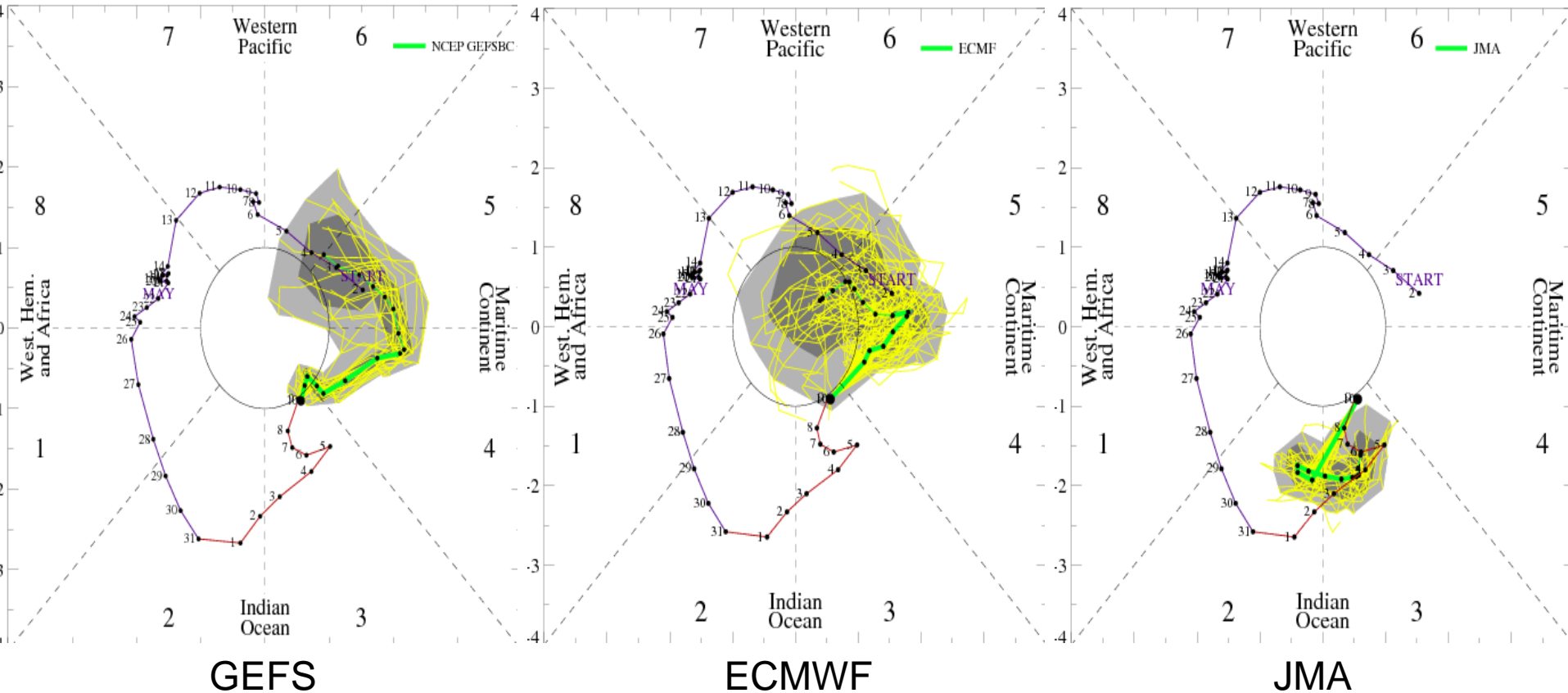


# MJO Observation/Forecast

[RMM1, RMM2] forecast for Jun-11-2019 to Jun-25-2019

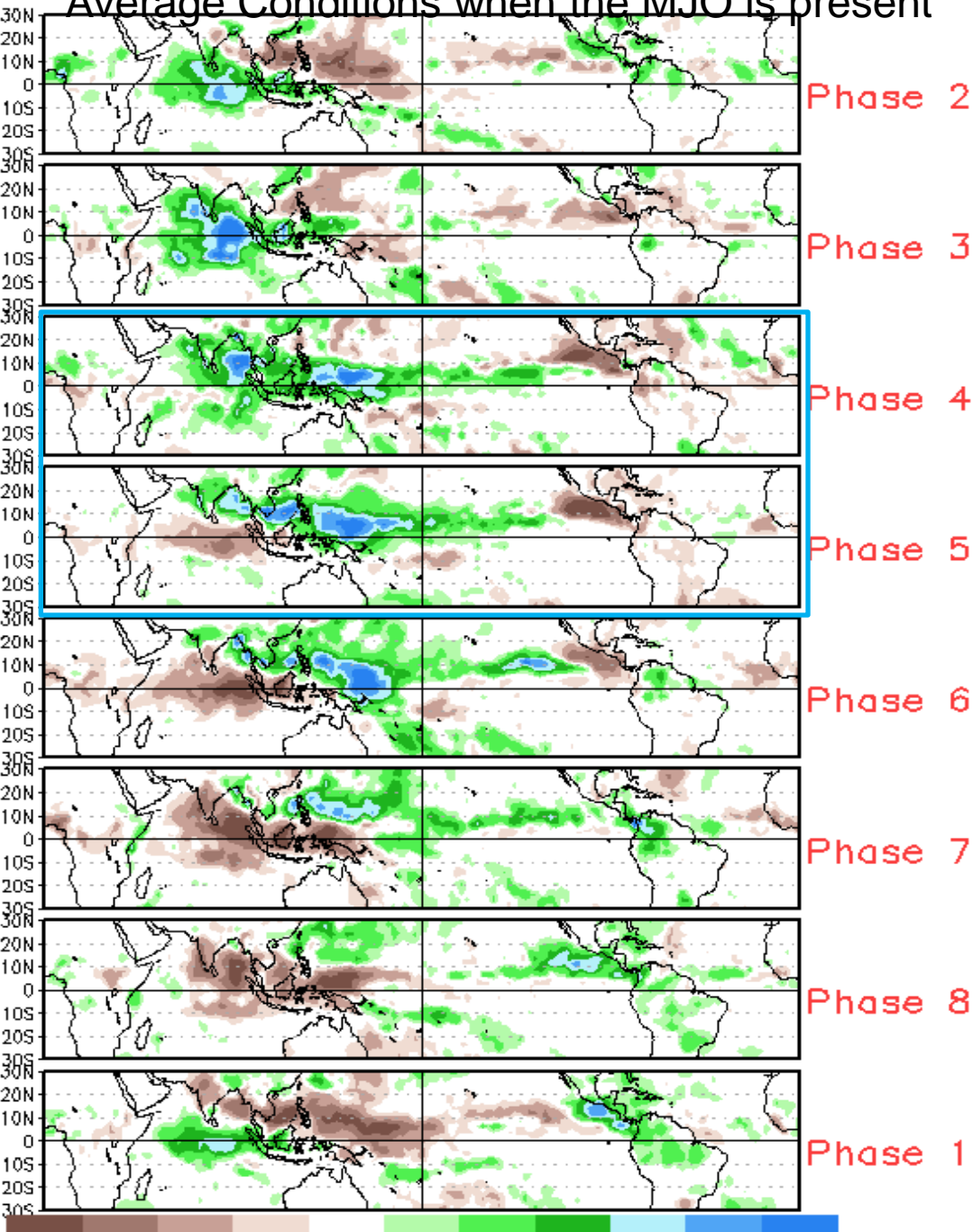
MJO Index Forecast for 11Jun2019-25Jun2019

MJO Index Forecast for 11Jun2019-19Jun2019



The GEFS/ECMWF solutions are in fair agreement. The JMA is an outlier due to emphasis on westward moving feature during the early portion of the week-1 period.

# Average Conditions when the MJO is present

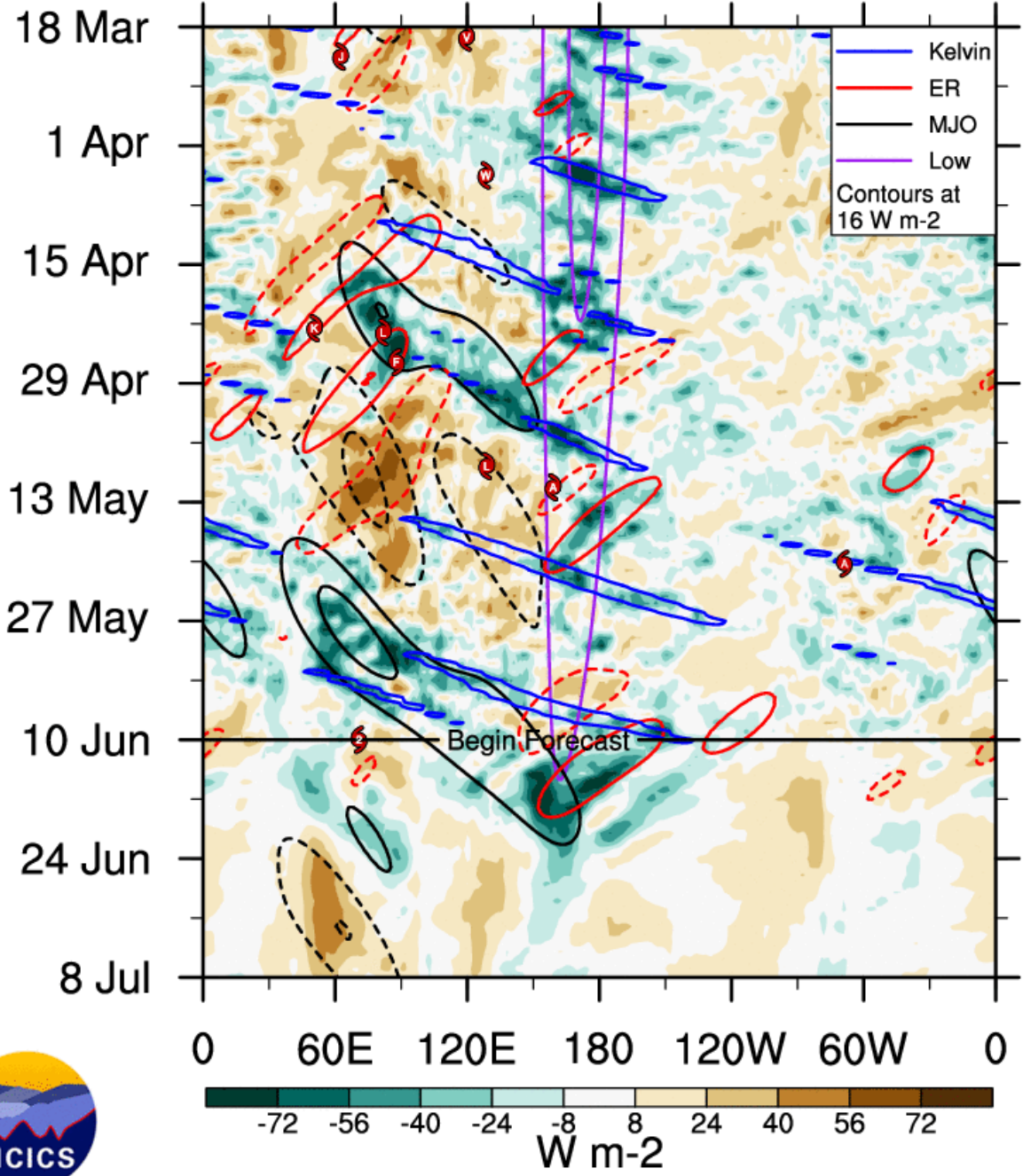


Phases 4 and 5 expected over the next two weeks.

CAVEAT: These panels are representative of robust MJO events.

# OLR with CFS forecasts

5S - 5N

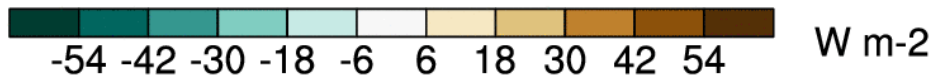
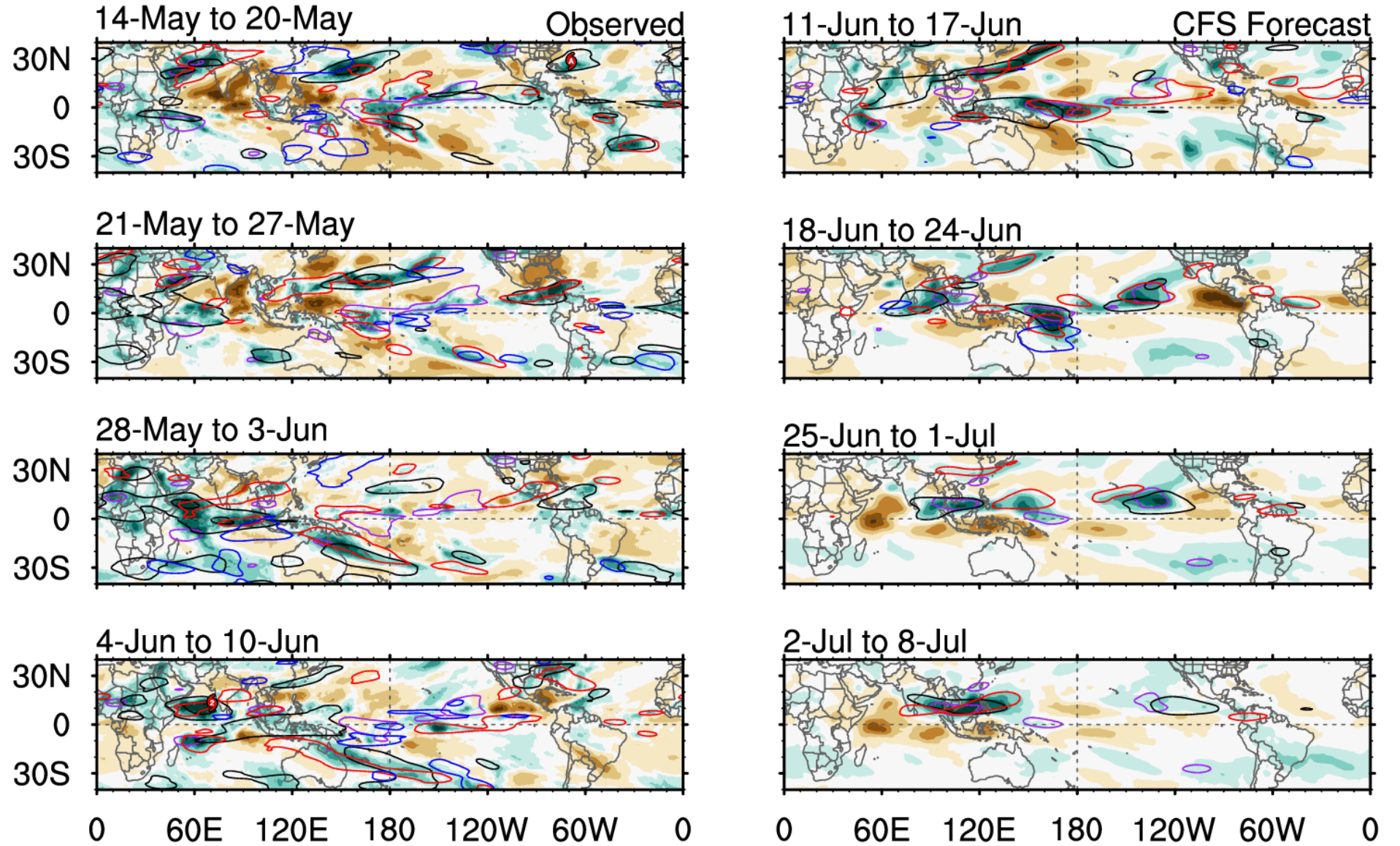


The MJO is forecast to propagate eastward.

Constructive interference between the MJO, Kelvin, and ER waves.



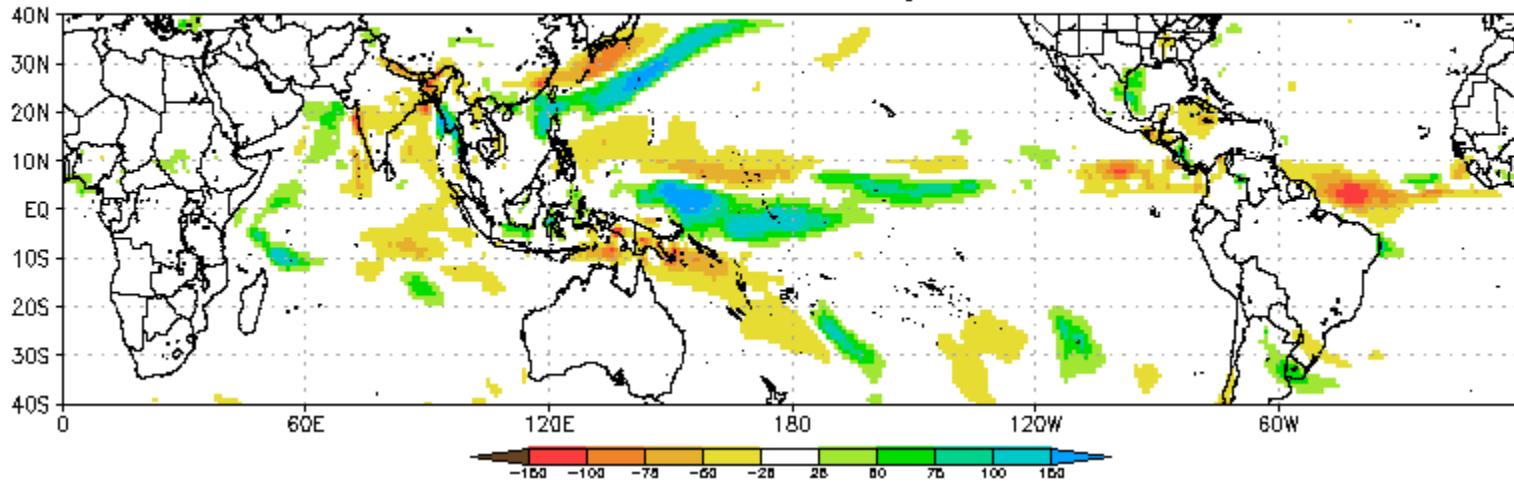




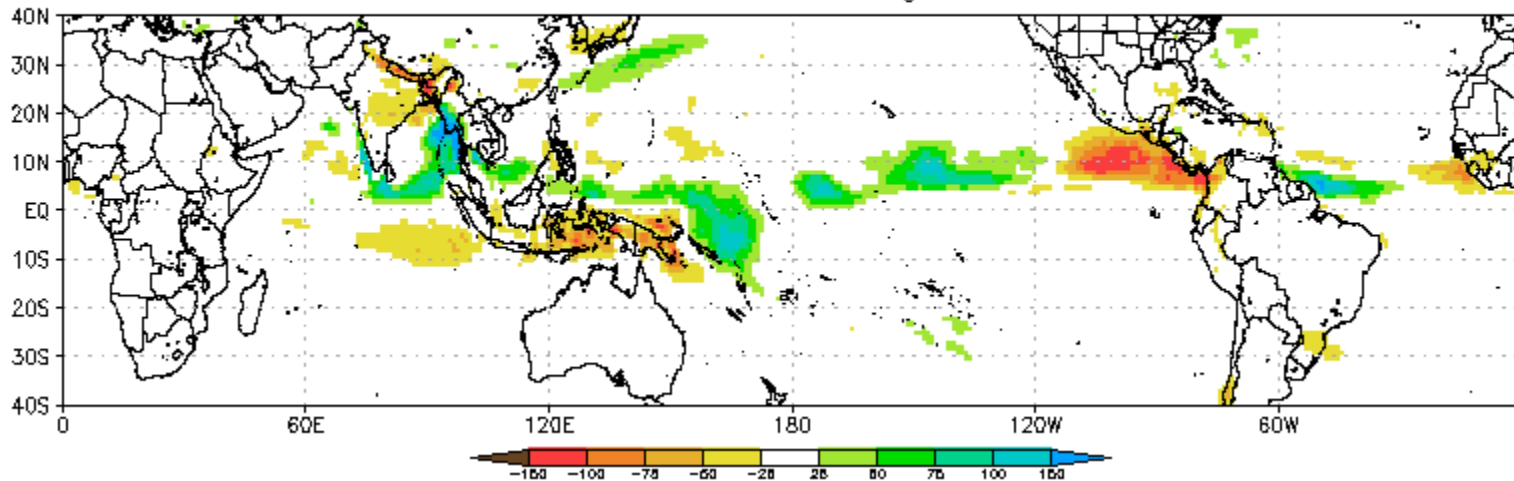
# 7-day OLR with CFS forecasts

— MJO      — Kelvin x2  
 — Low      — ER  
 Contours at -12, -36 W m<sup>-2</sup>

CFS Precipitation Anomalies (mm) Issued 10Jun2019  
Week-1 Forecast Ending 18Jun2019



CFS Precipitation Anomalies (mm) Issued 10Jun2019  
Week-2 Forecast Ending 25Jun2019





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



No new tropical cyclones are expected during the next five days.

2:00 pm EDT  
Tue Jun 11 2019

Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

# Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



No new tropical cyclones are expected during the next five days.

5:00 am PDT  
Tue Jun 11 2019

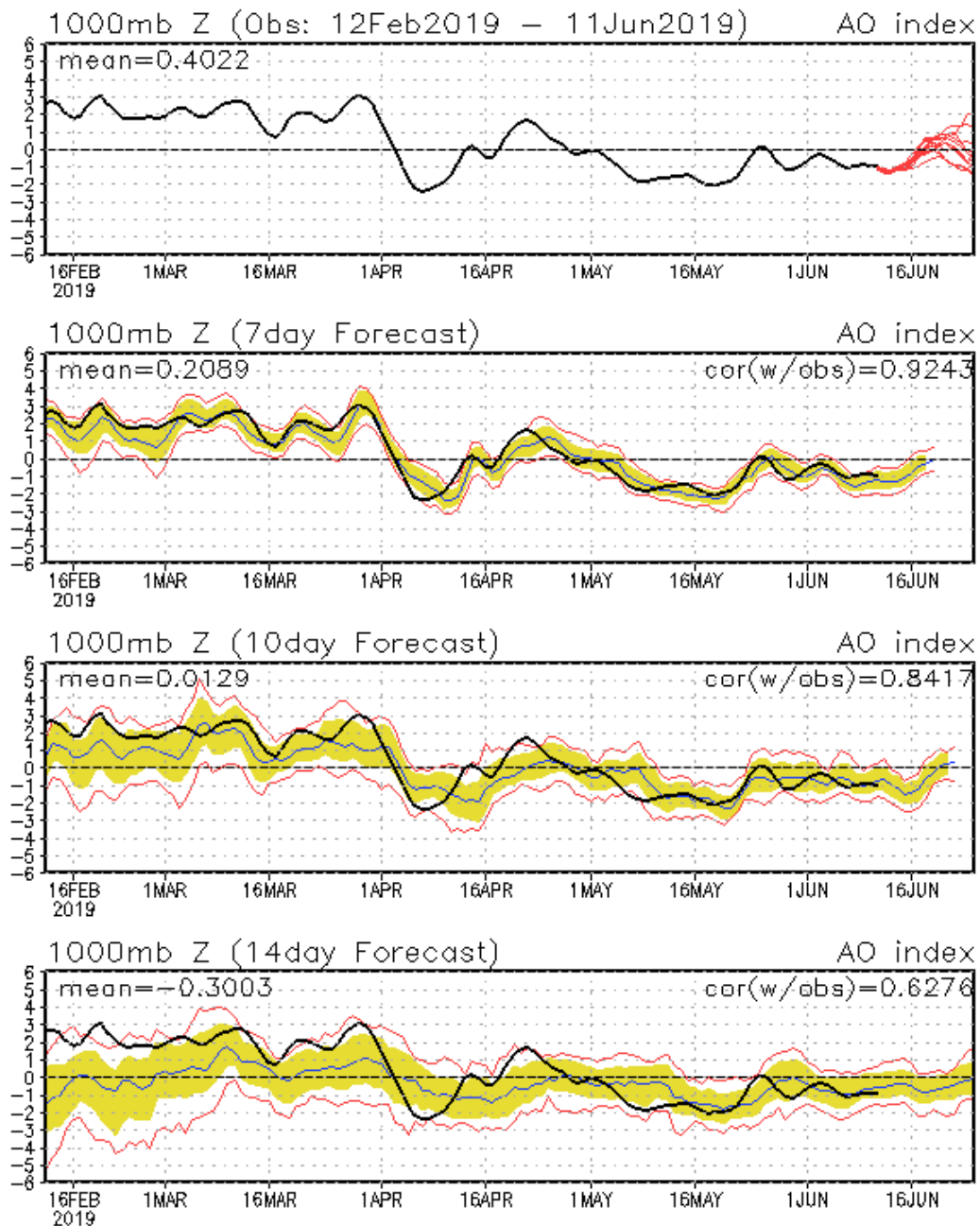
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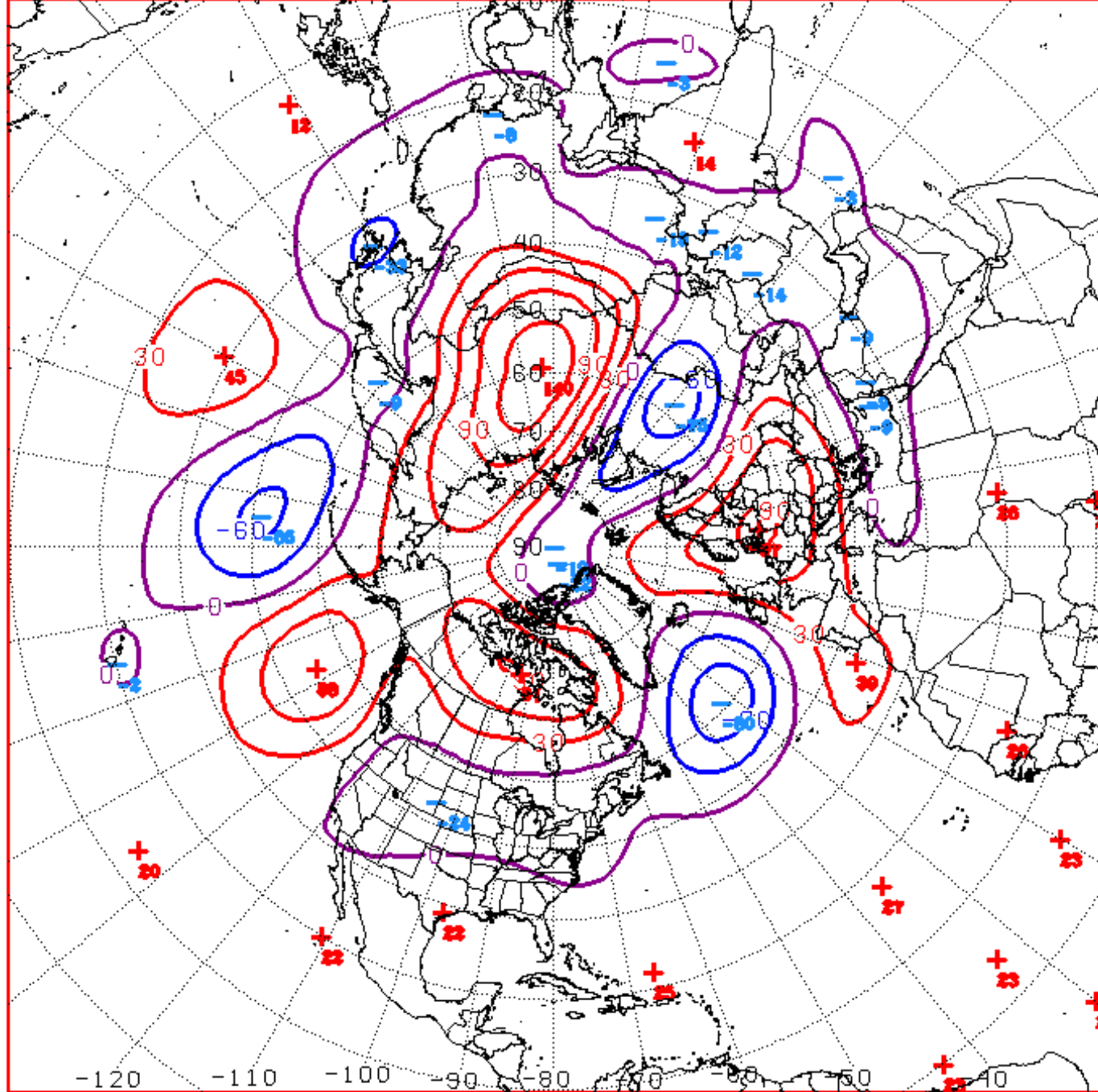
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# Connections to U.S. Impacts

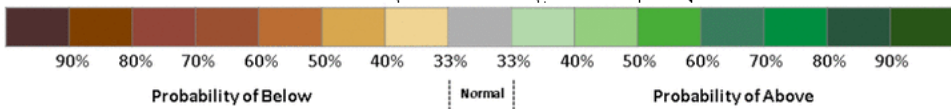
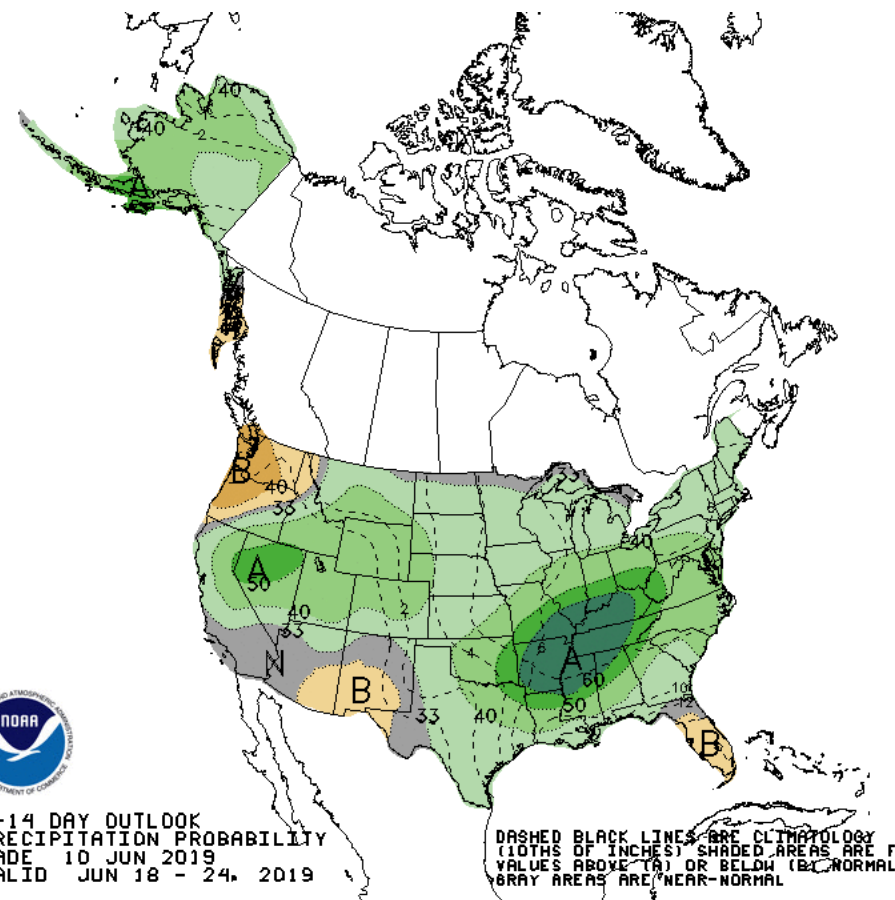
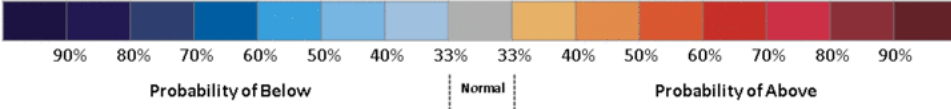
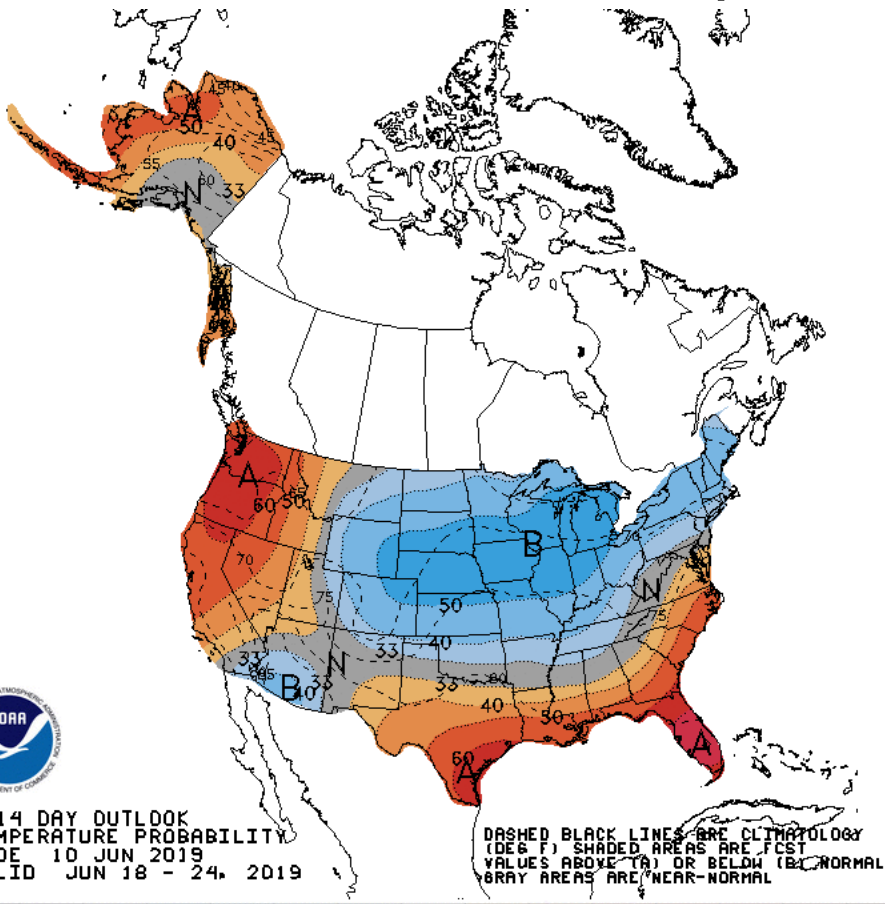
## AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM  
 CPC MAP MADE JUN 11 2019 1321 UTC CNTD JUN 22 2019

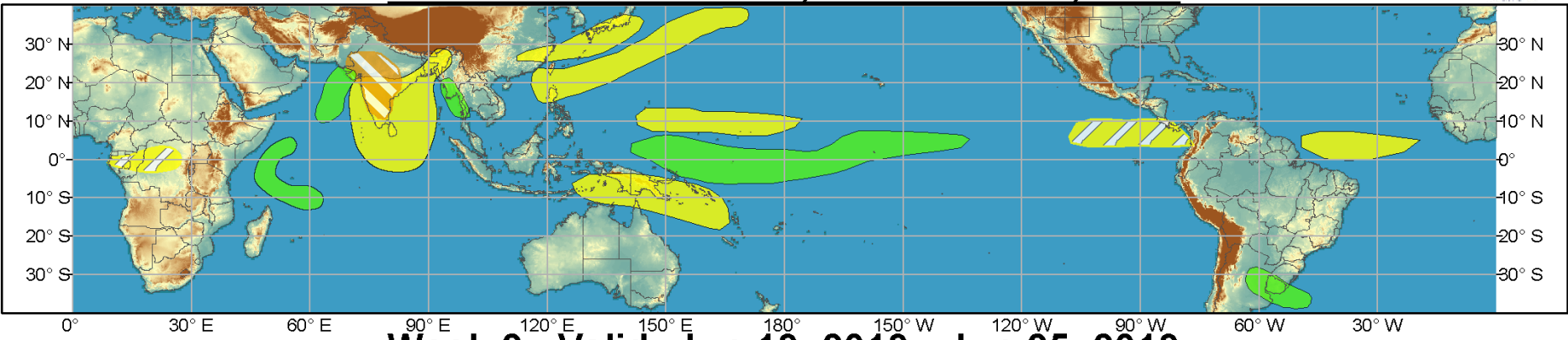
# Week 2 – Temperature and Precipitation



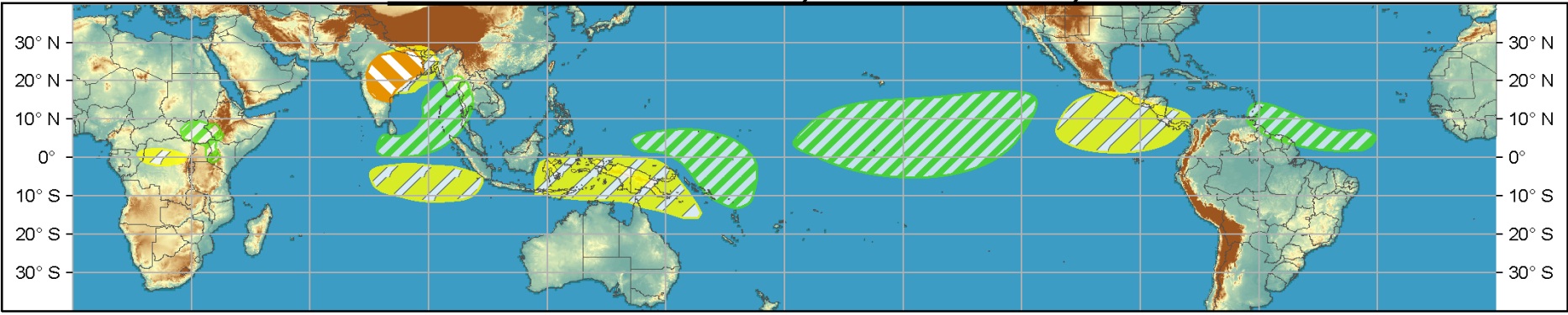


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