

Global Tropics Hazards And Benefits Outlook

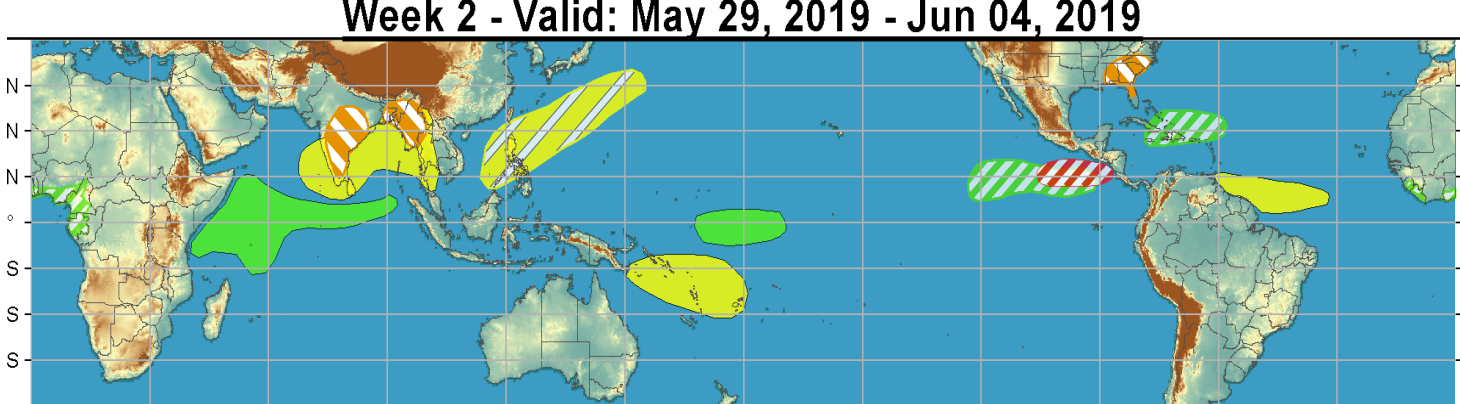
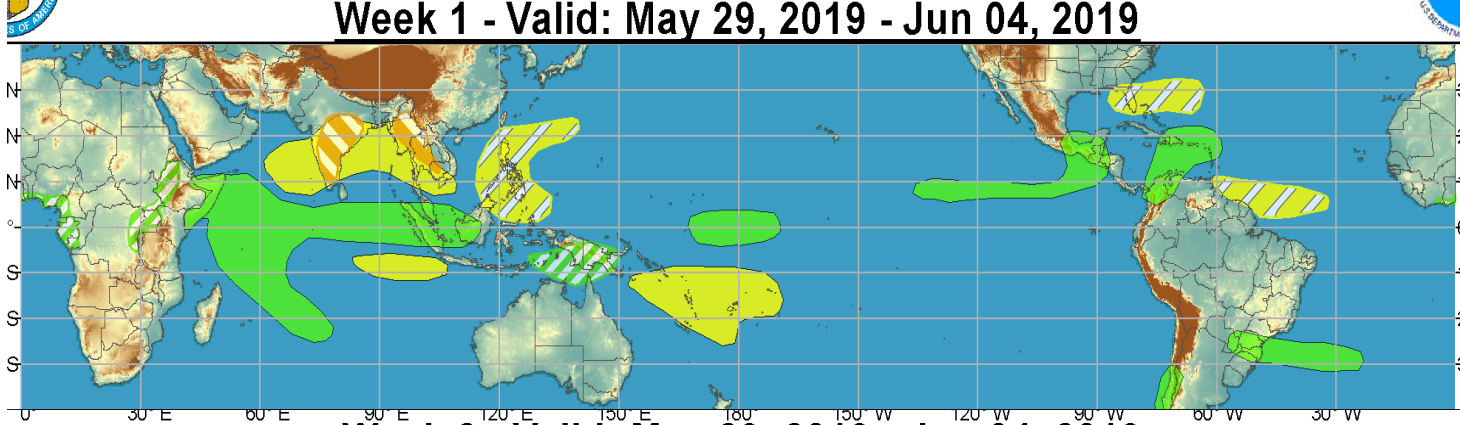
06/04/2019

Nick Novella

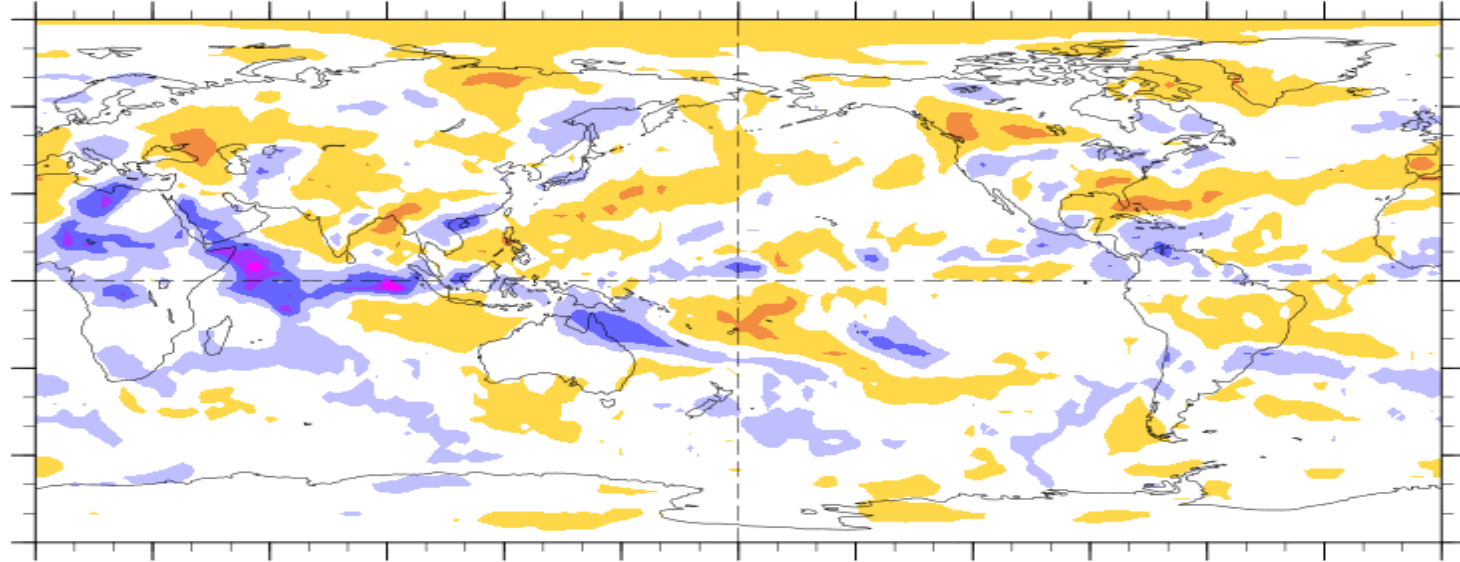
Outline

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

Outlook Review



7-Day Average OLR Anomaly 2019/05/27 - 2019/06/02



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (May 2019 Update)

- 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 remained active, with the enhanced phase now centered over the Indian Ocean.
- There is fair agreement in the models, as the MJO is forecast to propagate eastward across the Indian Ocean and over the Maritime Continent during the next two weeks.

Impacts:

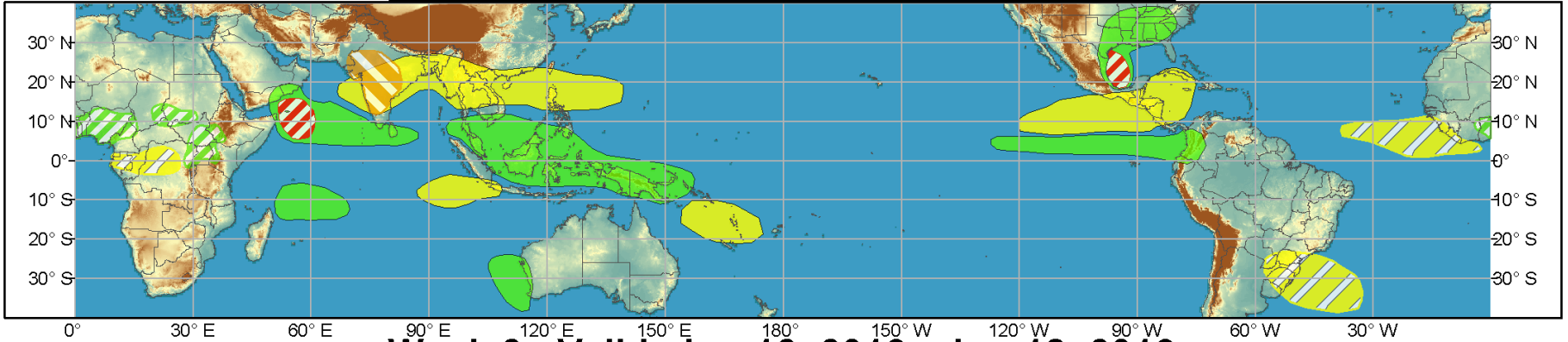
- The tropics are expected to be relatively quiet in terms of TC activity. The MJO would favor some activity over the Indian Ocean during week-1 and possibly week-2.
- Conditions over the East Pacific and Atlantic are expected to become less favorable for TC activity over the one to two weeks with the suppressed phase of MJO.
- The continuation of anomalous lower-level easterlies across the Indian sub-continent is expected to prolong the delay of the Indian monsoon, accompanied with abnormally high temperatures through week-2.



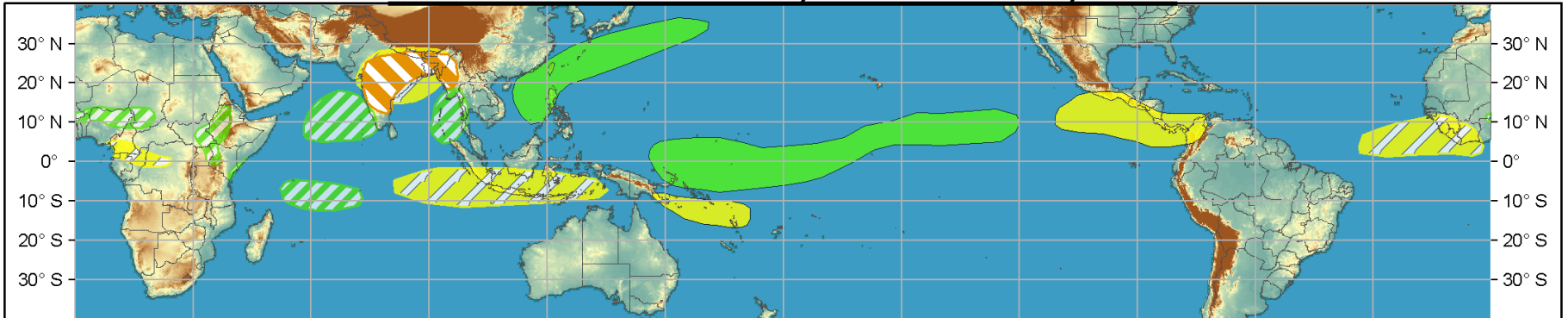
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



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



Week 2 - Valid: Jun 12, 2019 - Jun 18, 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: 06/04/2019
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IR Satellite & 200-hpa Velocity Potential Anomalies

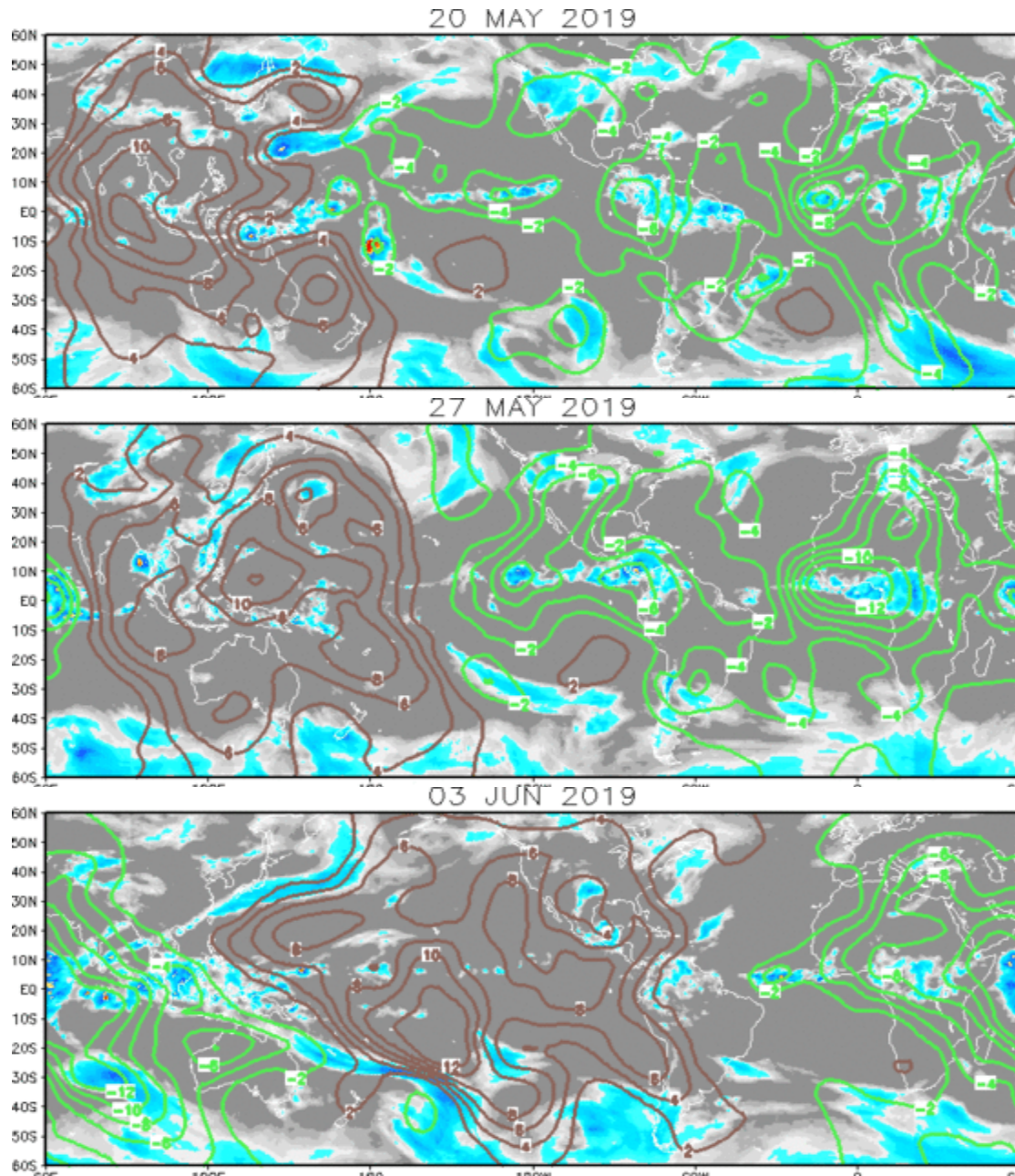
Green: Enhanced Divergence

Brown: Enhanced Convergence

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

Little eastward propagation is evident due to interference with westward moving variability.

Eastward propagation of the high-amplitude Wave-1 pattern resumed.

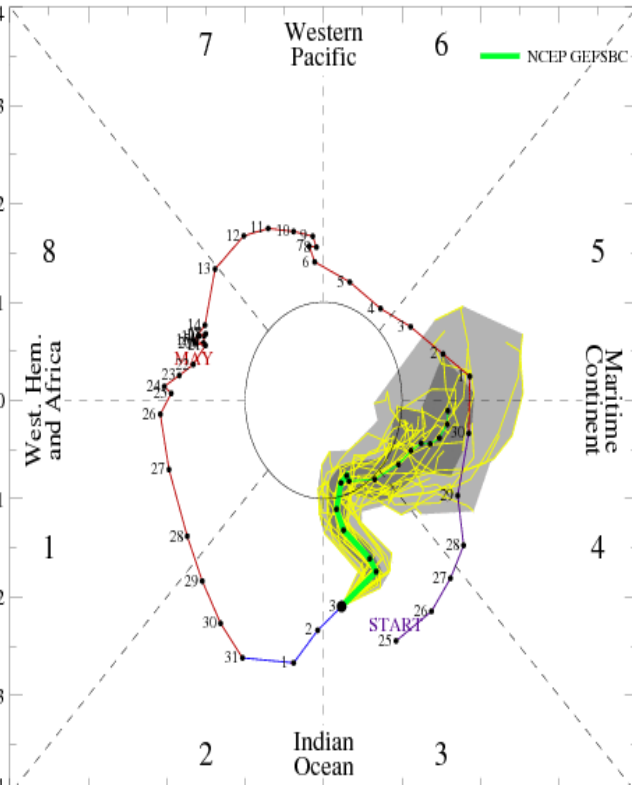


MJO Observation/Forecast

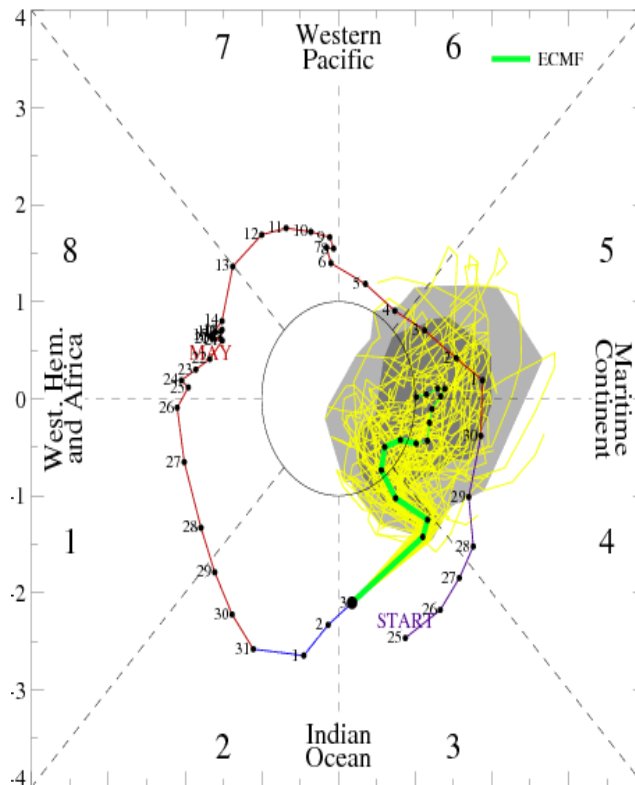
[RMM1, RMM2] forecast for Jun-04-2019 to Jun-18-2019

MJO Index Forecast for 04Jun2019-18Jun2019

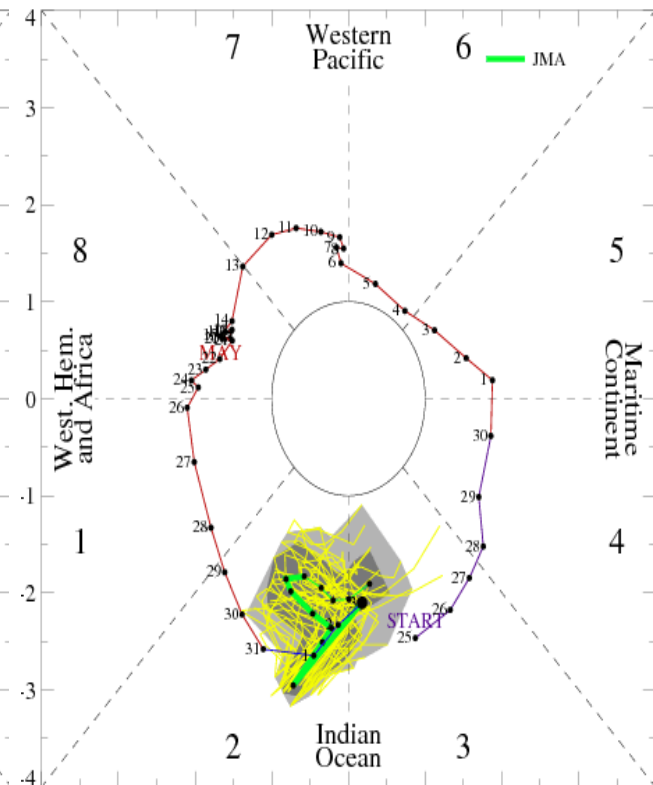
MJO Index Forecast for 04Jun2019-12Jun2019



GEFS



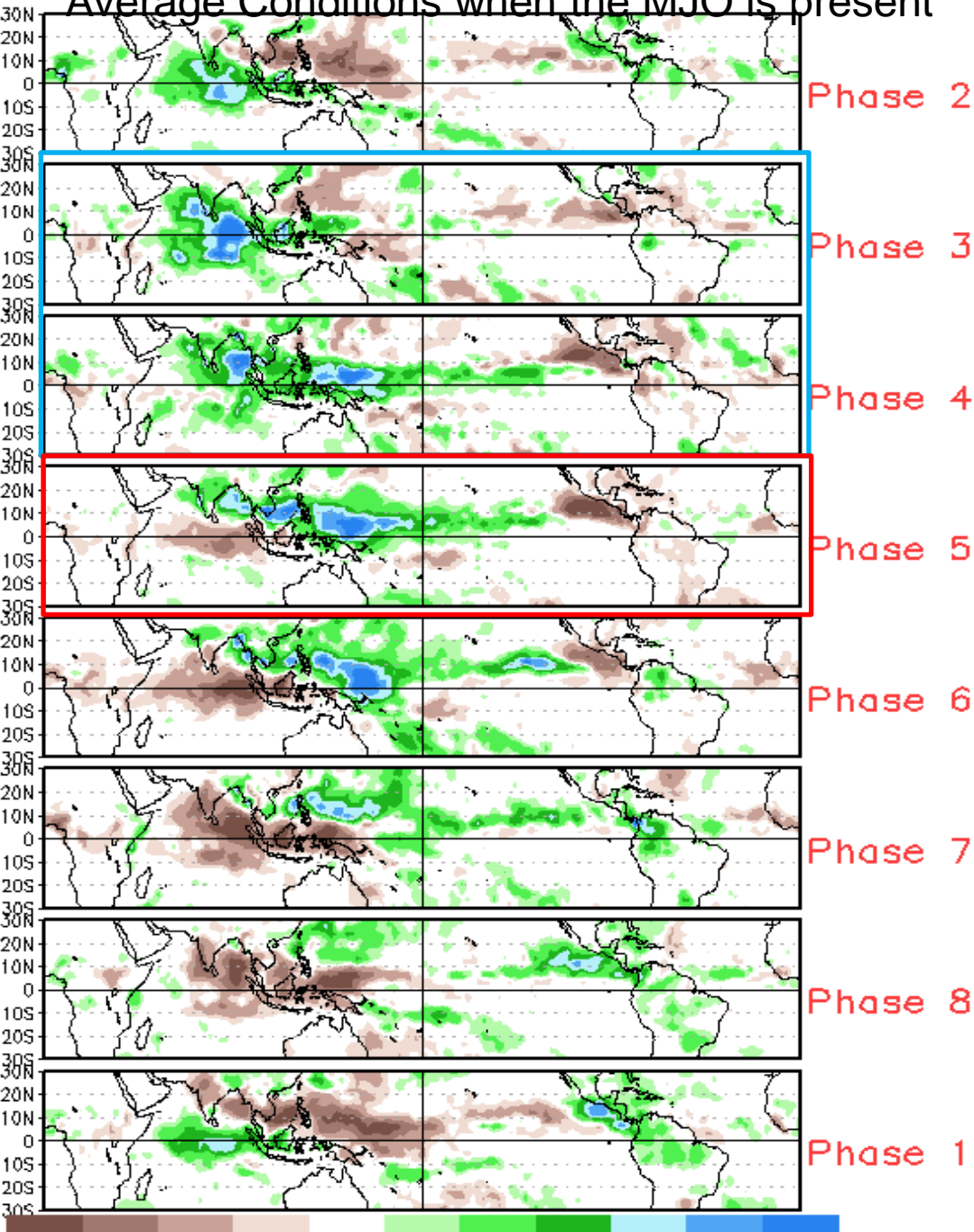
ECMWF



JMA

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



Week-1: Phase 3 / 4

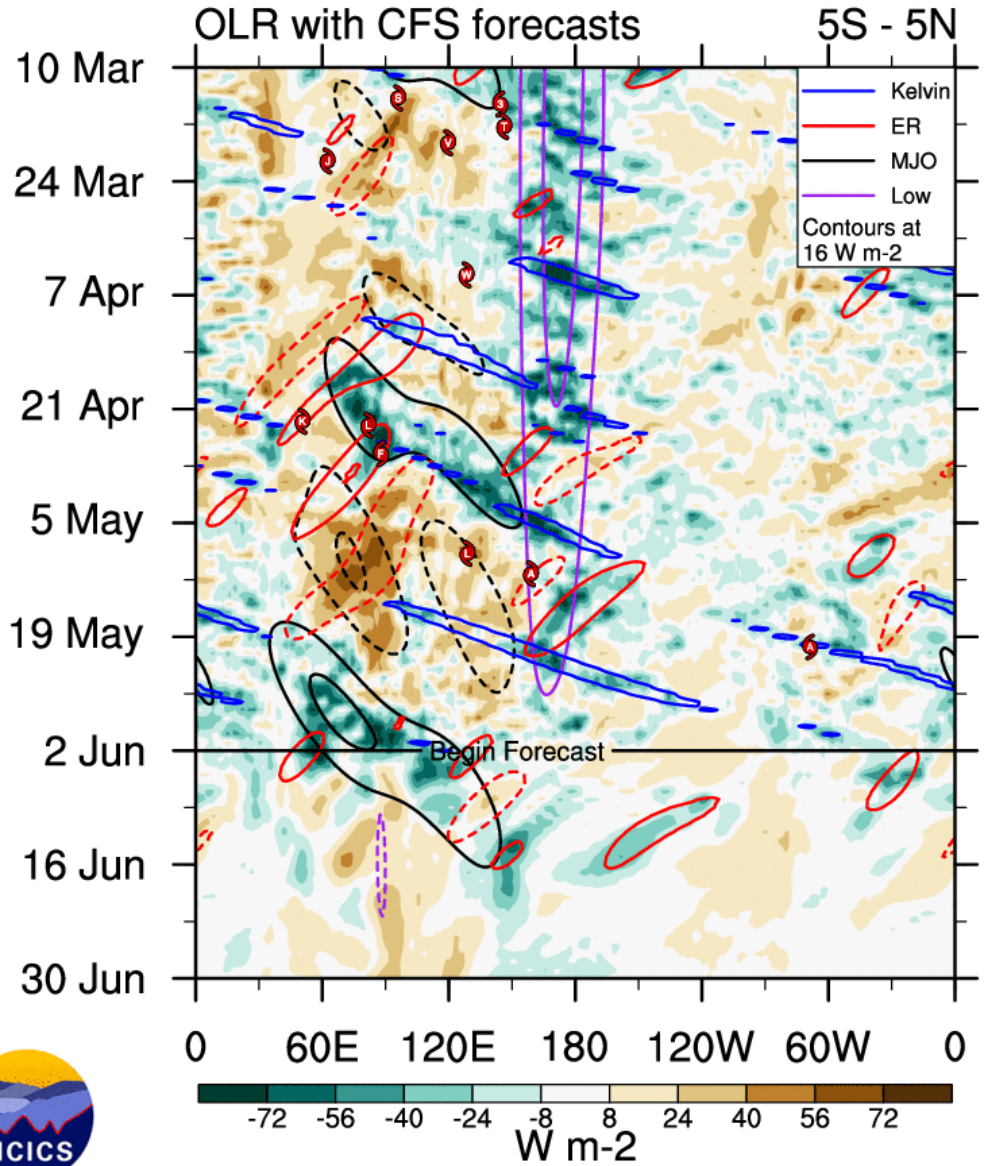
Week-2: Phase 5

CAVEAT: These panels are representative of robust MJO events.

MJO, Rossby waves and Kelvin waves having an influence

Low-frequency pattern also prominent.

GEFS emphasis on Rossby wave over Indian Ocean disrupts RMM signal.

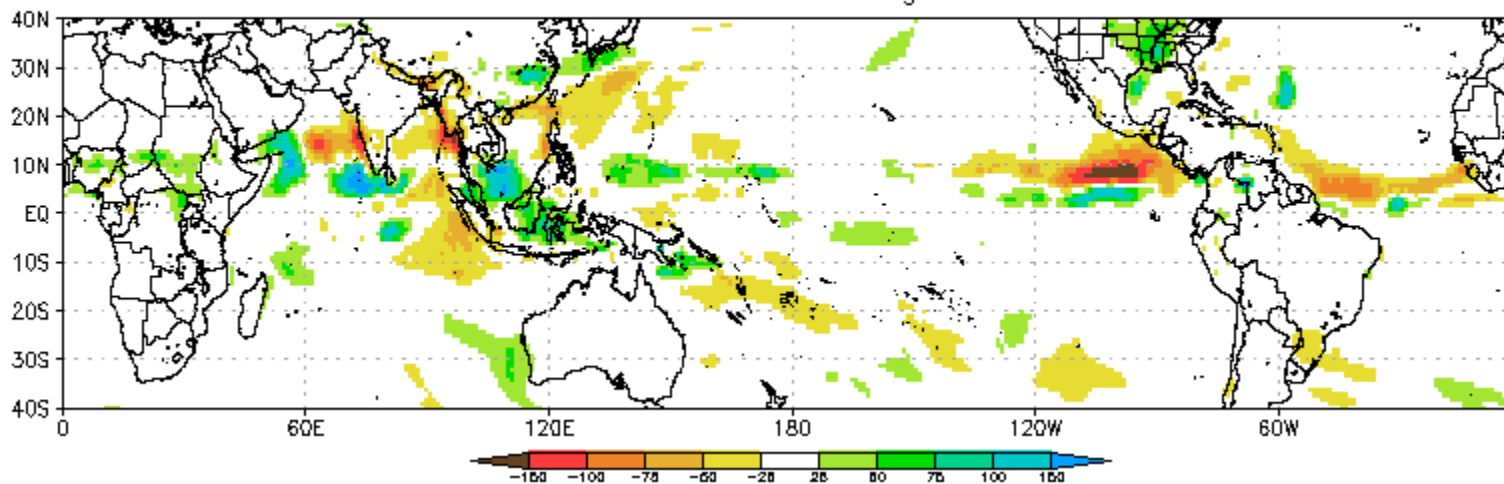


ncics.org/mjo

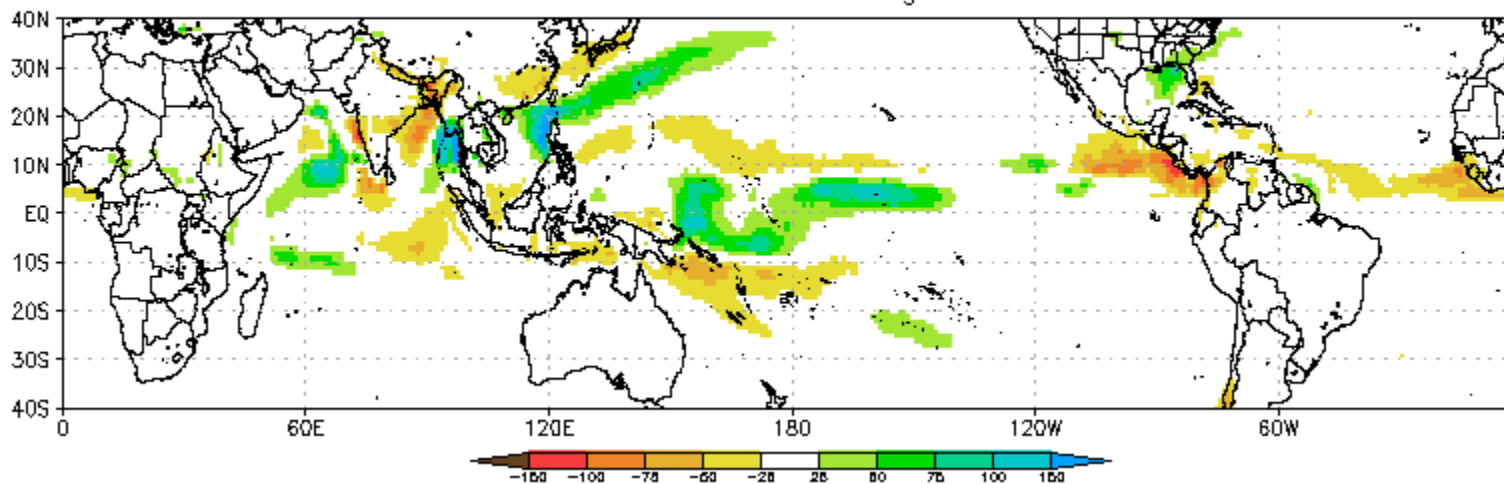
Mon 2019-06-03 1515 UTC

Carl Schreck (cjschrec@ncsu.edu)

CFS Precipitation Anomalies (mm) Issued 03Jun2019
Week-1 Forecast Ending 11Jun2019



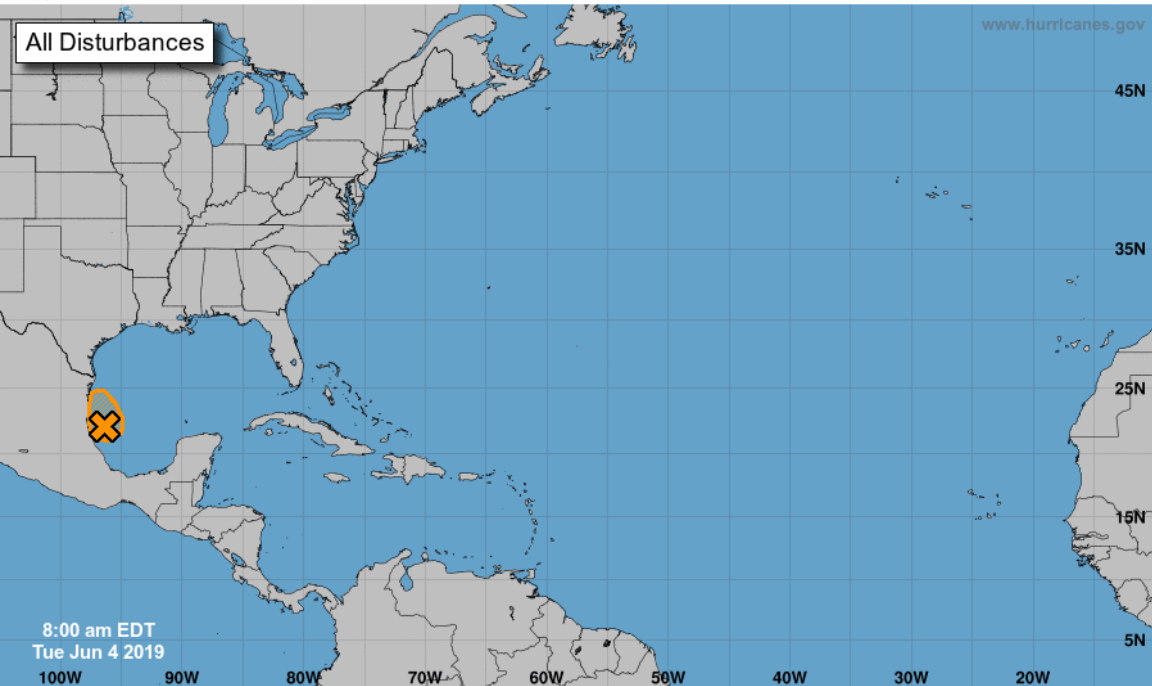
CFS Precipitation Anomalies (mm) Issued 03Jun2019
Week-2 Forecast Ending 18Jun2019





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



8:00 am EDT
Tue Jun 4 2019

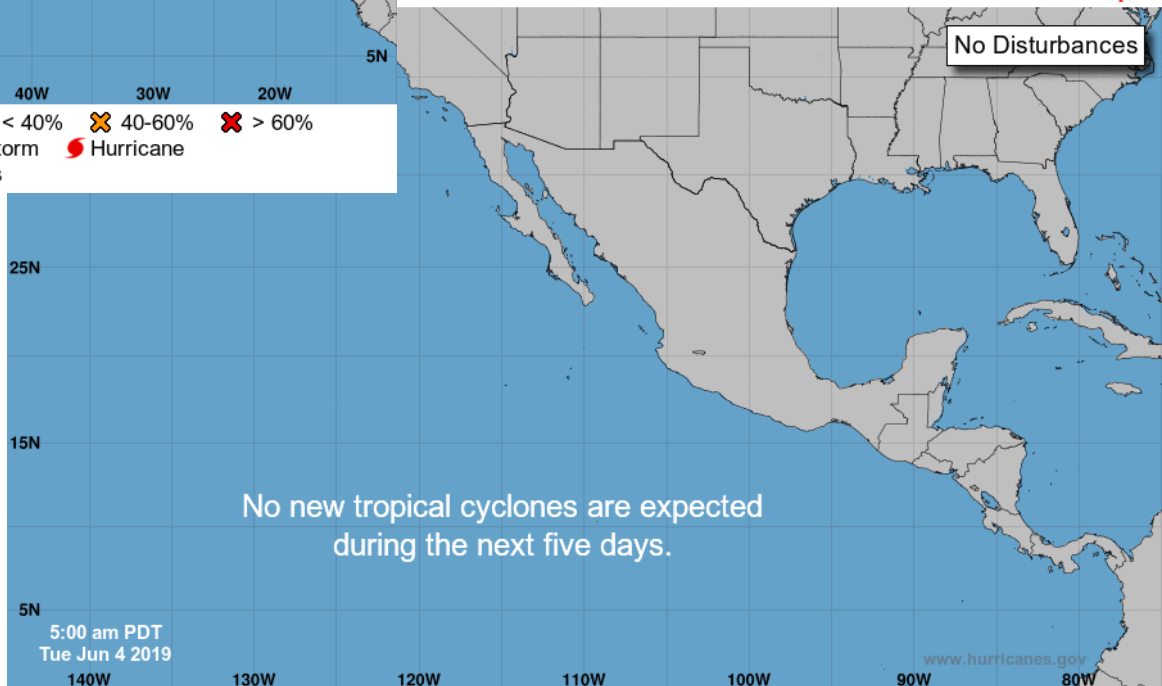
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



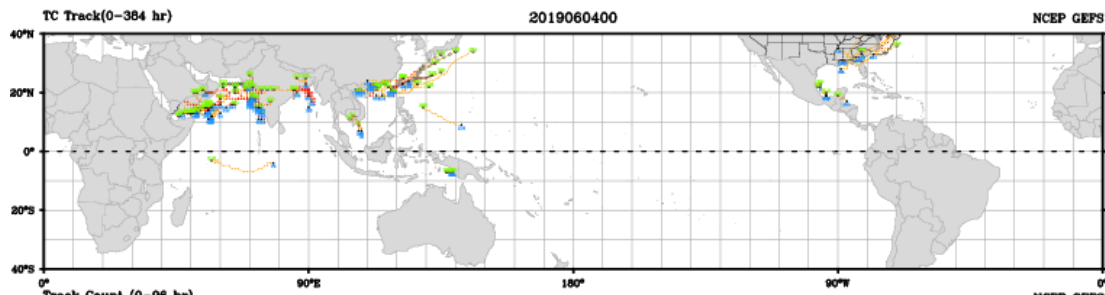
No new tropical cyclones are expected during the next five days.

5:00 am PDT
Tue Jun 4 2019

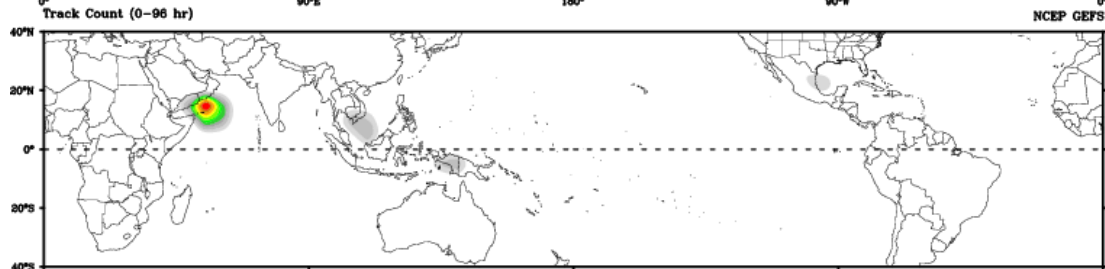
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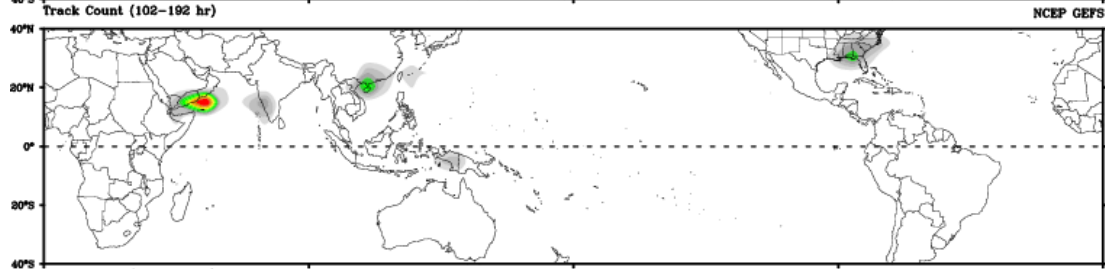
Post-Tropical Cyclone or Remnants



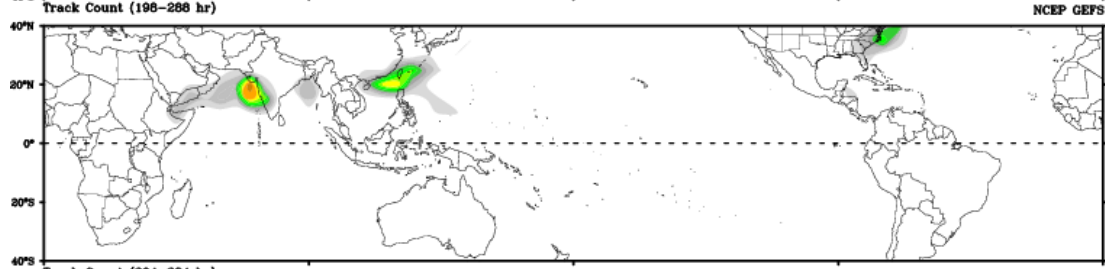
Days 1-4



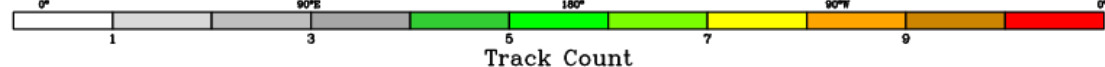
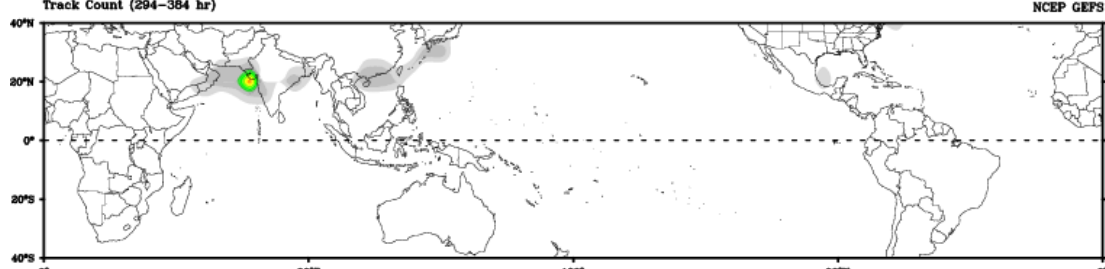
Day 5-8



Day 9-12

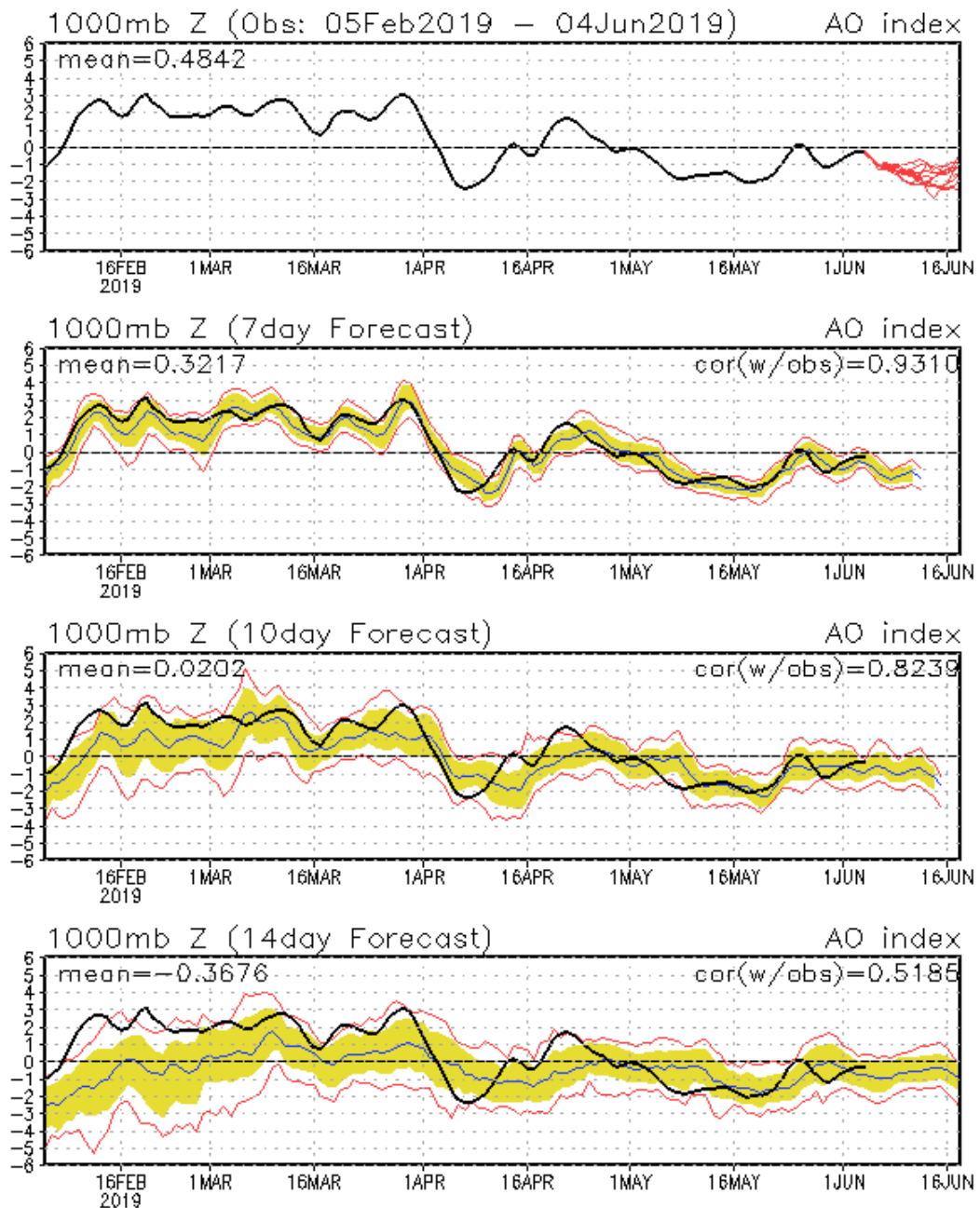


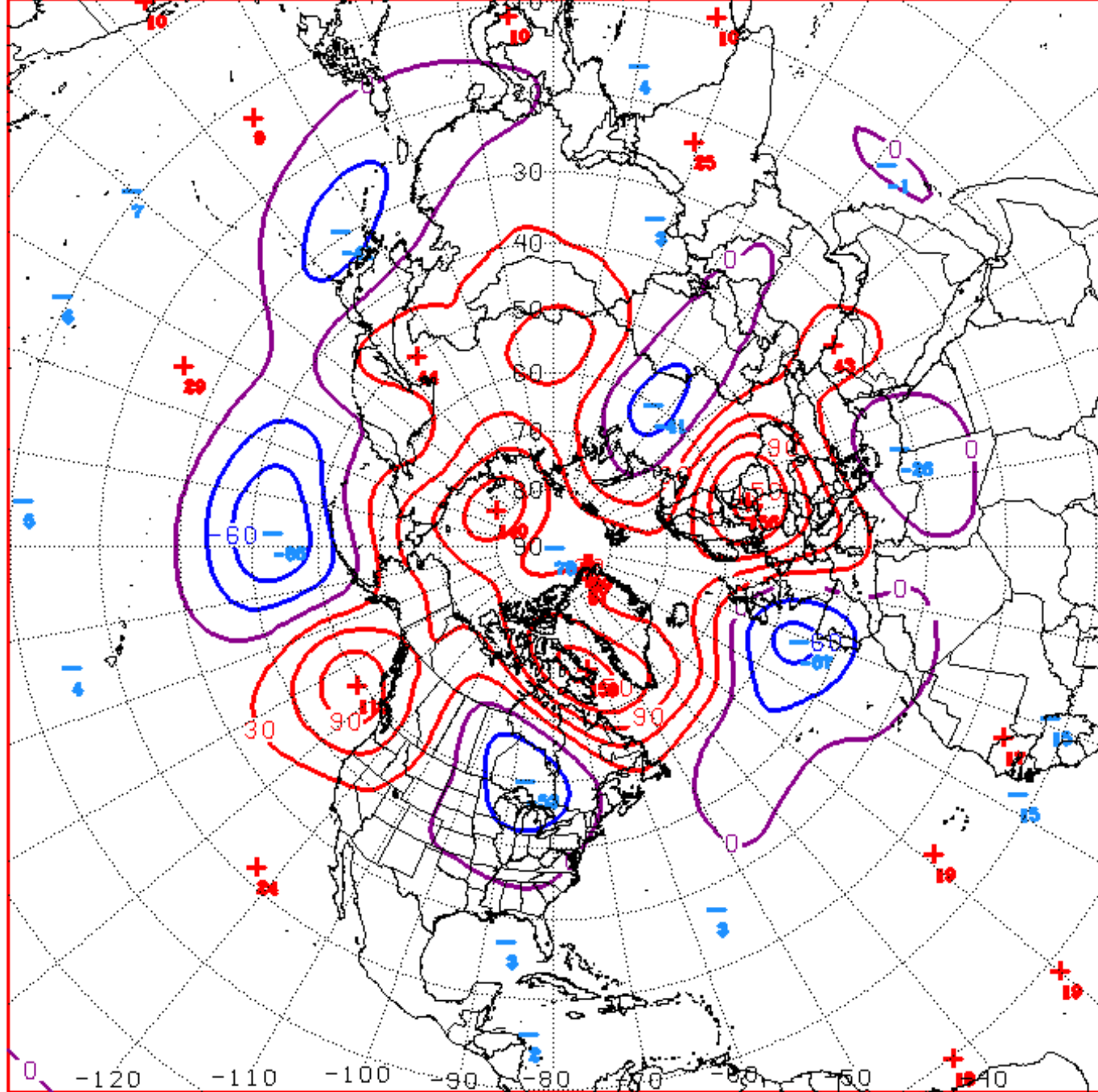
Day 13-15



Connections to U.S. Impacts

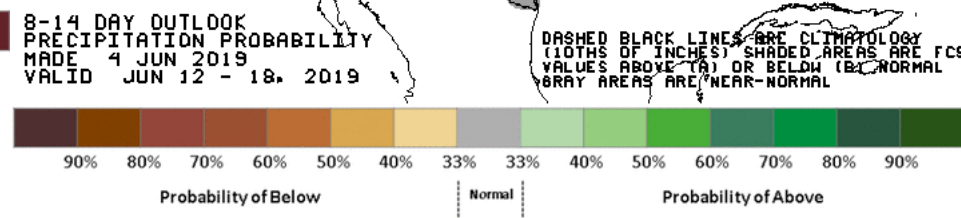
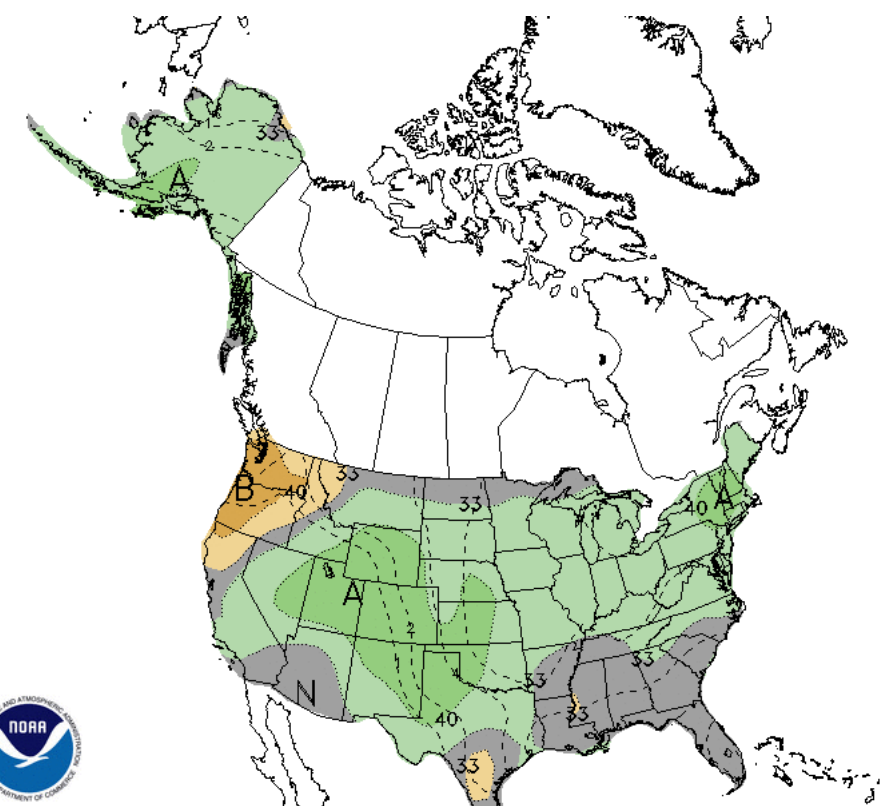
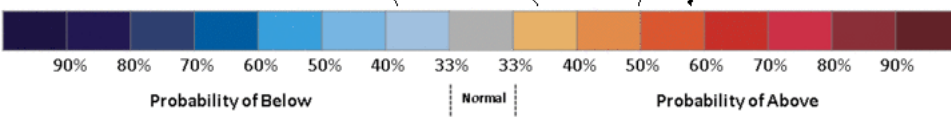
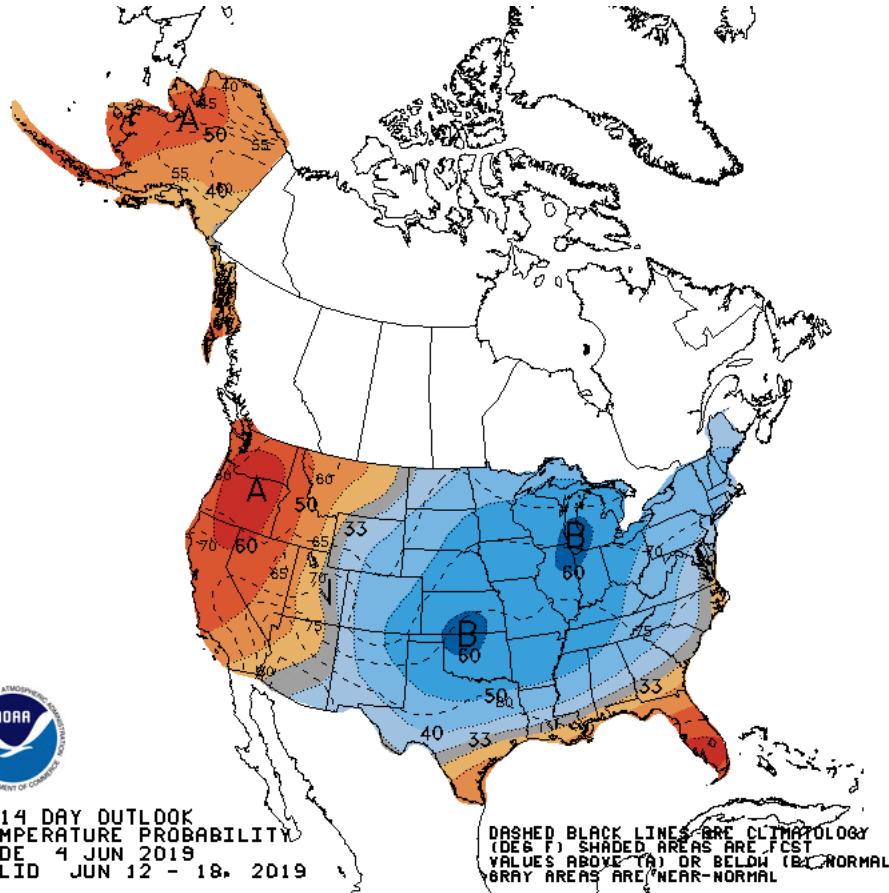
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JUN 04 2019 1318 UTC CNTD JUN 15 2019

Week 2 – Temperature and Precipitation

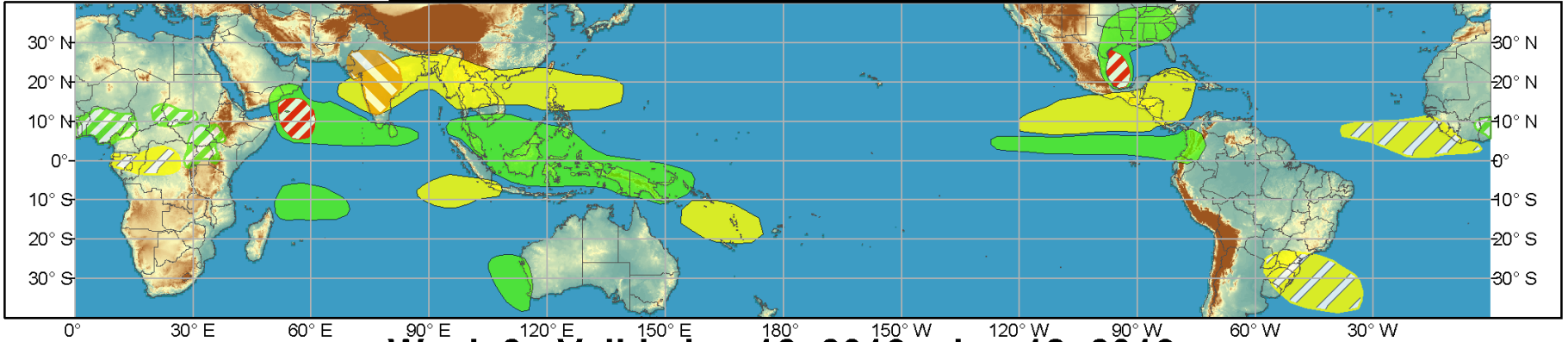




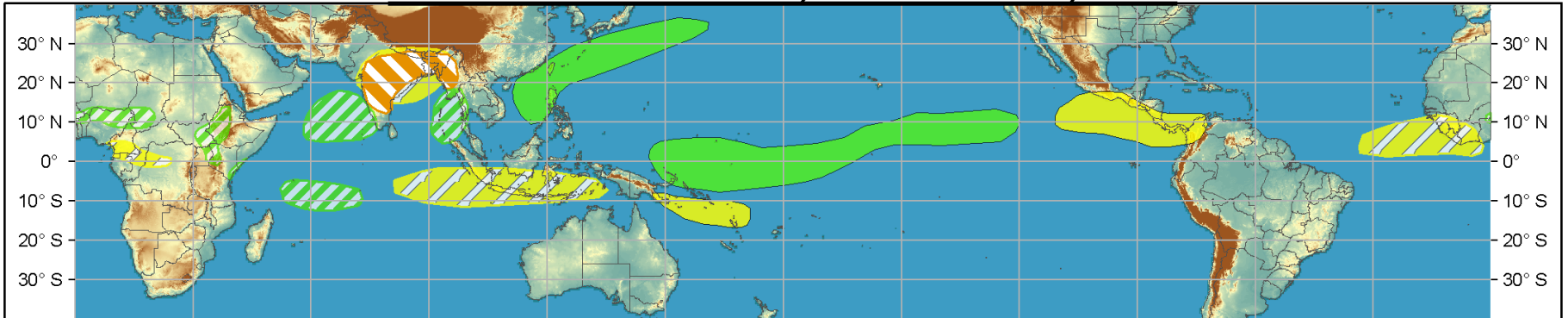
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