

Global Tropics Hazards And Benefits Outlook

4/23/2019

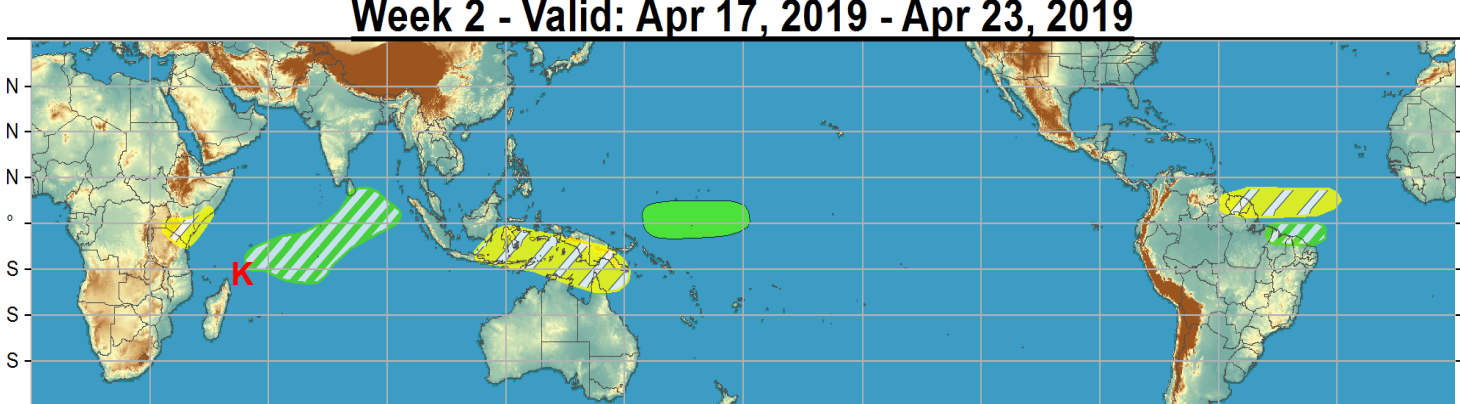
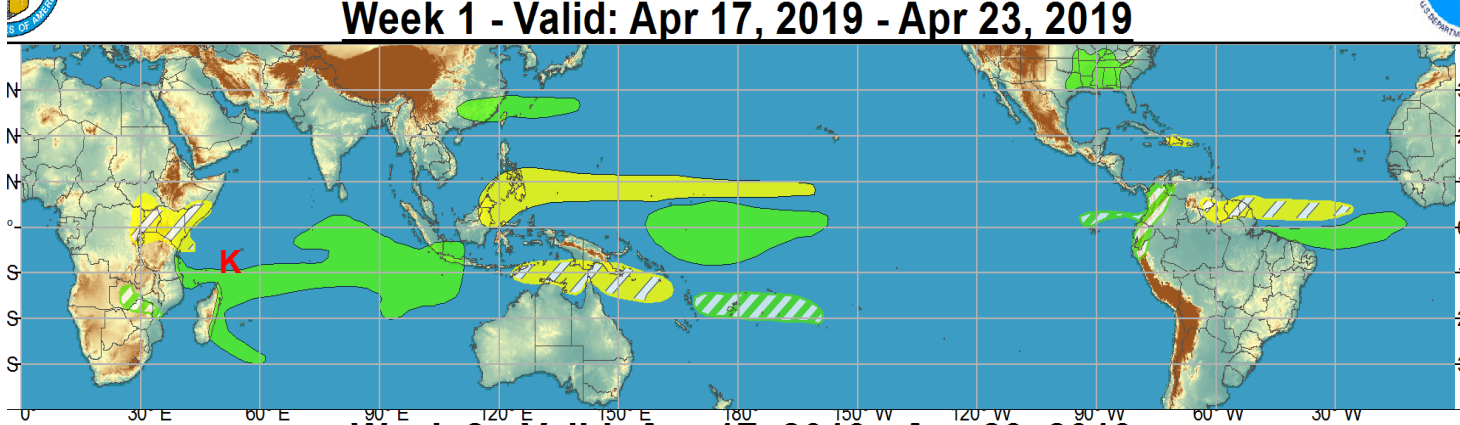
Christina Maurin

Outline

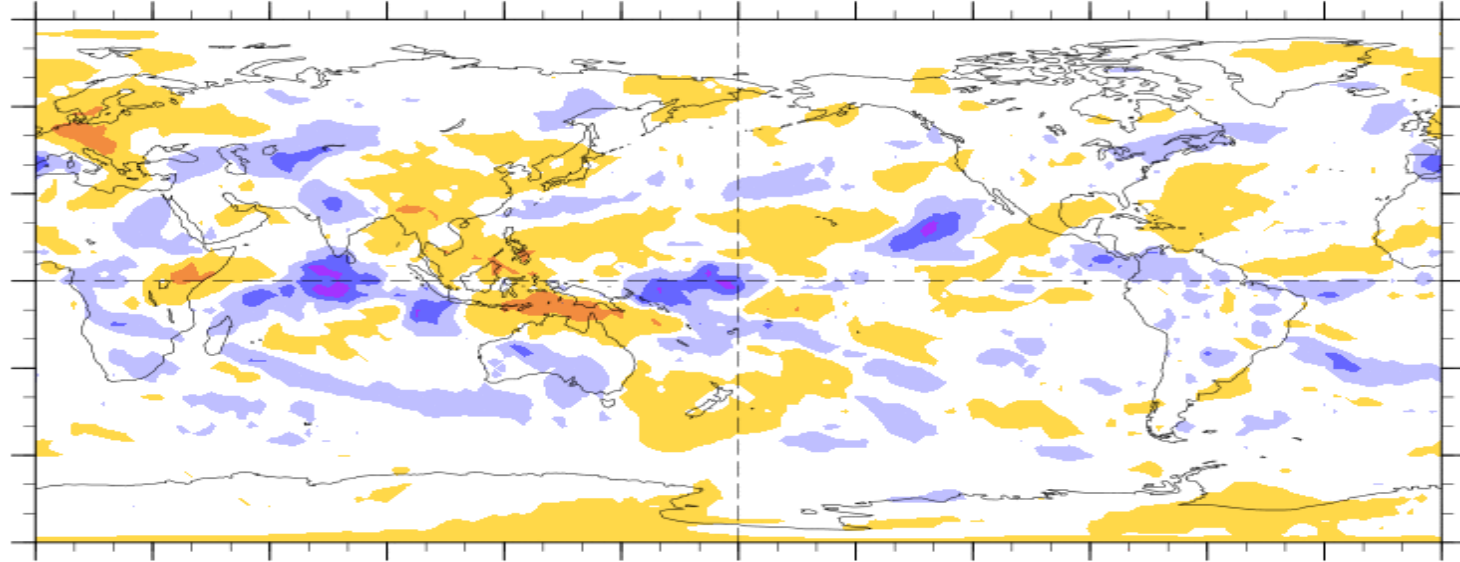
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

TS Kenneth
4/23 - present



7-Day Average OLR Anomaly 2019/04/15 - 2019/04/21



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).

MJO and other subseasonal tropical variability:

- Signs of a re-emerging MJO signal are seen in some fields in Phase 2 over the Indian Ocean, as well as on the RMM index.
- Dynamical models indicate that this signal is likely to remain of moderate strength and move at a fast, albeit consistent pace, through the next two weeks, reaching the central and eastern Pacific by the end of Week-2.

Extratropics:

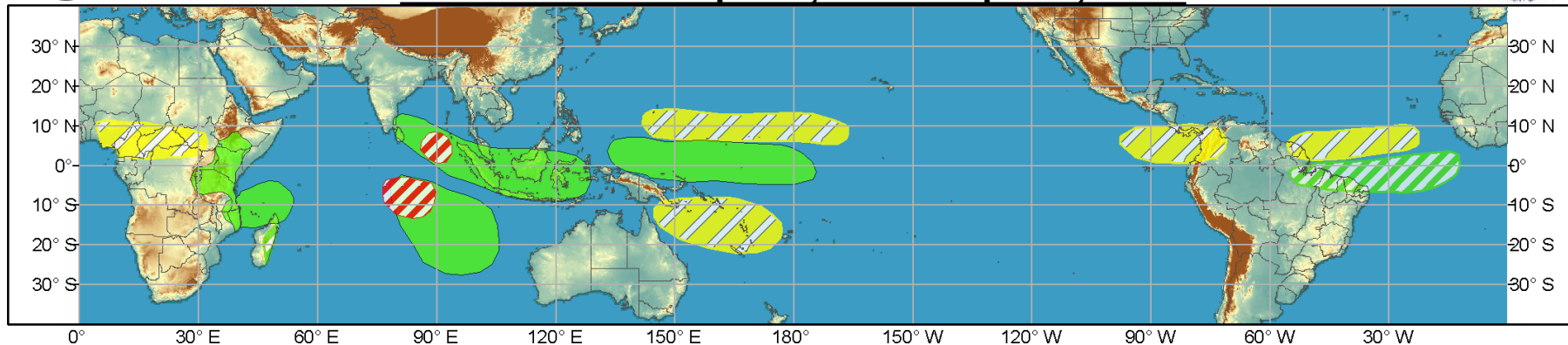
- The tropical modes of variability currently do not appear to have a large impact on the extratropics. Other modes of variability are more dominant over North America. Model guidance indicates a more moderate pattern over the contiguous U.S. during Week-2.



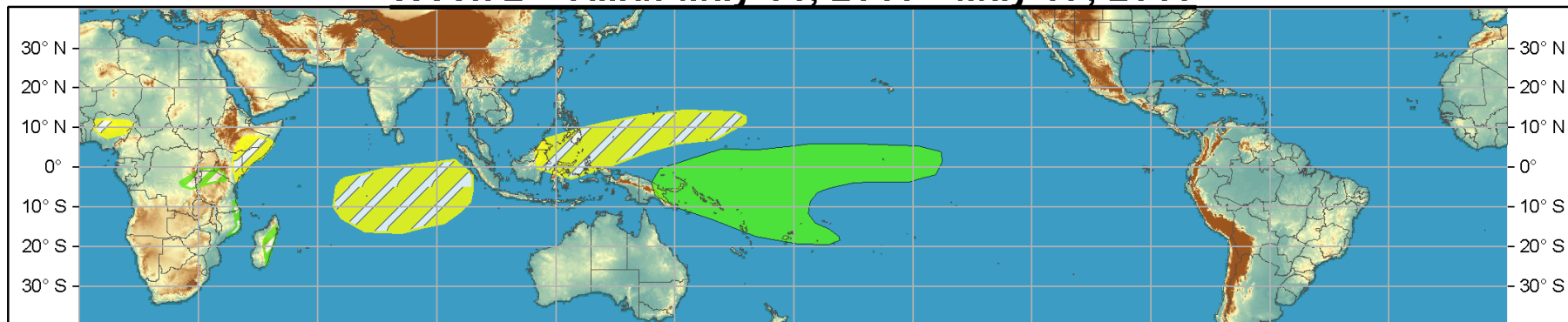
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Apr 24, 2019 - Apr 30, 2019



Week 2 - Valid: May 01, 2019 - May 07, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 04/23/2019

Forecaster: Maurin

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

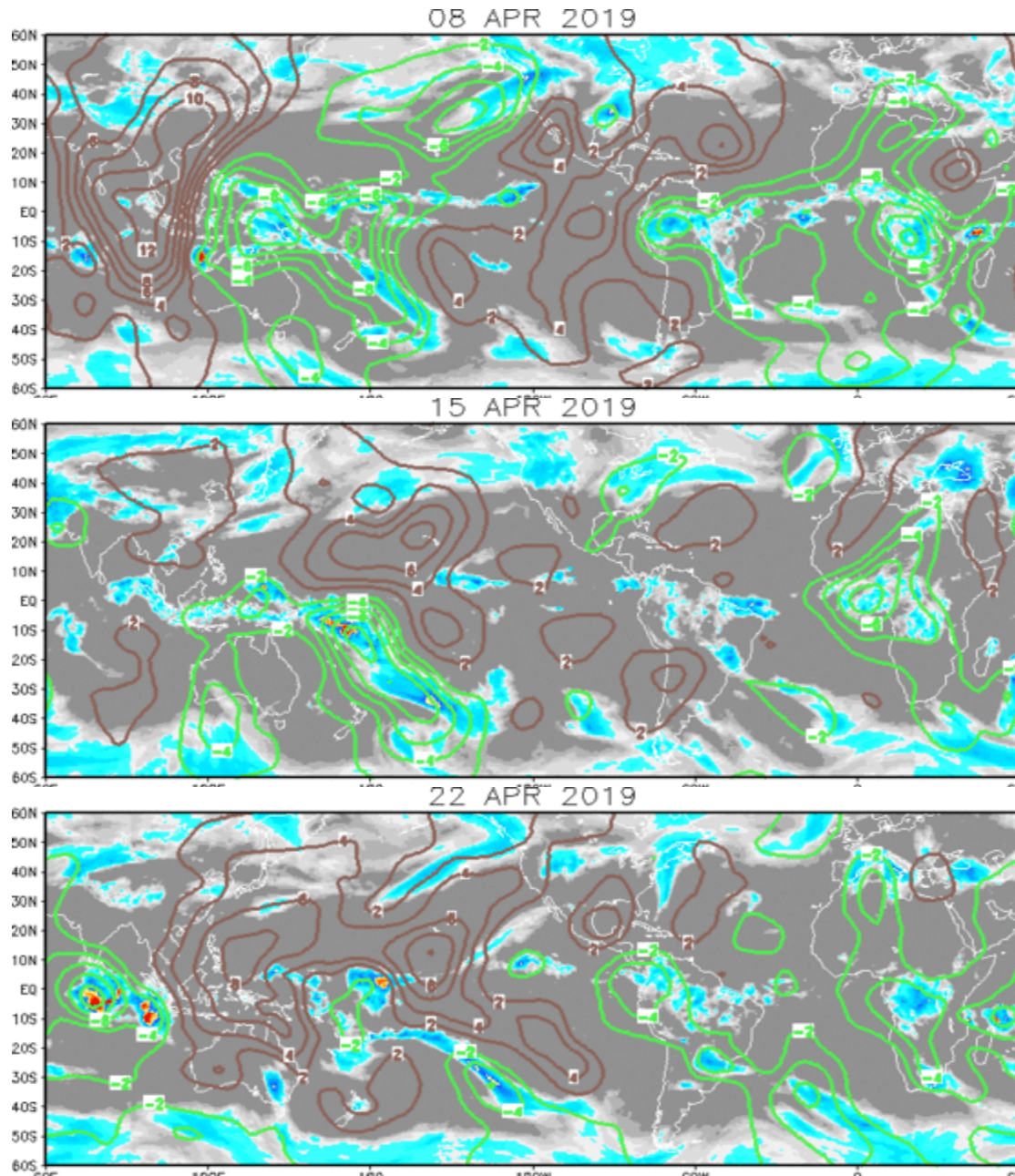
Green: Enhanced Divergence

Brown: Enhanced Convergence

Nicely organized Wave-2 pattern with convective centers over the Western Pacific and Western Hemisphere.

Wave-2 pattern has broken down, many modes of variability are active. Convective remains entrenched over the Western Pacific.

Starting to look more like a coherent Wave-1 pattern, main center of amplified convection over the Indian Ocean.

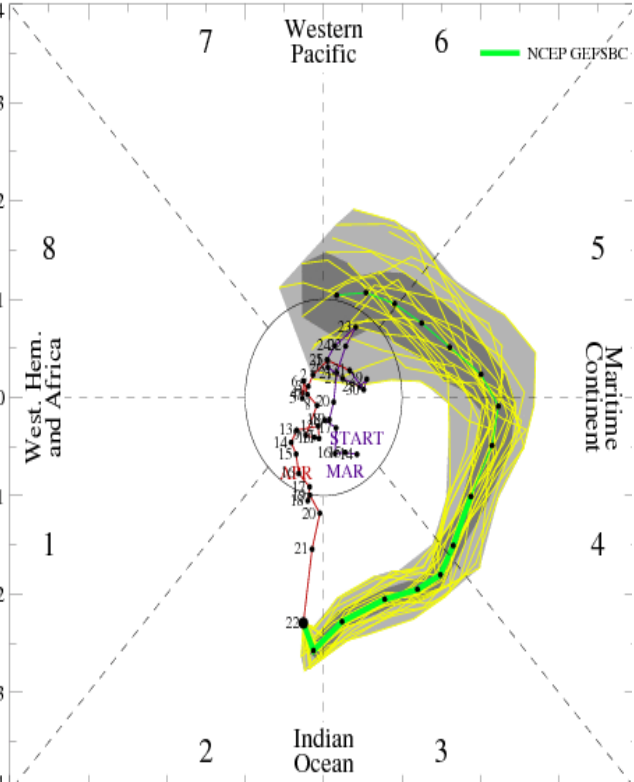


MJO Observation/Forecast

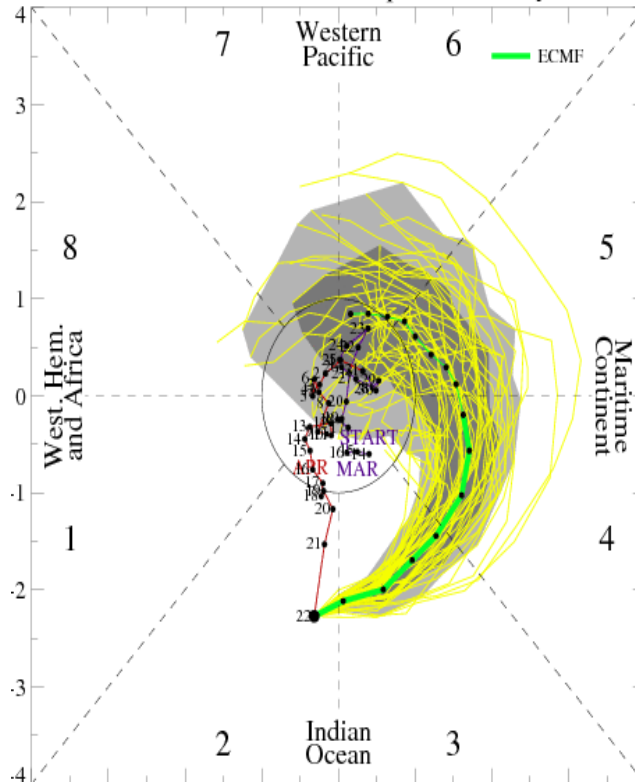
[RMM1, RMM2] forecast for Apr-23-2019 to May-07-2019

MJO Index Forecast for 23Apr2019-07May2019

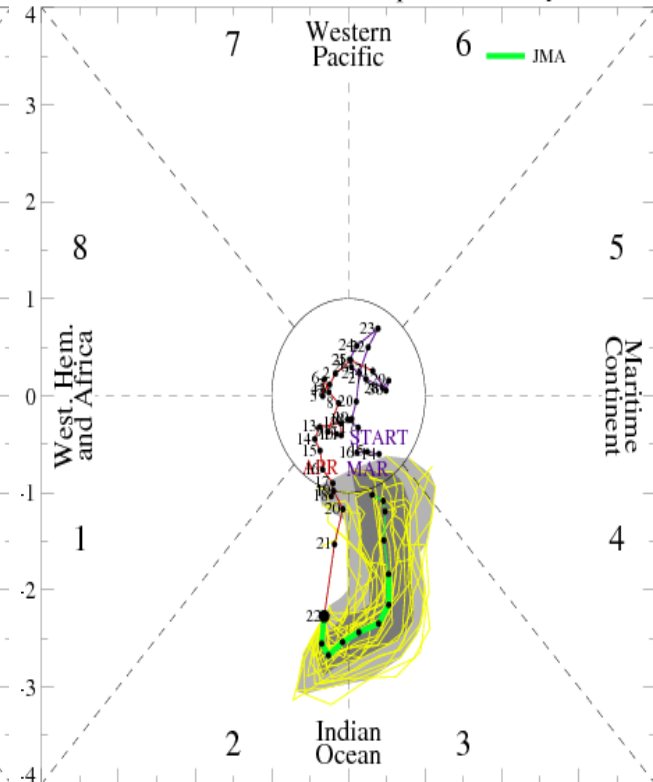
MJO Index Forecast for 23Apr2019-01May2019



GEFS



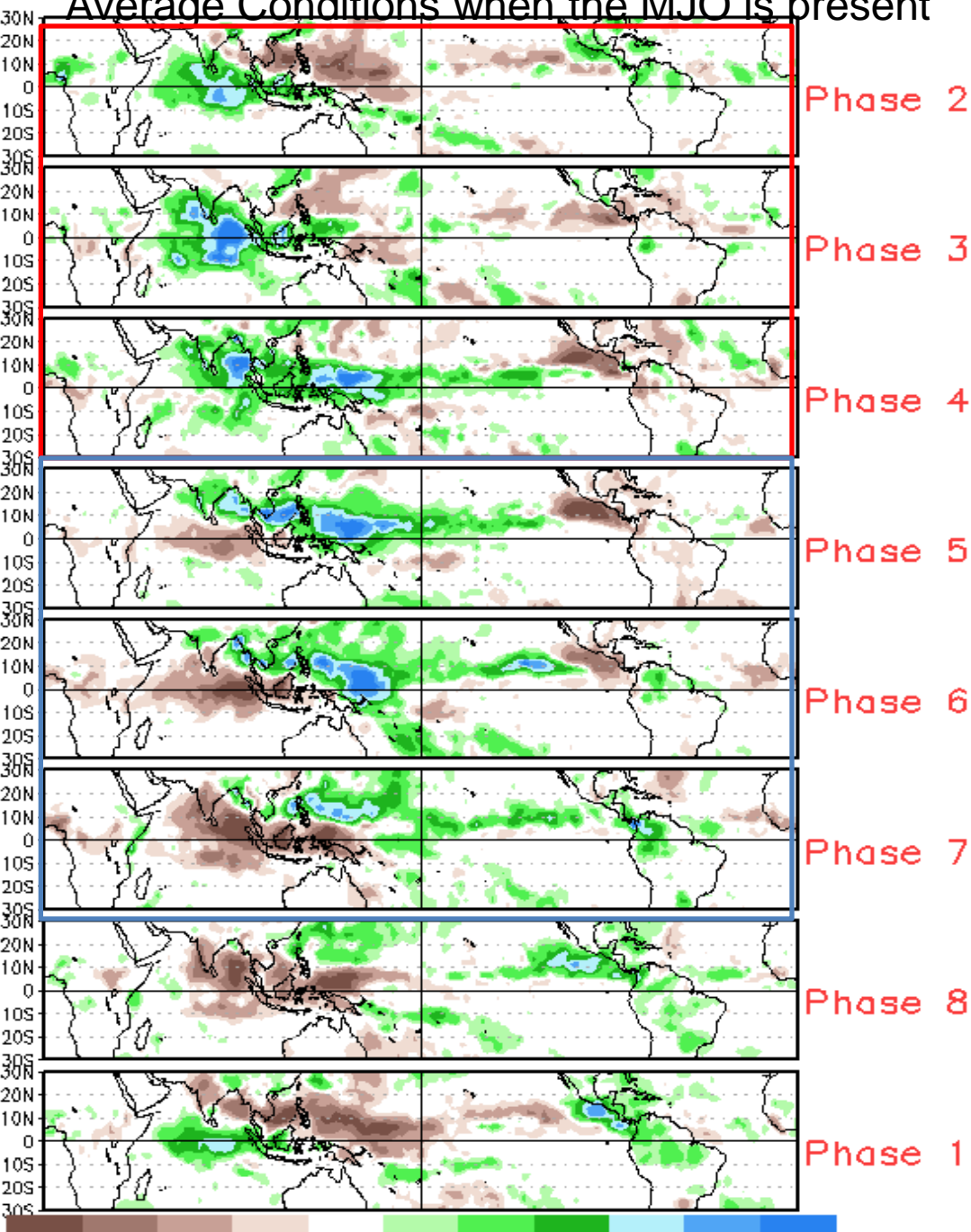
ECMWF



JMA

GEFS shows an more amplified signal, while the ECMWF is more conservative. Both are consistent in their phase speed, with a decline in amplitude toward the end of Week-2.

Average Conditions when the MJO is present

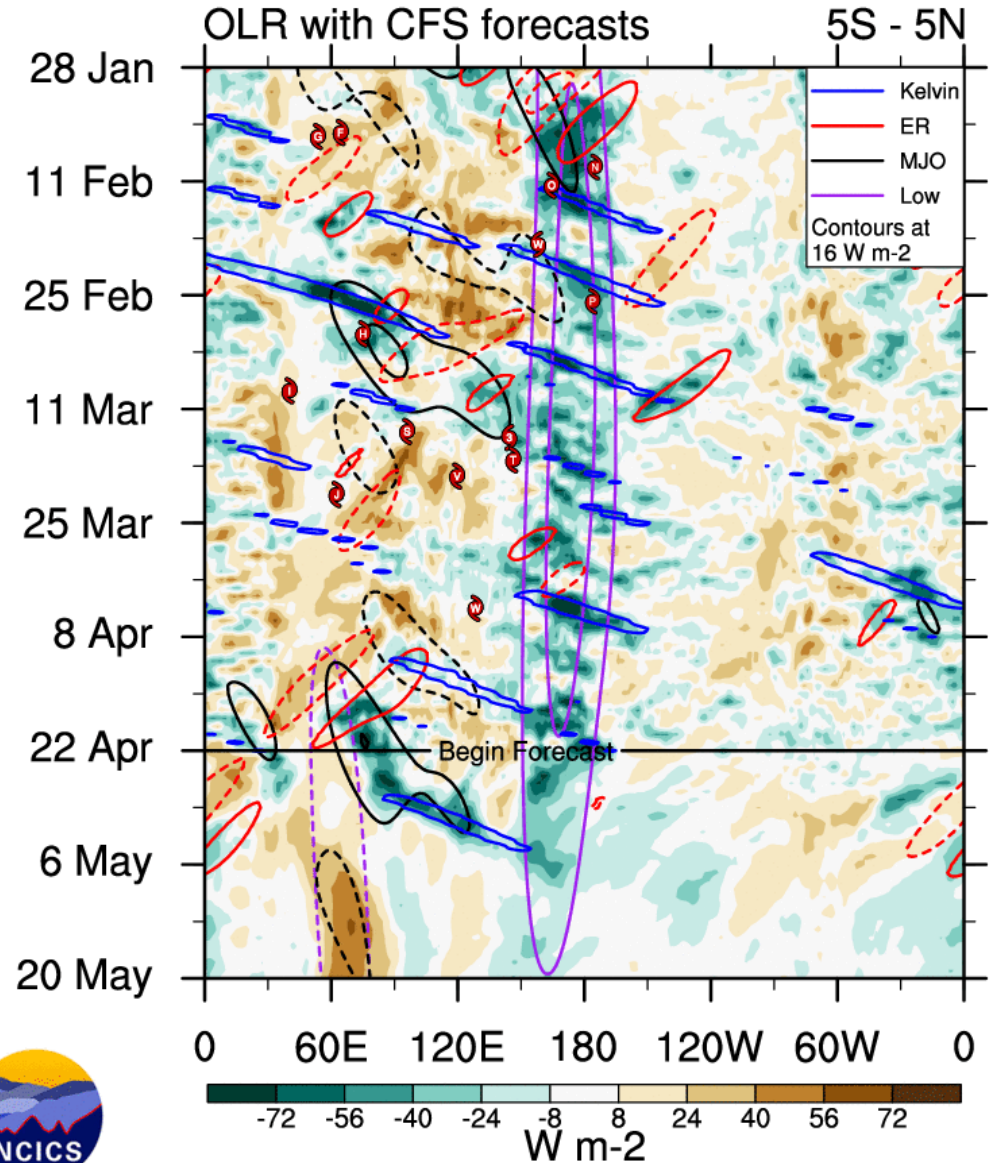


CAVEAT: These panels are representative of robust MJO events.

MJO signal is growing stronger over the Indian Ocean.

Rossby wave over the IO aiding in TC formation, and **Kelvin wave** activity forecast to continue

Low-frequency pattern still dominant near the Date Line with persistent convection.

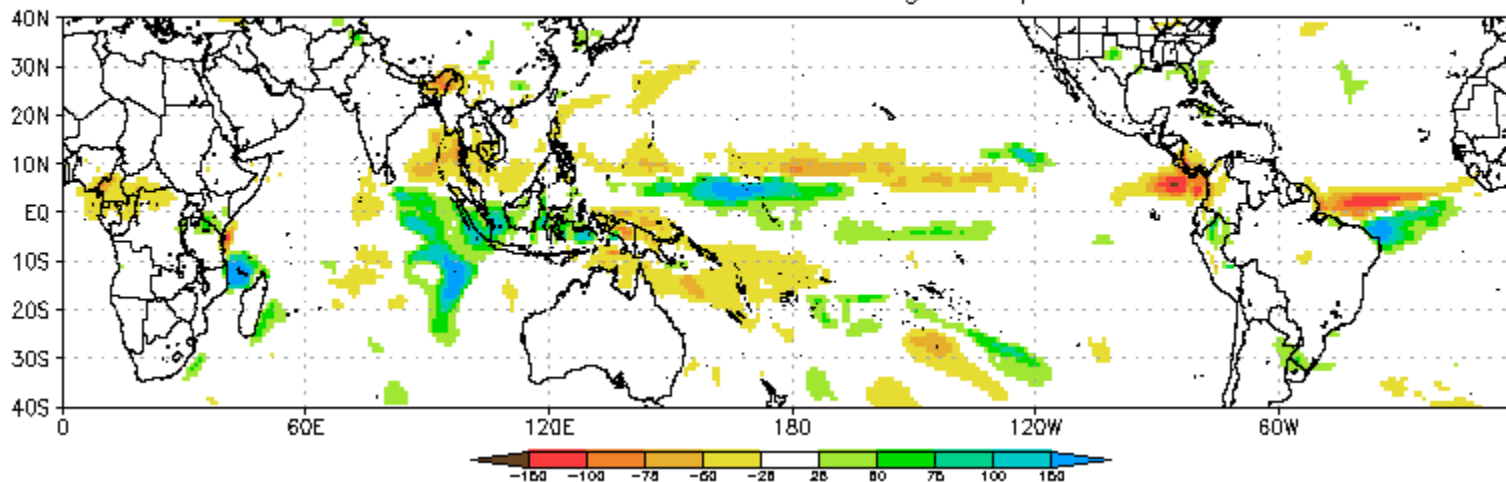


ncics.org/mjo

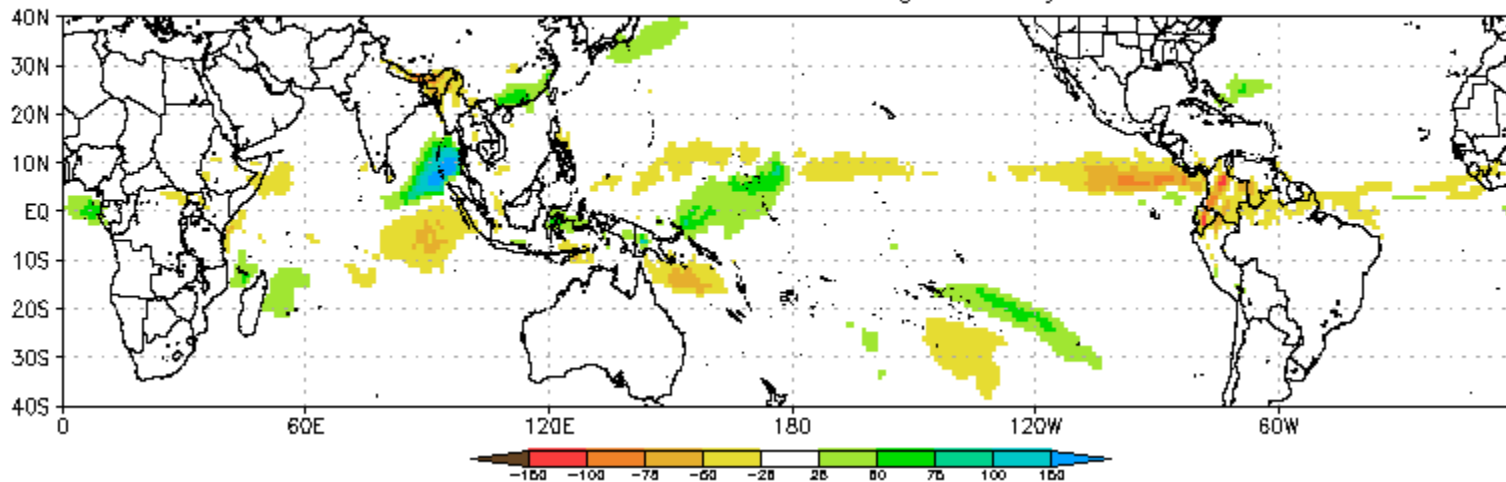
Tue 2019-04-23 1630 UTC

Carl Schreck (cjschrec@ncsu.edu)

CFS Precipitation Anomalies (mm) Issued 22Apr2019
Week-1 Forecast Ending 30Apr2019



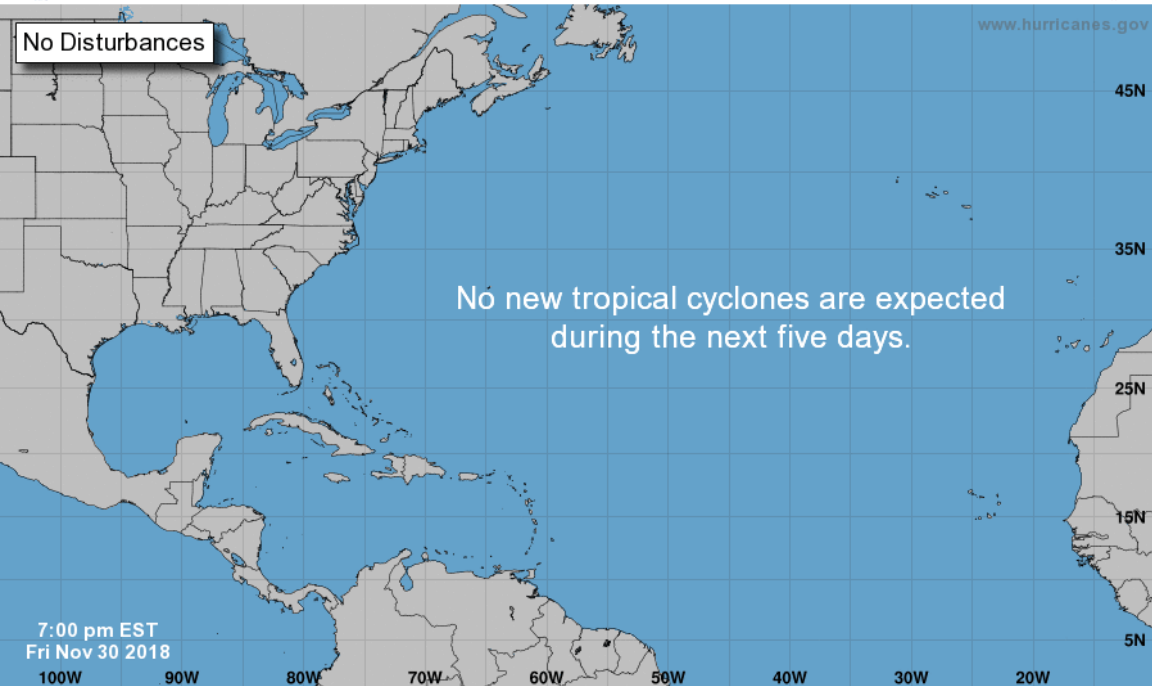
CFS Precipitation Anomalies (mm) Issued 22Apr2019
Week-2 Forecast Ending 07May2019





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



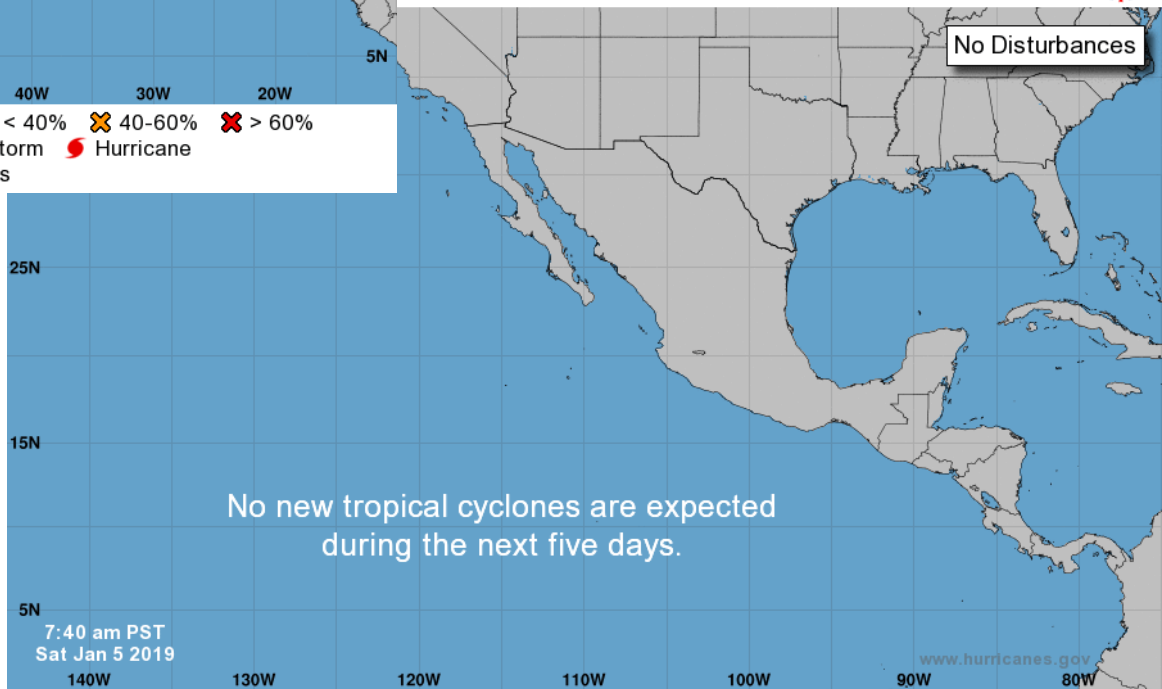
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

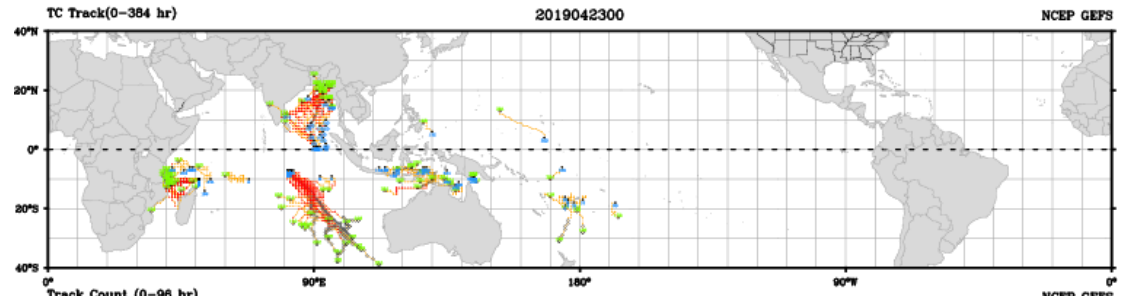
National Hurricane Center Miami, Florida



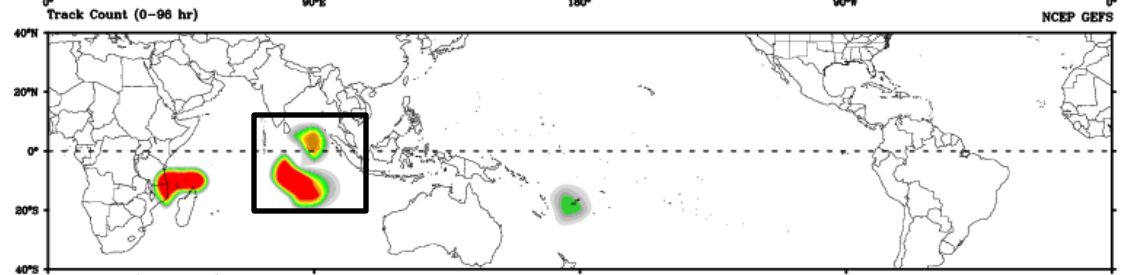
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

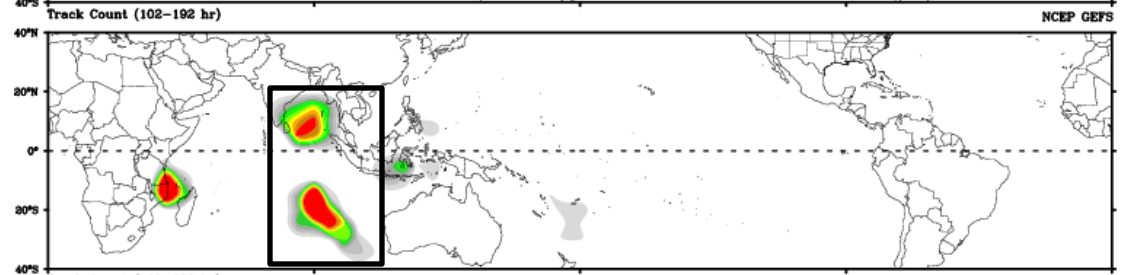
Post-Tropical Cyclone or Remnants



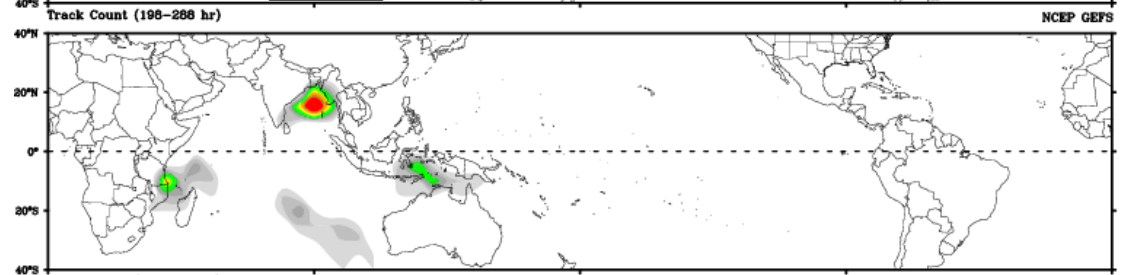
Days 1-4



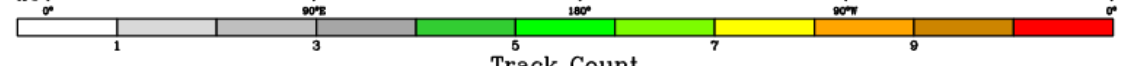
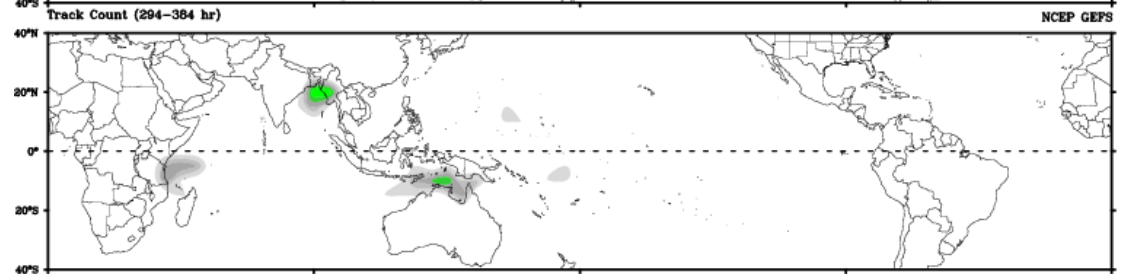
Day 5-8



Day 9-12

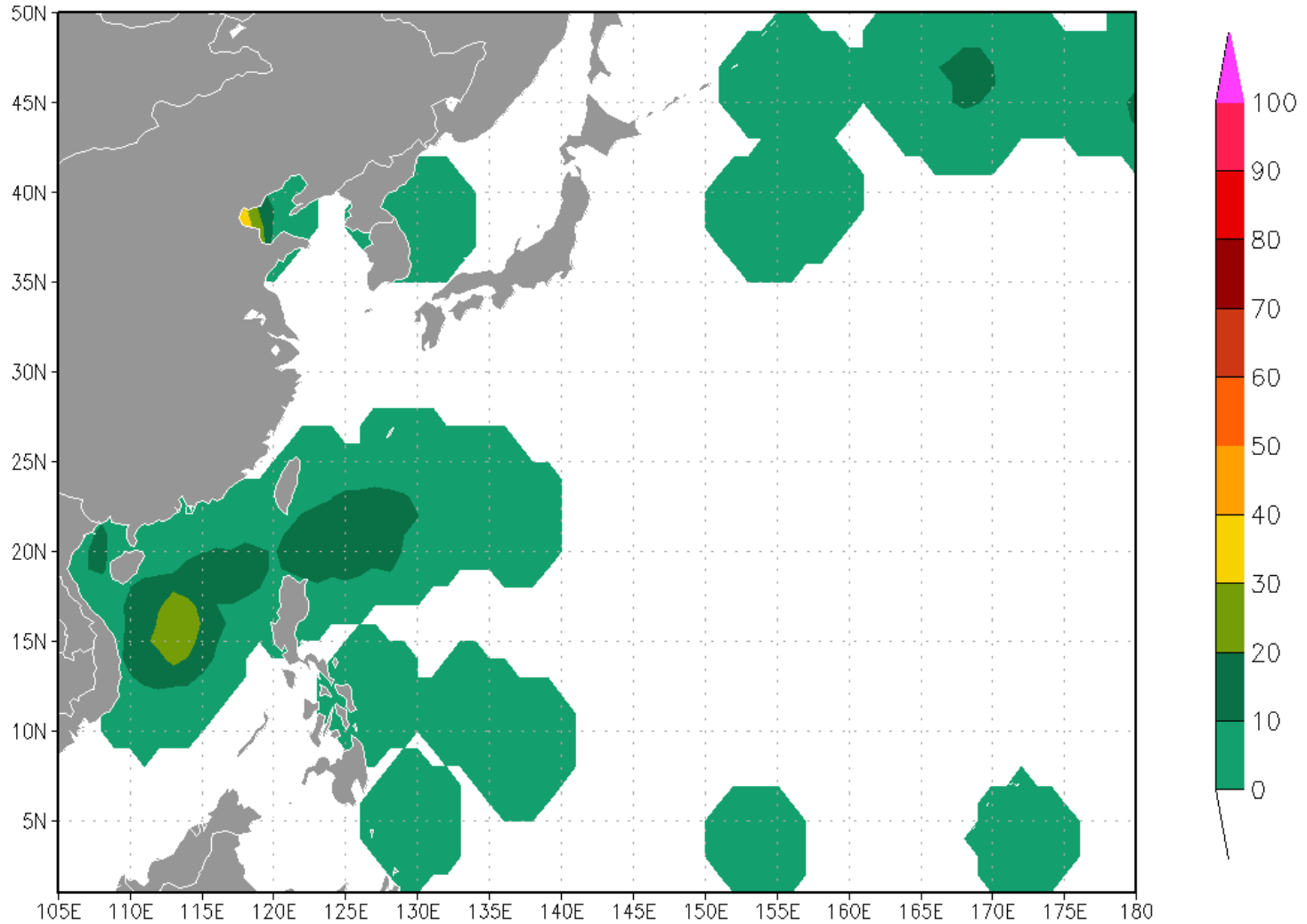


Day 13-15



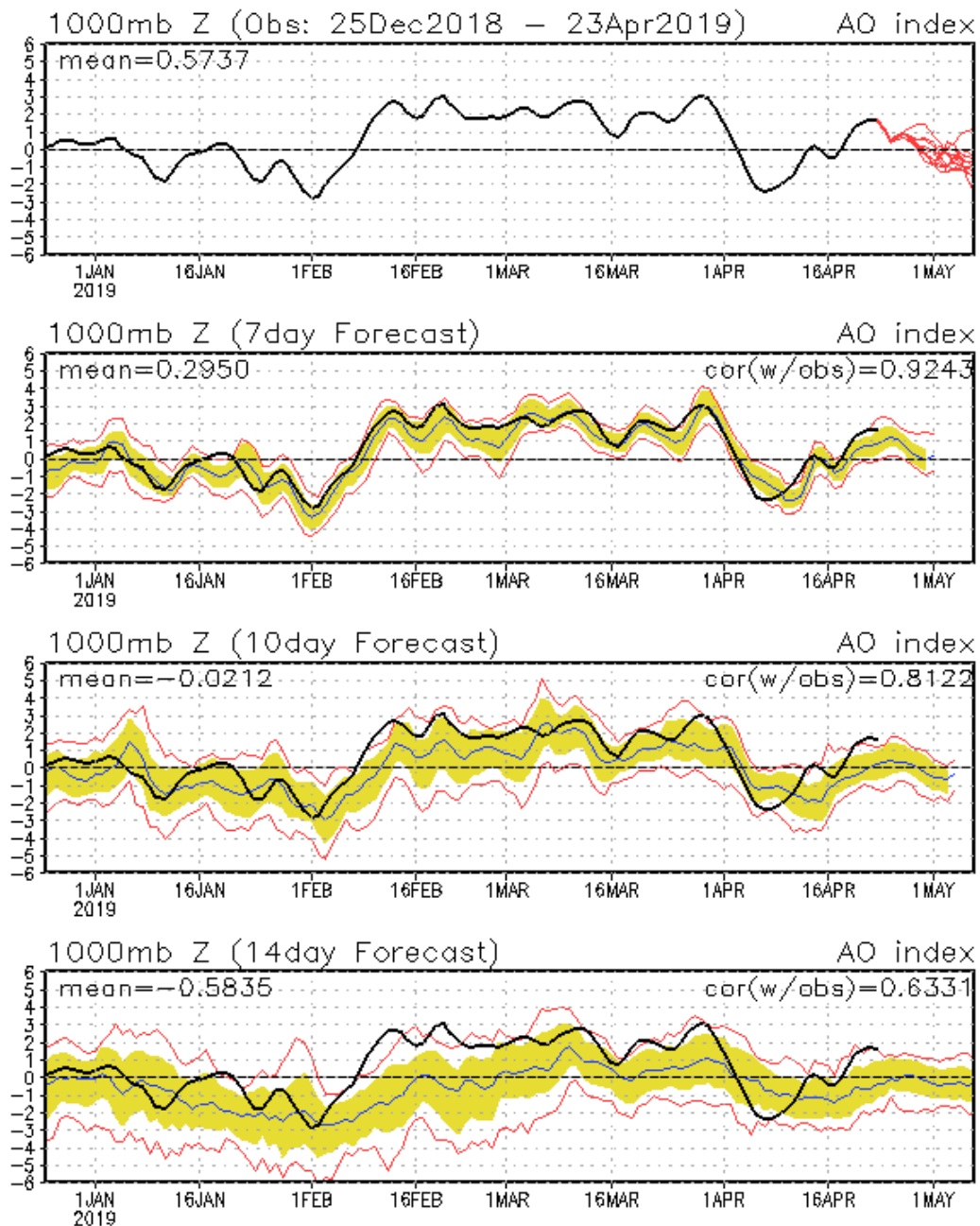
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

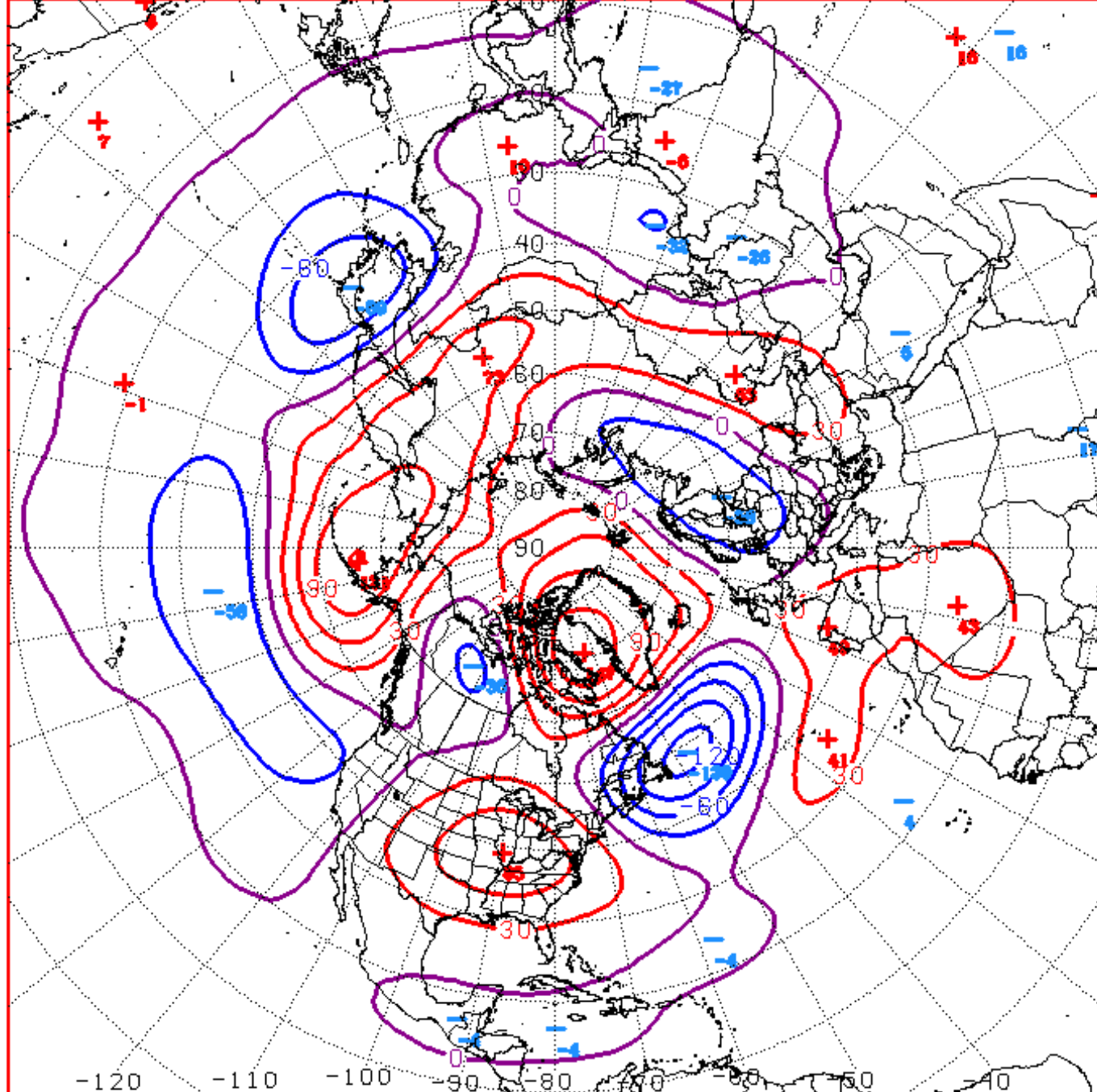
For forecasts during the 00–120h period from initial time = 2017051600



Connections to U.S. Impacts

AO: Observed & ENSM forecasts

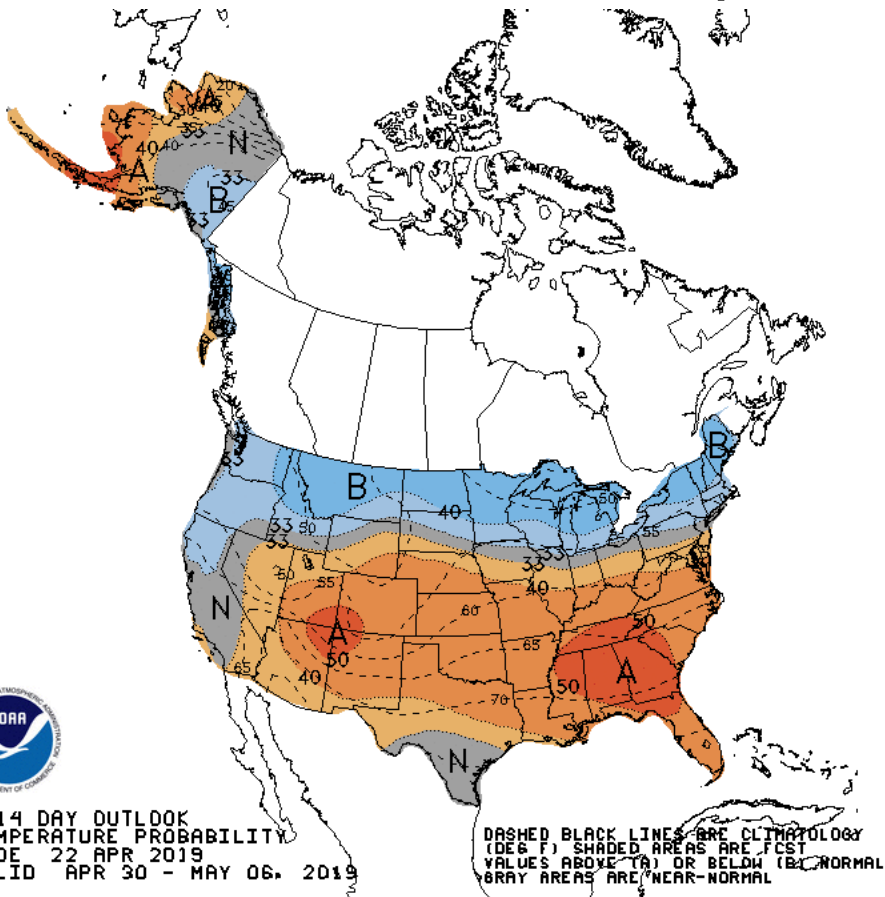




-120 -110 -100 -90 -80 -70 -60 -50

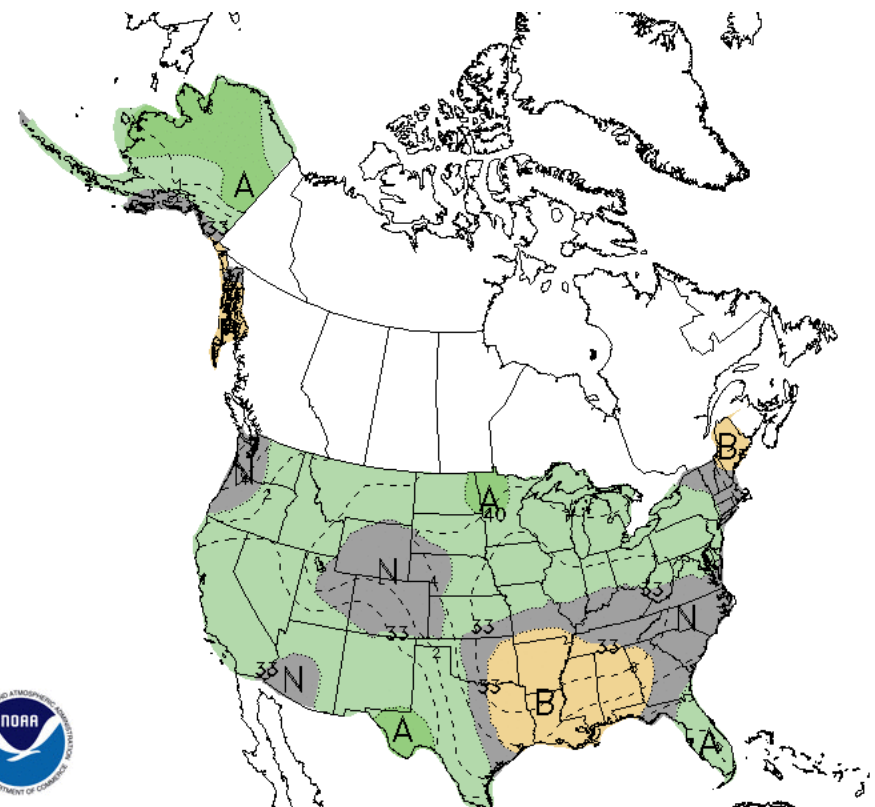
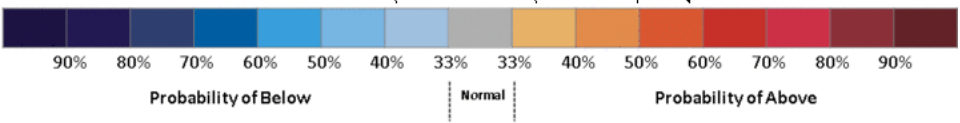
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE APR 23 2019 1327 UTC CNTD MAY 04 2019

Week 2 – Temperature and Precipitation



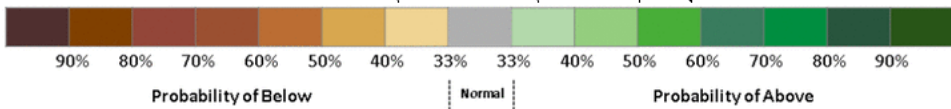
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 22 APR 2019
VALID APR 30 - MAY 06, 2019

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.

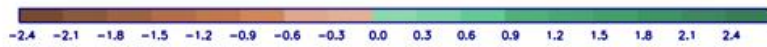
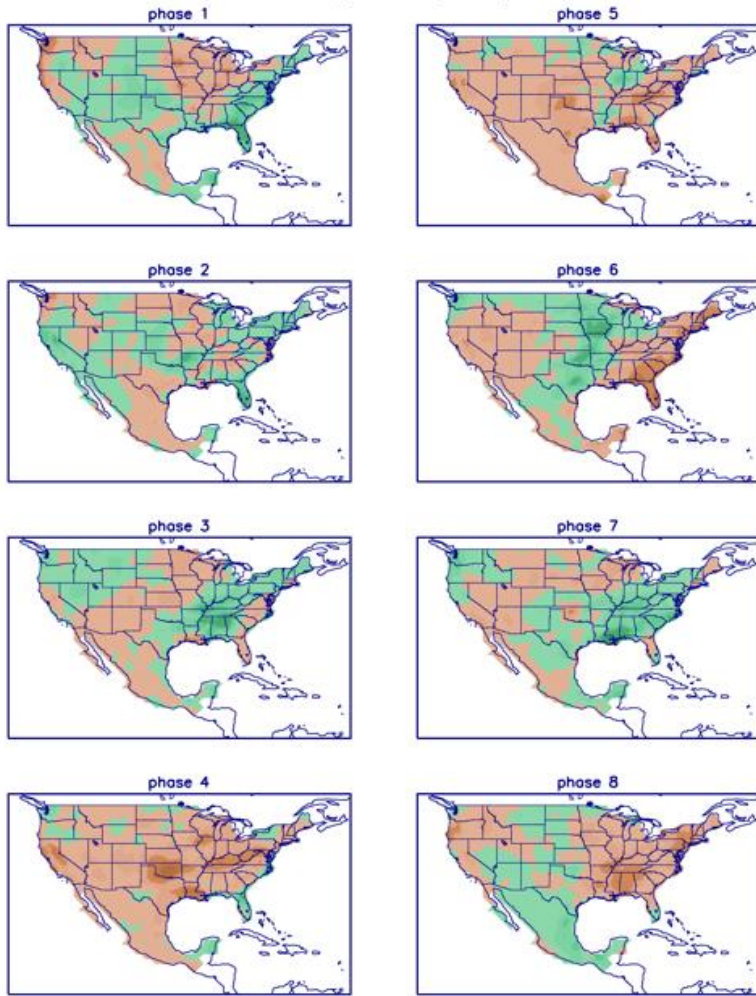


8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 22 APR 2019
VALID APR 30 - MAY 06, 2019

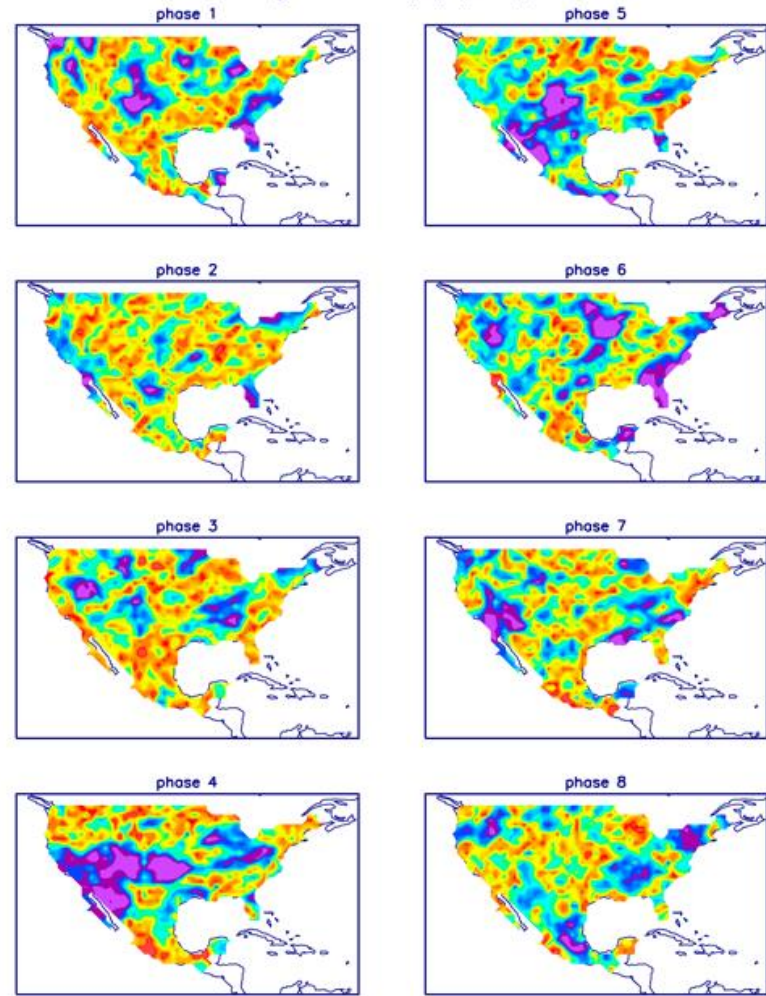
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



P composites (MAM)



Significance (%) (MAM)

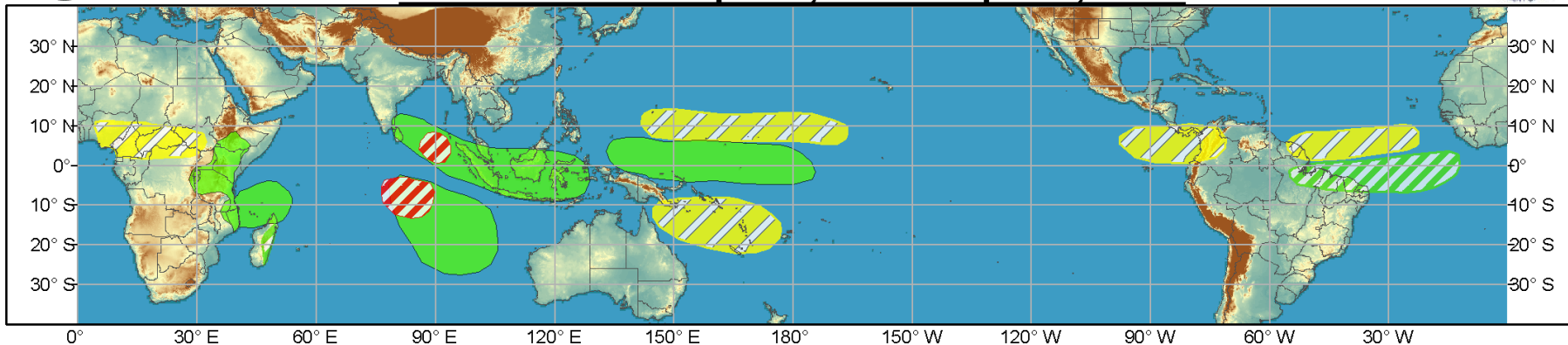




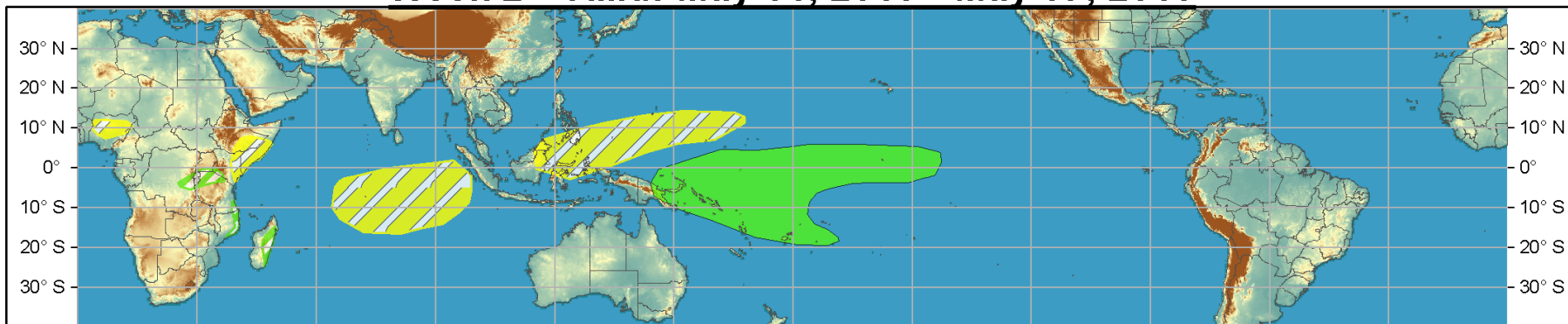
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Apr 24, 2019 - Apr 30, 2019



Week 2 - Valid: May 01, 2019 - May 07, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 04/23/2019

Forecaster: Maurin

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.

