

Global Tropics Hazards And Benefits Outlook

5/8/2018

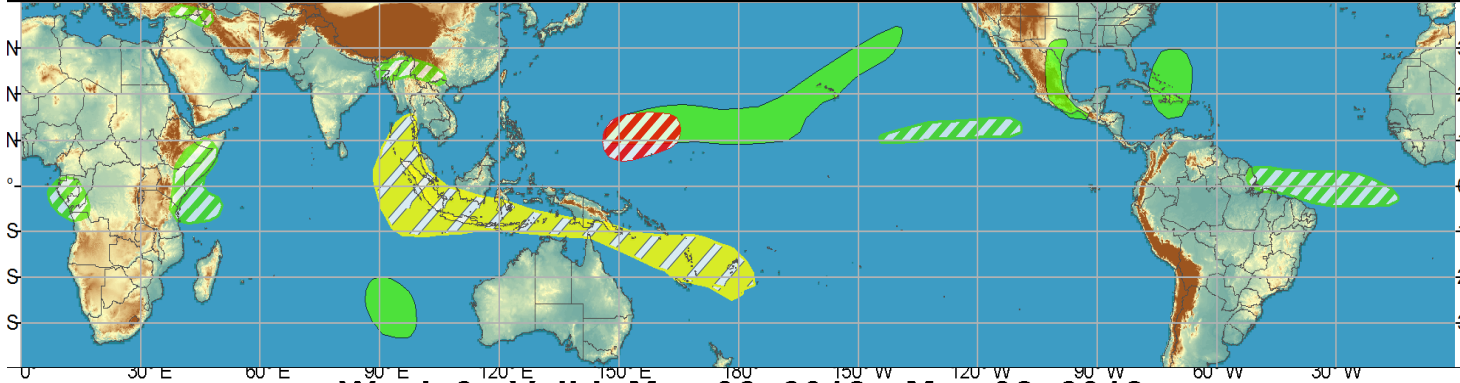
Dan Harnos

Outline

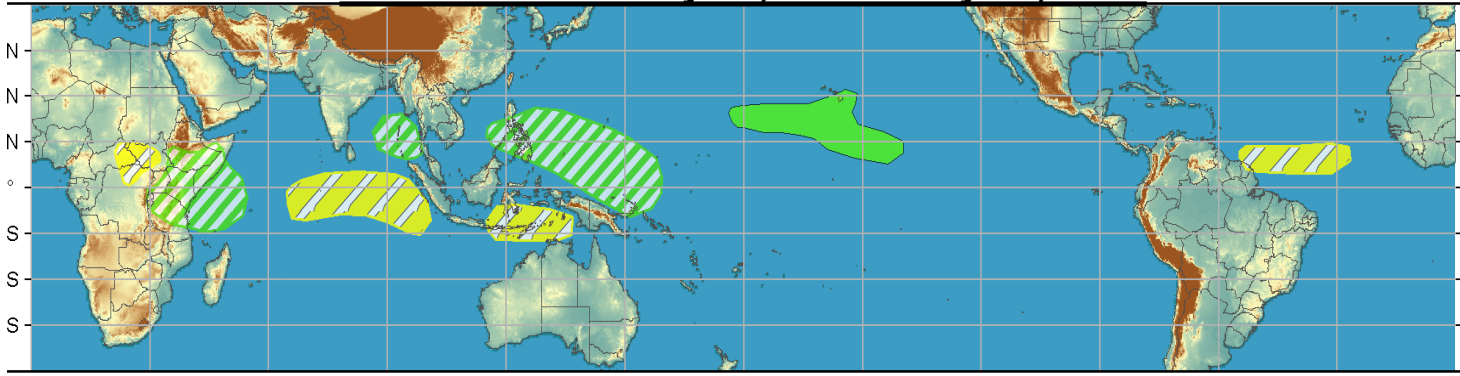
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Week 1 - Valid: May 02, 2018 - May 08, 2018



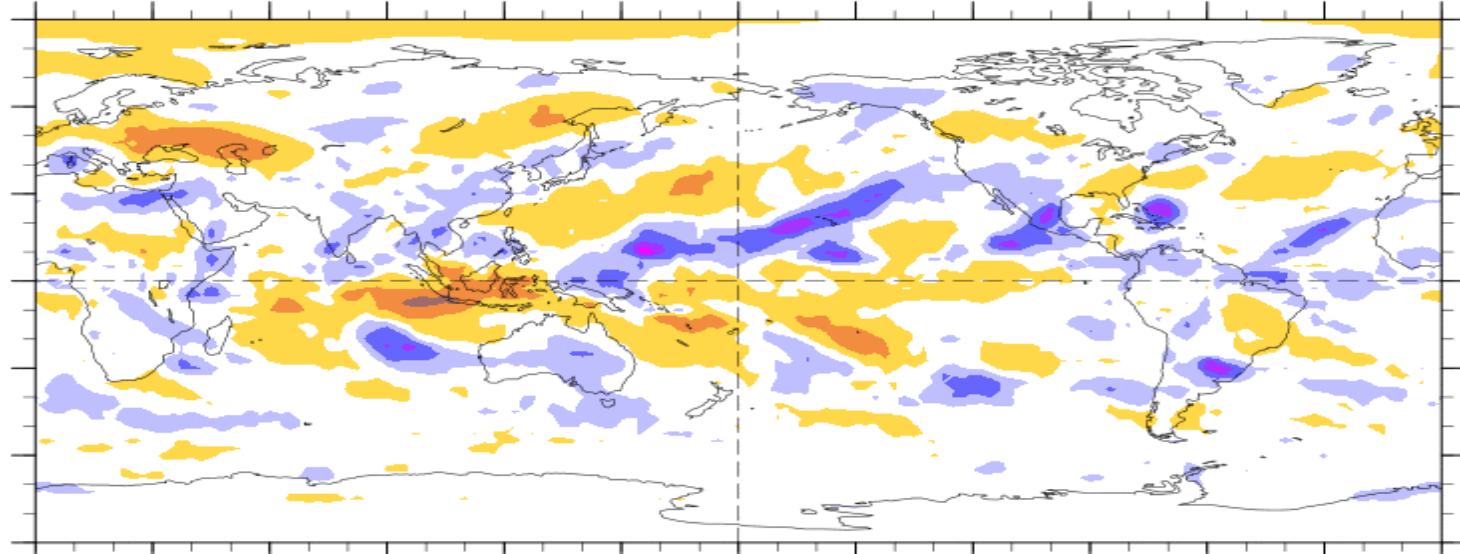
Week 2 - Valid: May 02, 2018 - May 08, 2018



No tropical cyclone development occurred during the past week.

7-Day Average OLR Anomaly

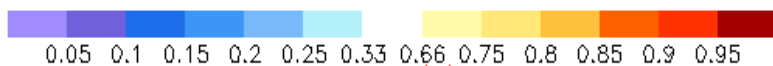
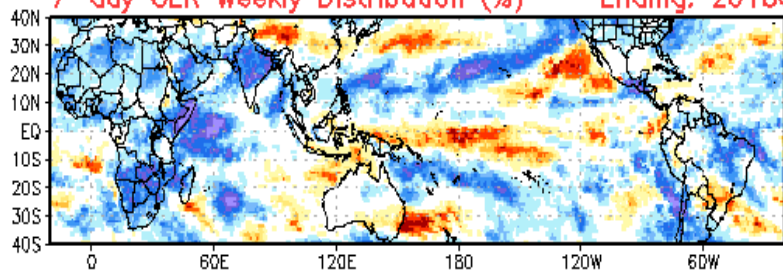
2018/04/30 - 2018/05/06



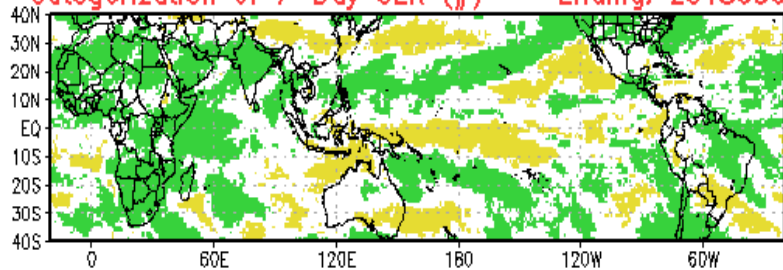
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

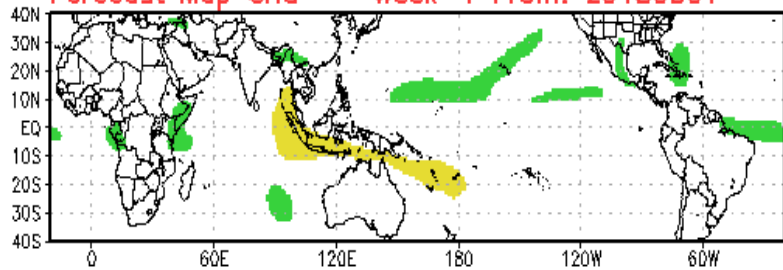
7-day OLR Weekly Distribution (%) -- Ending: 20180508



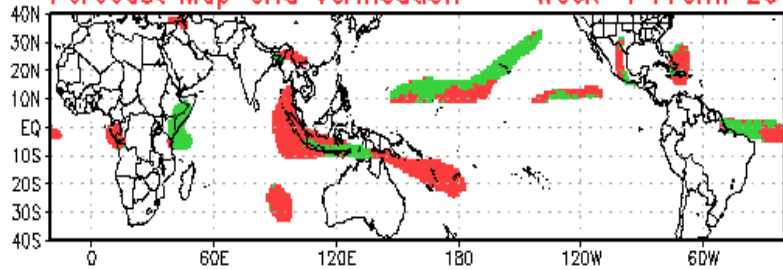
Categorization of 7-Day OLR (#) -- Ending: 20180508



Forecast Map Grid -- Week-1 From: 20180501

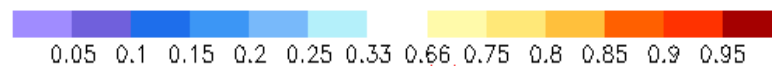
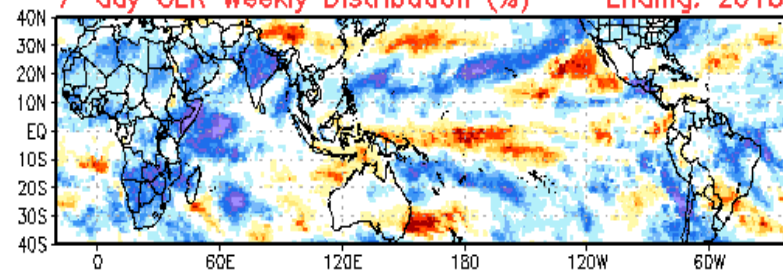


Forecast Map Grid Verification -- Week-1 From: 20180501

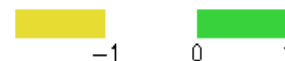
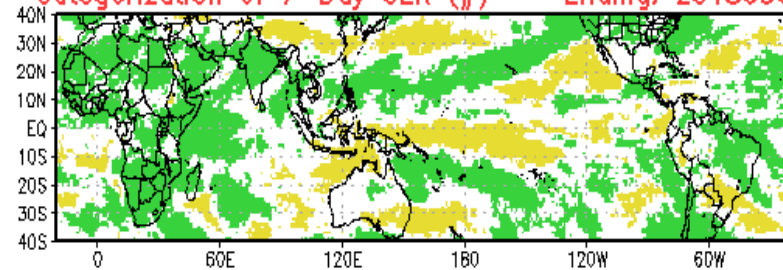


Hit: Green, Miss: Red
Heidke Skill Score: 5.9671

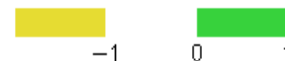
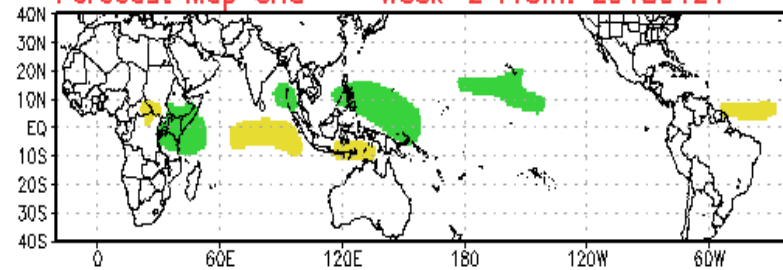
7-day OLR Weekly Distribution (%) -- Ending: 20180508



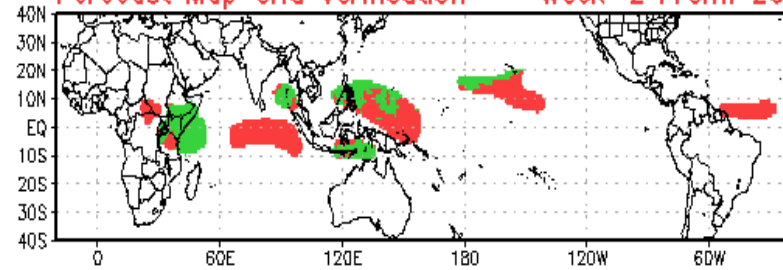
Categorization of 7-Day OLR (#) -- Ending: 20180508



Forecast Map Grid -- Week-2 From: 20180424



Forecast Map Grid Verification -- Week-2 From: 20180424



Hit: Green, Miss: Red
Heidke Skill Score: 7.8303

Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: [La Niña Advisory](#) – *updates Thursday, 10 May!*
- La Niña is expected to transition to ENSO-neutral during April-May, with ENSO-neutral then likely (greater than 50% chance) to continue through the Northern Hemisphere summer 2018.

MJO and other subseasonal tropical variability:

- The MJO re-emerged over the Western Hemisphere during the past week.
- Kelvin wave activity and the active phase of the MJO are likely to enhance convection across the Western Hemisphere this week, while the suppressed phase of the MJO should help dampen convection from Southeast Asia through the West Pacific.
- The MJO and Kelvin wave activity over the Western Hemisphere may help spin up the first tropical cyclone of the season in the East Pacific (hurricane season does not officially begin here until the 15th of May).

Extratropics:

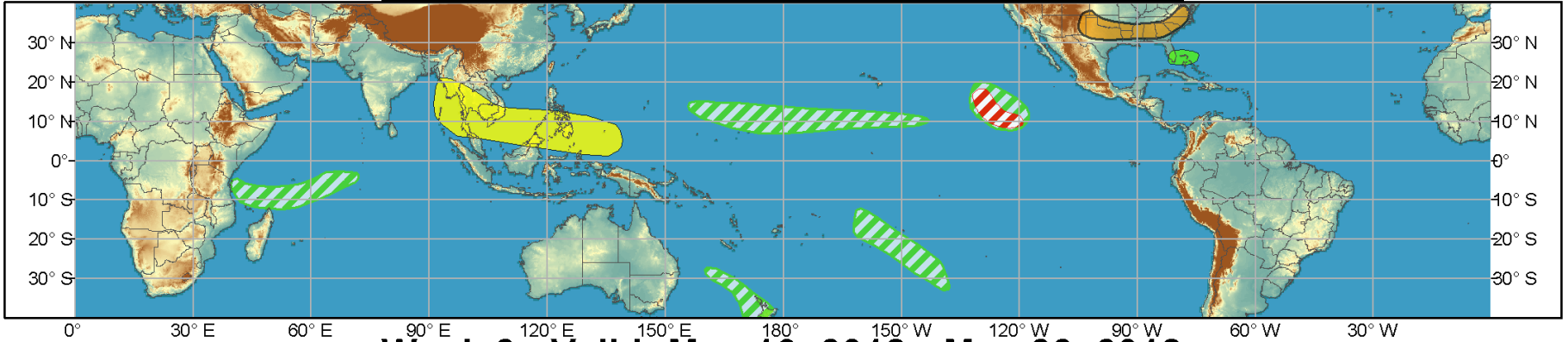
- Teleconnection responses across North America are weak in response to an active MJO over the Western Hemisphere, particularly during this time of year.



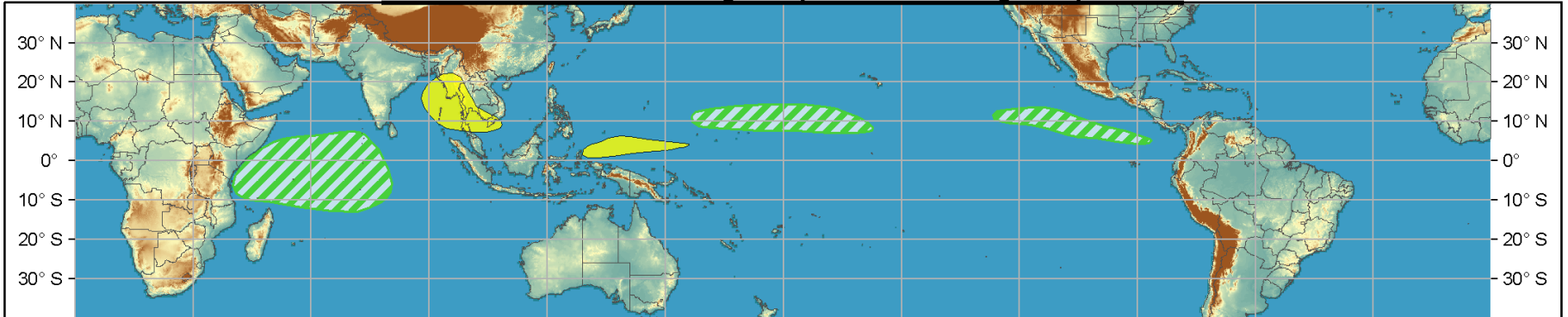
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: May 09, 2018 - May 15, 2018



Week 2 - Valid: May 16, 2018 - May 22, 2018



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: 05/08/2018

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

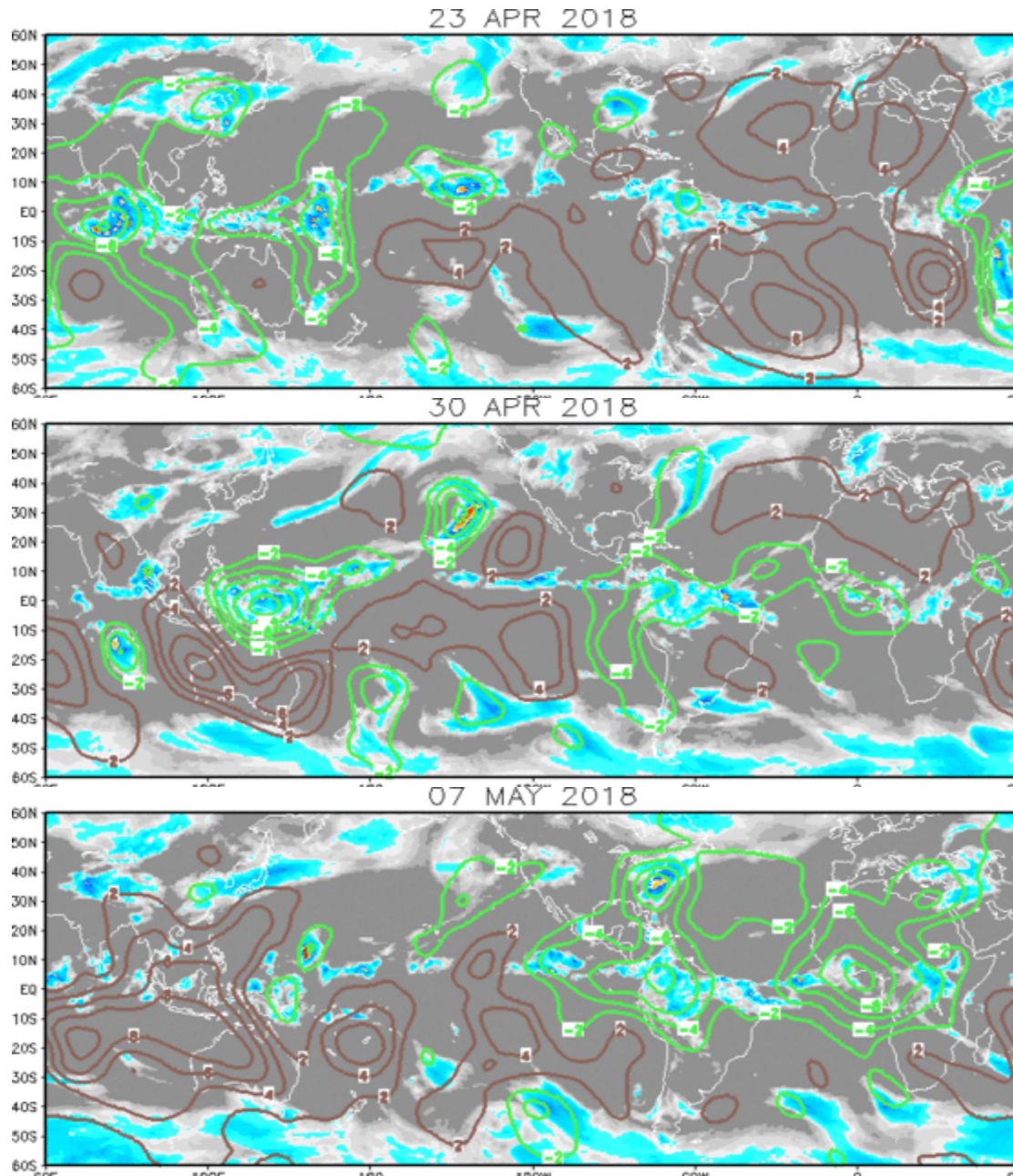
Green: Enhanced Divergence

Brown: Enhanced Convergence

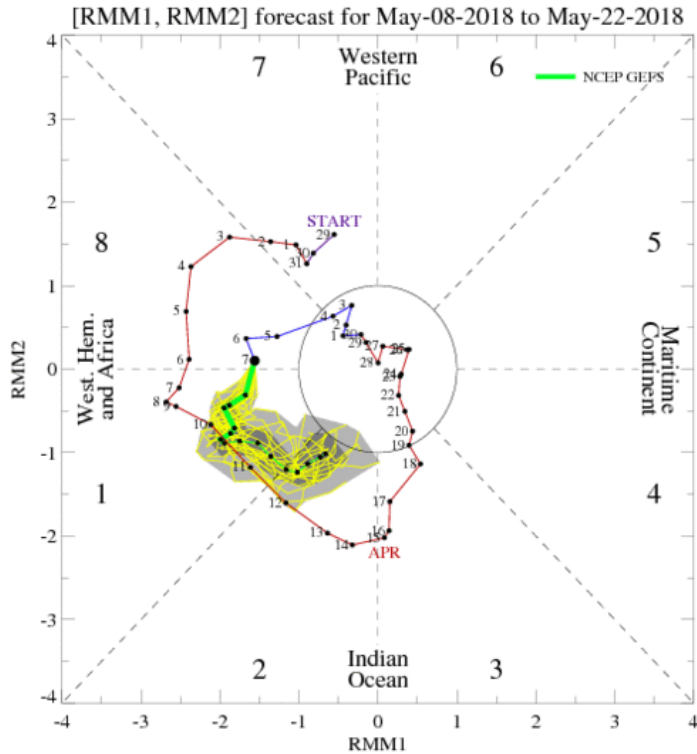
The anomaly field was relatively weak during late April.

By the end of April, the circulation was slightly more anomalous but remained noisy, with the highest amplitude signal over the West Pacific.

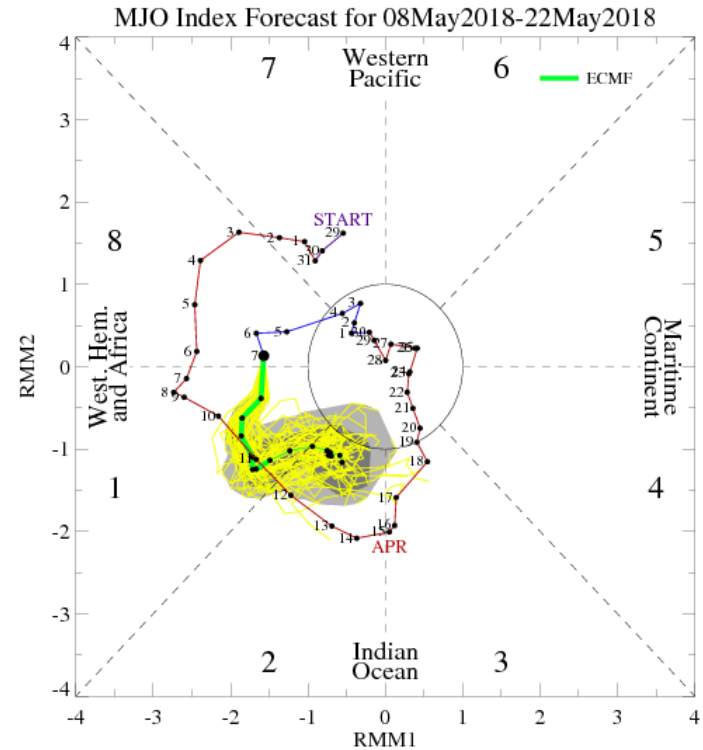
During early May, a wave-1 signal consistent with an active MJO event re-emerged, with enhanced convection across the Americas, Atlantic, and Africa.



MJO Observation/Forecast



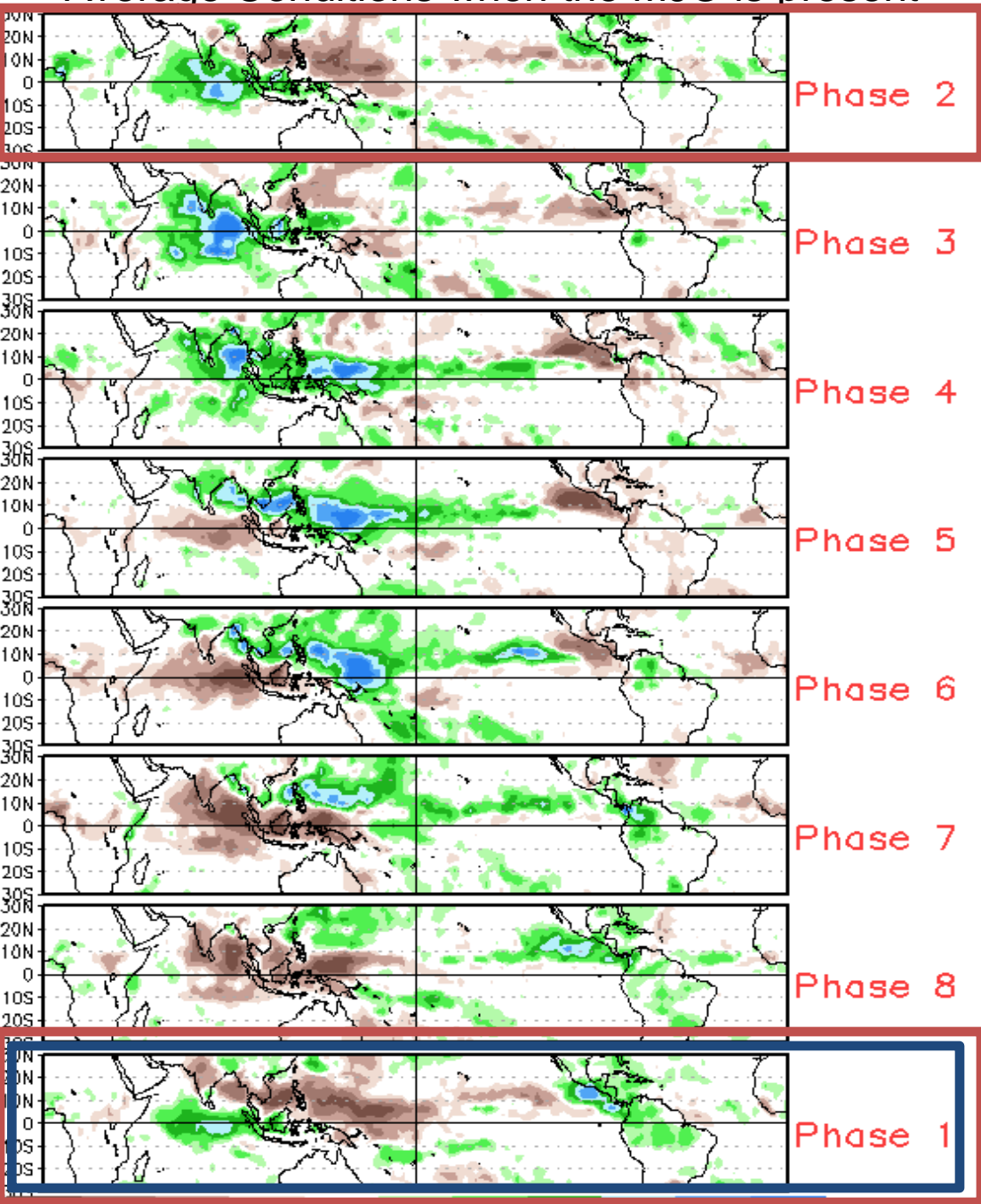
GEFS



ECMWF

Wheeler-Hendon based analyses of model forecasts indicate propagation to the east during the next two weeks, with the event reaching the Indian Ocean during Week-2. The GEFS is slightly slower and higher amplitude relative to the ECWMF.

Average Conditions when the MJO is present



Expectations

Week-1: Phase 1

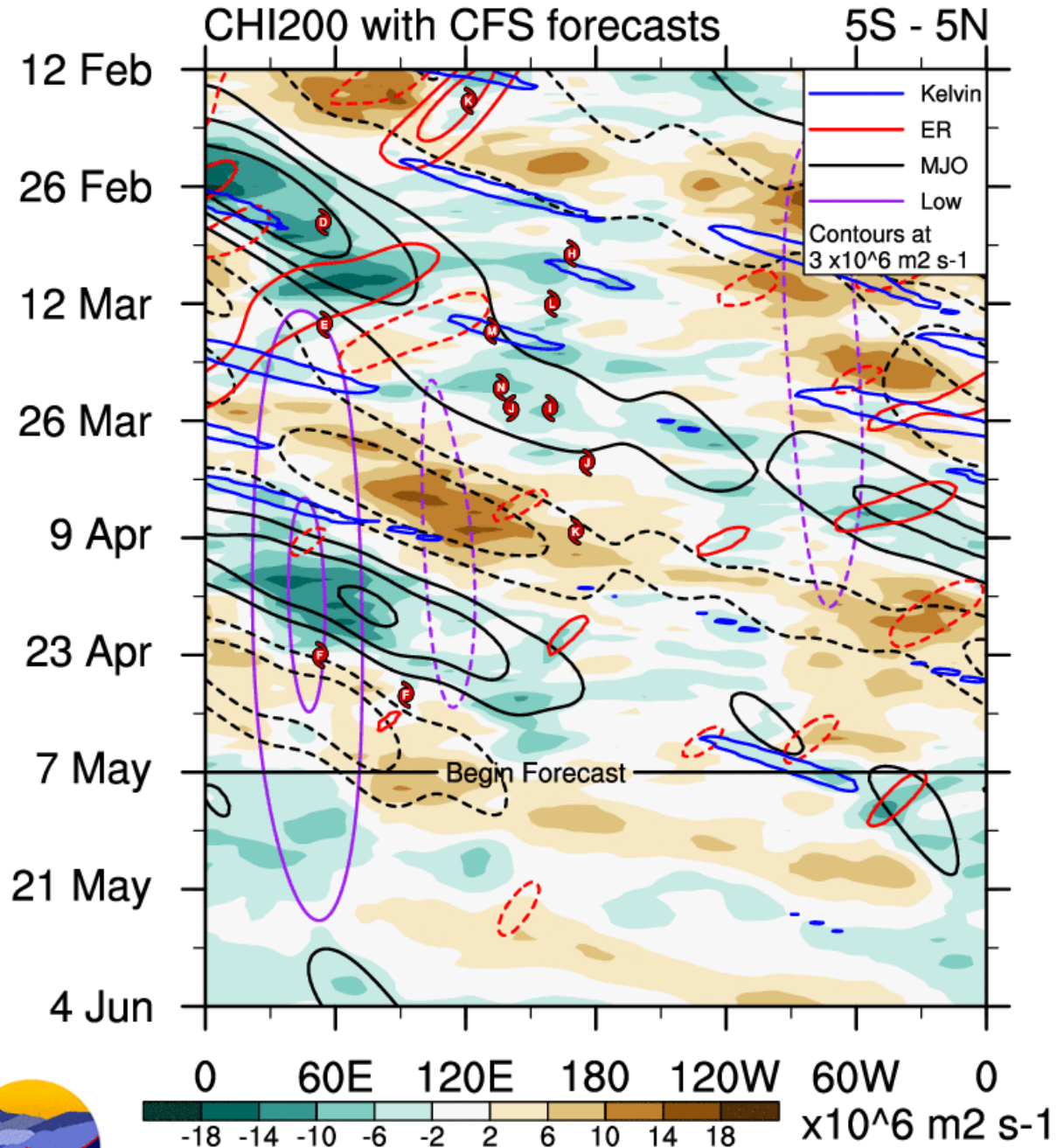
Week-2: Phase 1/2

CAVEAT: These panels are representative of robust MJO events.

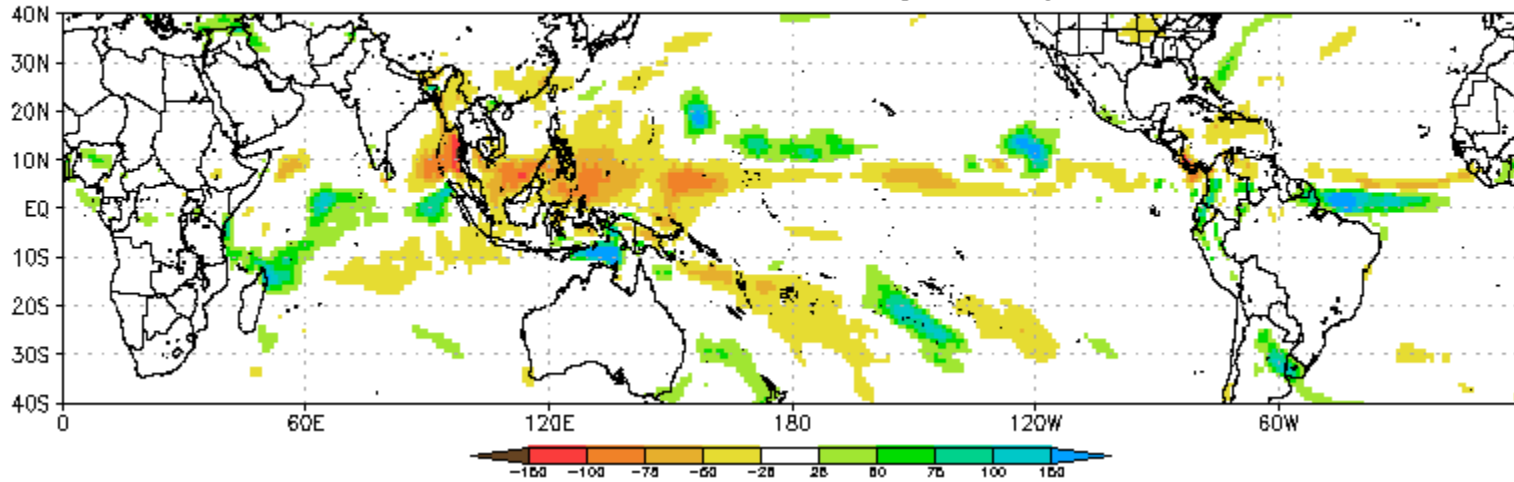
Active **MJO**, **Rosby wave** and **Kelvin wave** influences exist across the Western Hemisphere.

The suppressed phase of the **MJO** is making its way across the Maritime Continent.

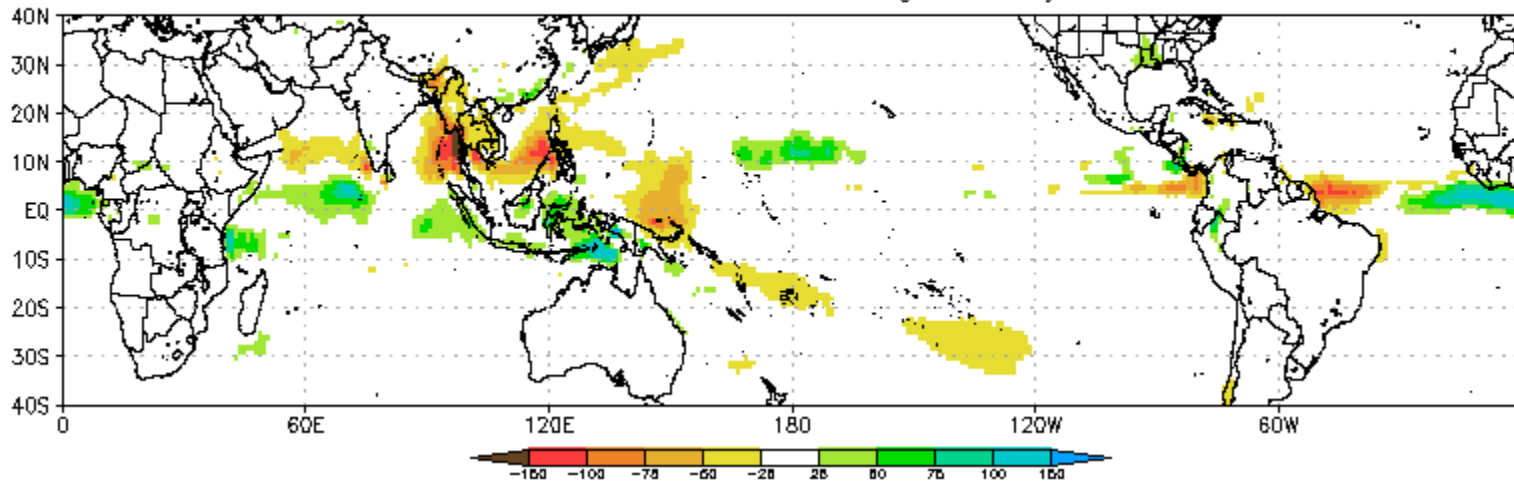
Low frequency signals are enhancing convection over the western Indian Ocean.



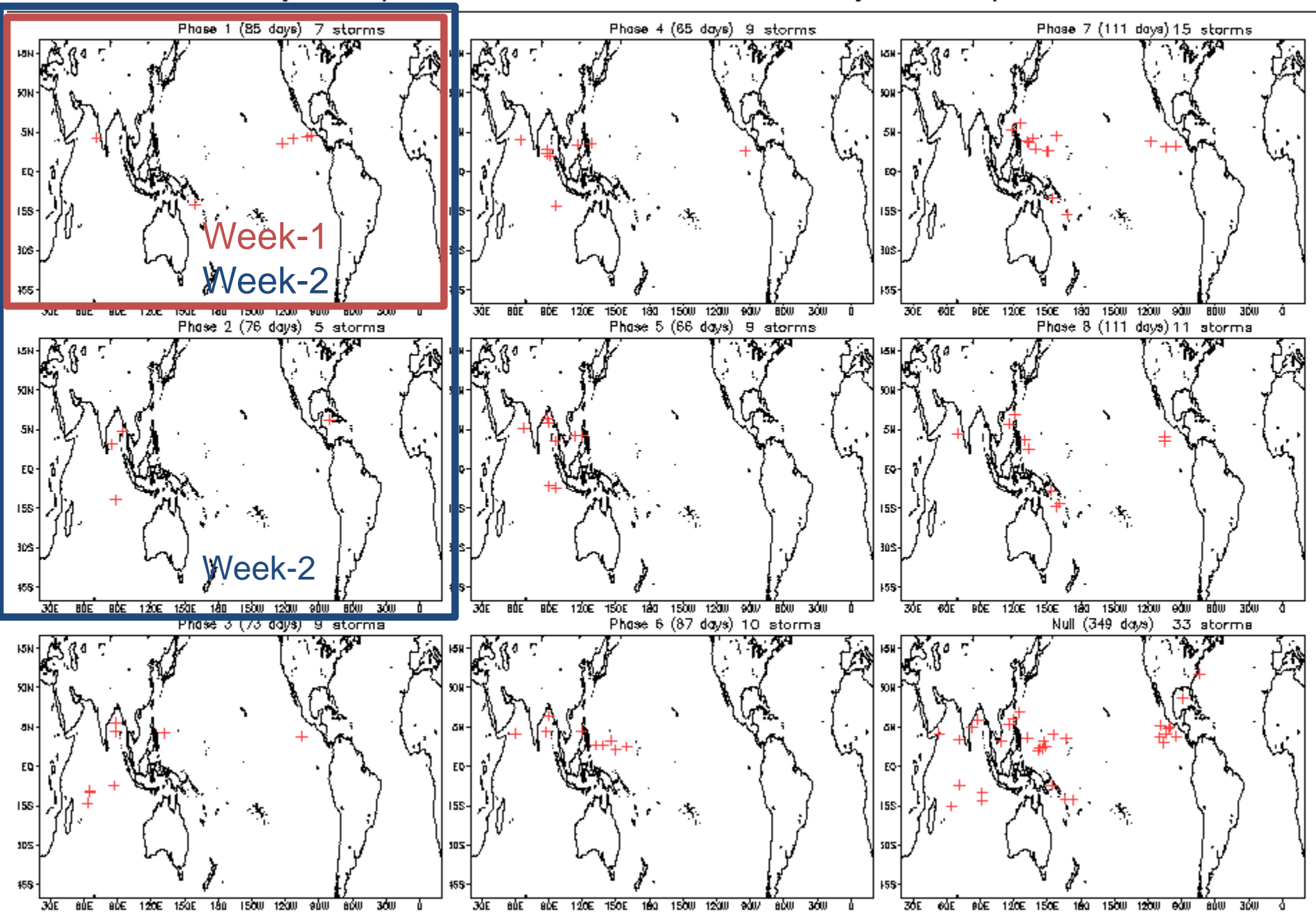
CFS Precipitation Anomalies (mm) Issued 07May2018
Week-1 Forecast Ending 15May2018



CFS Precipitation Anomalies (mm) Issued 07May2018
Week-2 Forecast Ending 22May2018



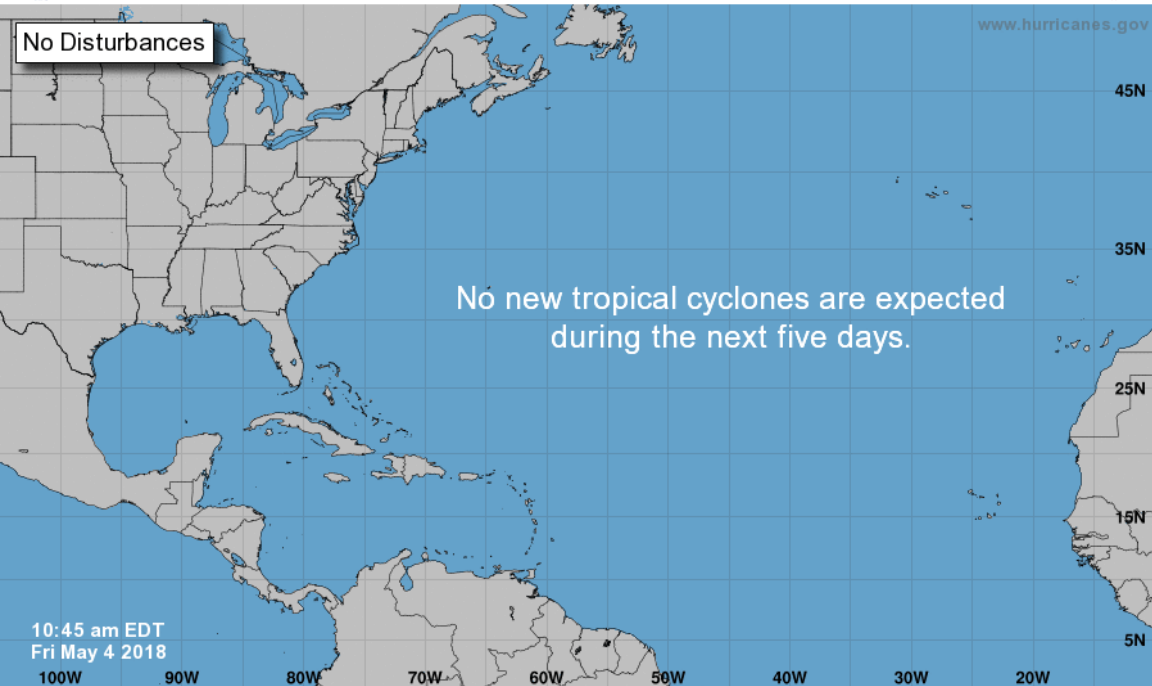
May Tropical Storm Formation by MJO phase





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



10:45 am EDT
Fri May 4 2018

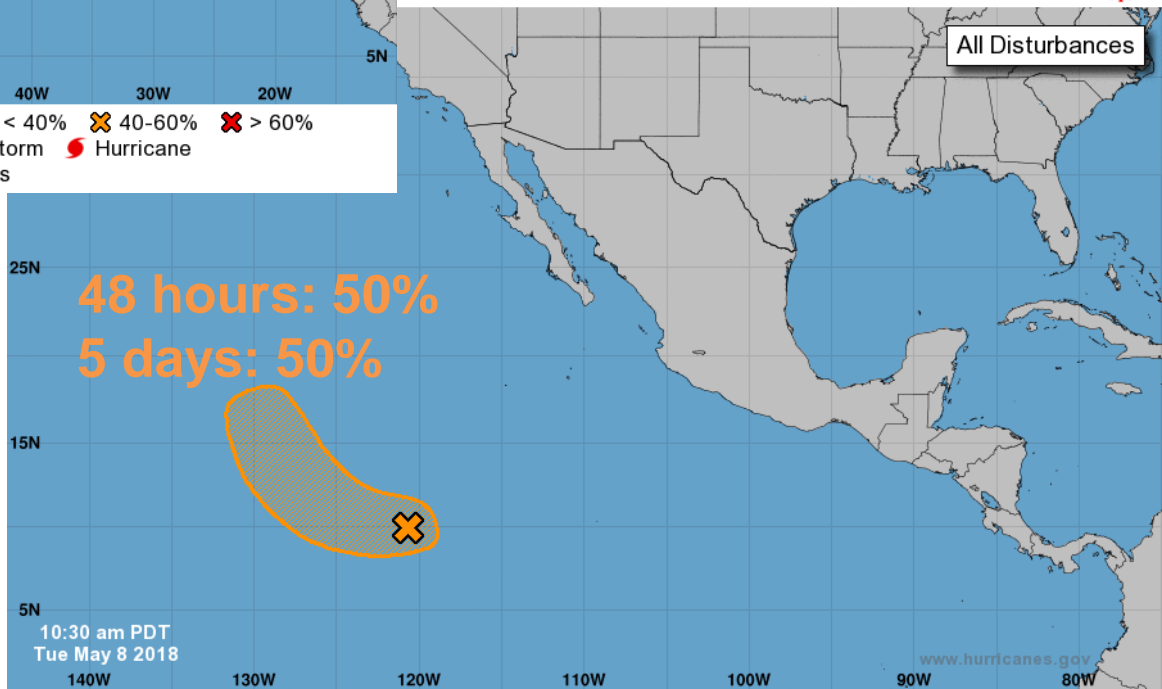
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

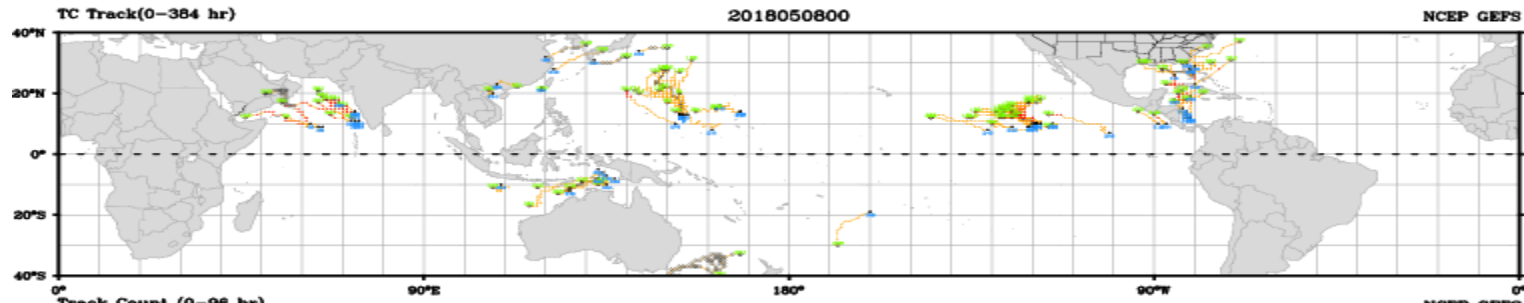
National Hurricane Center Miami, Florida



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Days 1-4

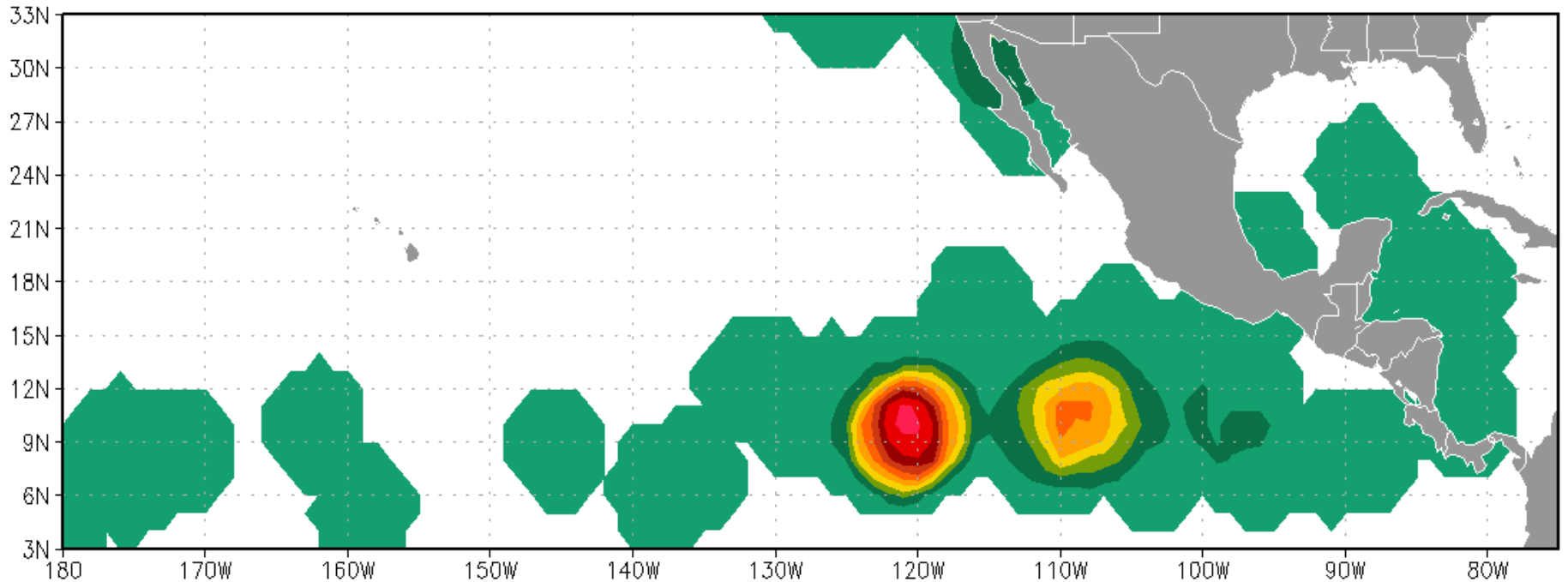
Day 5-8

Day 9-12

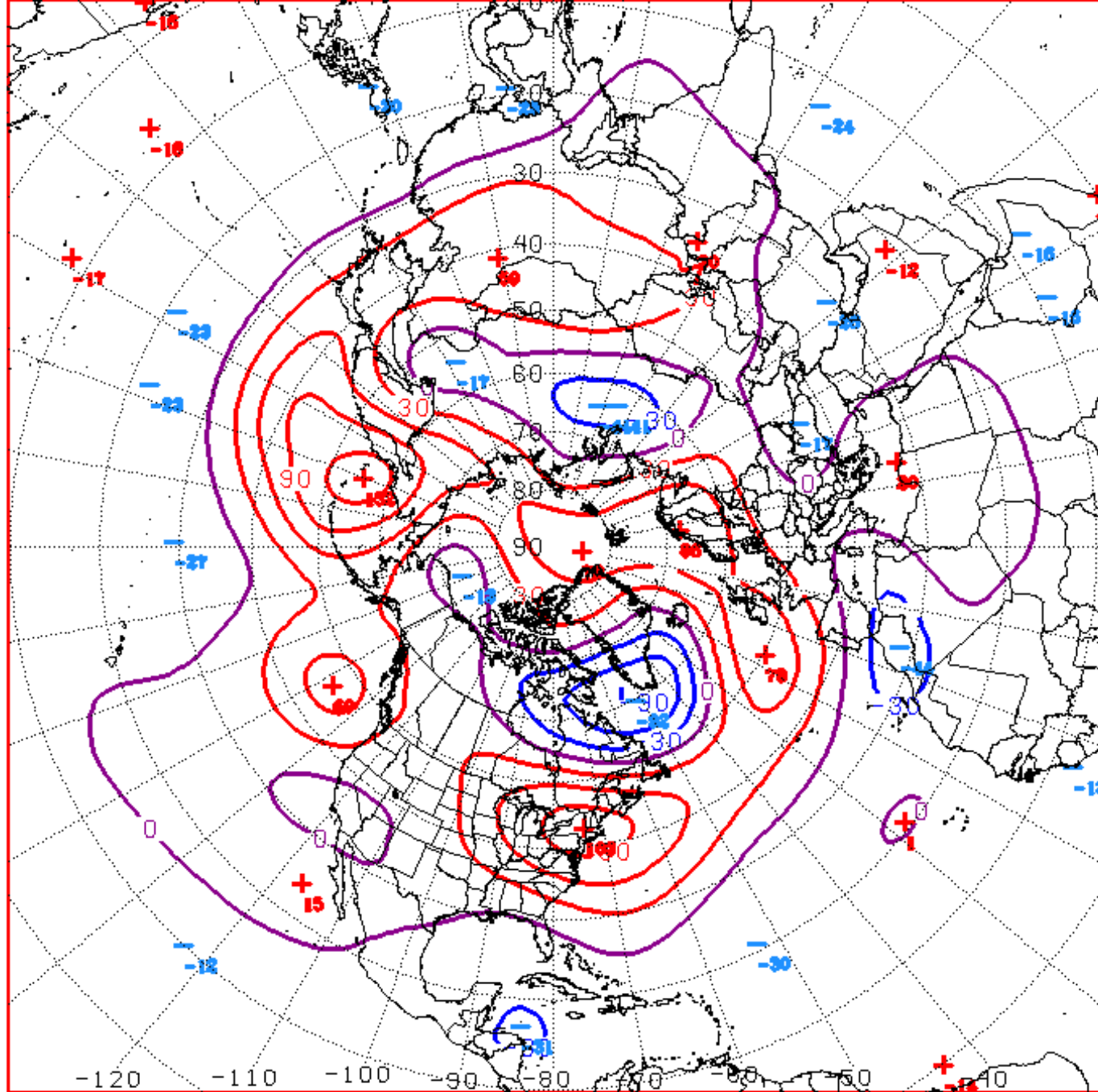
Day 13-15

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

For forecasts during the 00–120h period from initial time = 2018050800



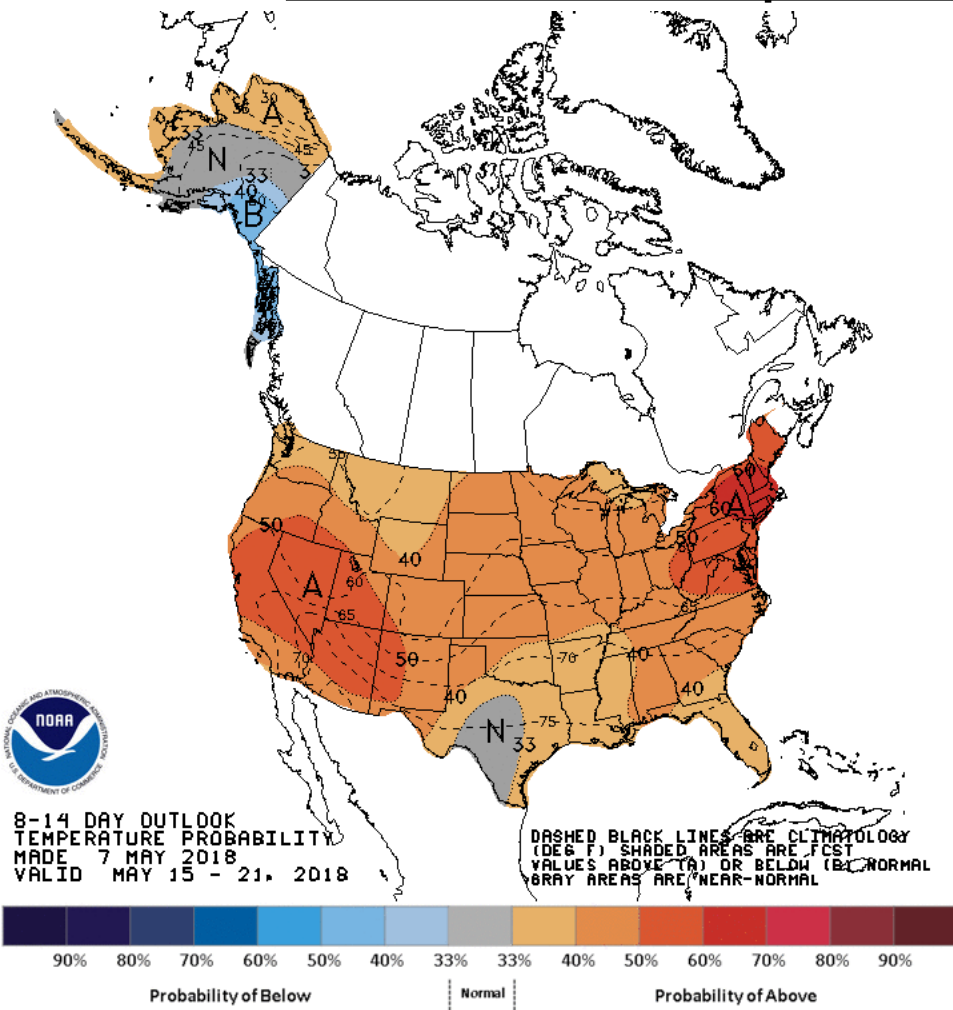
Connections to U.S. Impacts



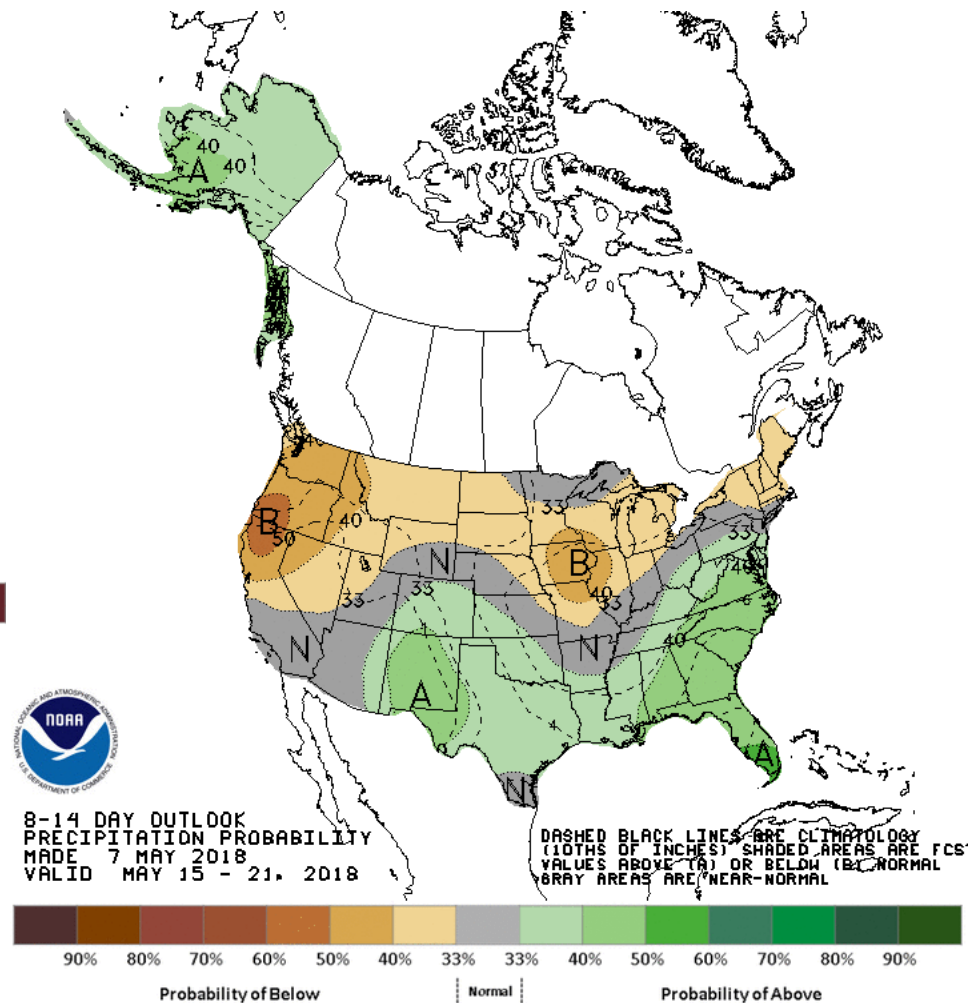
-120 -110 -100 -90 -80 -70 -60 -50 +40

D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAY 08 2018 1341 UTC CNTD MAY 19 2018

Week 2 – Temperature and Precipitation



Today's Week-2 outlook likely wetter across the northern tier from the Great Plains eastward.

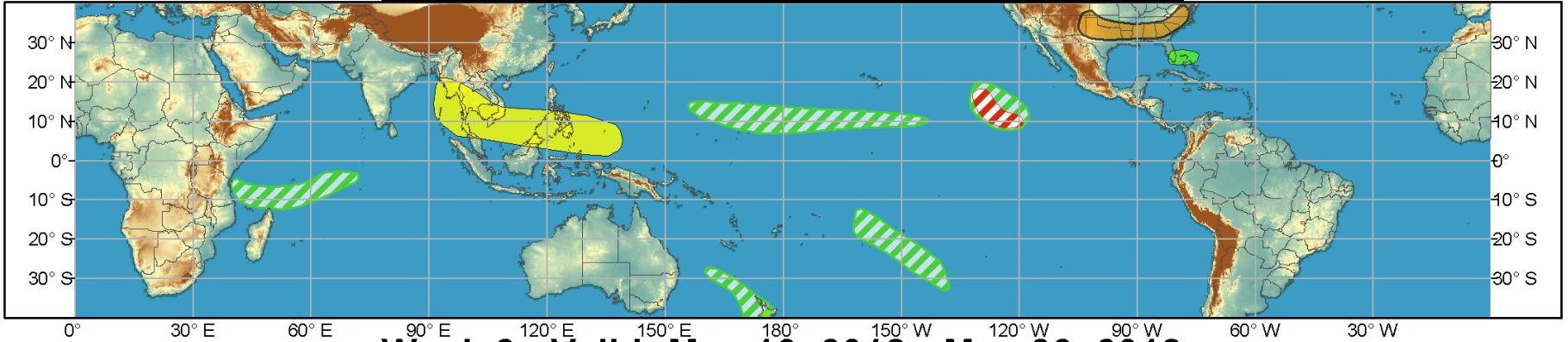




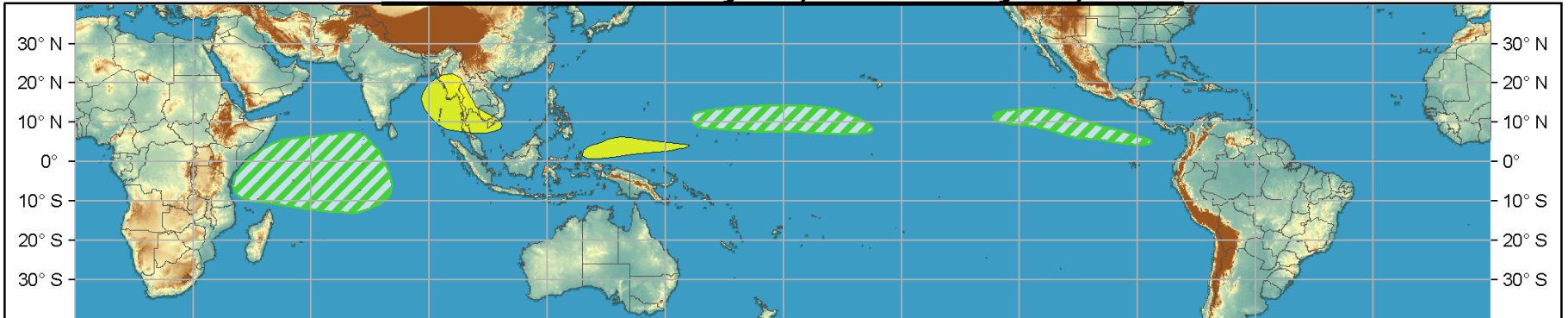
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