

Global Tropics Hazards And Benefits Outlook

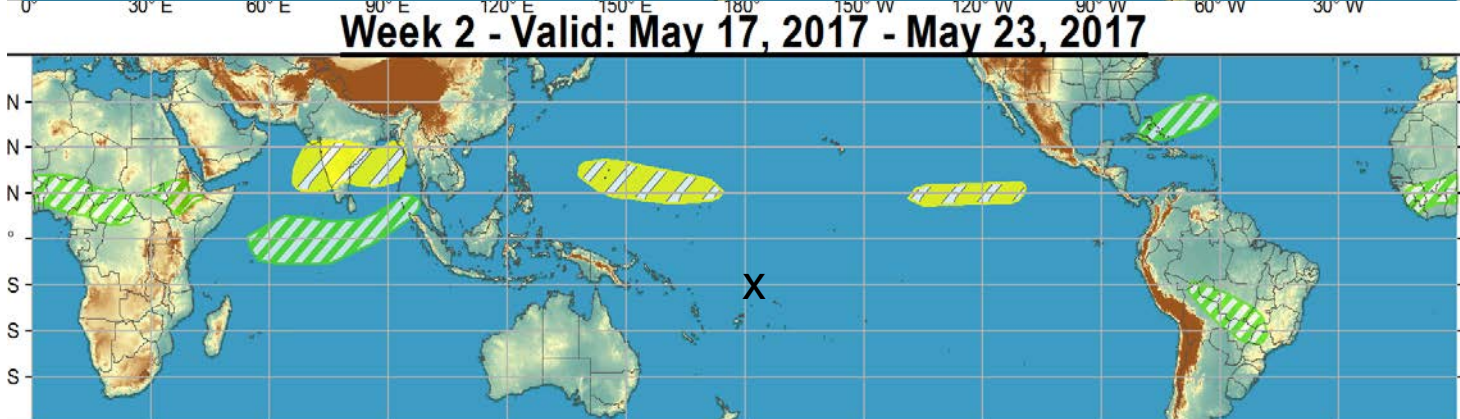
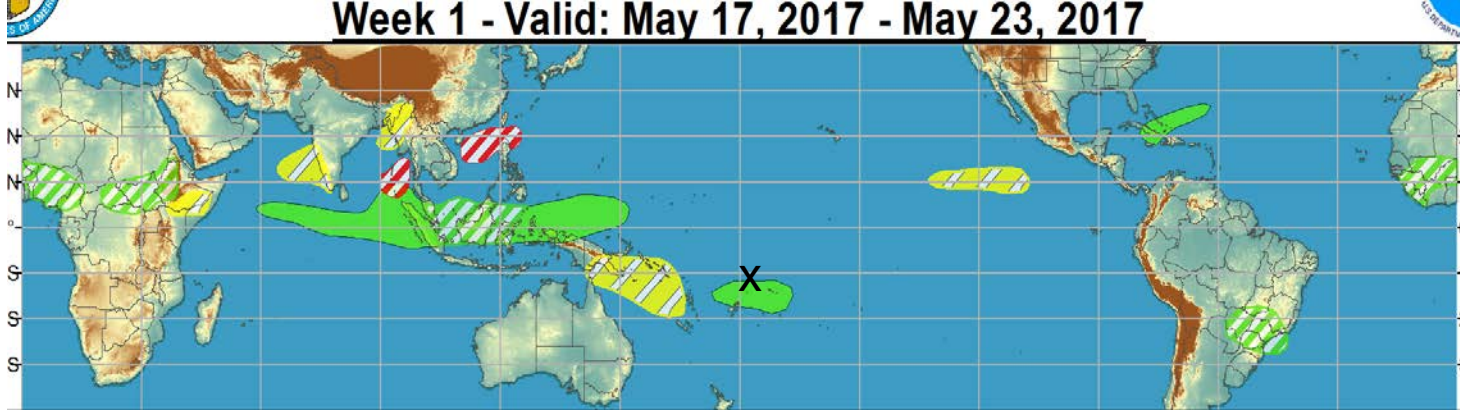
5/23/2017

Anthony Artusa

Outline

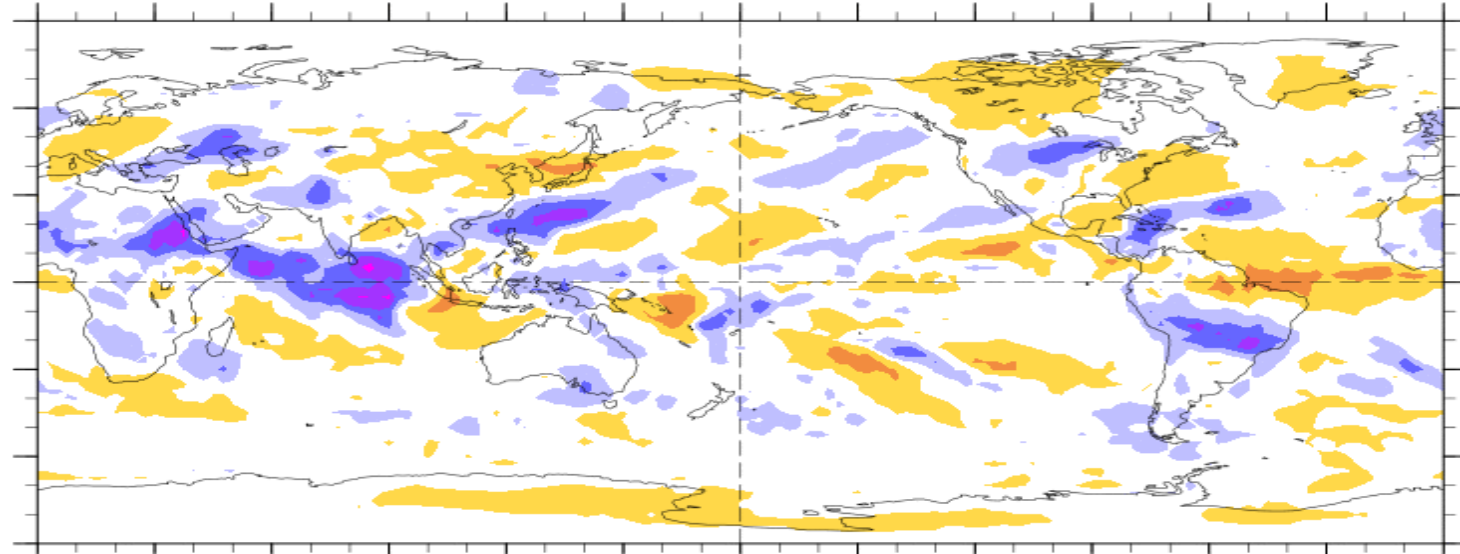
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review



7-Day Average OLR Anomaly

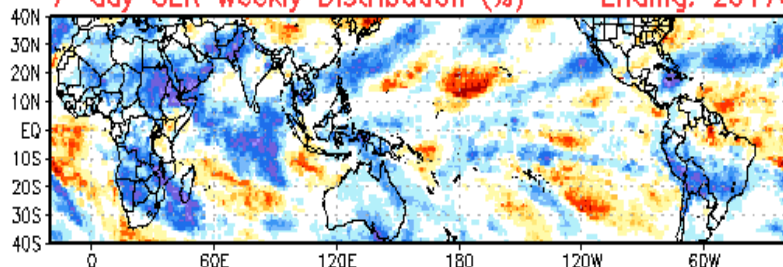
2017/05/15 - 2017/05/21



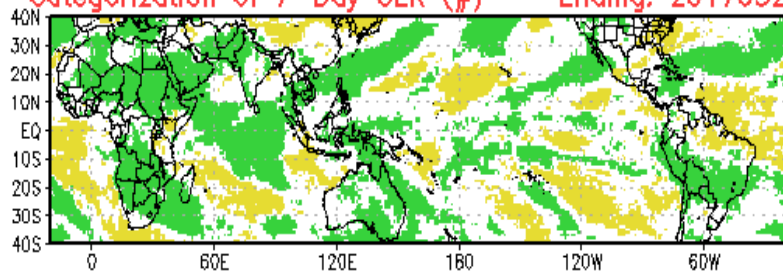
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

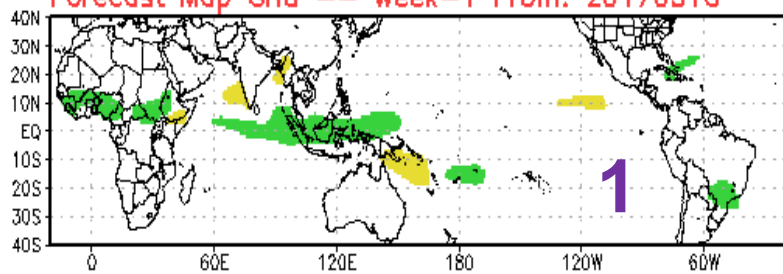
7-day OLR Weekly Distribution (%) -- Ending: 20170523



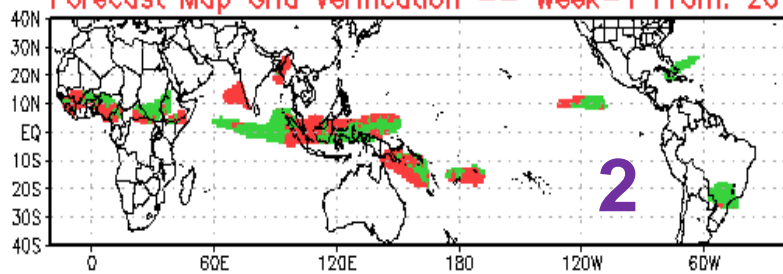
Categorization of 7-Day OLR (#) -- Ending: 20170523



Forecast Map Grid -- Week-1 From: 20170516

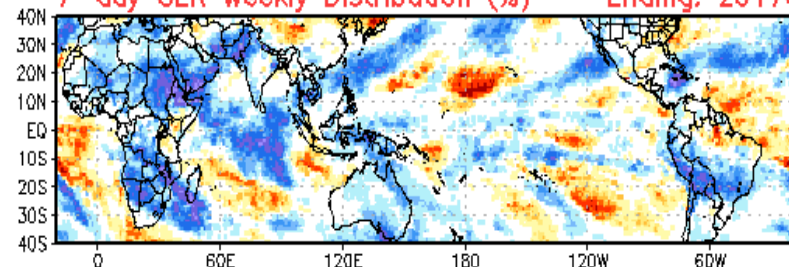


Forecast Map Grid Verification -- Week-1 From: 20170516

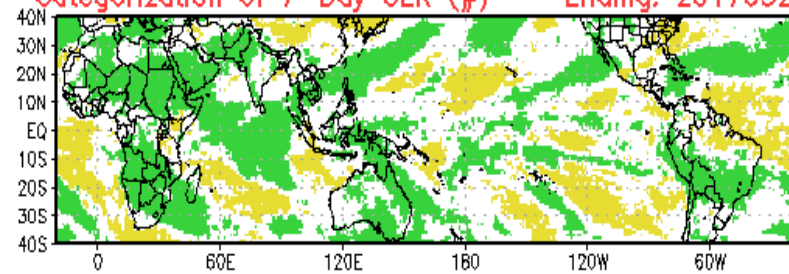


Hit: Green, Miss: Red
Heidke Skill Score: 27.5974

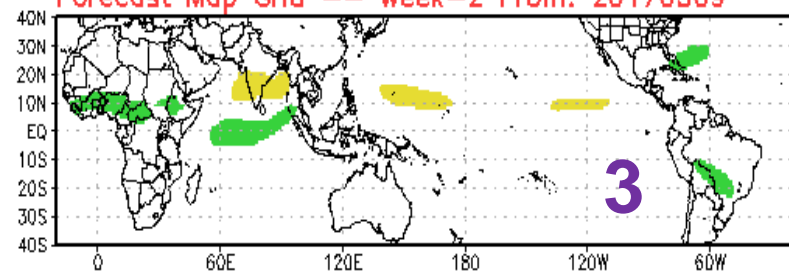
7-day OLR Weekly Distribution (%) -- Ending: 20170523



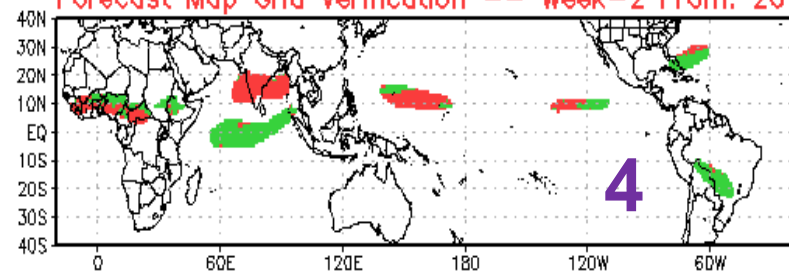
Categorization of 7-Day OLR (#) -- Ending: 20170523



Forecast Map Grid -- Week-2 From: 20170509



Forecast Map Grid Verification -- Week-2 From: 20170509



Hit: Green, Miss: Red
Heidke Skill Score: 31.5785

Synopsis of Climate Modes

ENSO:

- ENSO-neutral and El Niño are nearly equally favored during the Northern Hemisphere summer and fall 2017

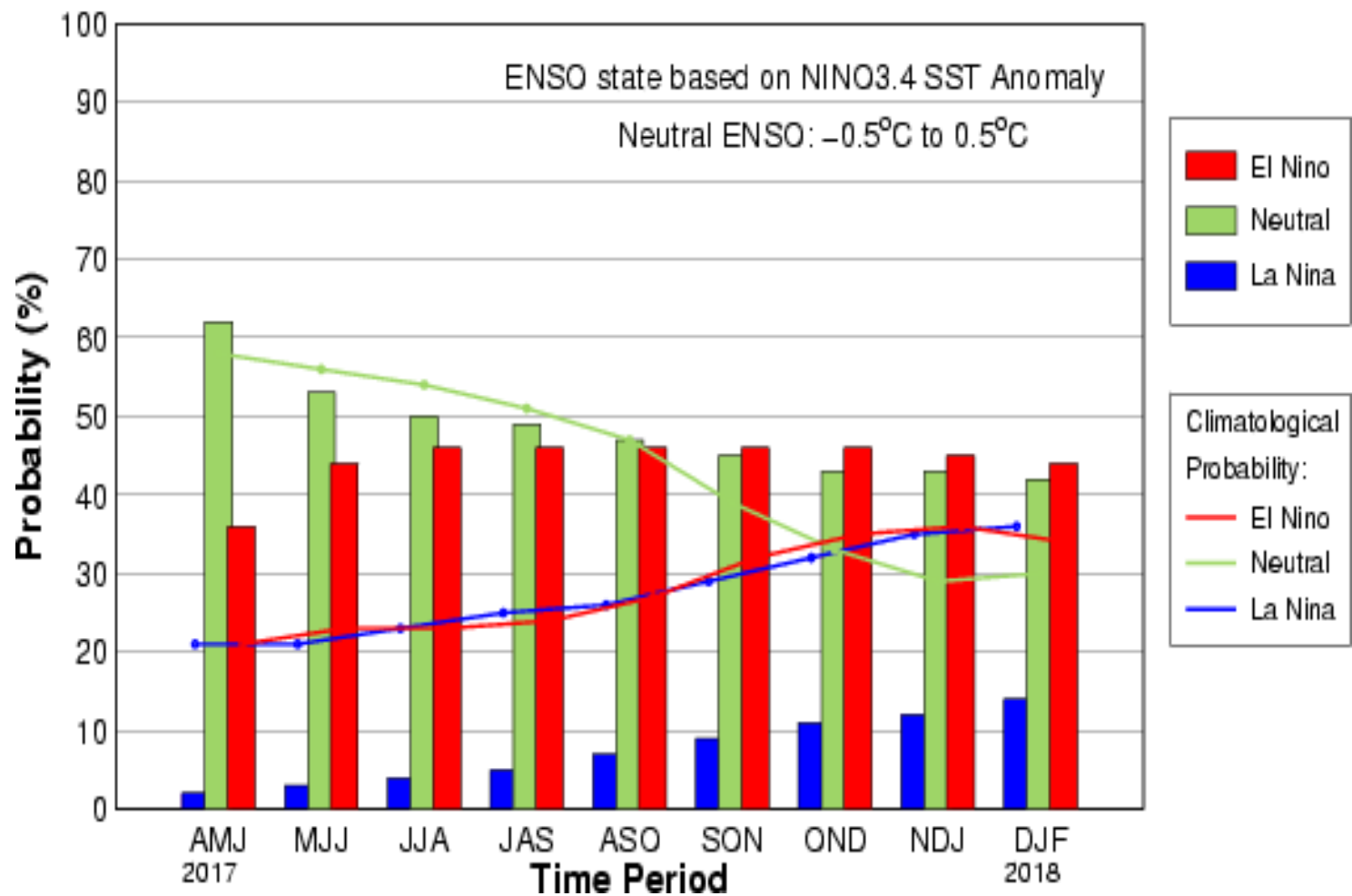
MJO and other subseasonal tropical variability:

- The MJO was weak, and propagating eastward across the Indian Ocean.
- Dynamical models indicate a weak signal in Week-1, then a higher amplitude signal in Week-2. Equatorial Rossby Waves are expected to obscure/mask the MJO signal across the Indian Ocean/Maritime Continent during the two-week period.

Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity (lagged impacts from Phases 3,4 are minimal over North America in the 5-15 day time period.)

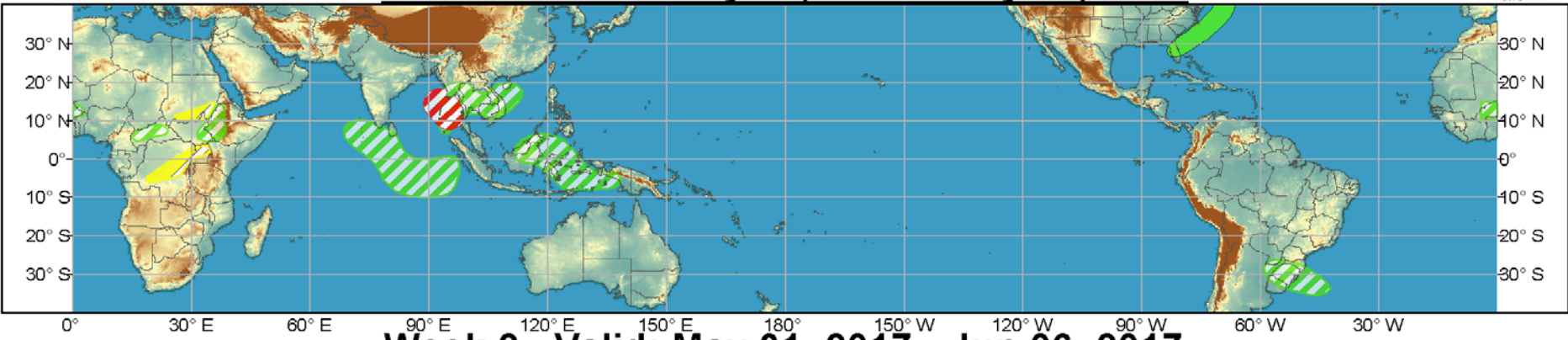
Early-May CPC/IRI Official Probabilistic ENSO Forecast



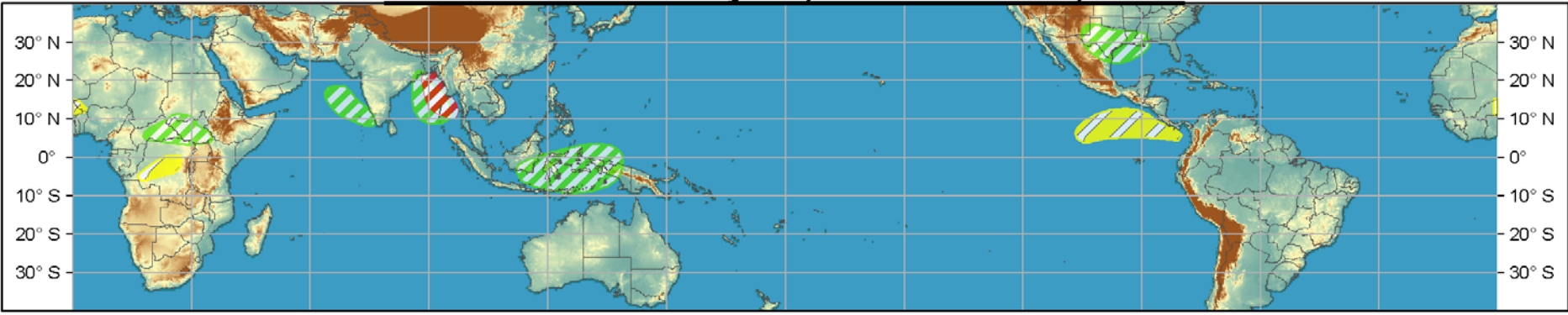


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 24, 2017 - May 30, 2017



Week 2 - Valid: May 31, 2017 - Jun 06, 2017



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: 05/23/2017
Forecaster: Artusa

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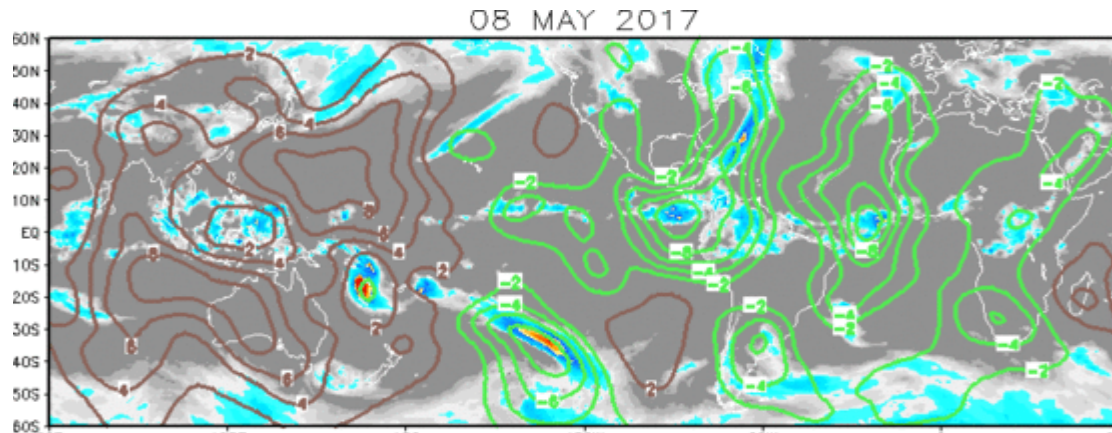


IR Satellite & 200-hpa Velocity Potential Anomalies

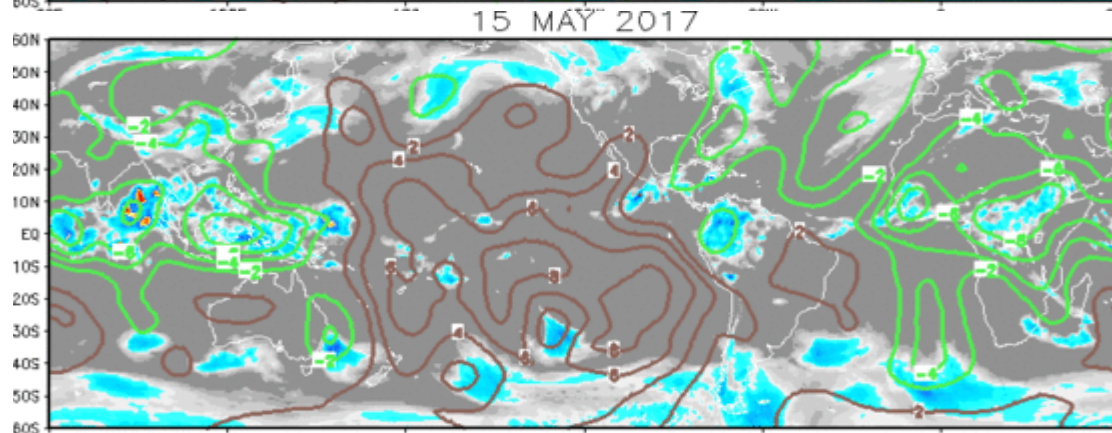
Green: Enhanced Divergence

Brown: Enhanced Convergence

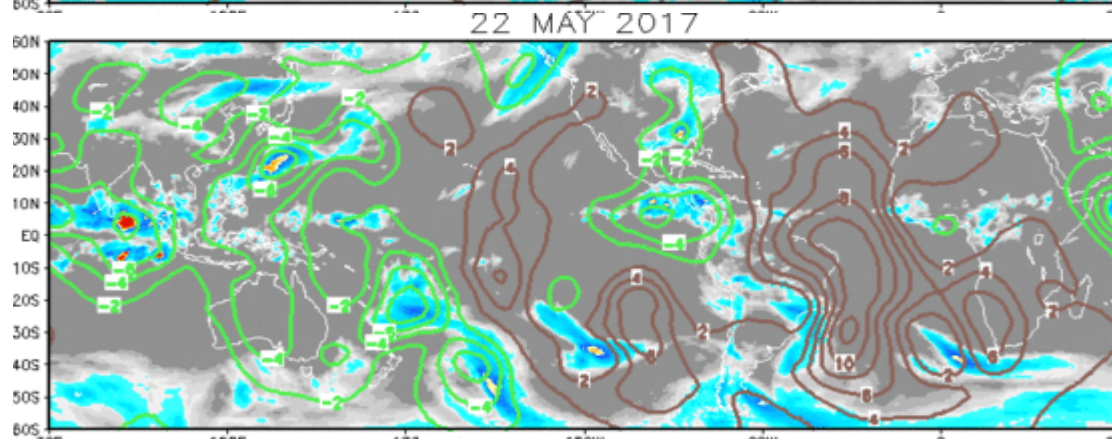
Wave-2 with an MJO projection.
Enhanced convection over the
central South Pacific, and from
the Americas to Africa.



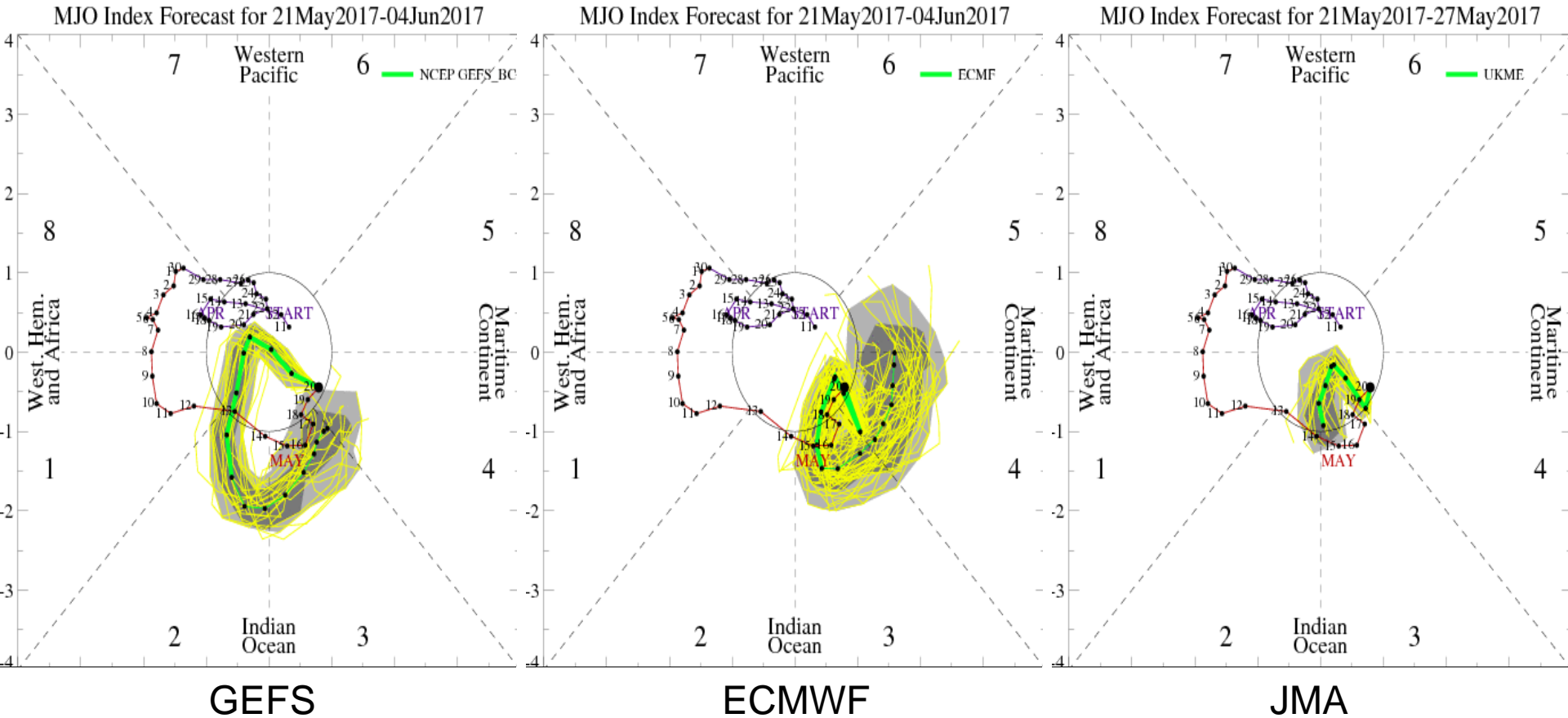
Wave-1 with a moderate MJO
projection.



Wave-2. Enhanced convection
over Eastern Hemisphere, and
Central America region.



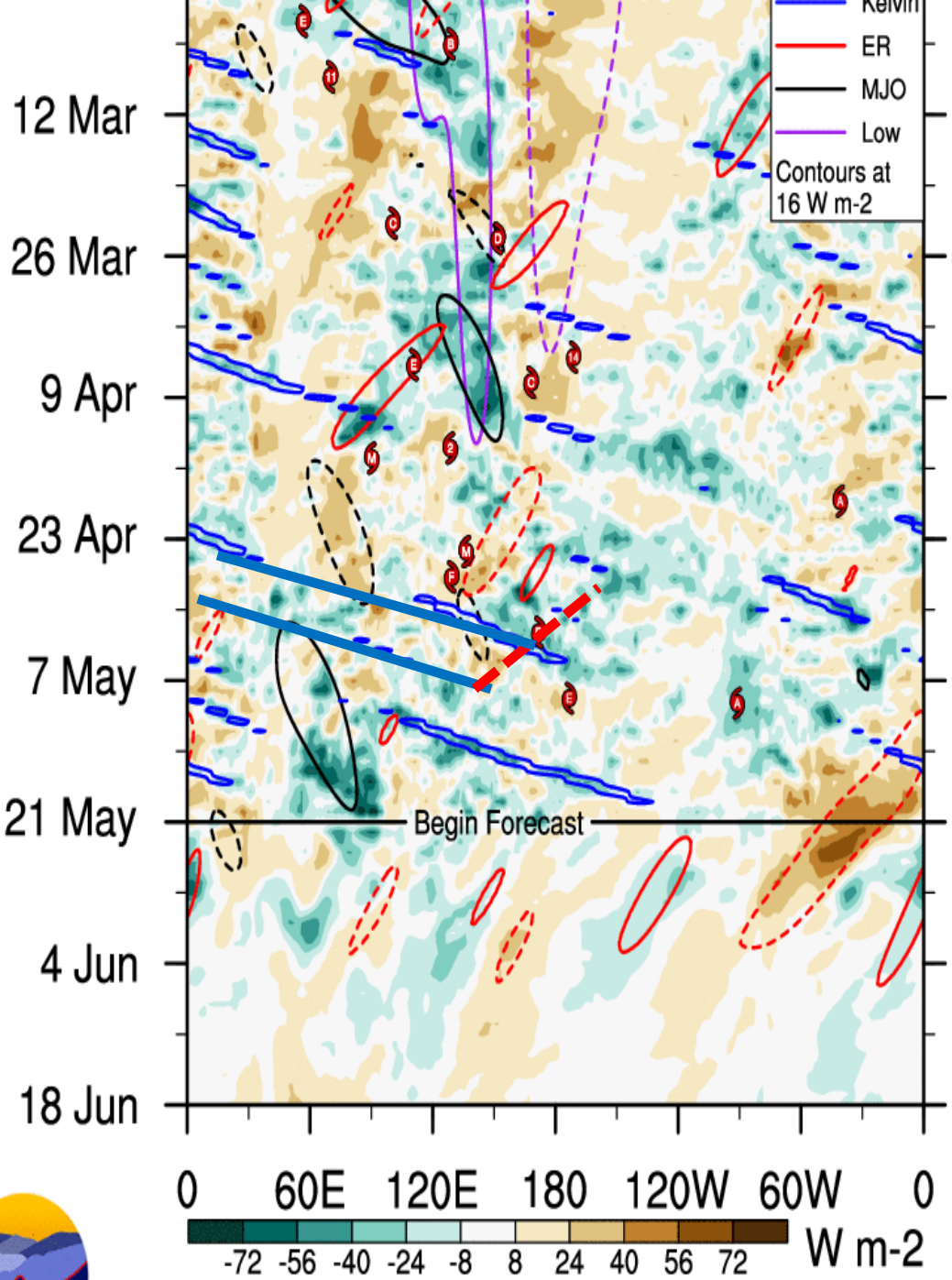
MJO Observation/Forecast

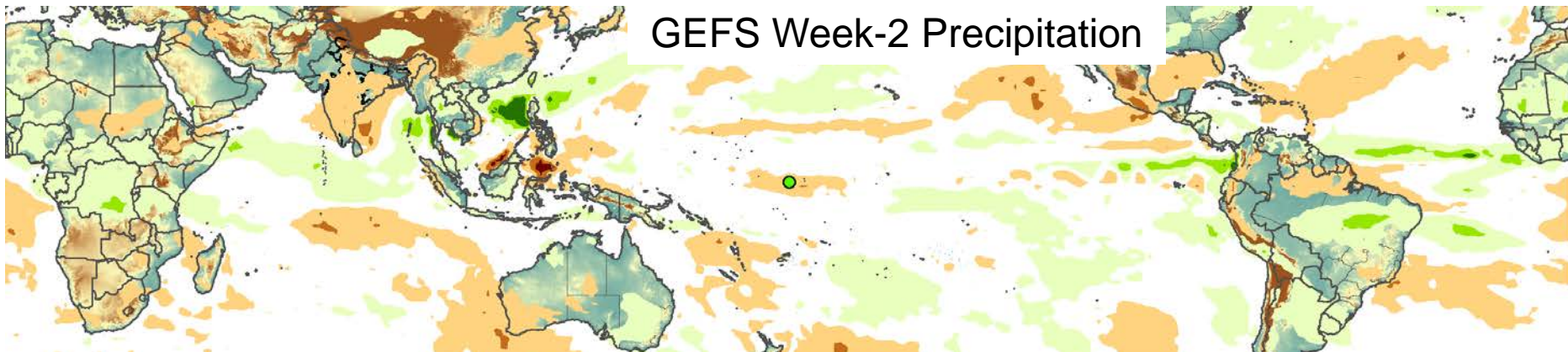
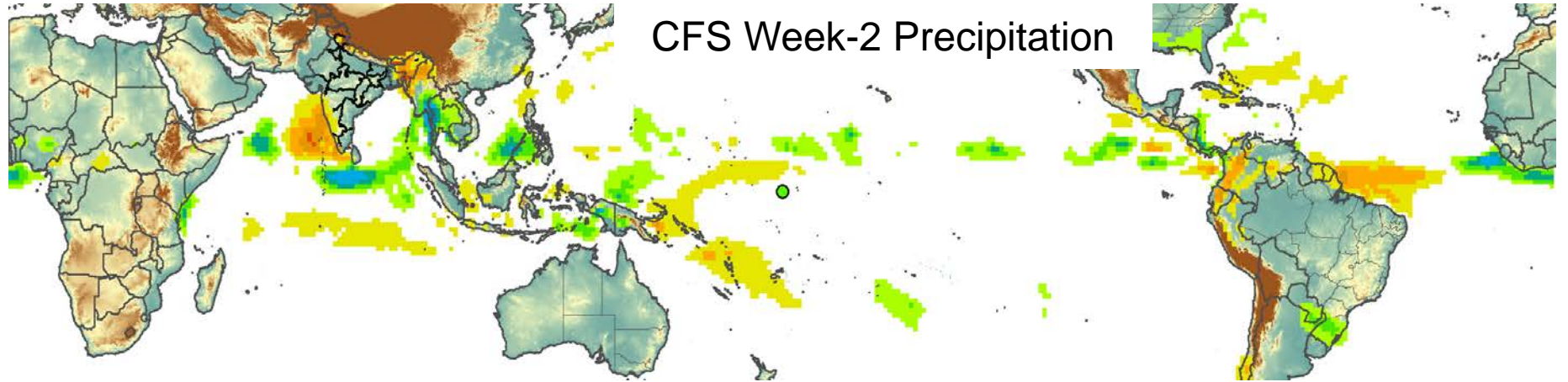
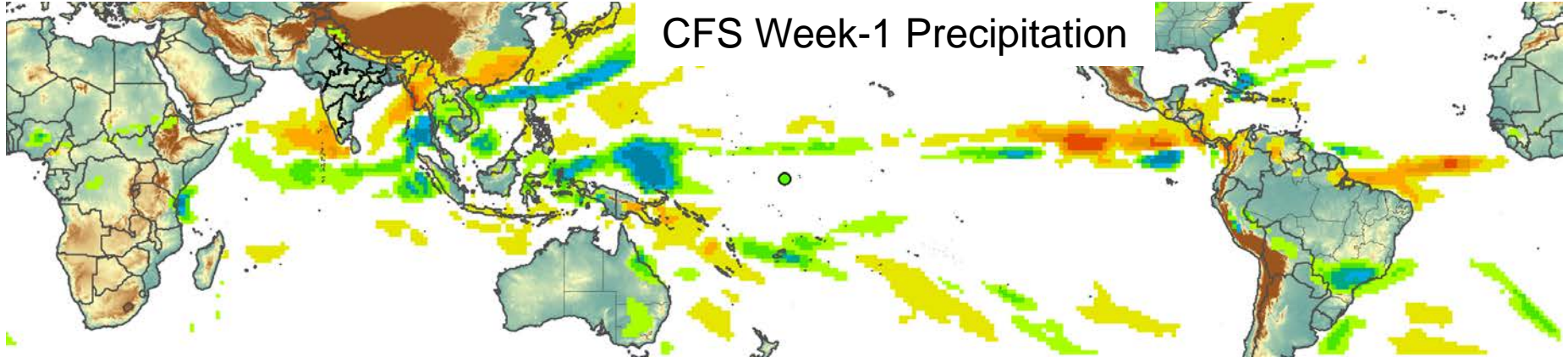


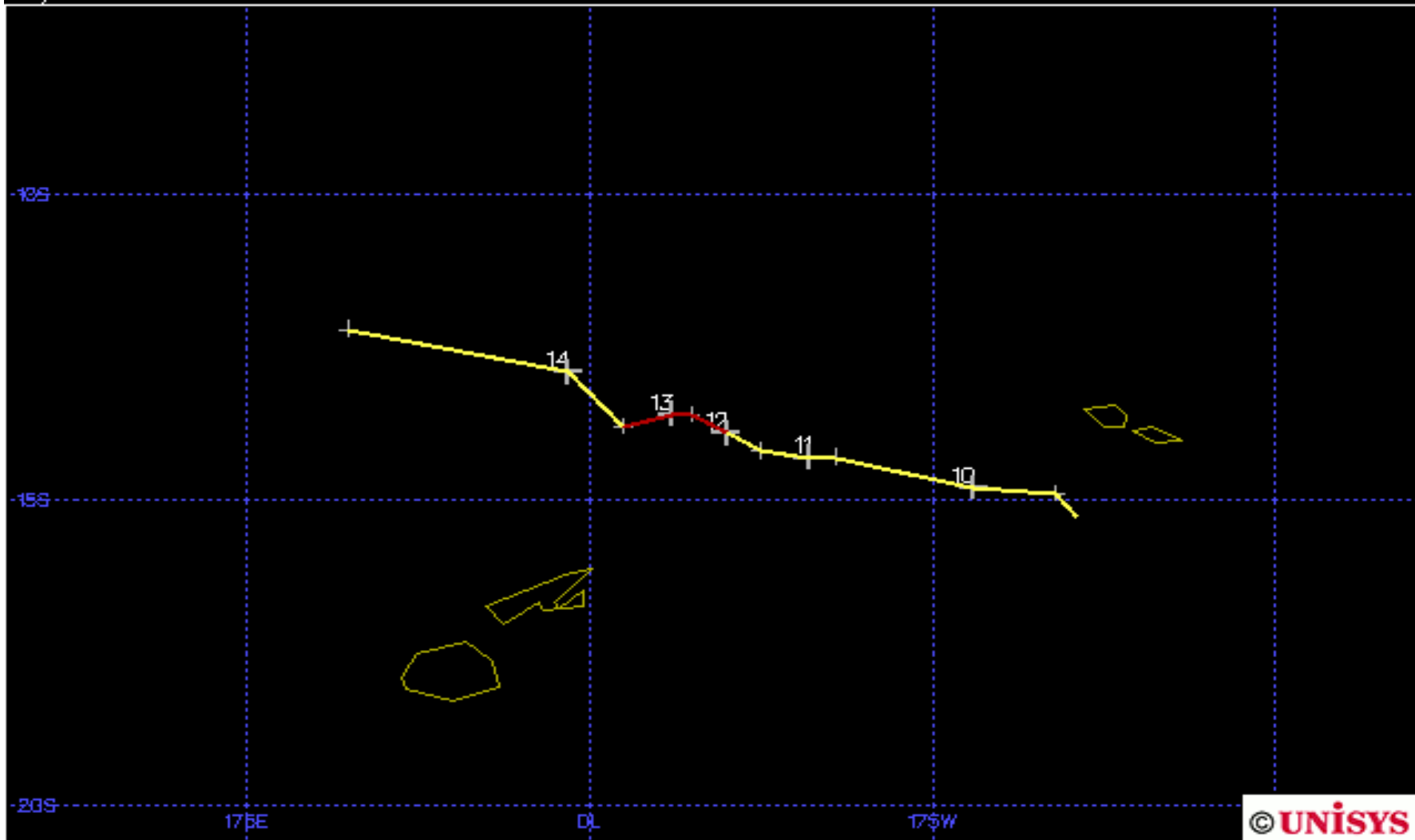
Wheeler-Hendon based analyses of model forecasts depict westward moving modes in Week-1, followed by eastward propagation across the Indian Ocean & Maritime Continent.

MJO, Rossby wave and **Kelvin wave** having an influence

Low-frequency pattern less of an influence







Wallis & Futana received heavy rain & strong winds from Ella



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

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

Tropical or Sub-Tropical Cyclone: ○ Depression ○ Storm ○ Hurricane

⊗ Post-Tropical Cyclone ✘ Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

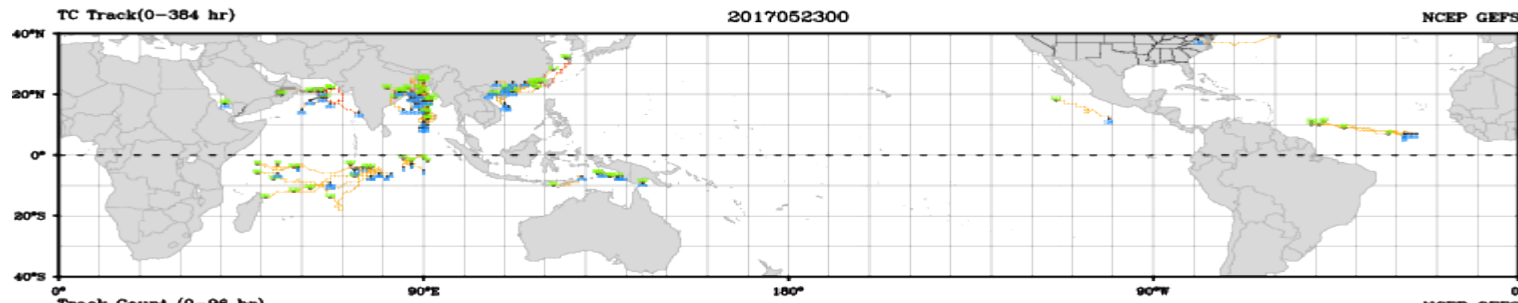


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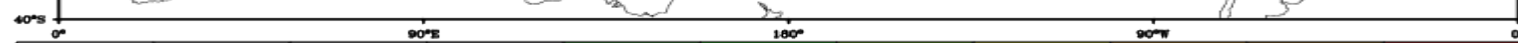
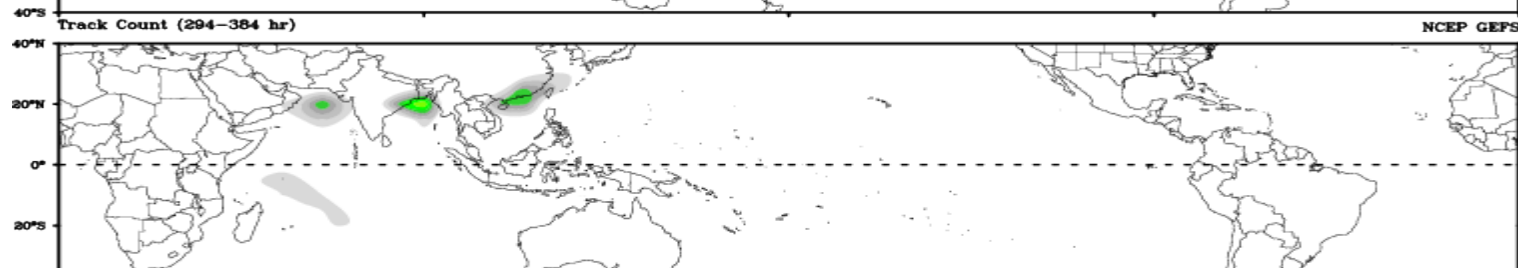
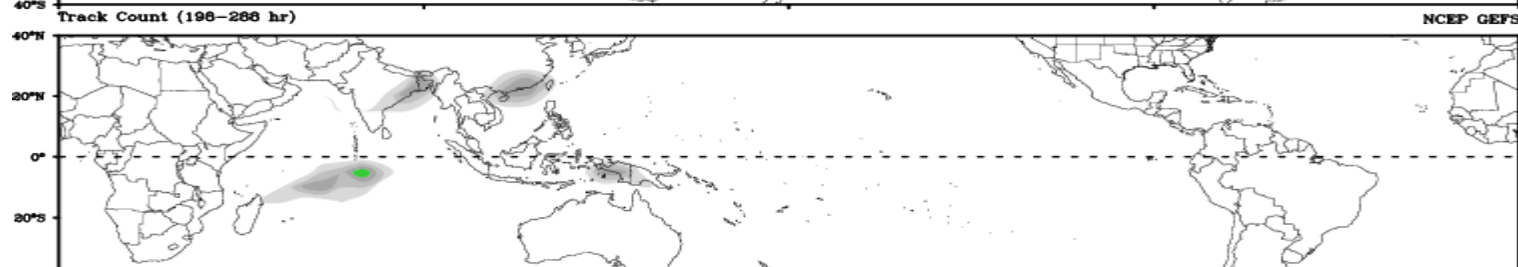
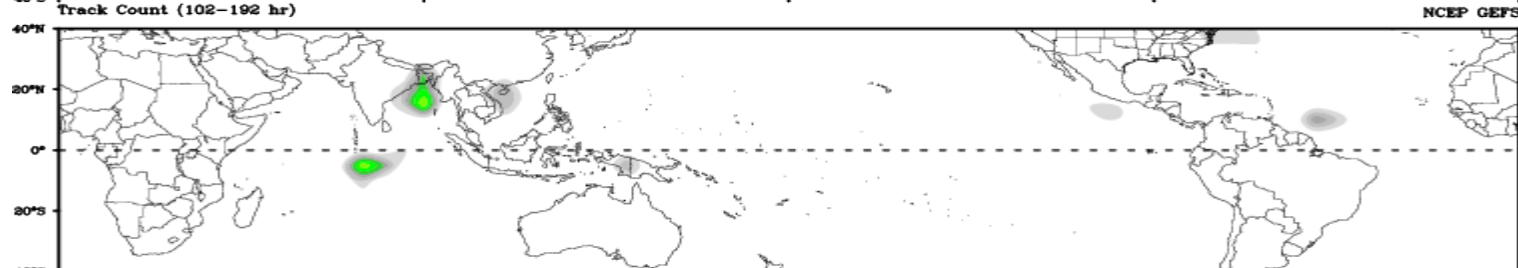
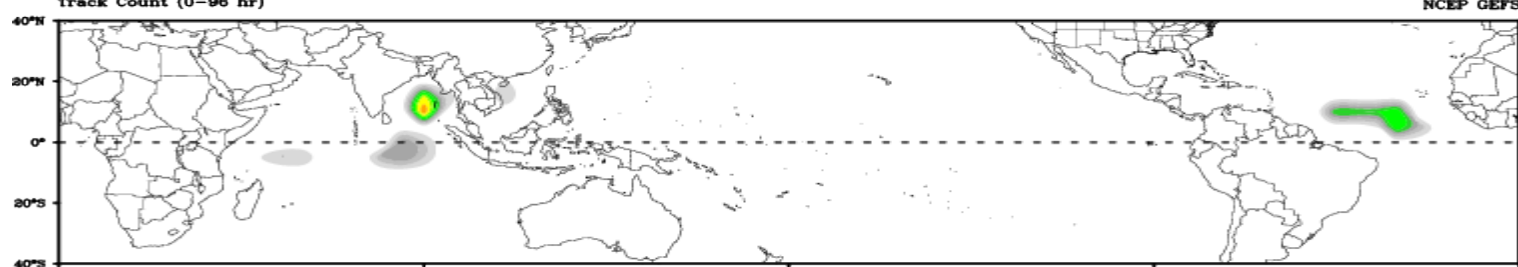


Days 1-4

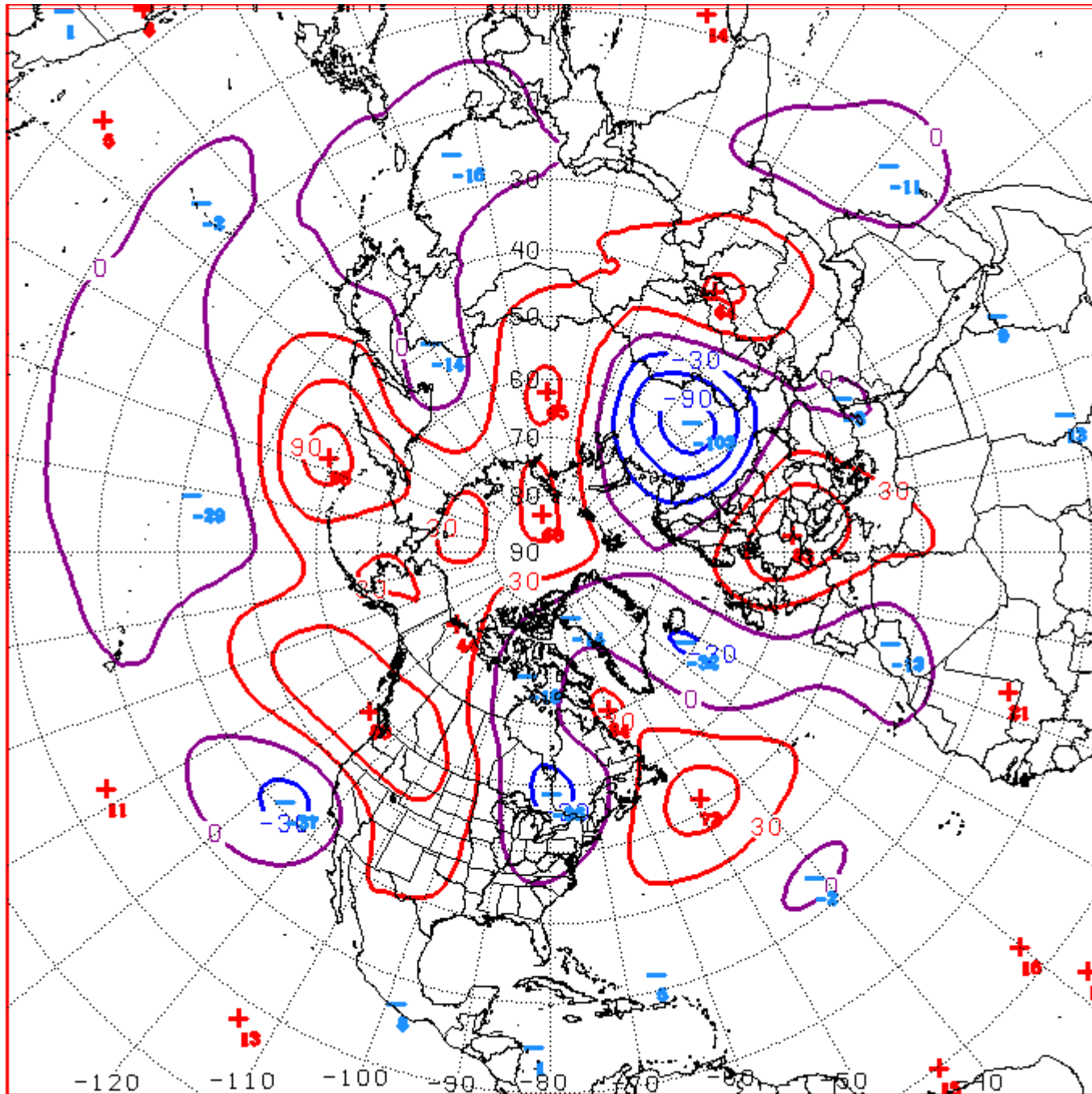
Day 5-8

Day 9-12

Day 13-15

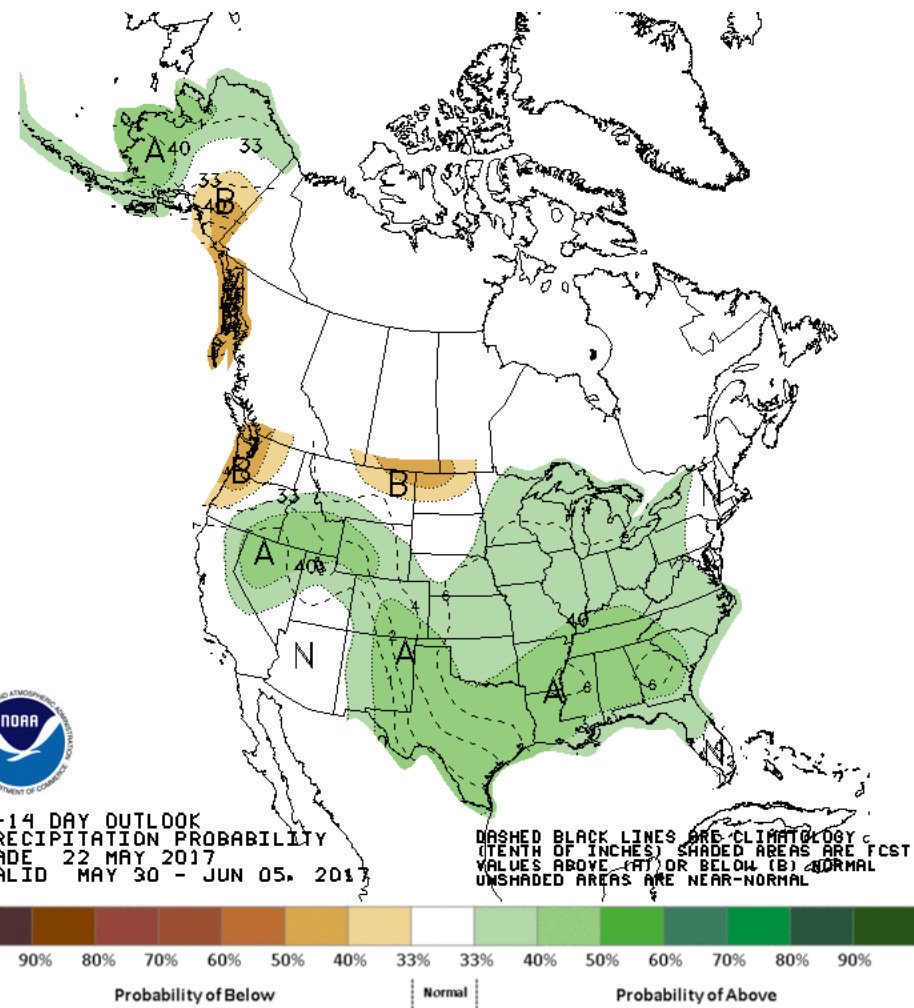
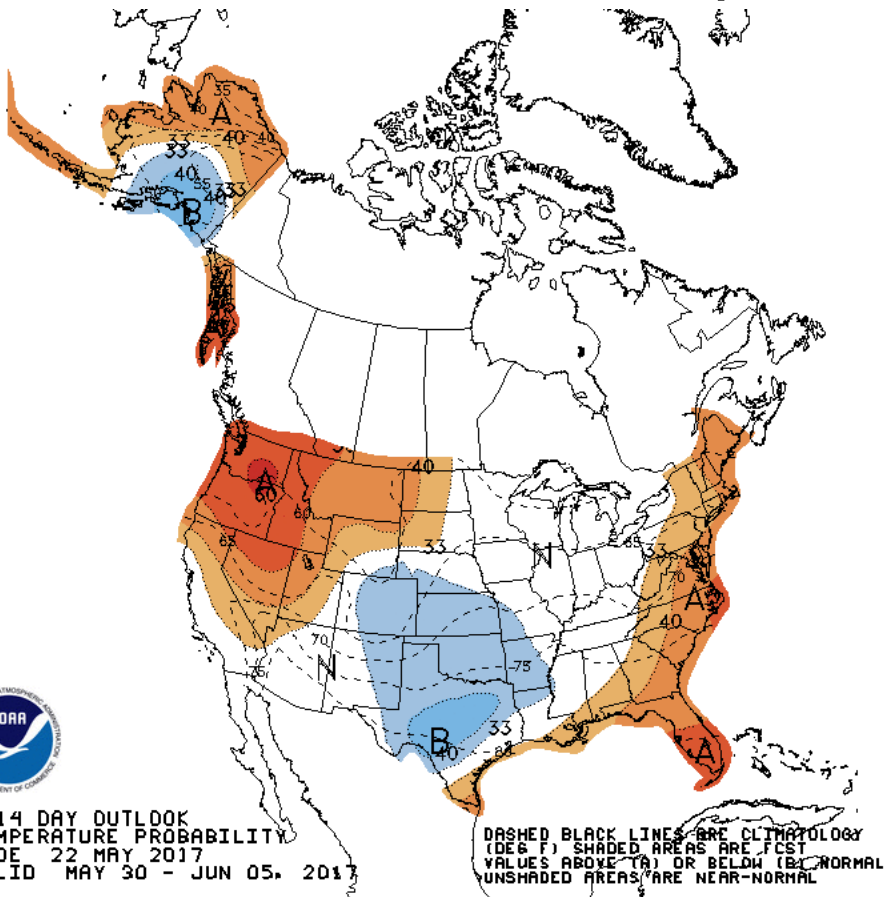


Connections to U.S. Impacts



D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAY 23 2017 1331 UTC CNTD JUN 03 2017

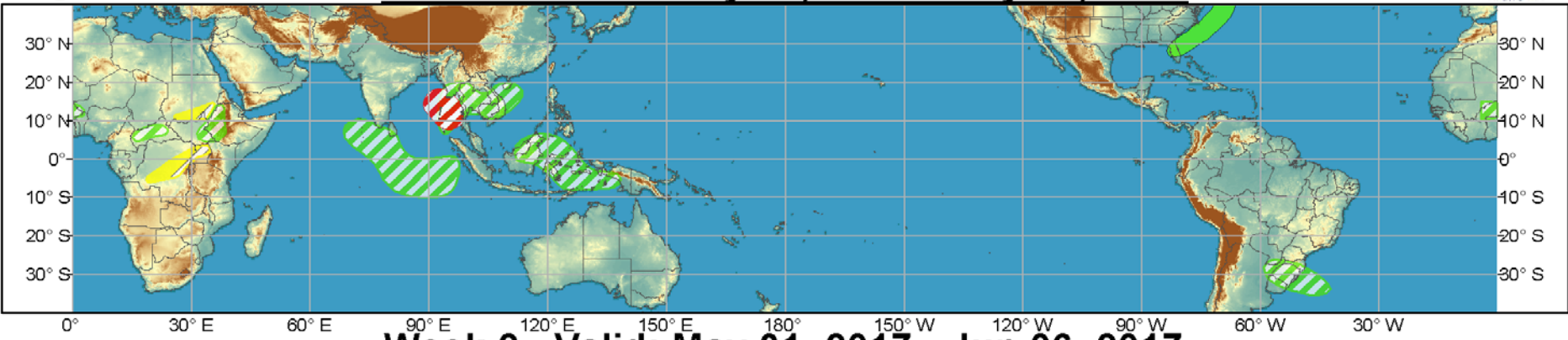
Week 2 – Temperature and Precipitation



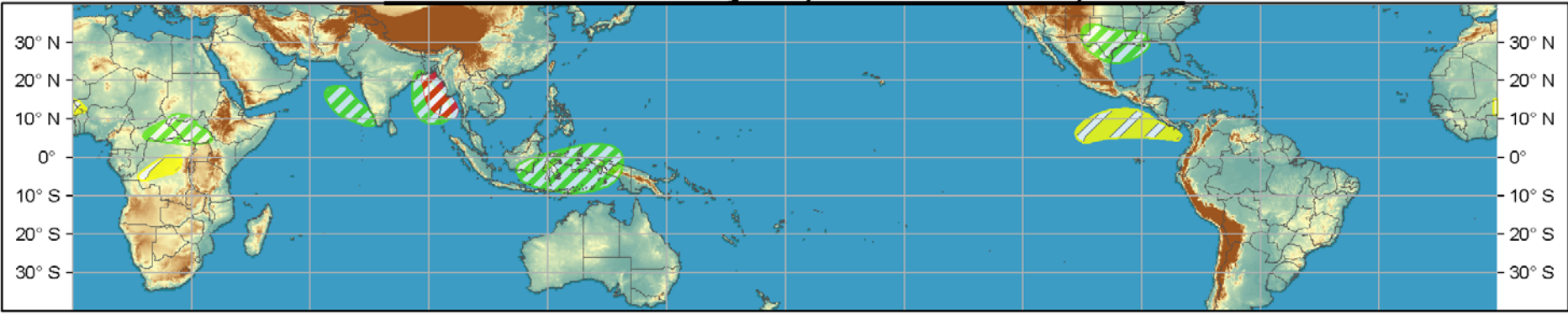


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