

Global Tropics Hazards And Benefits Outlook

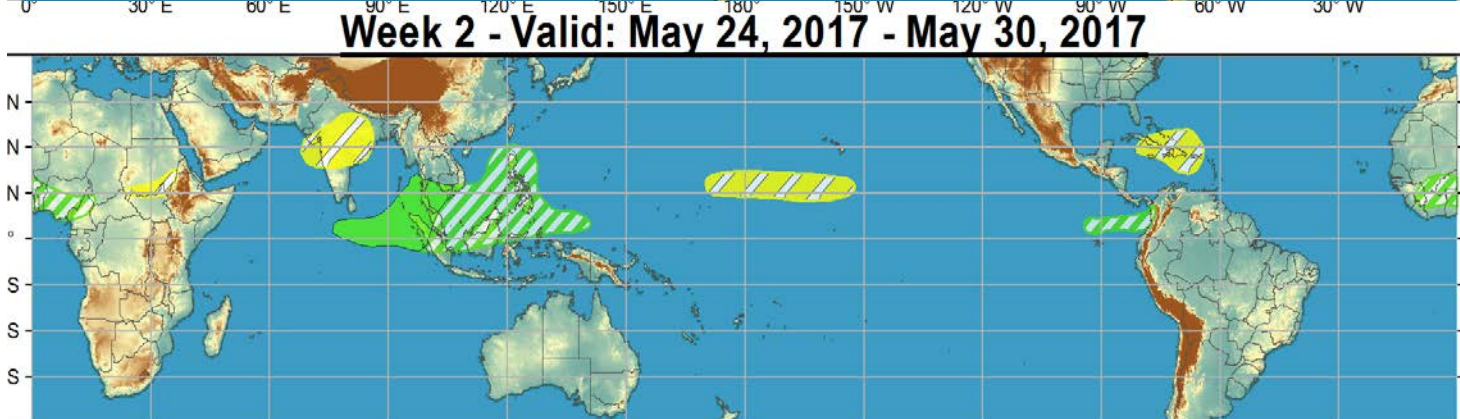
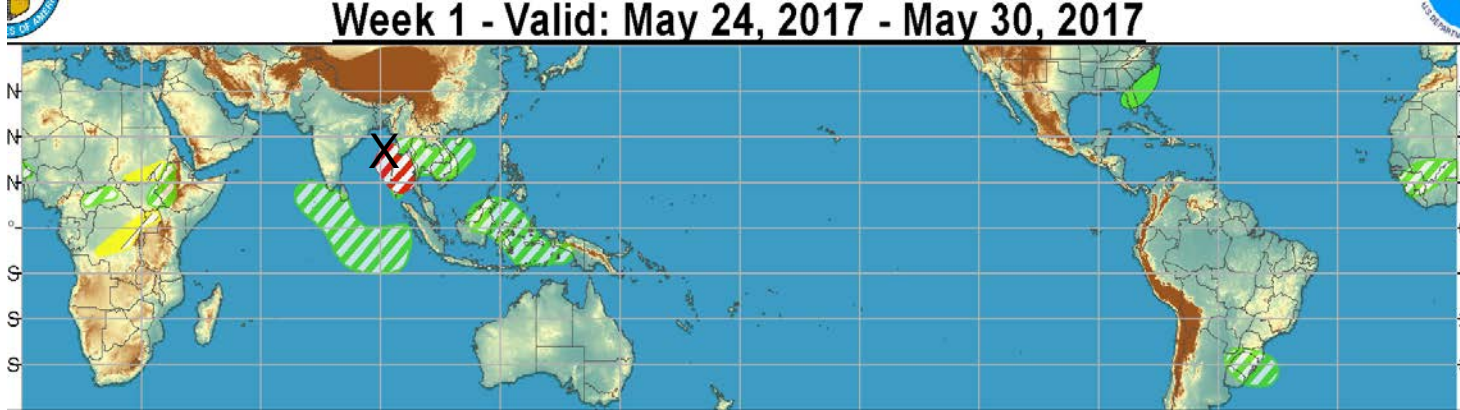
5/30/2017

Stephen Baxter

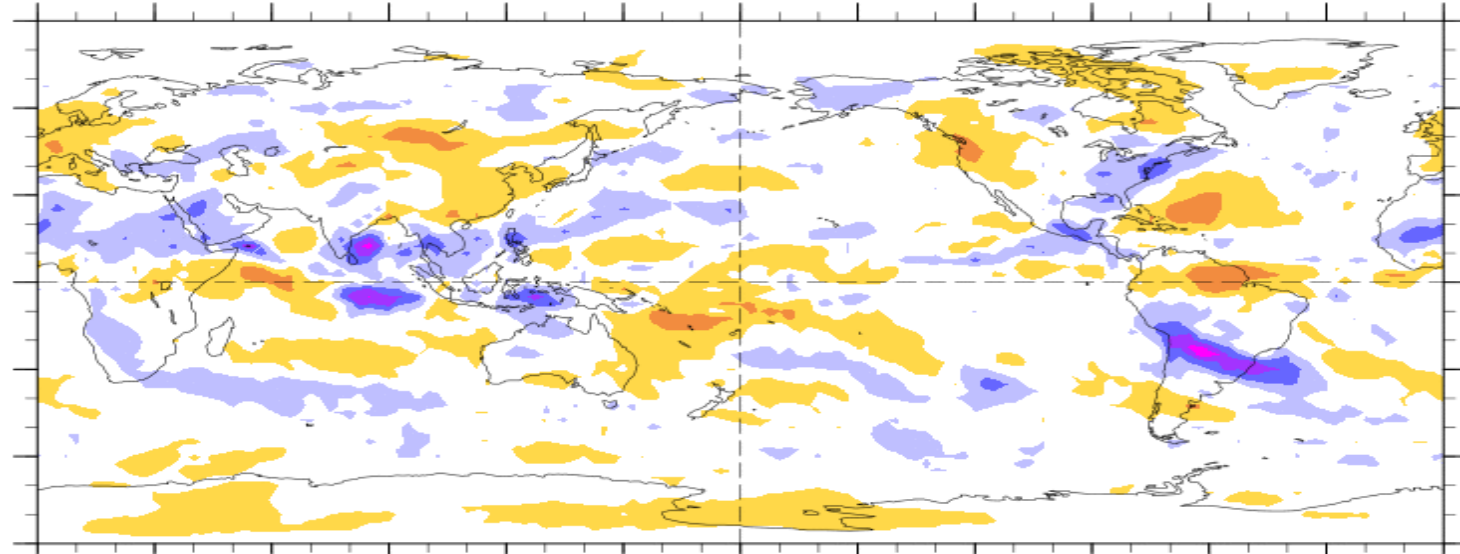
Outline

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

Outlook Review



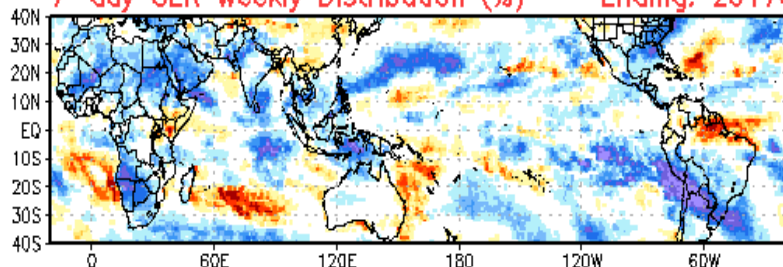
7-Day Average OLR Anomaly 2017/05/22 - 2017/05/28



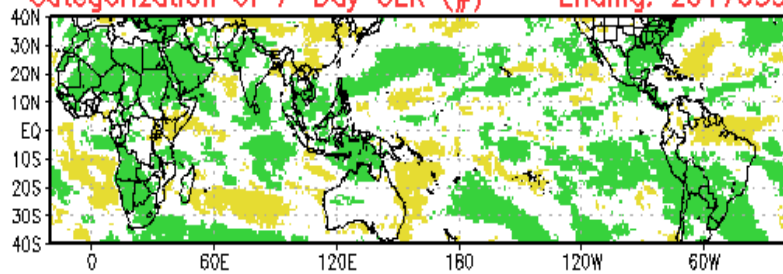
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

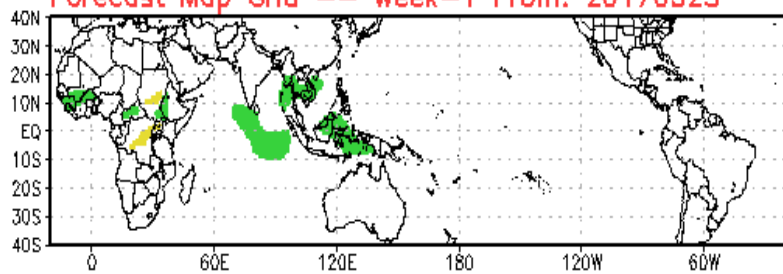
7-day OLR Weekly Distribution (%) -- Ending: 20170530



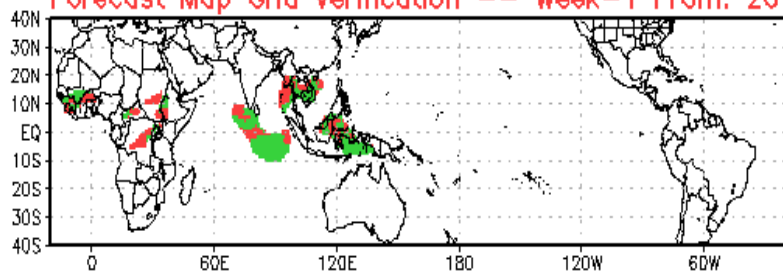
Categorization of 7-Day OLR (#) -- Ending: 20170530



Forecast Map Grid -- Week-1 From: 20170523

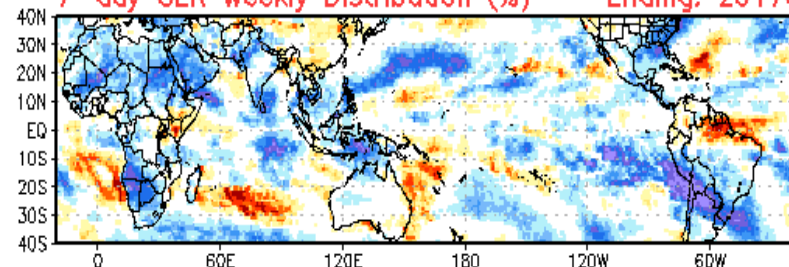


Forecast Map Grid Verification -- Week-1 From: 20170523

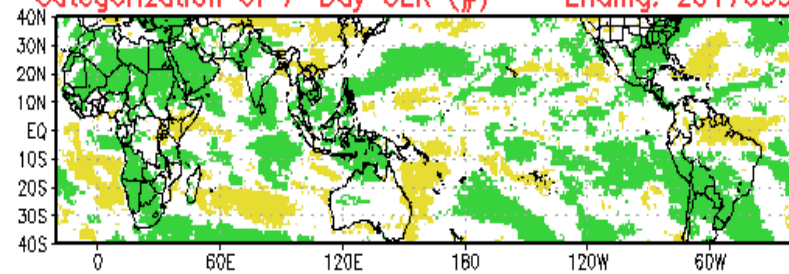


Hit: Green, Miss: Red
Heidke Skill Score: 37.3071

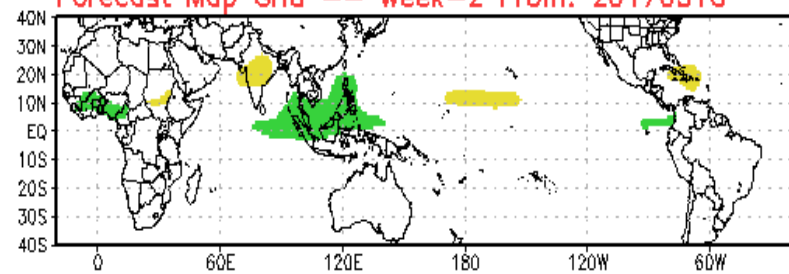
7-day OLR Weekly Distribution (%) -- Ending: 20170530



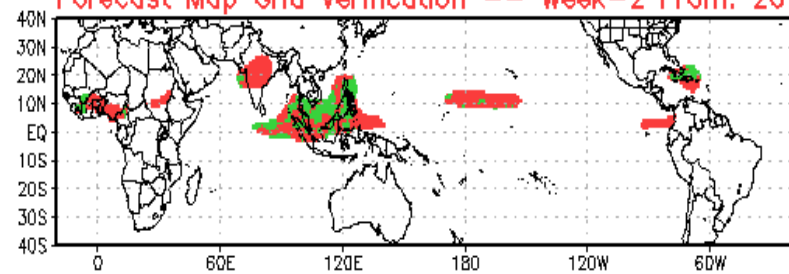
Categorization of 7-Day OLR (#) -- Ending: 20170530



Forecast Map Grid -- Week-2 From: 20170516



Forecast Map Grid Verification -- Week-2 From: 20170516



Hit: Green, Miss: Red
Heidke Skill Score: -2.1037

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 toward the western Maritime Continent. Over the past one to two weeks, atmospheric Kelvin wave activity has been prominent along with some westward-moving variability.
- Dynamical models indicate an eastward-moving MJO signal over the next week, with uncertainty increasing by Week-2. The evolution of the subseasonal pattern of tropical convection is expected to be complex.

Extratropics:

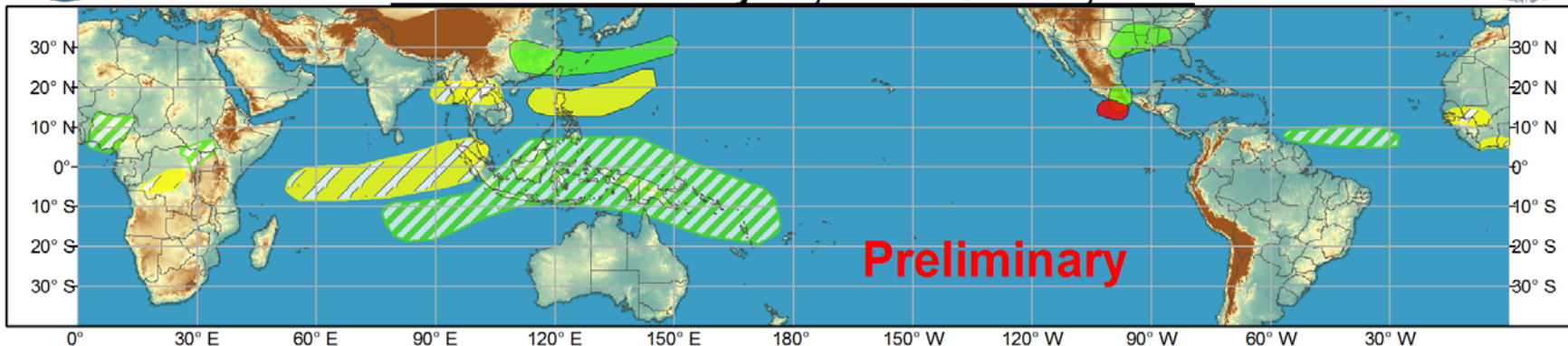
- The extended range temperature forecasts for the U.S. are broadly consistent with the lagged MJO footprint, but this signature is fairly weak this time of year and complicated by the complex evolution of the pattern of tropical convection.



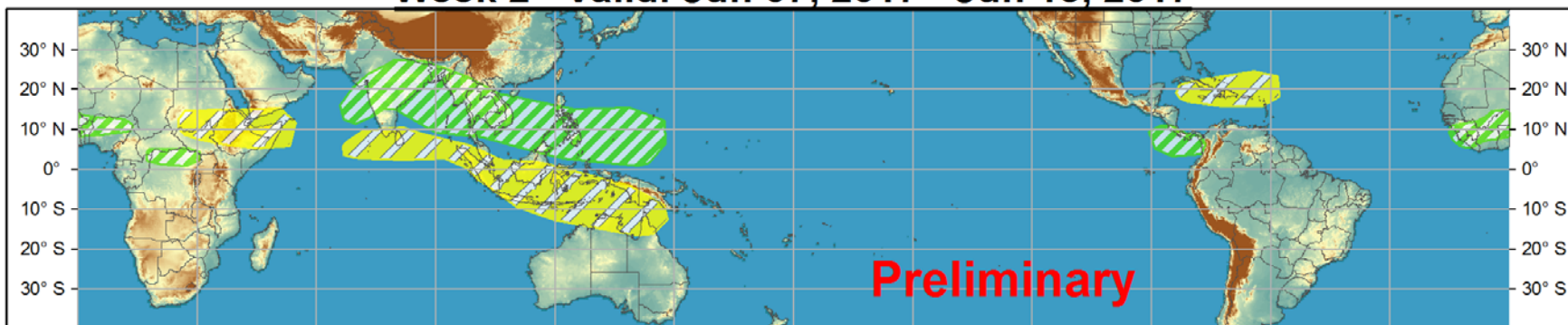
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: May 31, 2017 - Jun 06, 2017



Week 2 - Valid: Jun 07, 2017 - Jun 13, 2017



Produced: 05/30/2017

Forecaster: Baxter

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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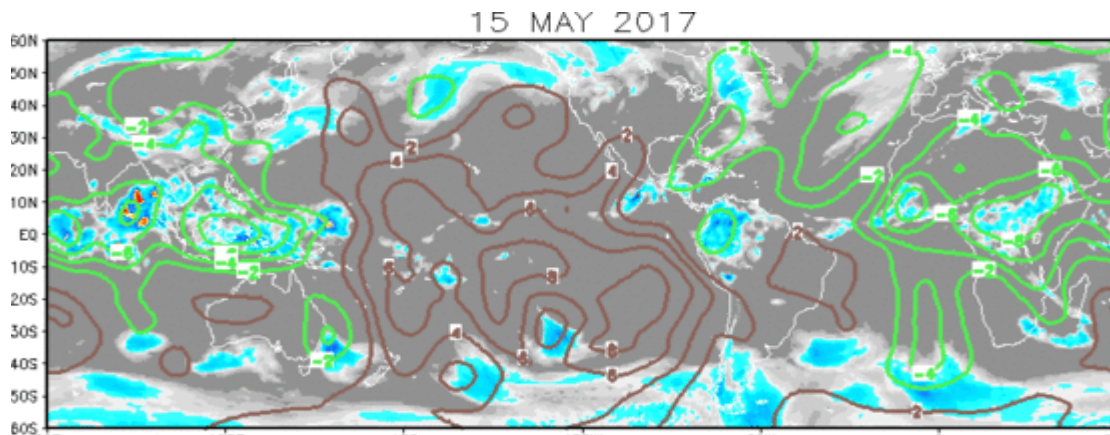


IR Satellite & 200-hpa Velocity Potential Anomalies

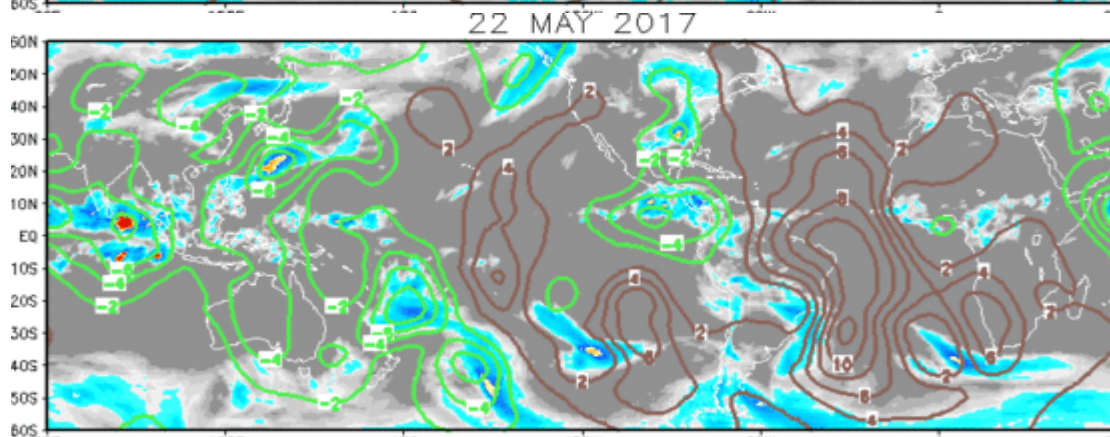
Green: Enhanced Divergence

Brown: Enhanced Convergence

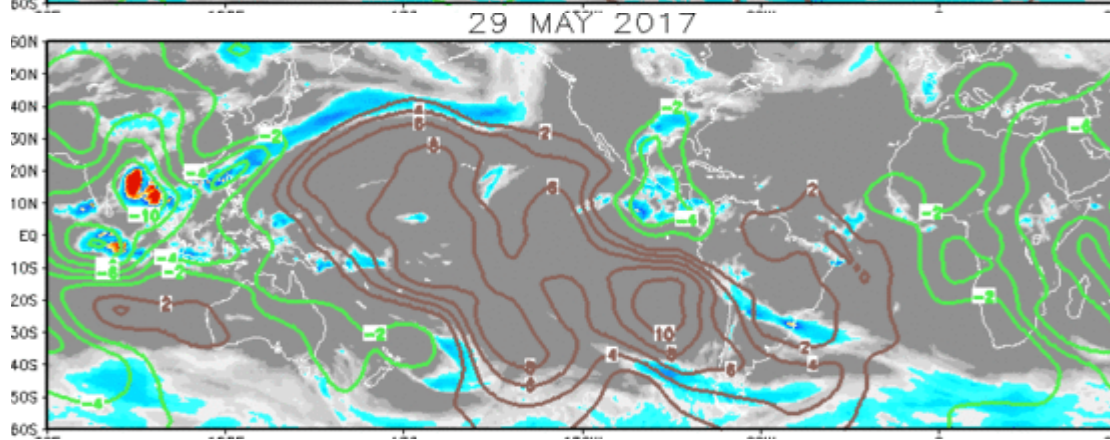
Wave-1 pattern with enhanced convection centered over the Indian Ocean



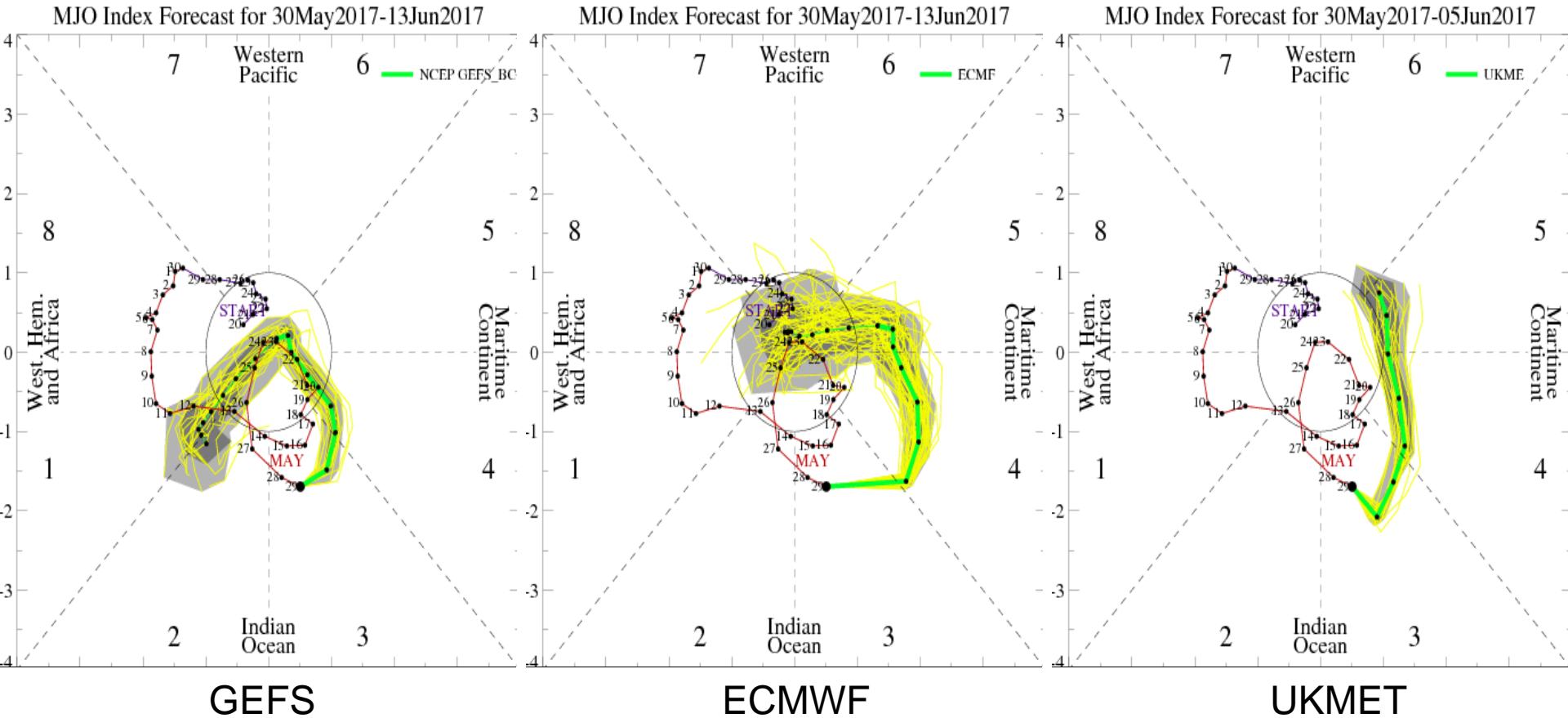
Wave-1 broke down as the pattern remained largely stationary.



Wave-2 pattern becoming less clear, with suppressed signal intensifying over the Pacific basin.

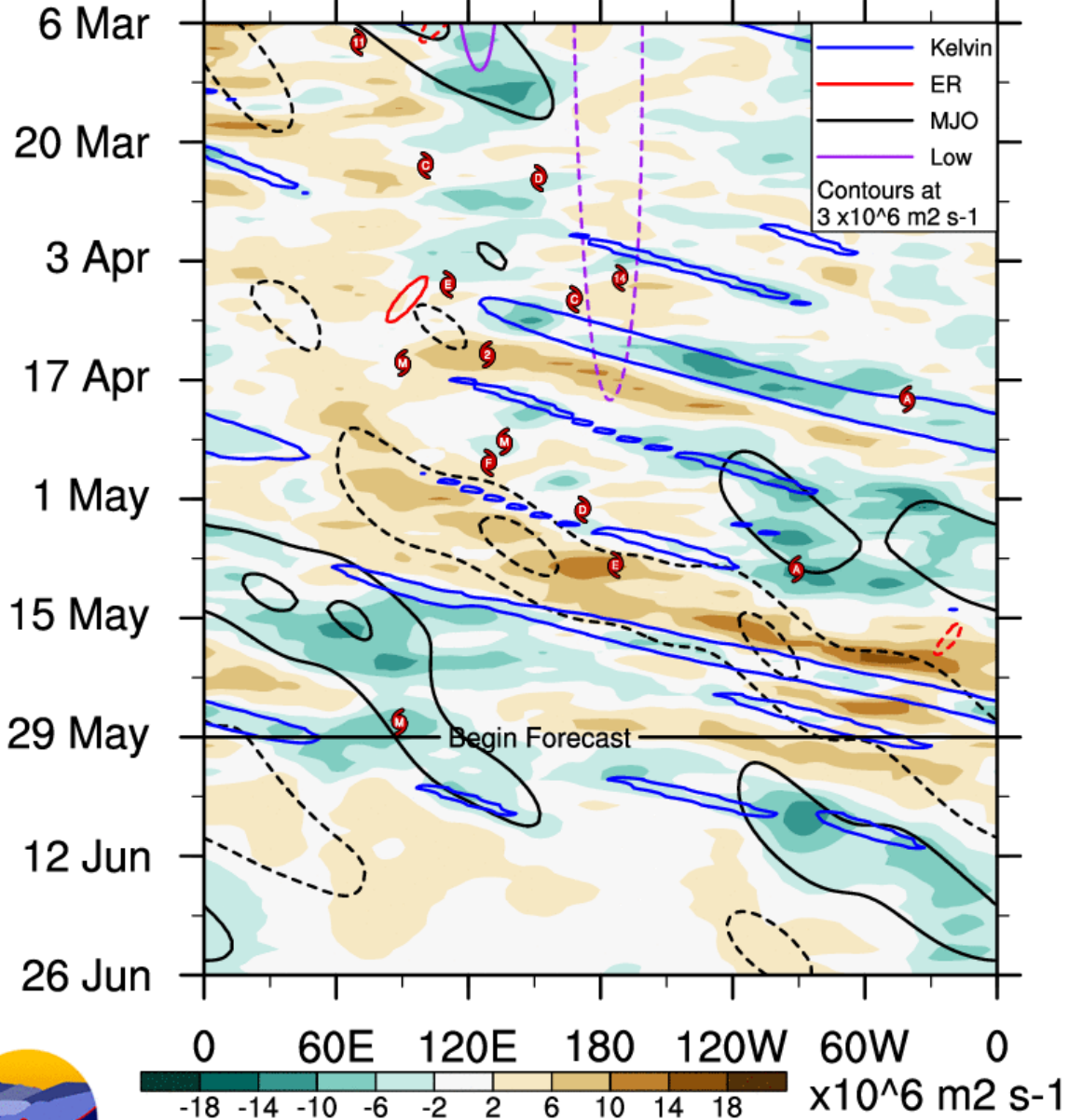


MJO Observation/Forecast



RMM index forecasts depict eastward propagation early, with the GEFS showing a similar evolution to that which was recently observed.

CHI200 with CFS forecasts 5S - 5N



— Kelvin
 — ER
 — MJO
 — Low
 Contours at
 $3 \times 10^6 \text{ m}^2 \text{ s}^{-1}$

0 60E 120E 180 120W 60W 0
 -18 -14 -10 -6 -2 2 6 10 14 18 $\times 10^6 \text{ m}^2 \text{ s}^{-1}$



MJO, Rossby wave and Kelvin waves having an influence

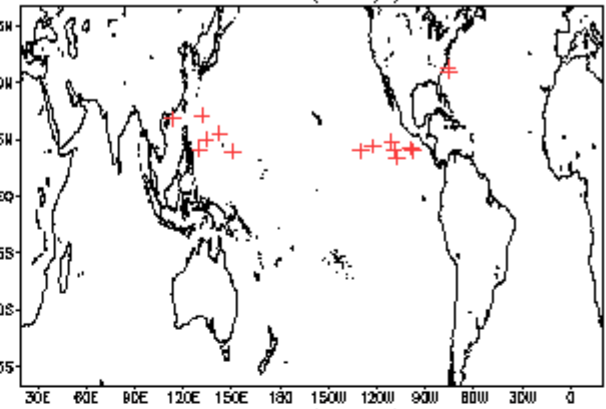
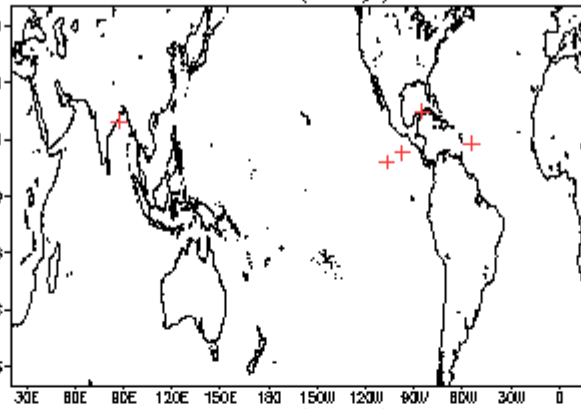
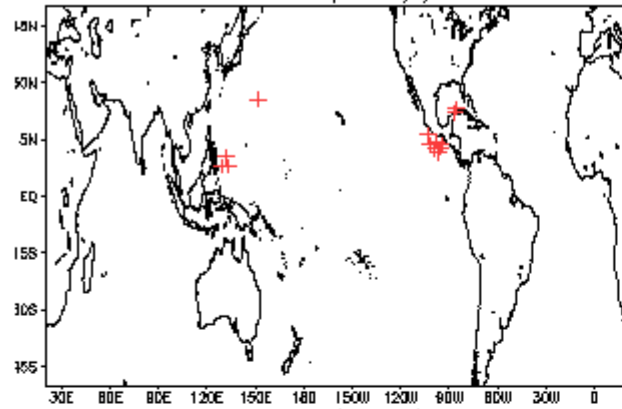
Low-frequency pattern less of an influence

June Tropical Storm Formation by MJO phase

Phase 1 (104 days) 14 storms

Phase 4 (80 days) 6 storms

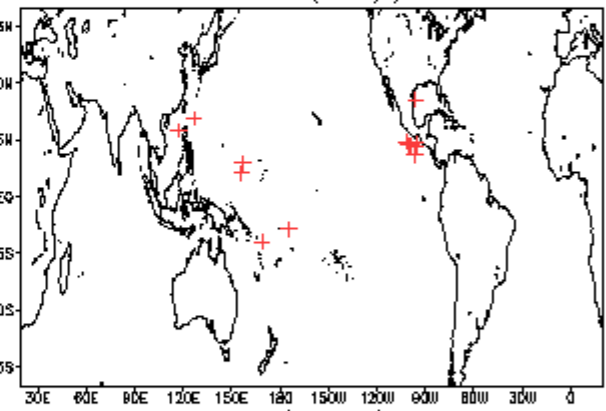
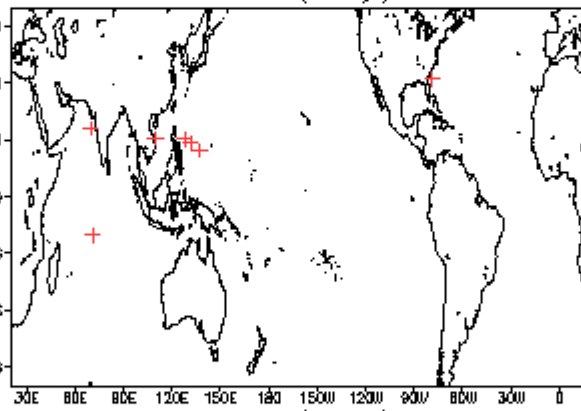
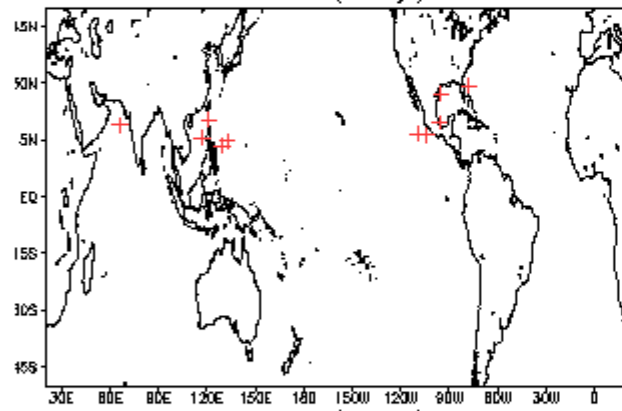
Phase 7 (45 days) 16 storms



Phase 2 (82 days) 11 storms

Phase 5 (77 days) 8 storms

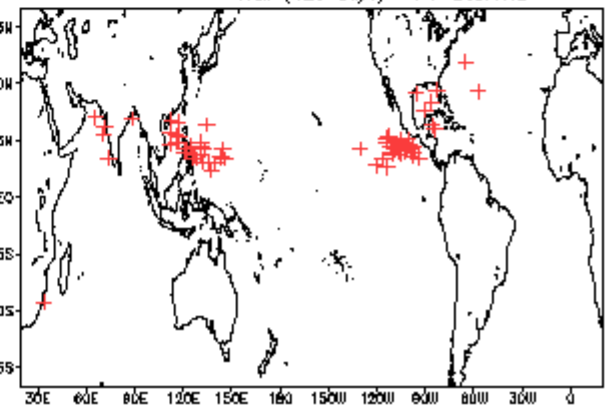
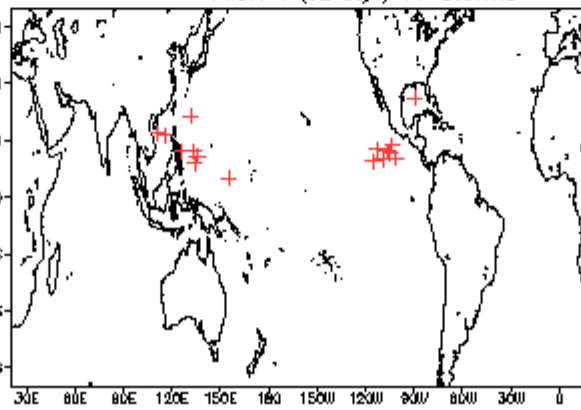
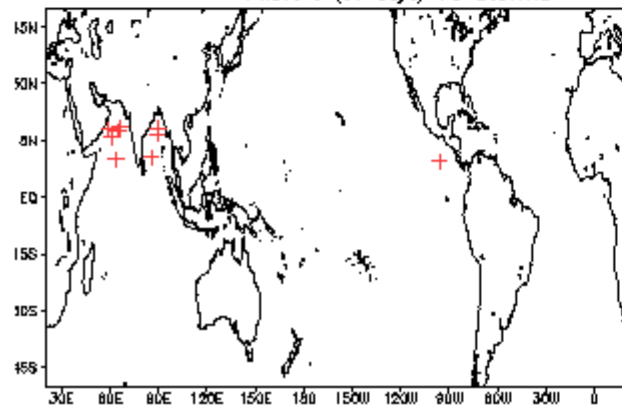
Phase 8 (70 days) 15 storms



Phase 3 (57 days) 10 storms

Phase 6 (82 days) 17 storms

Null (423 days) 71 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



1:00 pm EDT
Wed Apr 19 2017

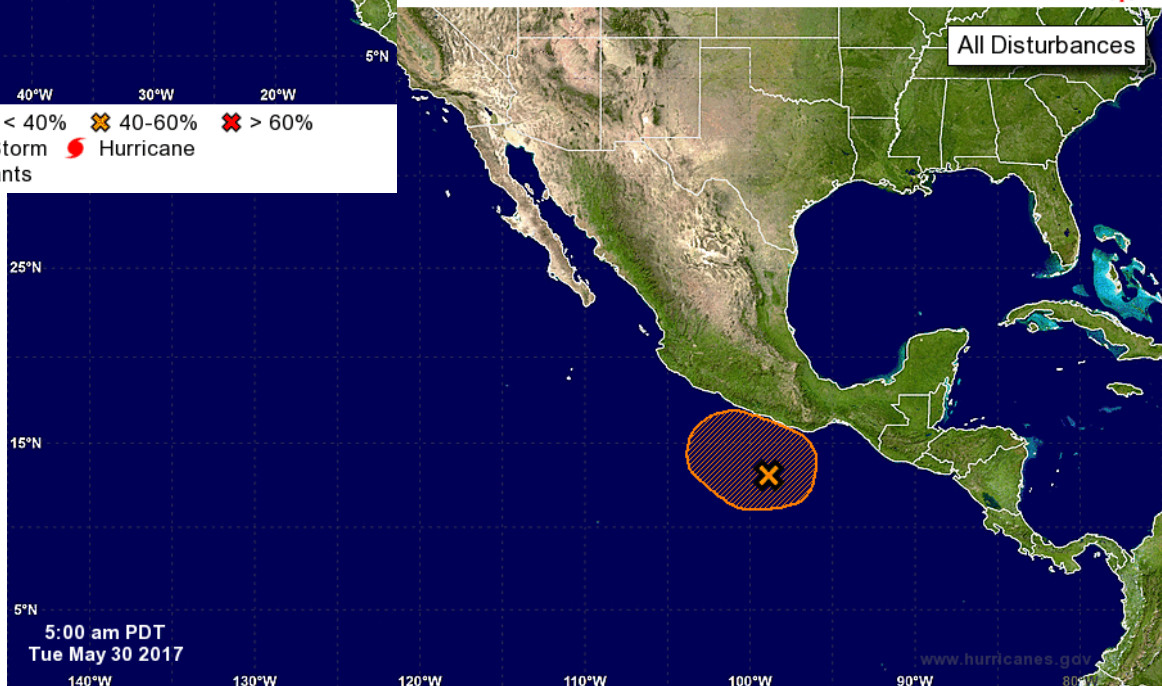
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

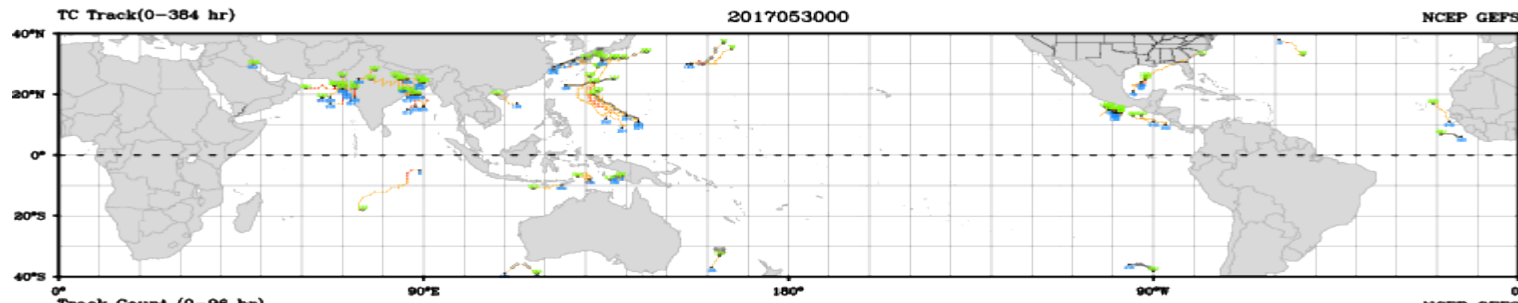


5:00 am PDT
Tue May 30 2017

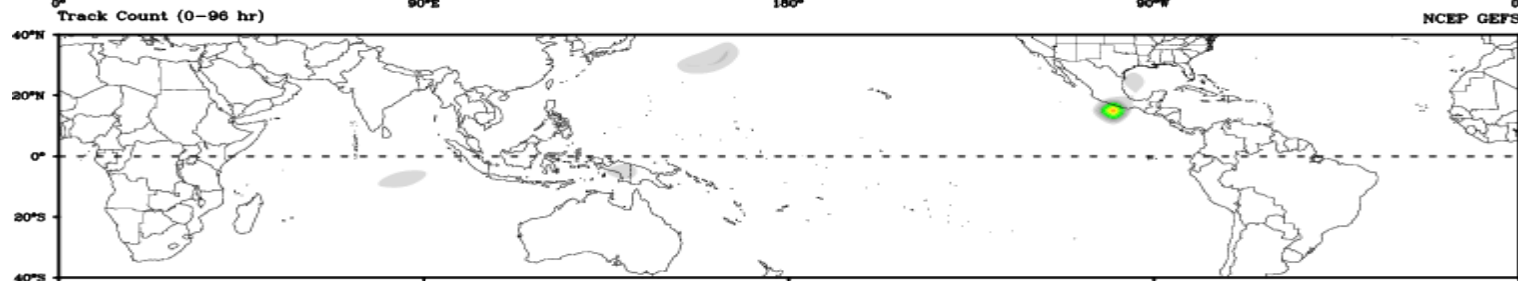
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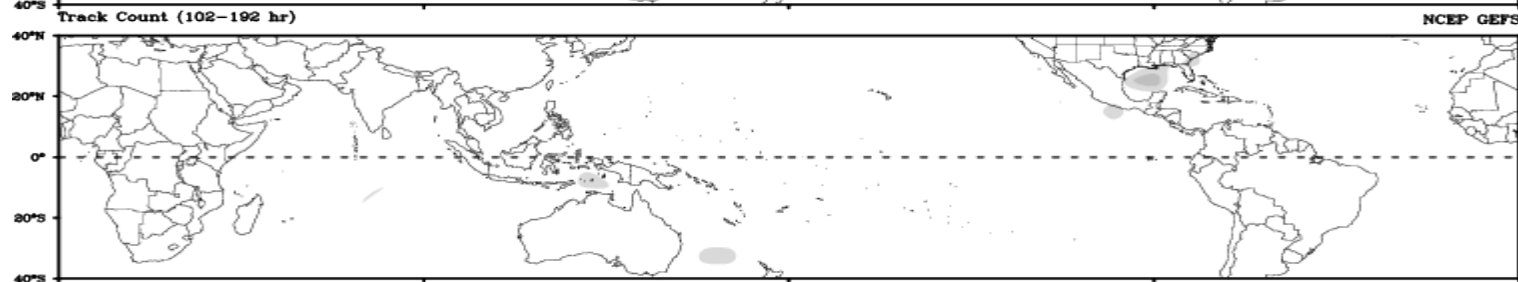
Post-Tropical Cyclone Remnants



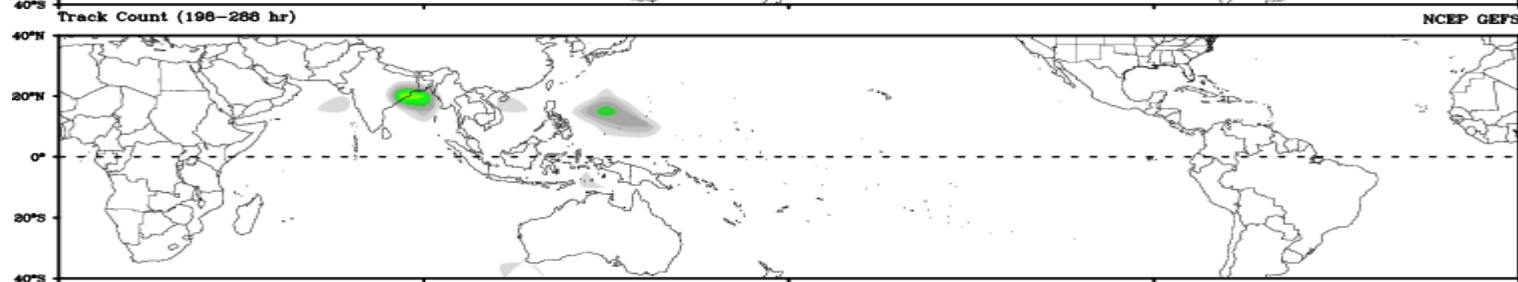
Days 1-4



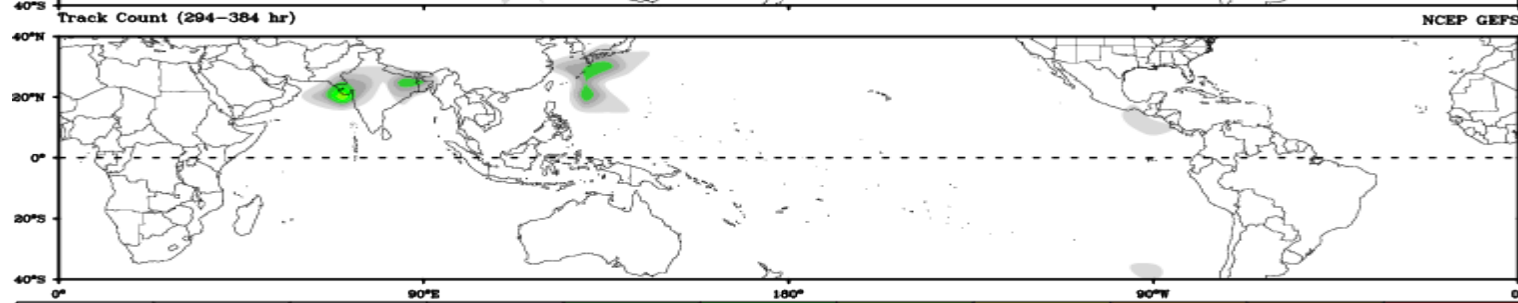
Day 5-8



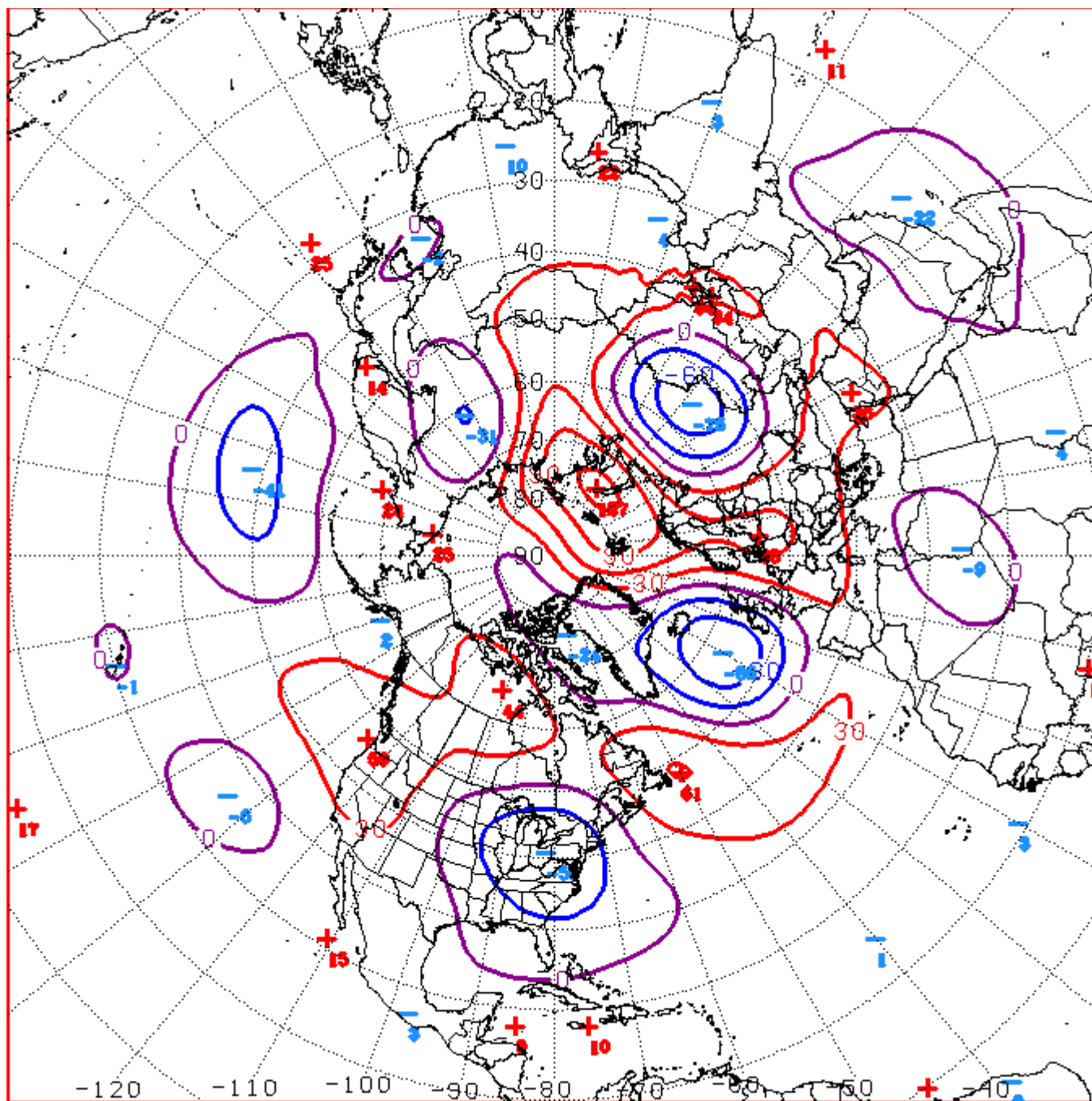
Day 9-12



Day 13-15

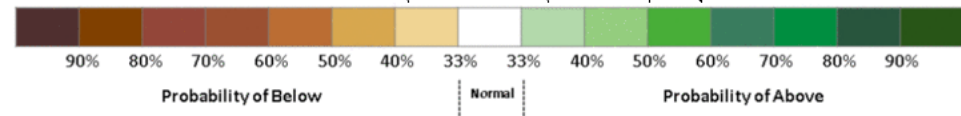
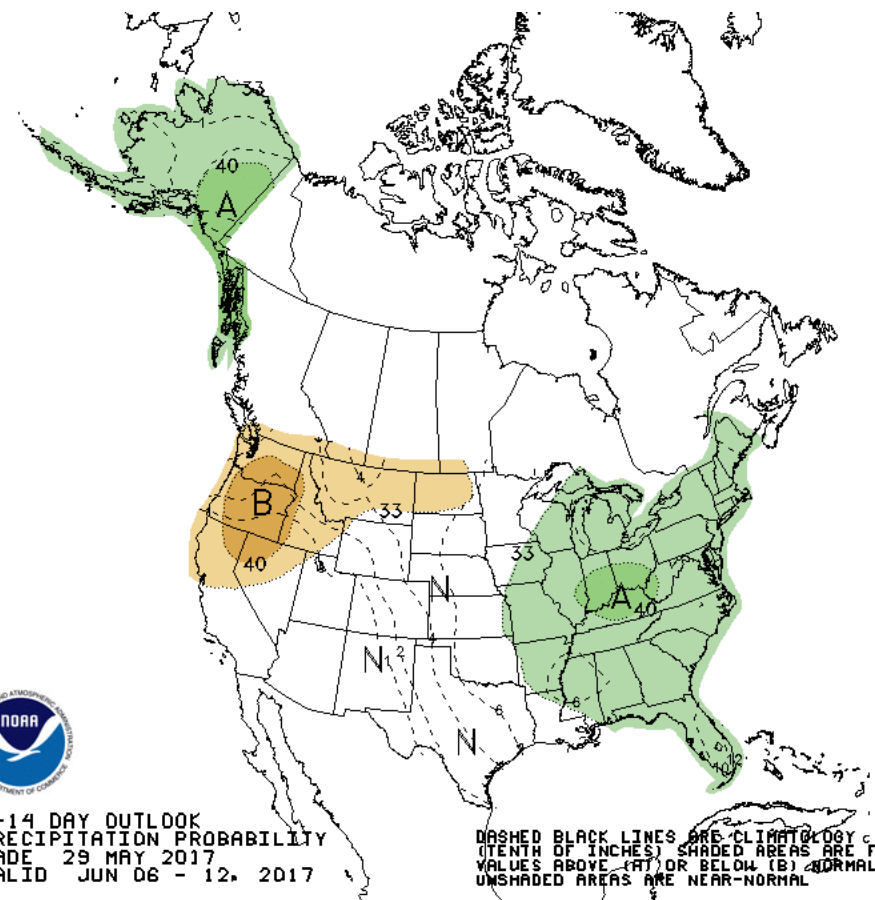
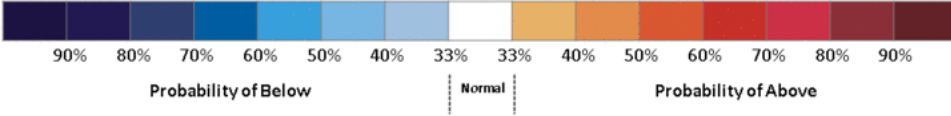
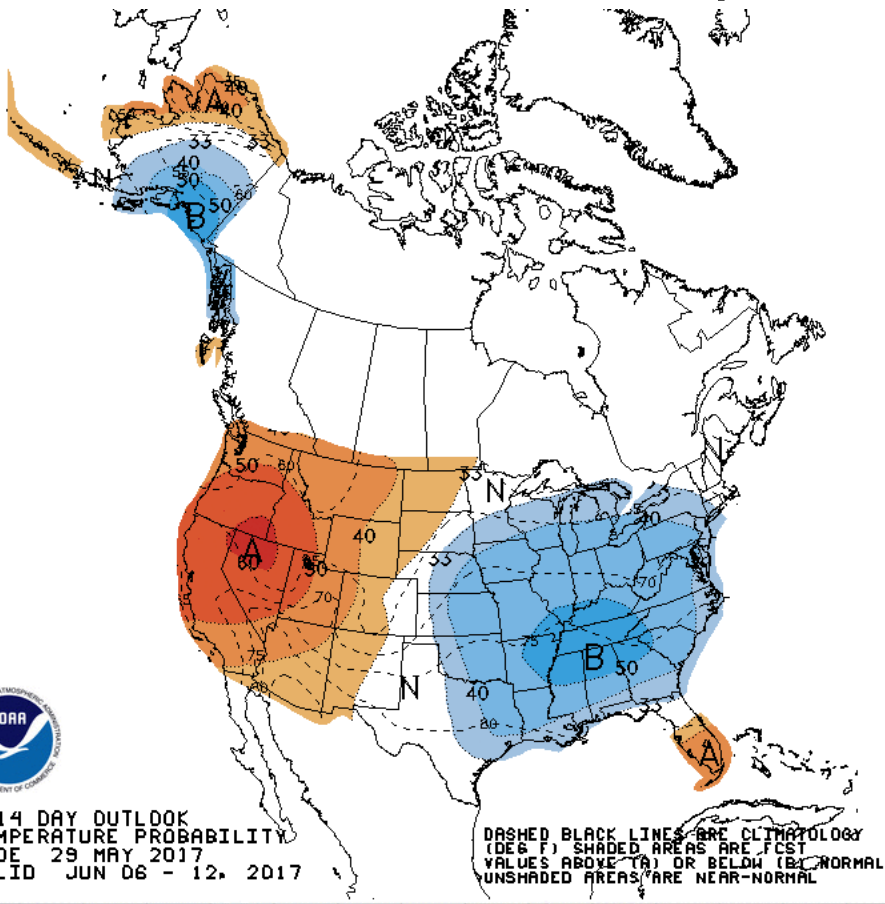


Connections to U.S. Impacts



D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAY 30 2017 1332 UTC CNTD JUN 10 2017

Week 2 – Temperature and Precipitation

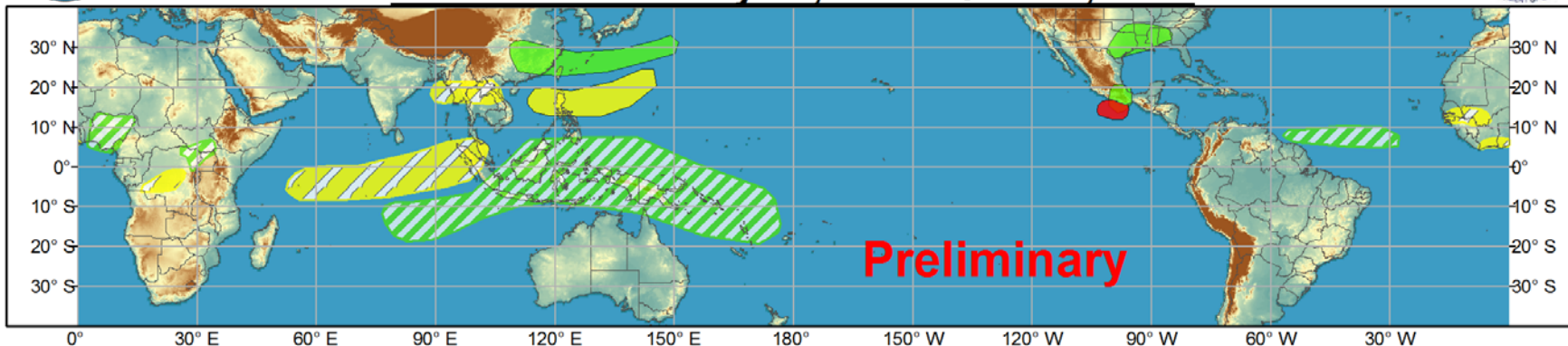




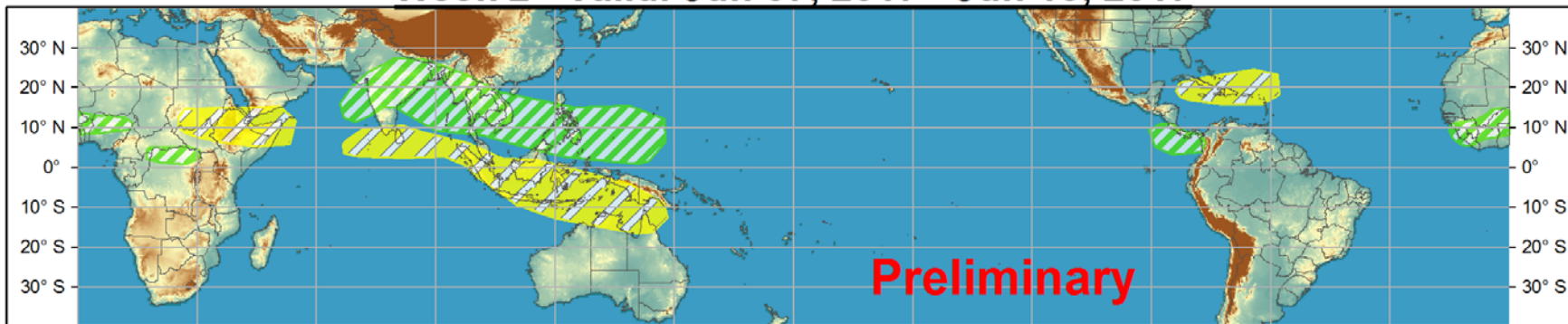
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