

Global Tropics Hazards And Benefits Outlook

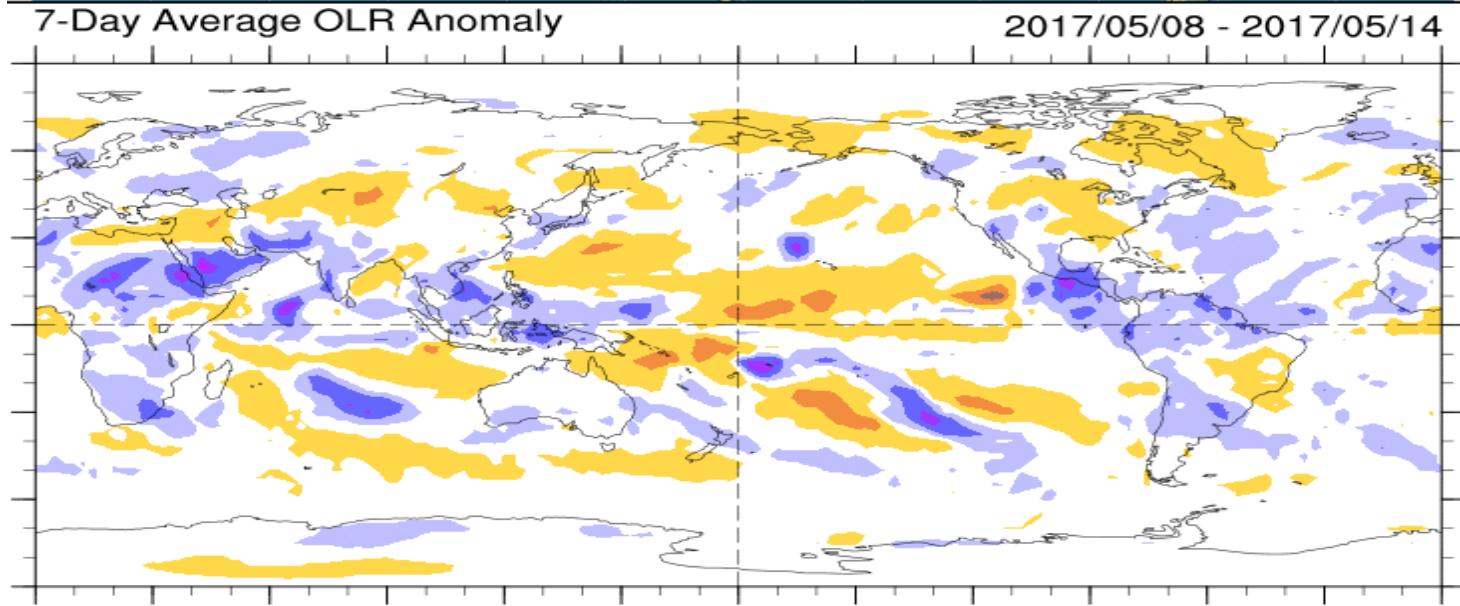
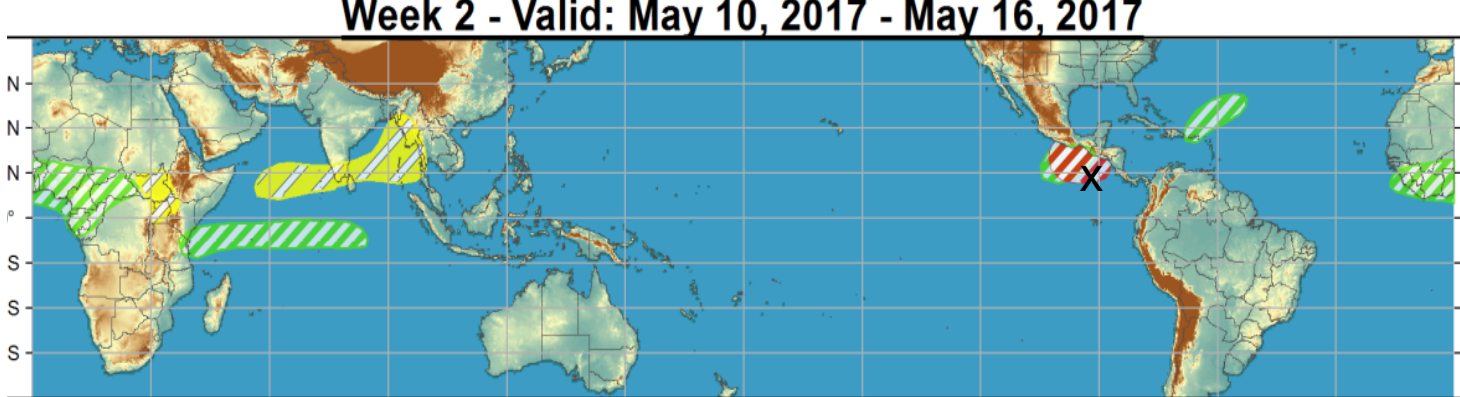
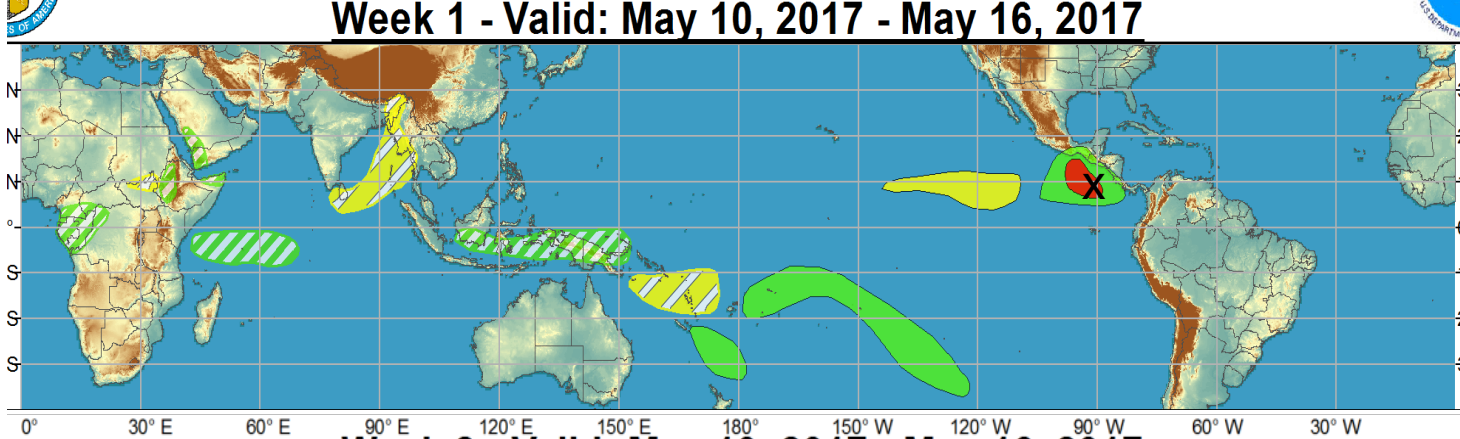
5/16/2017

Matthew Rosencrans

Outline

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

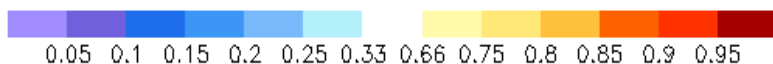
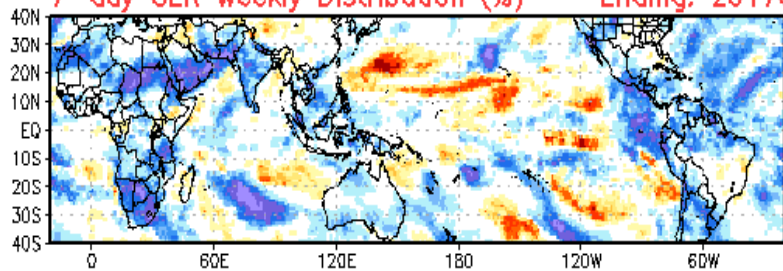
Outlook Review



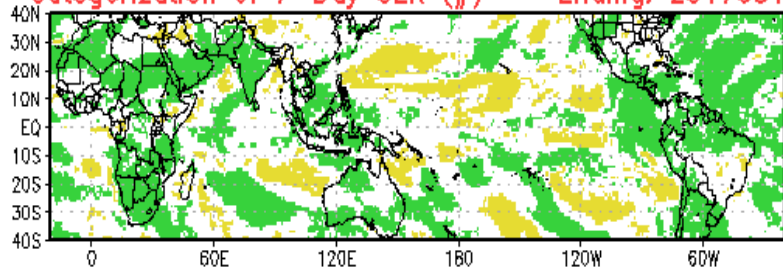
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

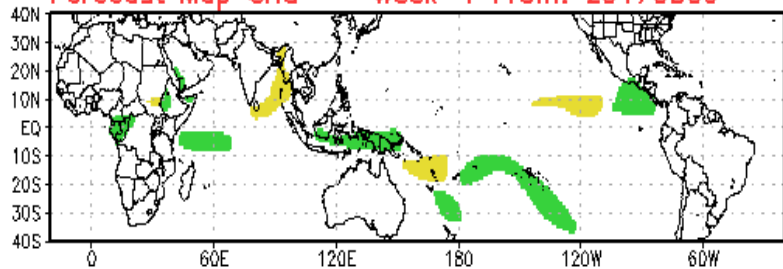
7-day OLR Weekly Distribution (%) -- Ending: 20170516



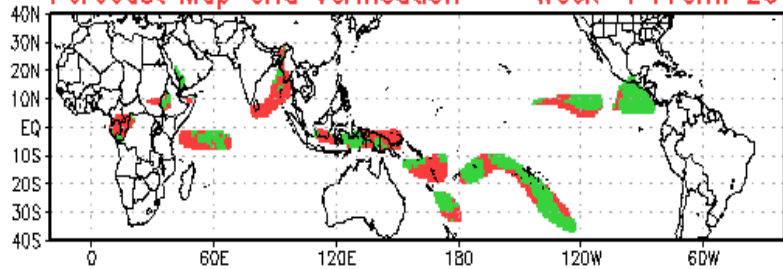
Categorization of 7-Day OLR (#) -- Ending: 20170516



Forecast Map Grid -- Week-1 From: 20170509

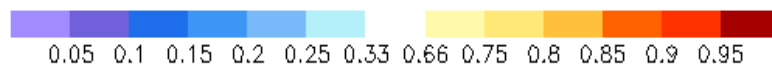
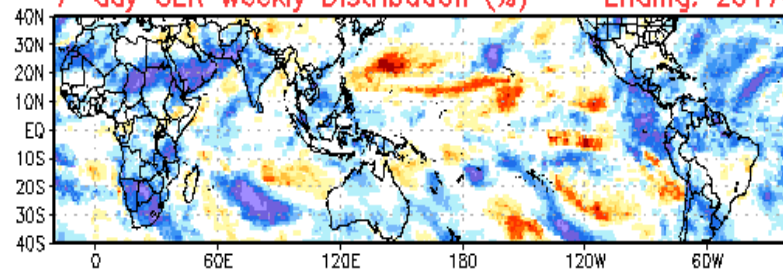


Forecast Map Grid Verification -- Week-1 From: 20170509

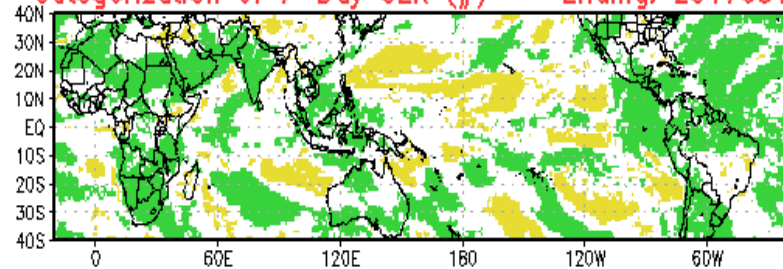


Hit: Green, Miss: Red
Heidke Skill Score: 29.1185

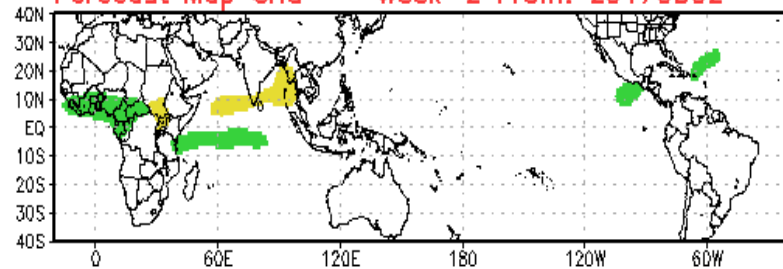
7-day OLR Weekly Distribution (%) -- Ending: 20170516



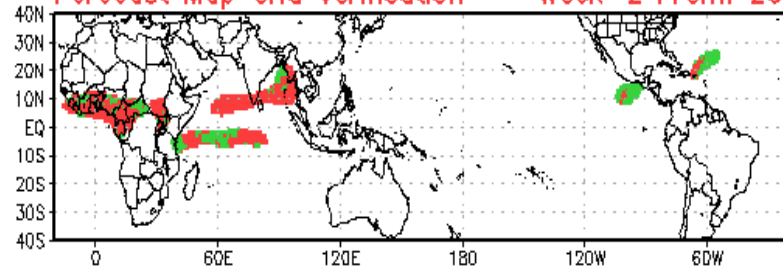
Categorization of 7-Day OLR (#) -- Ending: 20170516



Forecast Map Grid -- Week-2 From: 20170502



Forecast Map Grid Verification -- Week-2 From: 20170502



Hit: Green, Miss: Red
Heidke Skill Score: -1.4600

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 remained of moderate strength, and propagated to the Indian Ocean.
- Dynamical models indicate a weakening of the signal in Week-1, then a weak to moderate signal in Week-2. Uncertainty is slightly higher over the Maritime Continent, as an Equatorial Rossby Wave and Kelvin wave are also impacting that region.

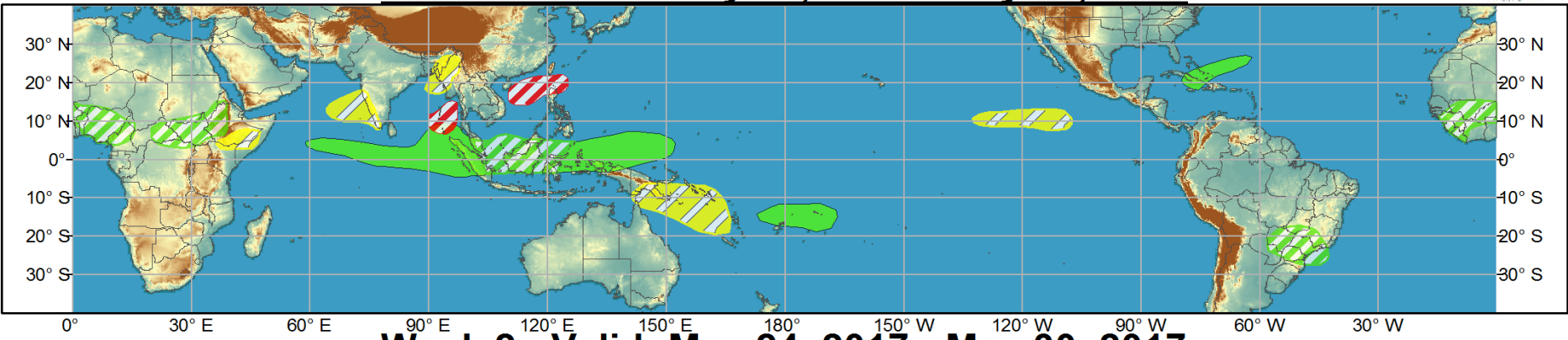
Extratropics:

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

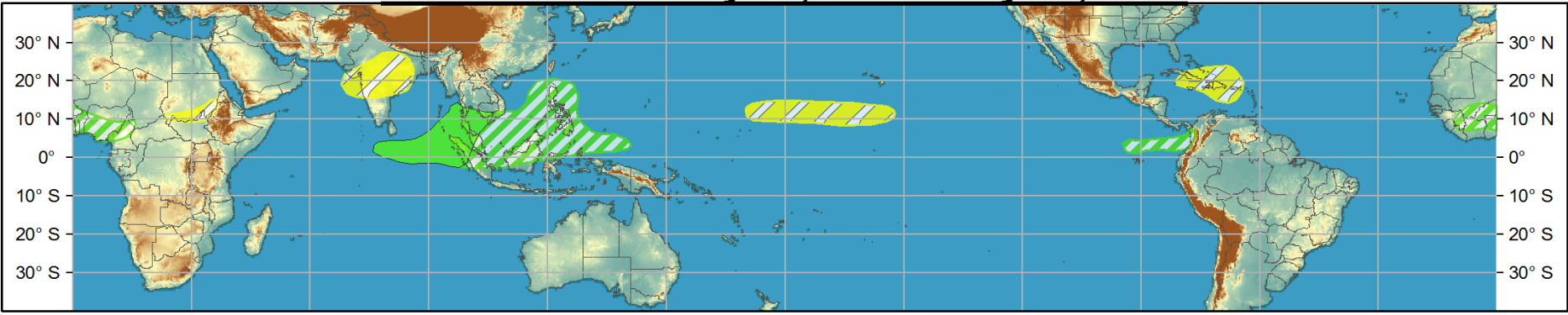


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 17, 2017 - May 23, 2017



Week 2 - Valid: May 24, 2017 - May 30, 2017



Produced: 05/16/2017

Forecaster: Rosencrans

| 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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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.

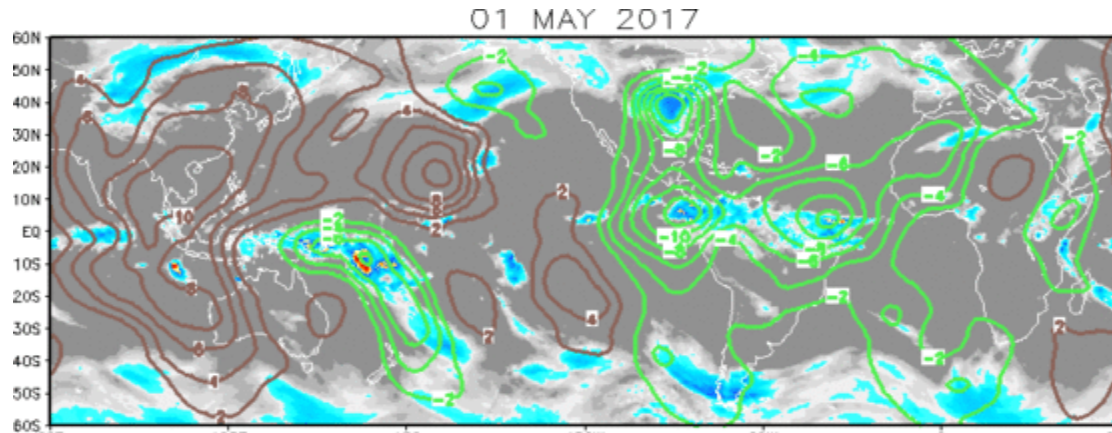


IR Satellite & 200-hpa Velocity Potential Anomalies

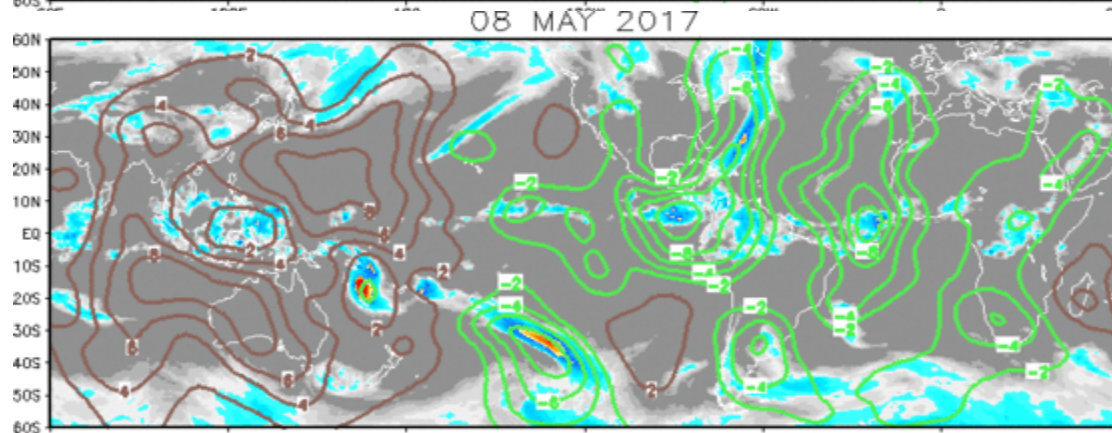
Green: Enhanced Divergence

Brown: Enhanced Convergence

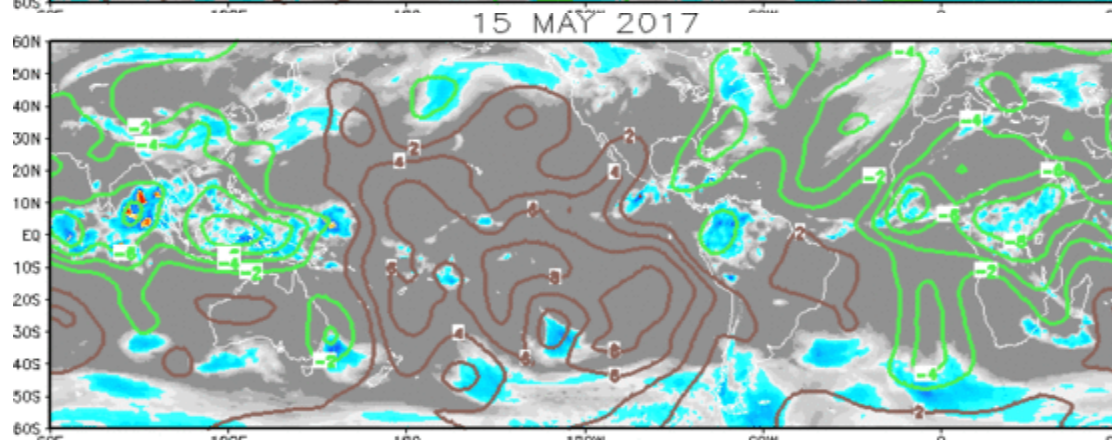
Wave-2 not projecting onto MJO.
Enhanced convection over
western Pacific and Southern
Africa.



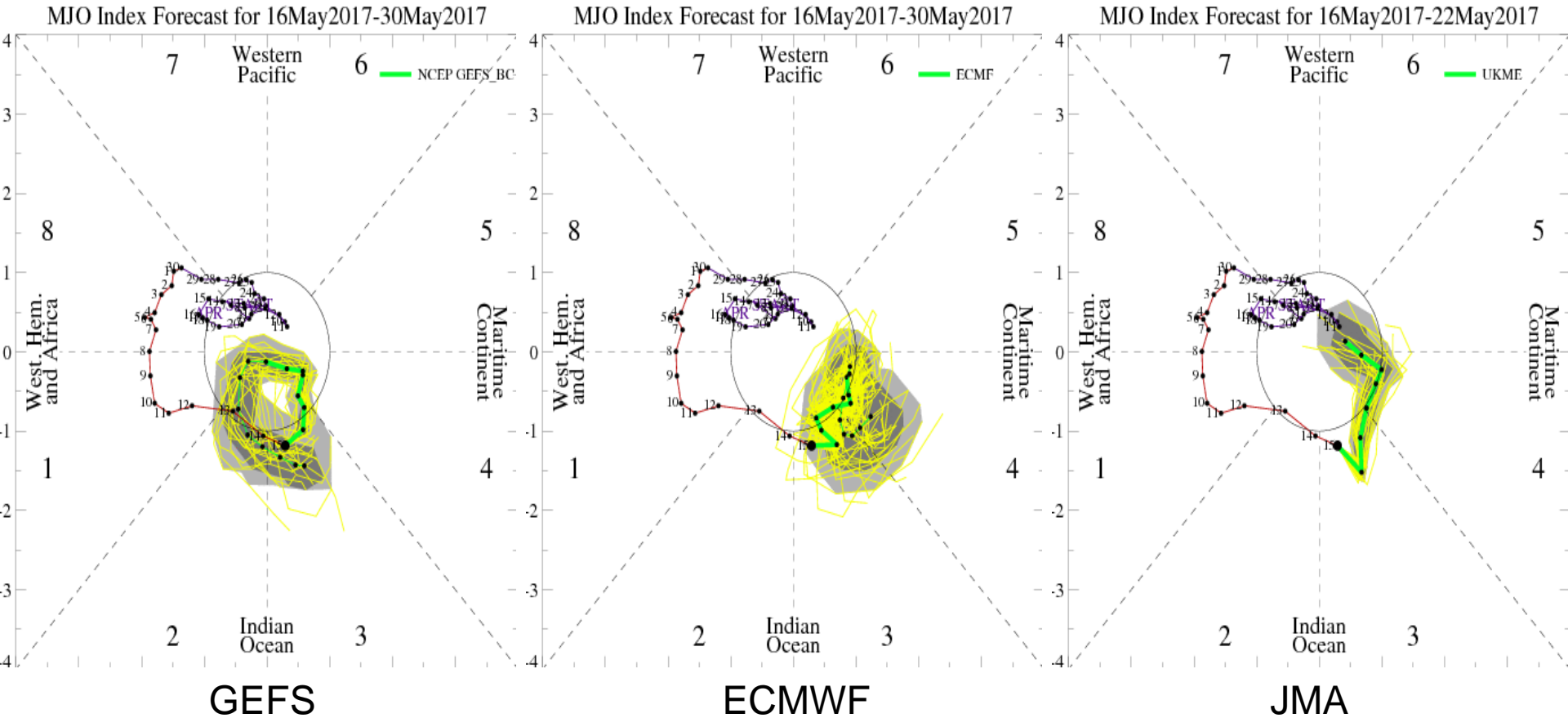
Wave-2 with an MJO projection.
Enhanced convection over
southwest Pacific and Americas
to Africa.



Wave-1 with a moderate MJO
projection.

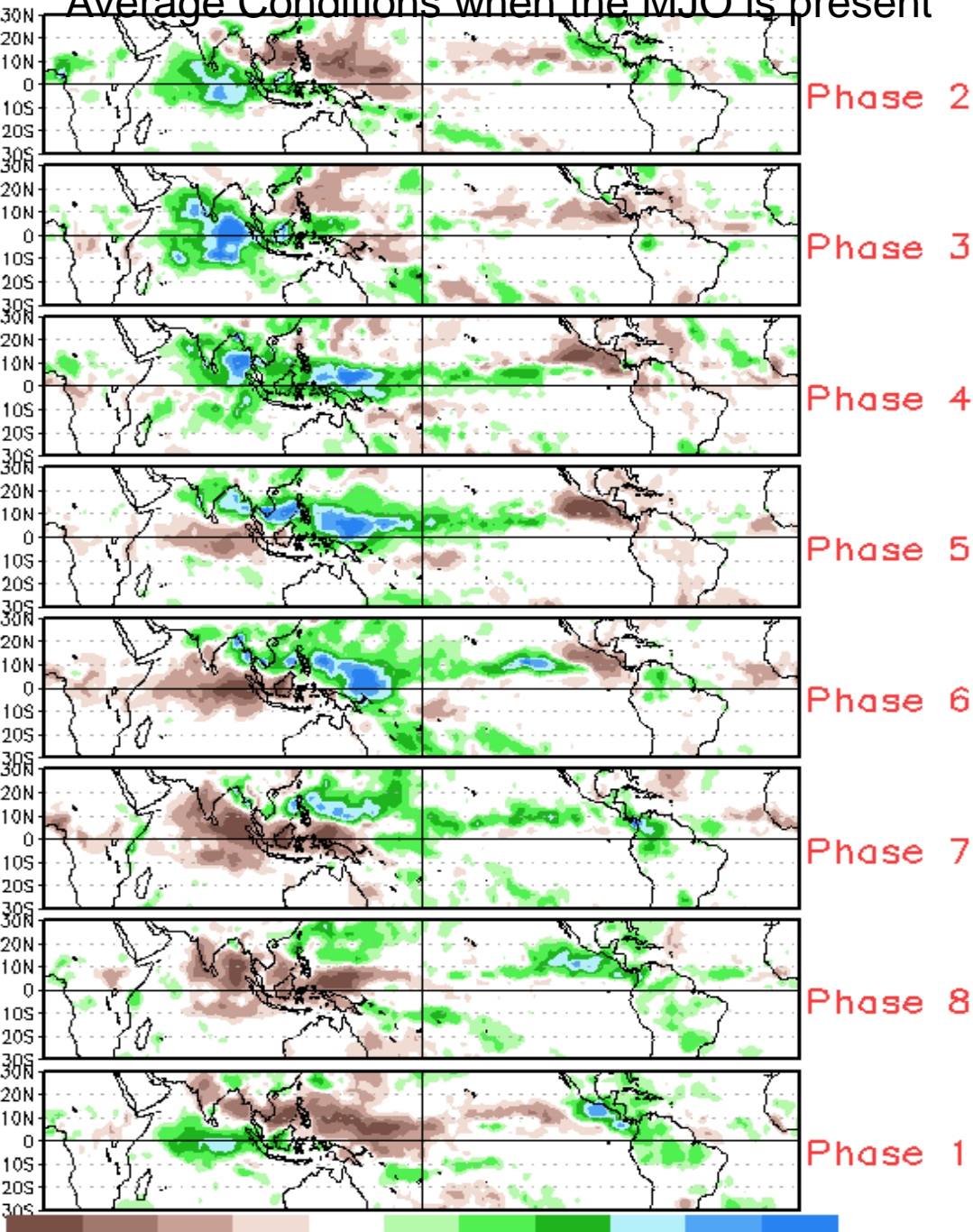


MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate propagation to the east. Divergence in how the models handle interaction with westward moving modes.

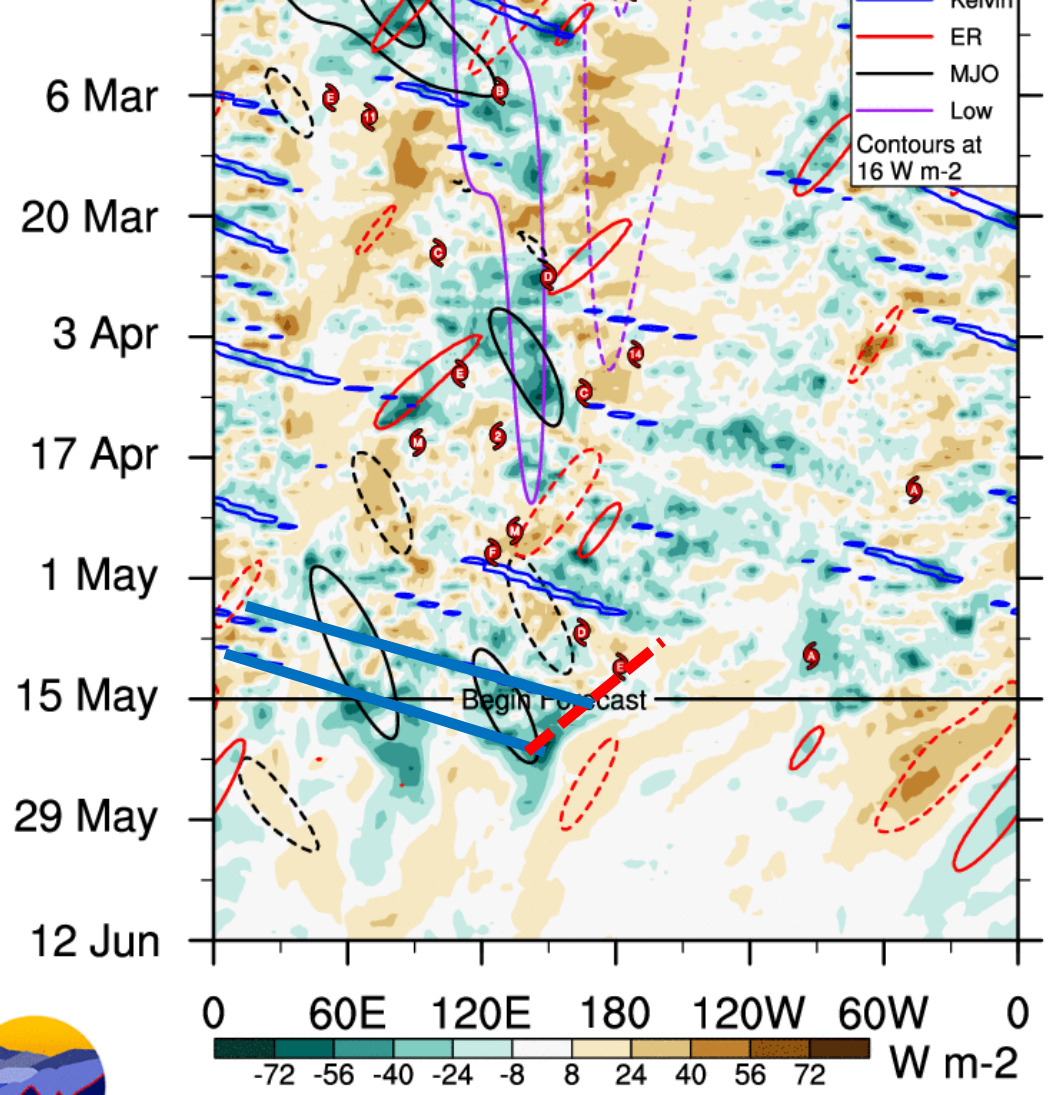
Average Conditions when the MJO is present

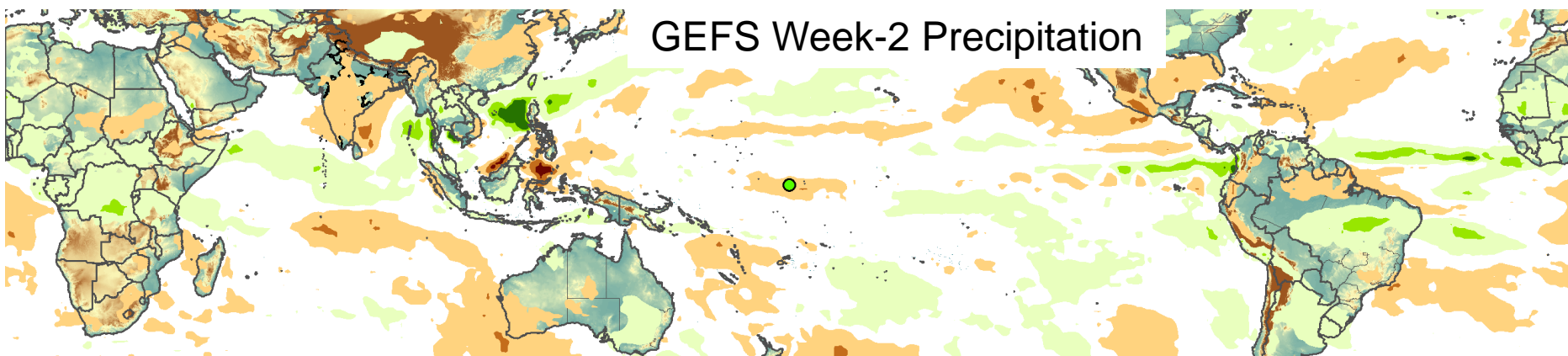
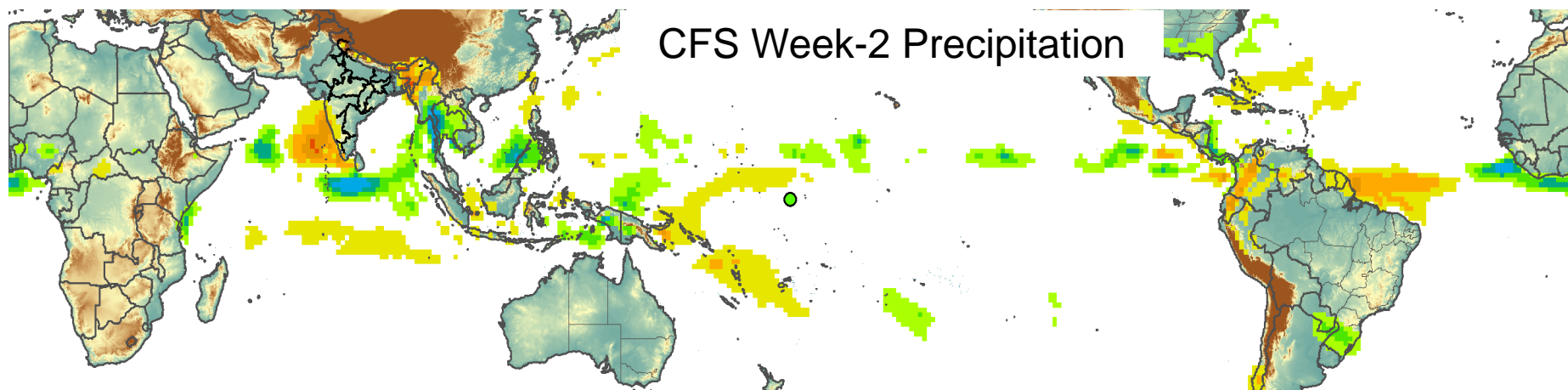
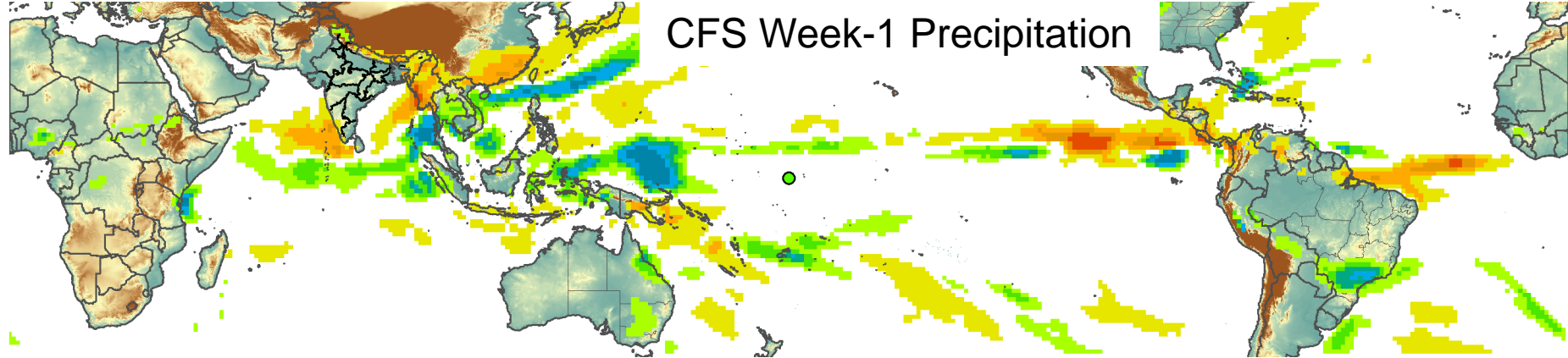


CAVEAT: These panels are representative of robust MJO events.

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

Low-frequency pattern less of an influence







Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

1:00 pm EDT
Wed Apr 19 2017

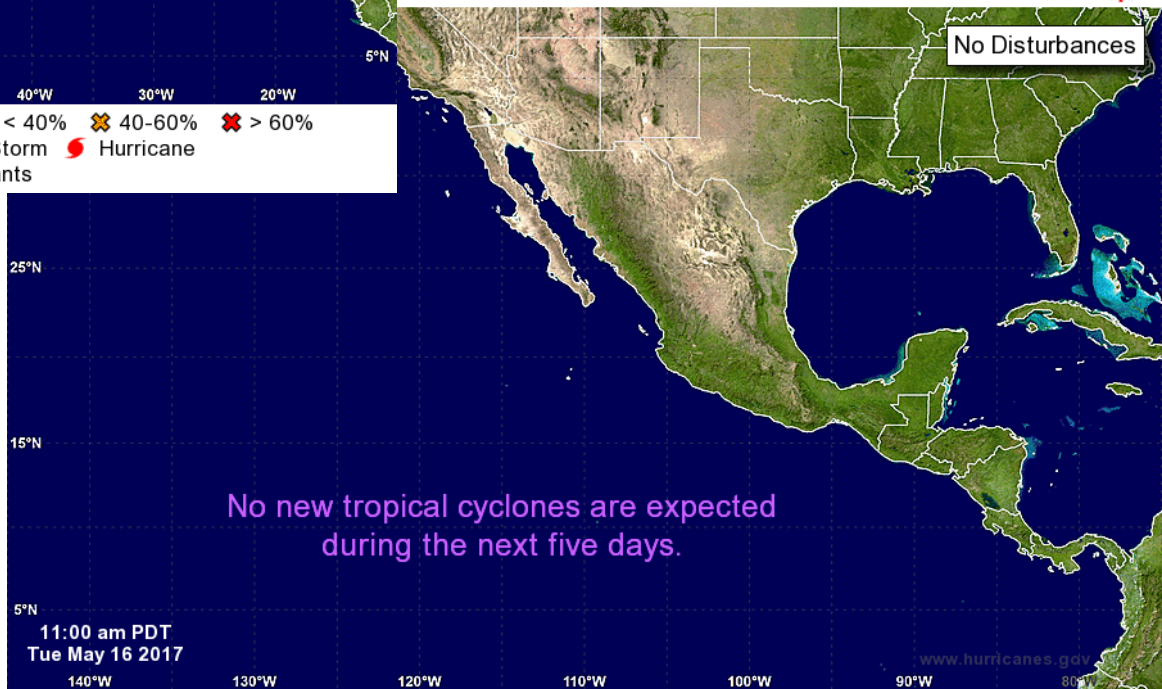
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

11:00 am PDT
Tue May 16 2017

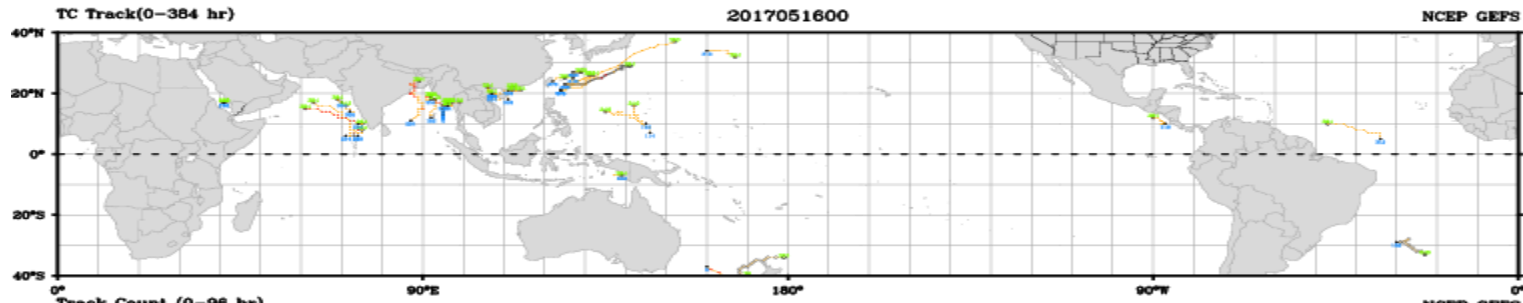
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

2017051600

NCEP GEFS

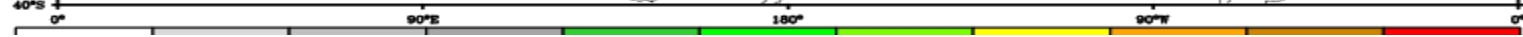
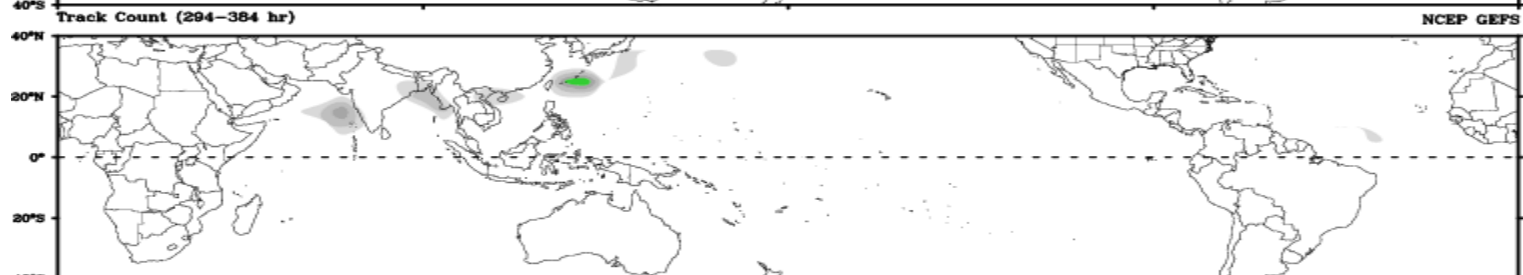
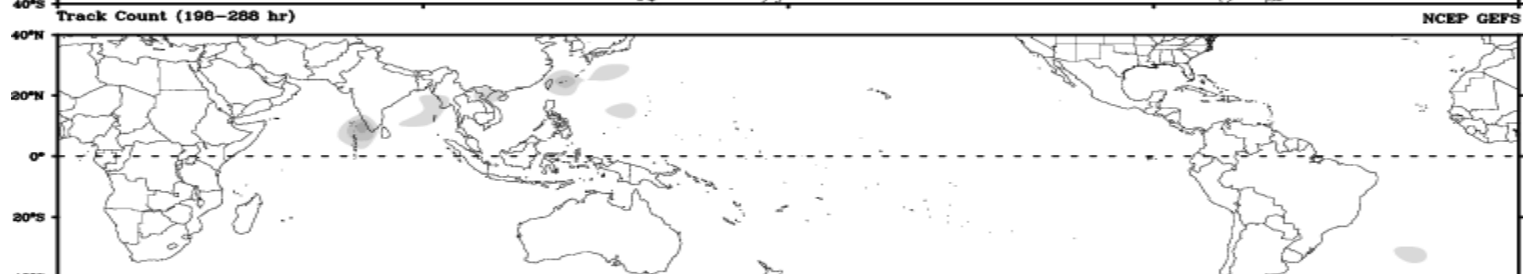
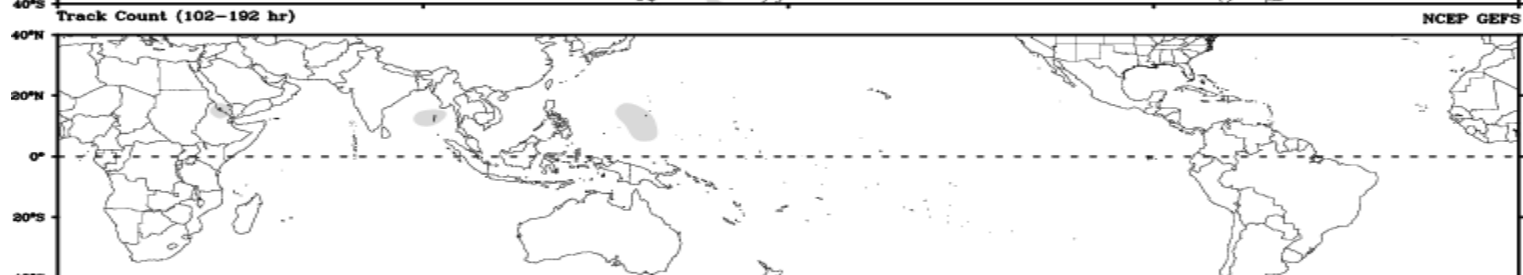
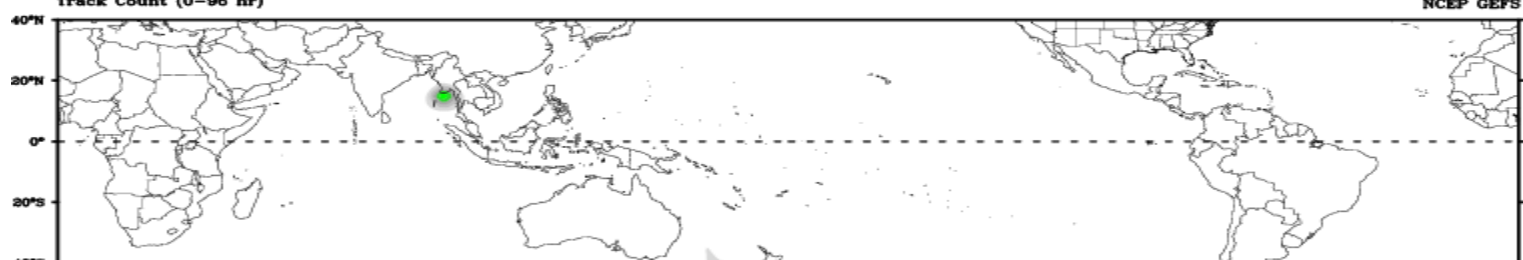


Days 1-4

Day 5-8

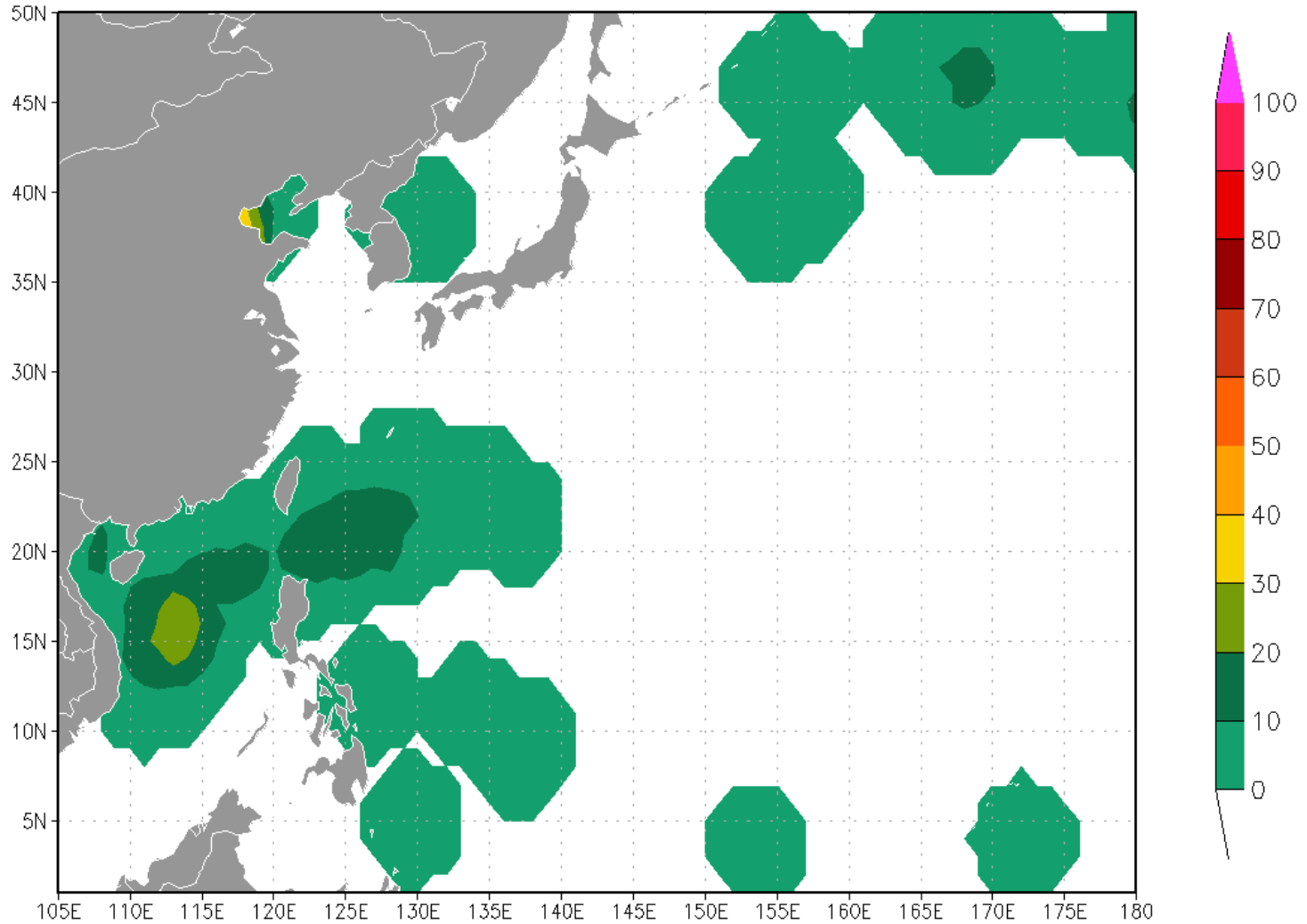
Day 9-12

Day 13-15



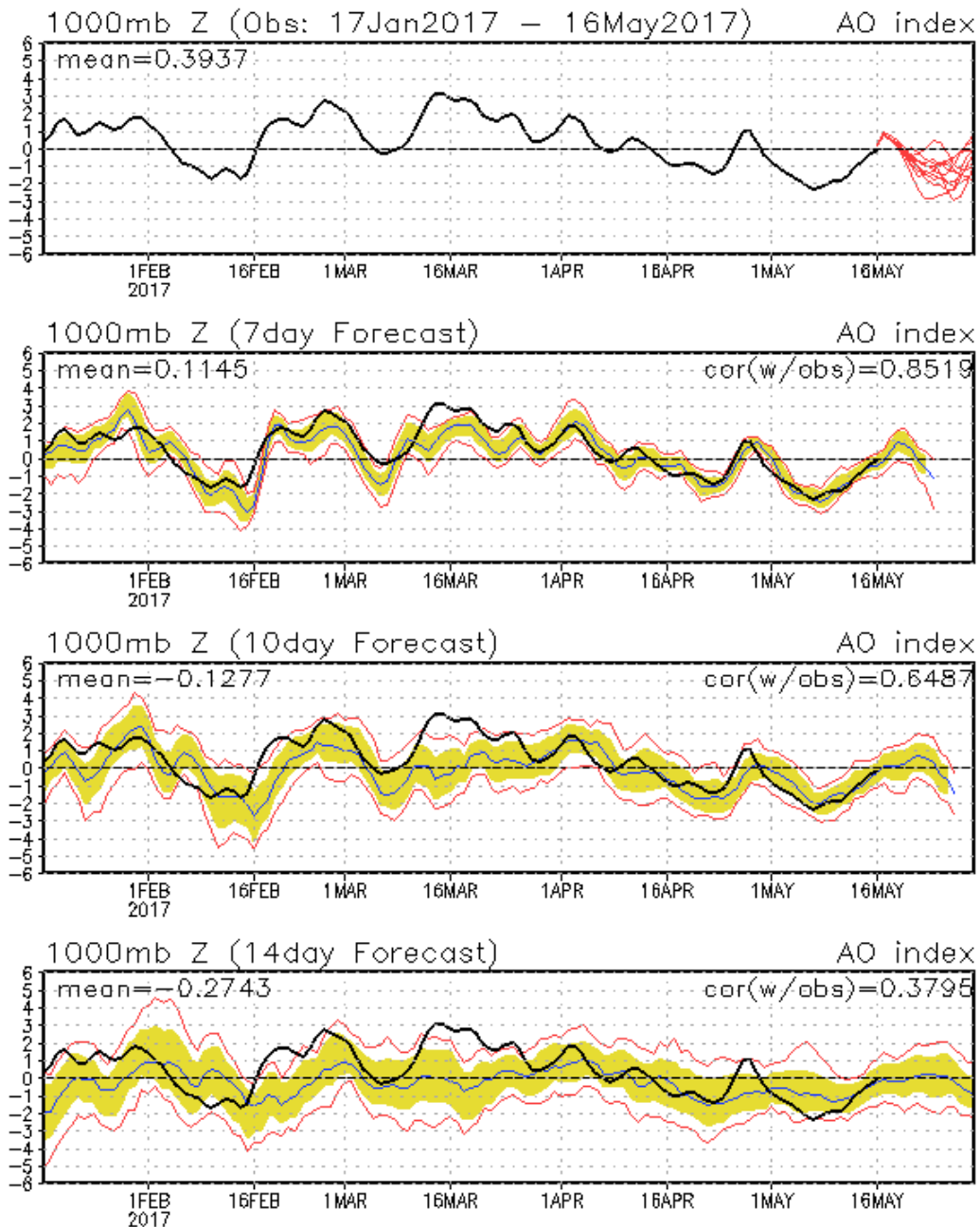
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

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

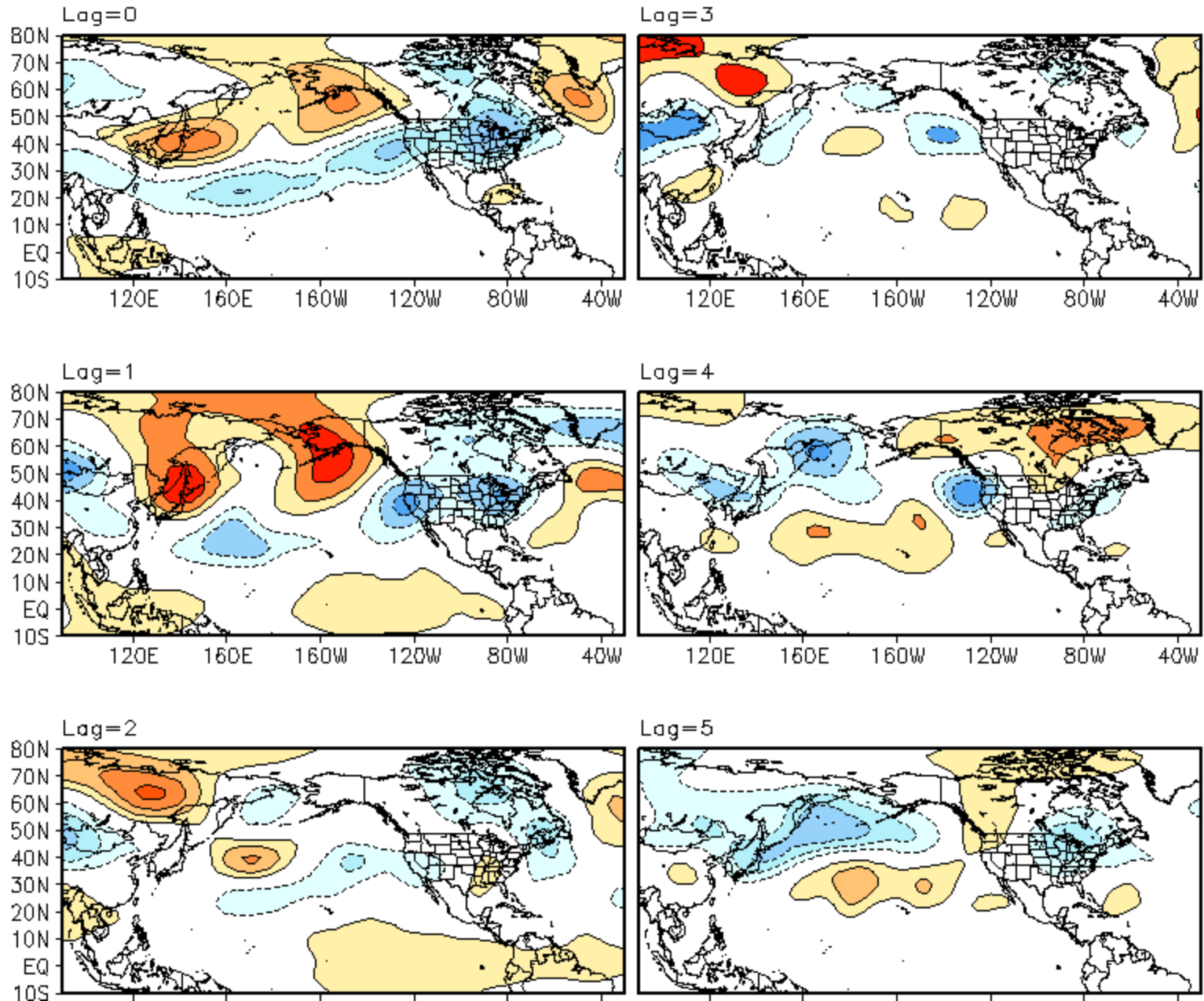


Connections to U.S. Impacts

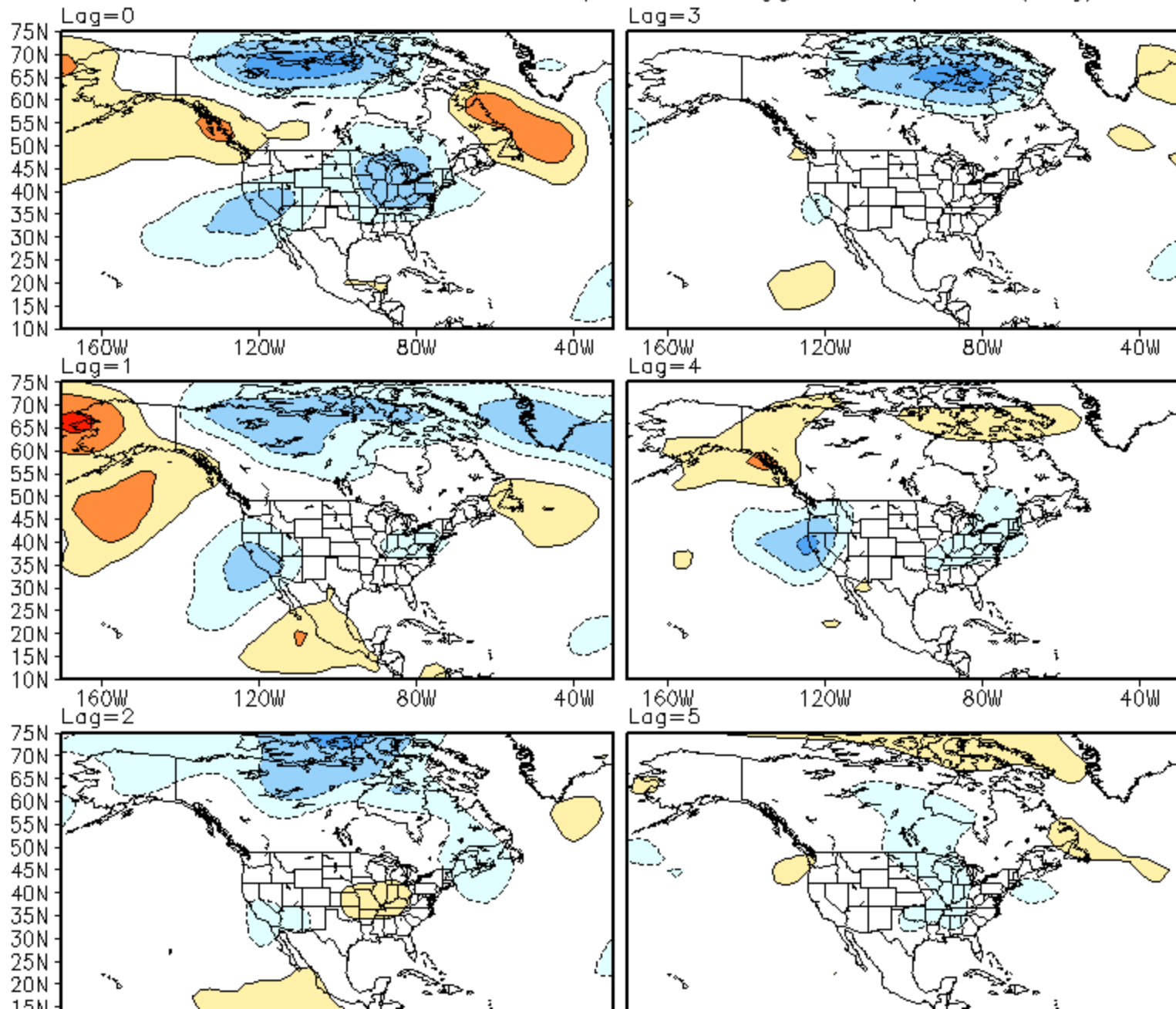
AO: Observed & ENSM forecasts

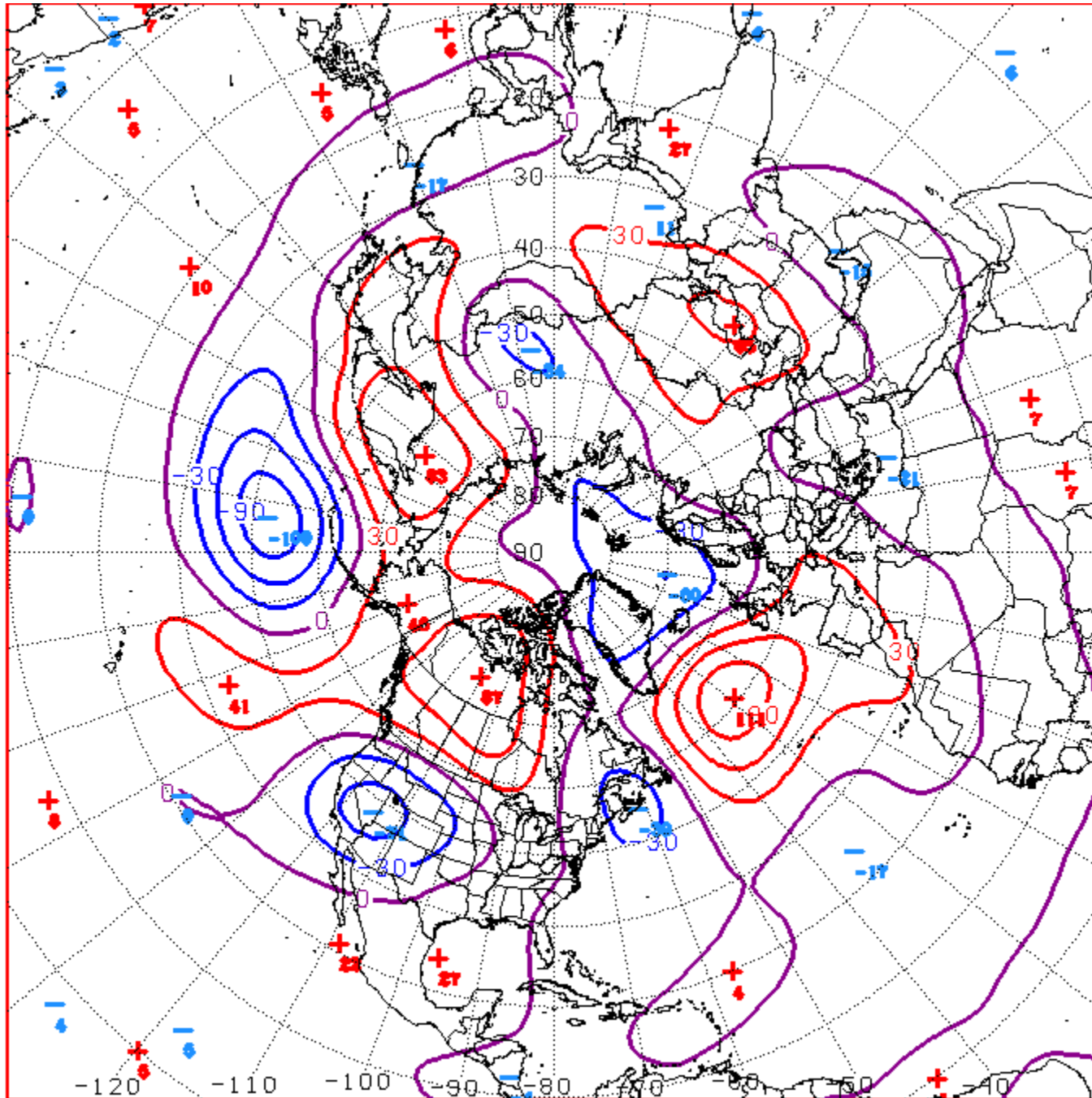


RMM Phase 3 200-hPa Height Lagged Composite (amj)



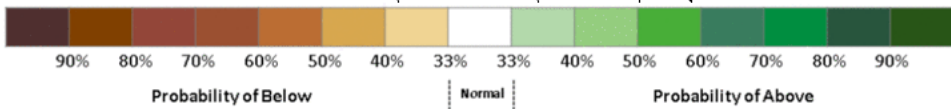
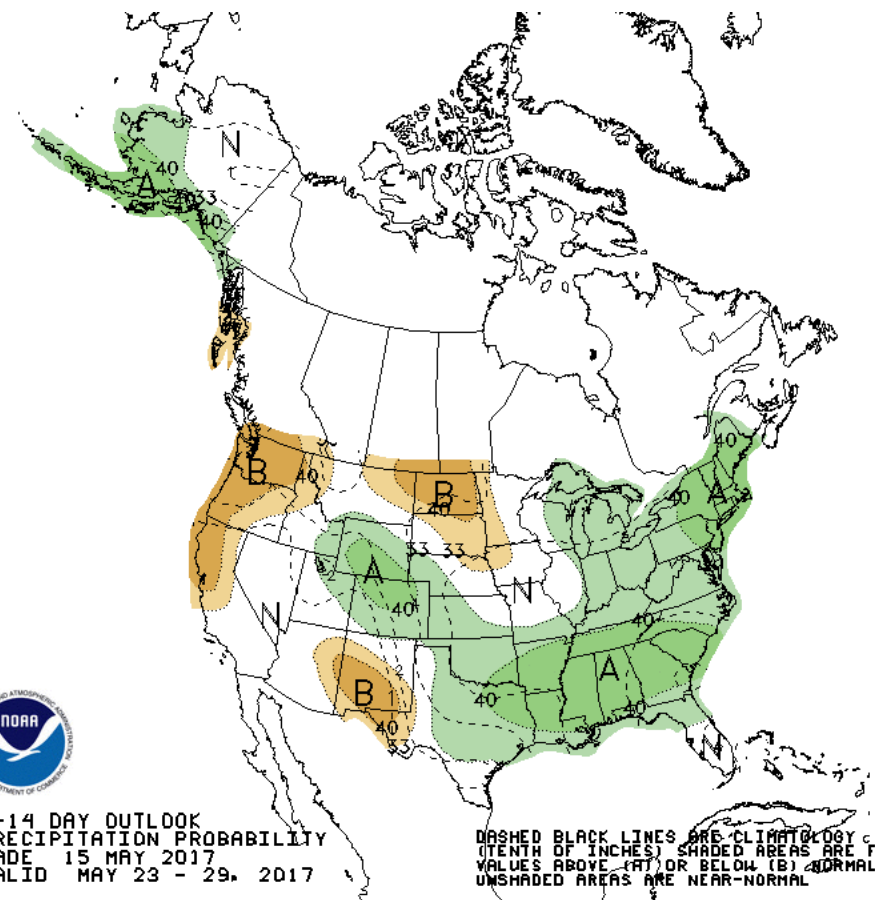
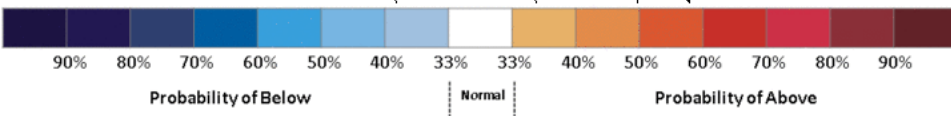
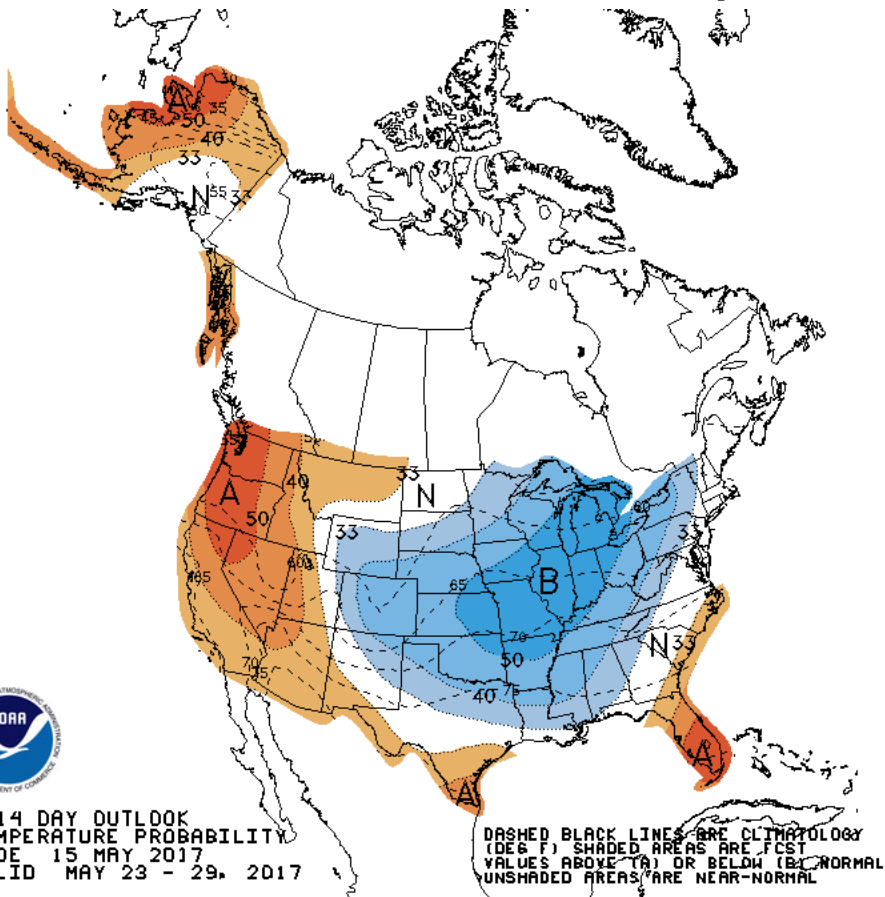
RMM Phase 3 850-hPa Temperature Lagged Composite (amj)





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAY 09 2017 1333 UTC CNTD MAY 20 2017

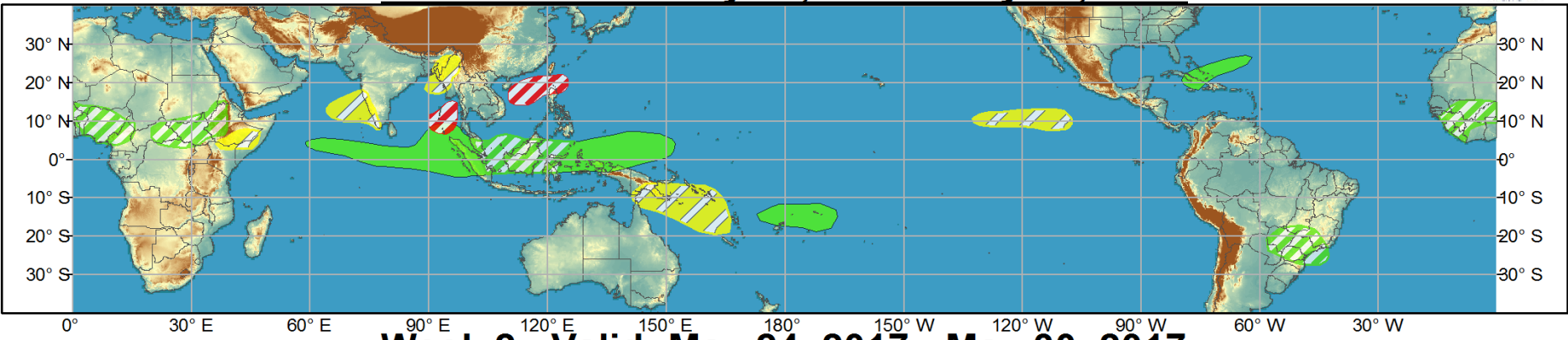
Week 2 – Temperature and Precipitation



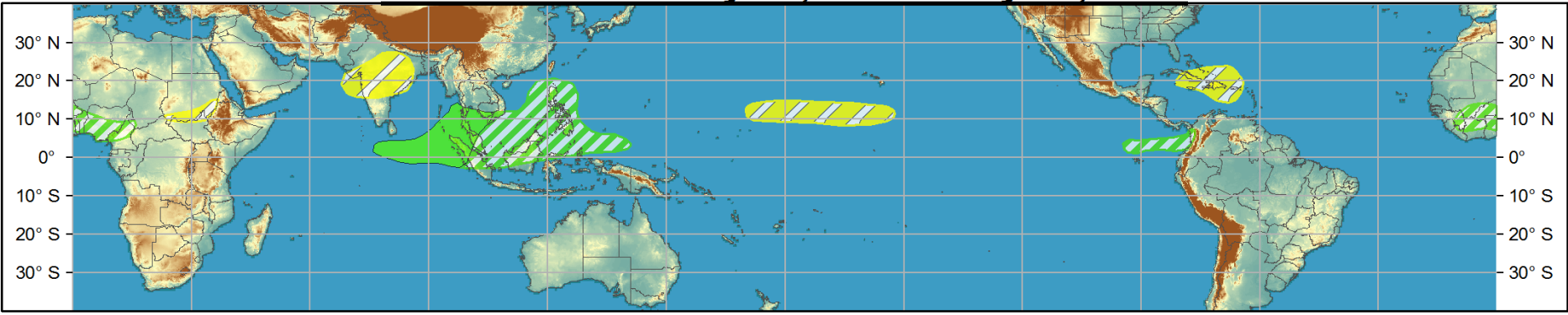


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