

# Global Tropics Hazards And Benefits Outlook

4/18/2017

Dan Harnos

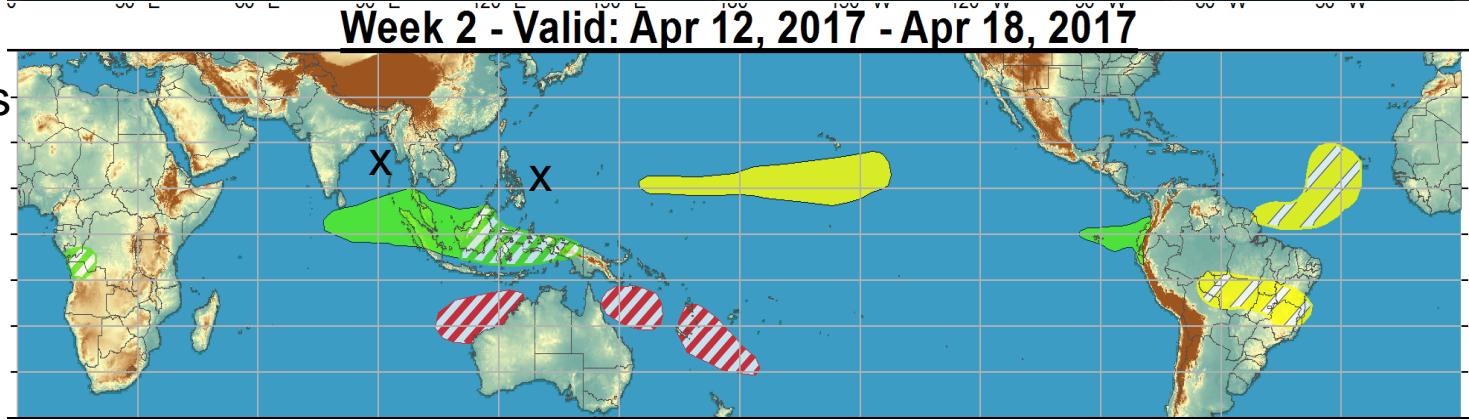
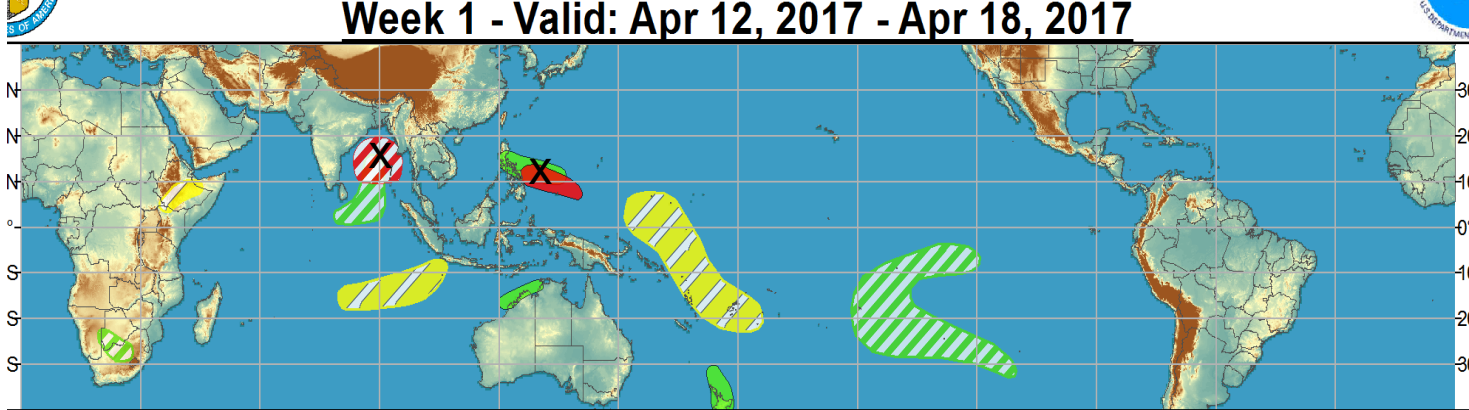
## Outline

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

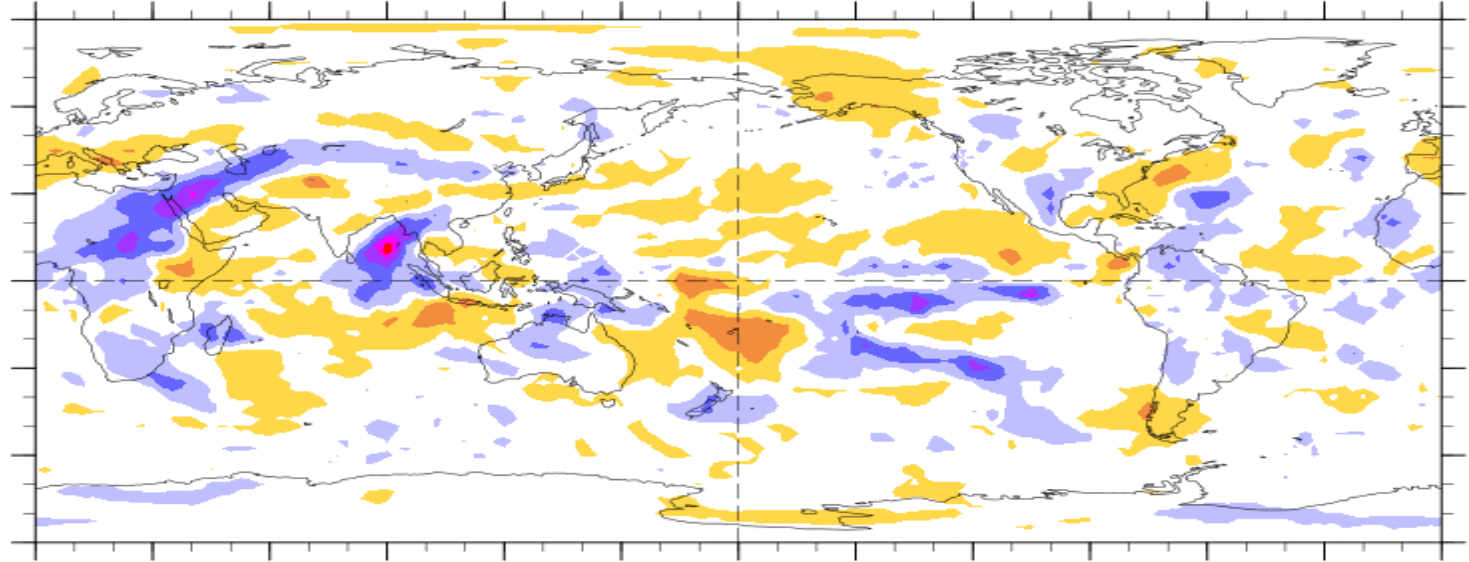
# Outlook Review

T. Depression 2  
14-15 April  
Landfall: Philippines

T. Storm Maarutha  
15-16 April  
Landfall: Myanmar



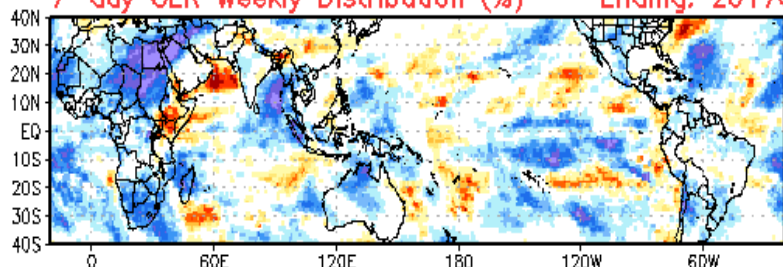
7-Day Average OLR Anomaly 2017/04/10 - 2017/04/16



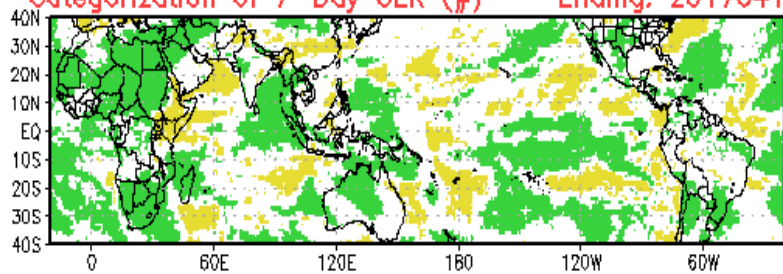
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

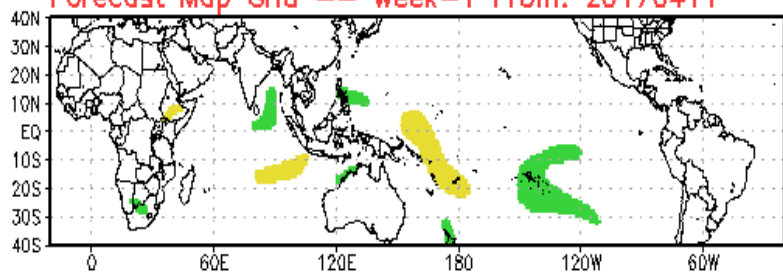
7-day OLR Weekly Distribution (%) -- Ending: 20170418



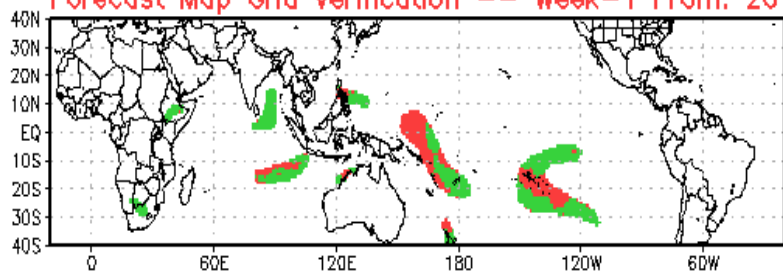
Categorization of 7-Day OLR (#) -- Ending: 20170418



Forecast Map Grid -- Week-1 From: 20170411

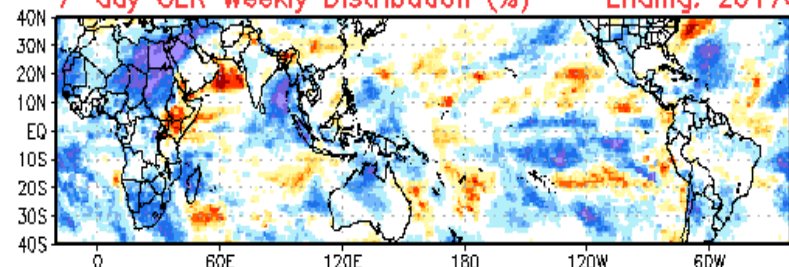


Forecast Map Grid Verification -- Week-1 From: 20170411

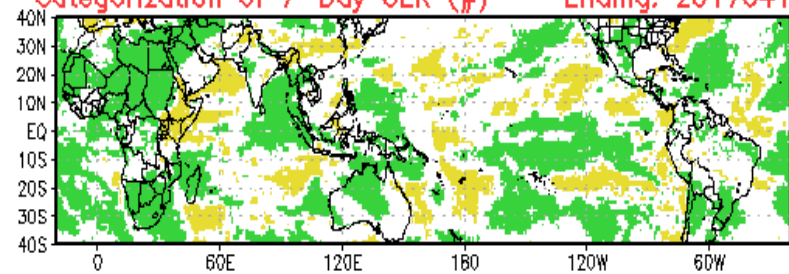


Hit: Green, Miss: Red  
Heidke Skill Score: 46.6964

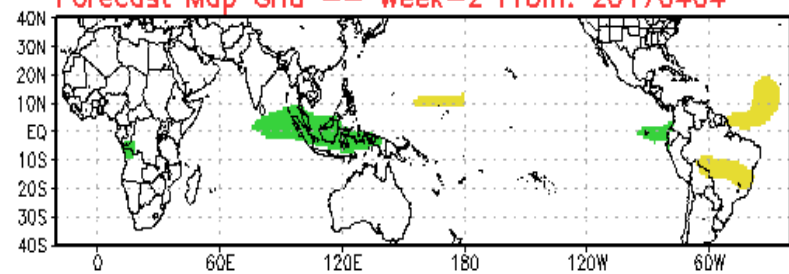
7-day OLR Weekly Distribution (%) -- Ending: 20170418



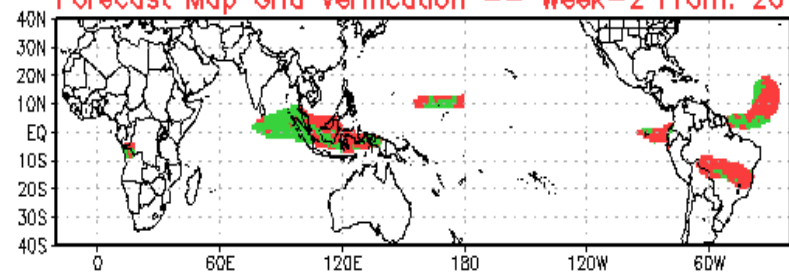
Categorization of 7-Day OLR (#) -- Ending: 20170418



Forecast Map Grid -- Week-2 From: 20170404



Forecast Map Grid Verification -- Week-2 From: 20170404



Hit: Green, Miss: Red  
Heidke Skill Score: 11.4411

# Synopsis of Climate Modes

## ENSO:

- ENSO-neutral conditions are expected to continue through boreal Spring.
- Increasing chances of El Niño development by boreal late Summer/Fall.
- The next ENSO update will be released on 11 May 2017.

## MJO and other subseasonal tropical variability:

- The RMM index suggests presence of the MJO over the Western Hemisphere, while other analyses suggest Kelvin wave activity is contaminating this index and no MJO is present.
- Dynamical models show no characteristic eastward propagation of an intraseasonal signal. Rossby wave effects are more apparent in RMM index forecasts, which could yield tropical cyclones in the West Pacific and north of Australia.

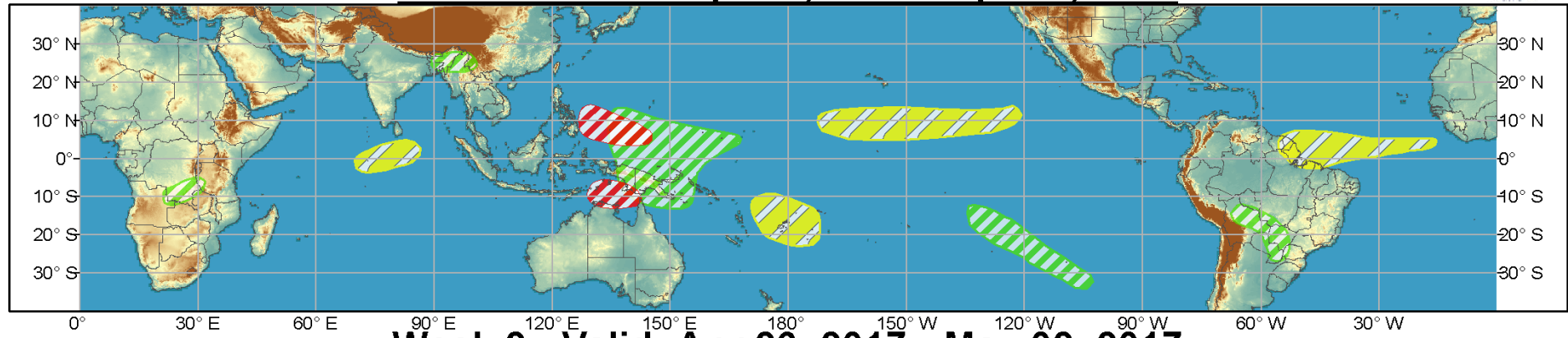
## Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be substantially influenced by the MJO or other tropical convective activity.

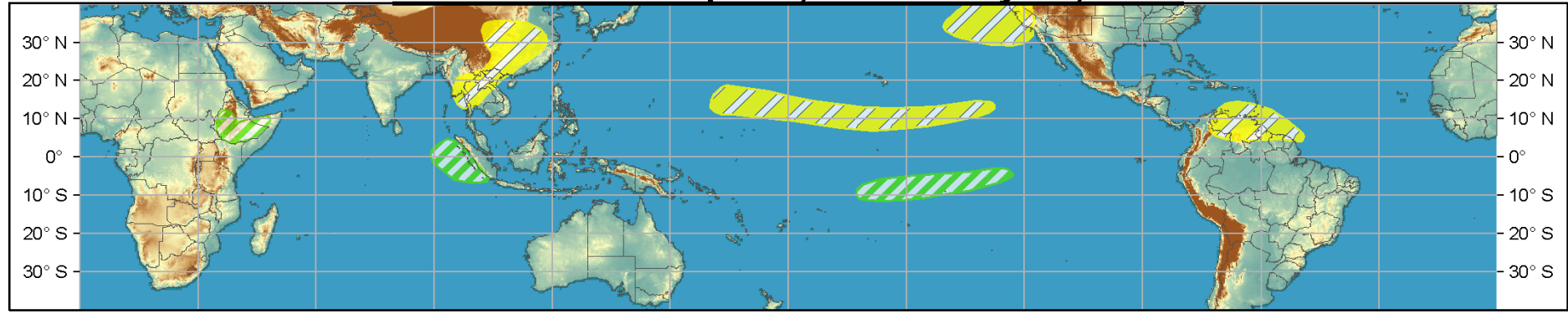


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Apr 19, 2017 - Apr 25, 2017



## Week 2 - Valid: Apr 26, 2017 - May 02, 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.
- 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: 04/18/2017

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.



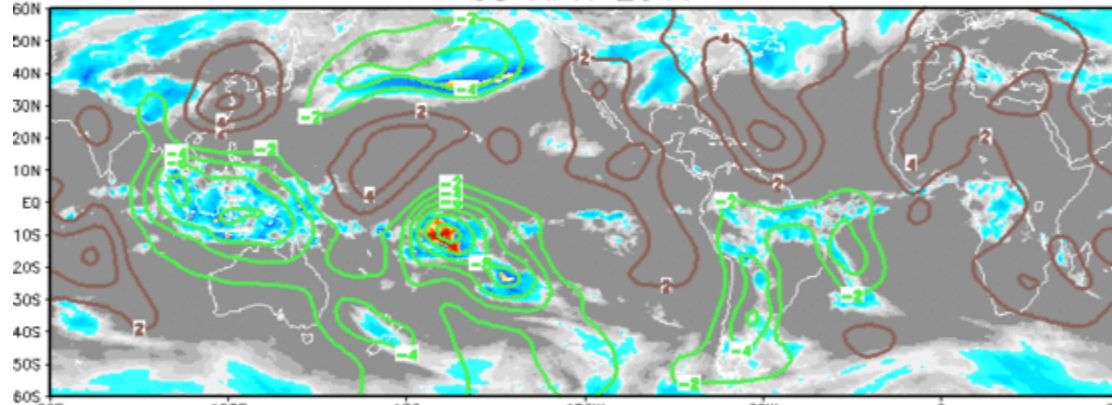
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

Brown: Enhanced Convergence

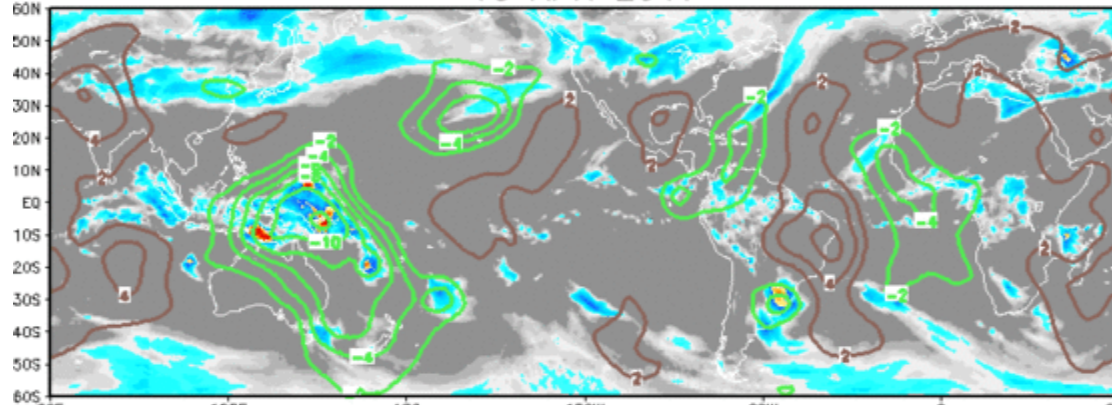
Active over the Maritime Continent, South Pacific, and South America.

03 APR 2017

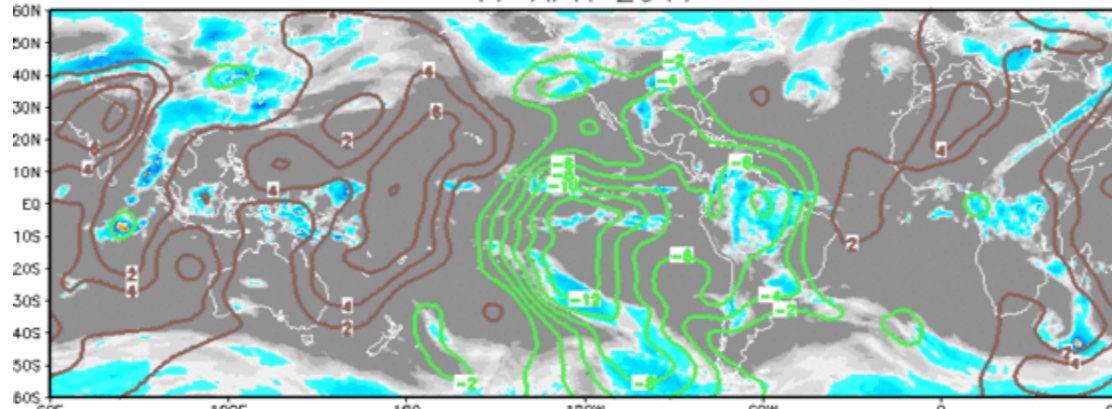


Approximate wave-2, with active convection over the Maritime Continent and Americas/Atlantic.

10 APR 2017

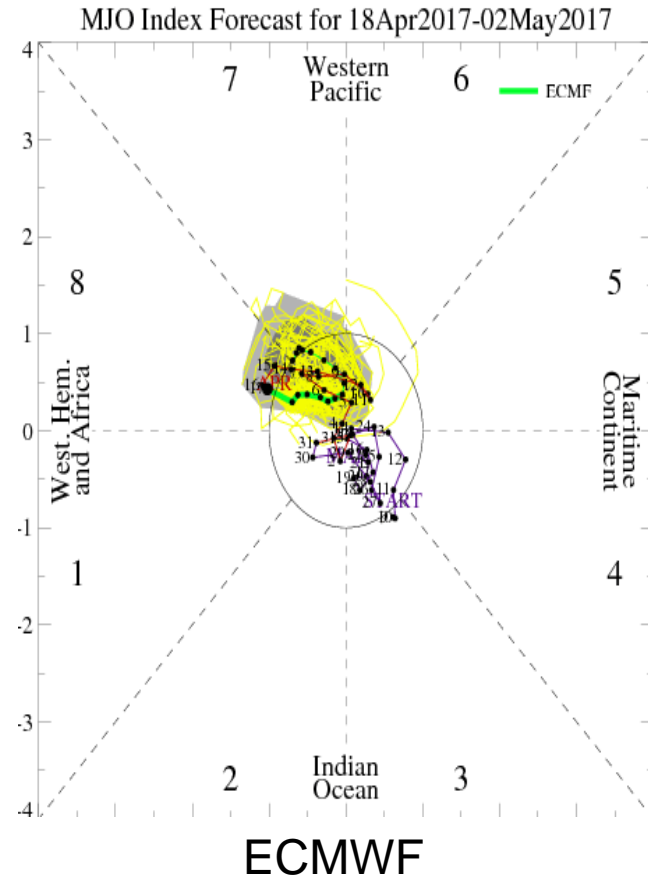
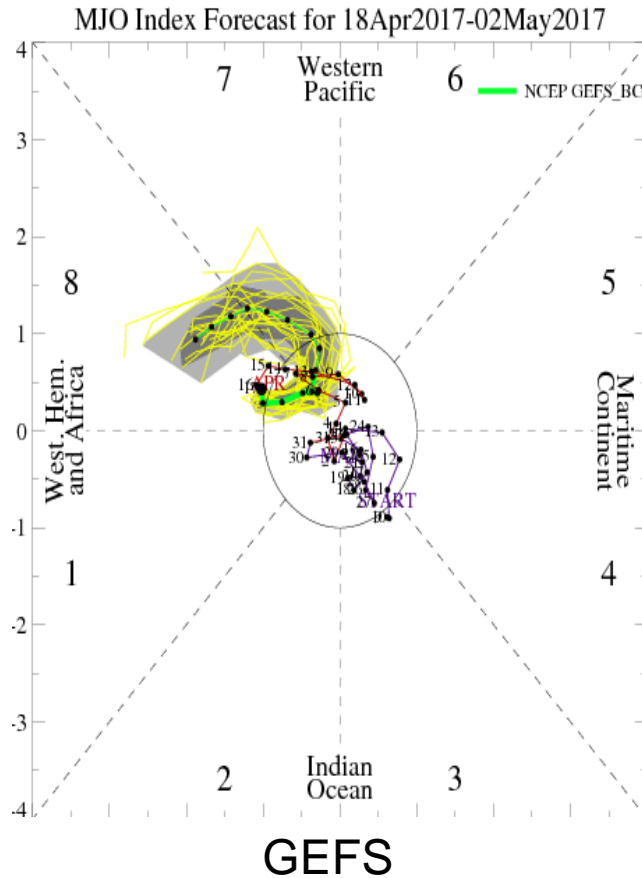


17 APR 2017



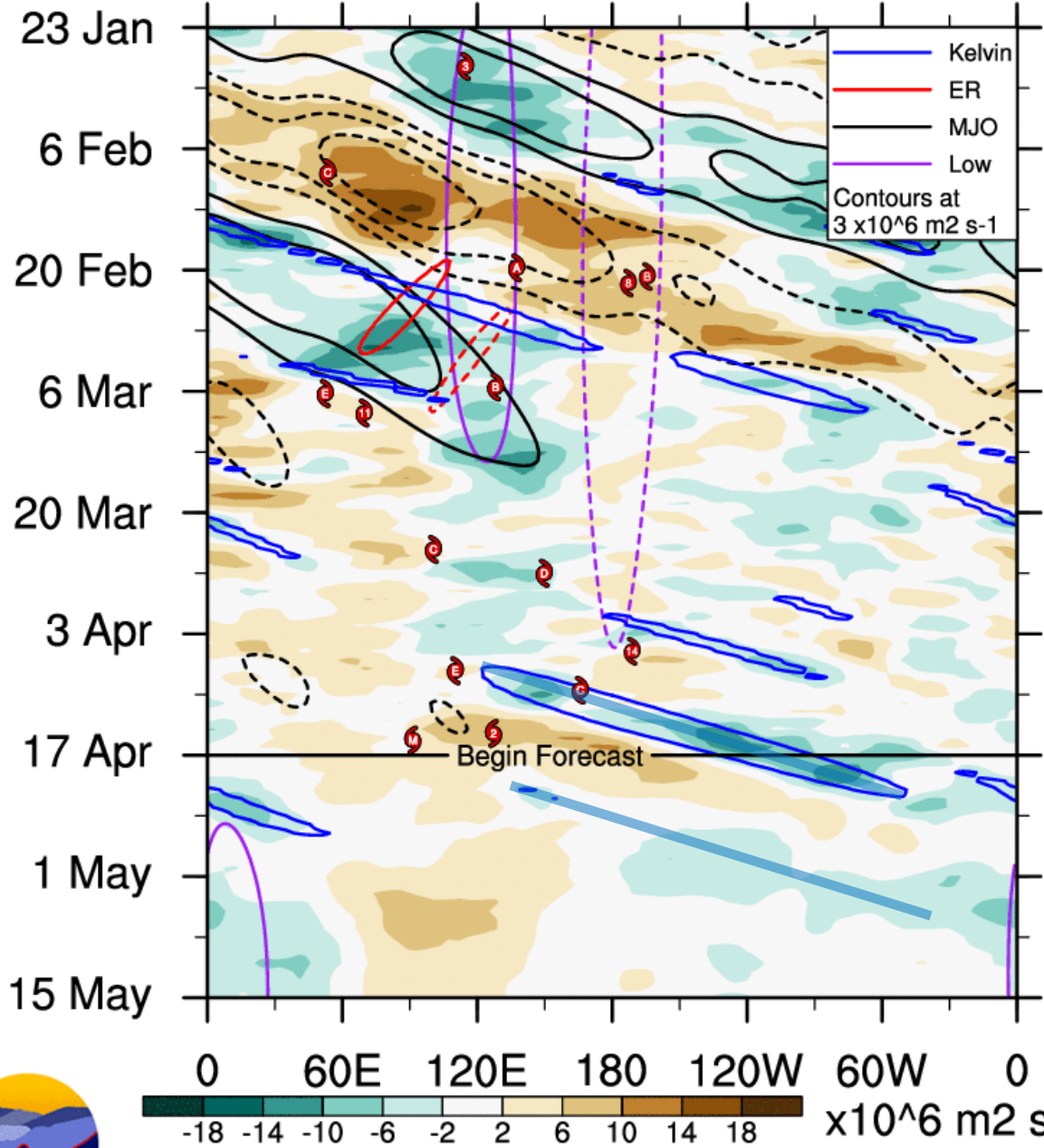
Enhanced divergence over the East Pacific and Americas, generally suppressed elsewhere.

# MJO Observation/Forecast



Looping solutions in GEFS and ECMWF indicative of equatorial Rossby wave activity.

No coherent eastward propagation at speeds consistent with the MJO.



**Kelvin wave** currently in East Pacific.

Another **Kelvin wave** forecast to emerge in a few days near 140W, could increase tropical cyclone odds in its wake.

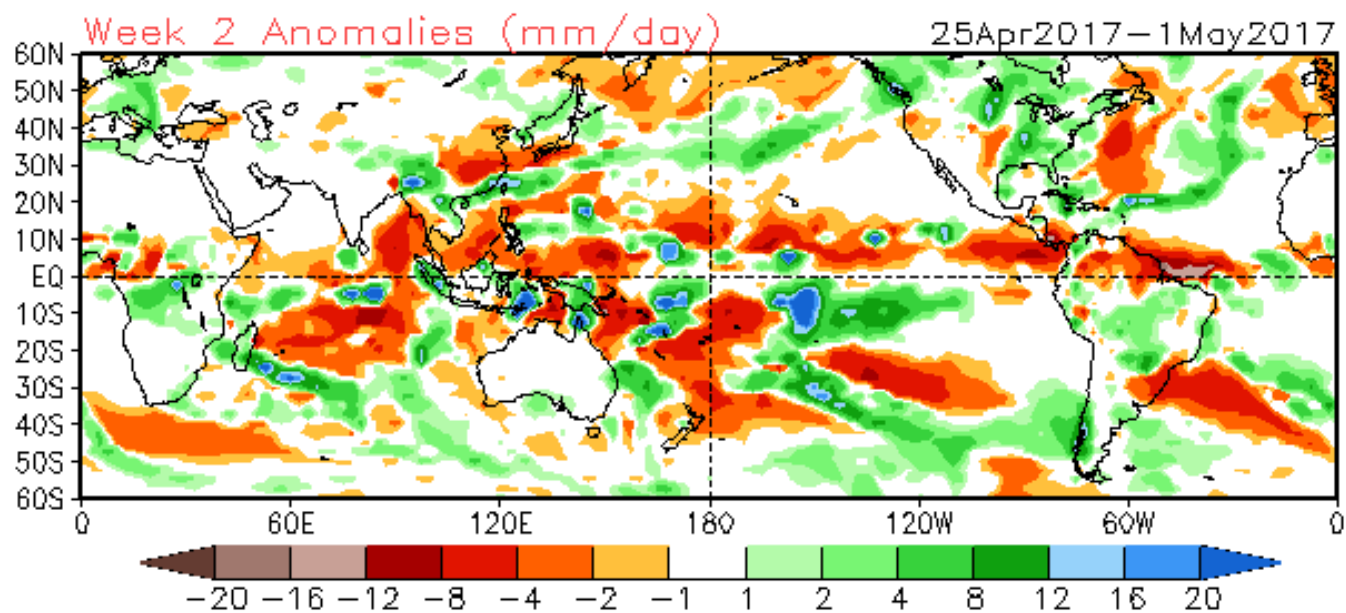
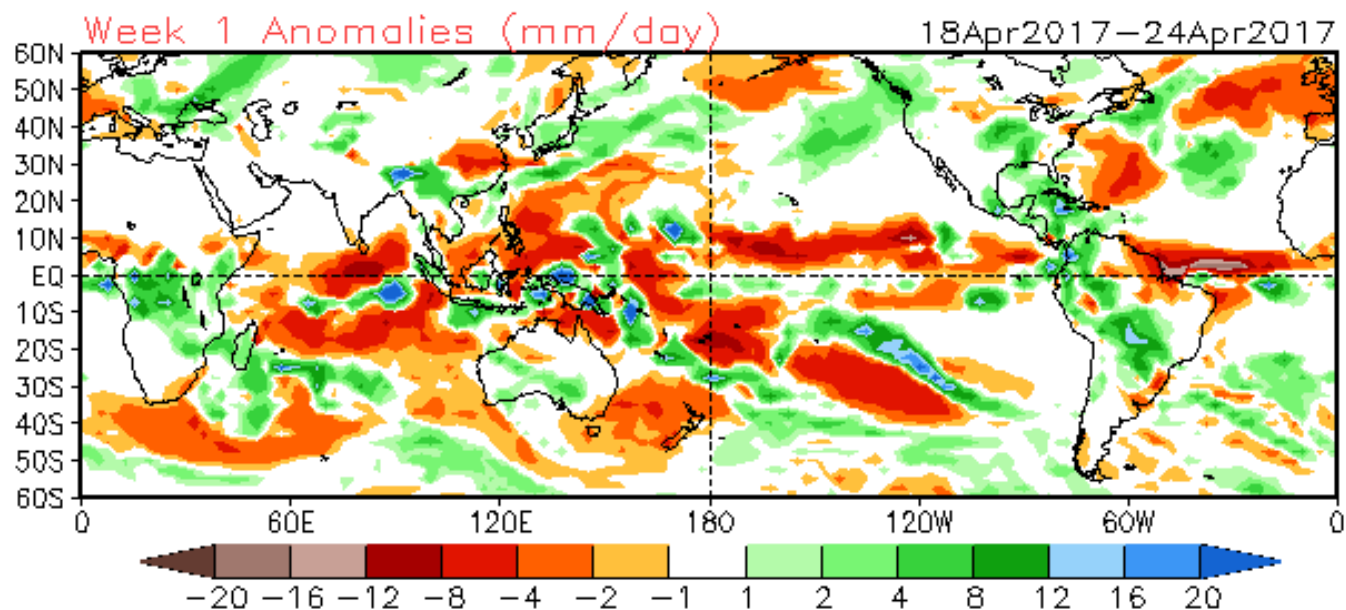
Limited variability otherwise, no signs of **MJO**.





# CFSv2 Weeks 1 & 2 Precipitation

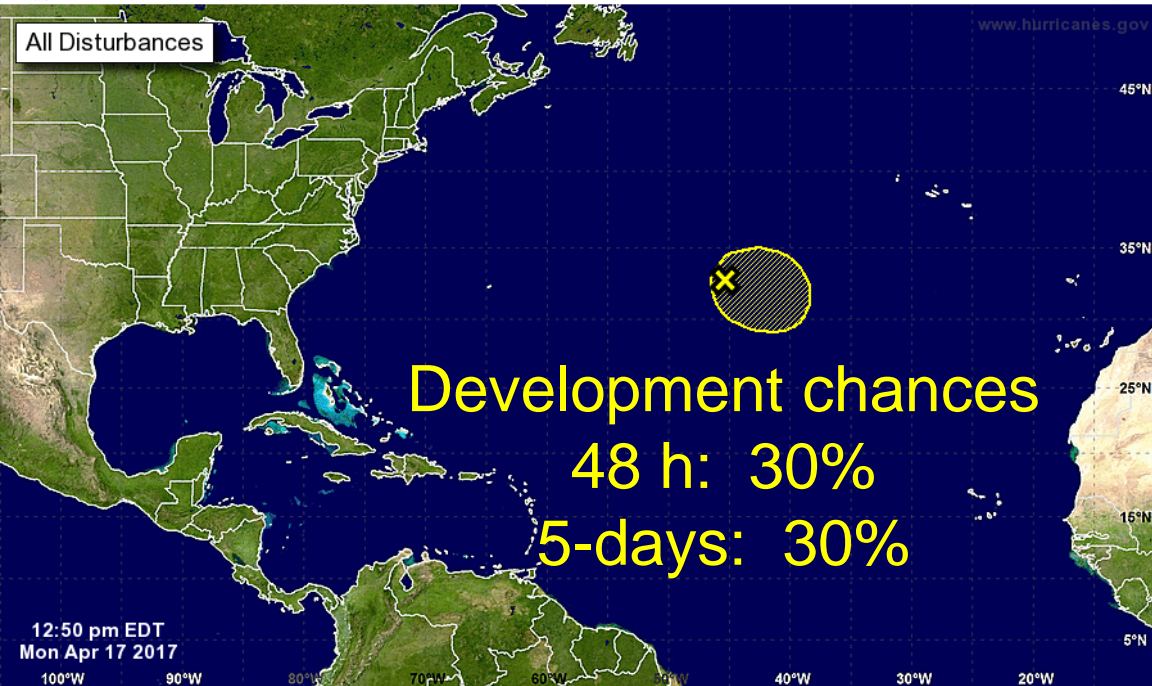
16 Member Ensemble Mean Forecast from 17Apr2017





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Potential subtropical system.

No U.S. impacts anticipated

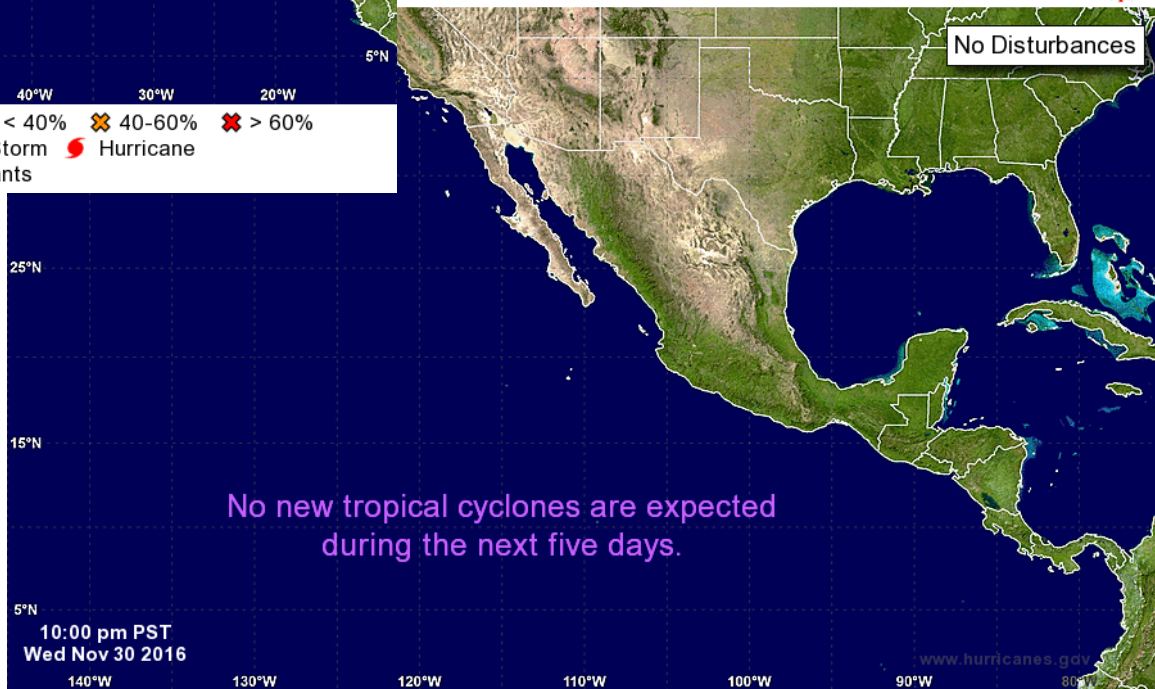
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

## Graphical Tropical Weather Outlook

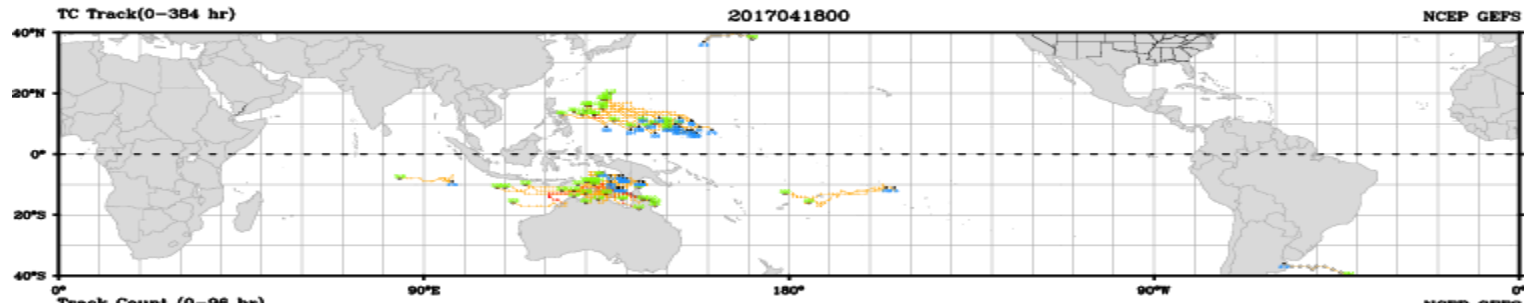
National Hurricane Center Miami, Florida



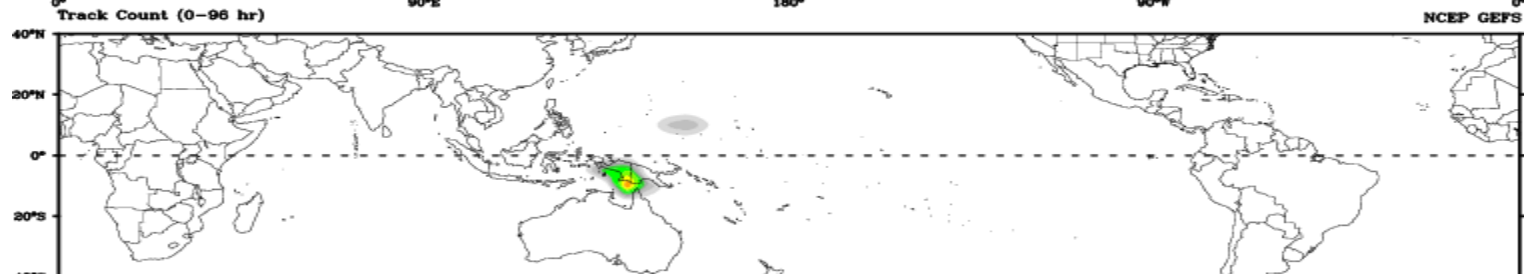
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 10:00 pm PST Mon Dec 5 2016

Chance of Cyclone Formation in Five Days: Low < 40% Medium 40-60% High > 60%

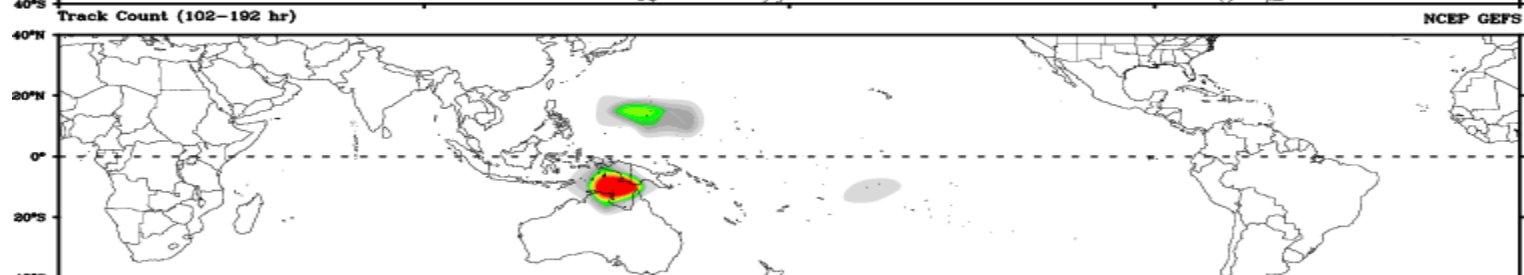
X indicates current disturbance location; shading indicates potential formation area.



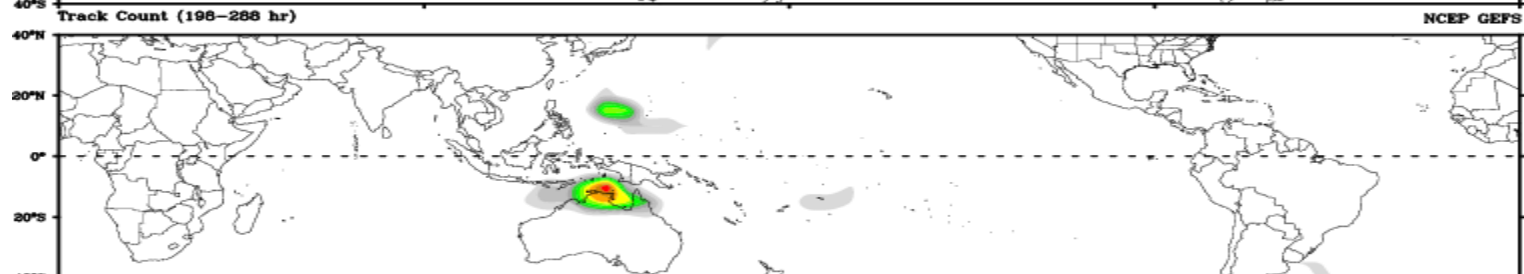
Days 1-4



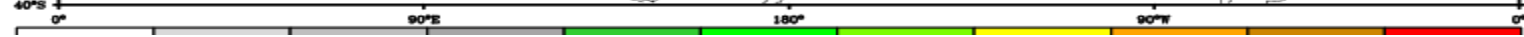
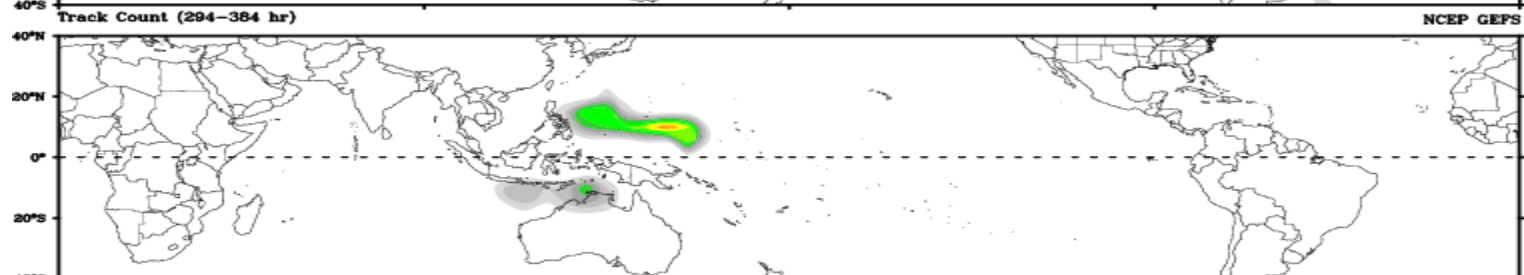
Day 5-8



Day 9-12

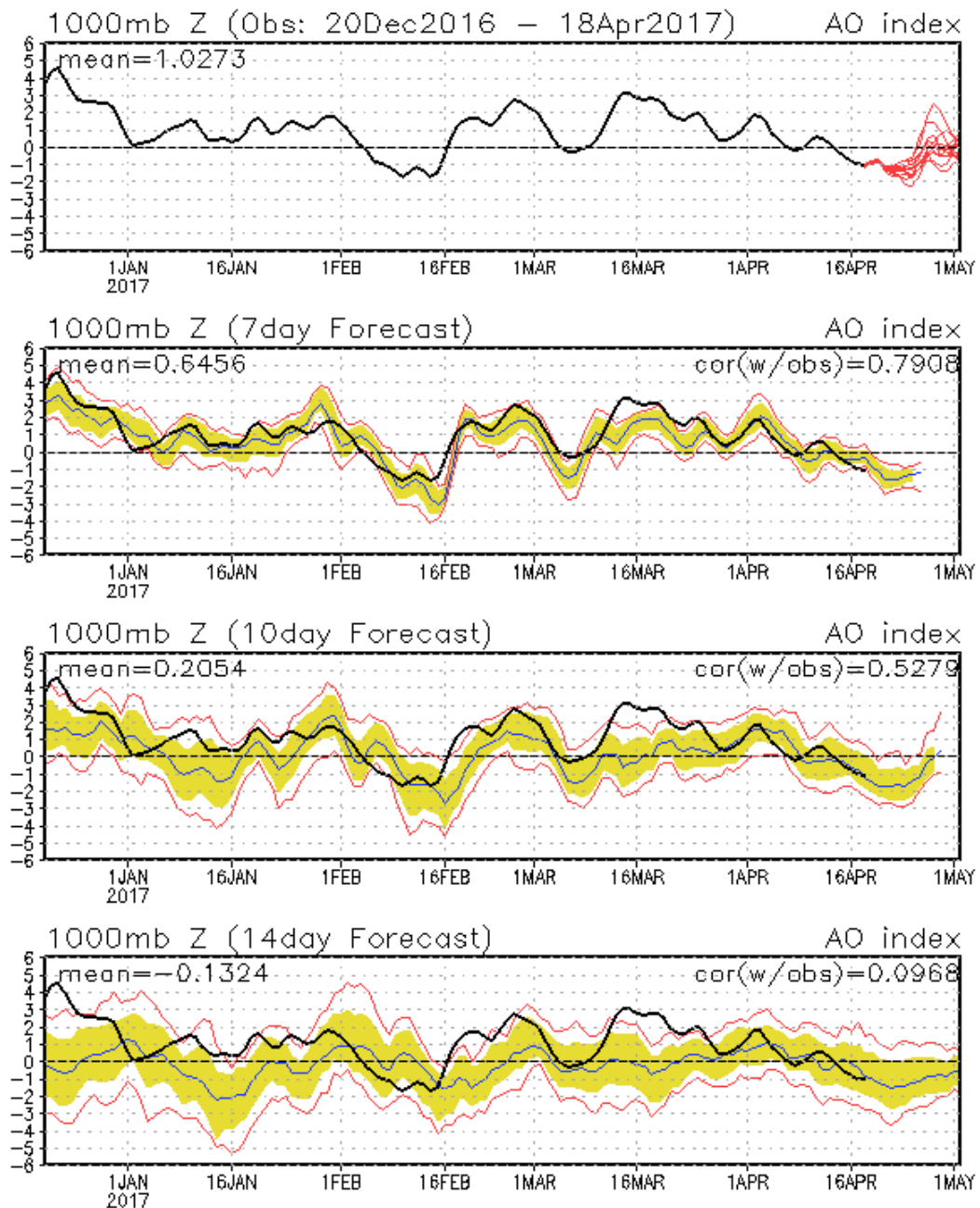


Day 13-15



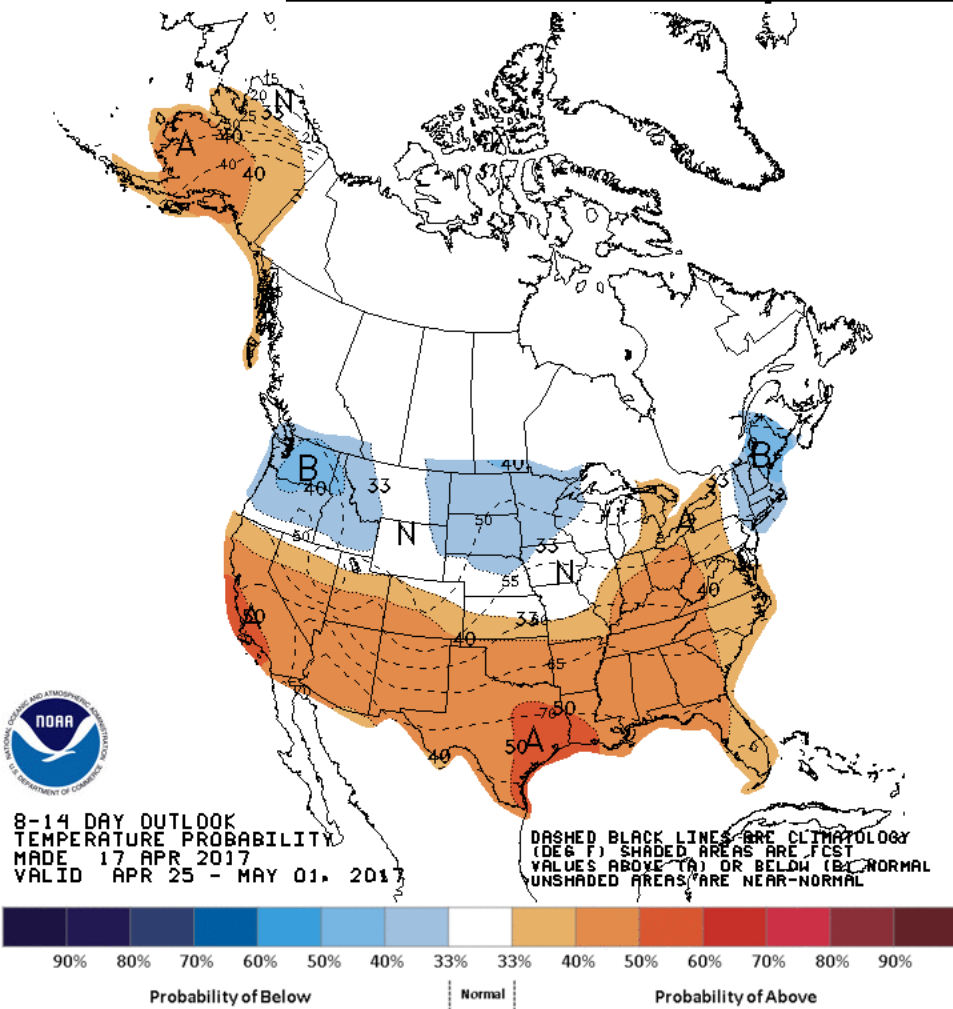
# Connections to U.S. Impacts

## AO: Observed & ENSM forecasts



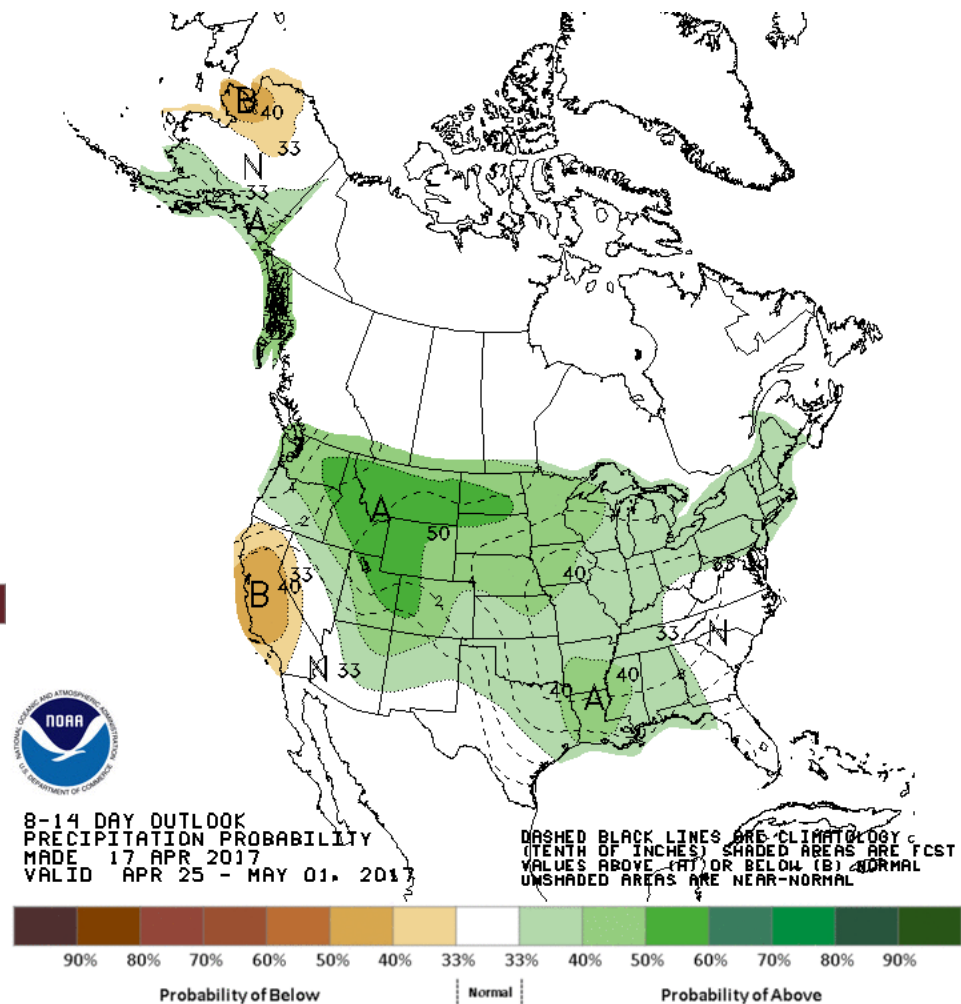


# Week 2 – Temperature and Precipitation



Today's update:

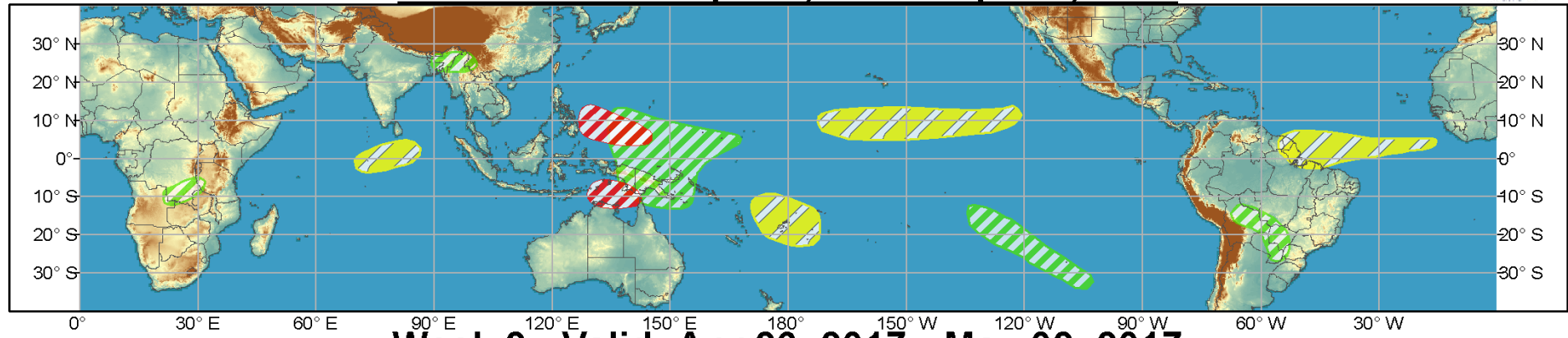
- Warmer in NE?
- Cooler in W?
- Cooler in AK?



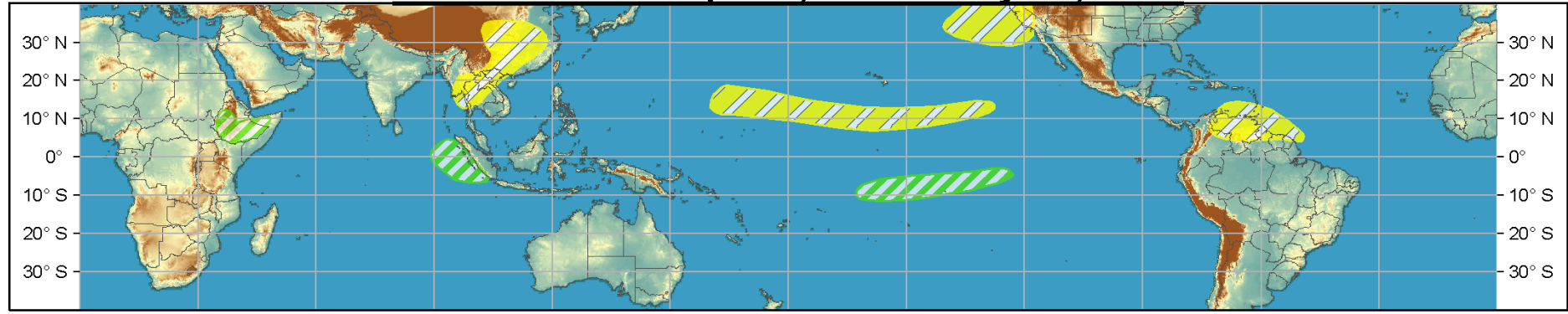


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