

# Global Tropics Hazards And Benefits Outlook

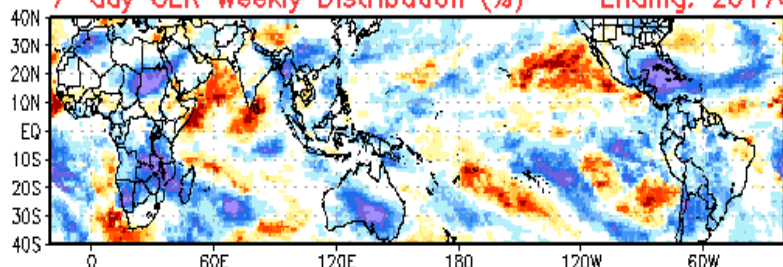
4/25/2017

Brad Pugh

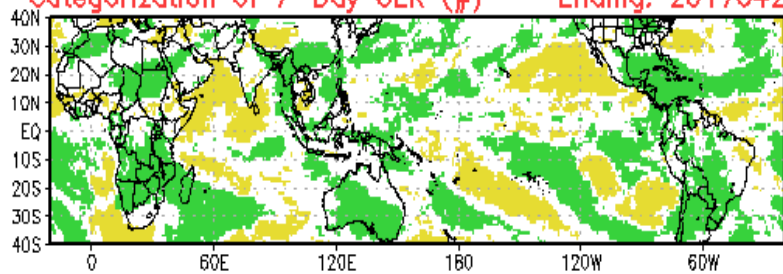
## Outline

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

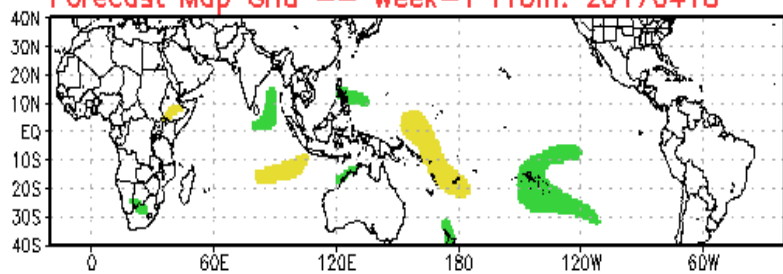
7-day OLR Weekly Distribution (%) -- Ending: 20170425



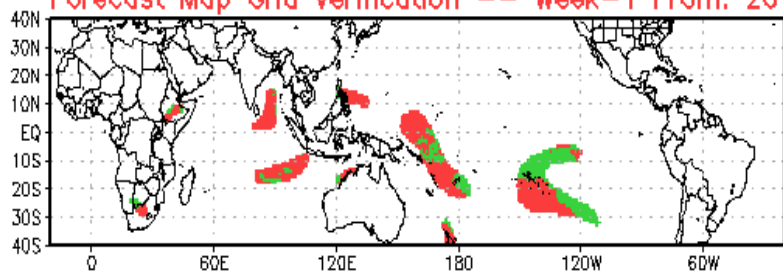
Categorization of 7-Day OLR (#) -- Ending: 20170425



Forecast Map Grid -- Week-1 From: 20170418

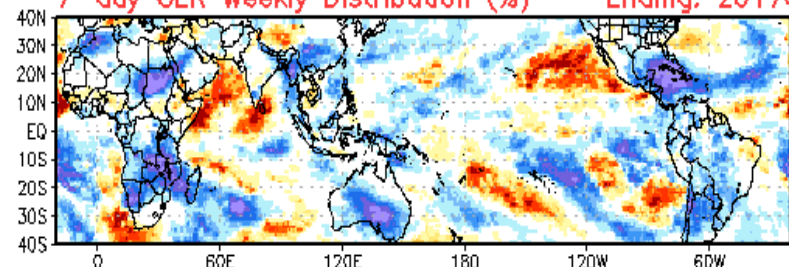


Forecast Map Grid Verification -- Week-1 From: 20170418

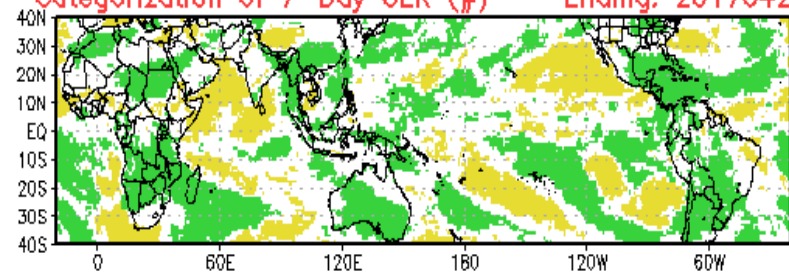


Hit: Green, Miss: Red  
Heidke Skill Score: 0.6481

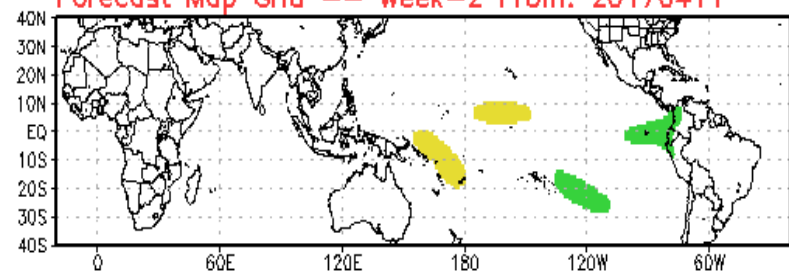
7-day OLR Weekly Distribution (%) -- Ending: 20170425



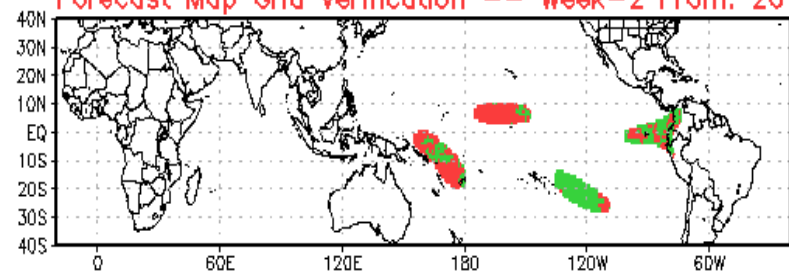
Categorization of 7-Day OLR (#) -- Ending: 20170425



Forecast Map Grid -- Week-2 From: 20170411



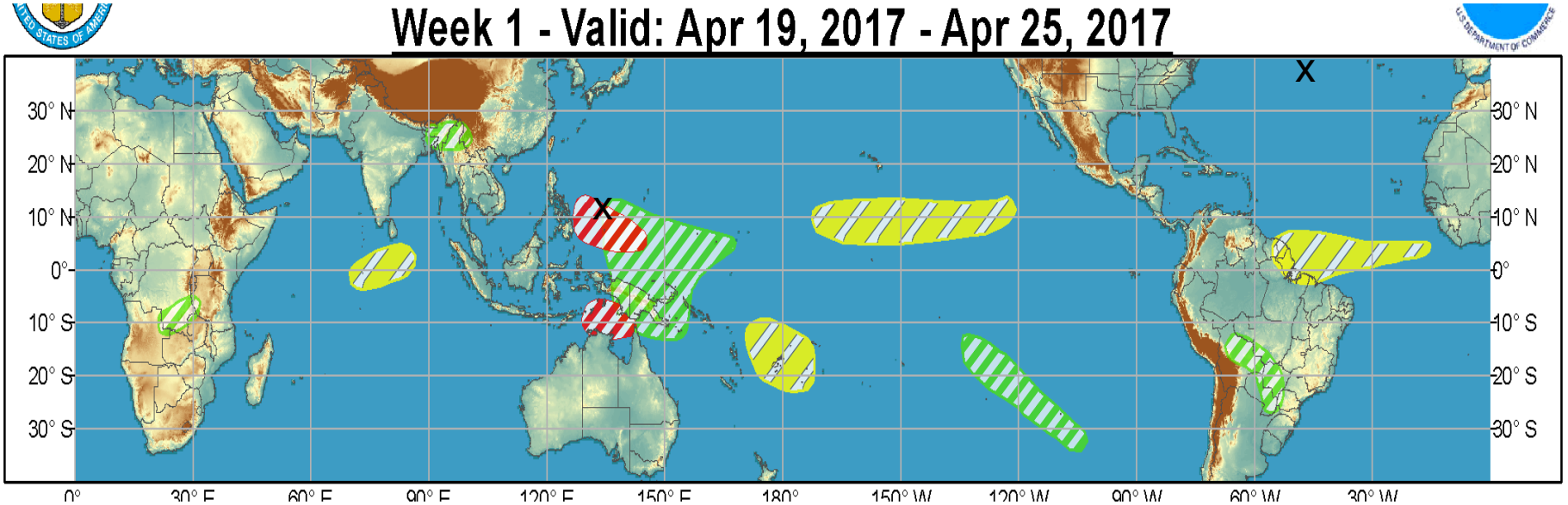
Forecast Map Grid Verification -- Week-2 From: 20170411



Hit: Green, Miss: Red  
Heidke Skill Score: 22.7147

# Tropical Cyclone Verification

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



## Tropical Storm Arlene

- 1<sup>st</sup> named storm of the 2017 Atlantic season
- Formed at a relatively high latitude of 36 degrees N (800 mi west of Azores)
- Only the 2<sup>nd</sup> tropical cyclone to form over the Atlantic Basin during April

## Tropical Depression 3W

- Expected to remain weak as it recurves away from the Philippines

# 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 MJO remained weak, with faster Kelvin Waves more dominant during April.
- Dynamical models indicate the continuation of a weak signal with a Kelvin Wave crossing the Western Hemisphere during Week-1.

## **Extratropics:**

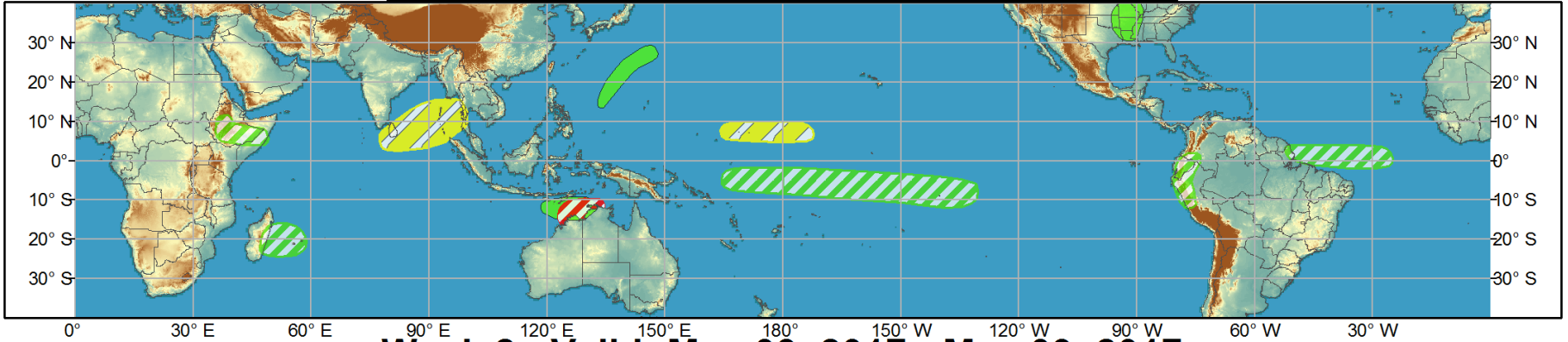
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be influenced by the MJO.
- Very large spread among the GFS and ECMWF ensemble members during Week-2.



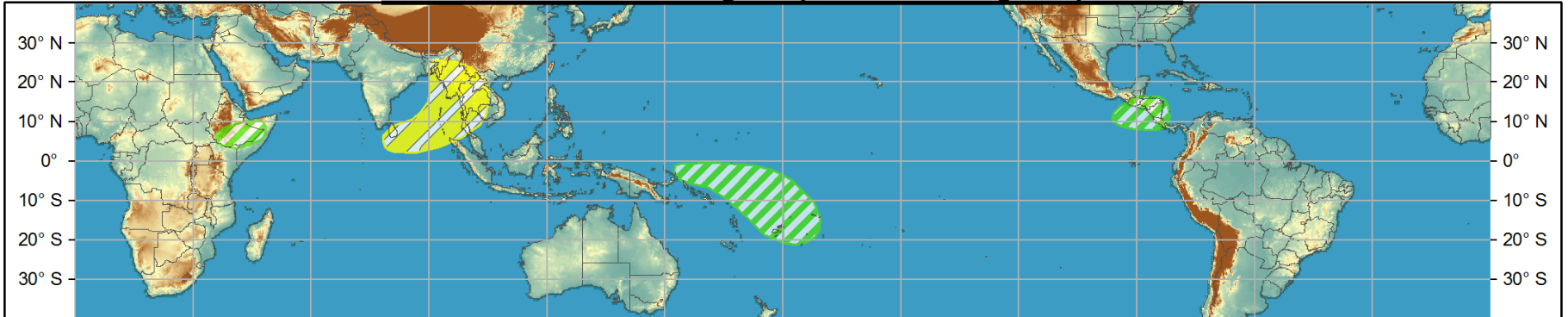
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Apr 26, 2017 - May 02, 2017



## Week 2 - Valid: May 03, 2017 - May 09, 2017



**Confidence**  
High Moderate

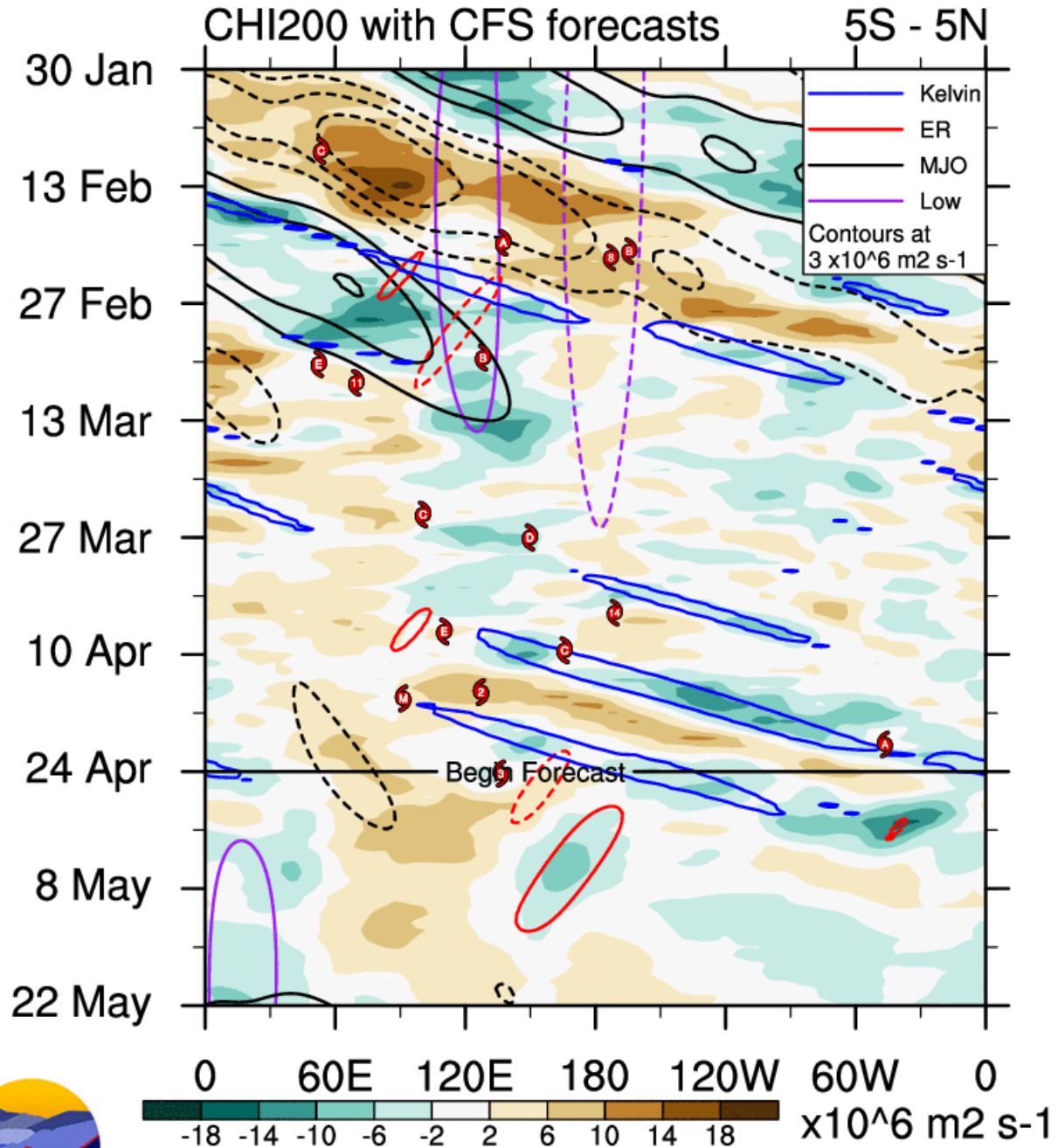
- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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**Produced: 04/25/2017**  
**Forecaster: Pugh**

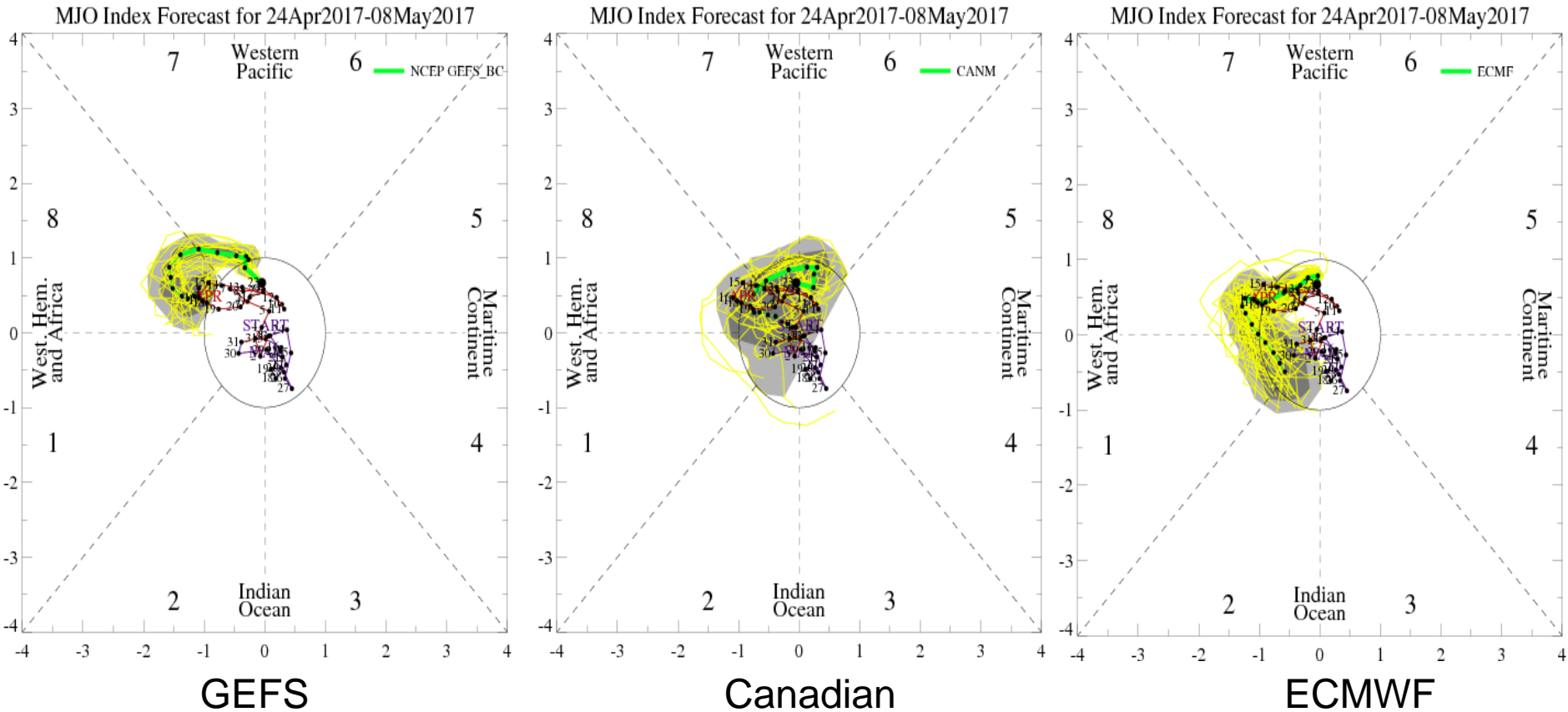
**Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.**



Multiple atmospheric KWs since late March



# MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate an increase in amplitude during Week-1.

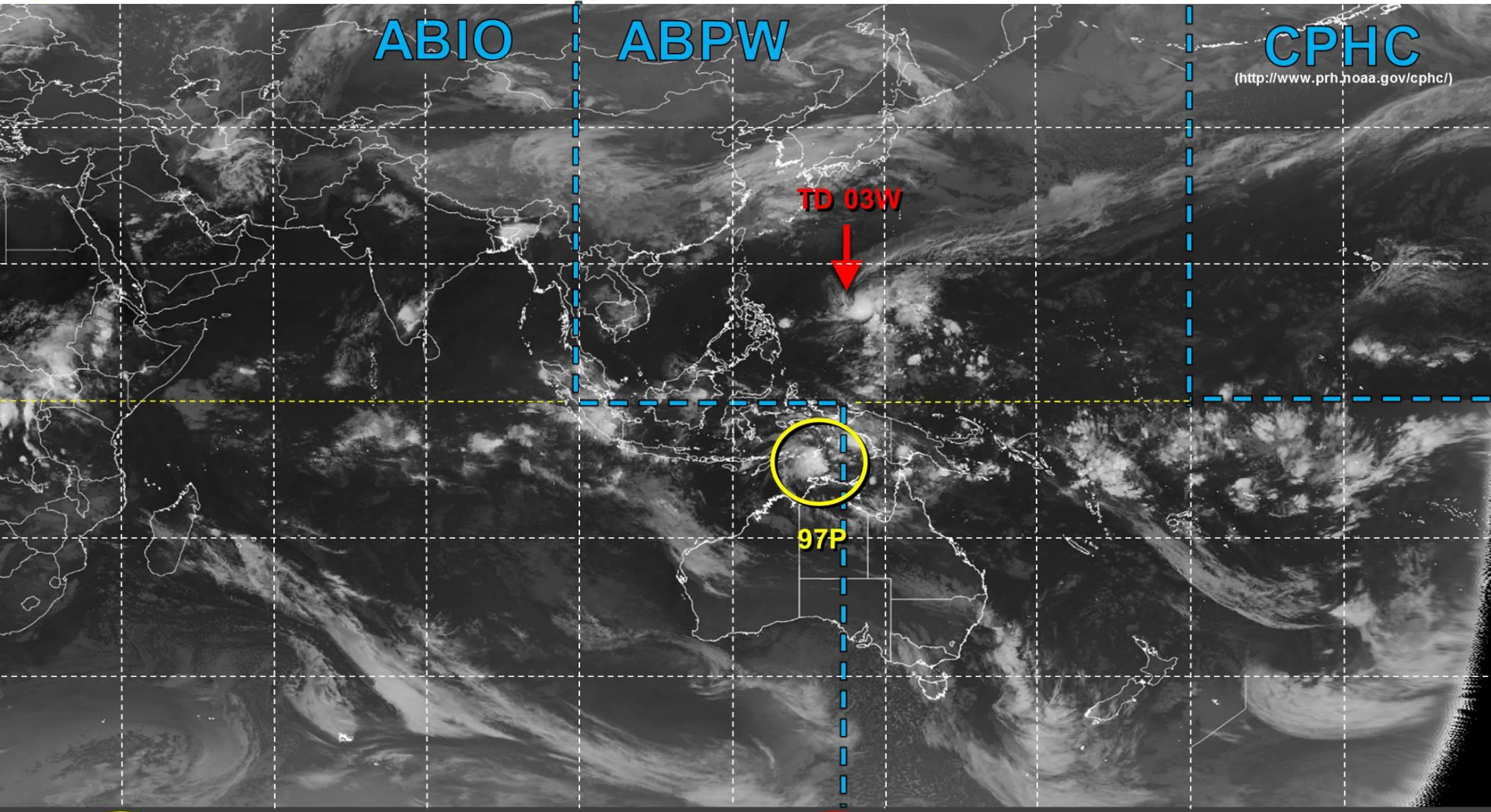


# Tropical Cyclone Development Potential



IMAGE TIME: 25/1700Z

(PRODUCT OF JTWC/SATOPS)



ABIO

ABPW

CPHC

(<http://www.prh.hoaa.gov/cphc/>)

TD 03W

97P

**LOW**

TC formation unlikely within 24 hours

**MEDIUM**

TC development likely, but expected to occur beyond 24 hours

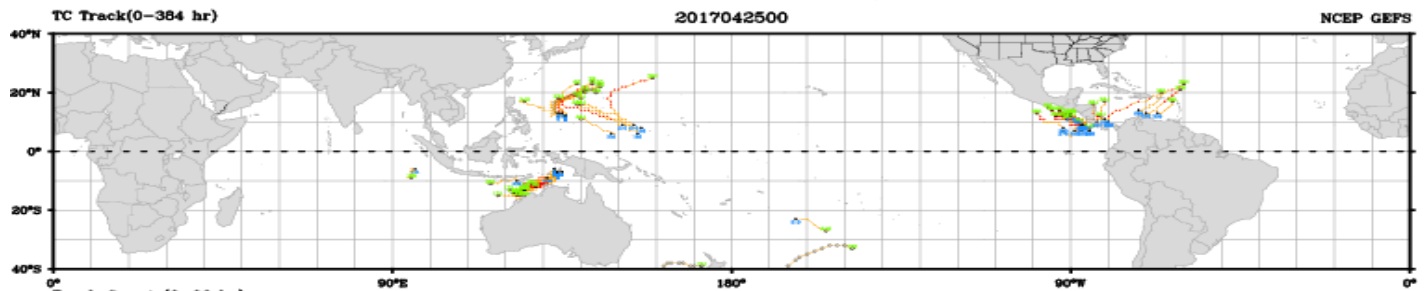
**HIGH**

TC development likely within 24 hours (Reference TCFA)

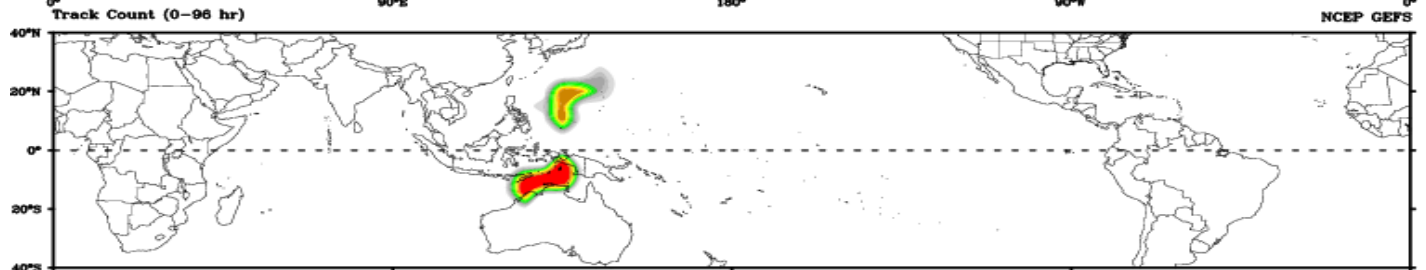


Tropical Cyclone (Reference Warning)

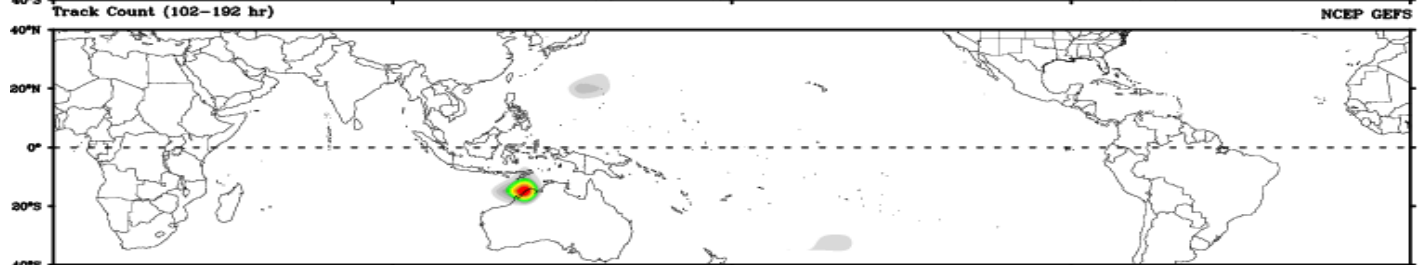




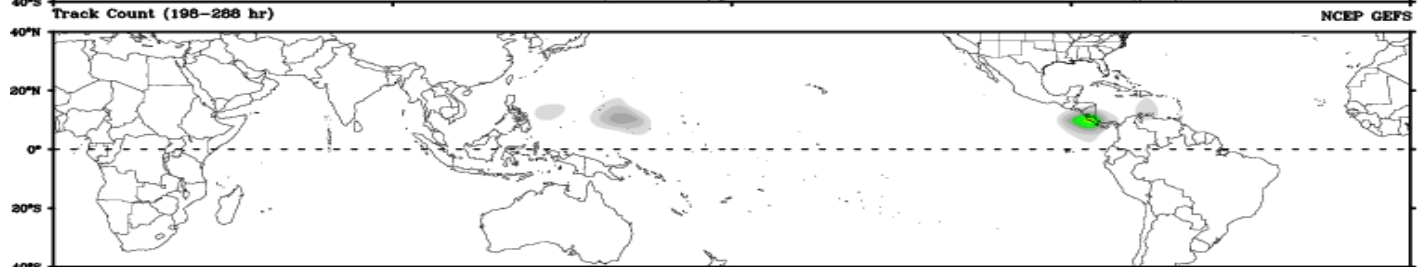
Days 1-4



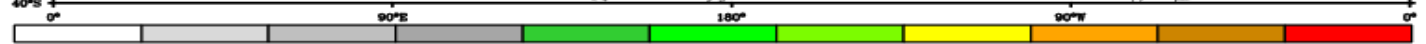
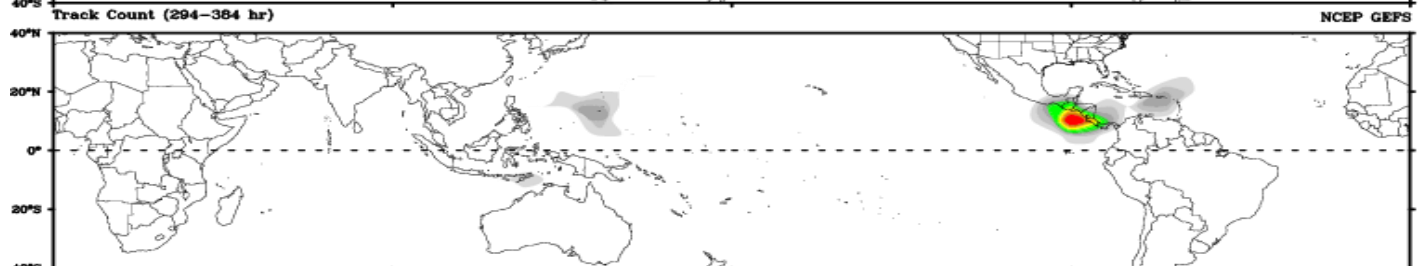
Day 5-8



Day 9-12



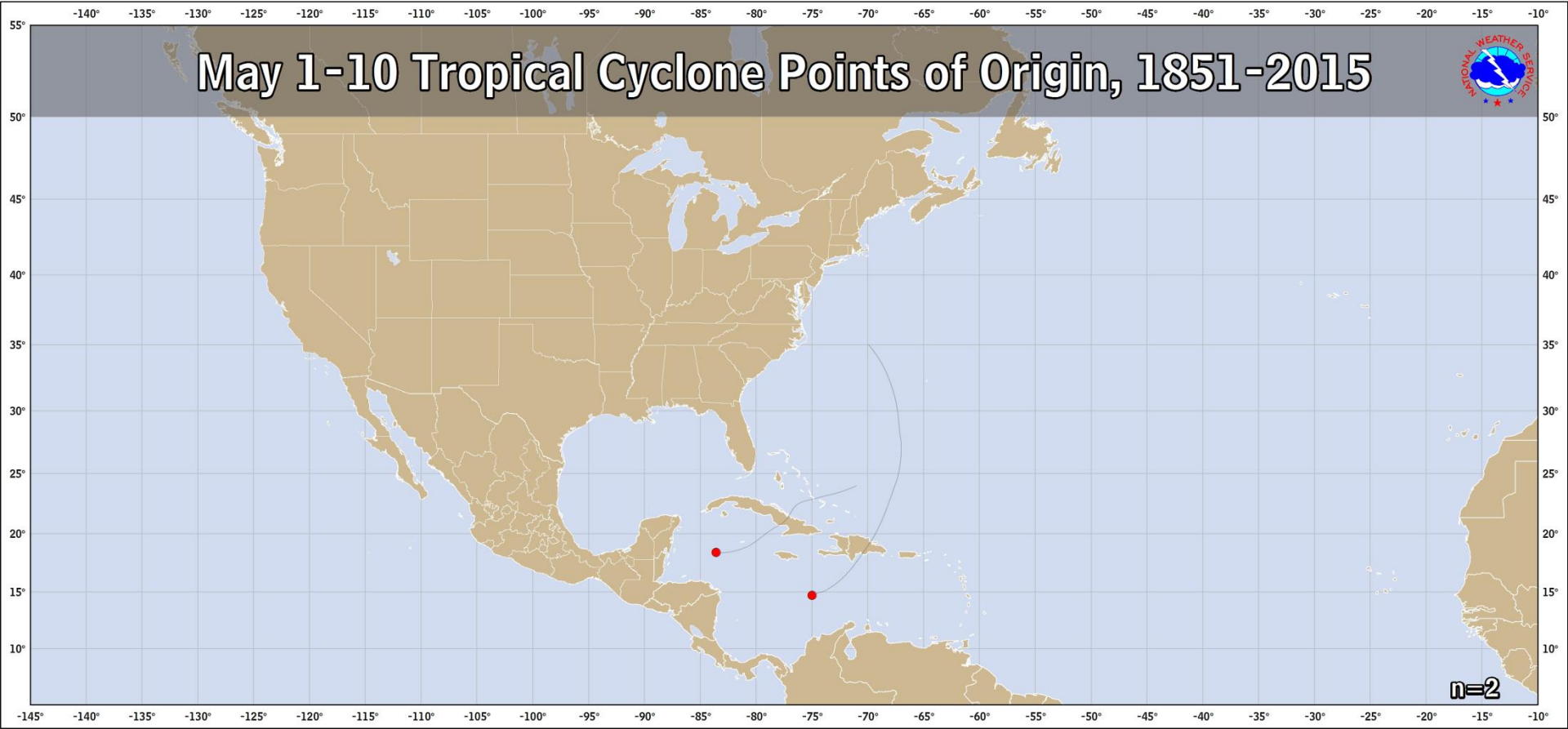
Day 13-15



# May 1-10 Tropical Cyclone Points of Origin, 1851-2015



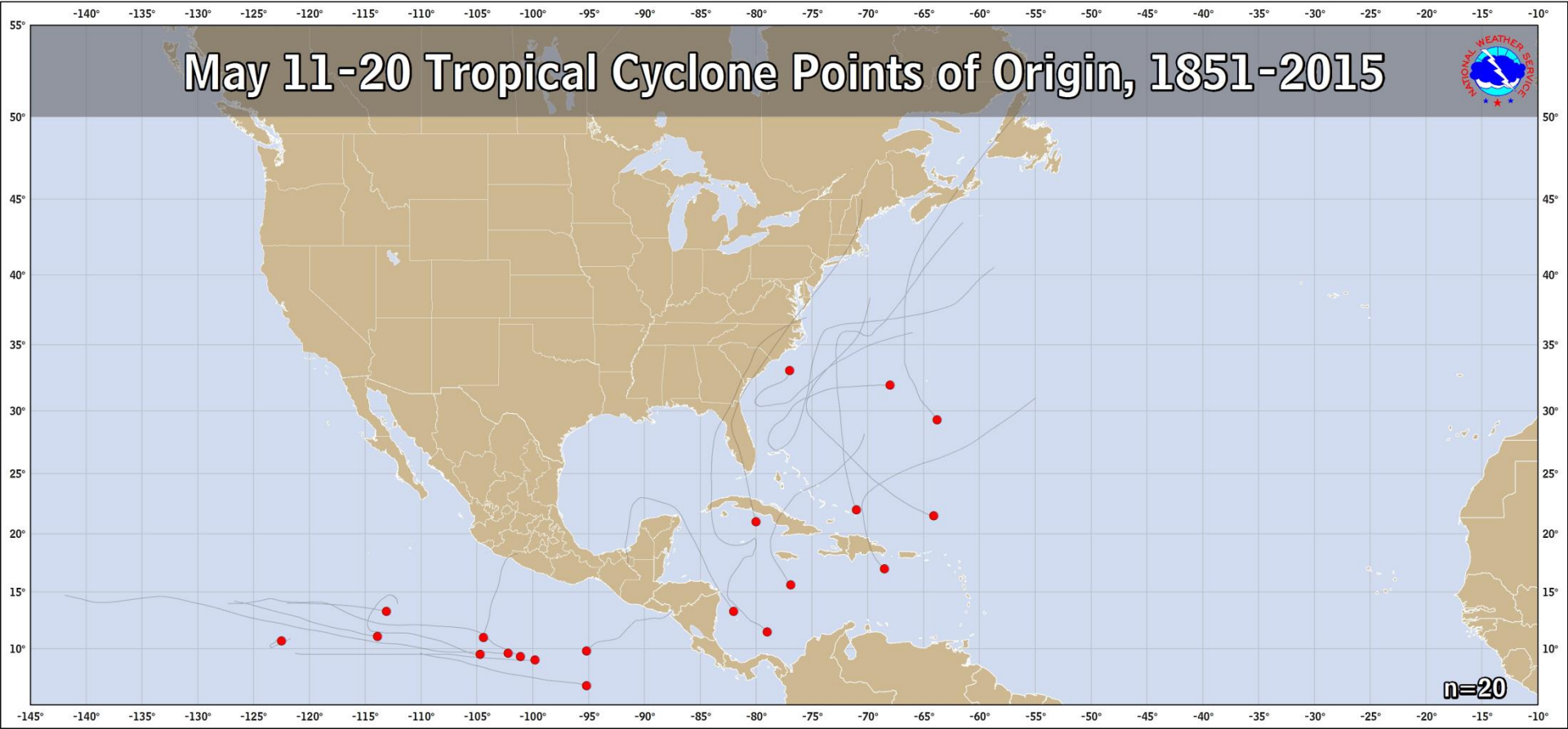
n=2



# May 11-20 Tropical Cyclone Points of Origin, 1851-2015



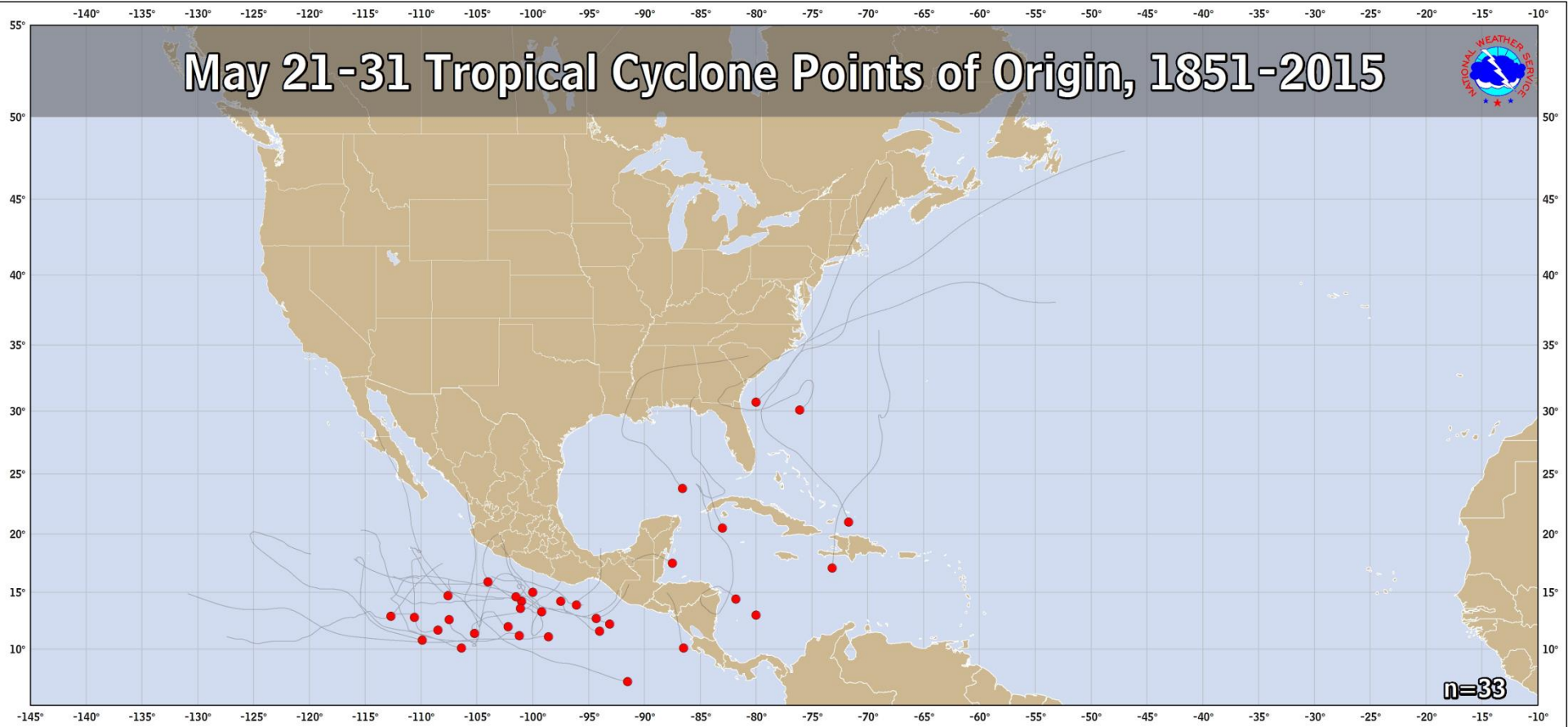
n=20



# May 21-31 Tropical Cyclone Points of Origin, 1851-2015



n=33





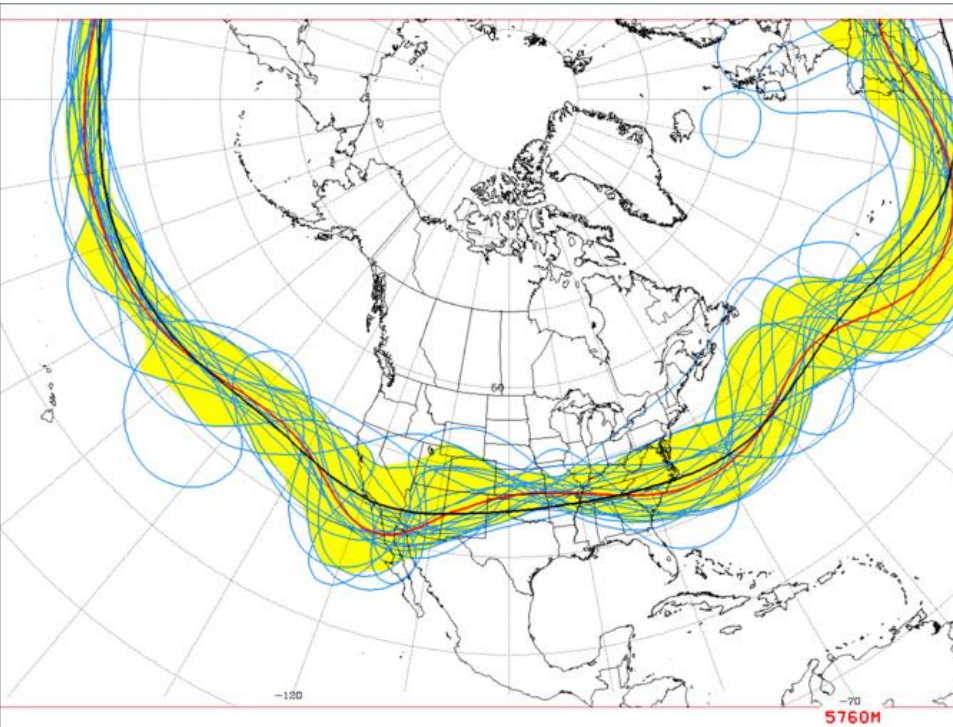
# Connections to U.S. Impacts

## Ensemble Members at 500-hpa

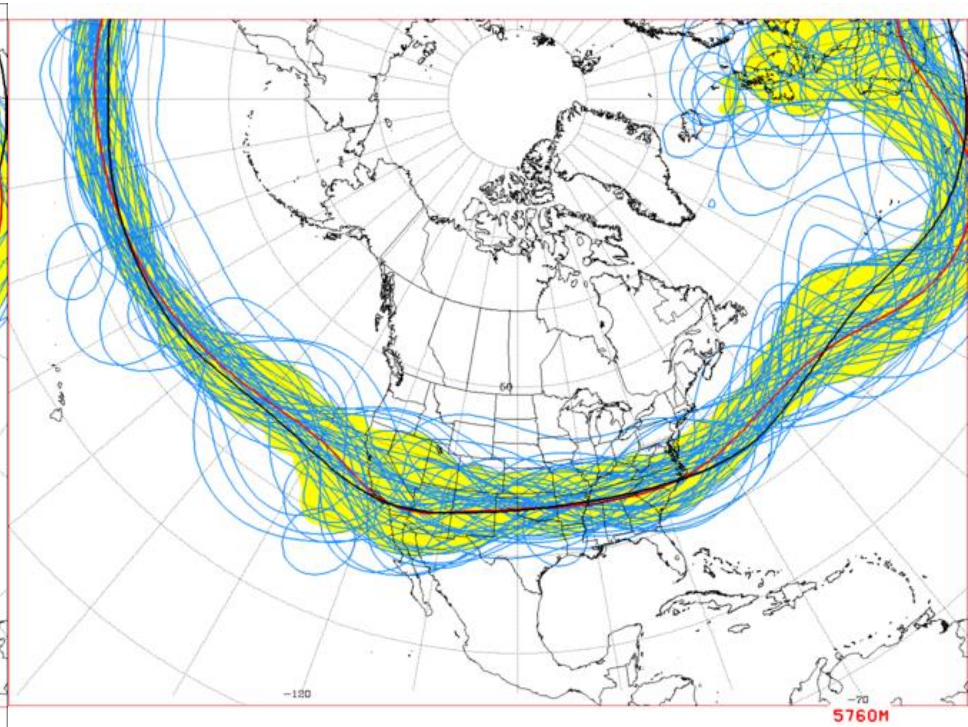
Blue: Individual Ensemble Members

Red: Ensemble Mean

Black: Climatology

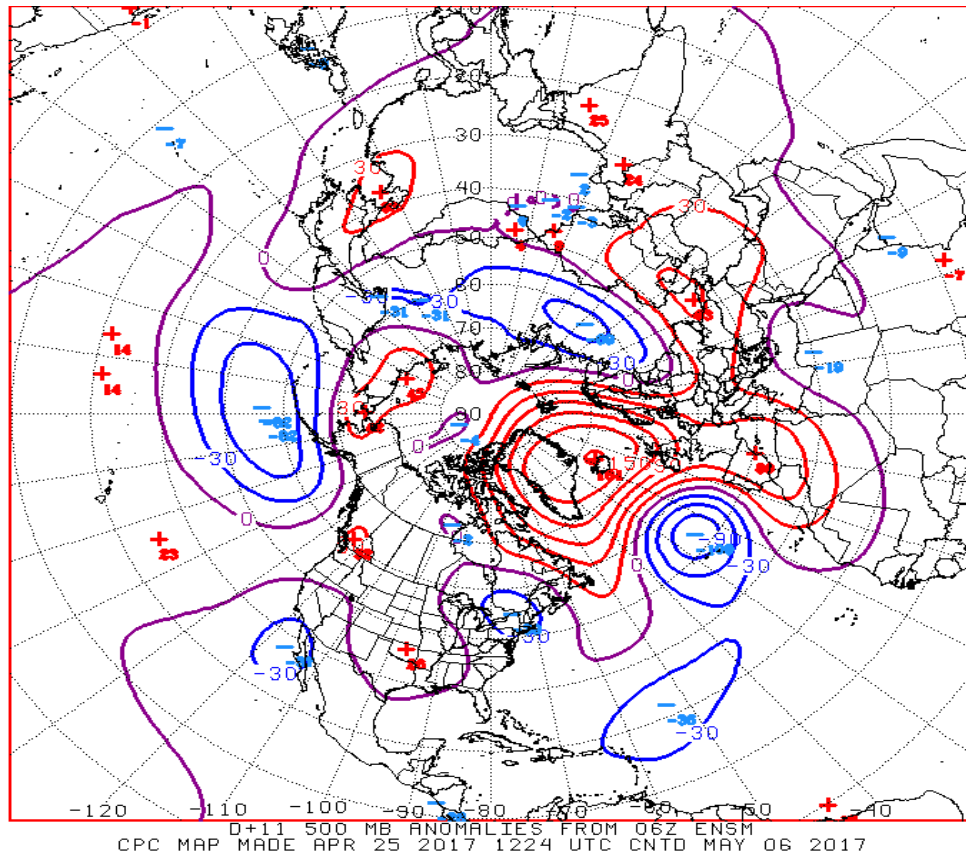


6Z GFS

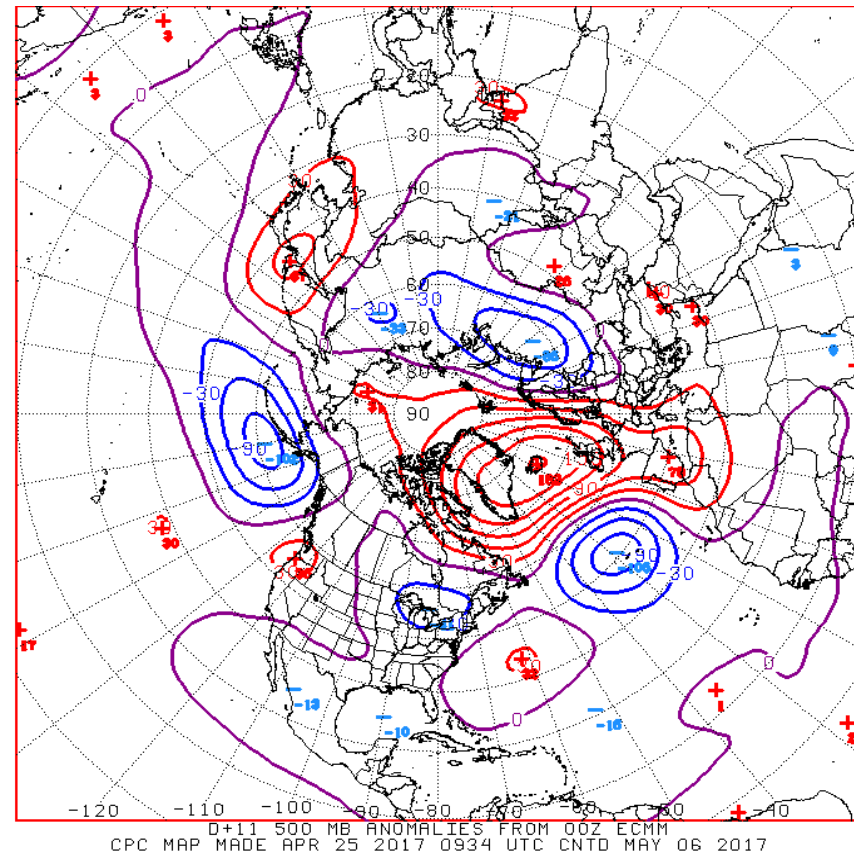


0Z ECMWF

# 500-hpa Anomalies: Ensemble Means



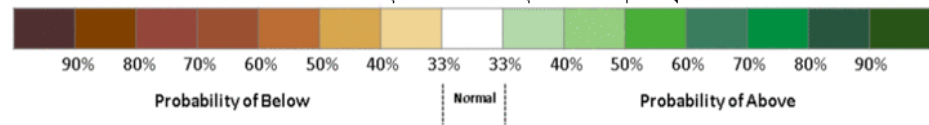
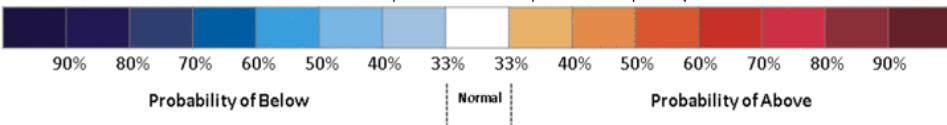
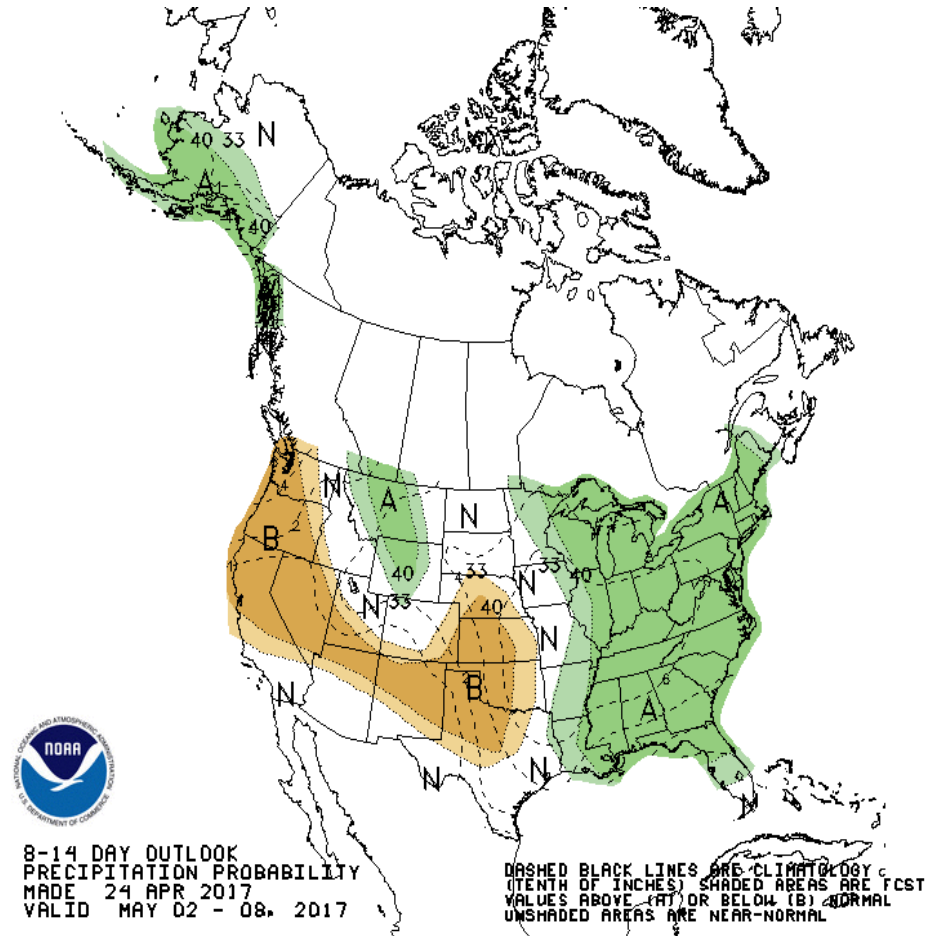
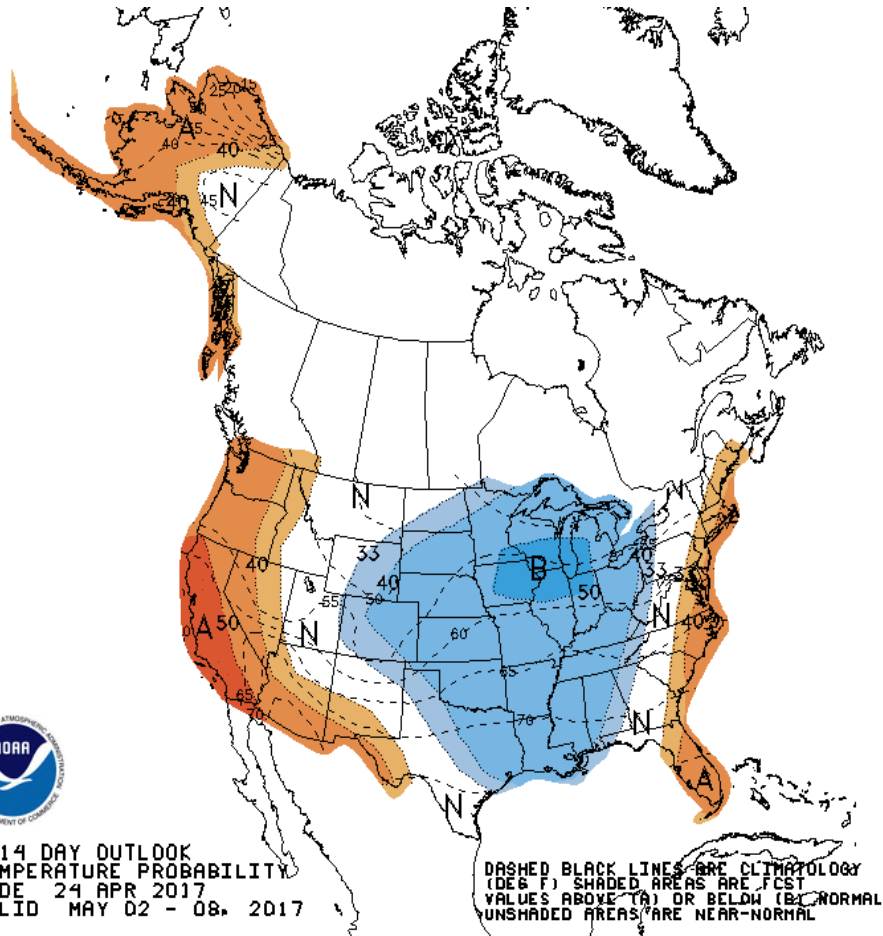
6Z GFS



0Z ECMWF



# Week 2 – Temperature and Precipitation

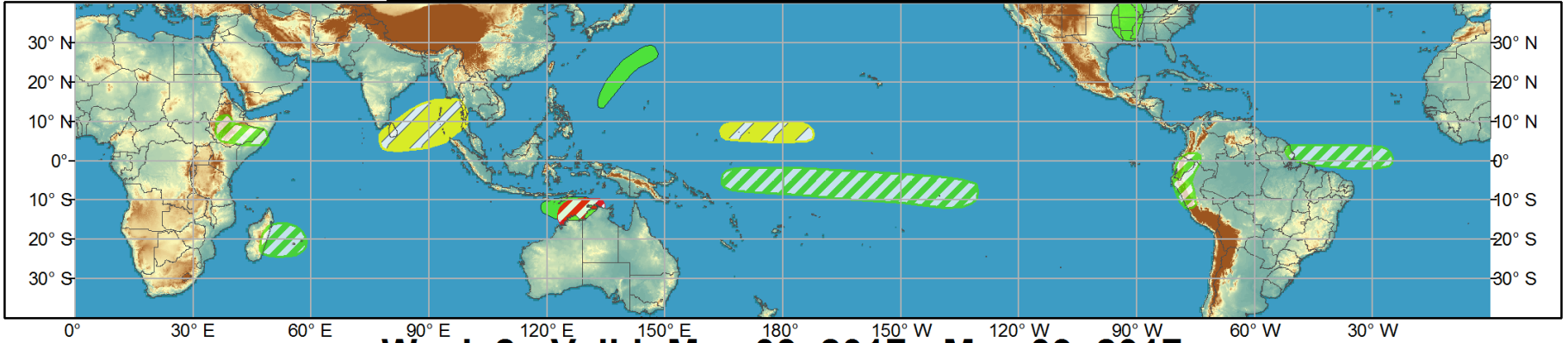




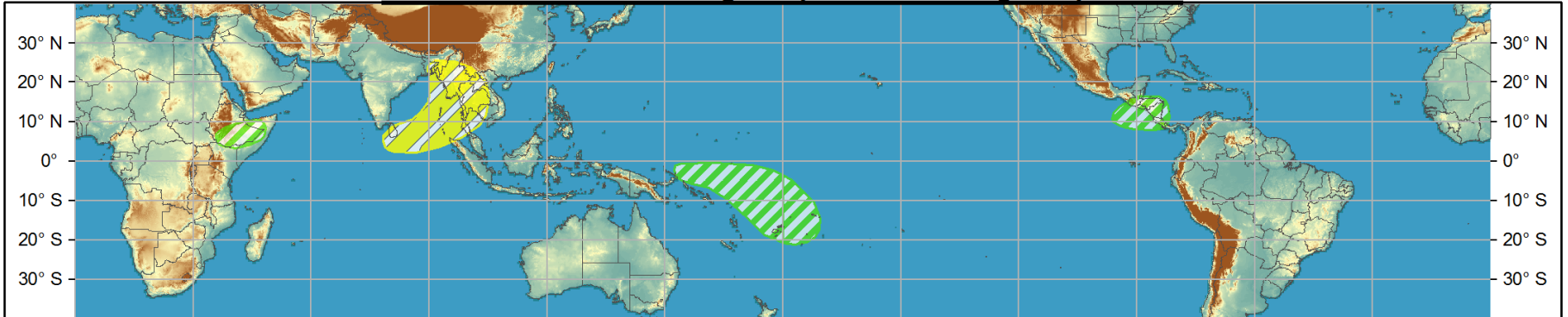
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