

# Global Tropics Hazards And Benefits Outlook

April 14, 2015

Stephen Baxter

## Outline

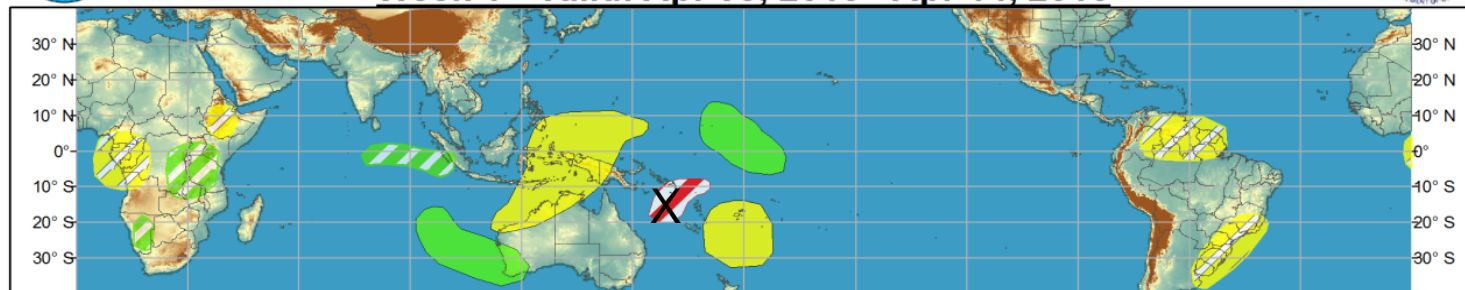
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts



# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Apr 08, 2015 - Apr 14, 2015

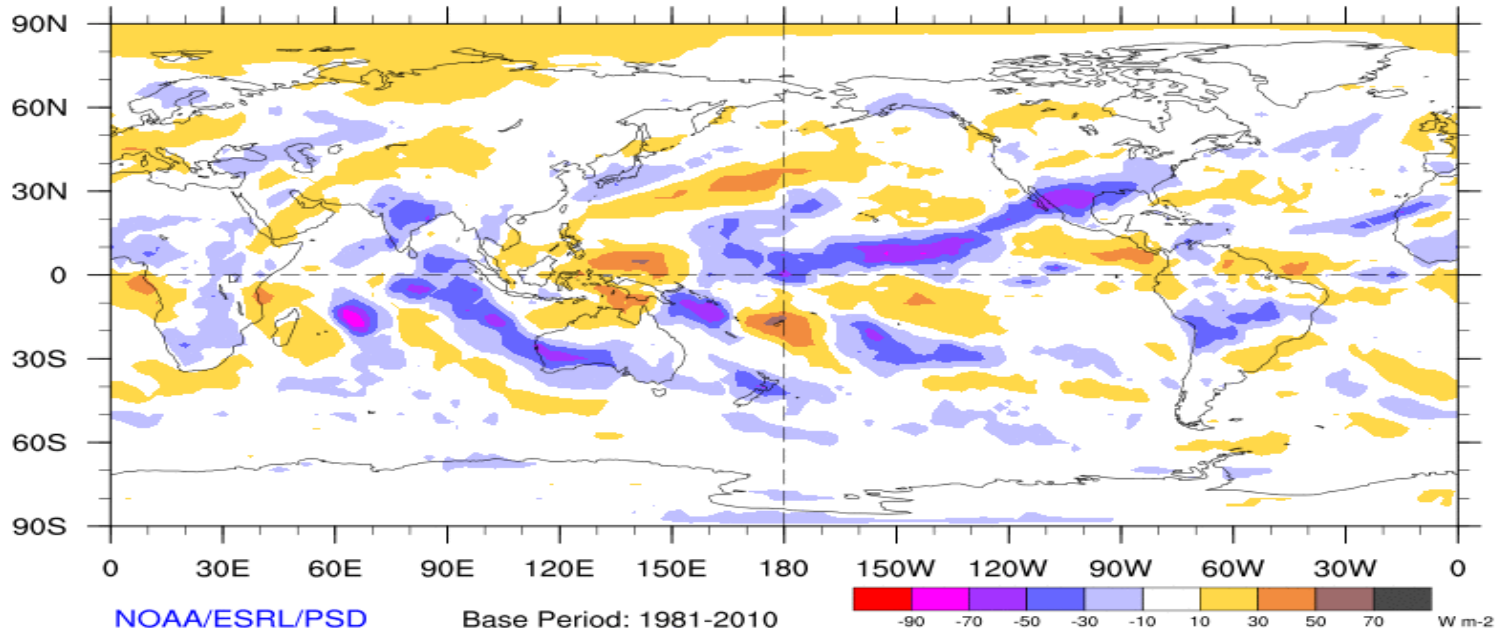


## Week 2 - Valid: Apr 08, 2015 - Apr 14, 2015



### 7-Day Average OLR Anomaly

### 2015/04/06 - 2015/04/12



# Synopsis of Climate Modes

## **ENSO:**

- ENSO Alert System Status: El Niño Advisory
- Outlook: There is an approximately 60% chance that El Niño conditions will continue through early winter 2015-16.

## **MJO and other subseasonal tropical variability:**

- The MJO weakened during the past week, with the enhanced phase propagating to the central Pacific.
- The El Niño base state continues to be a dominating influence on the pattern of tropical convection.
- Most dynamical model MJO index forecasts show little coherent MJO activity over the next two weeks.

## **Extratropics:**

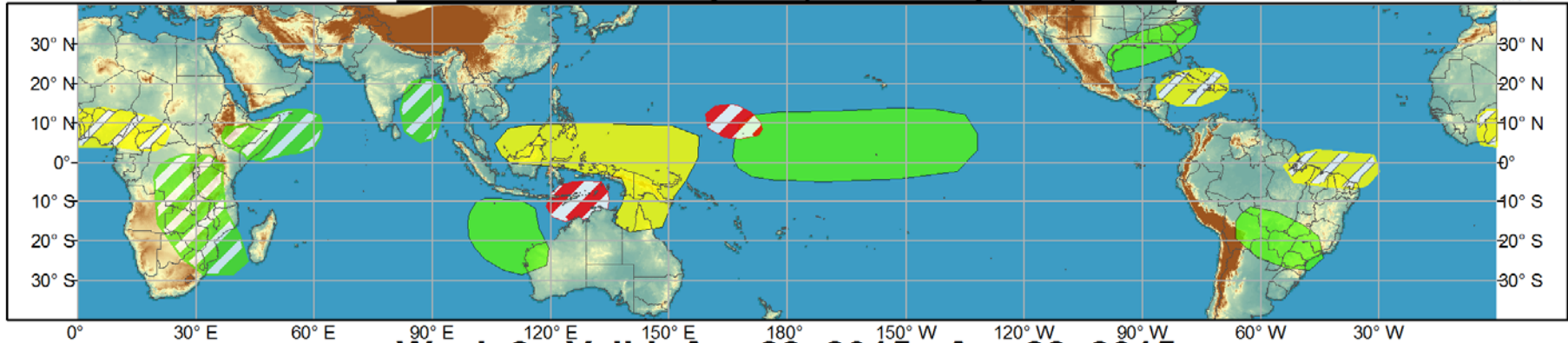
- Extratropical impacts from the tropical subseasonal signal are usually less discernable during the N.H. spring season. The strongest tropical-extratropical teleconnection moving forward is more likely associated with the El Niño-type convection over the central Pacific.



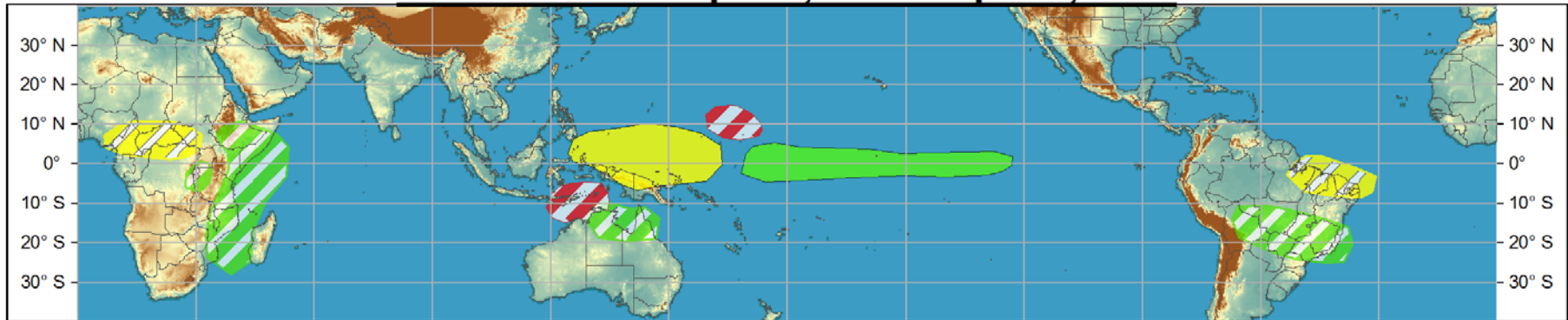
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Apr 15, 2015 - Apr 21, 2015



## Week 2 - Valid: Apr 22, 2015 - Apr 28, 2015



Produced: 04/14/2015

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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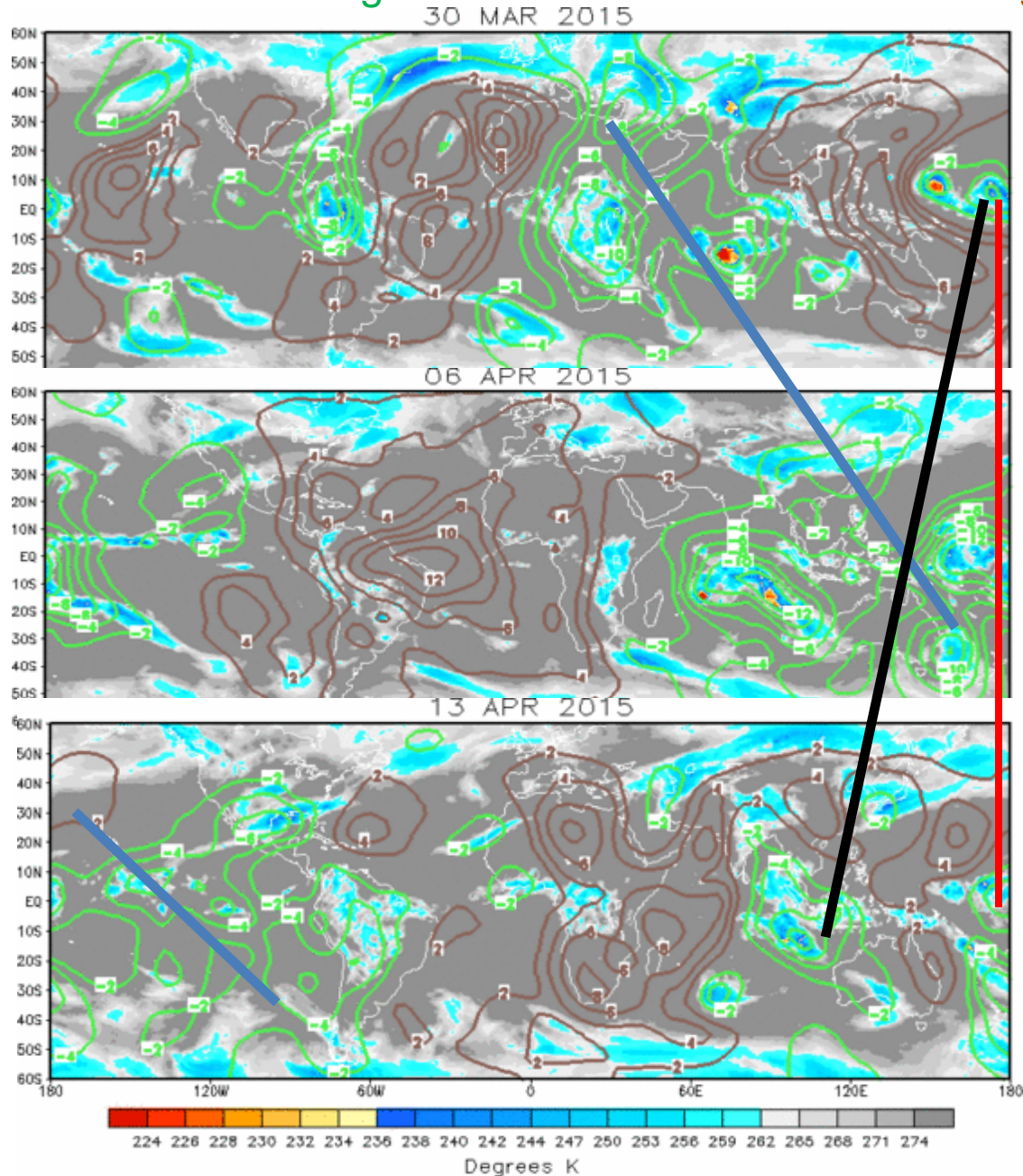
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence    Brown: Enhanced Convergence

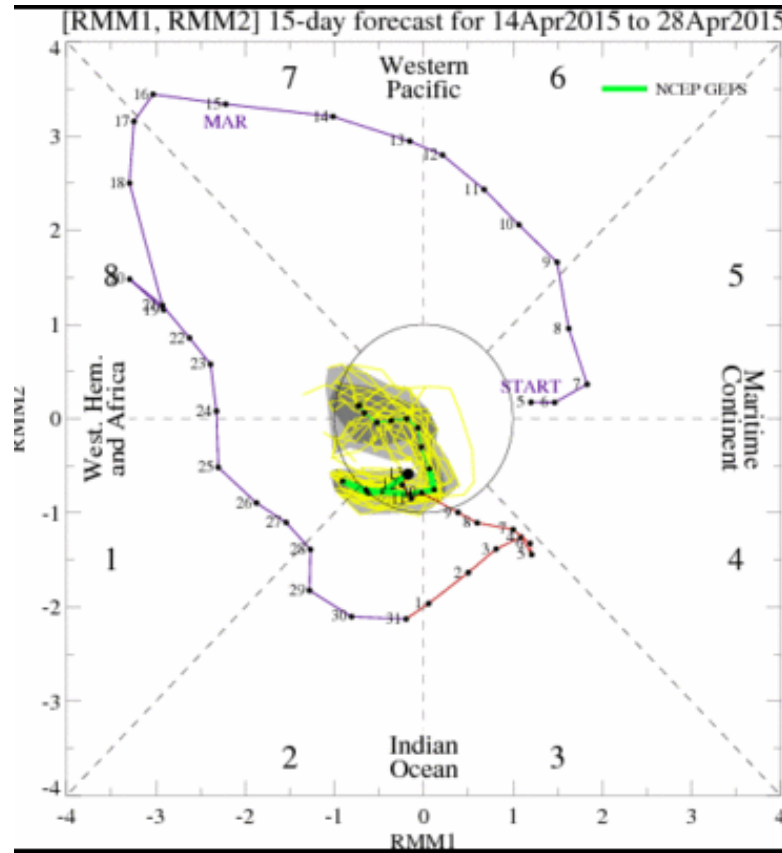
Weakening  
MJO is evident  
(blue line)

El Niño base  
state is also  
evident (red  
line)

Westward  
moving  
variability is  
also observed  
(black line)



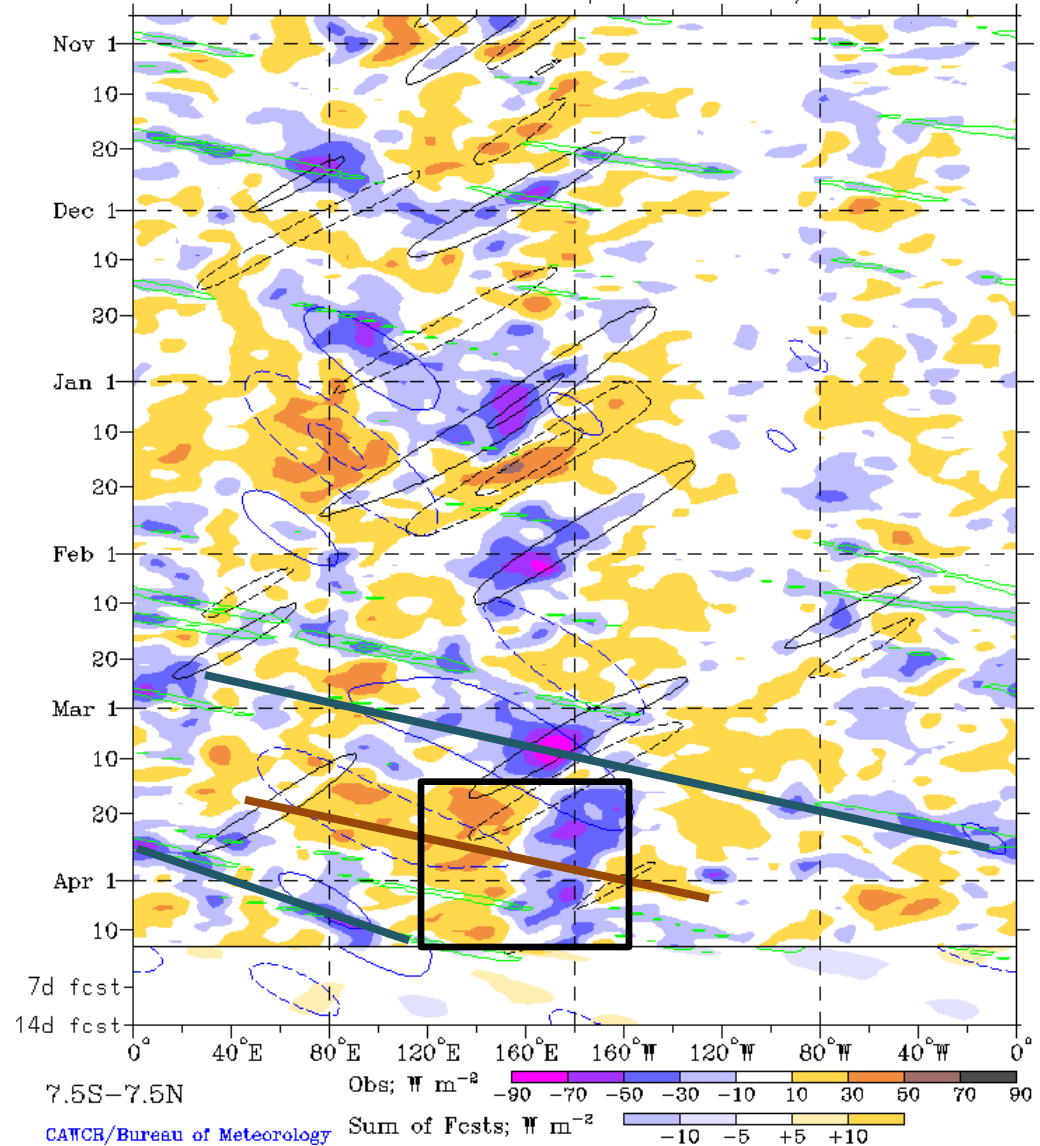
# MJO Observation/Forecast



GFS

The GFS ensemble indicates a weak MJO signal over the next two weeks.

Real-time filtering superimposed upon 1-2-1 filt, R21, OLR Anoms  
 MJO blue CINT=10; n1ER black CINT=10; Kelvin green CINT=15  
 Negative contours solid, positive dashed (excluding Kelvin)  
 27-Oct-2014 to 13-Apr-2015 + 14 days



Low frequency is contributing, especially near the Date Line.

Note interference between MJO suppressed phase and the low frequency state.

Box indicates a base state consistent with El Niño.

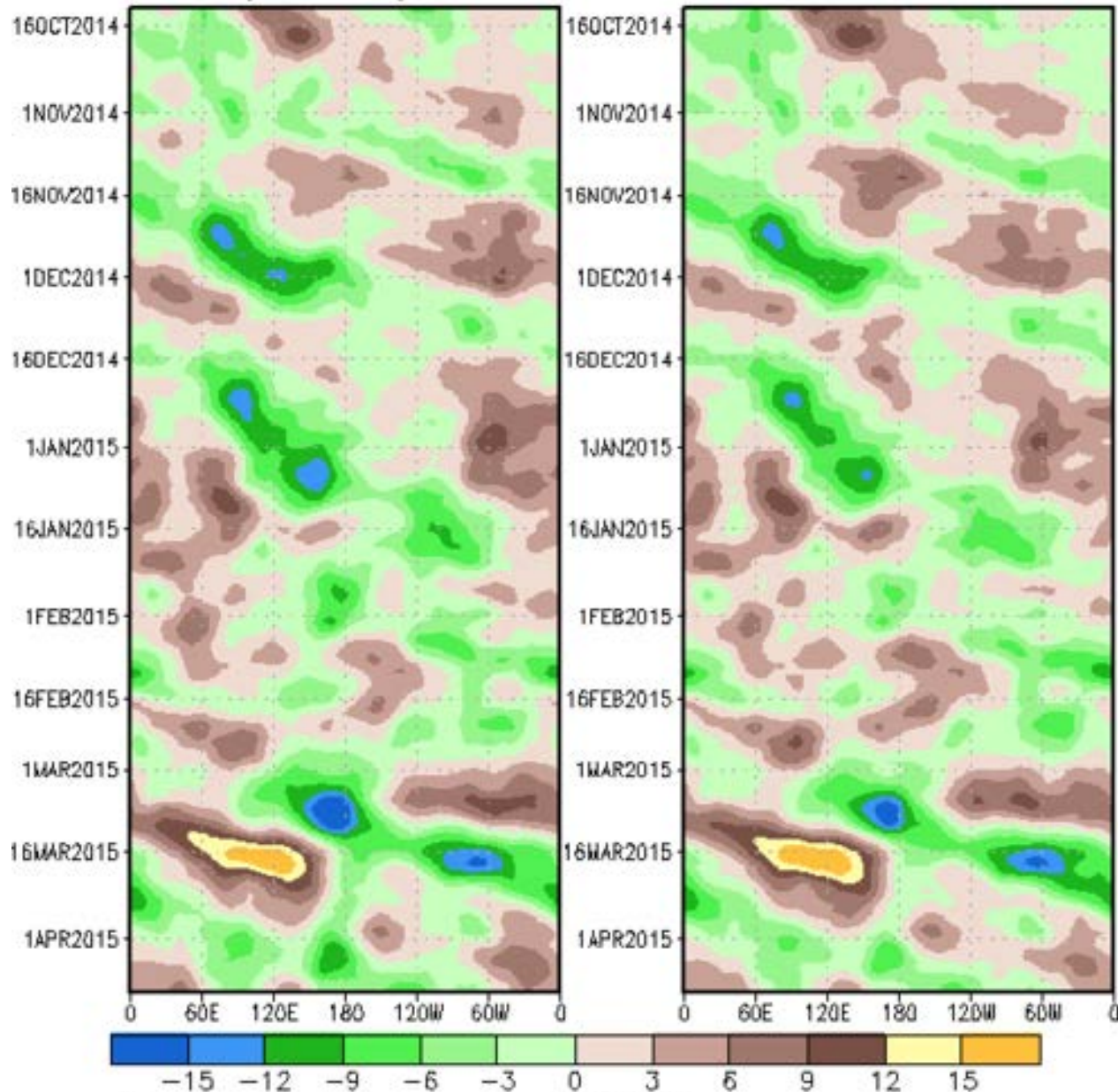
MJO/Kelvin wave activity apparent in OLR Field, with fast phase speed (projecting onto KW band at times)



# 200-hPa Velocity Potential Anomaly: 5N-5S

5-day Running Mean

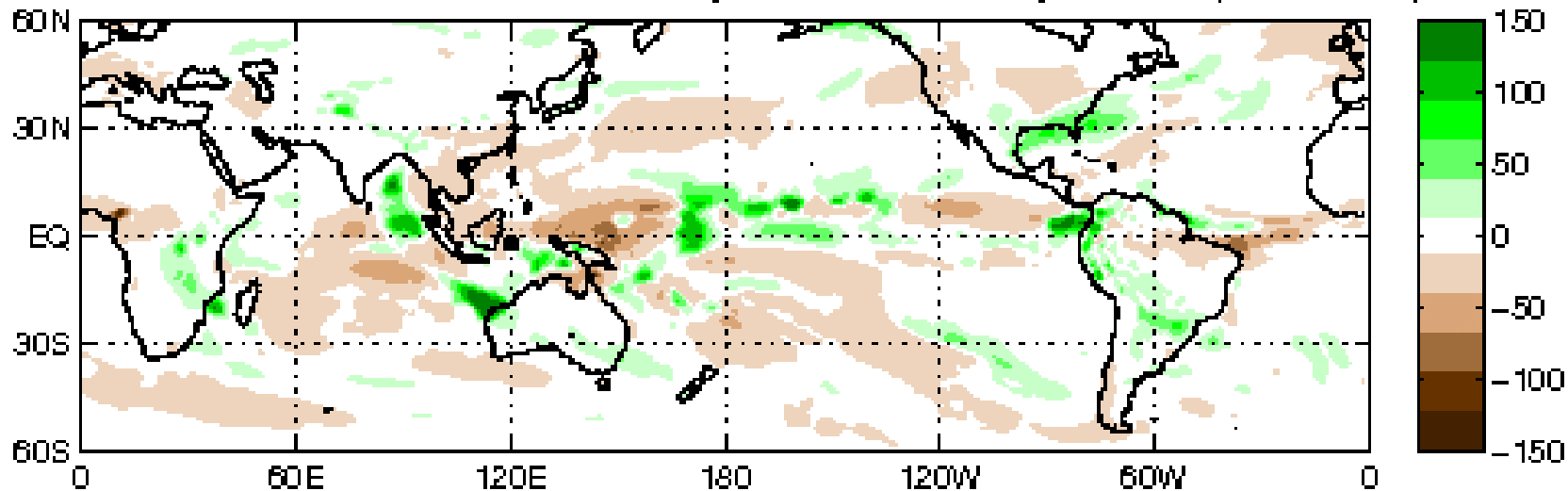
Period-Mean Removed



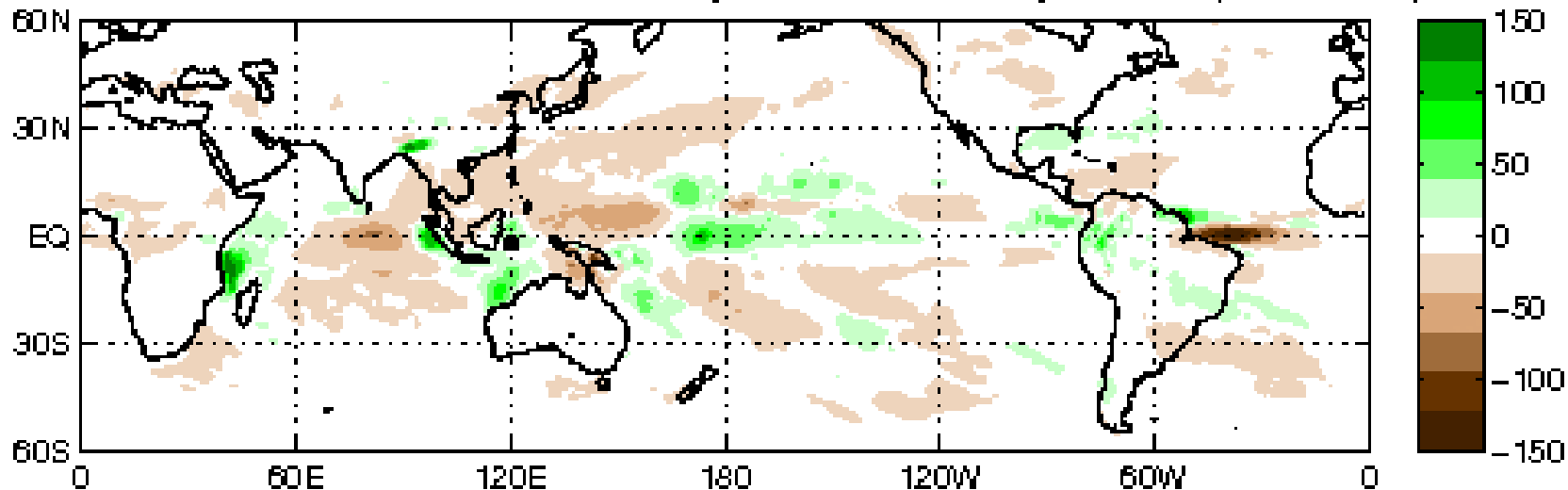
Data updated through 11 APR 2015



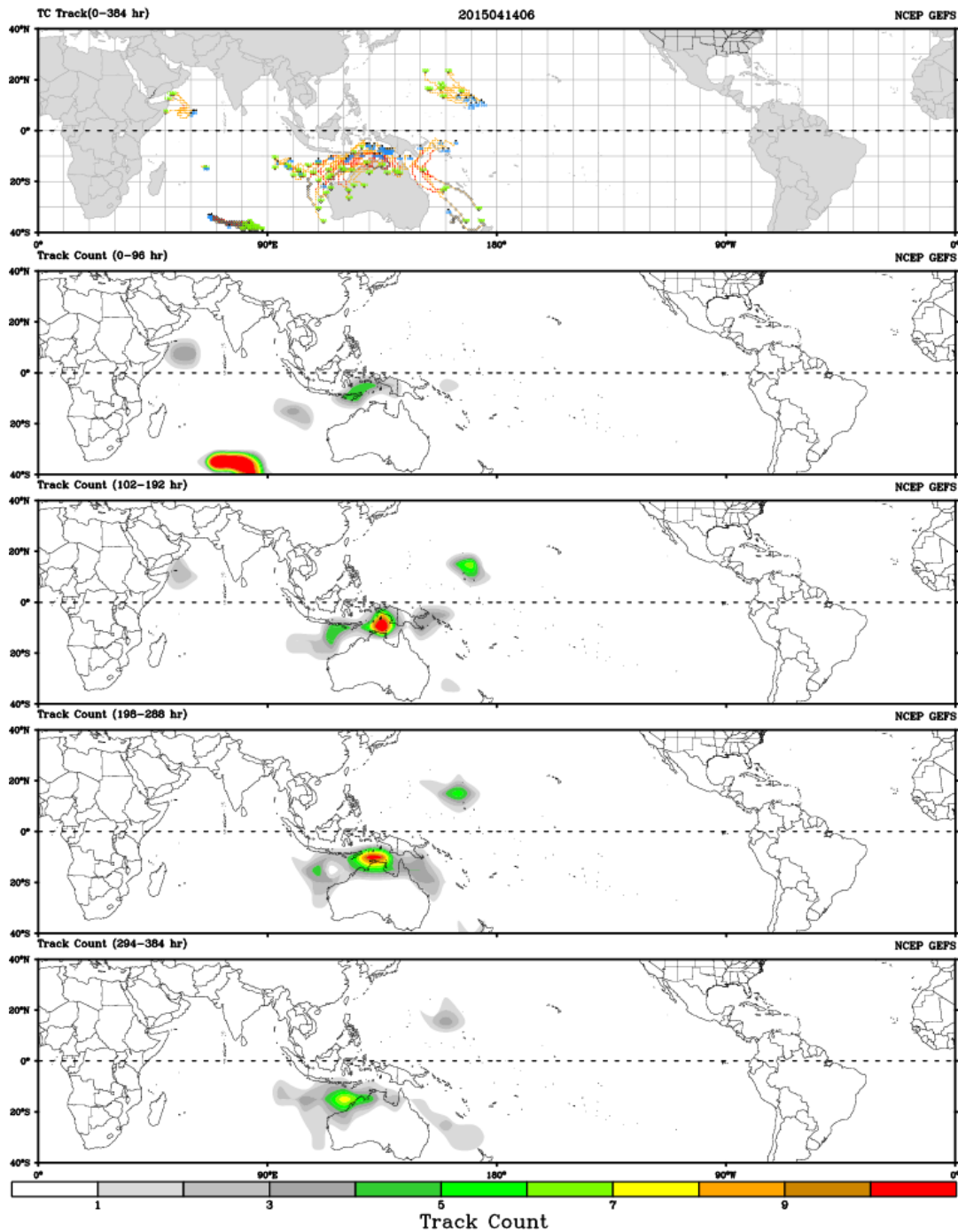
CFS: Anom. PREC Week: 1: 15-Apr-2015 to 21-Apr-2015 (mm/week)



CFS: Anom. PREC Week: 2: 22-Apr-2015 to 28-Apr-2015 (mm/week)



CWB TC Tracker for NCEP GEFS (Fuzzy\_AllCriteria)



Days 1-4

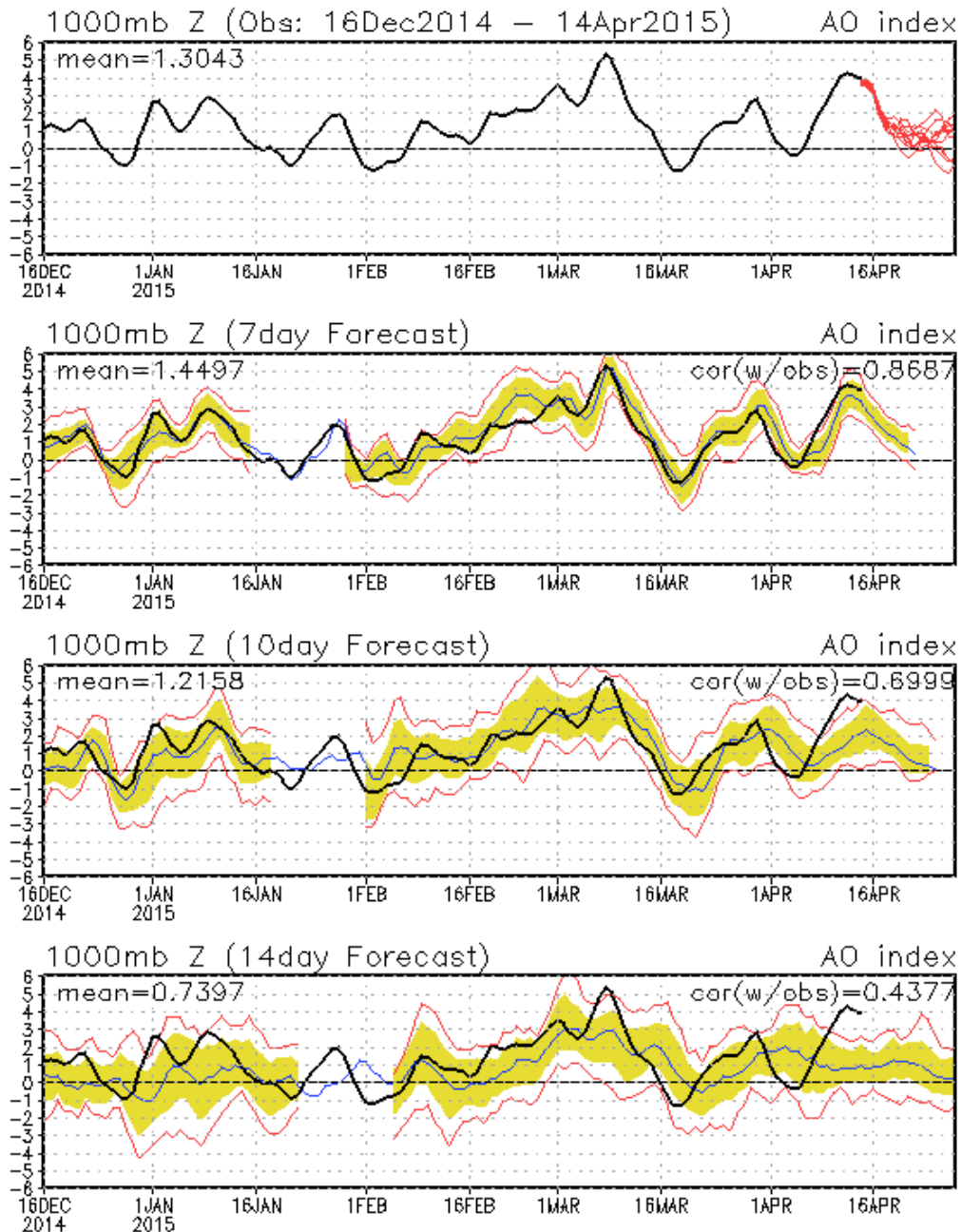
Day 5-8

Day 9-12

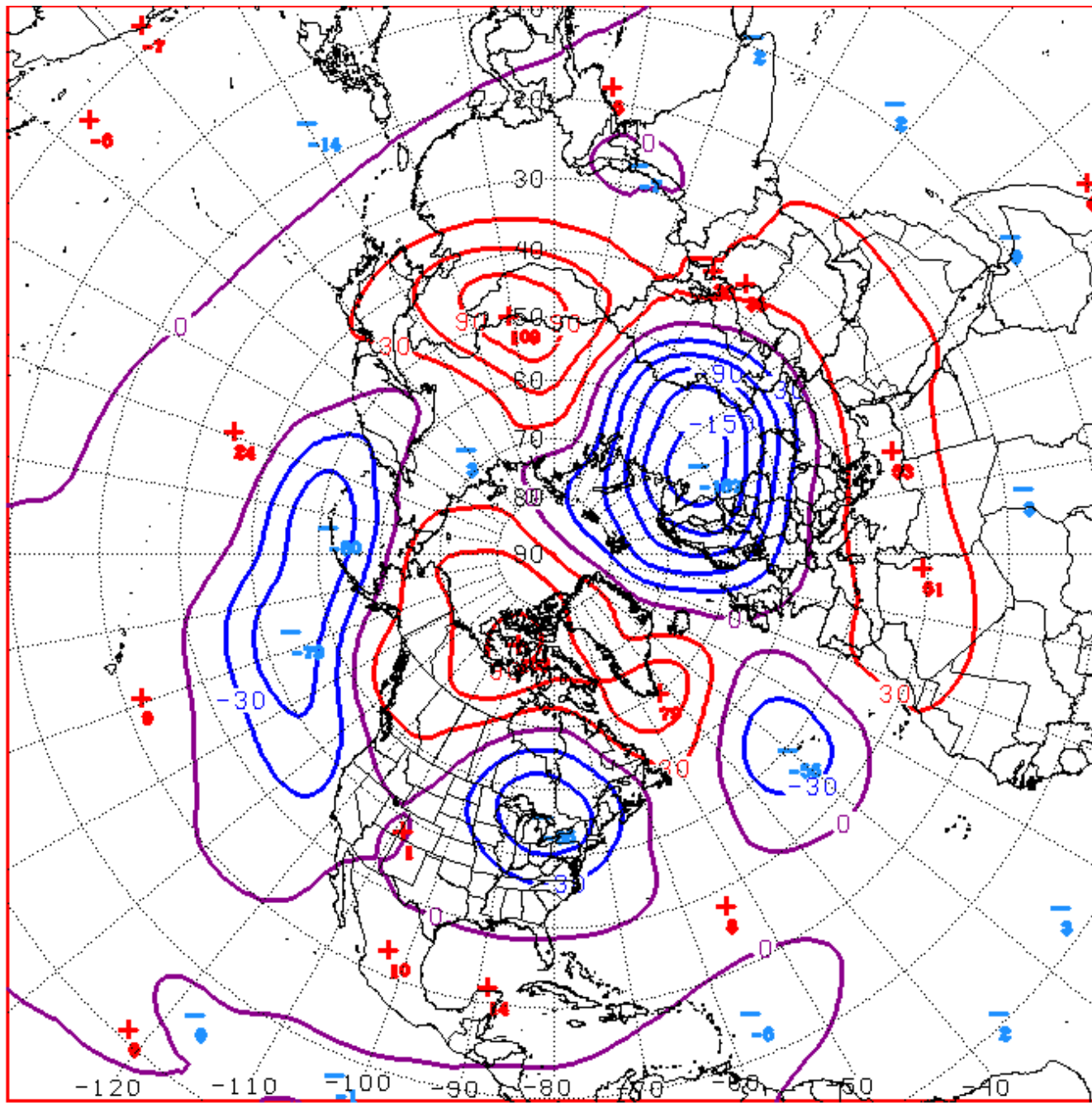
Day 13-16

# Connections to U.S. Impacts

## AO: Observed & ENSM forecasts

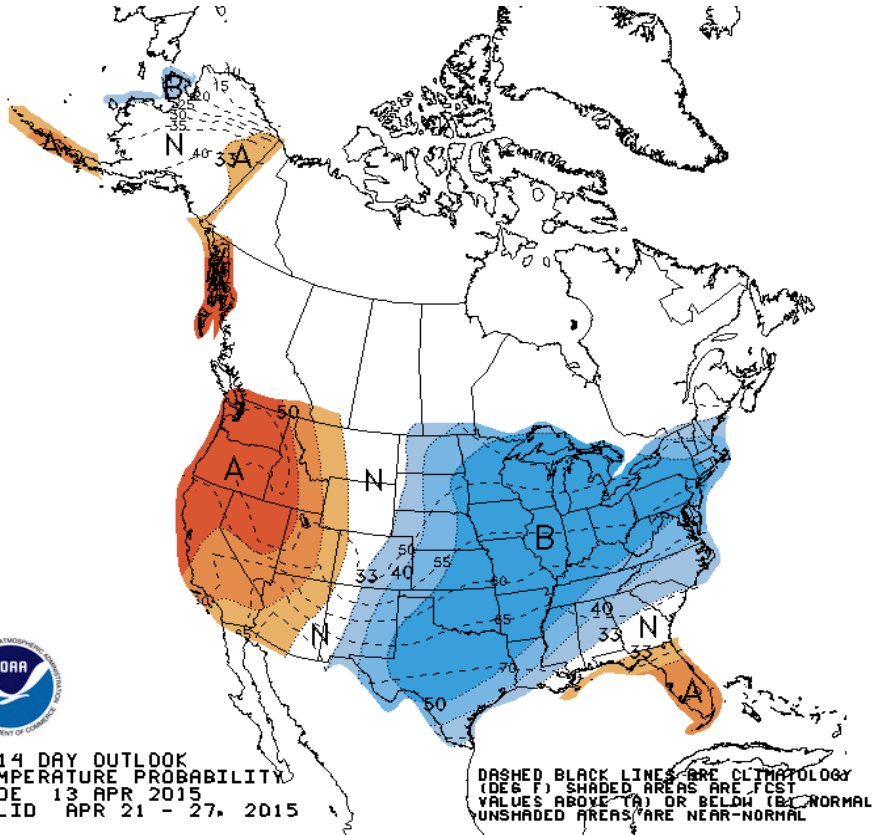






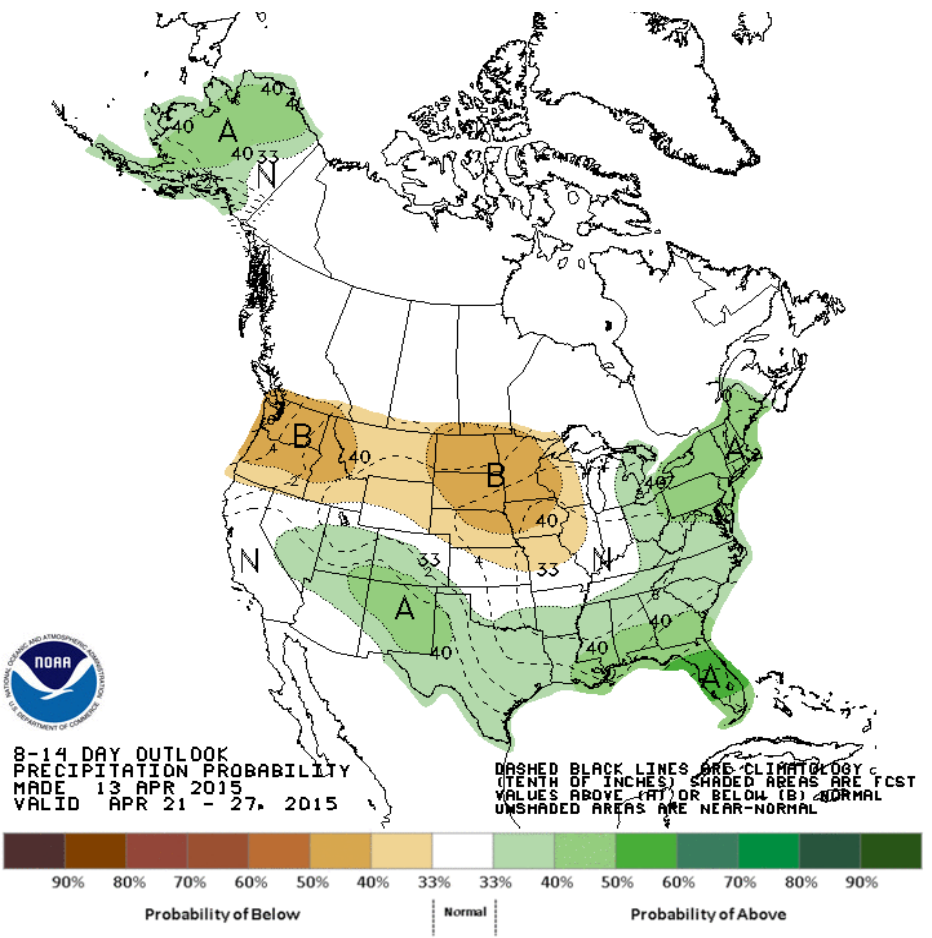
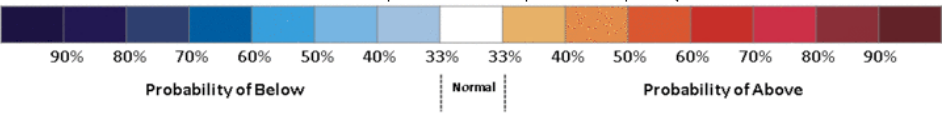
0+11 500 MB ANOMALIES FROM 00Z ECMM  
 CPC MAP MADE APR 14 2015 1028 UTC CNTD APR 25 2015

# Week 2 – Temperature and Precipitation



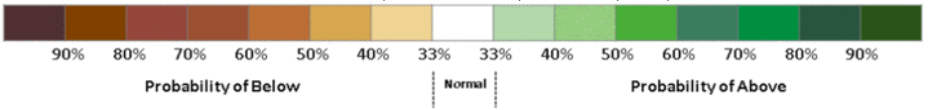
8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 13 APR 2015  
VALID APR 21 - 27, 2015

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F) SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL UNSHADED AREAS ARE NEAR-NORMAL



8-14 DAY OUTLOOK  
PRECIPITATION PROBABILITY  
MADE 13 APR 2015  
VALID APR 21 - 27, 2015

DASHED BLACK LINES ARE CLIMATOLOGY (TENTH OF INCHES) SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL UNSHADED AREAS ARE NEAR-NORMAL

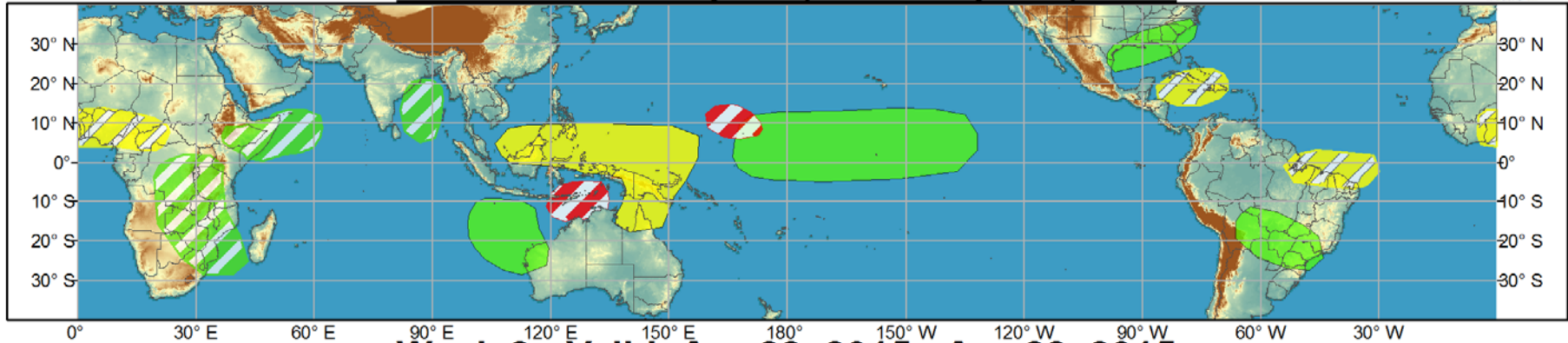




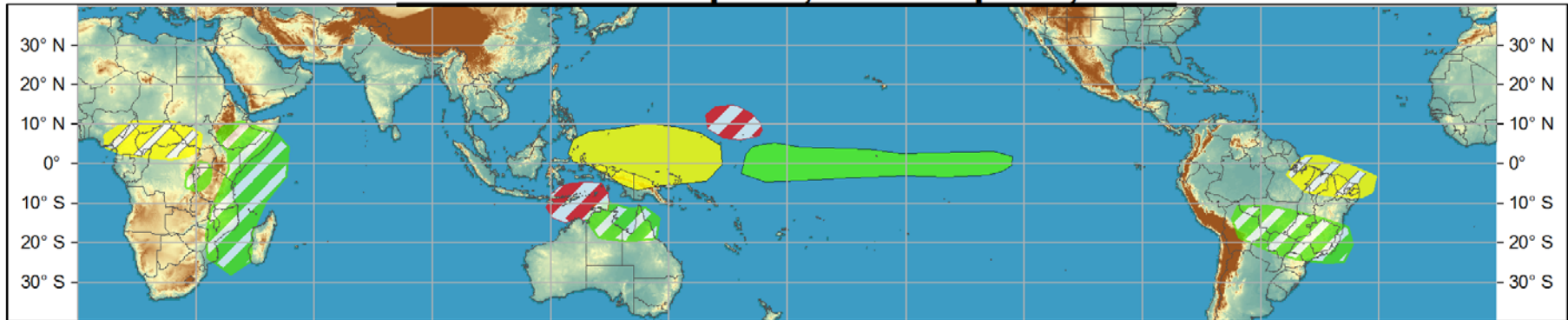
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