

# Global Tropics Hazards And Benefits Outlook

April 28, 2015

Stephen Baxter

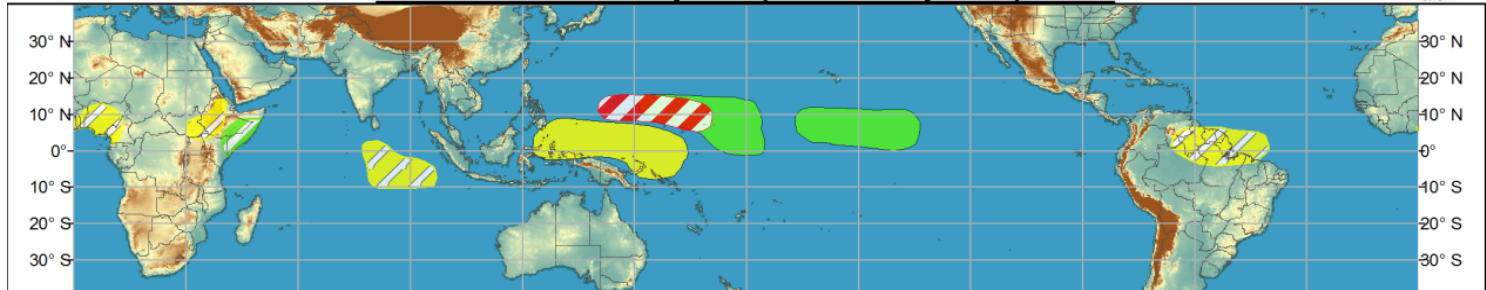
## Outline

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

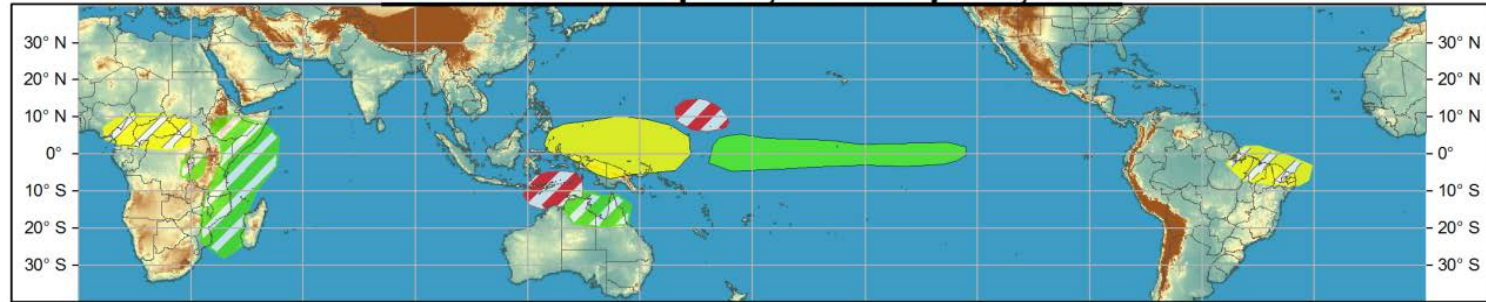
# Outlook Review



Week 1 - Valid: Apr 22, 2015 - Apr 28, 2015

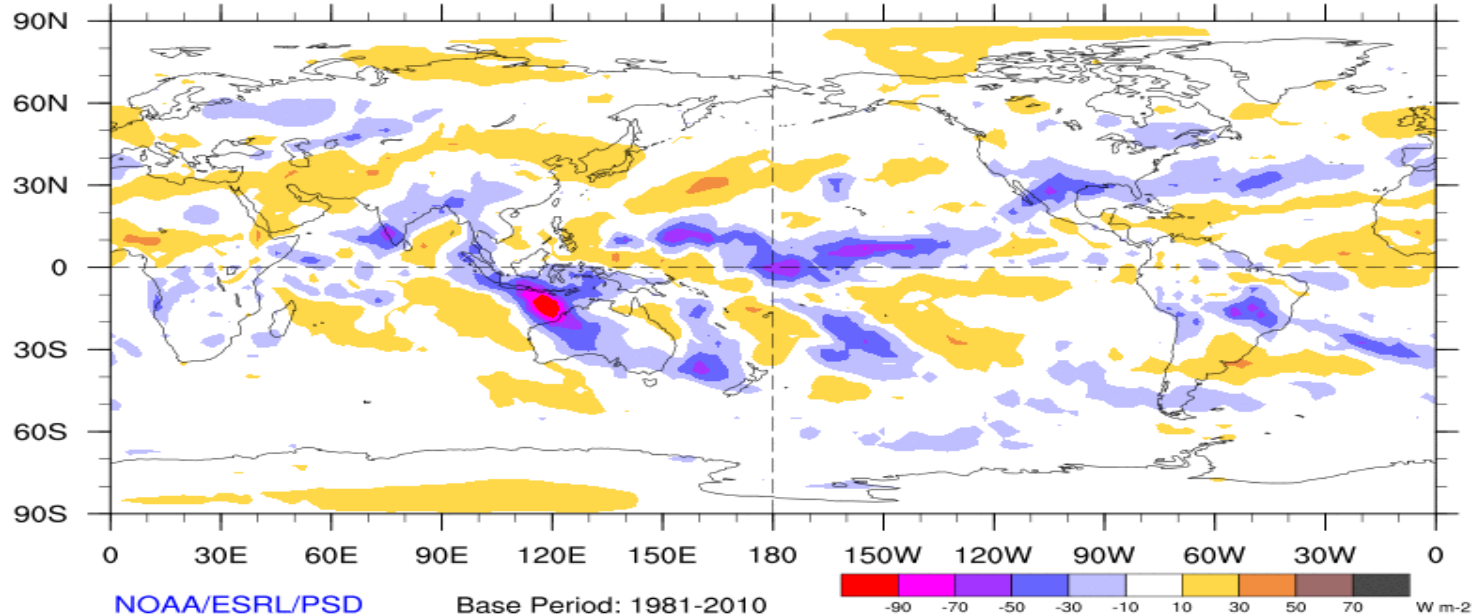


Week 2 - Valid: Apr 22, 2015 - Apr 28, 2015



7-Day Average OLR Anomaly

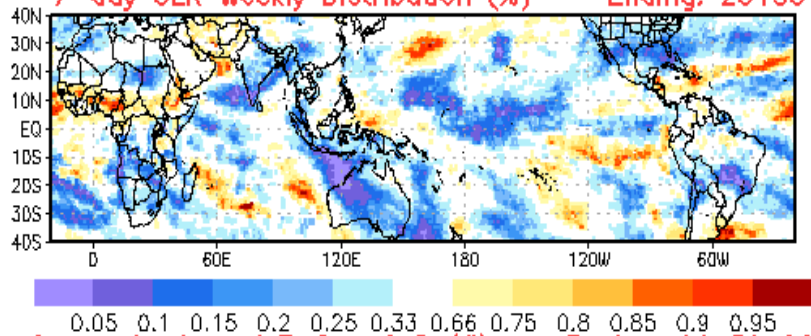
2015/04/20 - 2015/04/26



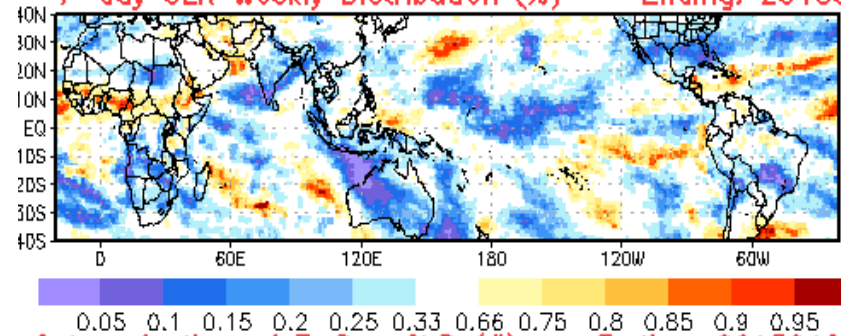
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

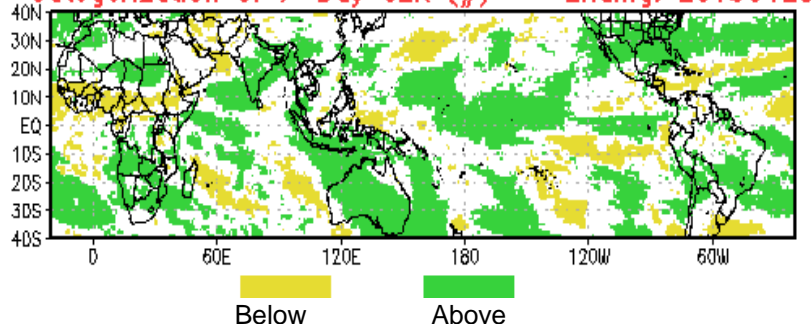
7-day OLR Weekly Distribution (%) -- Ending: 20150428



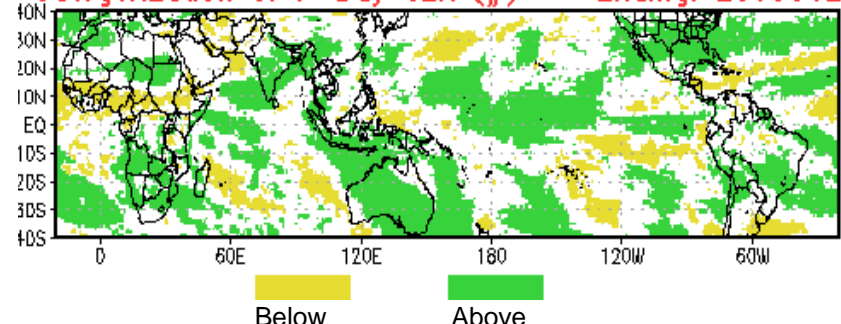
7-day OLR Weekly Distribution (%) -- Ending: 20150428



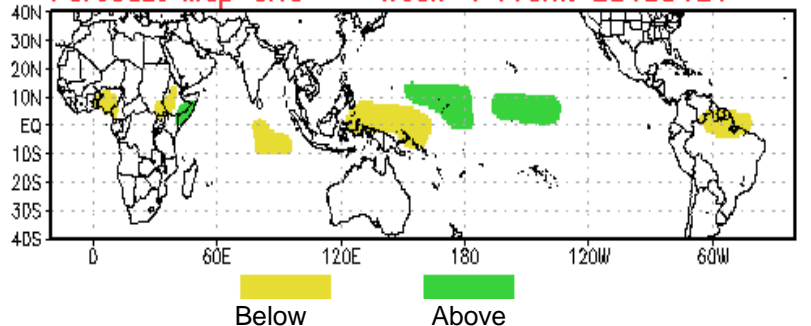
Categorization of 7-Day OLR (#) -- Ending: 20150428



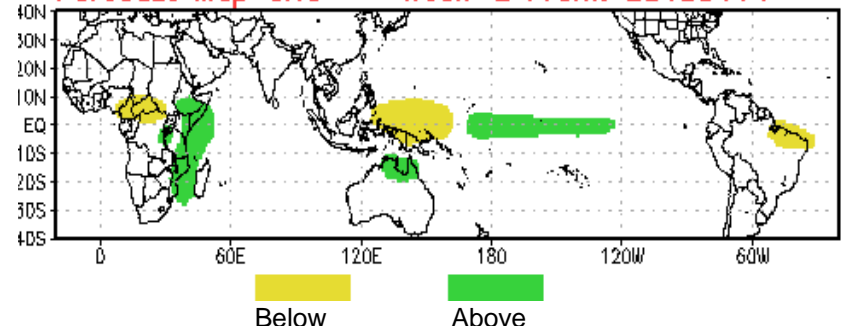
Categorization of 7-Day OLR (#) -- Ending: 20150428



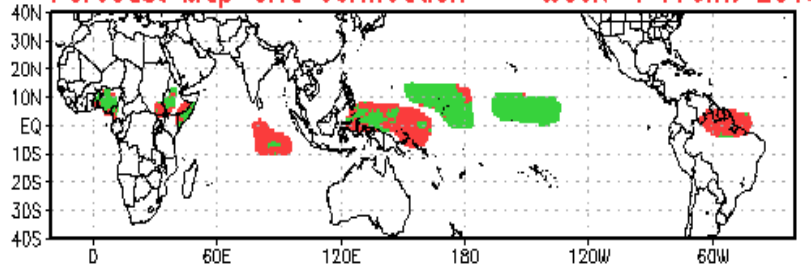
Forecast Map Grid -- Week-1 From: 20150421



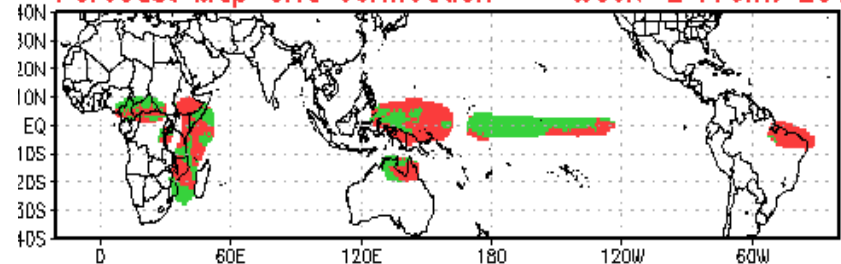
Forecast Map Grid -- Week-2 From: 20150414



Forecast Map Grid Verification -- Week-1 From: 20150421



Forecast Map Grid Verification -- Week-2 From: 20150414



Hit: Green, Miss: Red  
Heidke Skill Score: 28.9186

Hit: Green, Miss: Red  
Heidke Skill Score: 18.4067

# Synopsis of Climate Modes

## ENSO:

- Current: [El Niño Advisory](#)
- Outlook: There is an approximately 70% chance that El Niño will continue through Northern Hemisphere summer 2015, and a greater than 60% chance it will last through autumn.

## MJO and other subseasonal tropical variability:

- The MJO was weak during the past 7 days. The low-frequency background state is likely to dominate the pattern of tropical convection during the next 14 days, with some influence of Kelvin Waves as well.
- Most dynamical model MJO index forecasts depict weak MJO signal during the next 2 weeks.

## Extratropics:

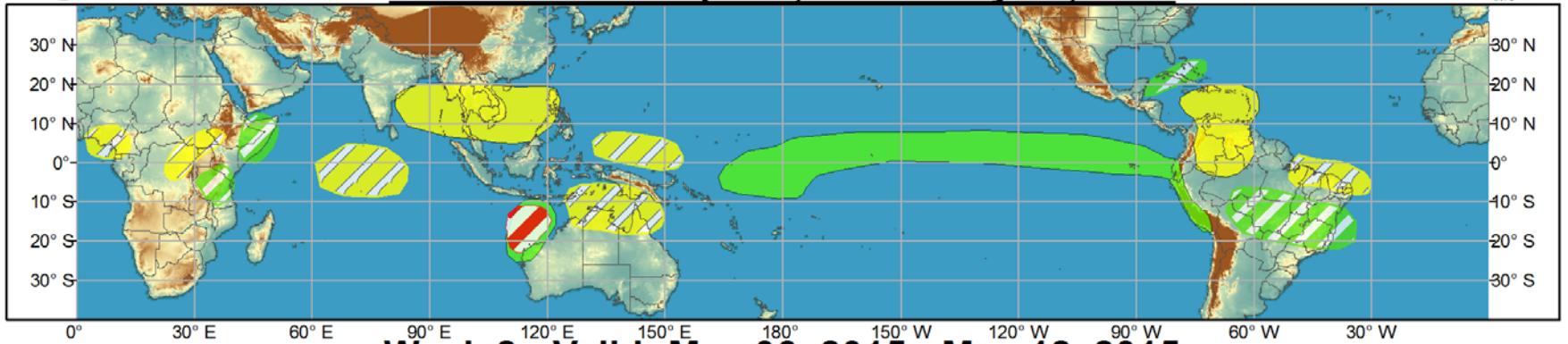
- The extended range forecast for the U.S. is not likely to be largely impacted directly by the MJO. Internal, mid-latitude variability is likely to drive much of the pattern of the CONUS through Day 14. One exception, however, could be the tendency toward wetter than normal conditions over the southern tier of the CONUS, which is consistent with the subtropical ENSO response.



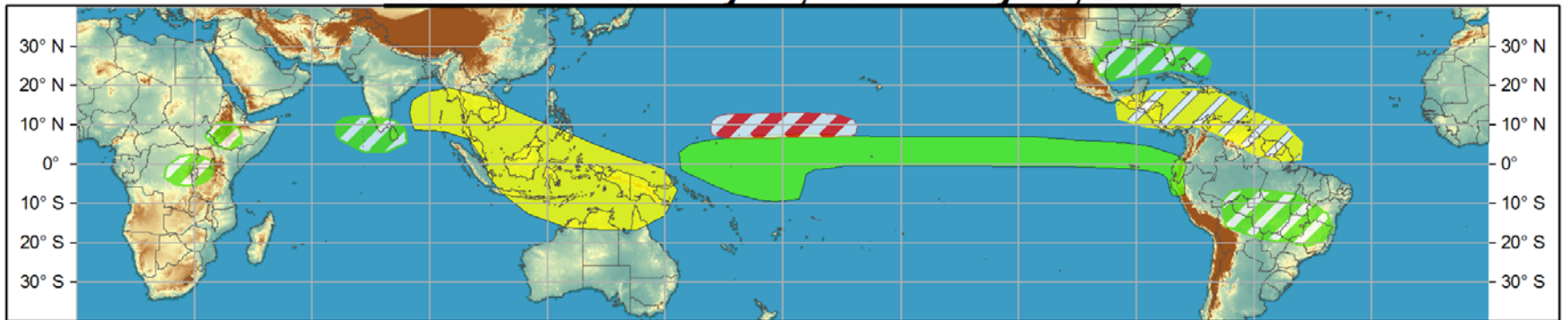
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Apr 29, 2015 - May 05, 2015



## Week 2 - Valid: May 06, 2015 - May 12, 2015



Produced: 04/28/2015

Forecaster: Baxter

### Confidence

High Moderate

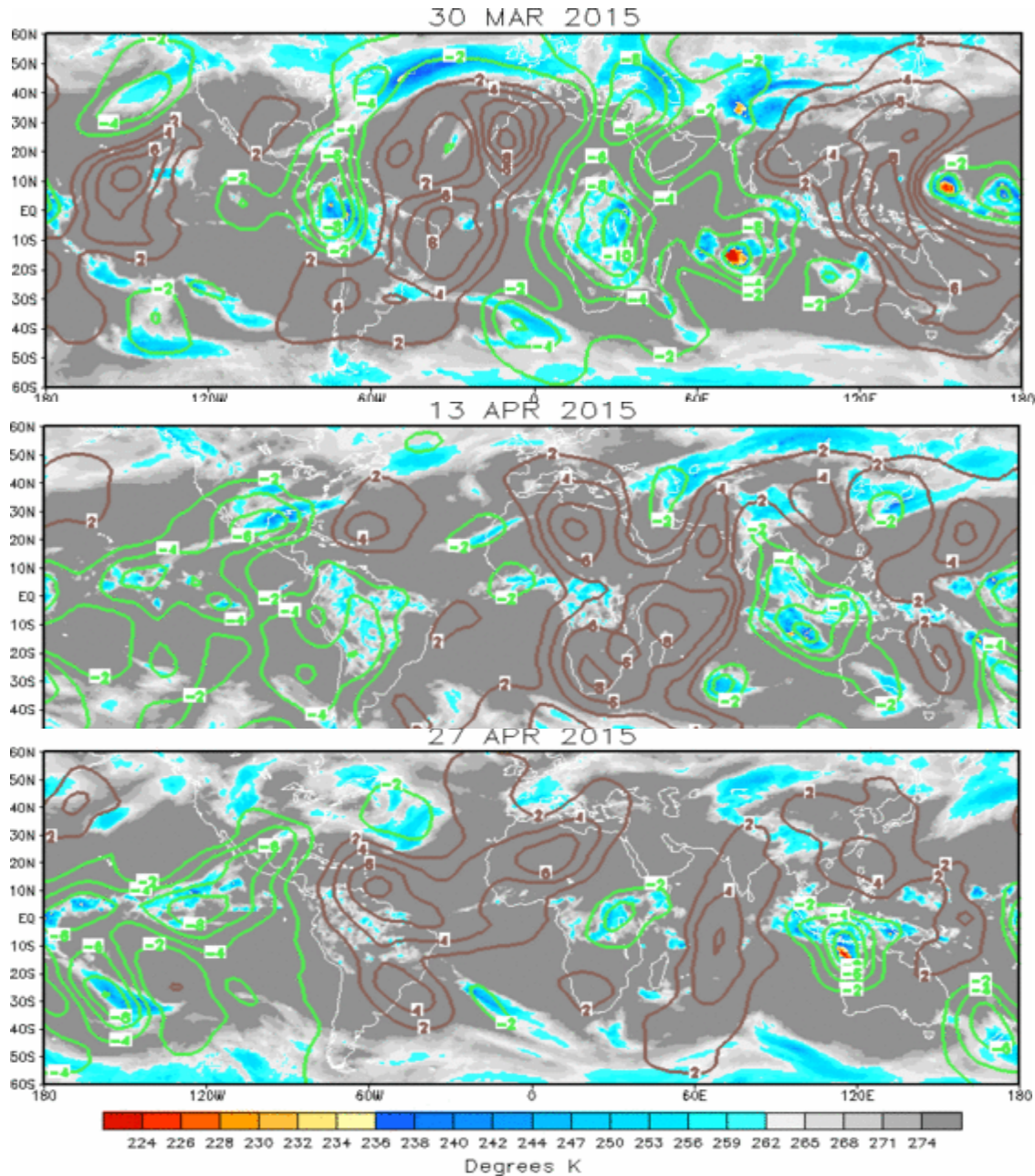
- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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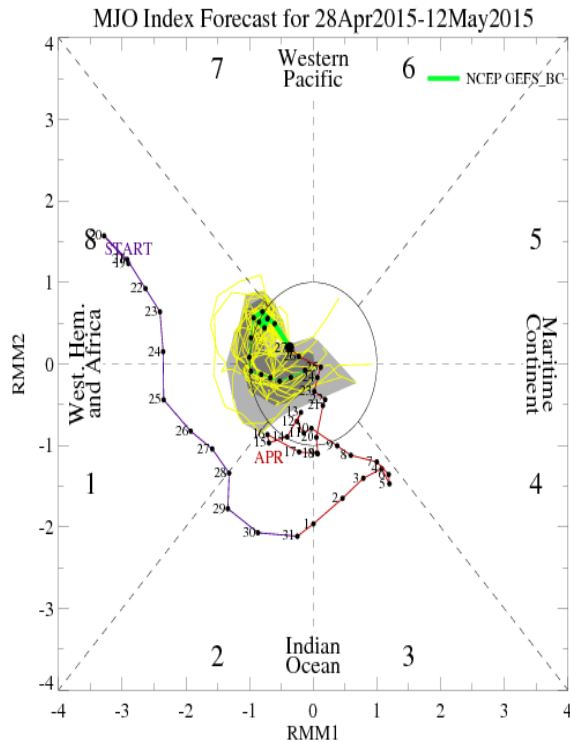
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence    Brown: Enhanced Convergence

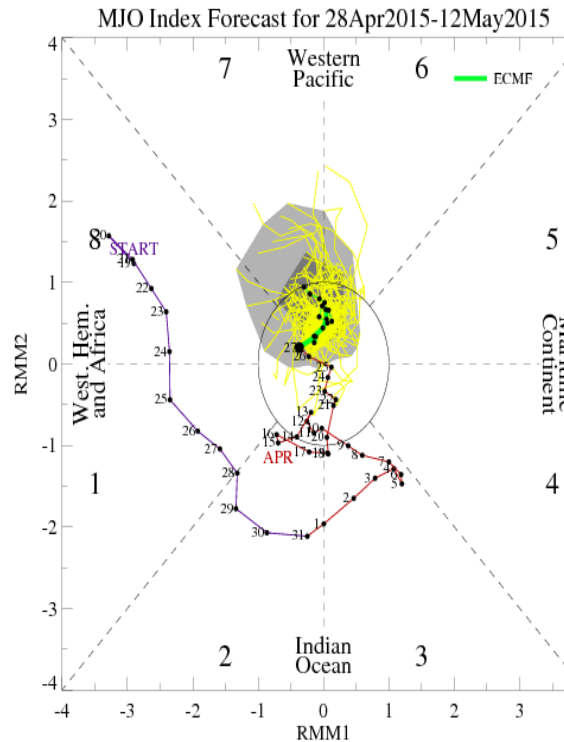


Little coherent MJO activity during the past month.

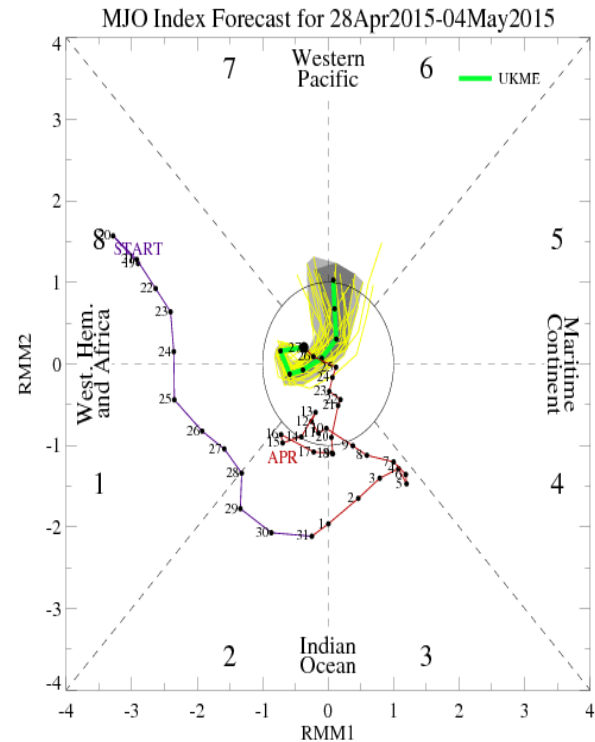
# MJO Observation/Forecast



GFS



ECMWF



UKMET

Wheeler-Hendon based analyses of model forecasts indicate nothing consistent with MJO activity.

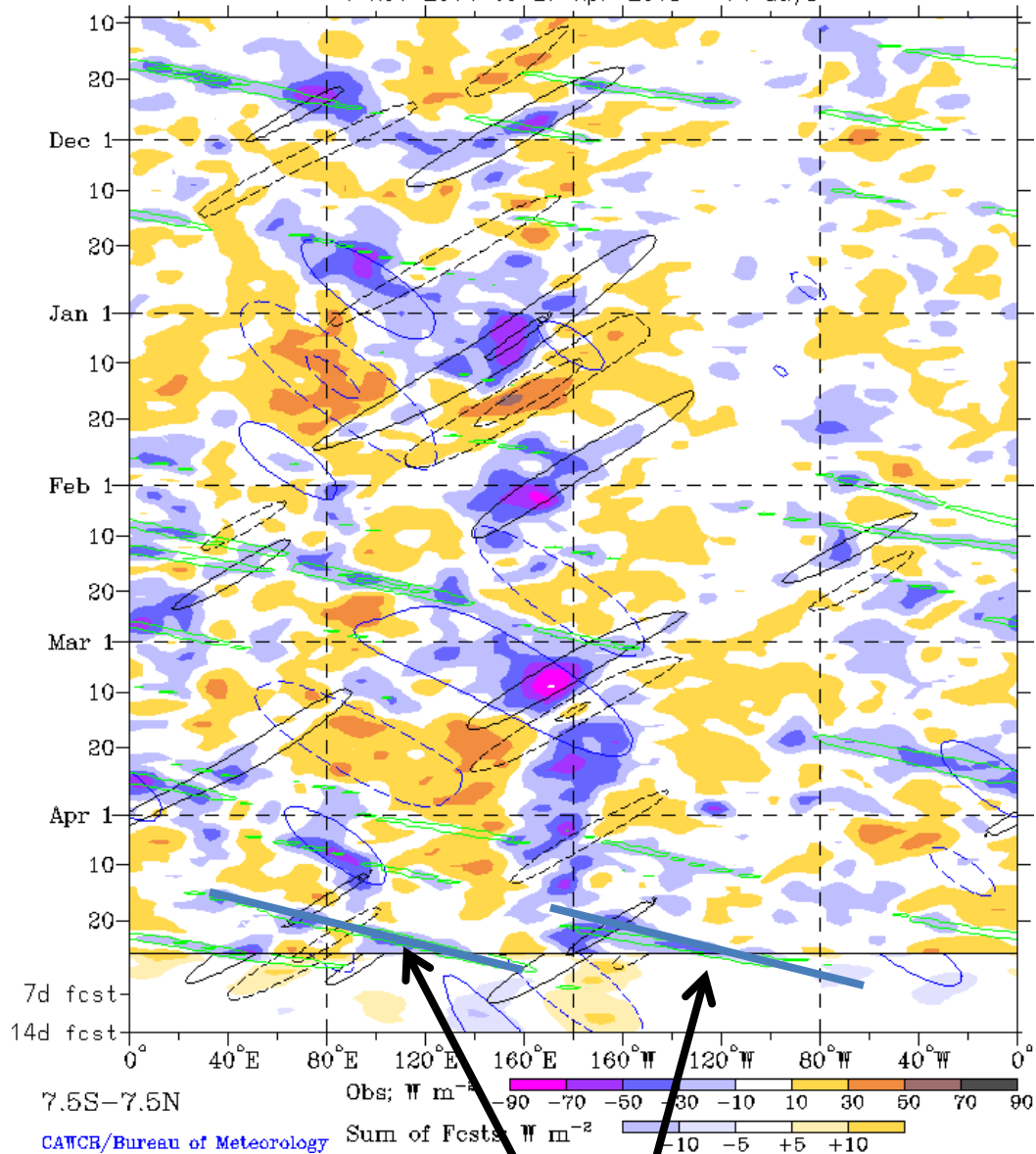
Some monthly models indicate little to no MJO activity for 30 days.

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)

9-Nov-2014 to 27-Apr-2015 + 14 days



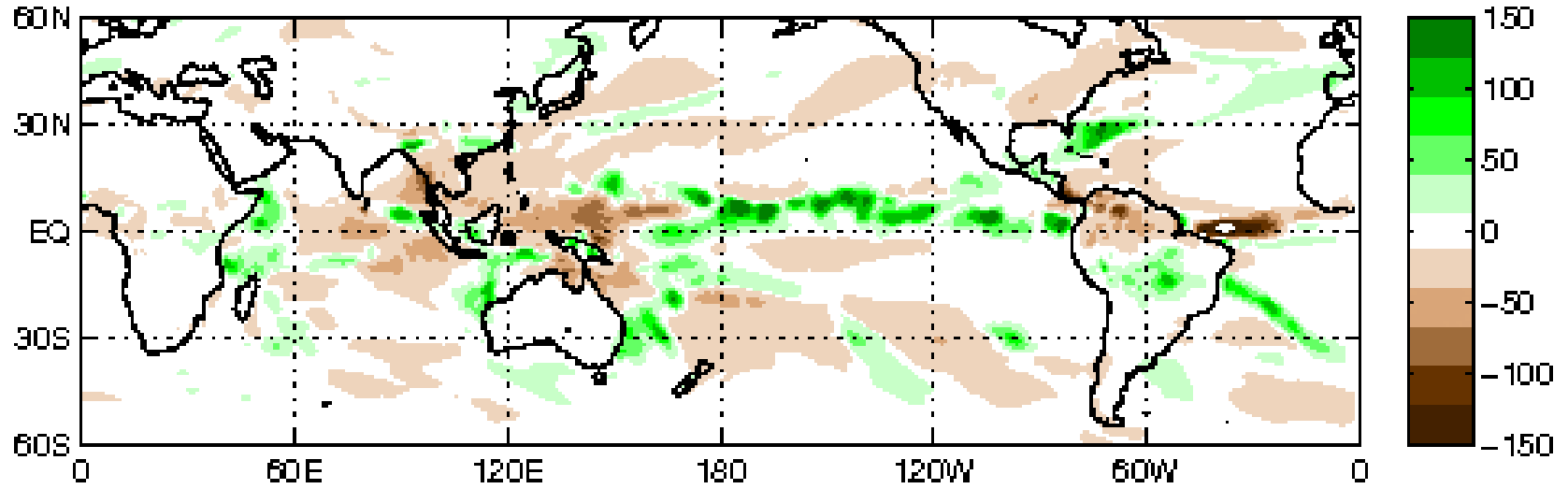
Low frequency is contributing,  
especially near Date Line.

KW and ENSO impacting.

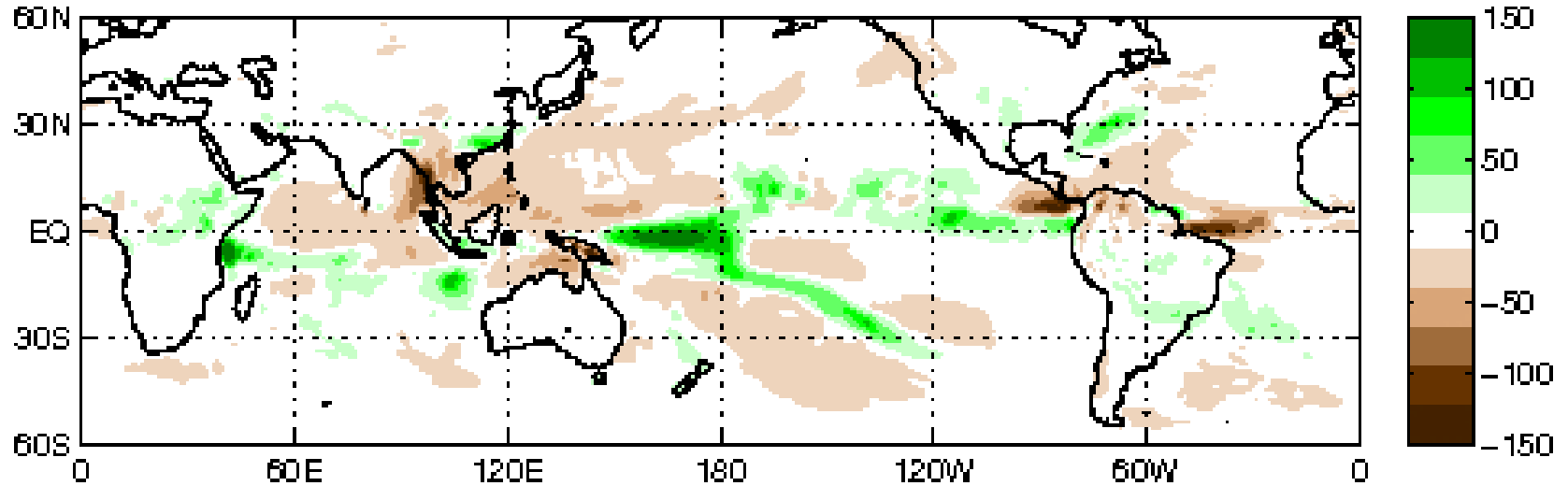
Kelvin Waves.



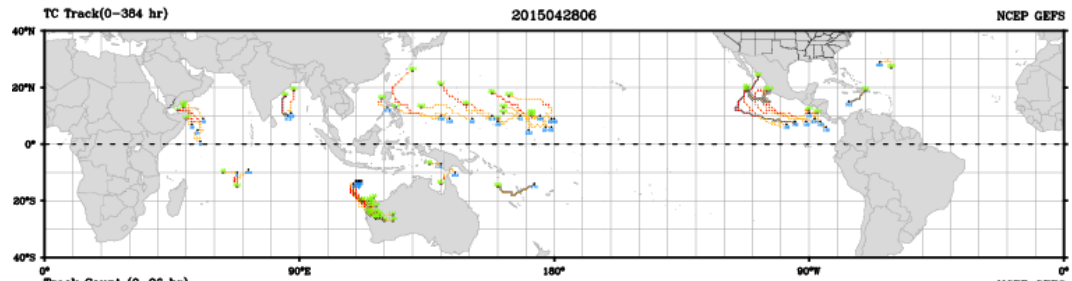
CFS: Anom. PREC Week: 1: 29-Apr-2015 to 05-May-2015 (mm/week)



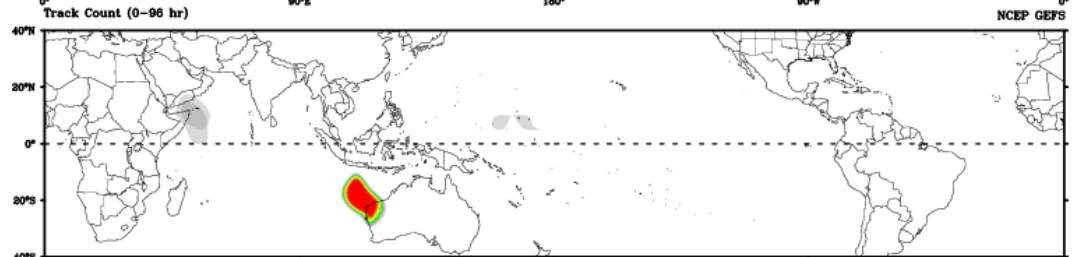
CFS: Anom. PREC Week: 2: 06-May-2015 to 12-May-2015 (mm/week)



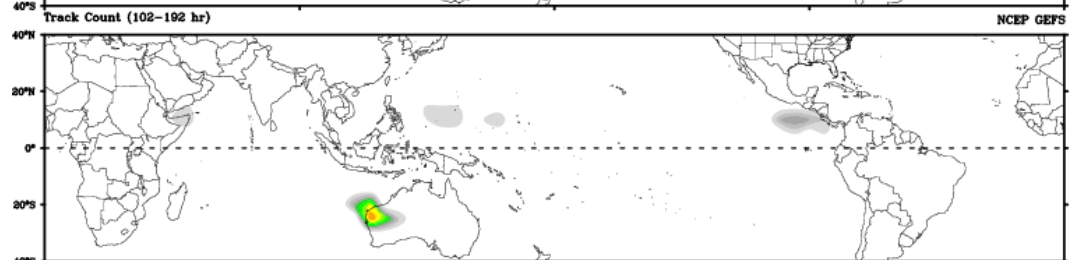
CWB TC Tracker for NCEP GEFS (Fuzzy\_AllCriteria)



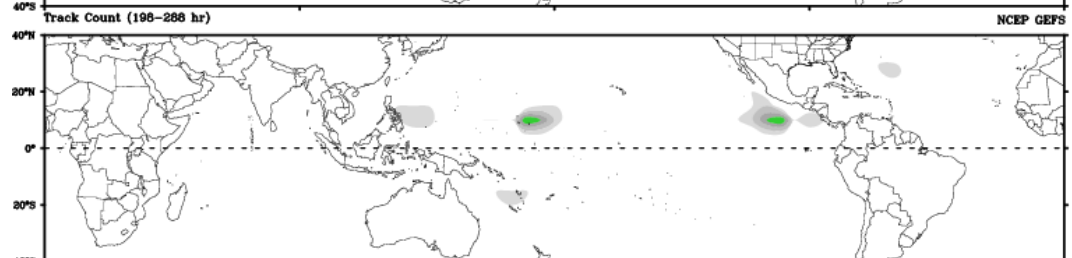
Days 1-4



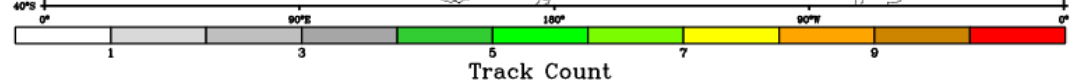
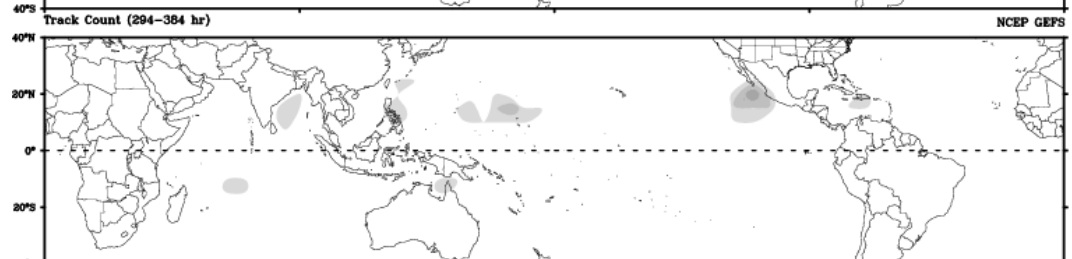
Day 5-8



Day 9-12

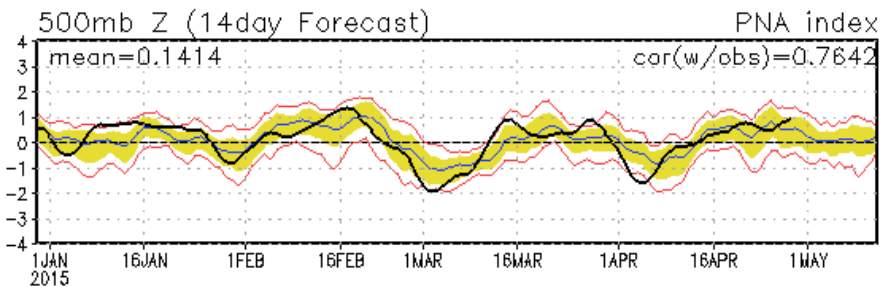
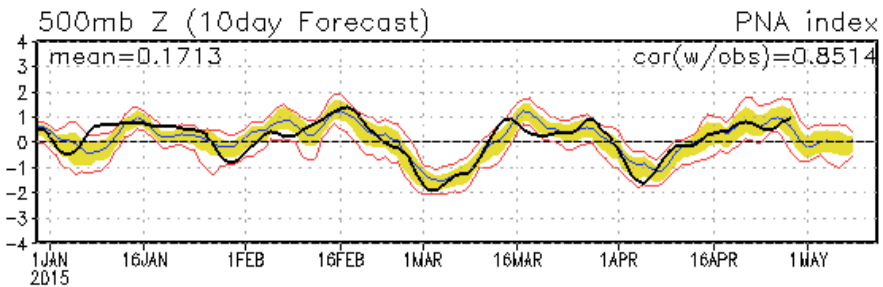
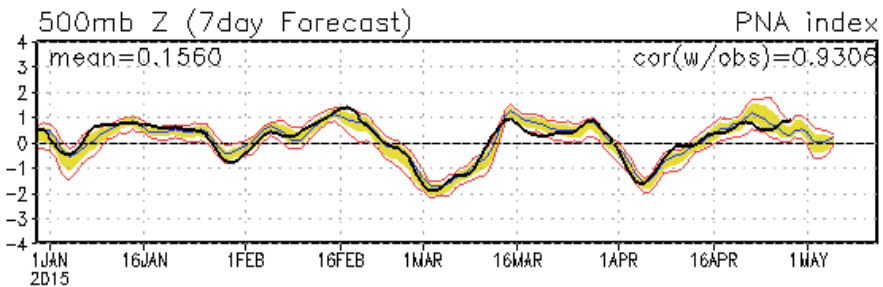
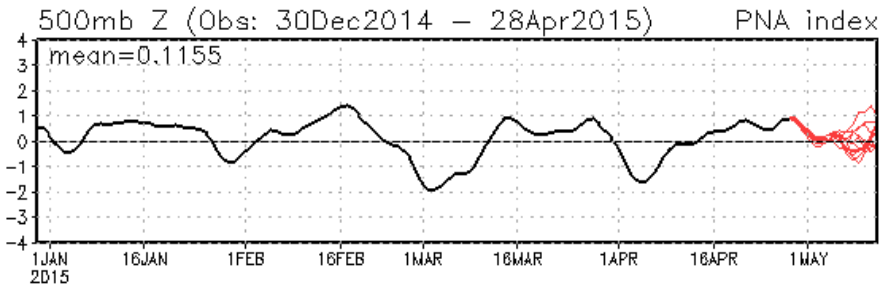


Day 13-15

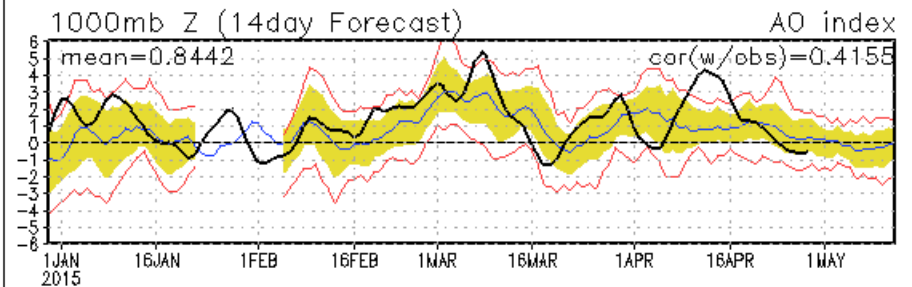
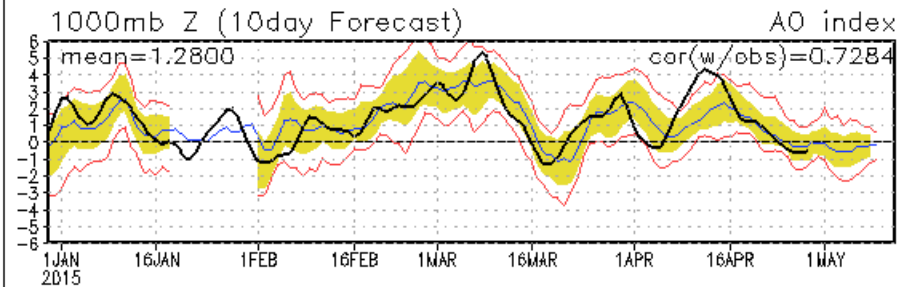
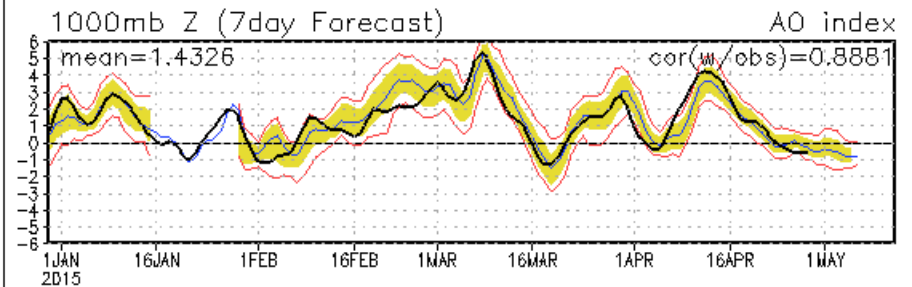
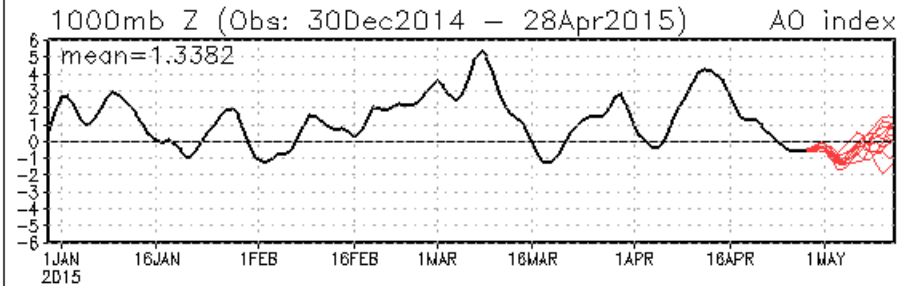


# Connections to U.S. Impacts

### PNA: Observed & ENSM forecasts



### AO: Observed & ENSM forecasts

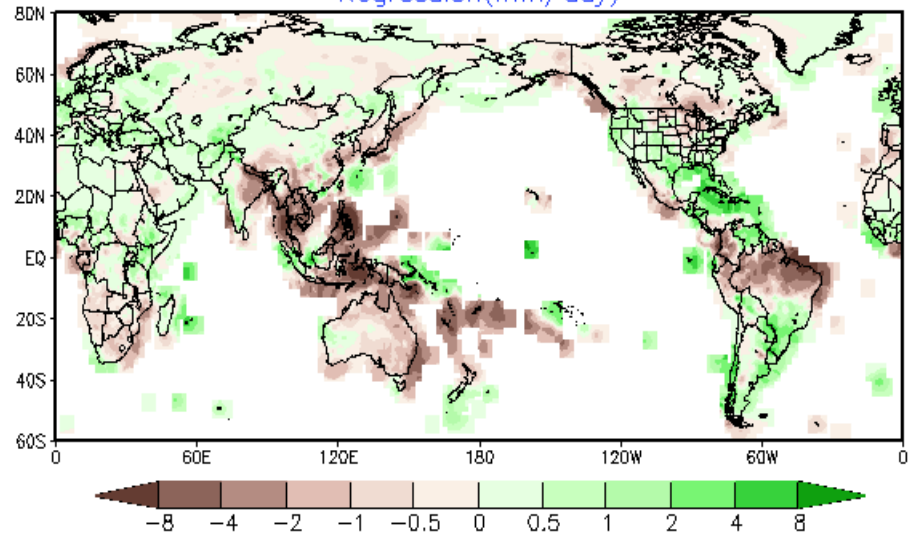
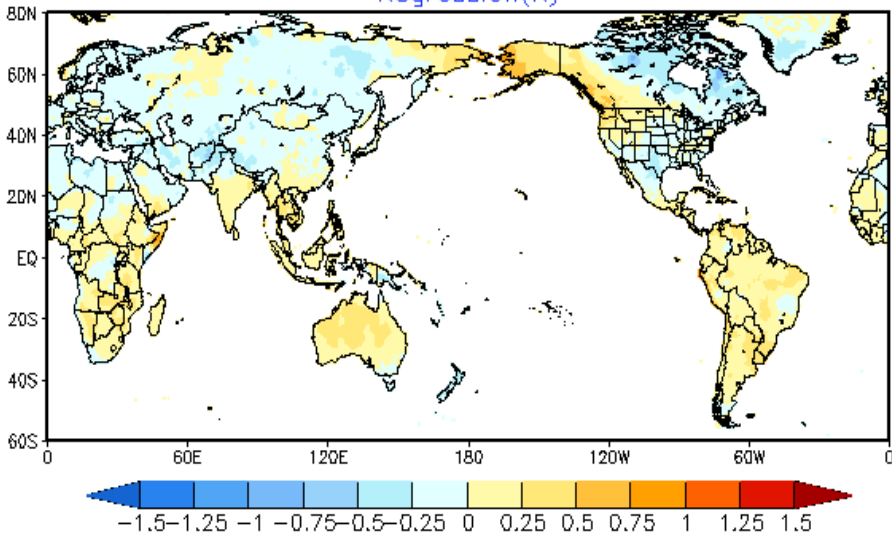


# ENSO Teleconnection: AMJ Temp

# ENSO Teleconnection: AMJ Precip

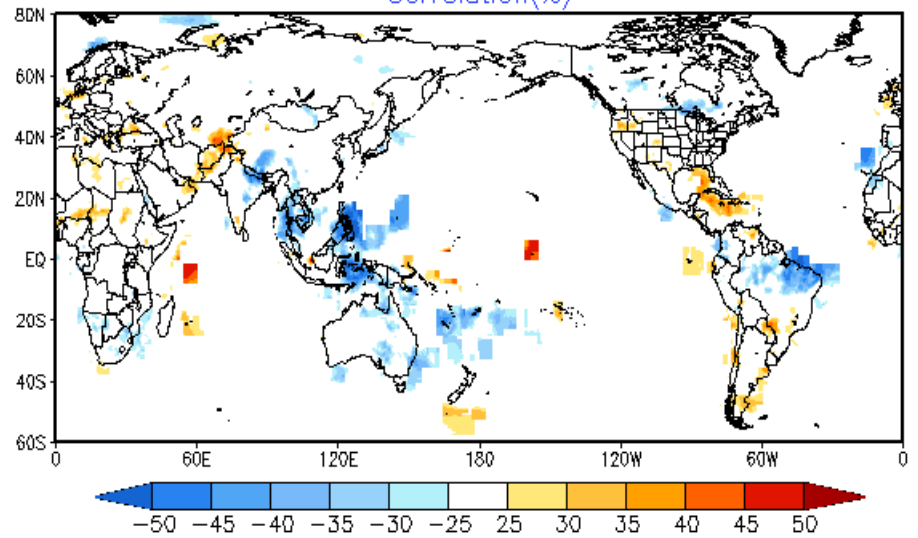
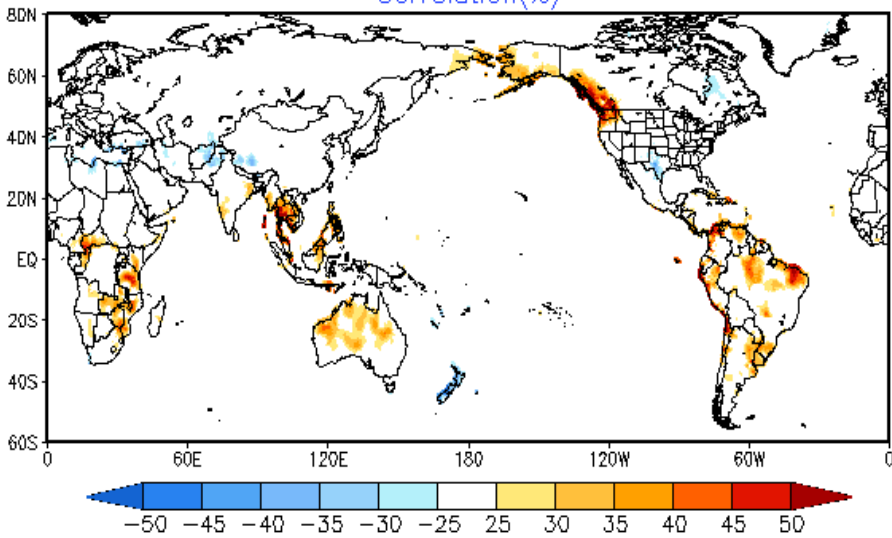
Regression(K)

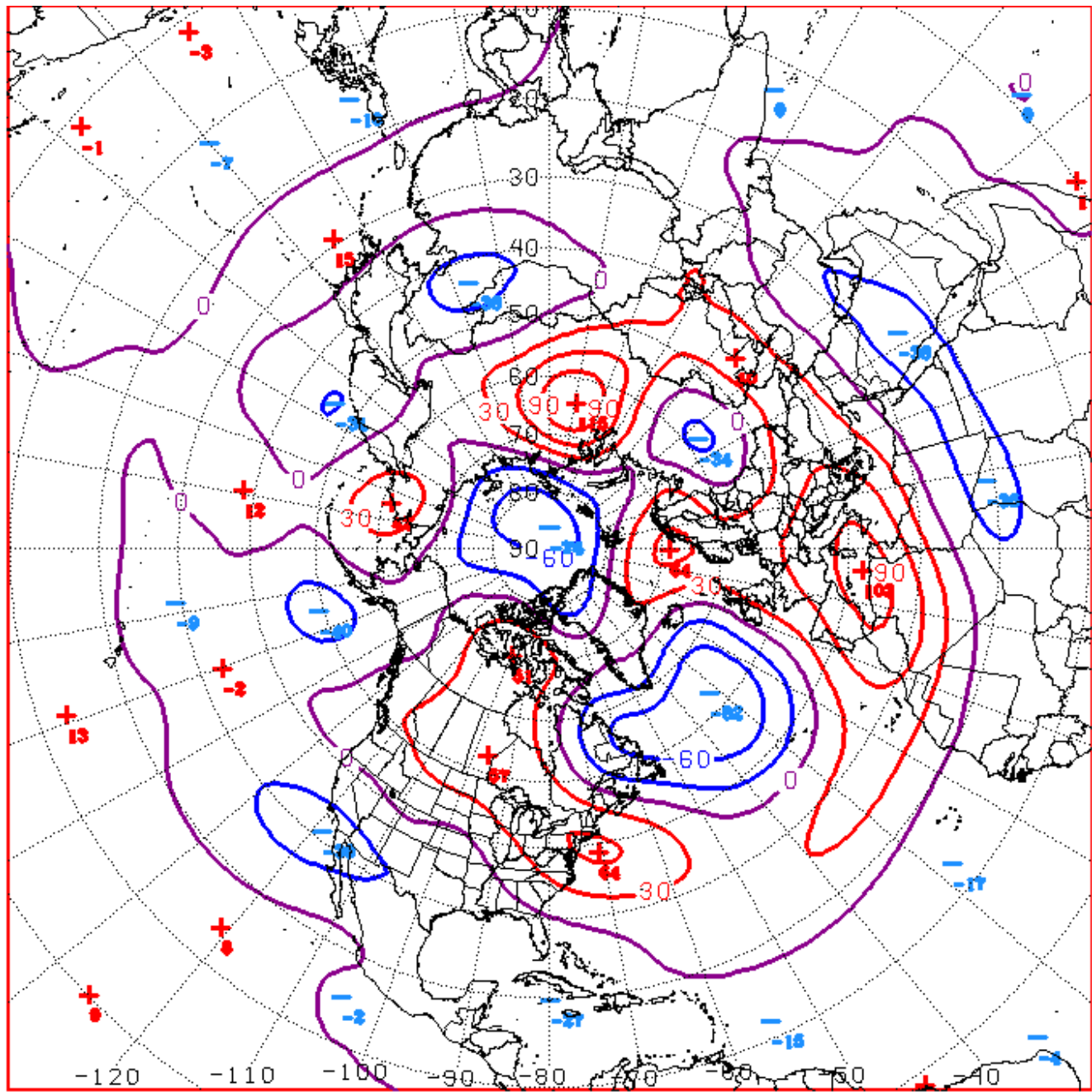
Regression(mm/day)



Correlation(%)

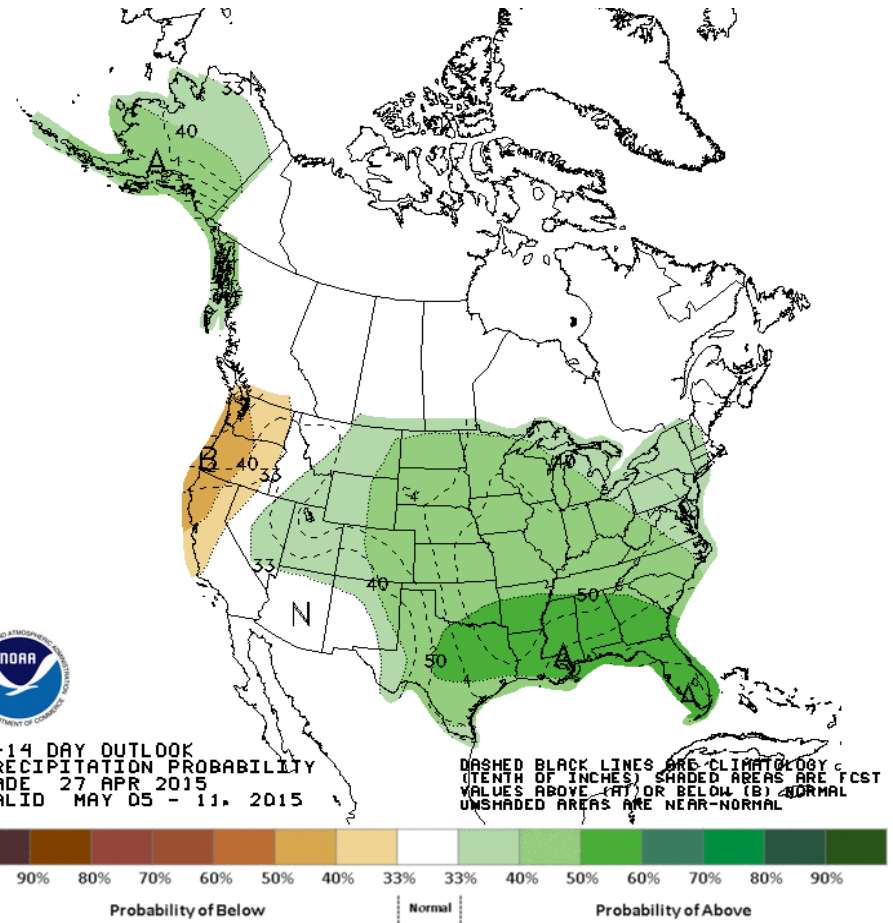
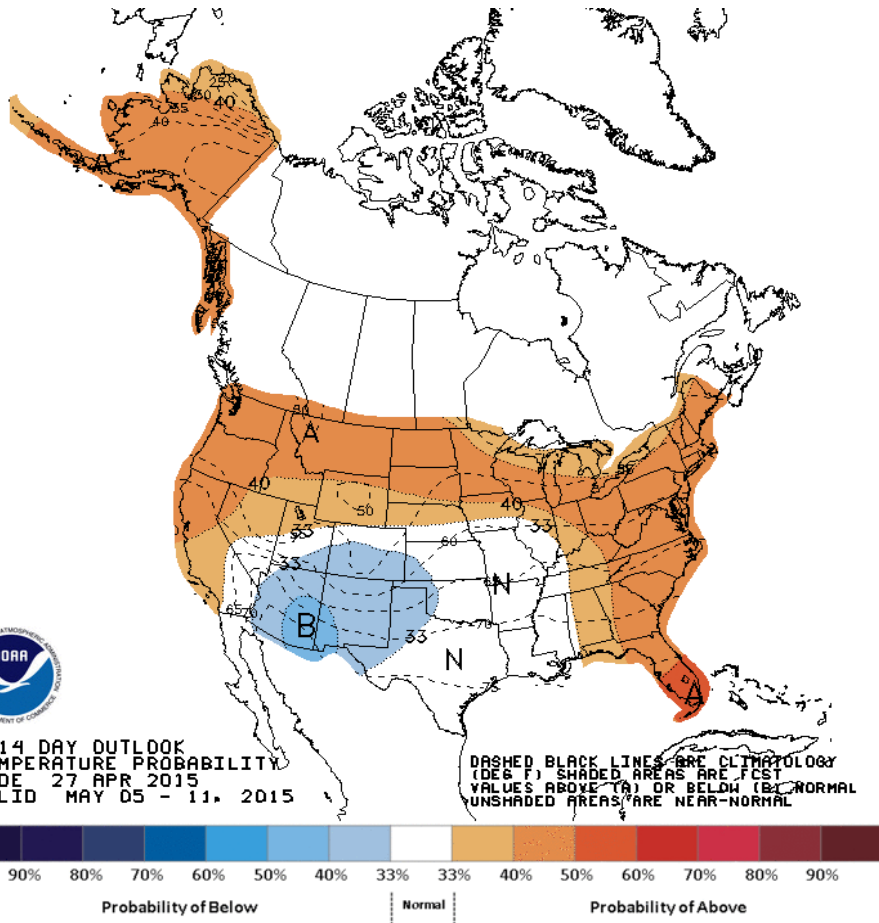
Correlation(%)





D+11 500 MB ANOMALIES FROM 06Z ENSM  
CPC MAP MADE APR 28 2015 1235 UTC CNTD MAY 09 2015

# Week 2 – Temperature and Precipitation

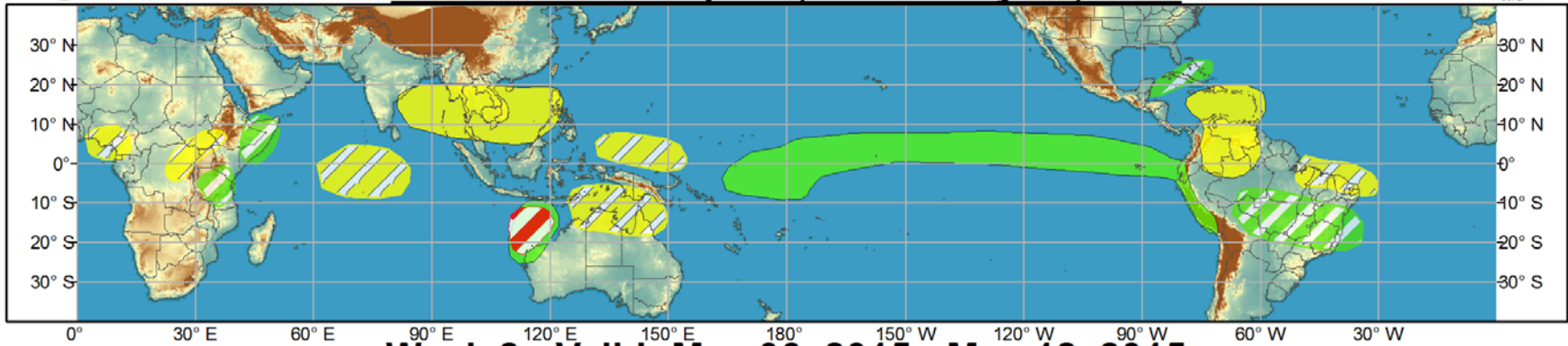




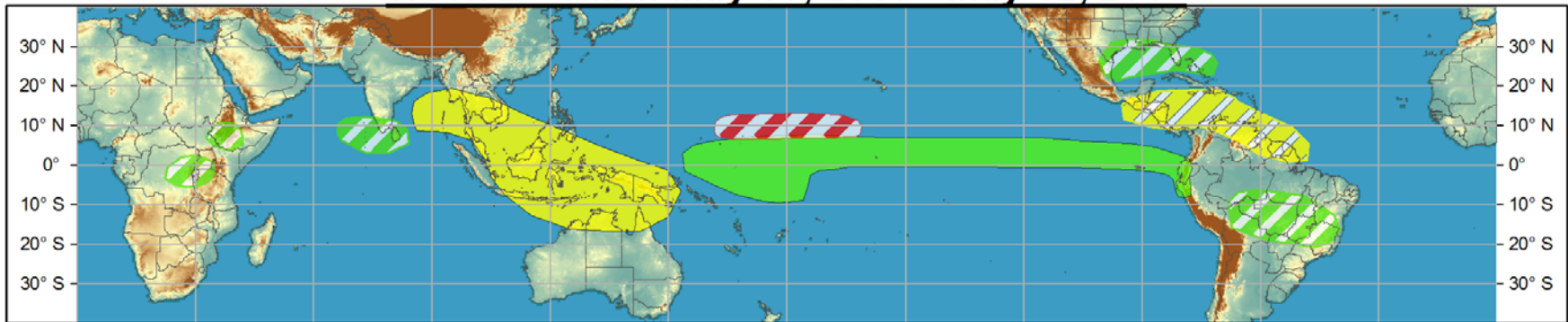
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