Global Tropics Hazards And Benefits Outlook

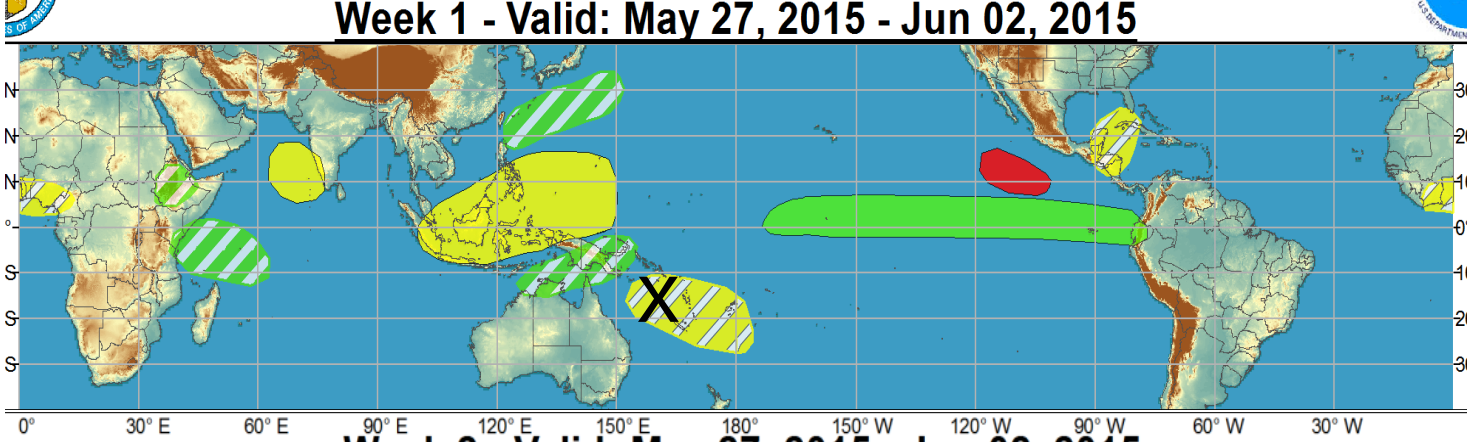
February 3, 2015

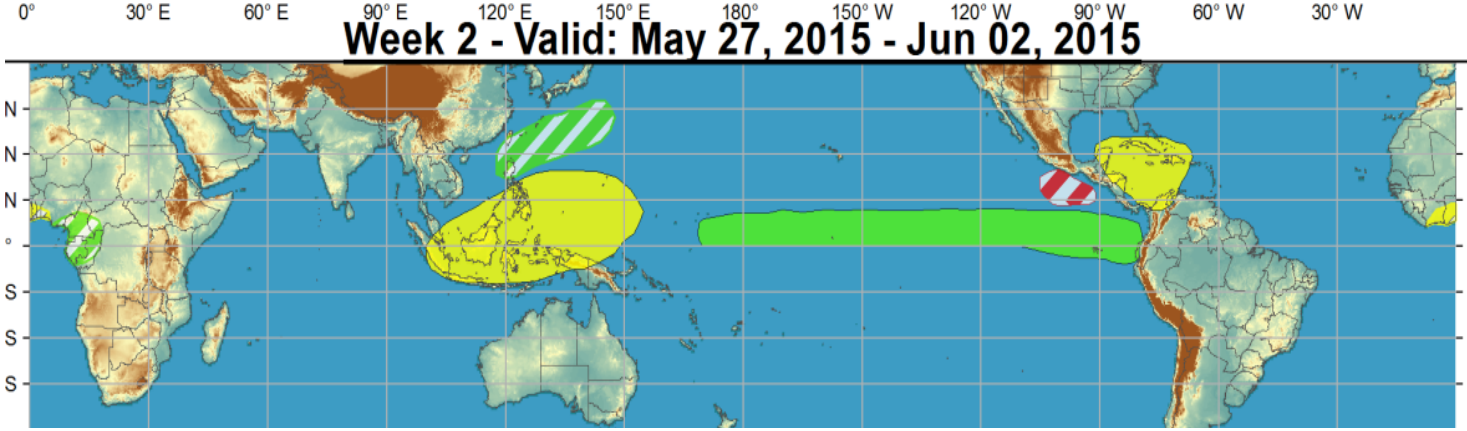
Matthew Rosencrans

Outline

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

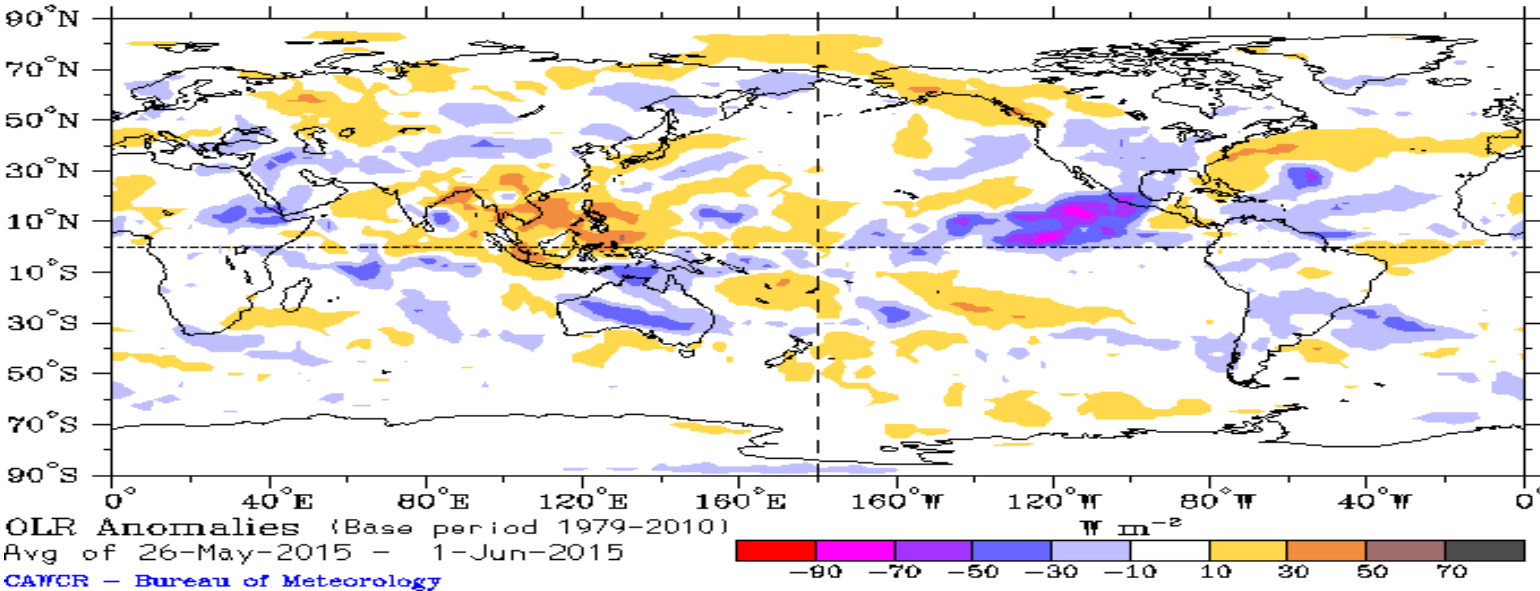
Outlook Review



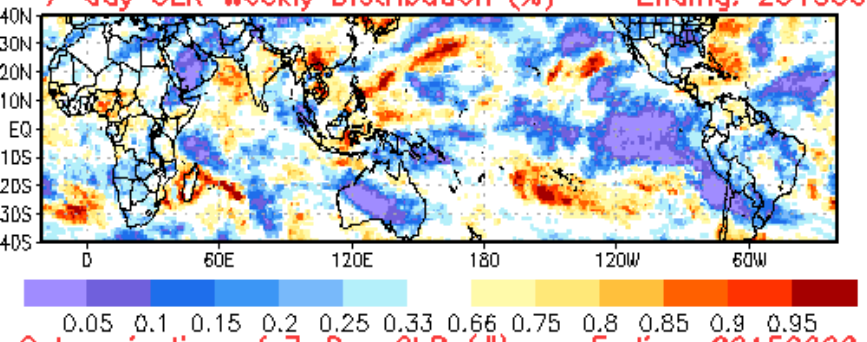


Cool shading
More clouds/rain

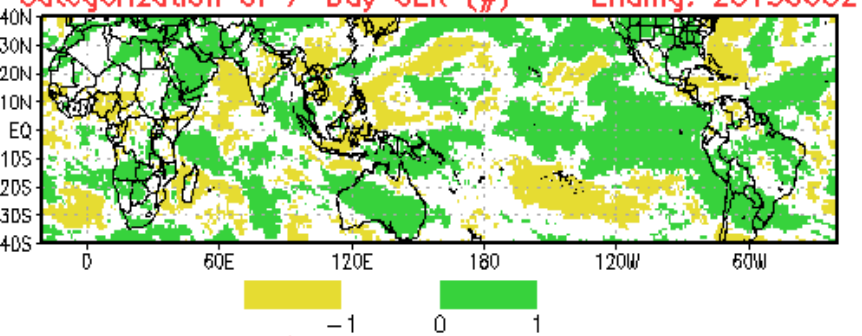
Warm shading
Less clouds/rain



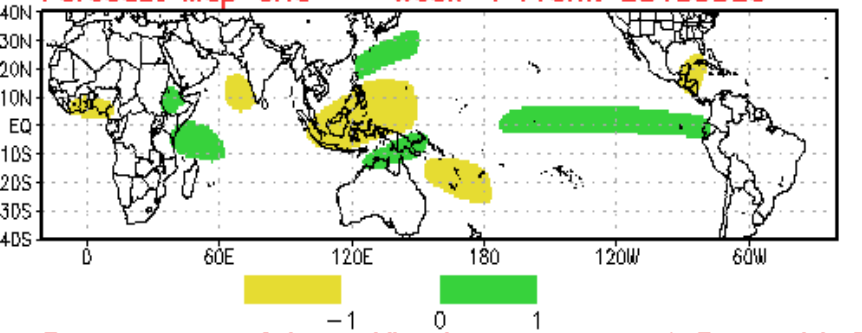
7-day OLR Weekly Distribution (%) -- Ending: 20150602



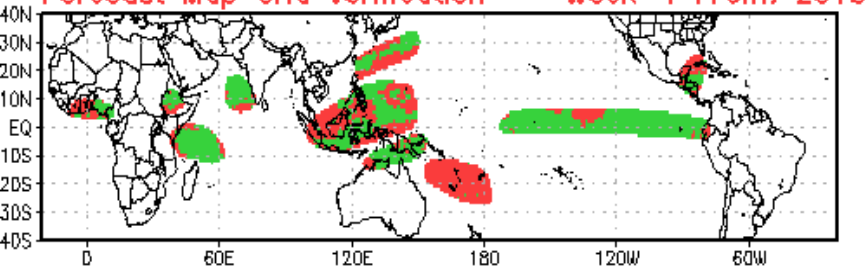
Categorization of 7-Day OLR (#) -- Ending: 20150602



Forecast Map Grid -- Week-1 From: 20150526

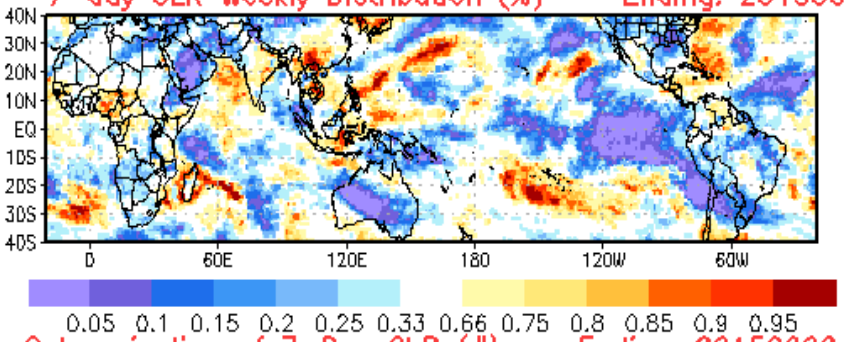


Forecast Map Grid Verification -- Week-1 From: 201505

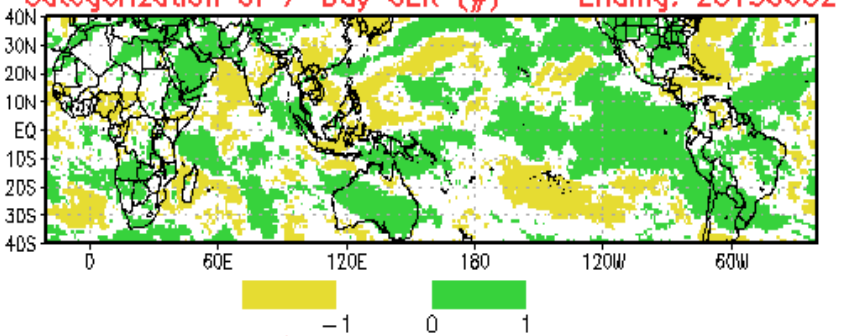


Hit: Green, Miss: Red
Heidke Skill Score: 36.5174

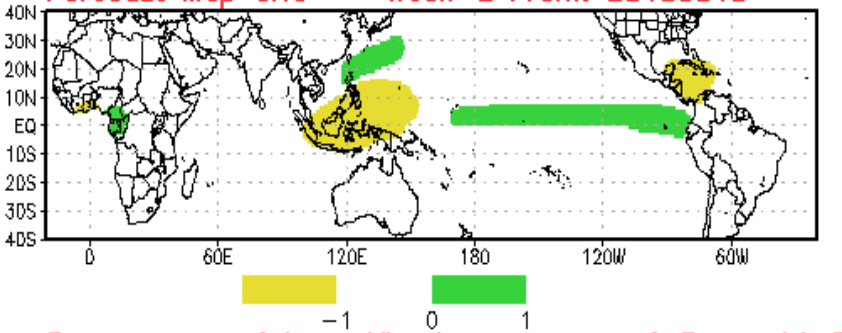
7-day OLR Weekly Distribution (%) -- Ending: 20150602



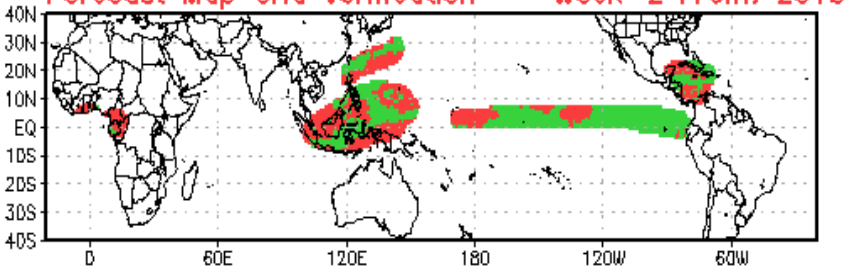
Categorization of 7-Day OLR (#) -- Ending: 20150602



Forecast Map Grid -- Week-2 From: 20150519



Forecast Map Grid Verification -- Week-2 From: 20150519



Hit: Green, Miss: Red
Heidke Skill Score: 30.5269

Synopsis of Climate Modes

ENSO:

• Current: **El Niño Advisory**

• Outlook: There is an approximately 90% chance that El Niño will continue through Northern Hemisphere summer 2015, and a greater than 80% chance it will last through 2015.

MJO and other subseasonal tropical variability:

• The MJO strengthened slightly during the past week, although a portion of that is likely due to aliasing in of other modes (tropical cyclones)

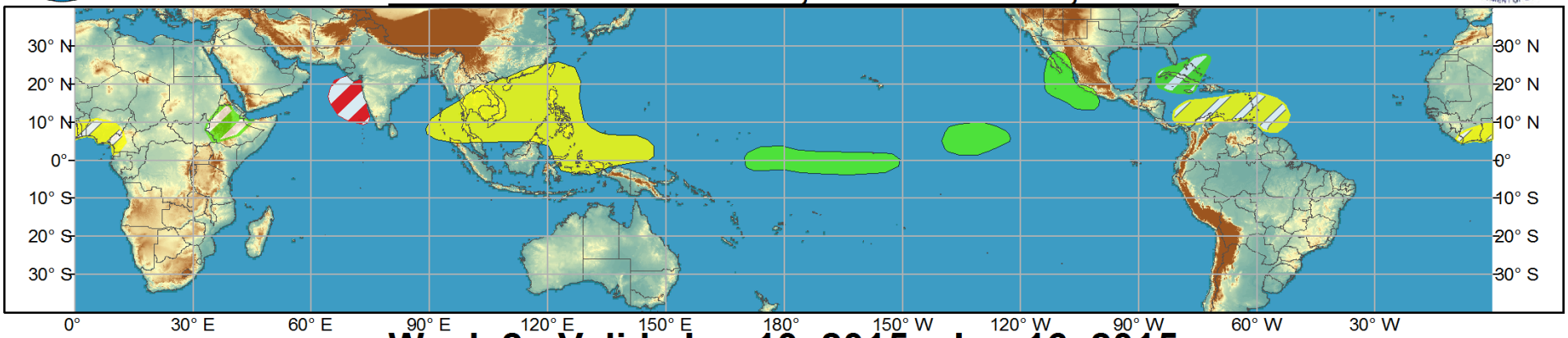
• Most dynamical model MJO index forecasts depict a strengthening of the signal over the East Pacific during Week-1, with some eastward propagation. Some models depict a strengthening, then weakening with little propagation. The MJO/GTH team concluded that there is little support for outlooks for a robust MJO, partially due to the strong low-frequency state.

Extratropics:

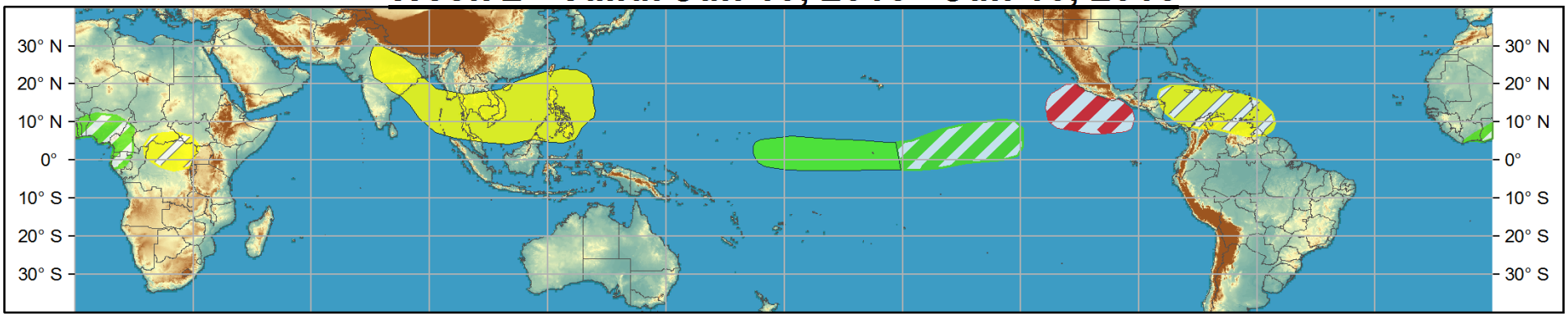
• The extended range forecast for the U.S. is not likely to be largely impacted directly by the MJO. Some moisture from tropical cyclone activity over the East Pacific is forecast to impact the western CONUS, during Week-2.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jun 03, 2015 - Jun 09, 2015



Week 2 - Valid: Jun 10, 2015 - Jun 16, 2015



Produced: 06/02/2015

Forecaster: Rosencrans

	Confidence: High	Confidence: 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.
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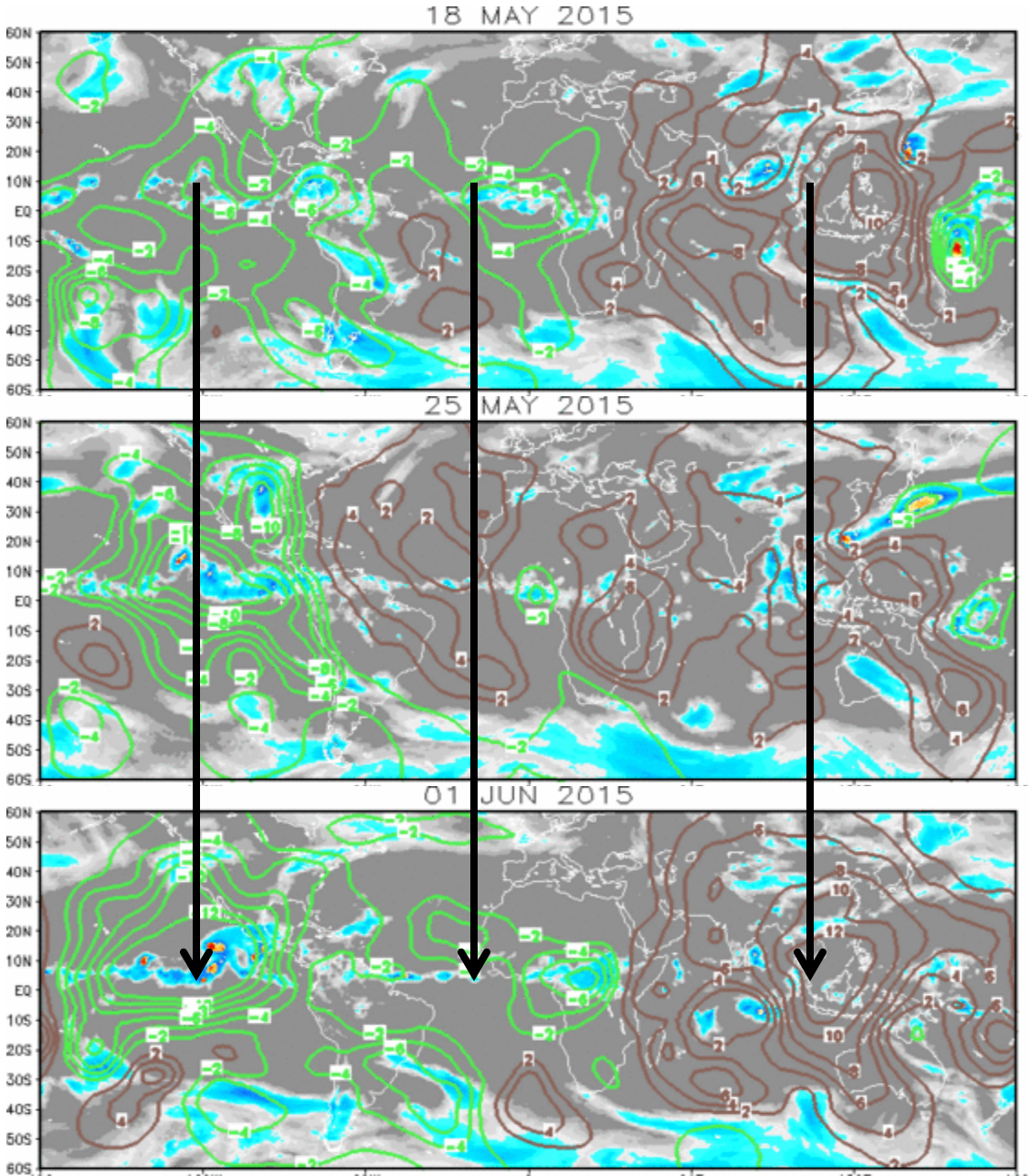
NPS PRAESTANTIA PER SCIENTIAM

IR Satellite & 200-hpa Velocity Potential Anomalies

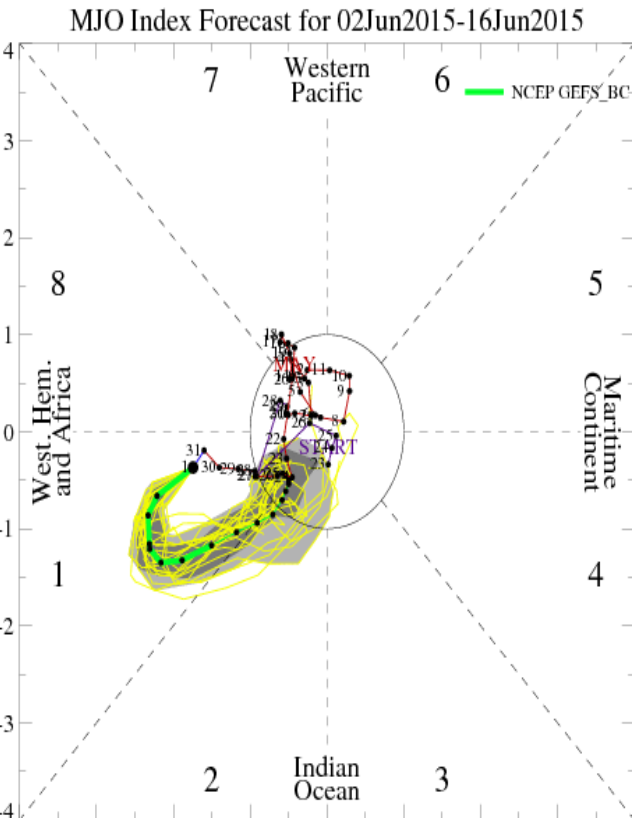
Green: Enhanced Divergence Brown: Enhanced Convergence



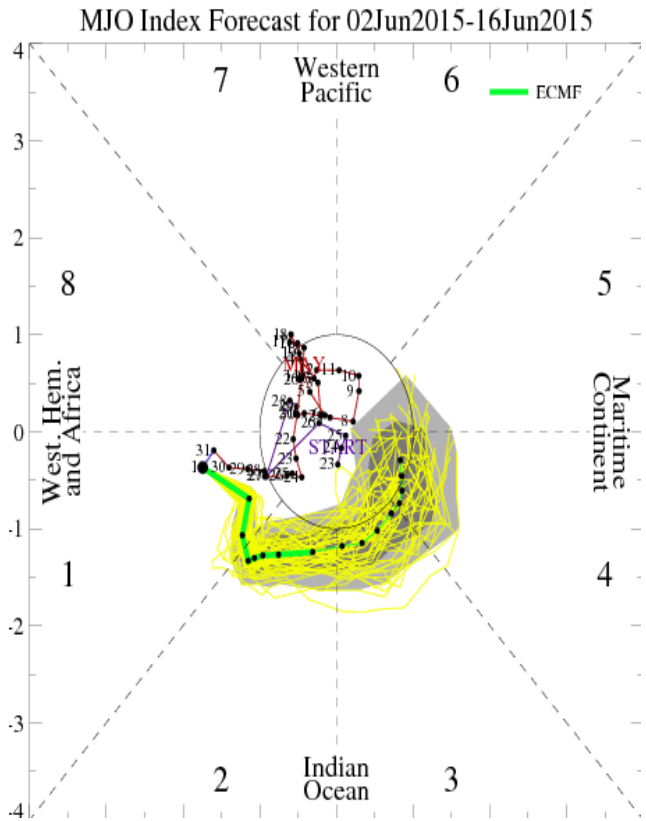
Base state and transient features evident.

Inconsistent with robust MJO activity.

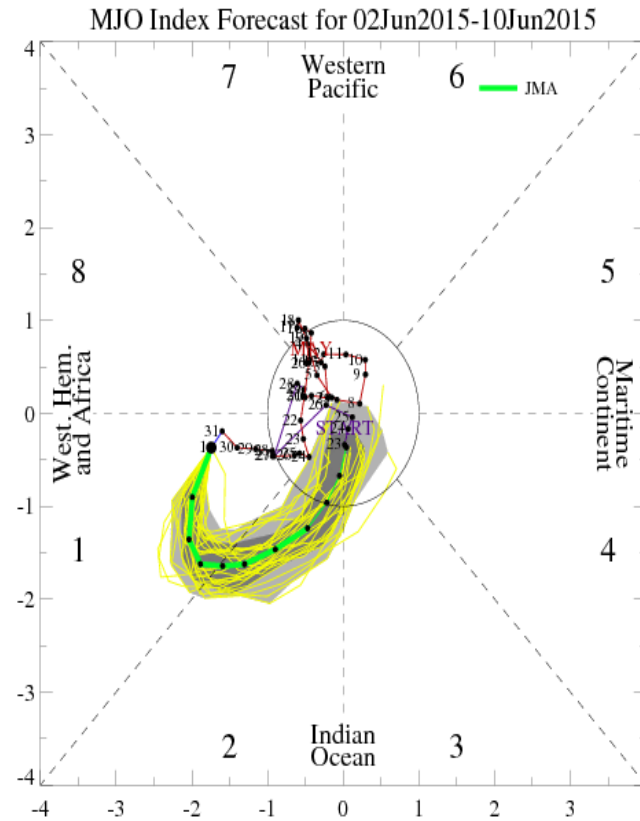
MJO Observation/Forecast



GFS



ECMWF

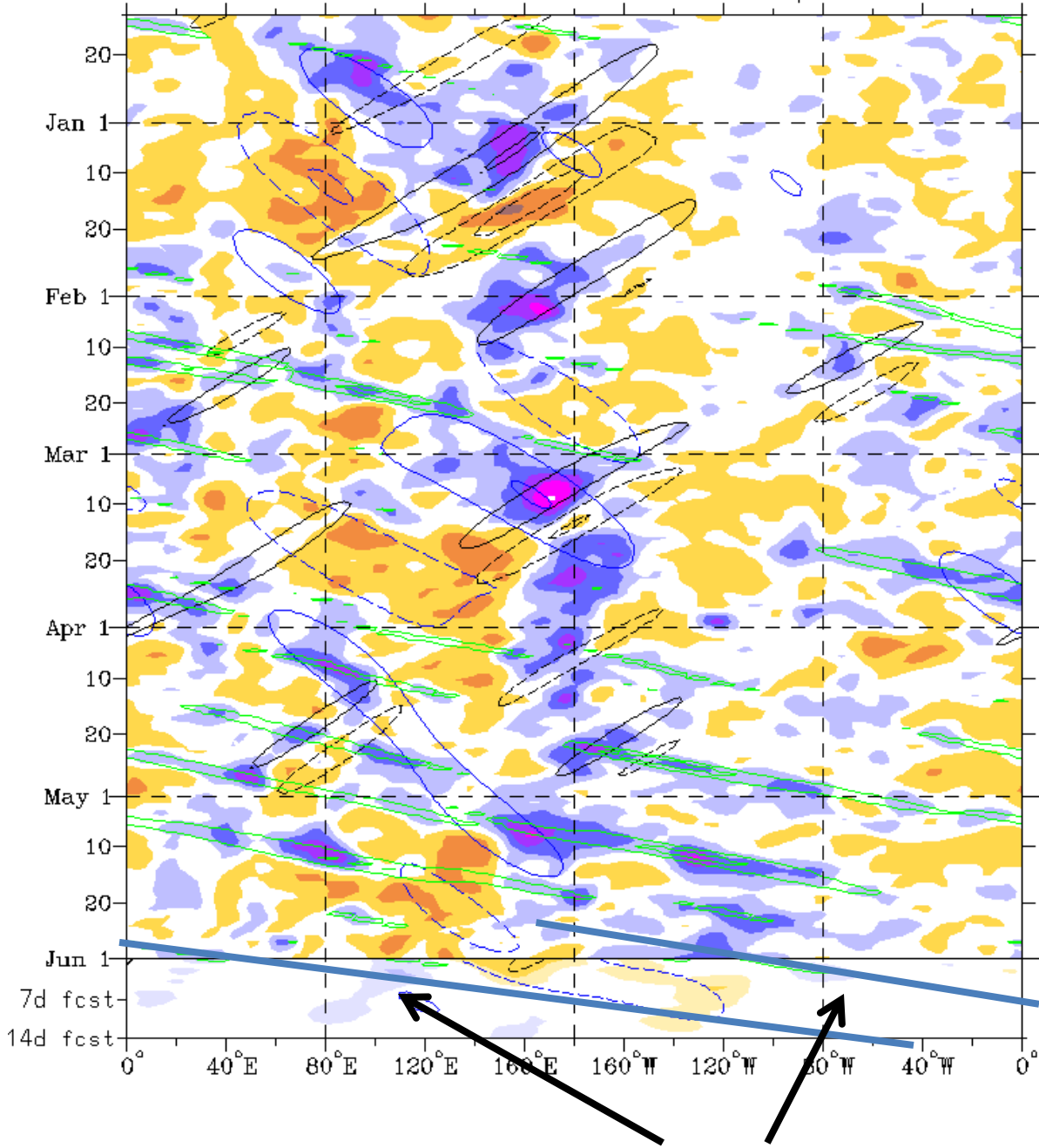


JMA

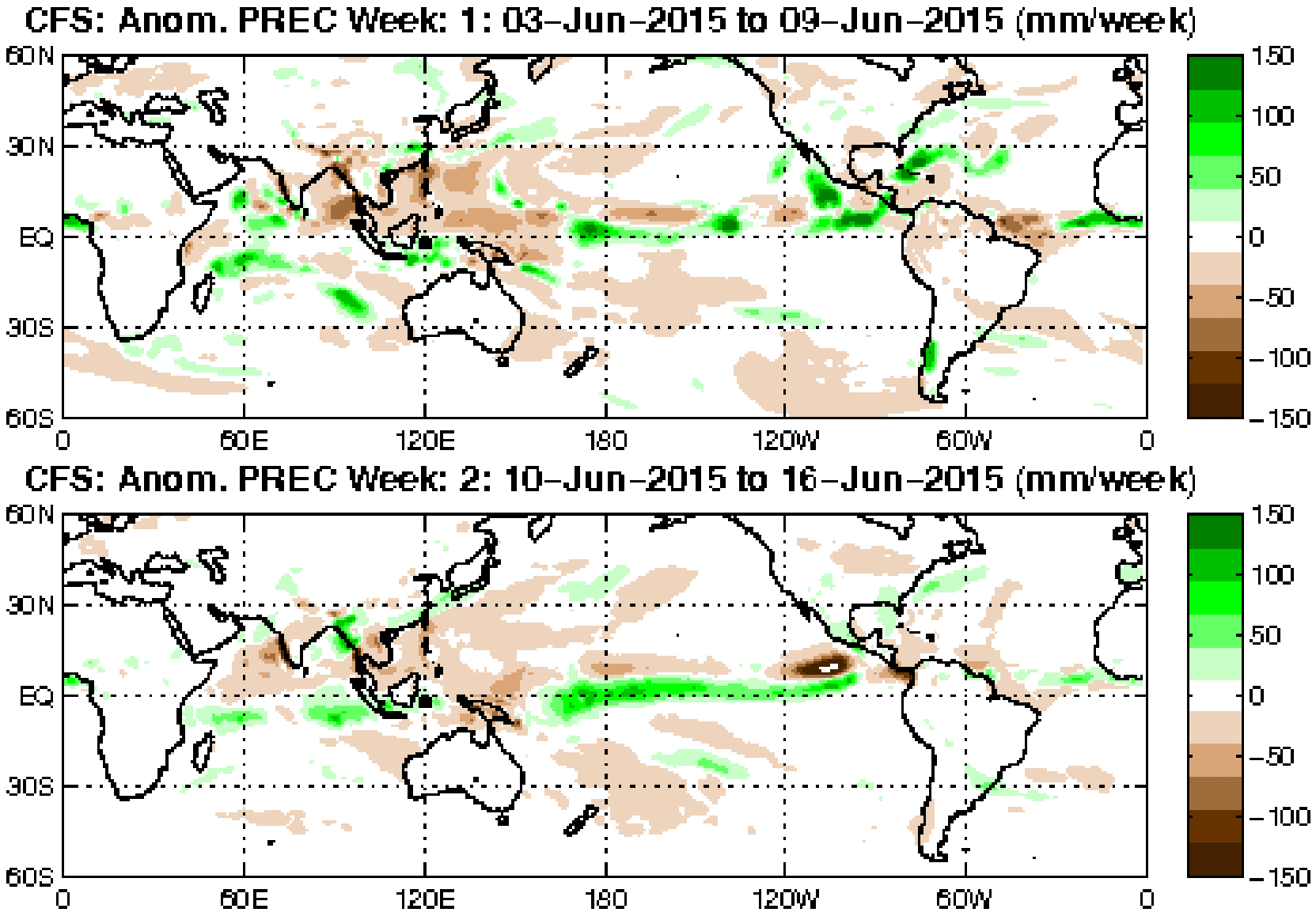
Wheeler-Hendon based analyses of model forecasts are inconsistent with robust MJO activity.

Models indicate convection aligns with phase 1 first, then fades quickly.
Likely tropical cyclone then Kelvin wave activity.

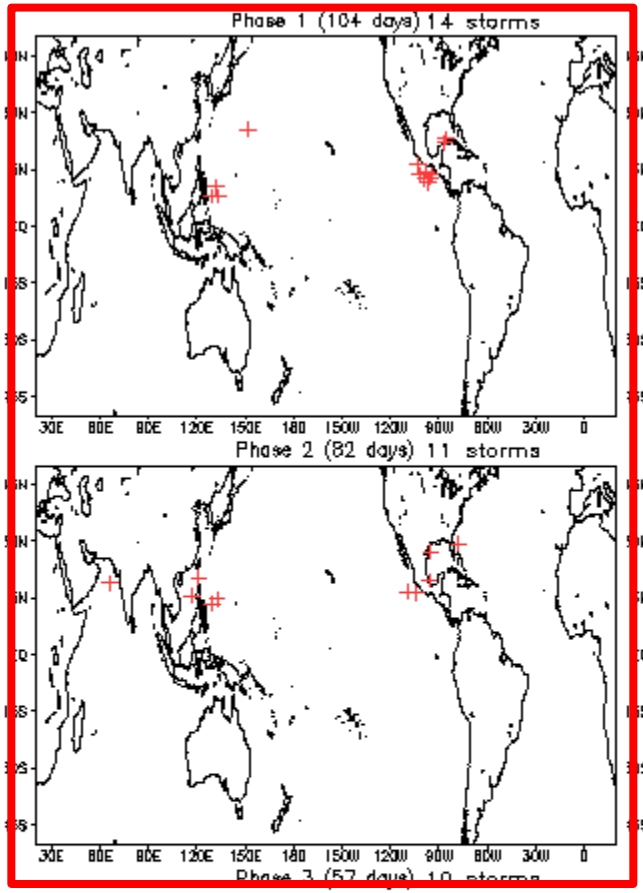
Low frequency is contributing, especially from Date Line to 120W.

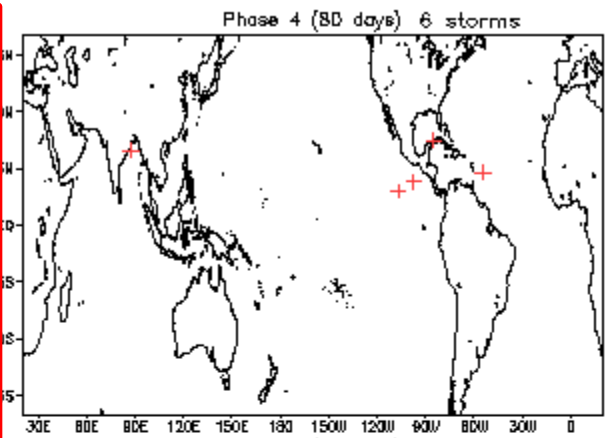


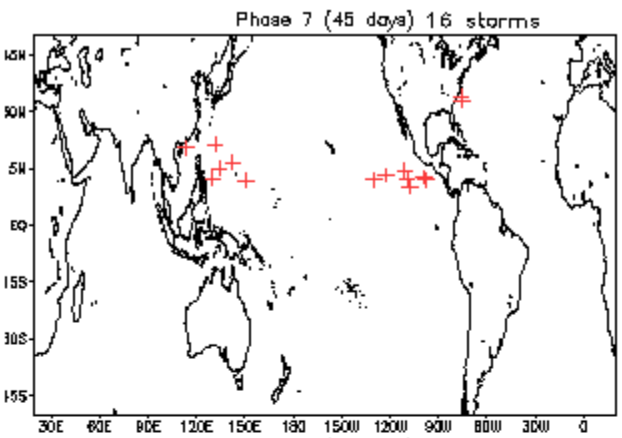
Kelvin Waves to impact the overall pattern, largest impact to Indian Ocean then ePac..

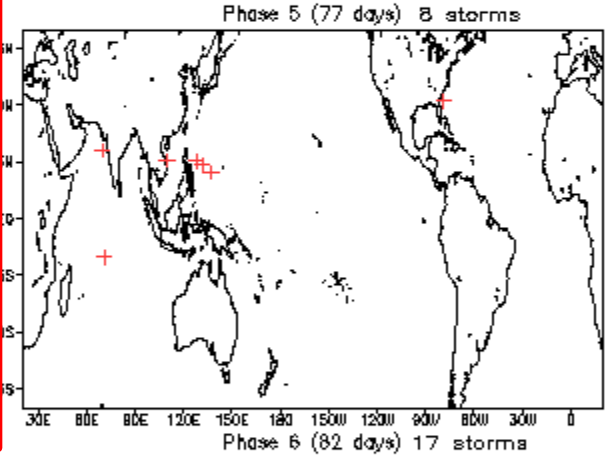

CFS: Anom. PREC Week: 1: 03-Jun-2015 to 09-Jun-2015 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150
CFS: Anom. PREC Week: 2: 10-Jun-2015 to 16-Jun-2015 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150

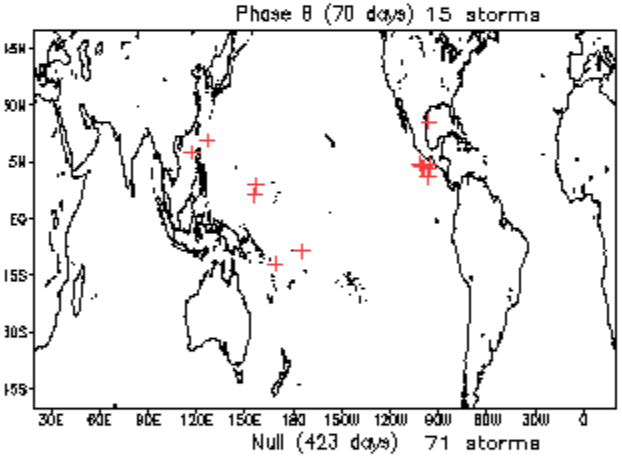
June Tropical Storm Formation by MJO phase

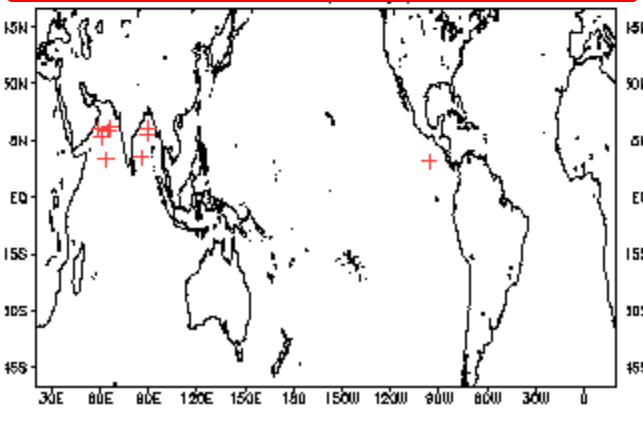


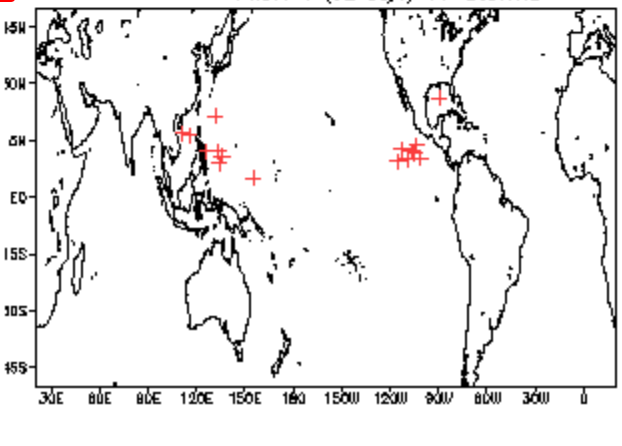


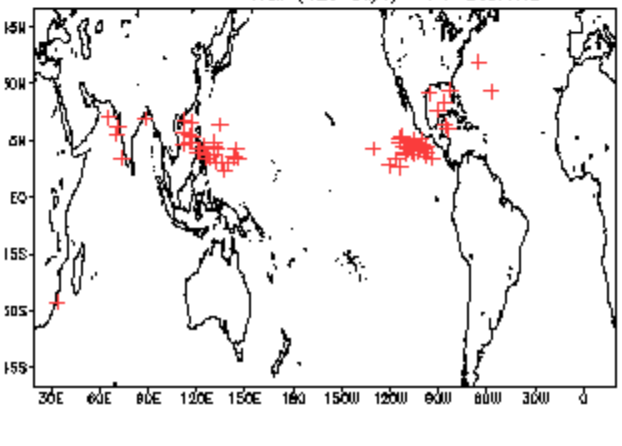


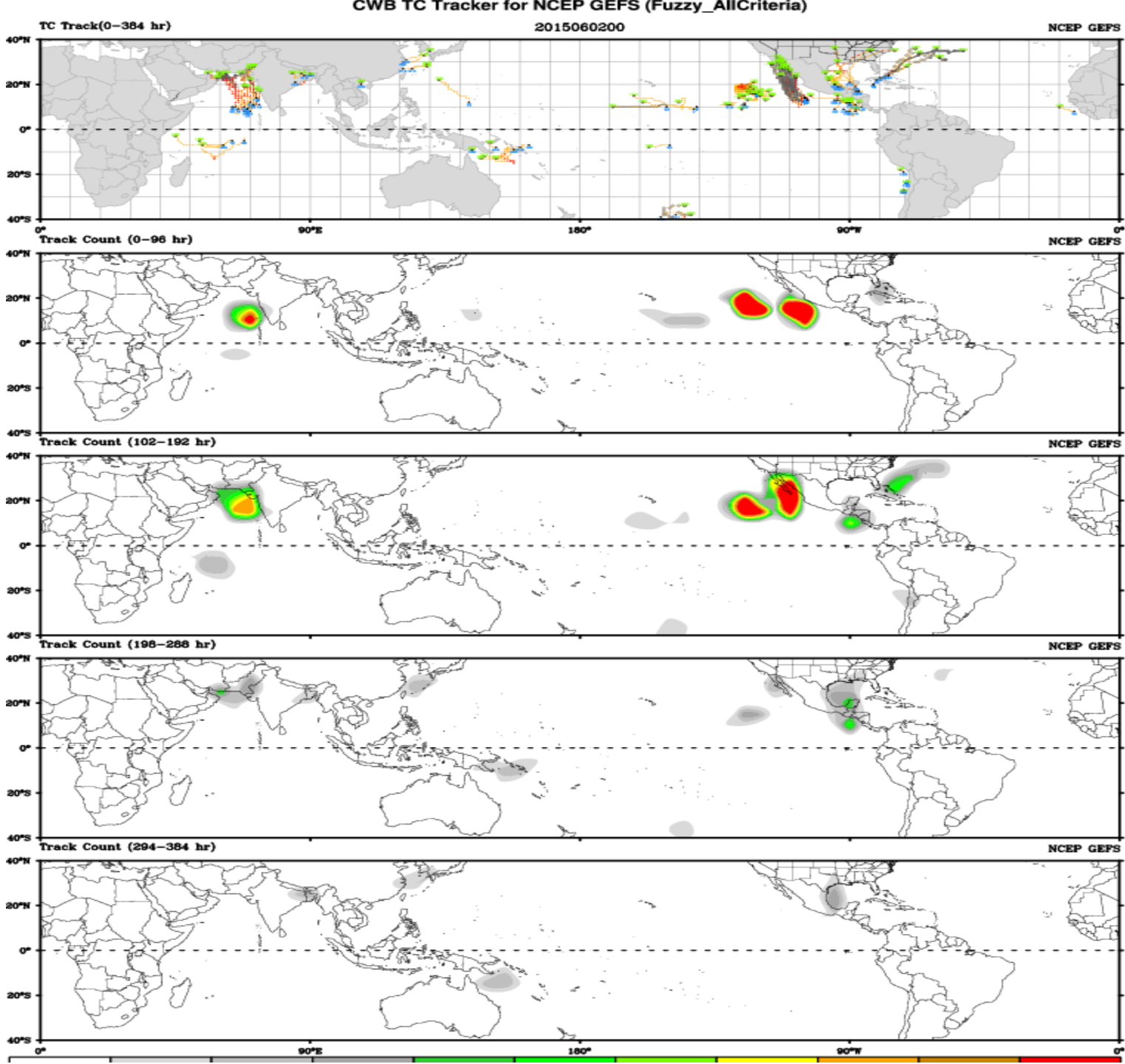












Days 1-4

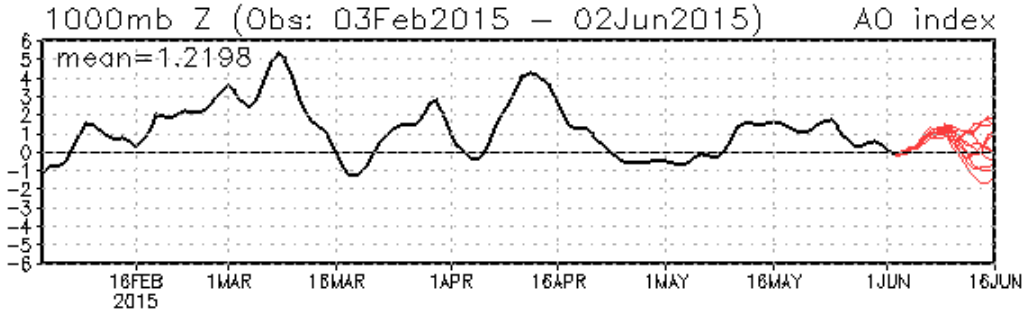
Day 5-8

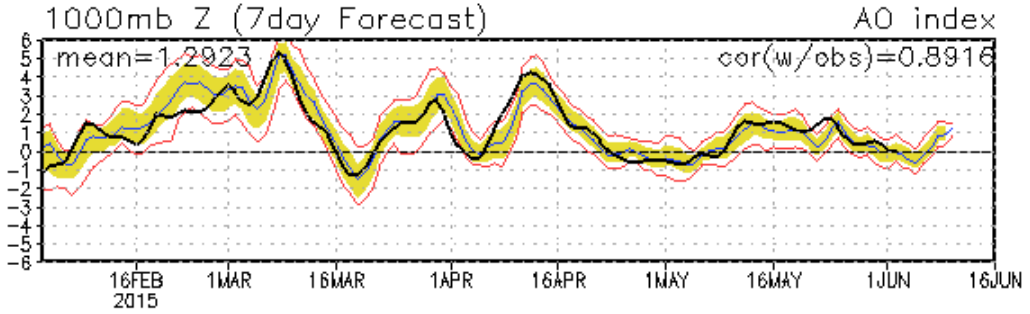
Day 9-12

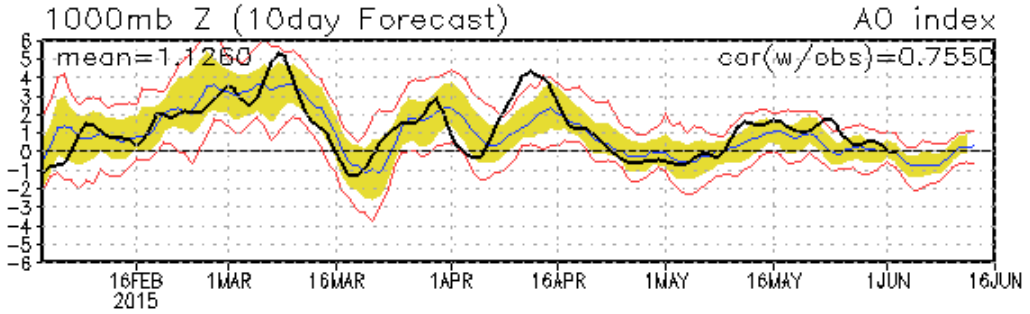
Day 13-15

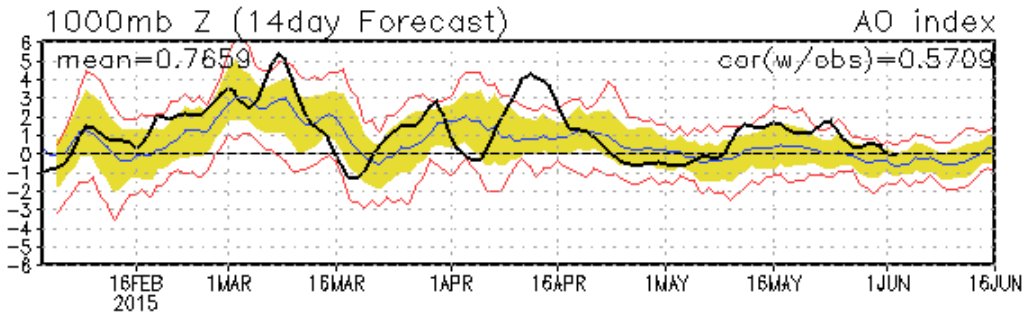
Connections to U.S. Impacts

AO: Observed & ENSM forecasts

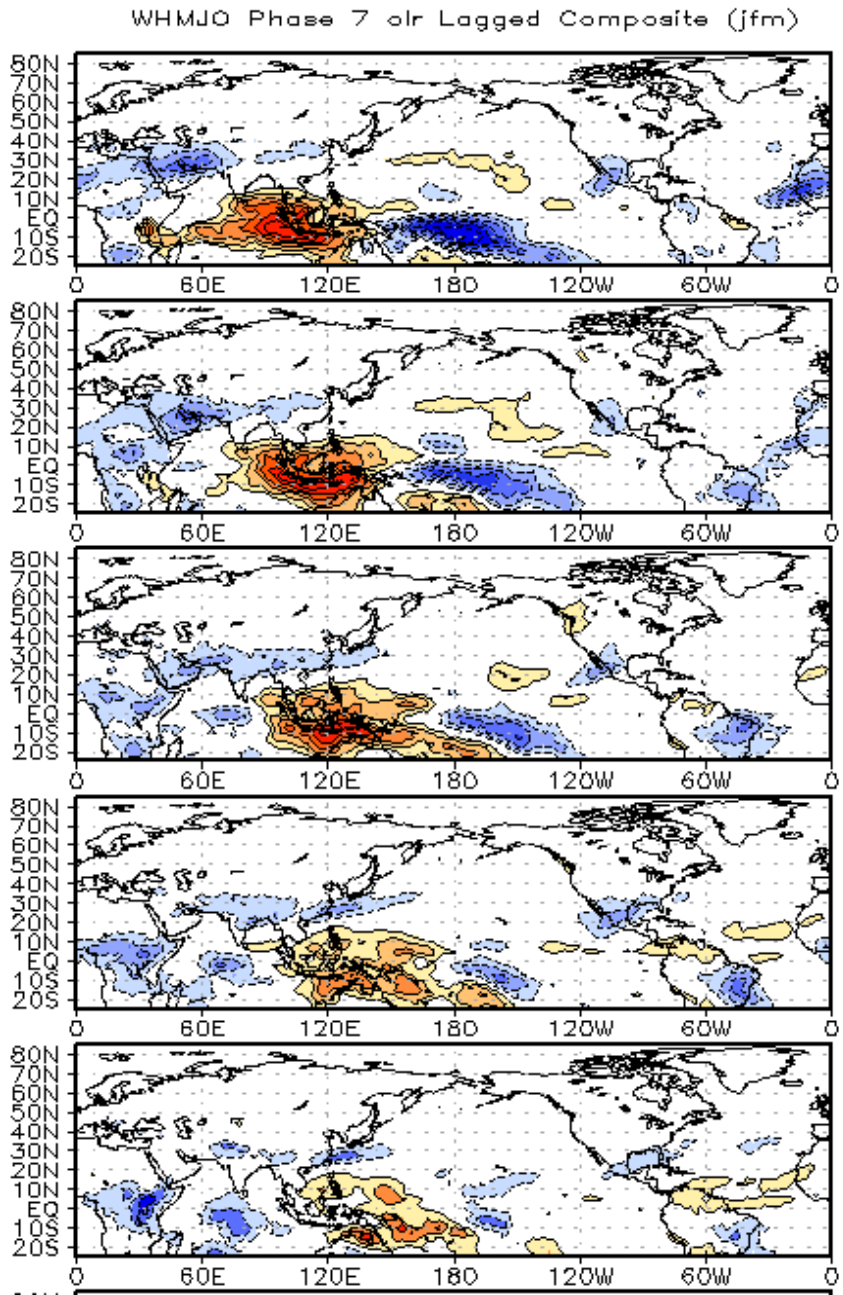








Lagged composites from MJO
5-day intervals

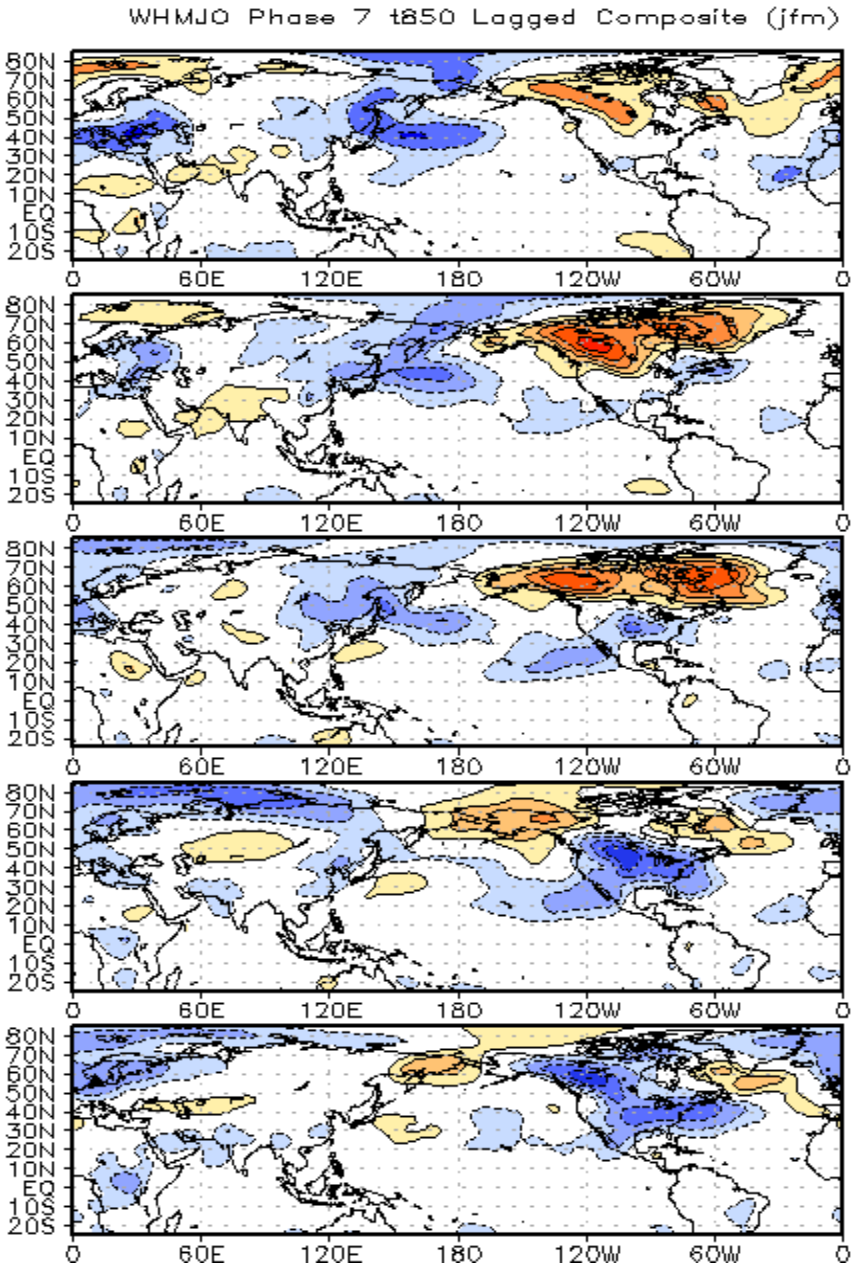


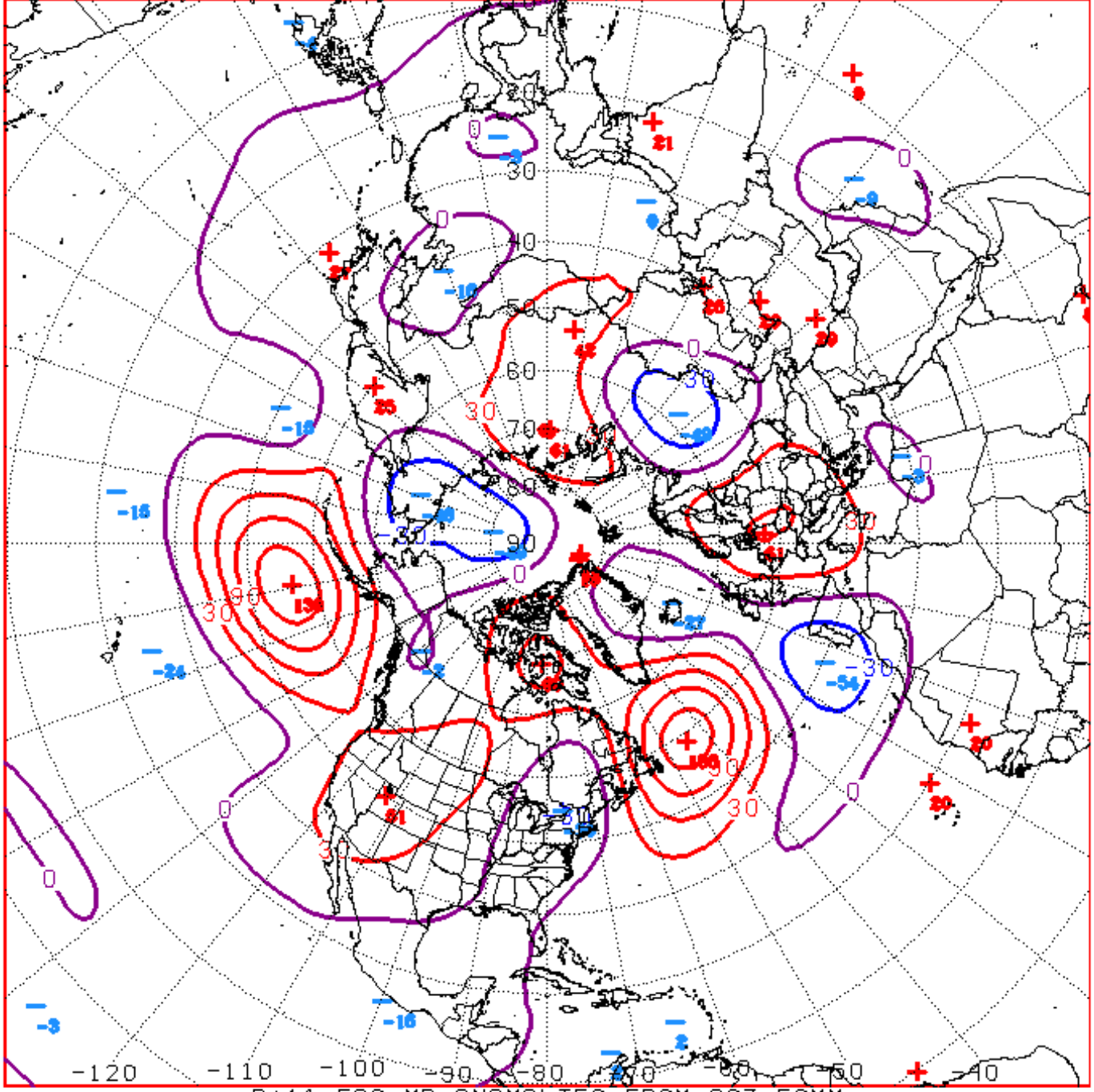
+5-day

+10-day

+15-day

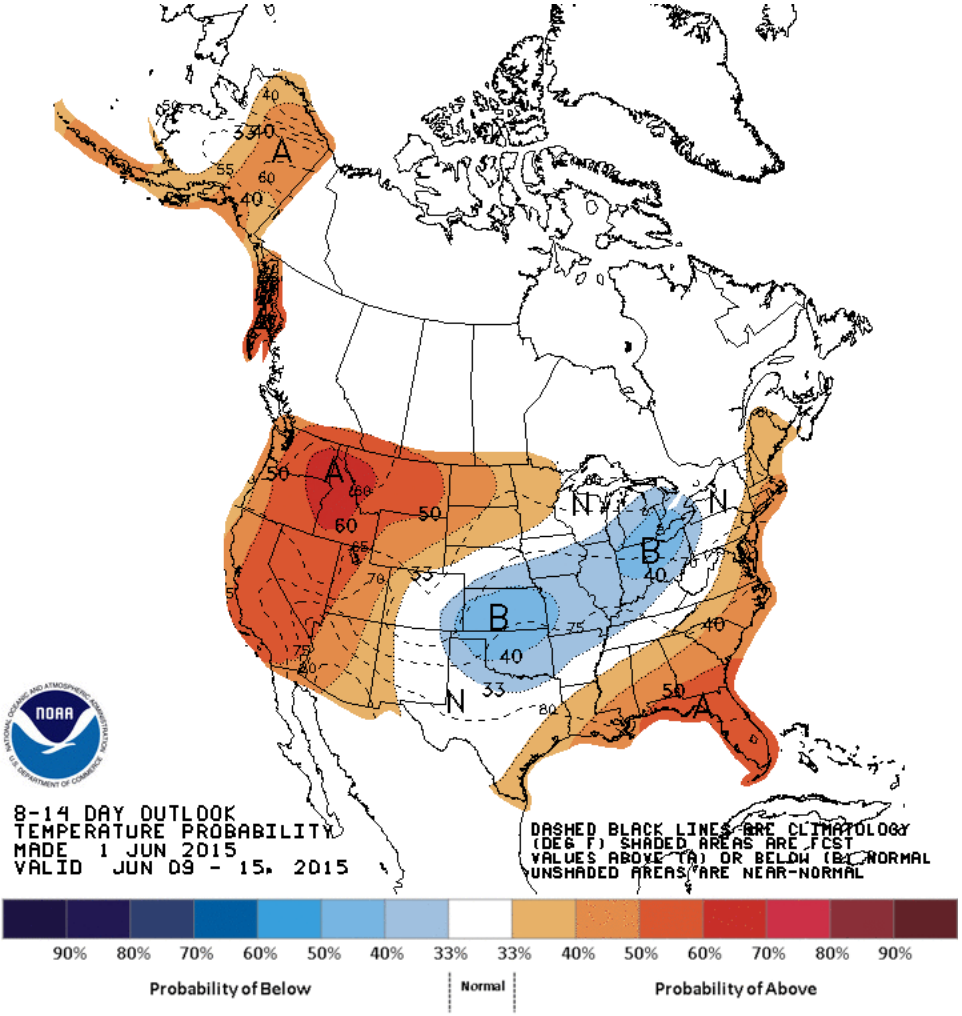
+20-day

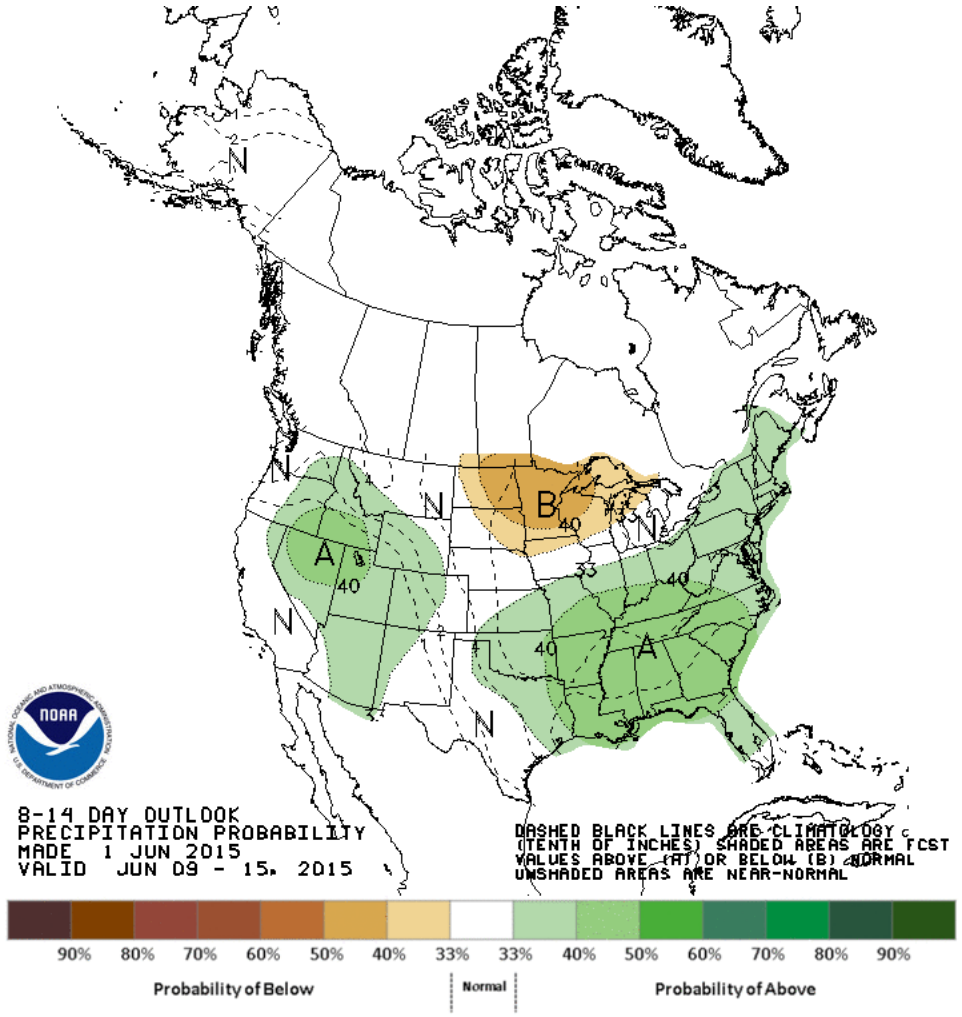




D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE JUN 02 2015 1028 UTC CNTD JUN 13 2015

Week 2 – Temperature and Precipitation





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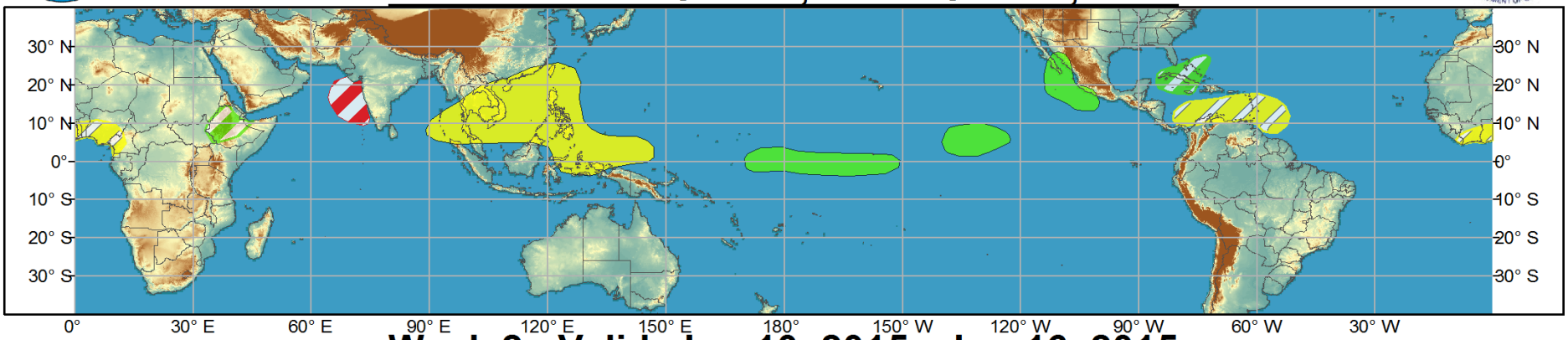

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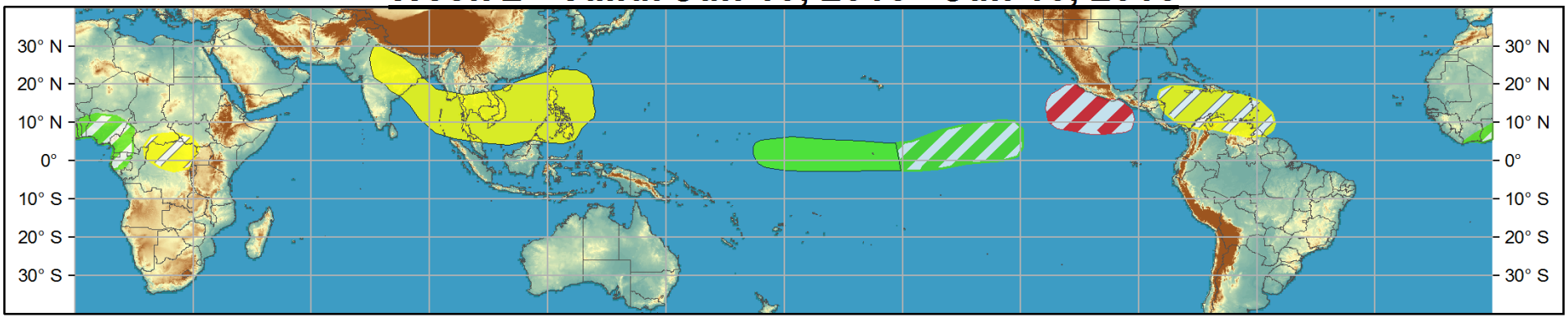

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