

# Global Tropics Hazards And Benefits Outlook

May 27, 2014

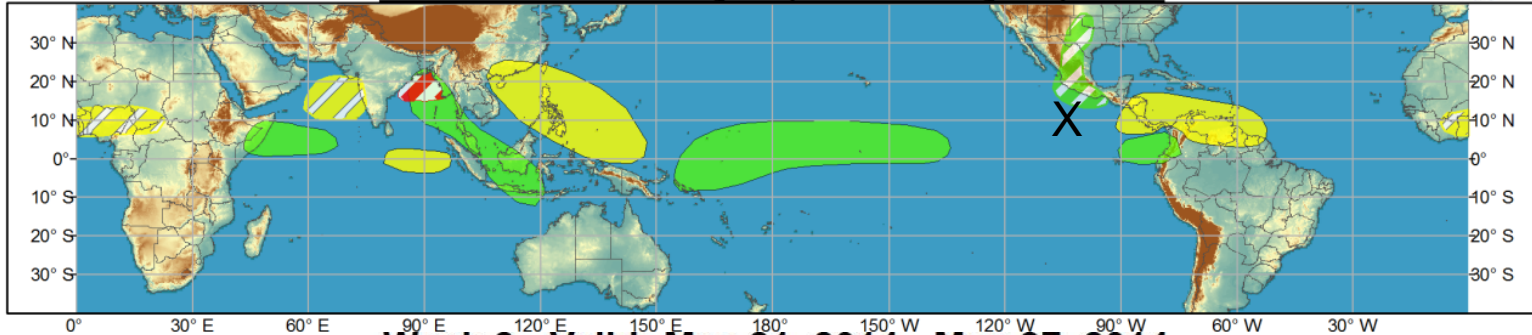
Stephen Baxter

## Outline

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



Week 1 - Valid: May 21, 2014 - May 27, 2014

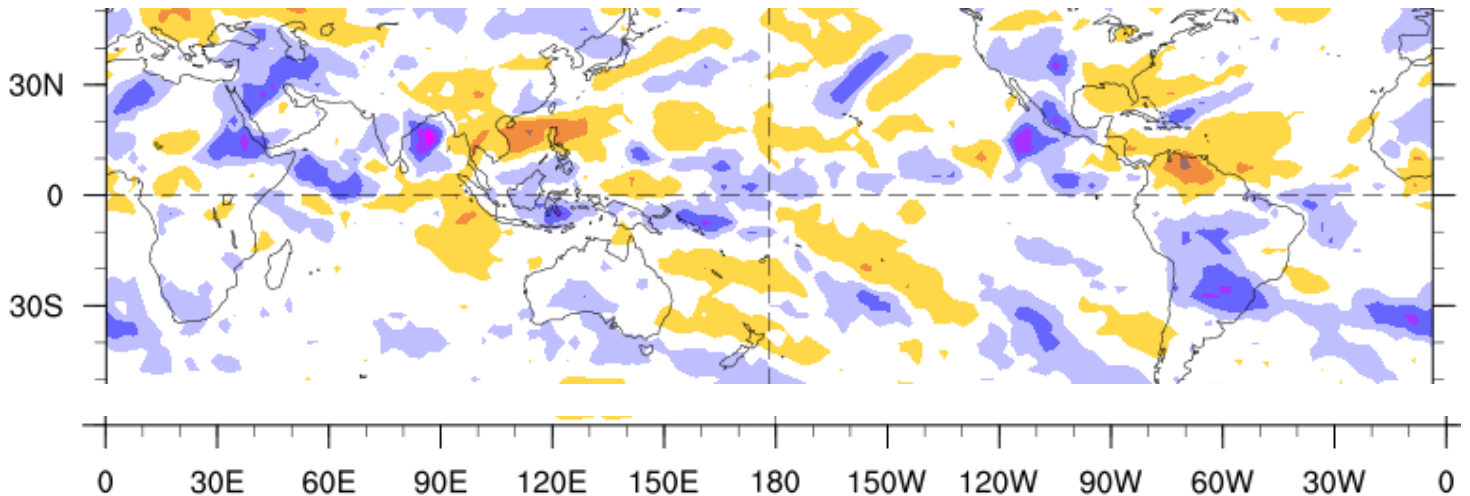


Week 2 - Valid: May 21, 2014 - May 27, 2014



7-Day Average OLR Anomaly

2014/05/19 - 2014/05/25



# Outlook Review

Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

## ENSO:

- Chance of El Niño increases during the remainder of the year, exceeding 65% during summer.

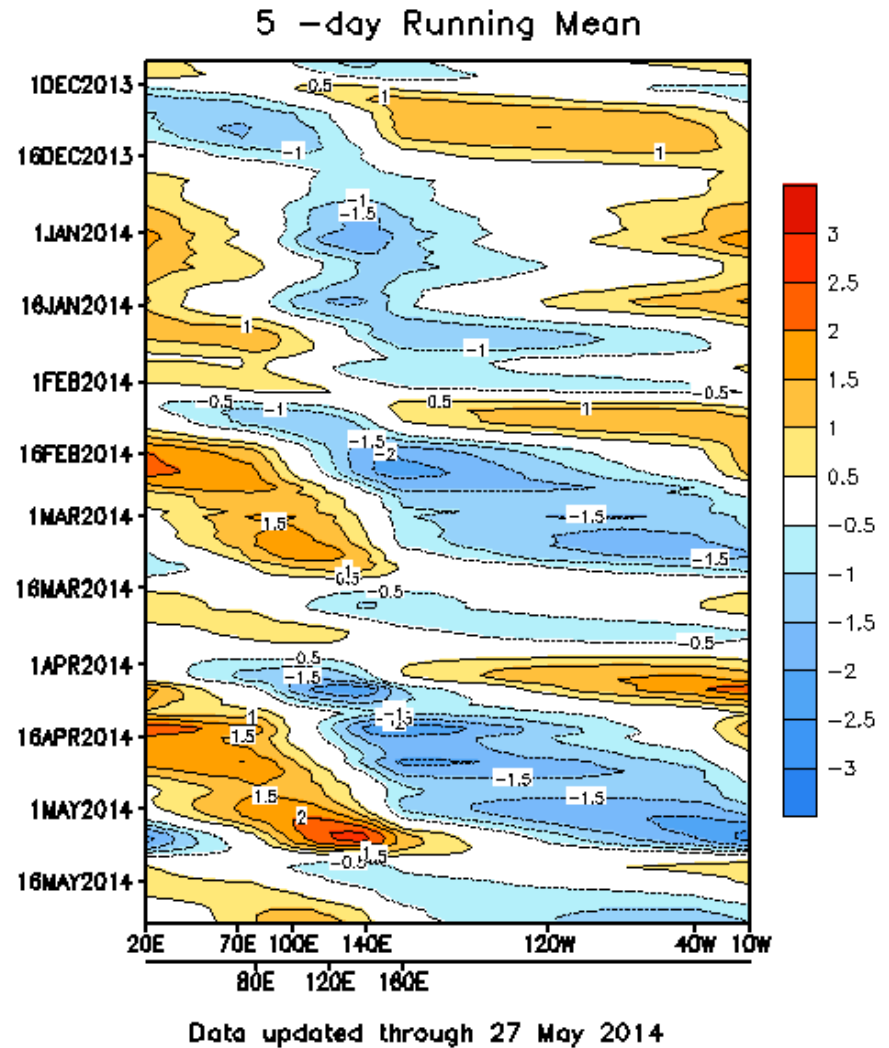
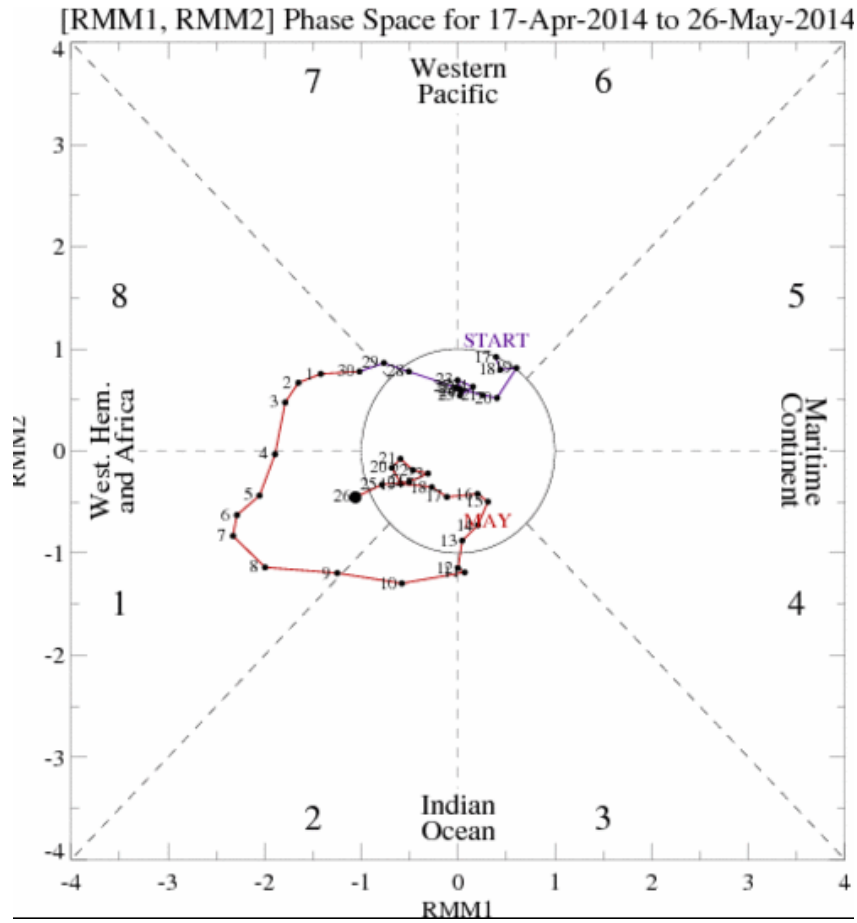
## MJO and other subseasonal tropical variability:

- The MJO has shown signs of reorganization with a new enhanced phase developing over parts of Africa and the Indian Ocean.
- Kelvin wave activity has also been prominent over the past couple of weeks.
- Dynamical tools are split, with the consensus suggesting a weak MJO event propagating eastward from the Indian Ocean.

## Extratropics:

- It is often challenging to discern extratropical impacts from the MJO during the spring and summer seasons. There is some evidence that suggests the MJO enhanced phase over the Indian Ocean weakly supports anomalous ridging centered over the Gulf of Alaska.

# MJO Indices

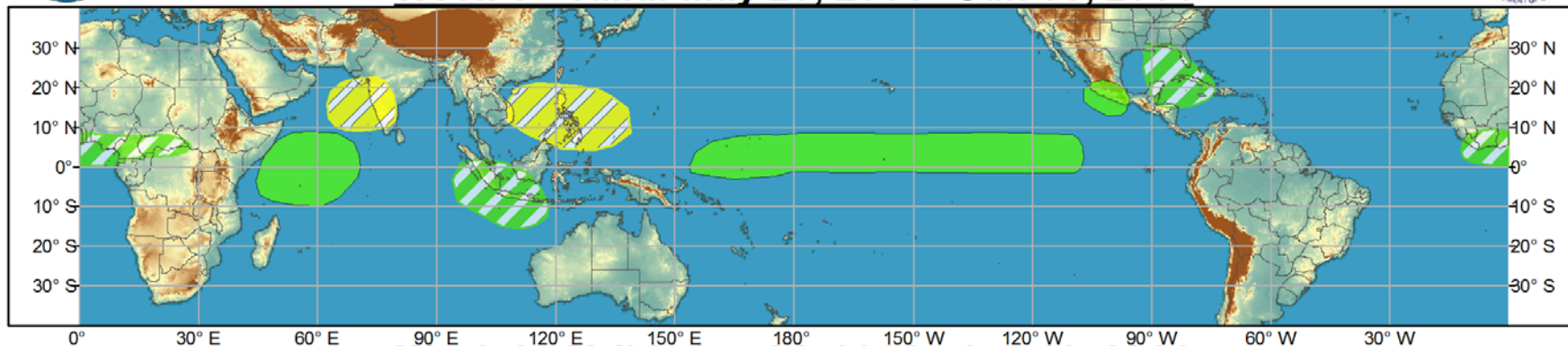




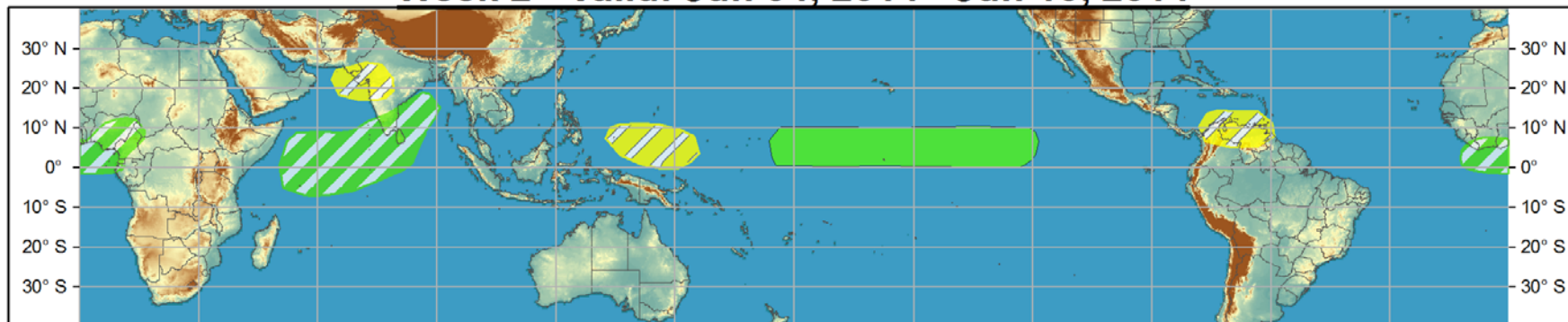
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: May 28, 2014 - Jun 03, 2014













## Week 2 - Valid: Jun 04, 2014 - Jun 10, 2014



Produced: 05/27/2014

Forecaster: Baxter

**Confidence**  
High Moderate

- |                                   |   |  |
|-----------------------------------|---|--|
| <b>Tropical Cyclone Formation</b> |     | Development of a tropical cyclone (tropical depression - TD, or greater strength). |
| <b>Above-average rainfall</b>     |   | Weekly total rainfall in the upper third of the historical range.                  |
| <b>Below-average rainfall</b>     |   | Weekly total rainfall in the lower third of the historical range.                  |
| <b>Above-normal temperatures</b>  |   | 7-day mean temperatures in the upper third of the historical range.                |
| <b>Below-normal temperatures</b>  |   | 7-day mean temperatures in the lower third of the historical range.                |

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.





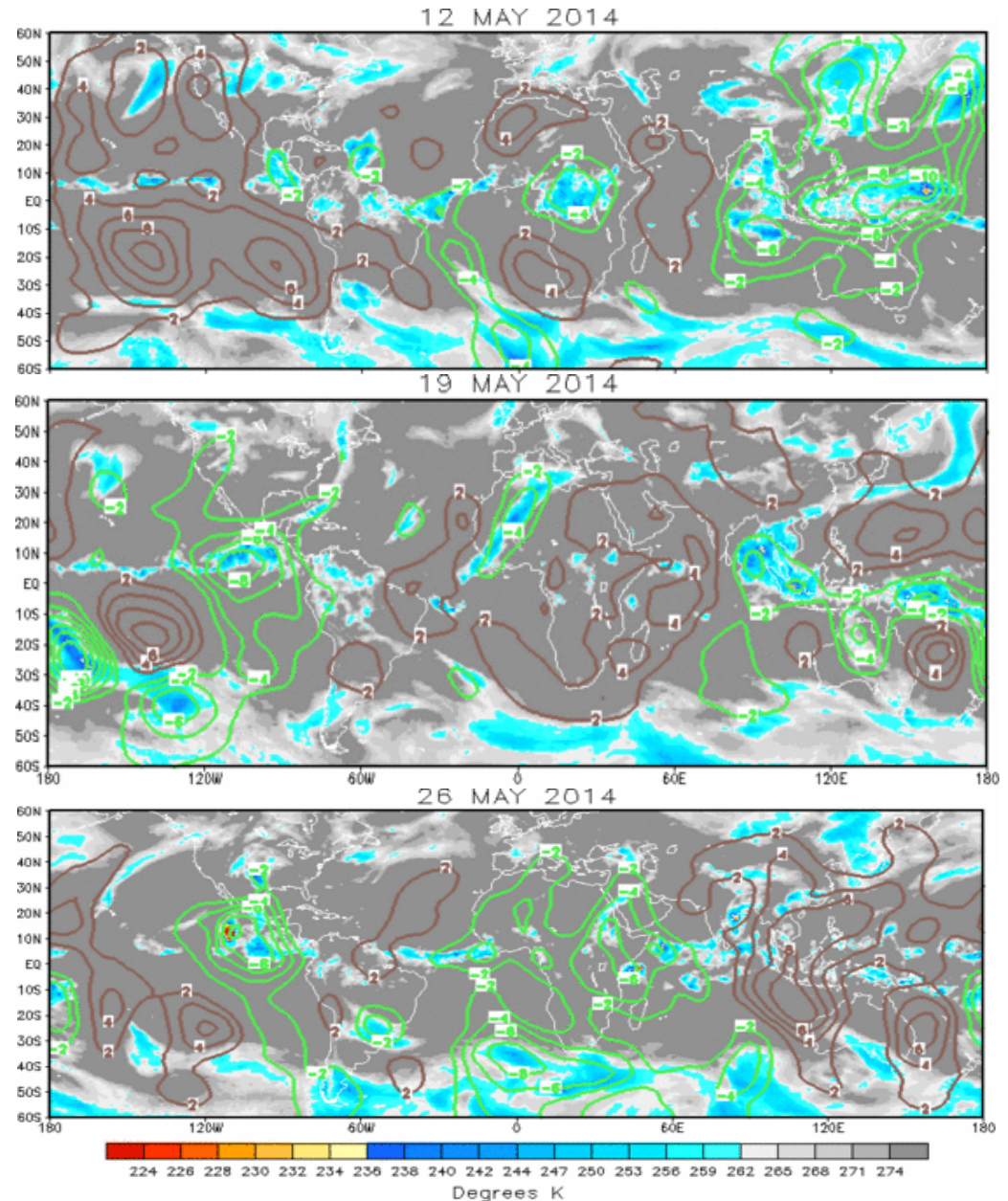
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

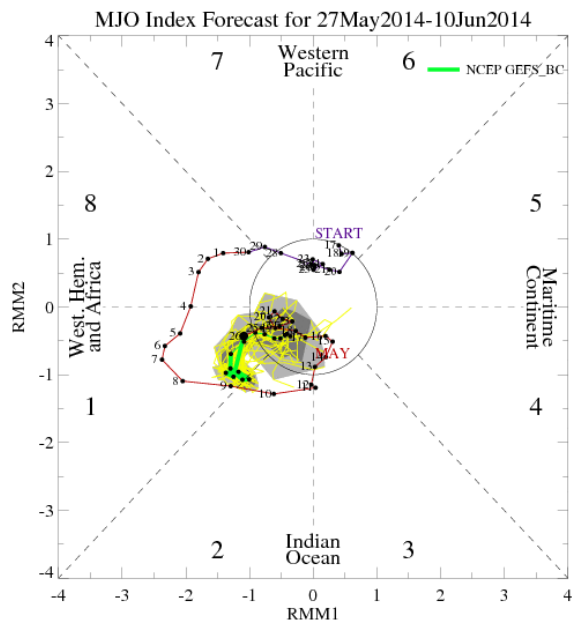
Brown: Enhanced Convergence

Features of note:

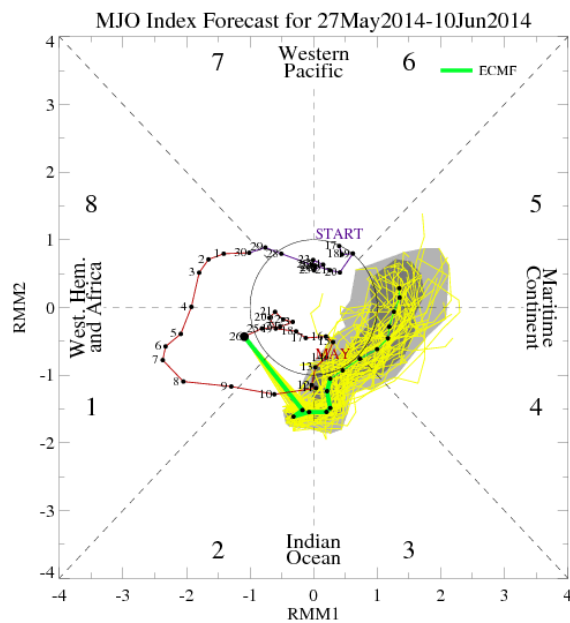
1. Rapid eastward propagation associated with Kelvin wave activity.
2. Tendency for convection over the warmer-than-normal SSTs across the equatorial Pacific.
3. Recent reorganization across the Eastern Hemisphere, possibly related to a new MJO event.



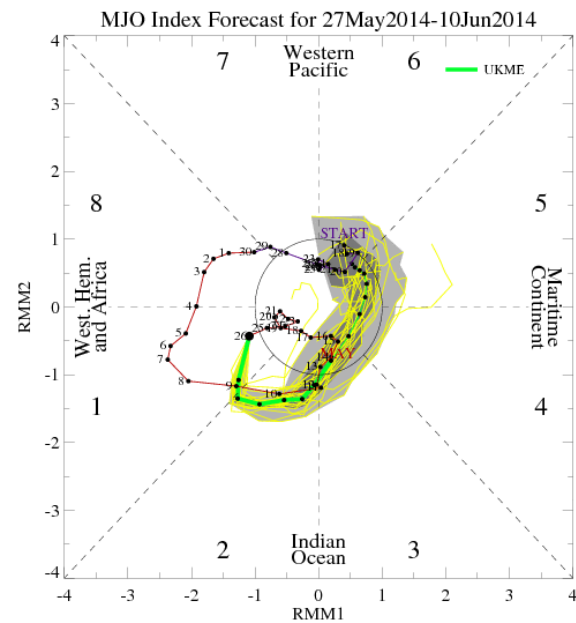
# MJO Observation/Forecast



GFS

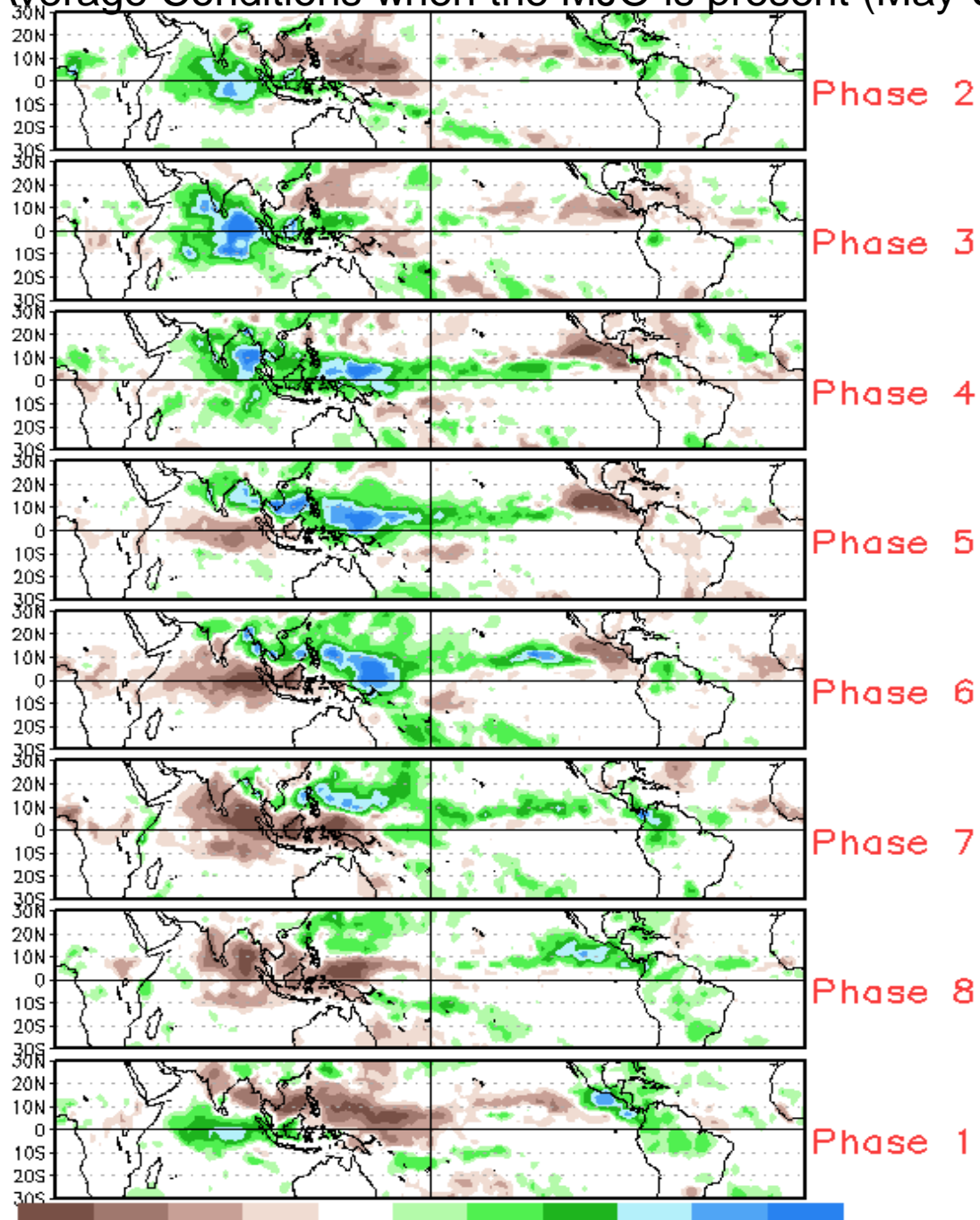


ECMWF



UKMET

# Average Conditions when the MJO is present (May-Sep)



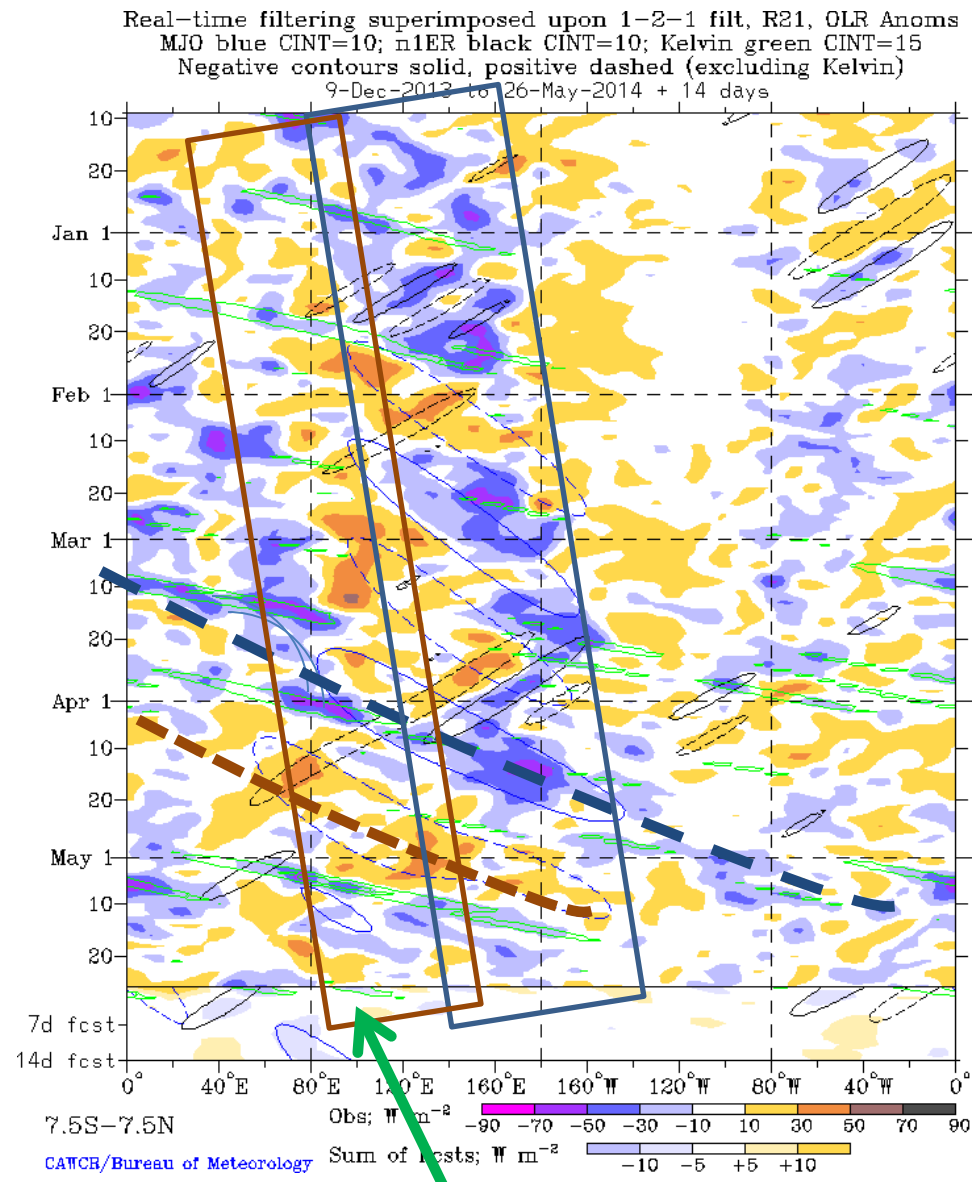


Active MJO pattern  
(dashed/dotted lines)

Low frequency base state  
(boxes)

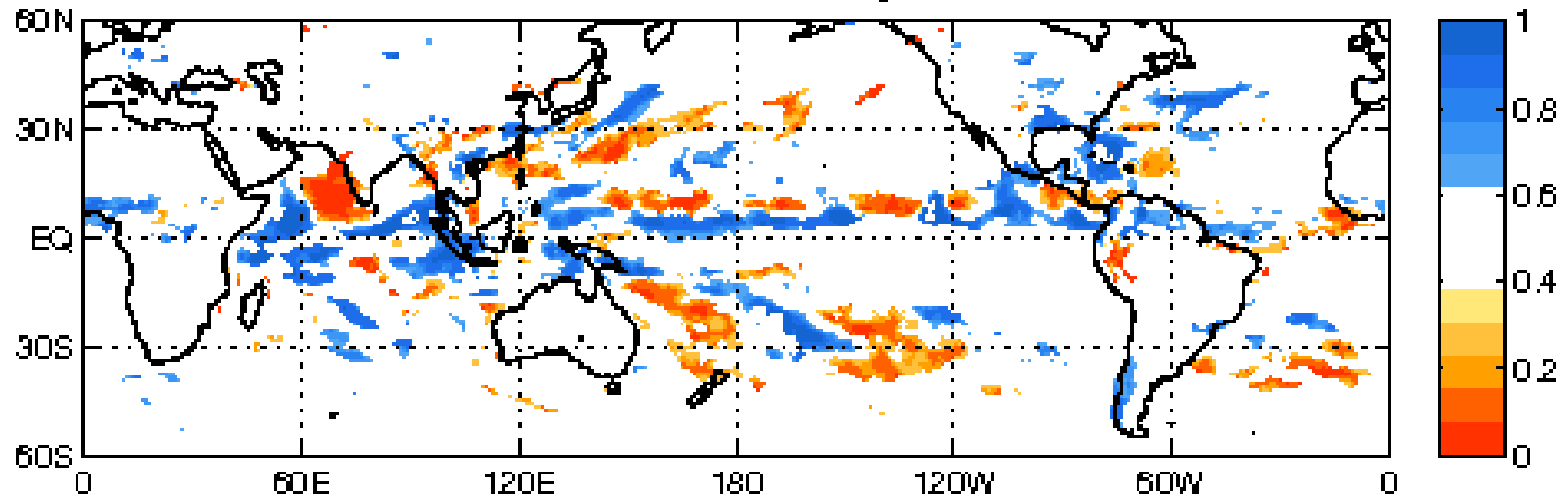
The low frequency signal has  
been modulated by subseasonal  
signals (e.g., MJO, Kelvin  
Waves)

There appears to an emerging  
signal over Africa and the  
western Indian Ocean. It is  
unclear whether that signal will  
be dissipated entirely by Kelvin  
waves or whether a more  
organized MJO will ensue.

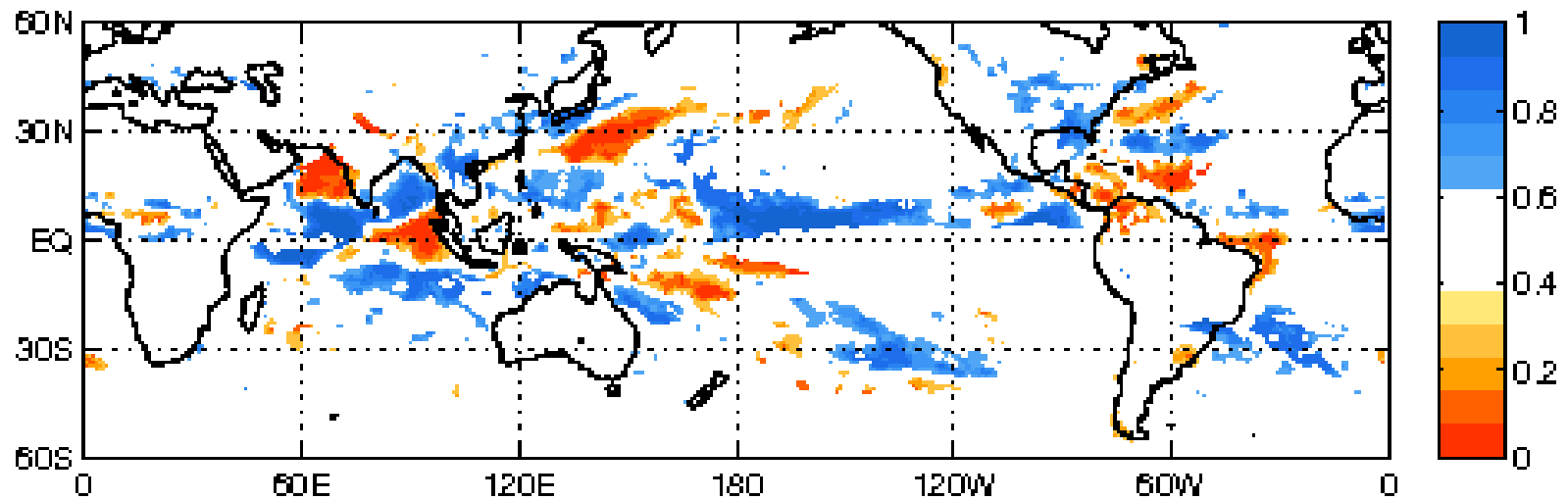


Note the Kelvin Wave activity

**CFS Prob. Fcst PREC Week1: 27-May-2014 to 02-Jun-2014**

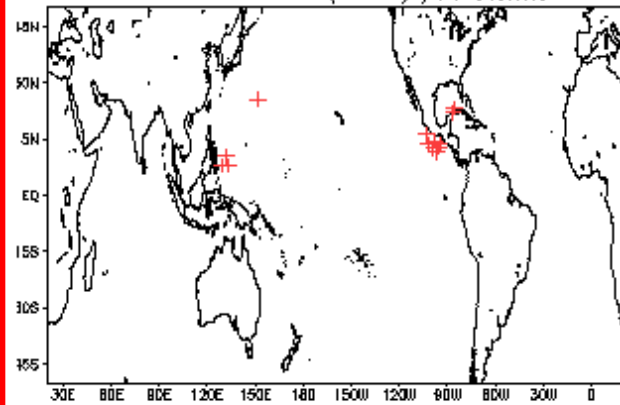


**CFS Prob. Fcst PREC Week2: 03-Jun-2014 to 09-Jun-2014**

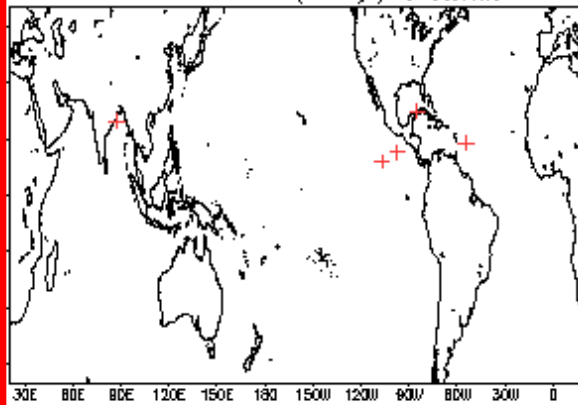


# June Tropical Storm Formation by MJO phase

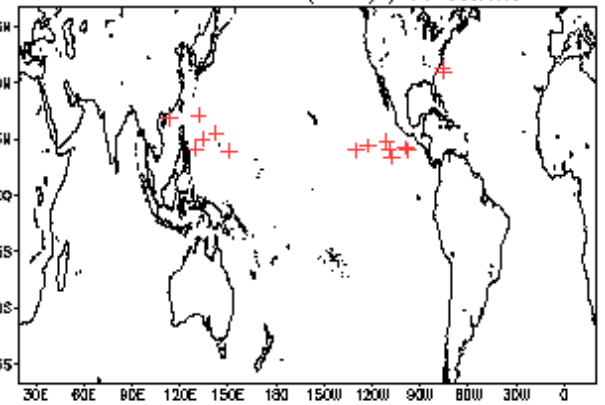
Phase 1 (104 days) 14 storms



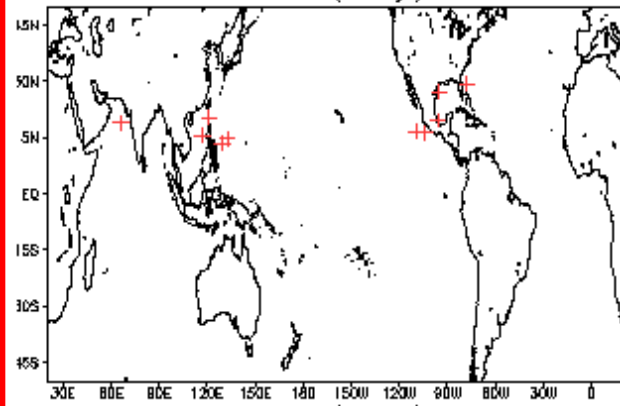
Phase 4 (80 days) 6 storms



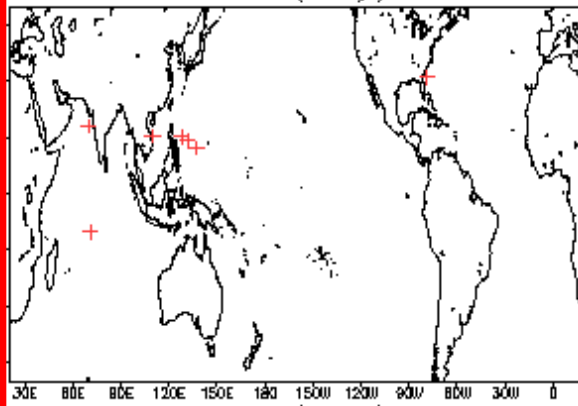
Phase 7 (45 days) 16 storms



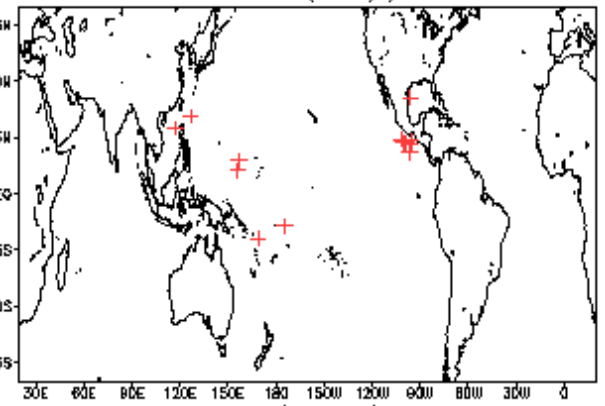
Phase 2 (82 days) 11 storms



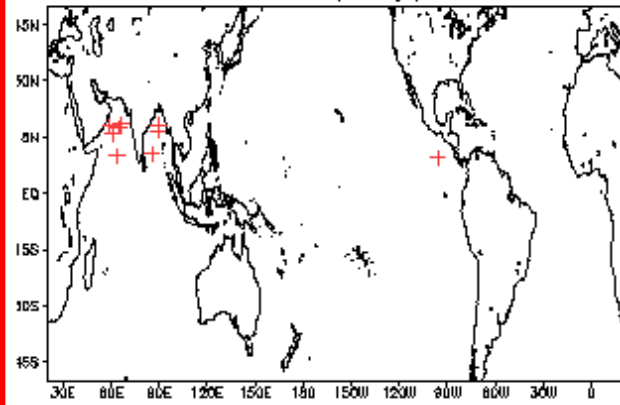
Phase 5 (77 days) 8 storms



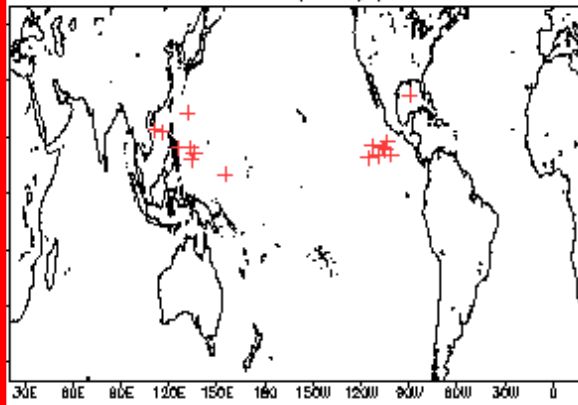
Phase 8 (70 days) 15 storms



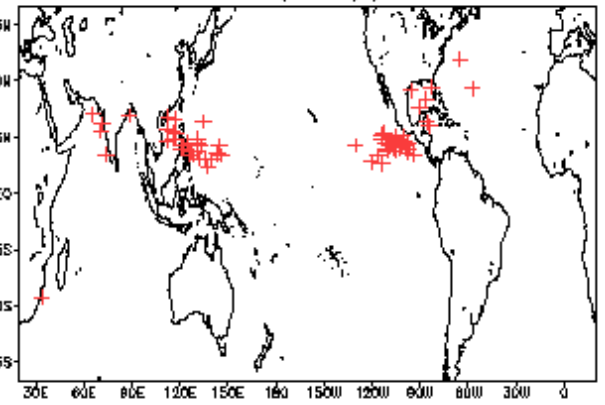
Phase 3 (57 days) 10 storms



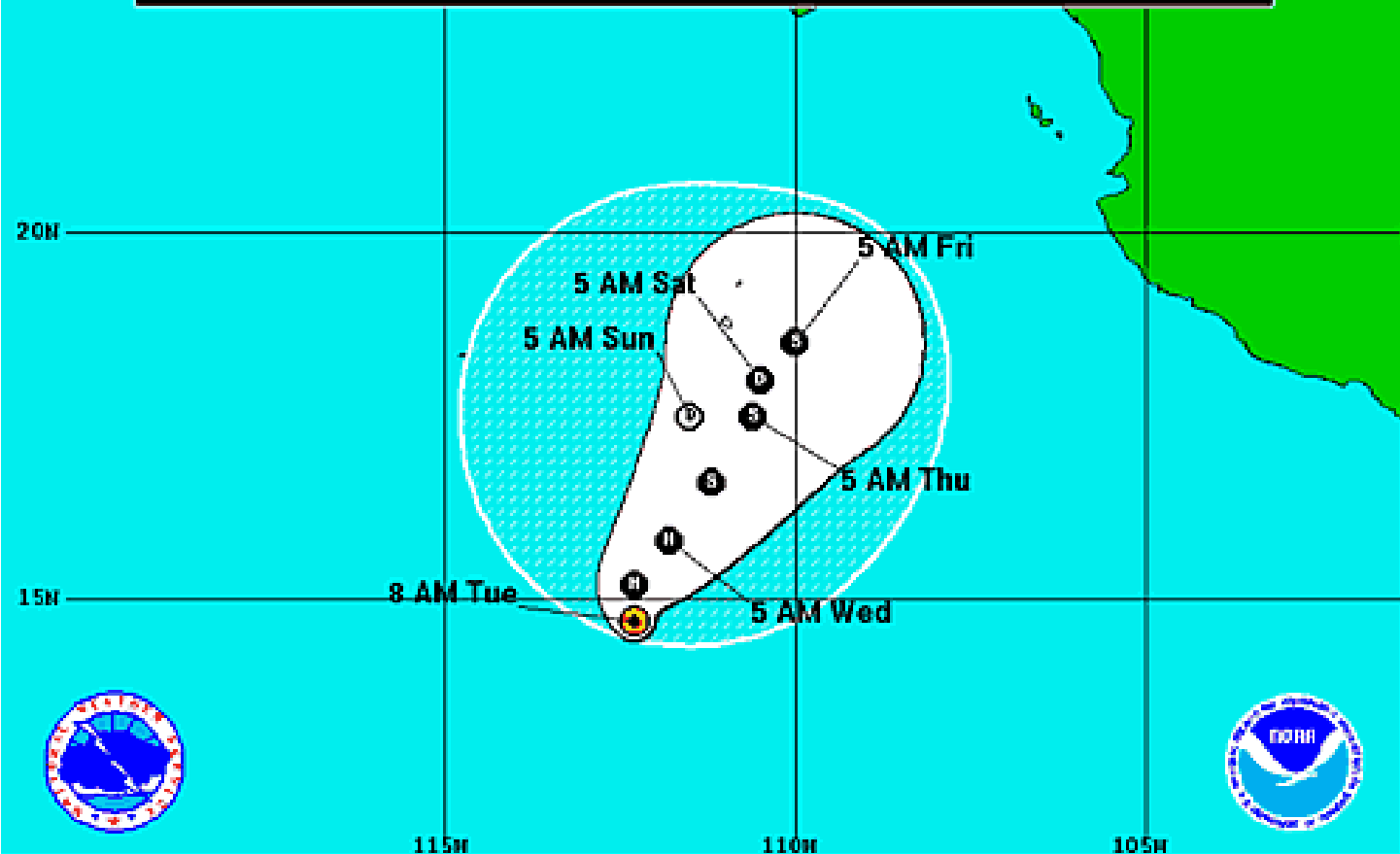
Phase 6 (82 days) 17 storms



Null (423 days) 71 storms



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



**Hurricane Amanda**  
*Thursday May 27, 2014*  
*8 AM PDT Advisory 20*  
 NWS National Hurricane Center

**Current Information:** ●  
 Center Location 14.7 N 112.3 W  
 Max Sustained Wind 120 mph  
 Movement NNW at 6 mph

**Forecast Positions:**  
 ● Tropical Cyclone ○ Post-Tropical  
 Sustained Winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110mph

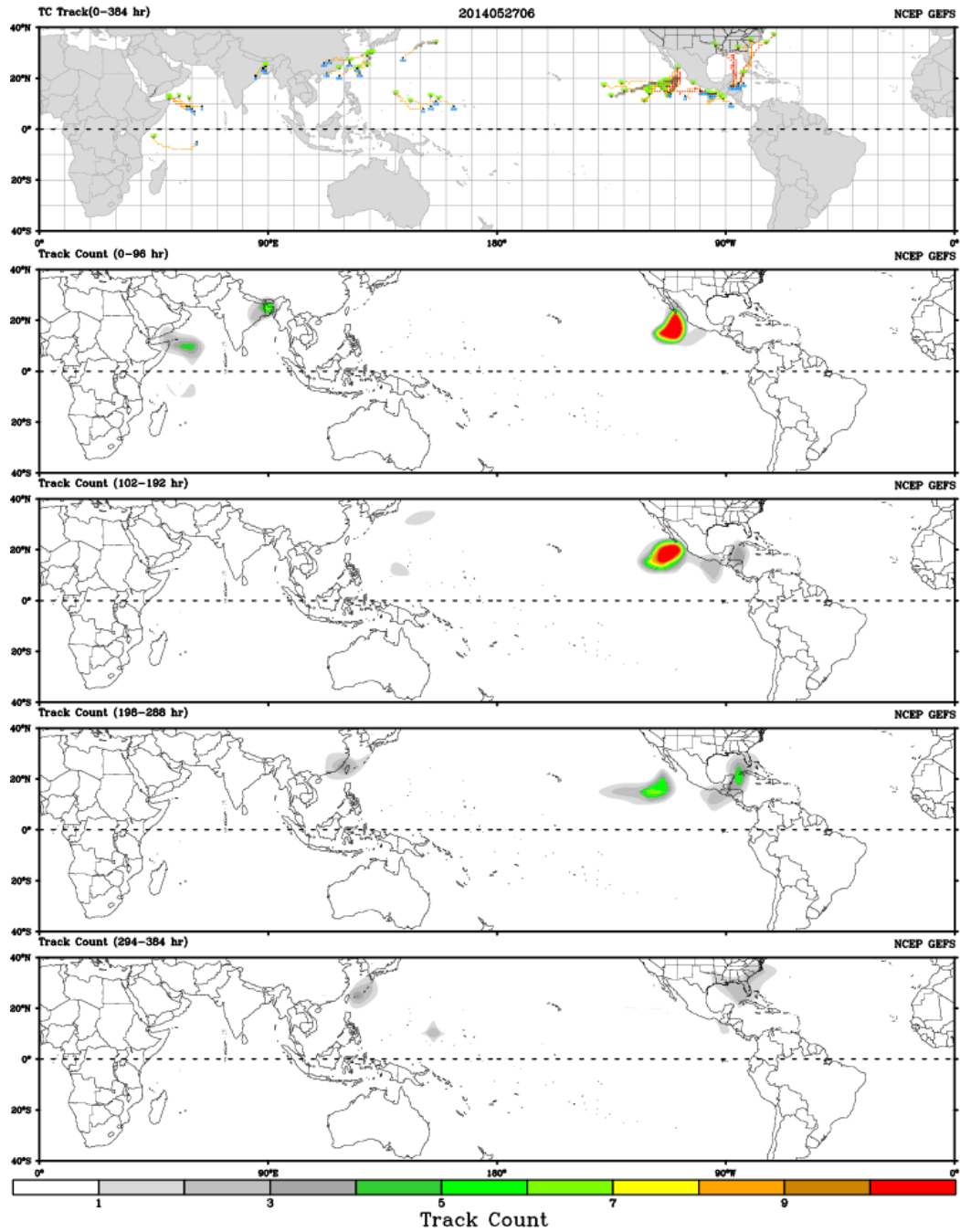
**Potential Track Area:**  
 Day 1-3 Day 4-5

**Watches:**  
 Hurricane Trop.Storm

**Warnings:**  
 Hurricane Trop.Storm



CWB TC Tracker for NCEP GEFS (Fuzzy\_AllCriteria)



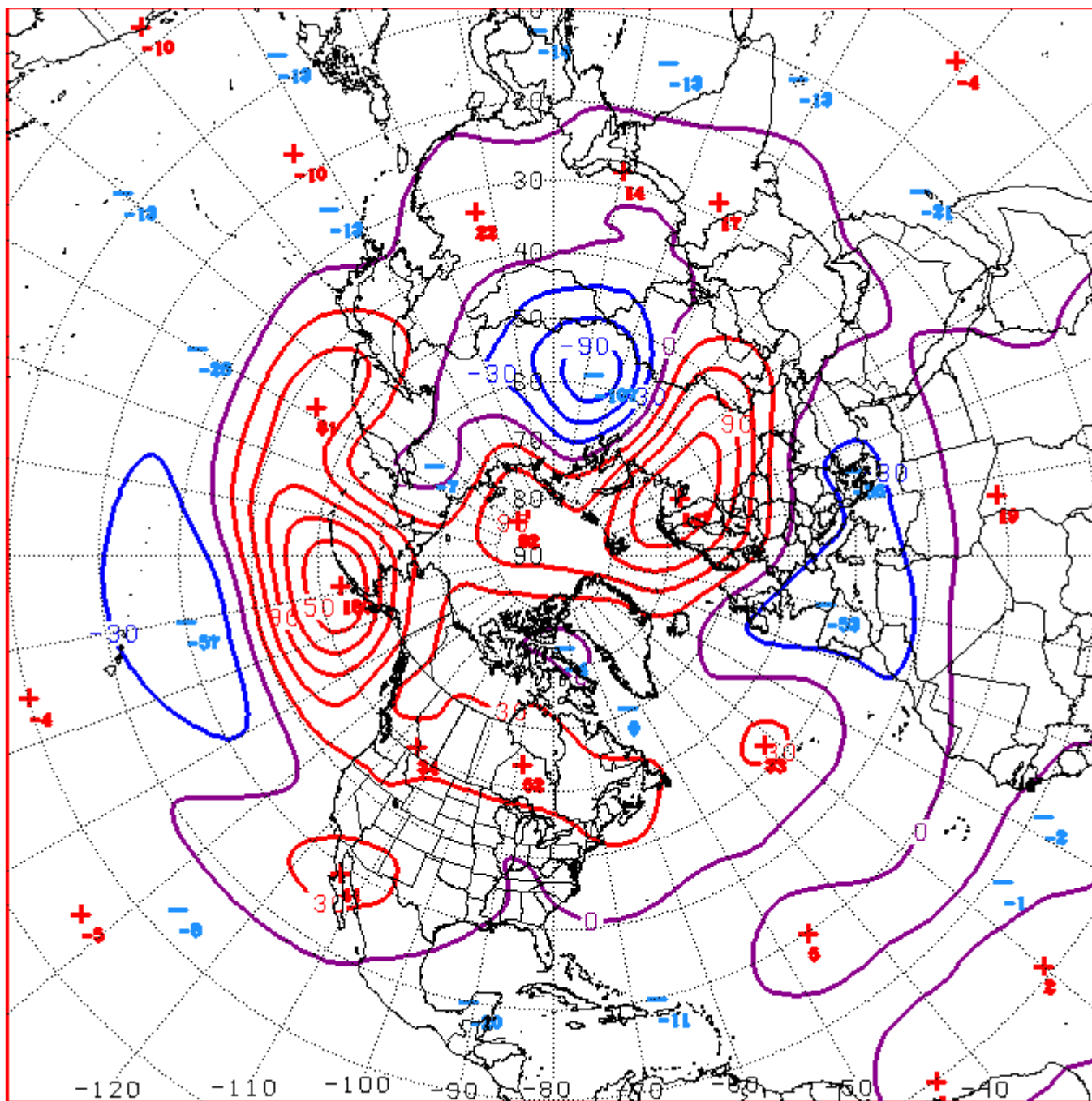
Days 1-4

Days 5-8

Days 9-12

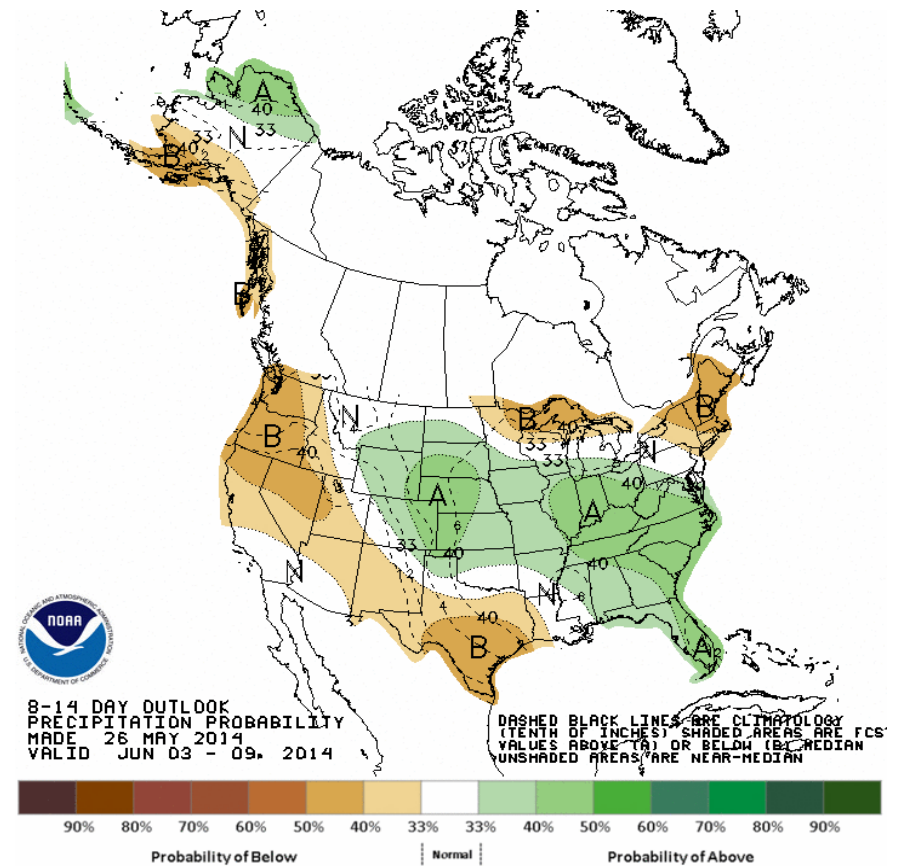
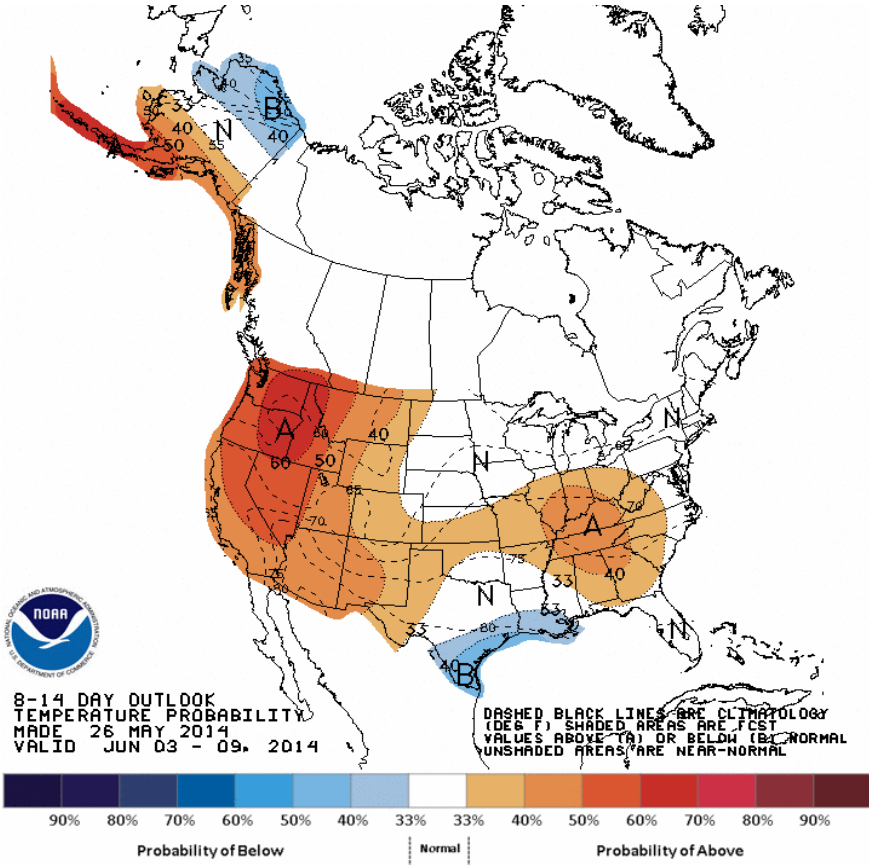
Days 13-16

# Connections to U.S. Impacts



D+11 500 MB ANOMALIES FROM 00Z ECMM  
 CPC MAP MADE MAY 27 2014 1049 UTC CNTD JUN 07 2014

# Week 2 – Temperature and Precipitation



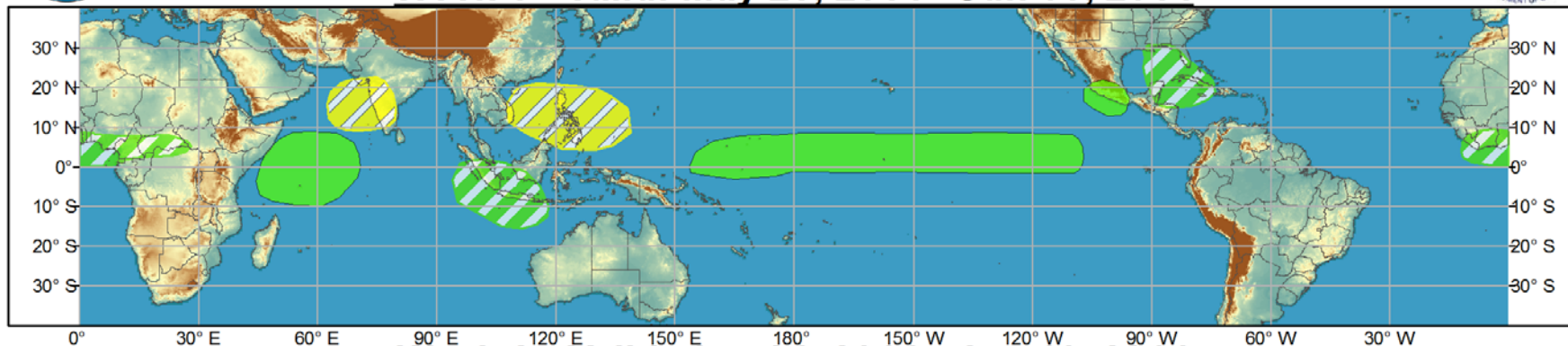




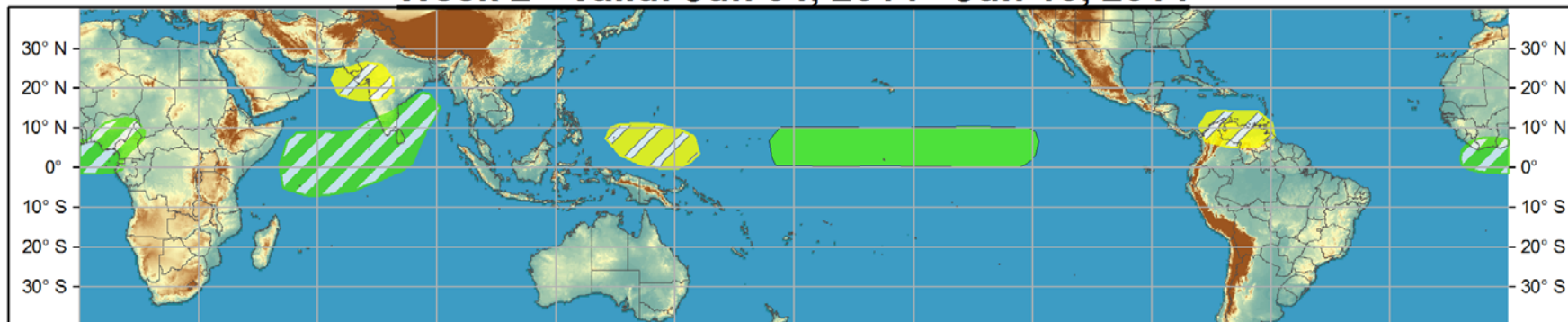
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center













## Week 1 - Valid: May 28, 2014 - Jun 03, 2014



## Week 2 - Valid: Jun 04, 2014 - Jun 10, 2014



**Confidence**  
High Moderate

- |                                   |   |   |  |
|-----------------------------------|---|---|--|
| <b>Tropical Cyclone Formation</b> |   |   | Development of a tropical cyclone (tropical depression - TD, or greater strength). |
| <b>Above-average rainfall</b>     |  |  | Weekly total rainfall in the upper third of the historical range.                  |
| <b>Below-average rainfall</b>     |  |  | Weekly total rainfall in the lower third of the historical range.                  |
| <b>Above-normal temperatures</b>  |  |  | 7-day mean temperatures in the upper third of the historical range.                |
| <b>Below-normal temperatures</b>  |  |  | 7-day mean temperatures in the lower third of the historical range.                |

Produced: 05/27/2014

Forecaster: Baxter

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.

