

# Global Tropics Hazards and Benefits Outlook

December 10, 2013

Jon Gottschalck

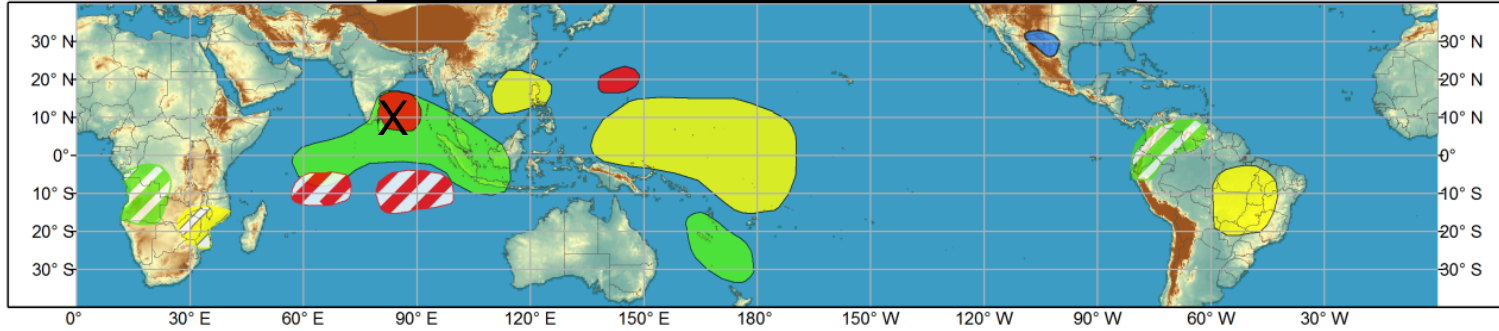
## Outline

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

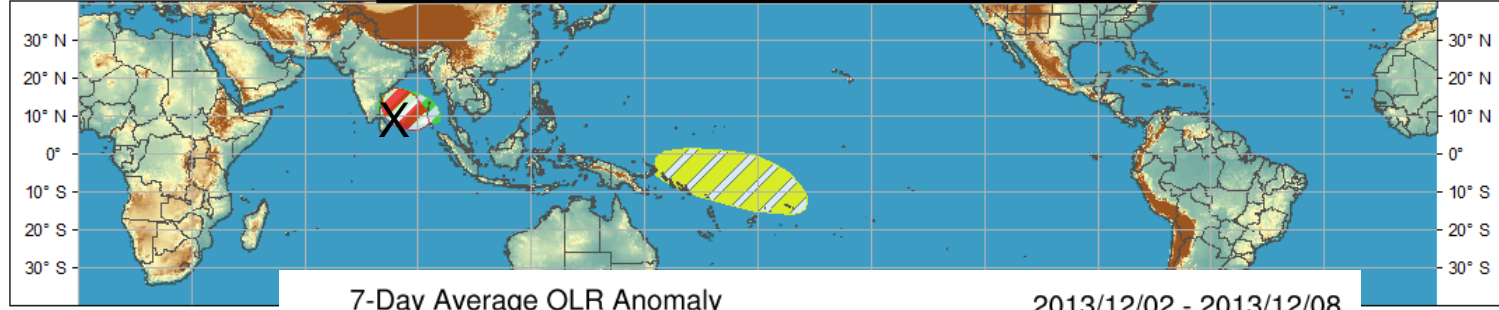
# Outlook Review



**Week 1 - Valid: Dec 04, 2013 - Dec 10, 2013**

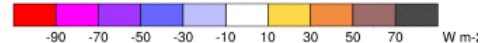
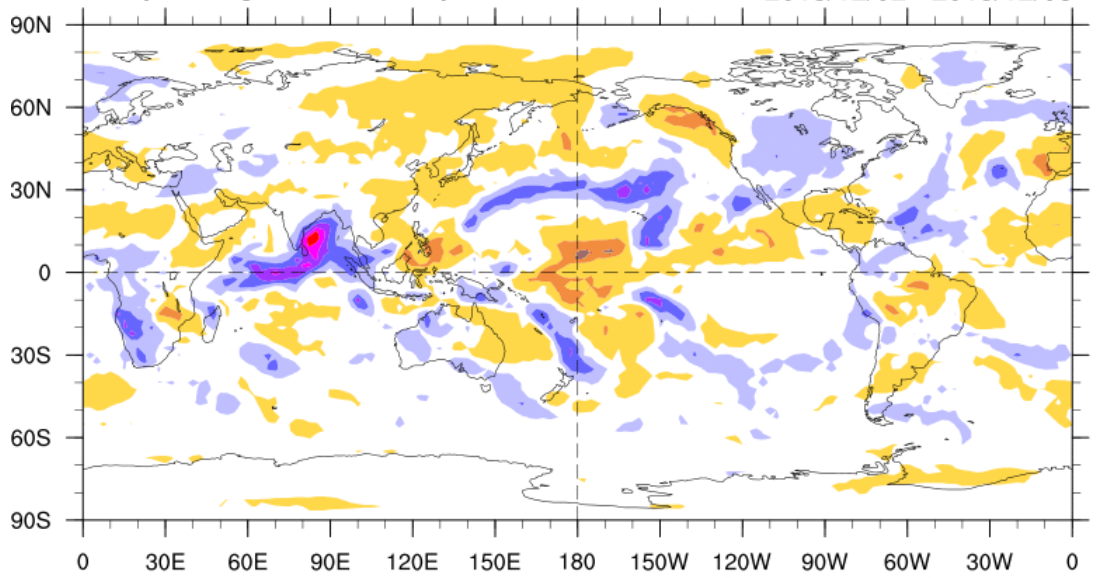


**Week 2 - Valid: Dec 04, 2013 - Dec 10, 2013**



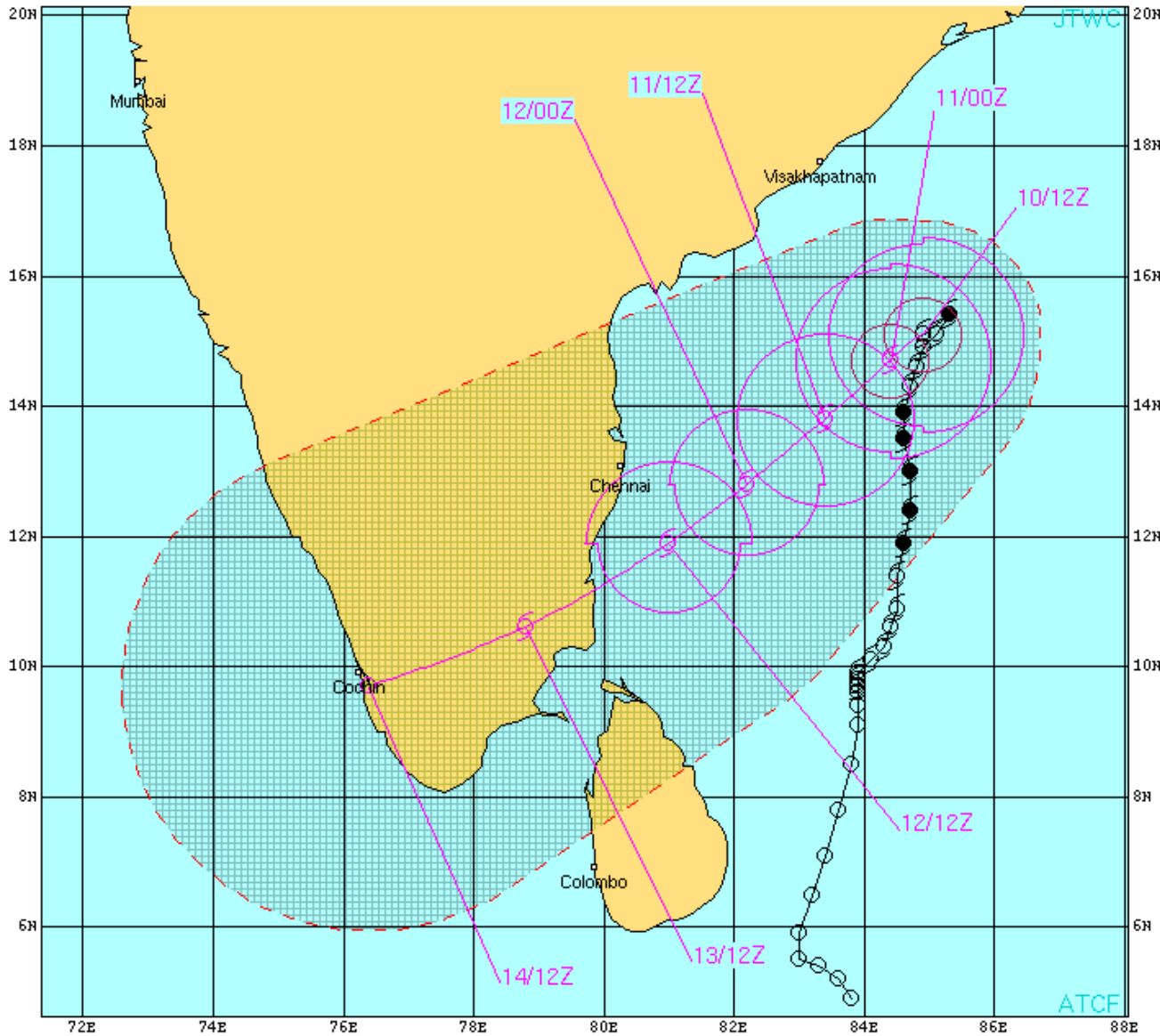
7-Day Average OLR Anomaly

2013/12/02 - 2013/12/08



Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain



TROPICAL CYCLONE 06B (MADI) WARNING #19  
 WT1031 PGTW 101500  
 101200Z POSIT: NEAR 15.1N 84.9E  
 MOVING 230 DEGREES TRUE AT 05 KNOTS  
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 25 FEET  
 10/12Z, WINDS 060 KTS, GUSTS TO 075 KTS  
 11/00Z, WINDS 055 KTS, GUSTS TO 070 KTS  
 11/12Z, WINDS 050 KTS, GUSTS TO 065 KTS  
 12/00Z, WINDS 045 KTS, GUSTS TO 055 KTS  
 12/12Z, WINDS 040 KTS, GUSTS TO 050 KTS  
 13/12Z, WINDS 035 KTS, GUSTS TO 045 KTS  
 14/12Z, WINDS 020 KTS, GUSTS TO 030 KTS

CPA TO:	NM	DTG	
CHENNAI	82	12/11Z	
BEARING AND DISTANCE	DIR	DIST	TAU
CHENNAI	077	186	(NM) (HRS) 24

○ LESS THAN 34 KNOTS  
 ⊗ 34-63 KNOTS  
 ● MORE THAN 63 KNOTS  
 PAST 6 HOURLY CYCLONE POSITS IN BLACK  
 FORECAST CYCLONE POSITS IN COLOR



# Synopsis of Climate Modes

## ENSO:

- ENSO-neutral is expected to continue into the Northern Hemisphere summer 2014.

## MJO and other subseasonal tropical variability:

- The MJO remains generally weak.
- Dynamical model MJO index forecasts do not indicate a strong MJO signal over the next 1-2 weeks, although some models show some minor eastward propagation of a weak signal to the Maritime continent over the period.
- Statistical forecasts show a slow propagation of a weak MJO signal during the period, consistent with some dynamical model forecasts.
- Other types of subseasonal tropical variability remain quite active.

## Extratropics:

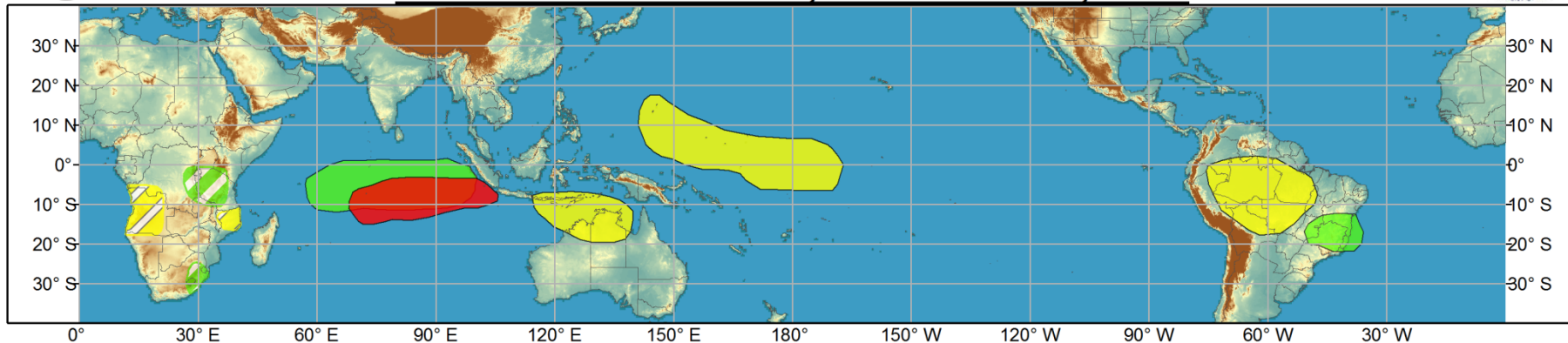
- Given the high uncertainty in the pattern of anomalous tropical convection, impacts to the U.S. are unclear and uncertain.
- AO favored to be strongly positive over next 1-2 weeks.



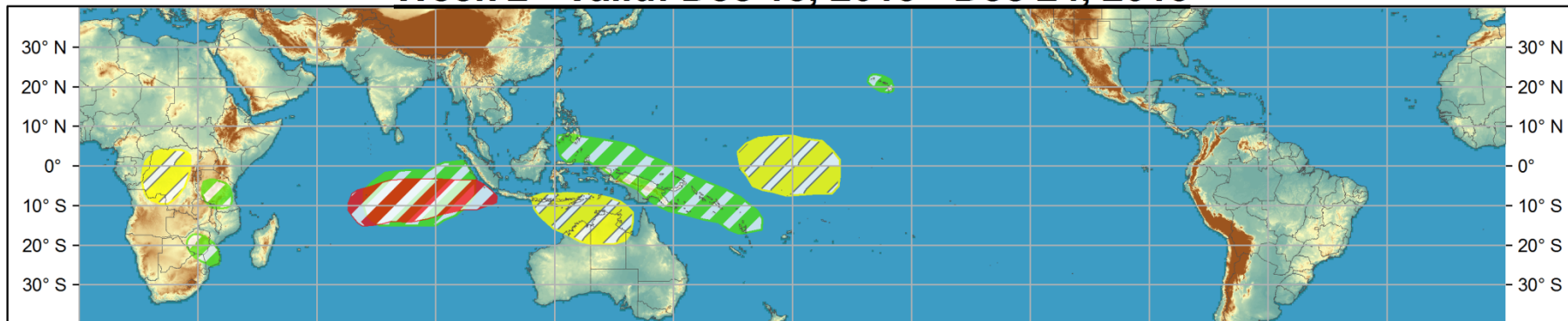
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Dec 11, 2013 - Dec 17, 2013



## Week 2 - Valid: Dec 18, 2013 - Dec 24, 2013



**Confidence**  
High Moderate

**Tropical Cyclone Formation**



Development of a tropical cyclone that eventually reaches tropical storm/cyclone 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.

**Below-normal temperatures**



7-day mean temperatures in the lower third of the historical range.

Produced: 12/10/2013

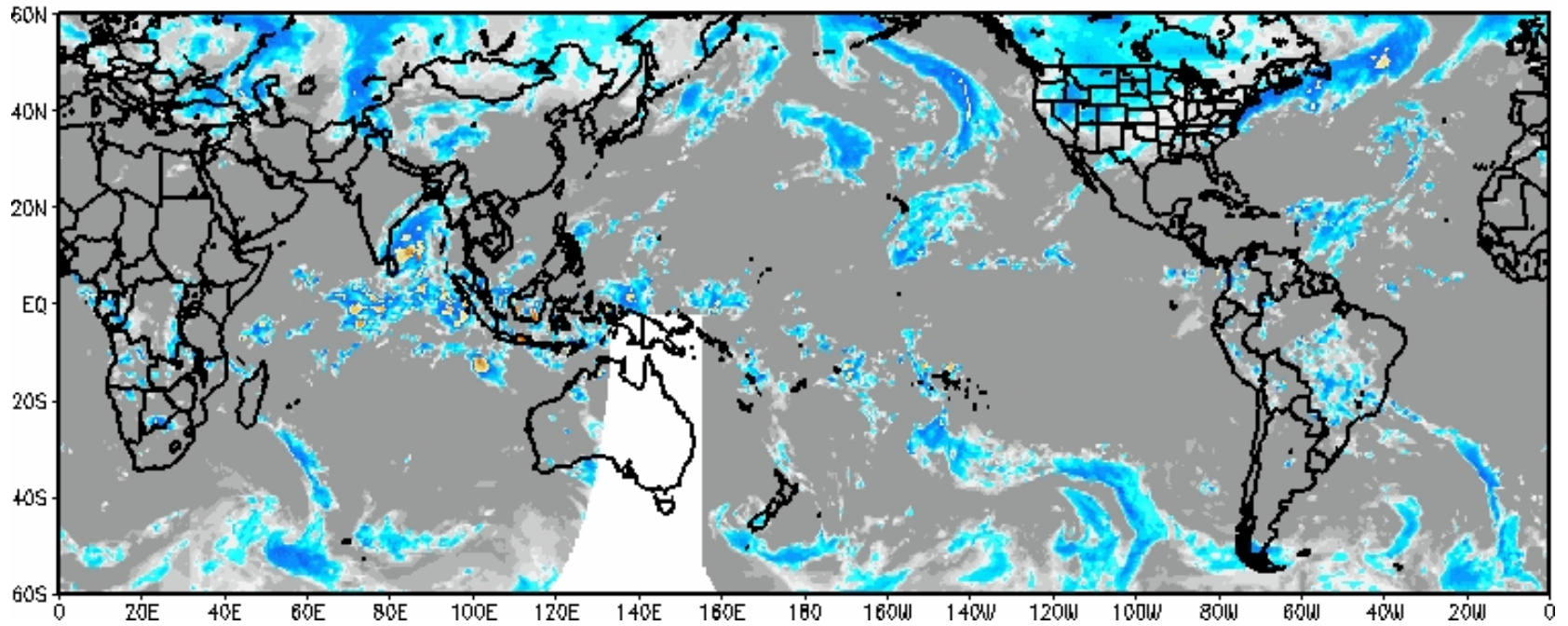
Forecaster: Gottschalck

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.





IR Temperatures  
0900 UTC 07 DEC 2013



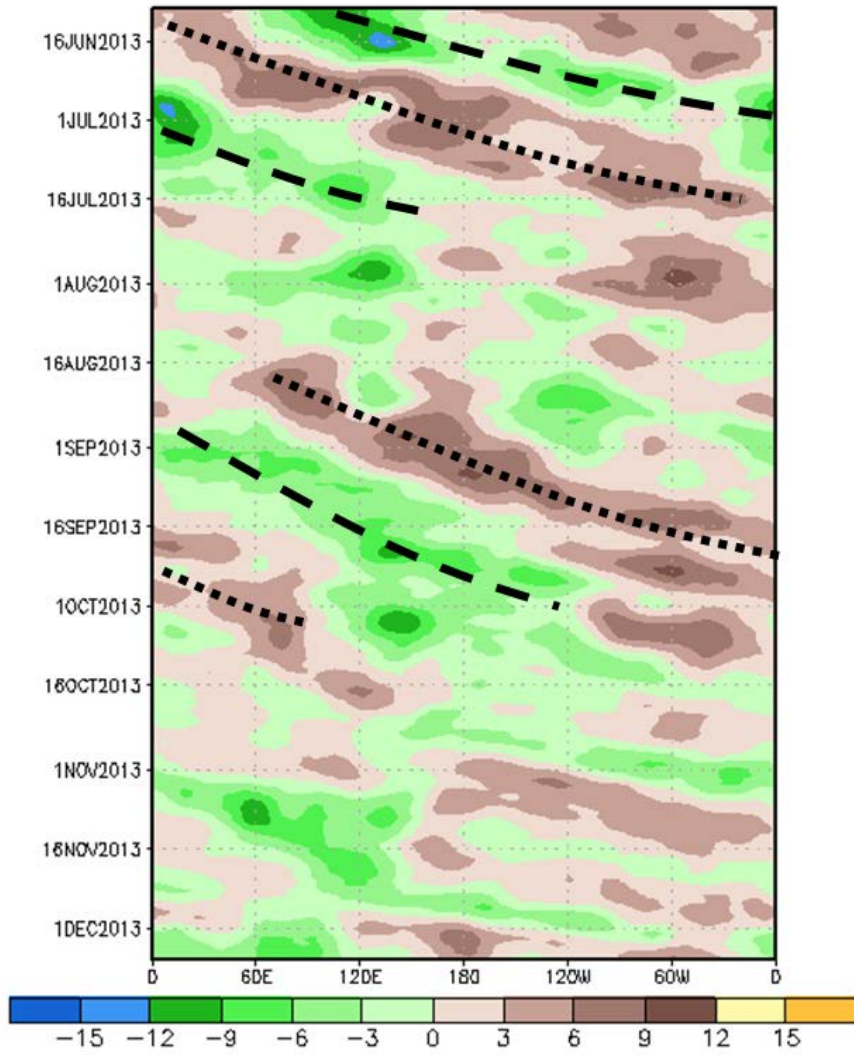
# 200-hPa Velocity Potential Anomalies

Green: Enhanced Divergence

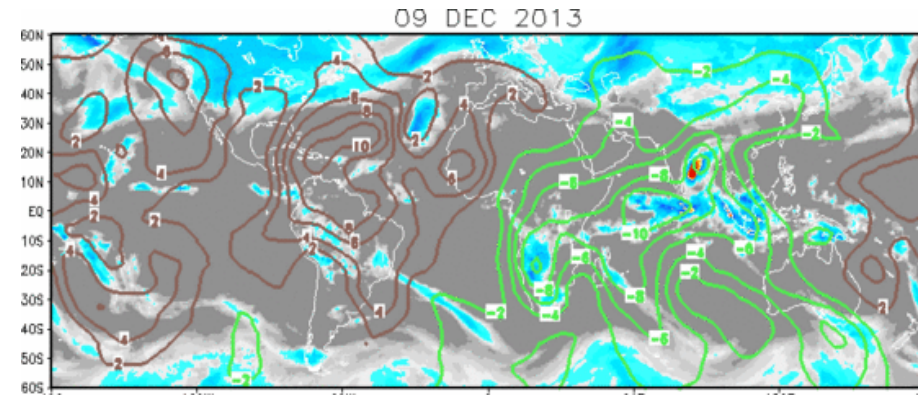
Brown: Enhanced Convergence

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

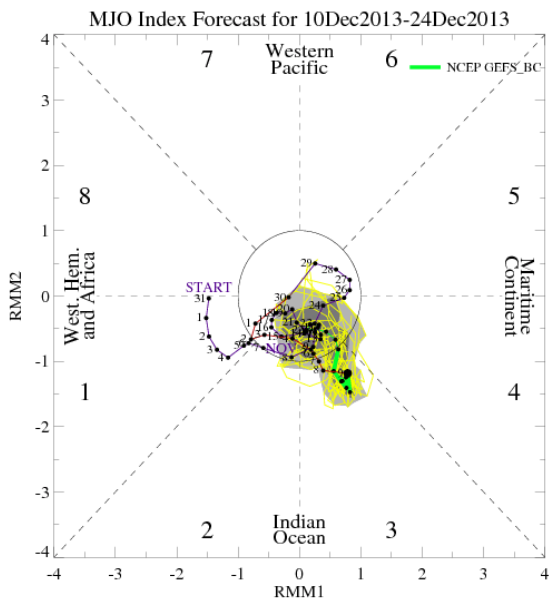
5-day Running Mean



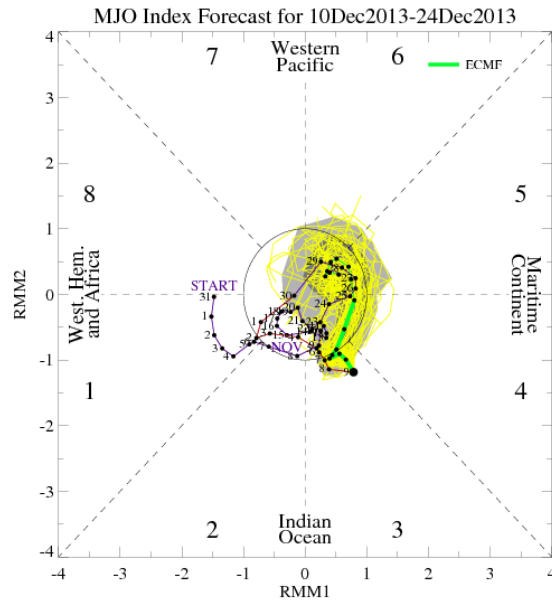
Longitude



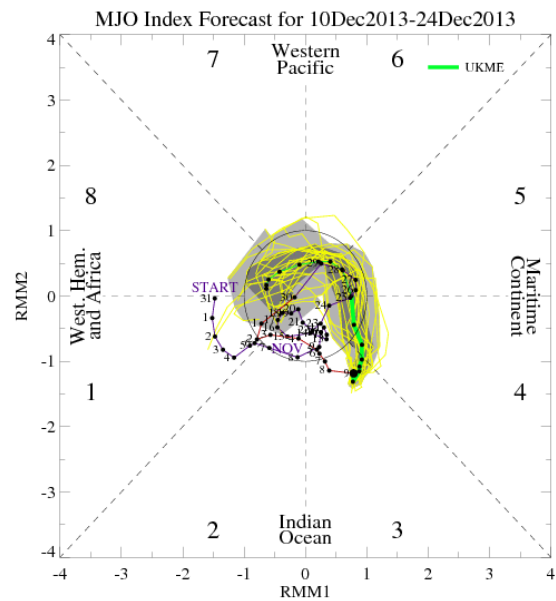
# MJO Index Model Forecasts



GFS



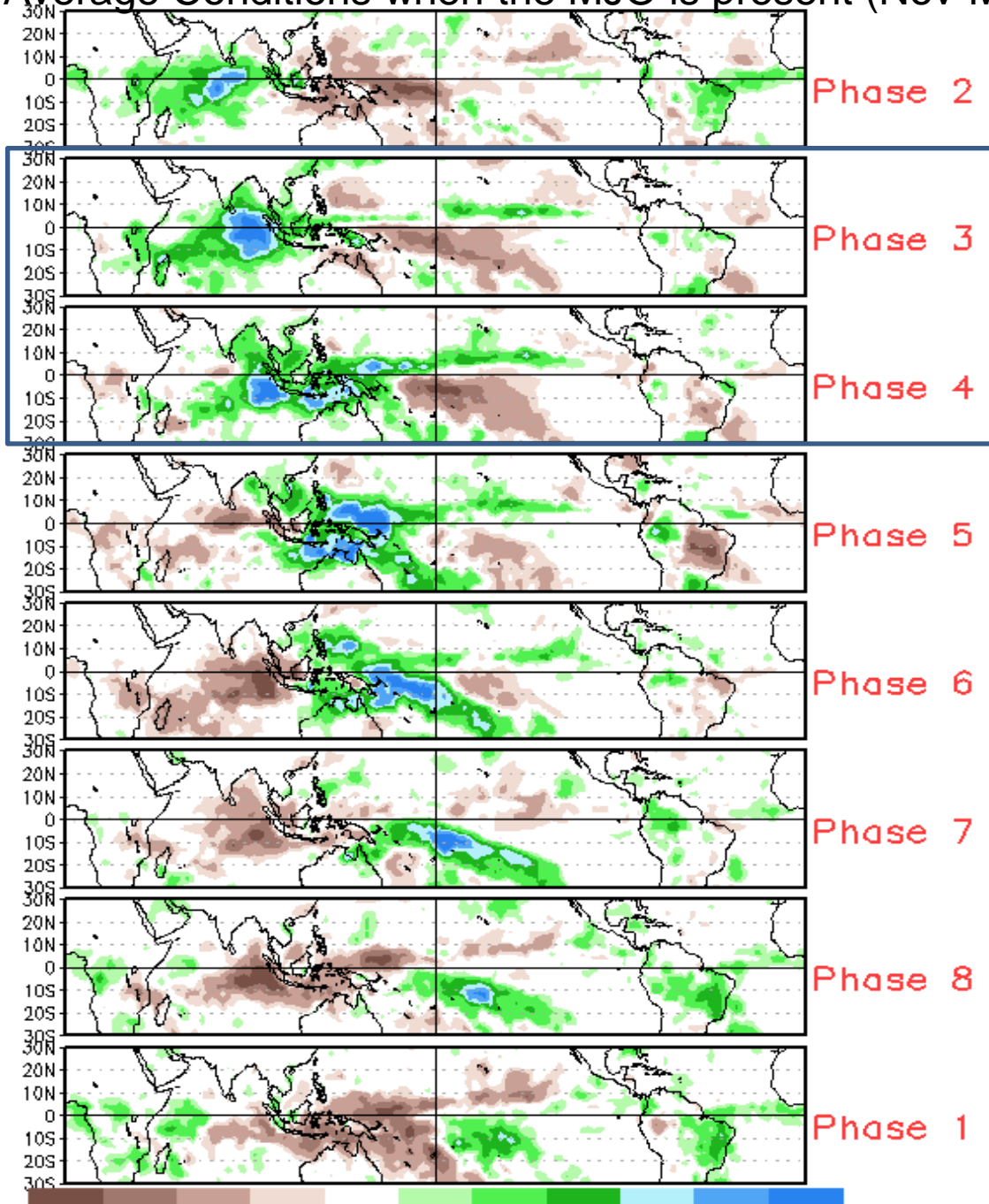
ECMWF



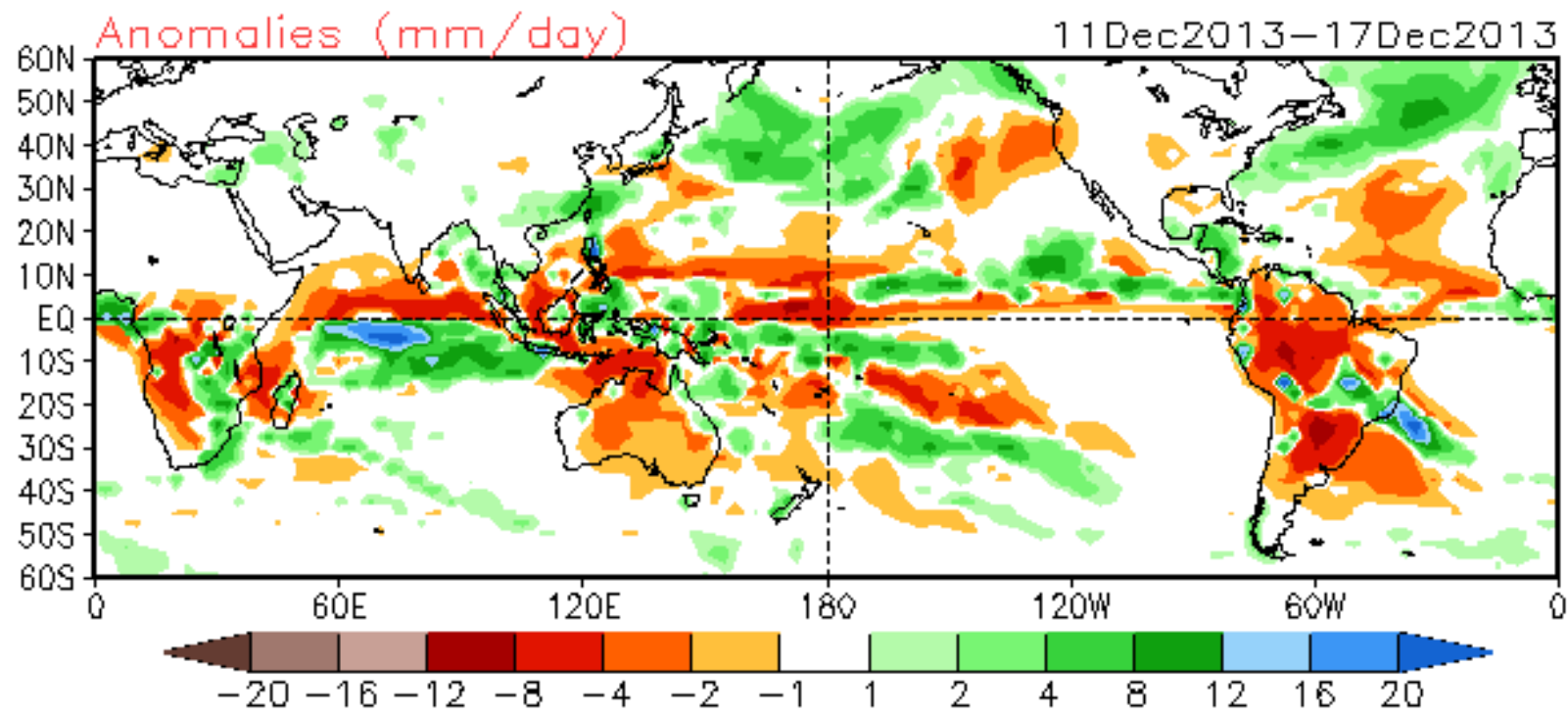
UKMET



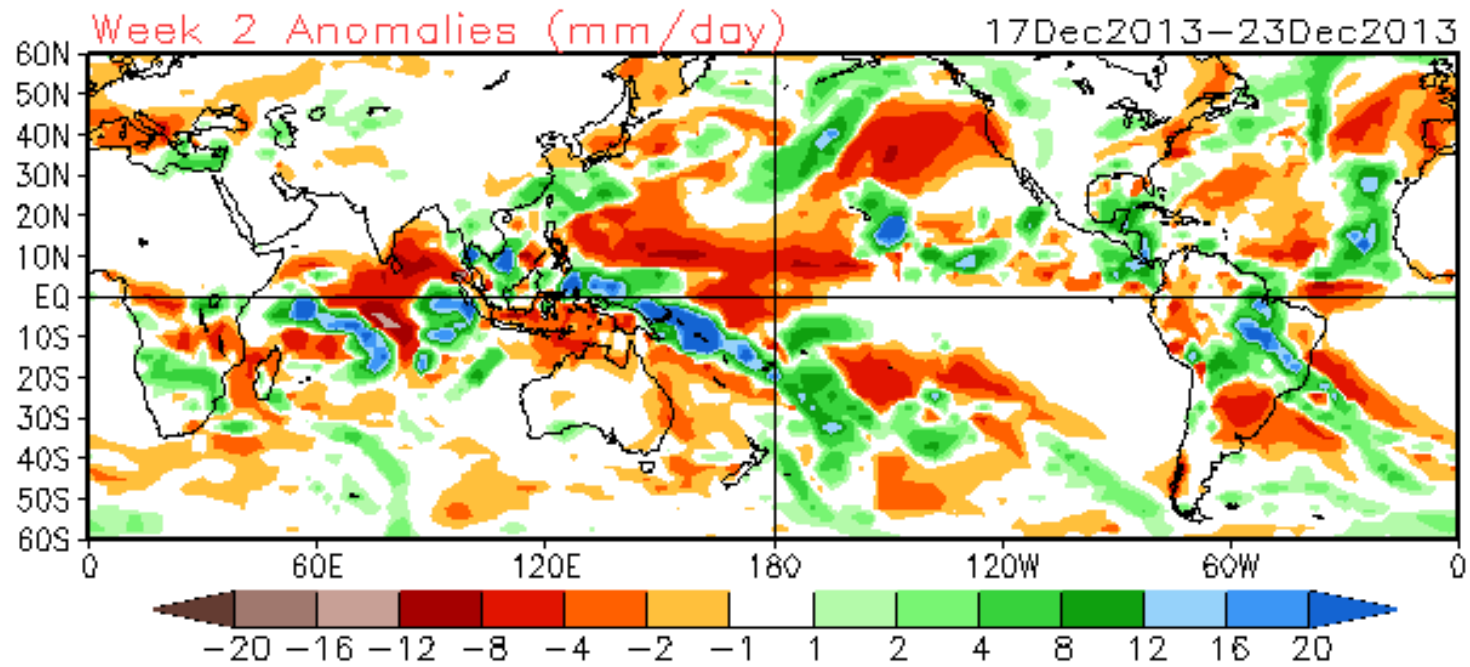
# Average Conditions when the MJO is present (Nov-Mar)



# GFS – Week-1 Precipitation Anomalies

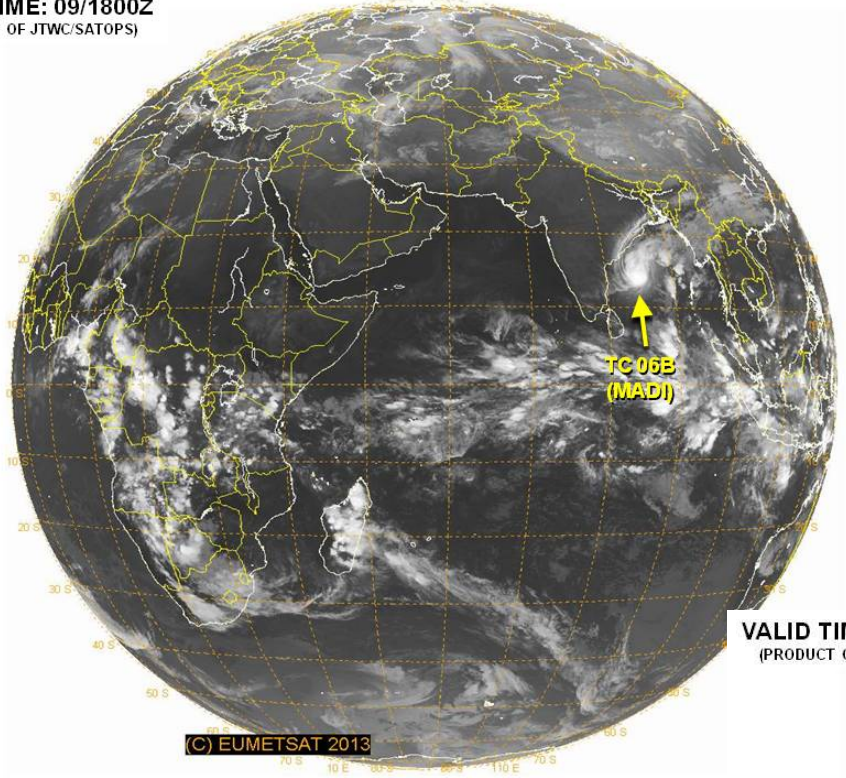


# CFS – Precipitation Anomalies



**VALID TIME: 09/1800Z**

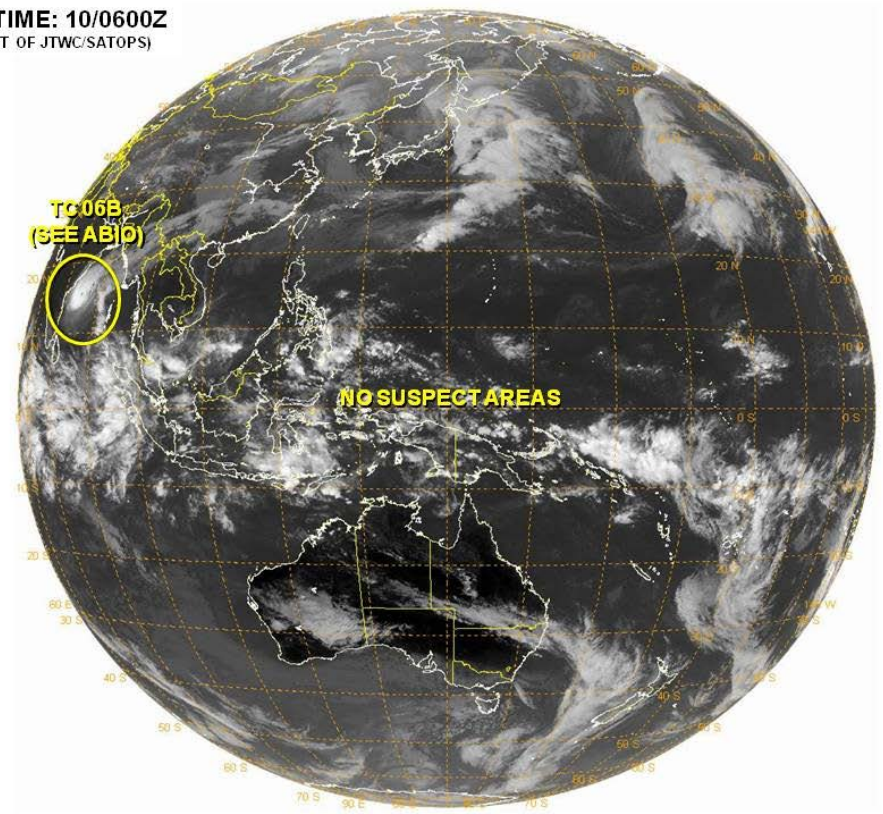
(PRODUCT OF JTWC/SATOPS)



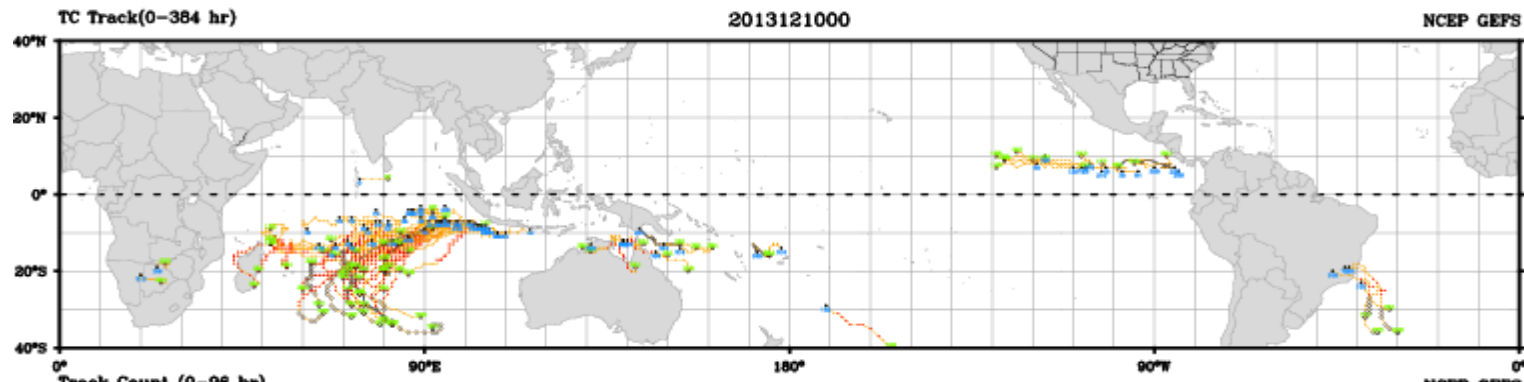
(C) EUMETSAT 2013

**VALID TIME: 10/0600Z**

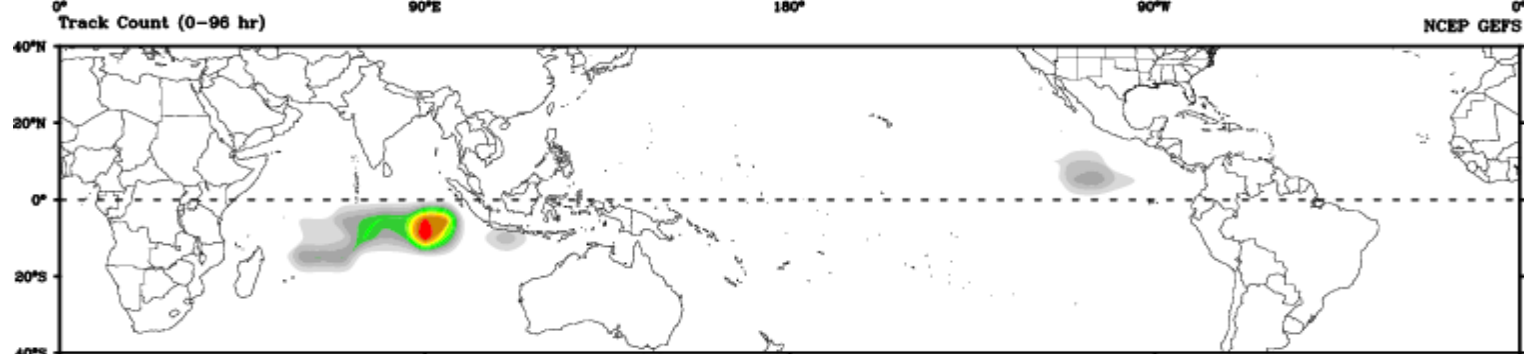
(PRODUCT OF JTWC/SATOPS)



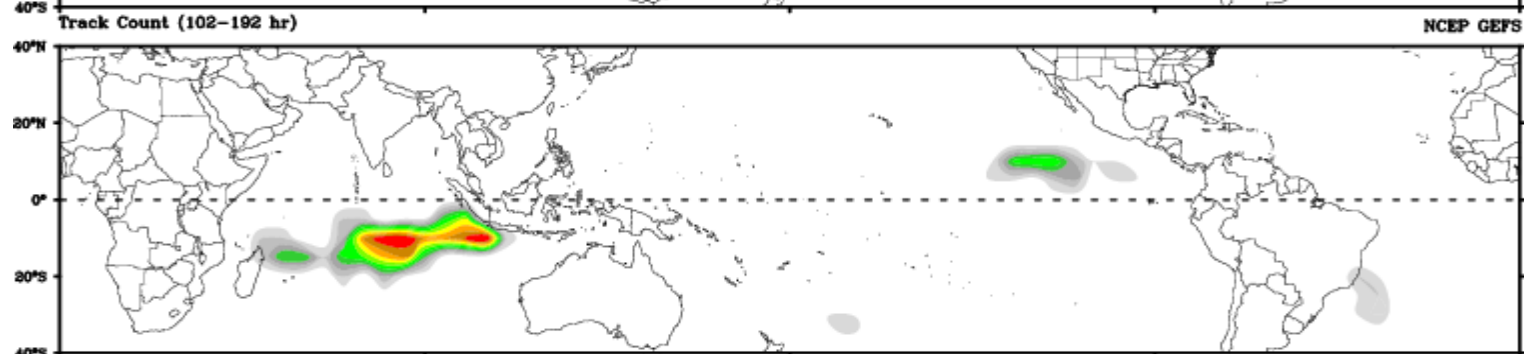




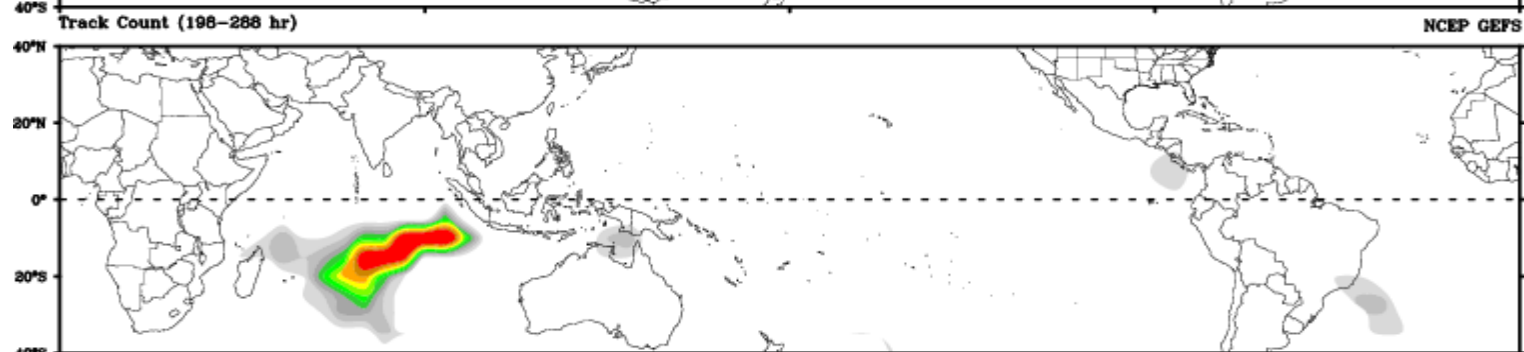
Days 1-4



Day 5-8



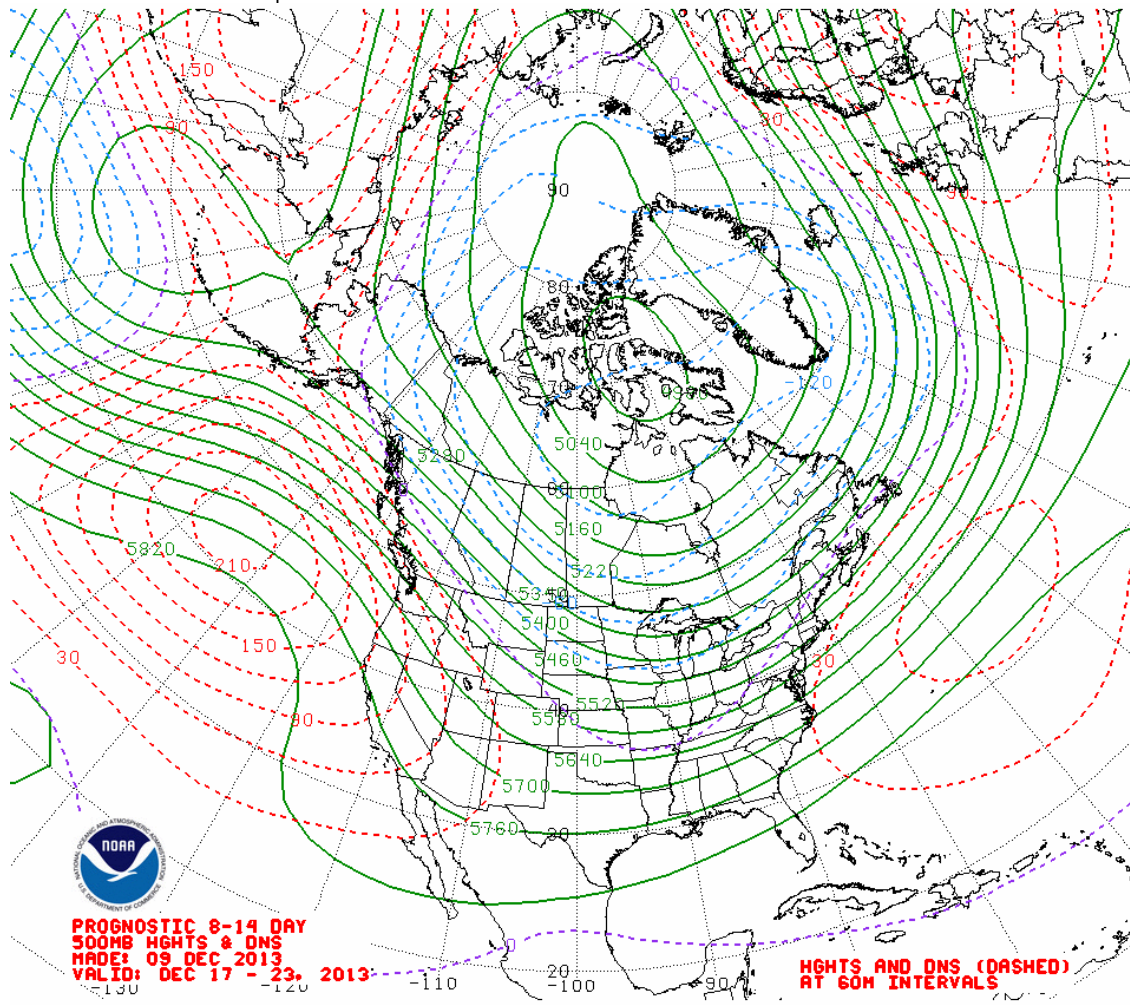
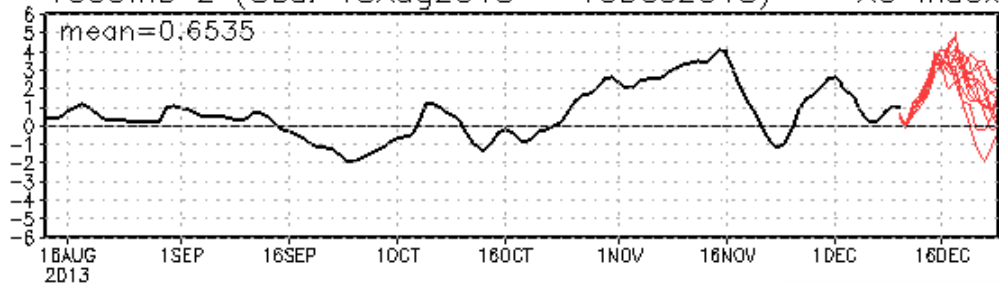
Day 9-12

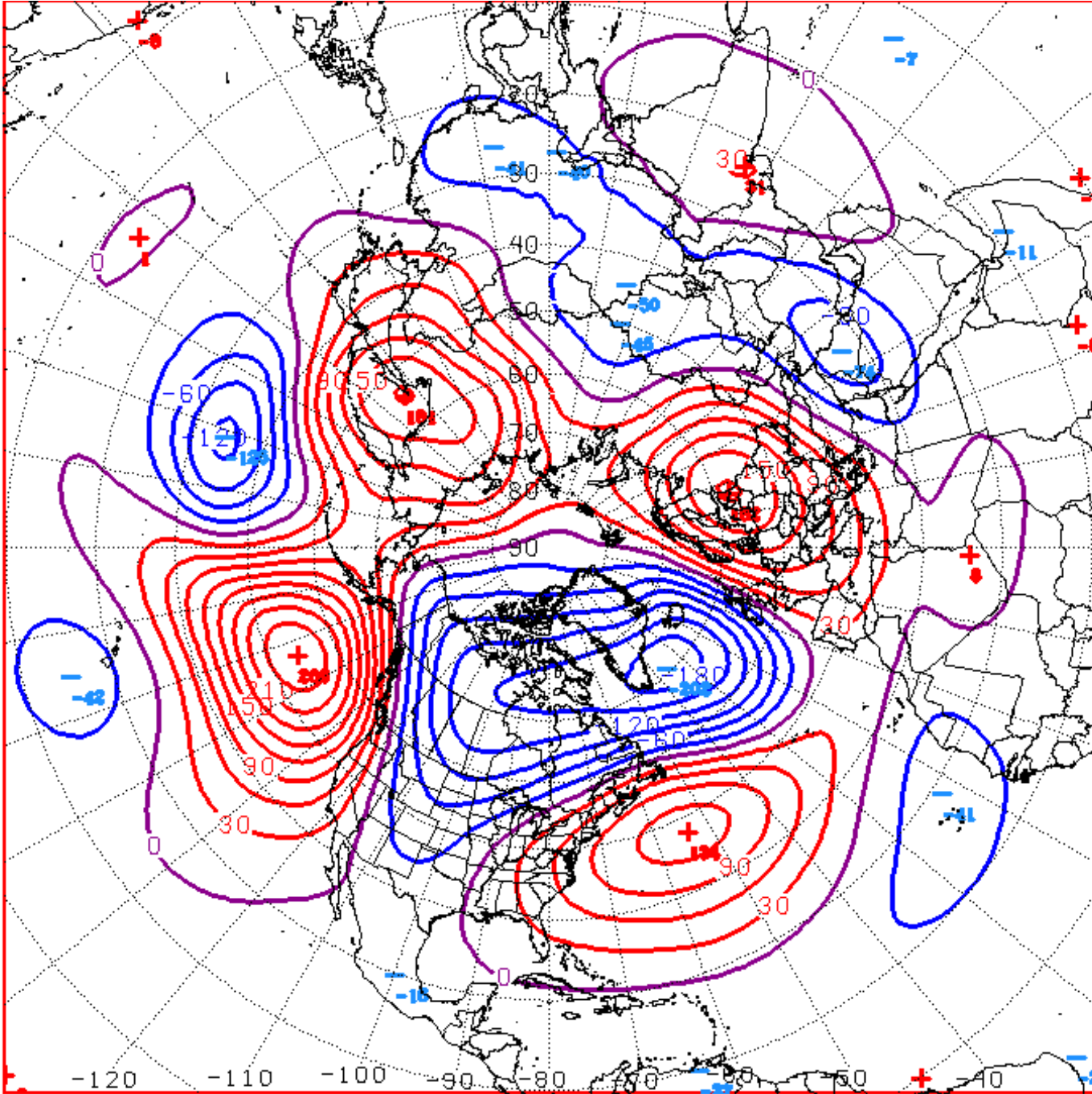




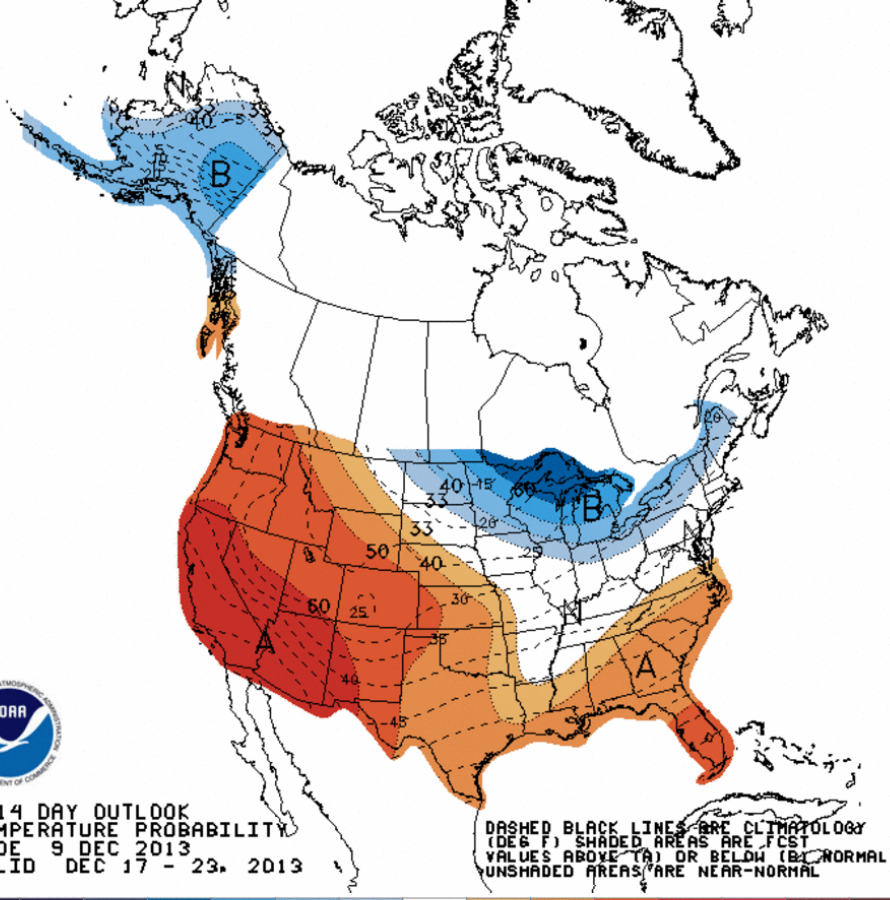
# AO: Observed & ENSM forecasts

1000mb Z (Obs: 13Aug2013 – 10Dec2013) AO index



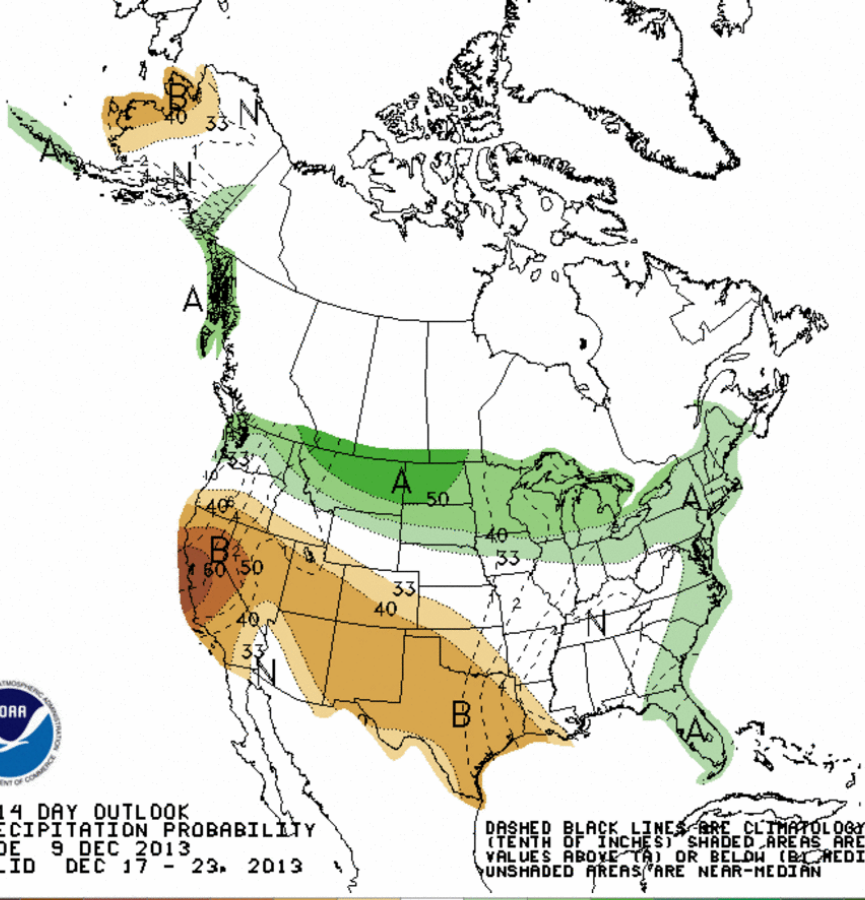


D+11 500 MB ANOMALIES FROM 00Z ECMM  
CPC MAP MADE DEC 10 2013 1103 UTC CNTD DEC 21 2013



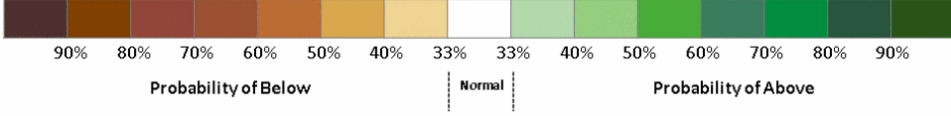
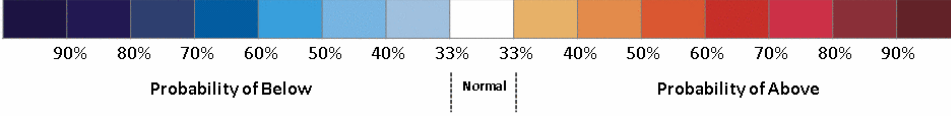
8-14 DAY OUTLOOK  
 TEMPERATURE PROBABILITY  
 MADE 9 DEC 2013  
 VALID DEC 17 - 23, 2013

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 9 DEC 2013  
 VALID DEC 17 - 23, 2013

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



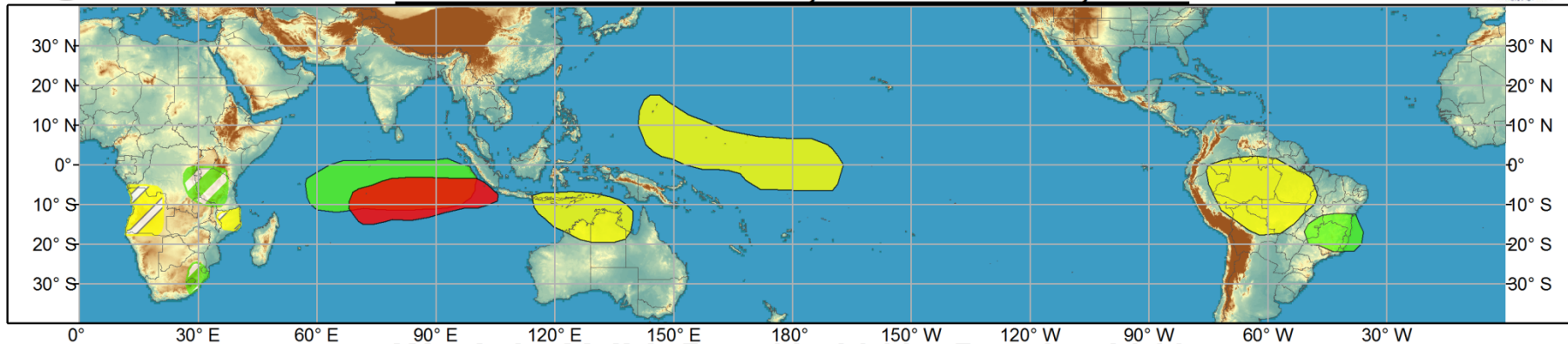




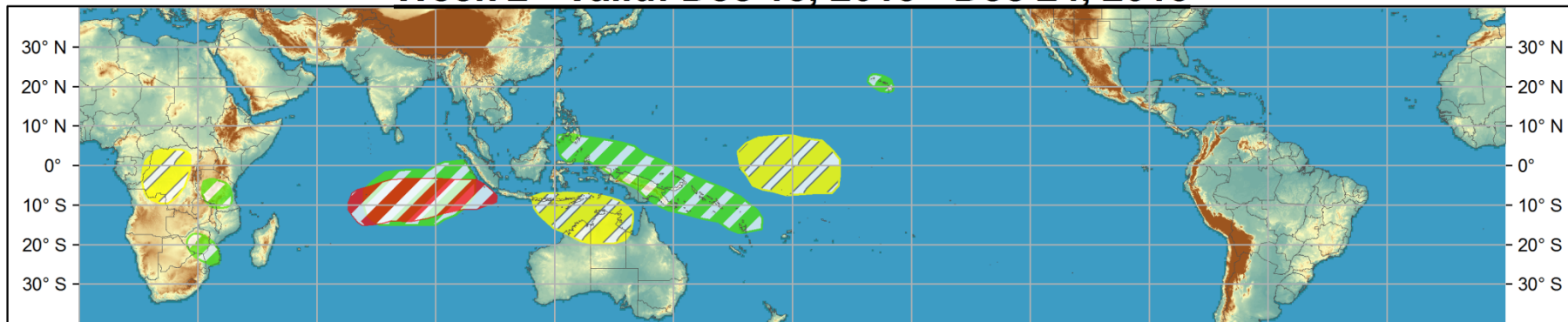
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