

Global Tropics Hazards And Benefits Outlook

December 2, 2014

Stephen Baxter

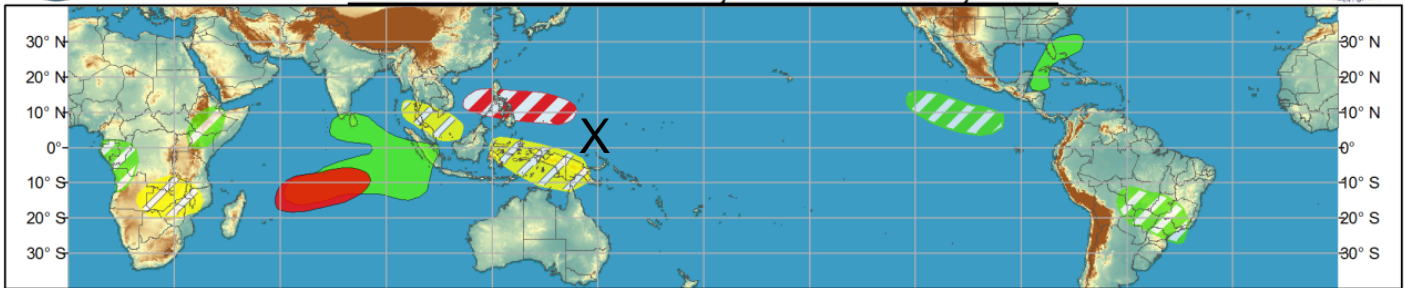
Outline

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

Outlook Review



Week 1 - Valid: Nov 26, 2014 - Dec 02, 2014

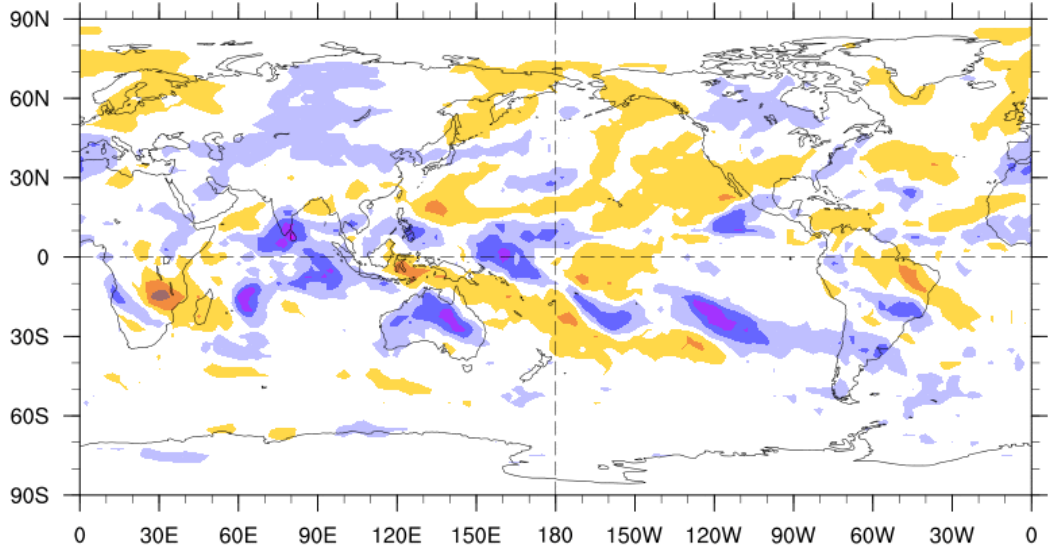


Week 2 - Valid: Nov 26, 2014 - Dec 02, 2014



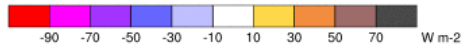
7-Day Average OLR Anomaly

2014/11/24 - 2014/11/30



NOAA/ESRL/PSD

Base Period: 1981-2010



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO:

- Current: ENSO-neutral
- Outlook: There is a 58% chance of El Niño during the Northern Hemisphere winter, which is favored to last into the Northern Hemisphere spring 2015.

MJO and other subseasonal tropical variability:

- The MJO remained a significant part of the circulation strengthened during the past week. Kelvin and Equatorial Rossby waves are also contributing.
- Most dynamical model MJO index forecasts depict a continuation of the signal during Week-1, weakening in Week-2. Some statistical tools are quite robust through the two-week period.
- Model forecasts of precipitation are in poor agreement and not particularly consistent with MJO composites.

Extratropics:

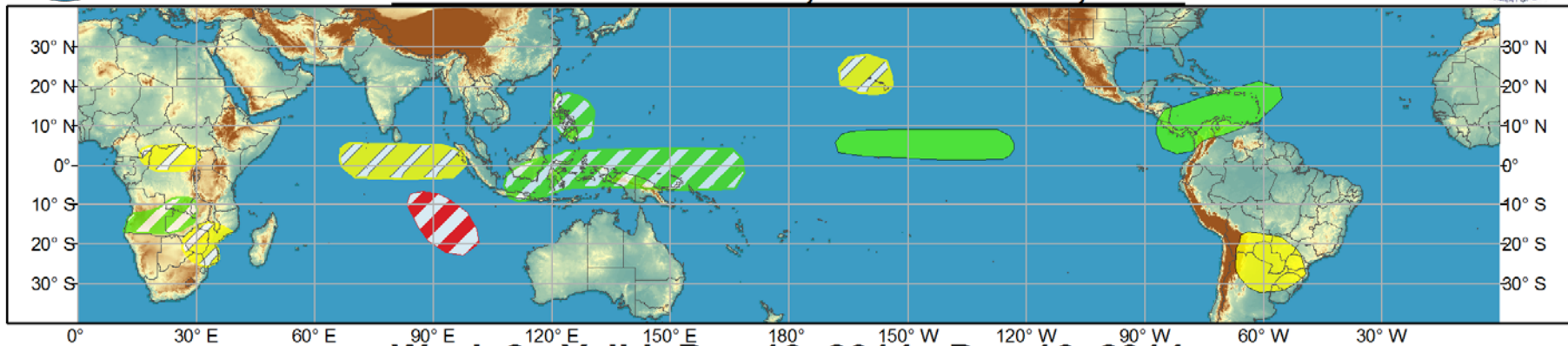
- The extended range forecast for the U.S. looks tropically driven in part, though diagnosing the different contributions from the low-frequency state and the MJO is particularly challenging. As the MJO propagates into the Pacific, this favors negative height anomalies near the Date Line in the North Pacific and downstream troughing over eastern North America during Weeks 3 and 4.



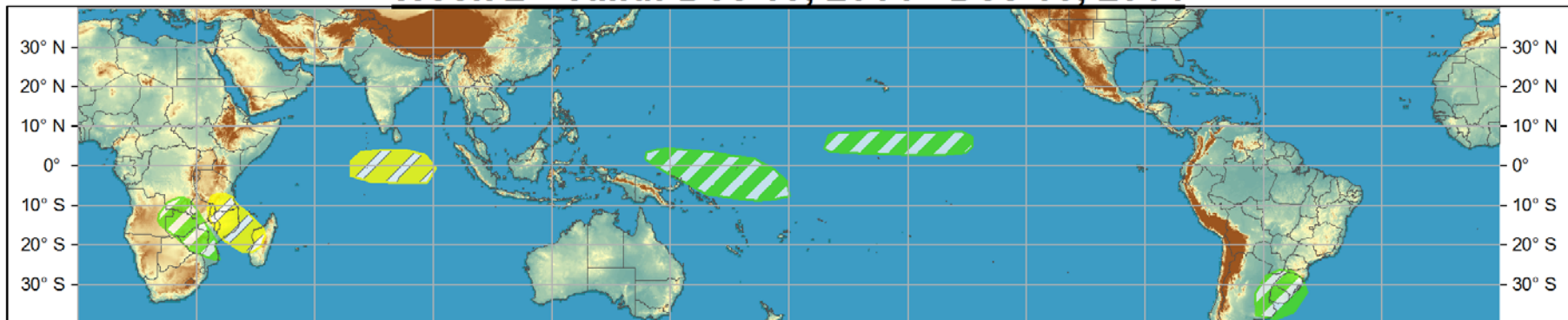
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 03, 2014 - Dec 09, 2014



Week 2 - Valid: Dec 10, 2014 - Dec 16, 2014



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

Produced: 12/02/2014

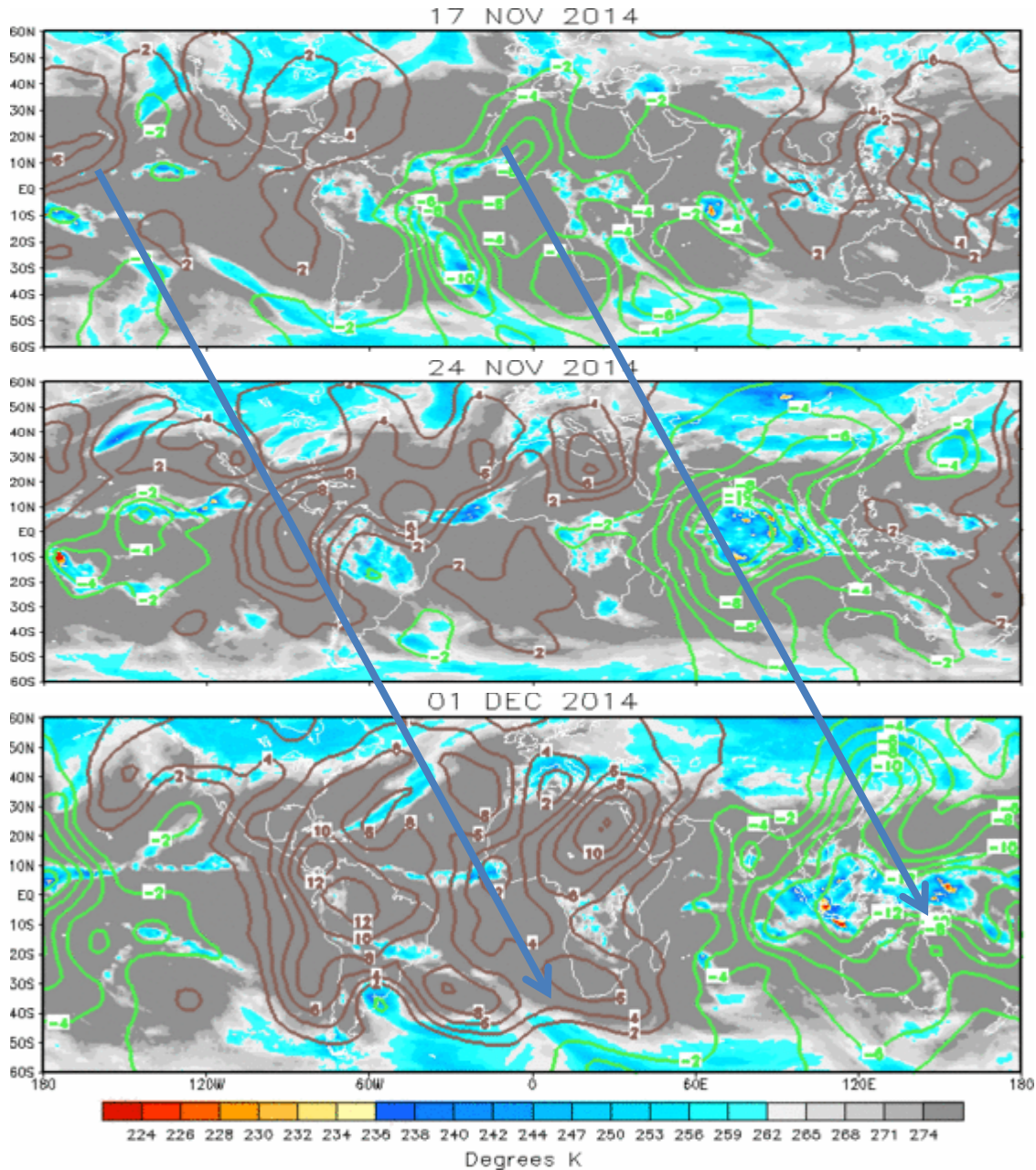
Forecaster: Baxter

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.



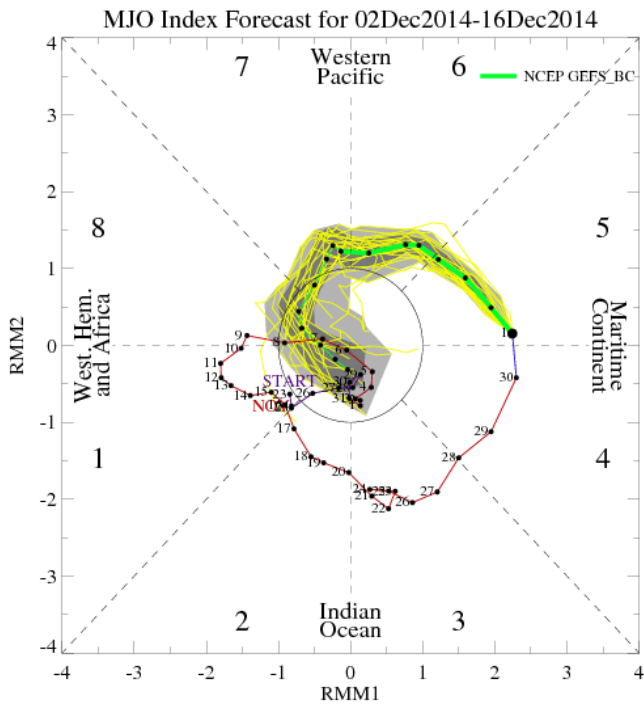
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

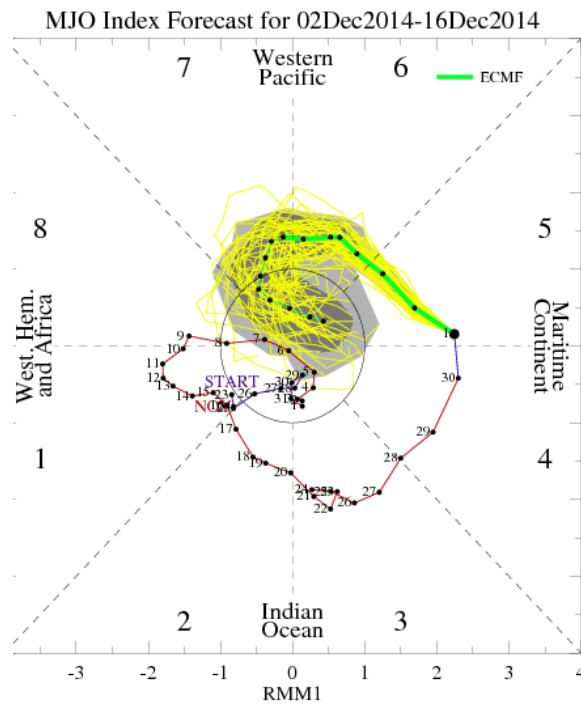


Base state
and transient
features
evident.

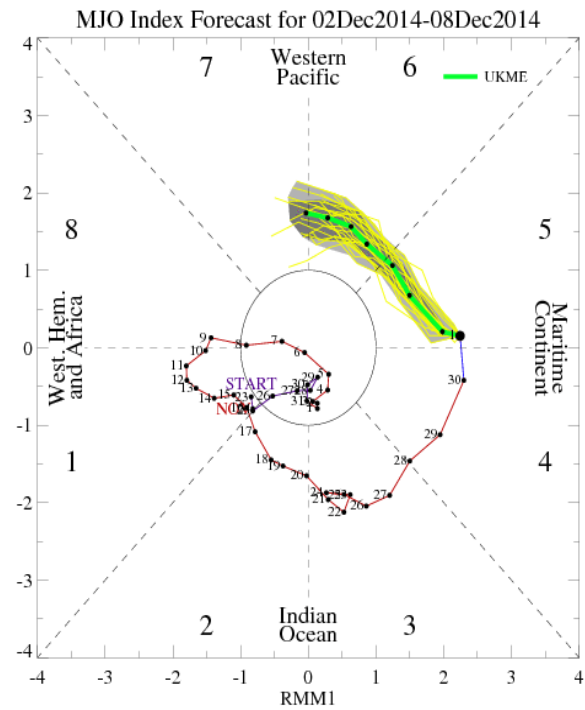
MJO Observation/Forecast



GFS

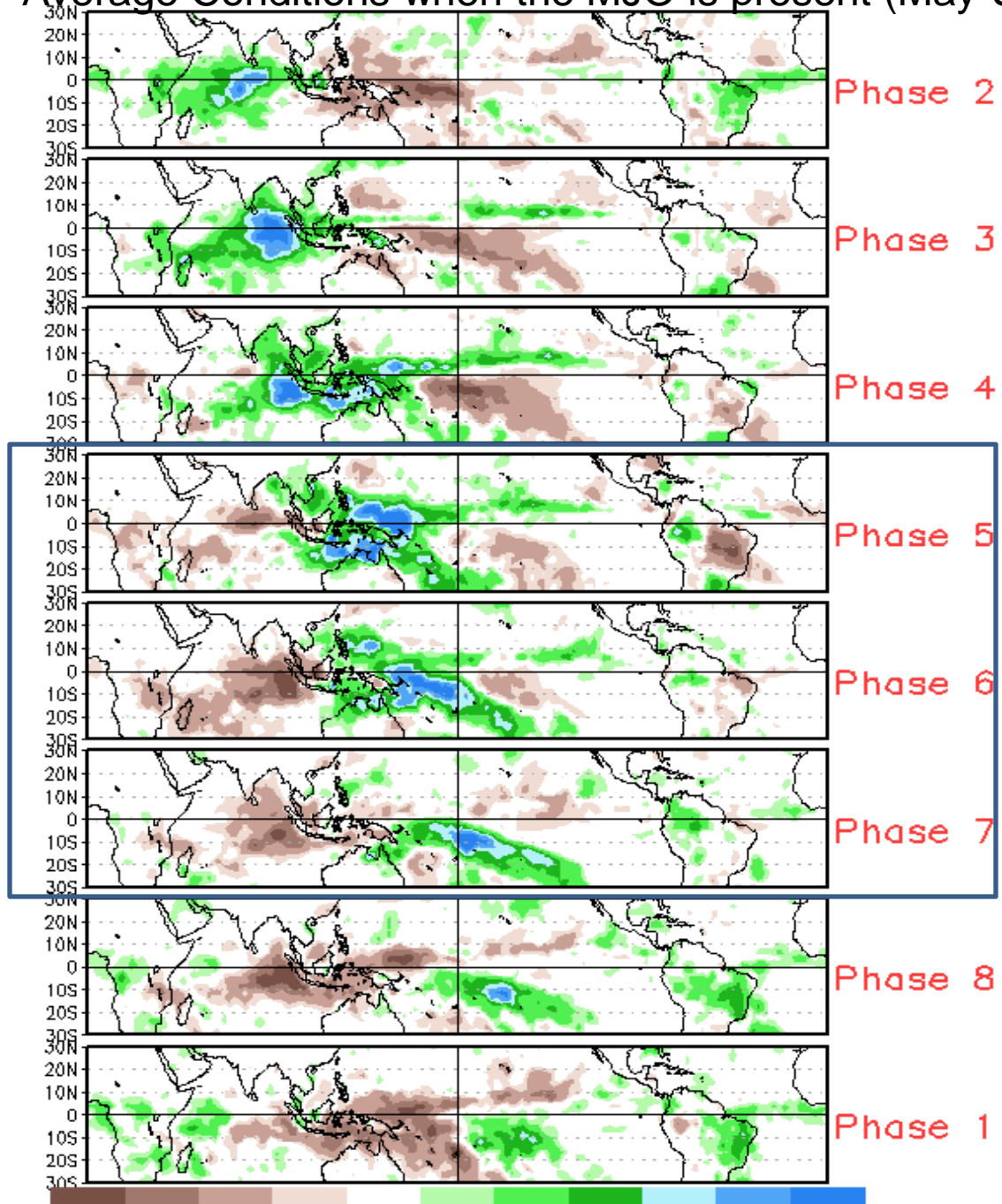


ECMWF



UKMET

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

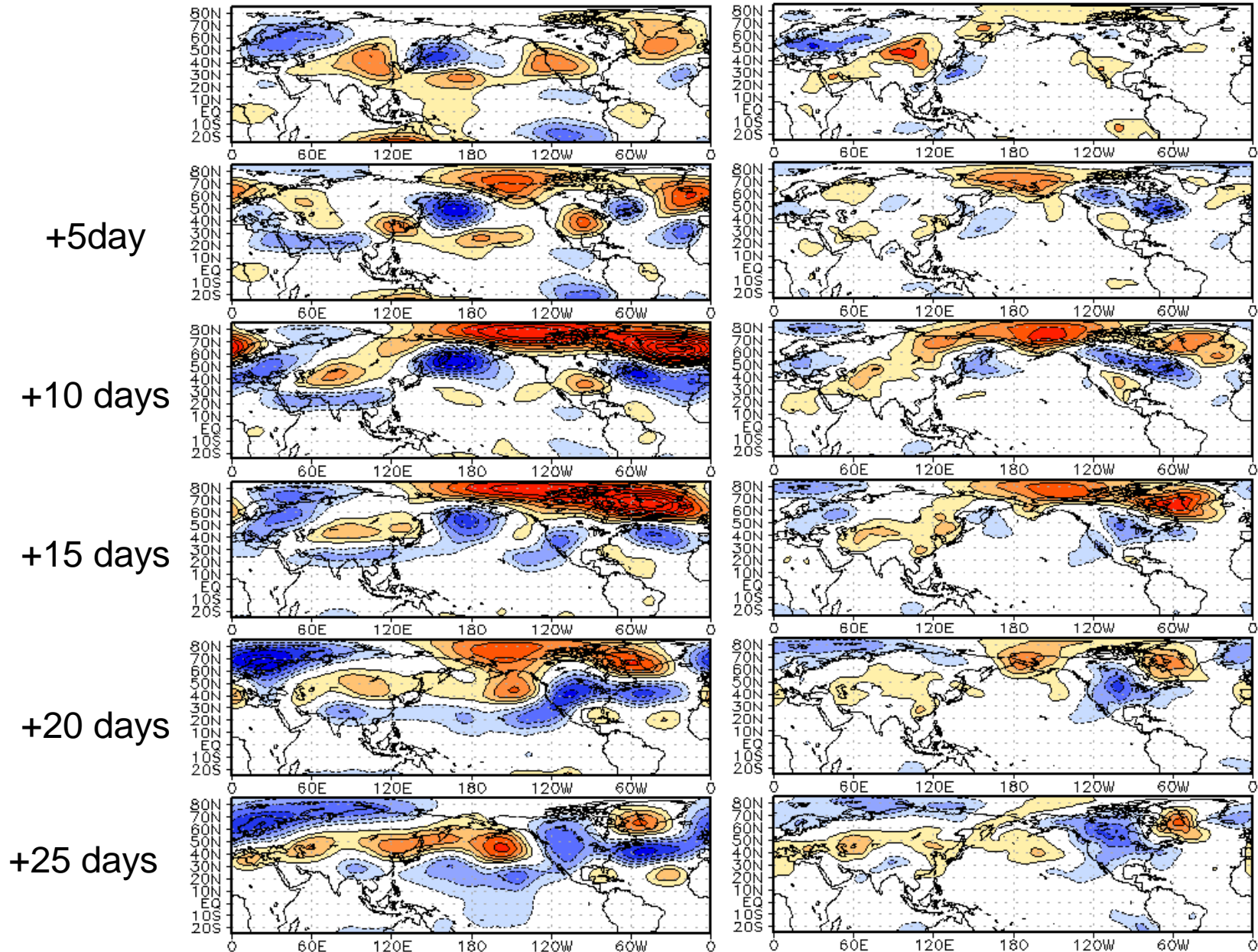


Lagged composites from MJO

5-day intervals

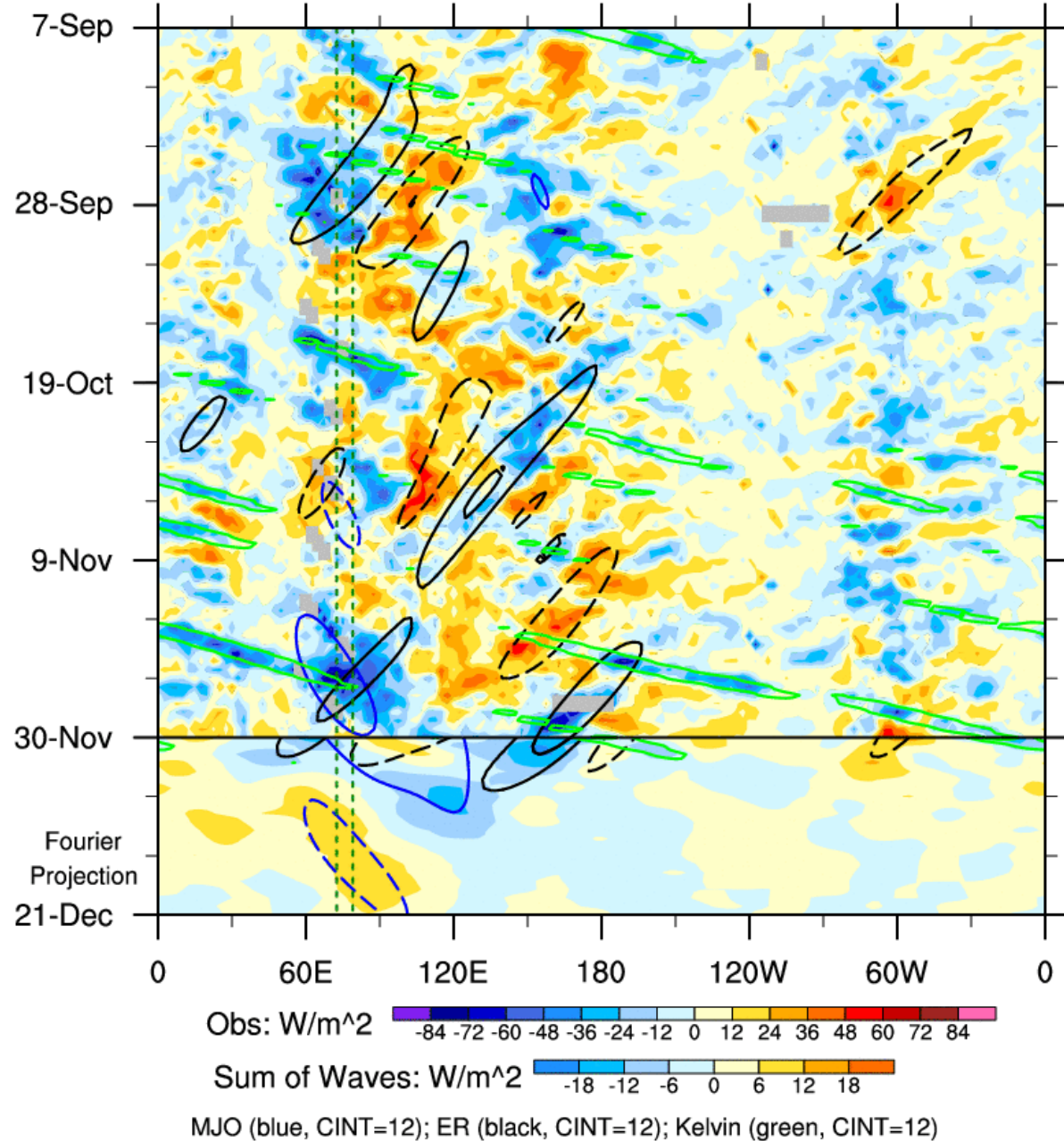
WHMJO Phase 6 z200 Lagged Composite (ndj)

WHMJO Phase 6 t850 Lagged Composite (ndj)



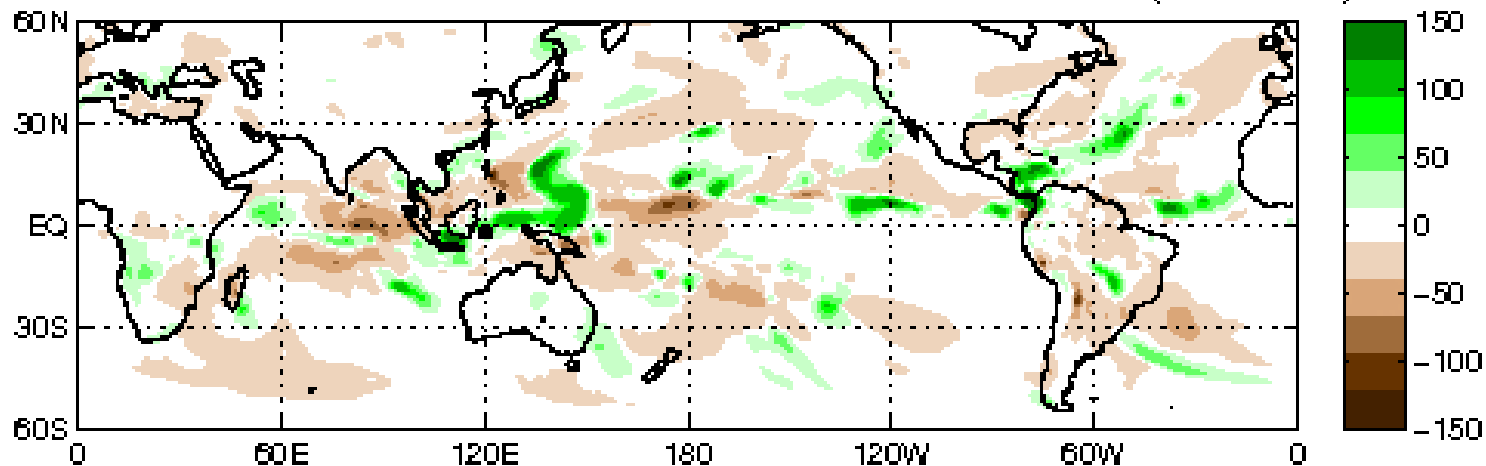
OLR anomalies: 7.5°S - 7.5°N

7-Sep-2014 to 30-Nov-2014 + 21-day Fourier Projection

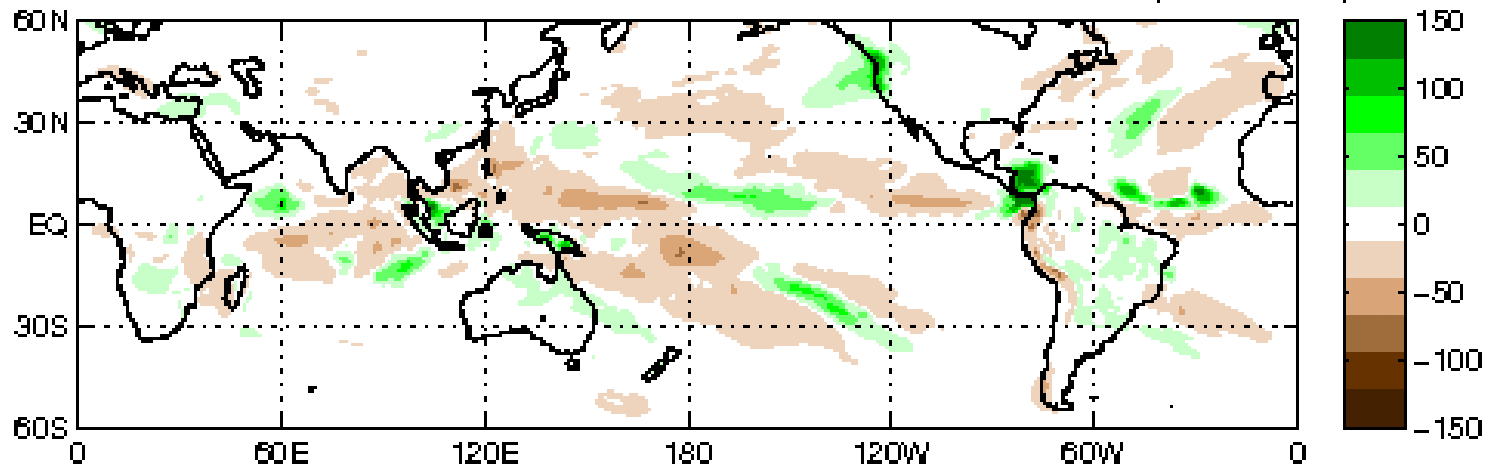


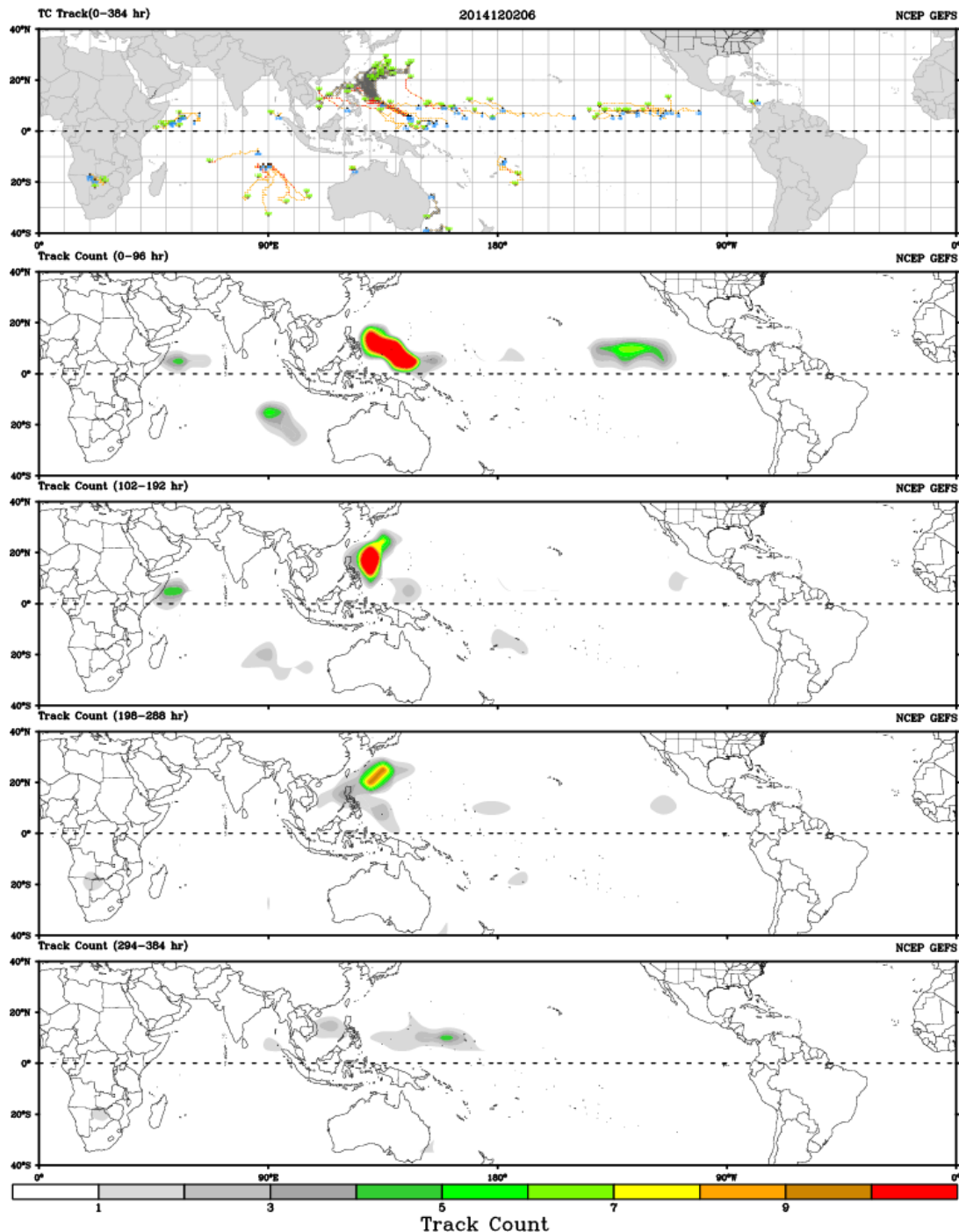
Constructive interference among the three prominent modes of variability is evident over the Maritime Continent.

CFS: Anom. PREC Week: 1: 02-Dec-2014 to 08-Dec-2014 (mm/week)



CFS: Anom. PREC Week: 2: 09-Dec-2014 to 15-Dec-2014 (mm/week)



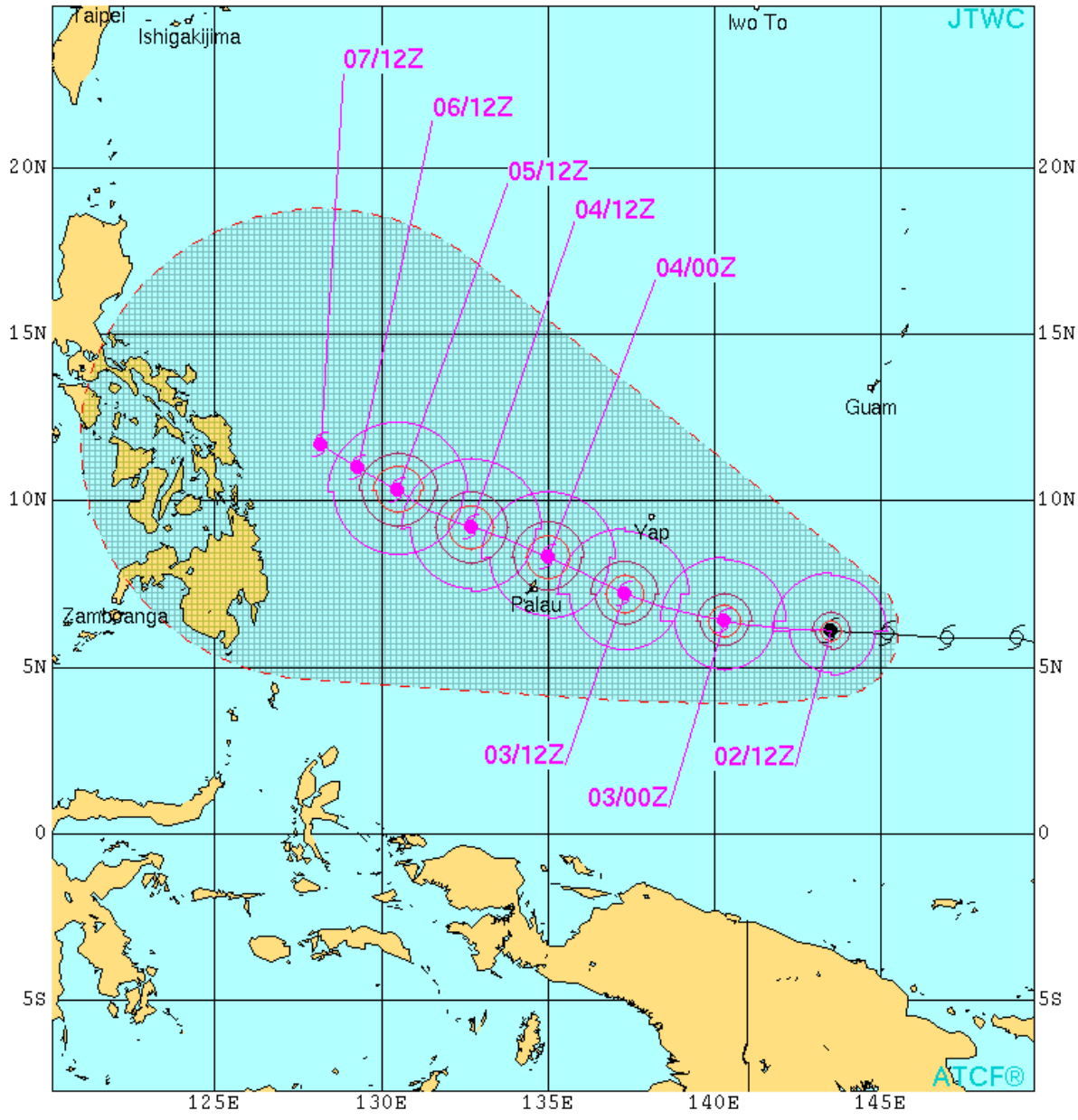


Days 1-4

Day 5-8

Day 9-12

Day 13-16



TYPHOON 22W (HAGUPIT) WARNING #7
 WTPN31 PGTW 021500
 021200Z POSIT: NEAR 6.1N 143.5E
 MOVING 275 DEGREES TRUE AT 17 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 25 FEET
 02/12Z, WINDS 070 KTS, GUSTS TO 085 KTS
 03/00Z, WINDS 085 KTS, GUSTS TO 105 KTS
 03/12Z, WINDS 100 KTS, GUSTS TO 125 KTS
 04/00Z, WINDS 110 KTS, GUSTS TO 135 KTS
 04/12Z, WINDS 120 KTS, GUSTS TO 145 KTS
 05/12Z, WINDS 130 KTS, GUSTS TO 160 KTS
 06/12Z, WINDS 120 KTS, GUSTS TO 145 KTS
 07/12Z, WINDS 100 KTS, GUSTS TO 125 KTS

CPA TO:	NM	DTG
EAURIPIK	31	02/14Z
SOROL	107	03/01Z
FAIS	202	03/02Z
ULITHI	195	03/06Z
YAP	145	03/12Z
NGULU	65	03/13Z
ANGAUR	95	04/01Z
KAYANGEL	18	04/01Z
KOROR	69	04/01Z
SONSOROL	228	04/07Z
TOBI	378	04/08Z

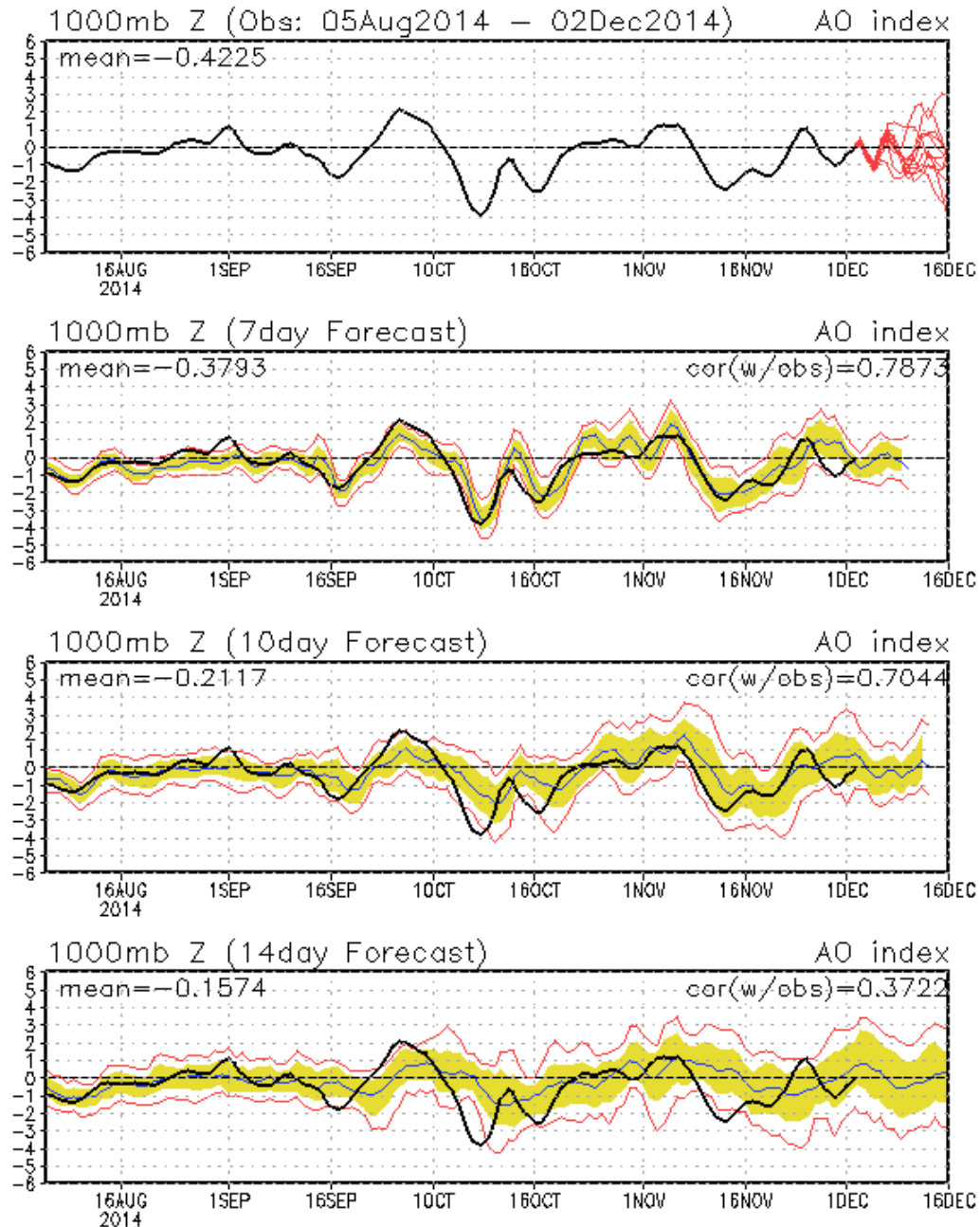
BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
ANGAUR	084	185	24
EAURIPIK	275	341	24
FAIS	231	246	24
KAYANGEL	109	164	24
KOROR	092	173	24
NGULU	190	67	24
SONSOROL	069	325	24
SOROL	252	194	24
ULITHI	220	212	24
WOLEAI	269	393	24
YAP	199	146	24

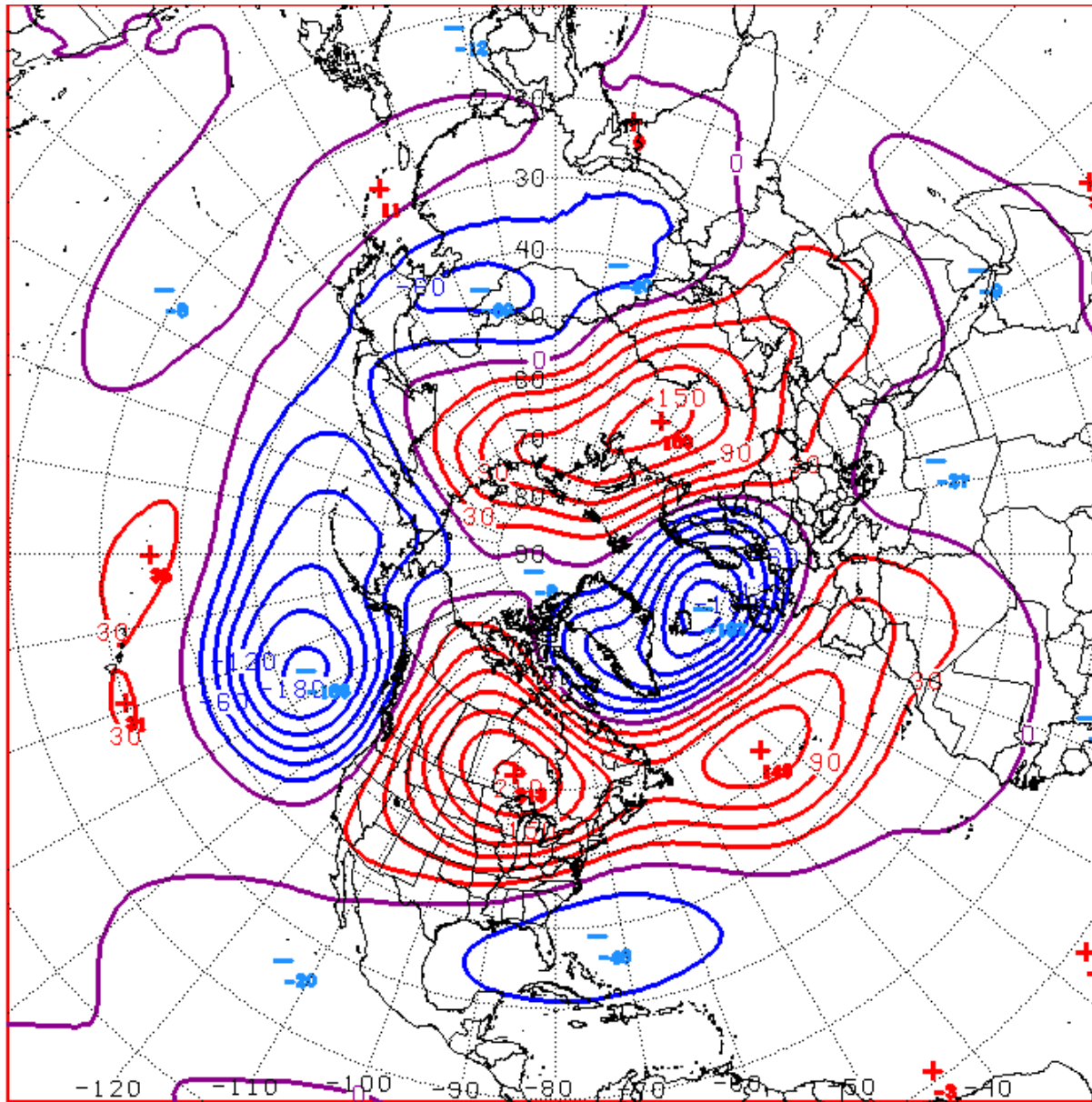
○ LESS THAN 34 KNOTS
 ⊖ 34-63 KNOTS
 ● MORE THAN 63 KNOTS
 PAST 6 HOURLY CYCLONE POSITS IN BLACK
 FORECAST CYCLONE POSITS IN COLOR



Connections to U.S. Impacts

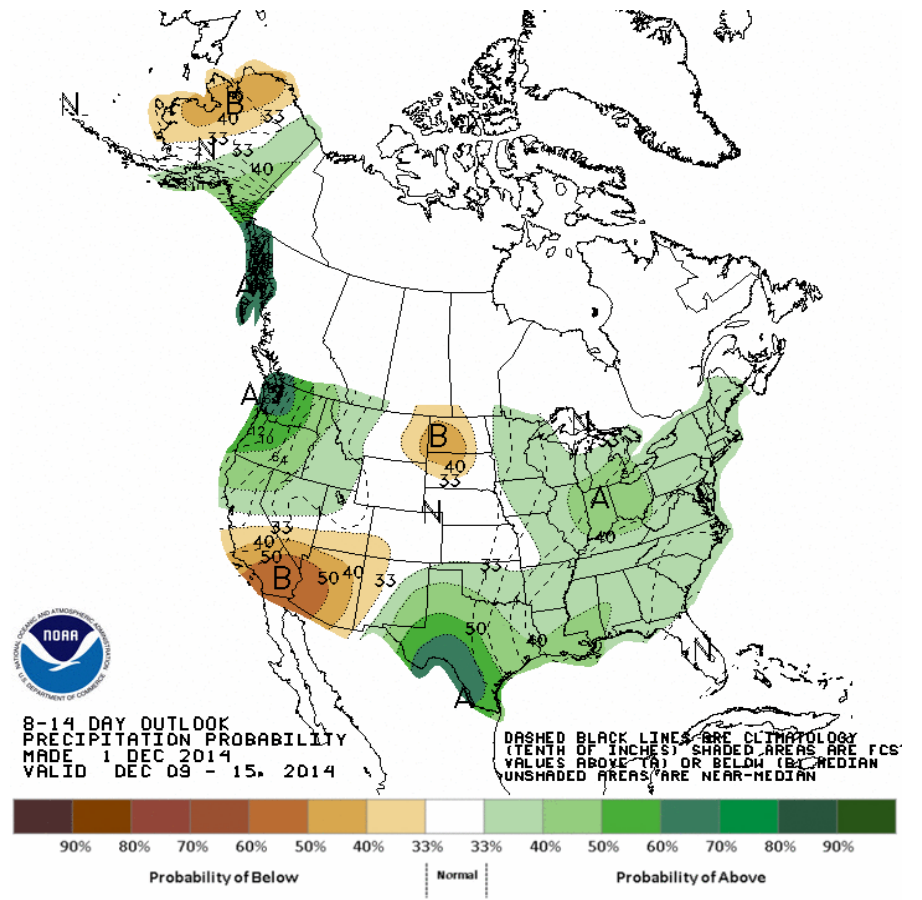
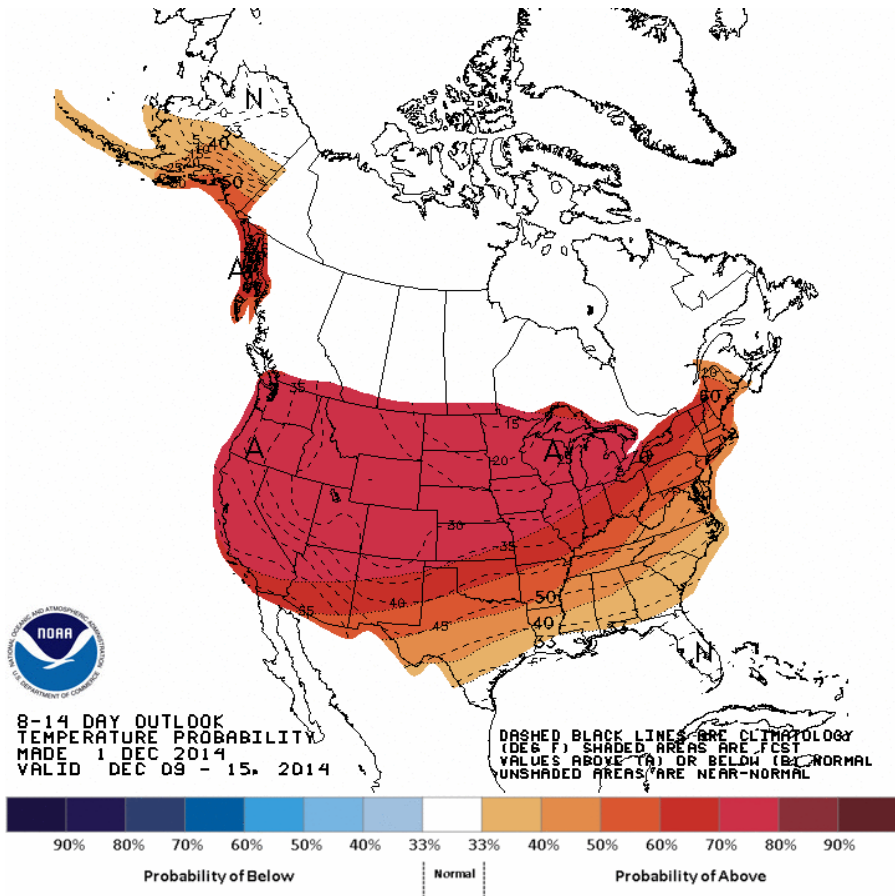
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE DEC 02 2014 1157 UTC CNTD DEC 13 2014

Week 2 – Temperature and Precipitation

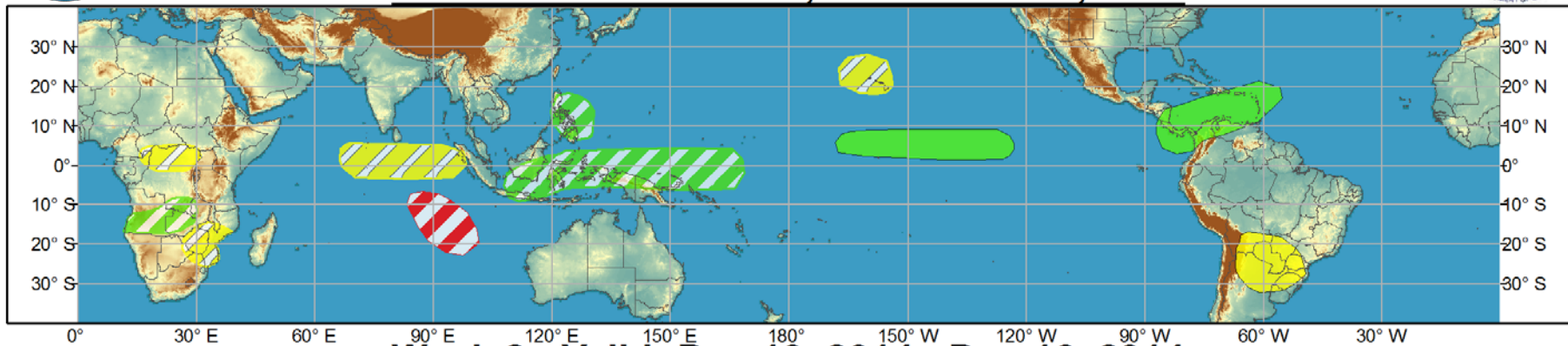




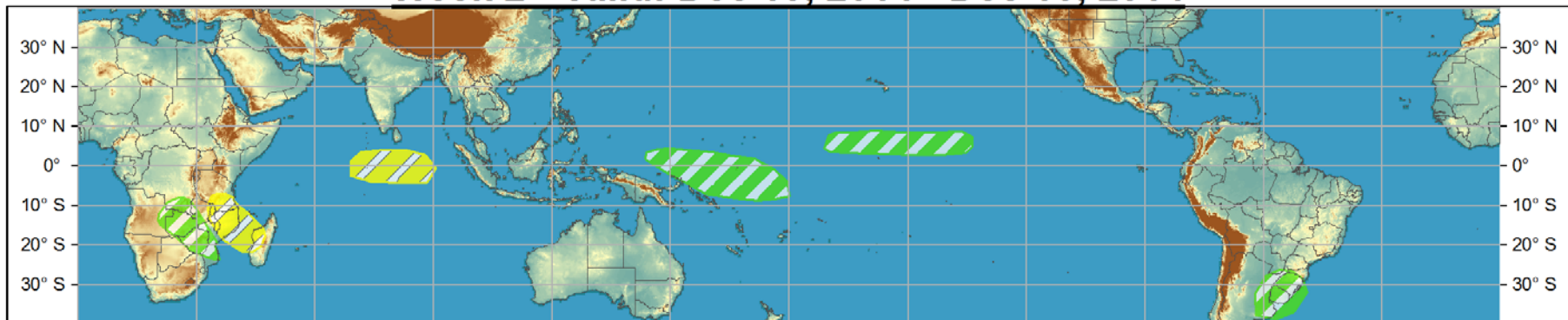
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 03, 2014 - Dec 09, 2014



Week 2 - Valid: Dec 10, 2014 - Dec 16, 2014



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

Produced: 12/02/2014

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.

