

Global Tropics Hazards And Benefits Outlook

April 7, 2015

Stephen Baxter

Outline

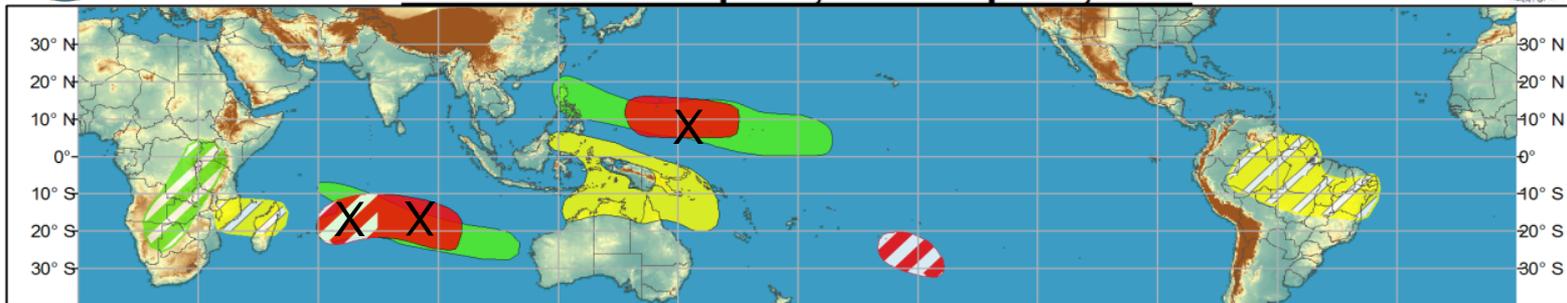
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts



Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Apr 01, 2015 - Apr 07, 2015

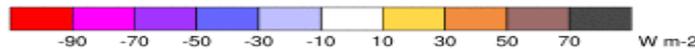
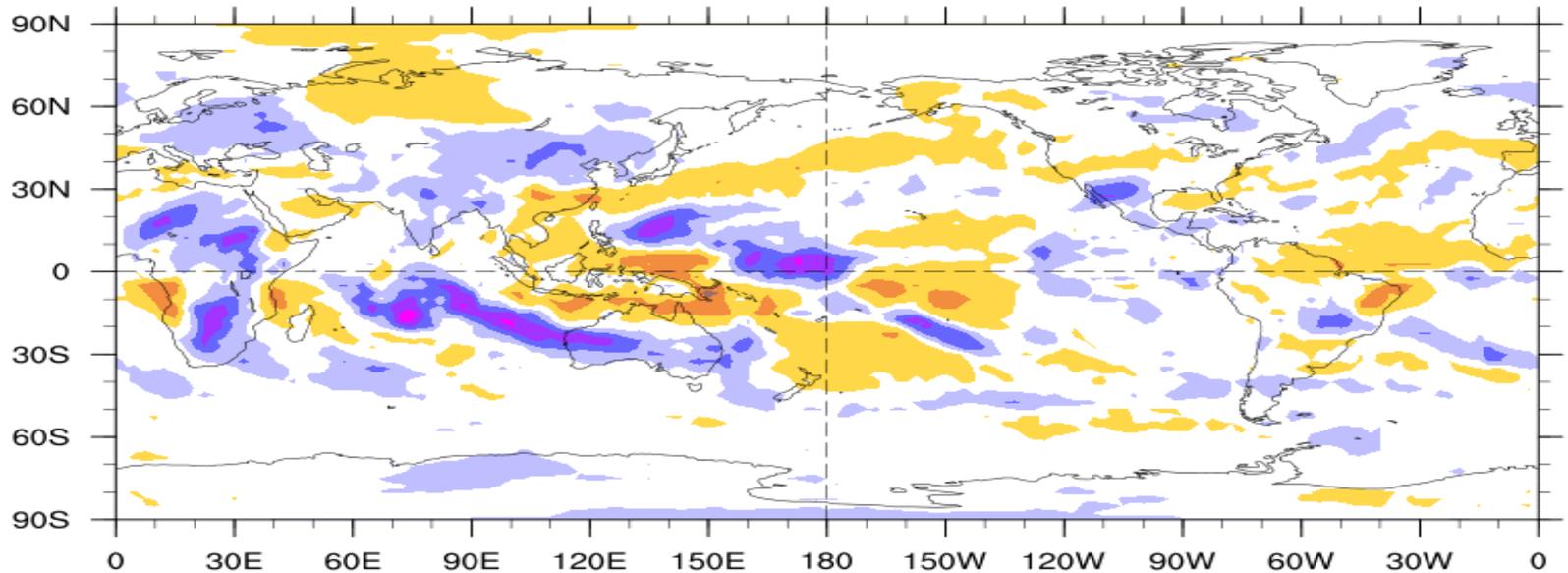


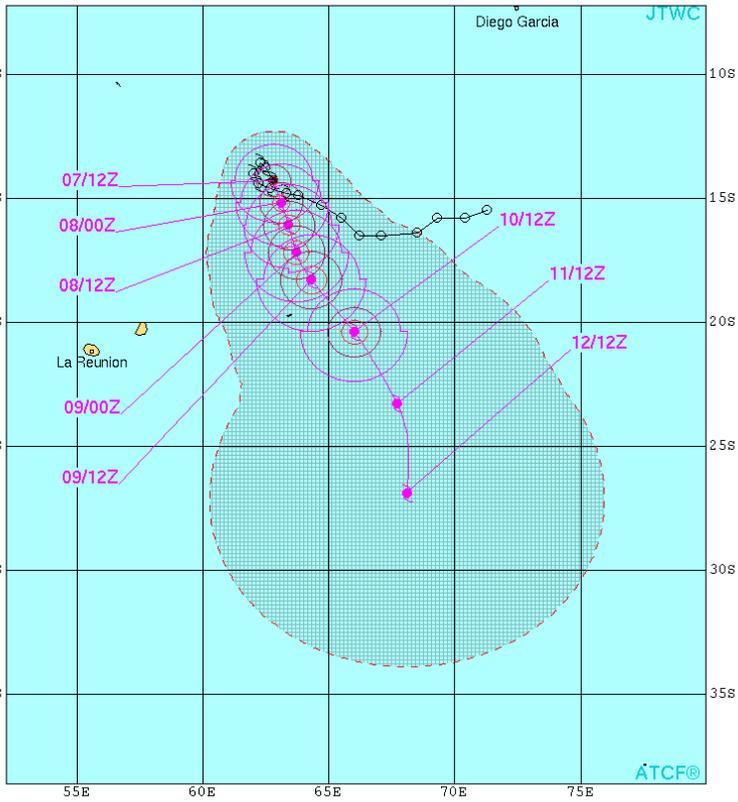
Week 2 - Valid: Apr 01, 2015 - Apr 07, 2015



7-Day Average OLR Anomaly

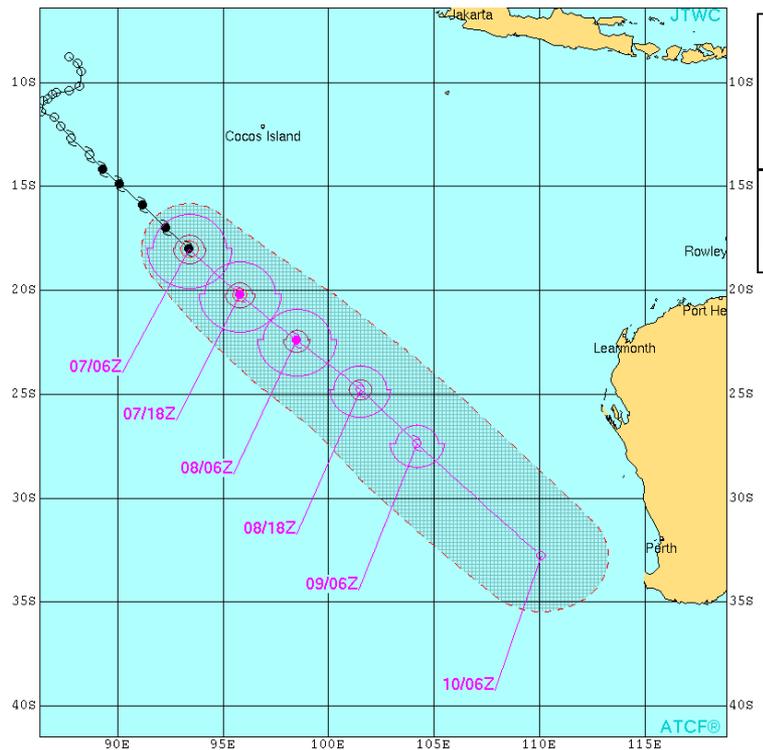
2015/03/30 - 2015/04/05





TROPICAL CYCLONE 22S (JOALANE) WARNING #4
 WTKS32 PGTW 071500
 071200Z POSIT: NEAR 14.3S 62.8E
 MOVING 150 DEGREES TRUE AT 06 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 22 FEET
 07/12Z, WINDS 080 KTS, GUSTS TO 100 KTS
 08/00Z, WINDS 100 KTS, GUSTS TO 125 KTS
 08/12Z, WINDS 115 KTS, GUSTS TO 140 KTS
 09/00Z, WINDS 130 KTS, GUSTS TO 160 KTS
 09/12Z, WINDS 140 KTS, GUSTS TO 170 KTS
 10/12Z, WINDS 135 KTS, GUSTS TO 165 KTS
 11/12Z, WINDS 110 KTS, GUSTS TO 135 KTS
 12/12Z, WINDS 085 KTS, GUSTS TO 105 KTS

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



TROPICAL CYCLONE 21S (IKOLA) WARNING #4
 WTKS31 PGTW 070900
 070600Z POSIT: NEAR 18.0S 93.4E
 MOVING 135 DEGREES TRUE AT 14 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 35 FEET
 07/06Z, WINDS 095 KTS, GUSTS TO 115 KTS
 07/18Z, WINDS 080 KTS, GUSTS TO 100 KTS
 08/06Z, WINDS 065 KTS, GUSTS TO 080 KTS
 08/18Z, WINDS 050 KTS, GUSTS TO 065 KTS
 09/06Z, WINDS 040 KTS, GUSTS TO 050 KTS
 10/06Z, WINDS 030 KTS, GUSTS TO 040 KTS

○ 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 Alert System Status: El Niño Advisory
- Outlook: There is an approximately 50-60% chance that El Niño conditions will continue through Northern Hemisphere summer 2015.

MJO and other subseasonal tropical variability:

- The MJO remained active during the past week, with the enhanced phase propagating to the eastern Indian Ocean and western Maritime Continent.
- The El Niño base state and South Indian Ocean TC activity are destructively interfering with the MJO signal.
- Most dynamical model MJO index forecasts show significant weakening of the signal during over the next several days.

Extratropics:

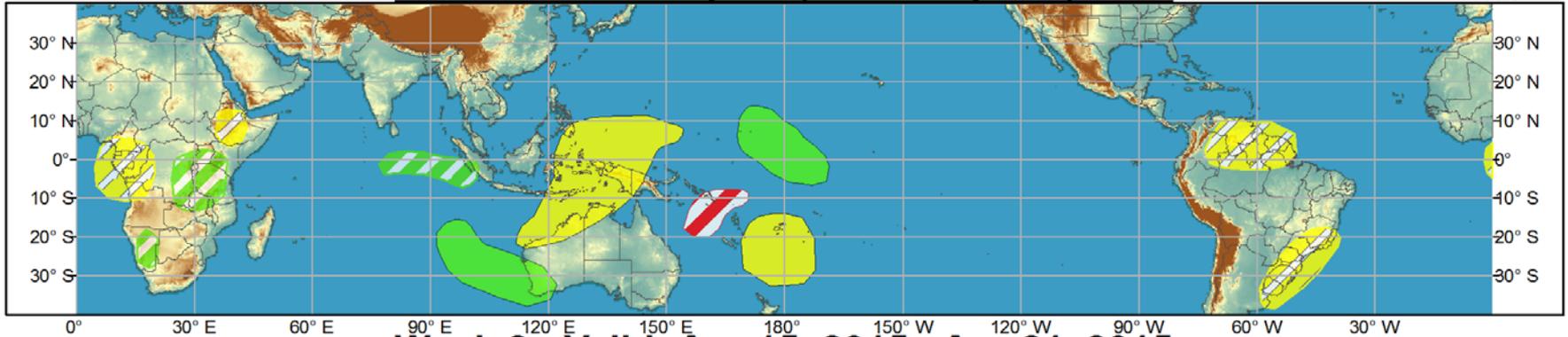
- Extratropical impacts from the tropical subseasonal signal are usually less discernable during the N.H. spring season. The strongest tropical-extratropical teleconnection moving forward is more likely associated with the El Niño-type convection over the central Pacific.



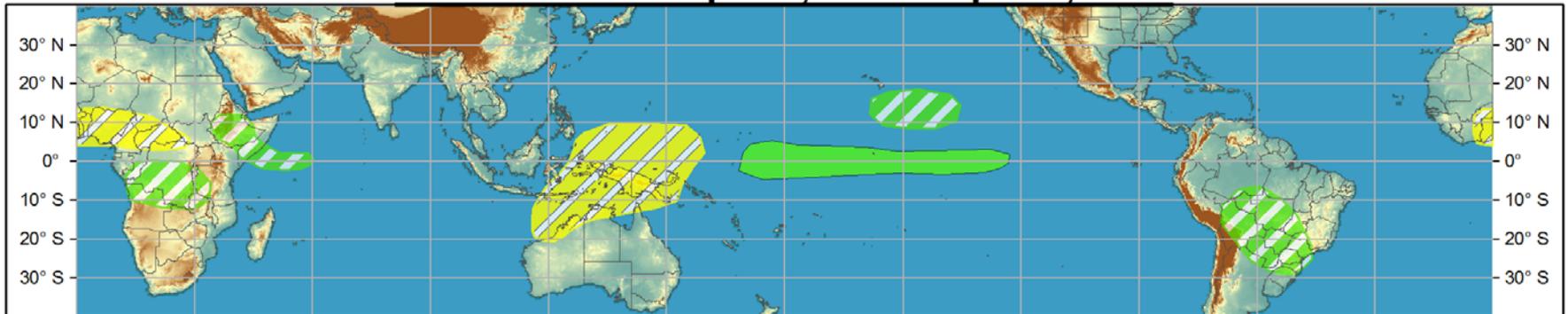
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Week 1 - Valid: Apr 08, 2015 - Apr 14, 2015



Week 2 - Valid: Apr 15, 2015 - Apr 21, 2015



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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Produced: 04/07/2015

Forecaster: Baxter

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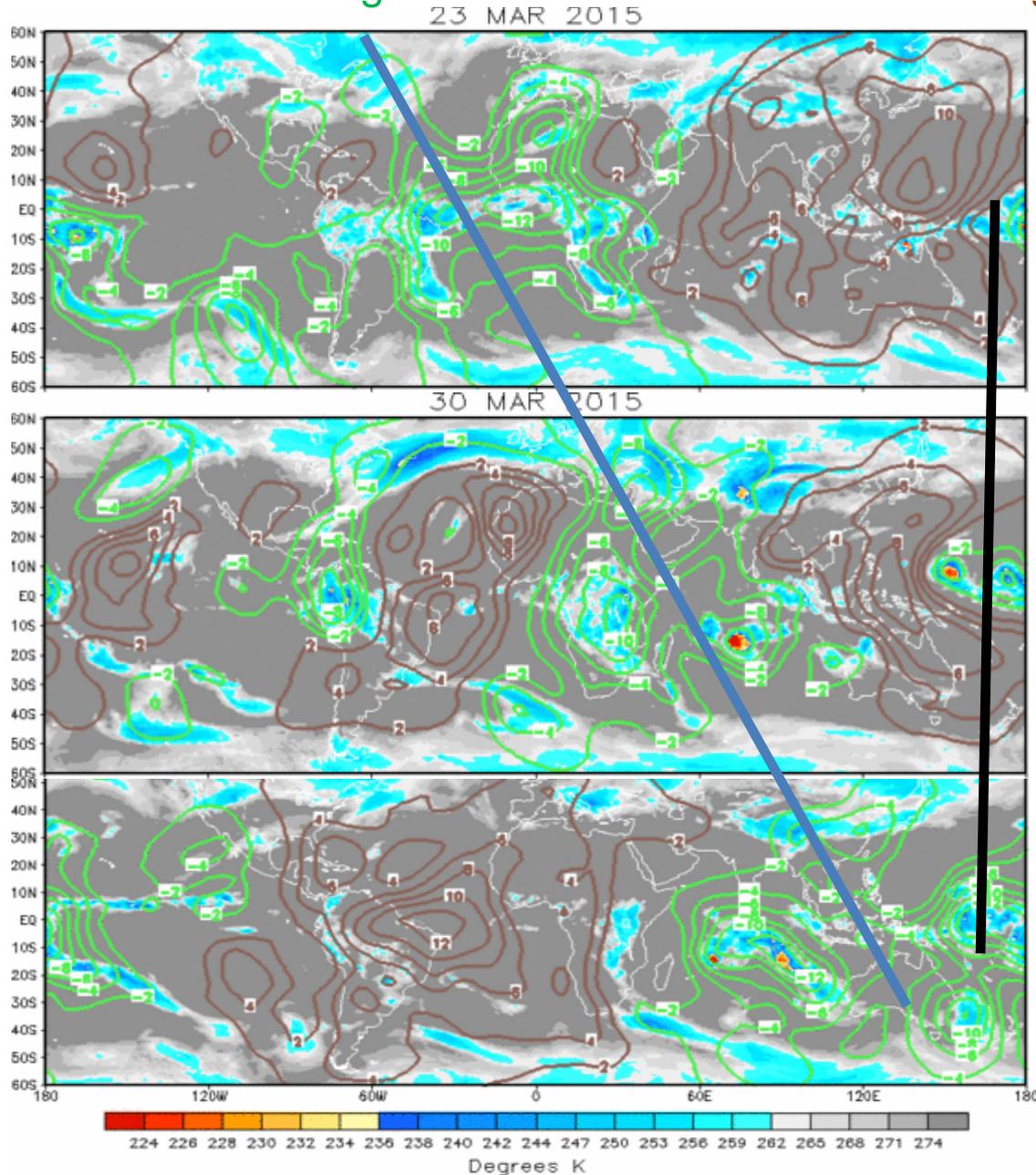
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

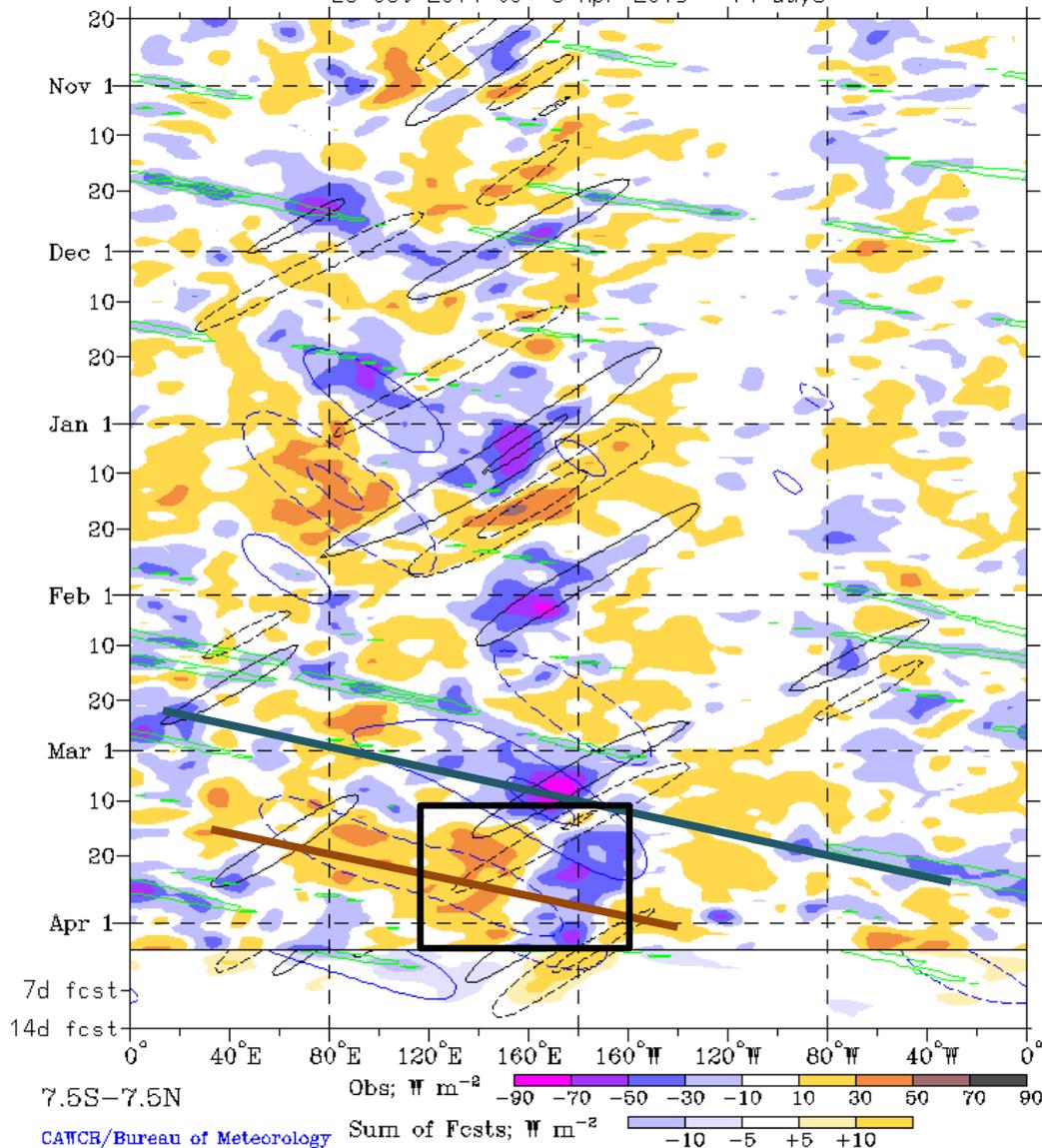
Robust MJO propagation is evident (blue line)

El Niño base state is also evident (black line)

Pattern has regained a Wave-1 structure.



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)
 20-Oct-2014 to 6-Apr-2015 + 14 days



Low frequency is contributing, especially near the Date Line.

Note interference between MJO suppressed phase and the low frequency state.

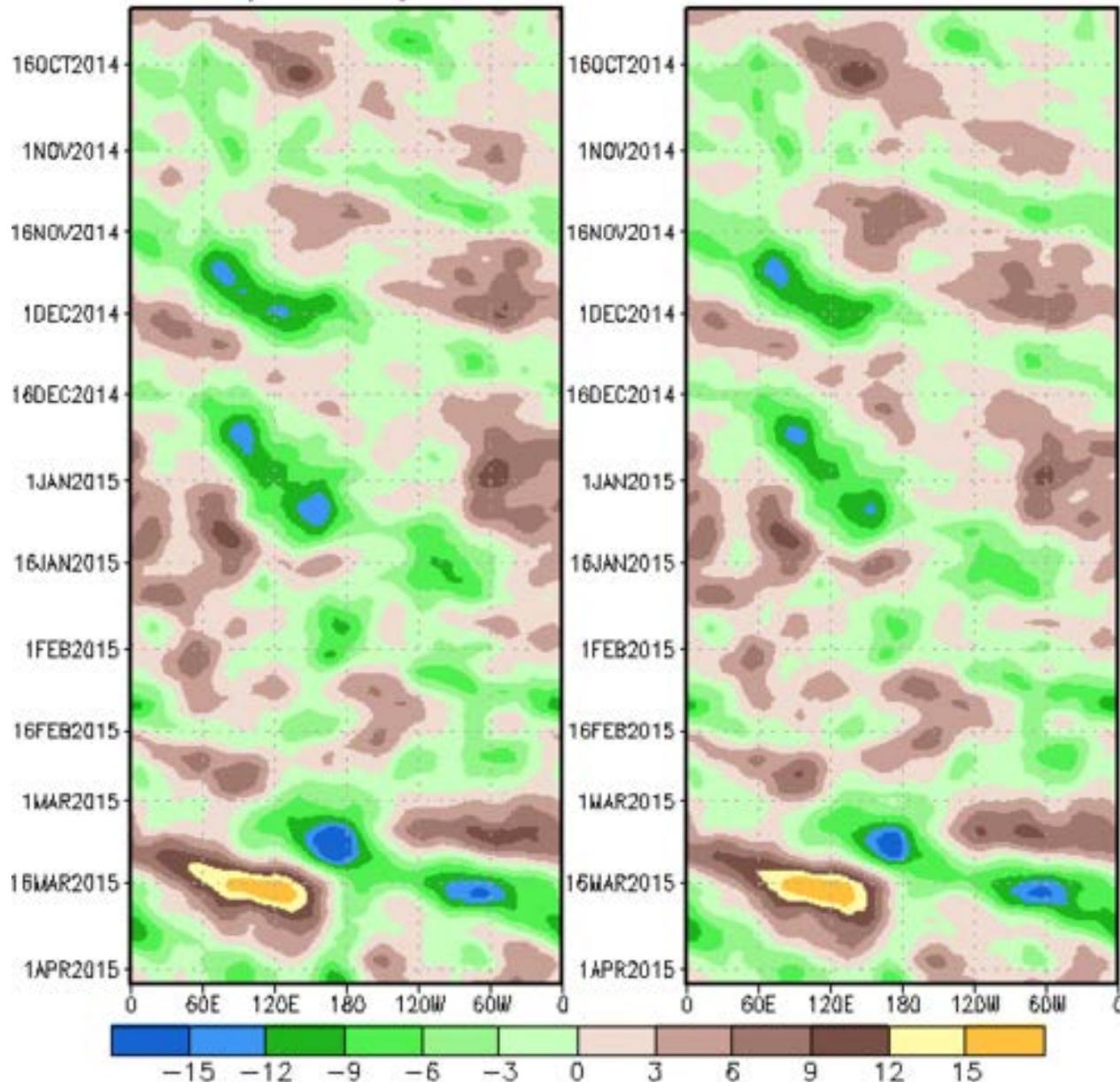
Box indicates a base state consistent with El Niño.

MJO activity apparent in OLR Field, with fast phase speed (projecting onto KW band at times)

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

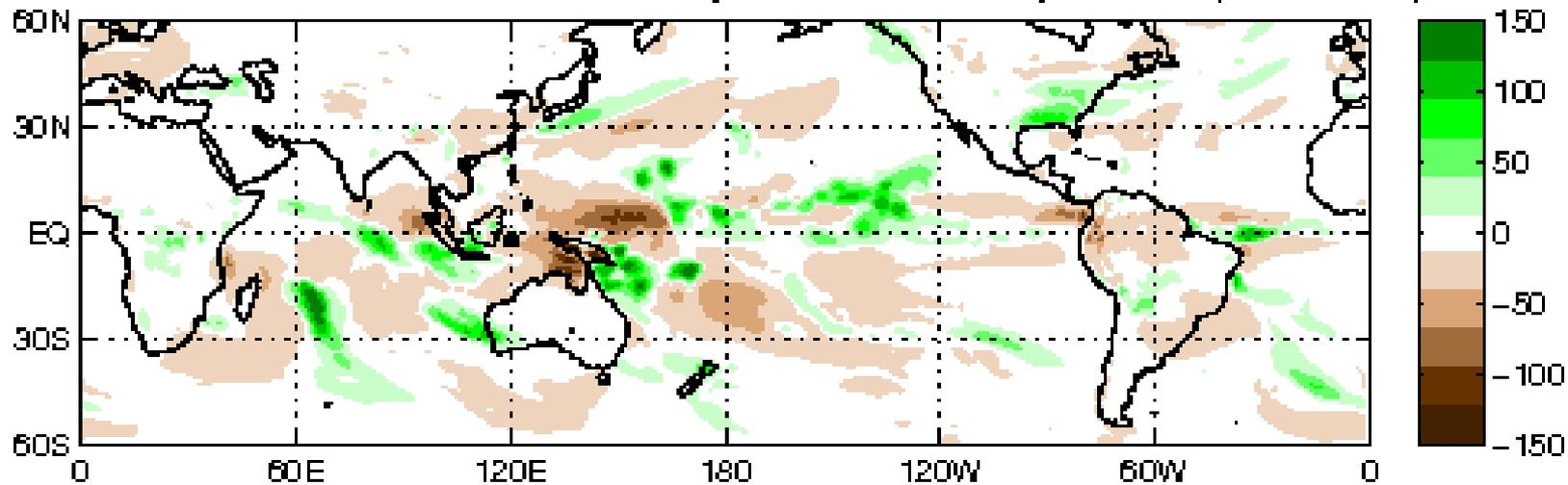
5-day Running Mean

Period-Mean Removed

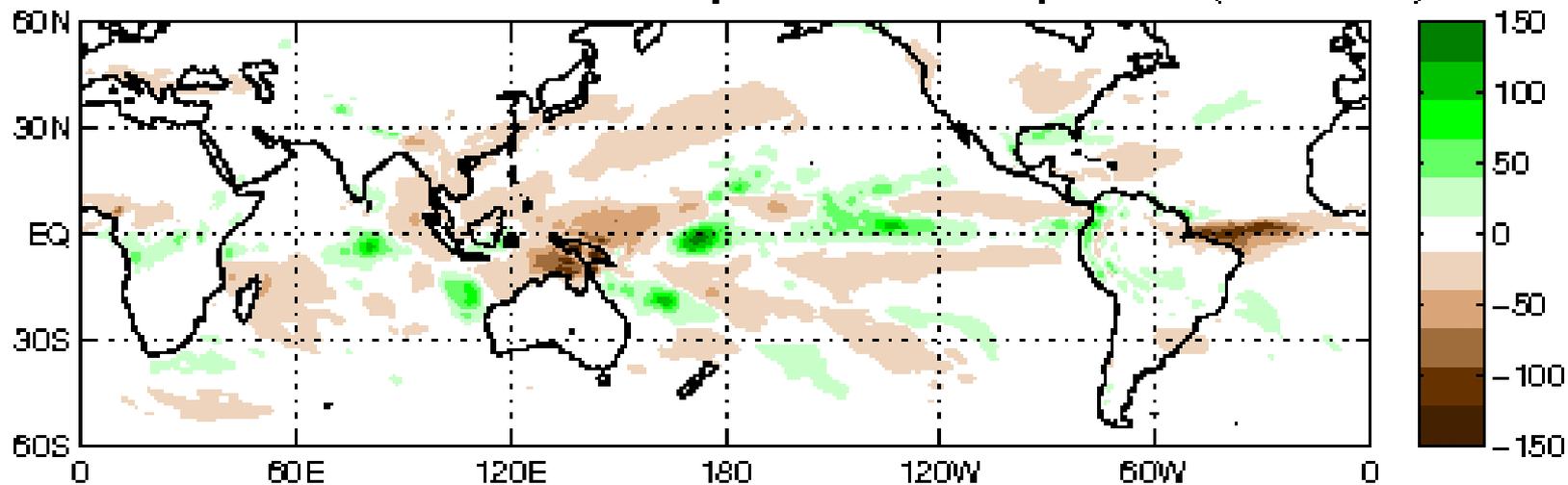


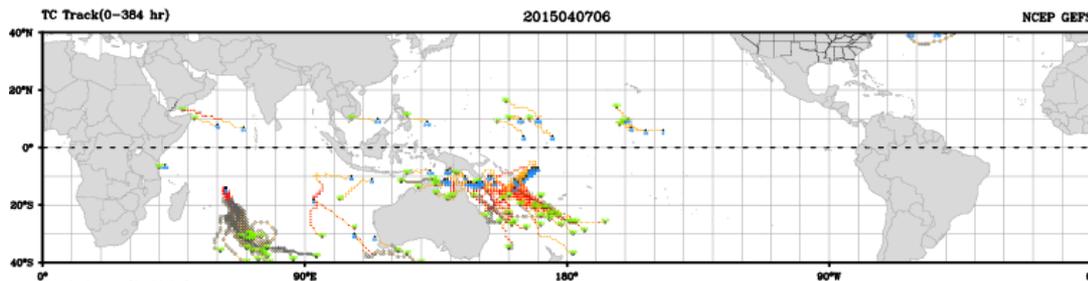
Data updated through 04 APR 2015

CFS: Anom. PREC Week: 1: 08-Apr-2015 to 14-Apr-2015 (mm/week)

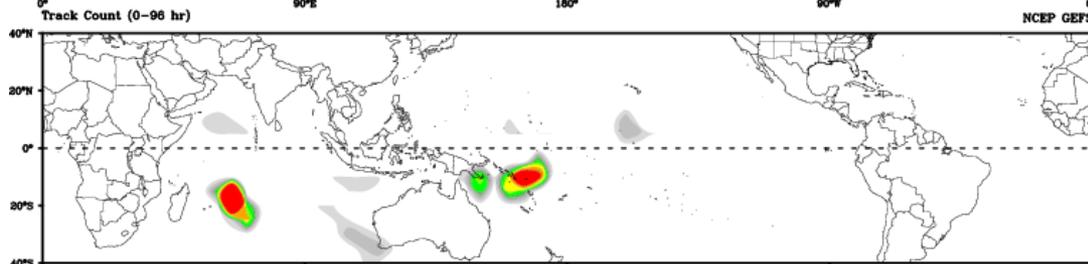


CFS: Anom. PREC Week: 2: 15-Apr-2015 to 21-Apr-2015 (mm/week)

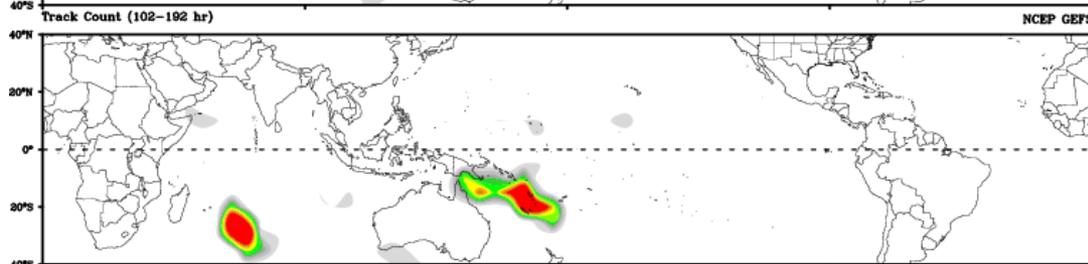




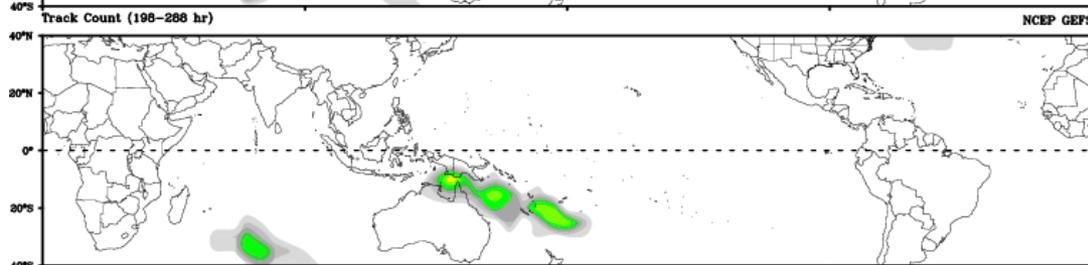
Days 1-4



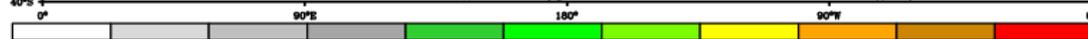
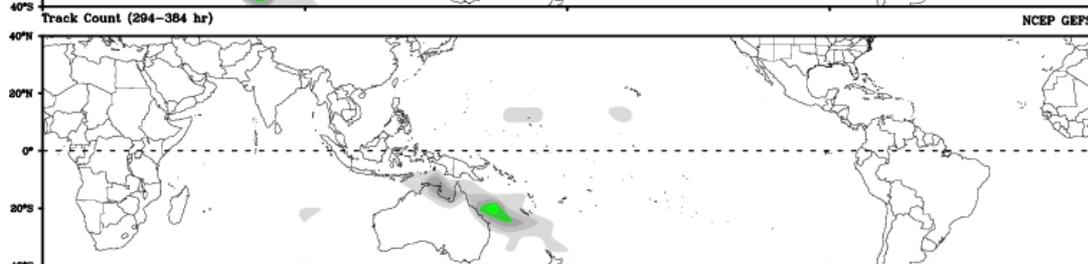
Day 5-8



Day 9-12

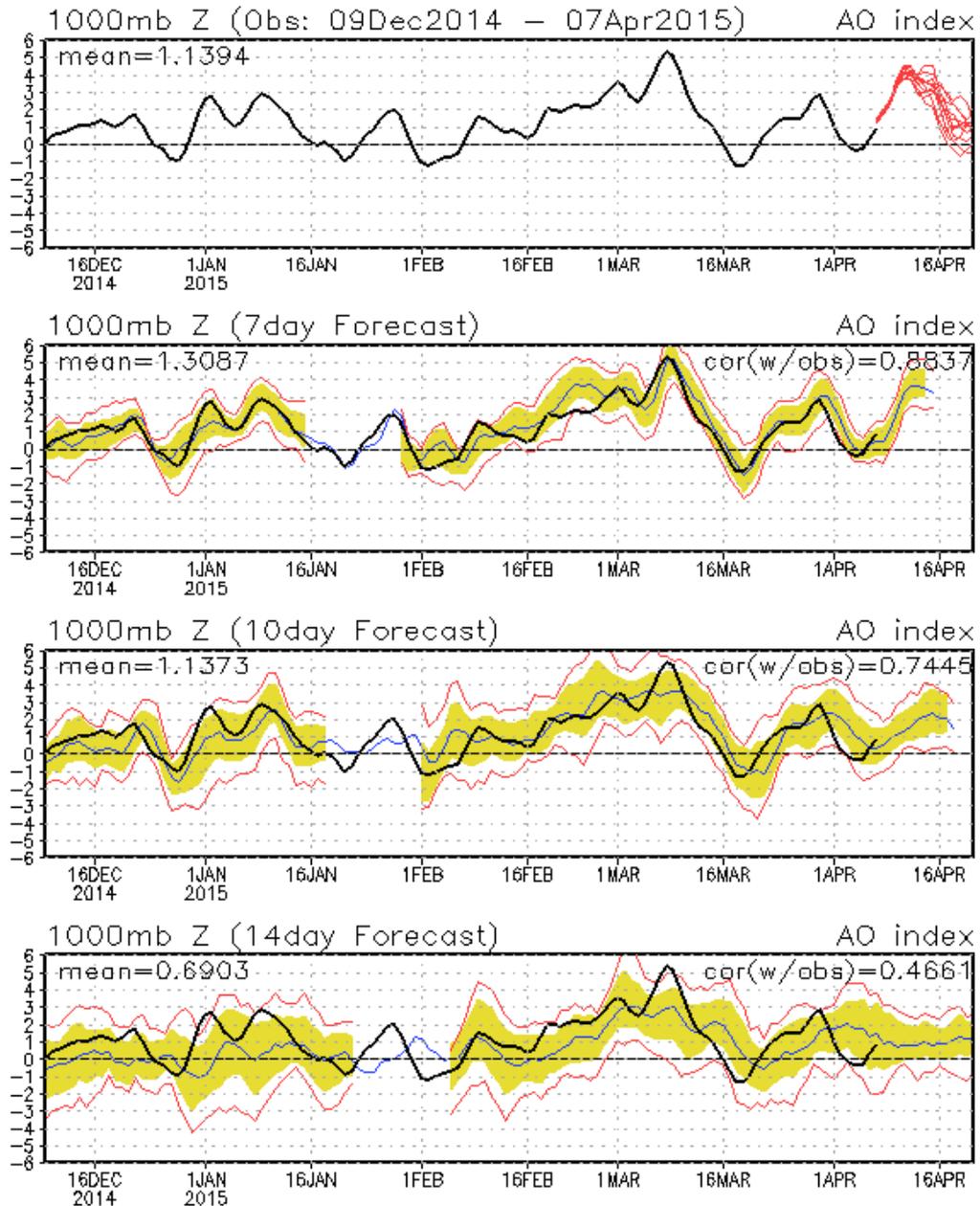


Day 13-16

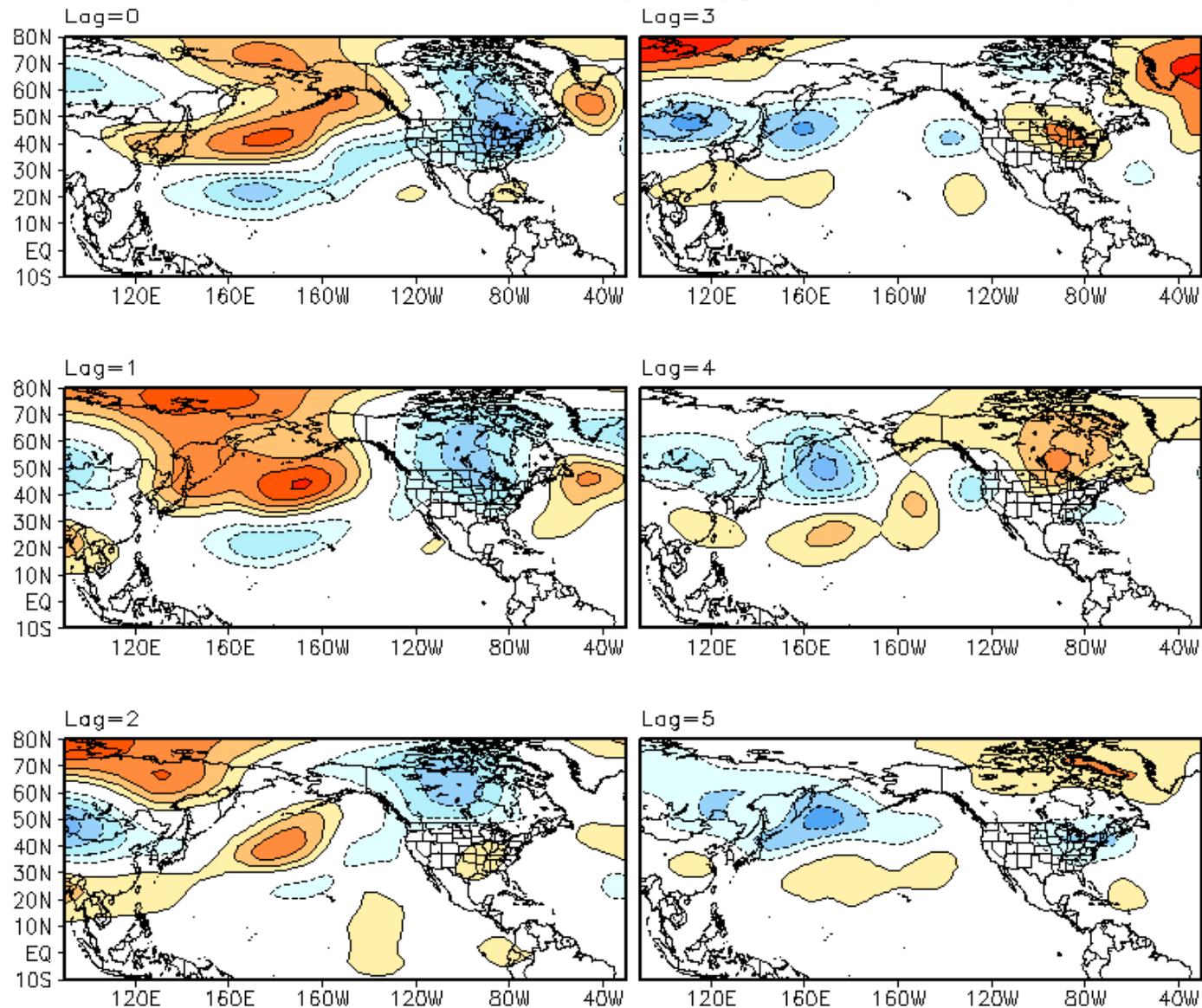


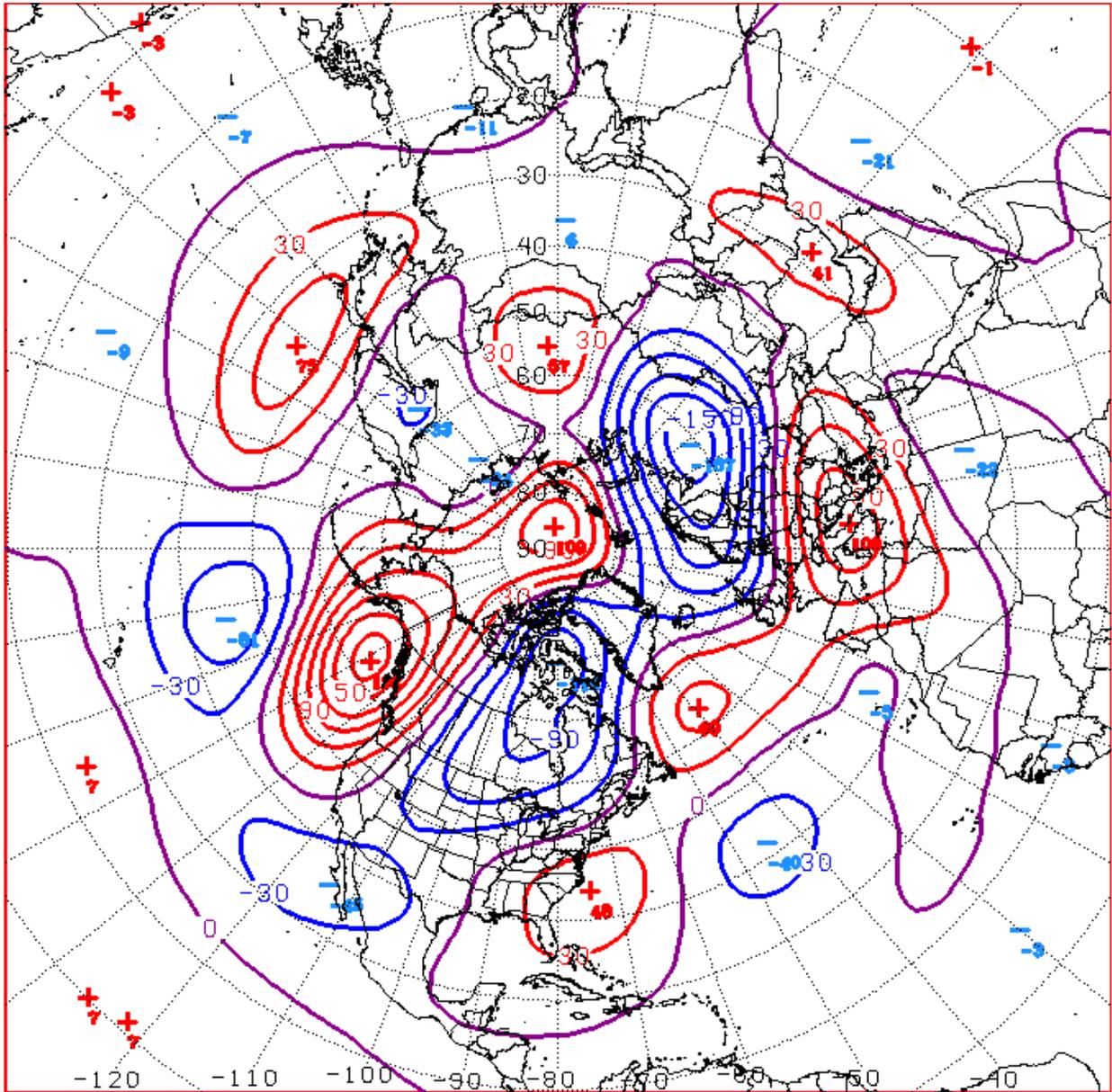
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



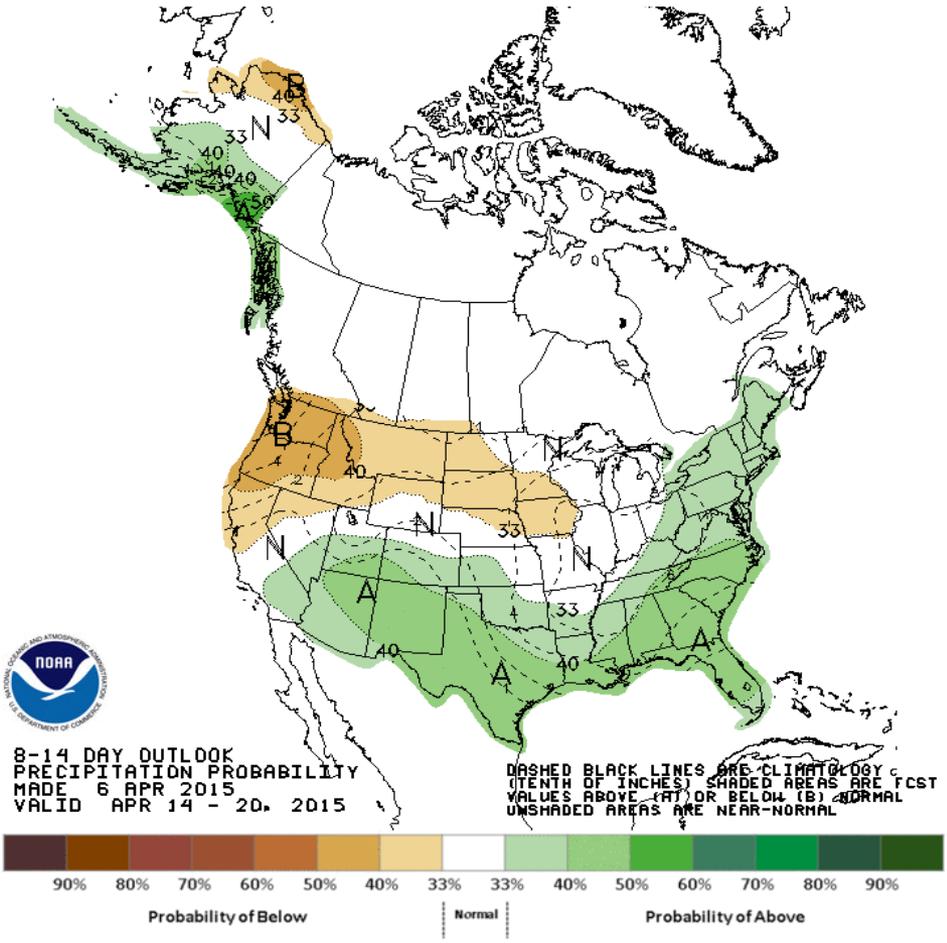
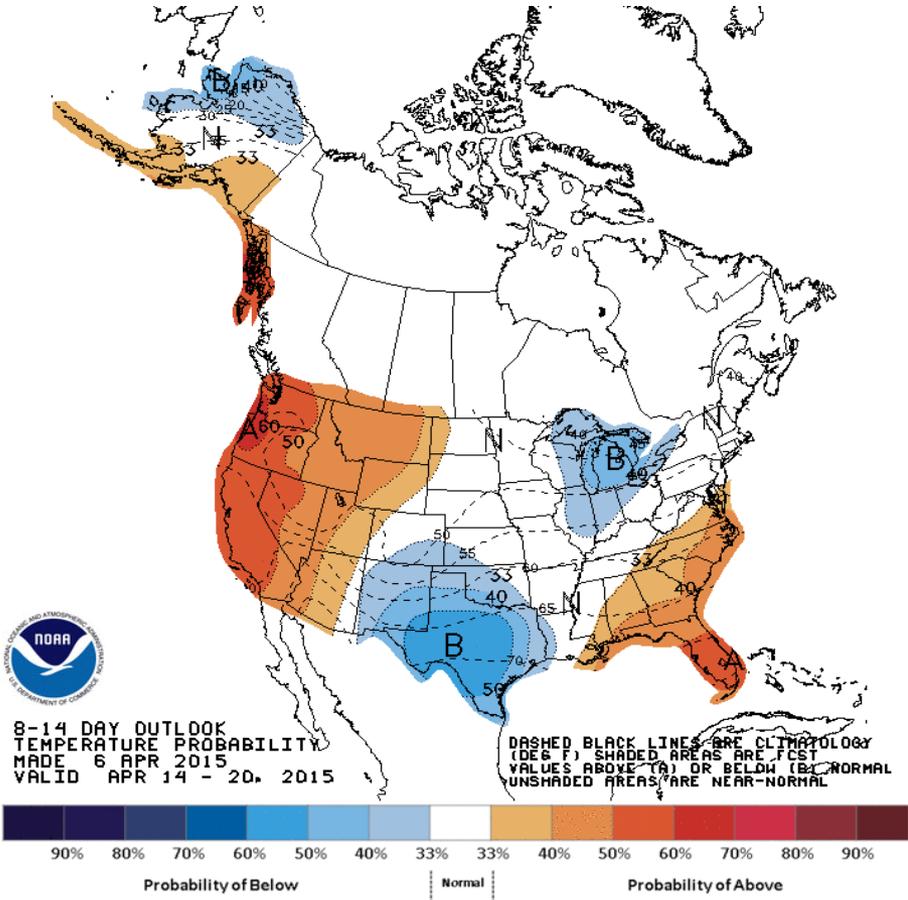
RMM Phase 3 200-hPa Height Lagged Composite (mam)





D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE APR 07 2015 1023 UTC CNTD APR 18 2015

Week 2 – Temperature and Precipitation

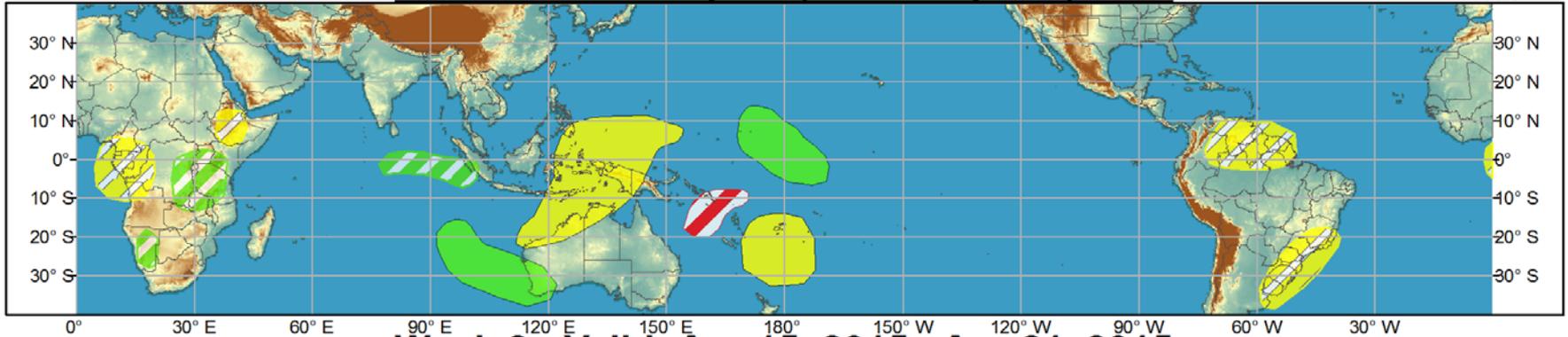




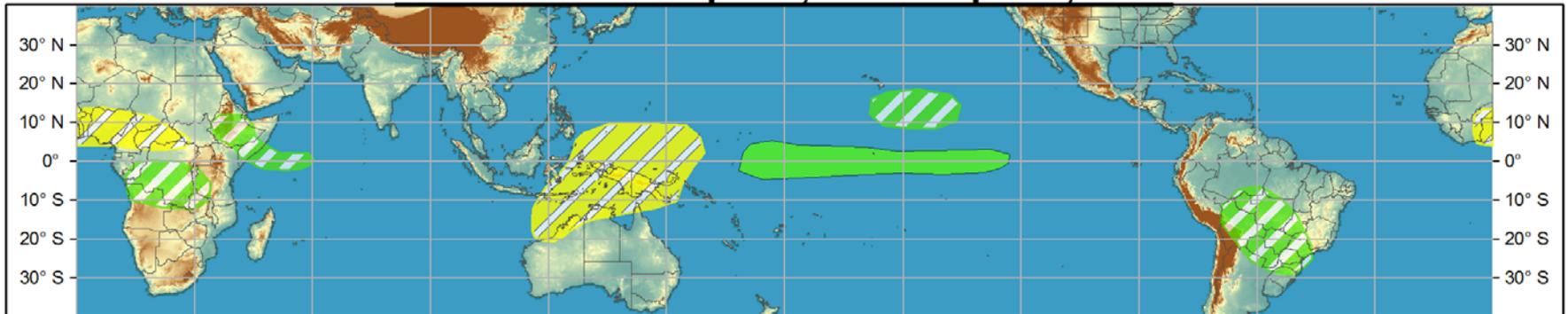
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