Global Tropics Hazards And Benefits Outlook

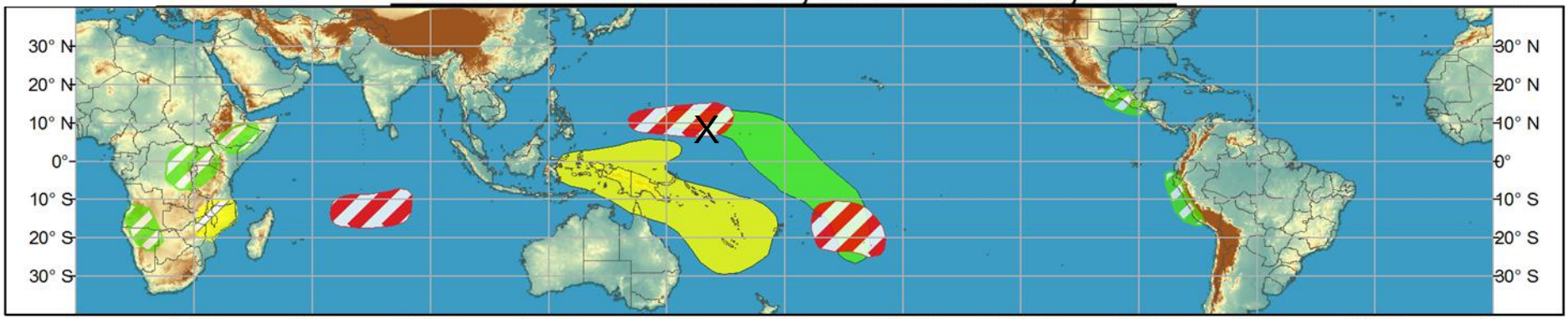
March 31, 2015

Adam Allgood

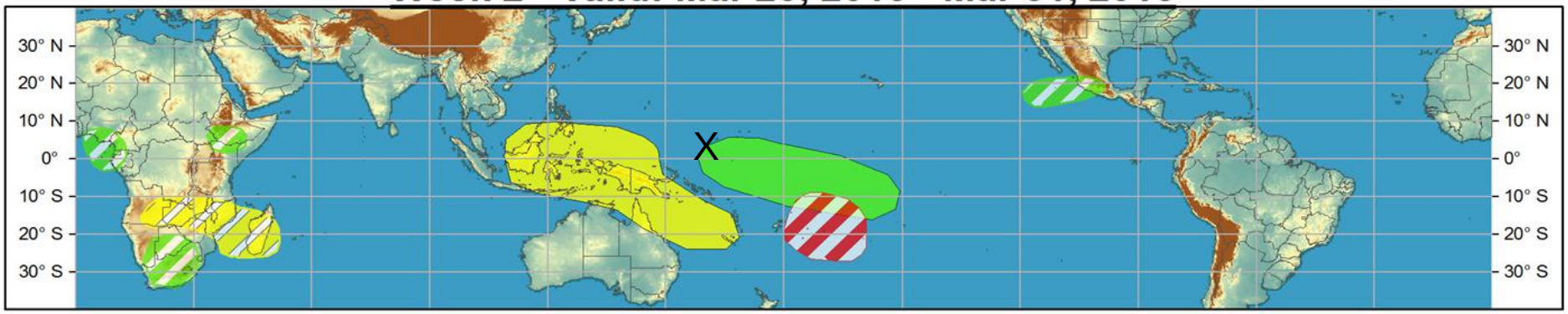
Outline

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: Mar 25, 2015 - Mar 31, 2015

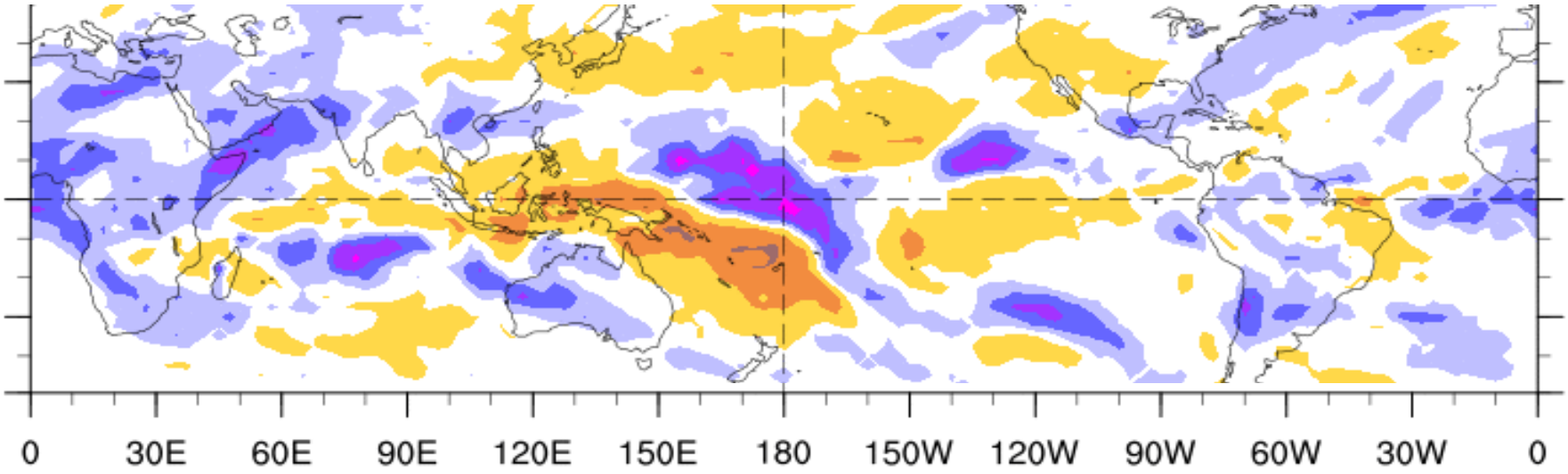


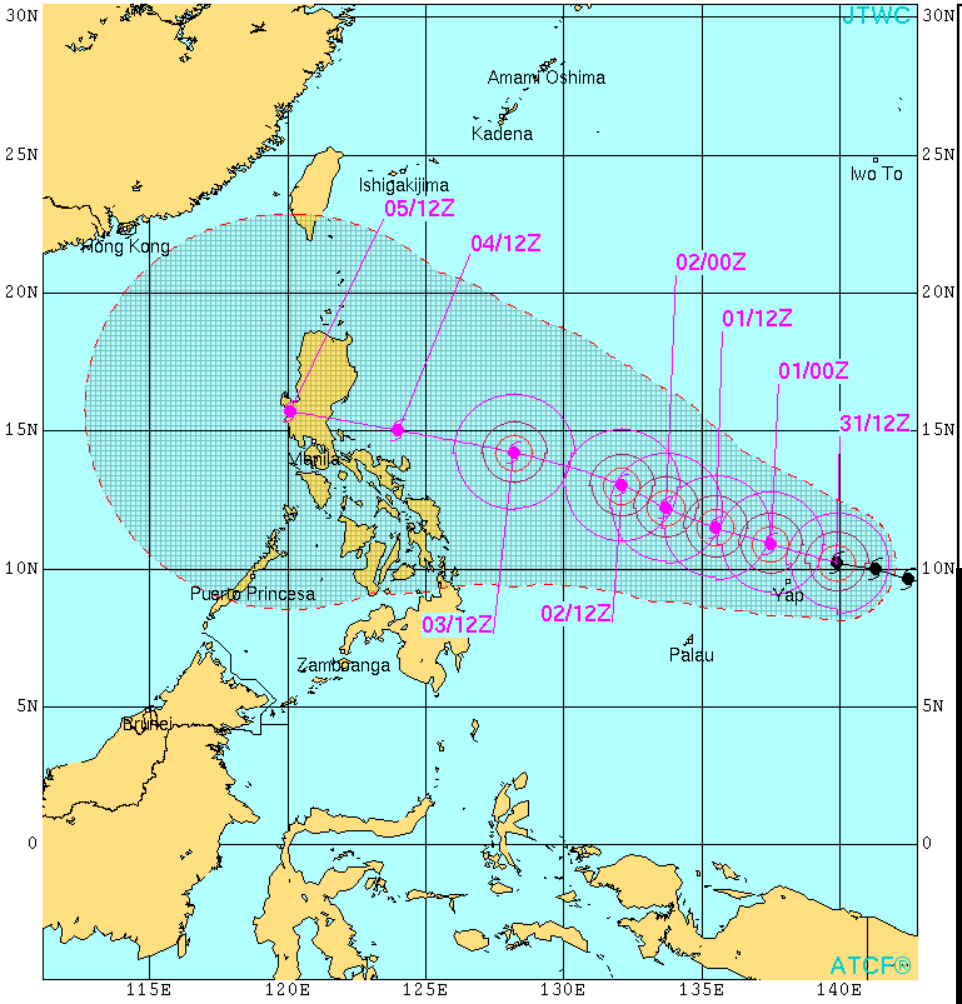
Week 2 - Valid: Mar 25, 2015 - Mar 31, 2015



7-Day Average OLR Anomaly

2015/03/23 - 2015/03/29

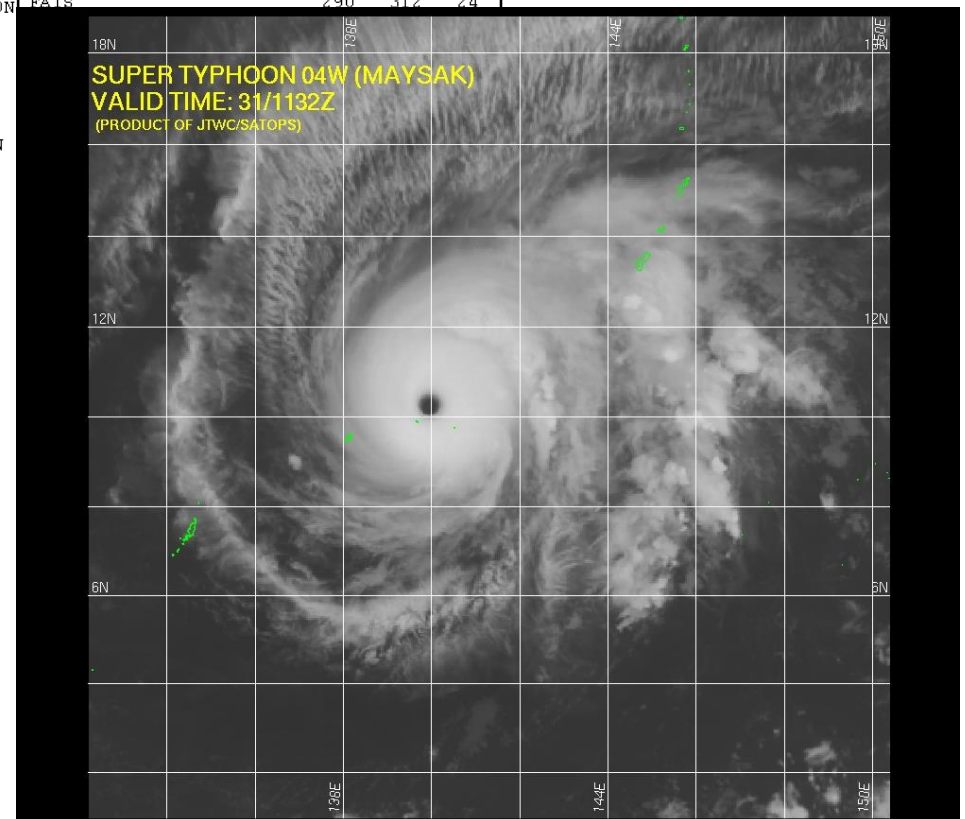




SUPER TYPHOON 04W (MAYSAK) WARNING #19
WTPN31 PGTW 311500
311200Z POSIT: NEAR 10.2N 139.9E
MOVING 280 DEGREES TRUE AT 14 KNOTS
MAXIMUM SIGNIFICANT WAVE HEIGHT: 40 FEET
31/12Z, WINDS 140 KTS, GUSTS TO 170 KTS
01/00Z, WINDS 150 KTS, GUSTS TO 180 KTS
01/12Z, WINDS 155 KTS, GUSTS TO 190 KTS
02/00Z, WINDS 140 KTS, GUSTS TO 170 KTS
02/12Z, WINDS 130 KTS, GUSTS TO 160 KTS
03/12Z, WINDS 120 KTS, GUSTS TO 145 KTS
04/12Z, WINDS 105 KTS, GUSTS TO 130 KTS
05/12Z, WINDS 065 KTS, GUSTS TO 080 KTS

CPA TO:	NM	DTG
KAYANGEL	208	01/10Z
KOROR	259	01/10Z
ANGAUR	286	01/11Z
MANILA	55	05/05Z
CLARK_AB	24	05/08Z
SUBIC_BAY	52	05/10Z
PUERTO_PRINCESA	369	05/12Z
ULITHI	23	31/13Z
YAP	71	31/19Z
NGULU	150	31/21Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
ANGAUR	015	287	24
FAIS	290	312	24



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 very rapidly from the Western Hemisphere to the western Indian Ocean.

• The El Niño base state and West Pacific TC activity are currently destructively interfering with the MJO signal.

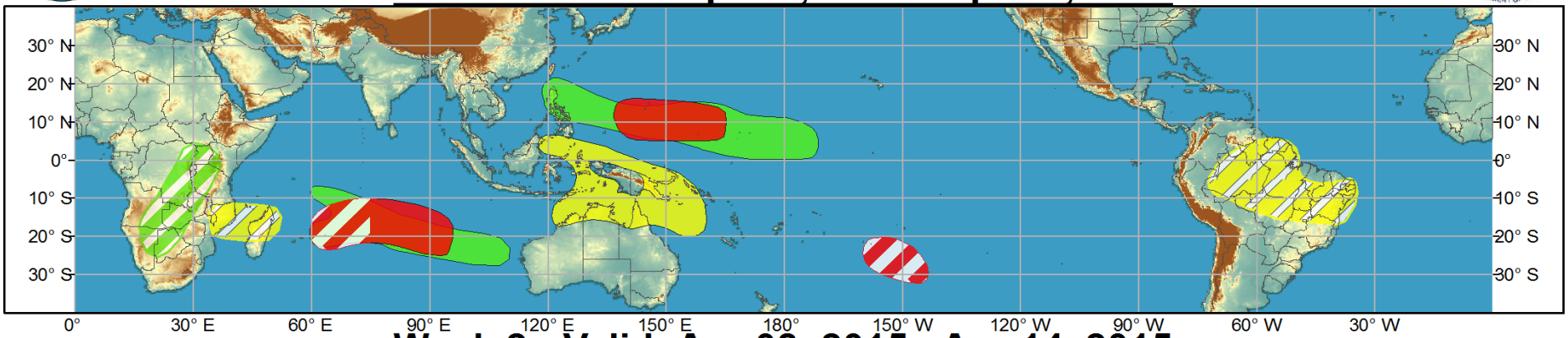
• Most dynamical model MJO index forecasts show continued MJO propagation over the Indian Ocean during Week-1, with significant weakening of the signal during Week-2.

Extratropics:

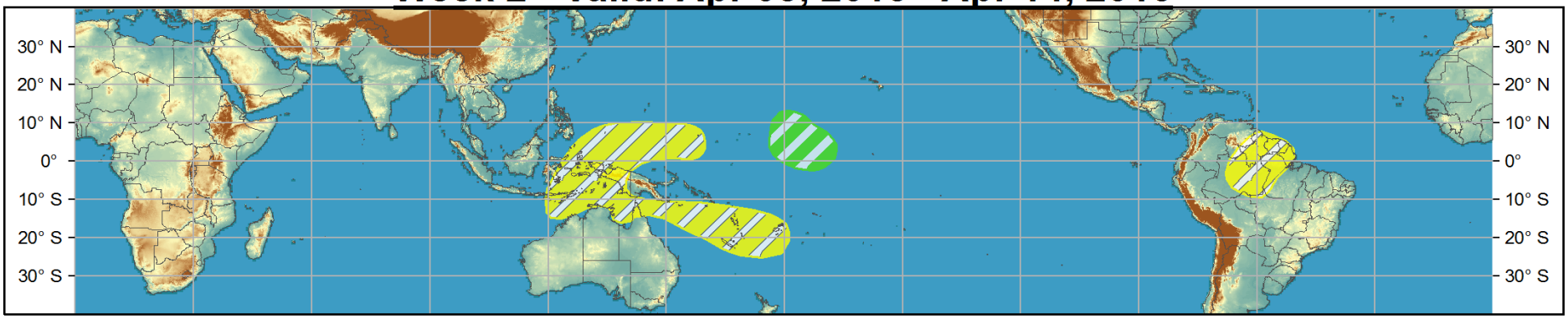
• Extratropical impacts from the tropical subseasonal signal are less discernable during the N.H. Spring season. Additionally, widespread robust Indian Ocean convection is not anticipated. The forecast pattern over North America for Week-2, however, does align reasonably well with lagged MJO composites for an Indian Ocean event.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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



Week 2 - Valid: Apr 08, 2015 - Apr 14, 2015



Produced: 03/31/2015

Forecaster: Allgood

	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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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.

中央氣象局 Central Weather Bureau

UNIVERSITY AT ALBANY State University of New York

EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

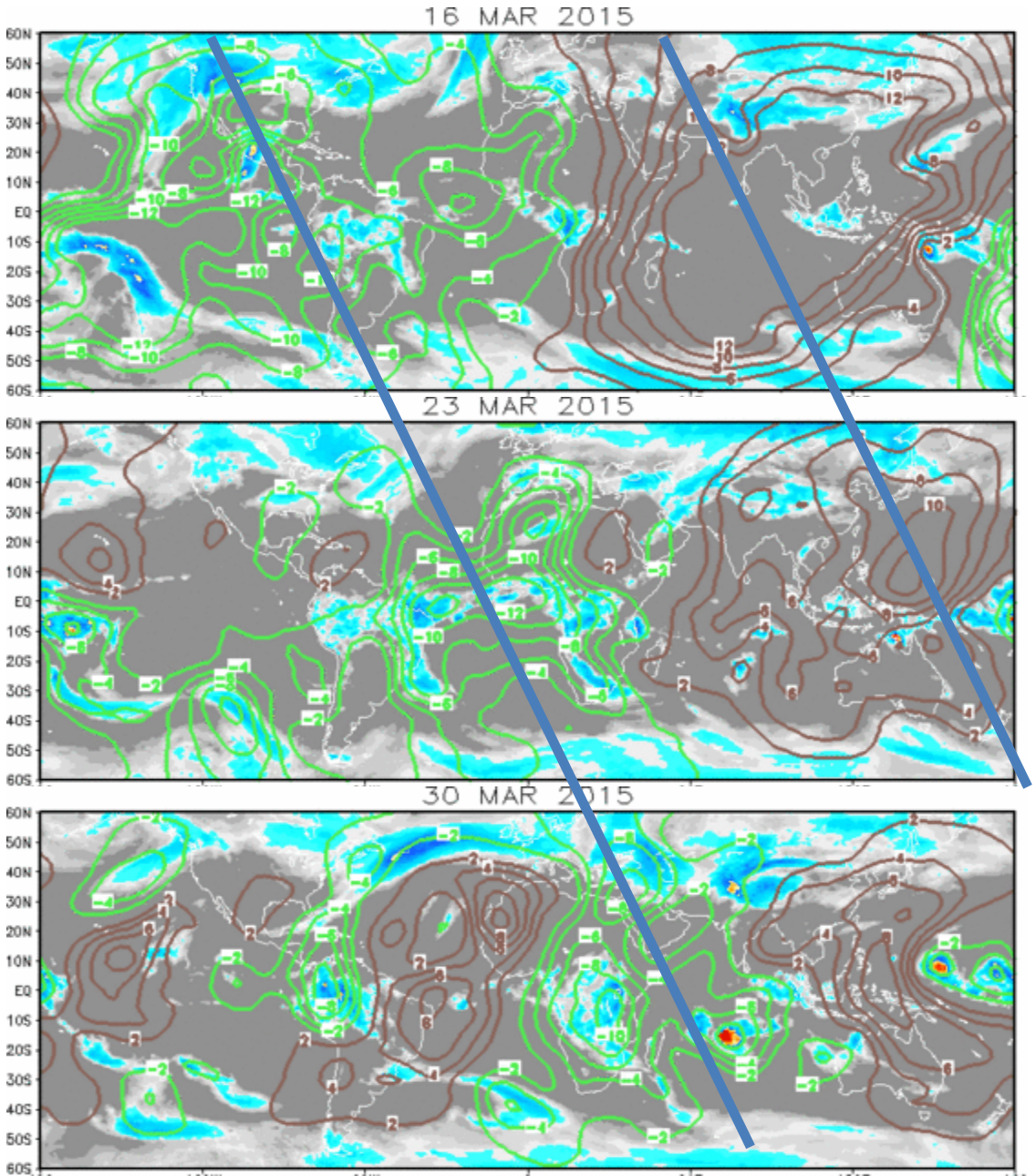
Australian Government Bureau of Meteorology

cics.nc

NPS PRAESTANTIA PER SCIENTIAM

IR Satellite & 200-hpa Velocity Potential Anomalies

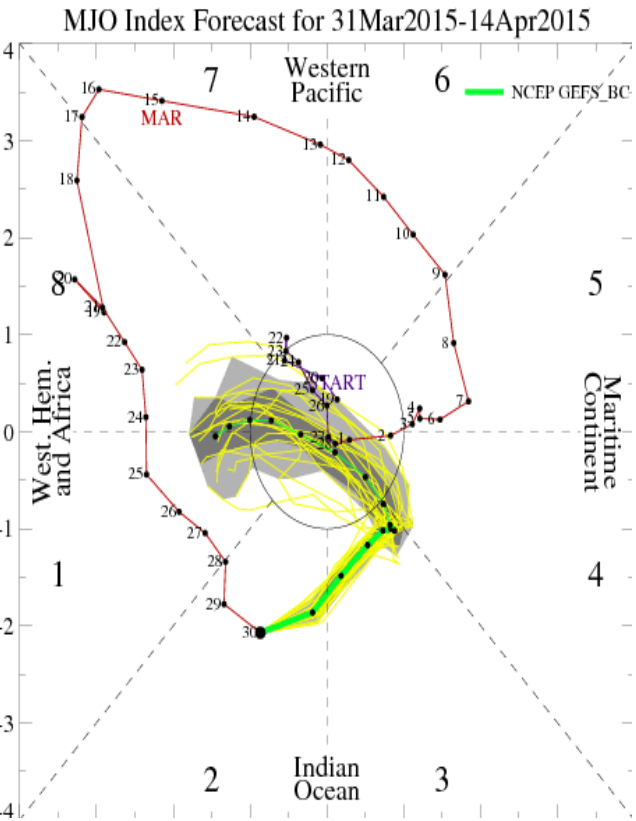
Green: Enhanced Divergence Brown: Enhanced Convergence



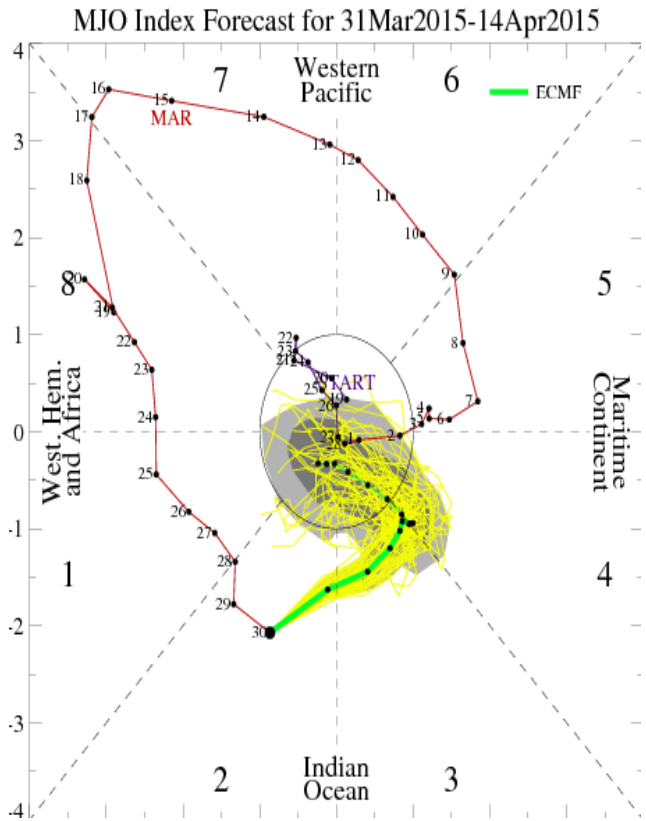
Robust MJO propagation is evident (blue lines)

More recent pattern is increasingly incoherent as other modes influence the pattern.

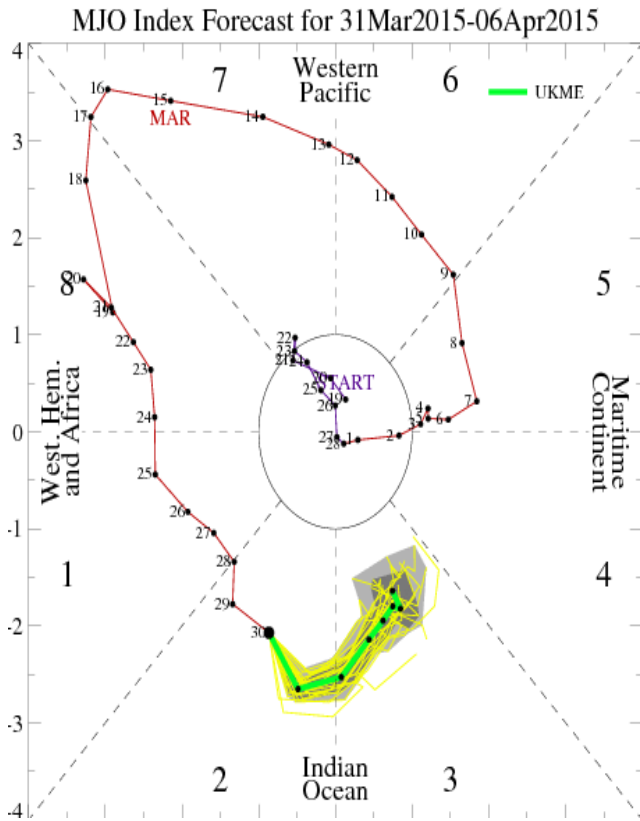
MJO Observation/Forecast



GFS



ECMWF

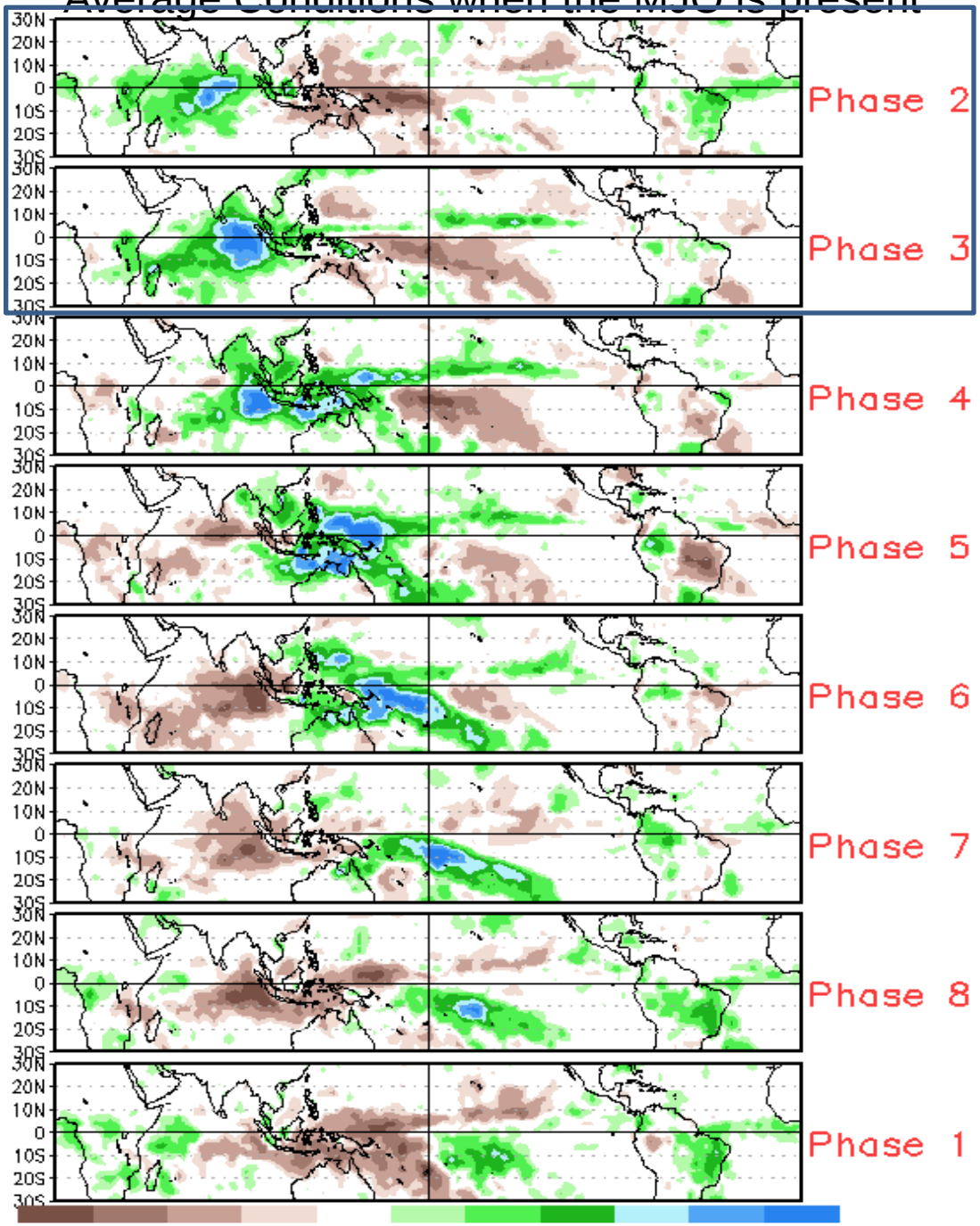


UKMET

Dynamical model MJO Index forecasts support additional propagation of the signal over the Indian Ocean during the next week.

The GFS and ECMWF both depict rapid weakening of the signal during Week-2.

Average Conditions when the MJO is present

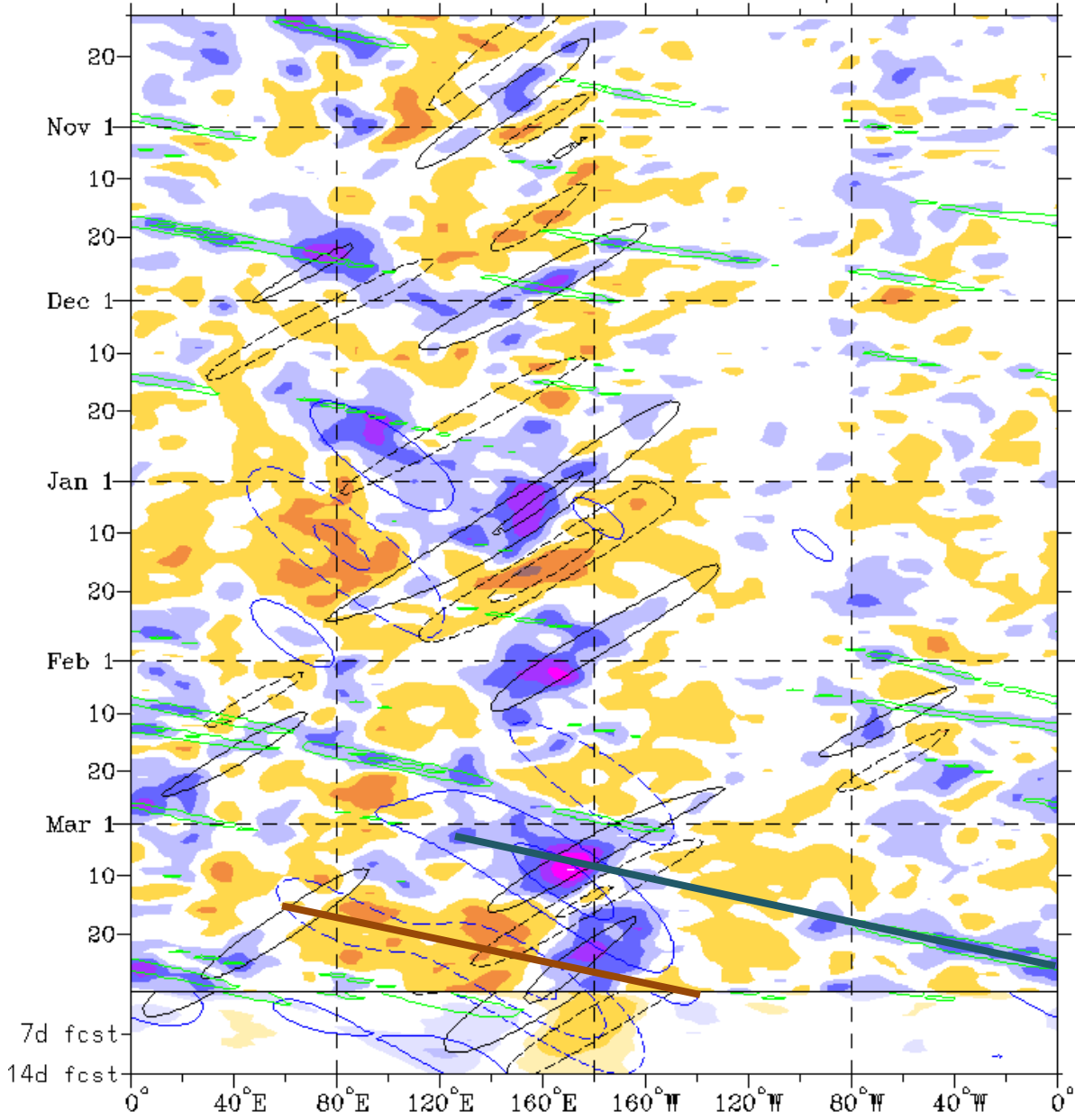


CAVEAT: These panels are representative of robust MJO events.

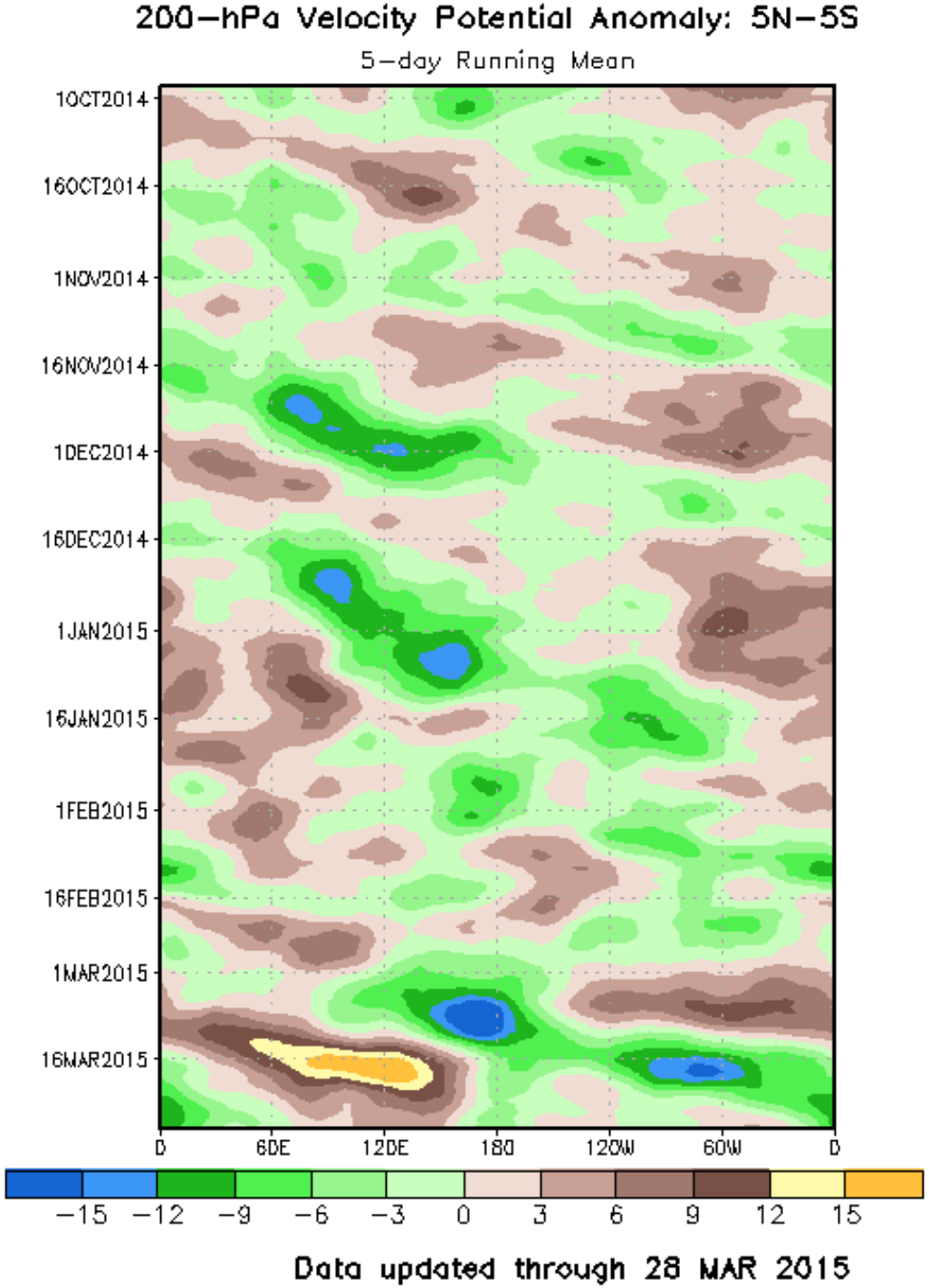
Also note the composites are for Nov – Mar.

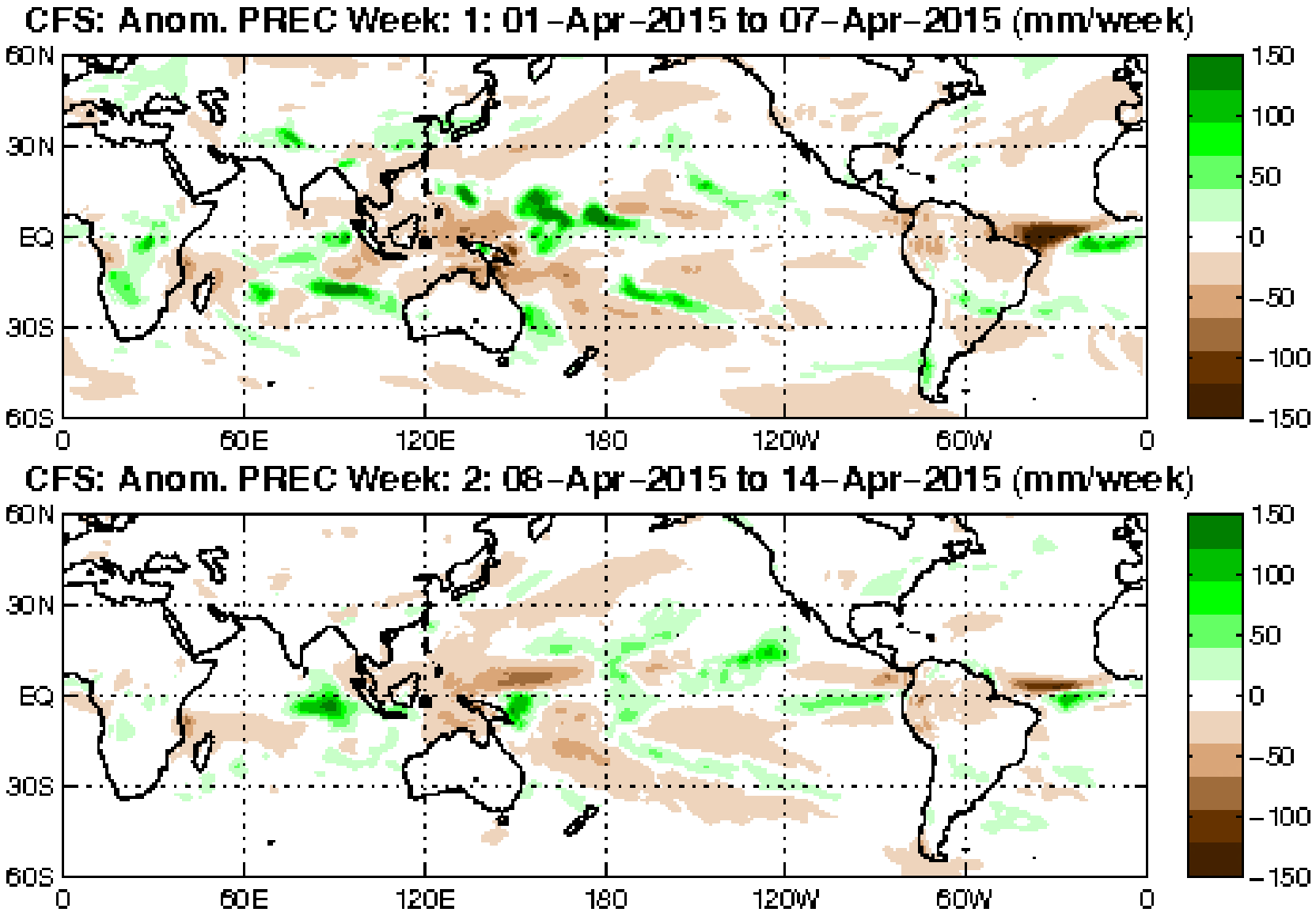
Low frequency is contributing, especially near the Date Line.

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

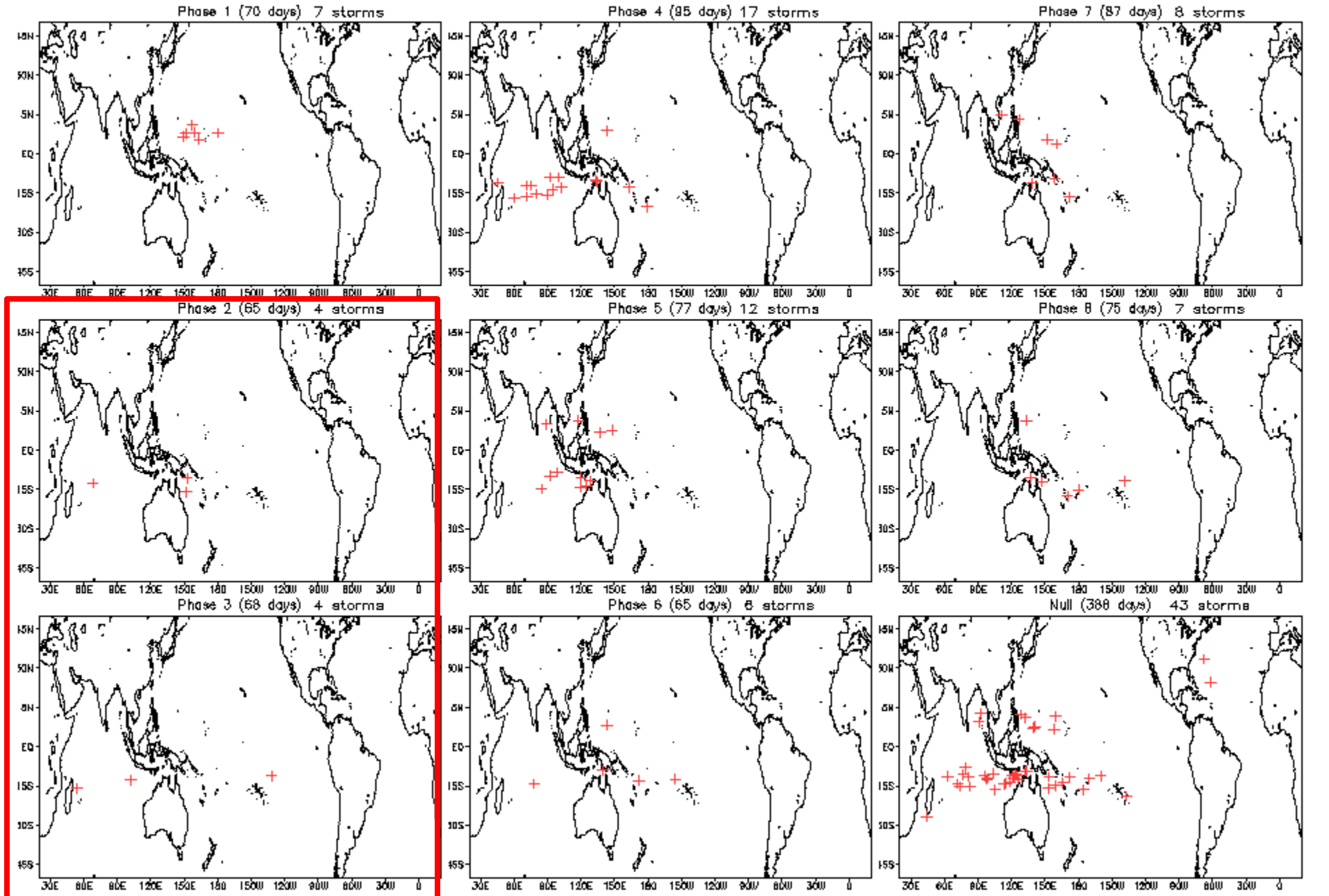


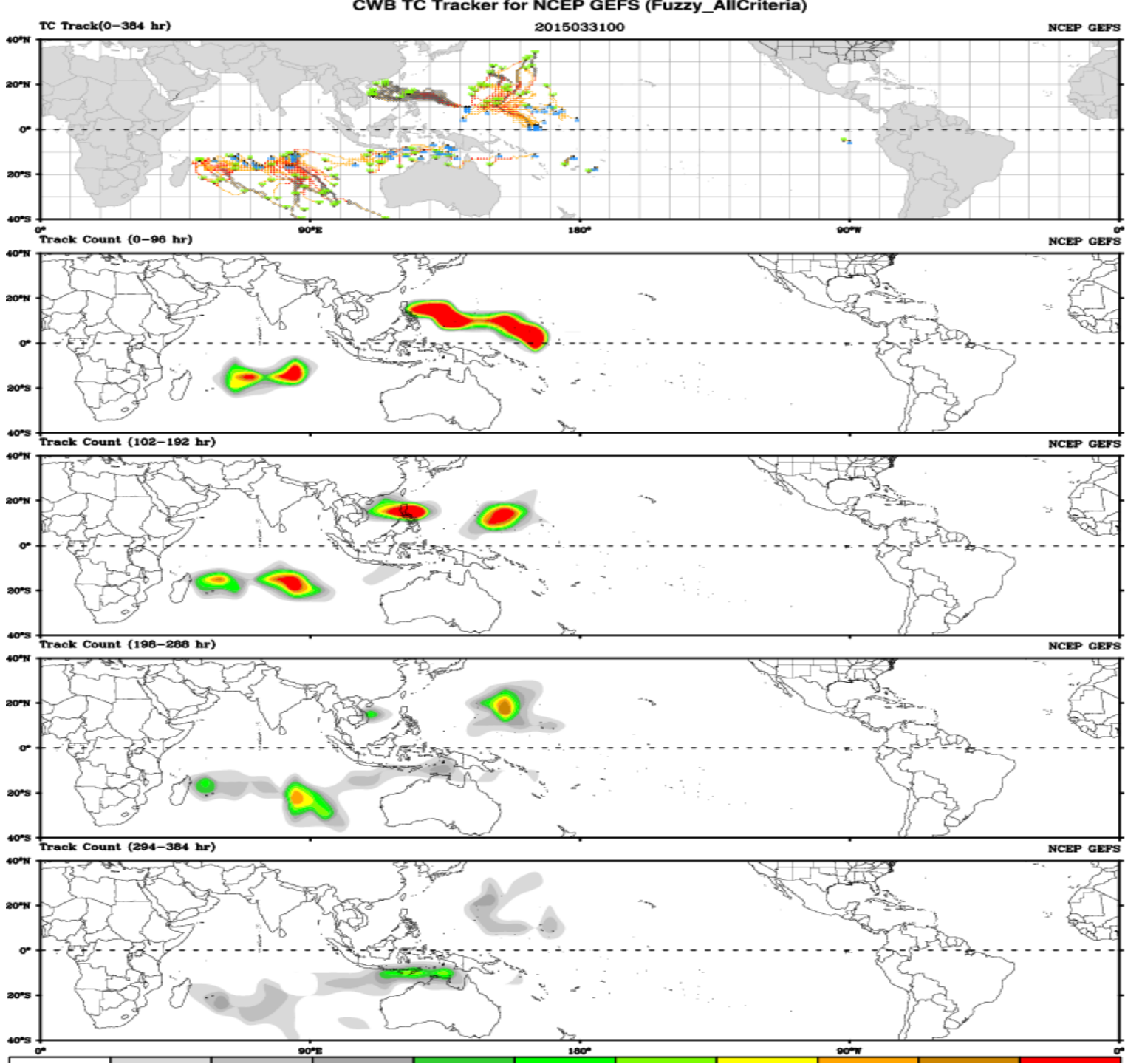
MJO activity apparent in OLR Field, with fast Phase speed (projecting onto KW band


200-hPa Velocity Potential Anomaly: 5N-5S
5-day Running Mean
10CT2014
16OCT2014
1NOV2014
16NOV2014
1DEC2014
16DEC2014
1JAN2015
16JAN2015
1FEB2015
16FEB2015
1MAR2015
16MAR2015
0
60E
120E
180
120W
60W
0
-15 -12 -9 -6 -3 0 3 6 9 12 15
Data updated through 28 MAR 2015


CFS: Anom. PREC Week: 1: 01-Apr-2015 to 07-Apr-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: 08-Apr-2015 to 14-Apr-2015 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150

April Tropical Storm Formation by MJO phase



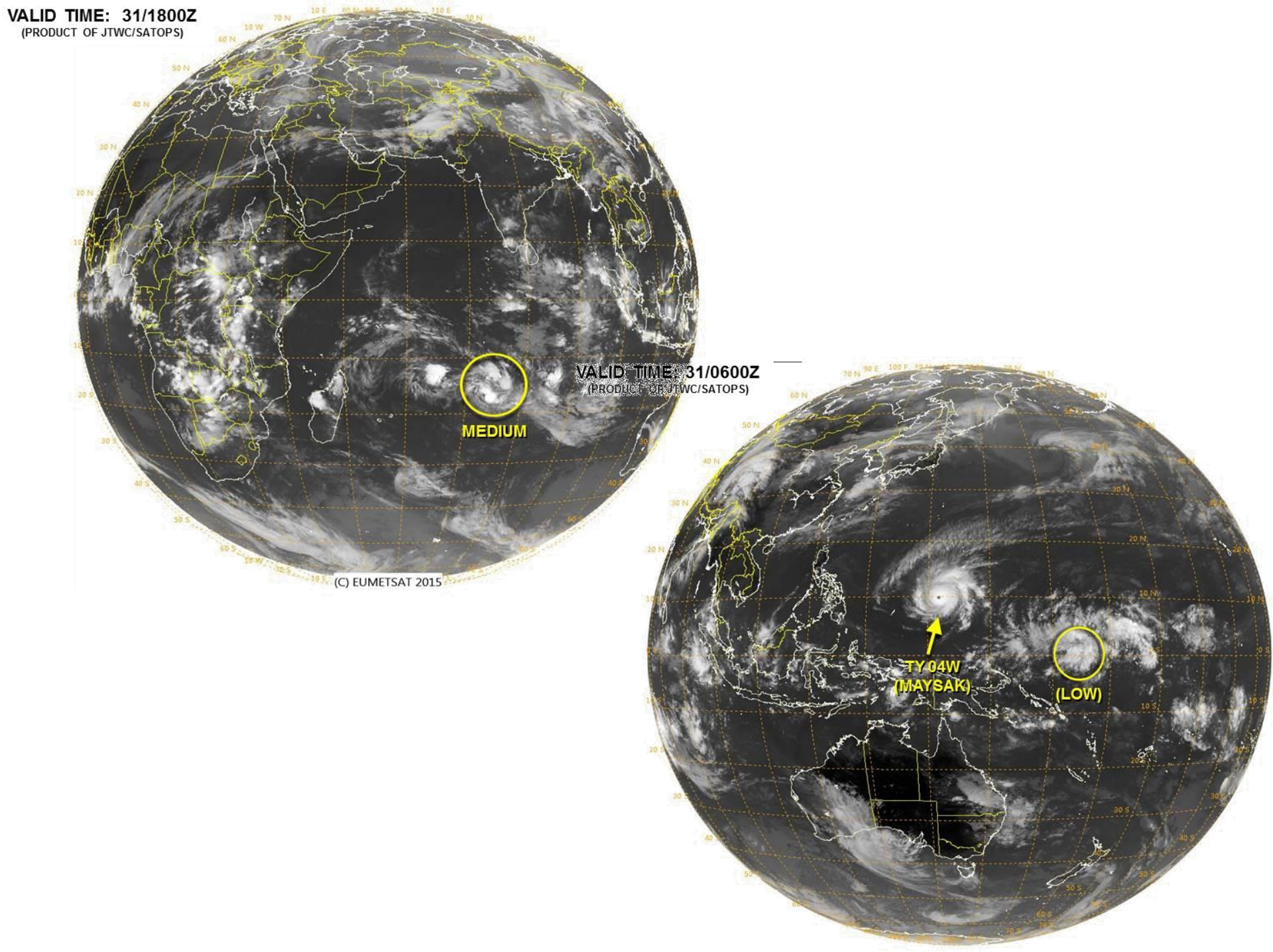


Days 1-4

Day 5-8

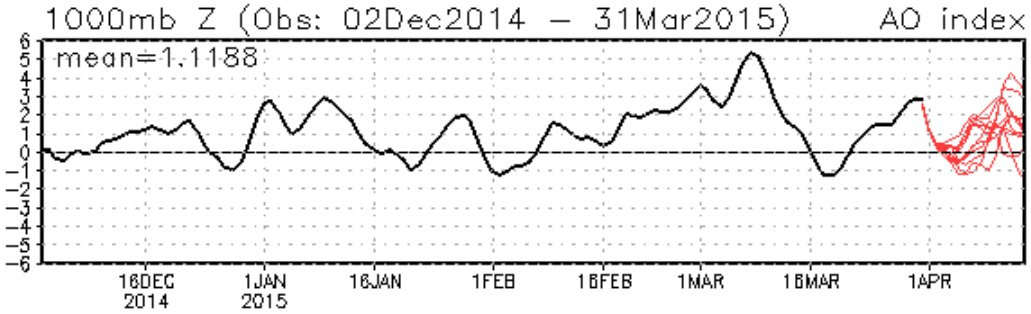
Day 9-12

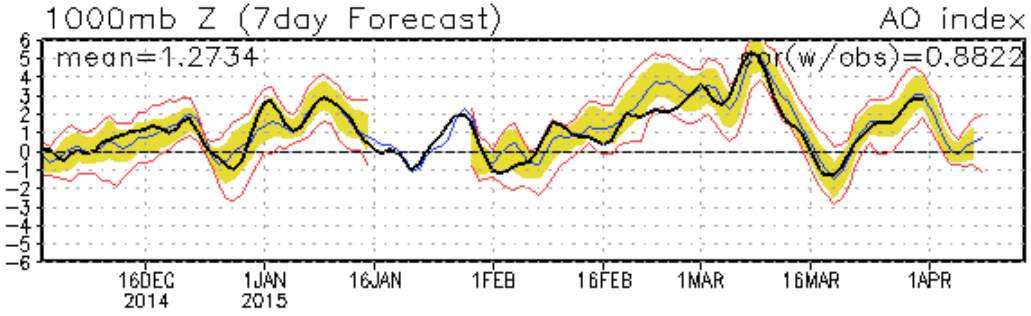
Day 13-15

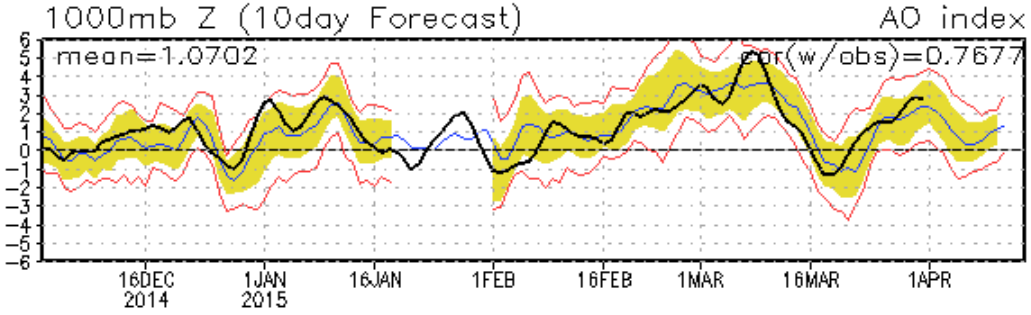

VALID TIME: 31/1800Z
(PRODUCT OF JTWC/SATOPS)
MEDIUM
(C) EUMETSAT 2015
VALID TIME: 31/0600Z
(PRODUCT OF JTWC/SATOPS)
TY 04W
(MAYSAK)
(LOW)

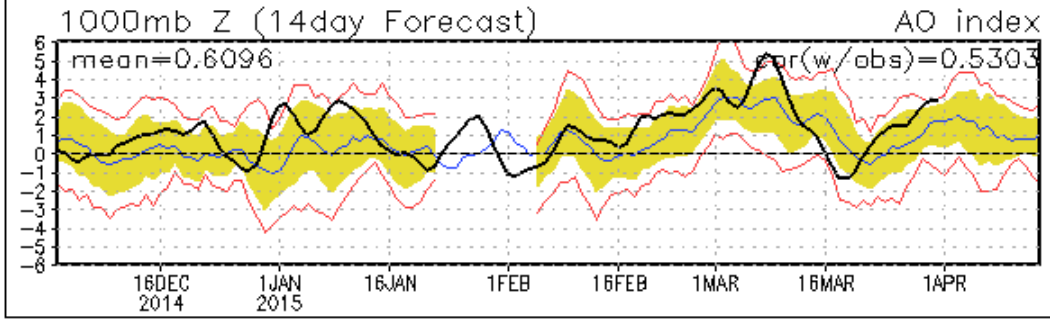
Connections to U.S. Impacts

AO: Observed & ENSM forecasts

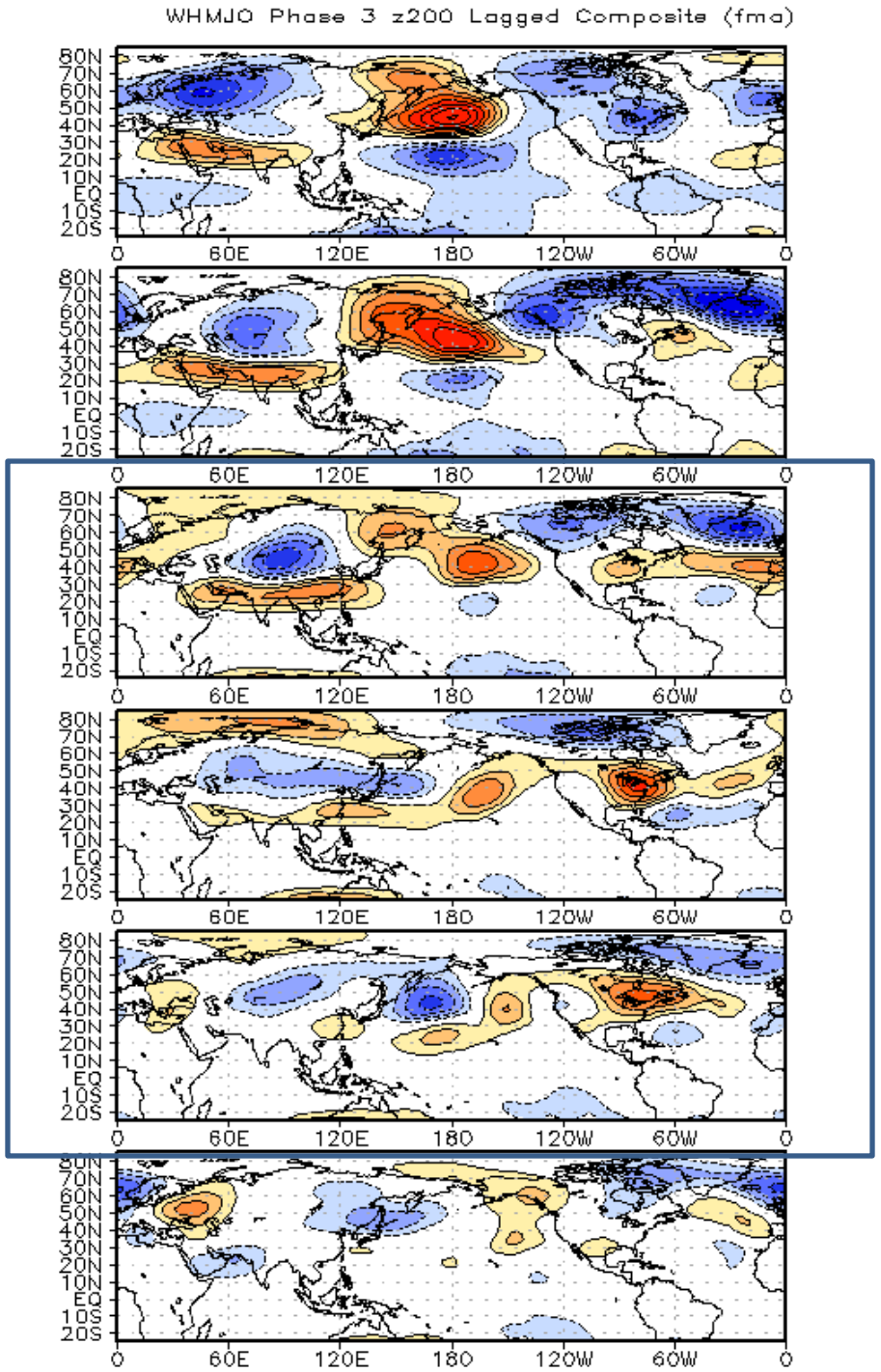


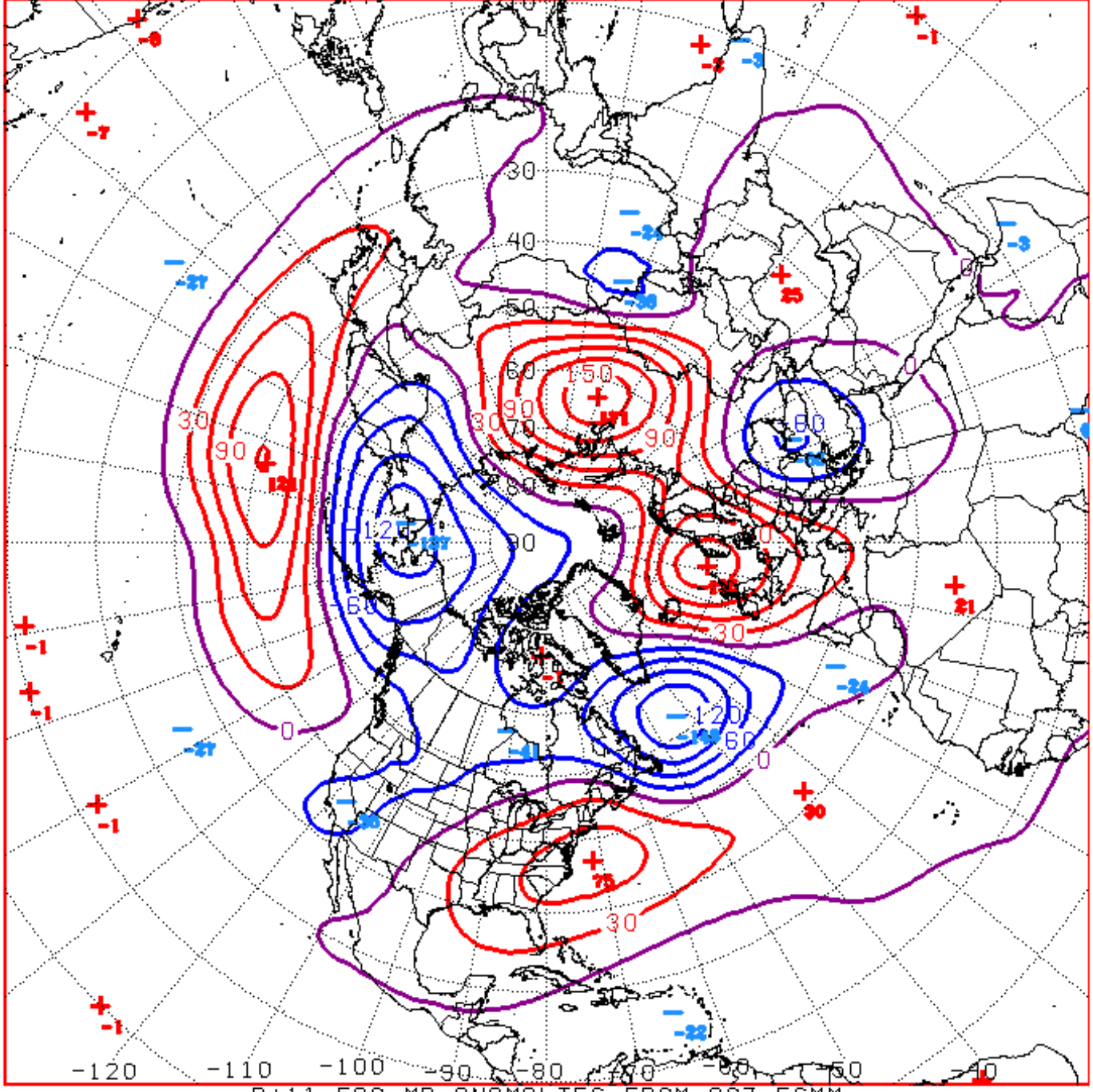






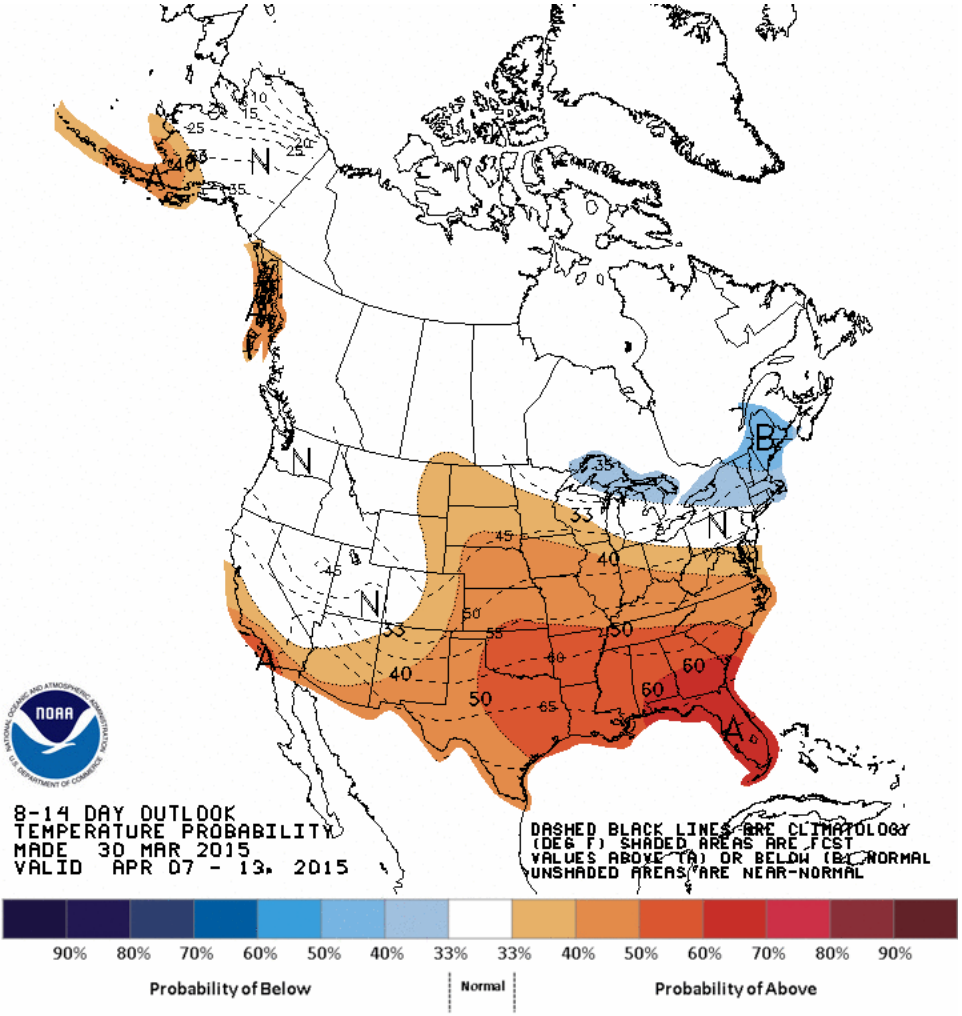
Lagged 200-hPa anomaly composites
from MJO Phase-3
5-day intervals centered on March

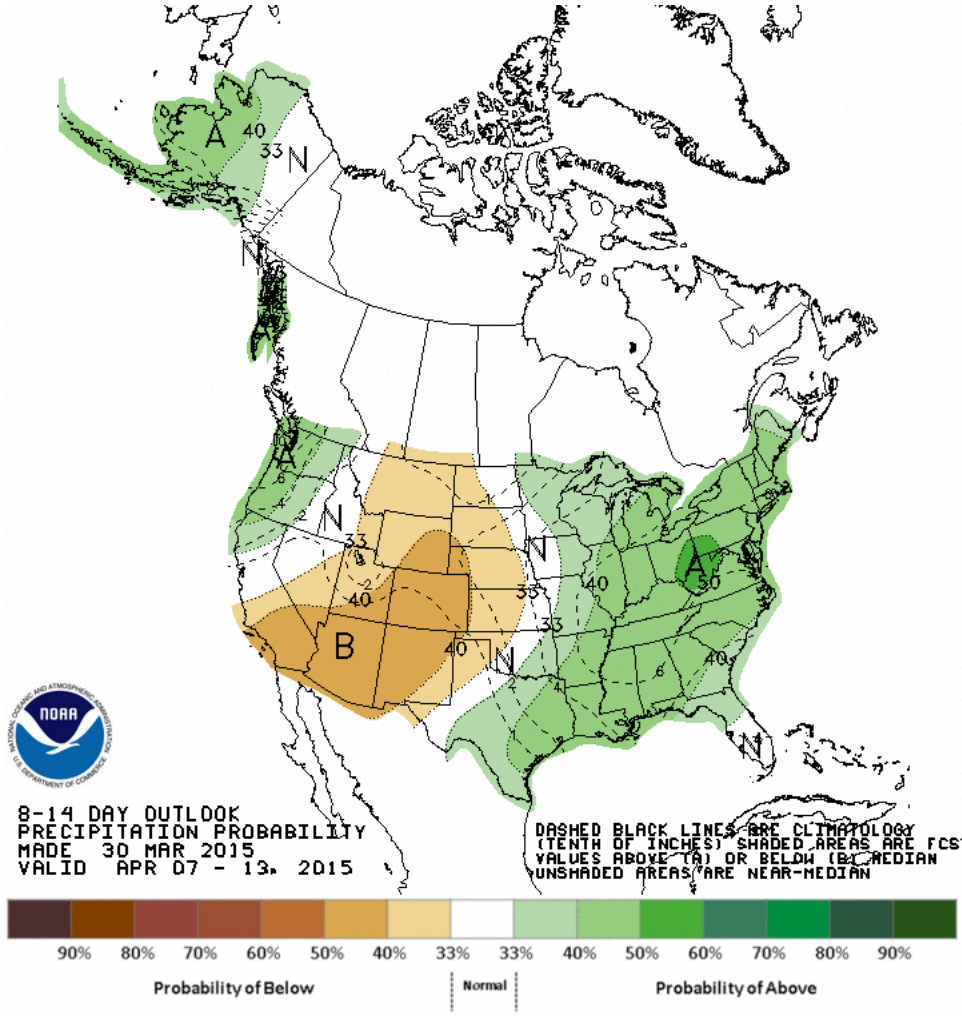




D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE MAR 31 2015 1024 UTC CNTD APR 11 2015

Week 2 – Temperature and Precipitation





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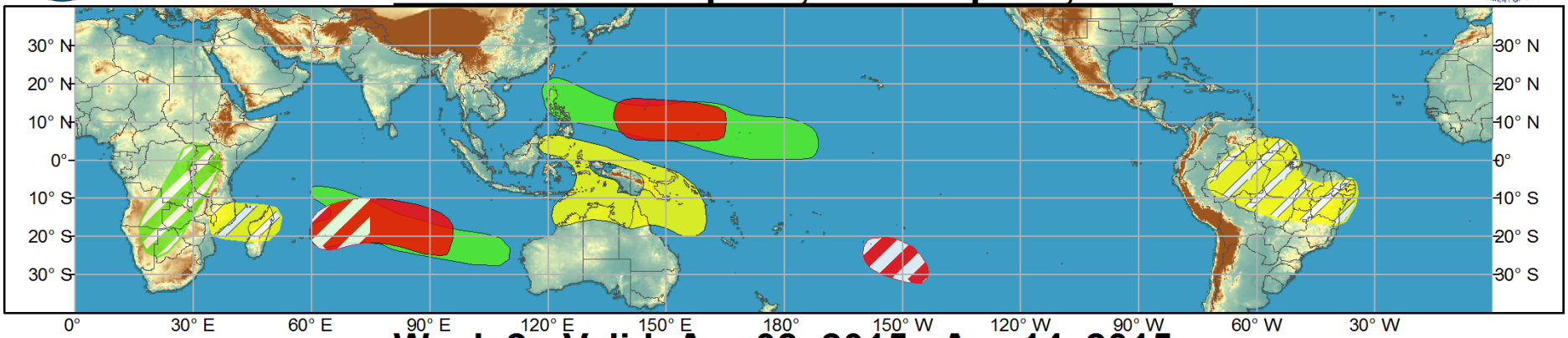

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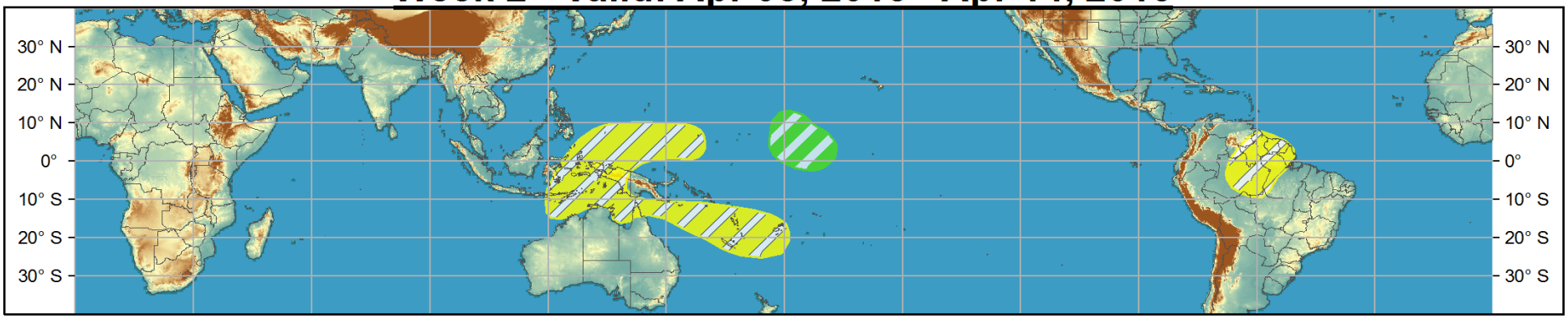

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