Global Tropics Hazards And Benefits Outlook

March 22, 2016

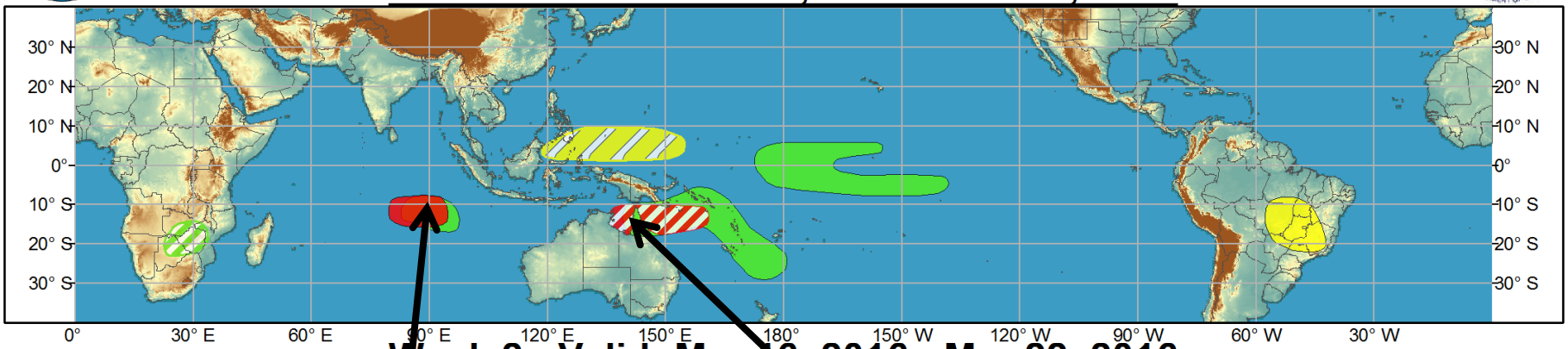
Adam Allgood

Outline

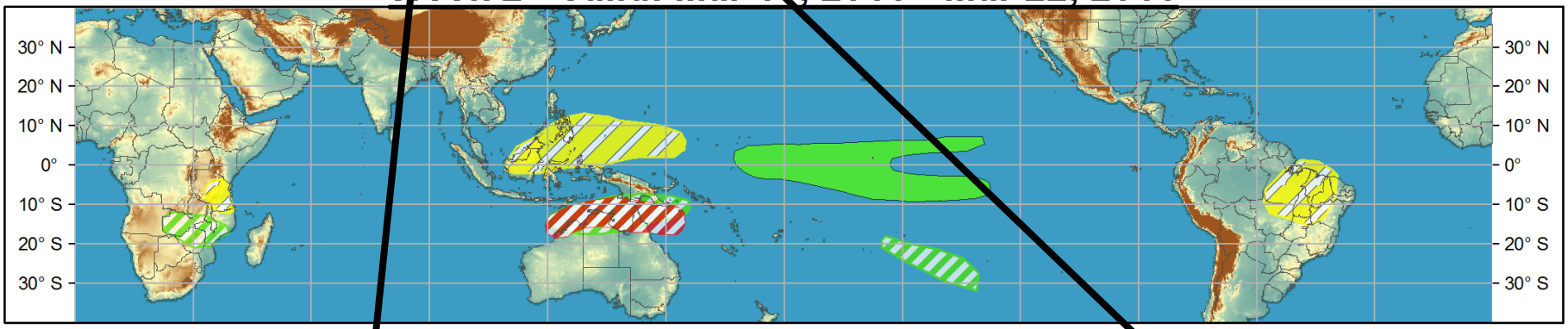
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

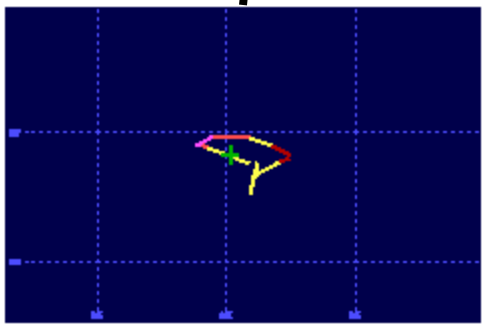
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Mar 16, 2016 - Mar 22, 2016

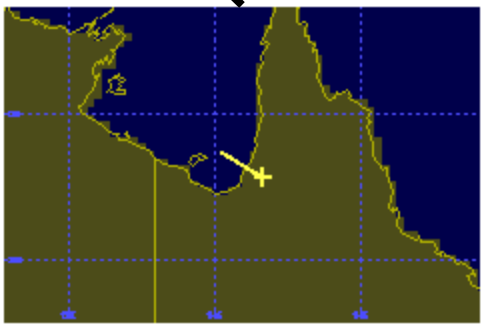


Week 2 - Valid: Mar 16, 2016 - Mar 22, 2016



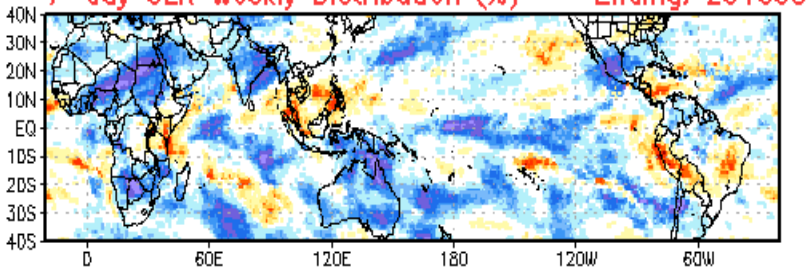


Cyclone Emeraude (Cat 4)

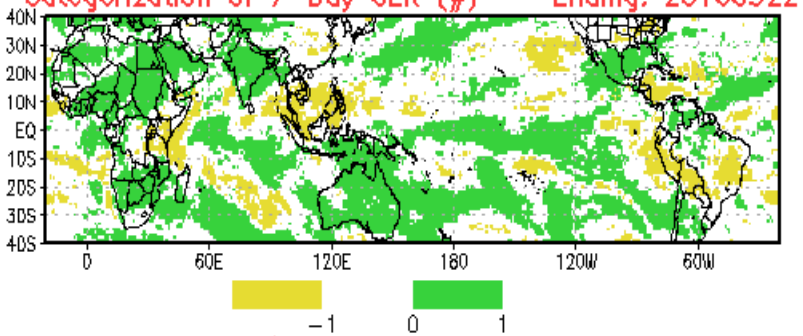


Tropical Depression 16

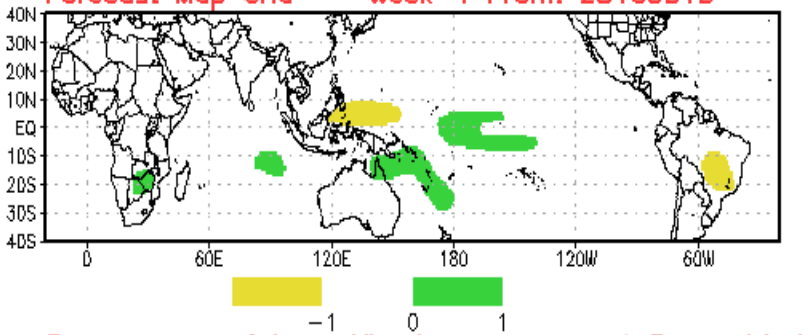
7-day OLR Weekly Distribution (%) -- Ending: 20160322



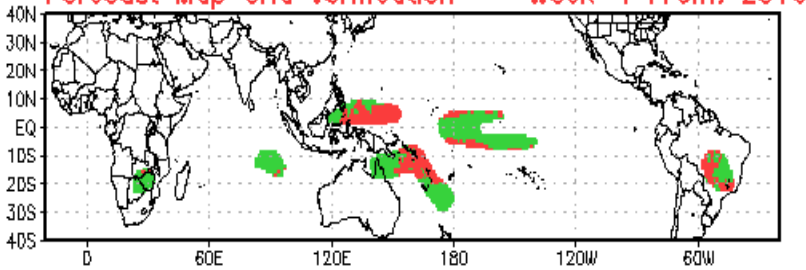
Categorization of 7-Day OLR (#) -- Ending: 20160322



Forecast Map Grid -- Week-1 From: 20160315

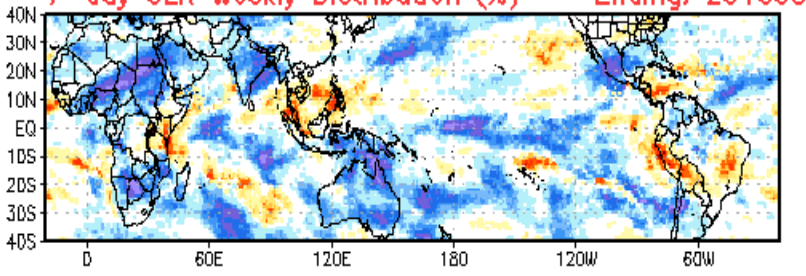


Forecast Map Grid Verification -- Week-1 From: 20160315



Hit: Green, Miss: Red
Heidke Skill Score: 46.5588

7-day OLR Weekly Distribution (%) -- Ending: 20160322



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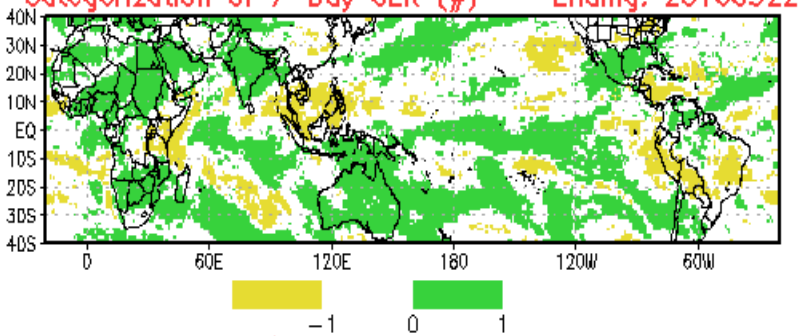
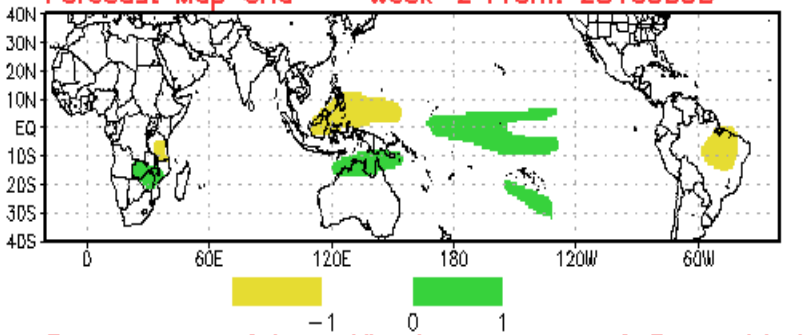
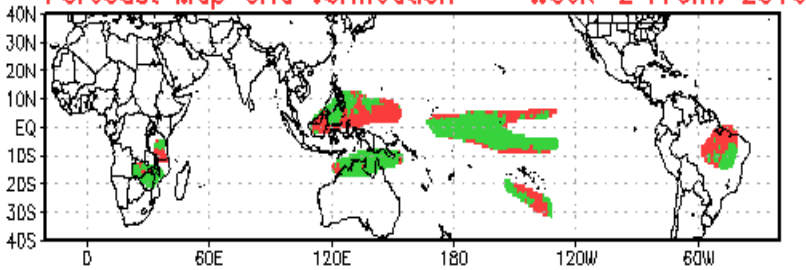


Forecast Map Grid -- Week-2 From: 20160308



Forecast Map Grid Verification -- Week-2 From: 20160308



Hit: Green, Miss: Red
Heidke Skill Score: 44.0258

Synopsis of Climate Modes

ENSO:

• Current: **El Niño Advisory**

• Nino 3.4 SST Anomaly ~ 1.8°C – continuing to decrease.

• Outlook: A transition to ENSO-neutral is likely during late Northern Hemisphere spring or early summer 2016, with close to a 50 percent chance for La Niña conditions to develop by the fall.

MJO and other subseasonal tropical variability:

• The MJO remained active during the past week, with the enhanced phase now over the Maritime Continent

•The intraseasonal signal is destructively interfering with the El Niño base state, although widespread convection has begun refiring in the West Pacific.

• Most dynamical model MJO index forecasts weaken the signal, with the GFS and UKMET being the fastest to erode the MJO, and the ECMWF the most progressive.

Extratropics:

• Extratropical impacts from the MJO become less apparent during the Spring; however, an MJO convective event in the western Pacific still has some potential to help transition the AO pattern to a negative phase.

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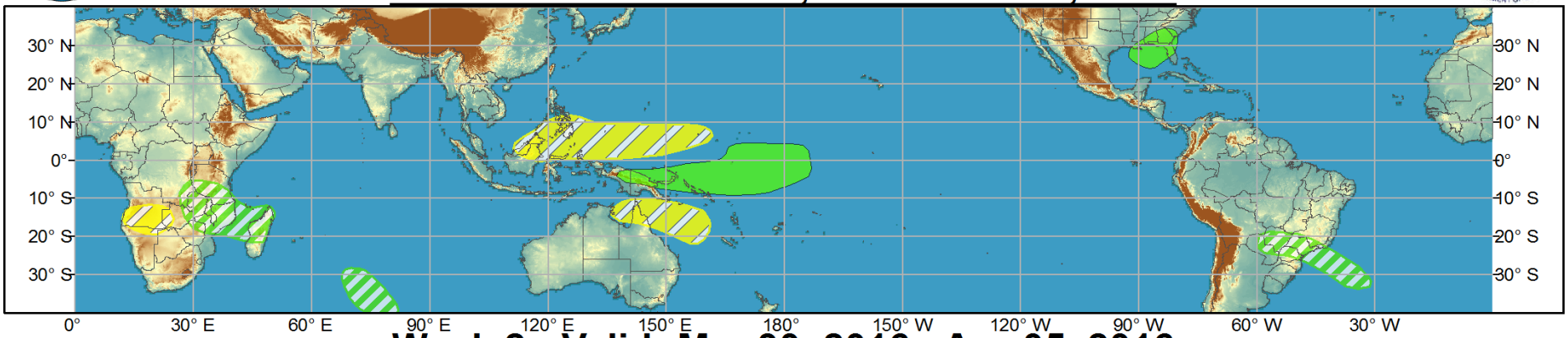
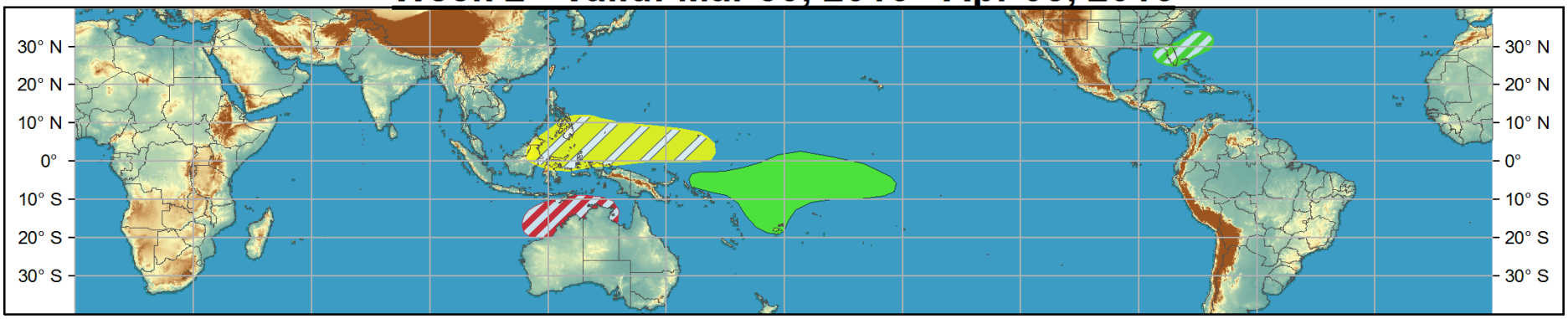
Week 1 - Valid: Mar 23, 2016 - Mar 29, 2016



Week 2 - Valid: Mar 30, 2016 - Apr 05, 2016



Produced: 03/22/2016

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.
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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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.

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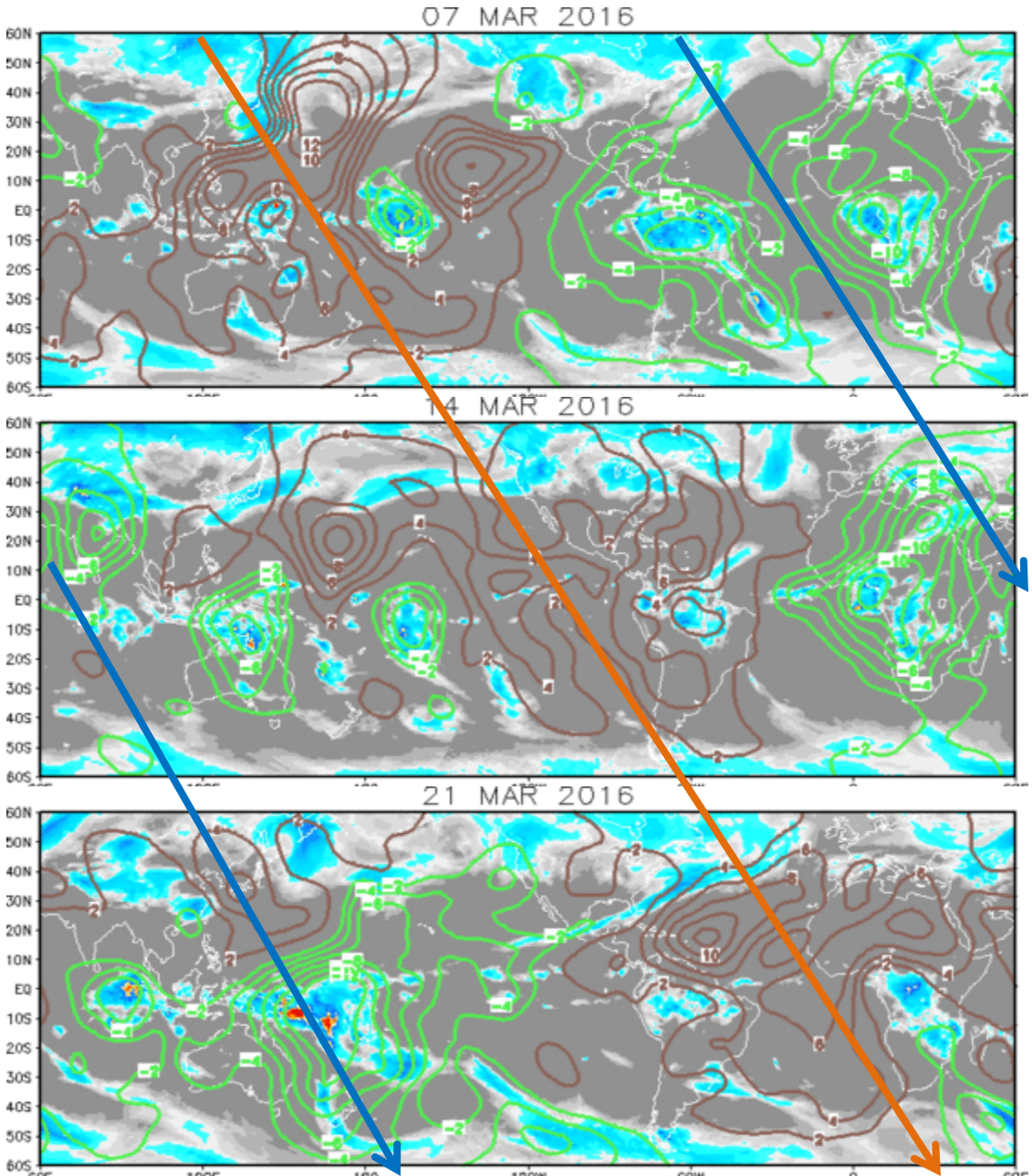
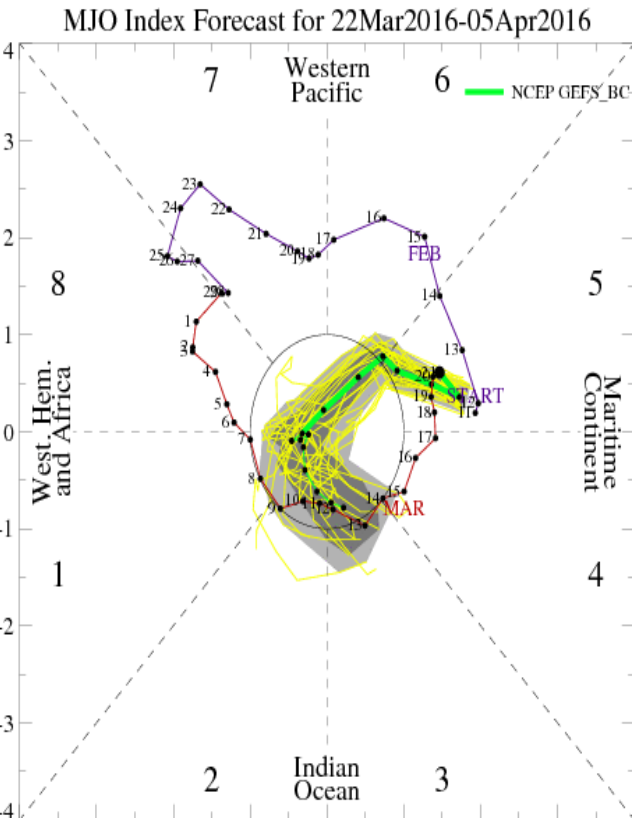
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

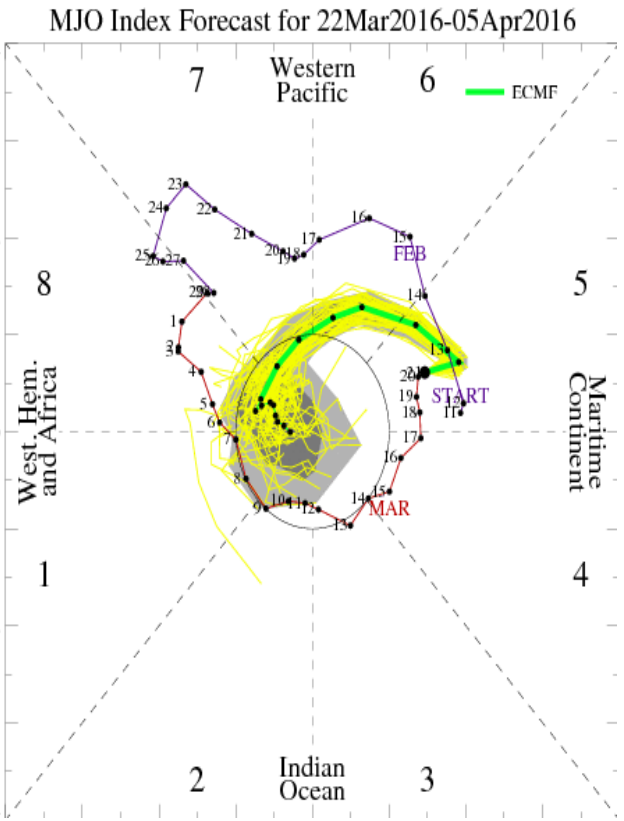
Eastward propagation is very evident in the upper level VP field.



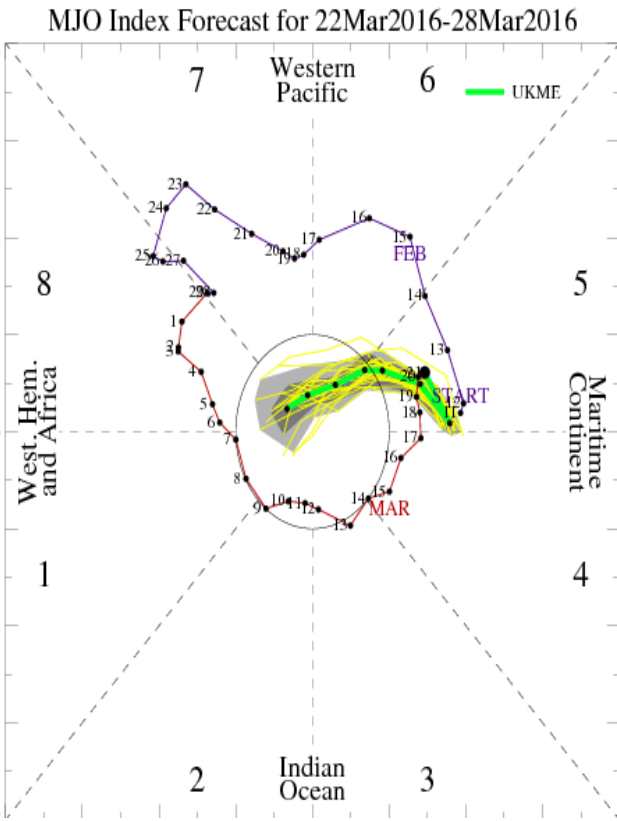
MJO Observation/Forecast



GFS



ECMWF

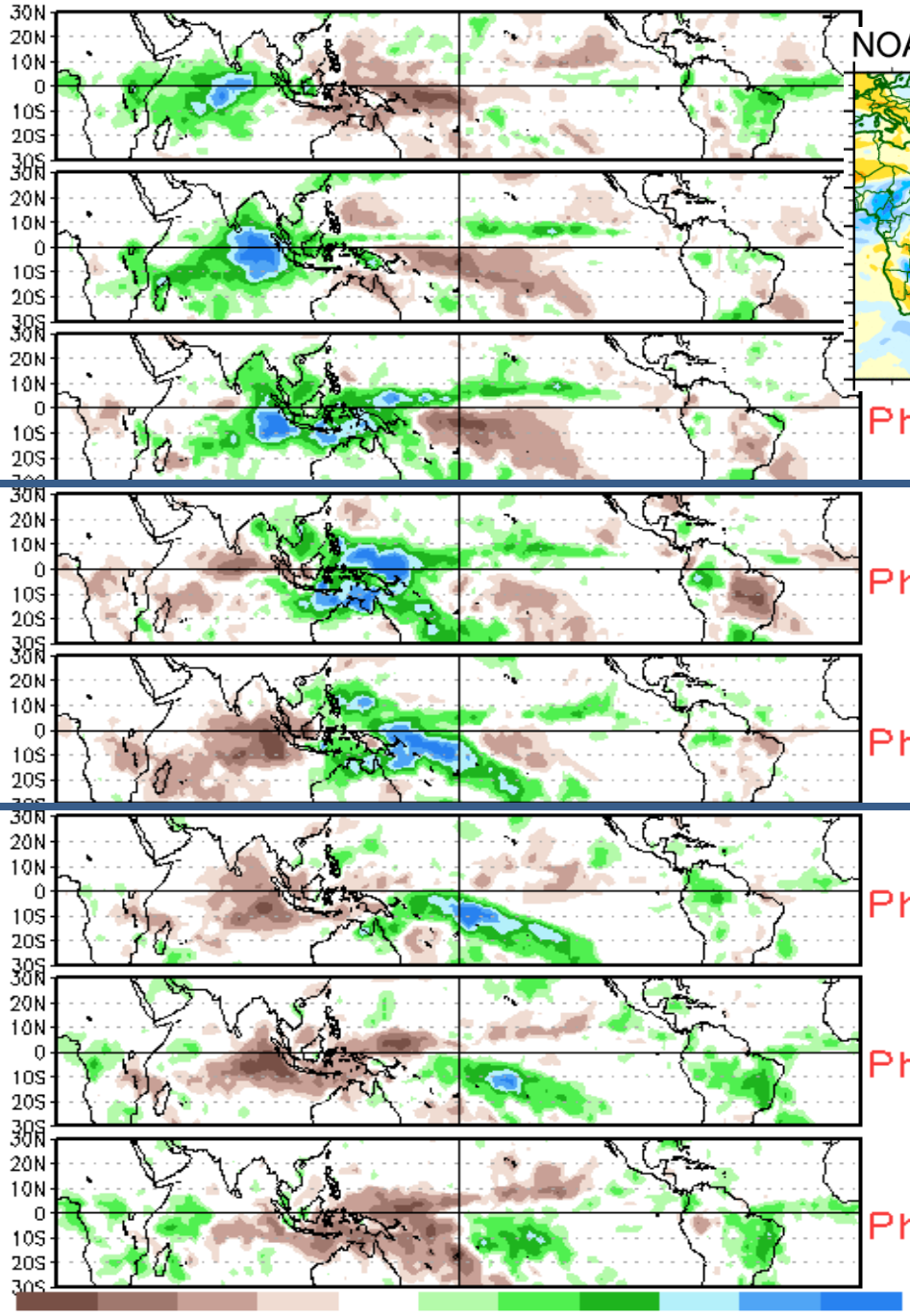


UKMET

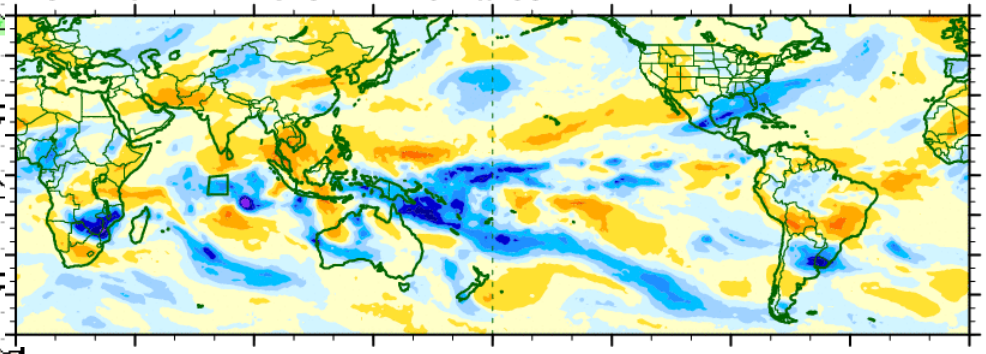
The GFS and UKMET rapidly weaken the MJO signal

The ECMWF maintains some eastward propagation over the Pacific, with a loss of amplitude by the time the signal reaches the Epac/Western Hemisphere

Average Conditions when the MJO is present

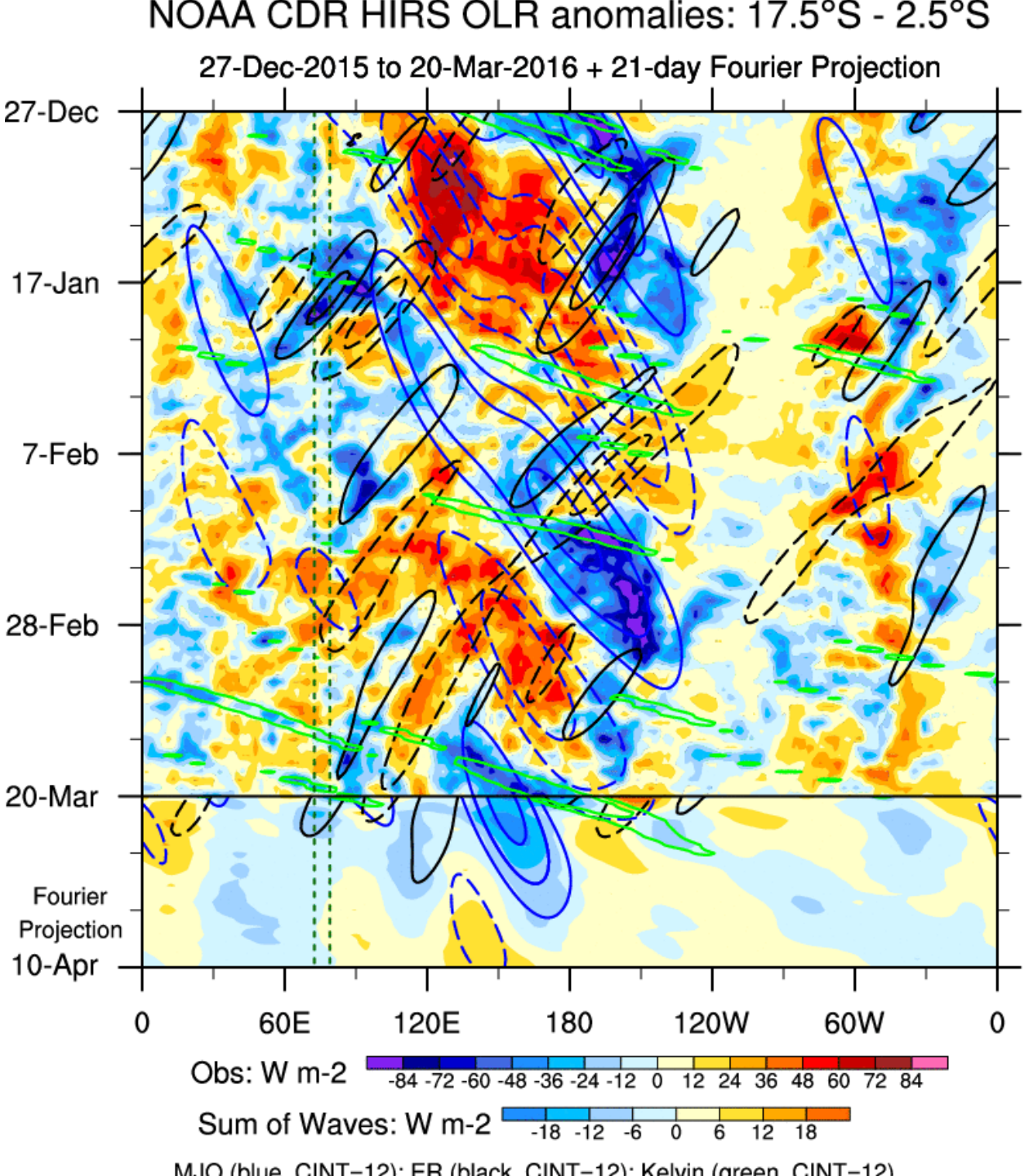


NOAA CDR HIRS OLR Anomalies

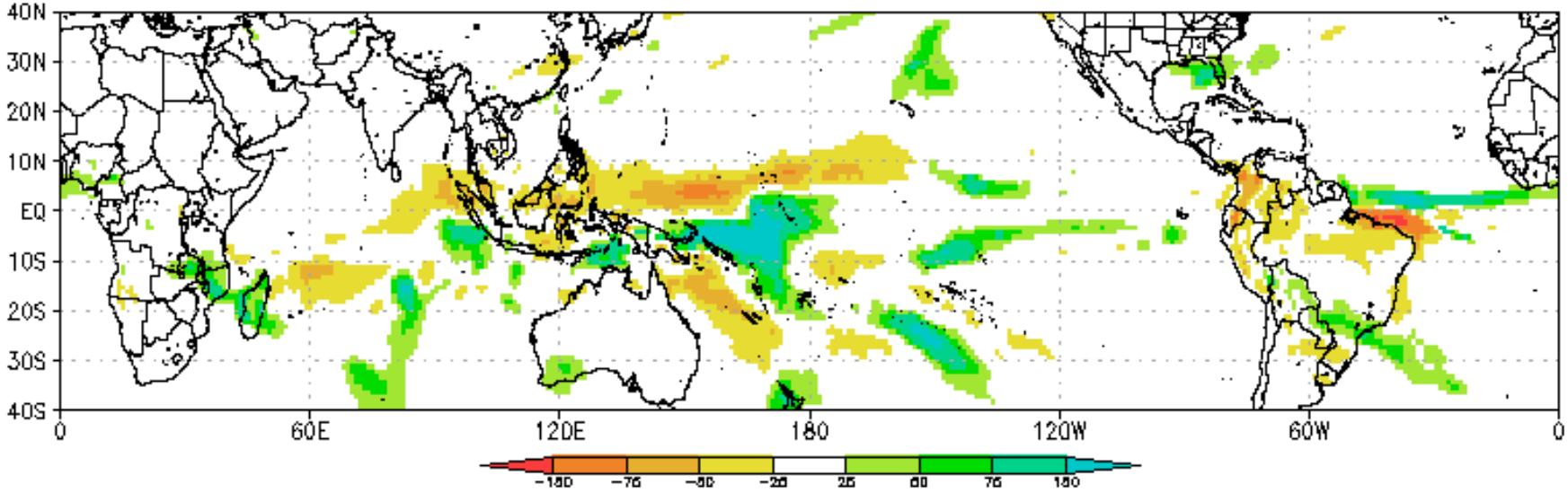


OLR Anomalies focused on the Southern Hemisphere

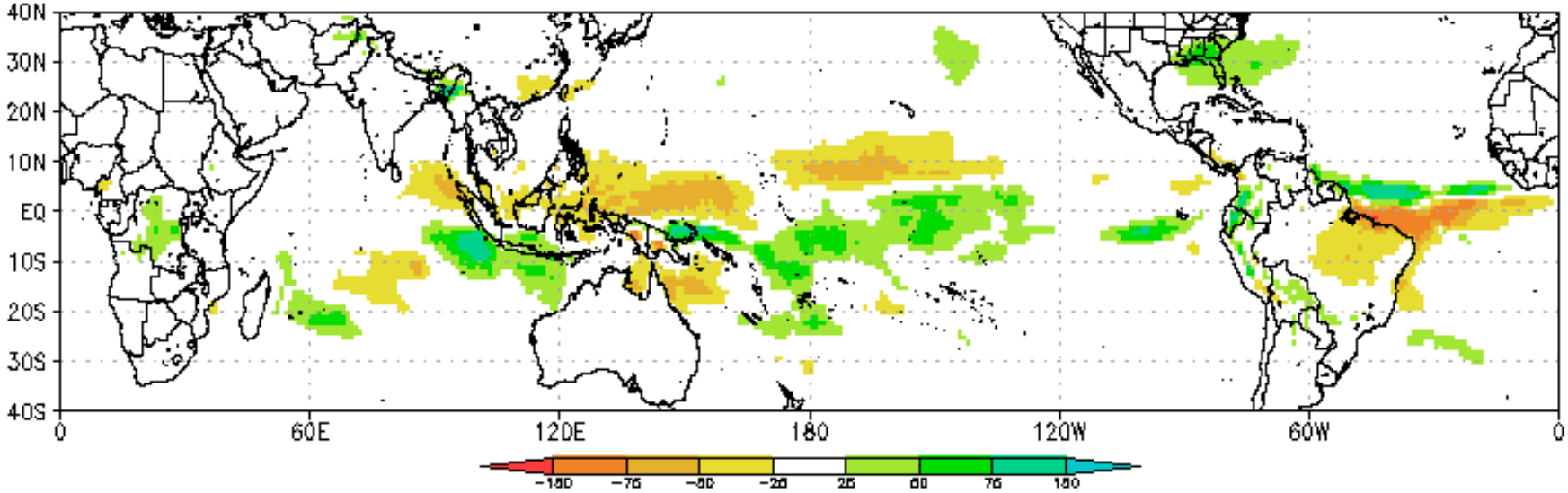
Several features within general enhanced convective envelope between I.O. and West Pacific.



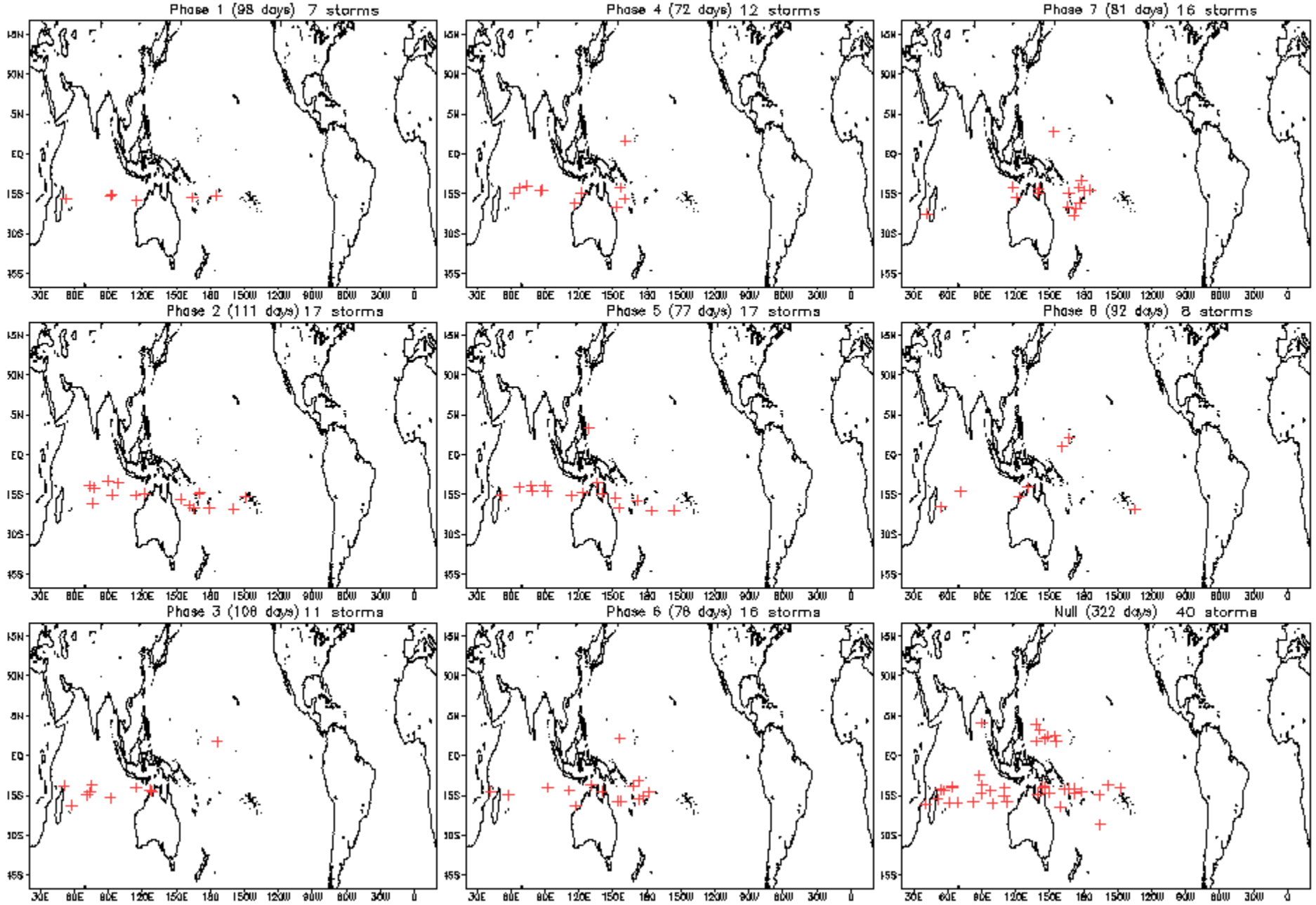
CFSv2 Precip Anomalies (mm) Issued 21Mar2016
Week-1 Forecast Ending 29Mar2016

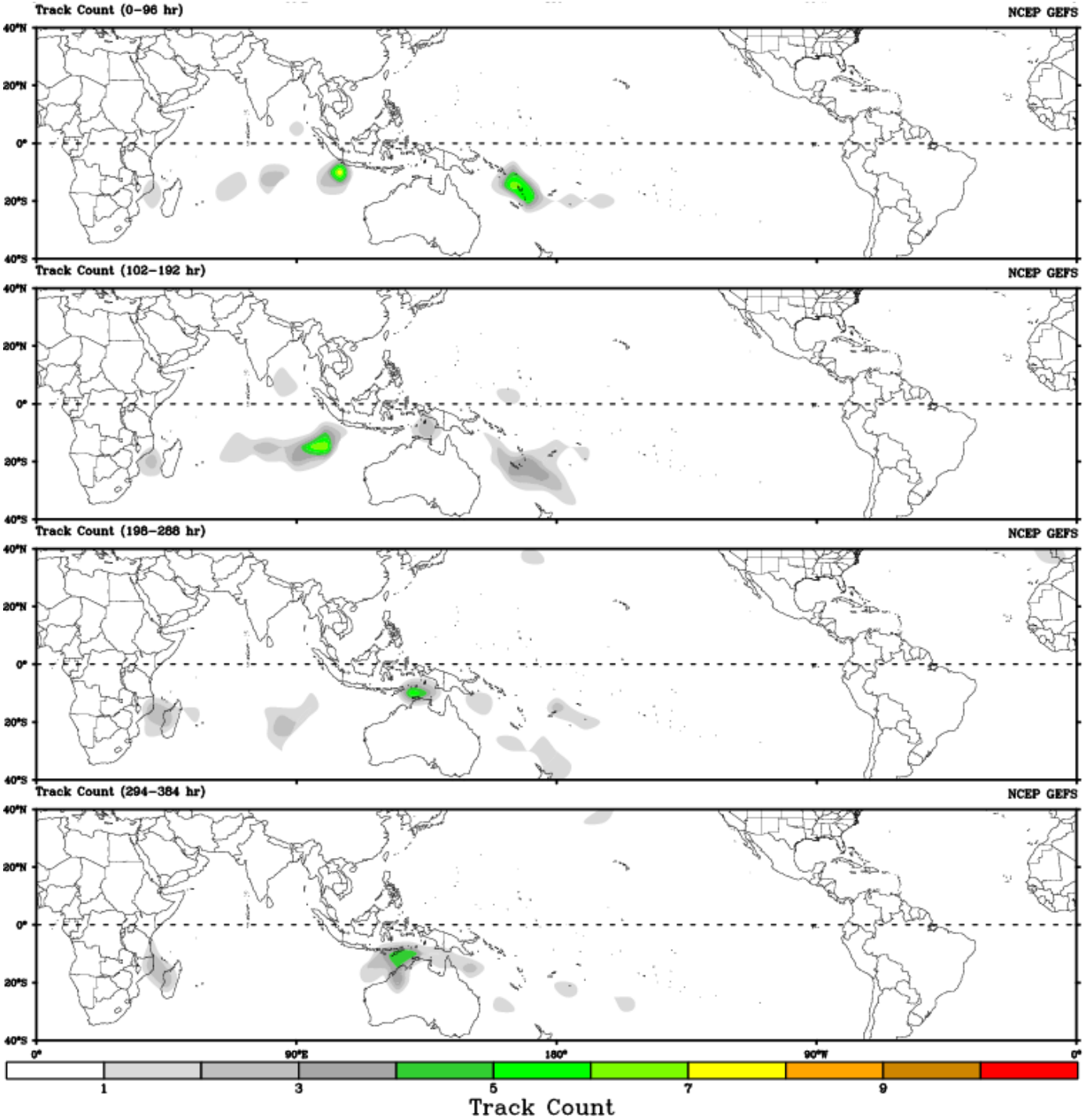


CFSv2 Precip Anomalies (mm) Issued 21Mar2016
Week-2 Forecast Ending 05Apr2016



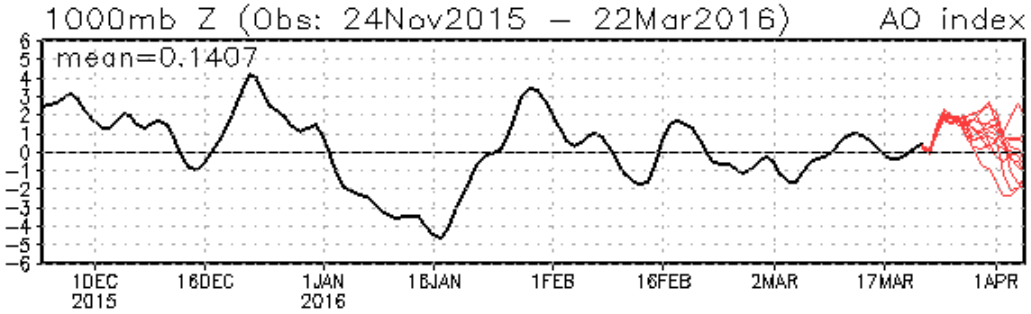
March Tropical Storm Formation by MJO phase

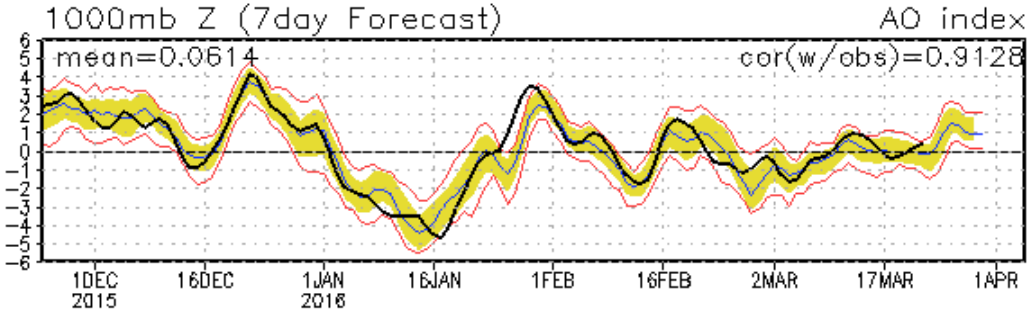


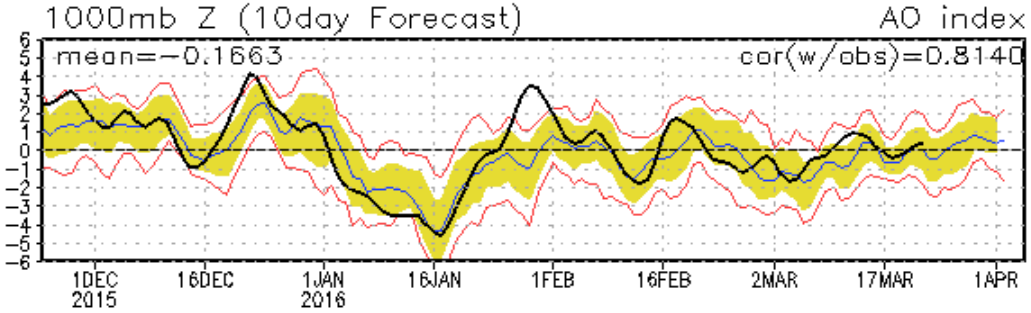

Track Count (0–96 hr)
NCEP GEFS
Track Count (102–192 hr)
NCEP GEFS
Track Count (198–288 hr)
NCEP GEFS
Track Count (294–384 hr)
NCEP GEFS
40°N
20°N
0°
20°S
40°S
0°
90°E
180°
90°W
0°
1
3
5
7
9
Track Count

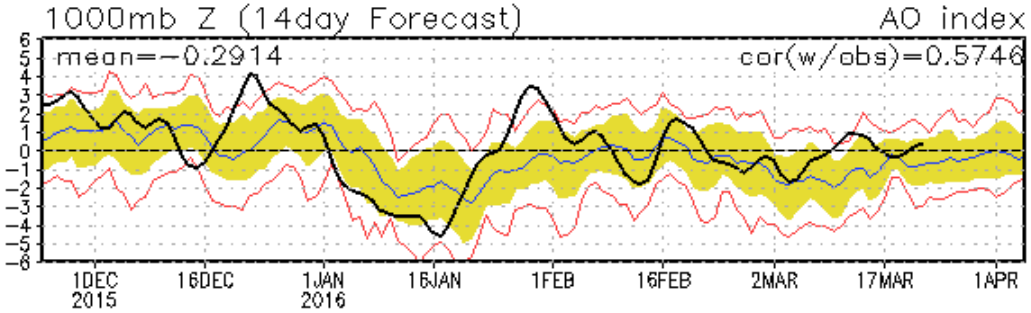
Connections to U.S. Impacts

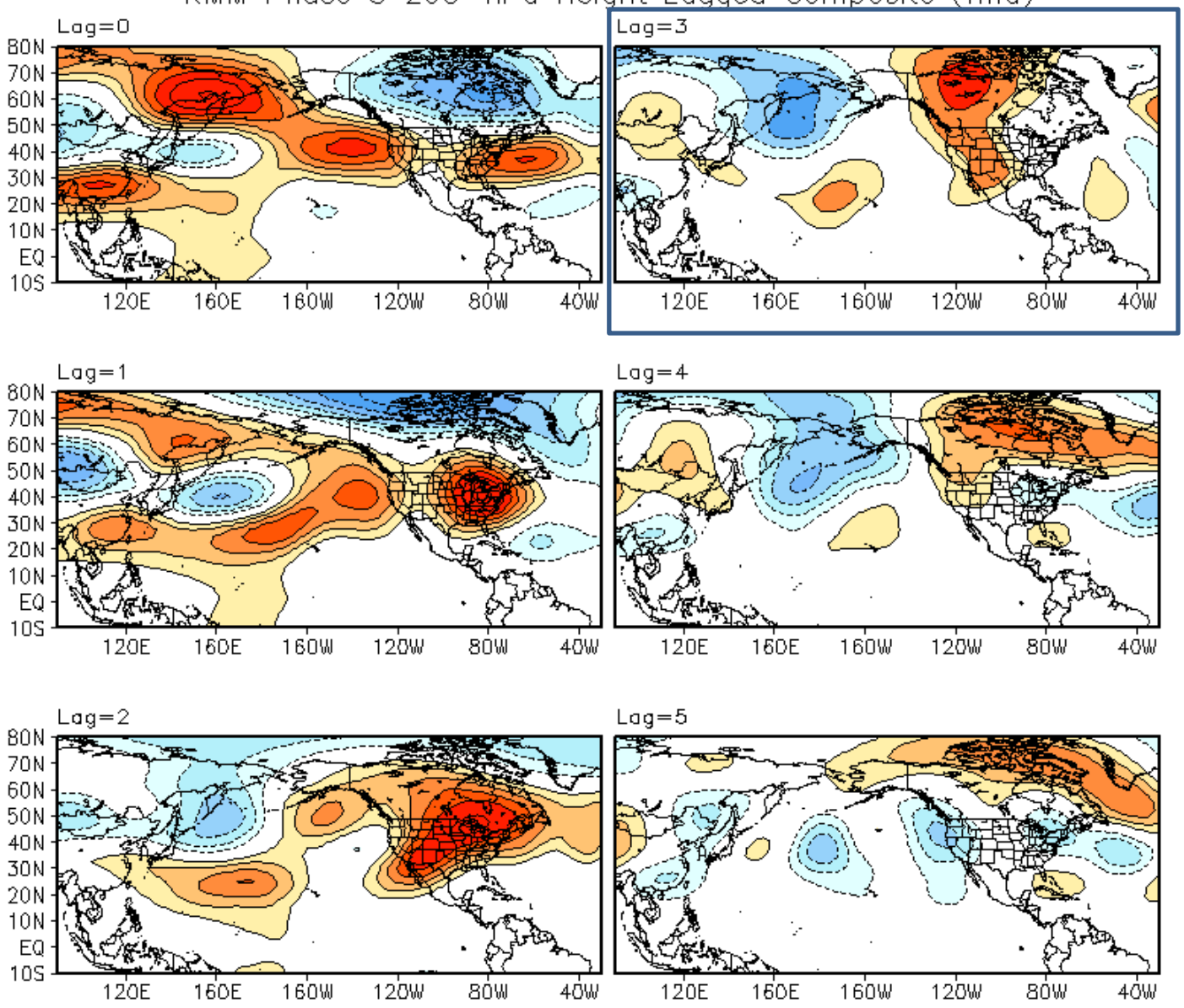
AO: Observed & ENSM forecasts

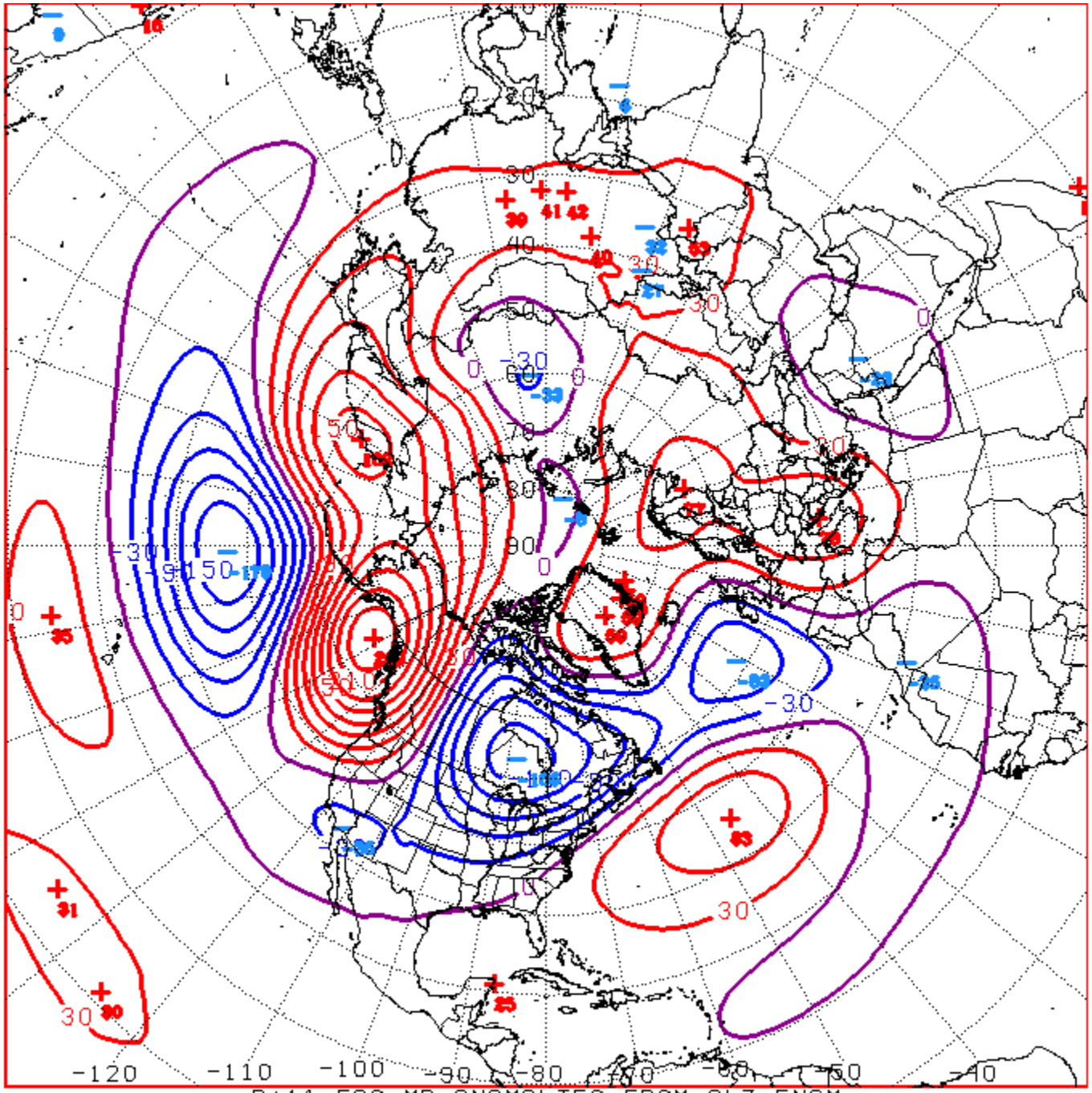






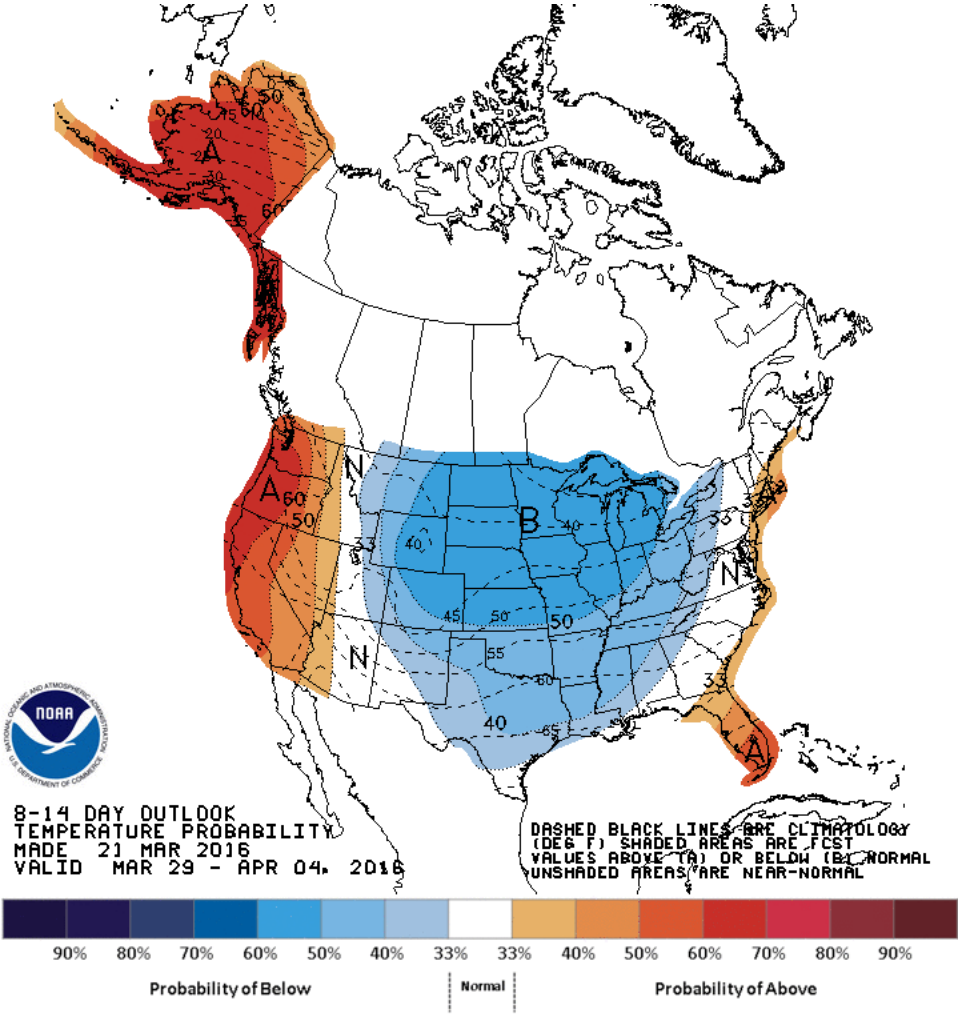


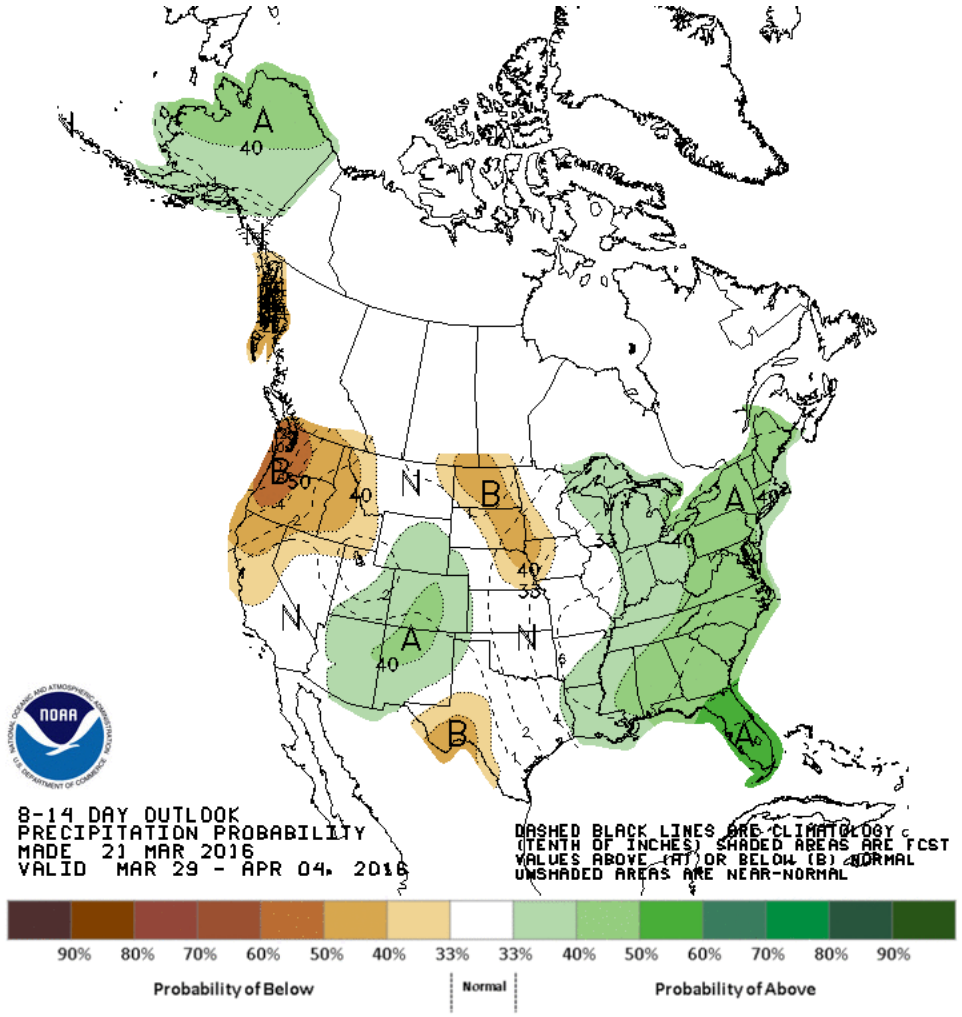

RMM Phase 5 200-hPa Height Lagged Composite (fma)
Lag=0
Lag=3
Lag=1
Lag=4
Lag=2
Lag=5
80N
70N
60N
50N
40N
30N
20N
10N
EQ
10S
120E
160E
160W
120W
80W
40W



D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAR 22 2016 1258 UTC CNTD APR 02 2016

Week 2 – Temperature and Precipitation





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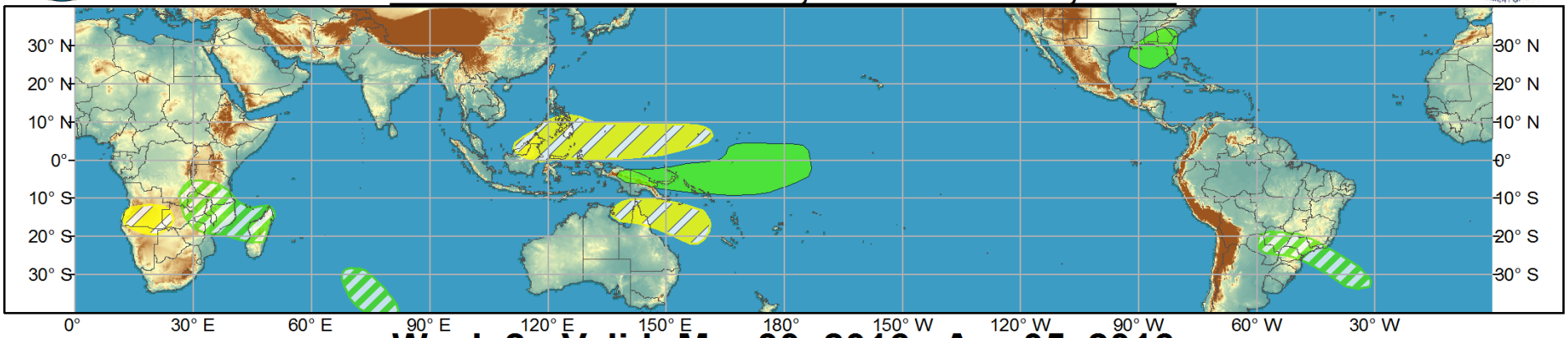

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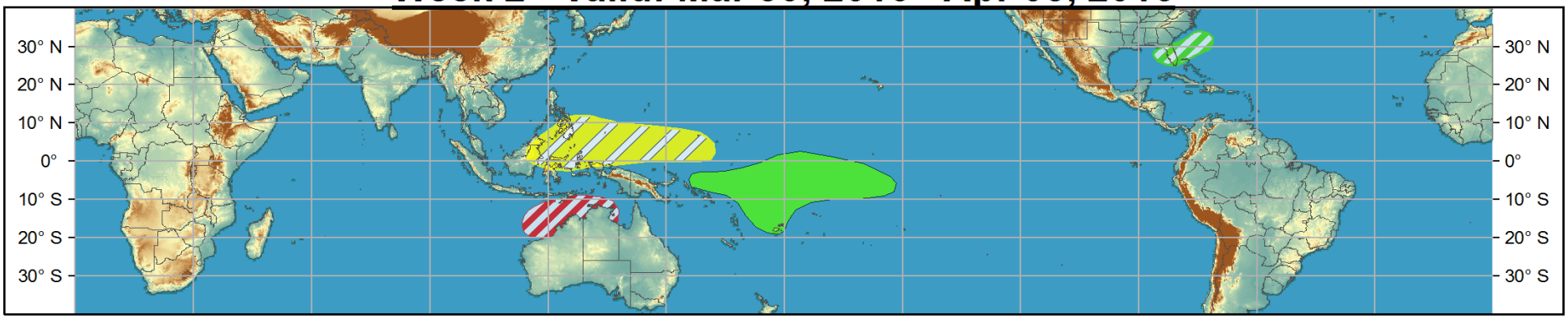

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