

Global Tropics Hazards And Benefits Outlook

April 5, 2016

Adam Allgood

Outline

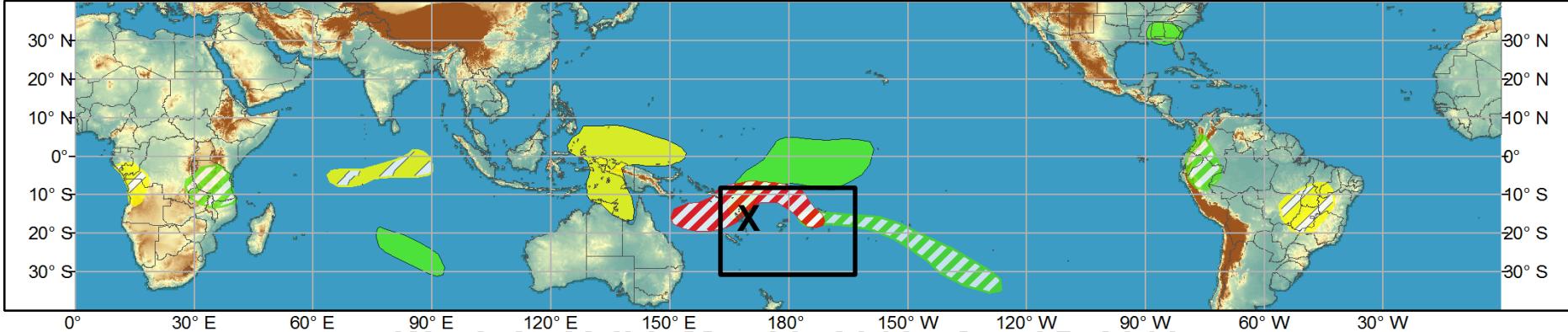
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review – Tropical Cyclones

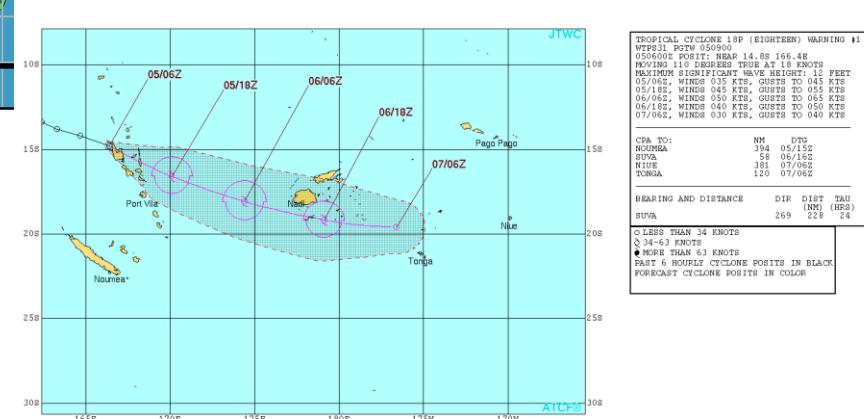
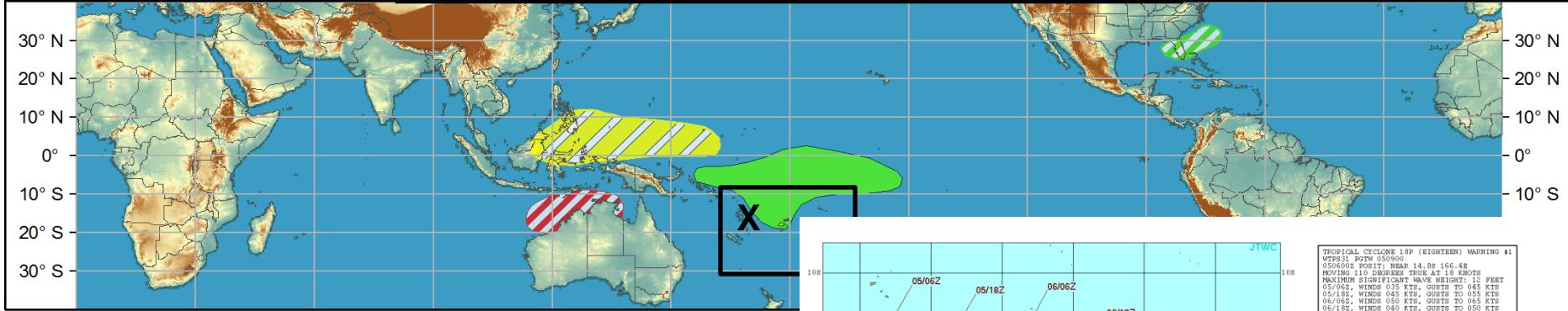


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

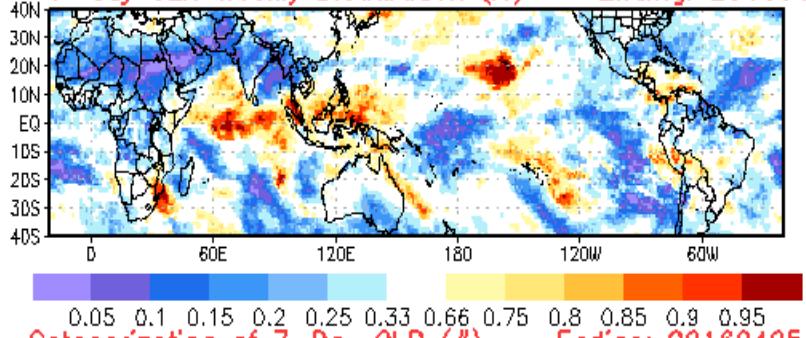
Week 1 - Valid: Mar 30, 2016 - Apr 05, 2016



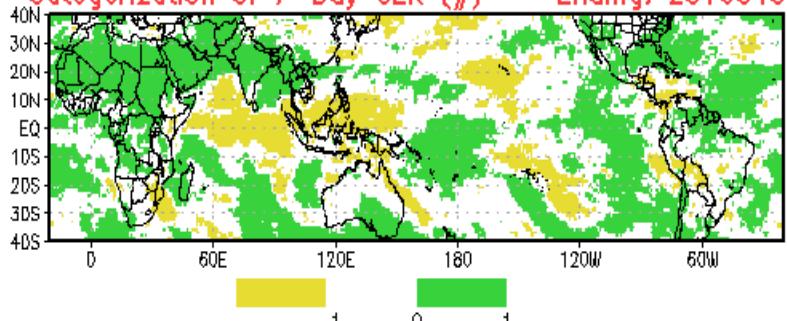
Week 2 - Valid: Mar 30, 2016 - Apr 05, 2016



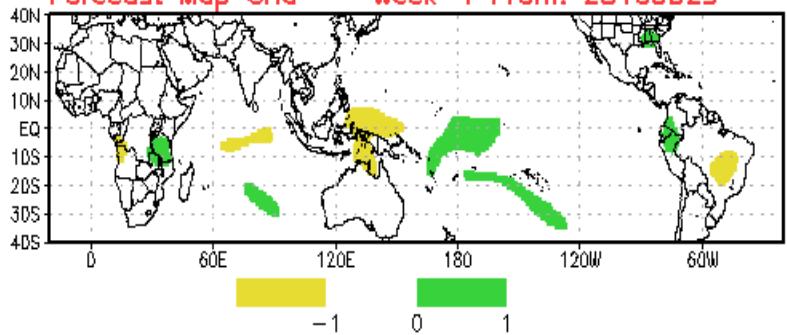
7-day OLR Weekly Distribution (%) -- Ending: 20160405



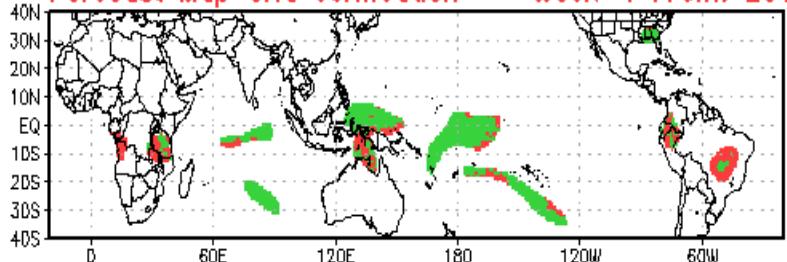
Categorization of 7-Day OLR (#) -- Ending: 20160405



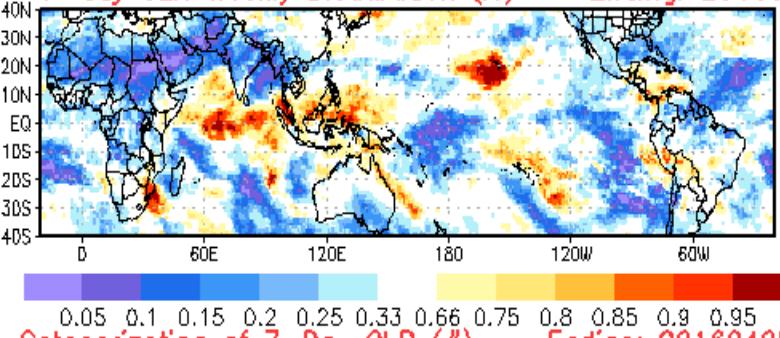
Forecast Map Grid -- Week-1 From: 20160329



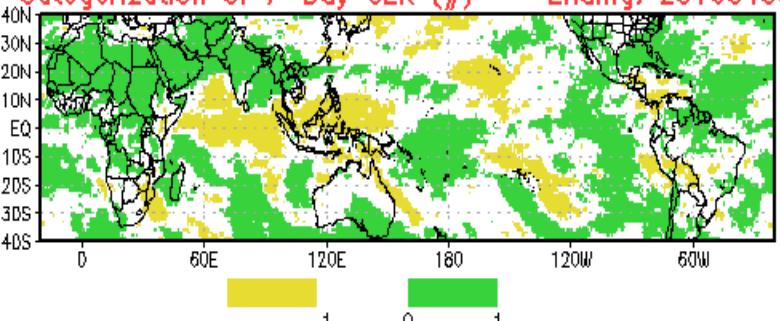
Forecast Map Grid Verification -- Week-1 From: 20160329



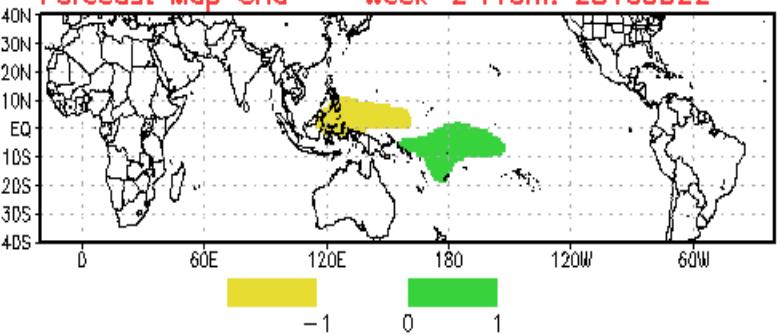
7-day OLR Weekly Distribution (%) -- Ending: 20160405



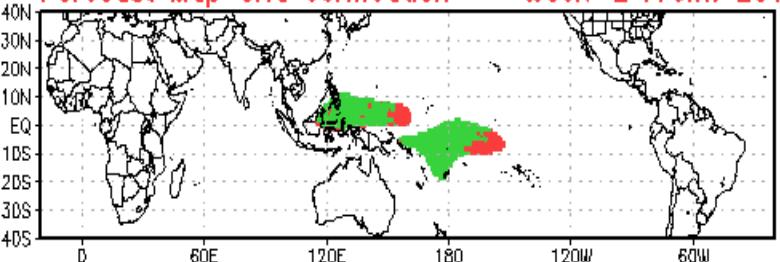
Categorization of 7-Day OLR (#) -- Ending: 20160405



Forecast Map Grid -- Week-2 From: 20160322



Forecast Map Grid Verification -- Week-2 From: 20160322



Synopsis of Climate Modes

ENSO:

- Current: [El Niño Advisory](#)
- Nino 3.4 – 1.8°C above normal – 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:

- A complex pattern has taken shape, with a remnant intraseasonal signal now over Africa and the far western Indian Ocean, and a zonally narrow but strong couplet of enhanced (suppressed) convection over the West Pacific (Maritime Continent).
- Most dynamical model MJO index forecasts depict weakening of the MJO Index during the next two weeks.

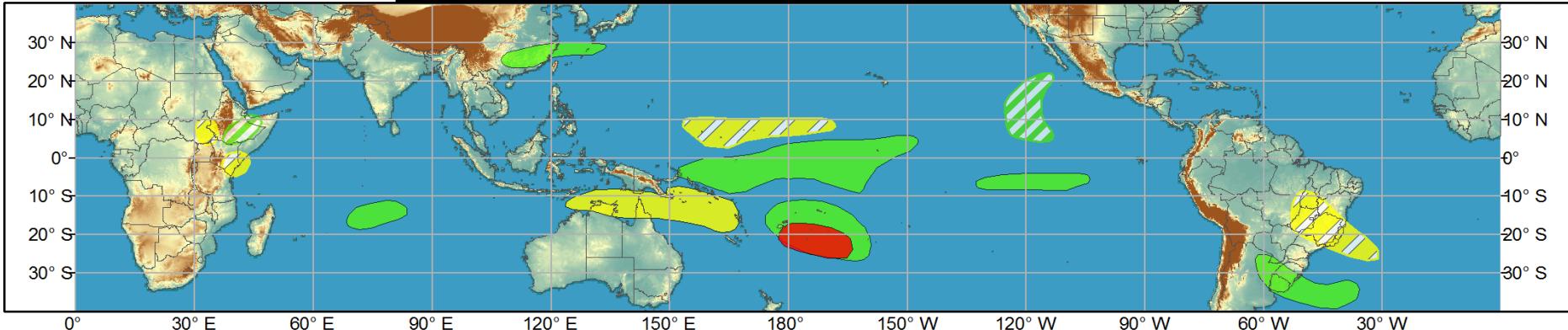
Extratropics:

- Recent MJO activity, coupled with persistent convection over the West Pacific has played a substantial role in the evolution of the extratropical pattern, with much above normal temperatures over Alaska, and deep troughing over eastern North America.

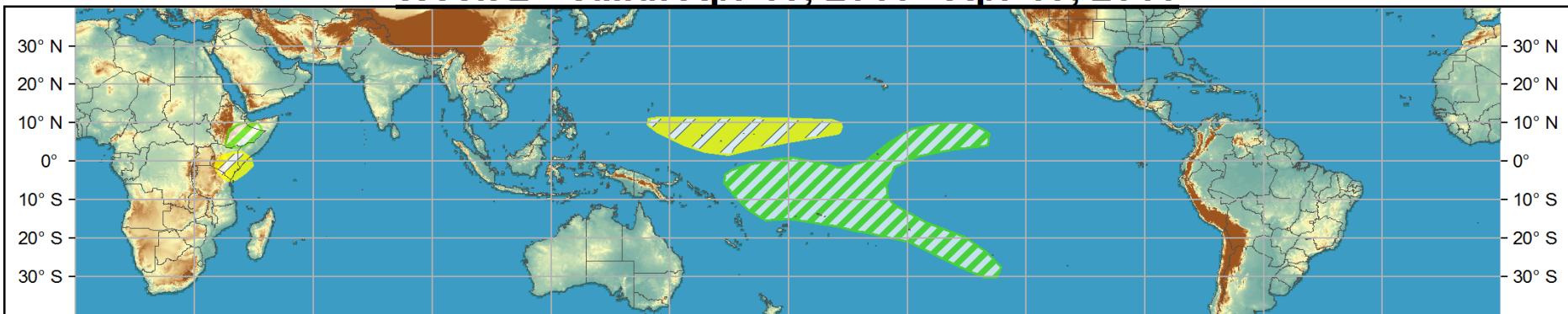


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 06, 2016 - Apr 12, 2016



Week 2 - Valid: Apr 13, 2016 - Apr 19, 2016



Produced: 04/05/2016

Forecaster: Allgood

Confidence	High	Moderate
Tropical Cyclone Formation		
Above-average rainfall		
Below-average rainfall		
Above-normal temperatures		
Below-normal temperatures		

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.

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.

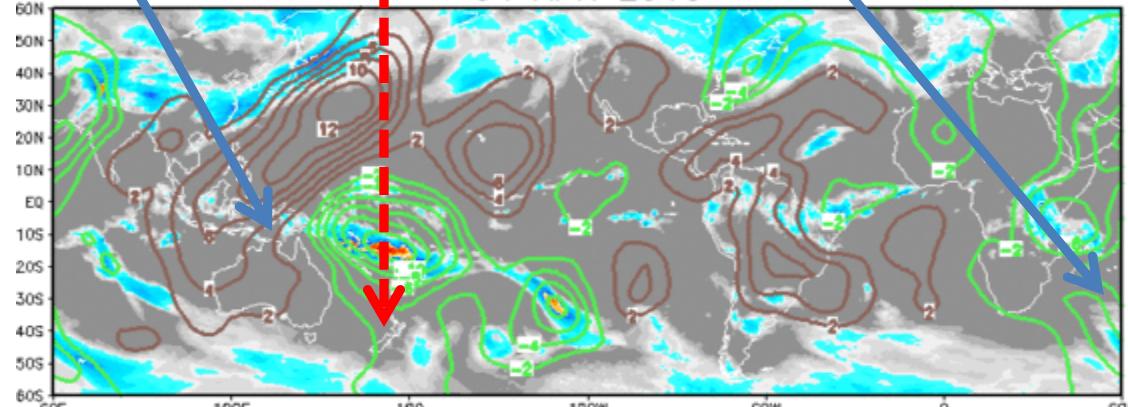
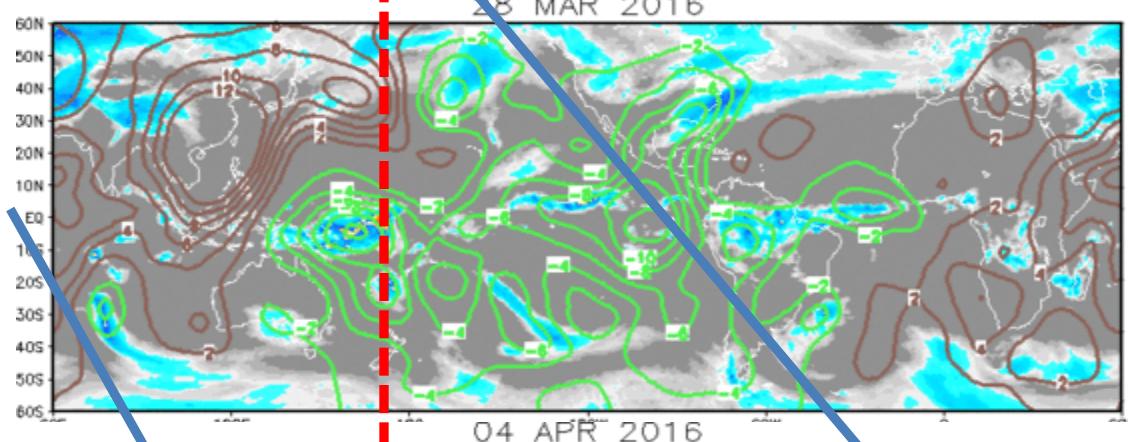
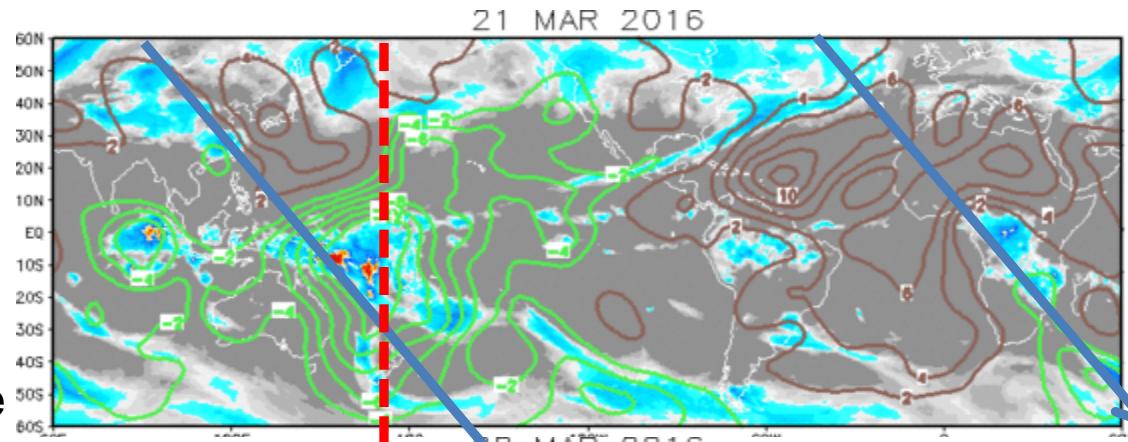


IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

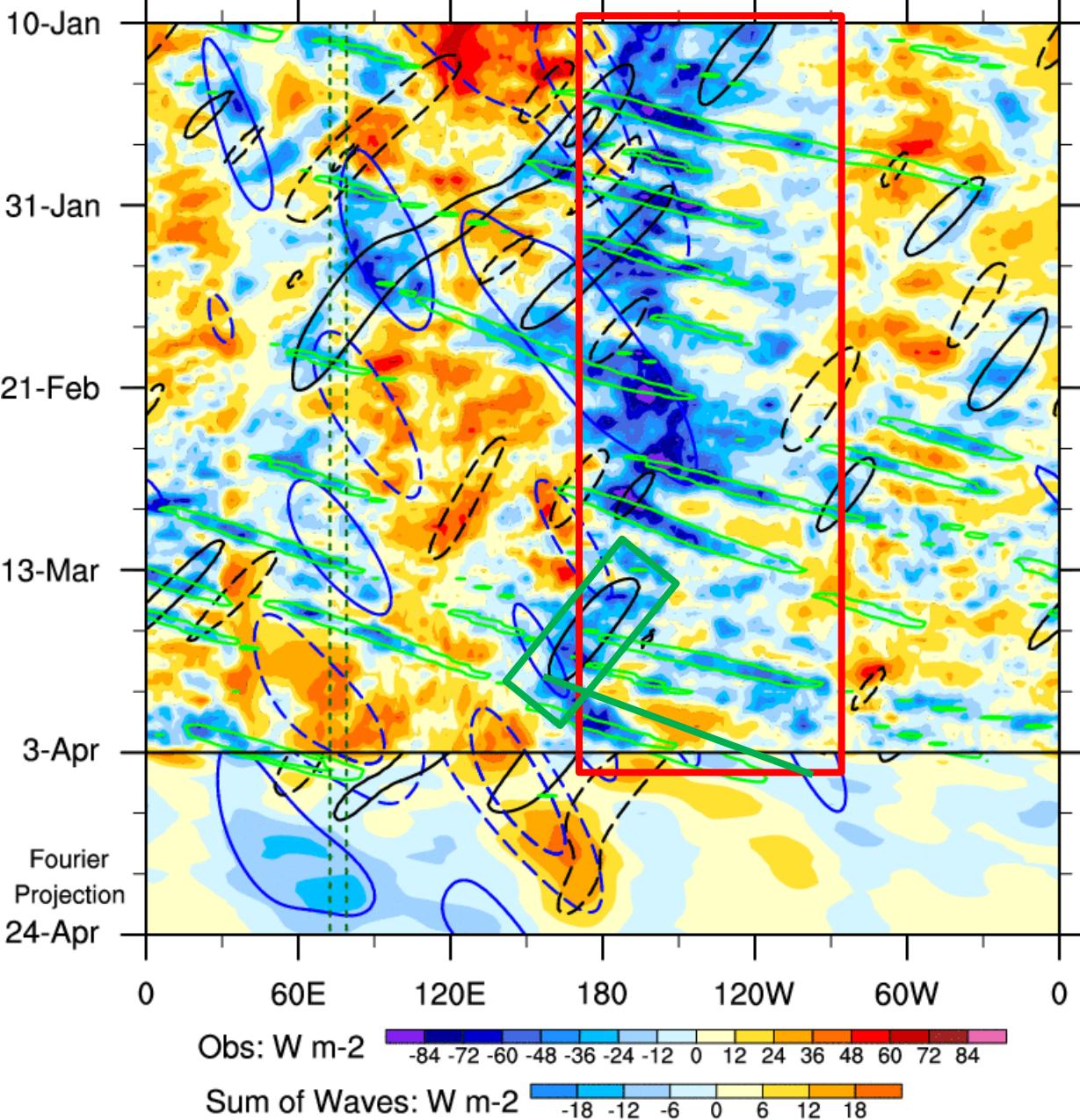
A fast eastward signal is evident (blue lines) – enhanced phase now over Africa/western I.O

Persistent convection over the West Pacific is NOT ENSO related (red line)



NOAA CDR HIRS OLR anomalies: 7.5°S - 7.5°N

10-Jan-2016 to 3-Apr-2016 + 21-day Fourier Projection



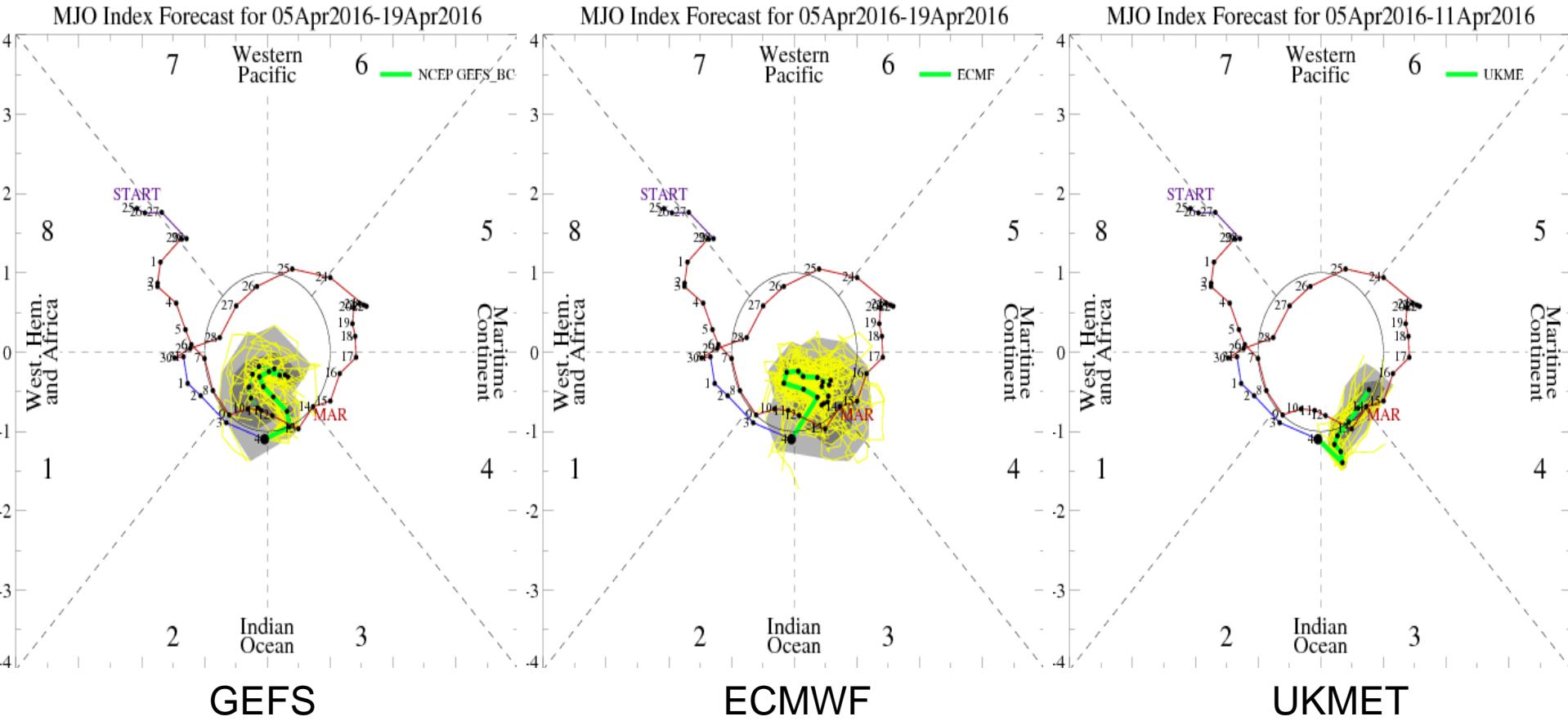
El Niño enhanced convective anomalies are highlighted with the red box.

Constructive interference with MJO in early March.

Equatorial Rossby Wave (ERW) activity was observed during late March near the Date Line (green box).

During early April, the ERW interacted with an eastward-moving feature.

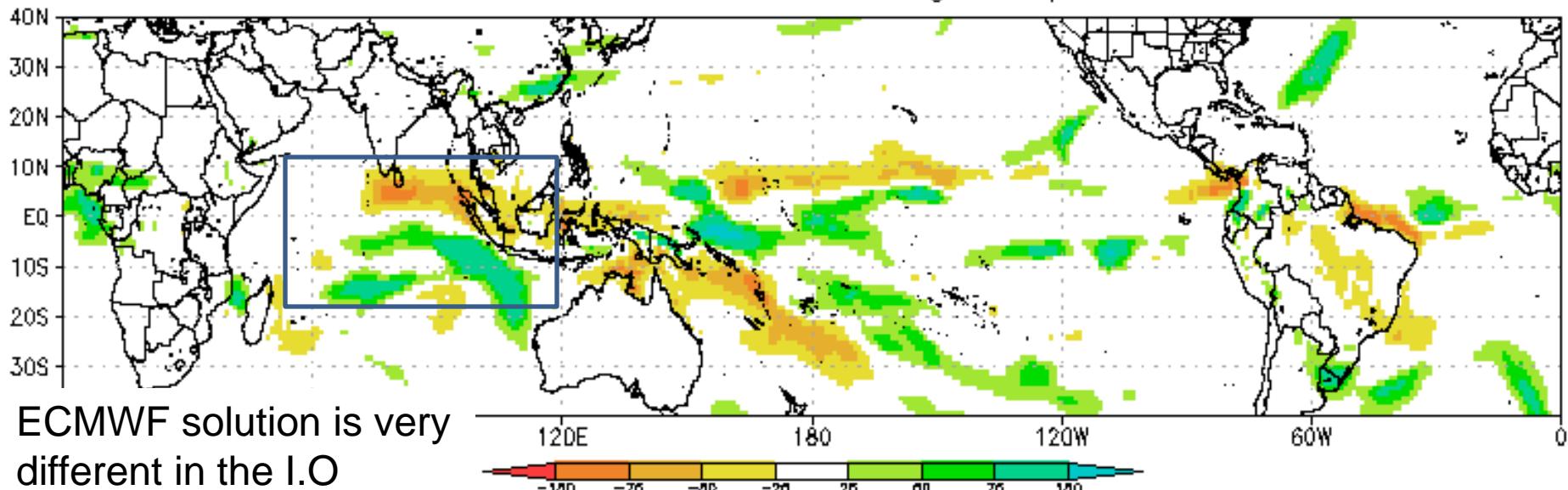
MJO Observation/Forecast



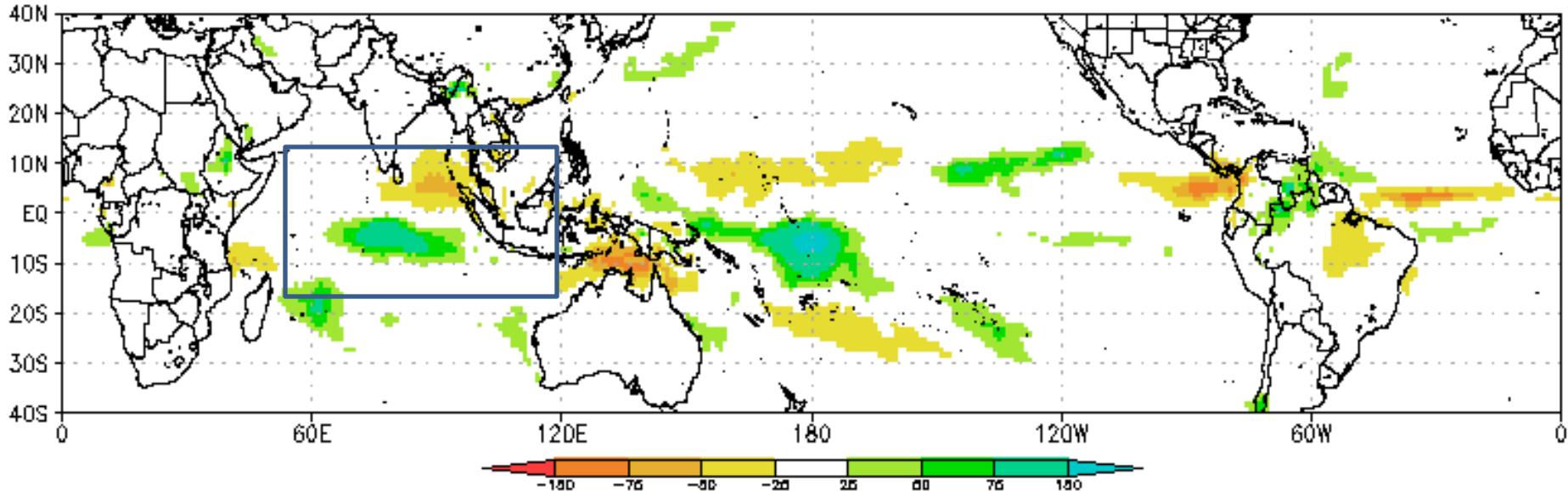
Wheeler-Hendon based analyses of model forecasts indicate a fast-moving signal over the Indian Ocean.

Most models depict weakening.

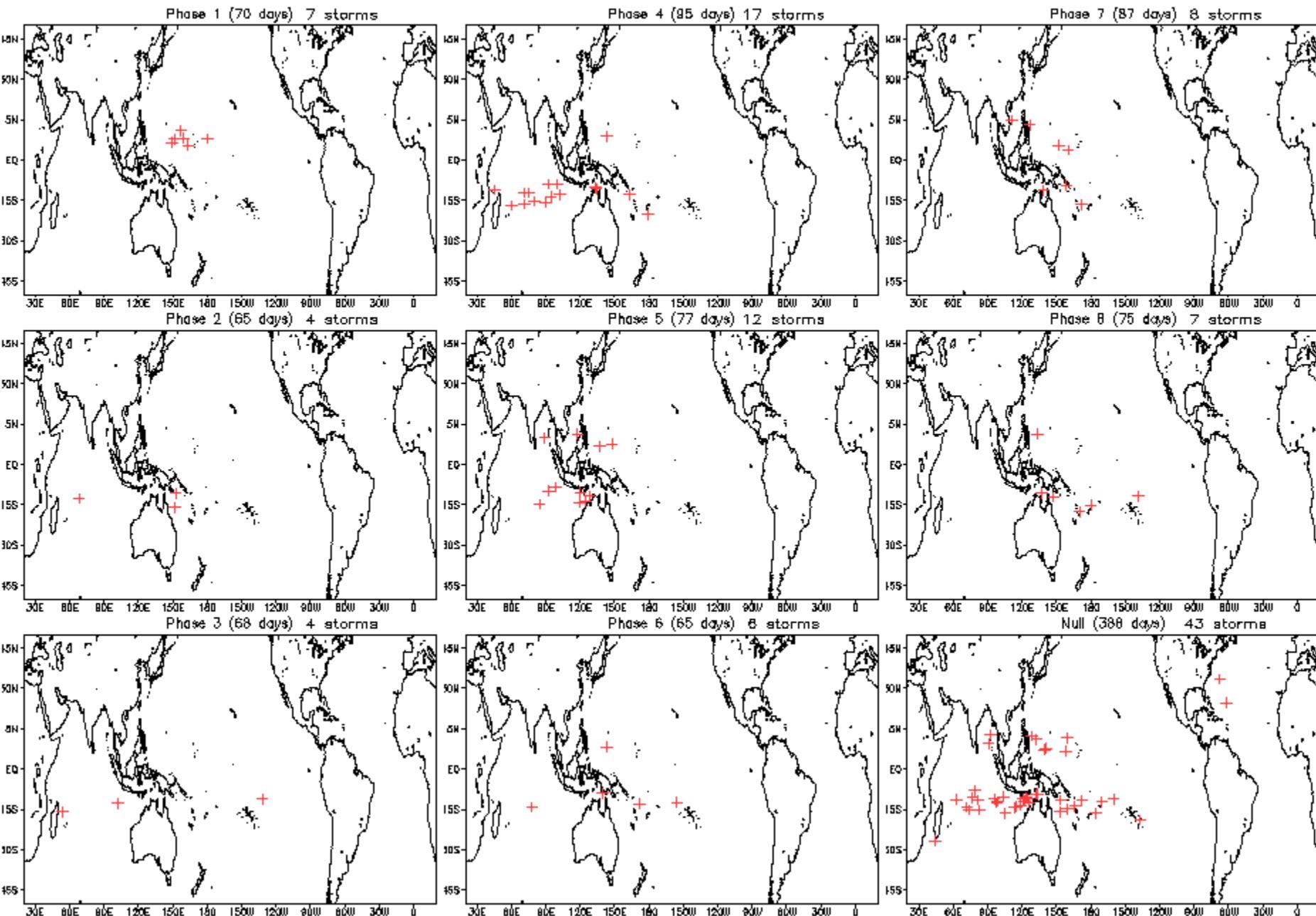
CFSv2 Precip Anomalies (mm) Issued 04Apr2016
Week-1 Forecast Ending 12Apr2016



CFSv2 Precip Anomalies (mm) Issued 04Apr2016
Week-2 Forecast Ending 19Apr2016

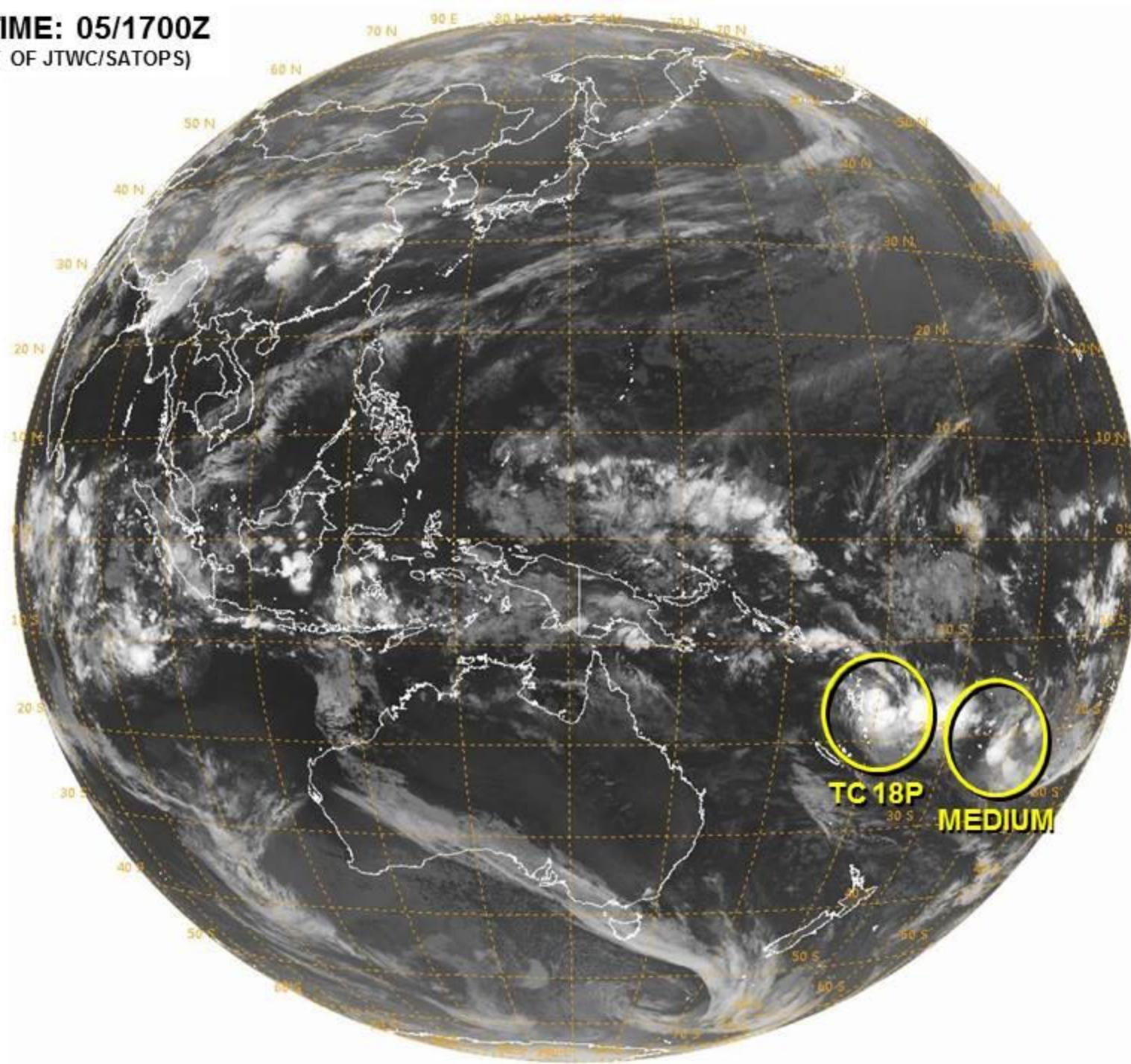


April Tropical Storm Formation by MJO phase



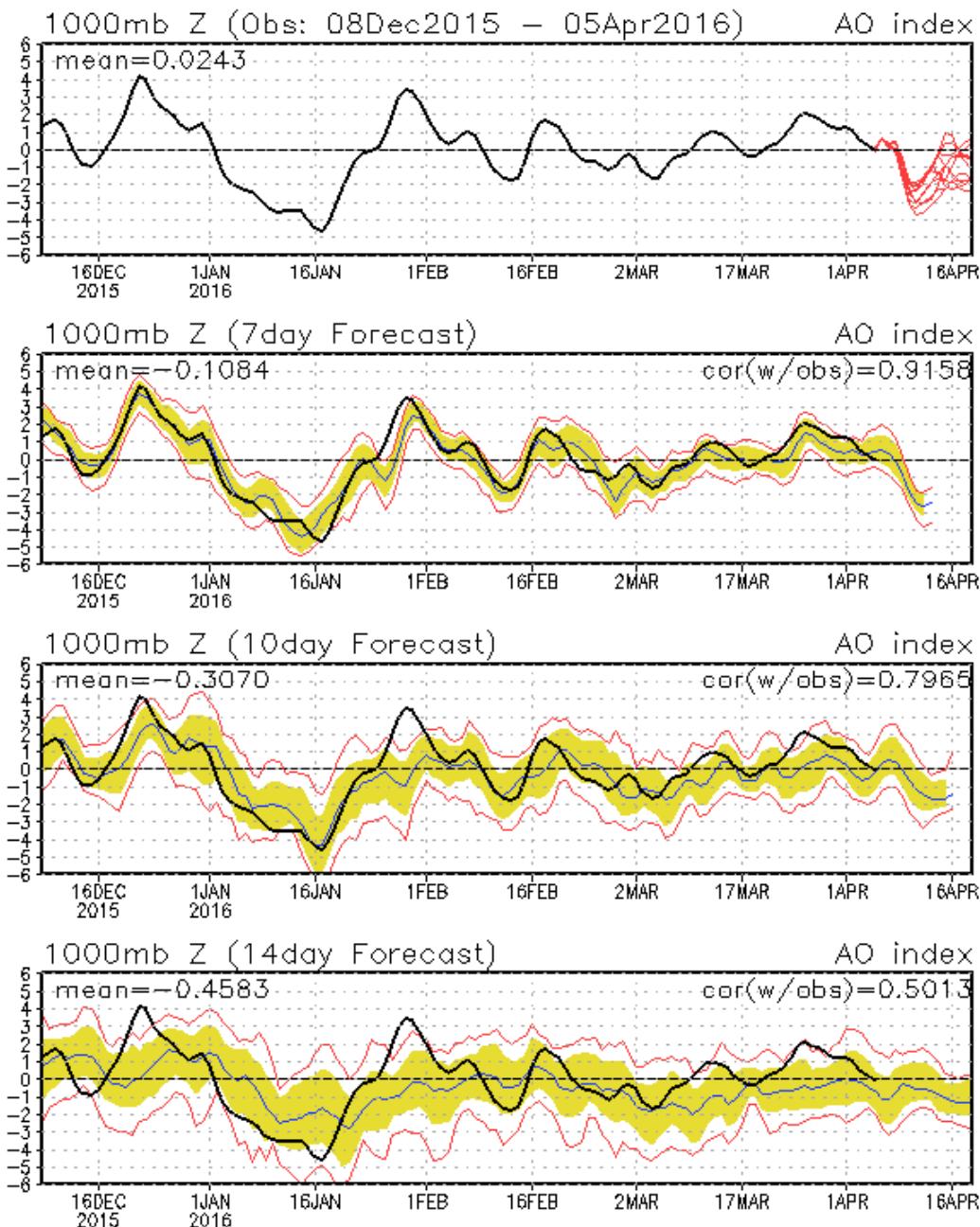
VALID TIME: 05/1700Z

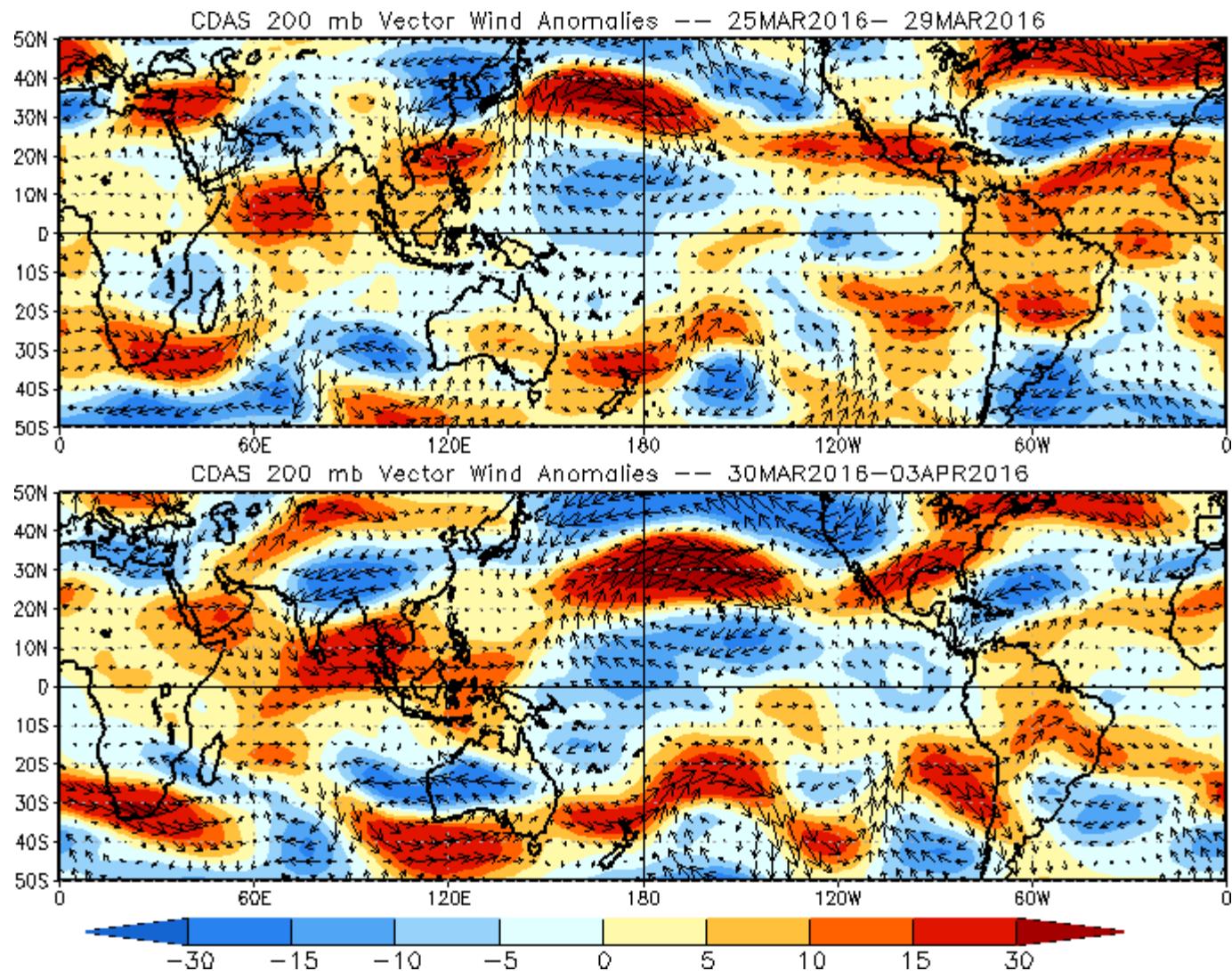
(PRODUCT OF JTWC/SATOPS)



Connections to U.S. Impacts

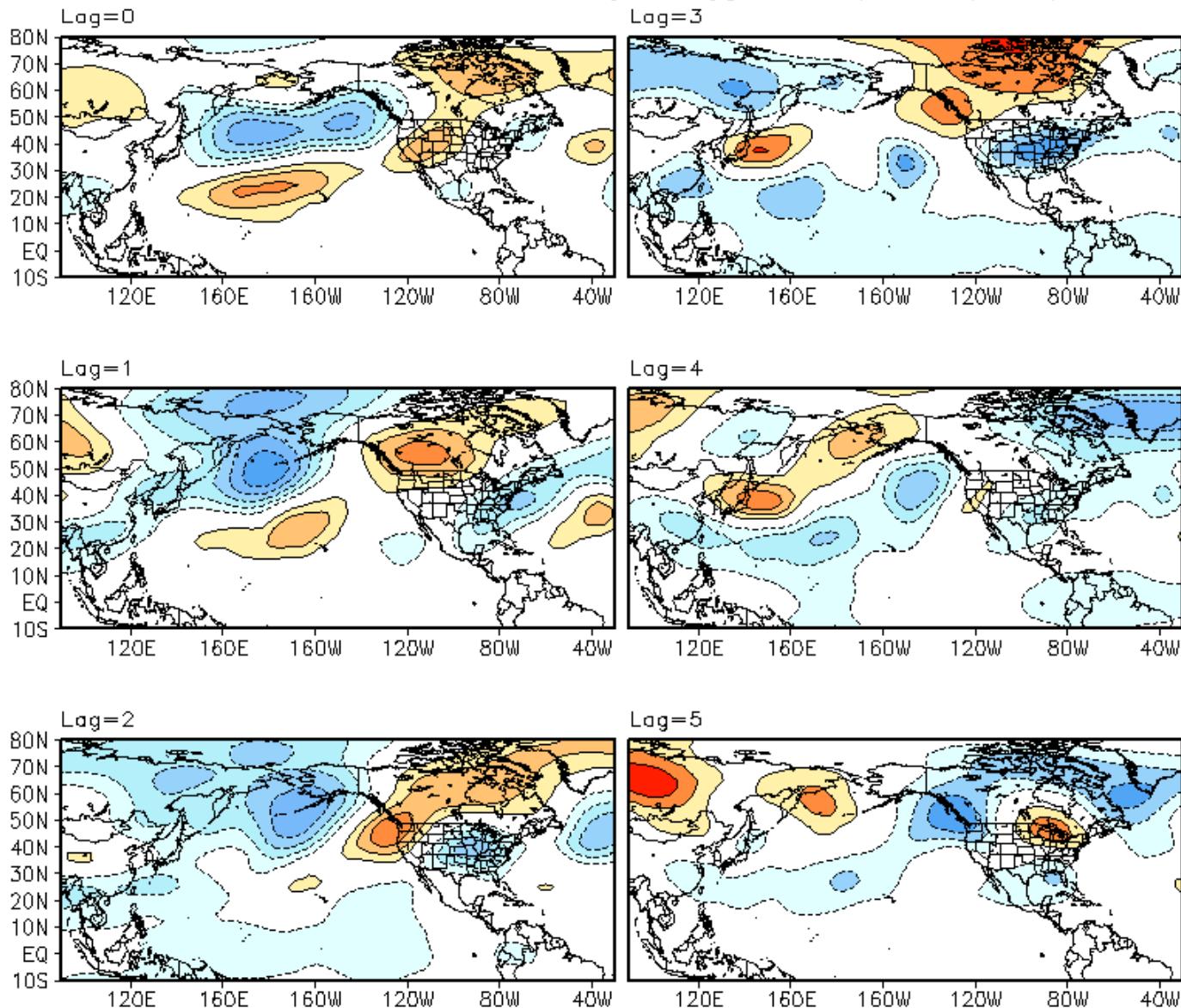
AO: Observed & ENSM forecasts

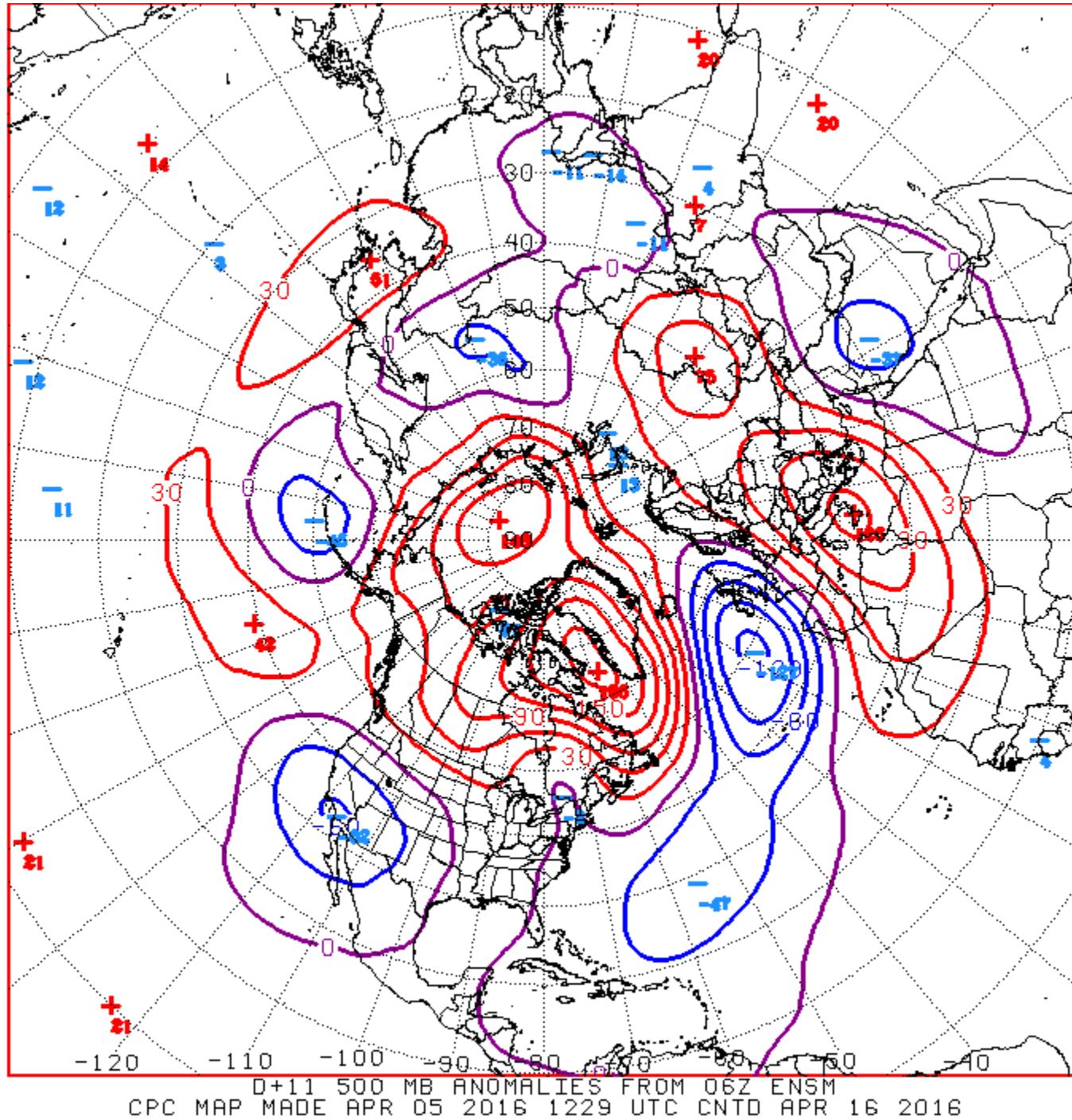




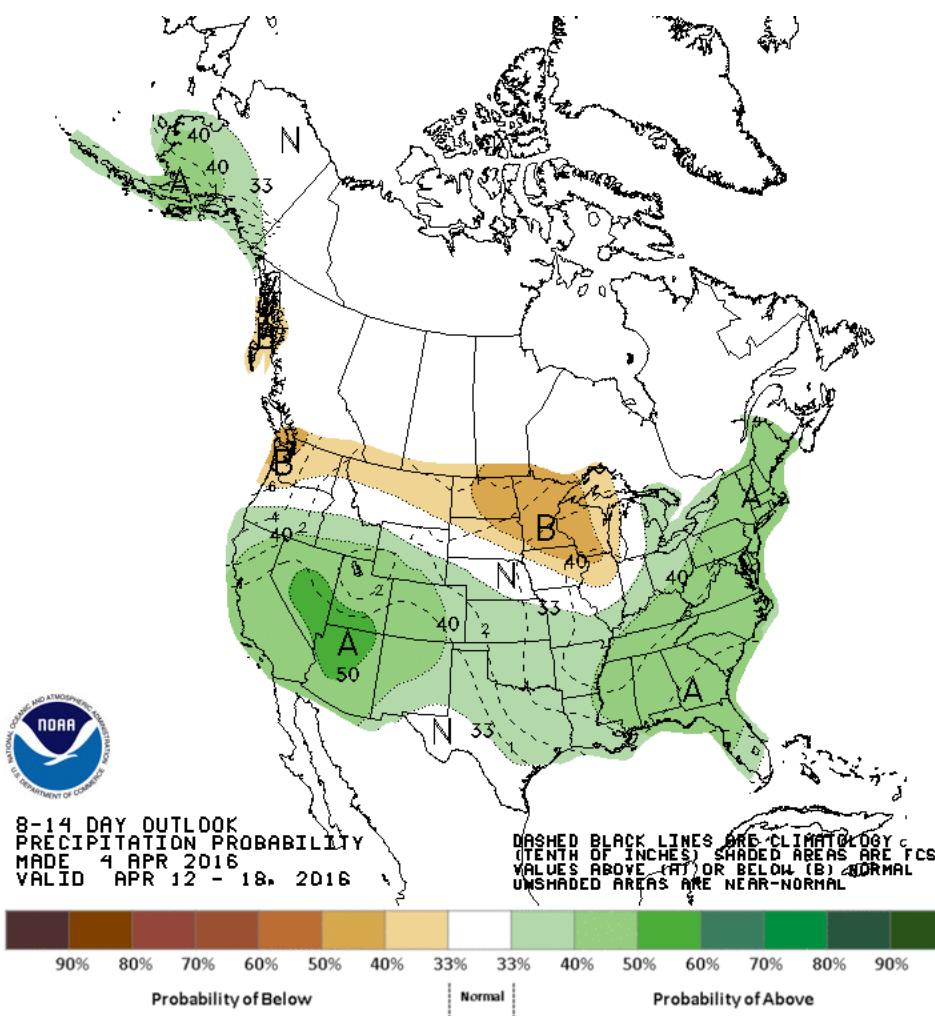
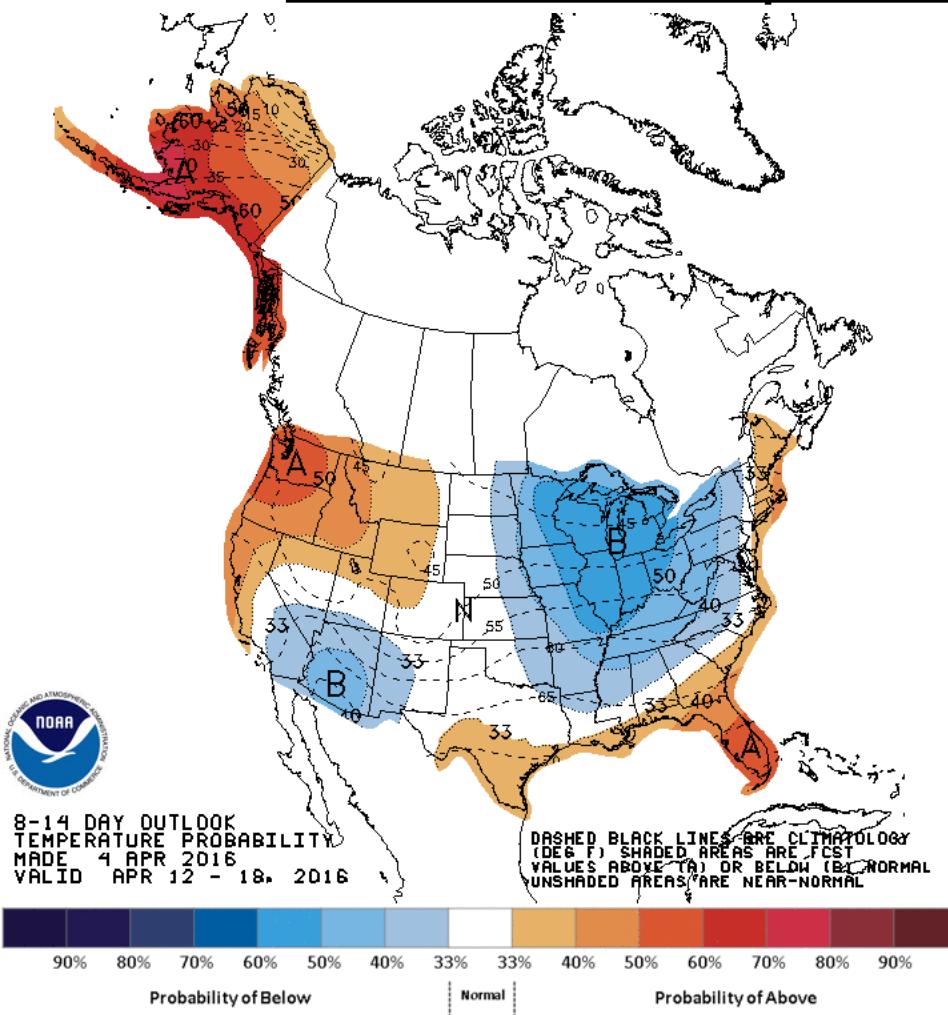
Enhanced convection over the West Pacific is producing a very MJO-like atmospheric response

RMM Phase 7 200-hPa Height Lagged Composite (mam)





Week 2 – Temperature and Precipitation





Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 06, 2016 - Apr 12, 2016



Week 2 - Valid: Apr 13, 2016 - Apr 19, 2016



Produced: 04/05/2016

Forecaster: Allgood

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.

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.

