Global Tropics Hazards And Benefits Outlook

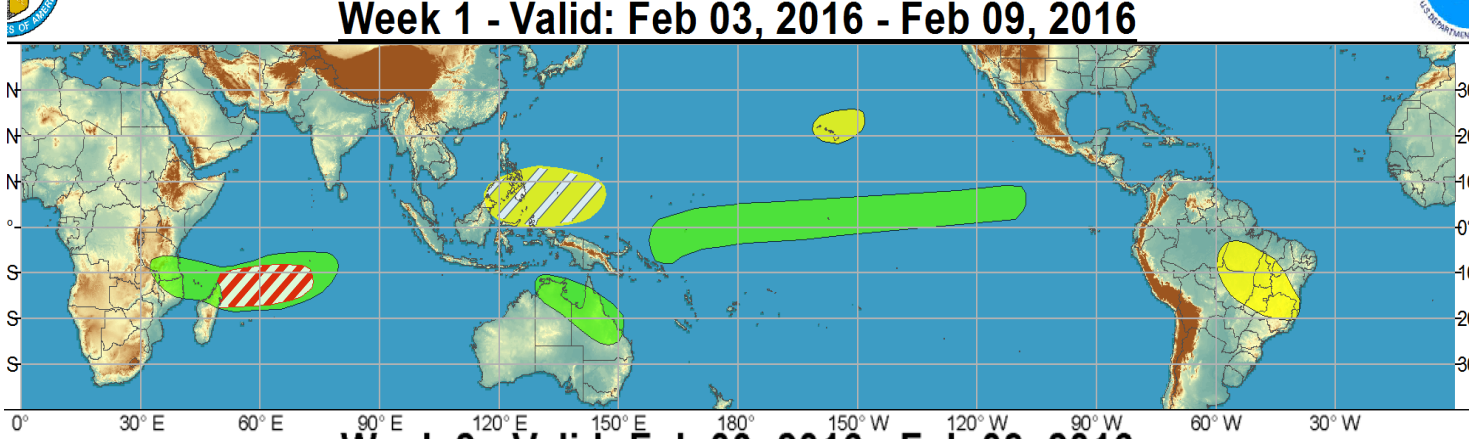
February 9, 2015

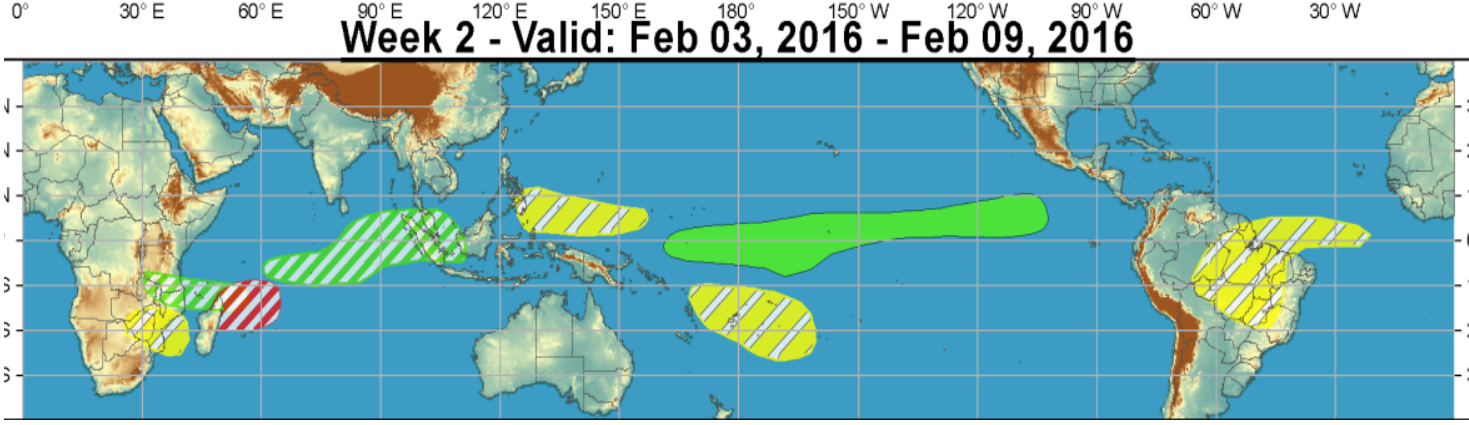
Matthew Rosencrans

Outline

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

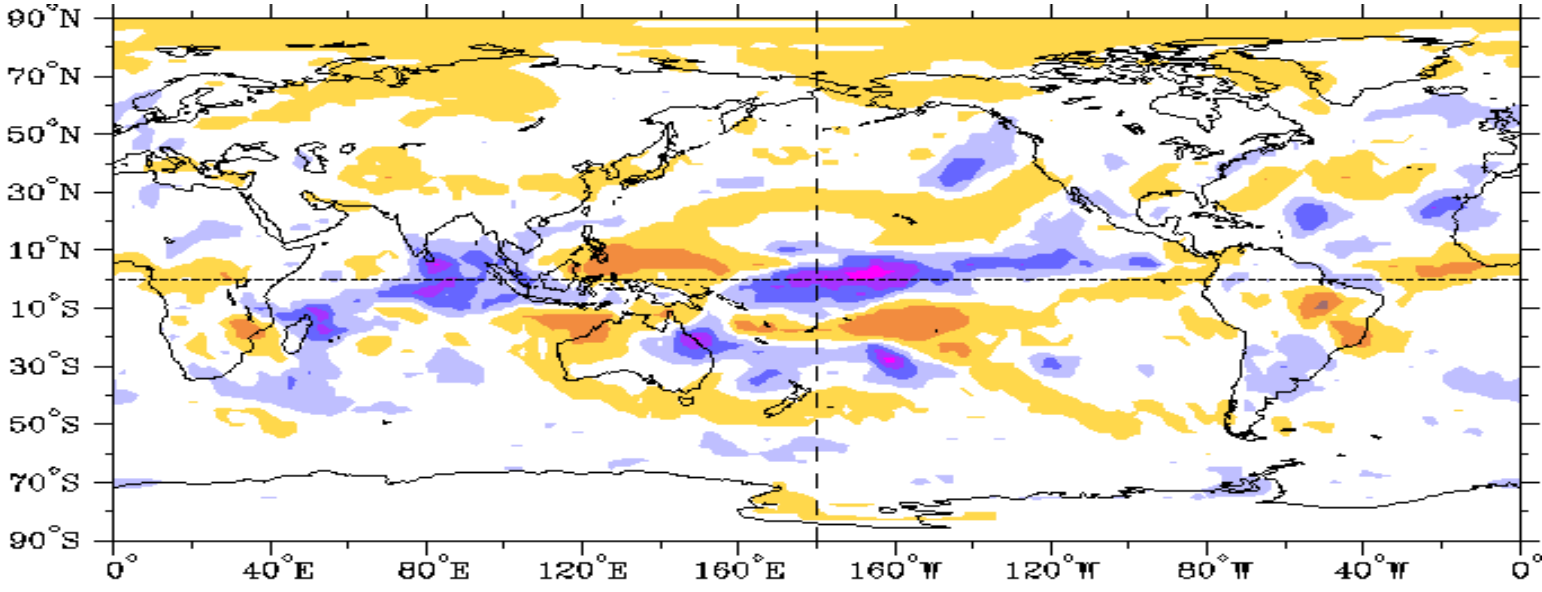
Outlook Review



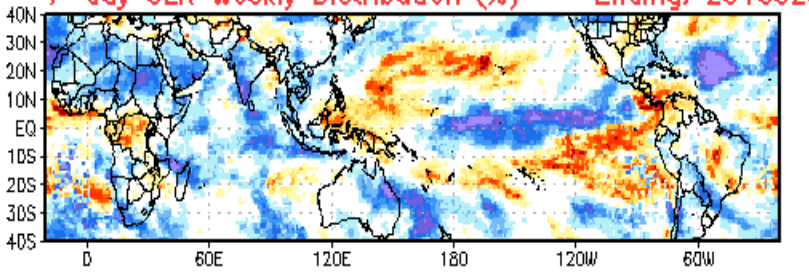


Cool shading
More clouds/rain

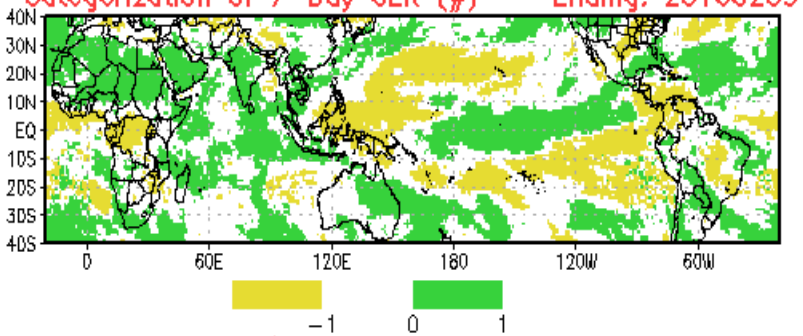
Warm shading
Less clouds/rain



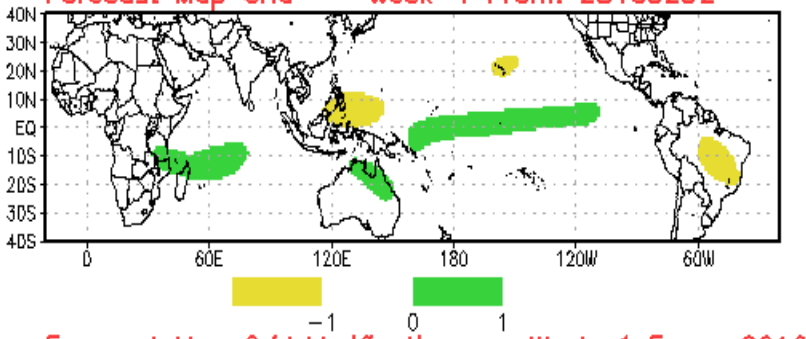
7-day OLR Weekly Distribution (%) -- Ending: 20160209



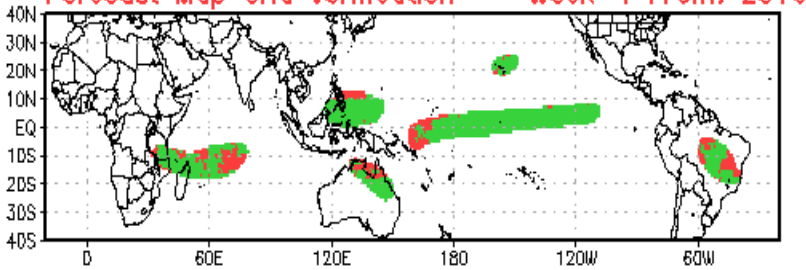
Categorization of 7-Day OLR (#) -- Ending: 20160209



Forecast Map Grid -- Week-1 From: 20160202

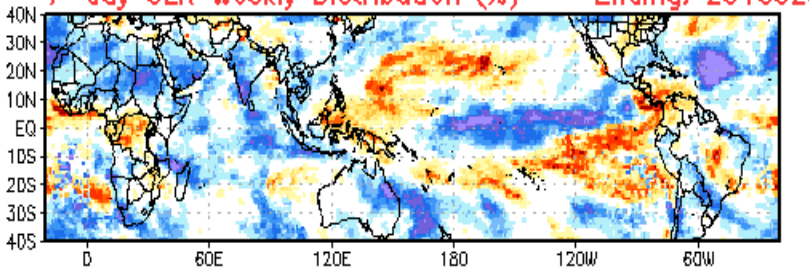


Forecast Map Grid Verification -- Week-1 From: 20160202



Hit: Green, Miss: Red
Heidke Skill Score: 66.9948

7-day OLR Weekly Distribution (%) -- Ending: 20160209



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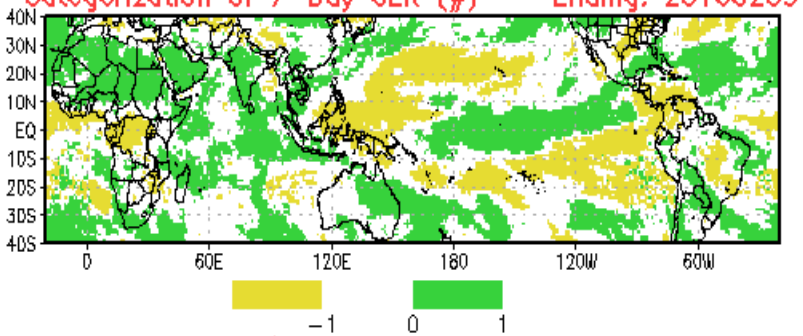
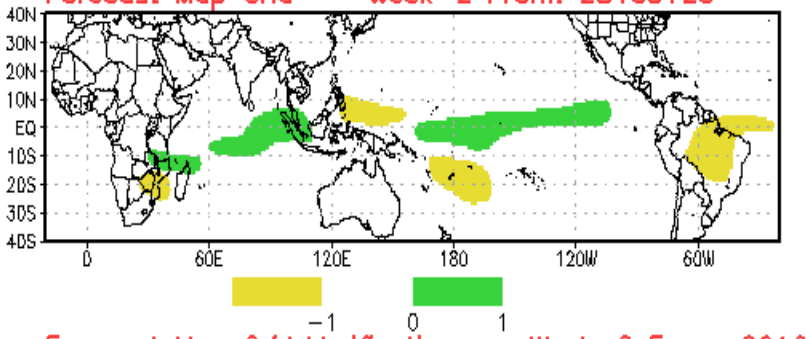
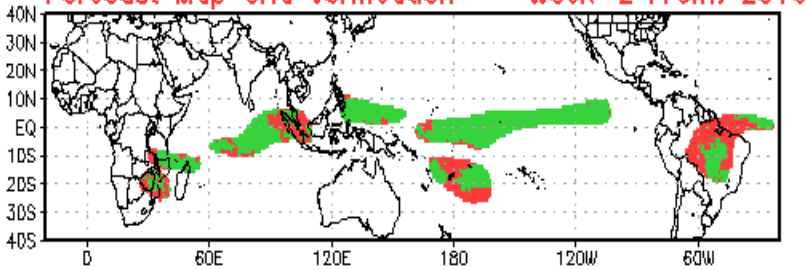


Forecast Map Grid -- Week-2 From: 20160126



Forecast Map Grid Verification -- Week-2 From: 20160126



Hit: Green, Miss: Red
Heidke Skill Score: 50.5751

Synopsis of Climate Modes

ENSO:

• **Current**: **El Niño Advisory**

• **Nino 3.4:** 2.6C - Slight tick up.

• **Outlook:** A strong El Niño is expected to gradually weaken through spring 2016, and to transition to ENSO-neutral during late spring or early summer.

MJO and other subseasonal tropical variability:

• Some MJO indices are indicating a signal over the Maritime Continent, but the spatial pattern is not quite coherent yet.

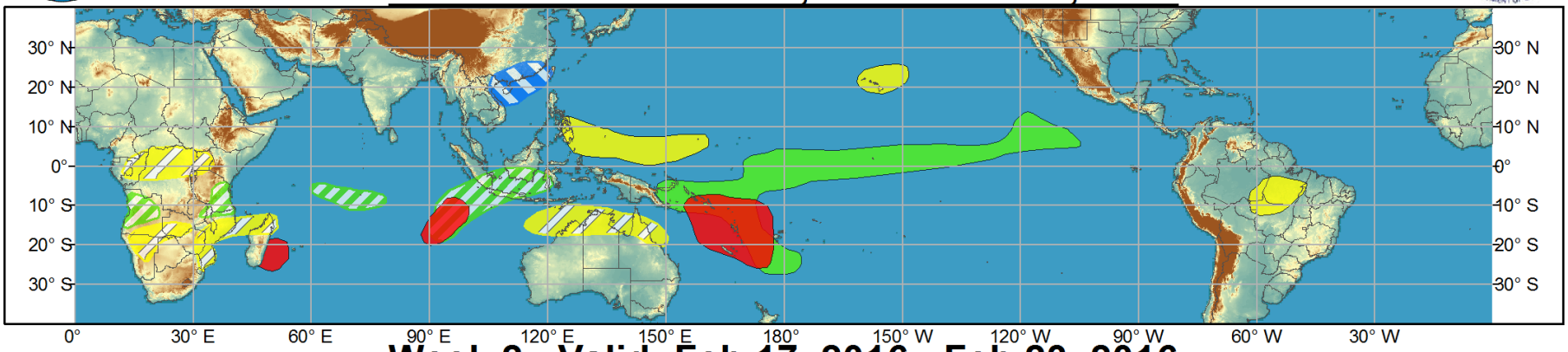
• Most dynamical model MJO index forecasts depict eastward propagation of a signal through Week-2. The amplitude of the signals vary widely from weak to extremely strong by the end of Week-2. Uncertainty due to early period destructive interference with the ongoing El Nino increases uncertainty.

Extratropics:

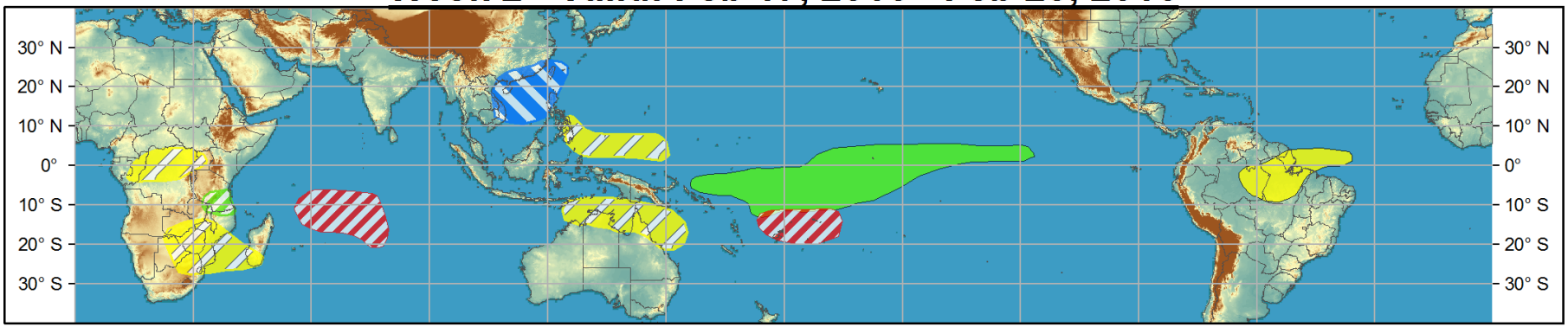
• The extended range temperature and precipitation forecasts for the U.S. are likely to impacted by the MJO as it's likely to disrupt the ENSO signal early, then amplify it later in Week-2 and beyond.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 10, 2016 - Feb 16, 2016



Week 2 - Valid: Feb 17, 2016 - Feb 23, 2016



Produced: 02/09/2016

Forecaster: Rosencrans

	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.
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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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UNIVERSITY AT ALBANY State University of New York

EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

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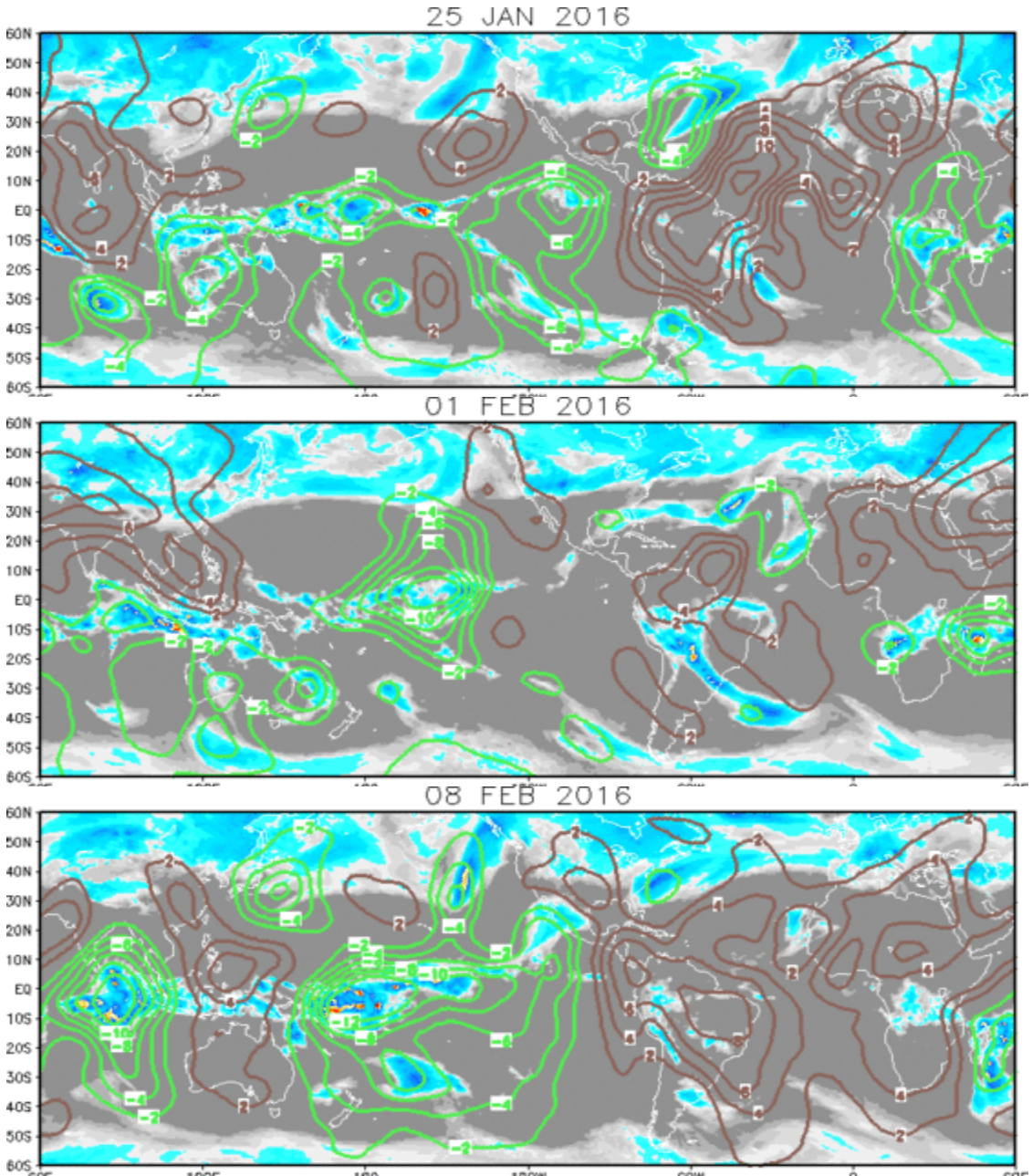
NPS PRAESTANTIA PER SCIENTIAM

IR Satellite & 200-hpa Velocity Potential Anomalies

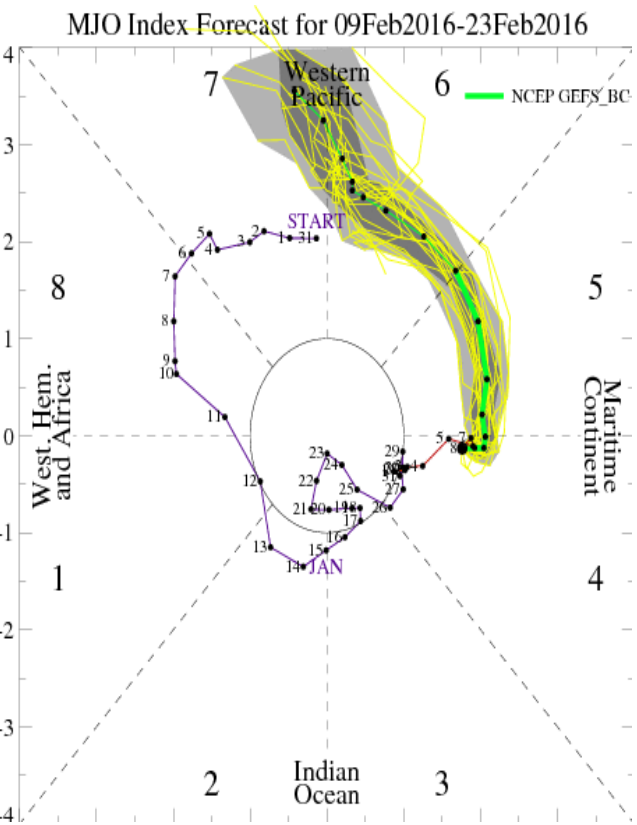
Green: Enhanced Divergence Brown: Enhanced Convergence

Base state emerged again.

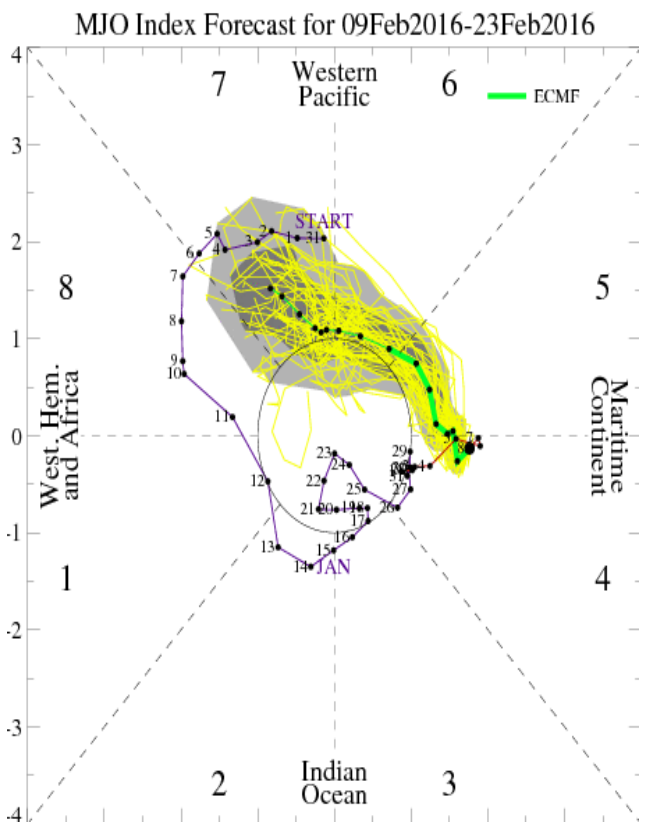
Other modes constructively interfering now.



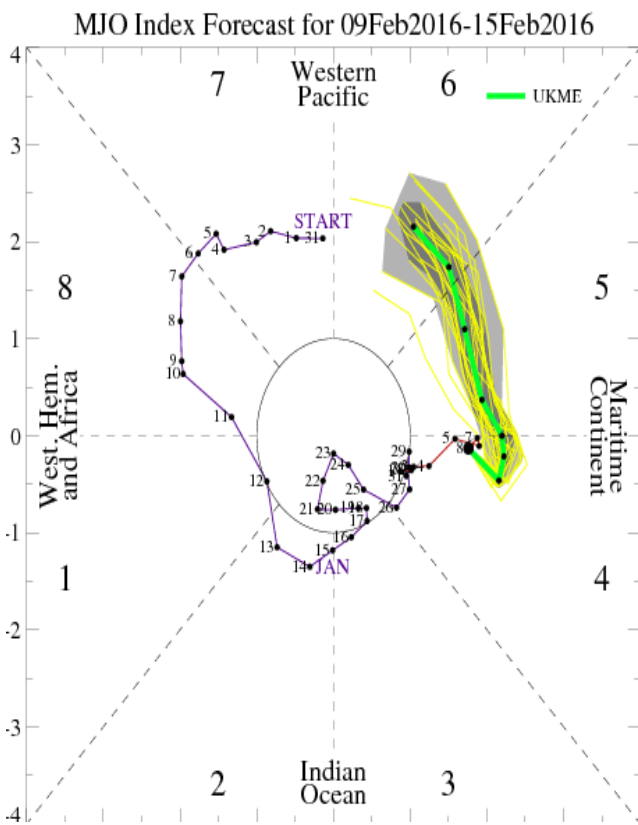
MJO Observation/Forecast



JMAN



ECMWF

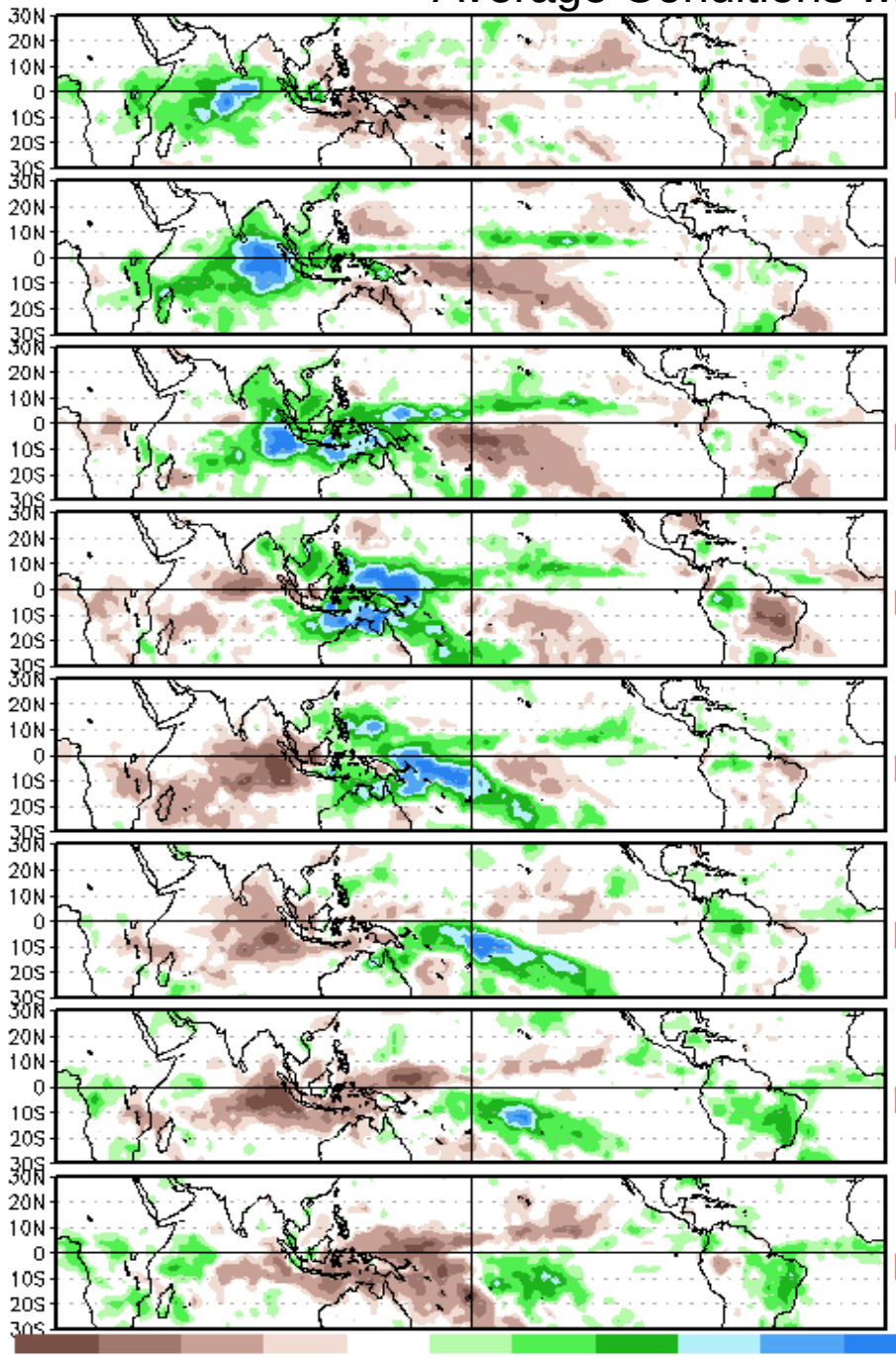


UKMET

Wheeler-Hendon based analyses of model forecasts indicate an signal over the Maritime Continent.

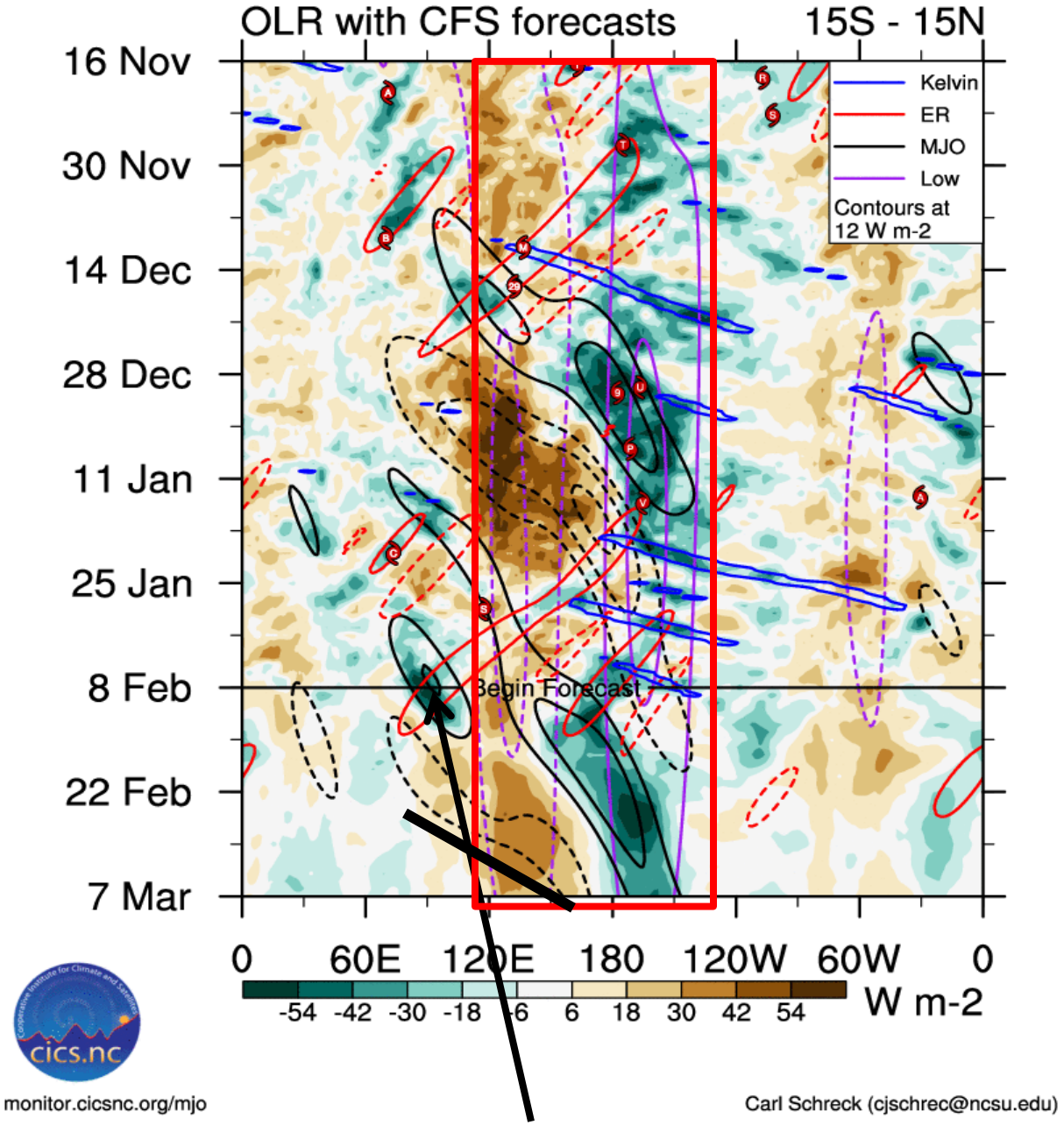
Most models depict continued signal, although amplitude is uncertain.

Average Conditions when the MJO is present

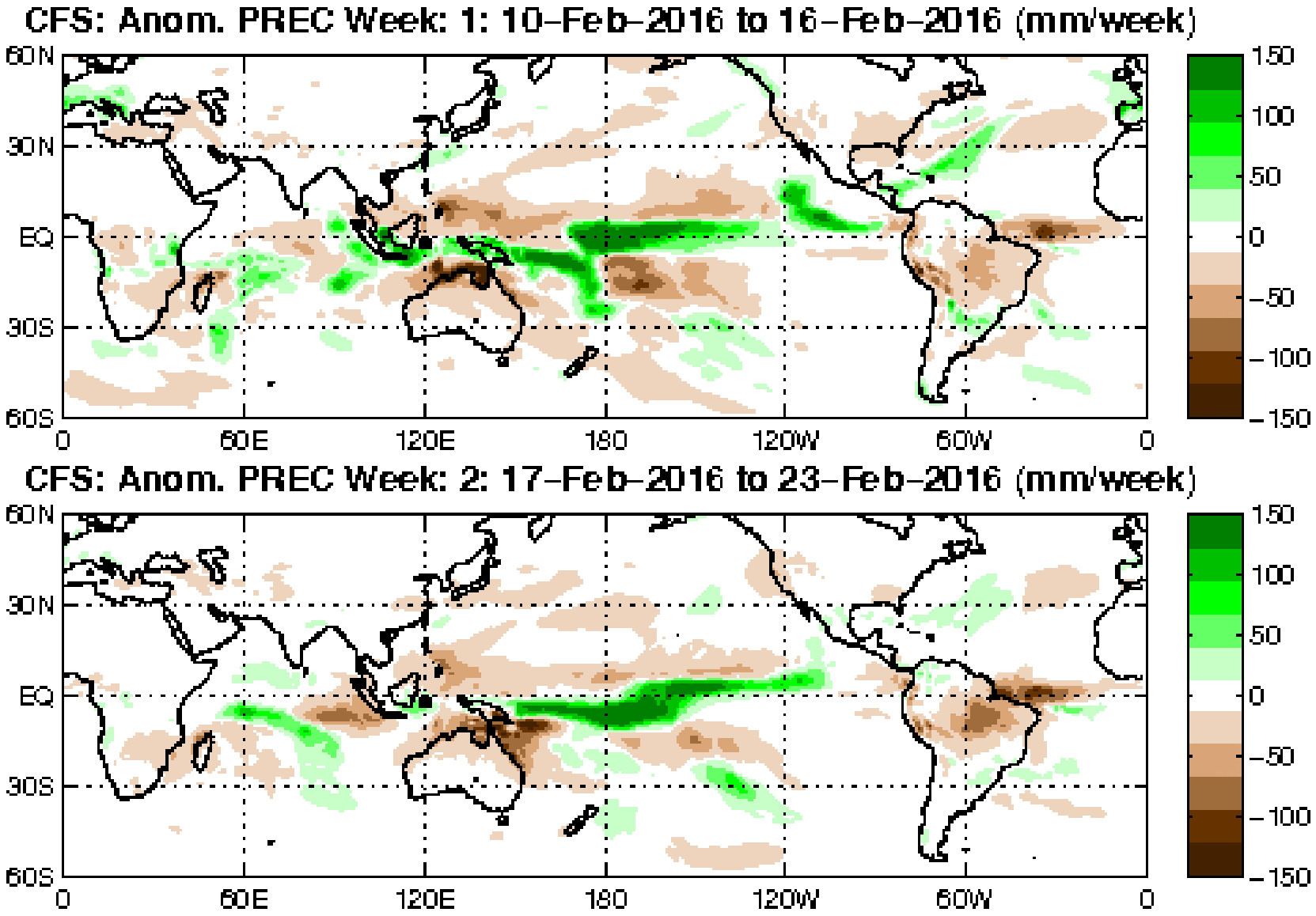


CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.

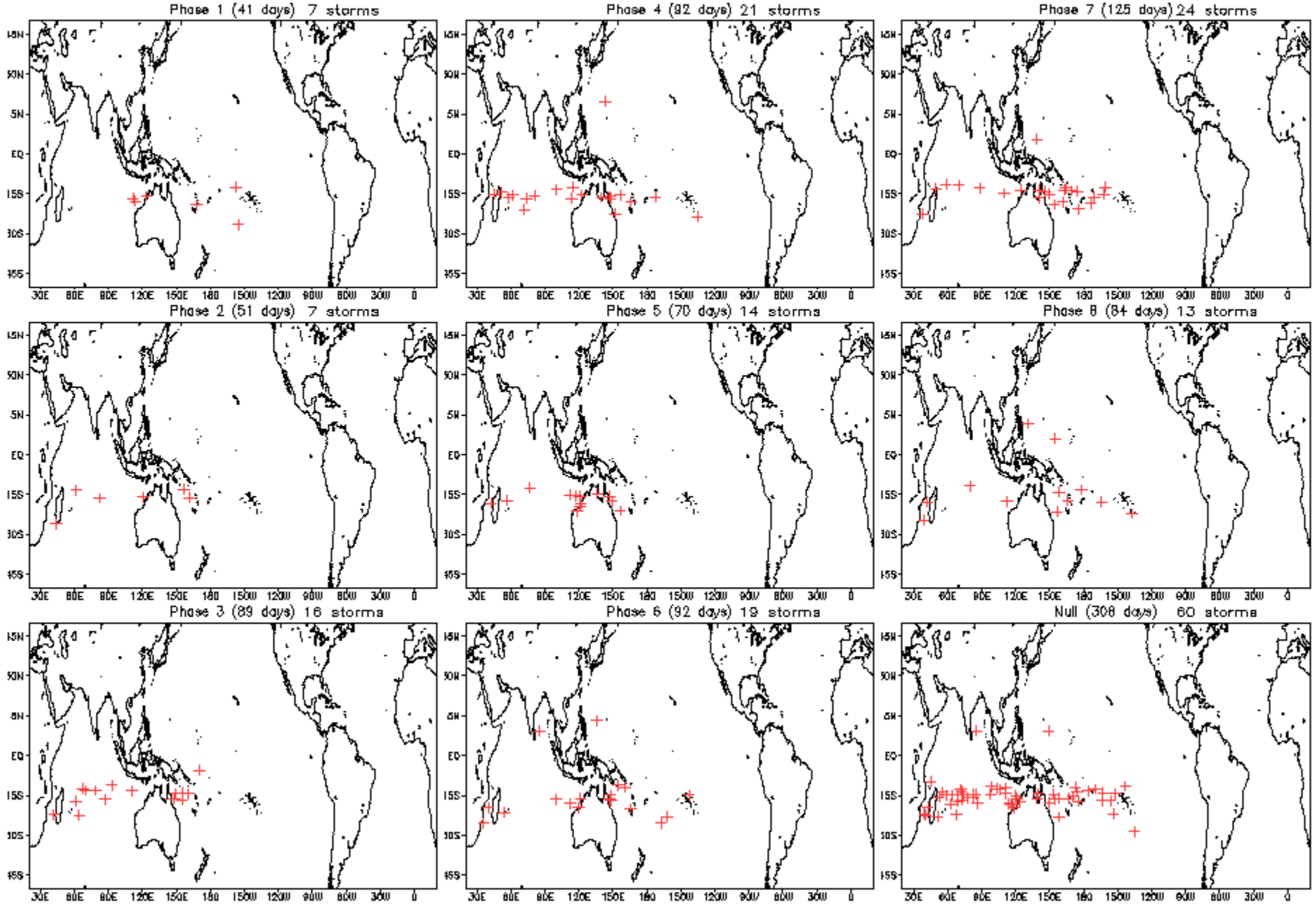
MJO likely to become more aligned with background El Nino.



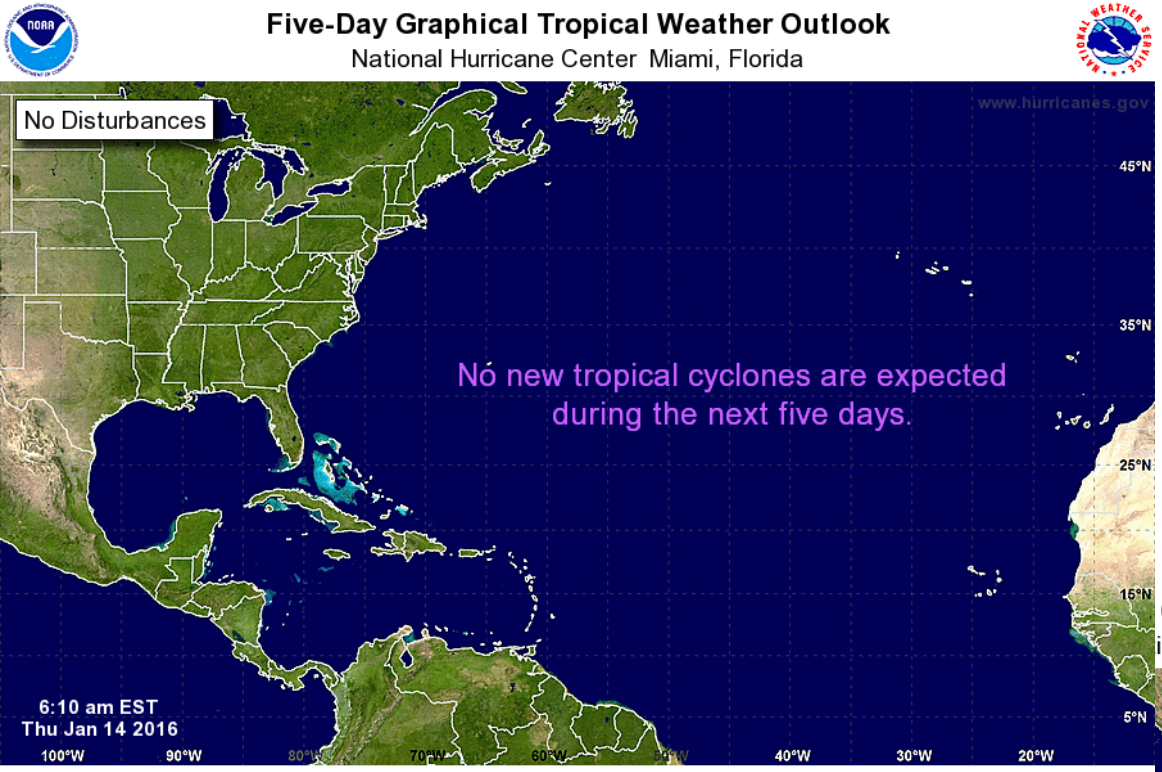
ERW over Indian Ocean

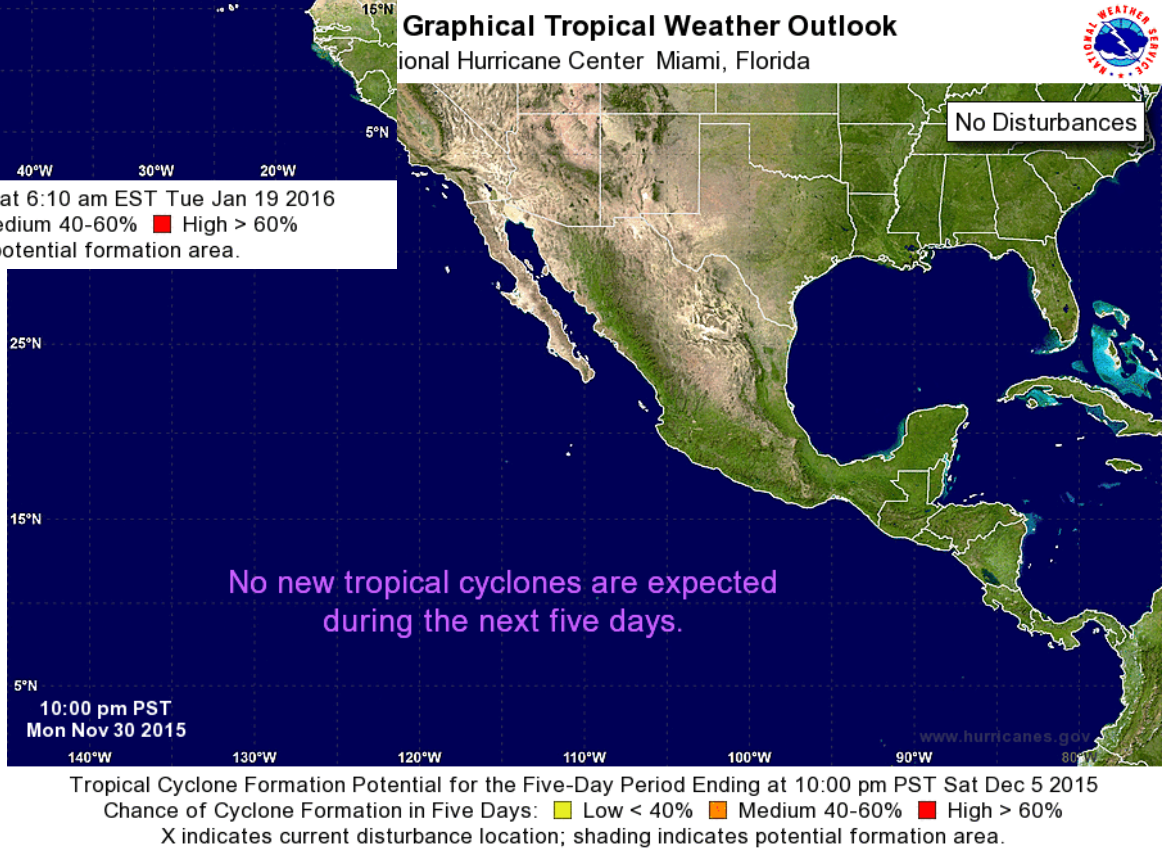

CFS: Anom. PREC Week: 1: 10-Feb-2016 to 16-Feb-2016 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150
CFS: Anom. PREC Week: 2: 17-Feb-2016 to 23-Feb-2016 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150

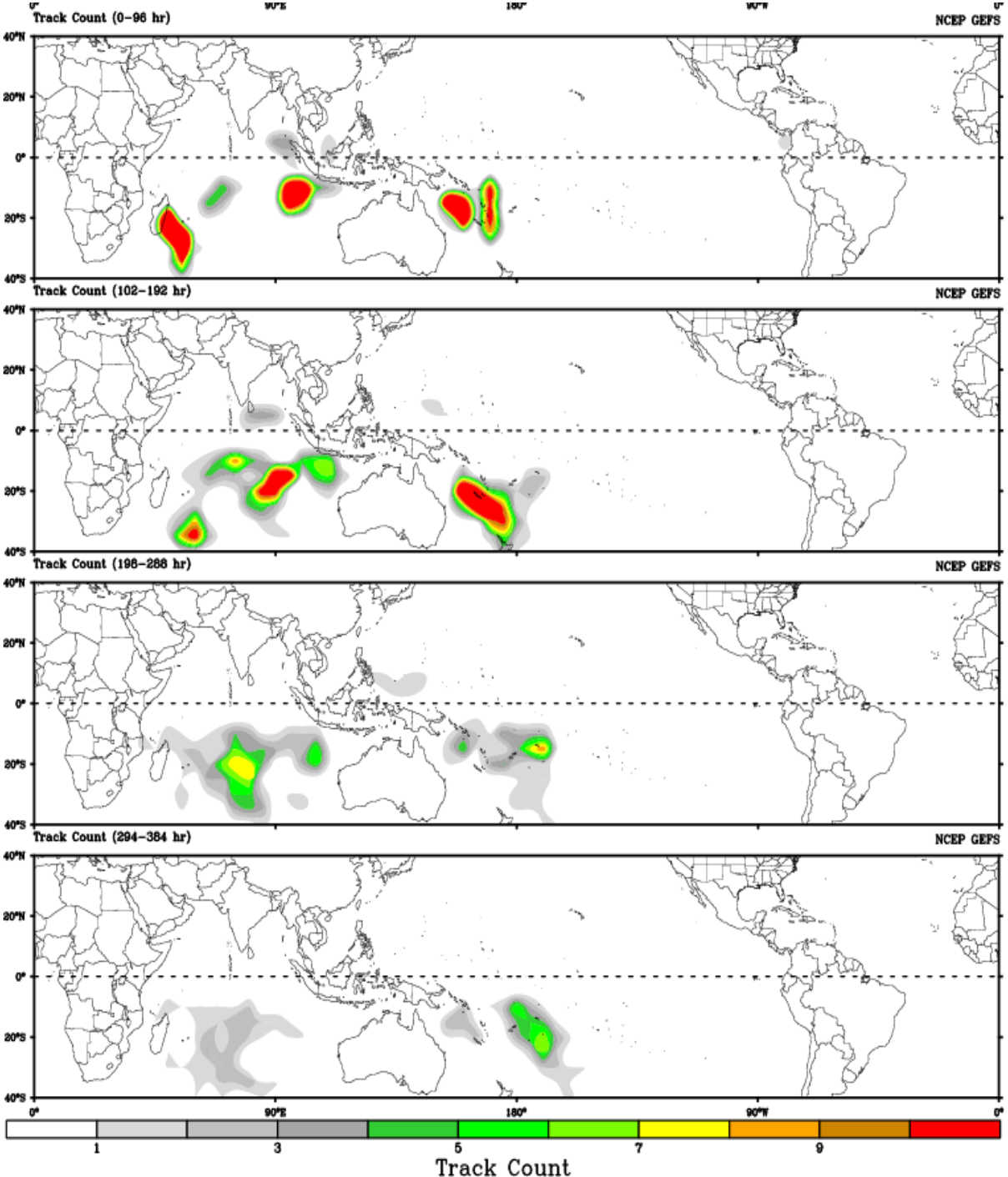
February Tropical Storm Formation by MJO phase



Graphical Tropical Weather Outlooks

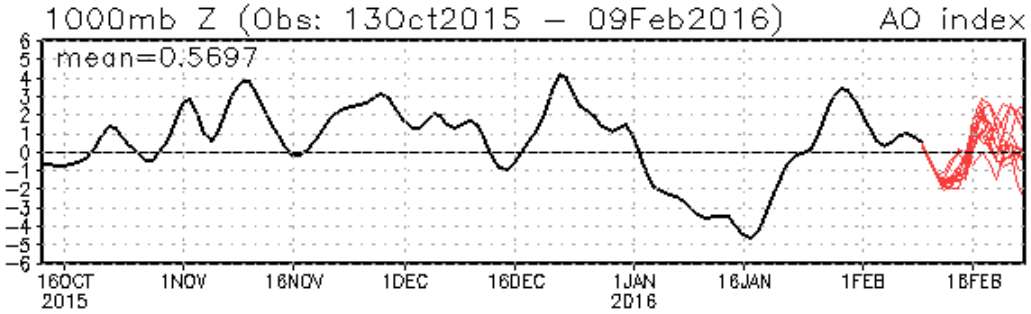


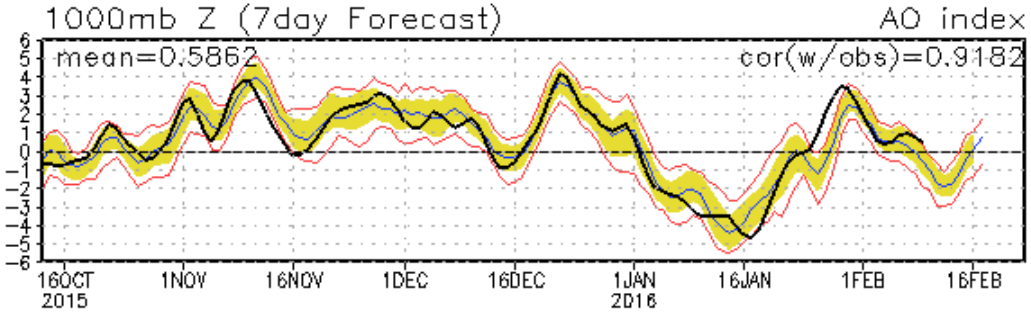


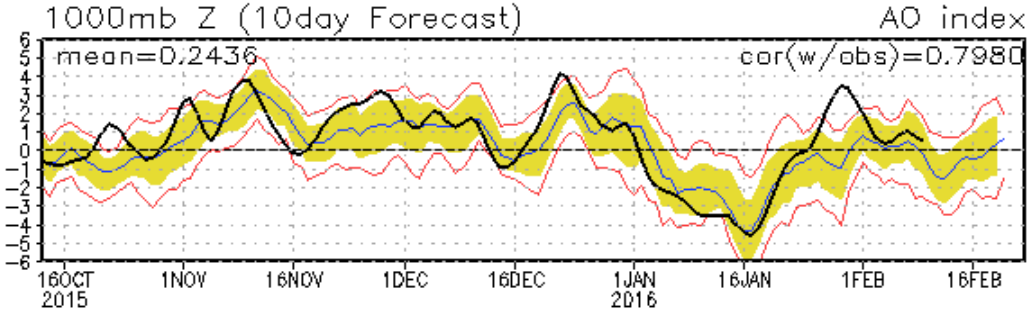

Track Count (0–96 hr)
NCEP GEFS
Track Count (102–192 hr)
NCEP GEFS
Track Count (198–288 hr)
NCEP GEFS
Track Count (294–384 hr)
NCEP GEFS
40°N
20°N
0°
20°S
40°S
0°
90°E
180°
90°W
0°
1
3
5
7
9
Track Count

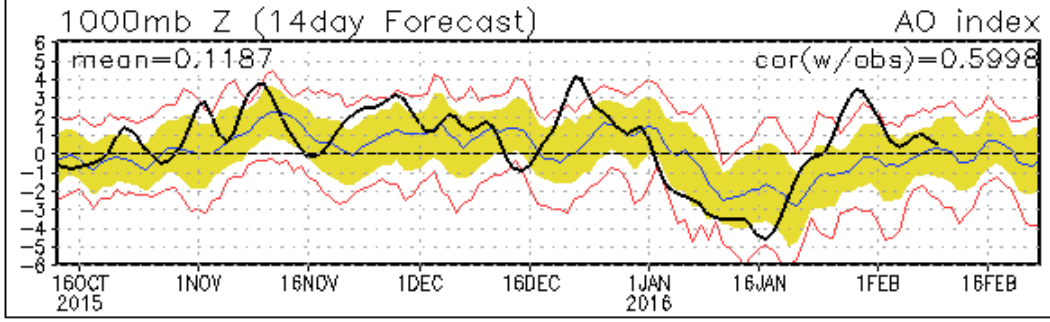
Connections to U.S. Impacts

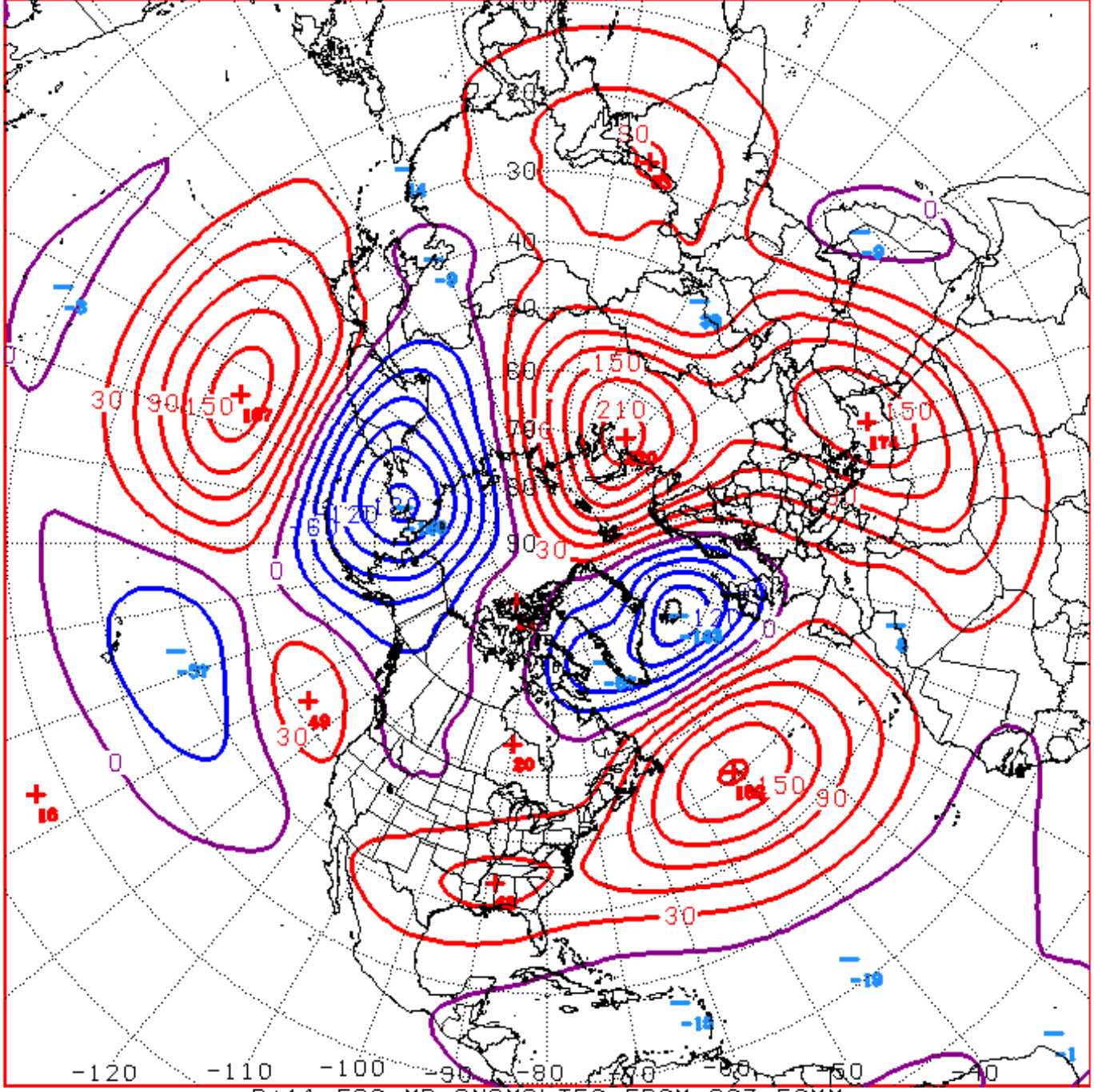
AO: Observed & ENSM forecasts





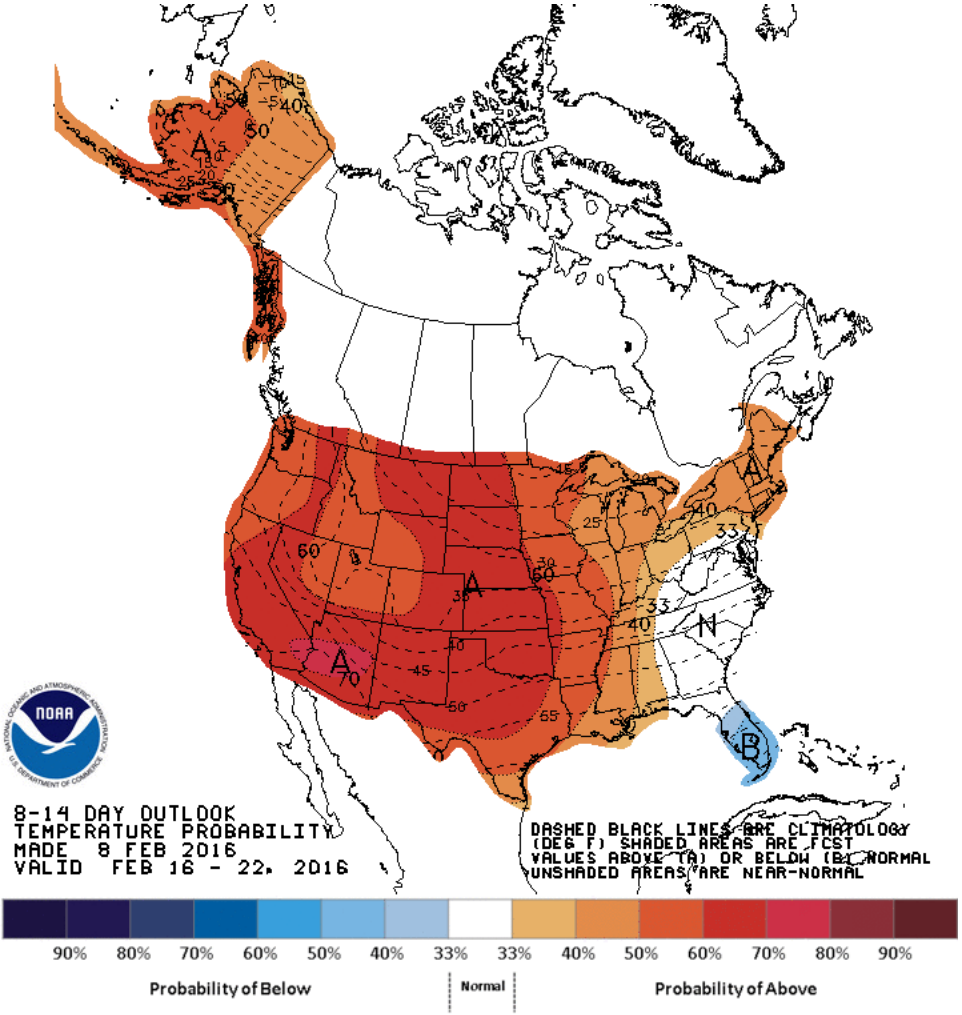


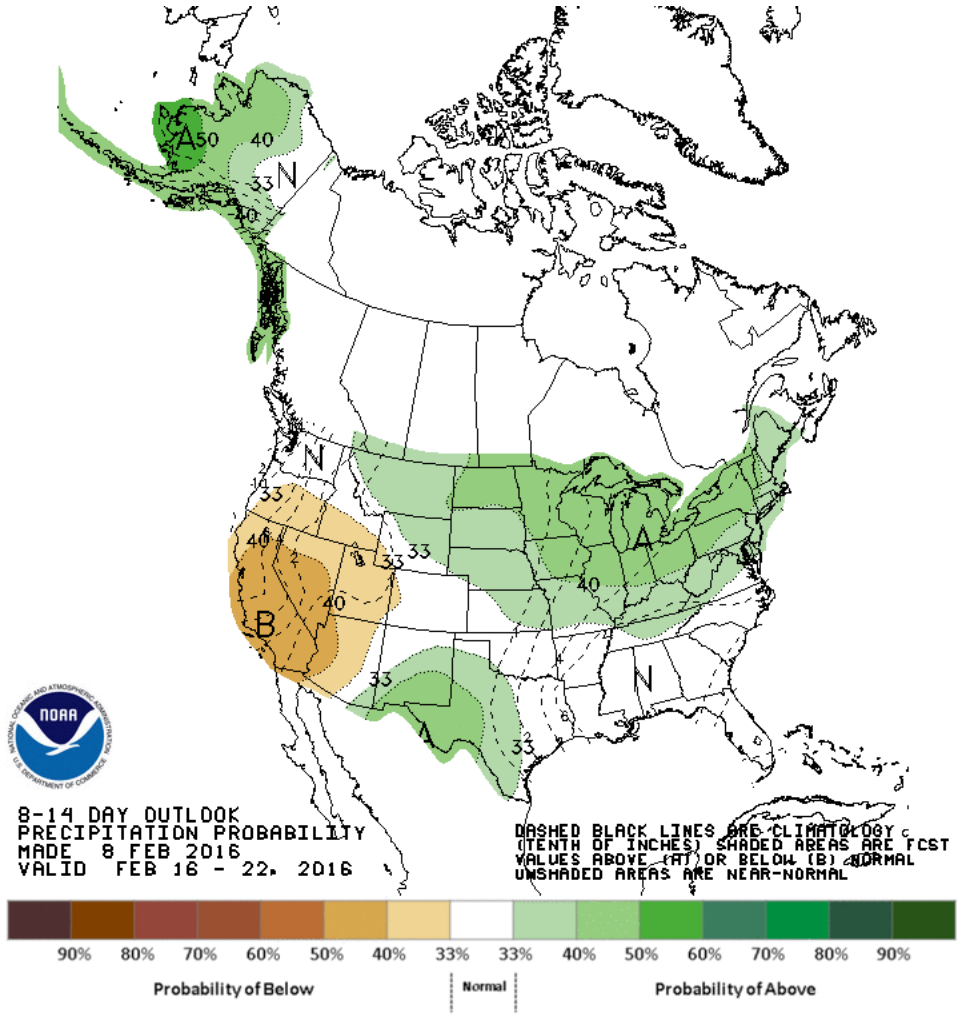




D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE FEB 09 2016 1003 UTC CNTD FEB 20 2016

Week 2 – Temperature and Precipitation





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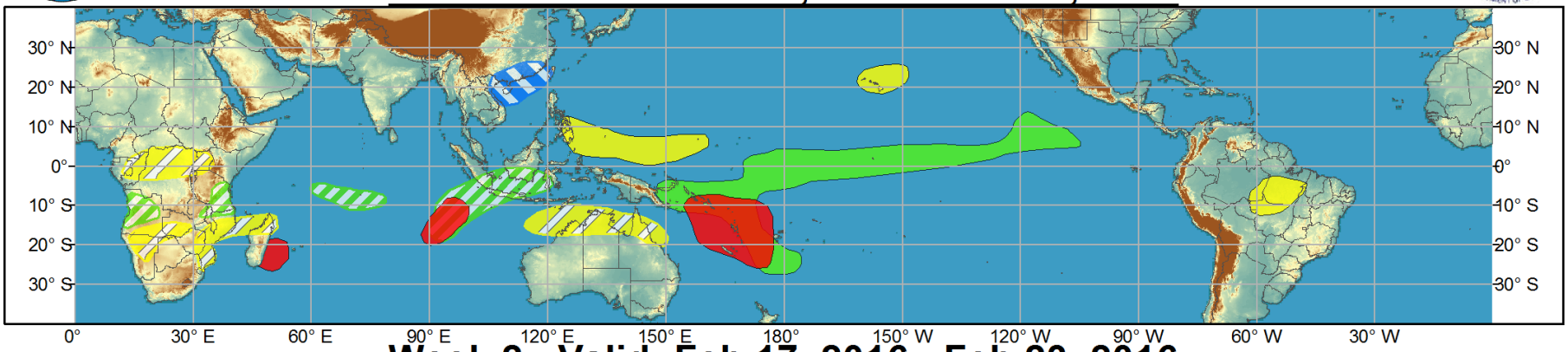

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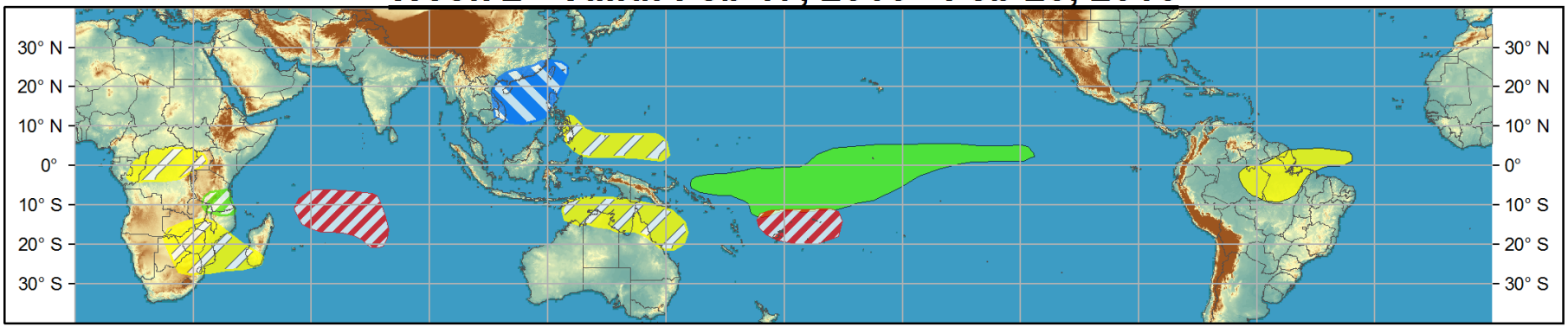

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