Global Tropics Hazards And Benefits Outlook

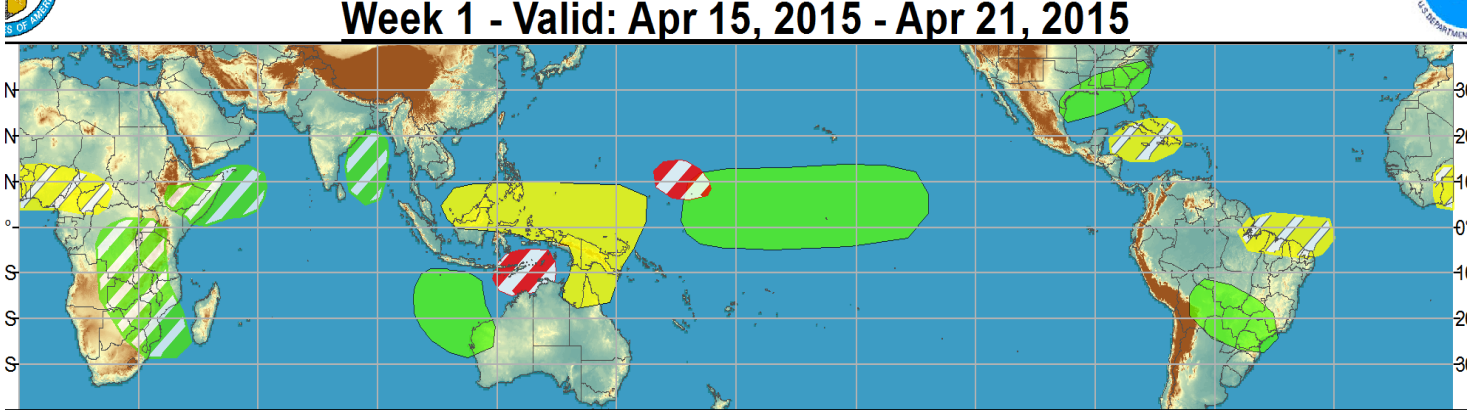
April 21, 2015

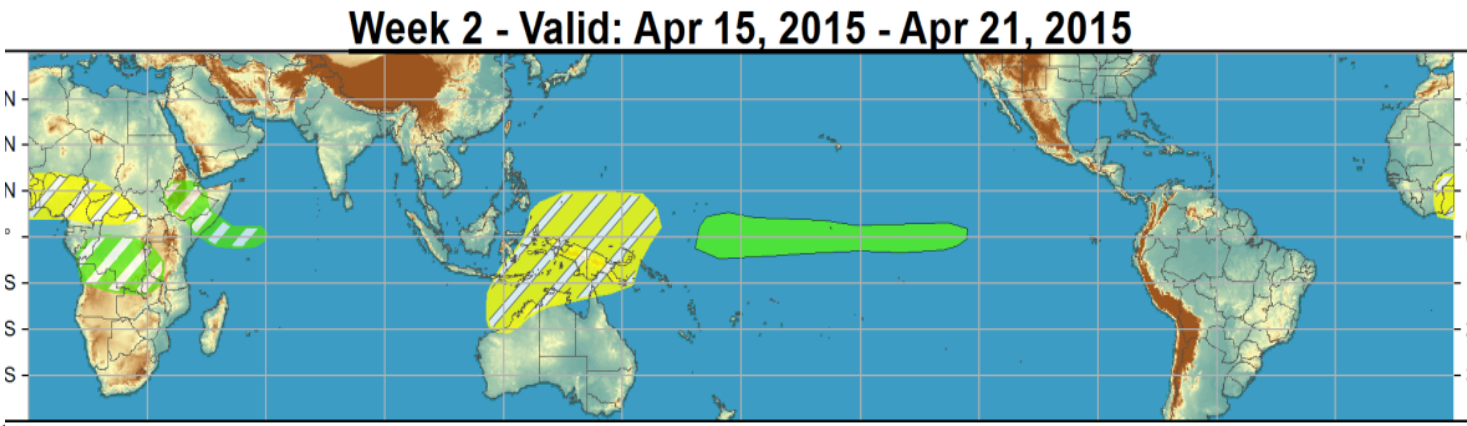
Matthew Rosencrans

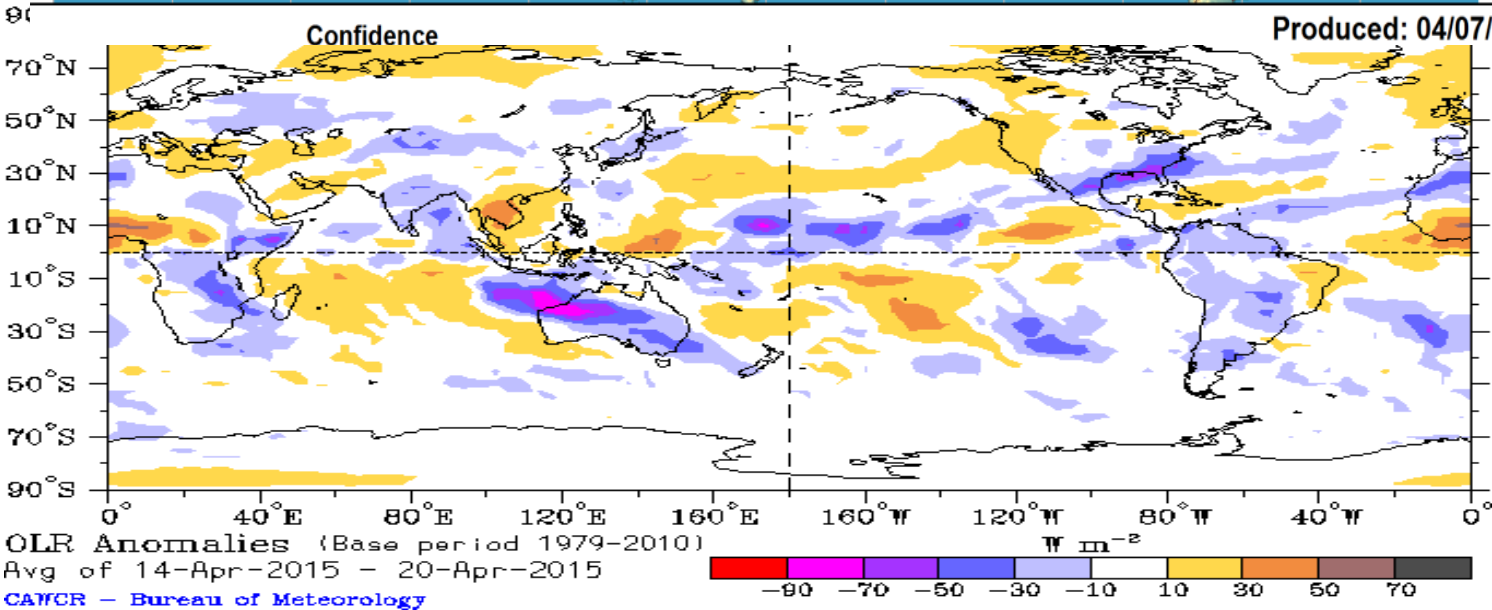
Outline

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

Outlook Review



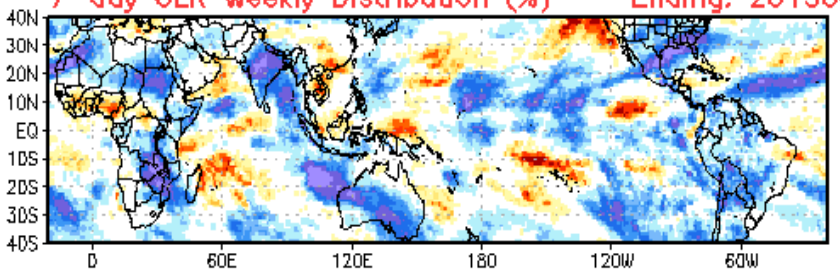




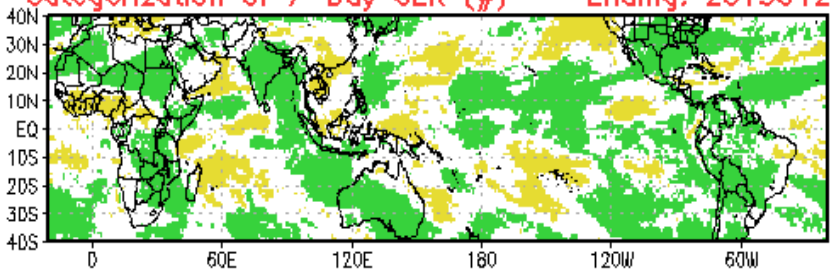
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

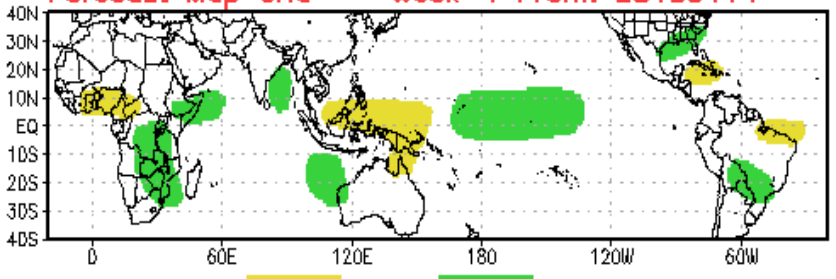
7-day OLR Weekly Distribution (%) -- Ending: 20150421



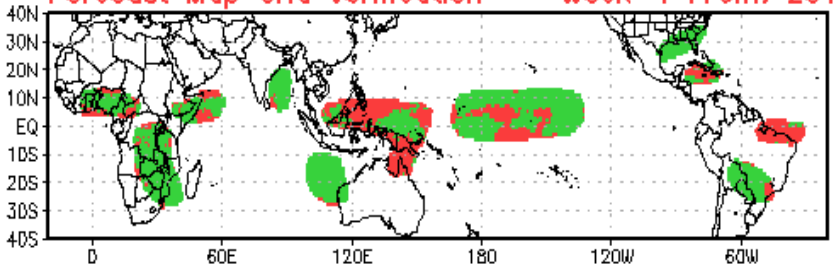
Categorization of 7-Day OLR (#) -- Ending: 20150421



Forecast Map Grid -- Week-1 From: 20150414

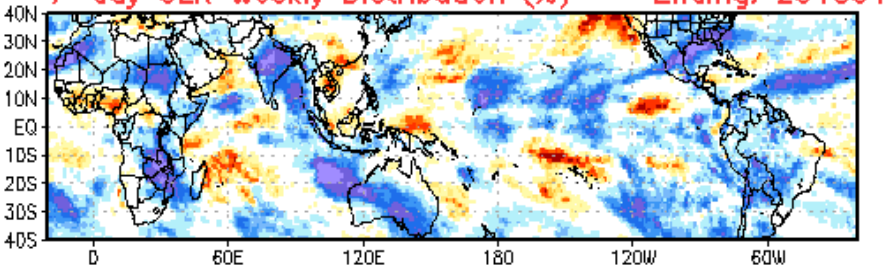


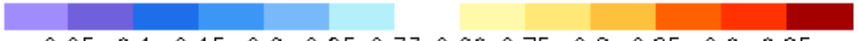
Forecast Map Grid Verification -- Week-1 From: 20150414



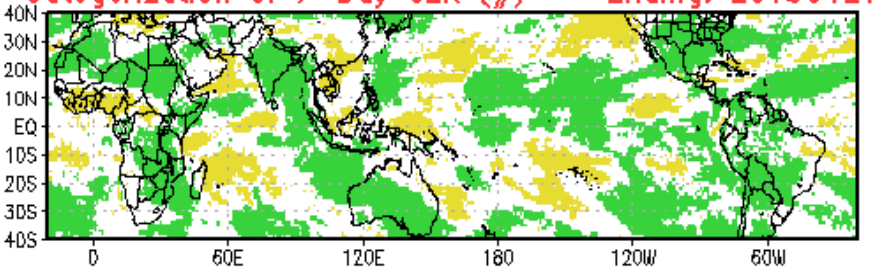
Hit: Green, Miss: Red
Heidke Skill Score: 51.2898

7-day OLR Weekly Distribution (%) -- Ending: 20150421

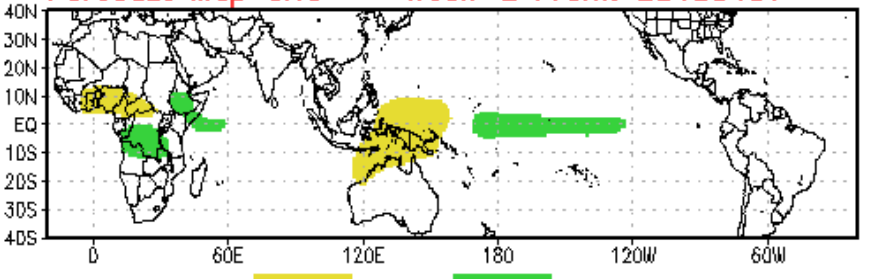




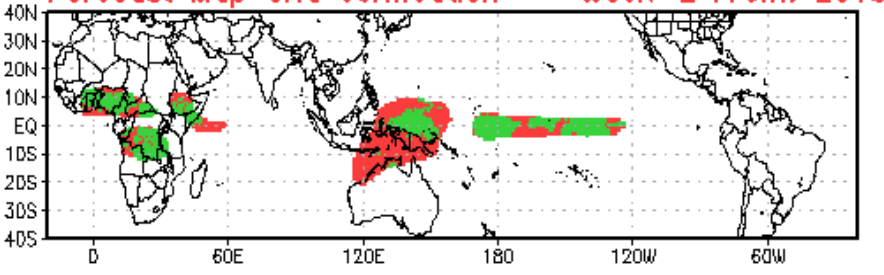
Categorization of 7-Day OLR (#) -- Ending: 20150421



Forecast Map Grid -- Week-2 From: 20150407



Forecast Map Grid Verification -- Week-2 From: 20150407



Hit: Green, Miss: Red
Heidke Skill Score: 22.6898

Synopsis of Climate Modes

ENSO:

• Current: **El Niño Advisory**

• Outlook: There is an approximately 70% chance that El Niño will continue through Northern Hemisphere summer 2015, and a greater than 60% chance it will last through autumn.

MJO and other subseasonal tropical variability:

• The MJO was weak during the past 7 days, with the residual convective phase over the Indian Ocean. The low-frequency background state is likely to dominate the pattern of tropical convection during the next 14 days, with some influence of Kelvin Waves over the Maritime Continent and potentially the Indian Ocean during Week-2.

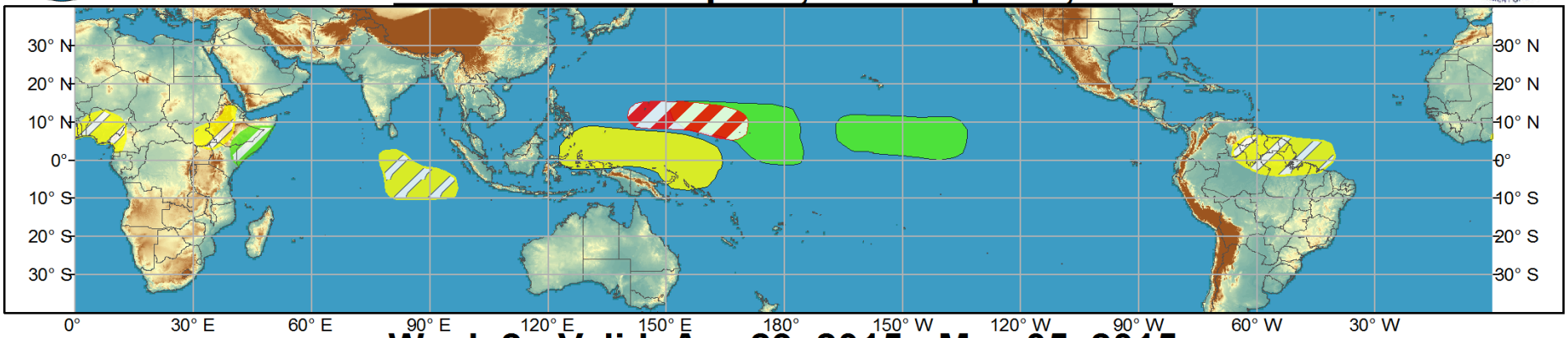
• Most dynamical model MJO index forecasts depict weak MJO signal during the next 2 weeks.

Extratropics:

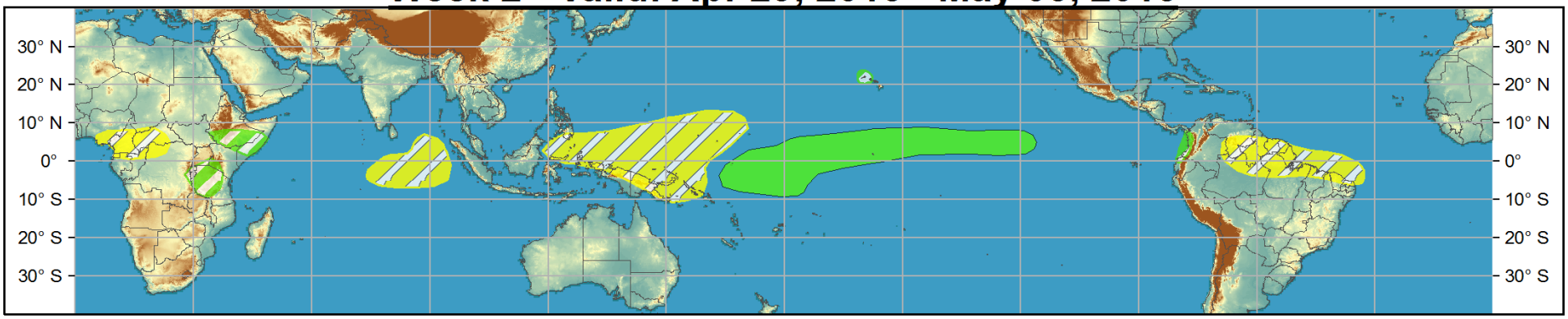
• The extended range forecast for the U.S. is not likely to be largely impacted directly by the MJO. Internal, mid-latitude variability it likely to drive much of the pattern of the CONUS through day 14.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 22, 2015 - Apr 28, 2015



Week 2 - Valid: Apr 29, 2015 - May 05, 2015



Produced: 04/21/2015

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.
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.

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

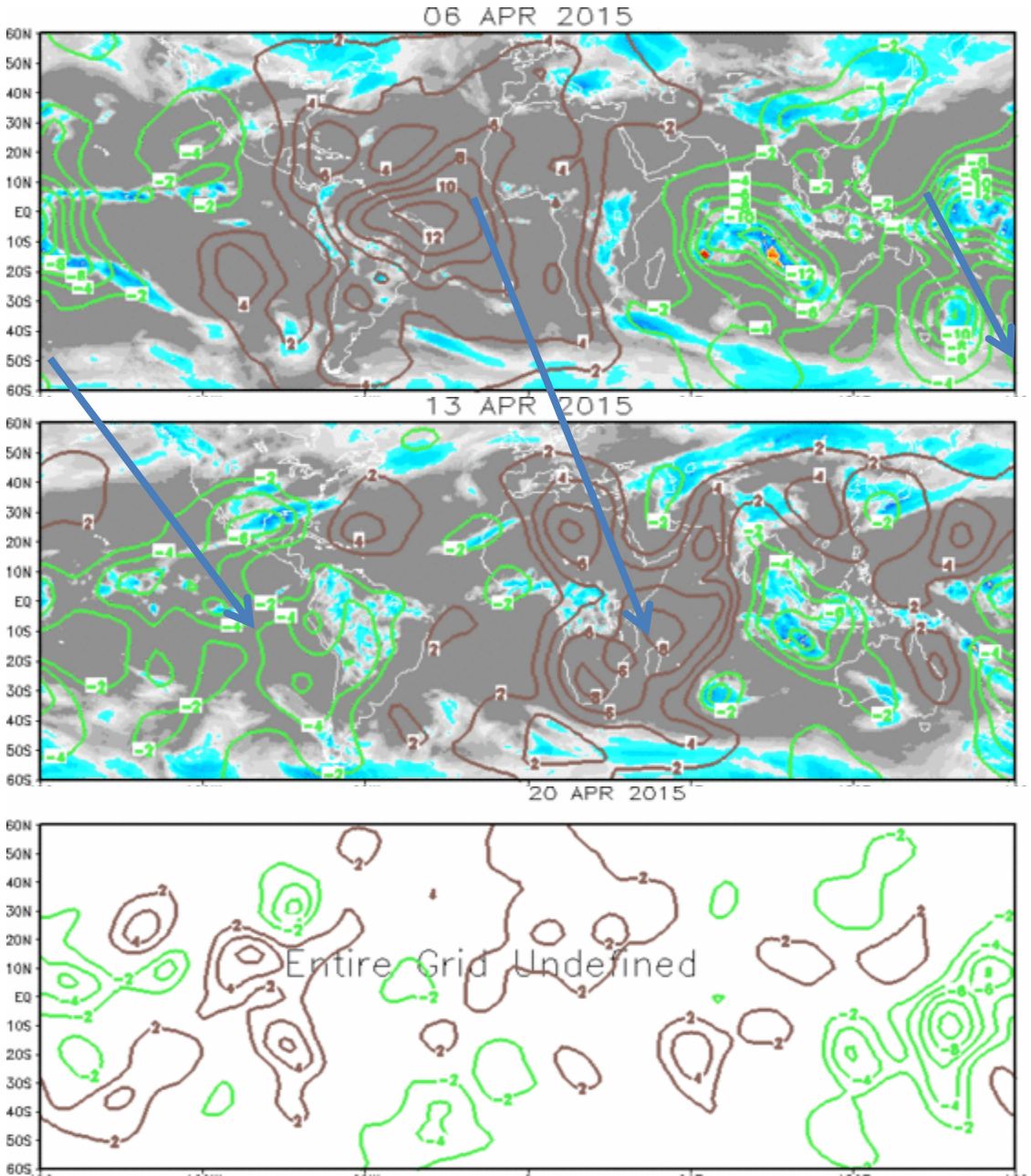
Australian Government Bureau of Meteorology

cics.nc

NPS PRAESTANTIA PER SCIENTIAM

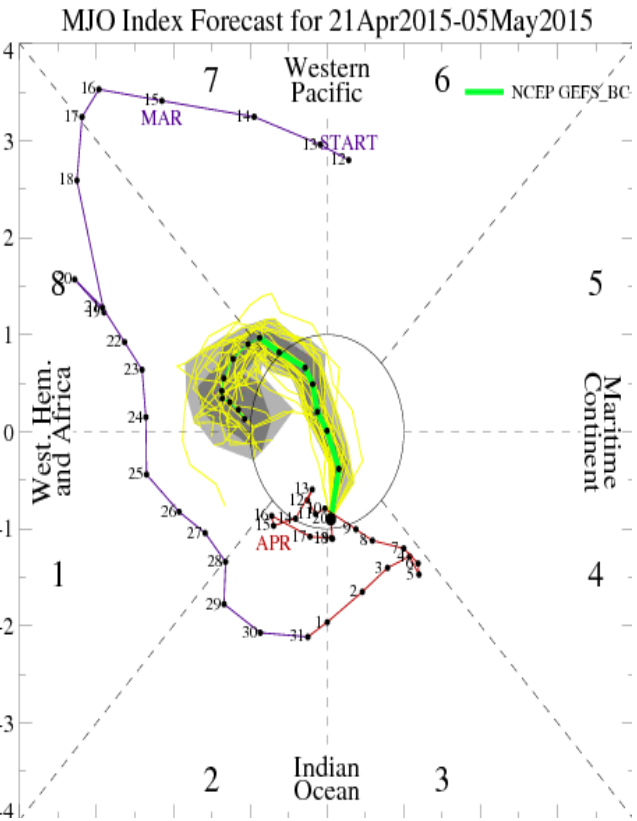
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

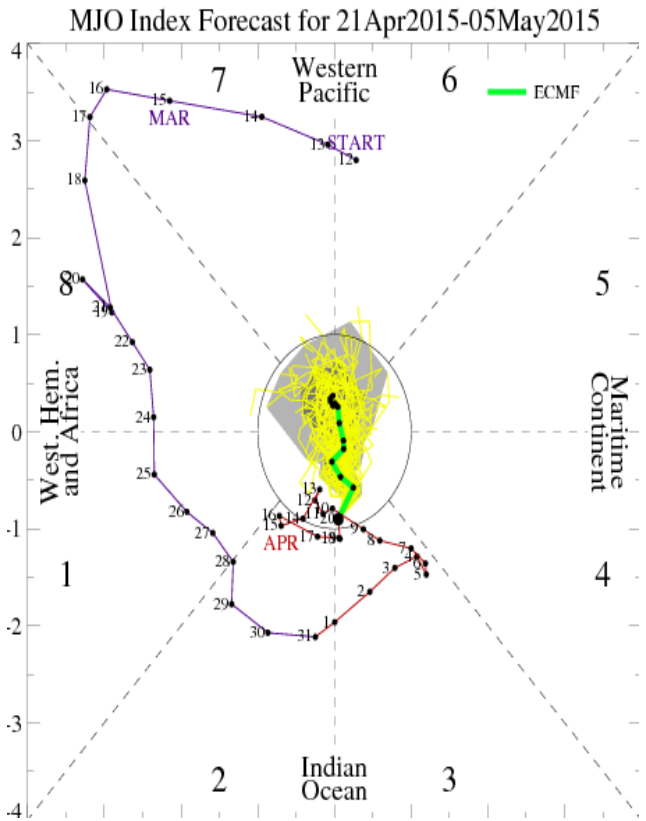


Signal broken down in the last week.

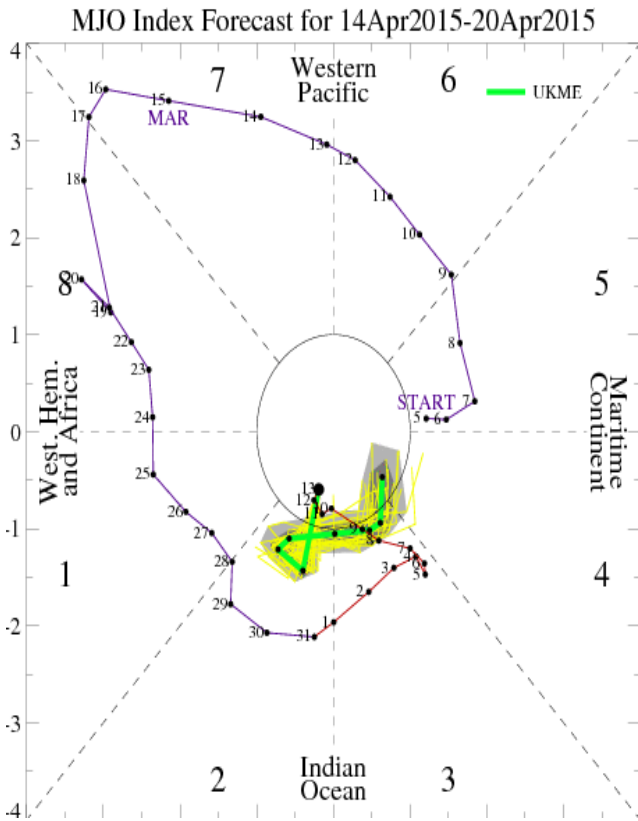
MJO Observation/Forecast



GFS



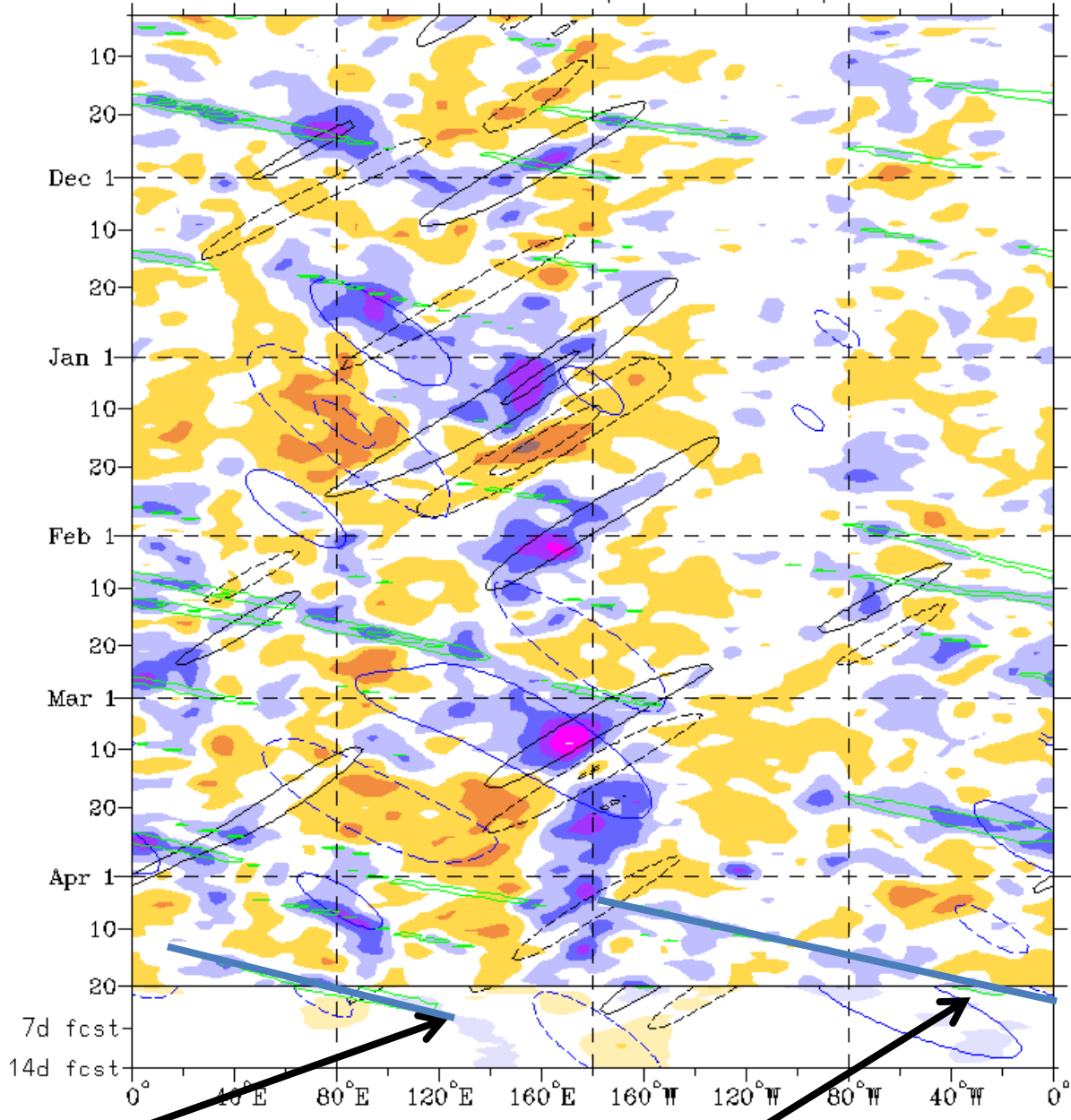
ECMWF



UKMET

Wheeler-Hendon based analyses of model forecasts indicate nothing consistent with MJO activity.

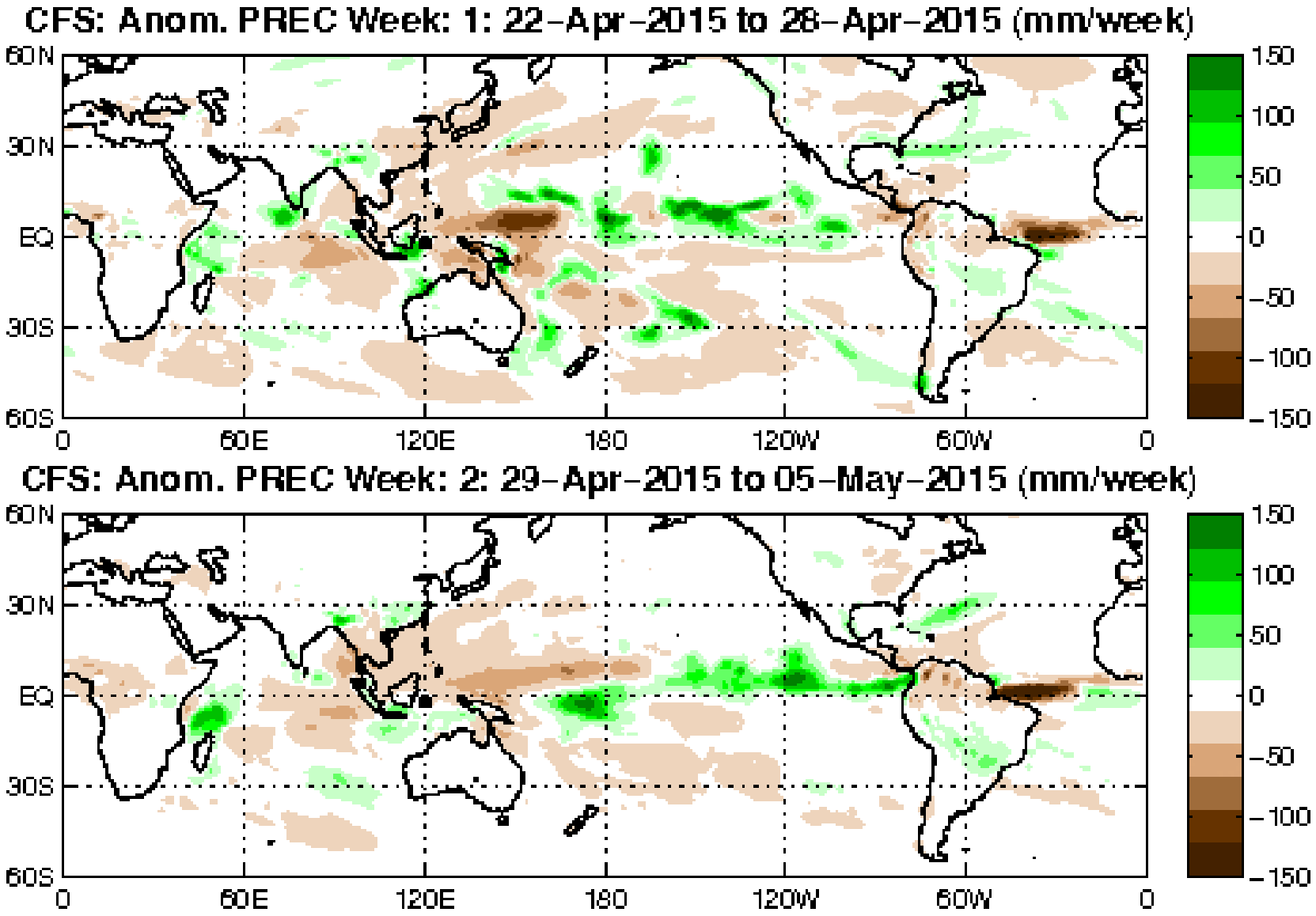
Some monthly models indicate little to no MJO activity for 30 days.



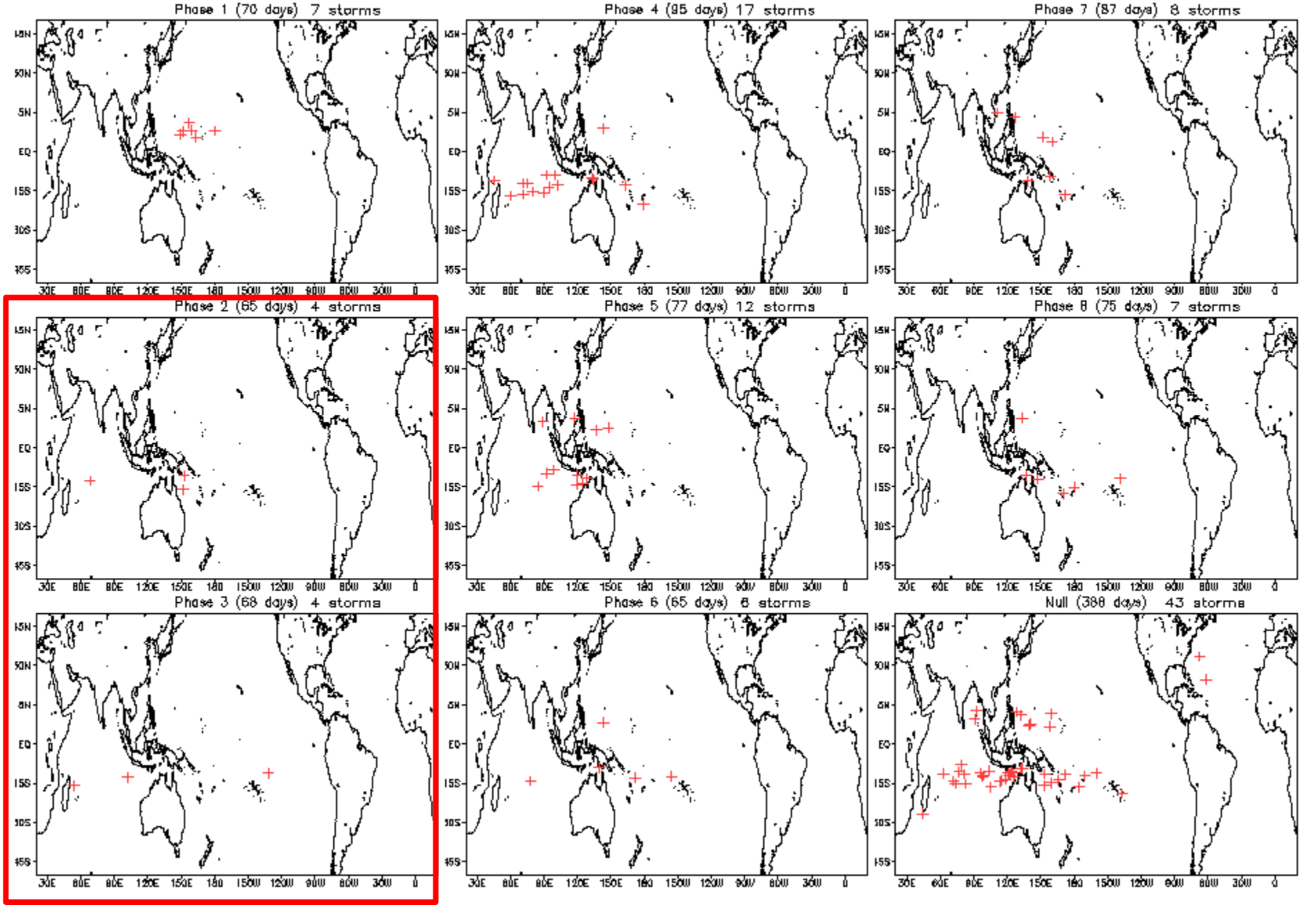
Low frequency is contributing, especially near Date Line.

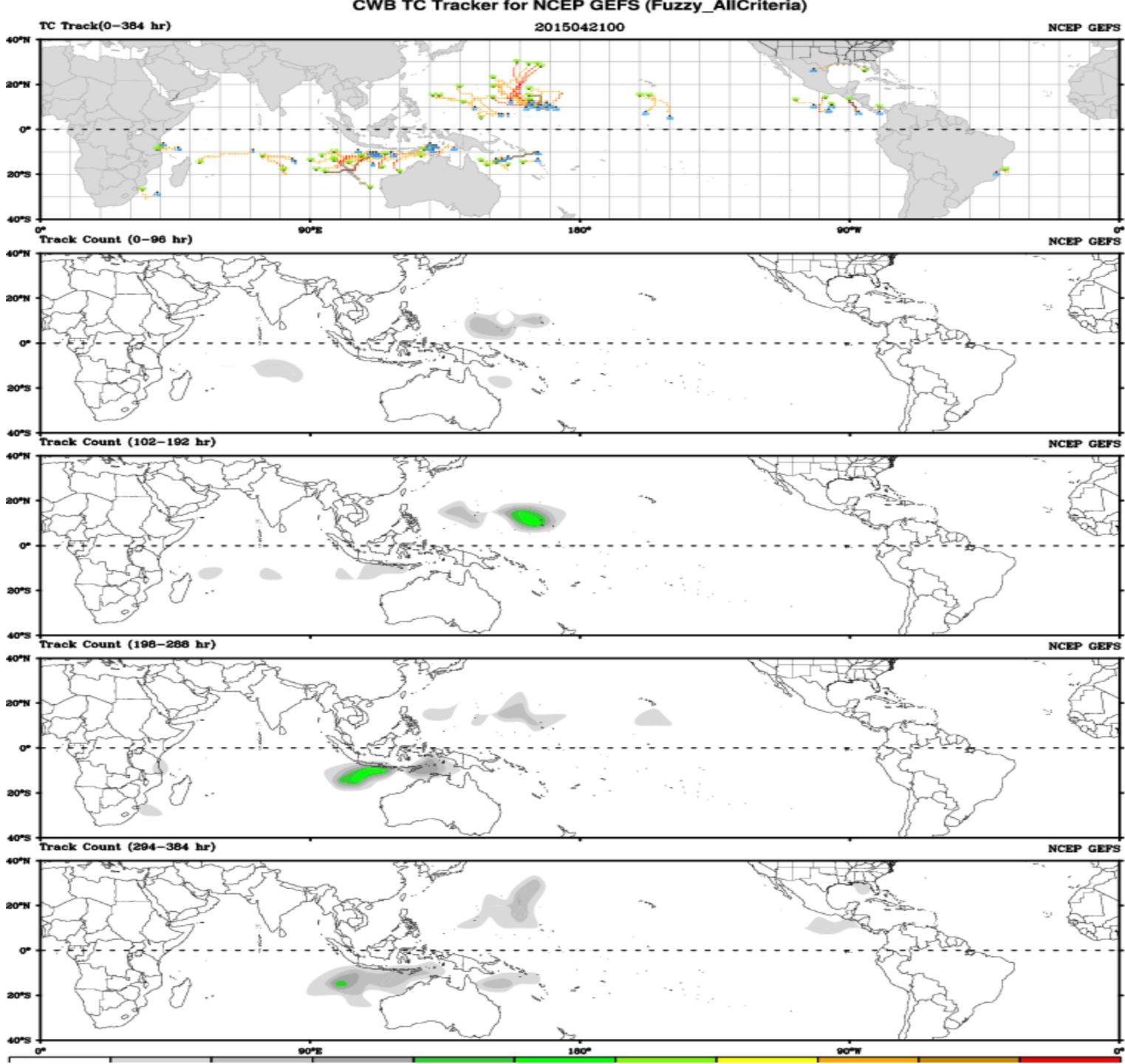
KW and ENSO impacting.

Kelvin Wave to impact ePAC and eventually Indian Ocean.


CFS: Anom. PREC Week: 1: 22-Apr-2015 to 28-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: 29-Apr-2015 to 05-May-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

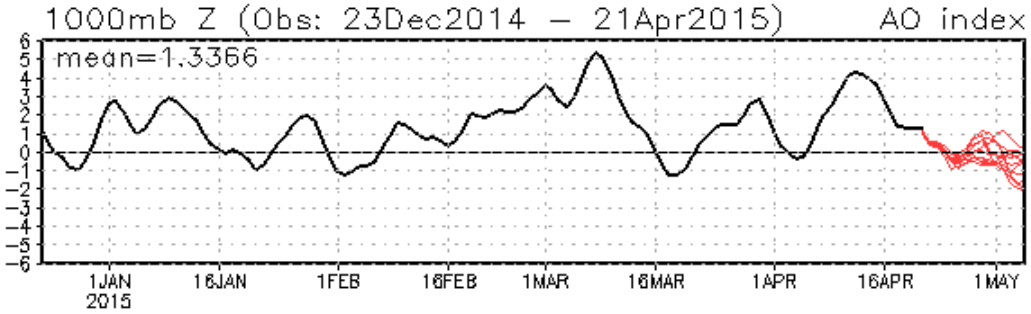
Day 5-8

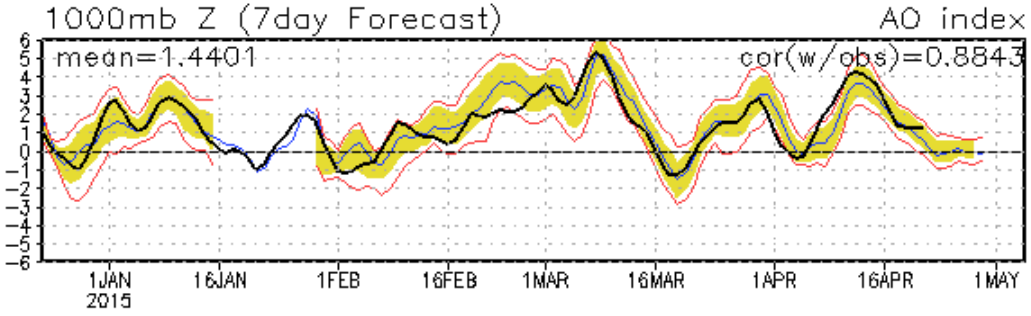
Day 9-12

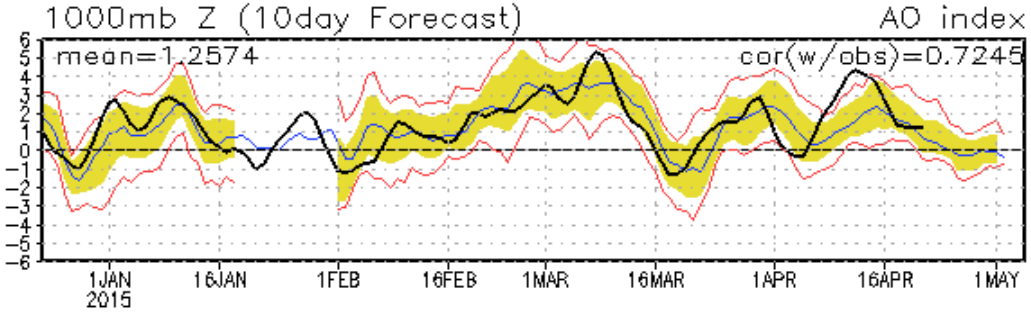
Day 13-15

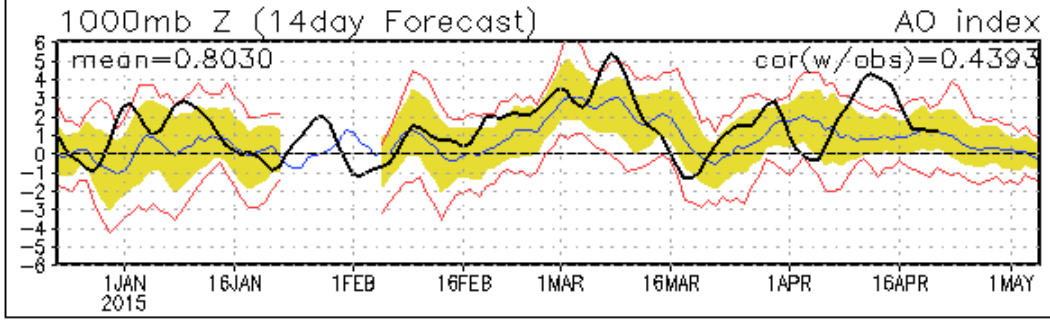
Connections to U.S. Impacts

AO: Observed & ENSM forecasts

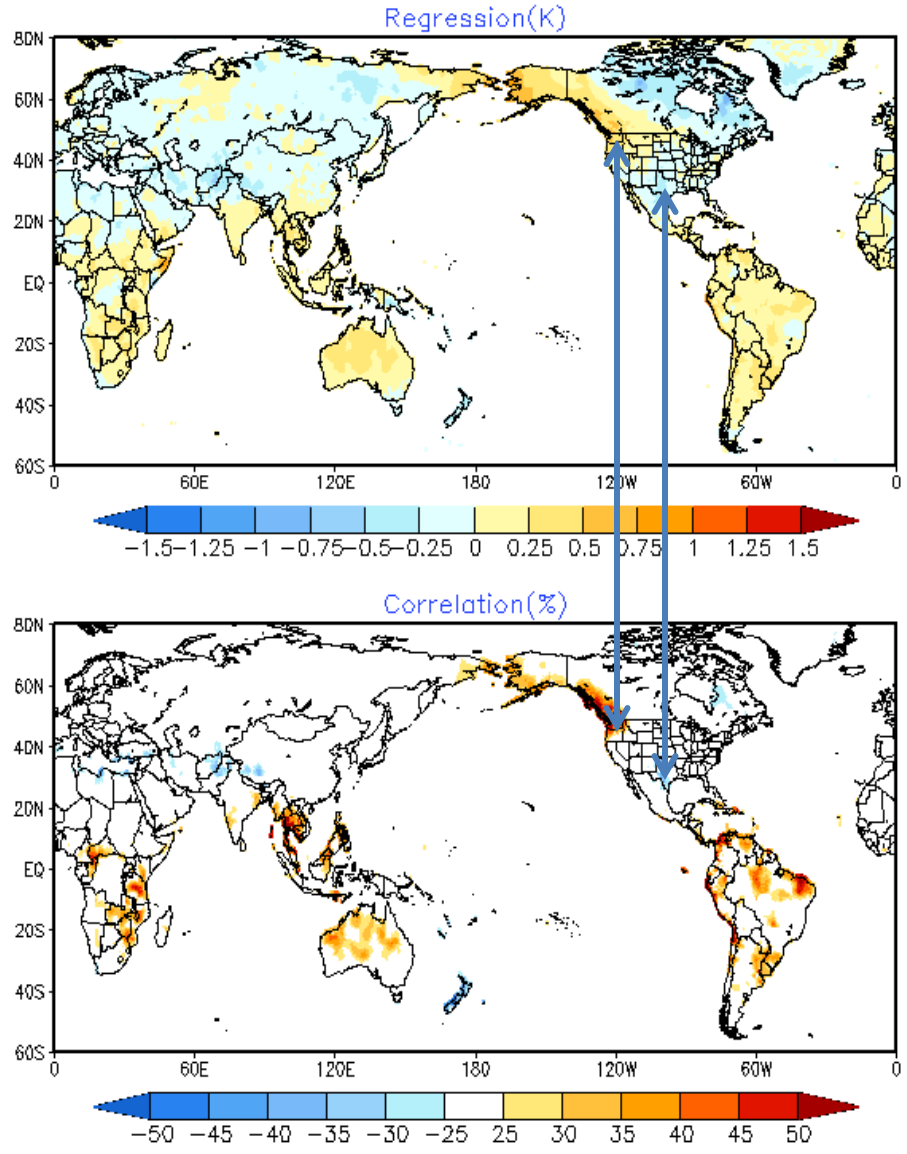




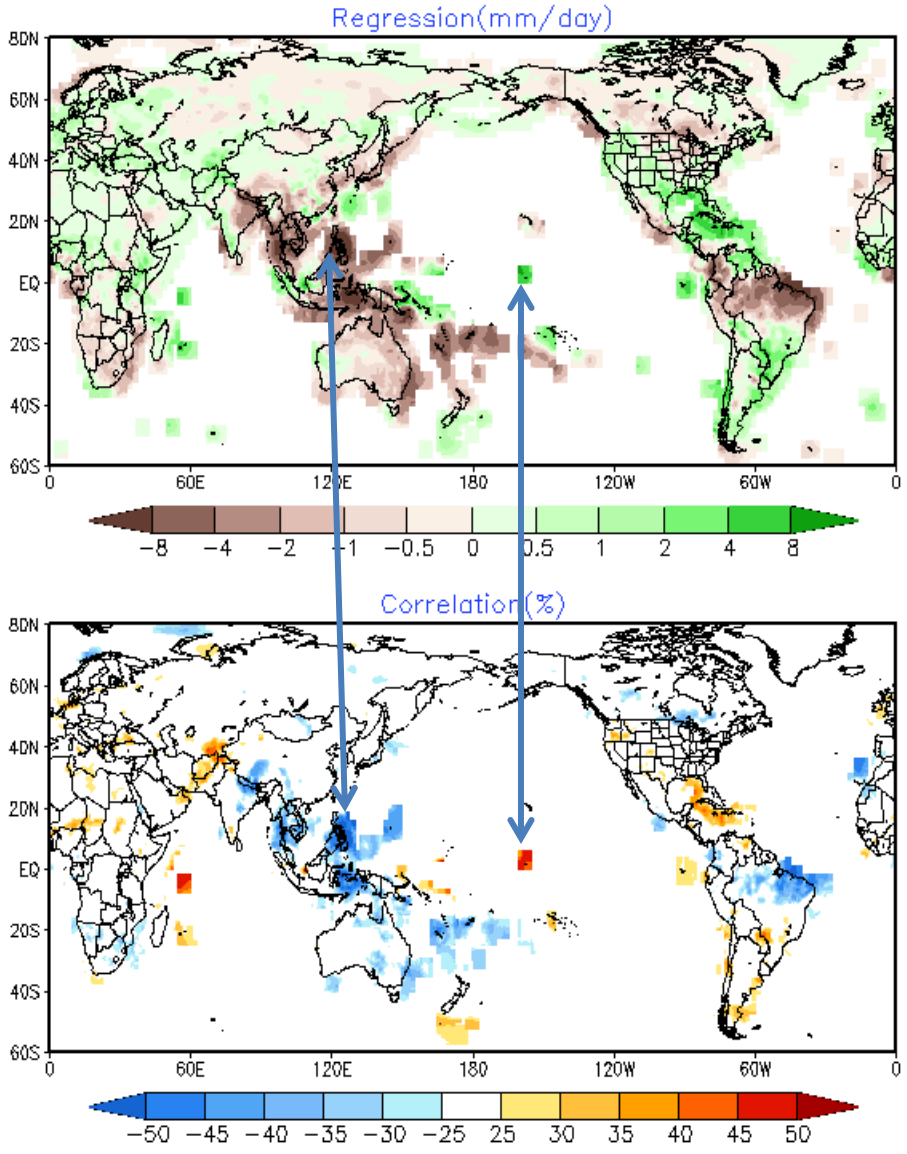


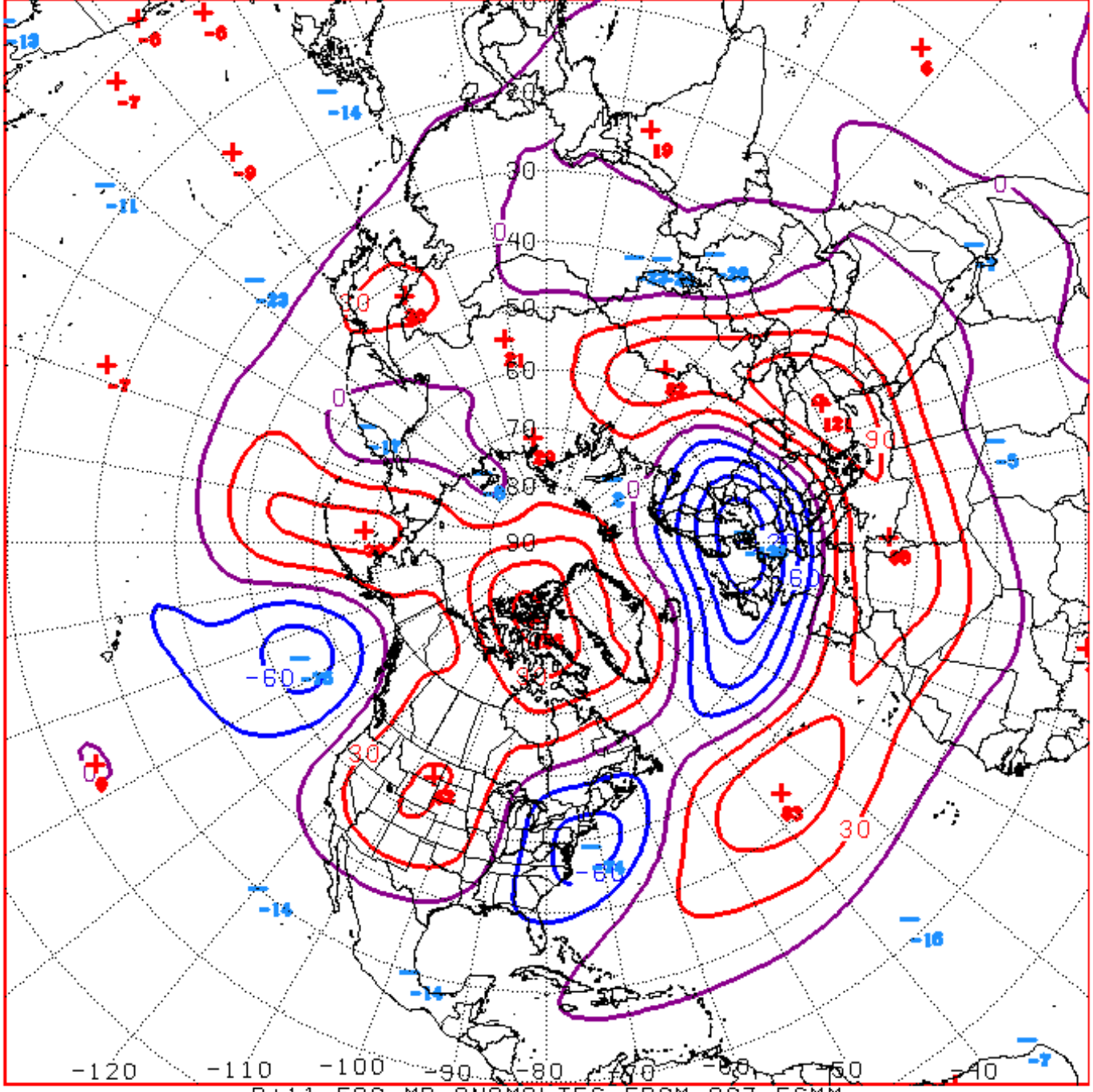


ENSO Teleconnection: AMJ Temp

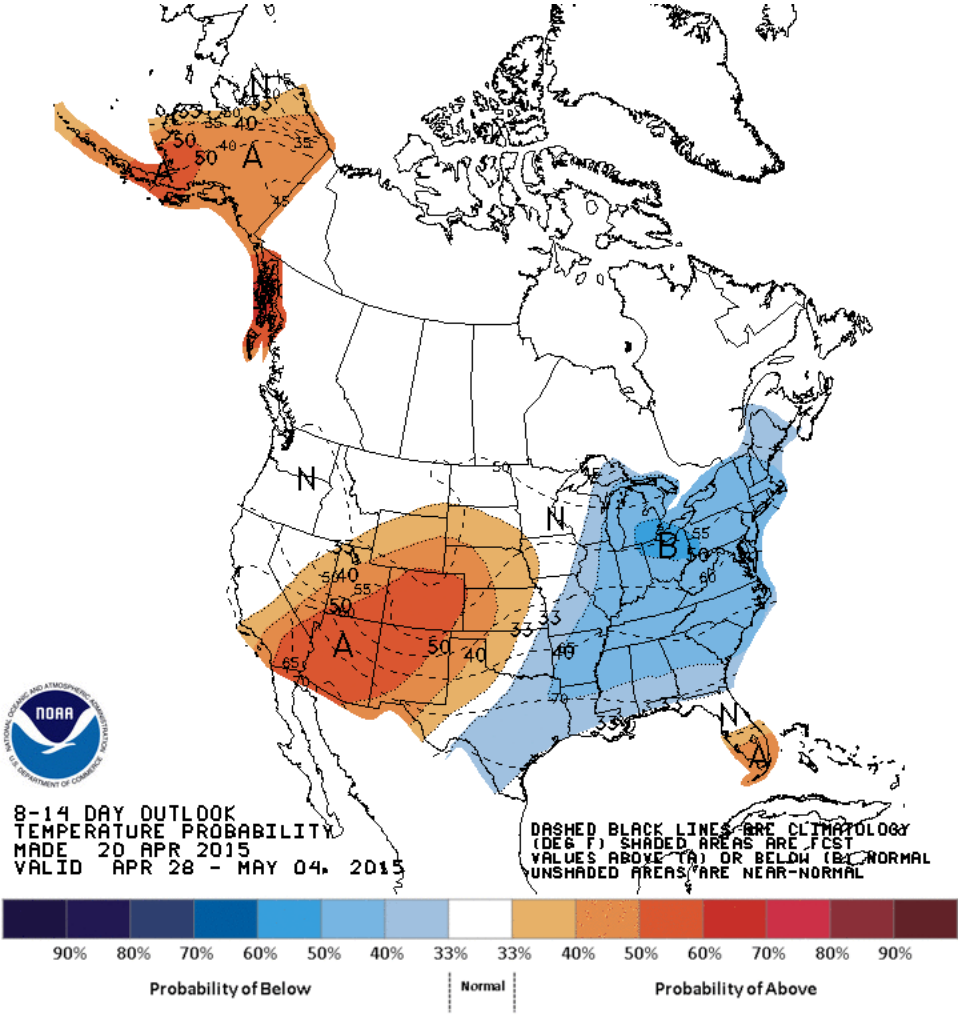


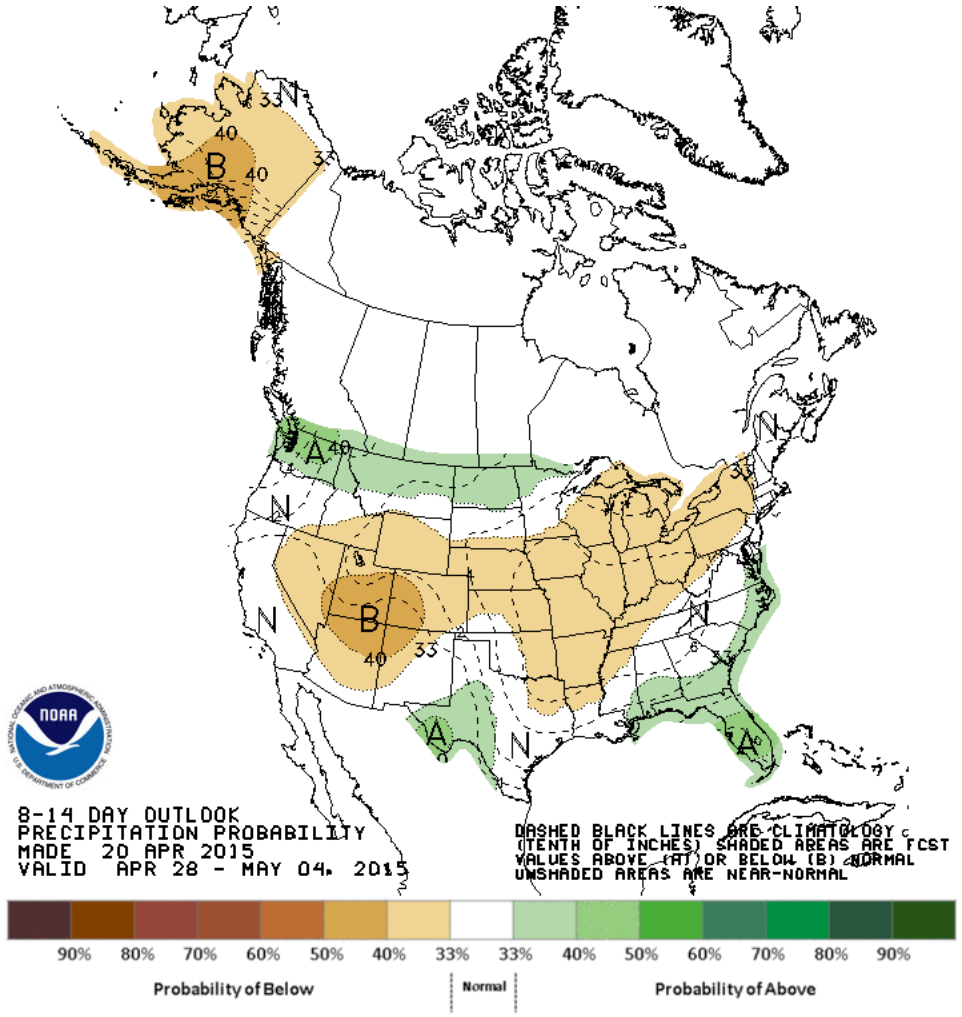
ENSO Teleconnection: AMJ Precip




-120
-110
-100
-90
-80
-70
-60
-50
-40
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE APR 21 2015 1021 UTC CNTD MAY 02 2015

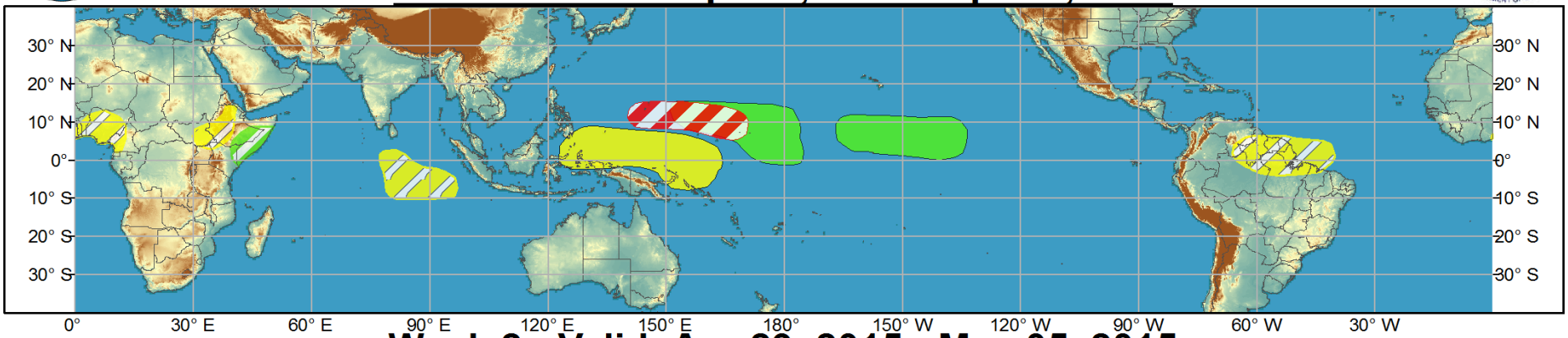
Week 2 – Temperature and Precipitation



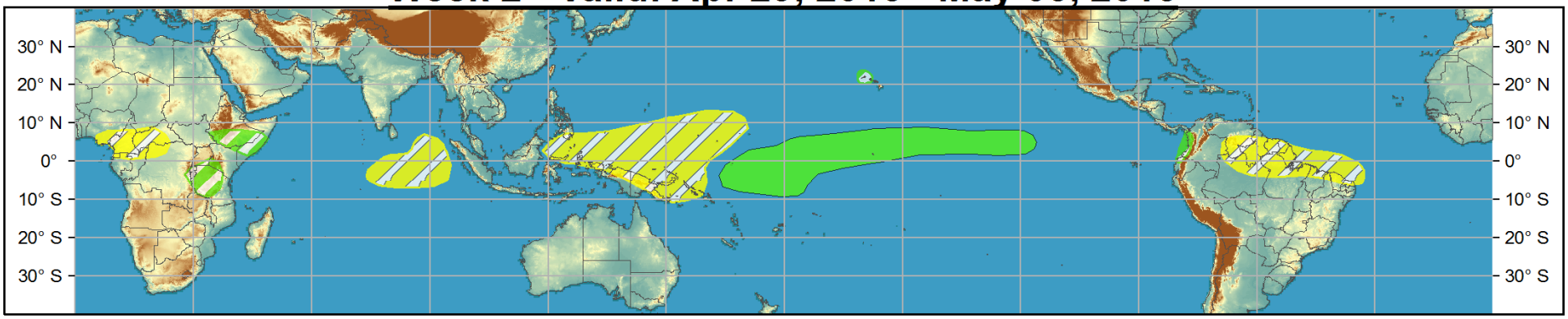


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 22, 2015 - Apr 28, 2015



Week 2 - Valid: Apr 29, 2015 - May 05, 2015



Produced: 04/21/2015

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.
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.

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