Global Tropics Hazards And Benefits Outlook

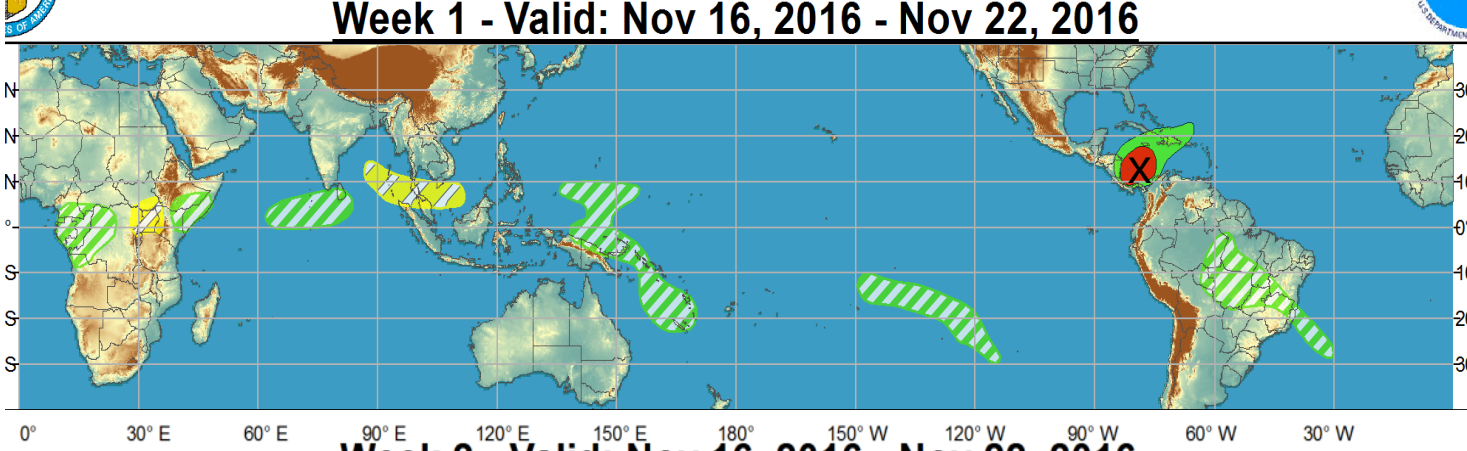
11/22/2016

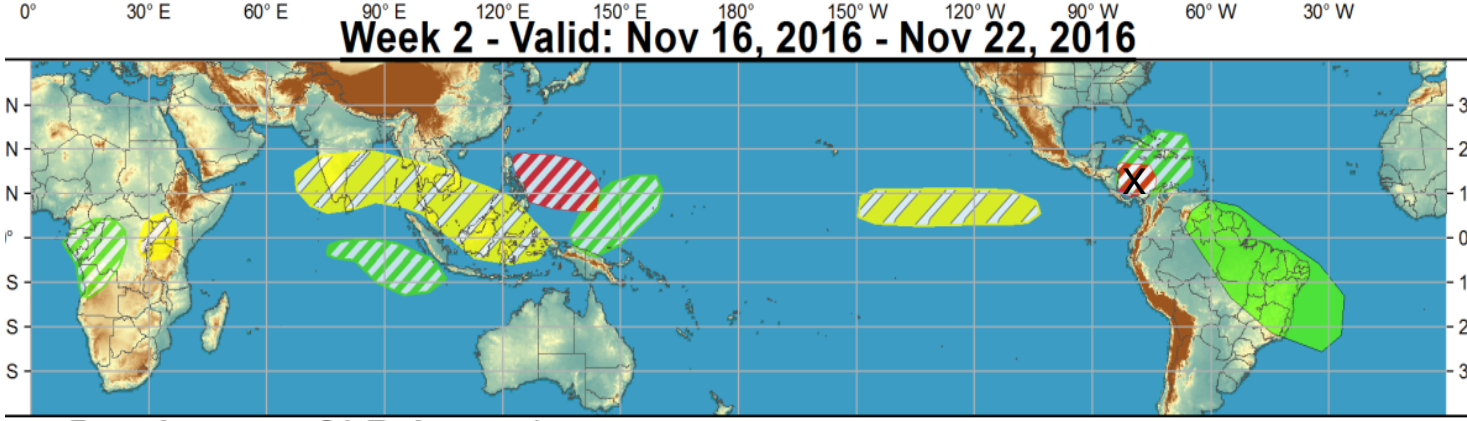
Matthew Rosencrans

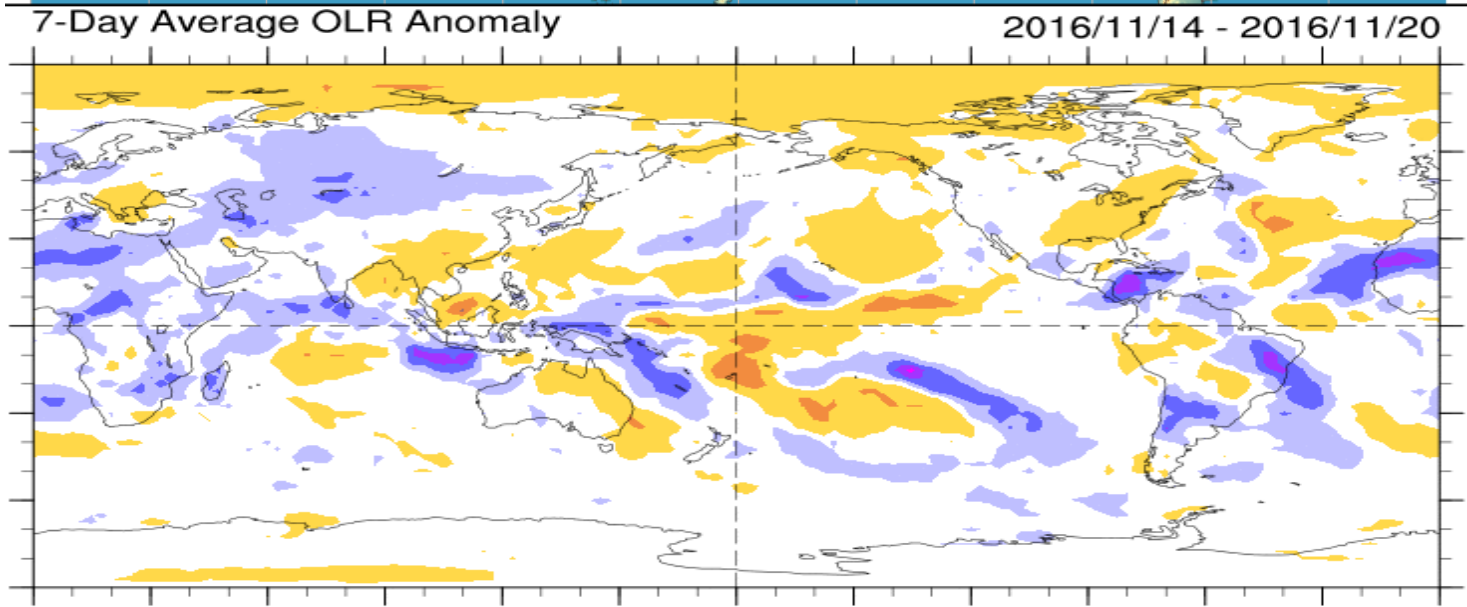
Outline

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

Outlook Review



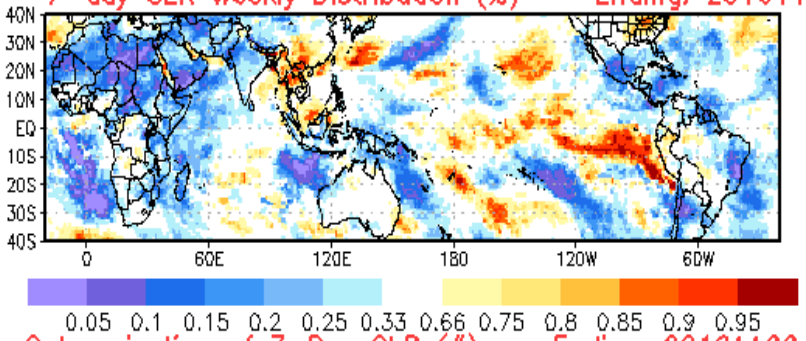




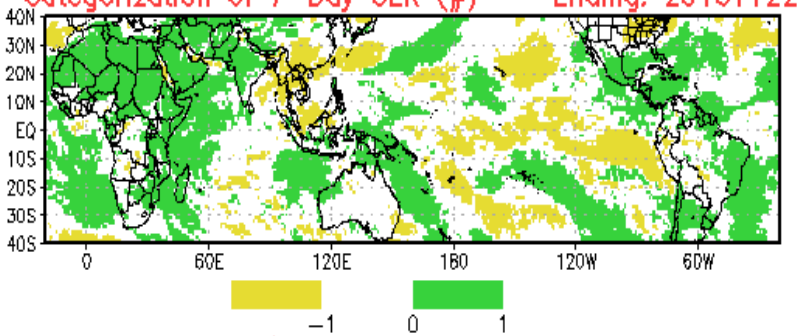
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

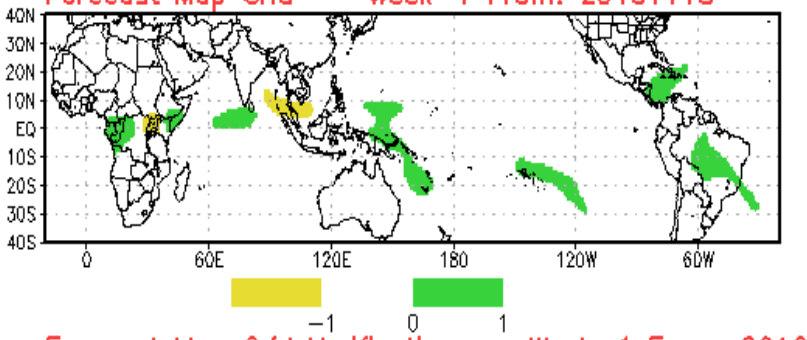
7-day OLR Weekly Distribution (%) -- Ending: 20161122



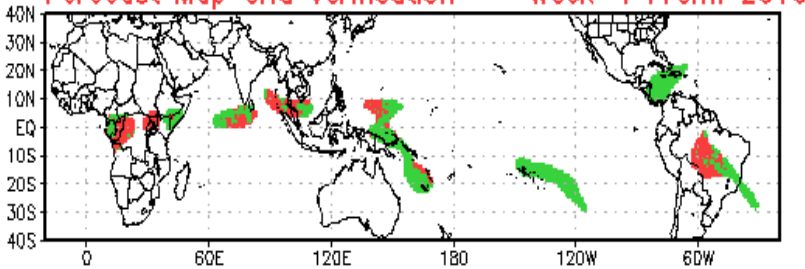
Categorization of 7-Day OLR (#) -- Ending: 20161122



Forecast Map Grid -- Week-1 From: 20161115

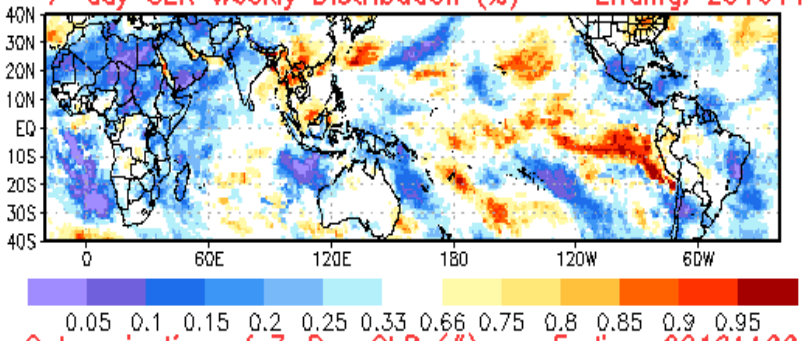


Forecast Map Grid Verification -- Week-1 From: 20161115



Hit: Green, Miss: Red
Heidke Skill Score: 48.7735

7-day OLR Weekly Distribution (%) -- Ending: 20161122



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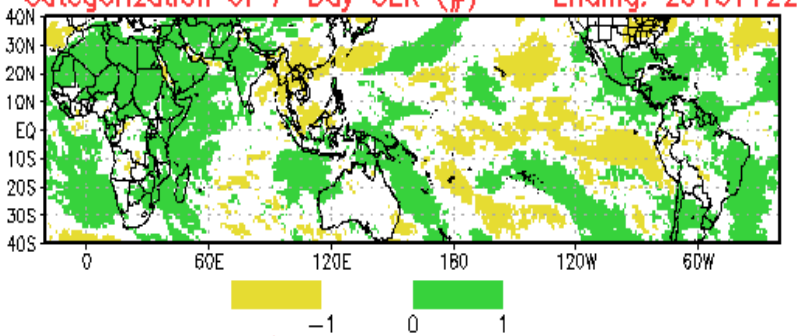
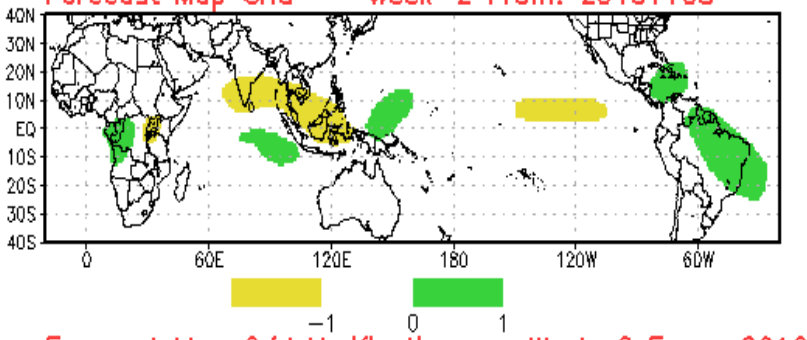
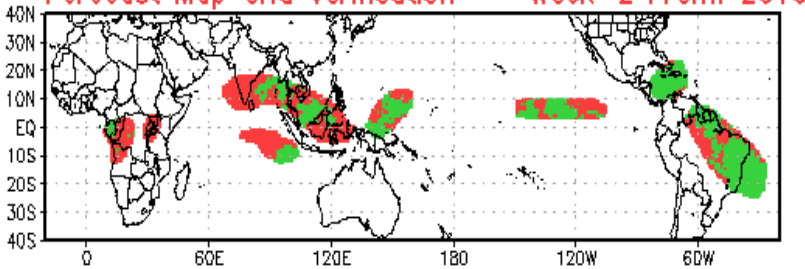


Forecast Map Grid -- Week-2 From: 20161108



Forecast Map Grid Verification -- Week-2 From: 20161108



Hit: Green, Miss: Red
Heidke Skill Score: 22.2662

Synopsis of Climate Modes

ENSO:

- **La Niña Advisory**

La Niña conditions are present and slightly favored to persist (~55% chance) through winter 2016-17.

MJO and other subseasonal tropical variability:

• MJO/intraseasonal signal over the Indian Ocean.

• Dynamical models indicate weakening signal over the Indian Ocean, then divergence on where signal goes (align with La Nina or fade out)

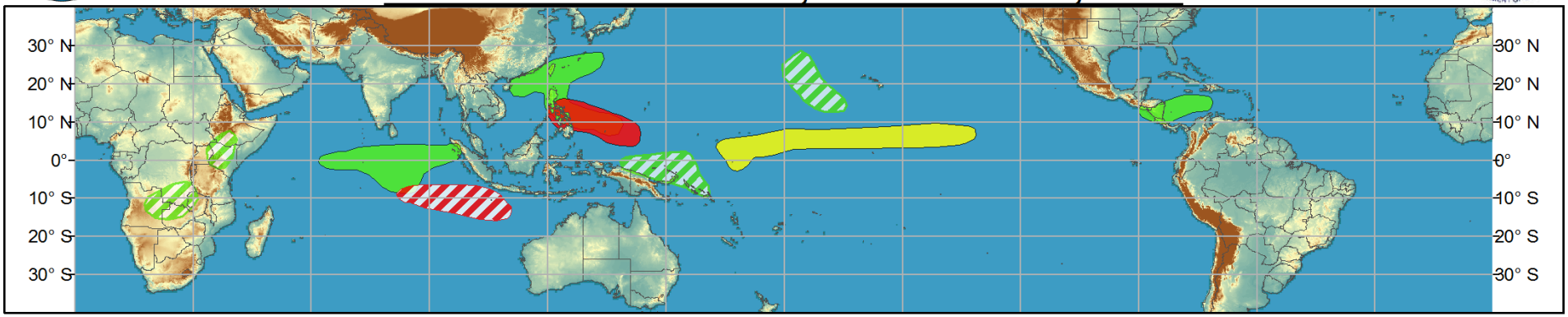
• Kelvin waves also influencing the pattern.

Extratropics:

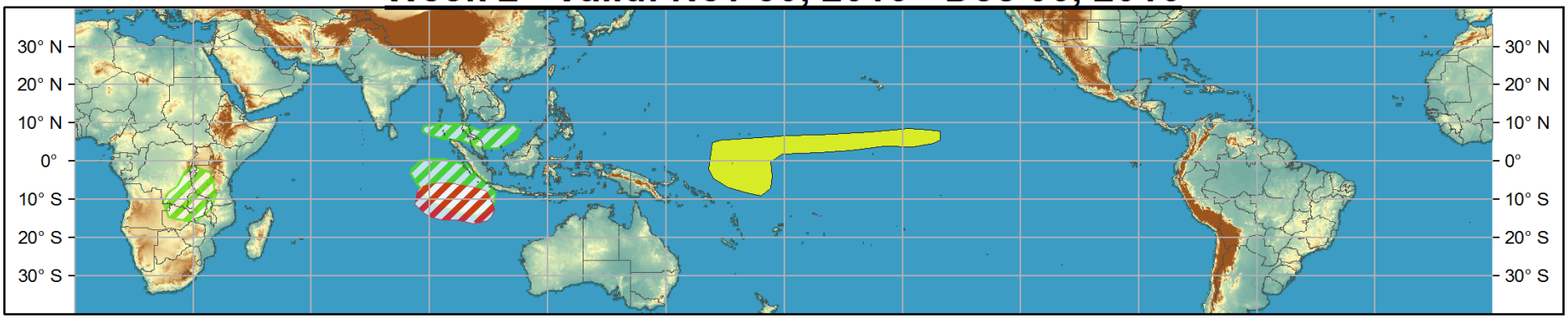
• The extended range temperature and precipitation forecasts for the U.S. aren't likely to directly reflect MJO influence.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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



Week 2 - Valid: Nov 30, 2016 - Dec 06, 2016



Produced: 11/22/2016

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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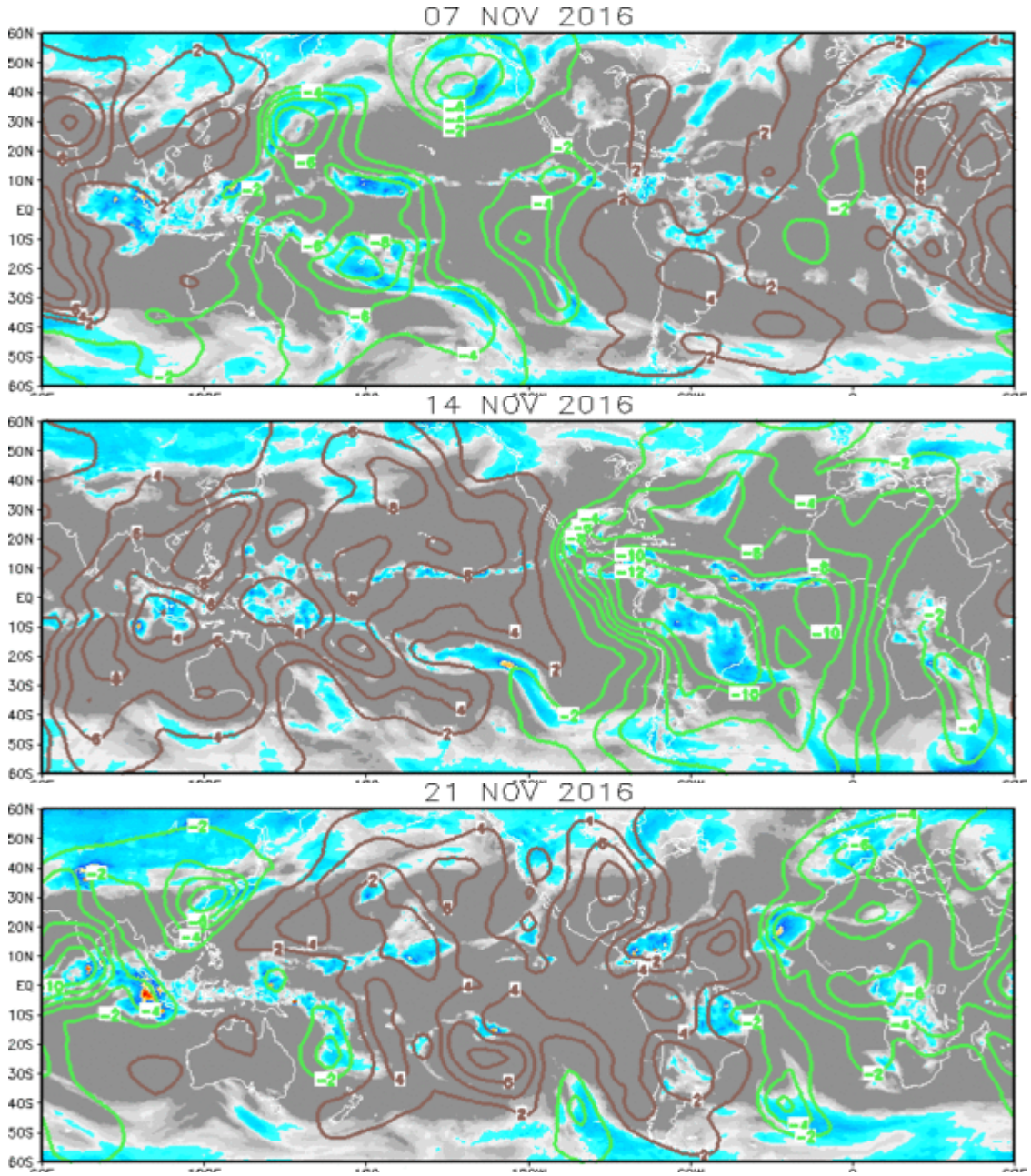
NPS PRAESTANTIA PER SCIENTIAM

IR Satellite & 200-hpa Velocity Potential Anomalies

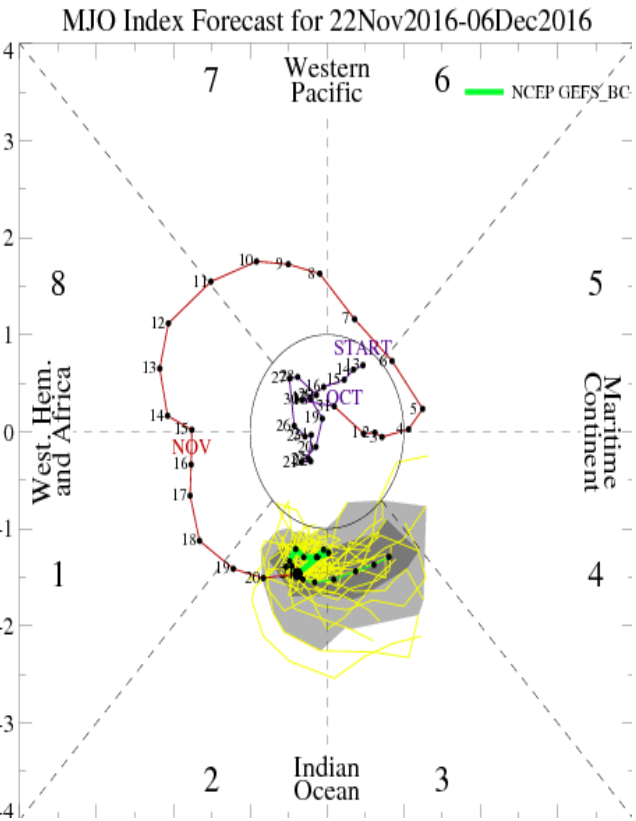
Green: Enhanced Divergence Brown: Enhanced Convergence

Robust MJO event has a wave-1 structure for many days now.

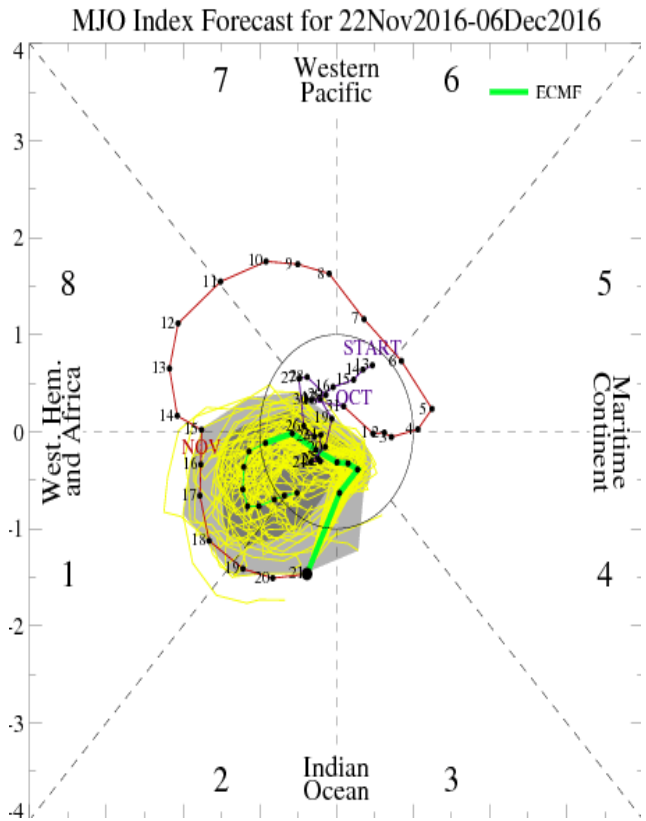
There is some evidence of competing signals from interseasonal variability.



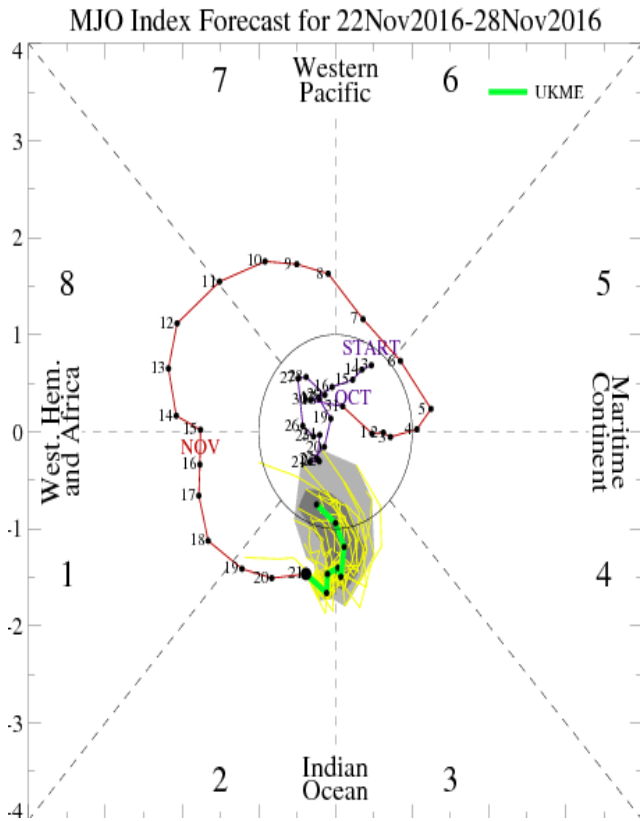
MJO Observation/Forecast



GEFS



ECMWF

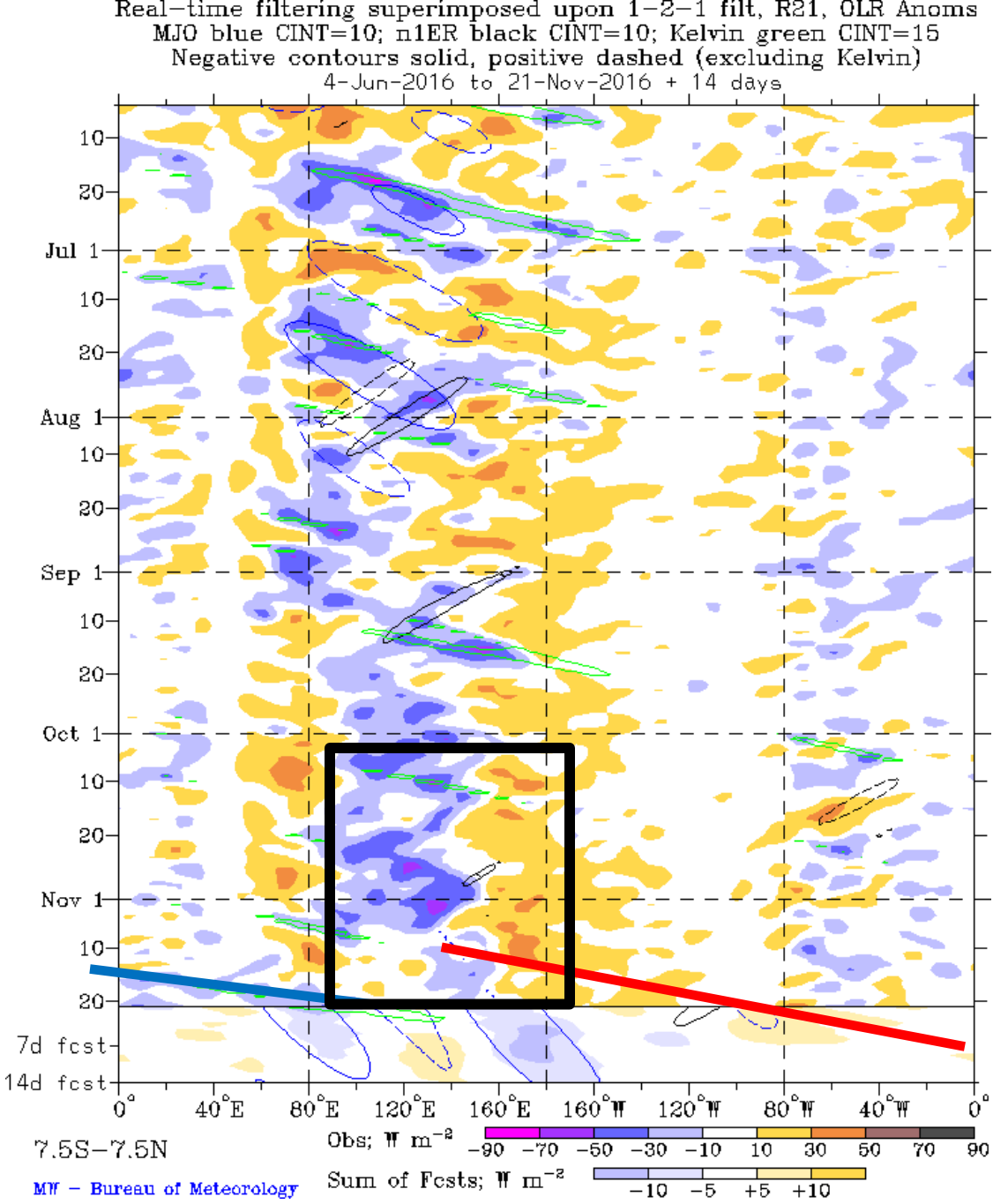


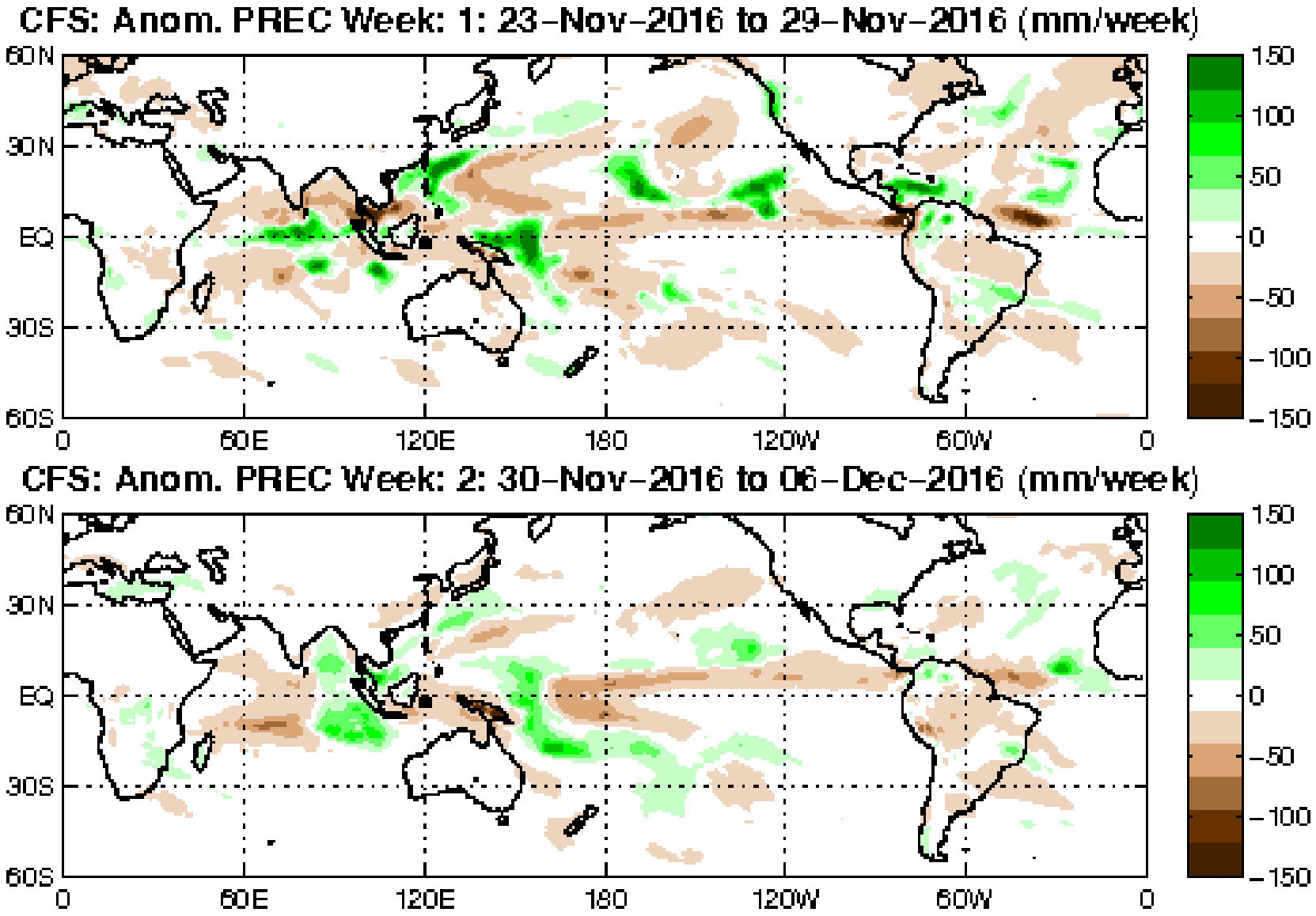
UKMET

Wheeler-Hendon based analyses of model forecasts indicate a continued signal for Week-1, then a weakening signal during Week-2. Near the end of Week-2, model disagreement increases.

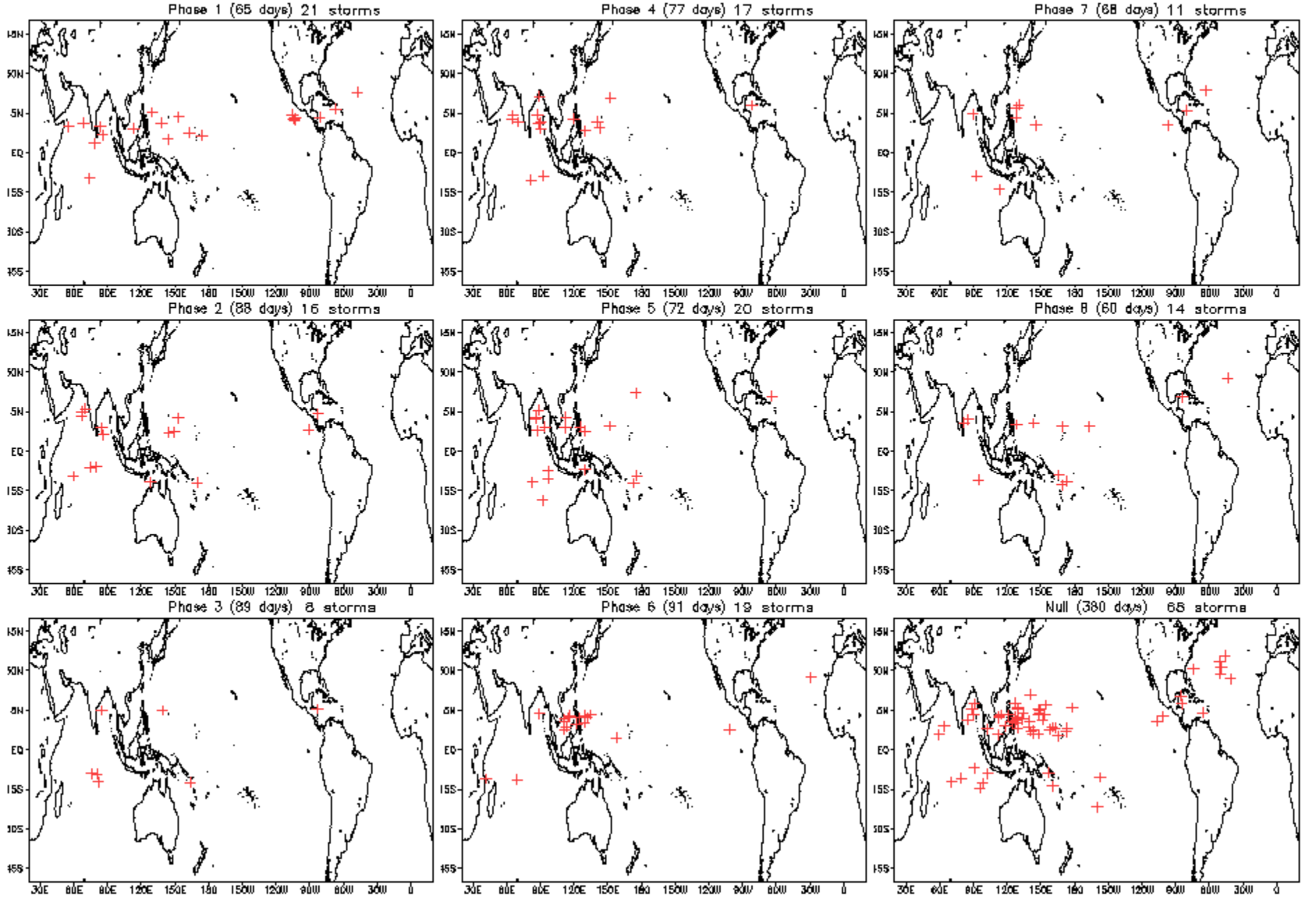
La Niña

Complicated pattern with **MJO** and **Kelvin waves** as the major influences.

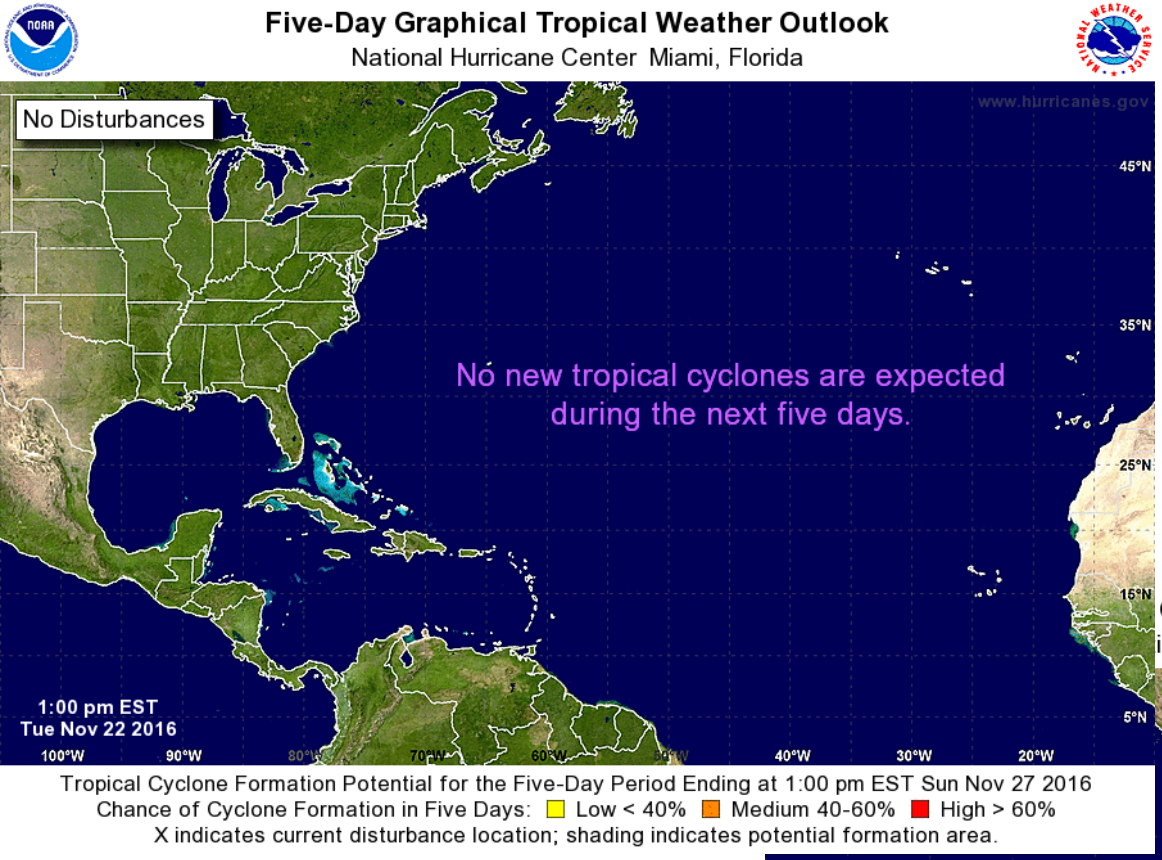


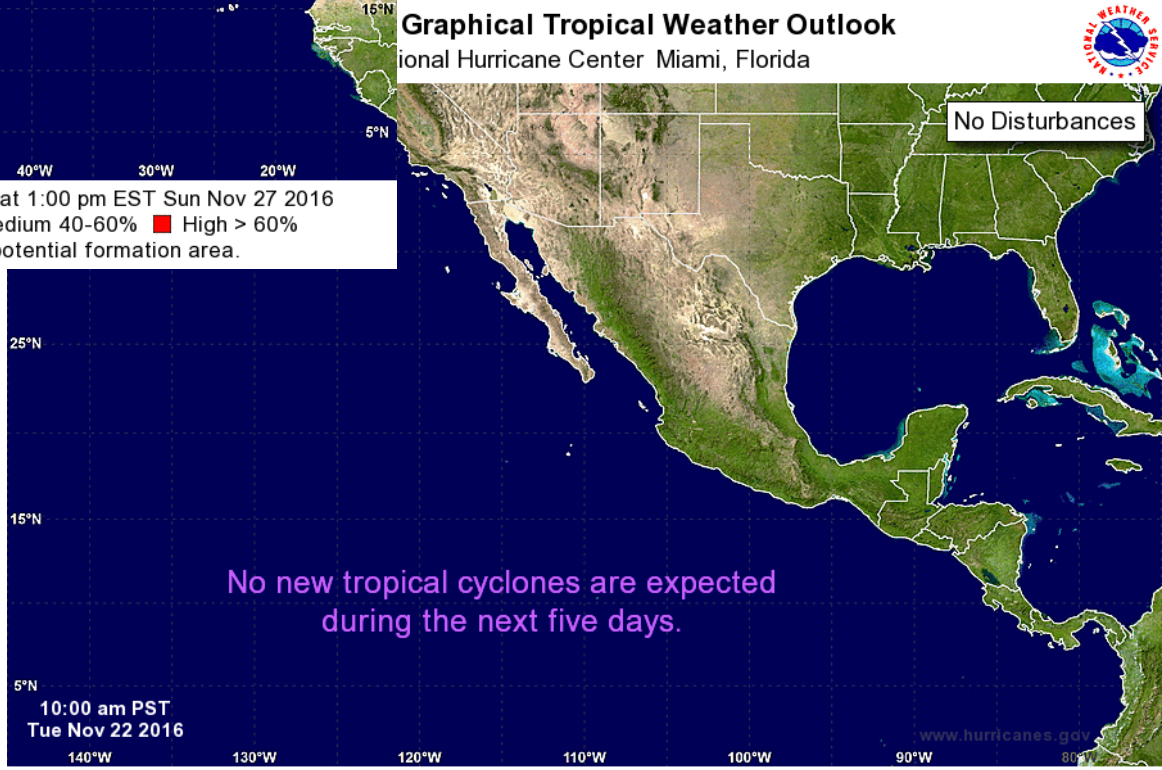

CFS: Anom. PREC Week: 1: 23-Nov-2016 to 29-Nov-2016 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150
CFS: Anom. PREC Week: 2: 30-Nov-2016 to 06-Dec-2016 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150

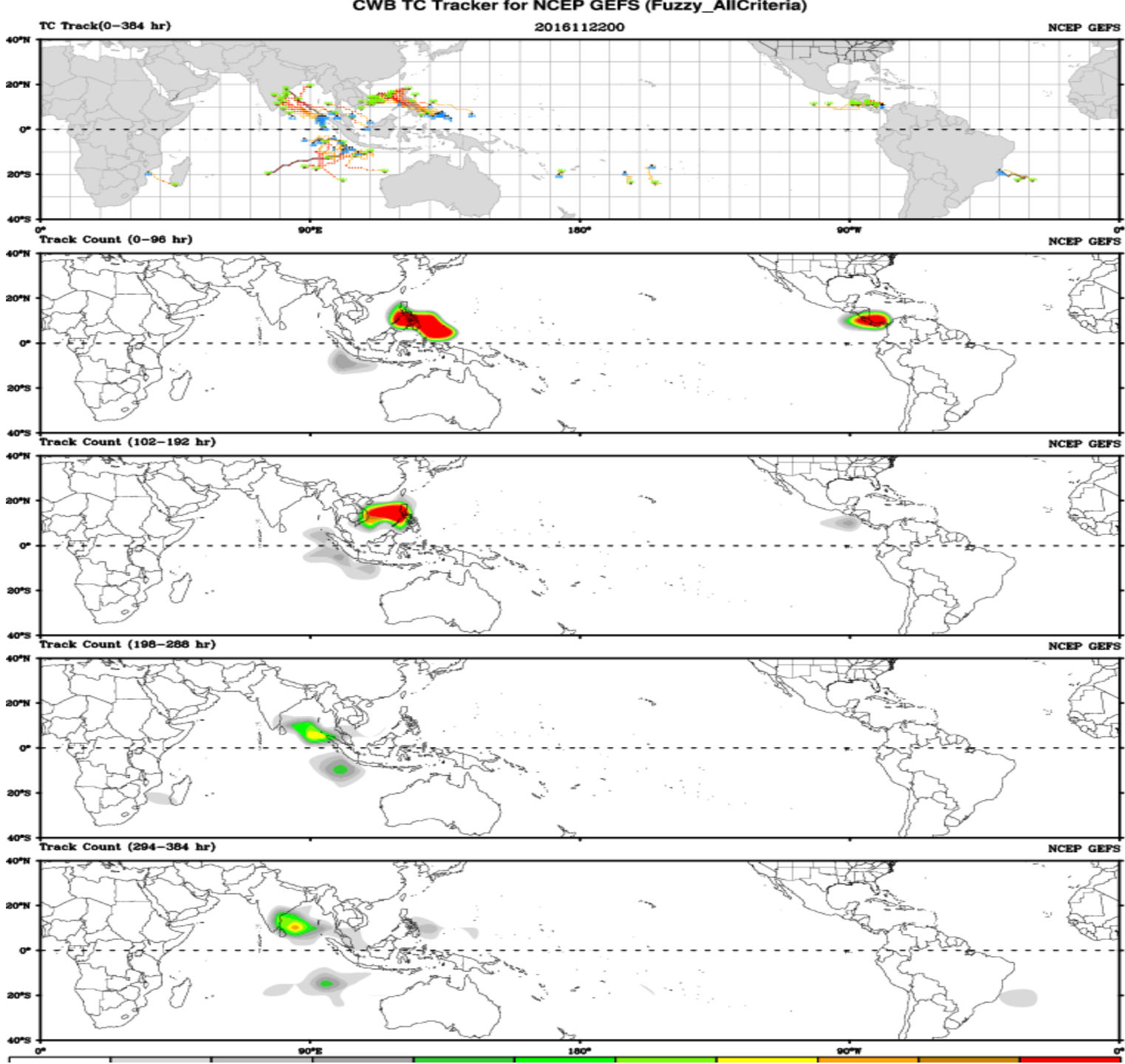
November Tropical Storm Formation by MJO phase



Graphical Tropical Weather Outlooks







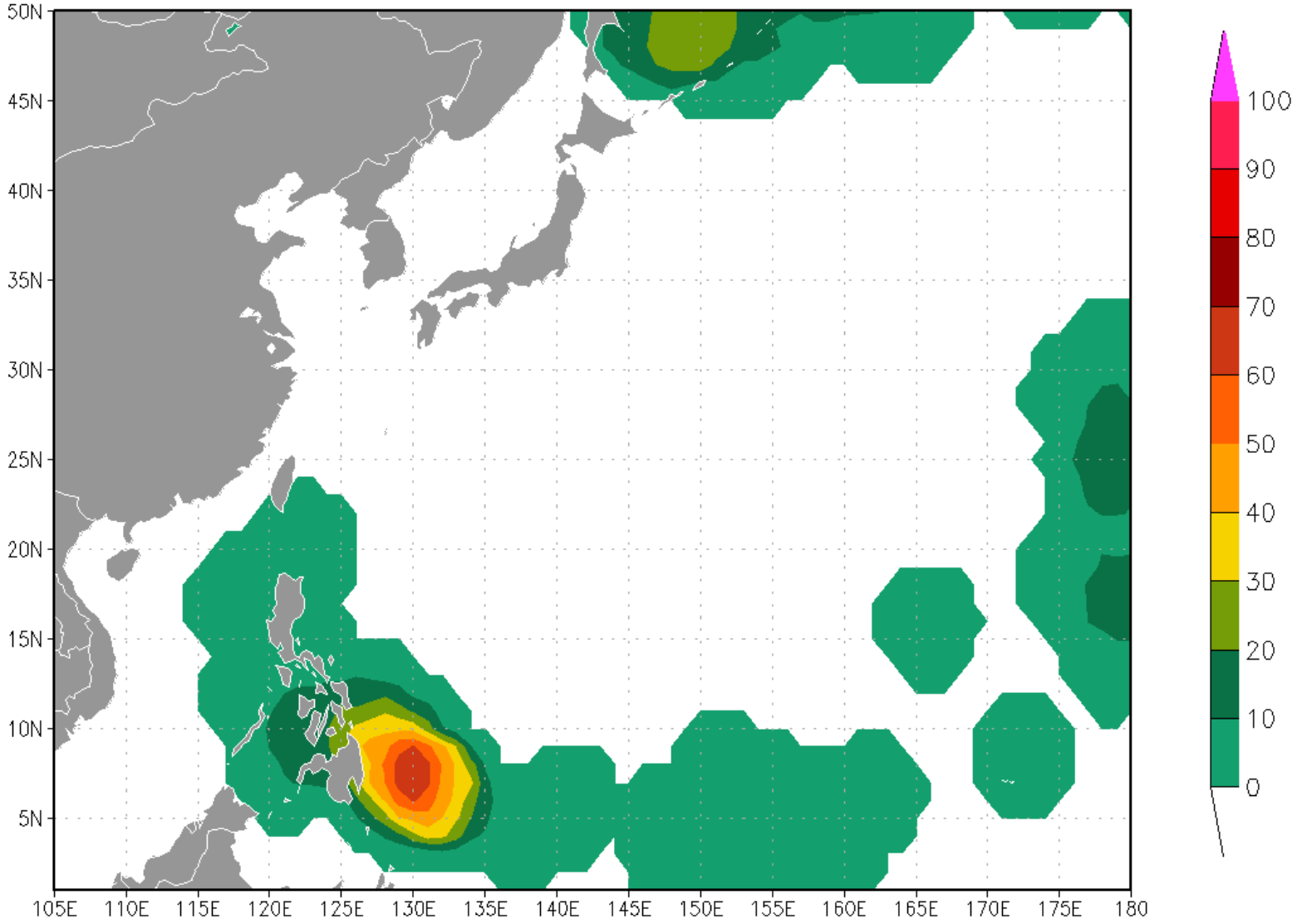
Days 1-4

Day 5-8

Day 9-12

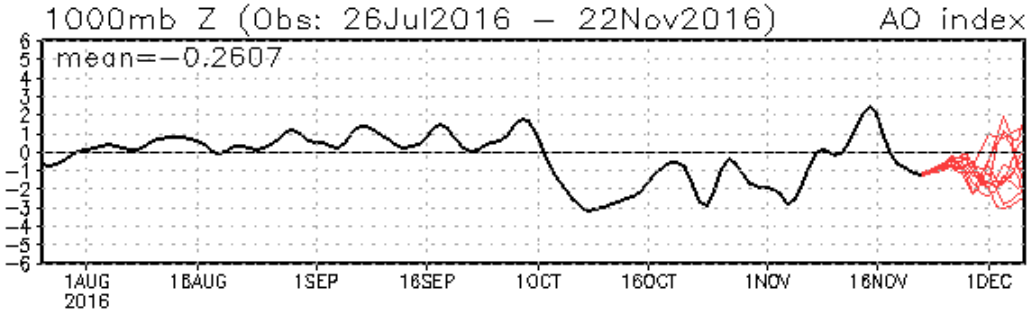
Day 13-15

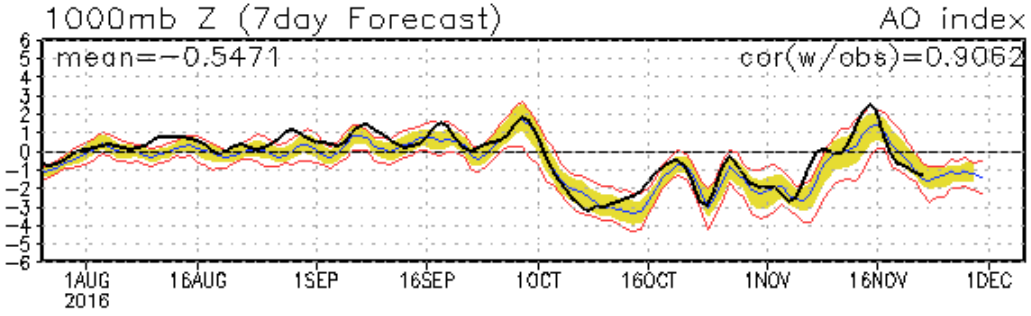
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF
For forecasts during the 00-120h period from initial time = 2016112200

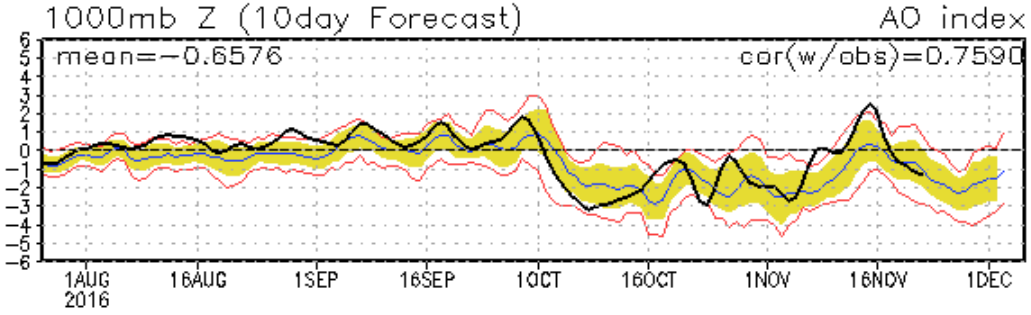


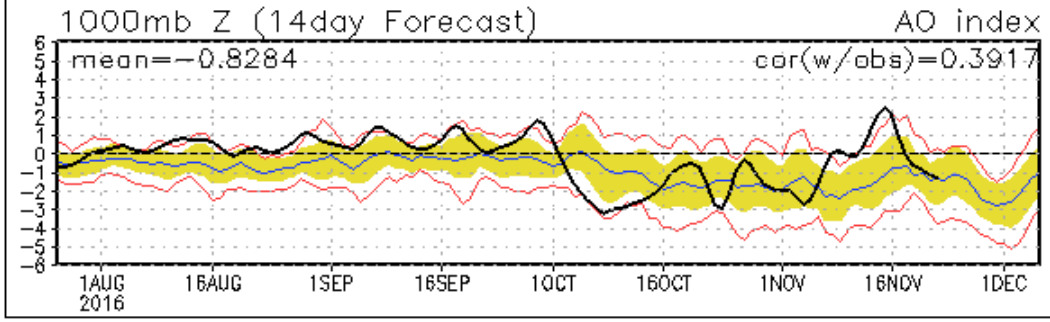
Connections to U.S. Impacts

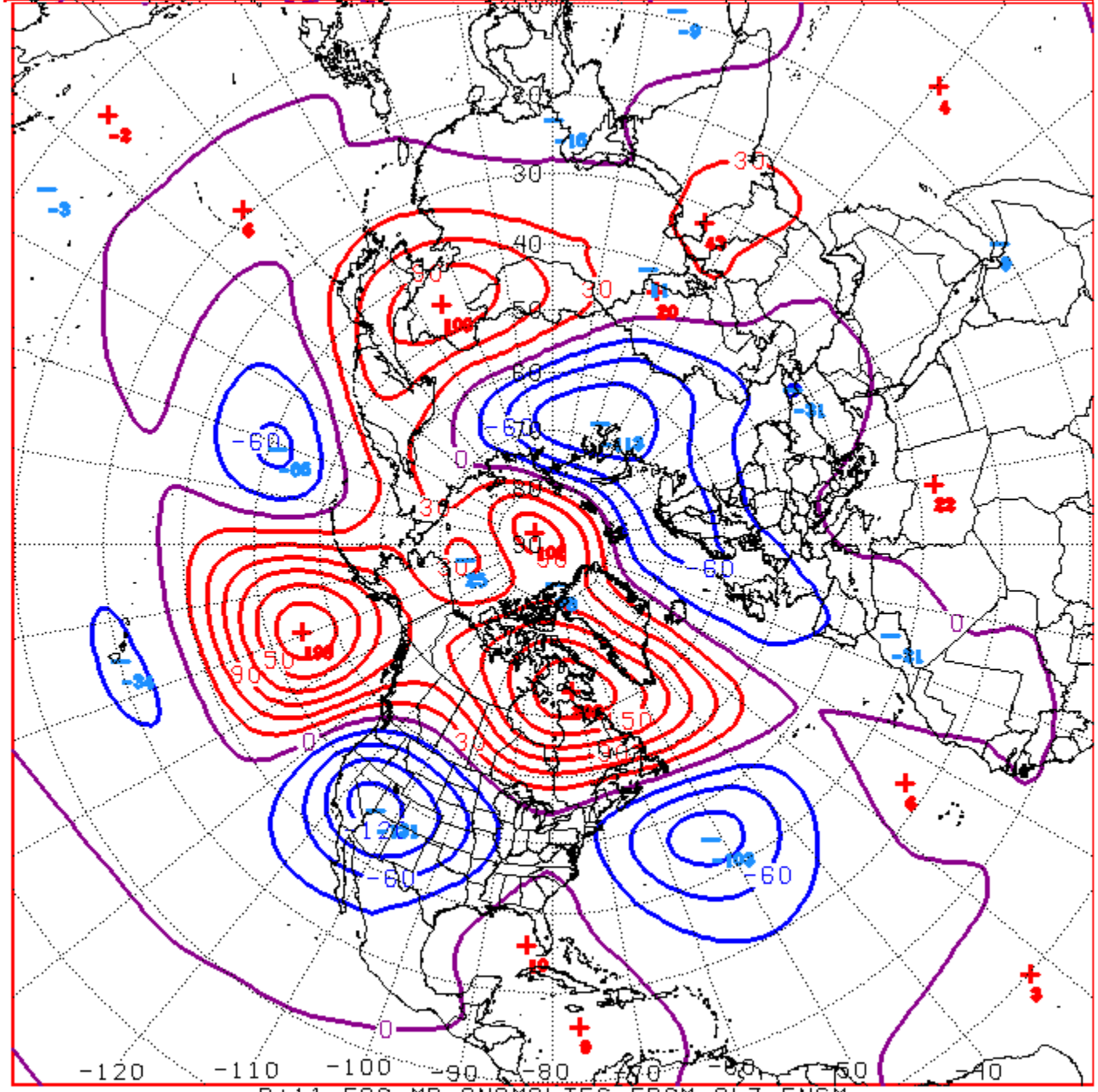
AO: Observed & ENSM forecasts



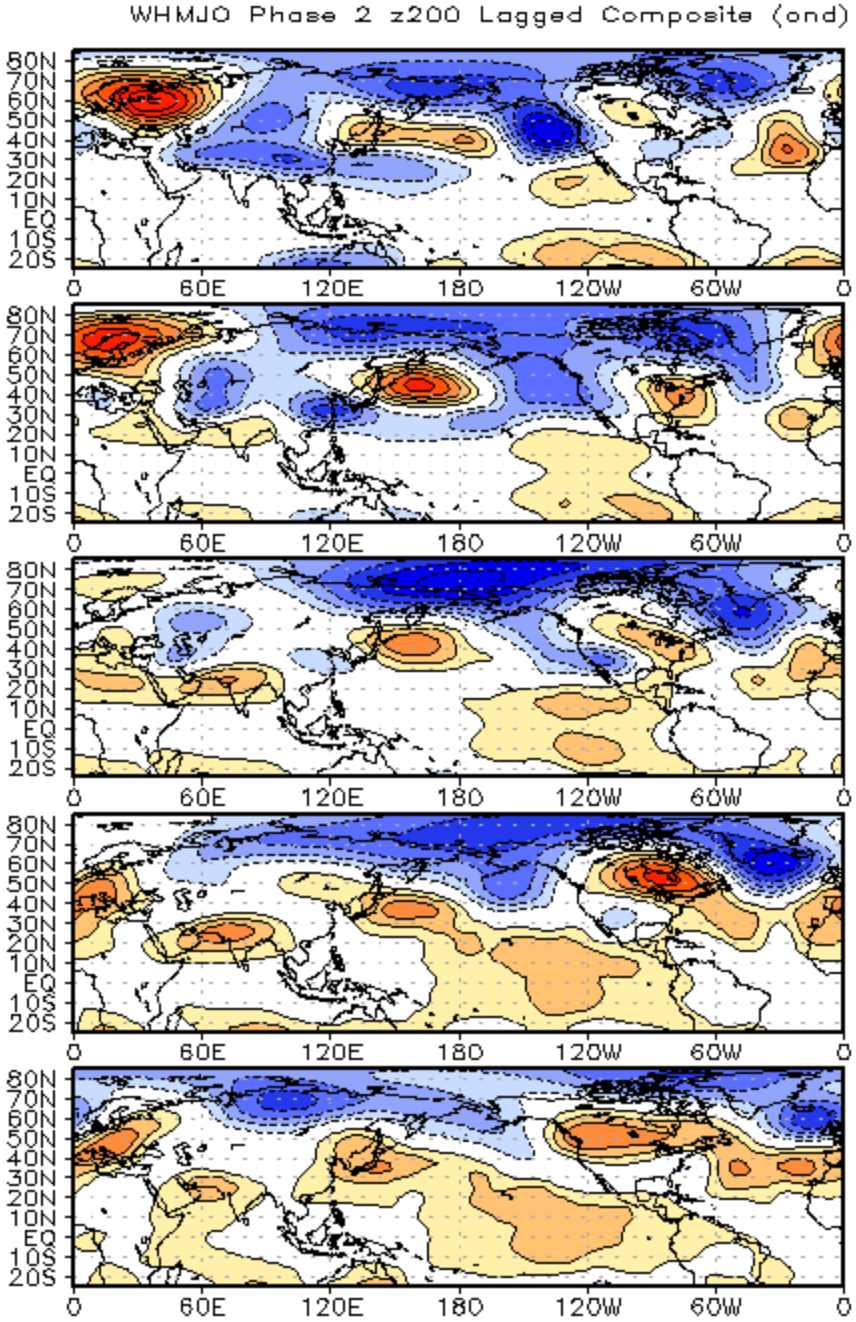




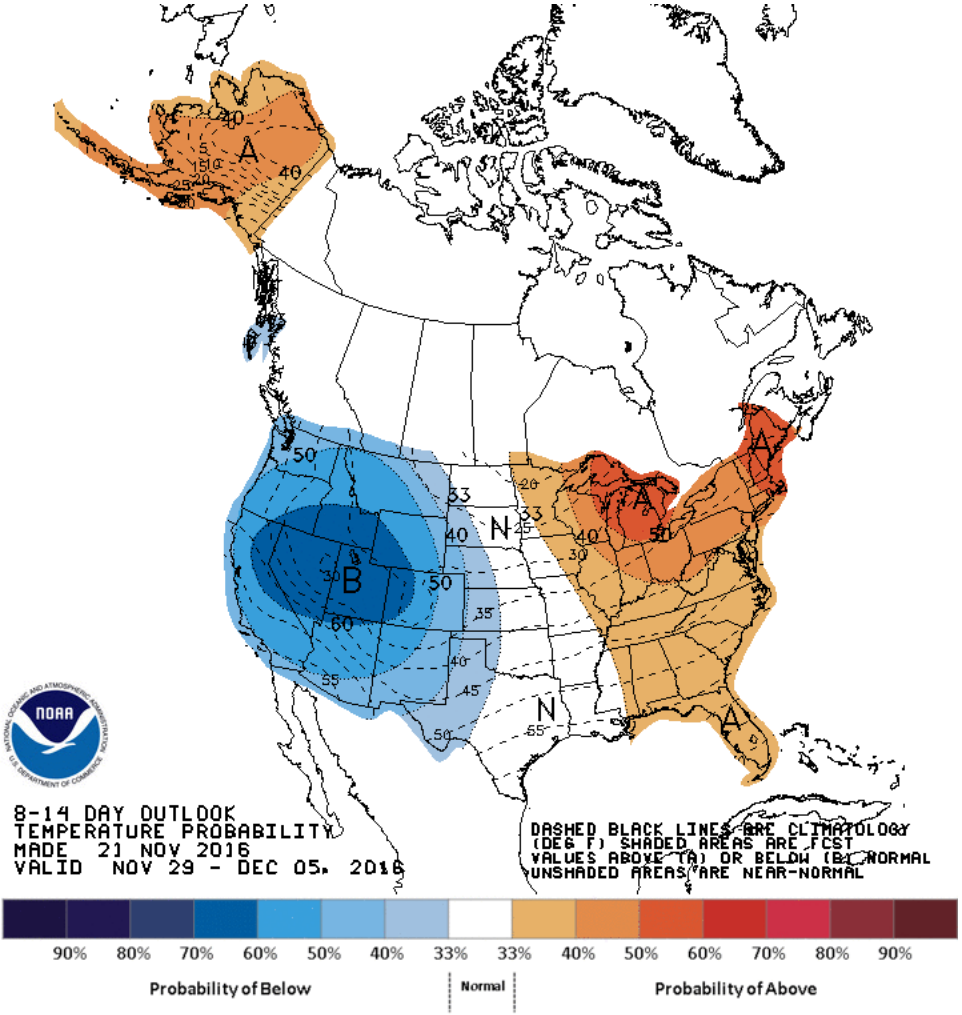


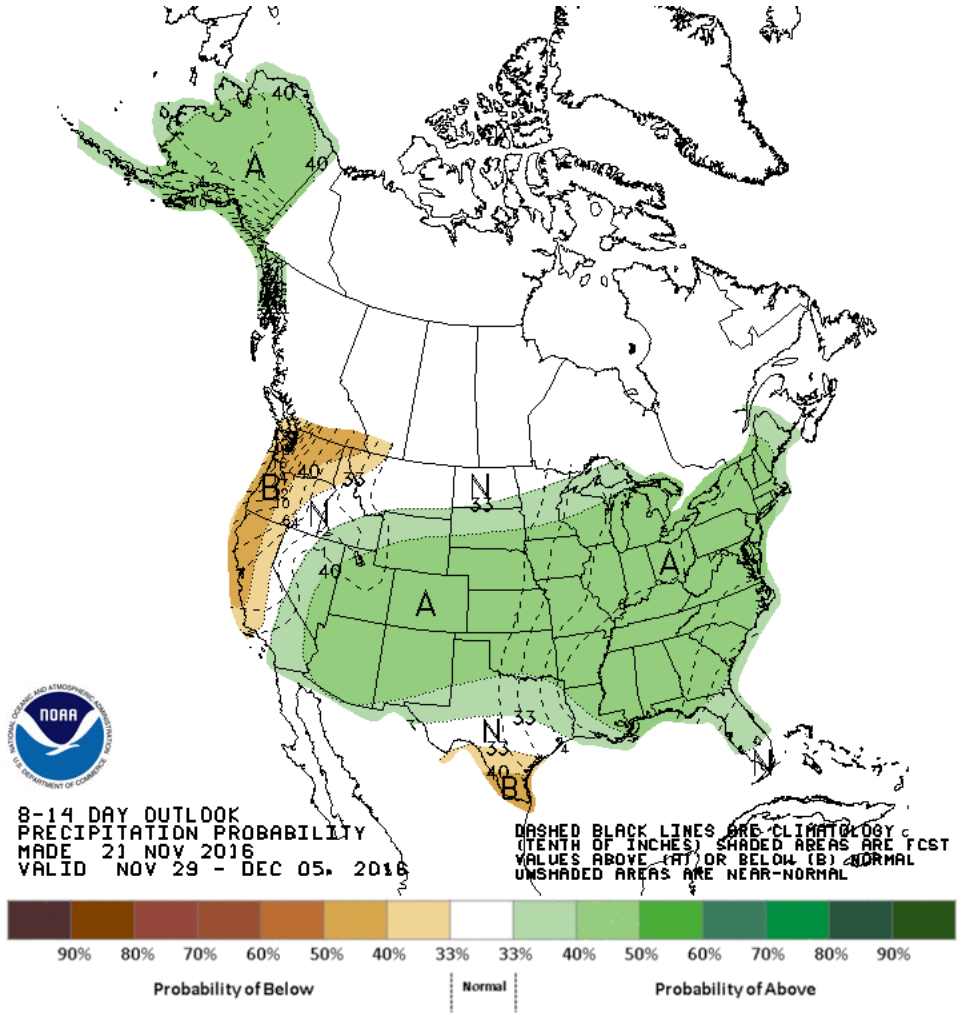


D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE NOV 22 2016 1332 UTC CNTD DEC 03 2016


WHMJO Phase 2 z200 Lagged Composite (ond)
80N
70N
60N
50N
40N
30N
20N
10N
EQ
10S
20S
0
60E
120E
180
120W
60W
0

Week 2 – Temperature and Precipitation





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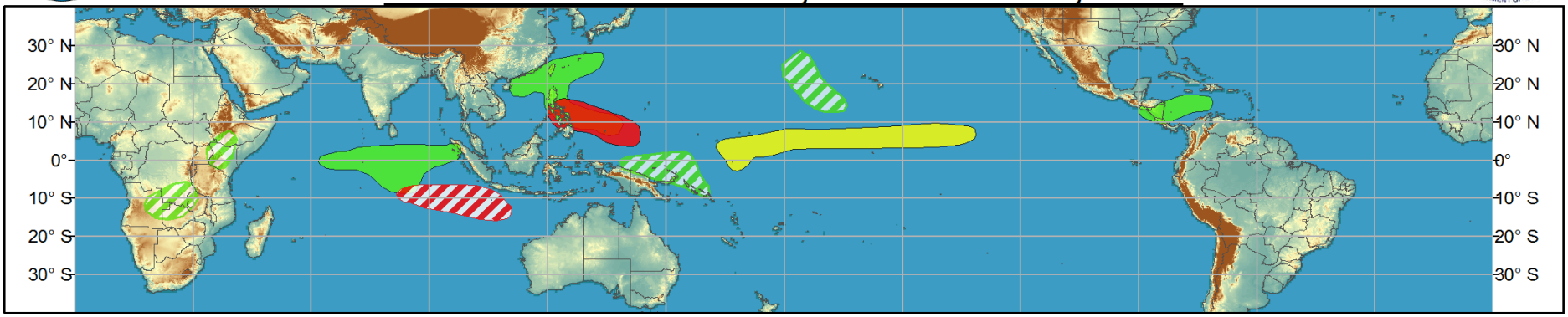

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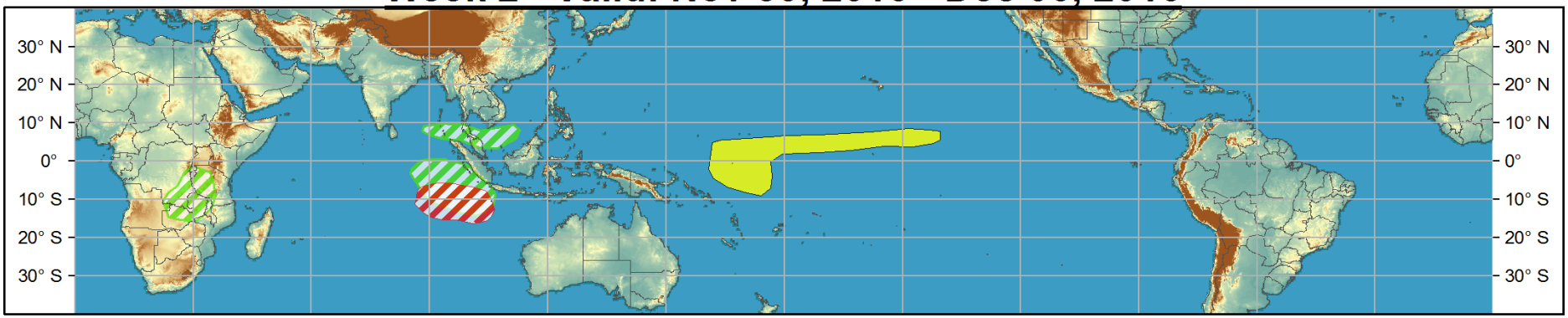

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