

Global Tropics Hazards And Benefits Outlook

December 23, 2014

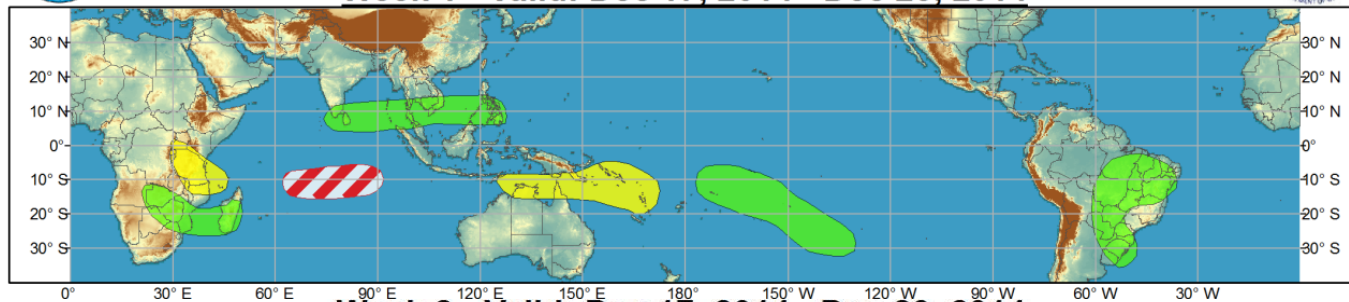
Stephen Baxter

Outline

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



Week 1 - Valid: Dec 17, 2014 - Dec 23, 2014

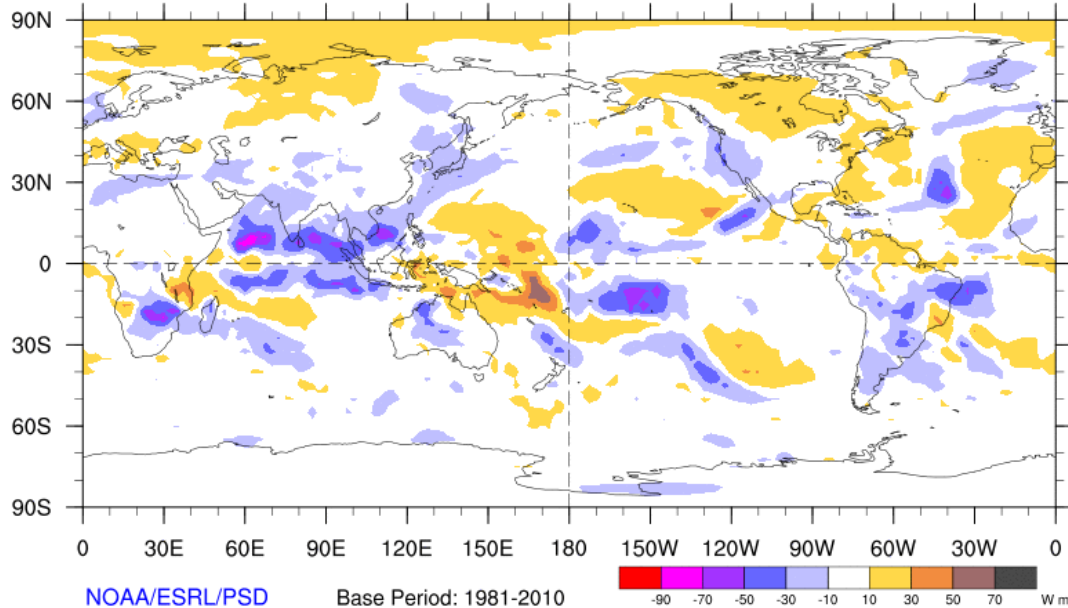


Week 2 - Valid: Dec 17, 2014 - Dec 23, 2014



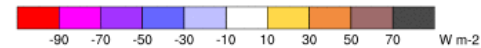
7-Day Average OLR Anomaly

2014/12/15 - 2014/12/21



NOAA/ESRL/PSD

Base Period: 1981-2010



Outlook Review

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO:

- ENSO-neutral conditions currently remain in place. There is a ~60% chance that El Niño conditions will be present during the Northern Hemisphere winter and last into spring 2015.

MJO and other subseasonal tropical variability:

- The MJO has remained active, albeit fairly weak. Other subseasonal variability has remained active and is influencing the large-scale signal. Additionally, the low-frequency state may be interfering.
- Most dynamical model MJO index forecasts depict a nearly stationary signal early in Week-1 with eastward propagation across the Maritime Continent toward the West Pacific during Week-2.

Extratropics:

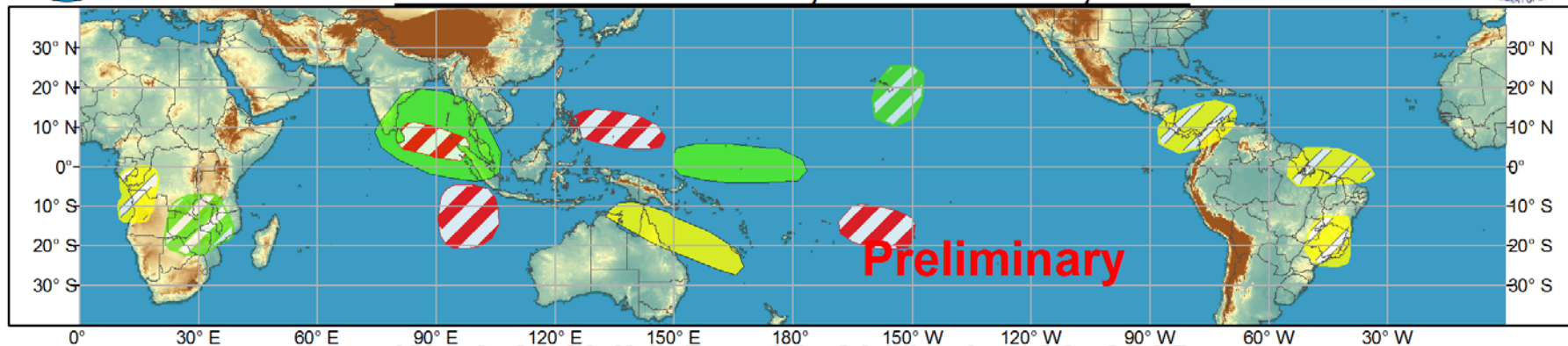
- The models are trending toward renewed anomalous ridging across far northwestern Canada/Alaska for Weeks 2-4. This is broadly consistent with the evolution of the MJO later in that period.
- AO is generally forecast to be neutral to slightly positive. A +NAO structure in the North Atlantic is forecast to be quite strong over the next few weeks.
- While the recent convection in the Indian Ocean would tend to favor a warmer solution over the next one to two weeks for much of the eastern CONUS, the lack of a coherent or long-lasting dipole between Indian and West Pacific Oceans cast some doubt on whether we can observe a canonical extratropical MJO response.



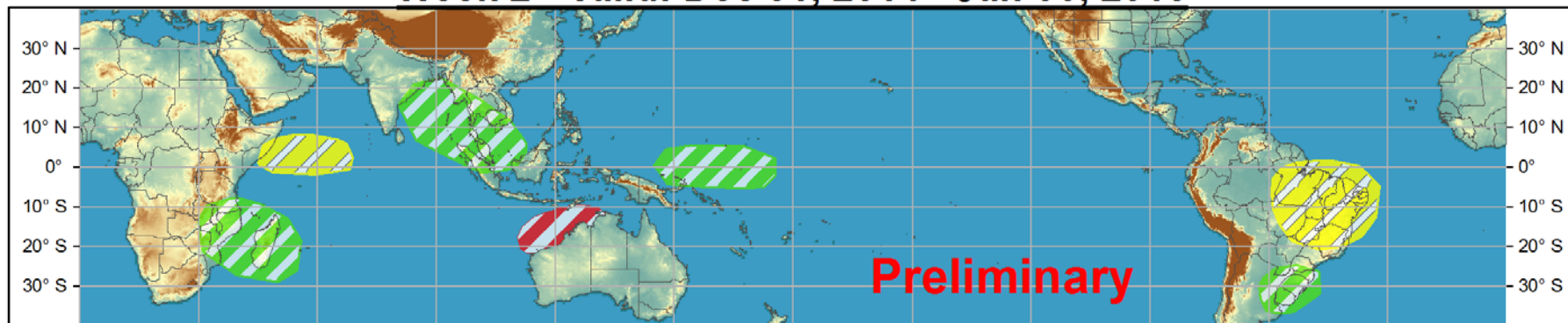
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 24, 2014 - Dec 30, 2014



Week 2 - Valid: Dec 31, 2014 - Jan 06, 2015



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.

Produced: 12/23/2014

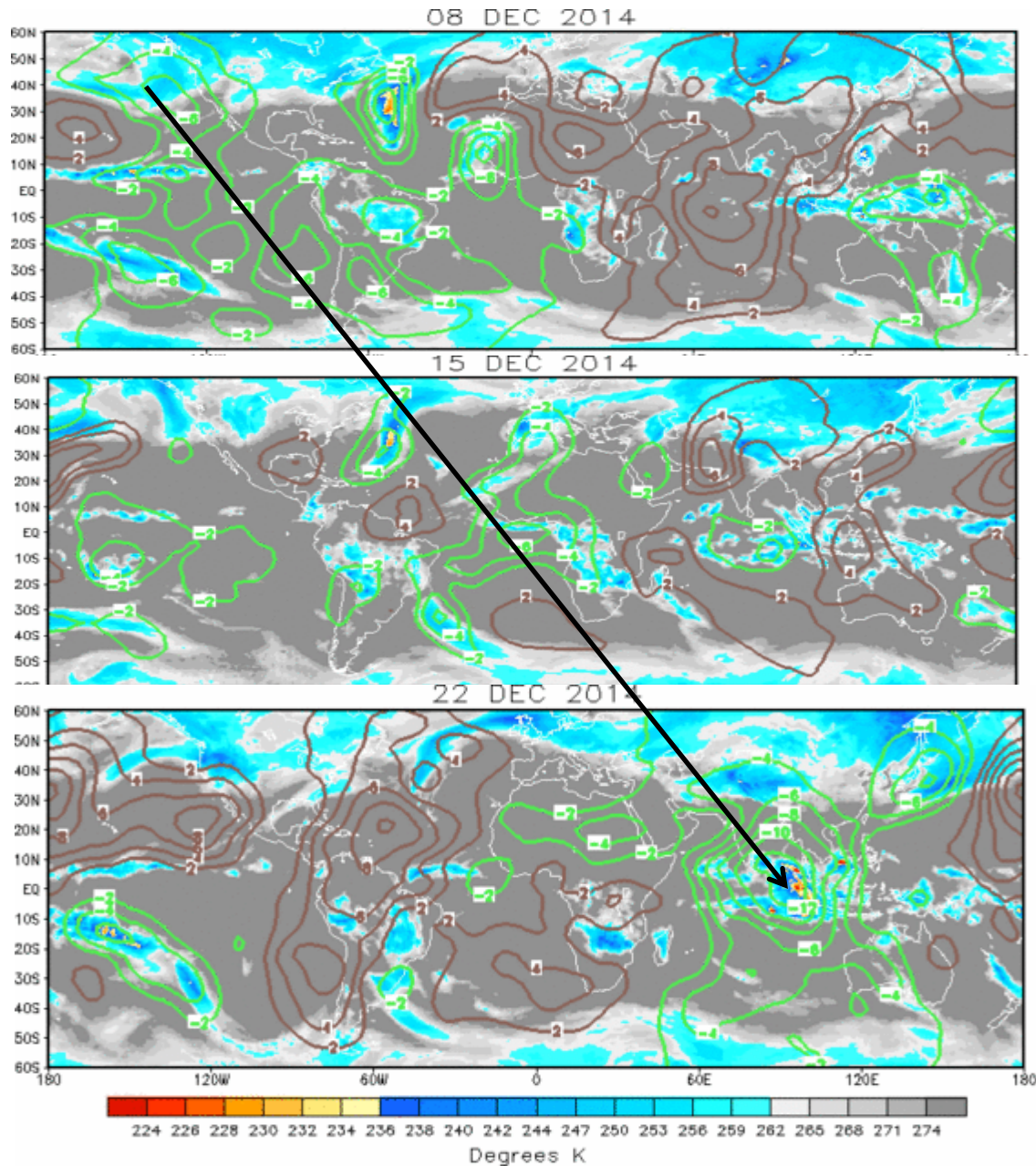
Forecaster: Baxter

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.

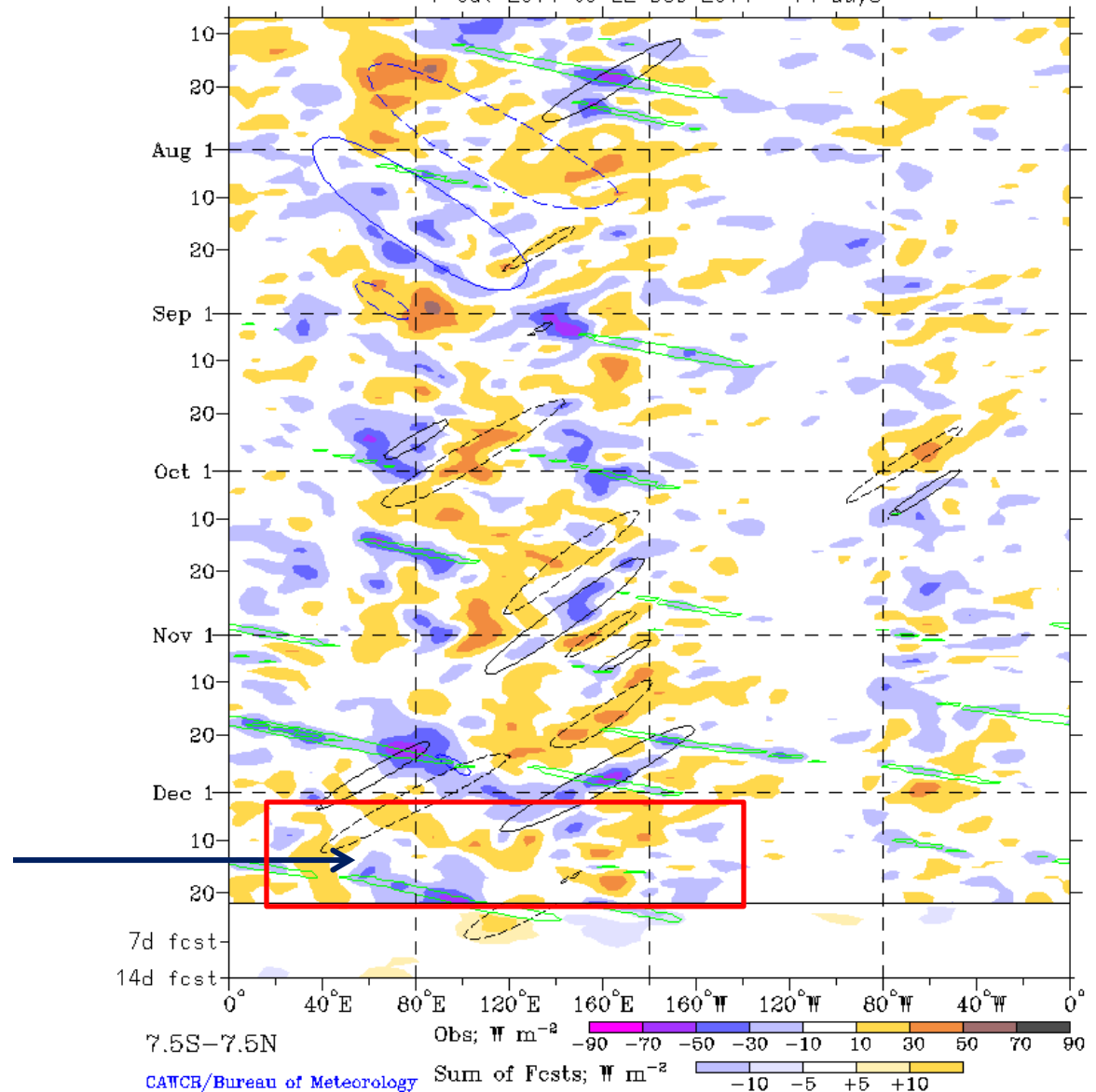


IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

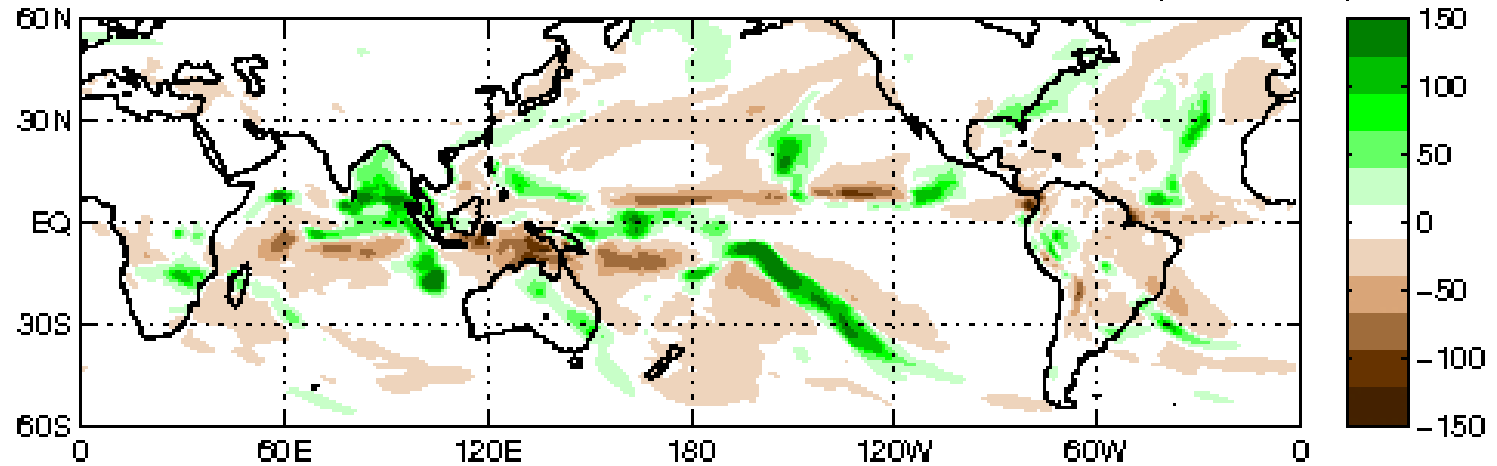


Real-time filtering superimposed upon 1-2-1 filt, R21, OLR Anoms
MJO blue CINT=10; n1ER black CINT=10; Kelvin green CINT=15
Negative contours solid, positive dashed (excluding Kelvin)
7-Jul-2014 to 22-Dec-2014 + 14 days

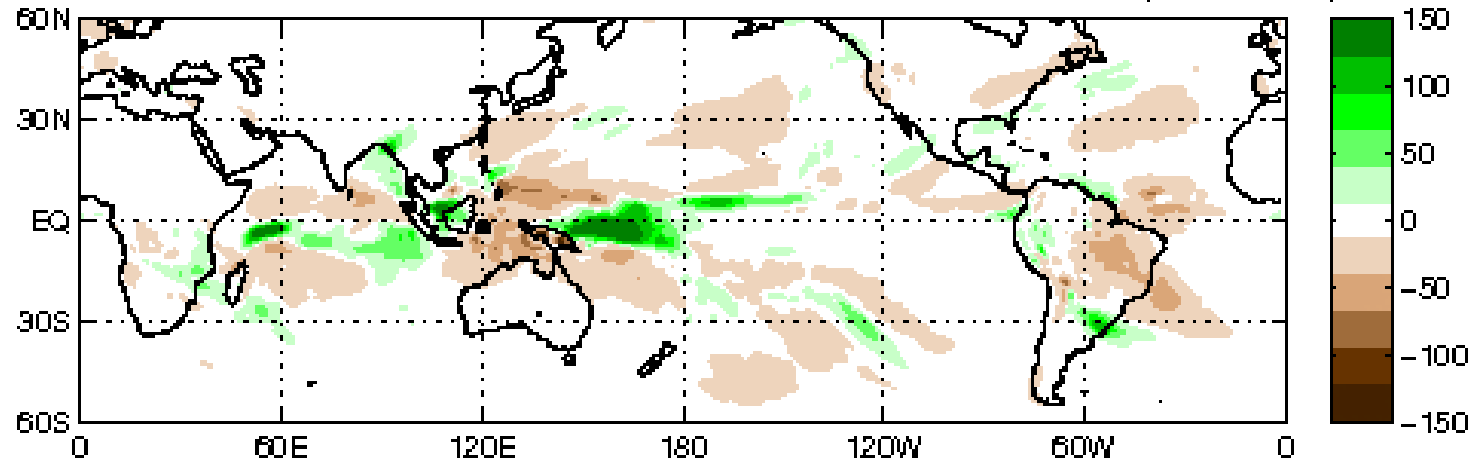


Atmospheric Kelvin waves and westward moving Rossby waves are evident.

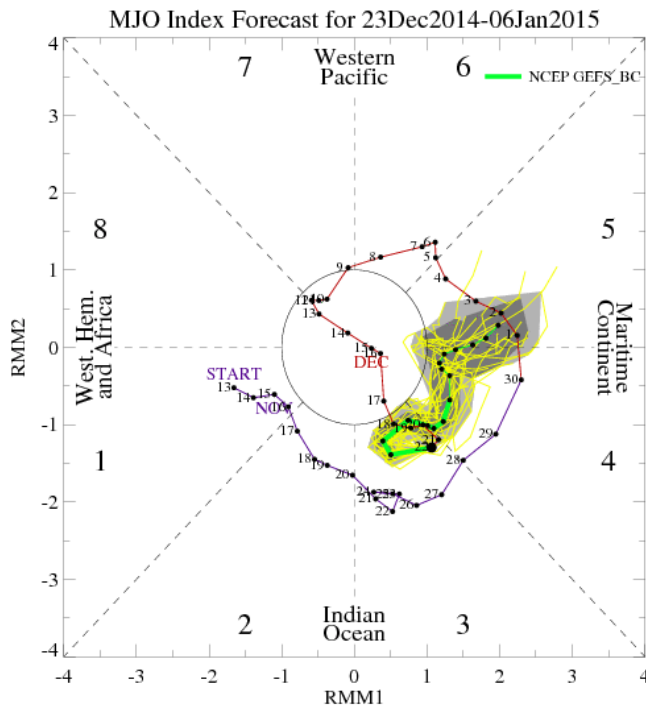
CFS: Anom. PREC Week: 1: 23-Dec-2014 to 29-Dec-2014 (mm/week)



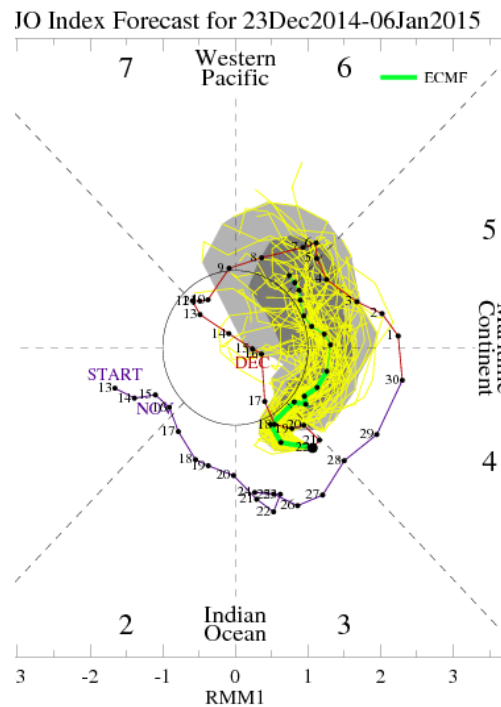
CFS: Anom. PREC Week: 2: 30-Dec-2014 to 05-Jan-2015 (mm/week)



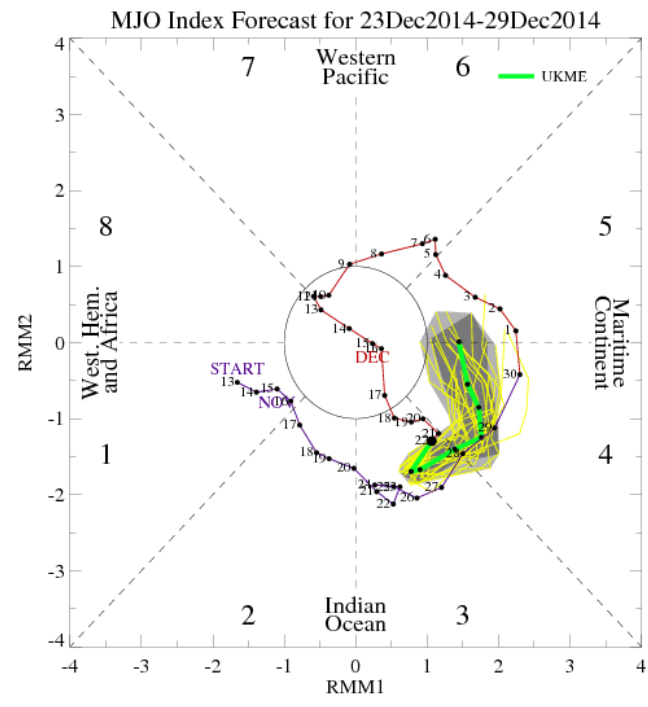
MJO Observation/Forecast



GFS

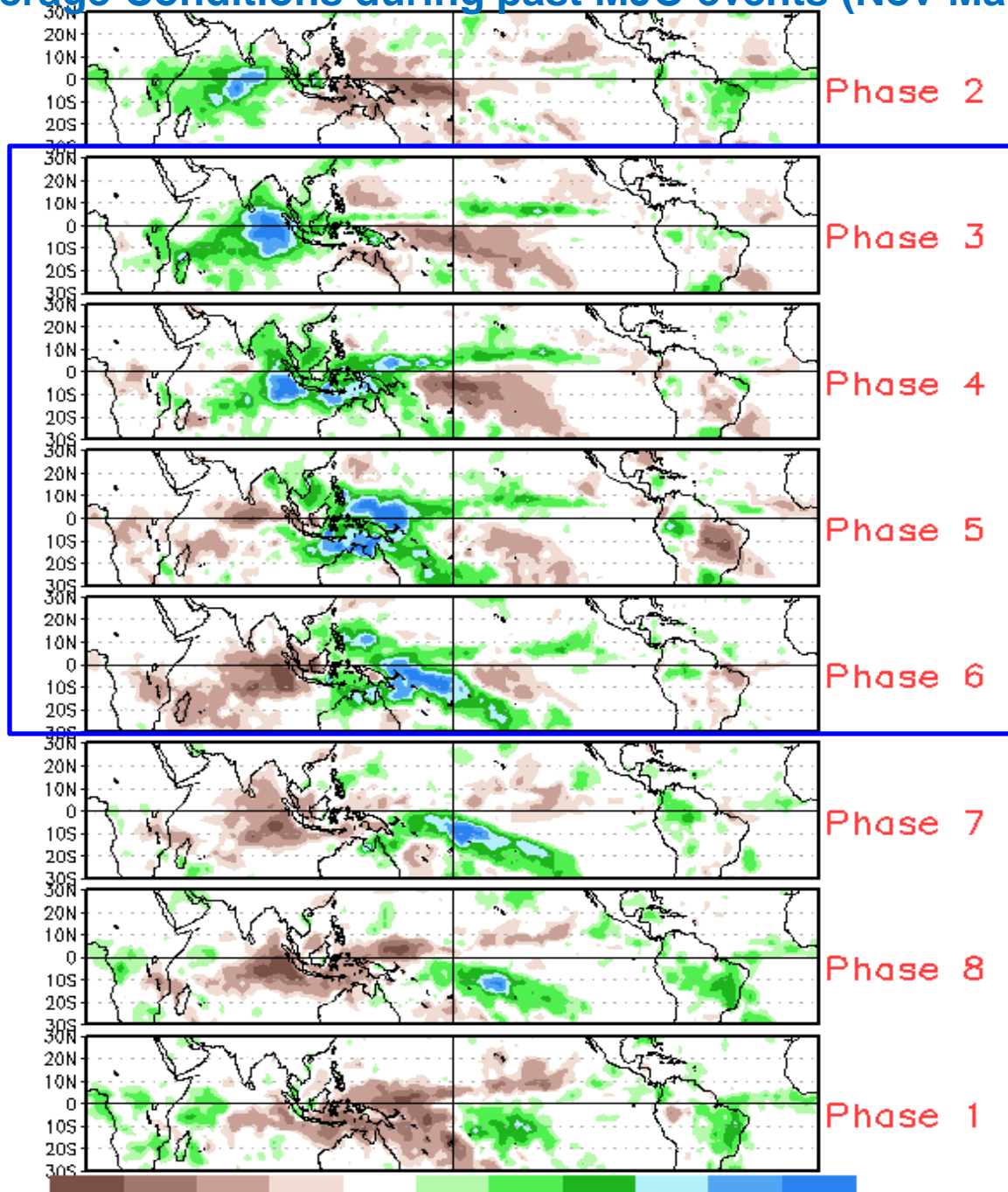


ECMWF

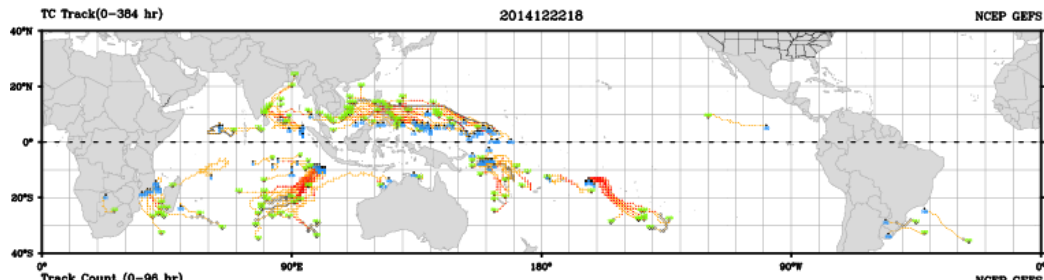


UKMET

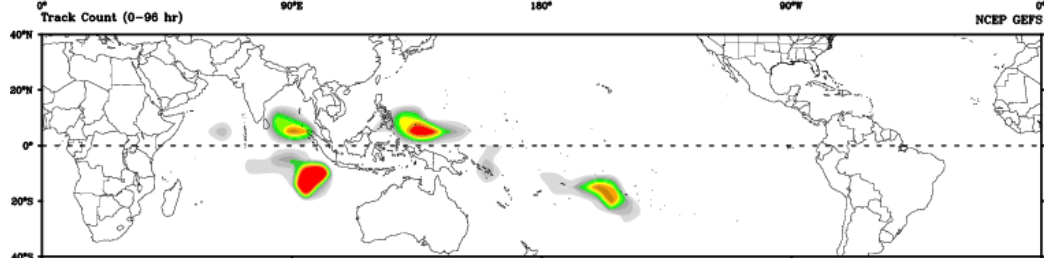
Average Conditions during past MJO events (Nov-Mar)



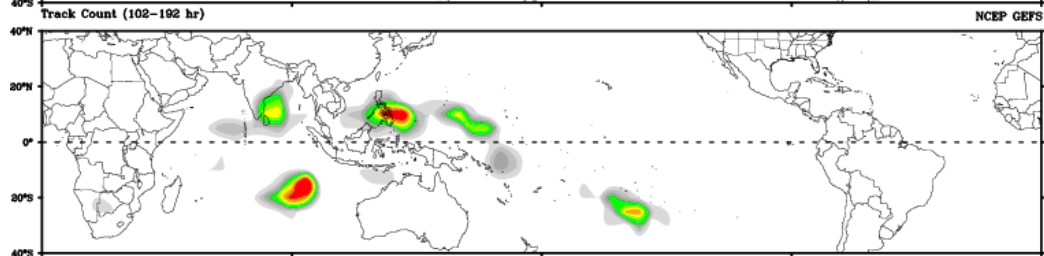
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)



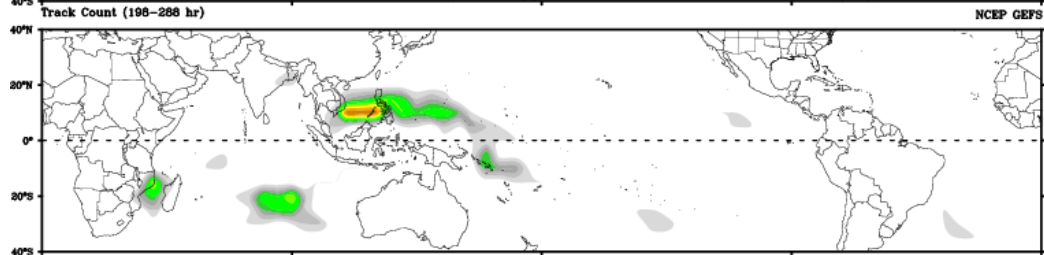
Days 1-4



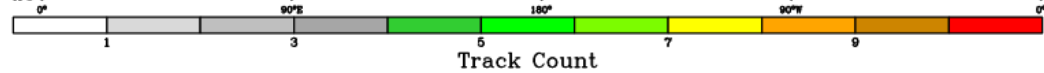
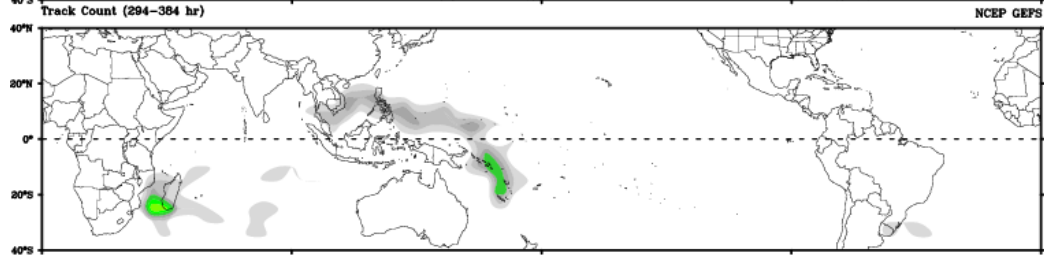
Day 5-8



Day 9-12

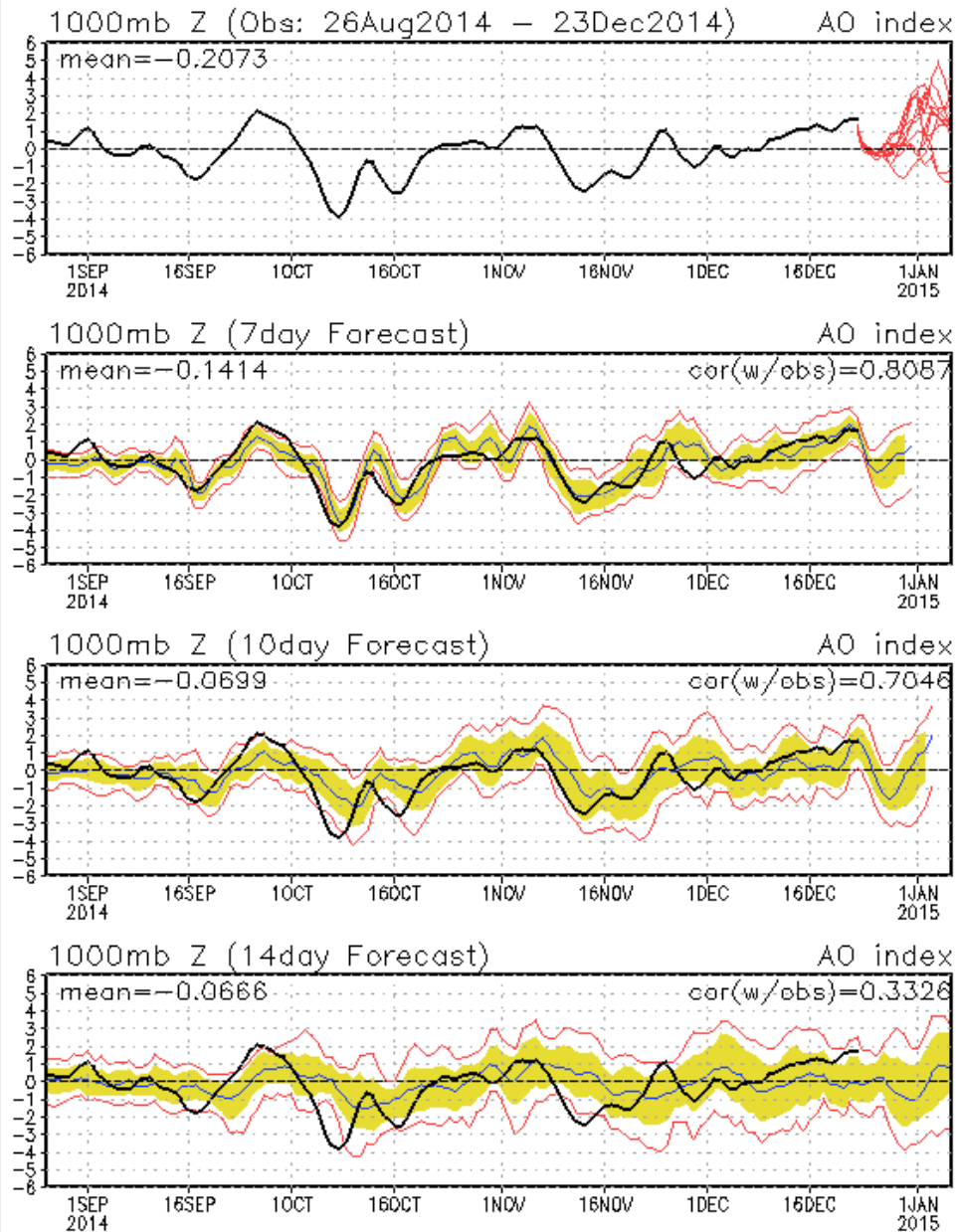


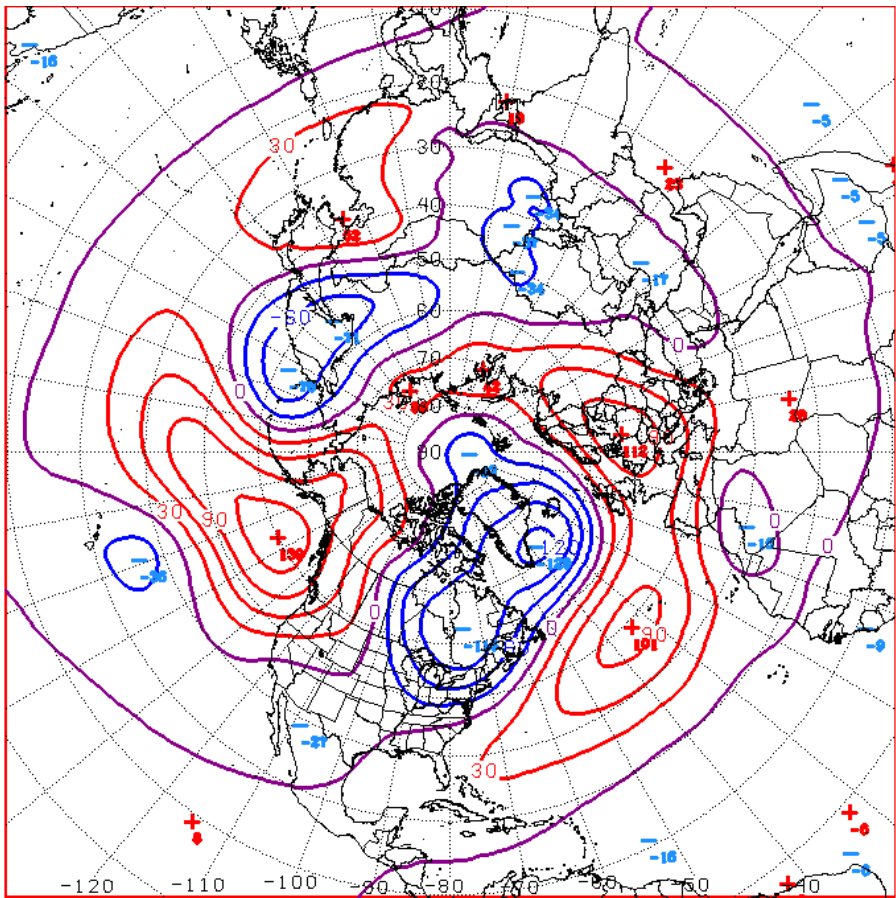
Day 13-16



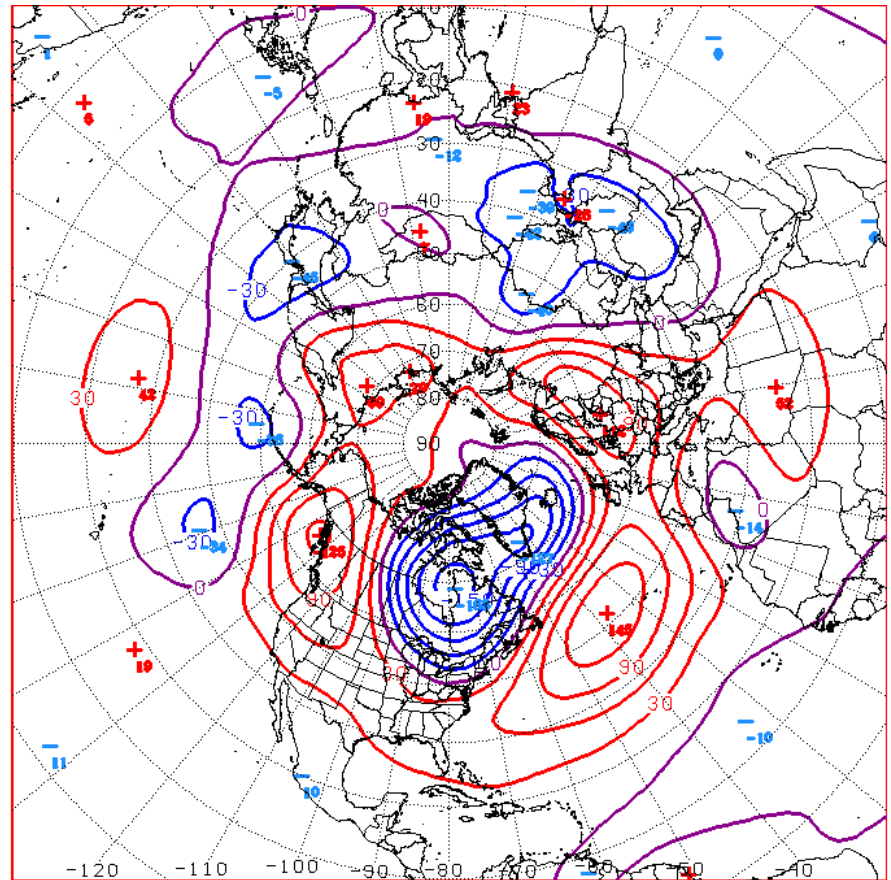
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



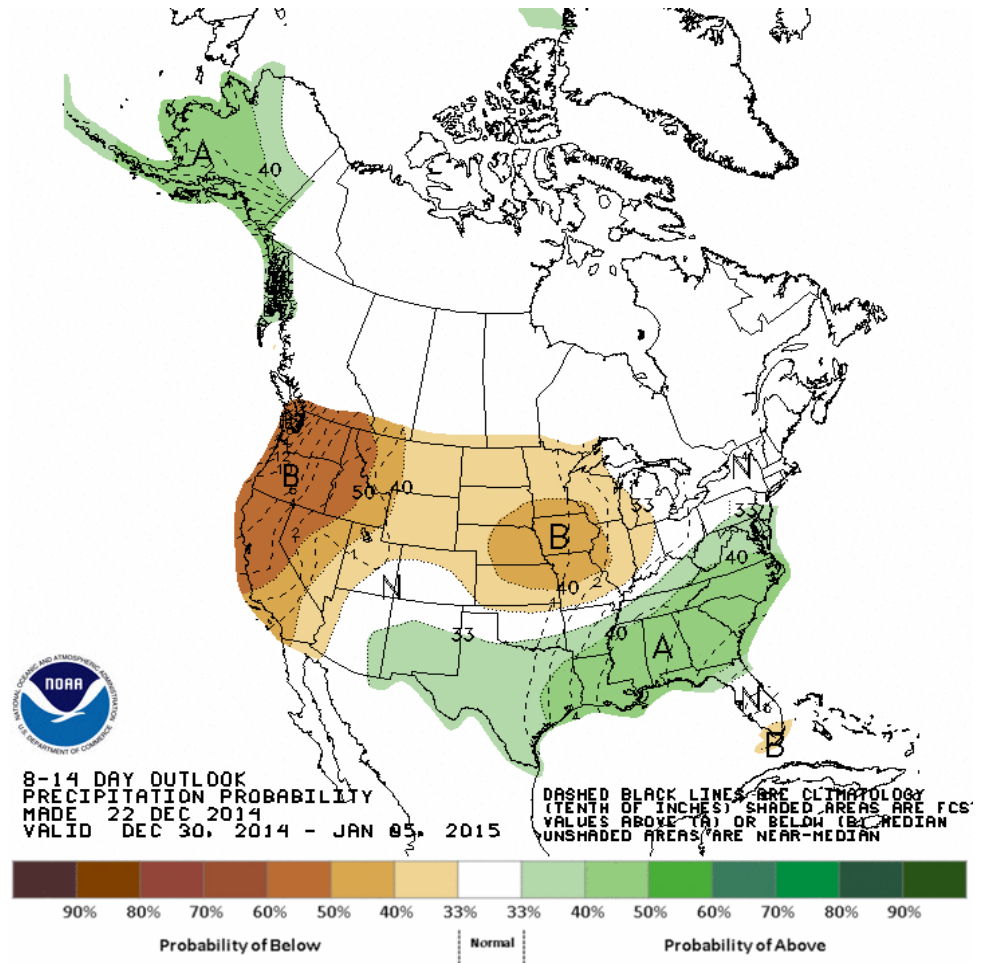
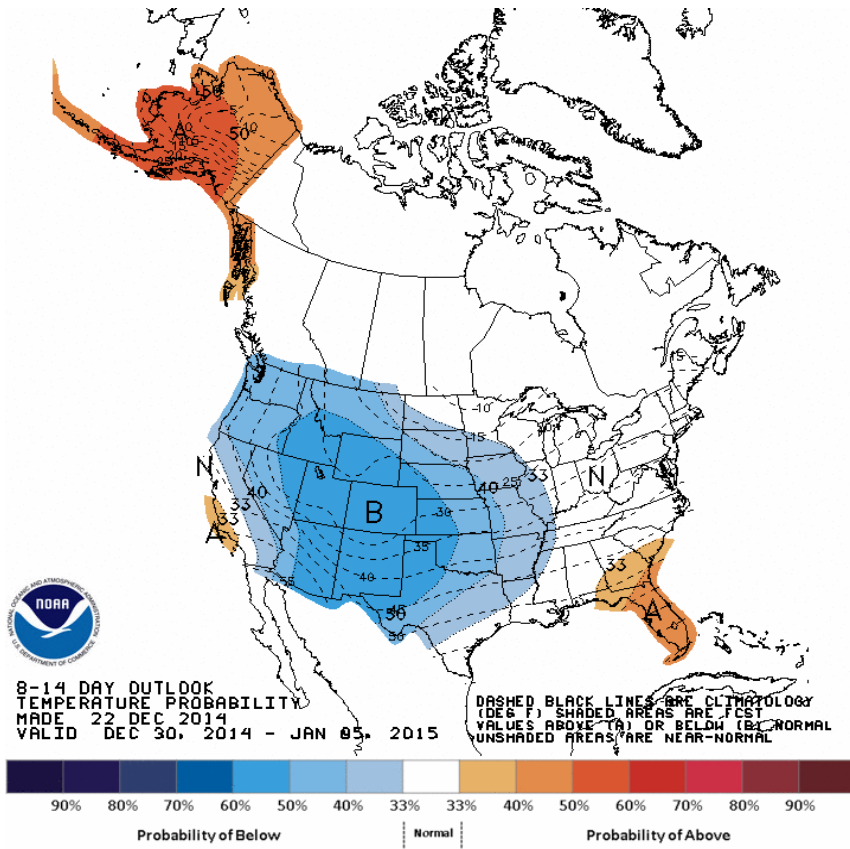


D+11 500 MB ANOMALIES FROM 06Z ENSM
 CPC MAP MADE DEC 23 2014 1312 UTC CNTD JAN 03 2015



D+11 500 MB ANOMALIES FROM 00Z CAN ENSM
 CPC MAP MADE DEC 23 2014 0834 UTC CNTD JAN 03 2015

Week 2 – Temperature and Precipitation

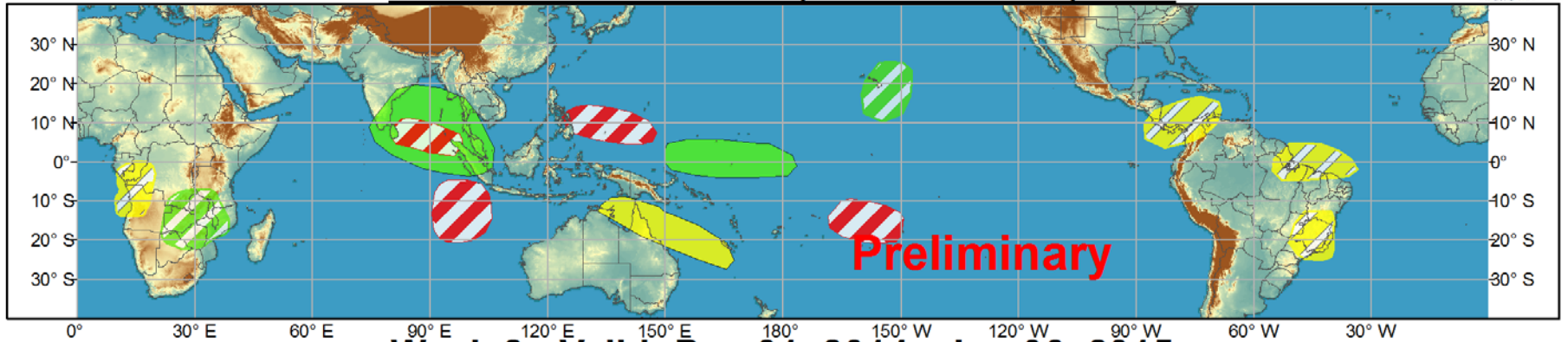




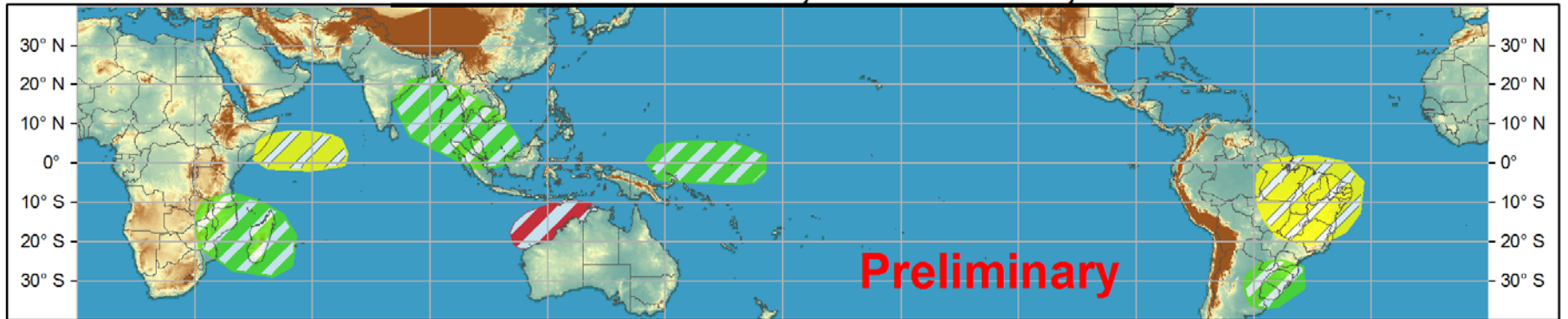
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Confidence
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- | | | | |
|-----------------------------------|--|--|--|
| Tropical Cyclone Formation | | | Development of a tropical cyclone (tropical depression - TD, or greater strength). |
| Above-average 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. |

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