

Global Tropics Hazards And Benefits Outlook

January 20, 2015

Stephen Baxter

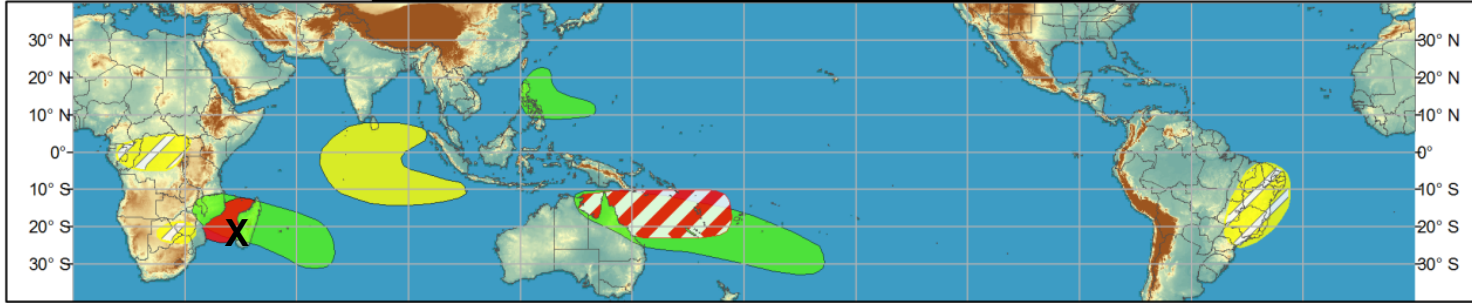
Outline

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

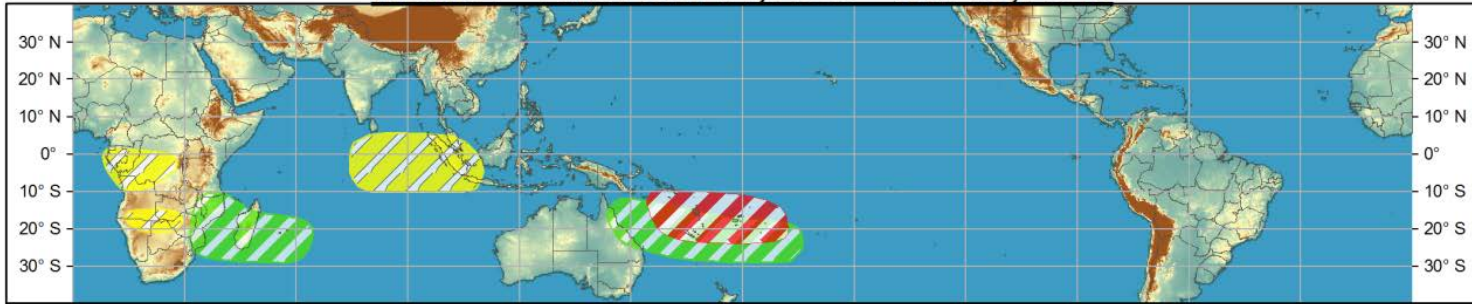
Outlook Review



Week 1 - Valid: Jan 14, 2015 - Jan 20, 2015

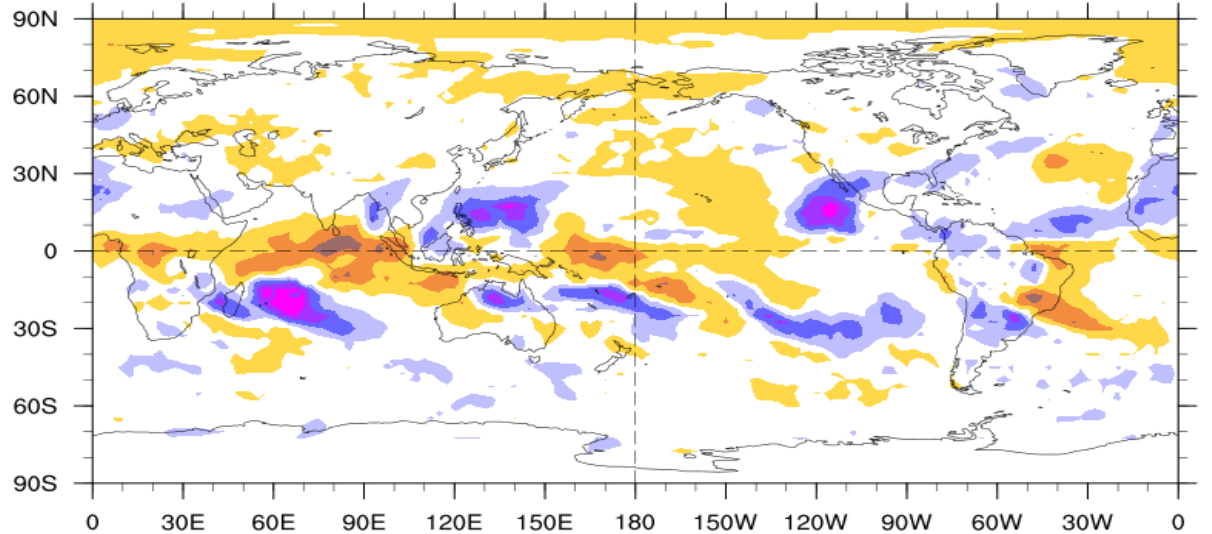


Week 2 - Valid: Jan 14, 2015 - Jan 20, 2015



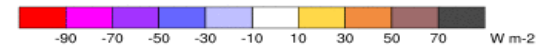
7-Day Average OLR Anomaly

2015/01/12 - 2015/01/18



NOAA/ESRL/PSD

Base Period: 1981-2010



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO:

- Current: ENSO-neutral (lack of coupling between atmosphere and above-normal SSTs)
- Outlook: There is an approximately 50-60% chance of El Niño conditions during the next two months.

MJO and other subseasonal tropical variability:

- The MJO has weakened over the past few days, with the remnant enhanced phase over the eastern Pacific.
- Most dynamical model MJO index forecasts depict a weak MJO signal over the next two weeks.

Extratropics:

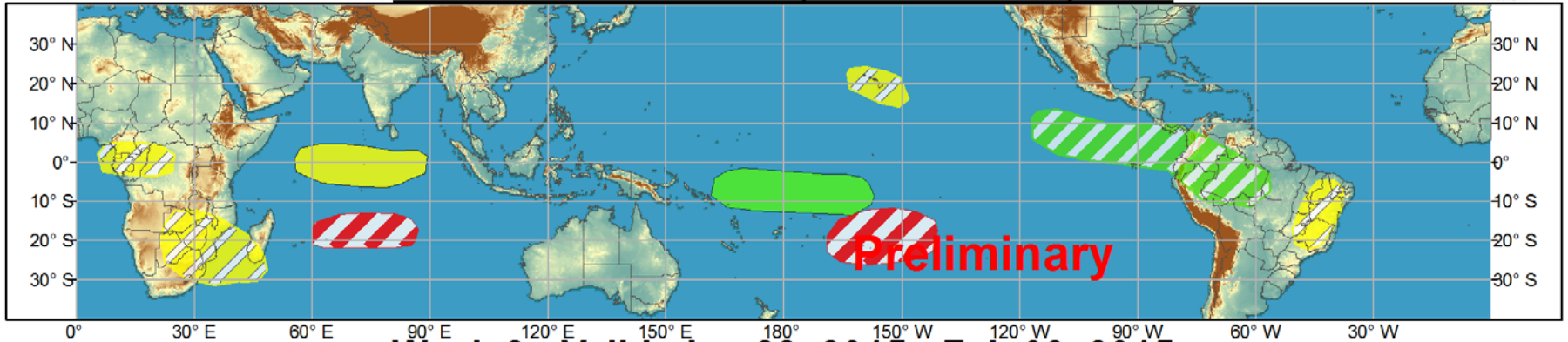
- The preceding MJO-related activity is broadly consistent with the forecast evolution over North America, but not canonically so.
- Dynamical model guidance predicts enhanced convection near and west of the Date Line over the next few weeks; this could be important in terms of extratropical variability well into February.



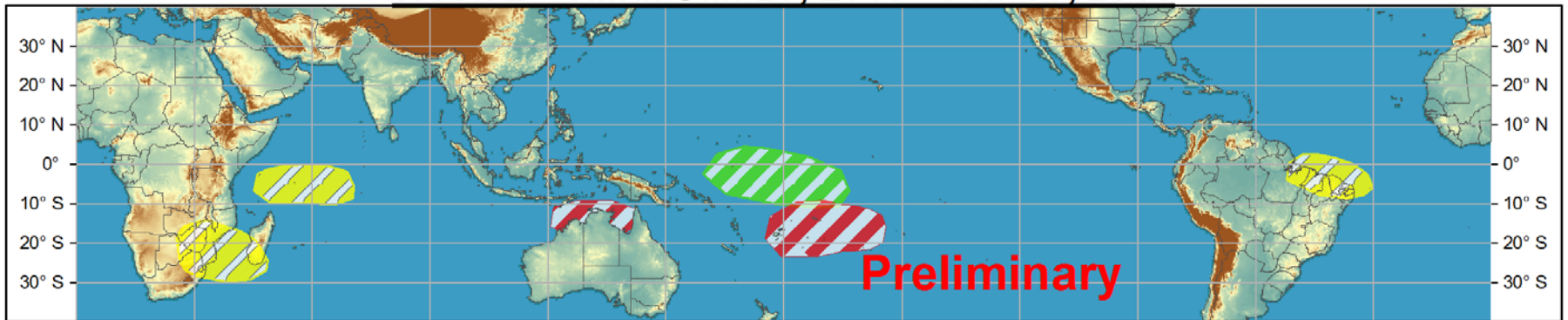
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jan 21, 2015 - Jan 27, 2015



Week 2 - Valid: Jan 28, 2015 - Feb 03, 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.
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Produced: 01/20/2015

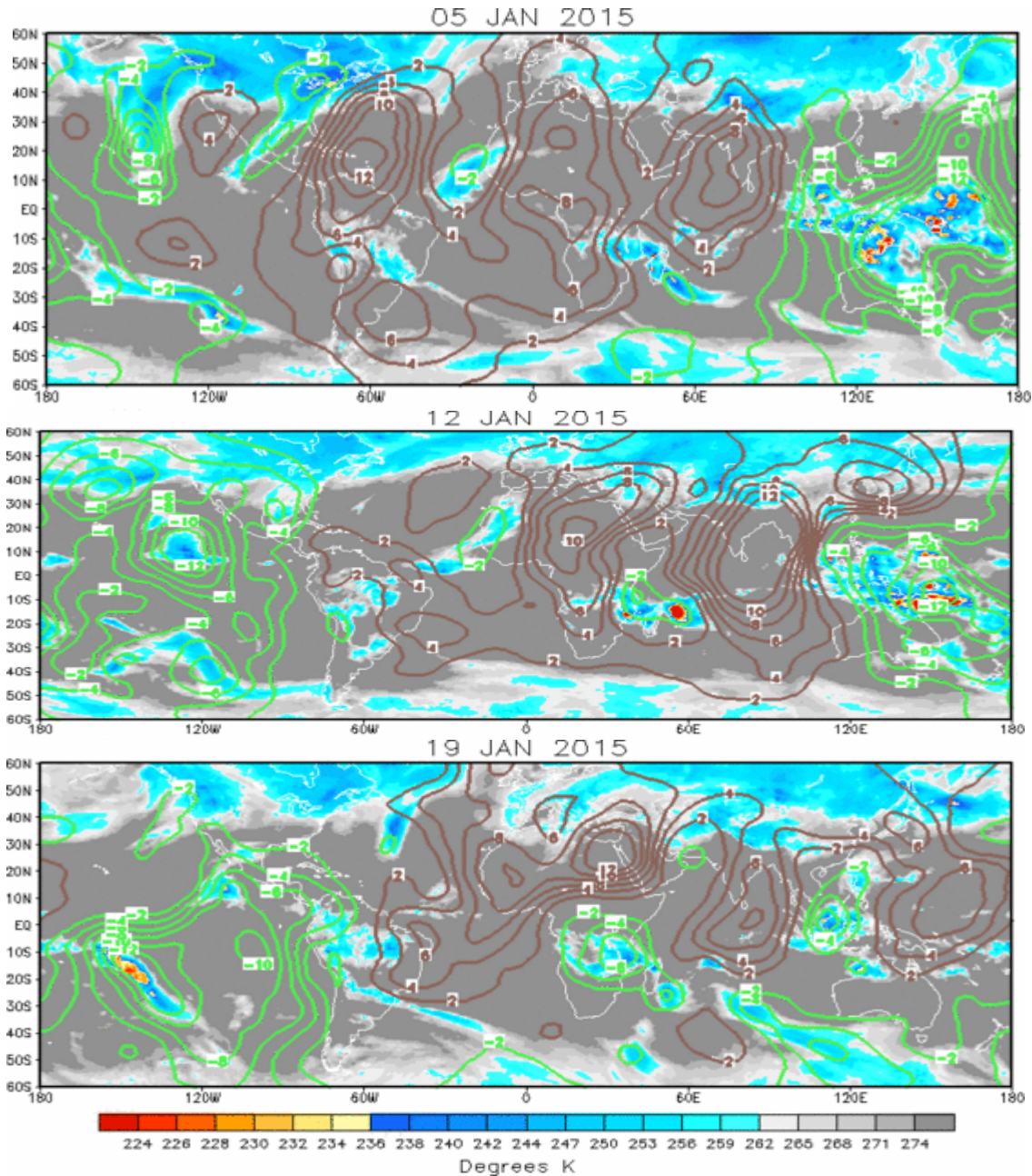
Forecaster: Baxter

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.



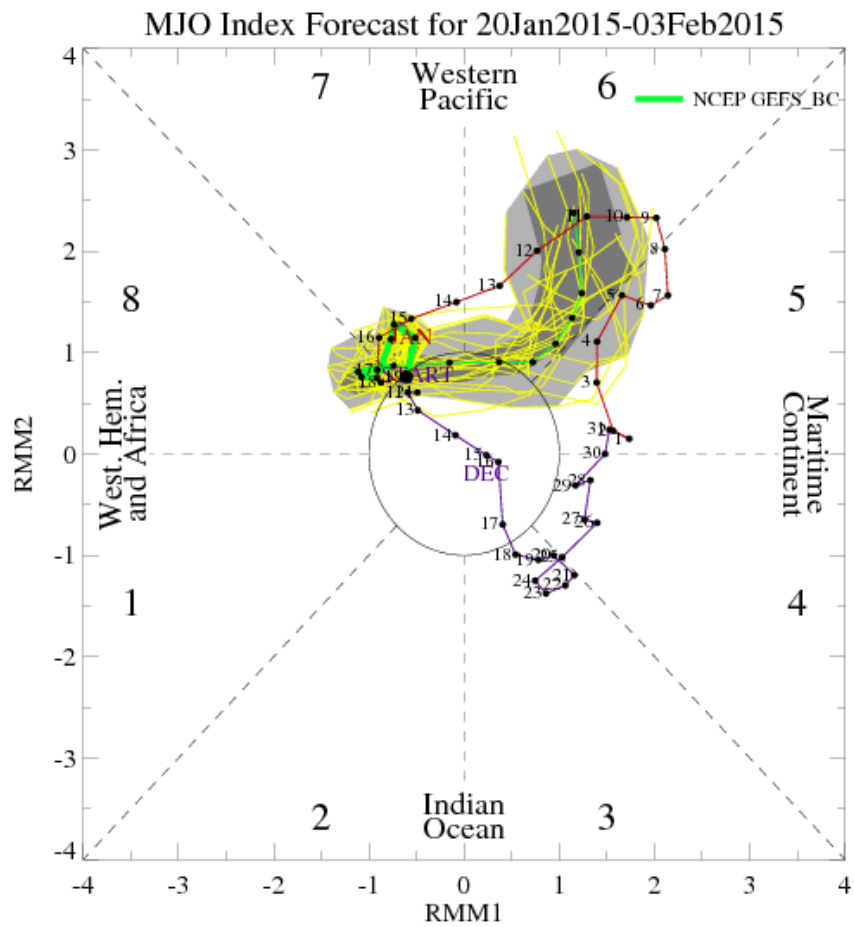
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

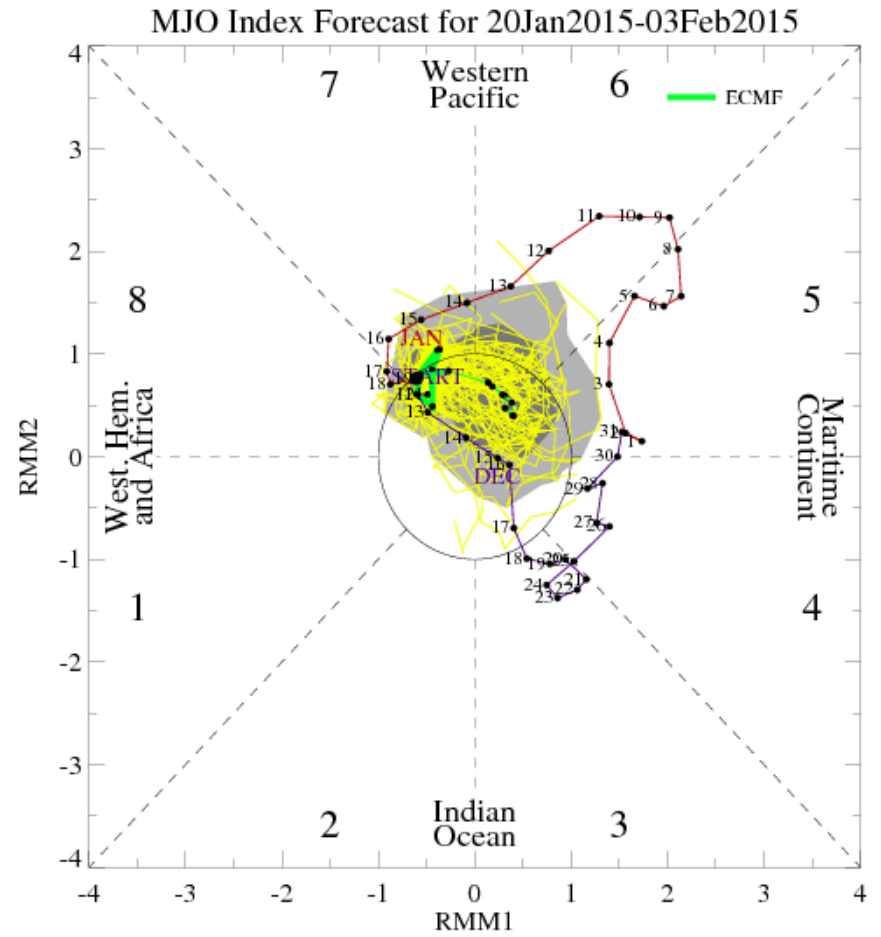


The Wave-1 structure has begun to break down.

MJO Observation/Forecast

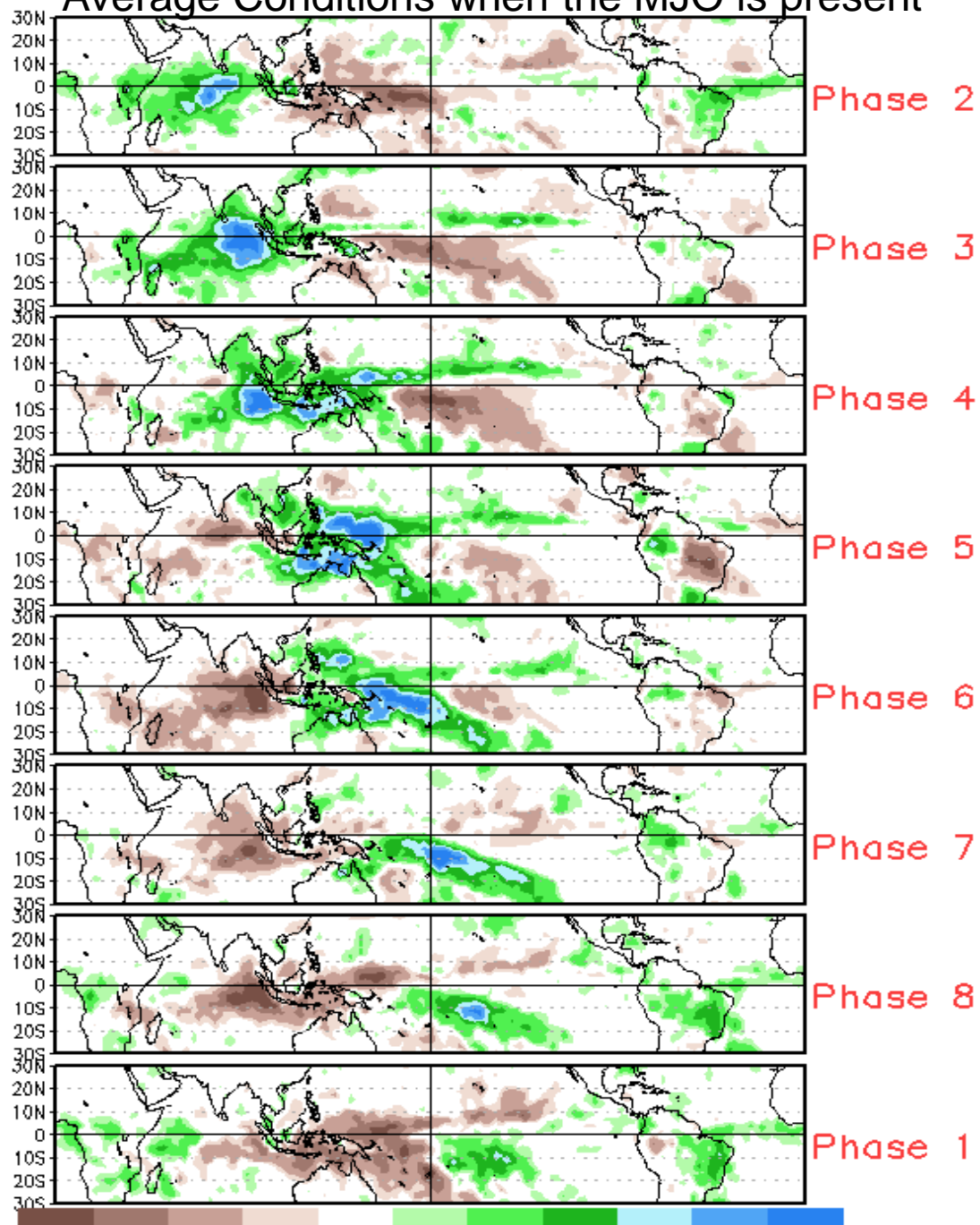


GFS



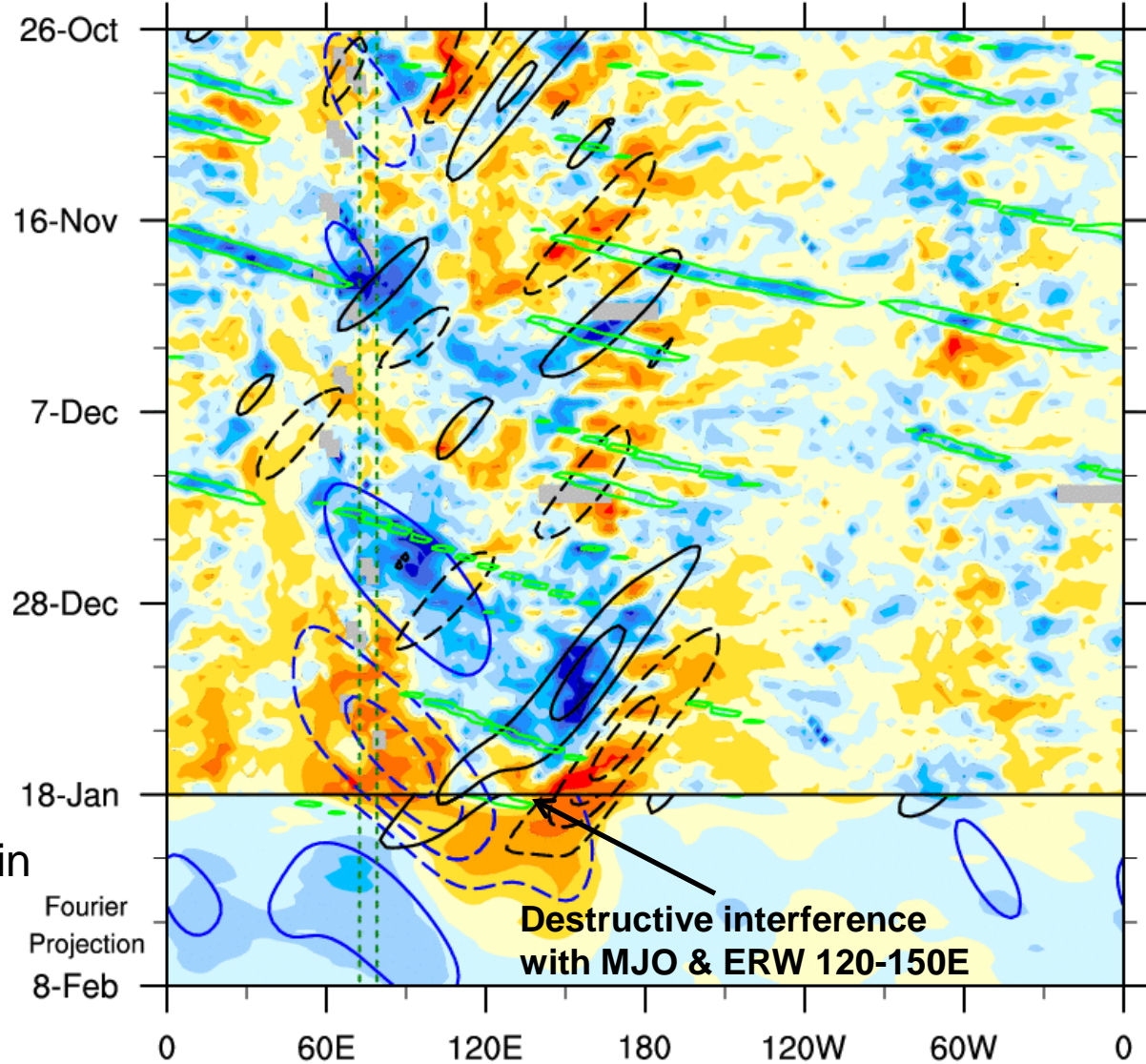
ECMWF

Average Conditions when the MJO is present



OLR anomalies: 7.5°S - 7.5°N

26-Oct-2014 to 18-Jan-2015 + 21-day Fourier Projection



MJO was active but has begun to break down; Equatorial Rossby Wave (ERW) and Kelvin waves are also evident.

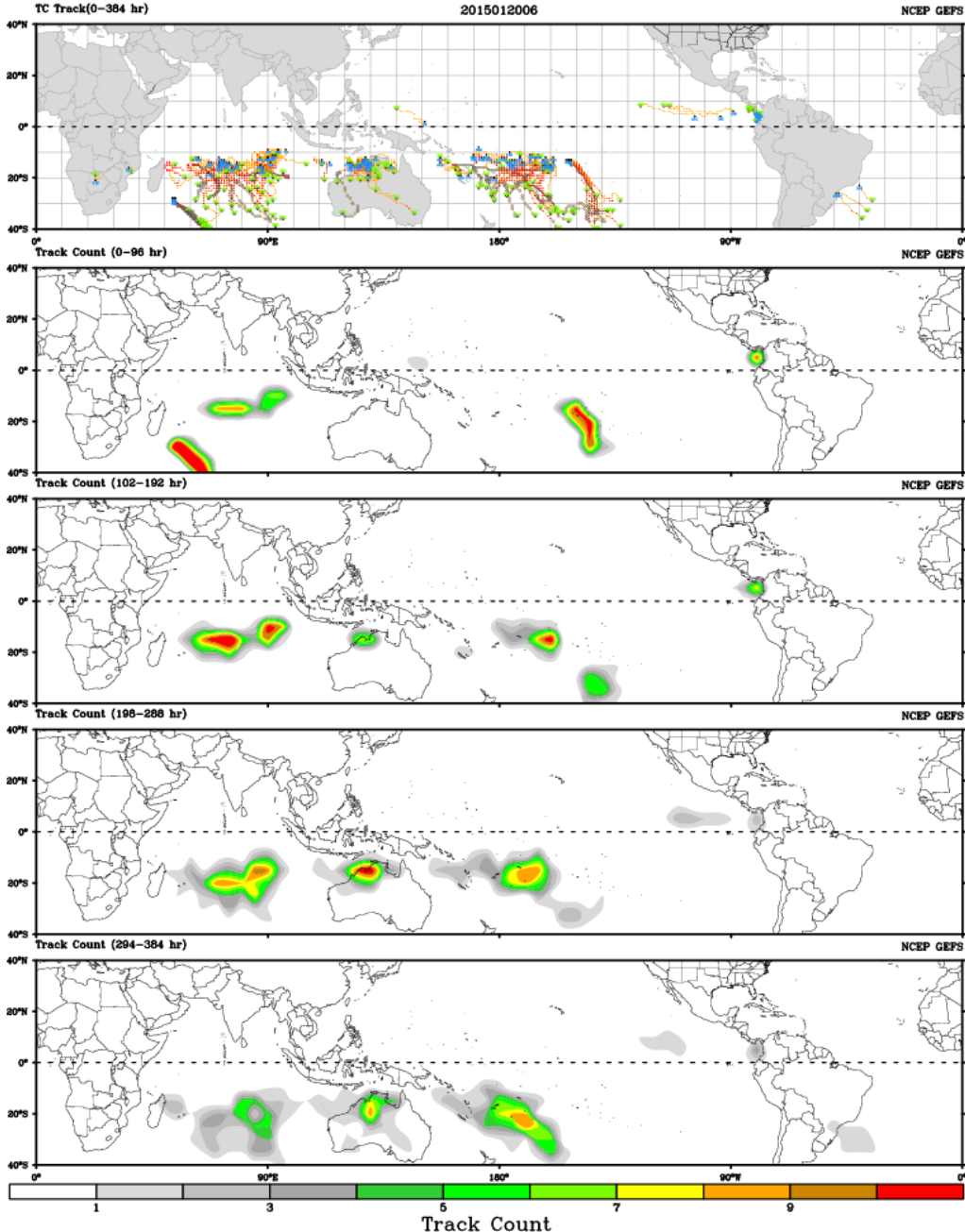
Obs: W/m^2 -84 -72 -60 -48 -36 -24 -12 0 12 24 36 48 60 72 84

Sum of Waves: W/m^2 -18 -12 -6 0 6 12 18

MJO (blue, CINT=12); ER (black, CINT=12); Kelvin (green, CINT=12)

Favored Areas for TC Development: NCEP GEFS

CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)



Days 1-4

Day 5-8

Day 9-12

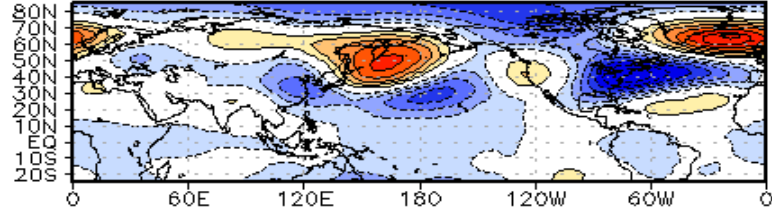
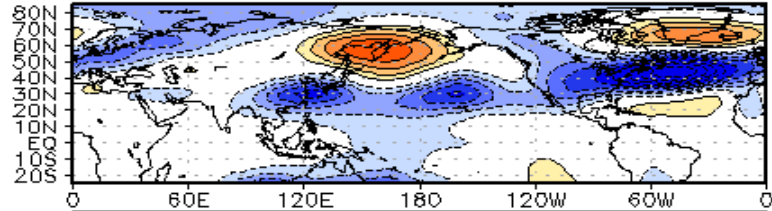
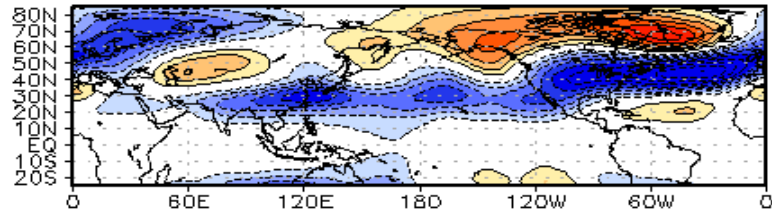
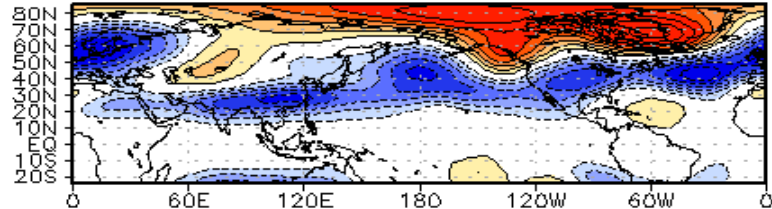
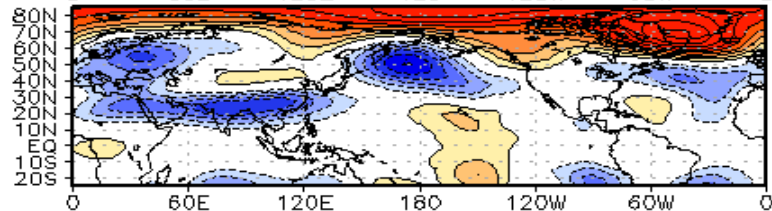
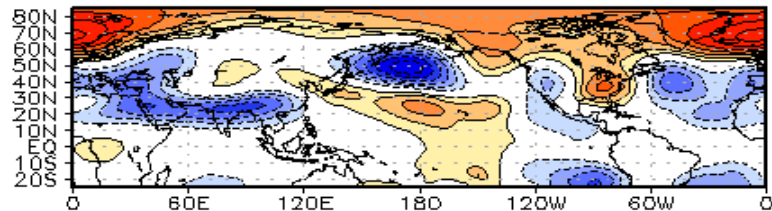
Day 13-15

Connections to U.S. Impacts

Lagged composites from MJO

5-day intervals

WHMJO Phase 7 z200 Lagged Composite (djf)



+5-days

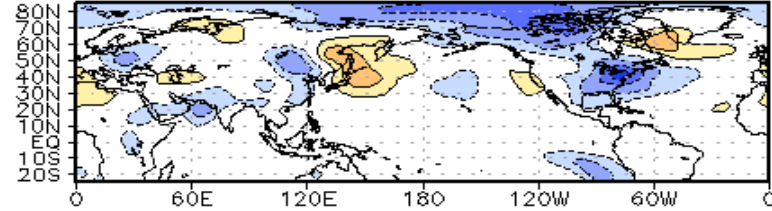
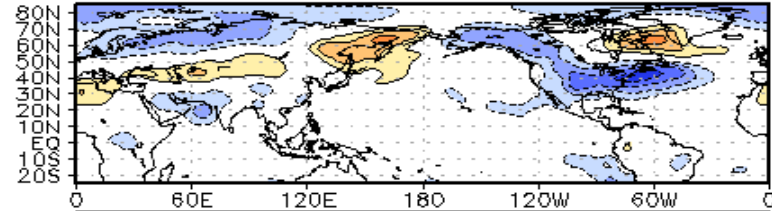
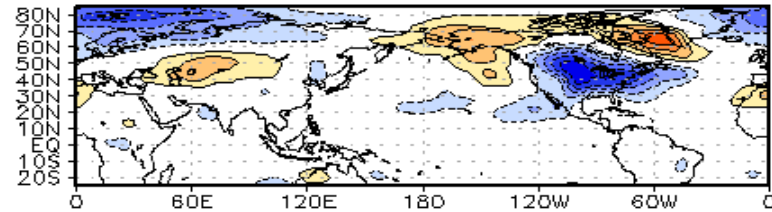
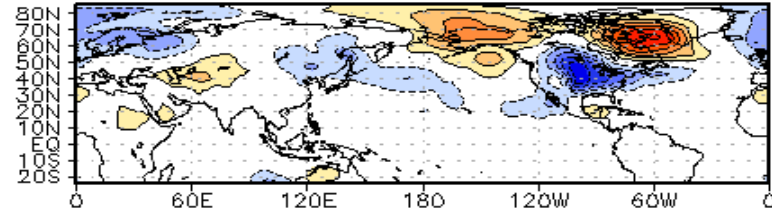
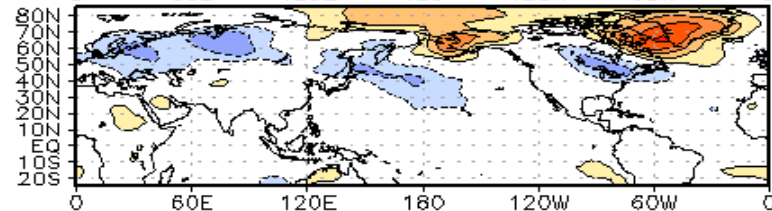
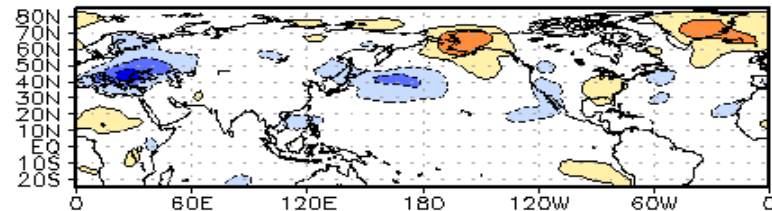
+10-days

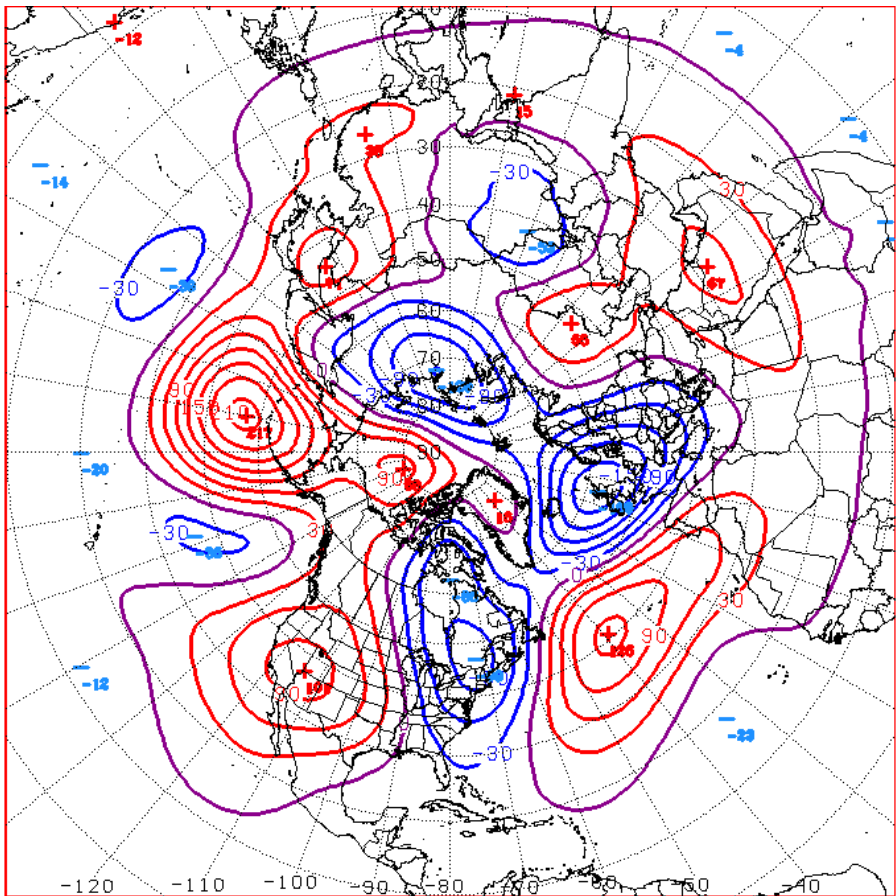
+15-days

+20-days

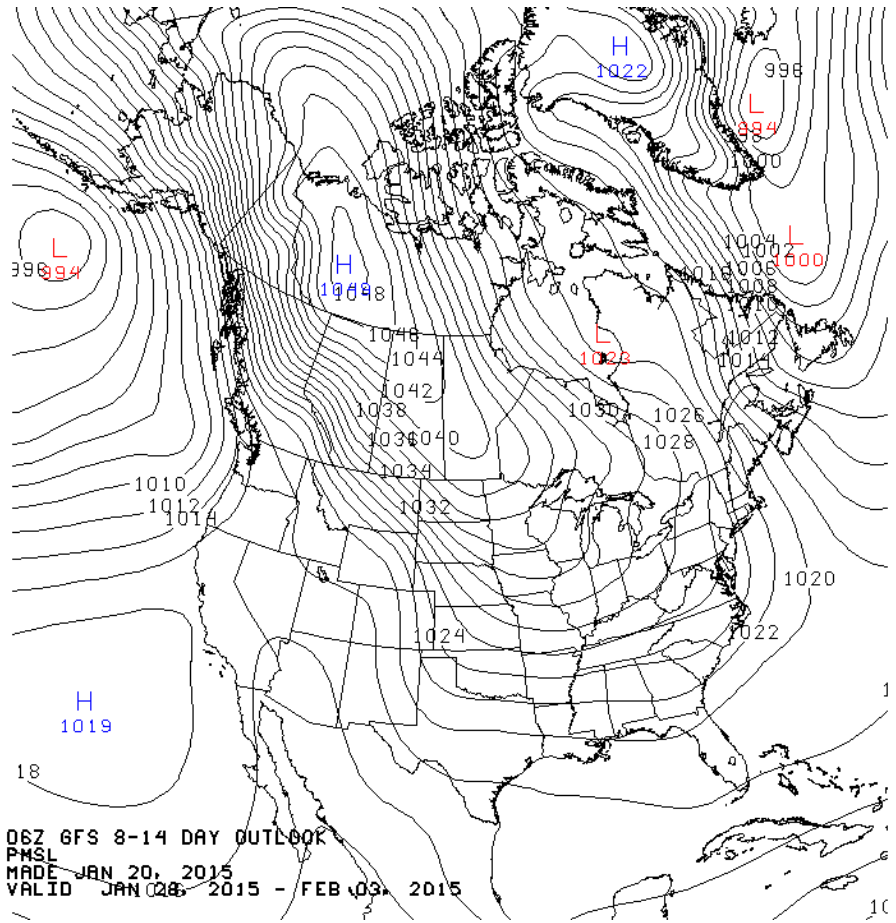
+25-days

WHMJO Phase 7 t850 Lagged Composite (djf)



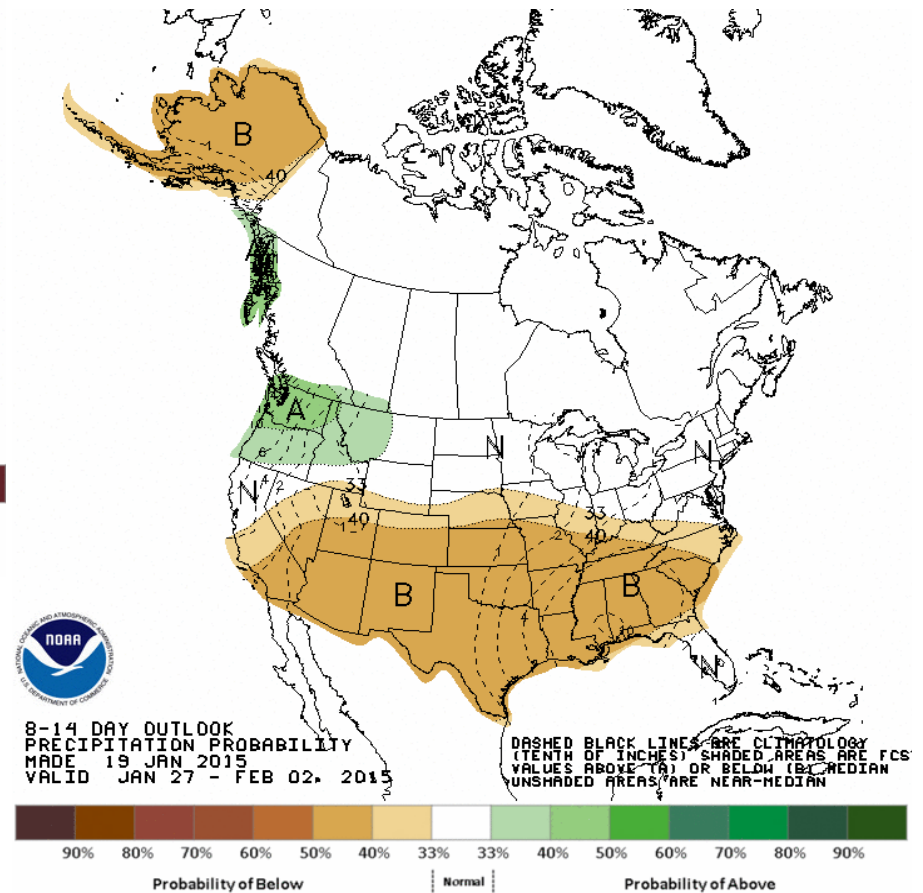
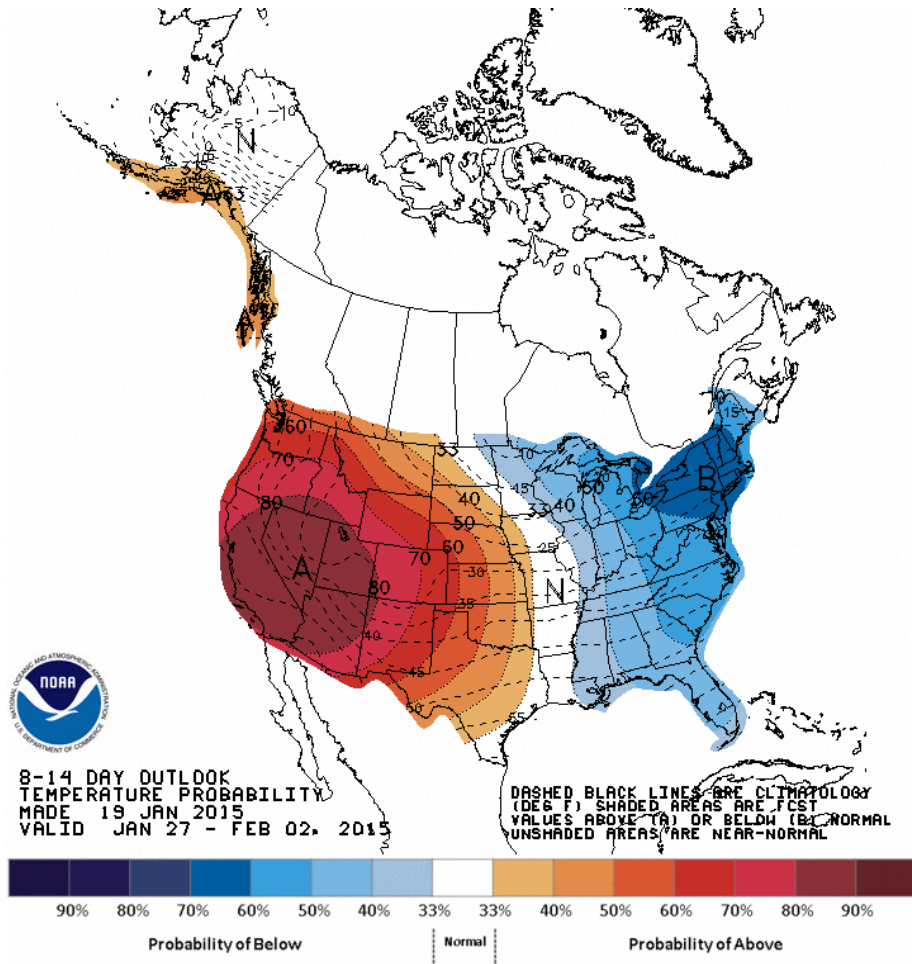


D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE JAN 20 2015 1043 UTC CNTD JAN 31 2015



06Z GFS 8-14 DAY OUTLOOK
 PMSL
 MADE JAN 20, 2015
 VALID JAN 20, 2015 - FEB 03, 2015

Week 2 – Temperature and Precipitation

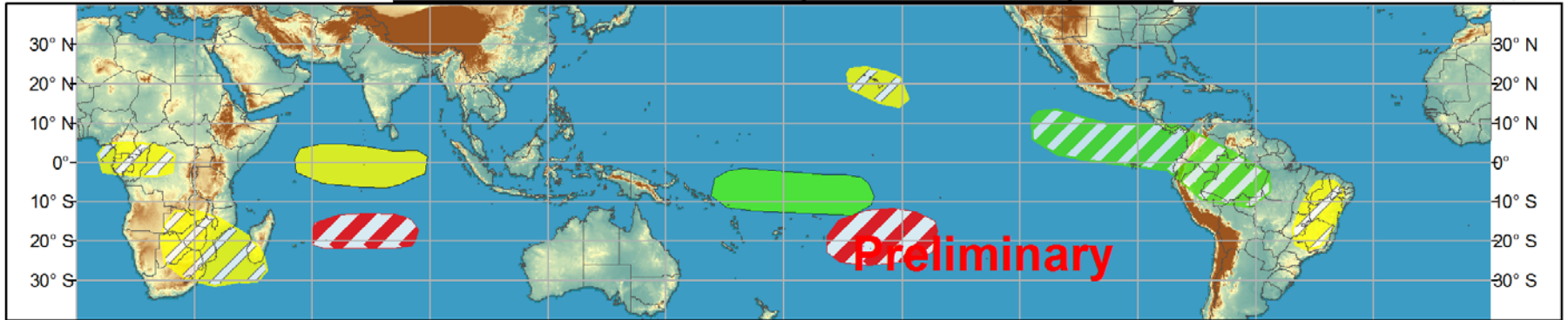




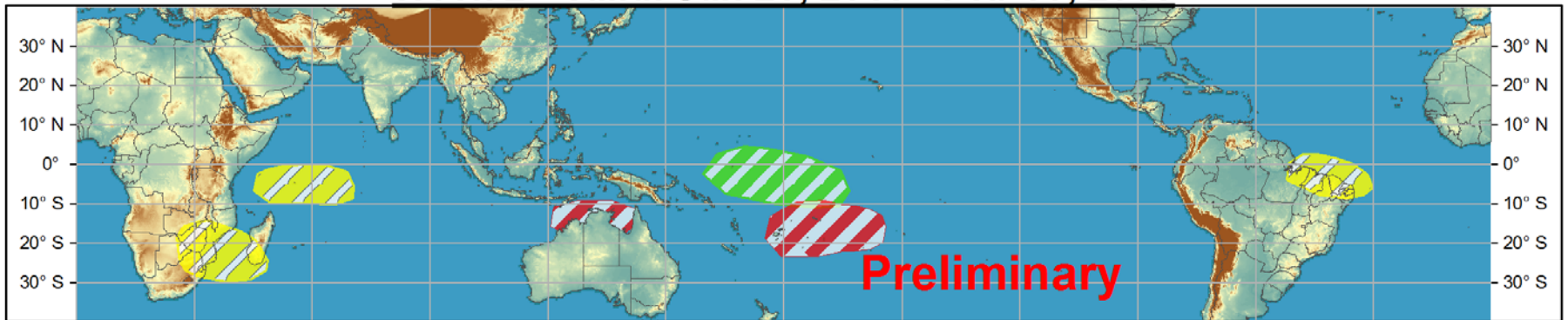
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