

# Global Tropics Hazards And Benefits Outlook

1/31/2017

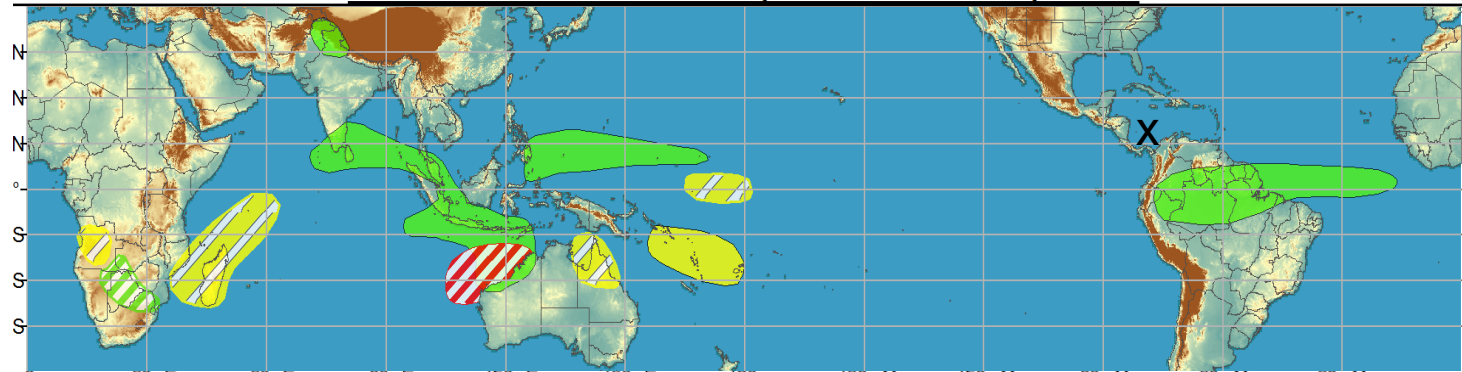
Matthew Rosencrans

## Outline

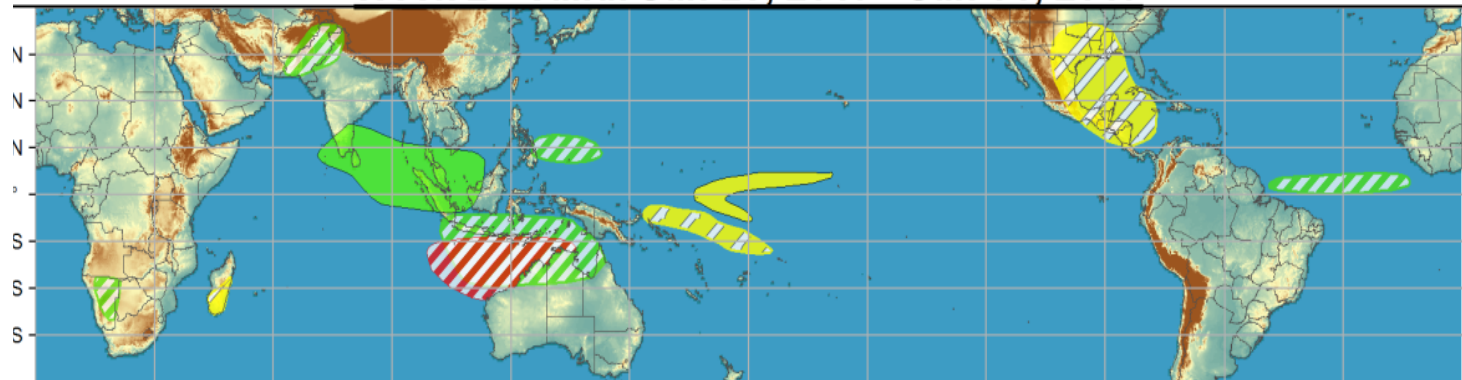
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

# Outlook Review

Week 1 - Valid: Jan 25, 2017 - Jan 31, 2017

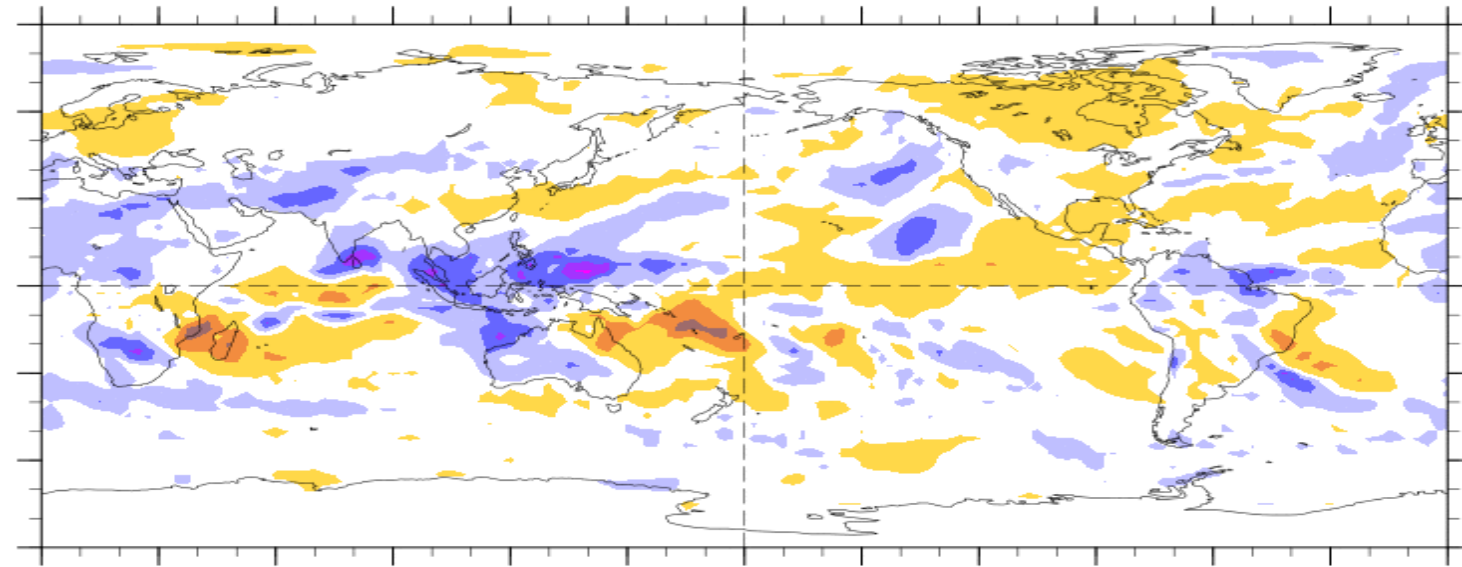


Week 2 - Valid: Jan 25, 2017 - Jan 31, 2017



7-Day Average OLR Anomaly

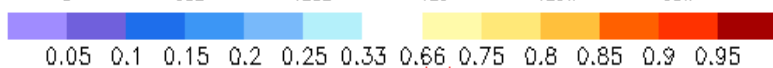
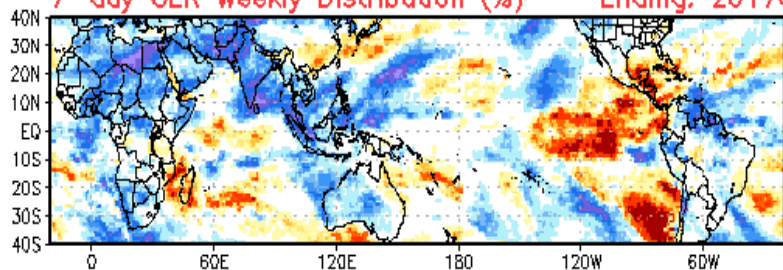
2017/01/23 - 2017/01/29



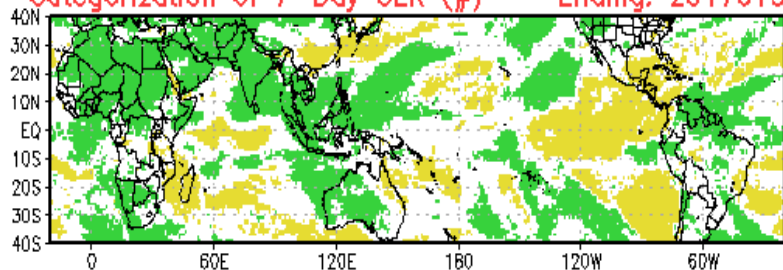
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

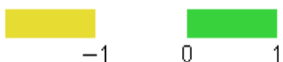
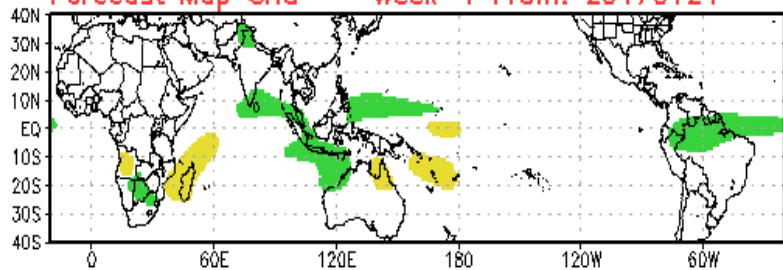
7-day OLR Weekly Distribution (%) -- Ending: 20170131



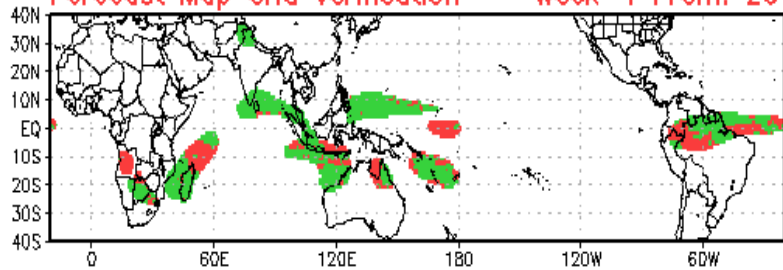
Categorization of 7-Day OLR (#) -- Ending: 20170131



Forecast Map Grid -- Week-1 From: 20170124

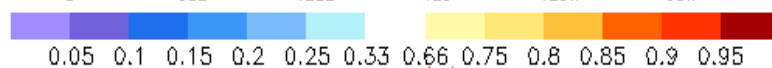
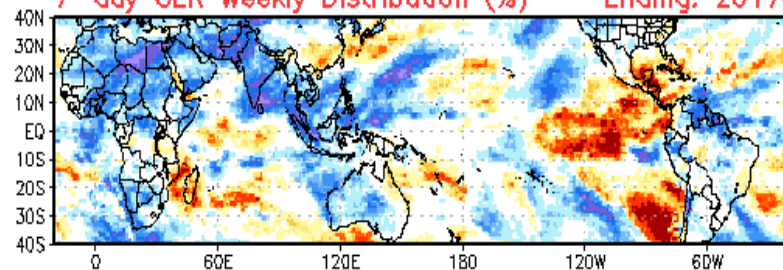


Forecast Map Grid Verification -- Week-1 From: 20170124

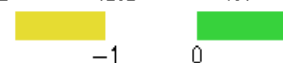
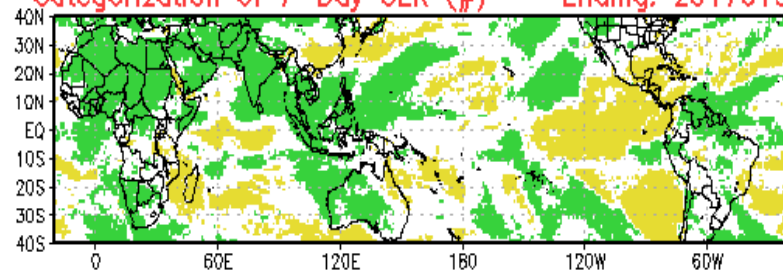


Hit: Green, Miss: Red  
Heidke Skill Score: 51.7776

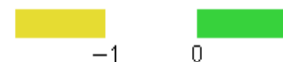
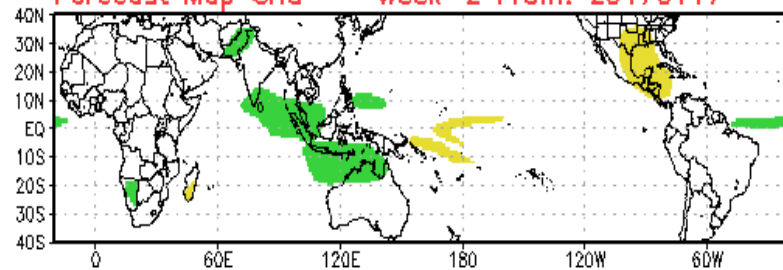
7-day OLR Weekly Distribution (%) -- Ending: 20170131



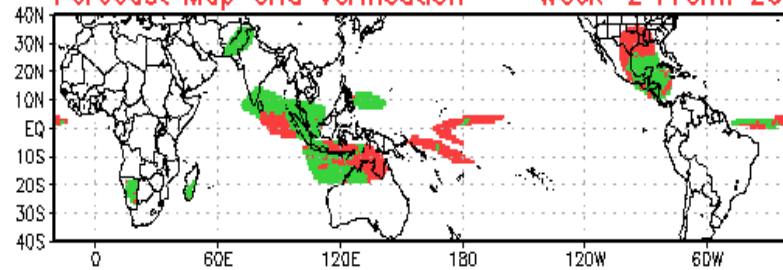
Categorization of 7-Day OLR (#) -- Ending: 20170131



Forecast Map Grid -- Week-2 From: 20170117



Forecast Map Grid Verification -- Week-2 From: 20170117



Hit: Green, Miss: Red  
Heidke Skill Score: 35.9101

# Synopsis of Climate Modes

## ENSO:

- [La Niña Advisory](#)
- A transition to ENSO-neutral is expected to occur by February 2017, with ENSO-neutral then continuing through the first half of 2017.

## MJO and other subseasonal tropical variability:

- Signal over the Maritime Continent
- Dynamical and statistical models indicate strengthening and eastward propagation through the 2 week period.
- Rossby waves and mid-latitudes influencing pattern.

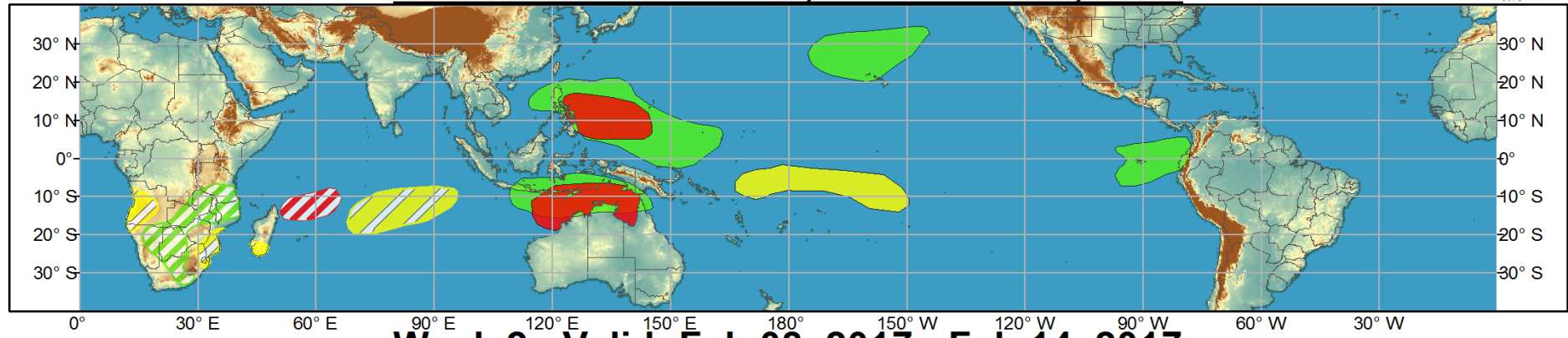
## Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are likely to have some reflection of tropical intraseasonal influence.

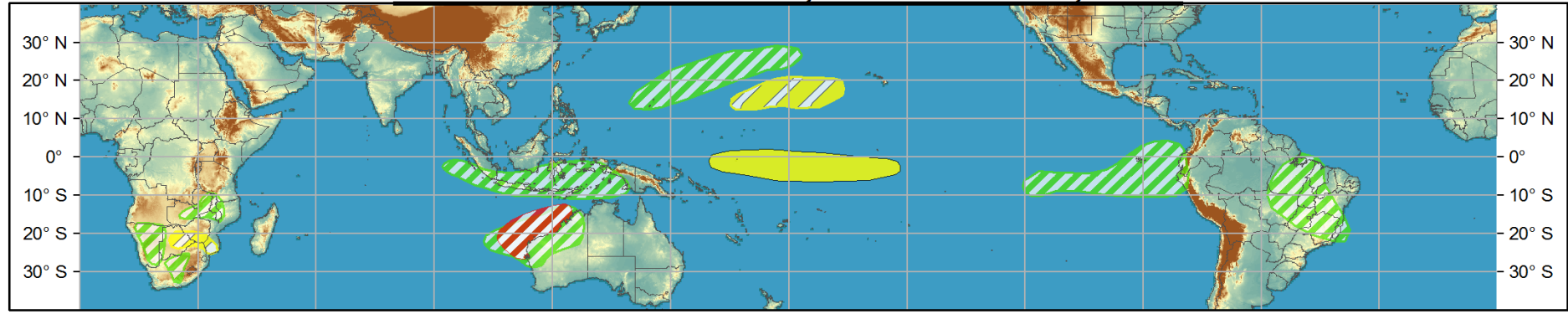


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Feb 01, 2017 - Feb 07, 2017



## Week 2 - Valid: Feb 08, 2017 - Feb 14, 2017



**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: 01/31/2017

Forecaster: Rosencrans

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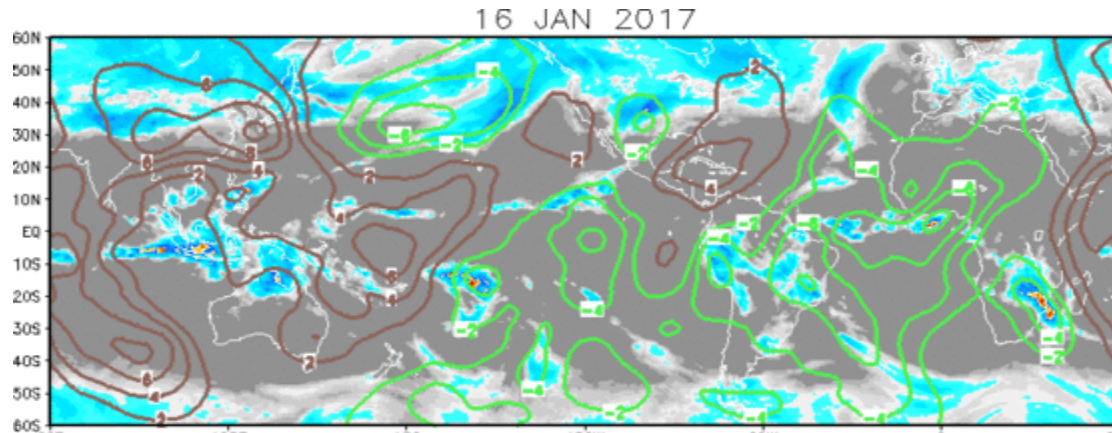


# IR Satellite & 200-hpa Velocity Potential Anomalies

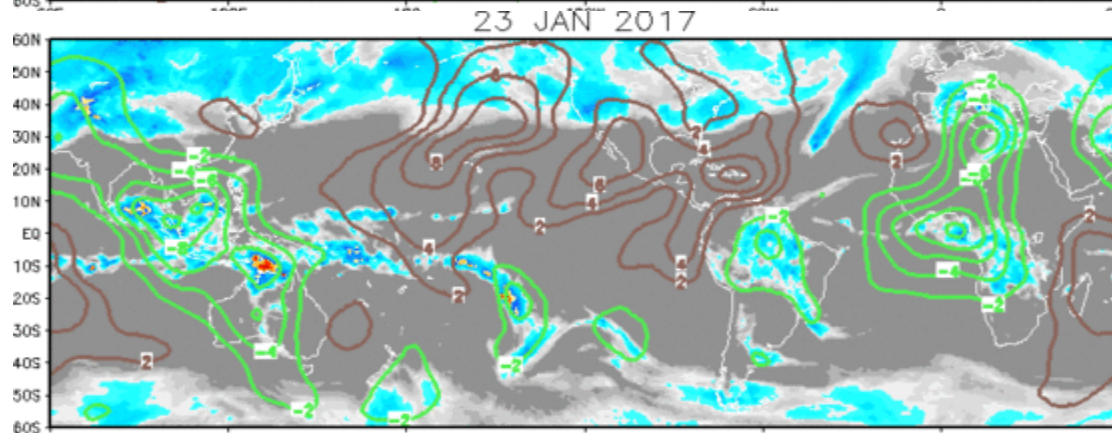
Green: Enhanced Divergence

Brown: Enhanced Convergence

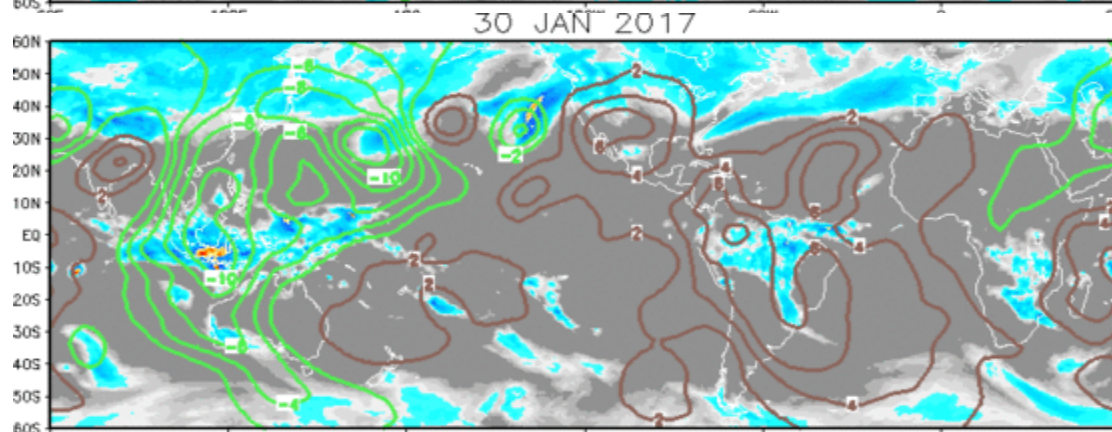
Wave-1 with enhanced phase from east Pacific to Atlantic.



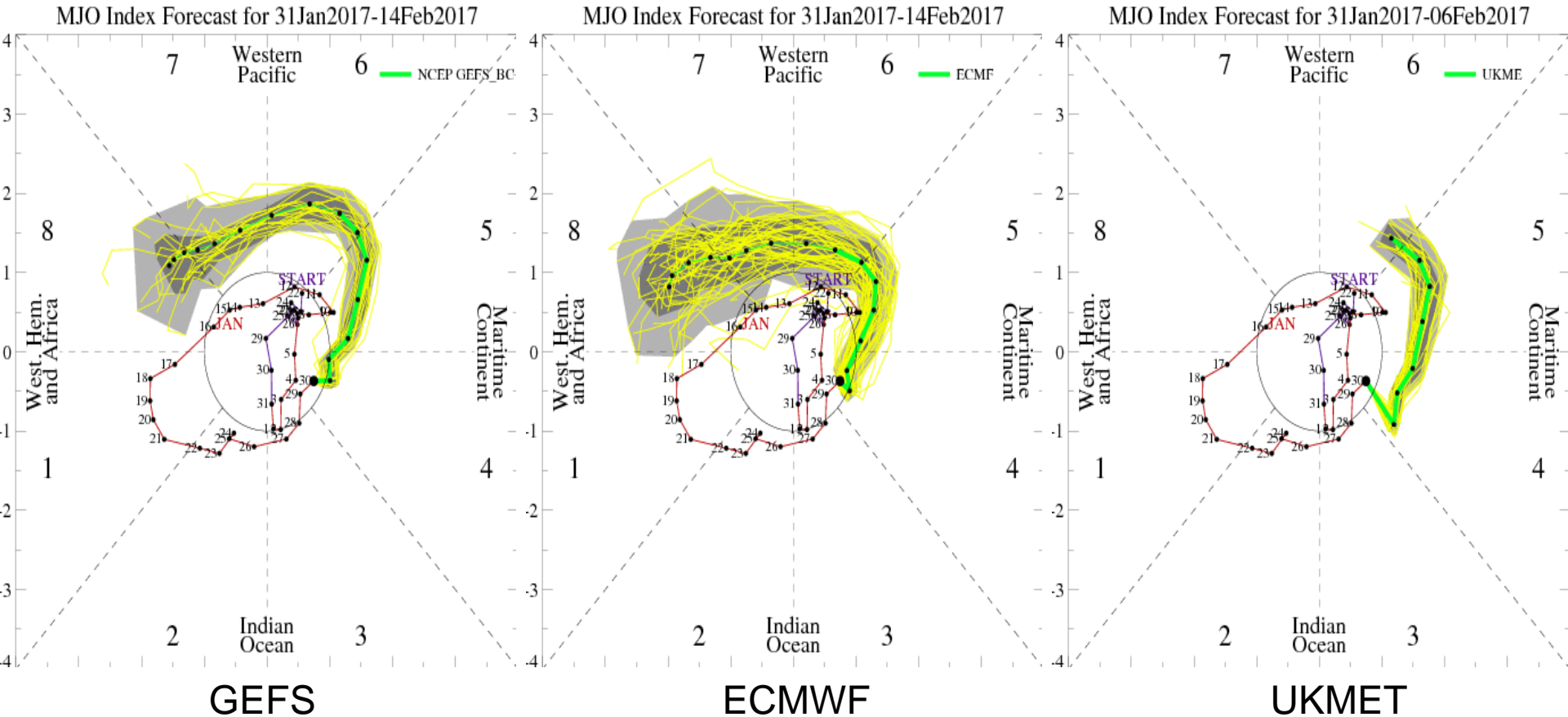
Wave-1 with enhanced phase over Indian Ocean



Wave-1 with enhanced phase over Maritime Continent.



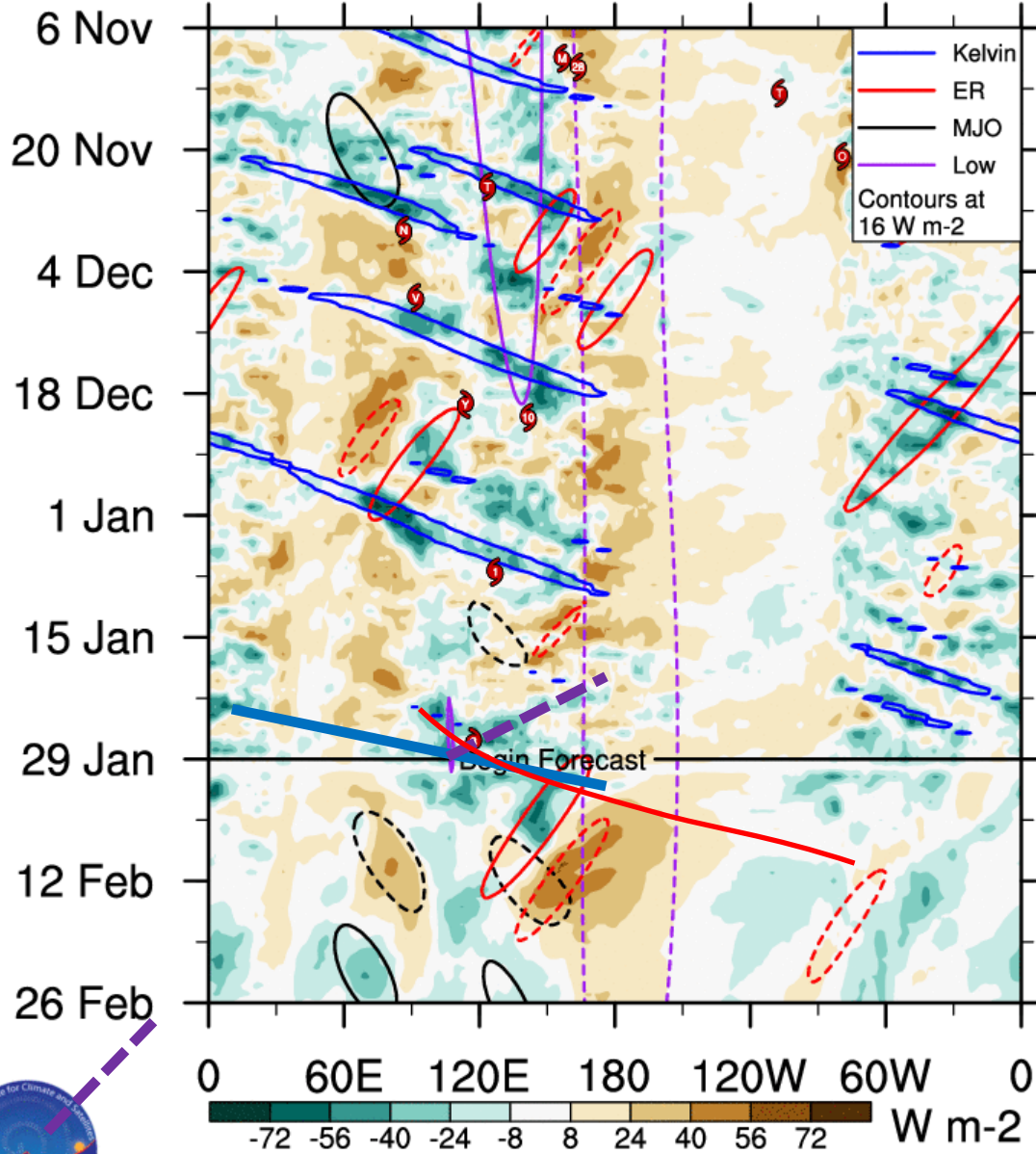
# MJO Observation/Forecast



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.

OLR with CFS forecasts

5S - 5N

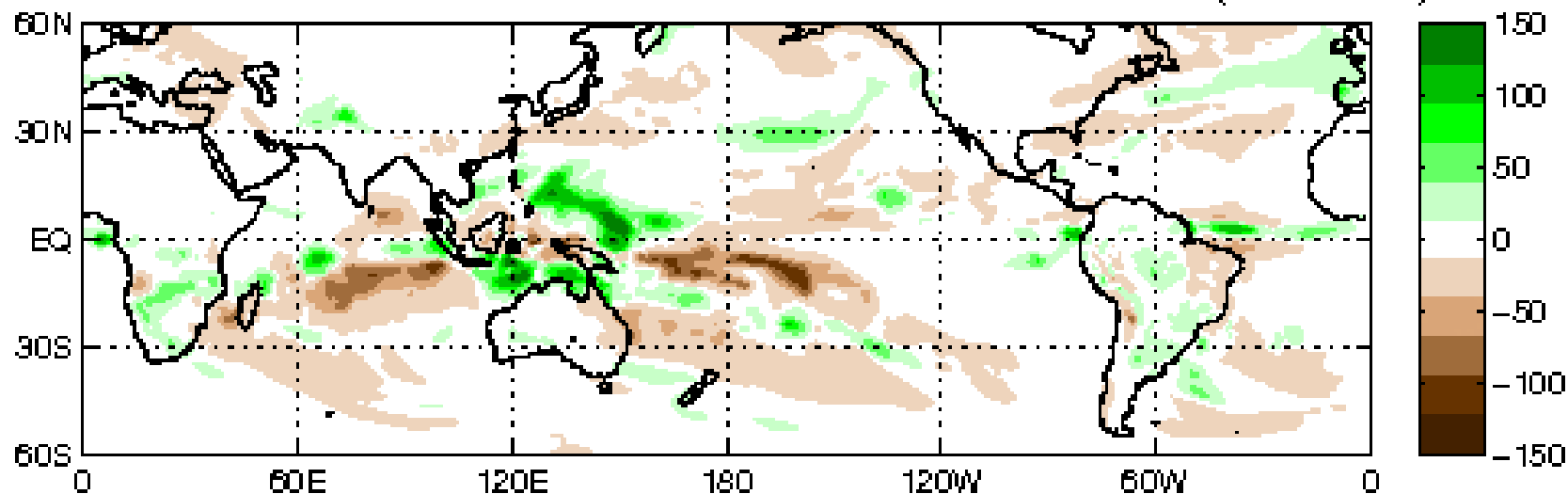


**MJO** and **Rossby waves** as the major influences.  
Smaller influence from **Kelvin wave**.

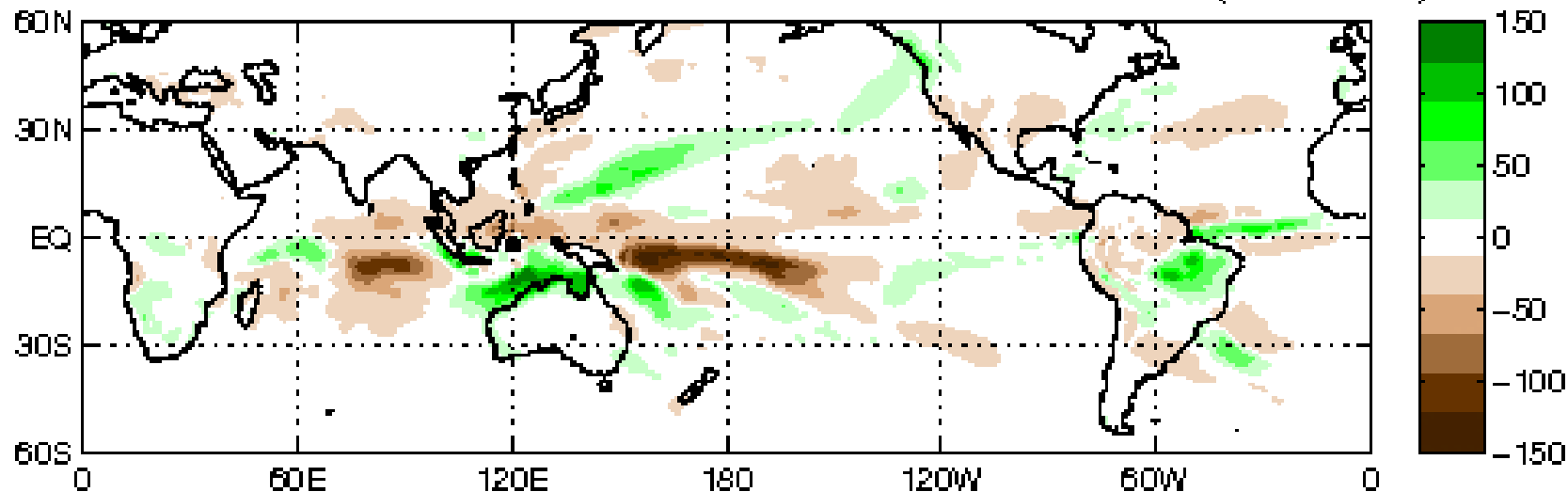




**CFS: Anom. PREC Week: 1: 01-Feb-2017 to 07-Feb-2017 (mm/week)**

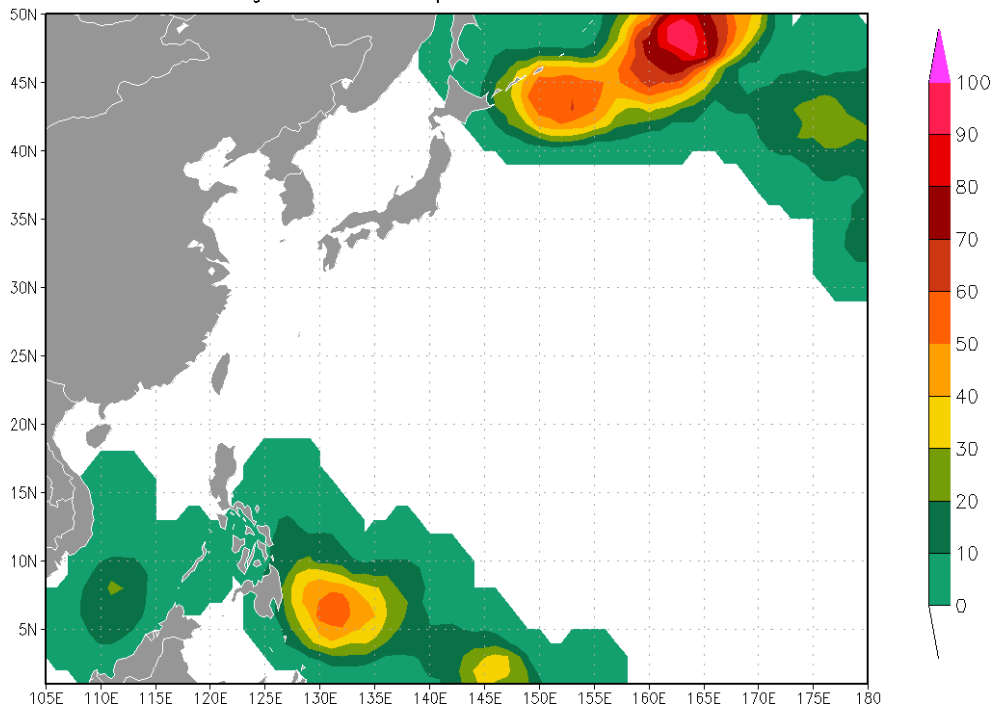


**CFS: Anom. PREC Week: 2: 08-Feb-2017 to 14-Feb-2017 (mm/week)**

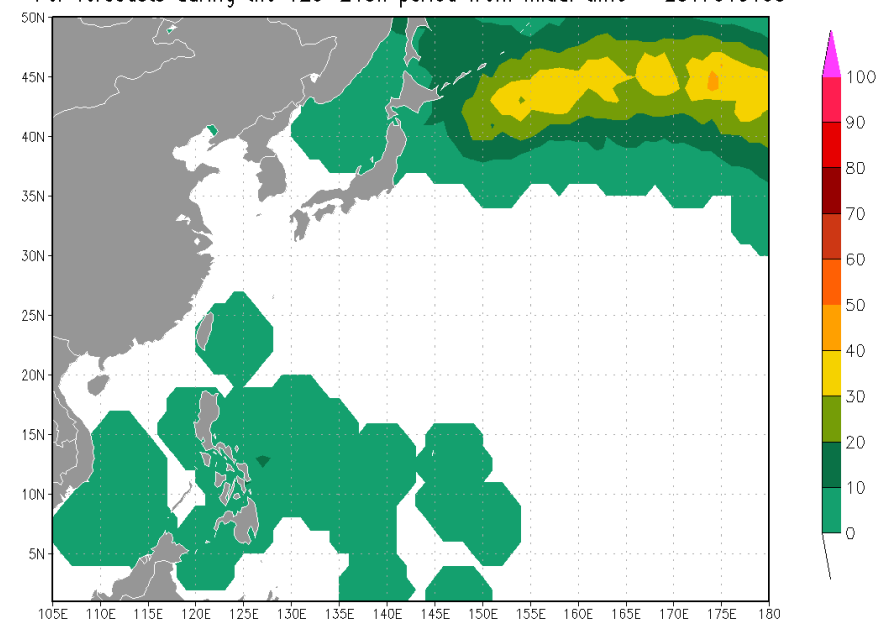


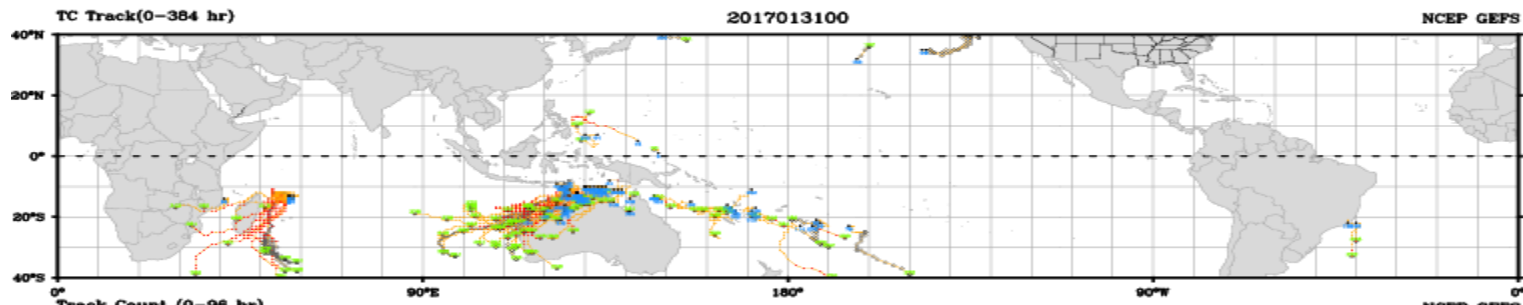
Ensemble-based Probability (%) of TC genesis  
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 00–120h period from initial time = 2017013100

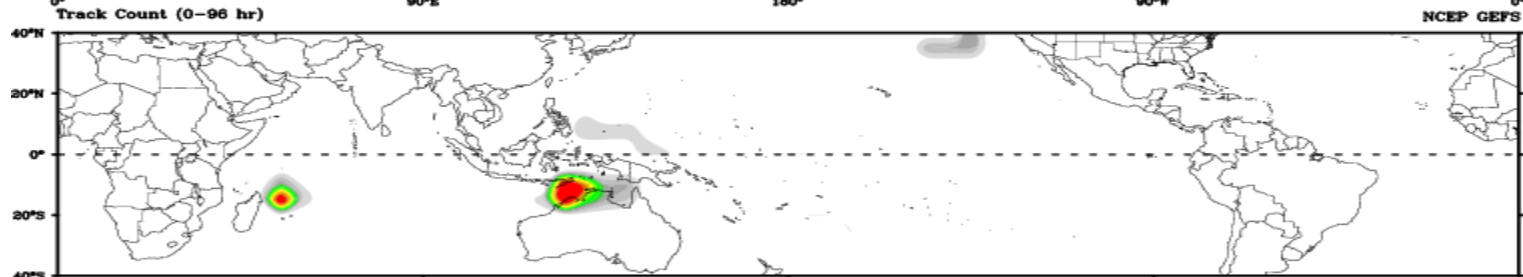


Ensemble-based Probability (%) of TC genesis  
using these global ensembles: NCEP CMC ECMWF  
For forecasts during the 120–240h period from initial time = 2017013100

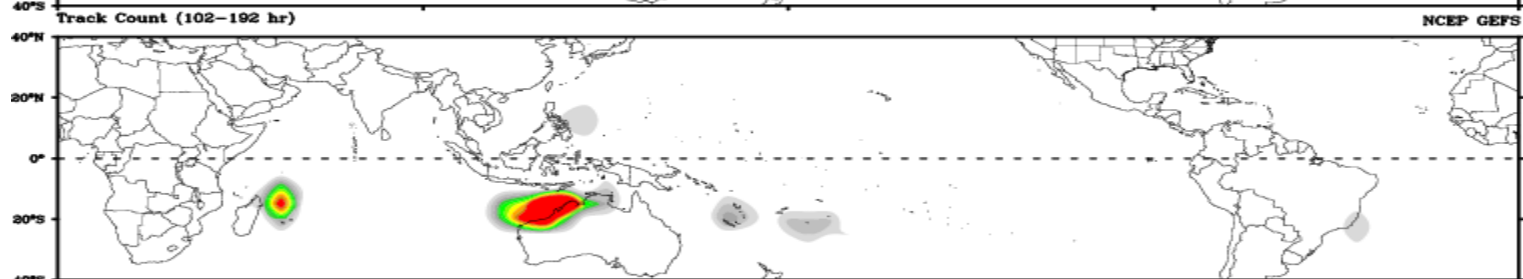




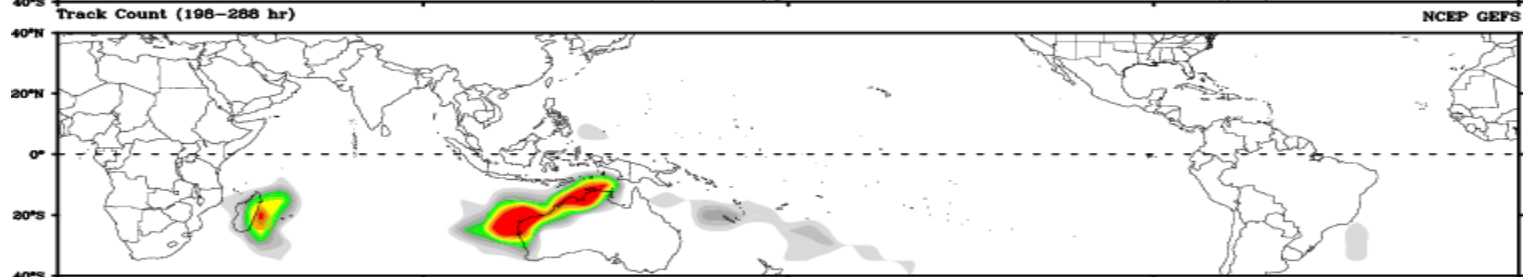
Days 1-4



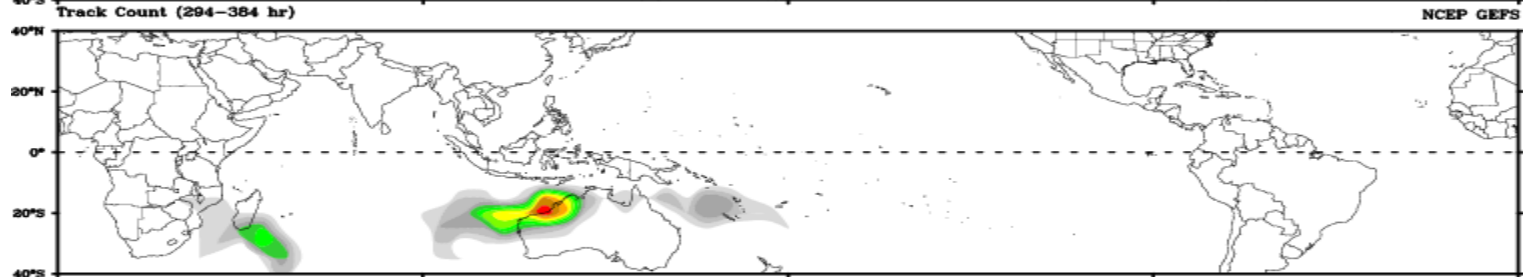
Day 5-8



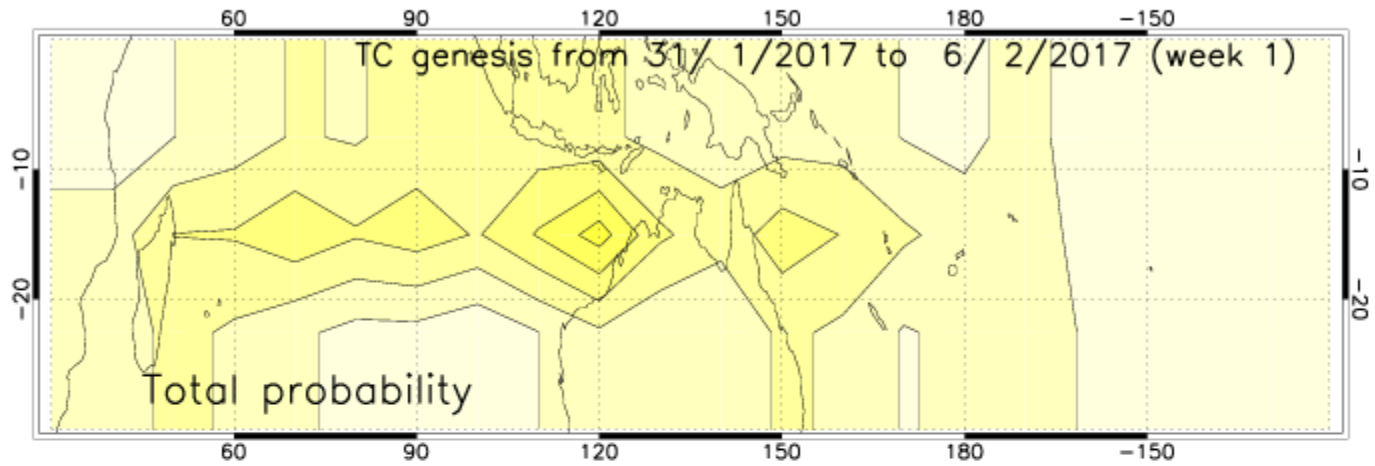
Day 9-12



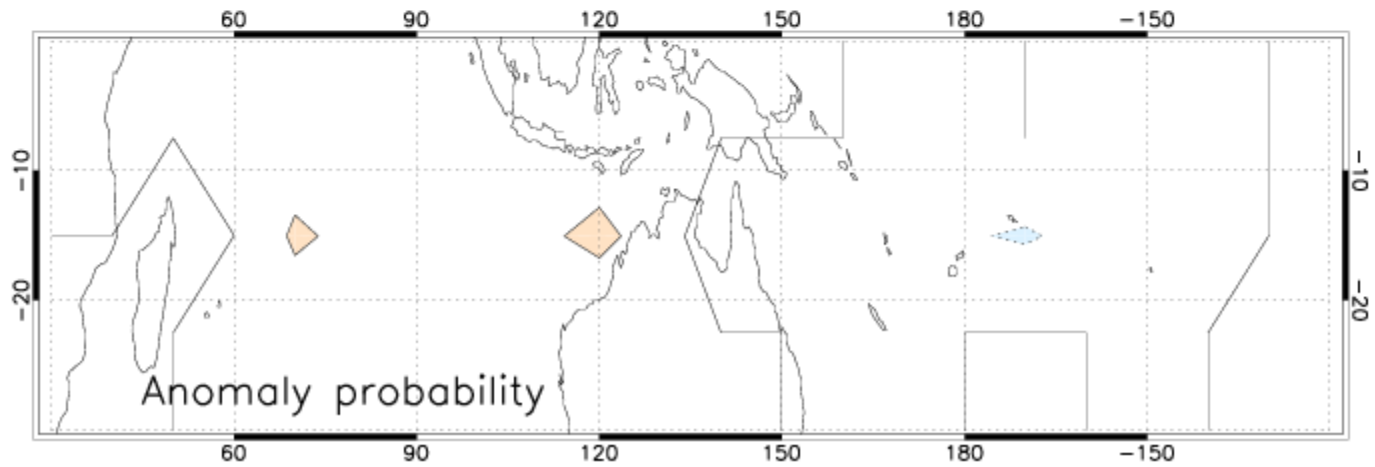
Day 13-15



0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 95

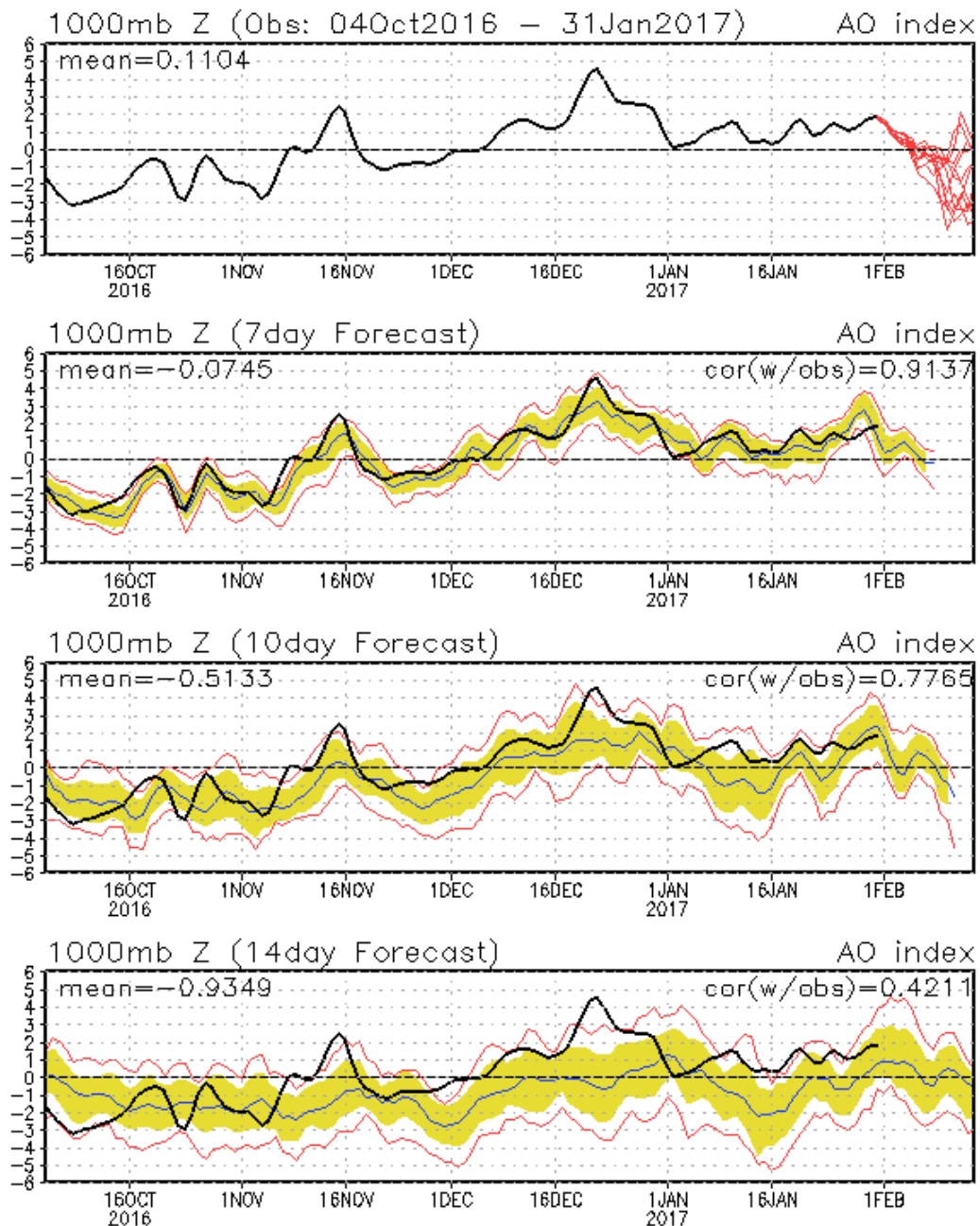


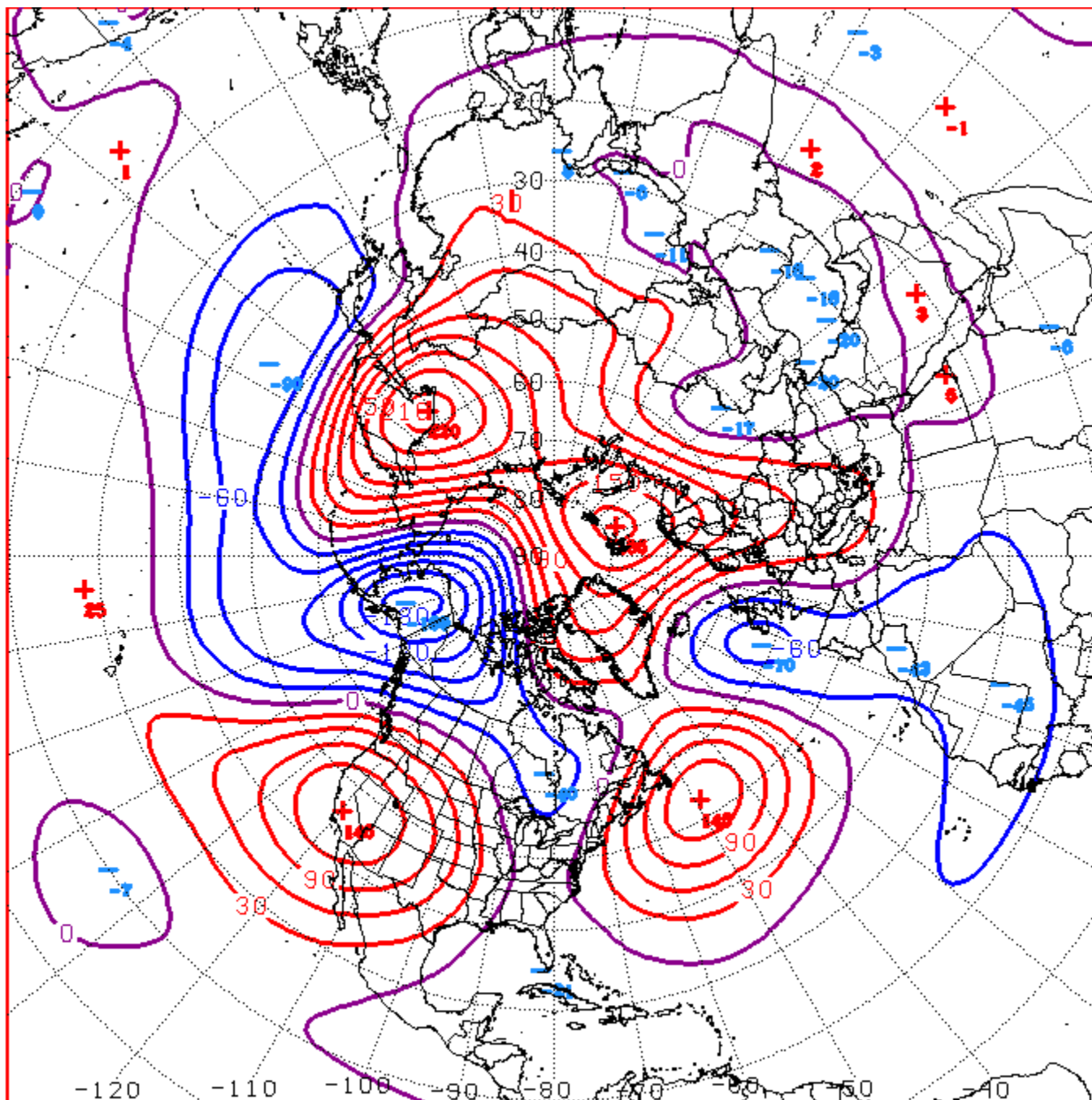
-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50



# Connections to U.S. Impacts

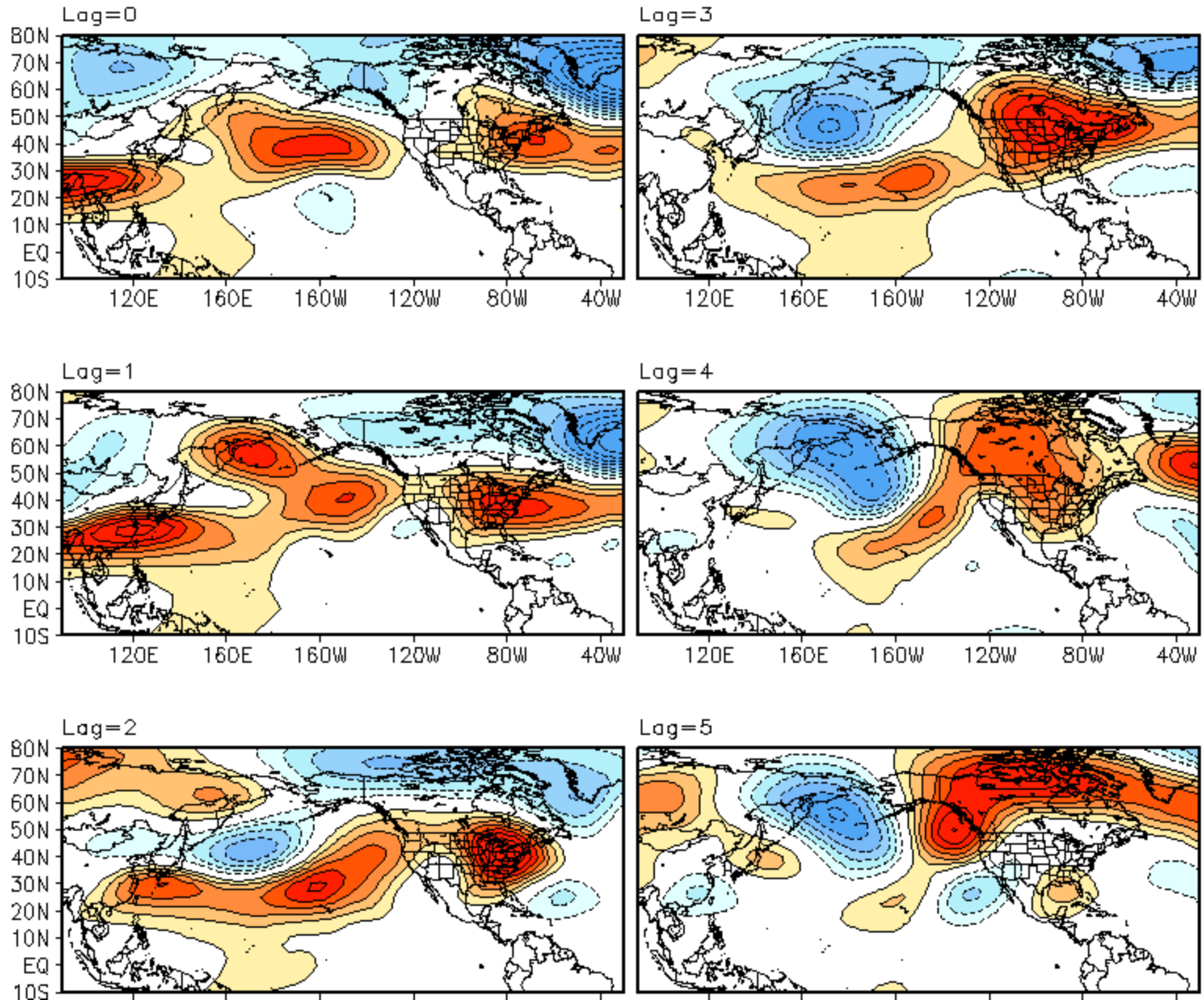
## AO: Observed & ENSM forecasts





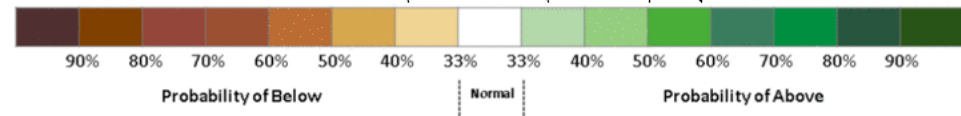
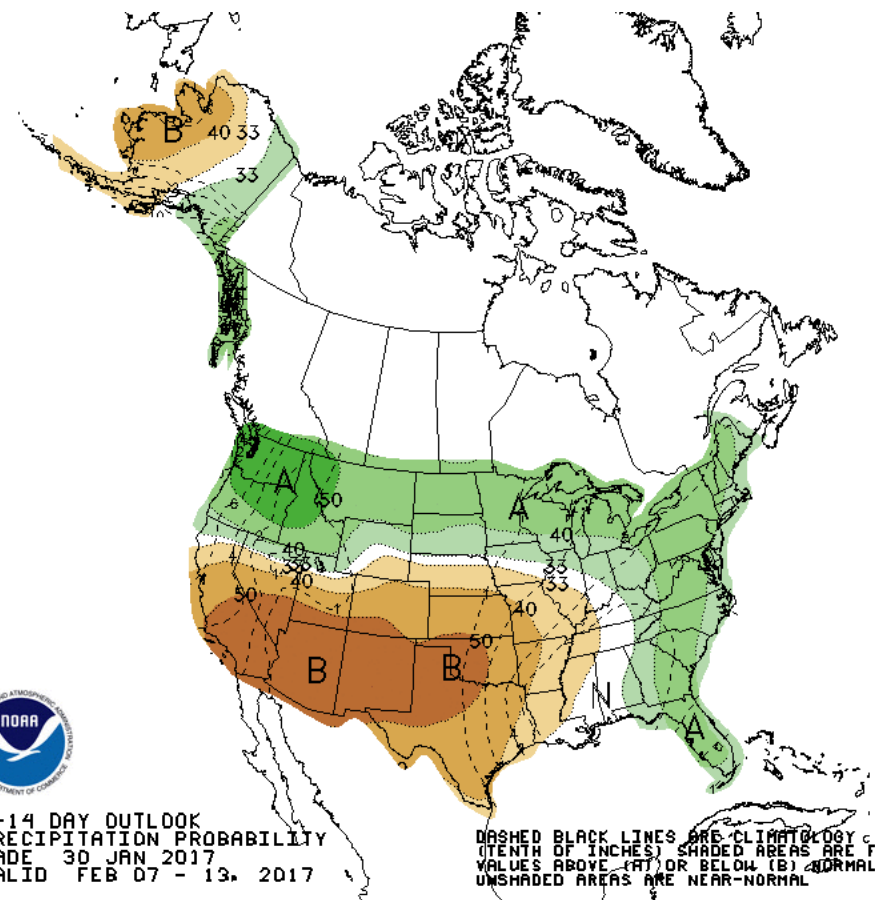
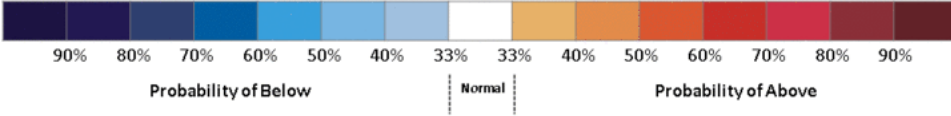
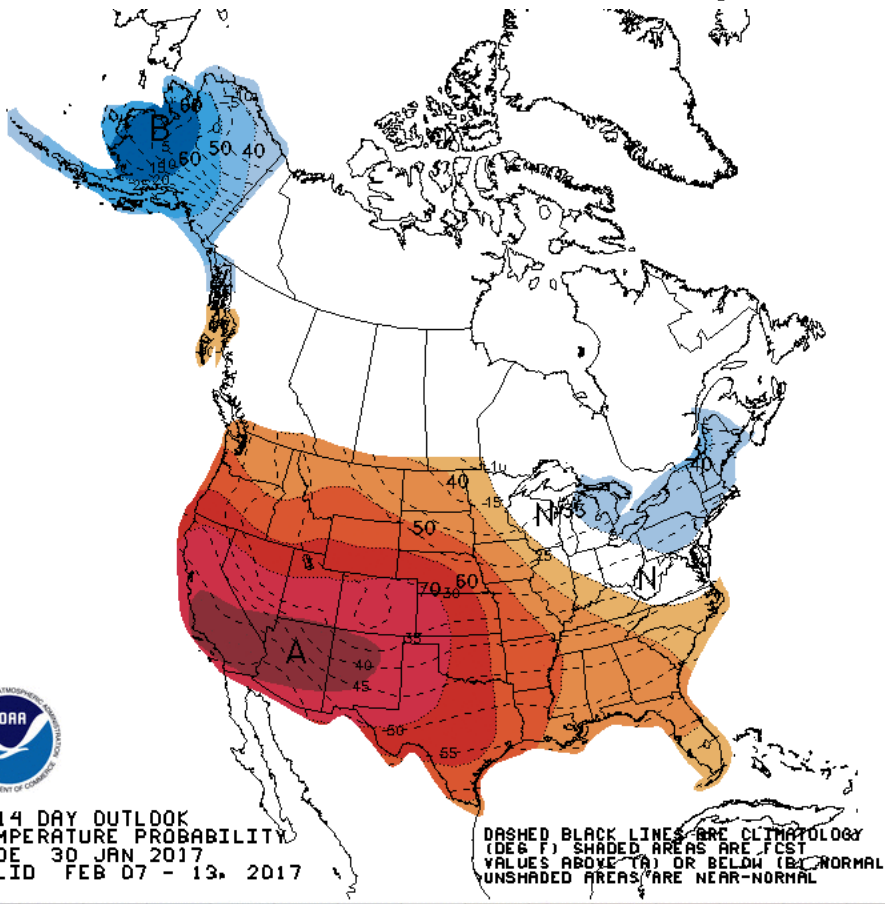
D+11 500 MB ANOMALIES FROM ALZ ENSM  
 CPC MAP MADE JAN 31 2017 1335 UTC CNTD FEB 11 2017

# RMM Phase 4 200-hPa Height Lagged Composite (jfm)





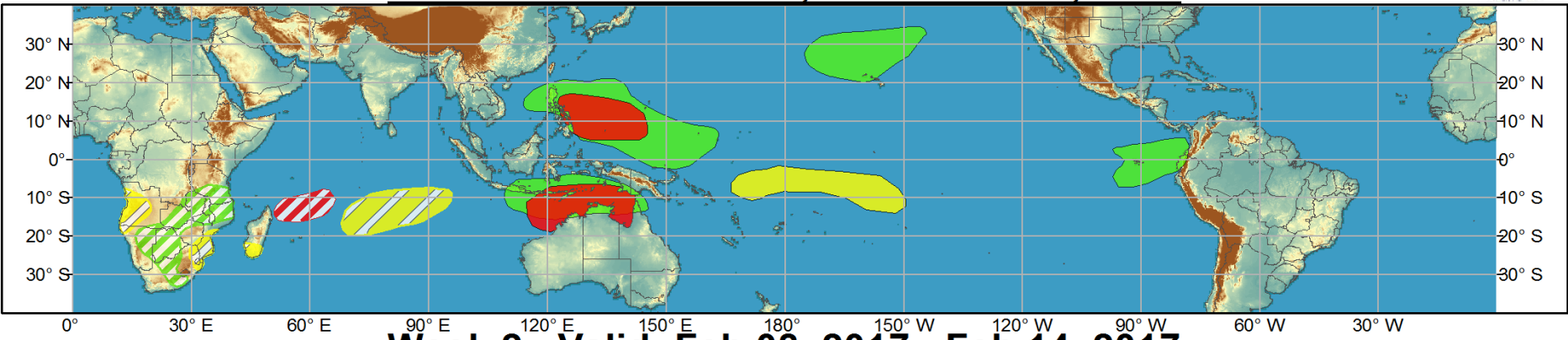
# Week 2 – Temperature and Precipitation



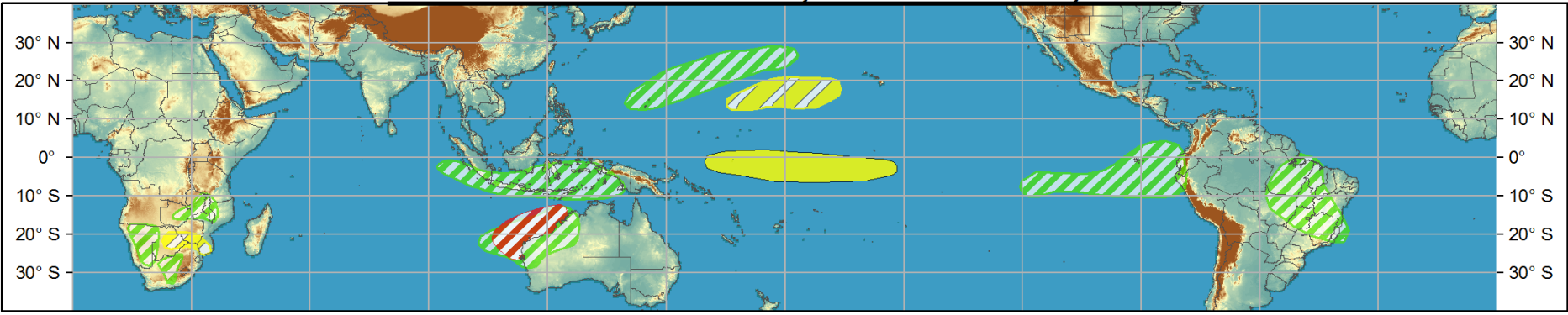


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