

Global Tropics Hazards And Benefits Outlook

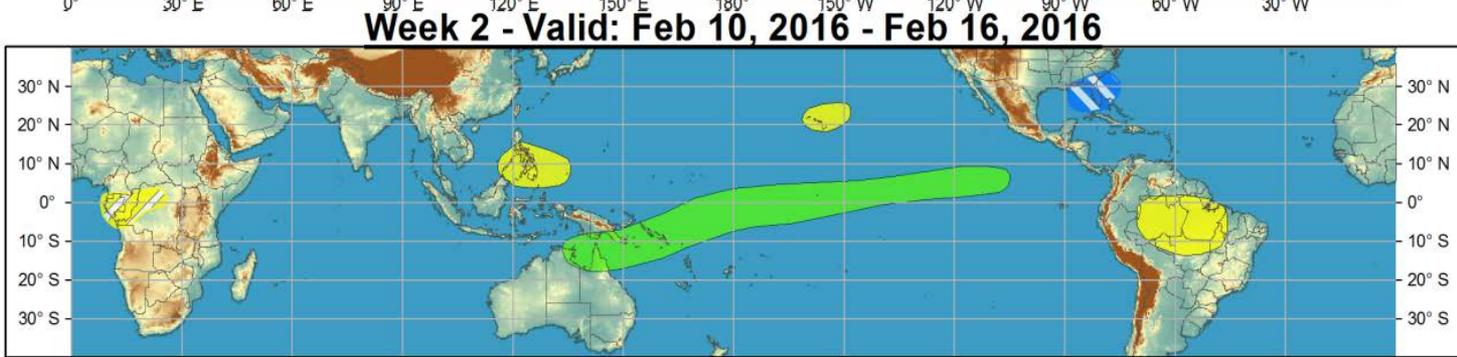
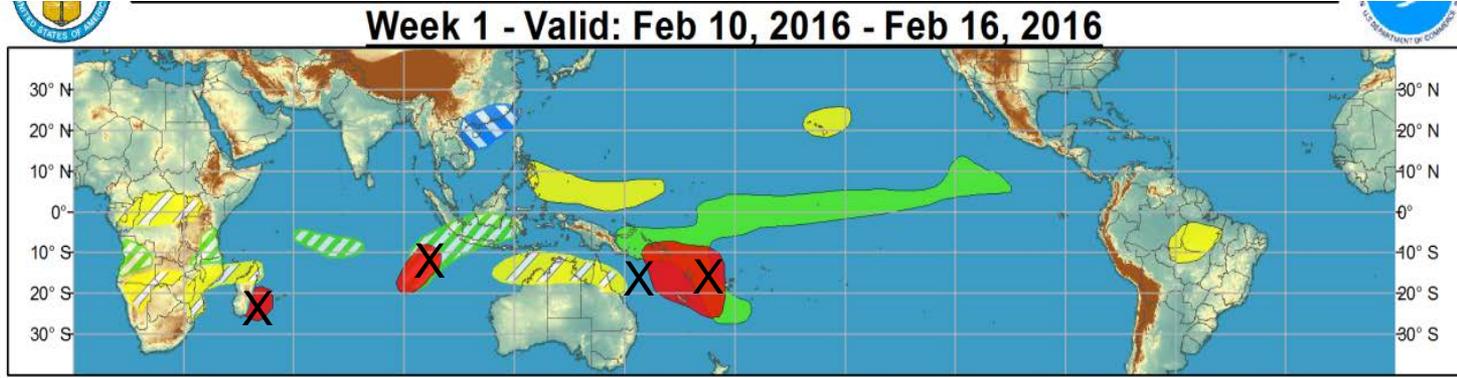
February 16, 2016

Stephen Baxter

Outline

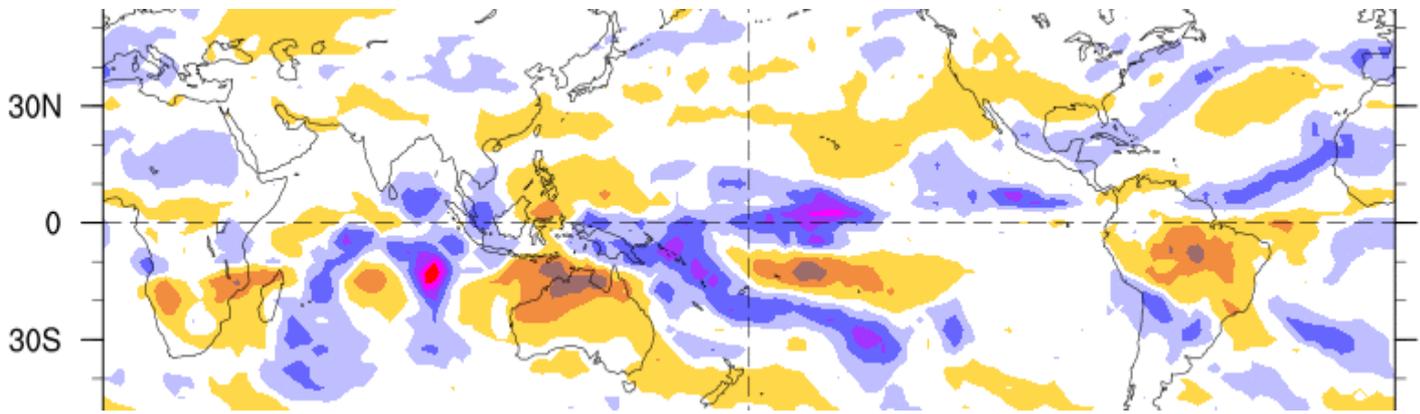
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

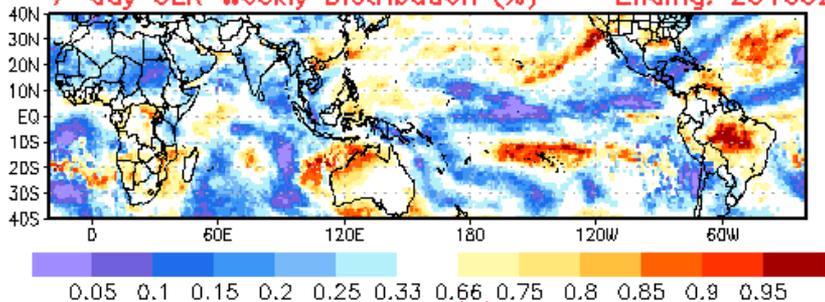


Cool shading
More clouds/rain

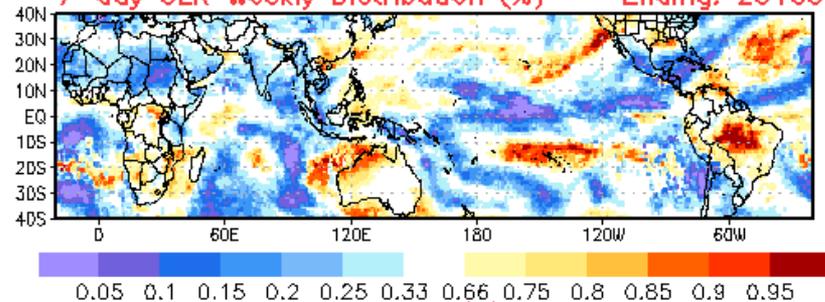
Warm shading
Less clouds/rain



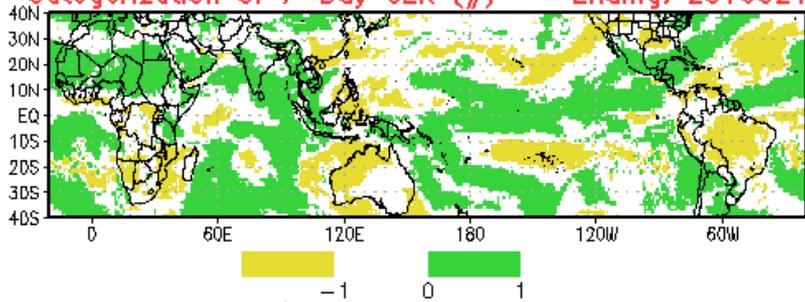
7-day OLR Weekly Distribution (%) -- Ending: 20160216



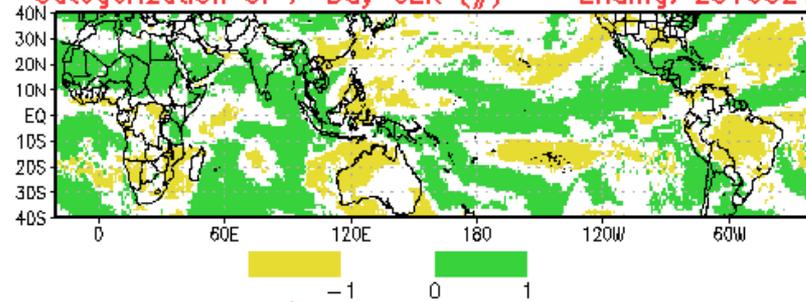
7-day OLR Weekly Distribution (%) -- Ending: 20160216



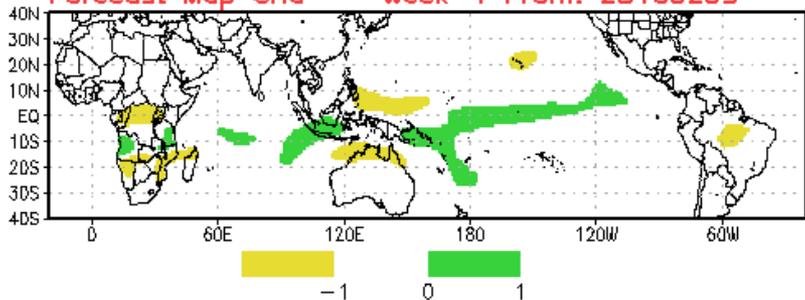
Categorization of 7-Day OLR (#) -- Ending: 20160216



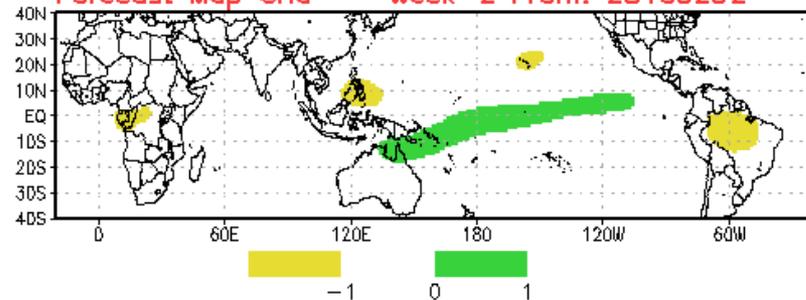
Categorization of 7-Day OLR (#) -- Ending: 20160216



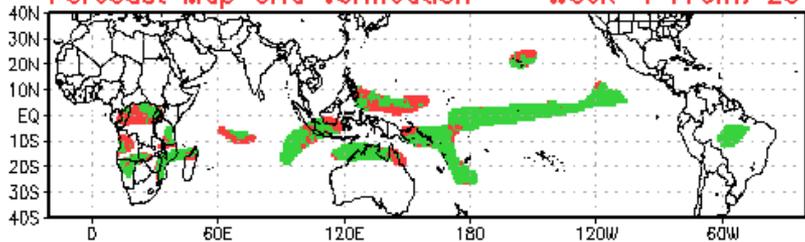
Forecast Map Grid -- Week-1 From: 20160209



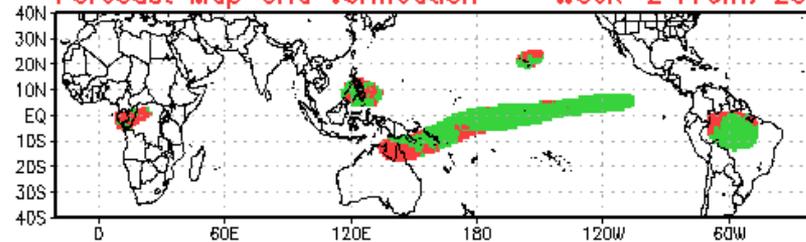
Forecast Map Grid -- Week-2 From: 20160202



Forecast Map Grid Verification -- Week-1 From: 20160209



Forecast Map Grid Verification -- Week-2 From: 20160202



Hit: Green, Miss: Red
Heidke Skill Score: 62.1378

Hit: Green, Miss: Red
Heidke Skill Score: 60.5236

Synopsis of Climate Modes

ENSO:

- **Current:** [El Niño Advisory](#)
- **Niño 3.4:** 2.5C - Slight tick down.
- **Outlook:** A strong El Niño is expected to gradually weaken through spring 2016, and to transition to ENSO-neutral during late spring or early summer. Odds of La Niña are elevated by SON.

MJO and other subseasonal tropical variability:

- MJO has become more coherent, and enhanced phase is over the West Pacific.
- Most dynamical model MJO index forecasts depict eastward propagation of the signal over the next 7-10 days. The signal is forecast to become more stationary late in Week-2, likely due to constructive interference with the base state.

Extratropics:

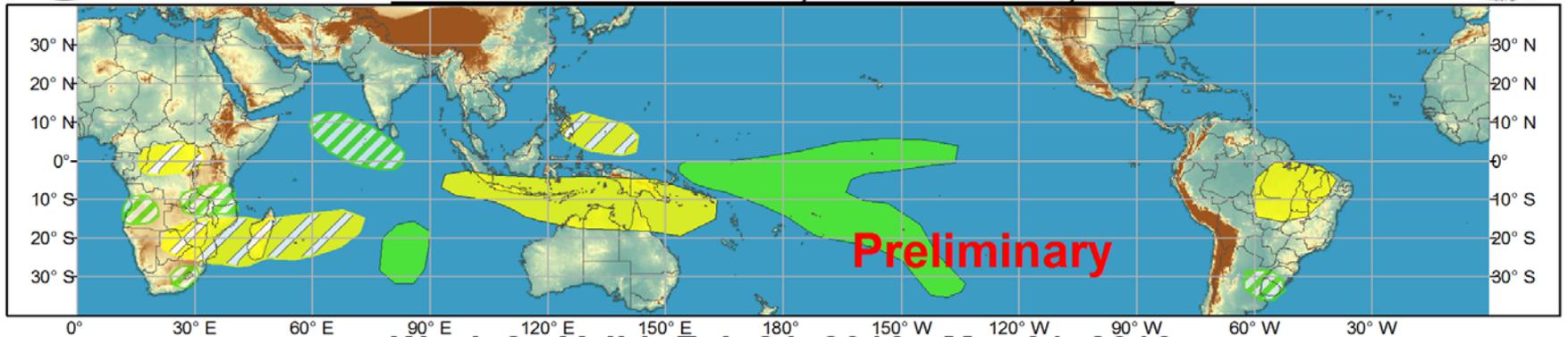
- The extended range temperature and precipitation forecasts for the U.S. are likely to be impacted by the MJO.



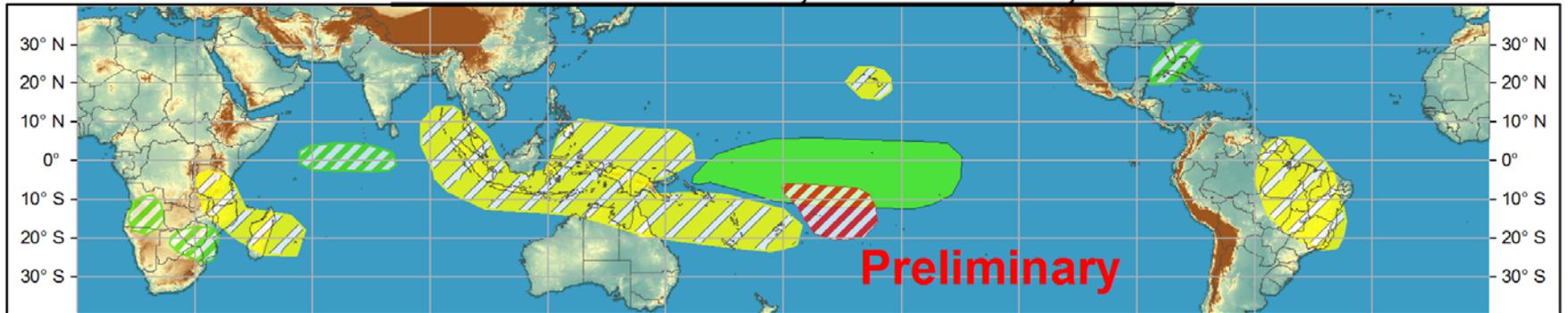
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Feb 17, 2016 - Feb 23, 2016



Week 2 - Valid: Feb 24, 2016 - Mar 01, 2016



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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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.

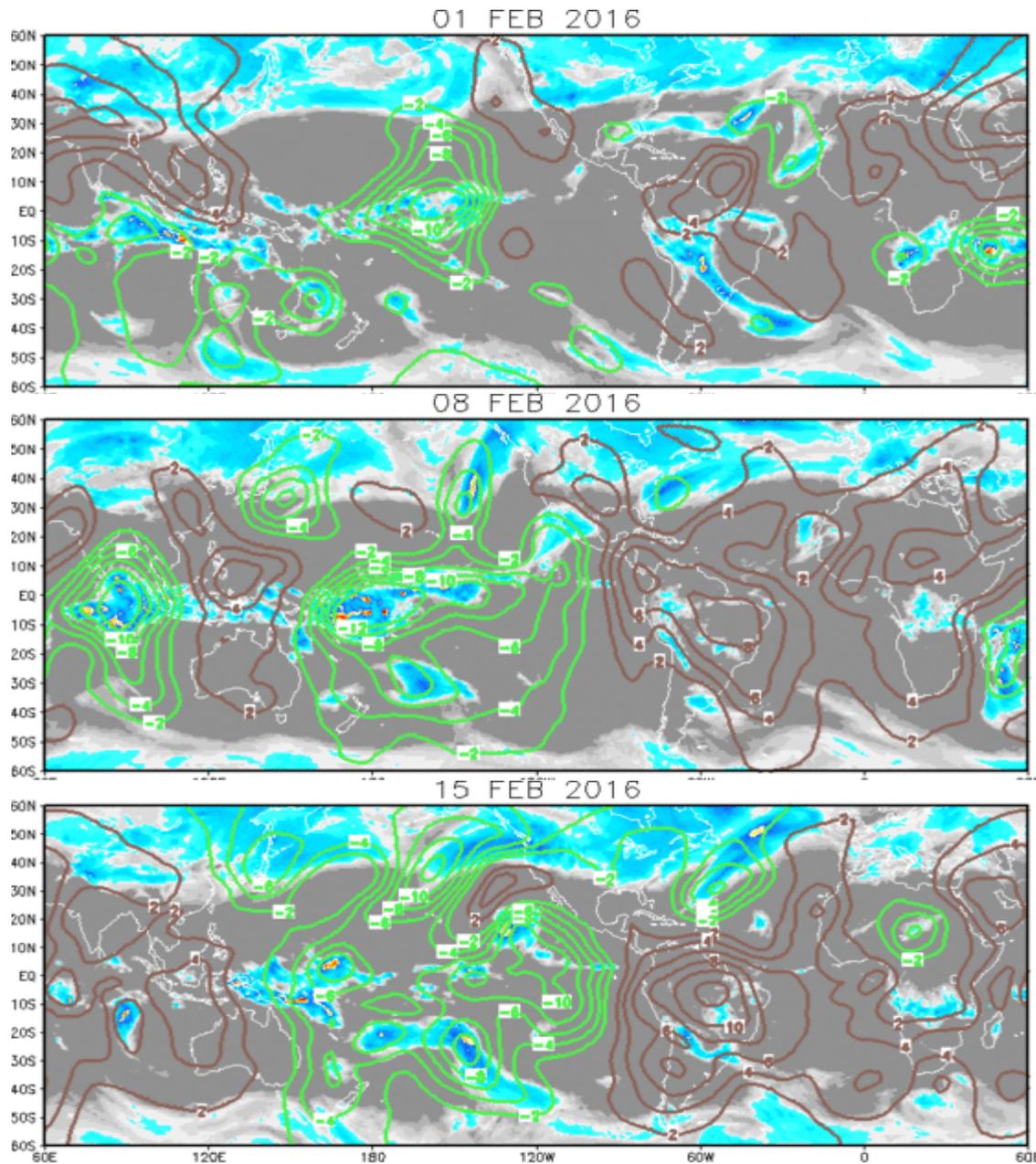
Produced: 02/16/2016

Forecaster: Baxter



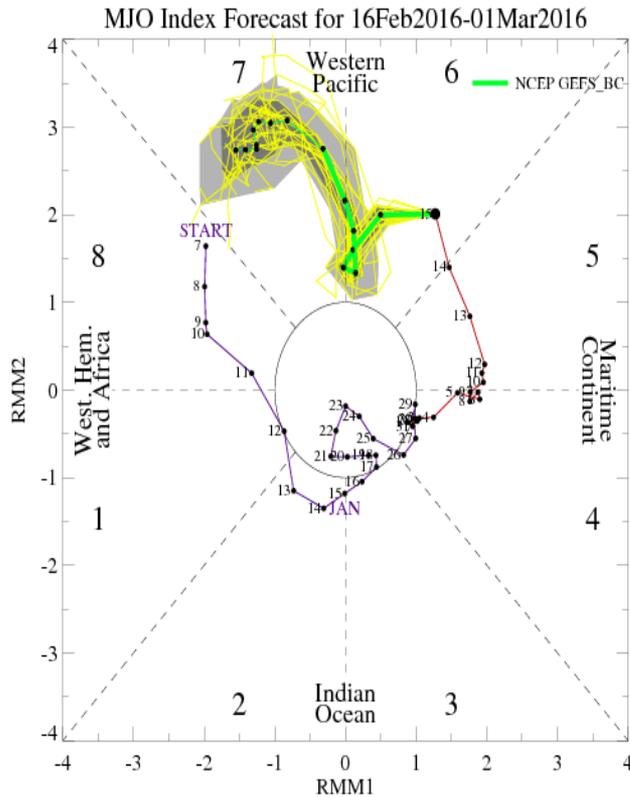
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

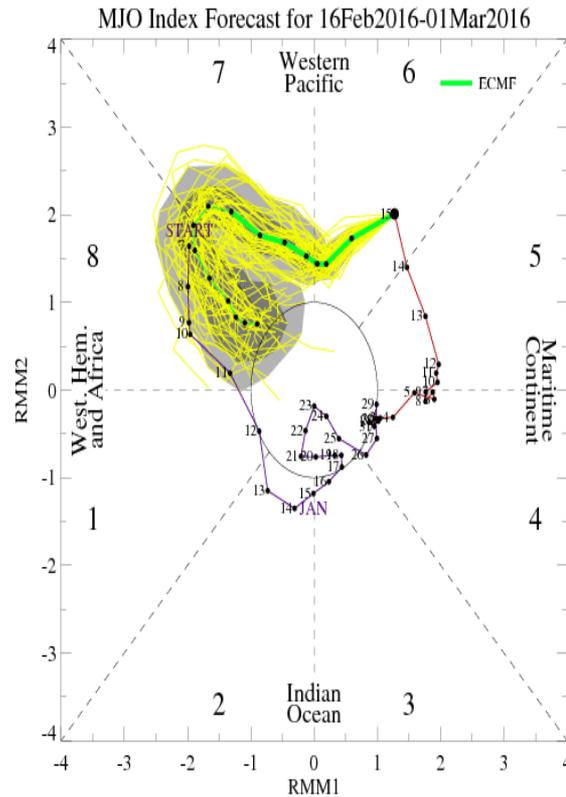


Coherent MJO structure has developed over the past week.

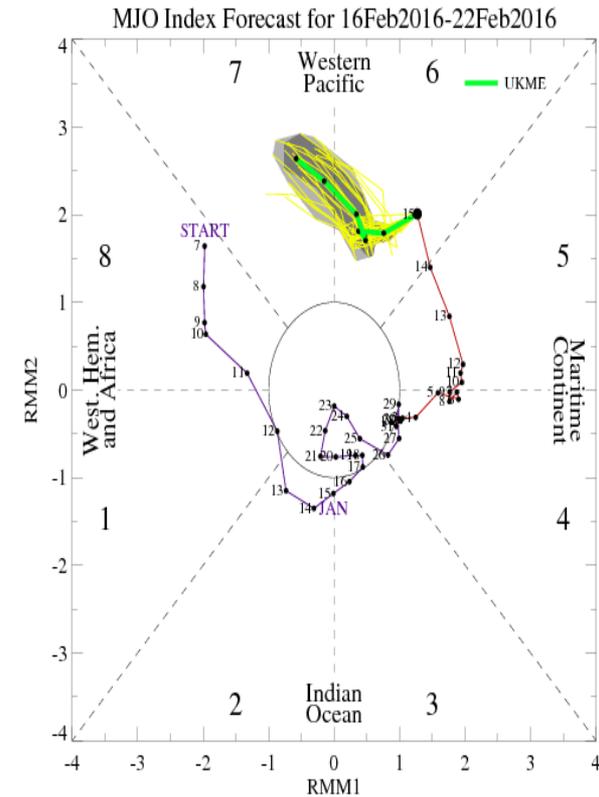
MJO Observation/Forecast



GEFS



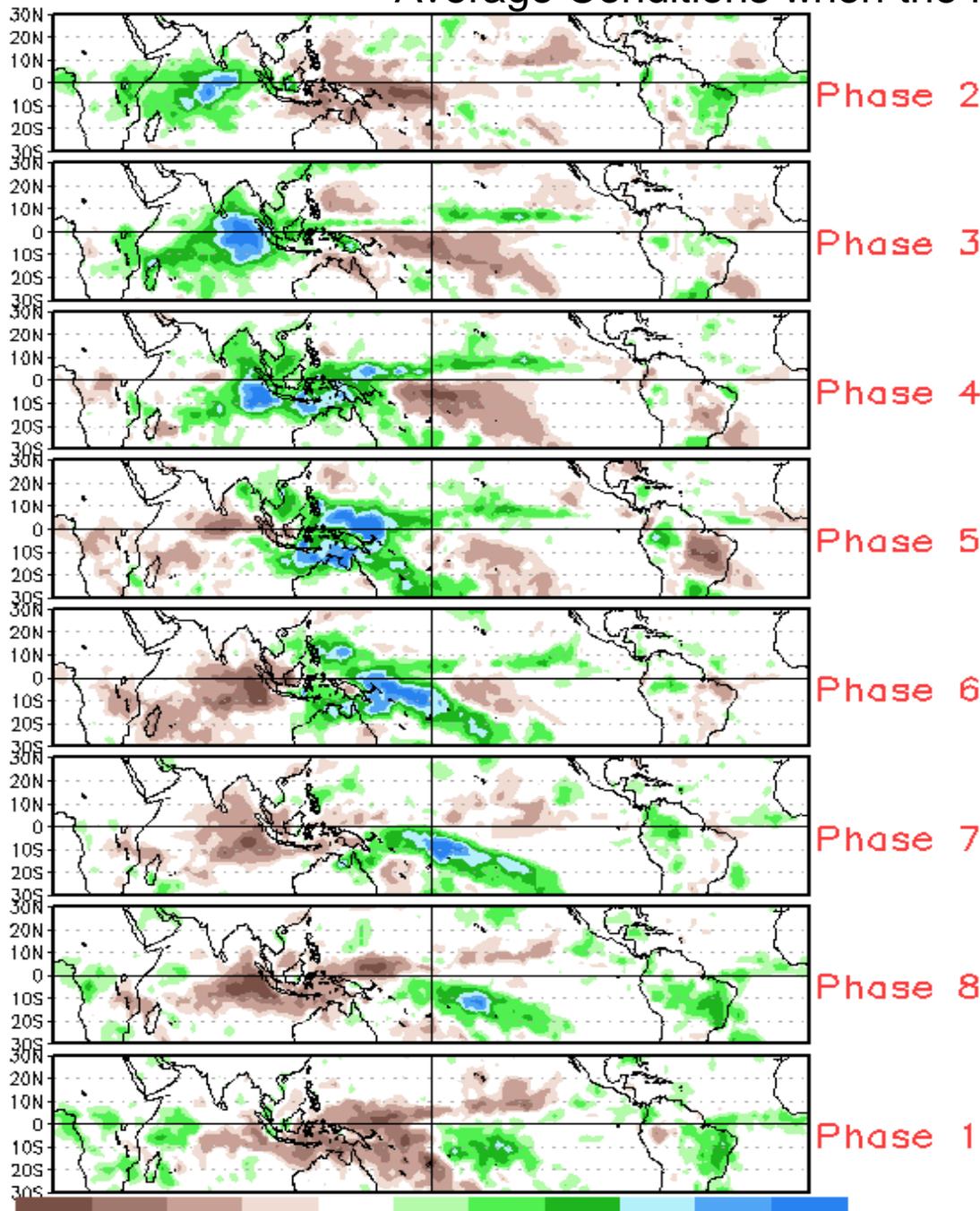
ECMWF



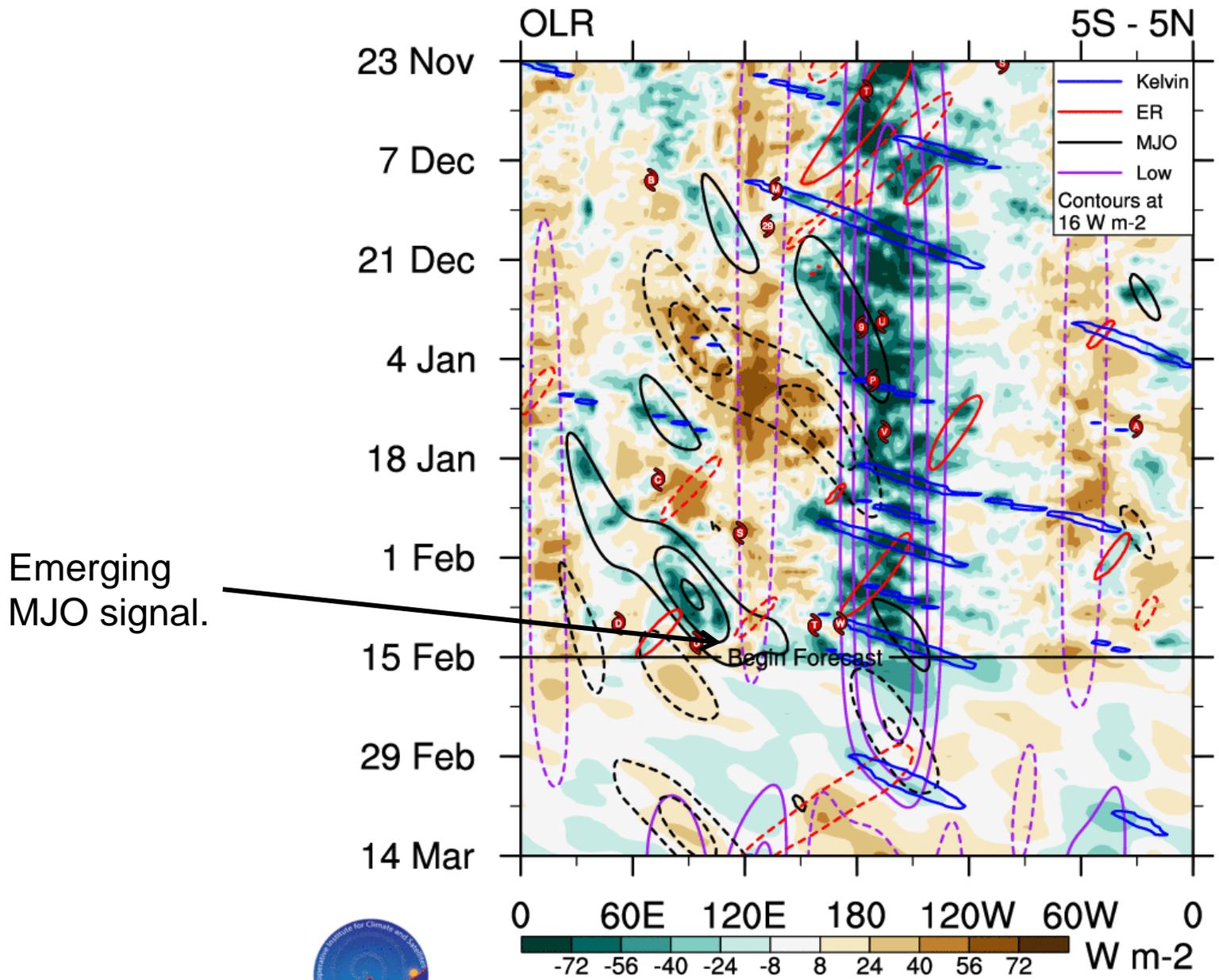
UKMET

Wheeler-Hendon based analyses of model forecasts indicate propagation through phases 6 and 7, before stalling over the central Pacific and Western Hemisphere. Left turn early likely due to interference with ERW early in the period.

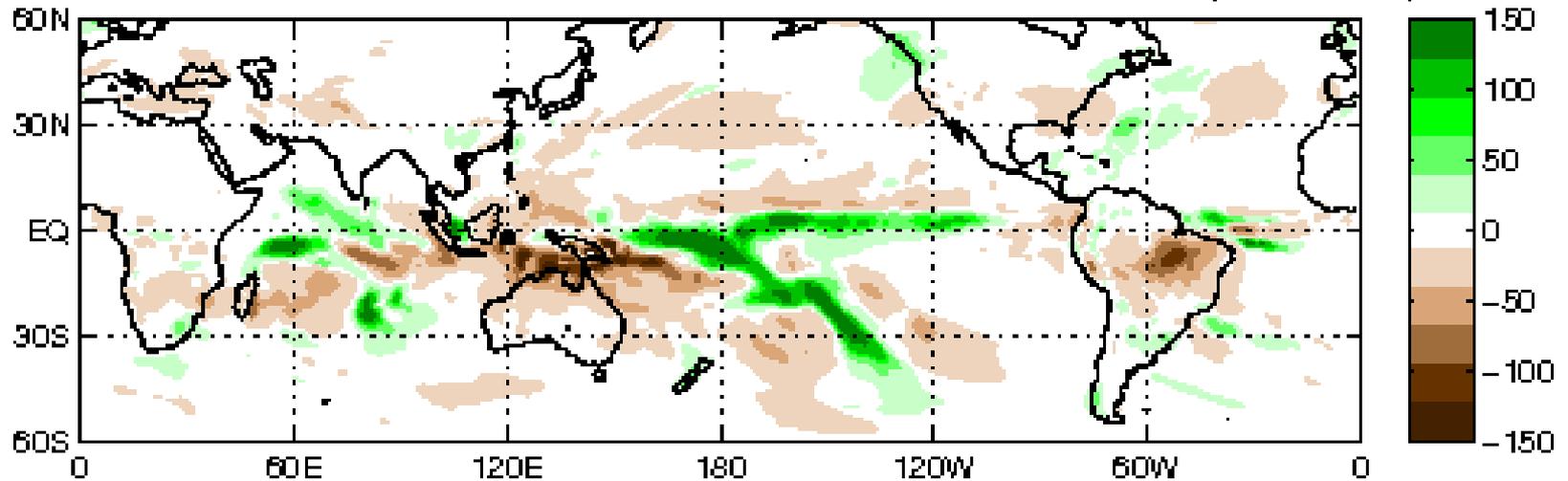
Average Conditions when the MJO is present



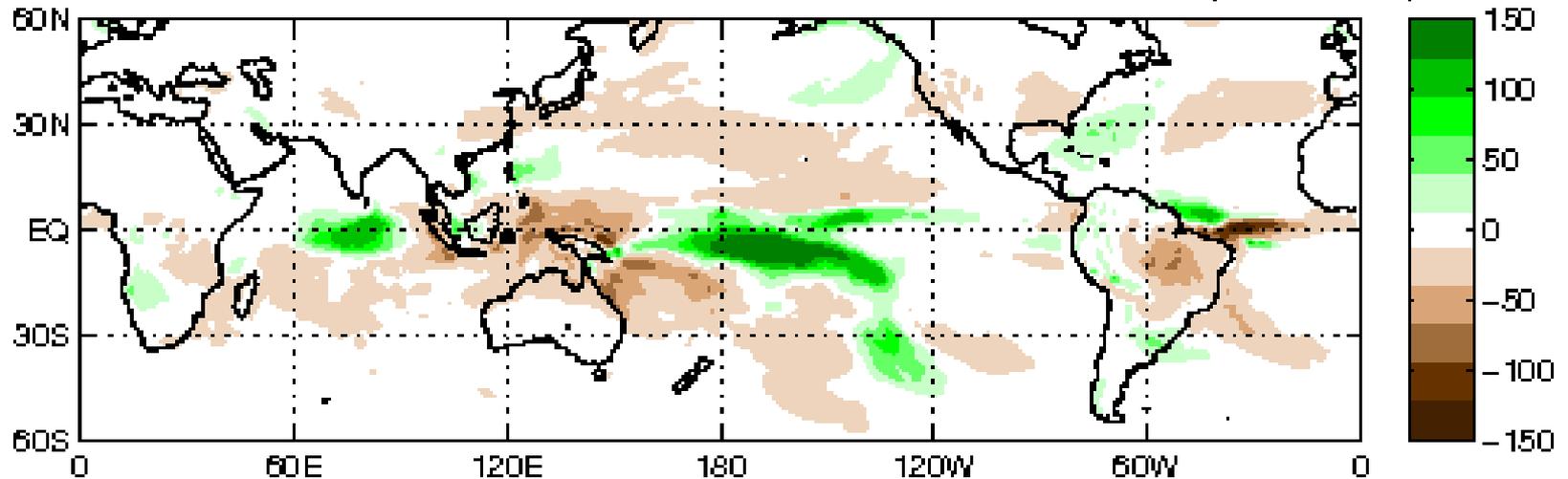
CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.



CFS: Anom. PREC Week: 1: 17-Feb-2016 to 23-Feb-2016 (mm/week)

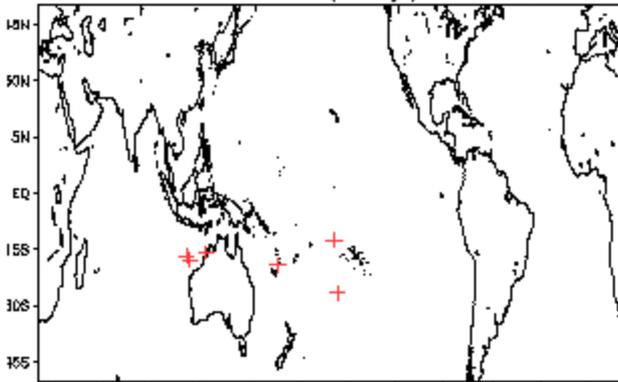


CFS: Anom. PREC Week: 2: 24-Feb-2016 to 01-Mar-2016 (mm/week)

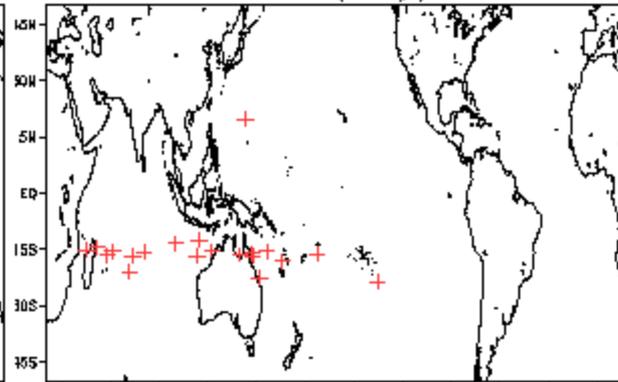


February Tropical Storm Formation by MJO phase

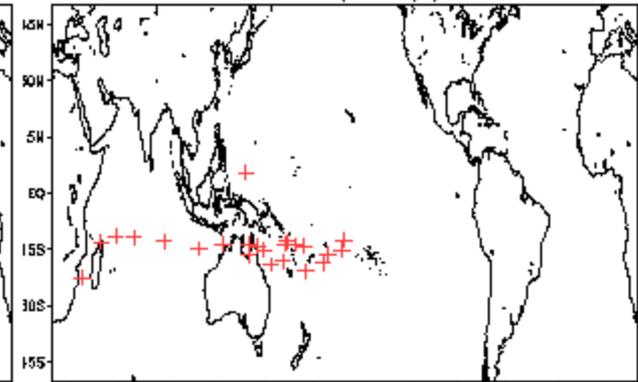
Phase 1 (41 days) 7 storms



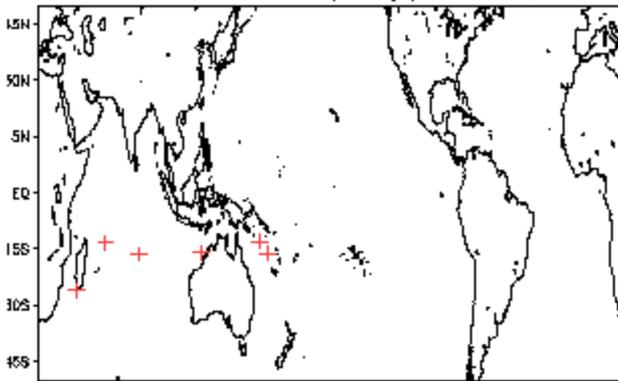
Phase 4 (92 days) 21 storms



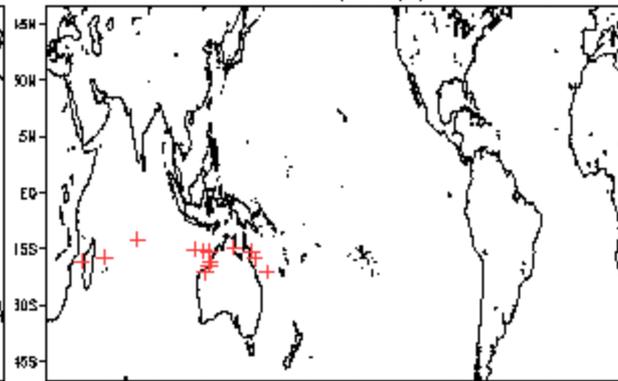
Phase 7 (125 days) 24 storms



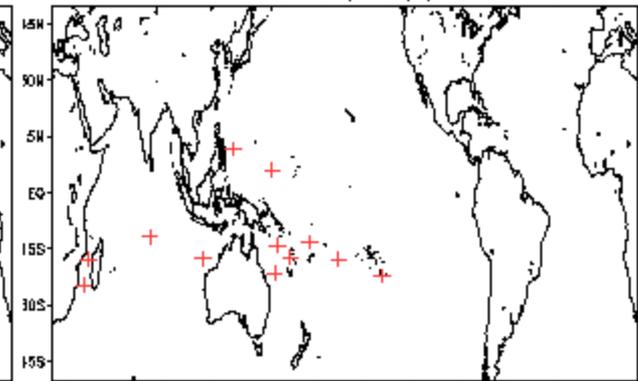
Phase 2 (51 days) 7 storms



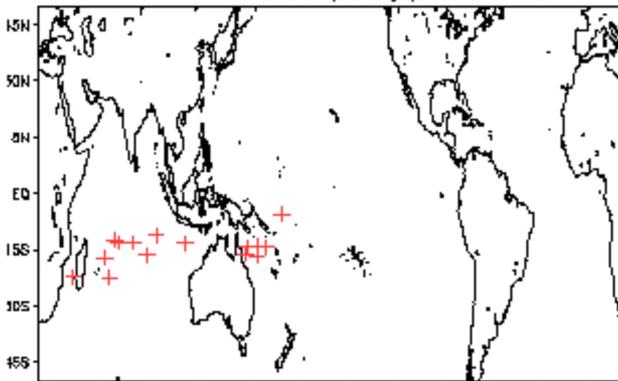
Phase 5 (70 days) 14 storms



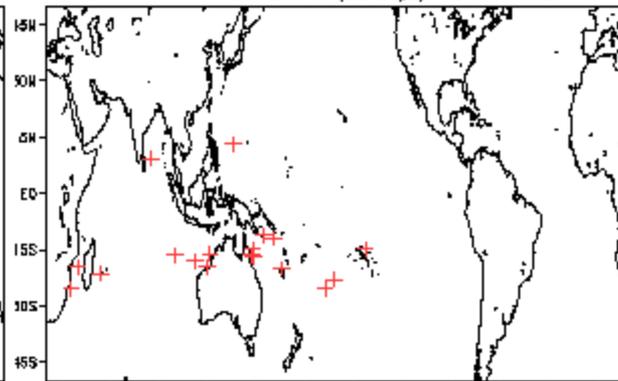
Phase 8 (84 days) 13 storms



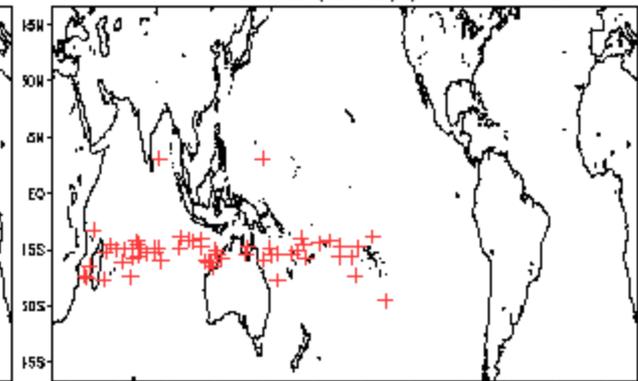
Phase 3 (89 days) 16 storms



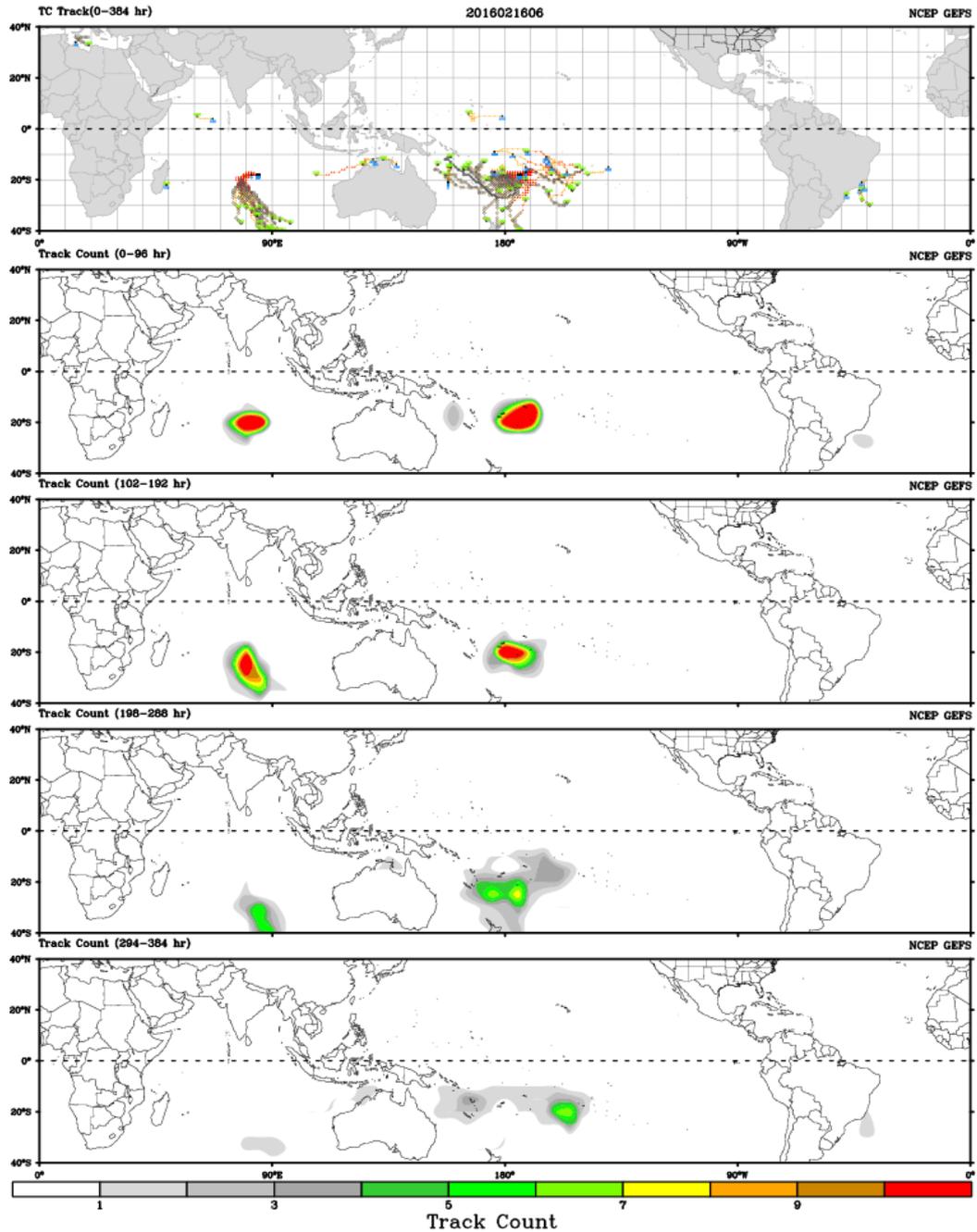
Phase 6 (92 days) 19 storms



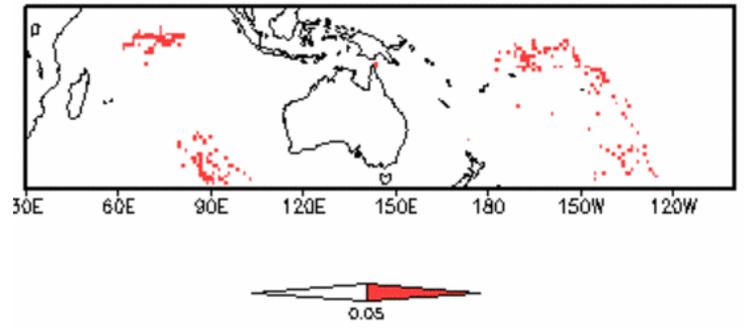
Null (308 days) 60 storms



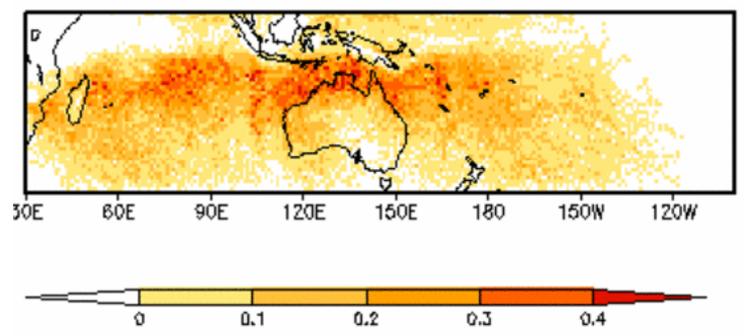
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)



b) Filtered Tracks



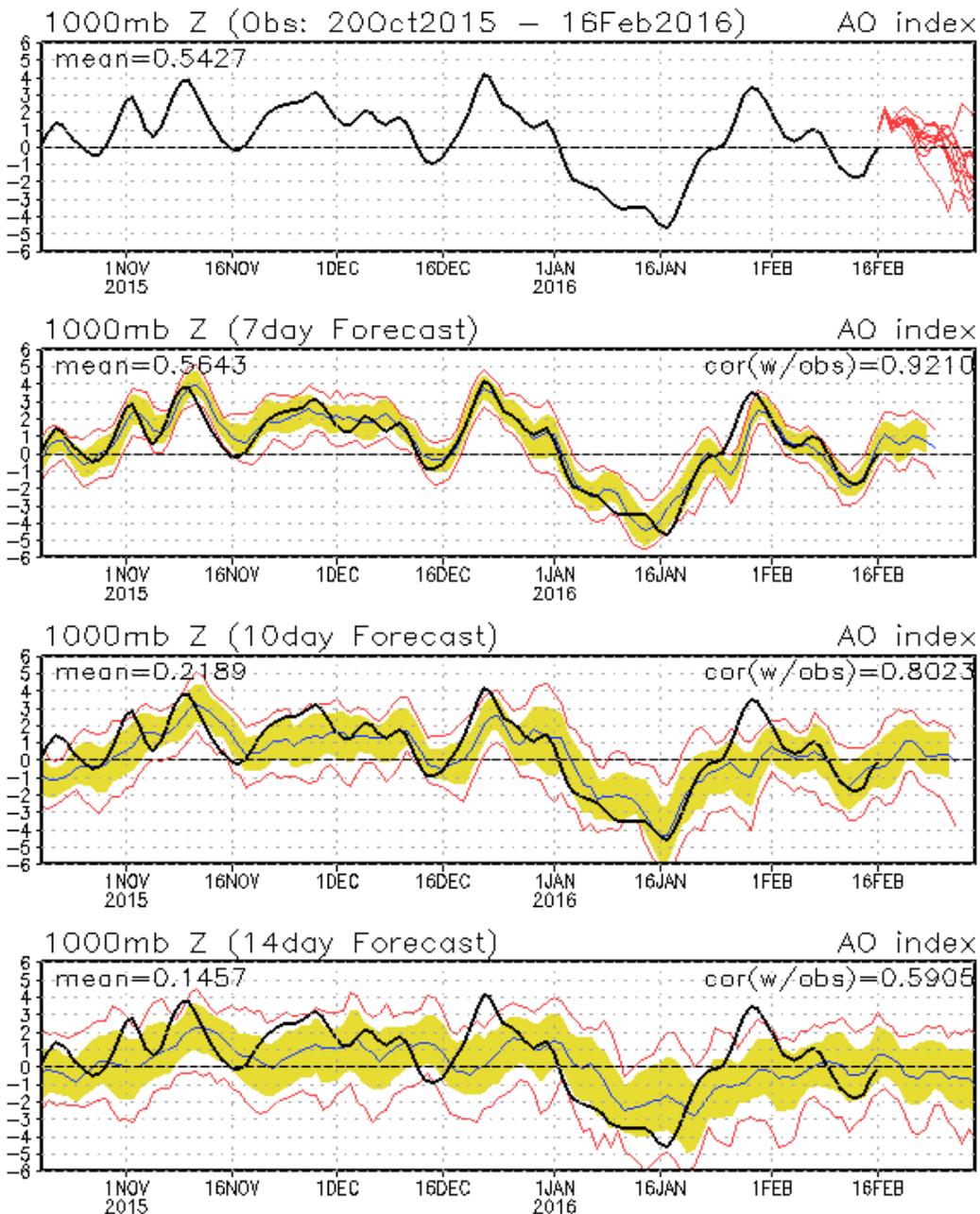
d) False Alarm Climatology



Hindcast corrected CFS tropical cyclone points.

Connections to U.S. Impacts

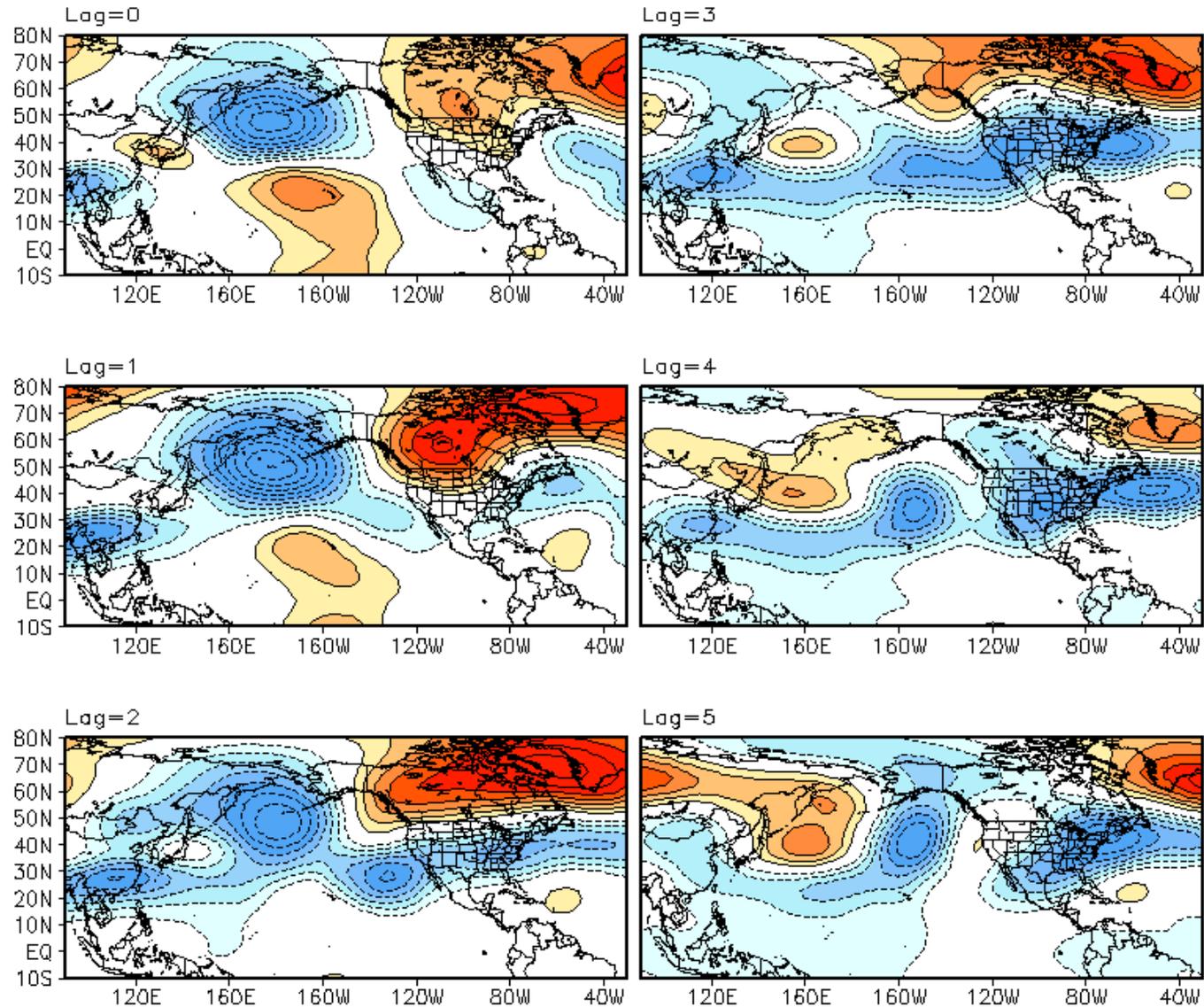
AO: Observed & ENSM forecasts

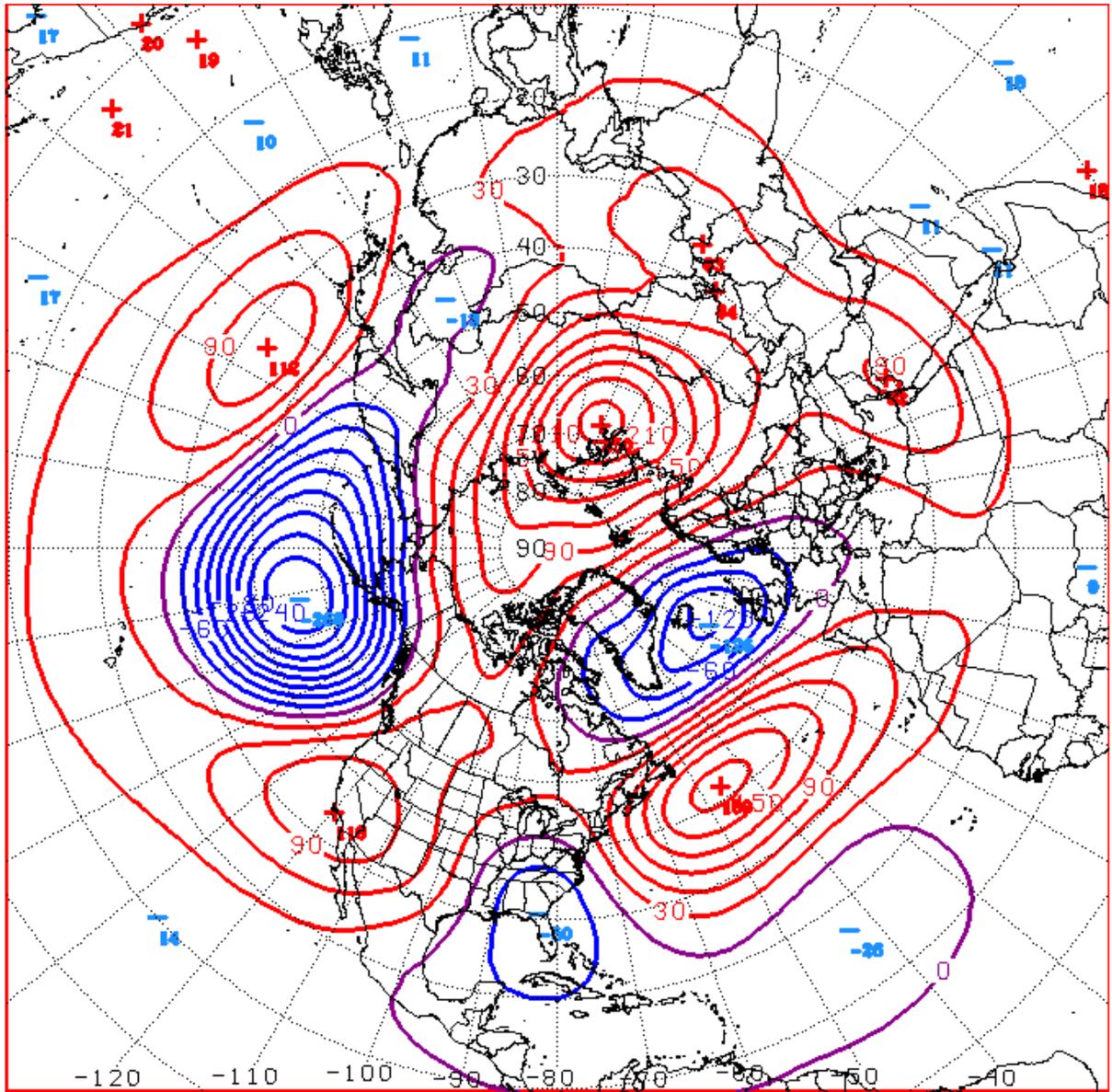


Lagged composites from MJO

5-day intervals

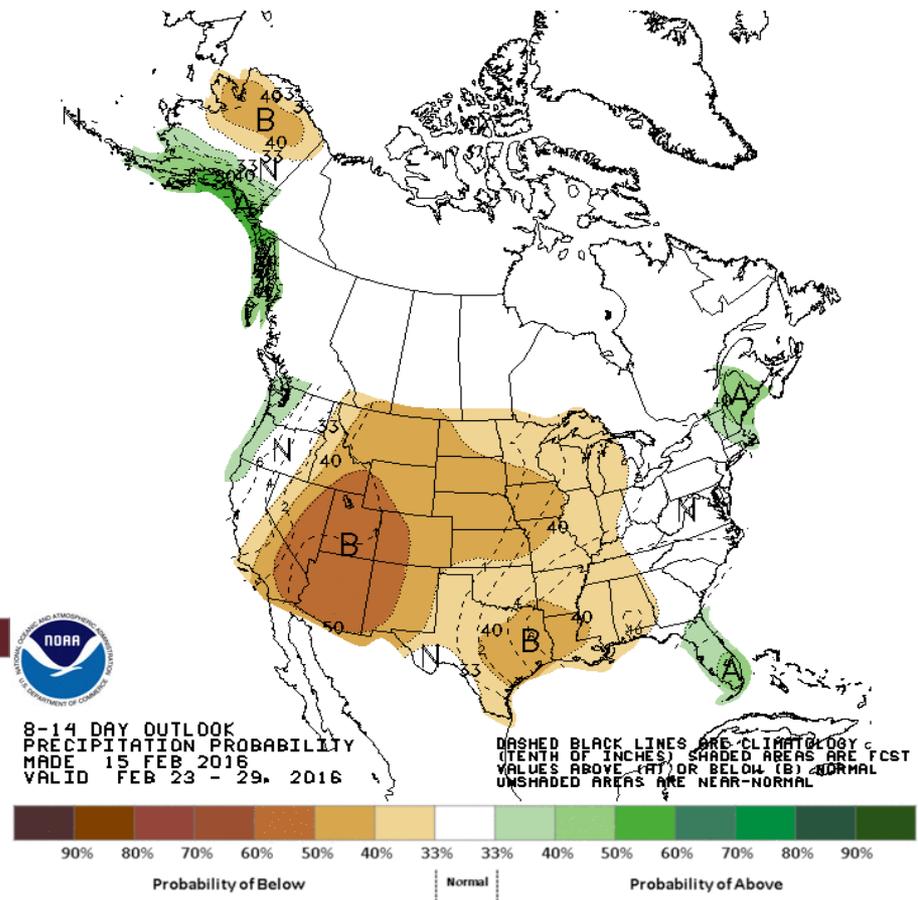
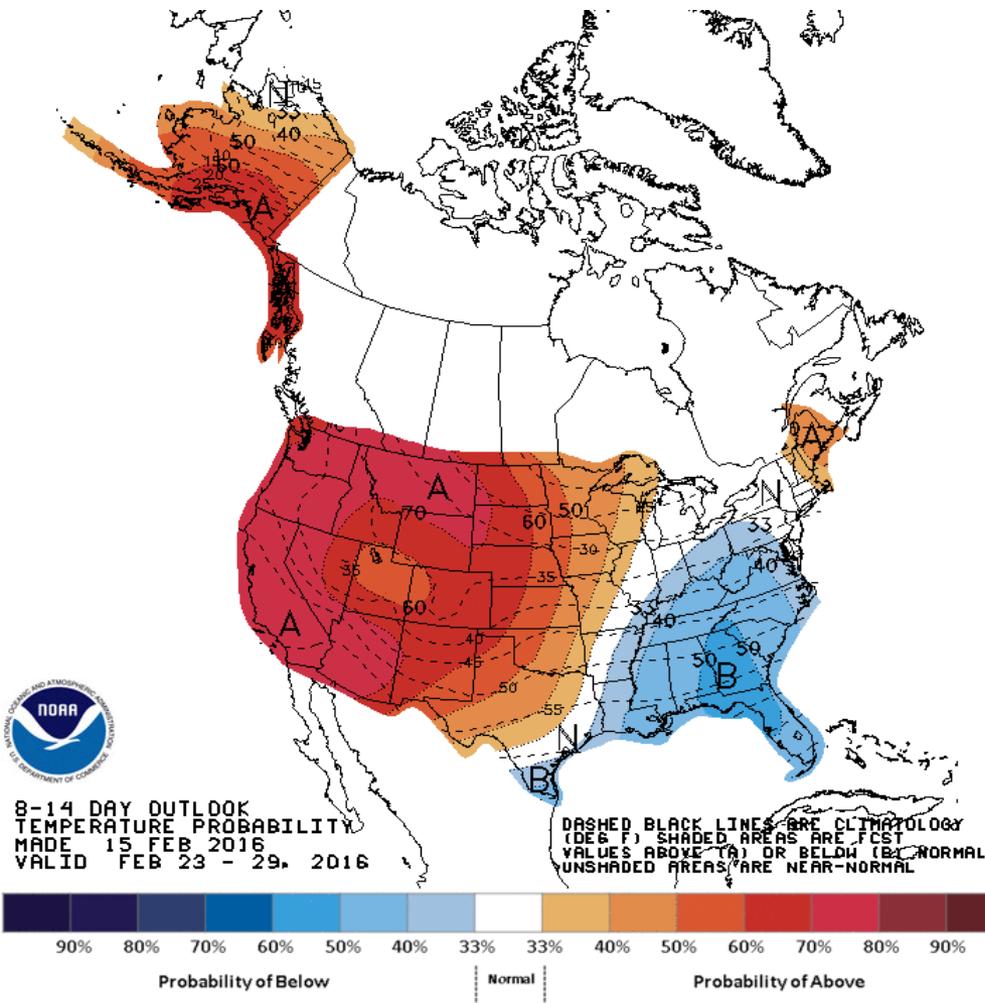
RMM Phase 7 200-hPa Height Lagged Composite (jfm)





D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE FEB 16 2016 1007 UTC CNTD FEB 27 2016

Week 2 – Temperature and Precipitation

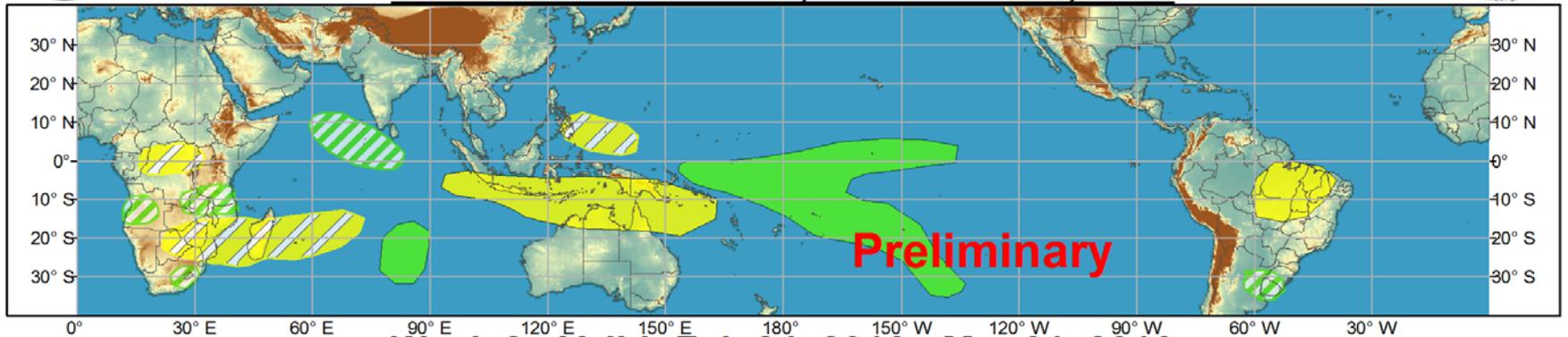




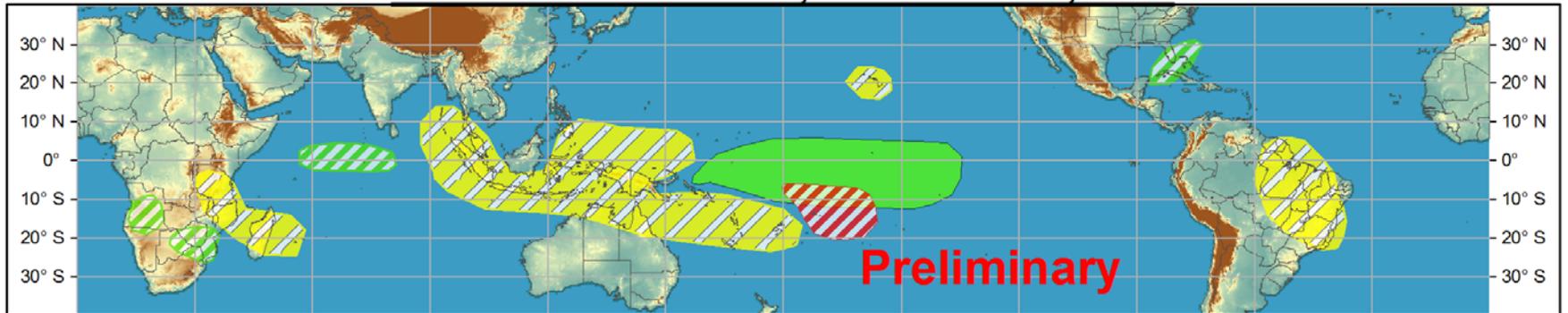
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