

Global Tropics Hazards And Benefits Outlook

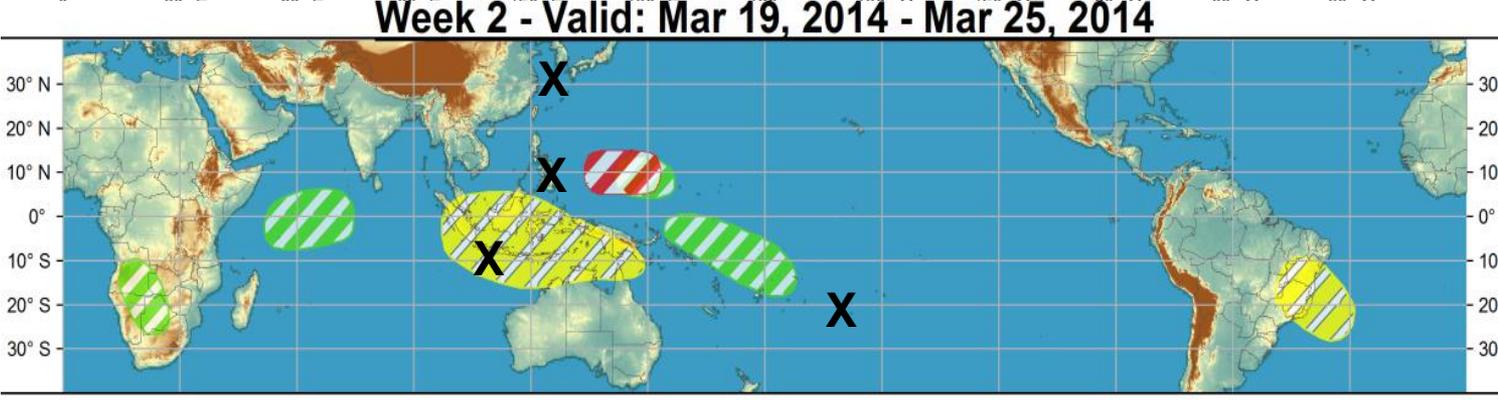
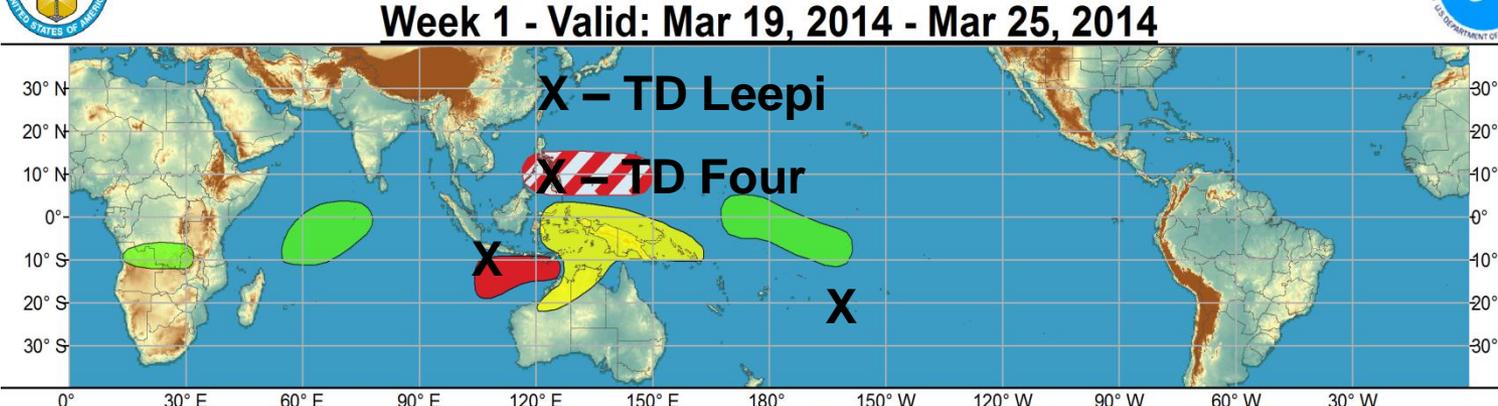
March 25, 2014

Matthew Rosencrans

Outline

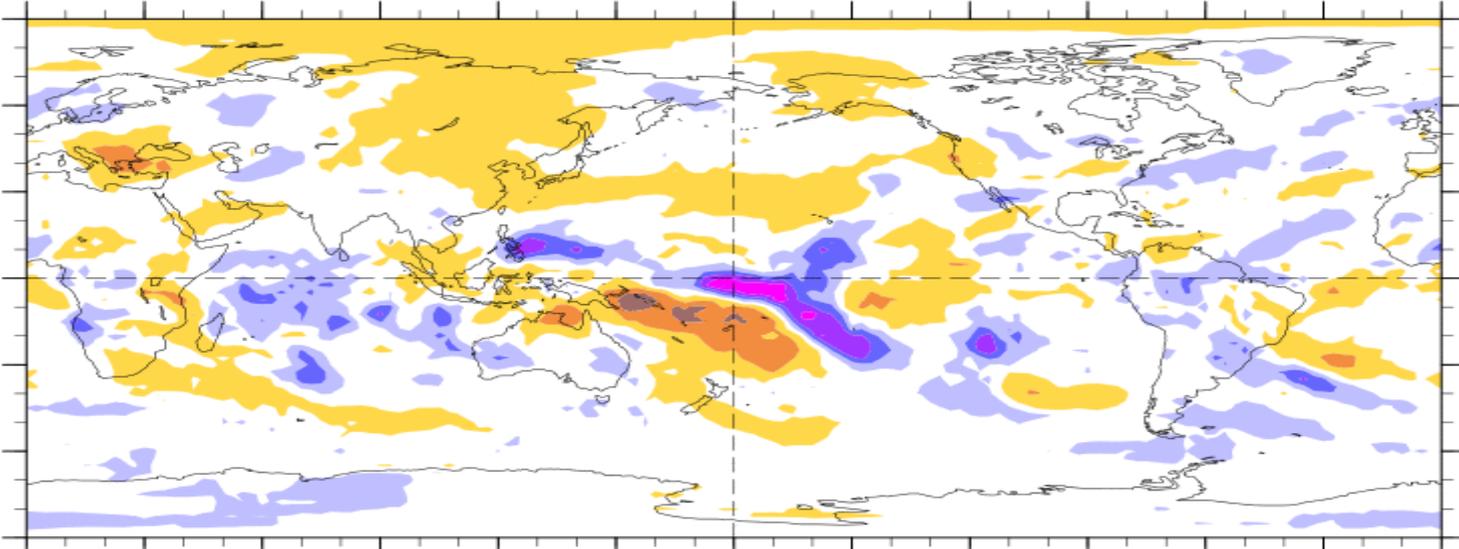
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review



7-Day Average OLR Anomaly

2014/03/17 - 2014/03/23



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO:

- ENSO-neutral is expected to continue through the Northern Hemisphere spring 2014, with about a 50% chance of El Niño developing during the summer or fall.
- ENSO Alert System Status: El Niño Watch

MJO and other subseasonal tropical variability:

- The MJO weakened considerably during the past week, and the atmospheric circulation pattern is no longer consistent with robust MJO activity.
- Dynamical model MJO index forecasts differ on the amount of eastward propagation of the remaining signal, with some models indicating a complete breakdown (westward movement) during Week-2. Statistical tools indicate a weak signal, and little to no propagation beyond the Indian Ocean.

Extratropics:

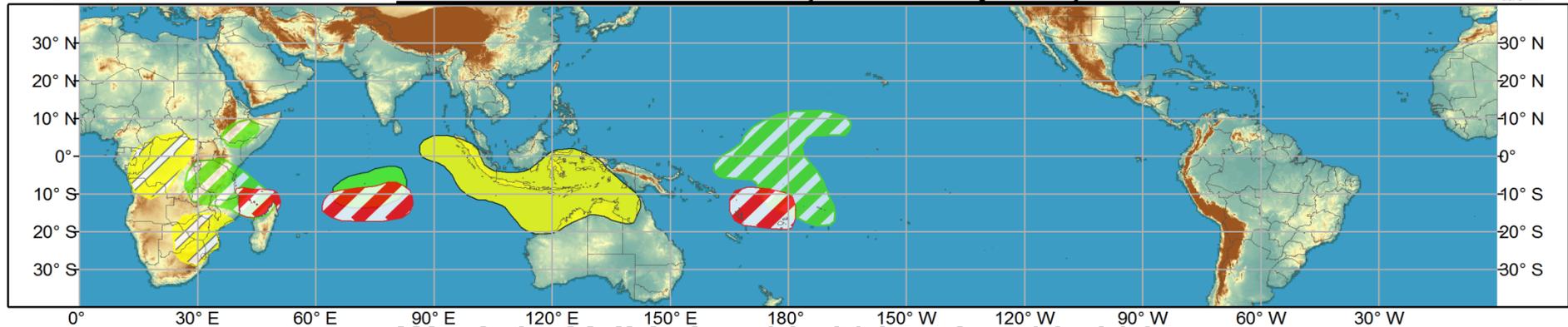
- The extended range forecast for the U.S. is not expected to be impacted greatly by the MJO. The current outlooks favor continued below-normal temperatures and above-median precipitation across the northern tier of the CONUS with above-normal temperatures across the southwest. Below-median precipitation is favored across much of the four corners region and southern Great Plains.



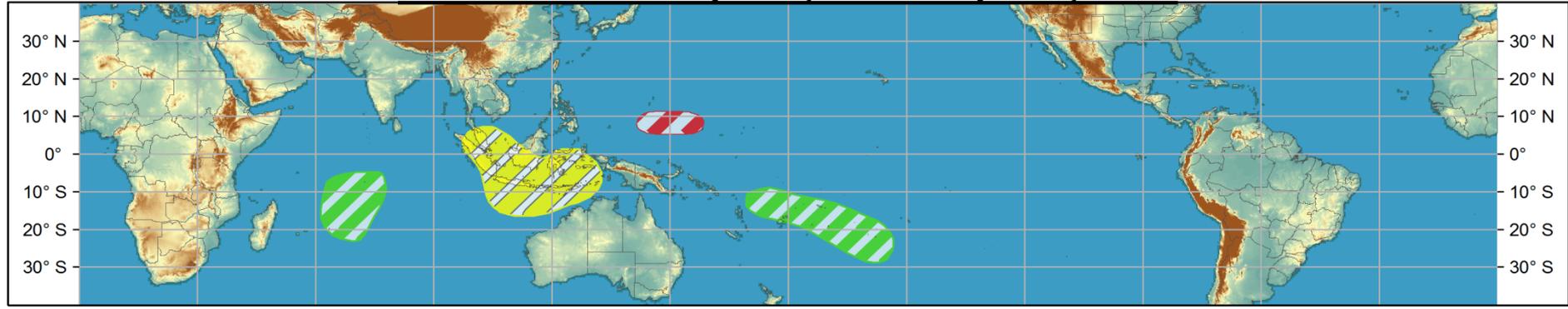
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Mar 26, 2014 - Apr 01, 2014



Week 2 - Valid: Apr 02, 2014 - Apr 08, 2014



Confidence
High Moderate

- Tropical Cyclone Formation** Development of a tropical cyclone that eventually reaches tropical storm/cyclone 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: 03/25/2014

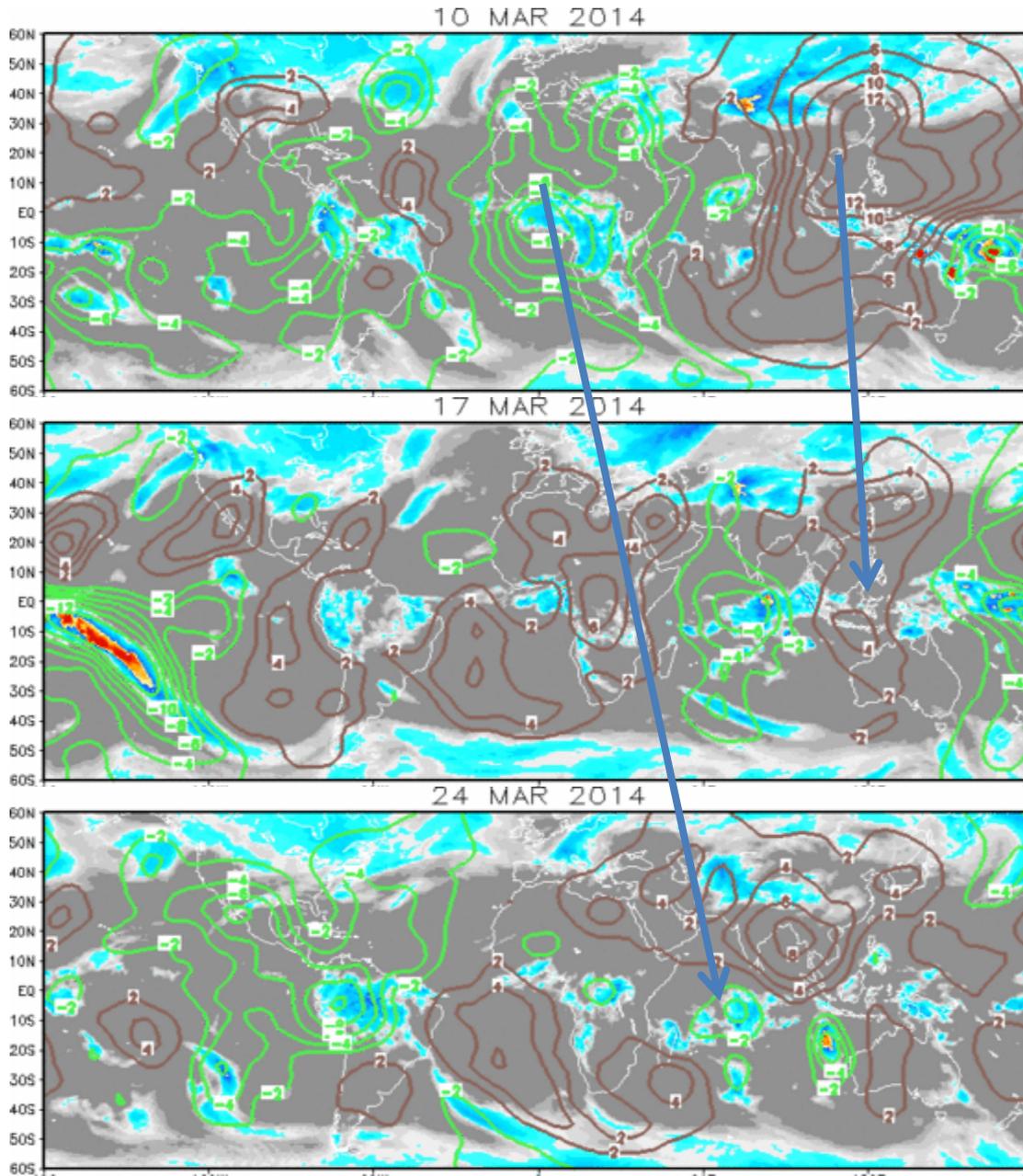
Forecaster: Rosencrans

Product is updated once per week. 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

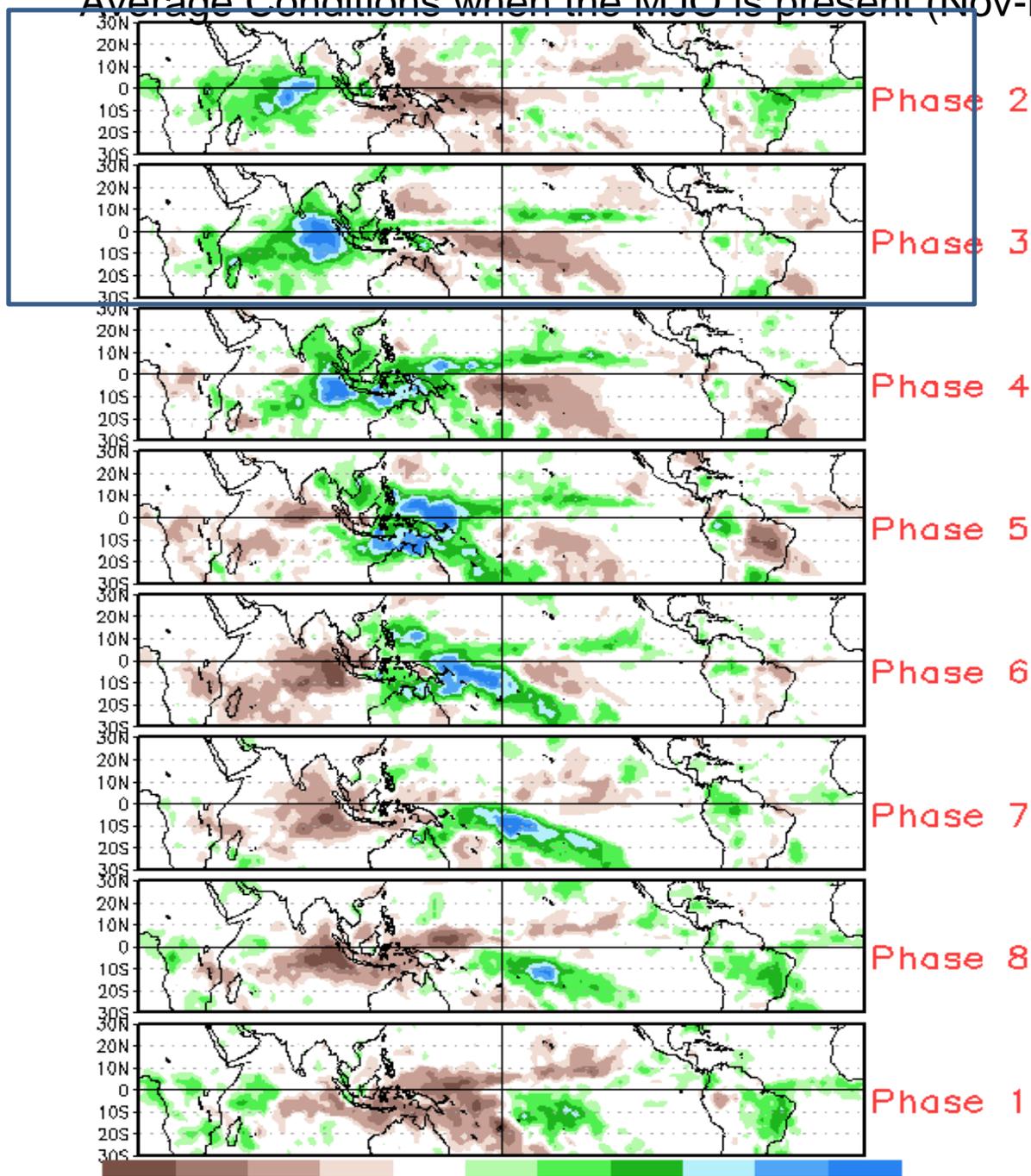
Green: Enhanced Divergence Brown: Enhanced Convergence

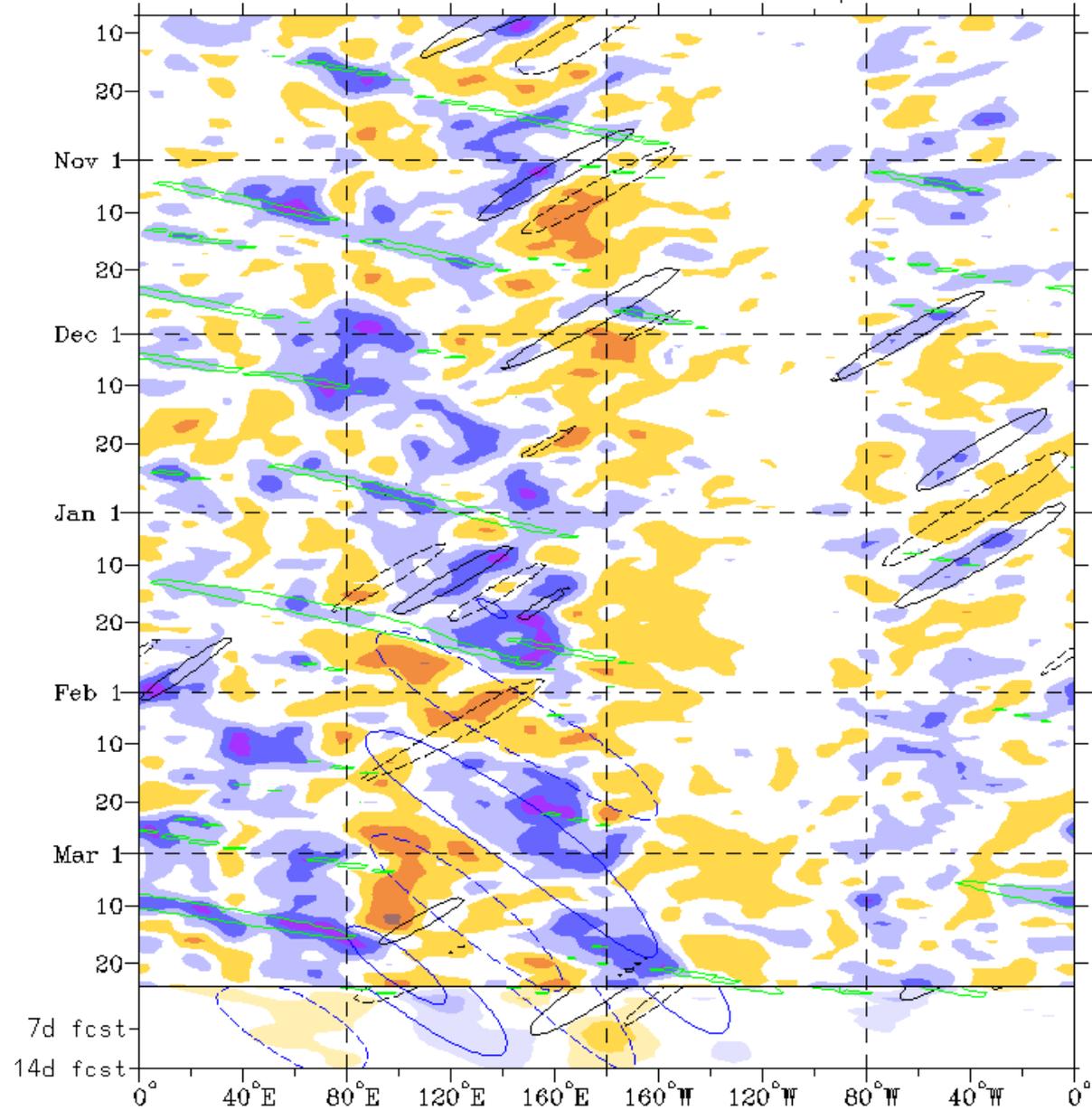


Pattern is not coherent with MJO activity.

Evidence of other modes of variability.

Average Conditions when the MJO is present (Nov-Mar)

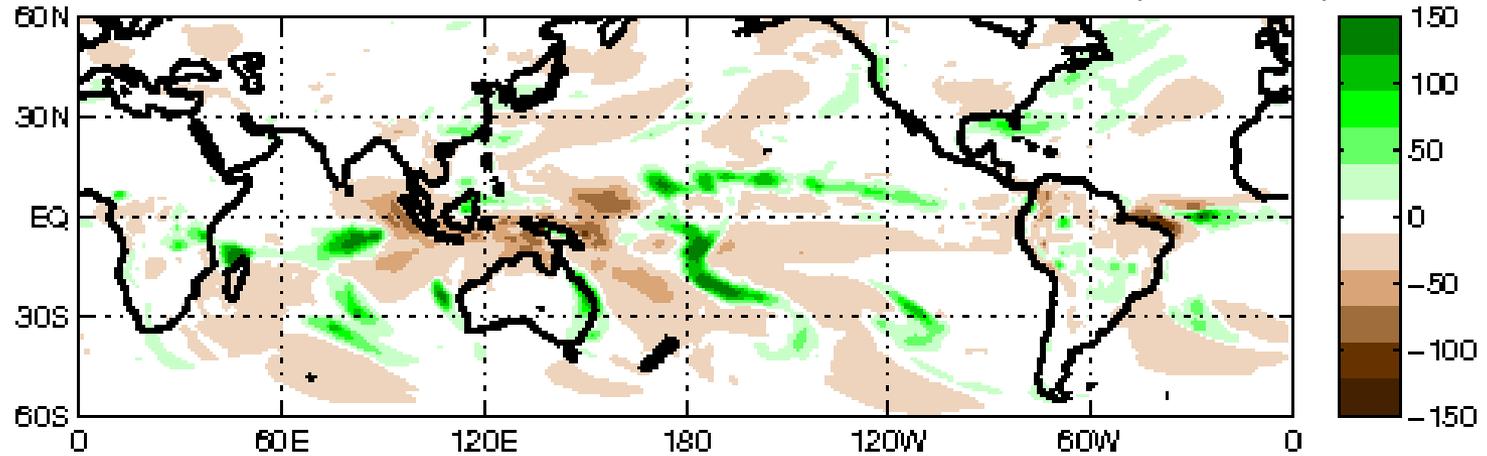




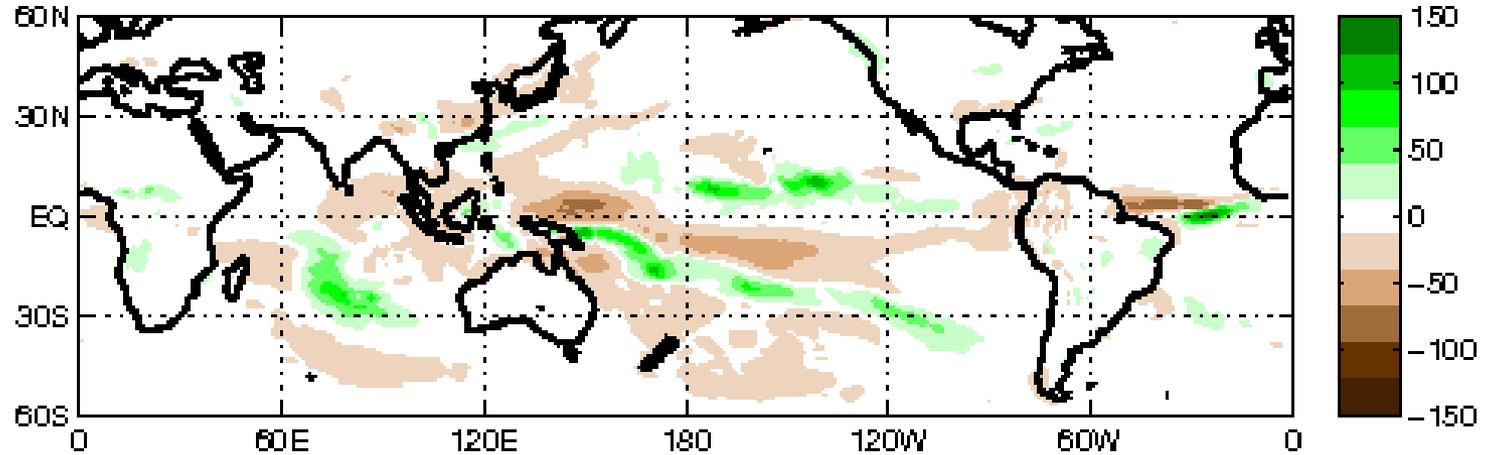
MJO signal much less robust
(Area near 90E is dry in obs,
wet in statistical forecast)

Atmospheric Kelvin waves and
background state to be main
drivers.

CFS: Anom. PREC Week1: 25-Mar-2014 to 31-Mar-2014 (mm/week)

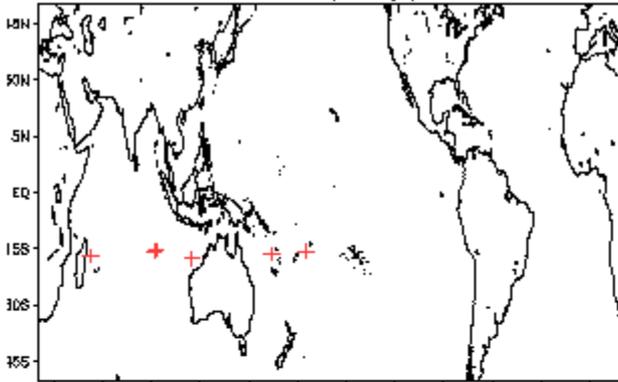


CFS: Anom. PREC Week2: 01-Apr-2014 to 07-Apr-2014 (mm/week)

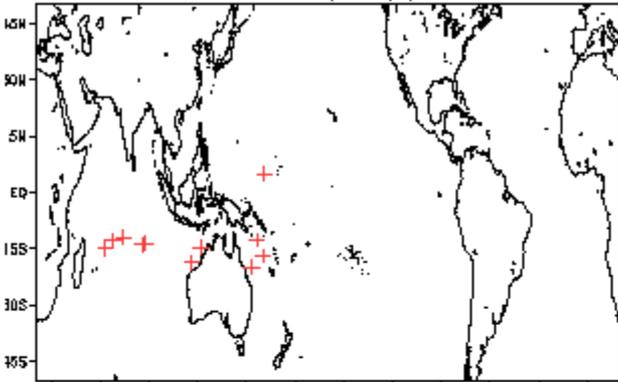


March Tropical Storm Formation by MJO phase

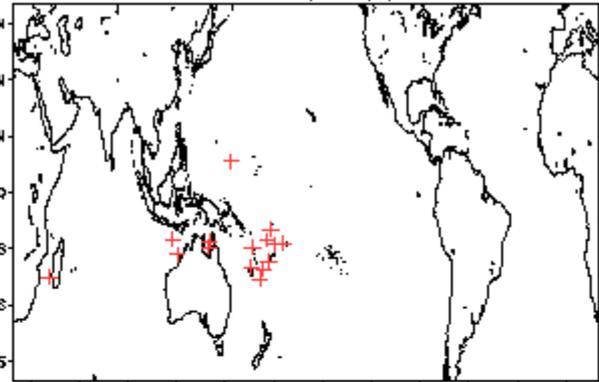
Phase 1 (98 days) 7 storms



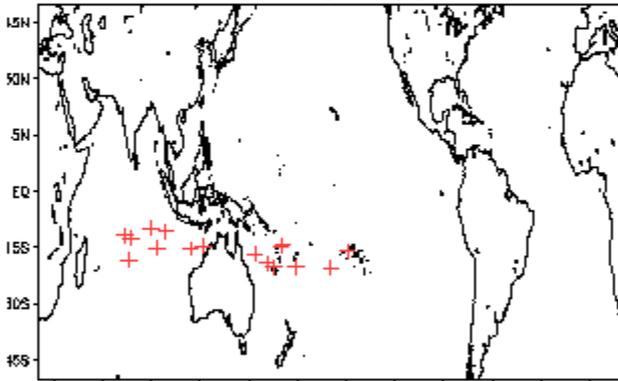
Phase 4 (72 days) 12 storms



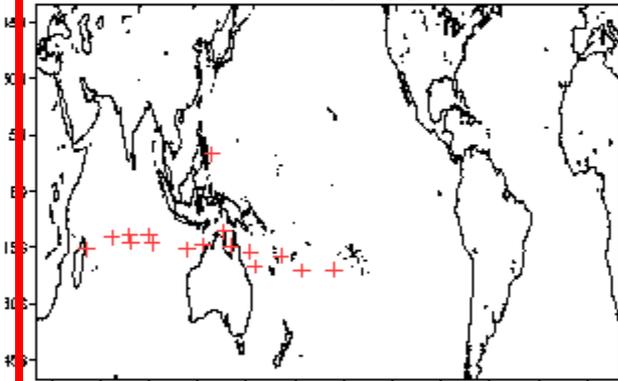
Phase 7 (81 days) 16 storms



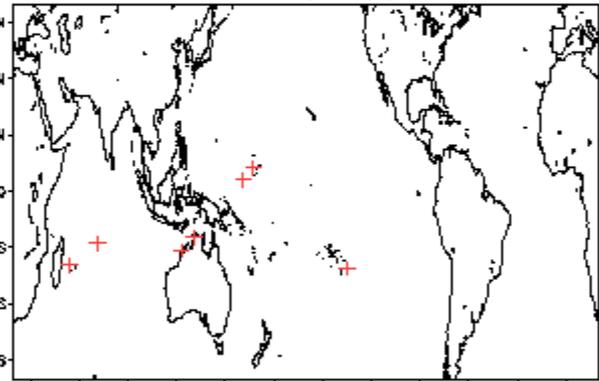
Phase 2 (111 days) 17 storms



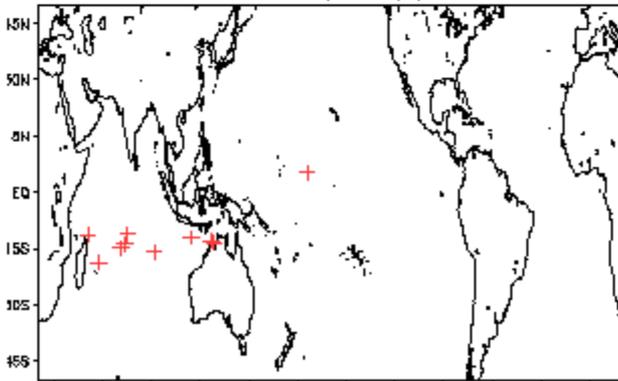
Phase 5 (77 days) 17 storms



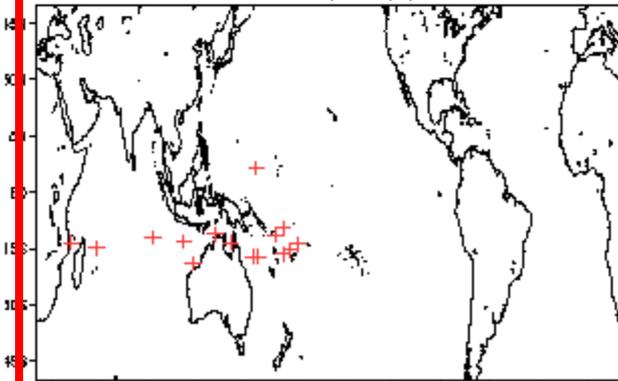
Phase 8 (92 days) 8 storms



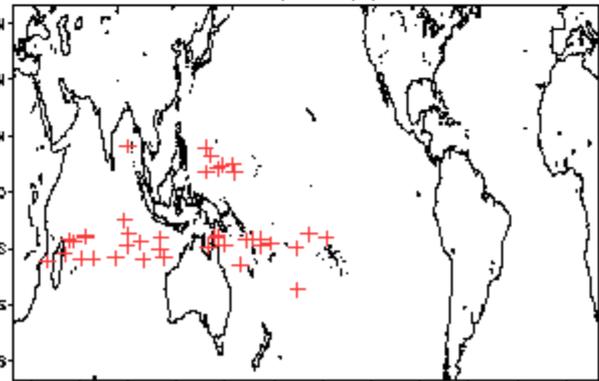
Phase 3 (108 days) 11 storms



Phase 6 (78 days) 16 storms

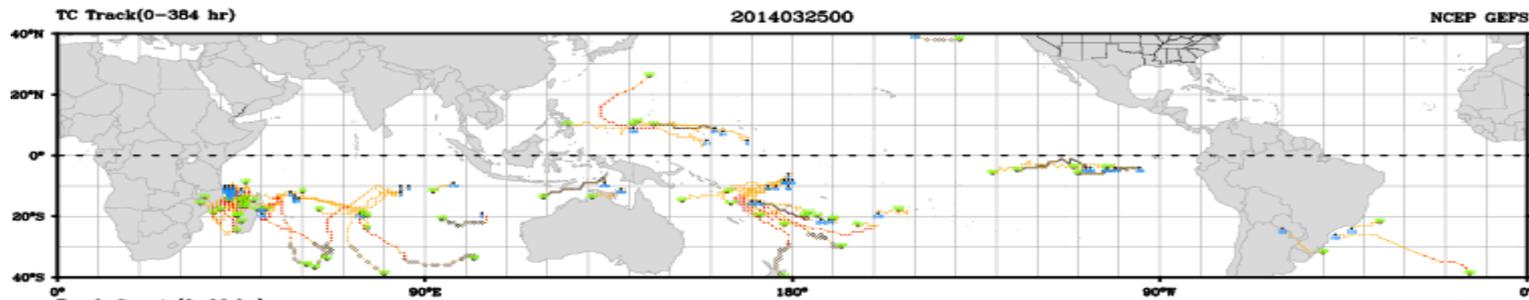


Null (322 days) 40 storms



2014032500

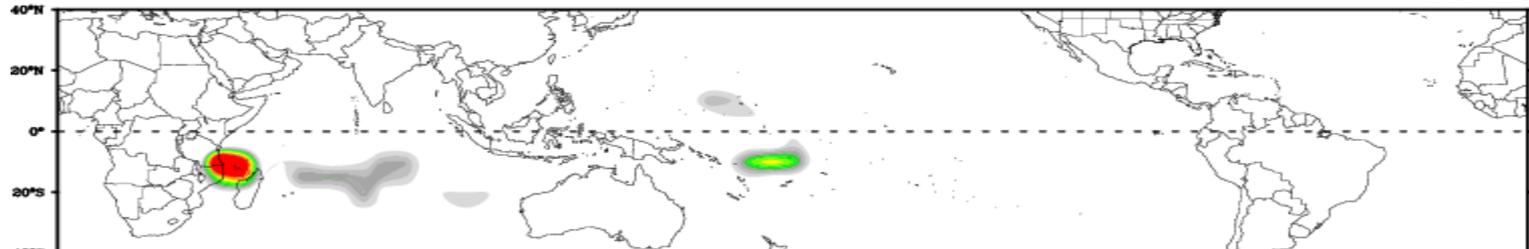
NCEP GEFS



Track Count (0-96 hr)

NCEP GEFS

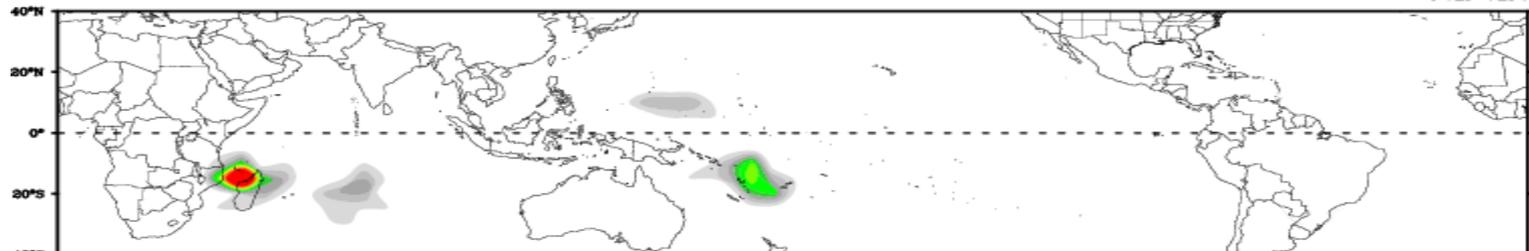
Days 1-4



Track Count (102-192 hr)

NCEP GEFS

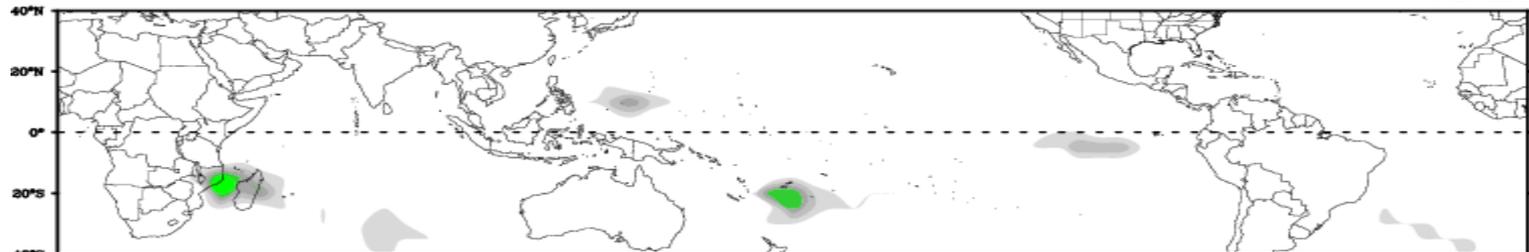
Day 5-8



Track Count (198-288 hr)

NCEP GEFS

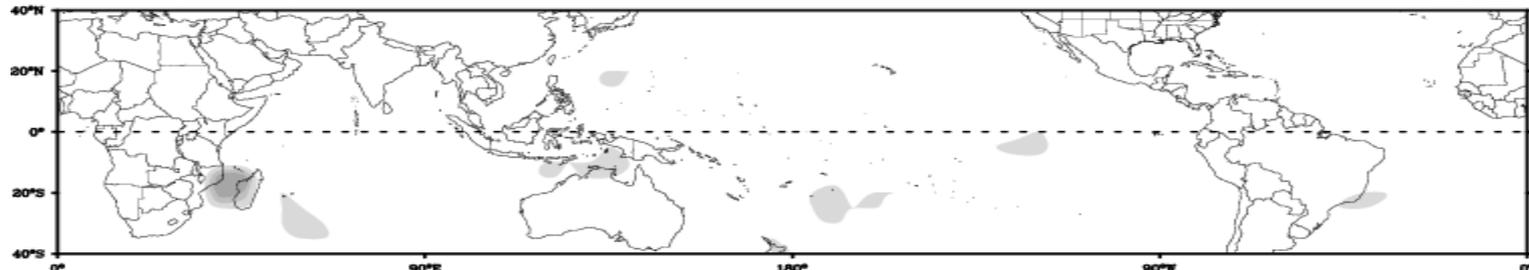
Day 9-12

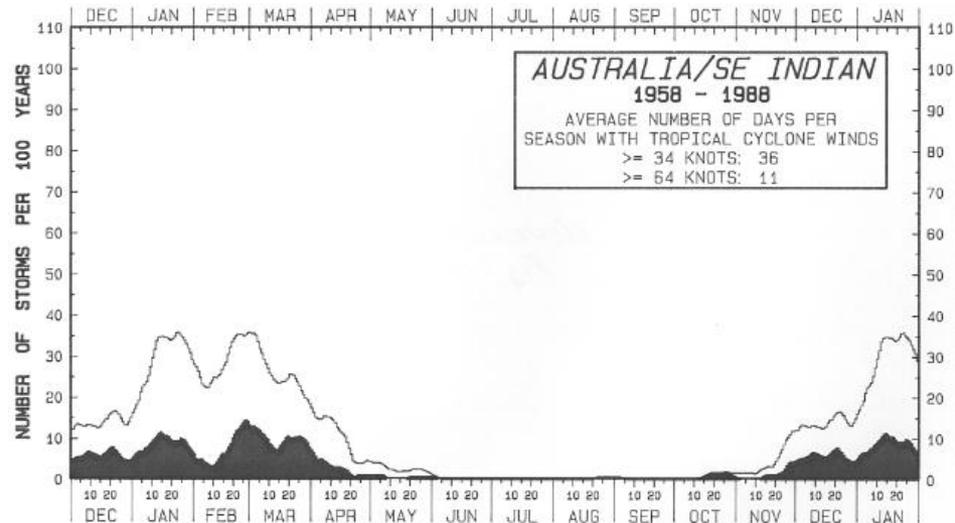
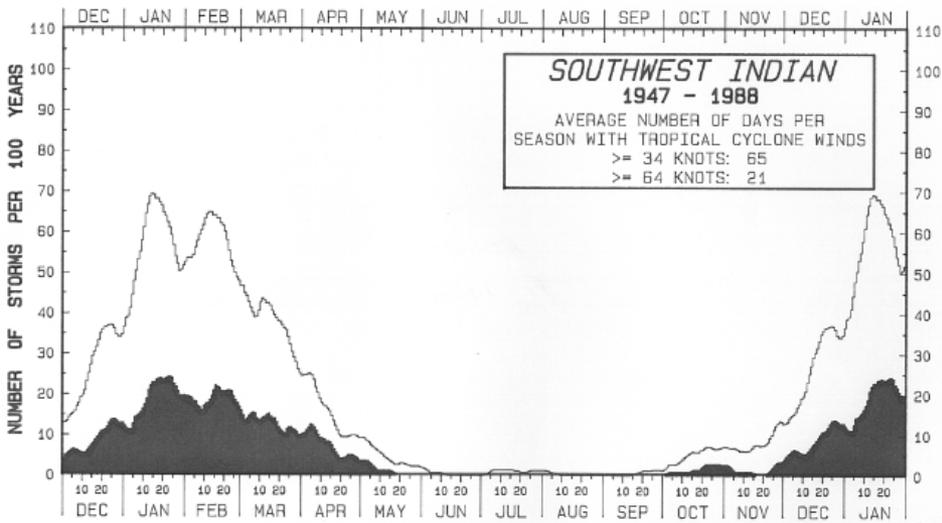
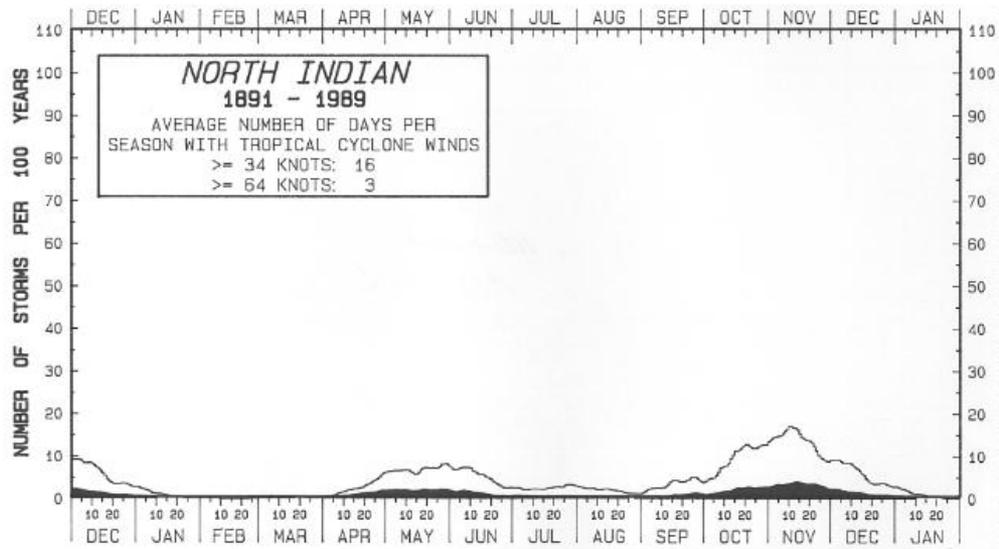


Track Count (294-384 hr)

NCEP GEFS

Day 13-15





Connections / U.S. Impacts

US Composites based on MJO Phase

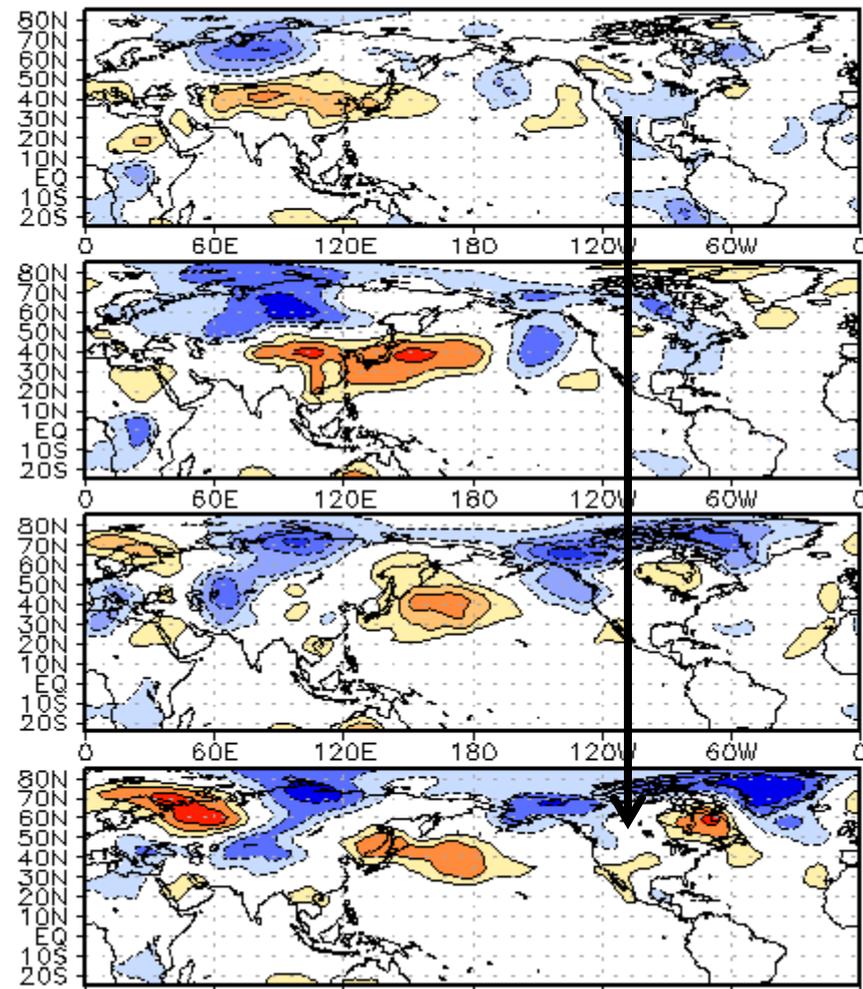
Indicates a shift toward warmer conditions across the central and southwest CONUS.

Signal is weak at best.

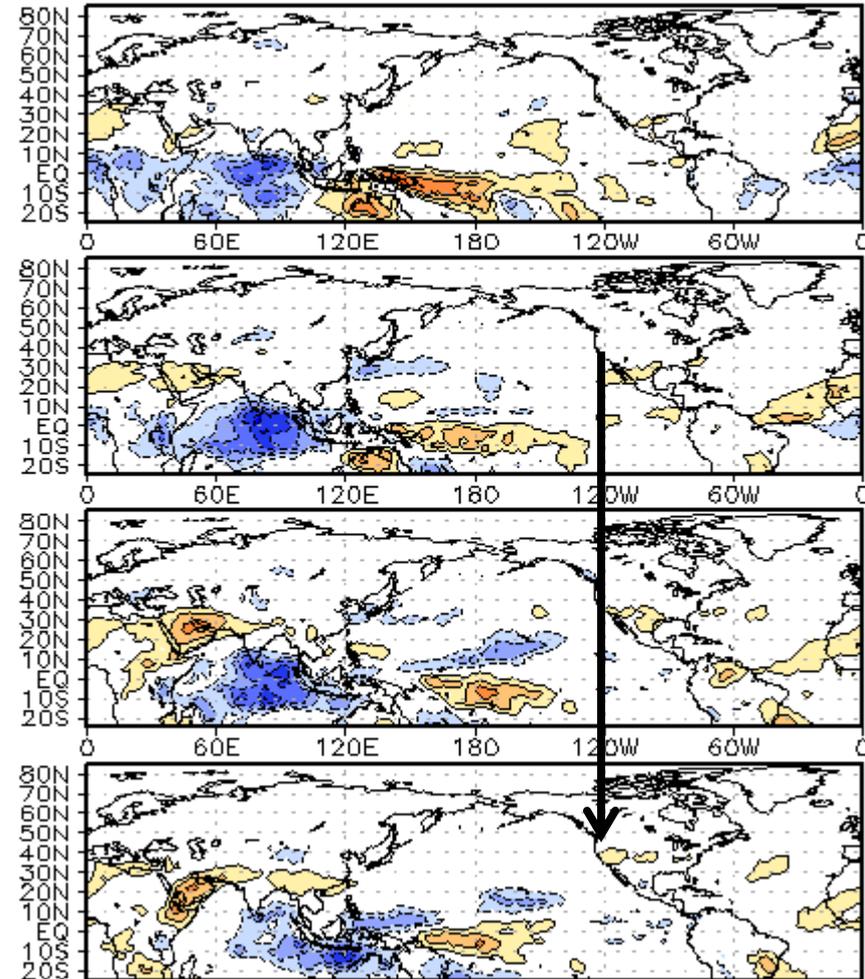
Would also support dryness over the southwest.

Signal is weak at best.

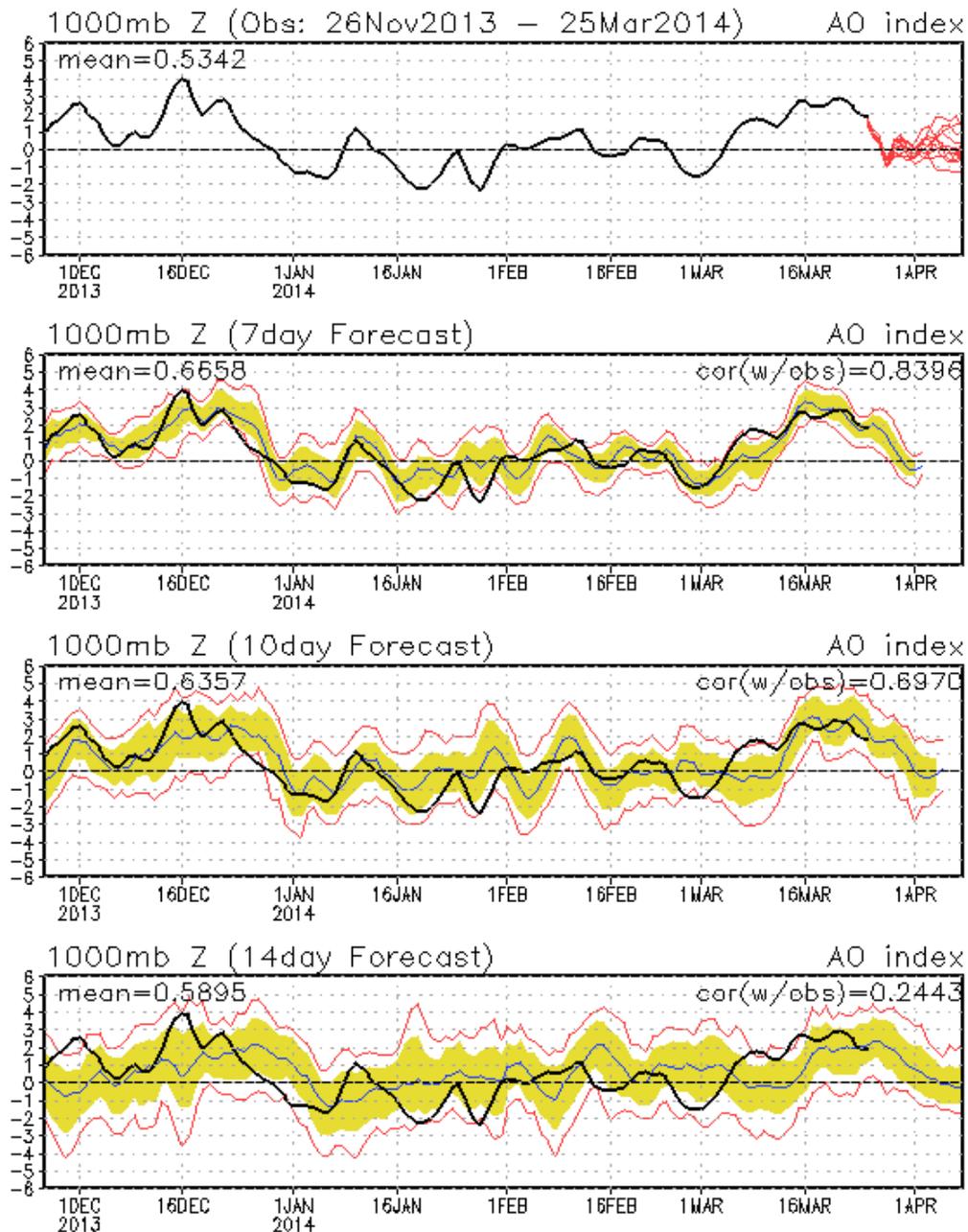
WHMJO Phase 2 t850 Lagged Composite (fma)



WHMJO Phase 2 air Lagged Composite (fma)



AO: Observed & ENSM forecasts

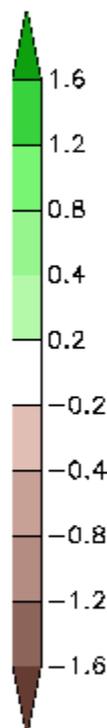
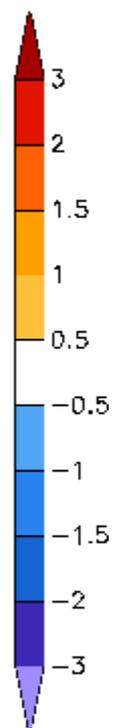
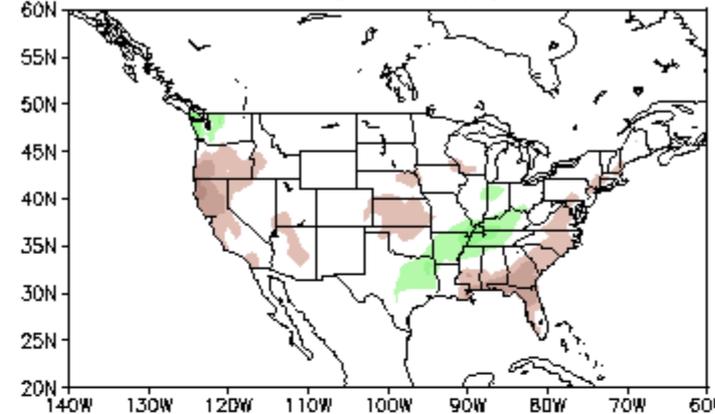
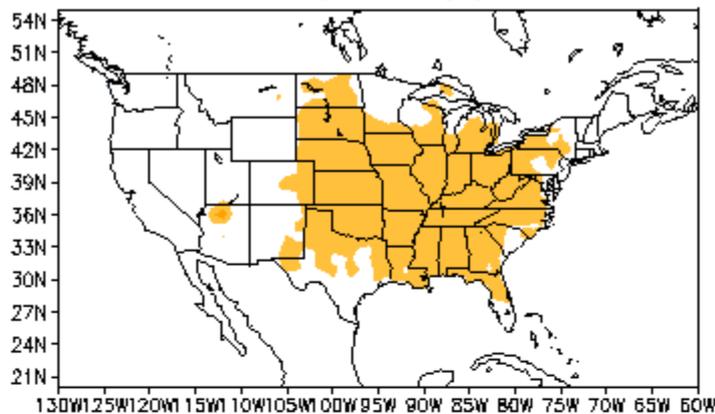


FMA Temperature Anomaly ($^{\circ}\text{C}$) by AO PHASE

FMA Precipitation Anomaly (mm/day) by AO PHASE

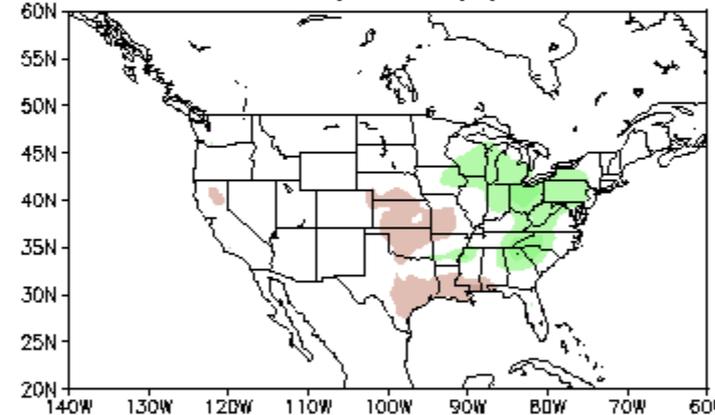
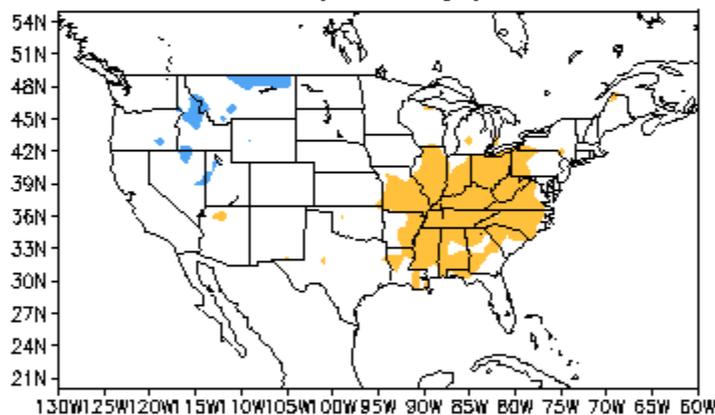
AO+ (1360 days)

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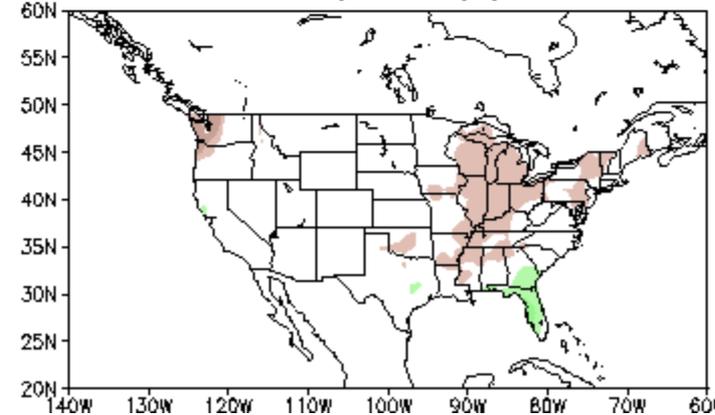
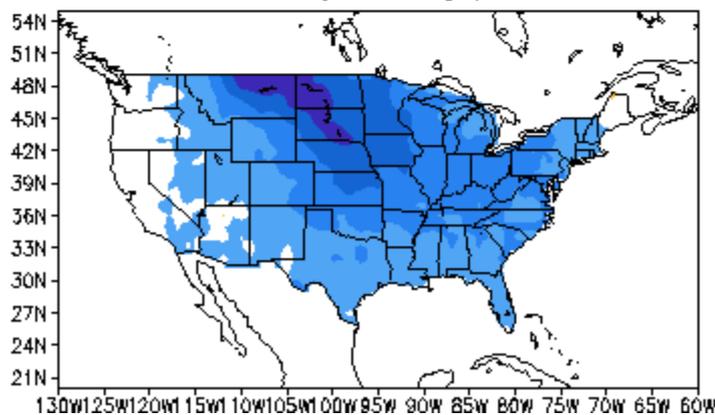
AON (1394 days)

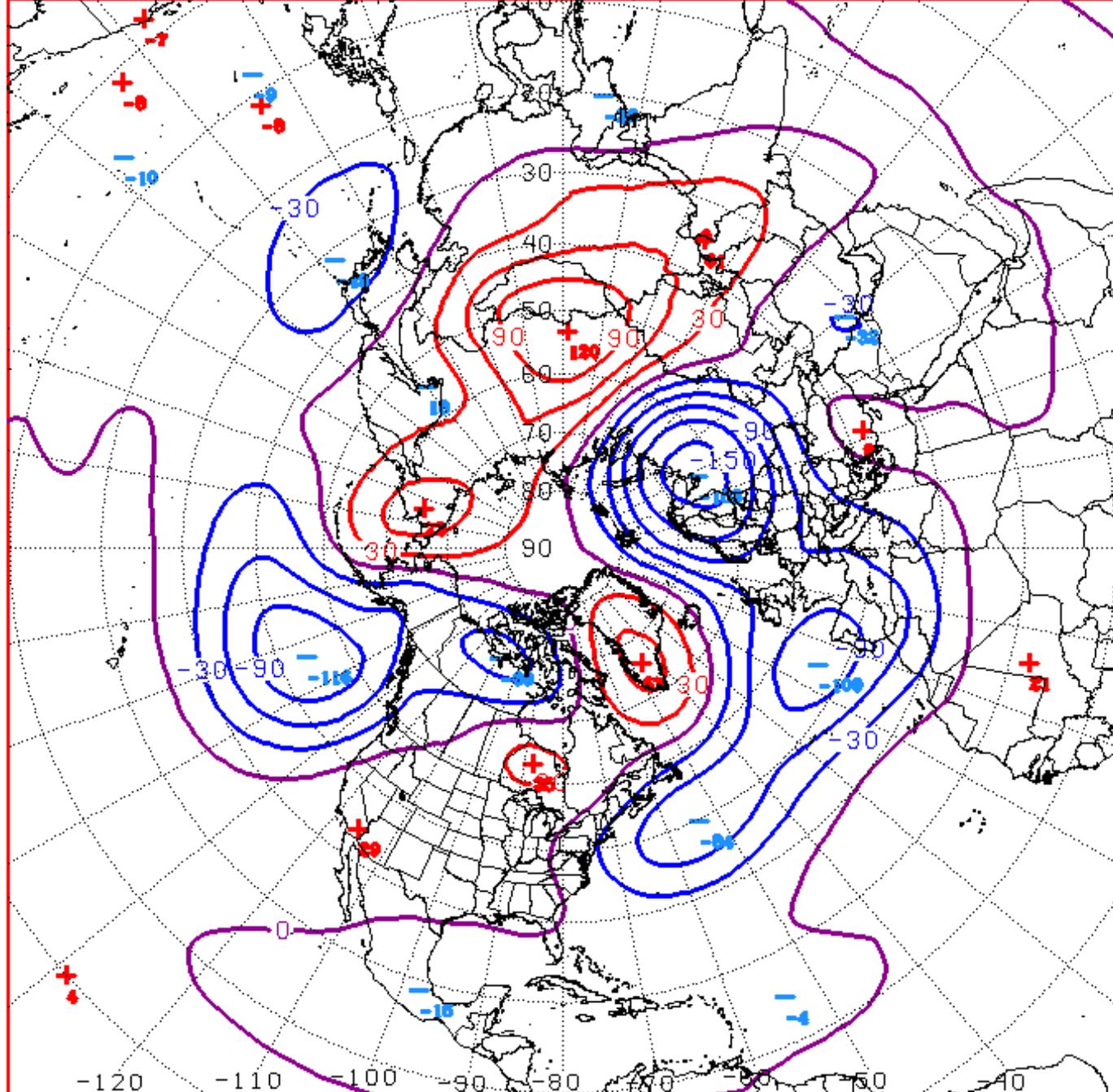
AON (1394 days)



AO- (1708 days)

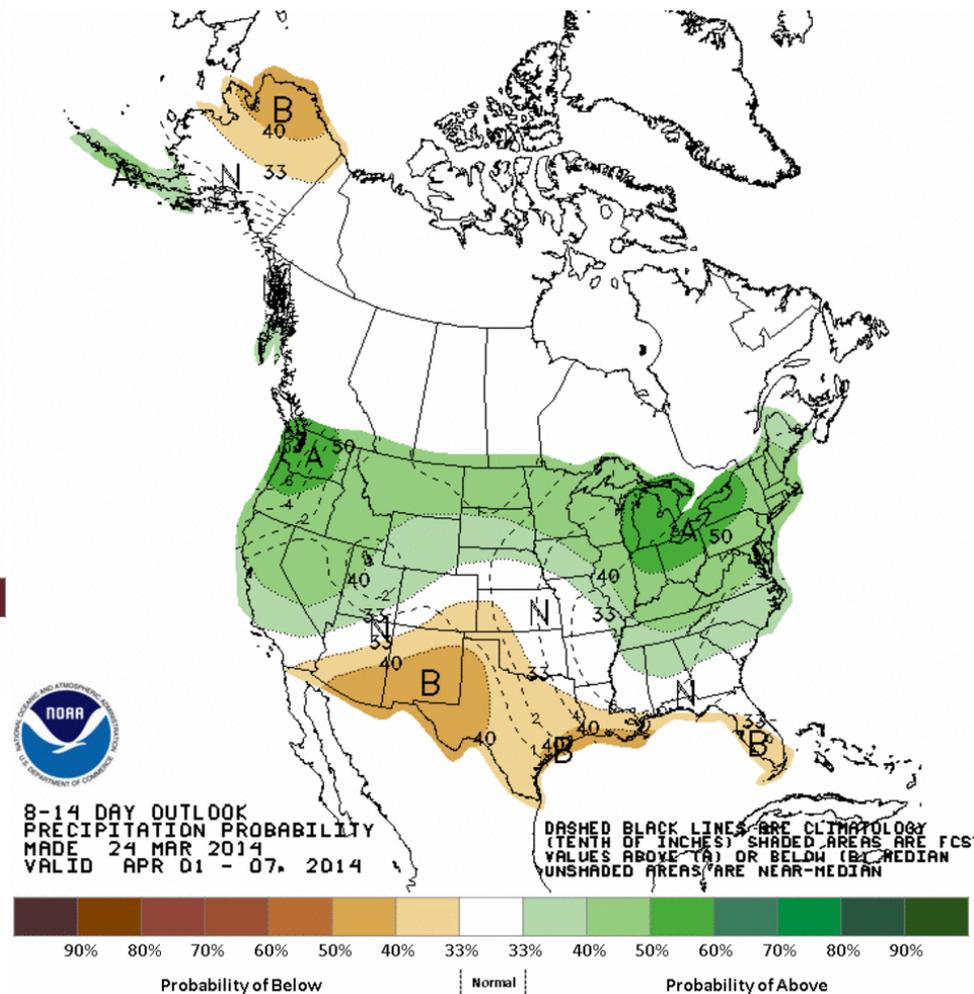
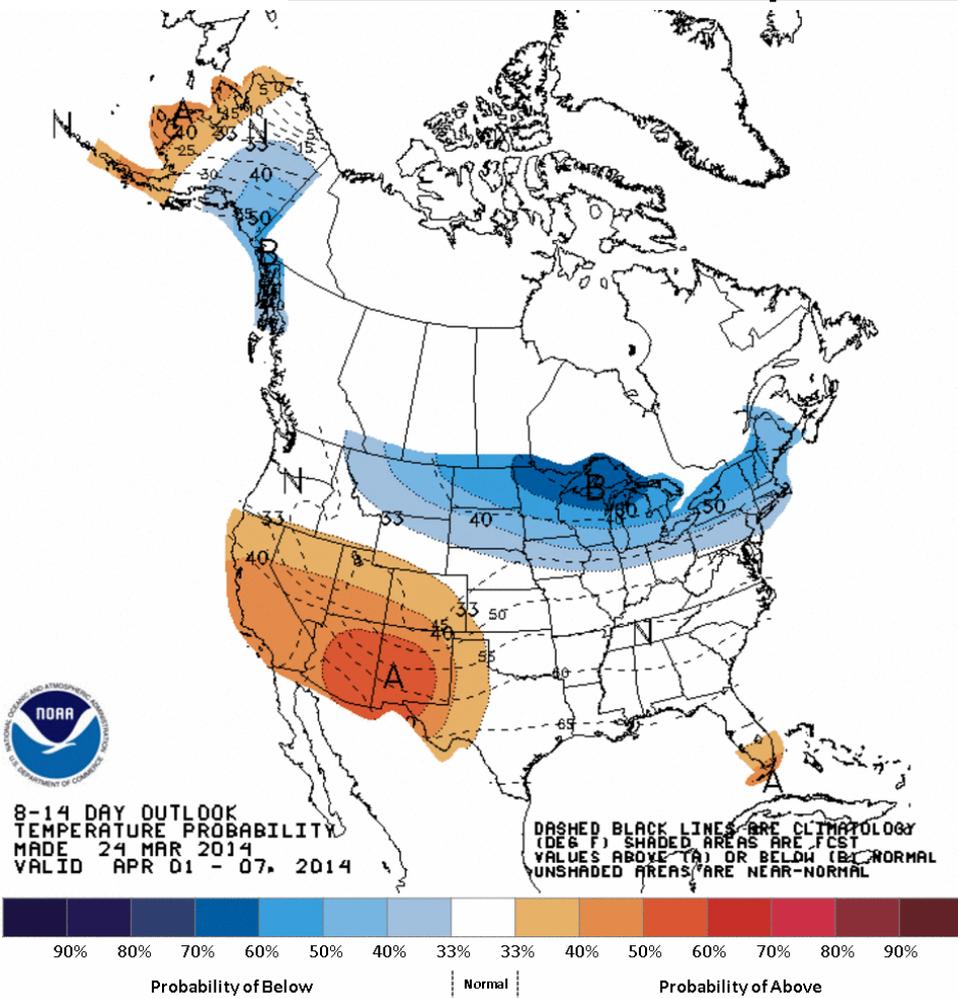
AO- (1708 days)





D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE MAR 25 2014 1050 UTC CNTD APR 05 2014

Week 2 – Temperature and Precipitation

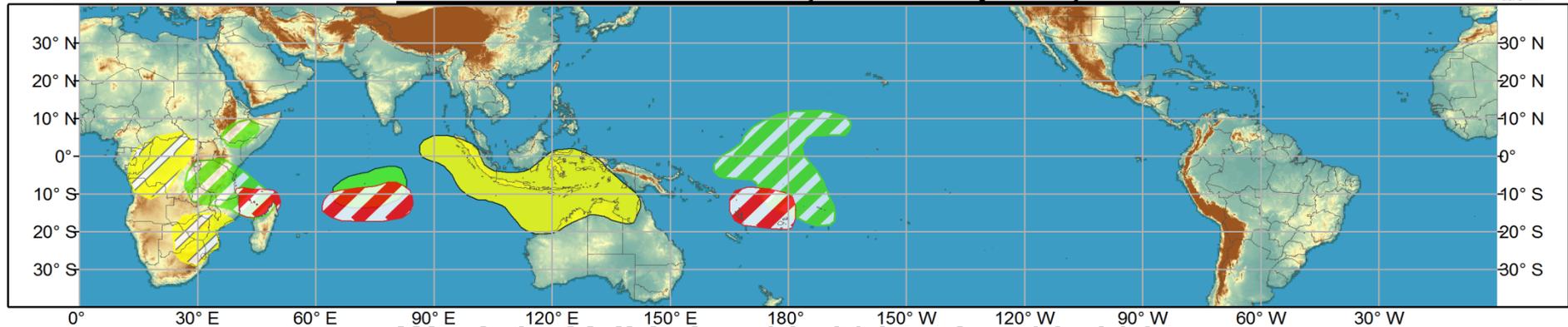




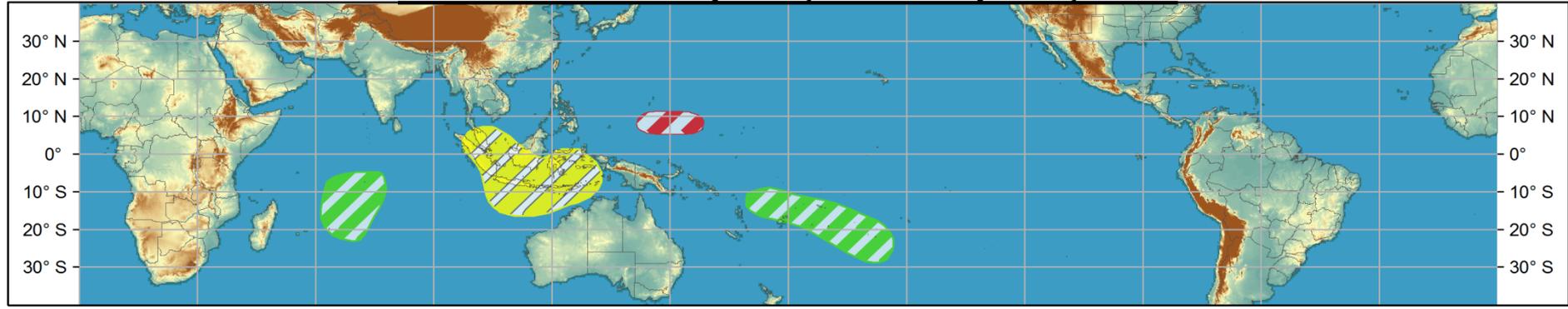
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