

Global Tropics Hazards And Benefits Outlook

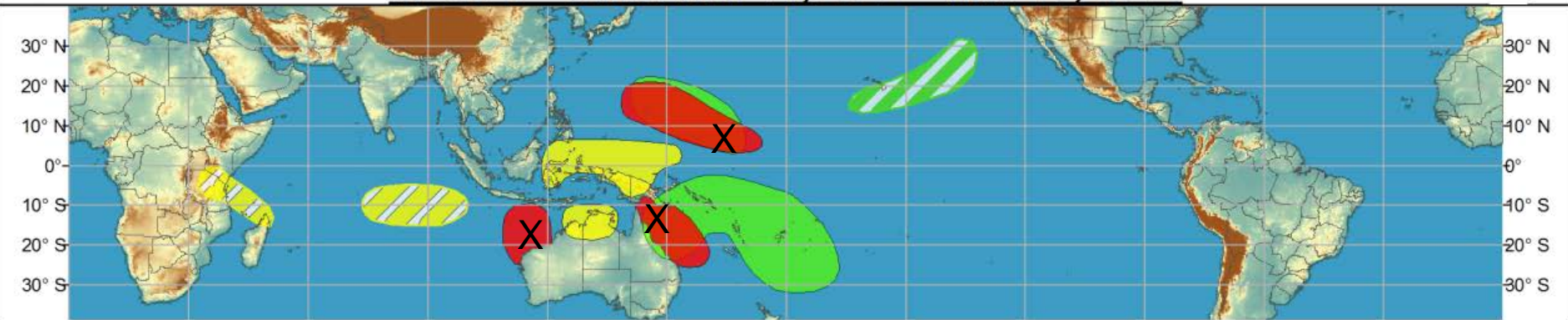
March 17, 2015

Stephen Baxter

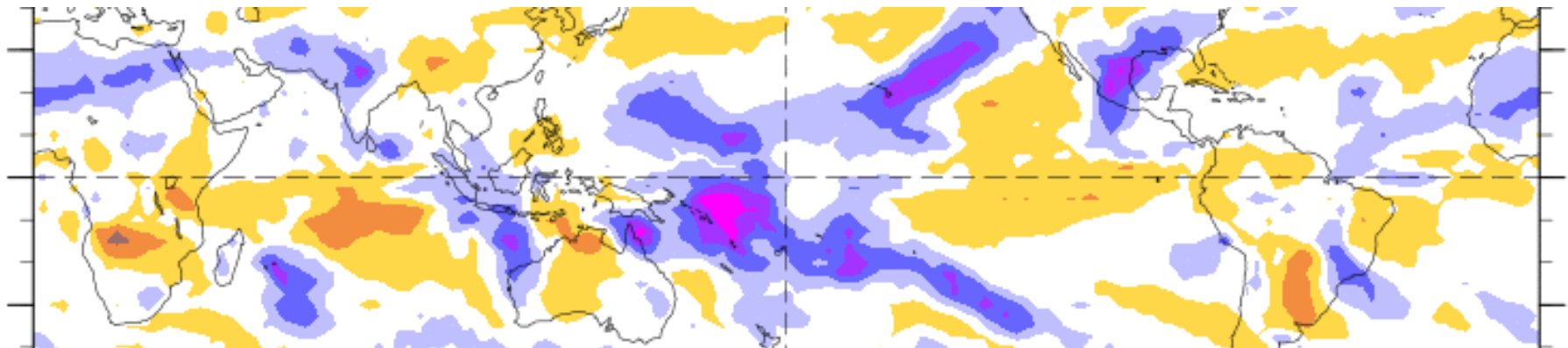
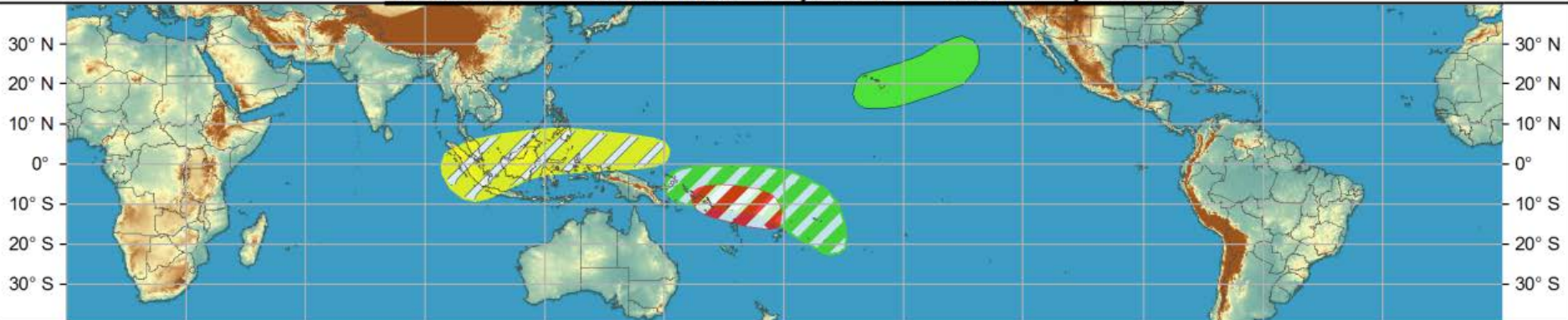
Outline

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

Week 1 - Valid: Mar 11, 2015 - Mar 17, 2015



Week 2 - Valid: Mar 11, 2015 - Mar 17, 2015



Synopsis of Climate Modes

ENSO:

- Current: El Niño Advisory
- Outlook: There is an approximately 50-60% chance that El Niño conditions will continue through Northern Hemisphere summer 2015.

MJO and other subseasonal tropical variability:

- The MJO remained active during the past week while other modes (ERW over the central Pacific and ENSO state) constructively interfered to maintain a broader scale enhanced convective envelope over the Pacific.
- Dynamical models favors a substantial weakening of the MJO signal as the background state becomes more dominant in Week-2. Statistical models favor a continued robust MJO event.

Extratropics:

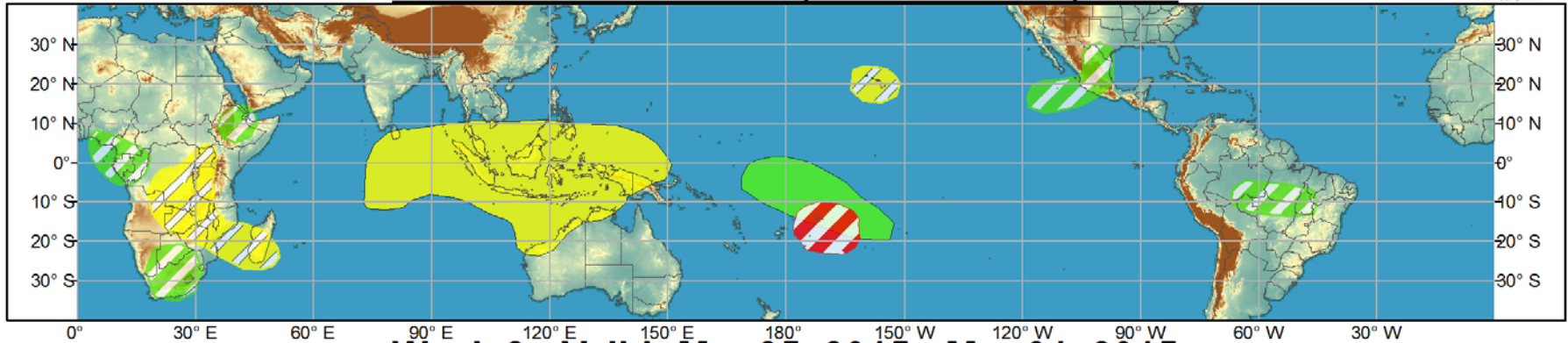
- The strong divergent anomalies in the deep tropics could play a role in the evolution of the global extratropical pattern. Strong western and central Pacific convective events favor ridging over Alaska and troughing over the eastern CONUS at a lag of 10-25 days, mainly in wintertime.



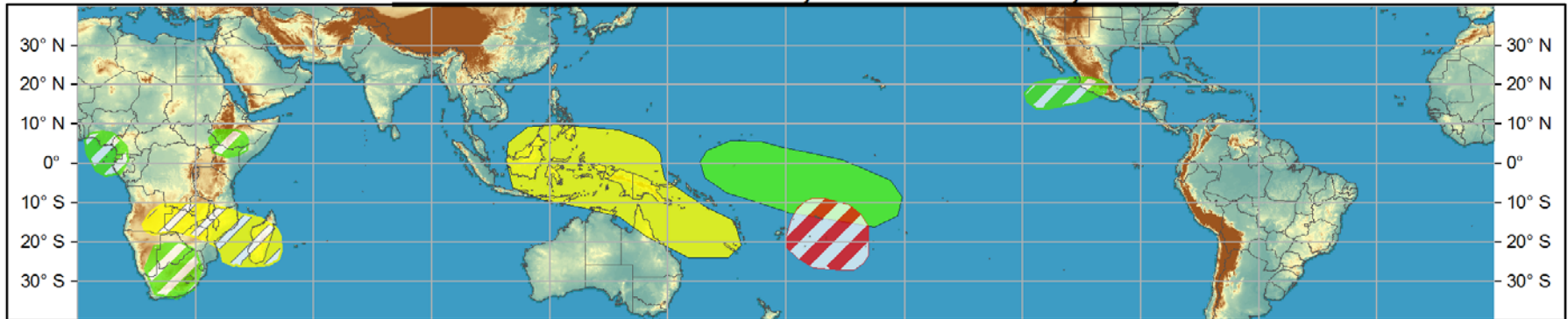
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Mar 18, 2015 - Mar 24, 2015



Week 2 - Valid: Mar 25, 2015 - Mar 31, 2015



Produced: 03/17/2015

Forecaster: Baxter

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.
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- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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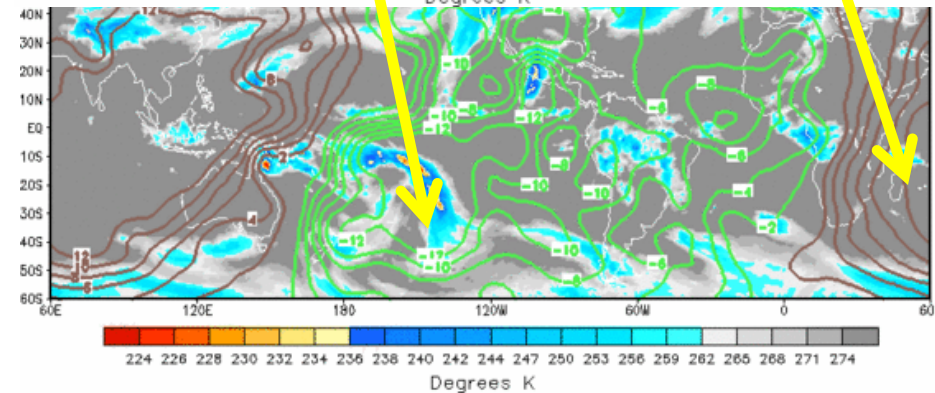
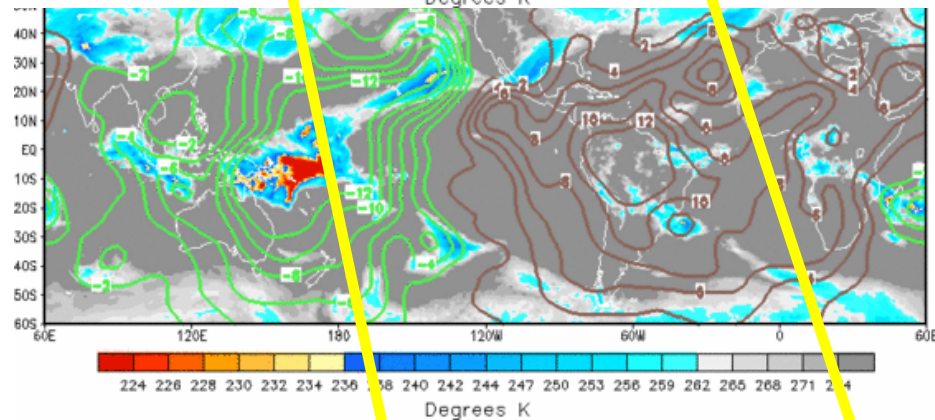
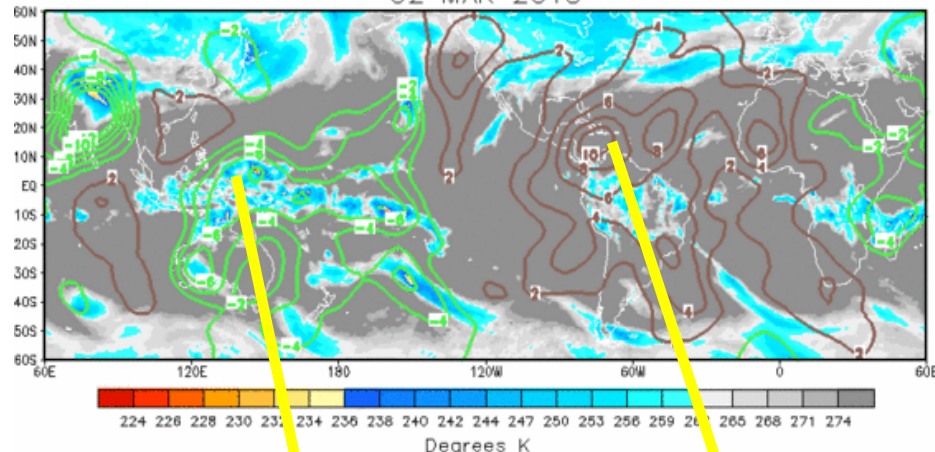


IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

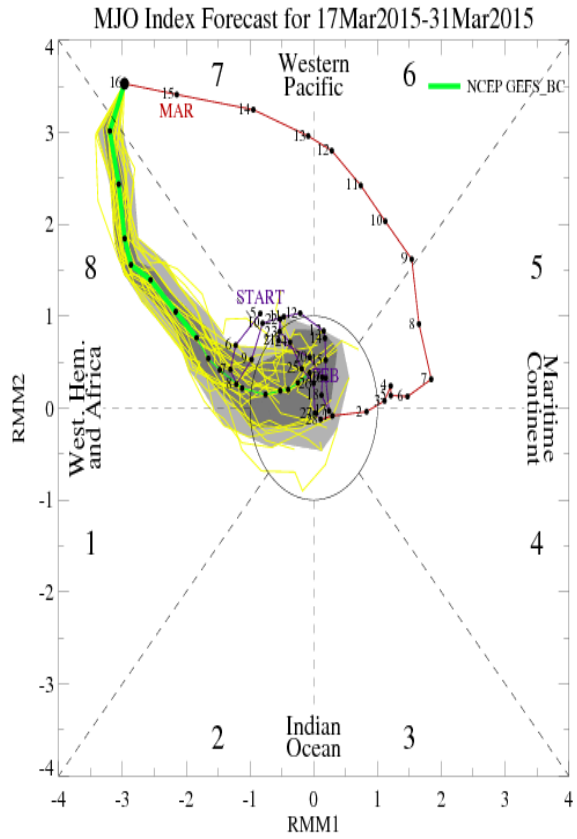
Brown: Enhanced Convergence

02 MAR 2015

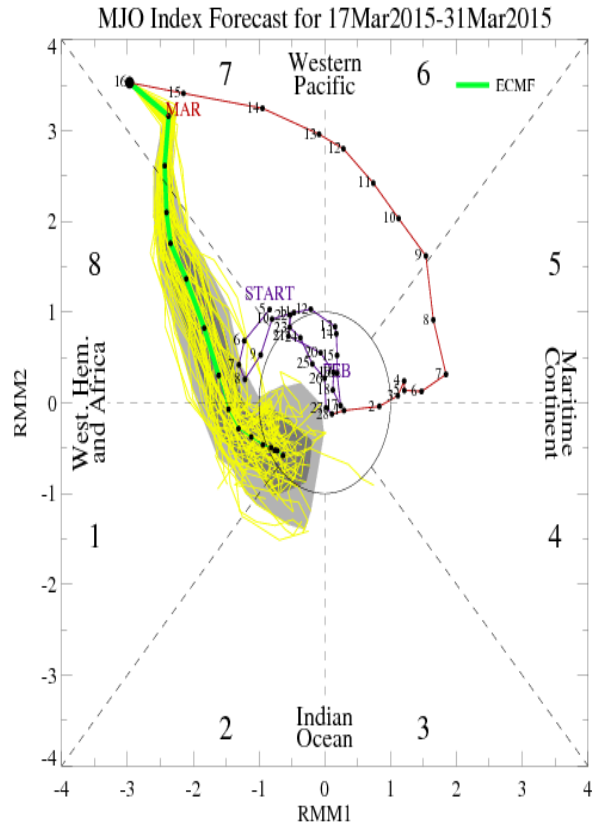


Slow eastward propagation of the convective anomaly is observed, but the phase speed is unclear due to interference among various modes of variability.

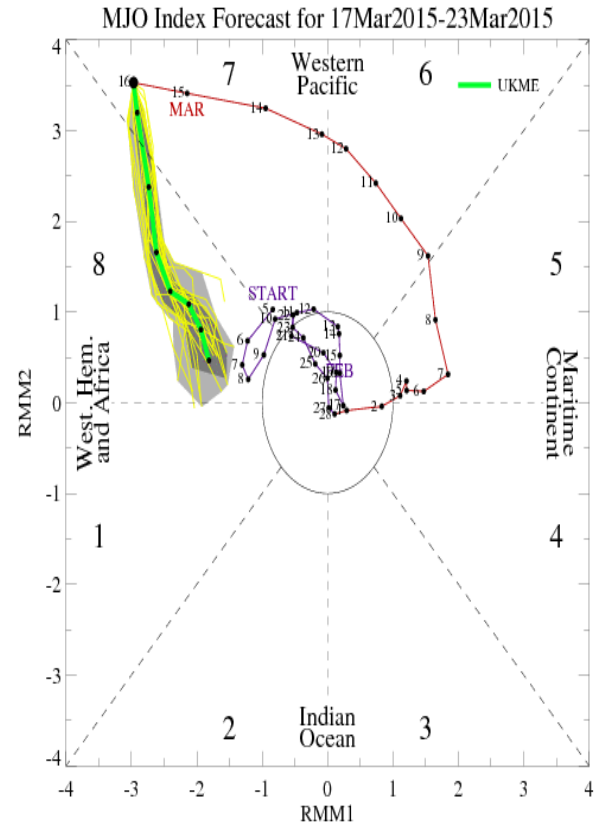
MJO Observation/Forecast



GFS

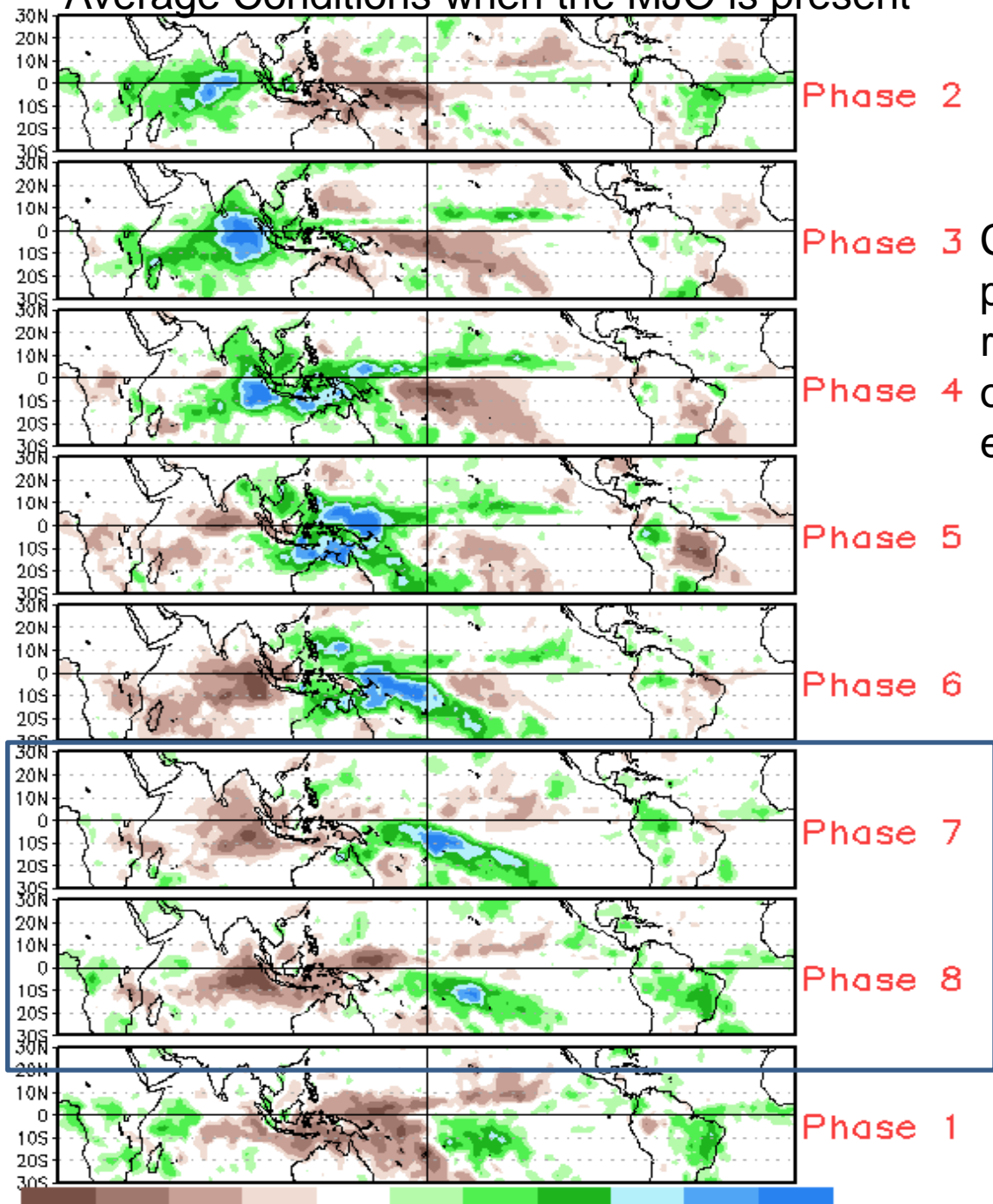


ECMWF



UKMET

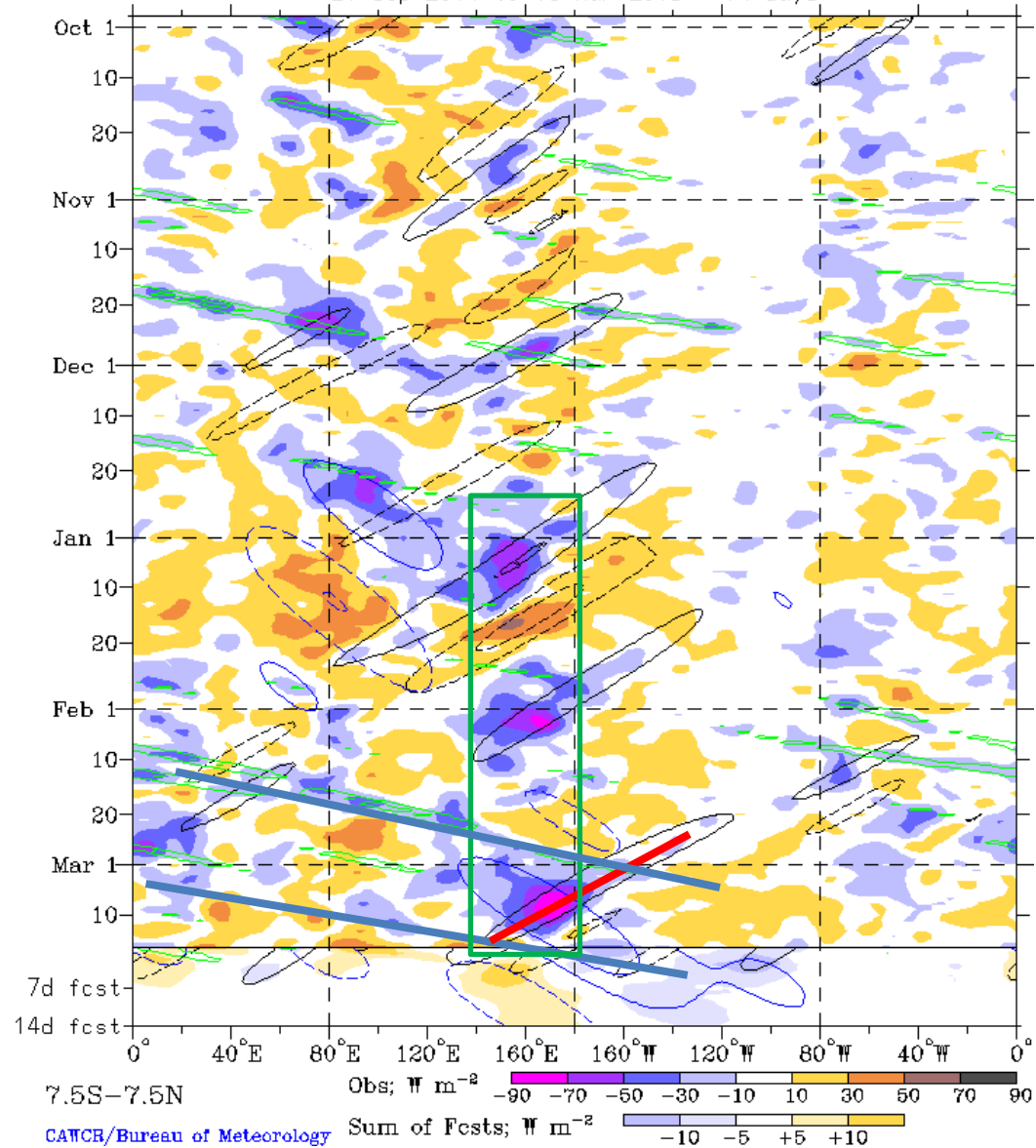
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

Real-time filtering superimposed upon 1-2-1filt, R21, OLR Anoms
 MJO blue CINT=10; n1ER black CINT=10; Kelvin green CINT=15
 Negative contours solid, positive dashed (excluding Kelvin)
 29-Sep-2014 to 16-Mar-2015 + 14 days

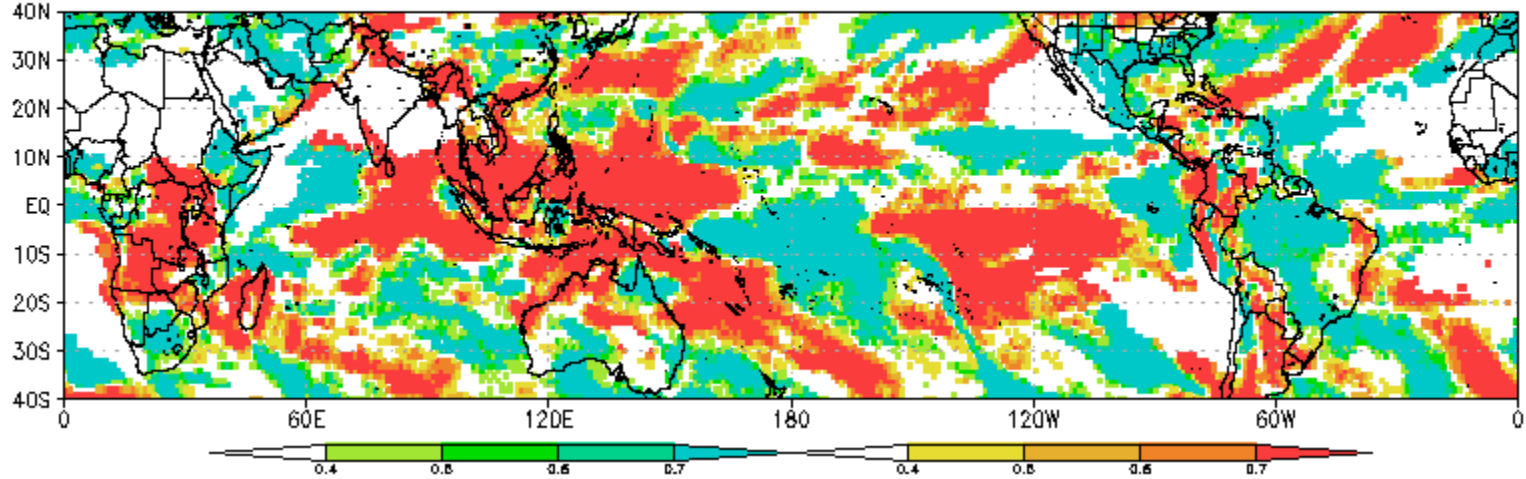
Low frequency is contributing,
 especially near 170E (Green
 box).



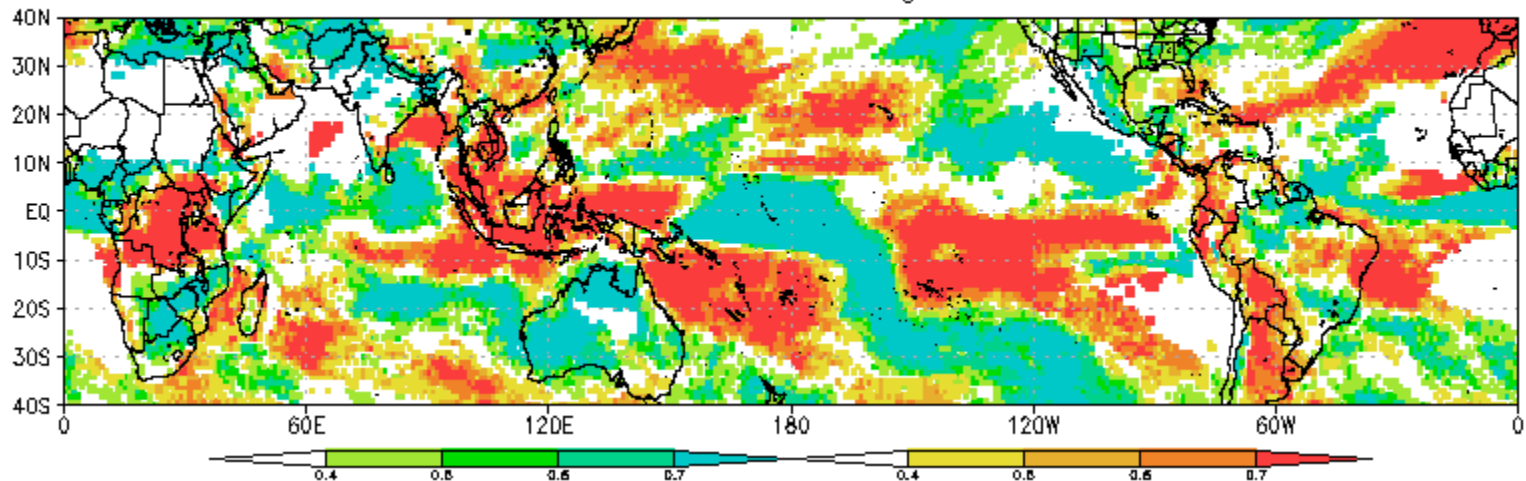
Kelvin Wave activity from the I.O.
 across the Maritime Continent
 (blue lines)

Equatorial Rossby Waves propagating
 across the central Pacific (red line).

CFSv2 Precipitation Probabilities Issued 16Mar2015
Week-1 Forecast Ending 24Mar2015



CFSv2 Precipitation Probabilities Issued 16Mar2015
Week-2 Forecast Ending 31Mar2015

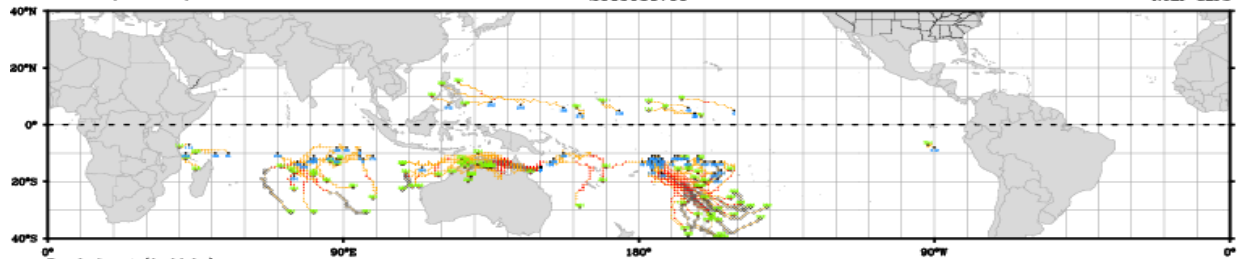


CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)

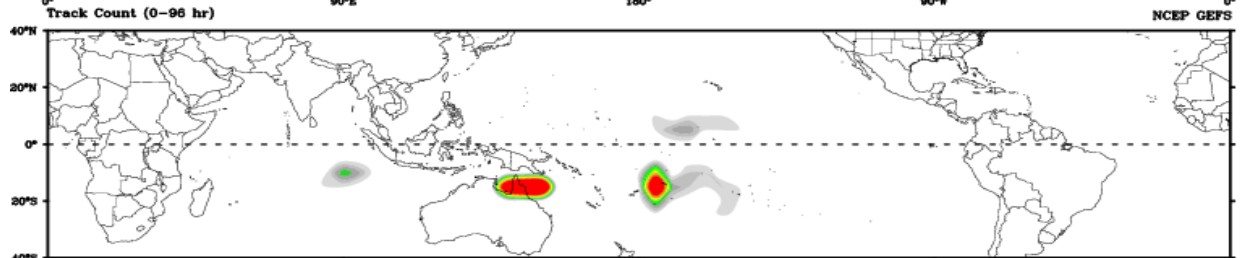
TC Track(0-384 hr)

2015031706

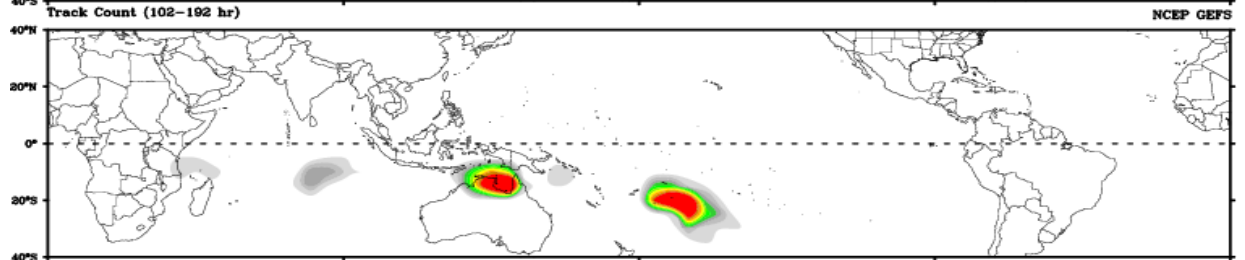
NCEP GEFS



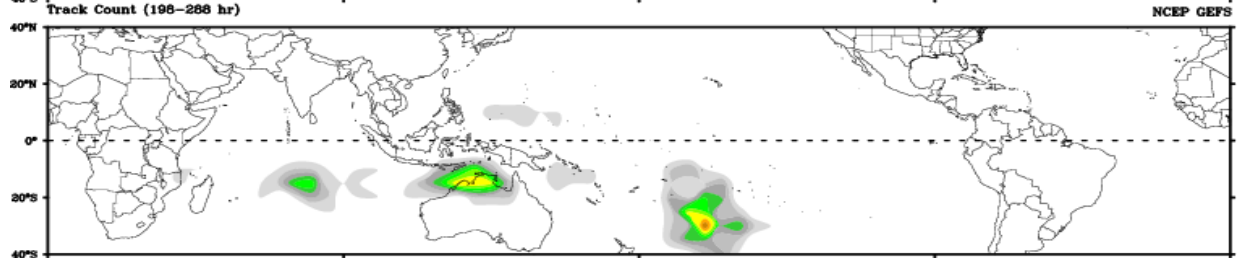
Days 1-4



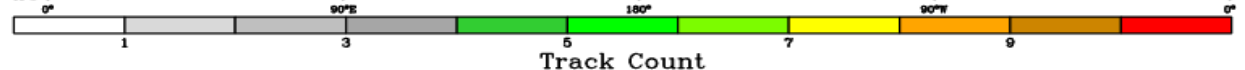
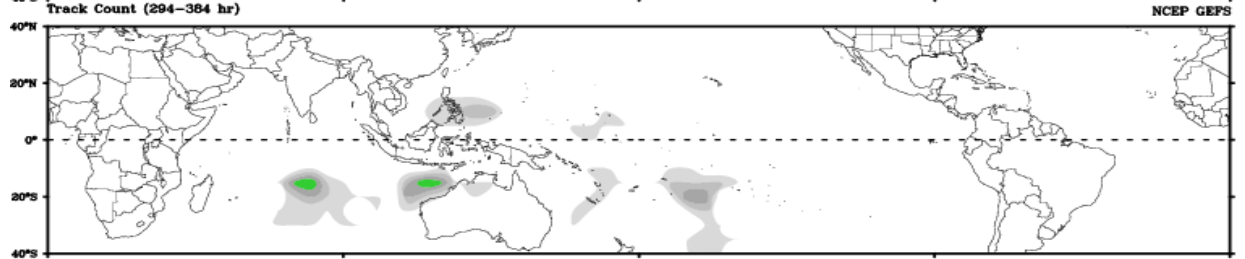
Day 5-8



Day 9-12

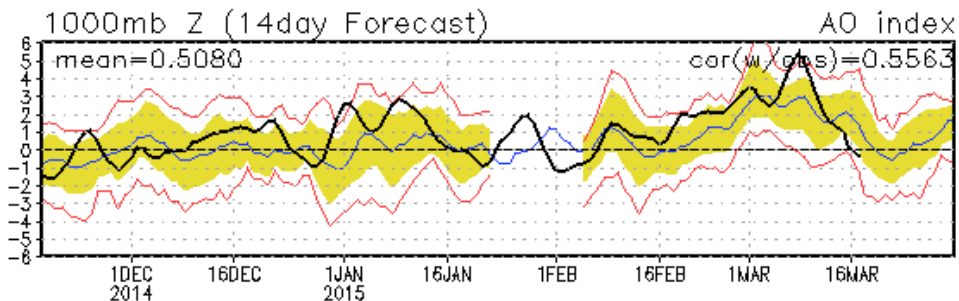
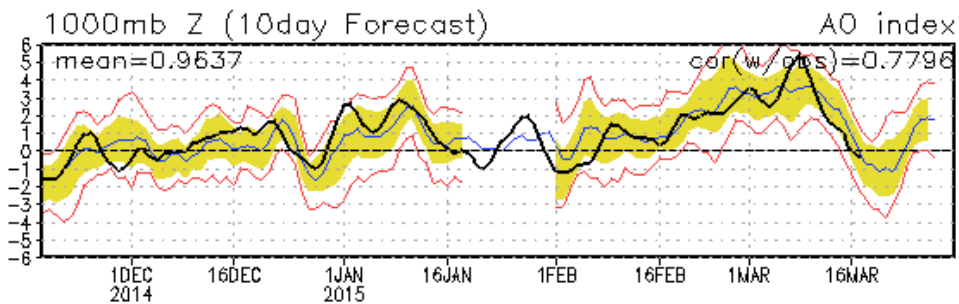
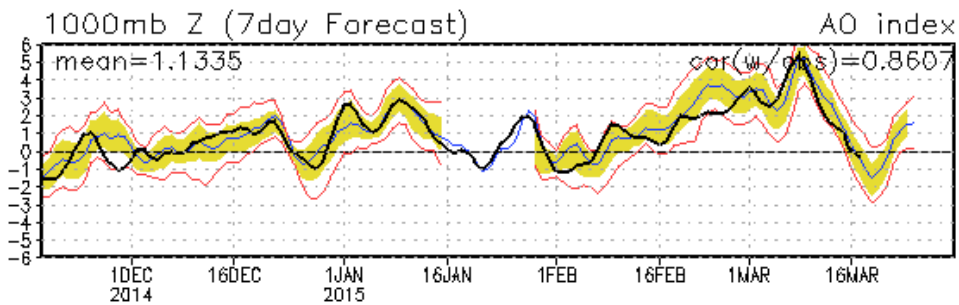
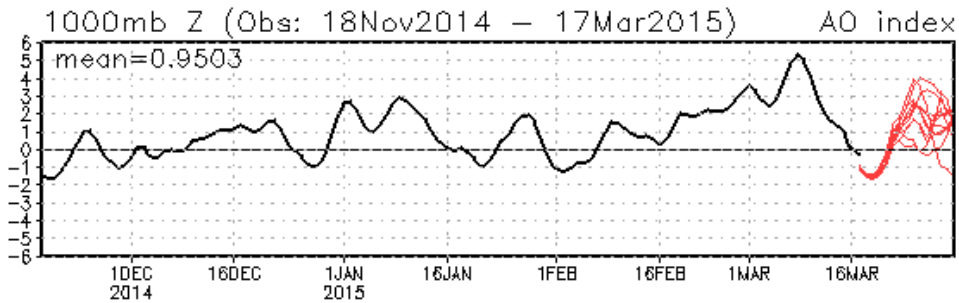


Day 13-15



Connections to U.S. Impacts

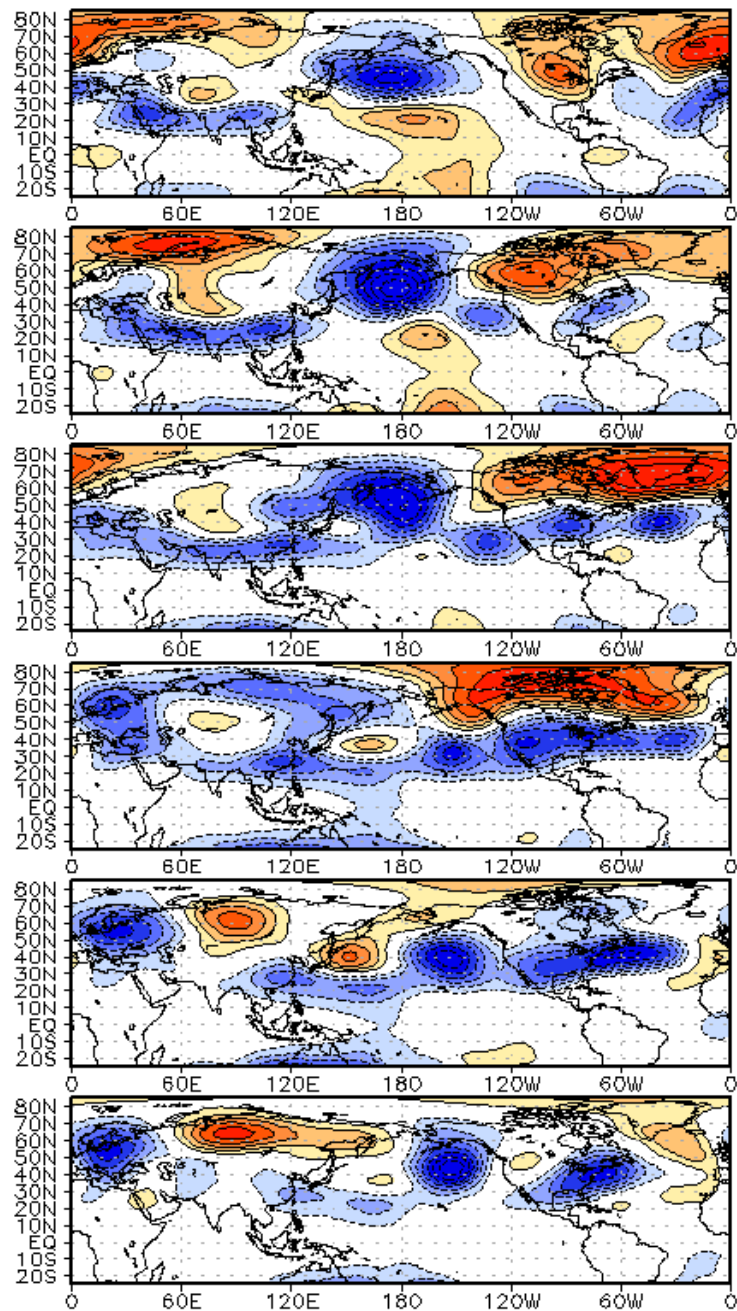
AO: Observed & ENSM forecasts



Lagged composites from MJO

5-day intervals

WHMJO Phase 7 z200 Lagged Composite (fma)



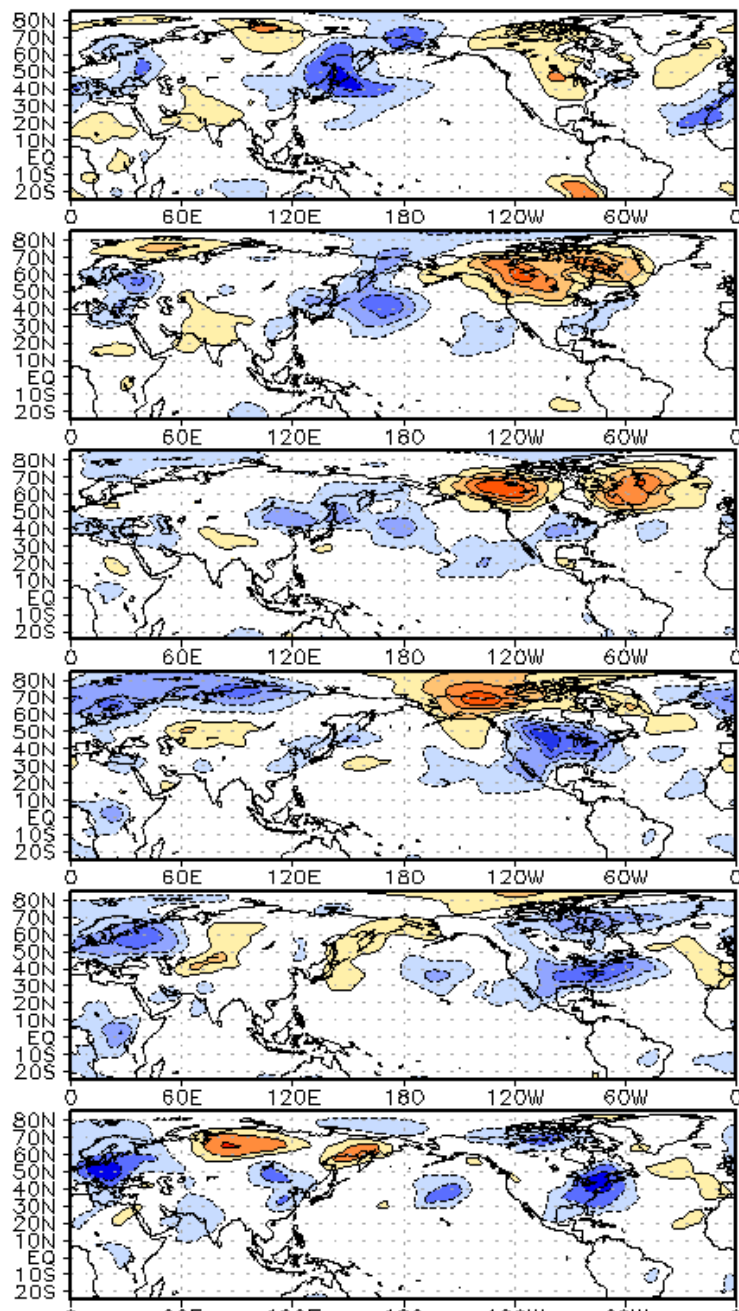
+5-day

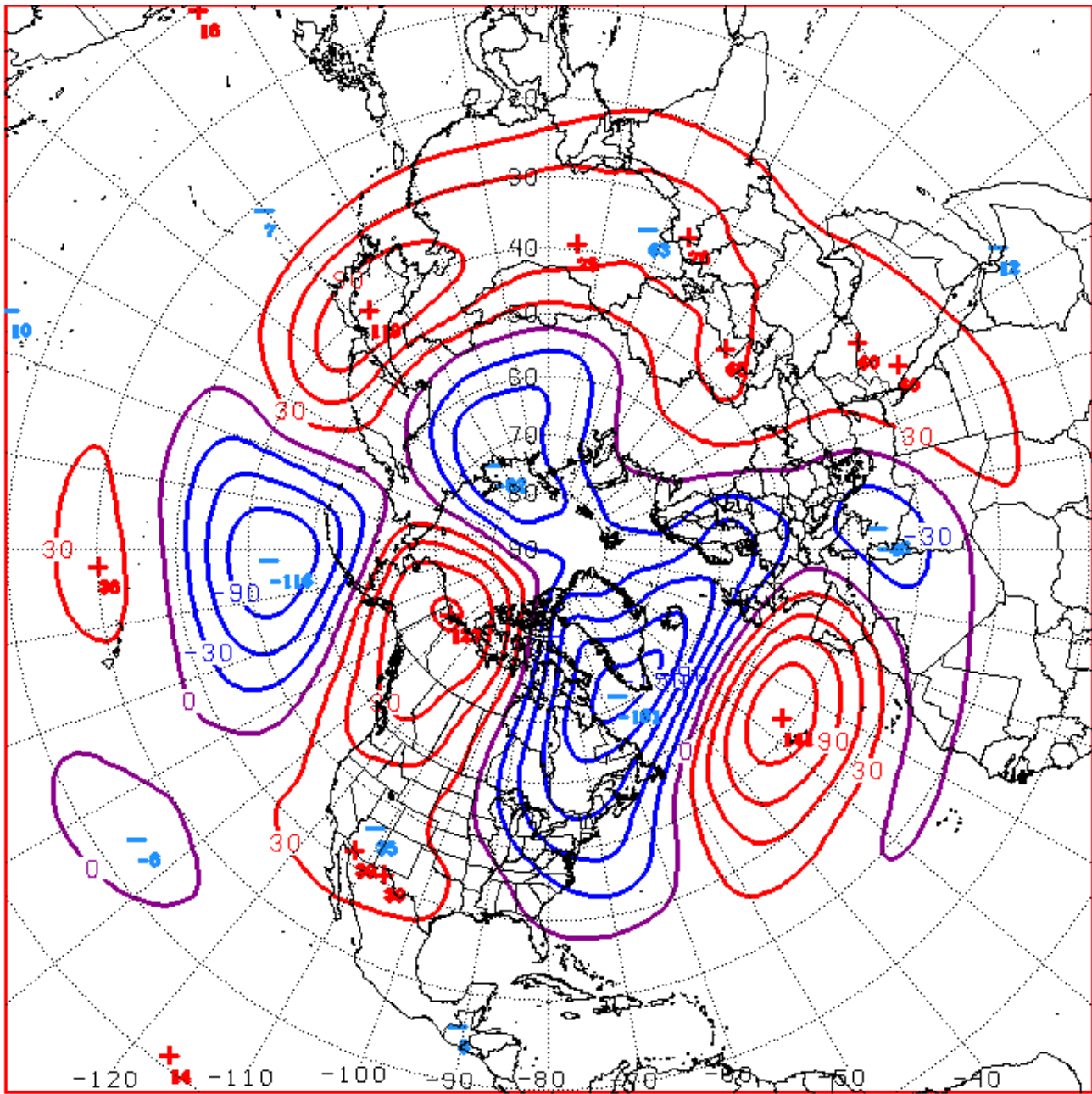
+10-days

+15-days

+20-days

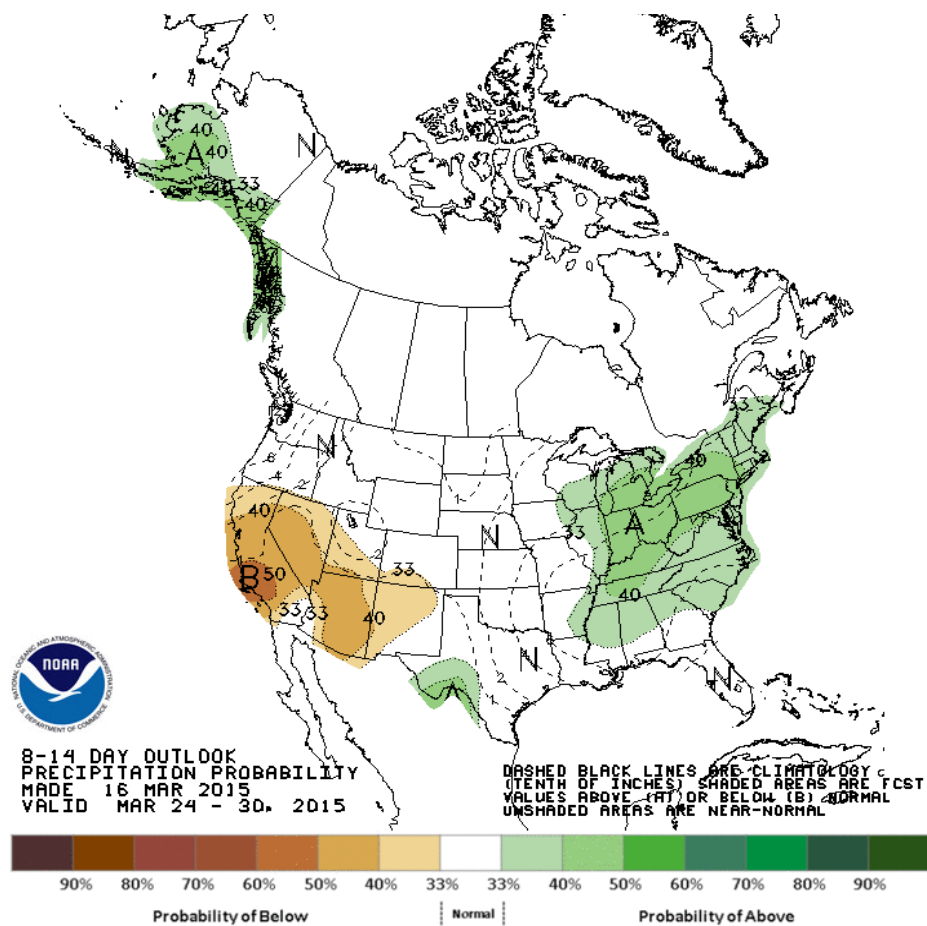
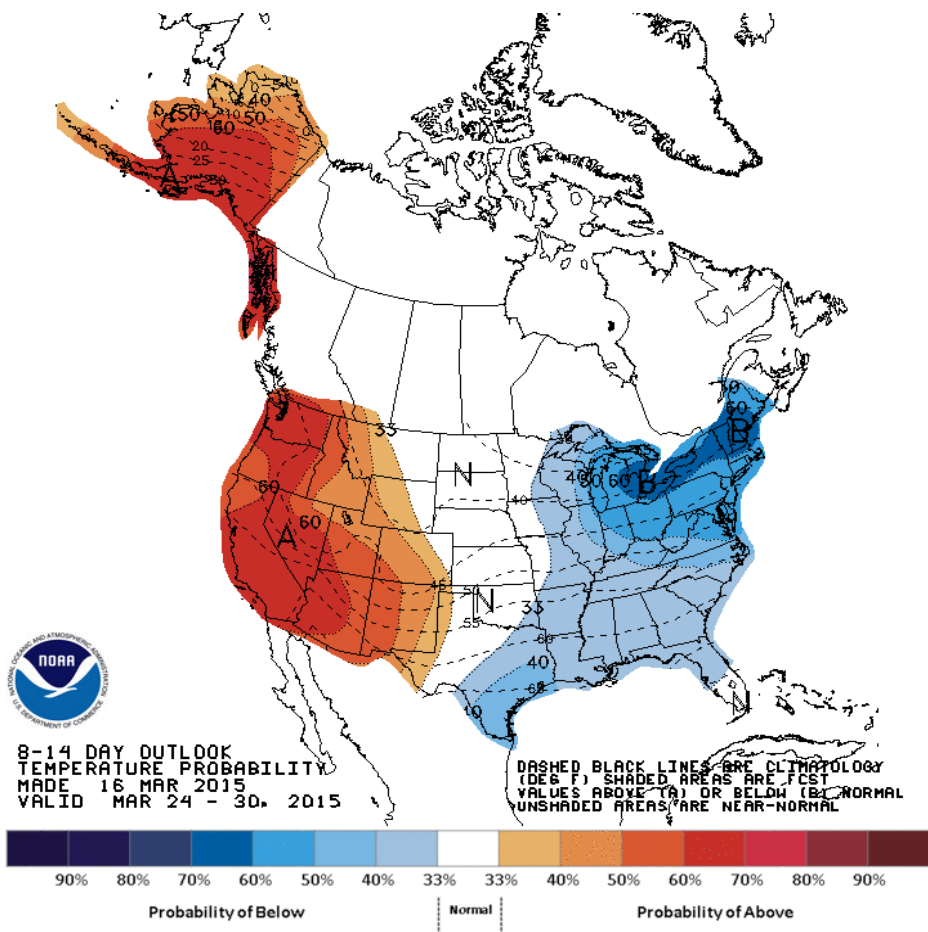
WHMJO Phase 7 t850 Lagged Composite (fma)



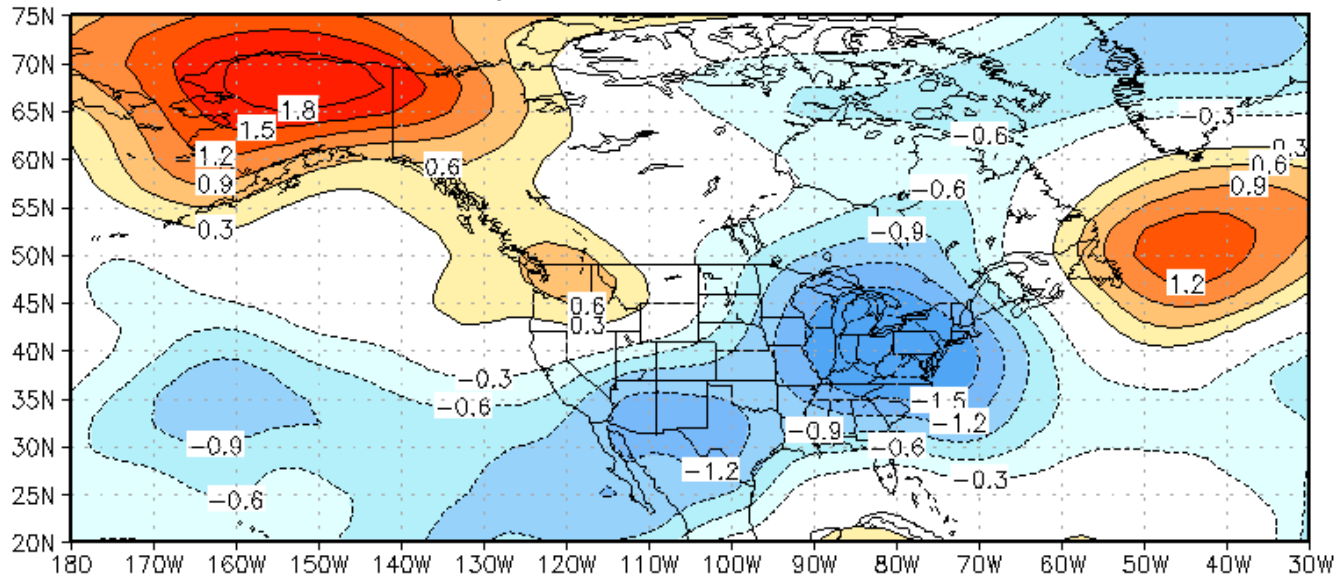


D+11 500 MB ANOMALIES FROM 06Z ENSM
 CPC MAP MADE MAR 17 2015 1243 UTC CNTD MAR 28 2015

Week 2 – Temperature and Precipitation



Weeks 3/4 MJO T850 Forecast



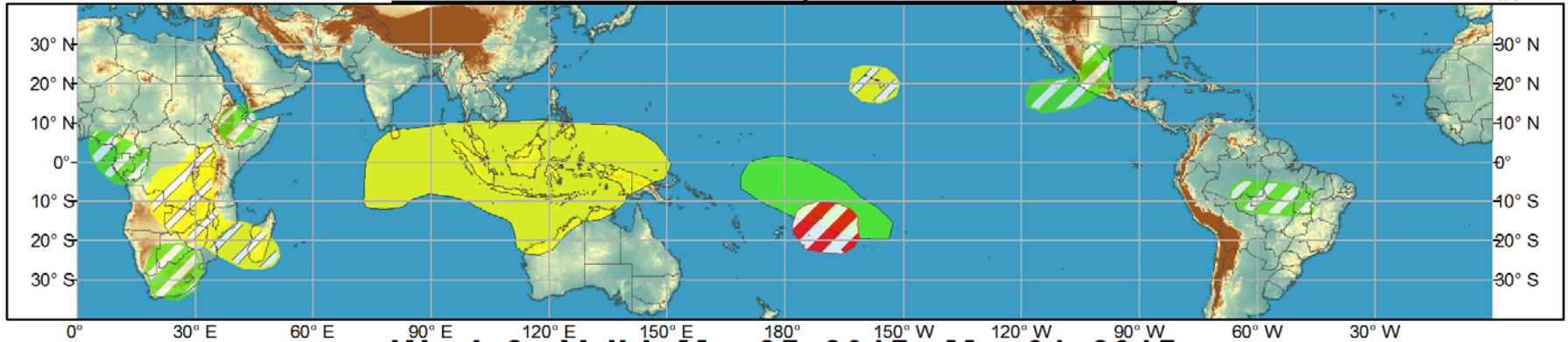
Stronger projection during the winter months, weaker during the Spring.
March is transitional.



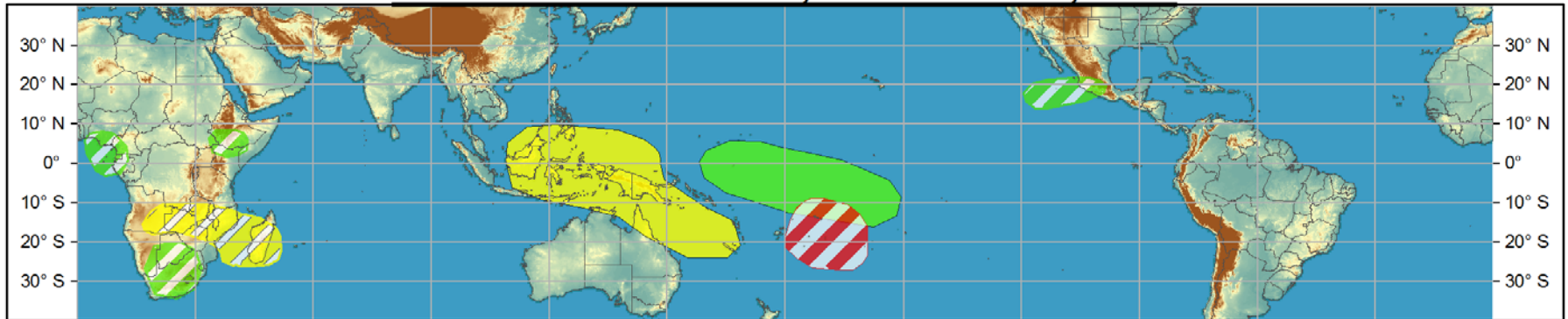
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