Global Tropics Hazards And Benefits Outlook
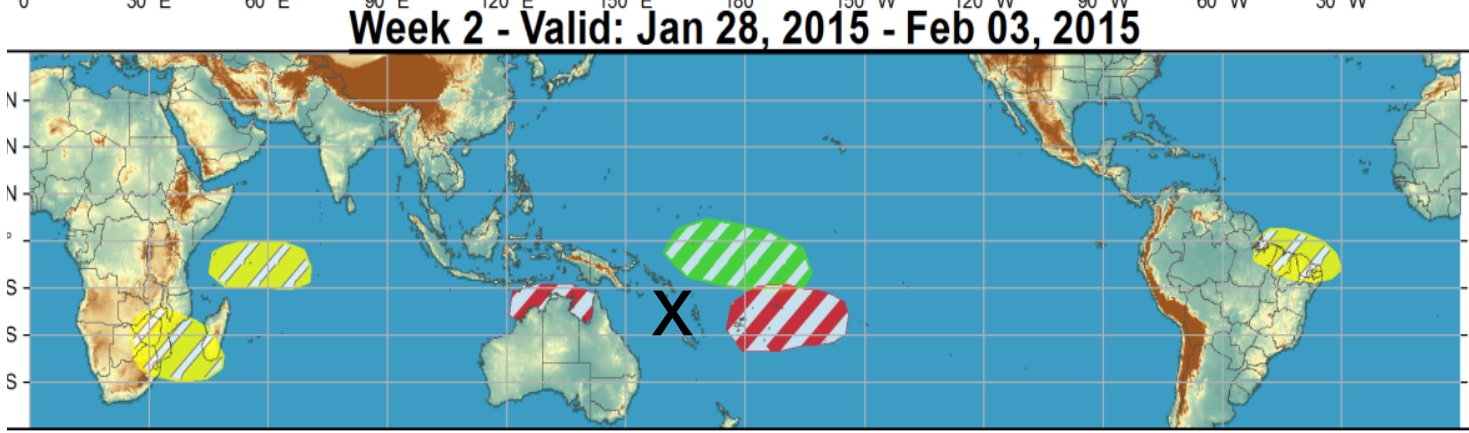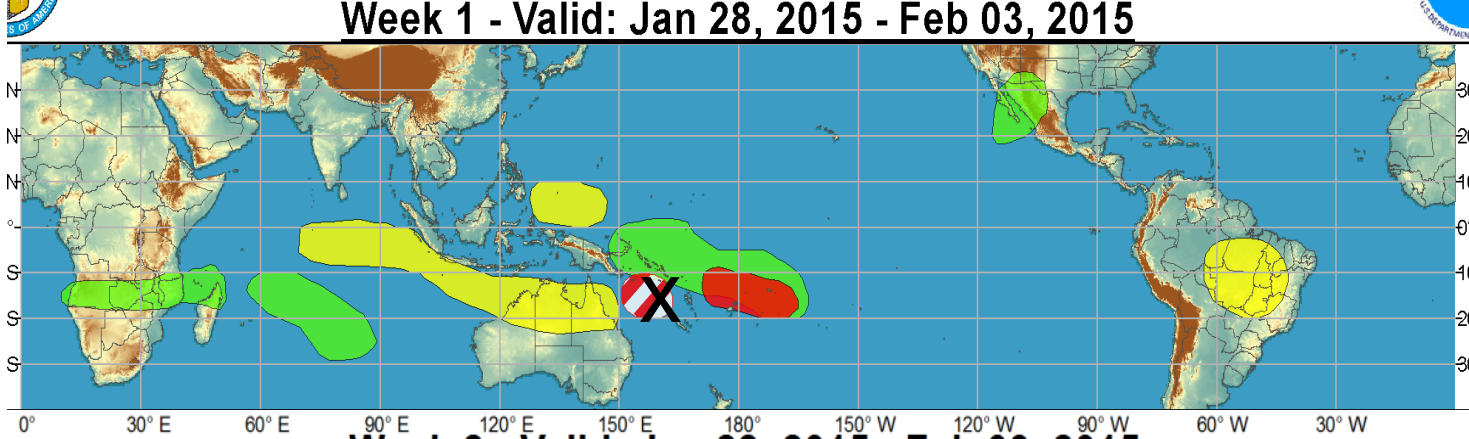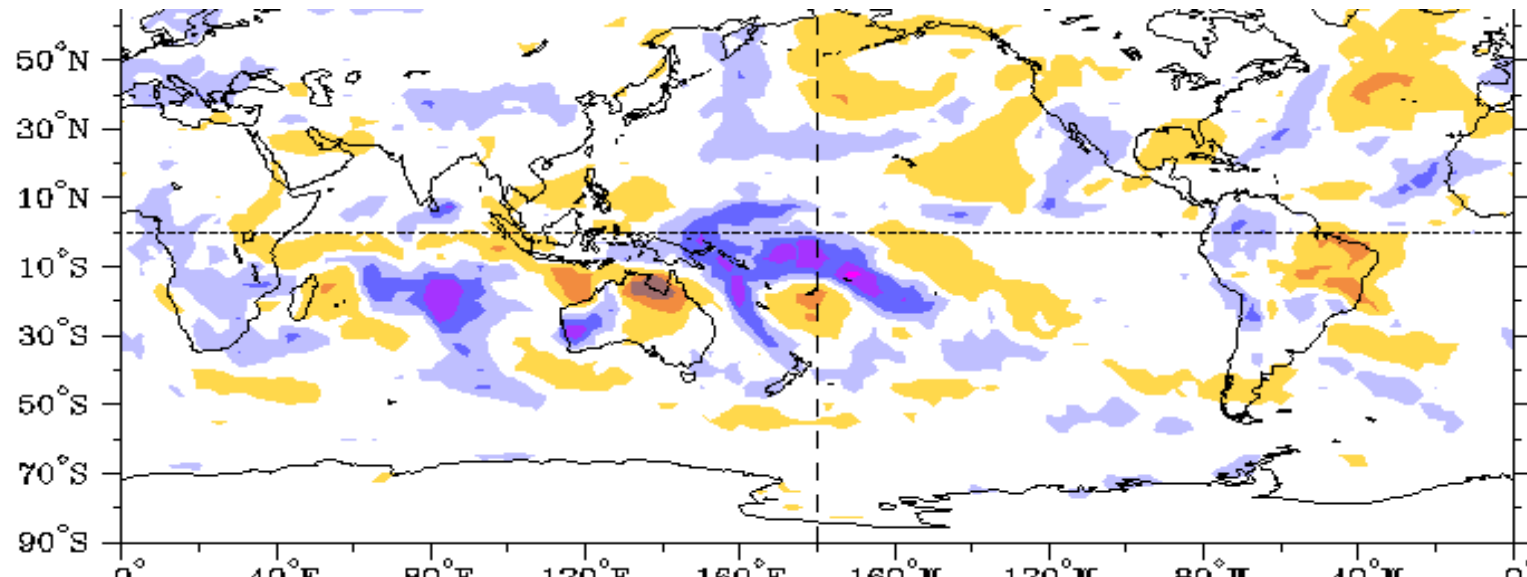## February 3, 2015

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 28, 2015 - Feb 03, 2015

Week 2 - Valid: Jan 28, 2015 - Feb 03, 2015

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO:
• Current: ENSO-neutral (El Nino Watch)
• Outlook: There is an approximately 50-60% chance of El Niño conditions during the next two months, with ENSO-neutral favored thereafter..

MJO and other subseasonal tropical variability:
• The MJO was weak during the past week. Equatorial Rossby waves and the low-frequency background state are also contributing.

• Most dynamical model MJO index forecasts depict a strengthening of the signal over the Central Pacific during Week-1, with a westward shift during Week-2, which is not consistent with robust MJO activity.
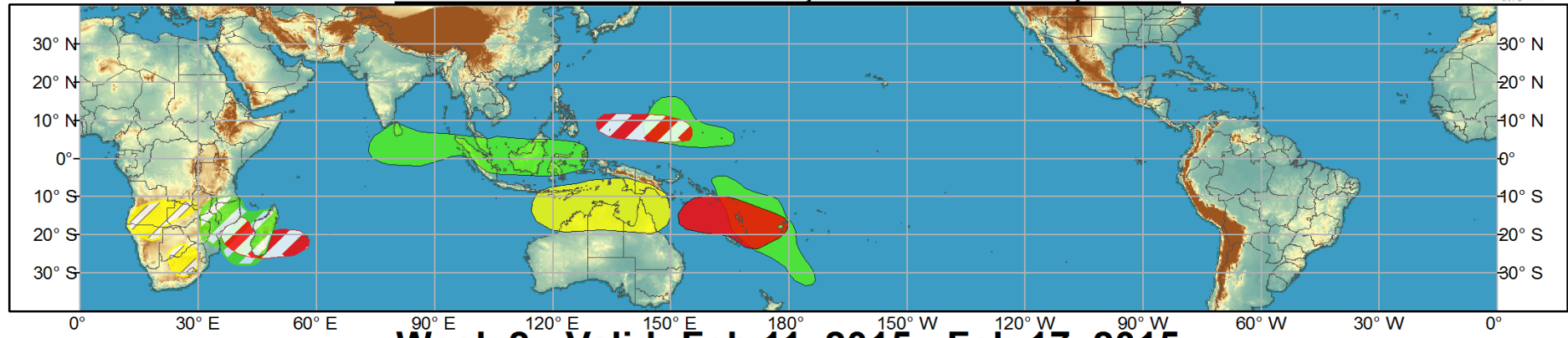
Extratropics:
• The extended range forecast for the U.S. is not likely to be largely impacted directly by the MJO, but there is a chance for impact to the U.S. is likely later (days 15-20) as convection over the West Pacific interacts with the East Asian Jet. Internal, mid-latitude variability it likely to drive much of the pattern of the CONUS through day 14.
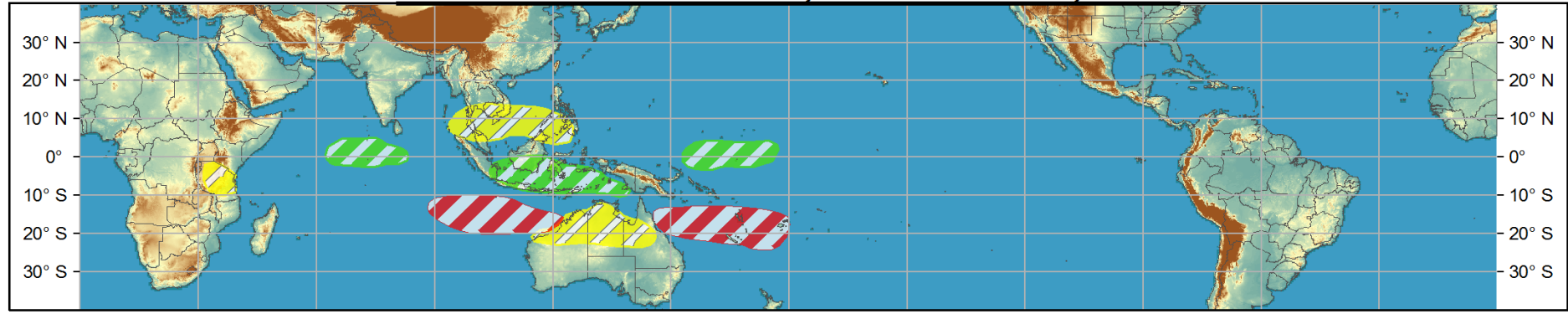
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 04, 2015 - Feb 10, 2015

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

Produced: 02/03/2015
Forecaster: Rosencrans

Confidence
High   Moderate

|		
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中央氣象局 Central Weather Bureau — UNIVERSITY AT ALBANY State University of New York — EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND — Australian Government Bureau of Meteorology — cics.nc — NPS PRAESTANTIA PER SCIENTIAM

IR Satellite & 200-hpa Velocity Potential Anomalies
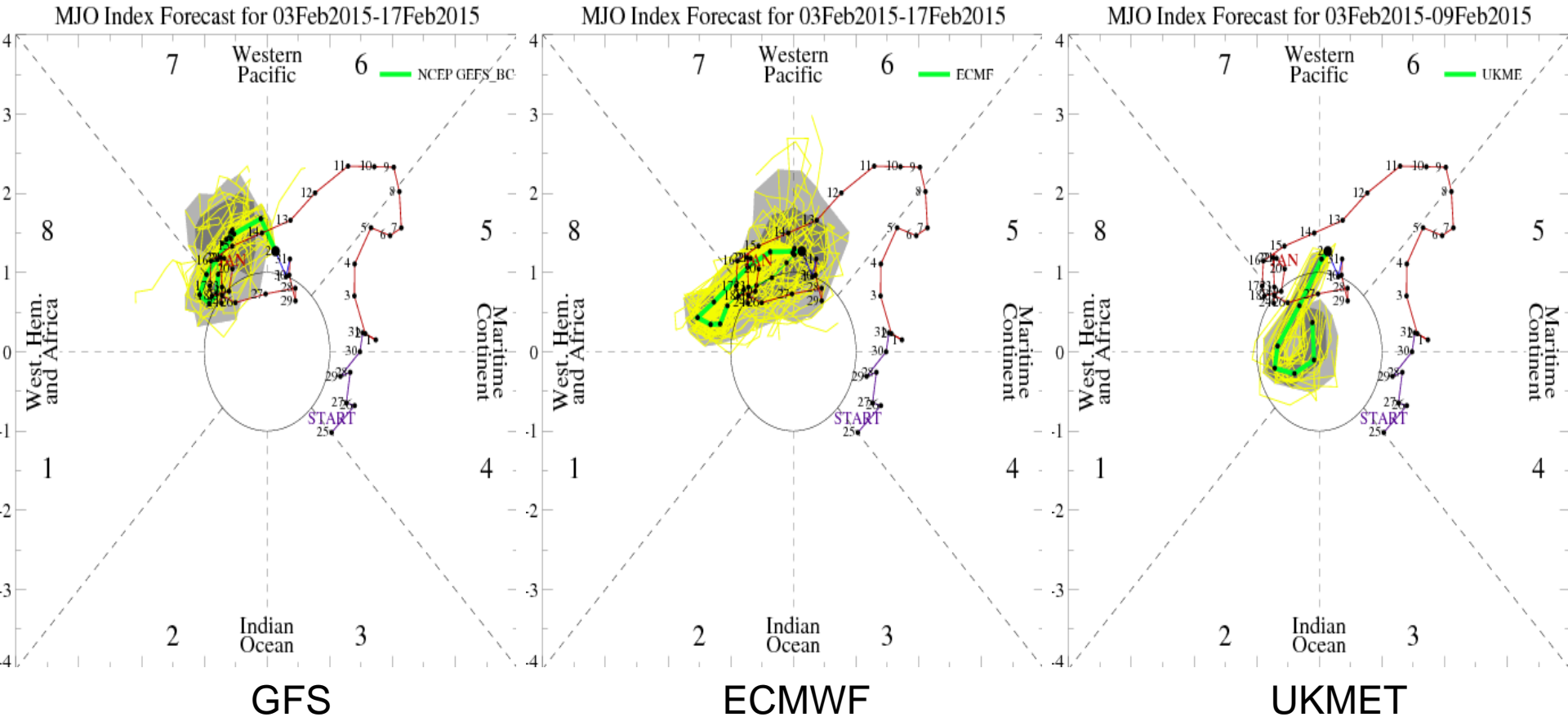
Green: Enhanced Divergence   Brown: Enhanced Convergence
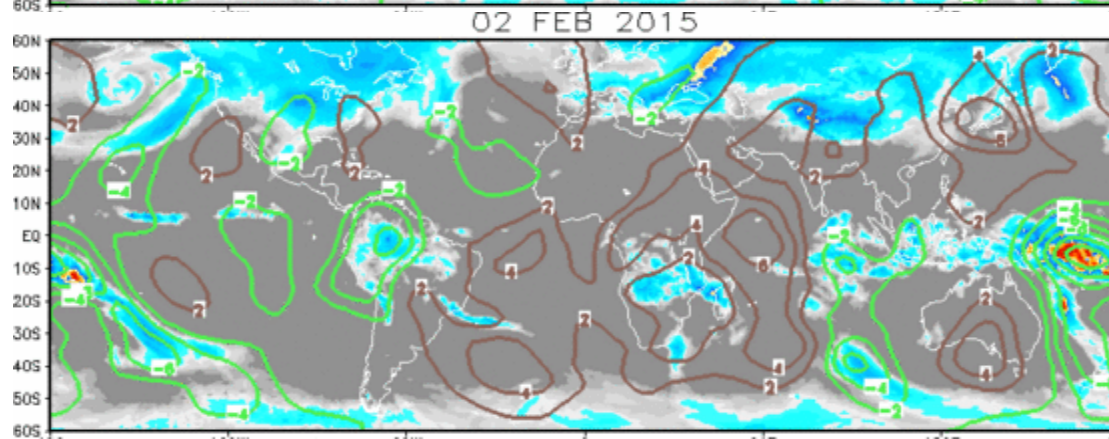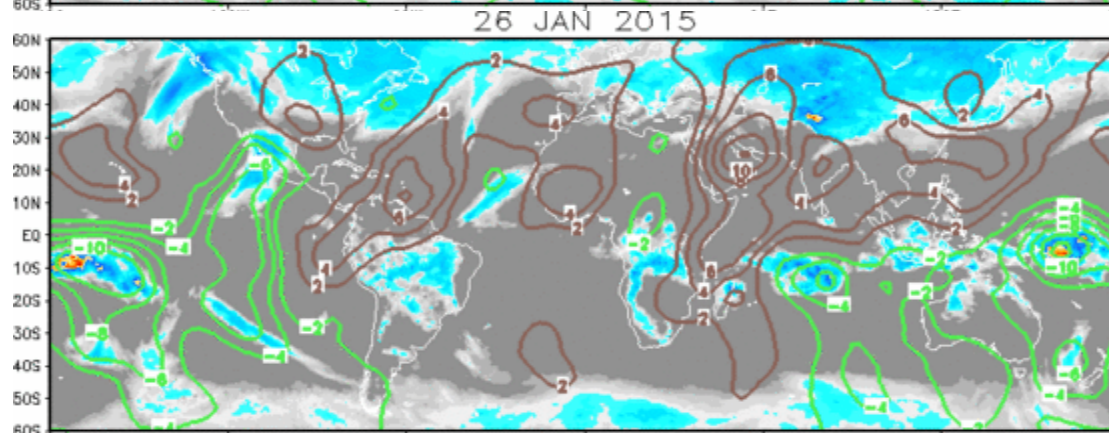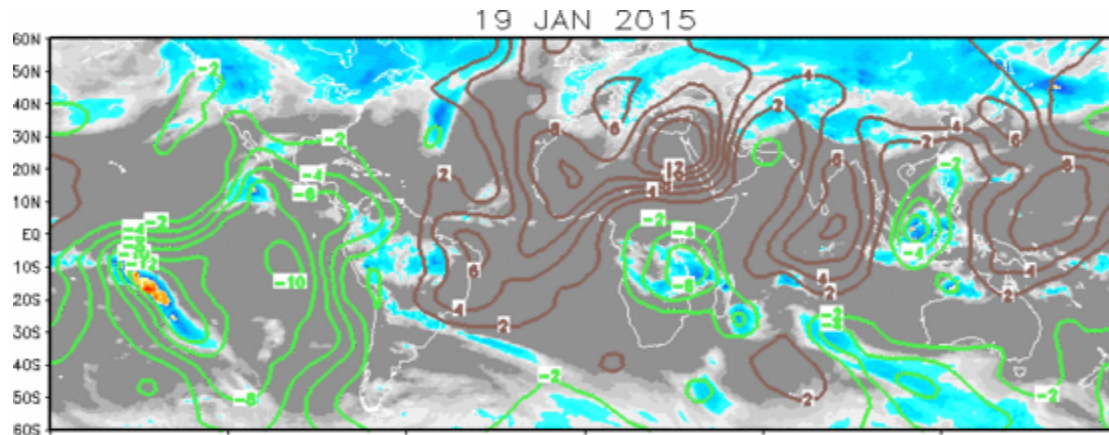
Base state and transient features evident.
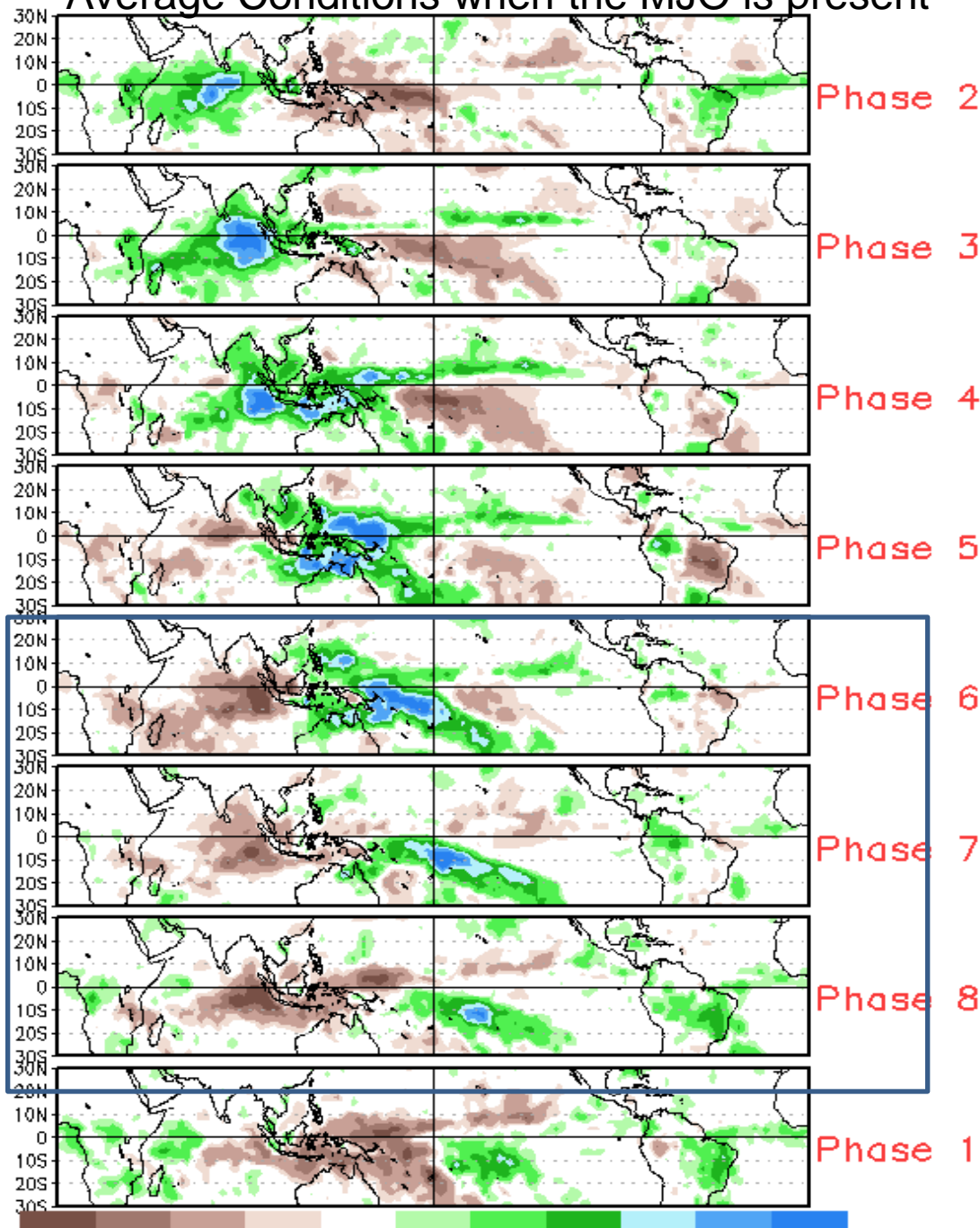
Inconsistent with robust MJO activity.

# MJO Observation/Forecast

GFS   ECMWF   UKMET

Wheeler-Hendon based analyses of model forecasts are inconsistent with robust MJO activity.

Models indicate convection aligns with 7/8 for the duration of 2 week..

Average Conditions when the MJO is present

Phase 2

Phase 3

Phase 4

Phase 5

Phase 6

Phase 7

Phase 8

Phase 1

CAVEAT: These panels are representative of robust MJO events.
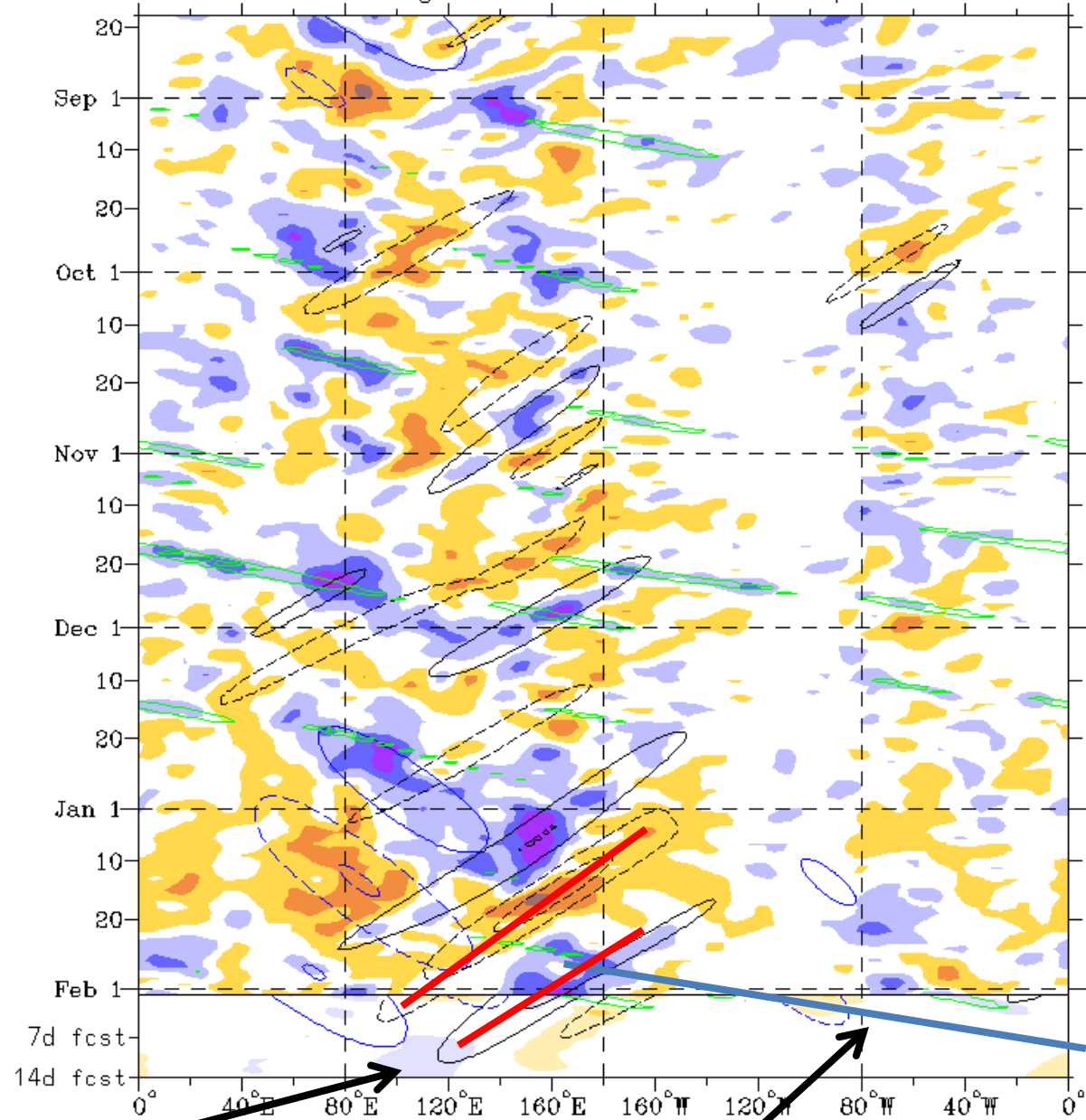
Low frequency is contributing, especially near 170E.

Equatorial Rossby Waves to impact the West Pacific and Maritime Continent.

Kelvin Wave to impact ePAC.

CFS: Anom. PREC Week: 1: 04-Feb-2015 to 10-Feb-2015 (mm/week)
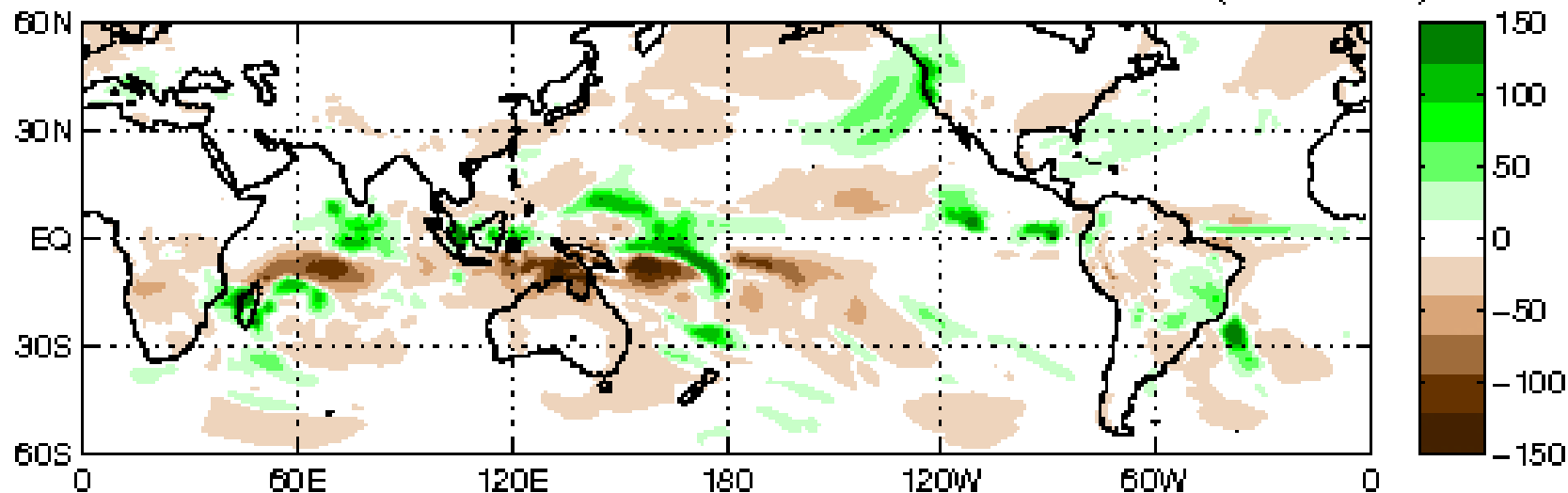
CFS: Anom. PREC Week: 2: 11-Feb-2015 to 17-Feb-2015 (mm/week)
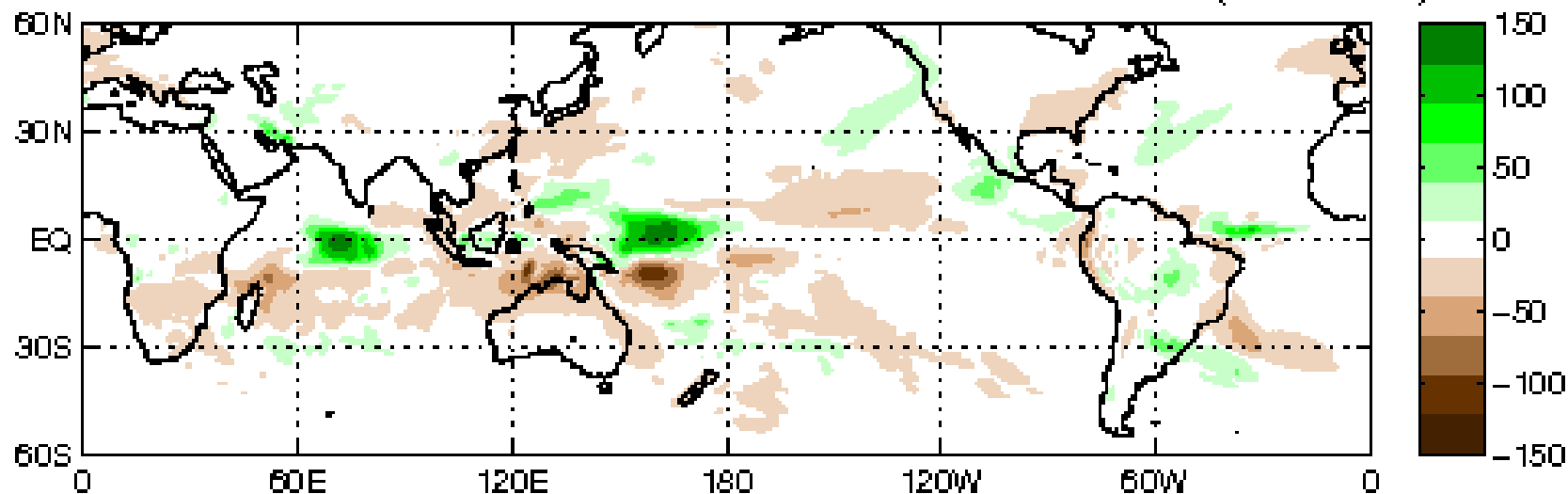
February Tropical Storm Formation by MJO phase
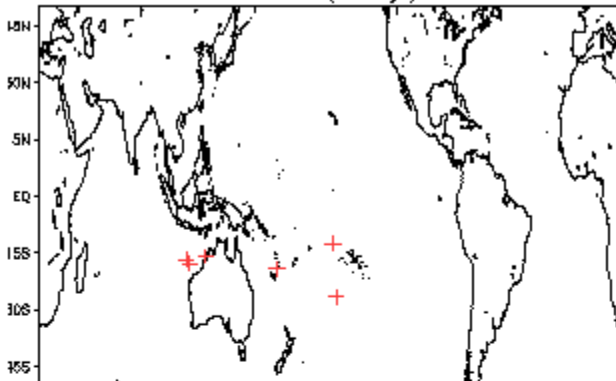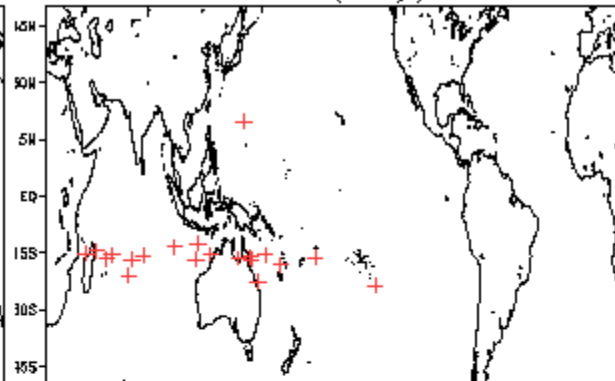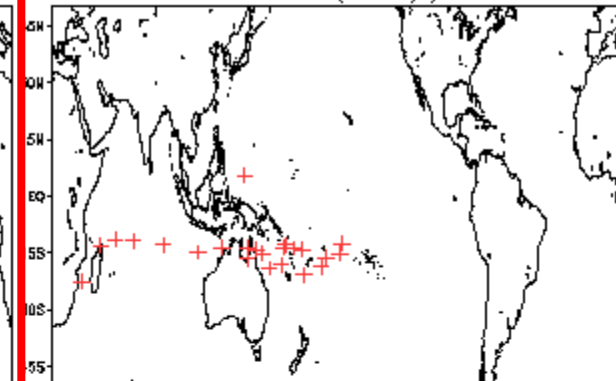
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)

TC Track(0−384 hr)   2015020212   NCEP GEFS

Track Count (0−96 hr)   NCEP GEFS

Days 1-4

Track Count (102−192 hr)   NCEP GEFS

Day 5-8

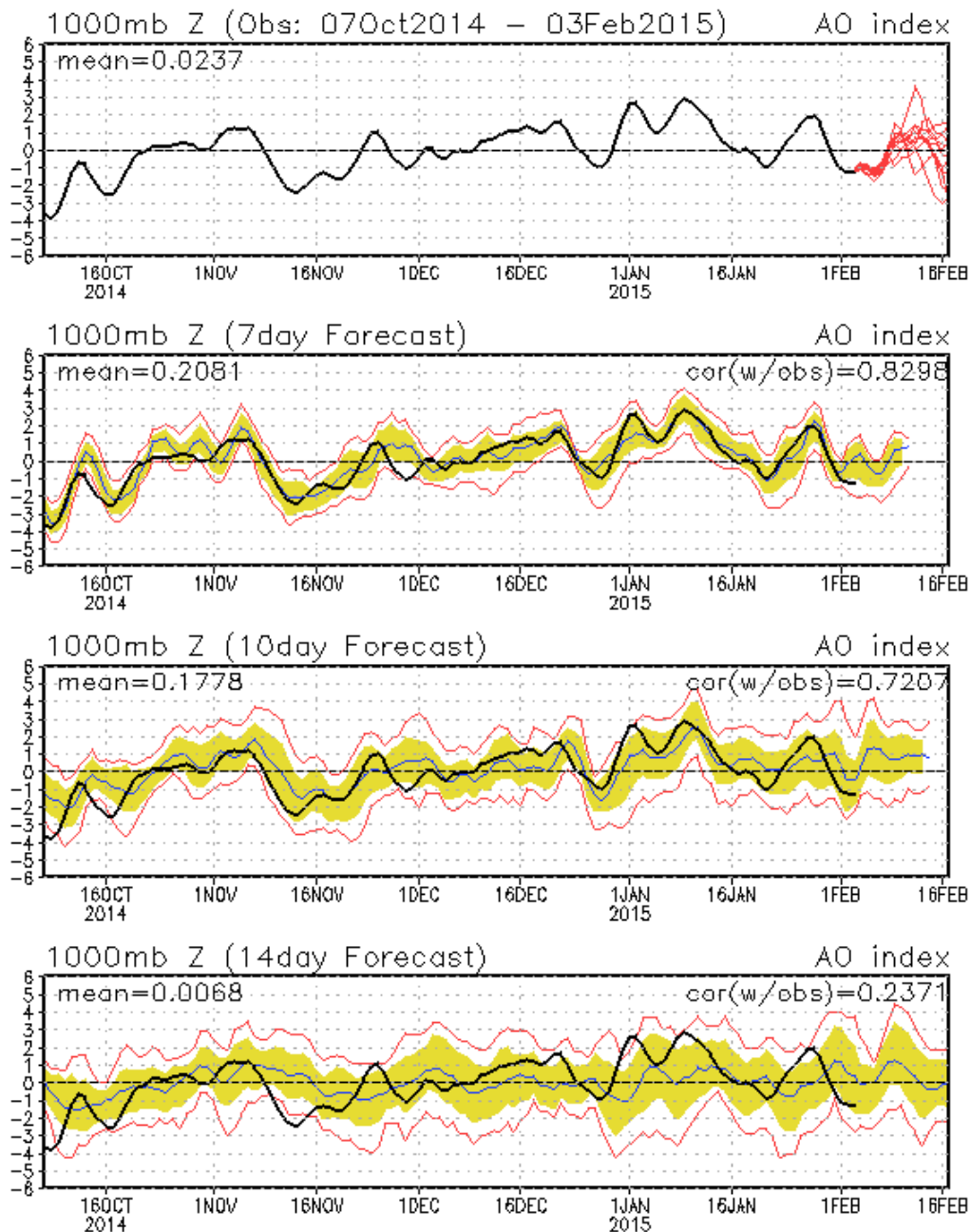Track Count (198−288 hr)   NCEP GEFS

Day 9-12

Track Count (294−384 hr)   NCEP GEFS
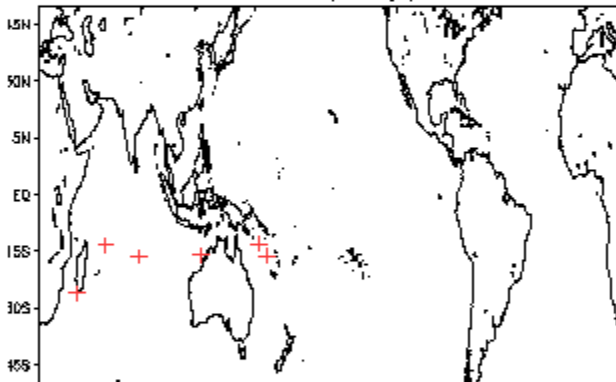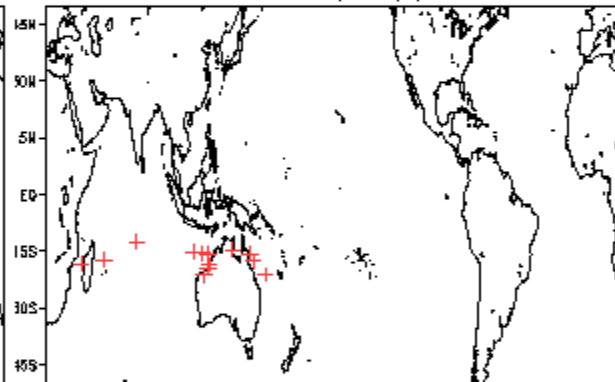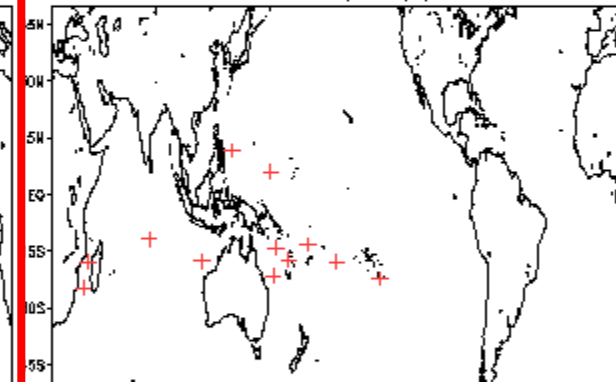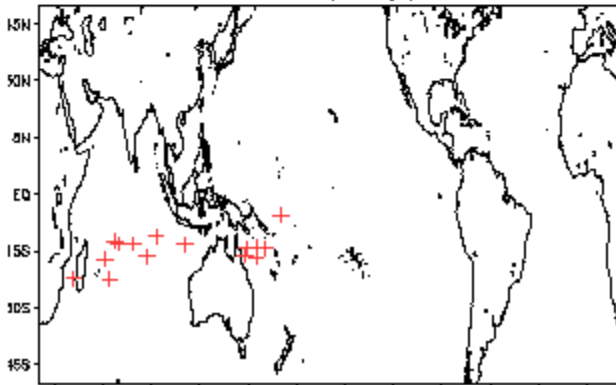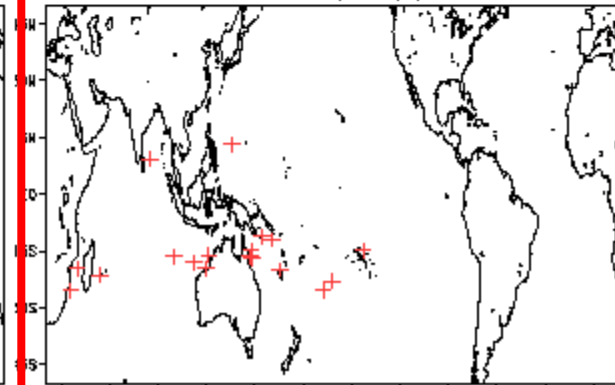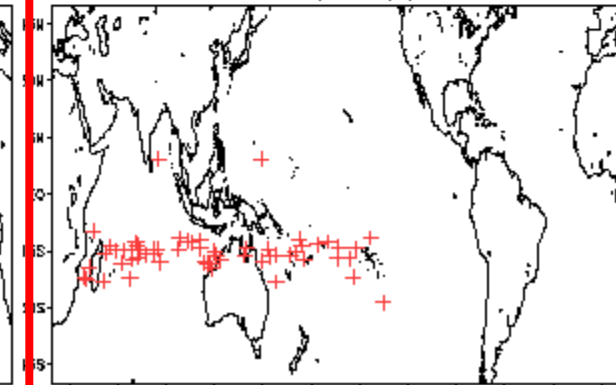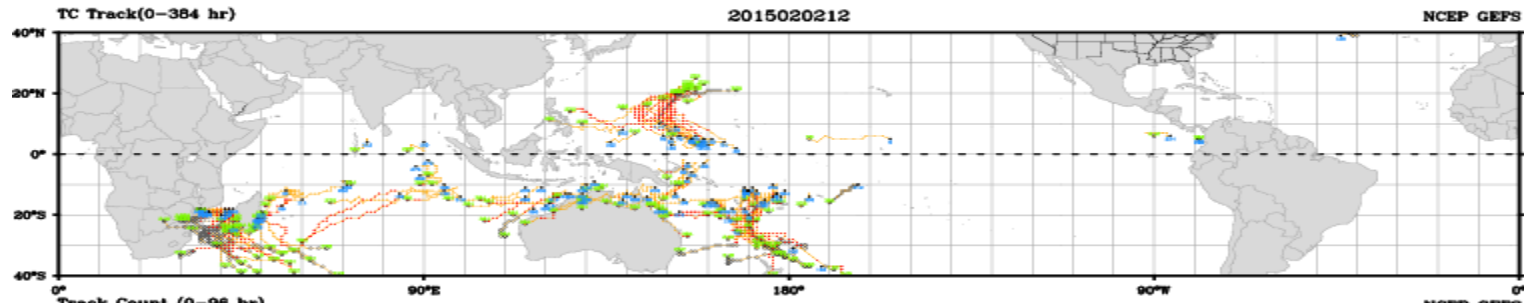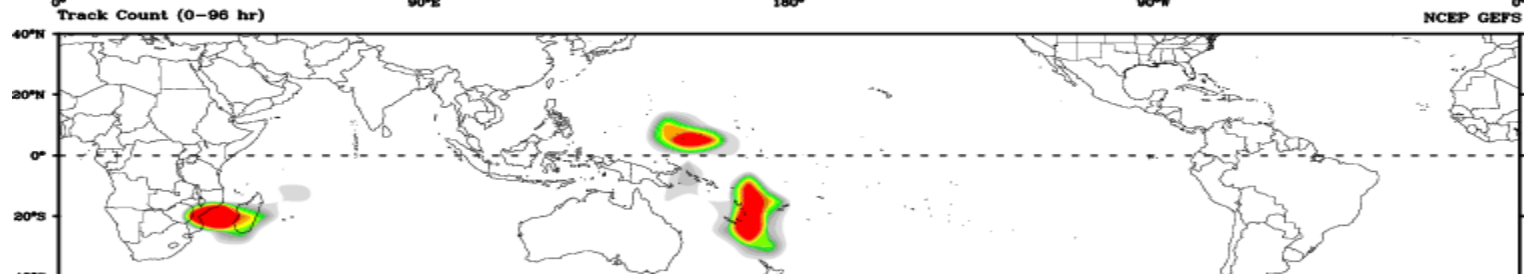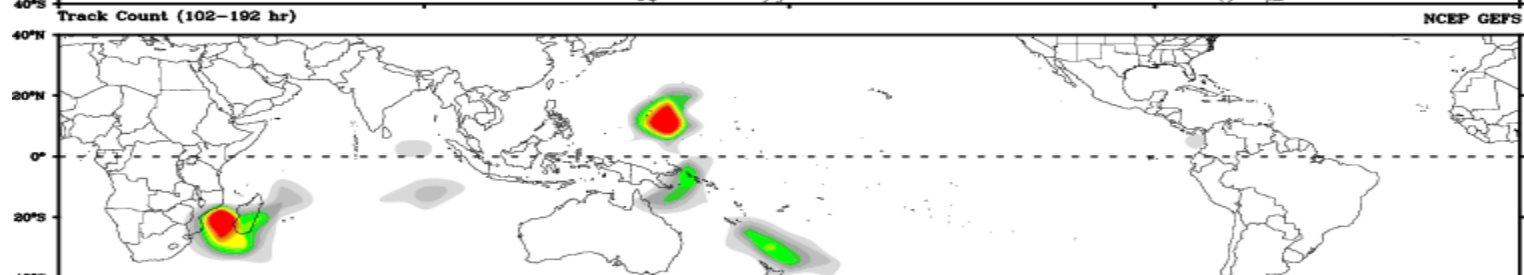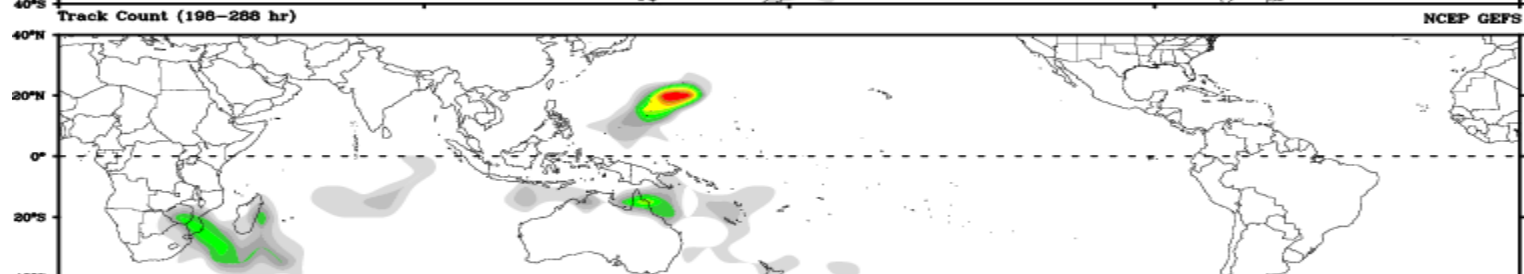
Day 13-15
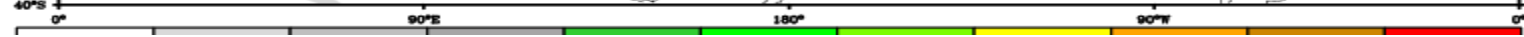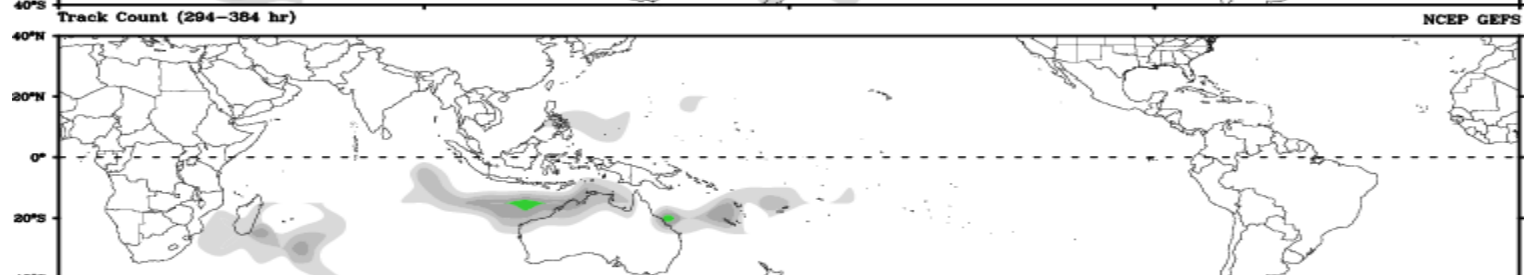
Connections to U.S. Impacts

AO: Observed & ENSM forecasts
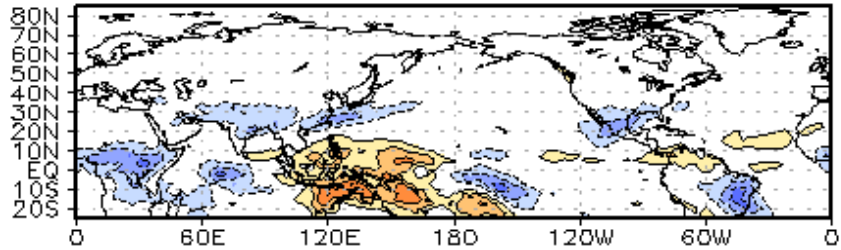
1000mb Z (Obs: 07Oct2014 – 03Feb2015)   AO index

mean=0.0237

1000mb Z (7day Forecast)   AO index

mean=0.2081   cor(w/obs)=0.8298

1000mb Z (10day Forecast)   AO index

mean=0.1778   cor(w/obs)=0.7207

1000mb Z (14day Forecast)   AO index

mean=0.0068   cor(w/obs)=0.2371
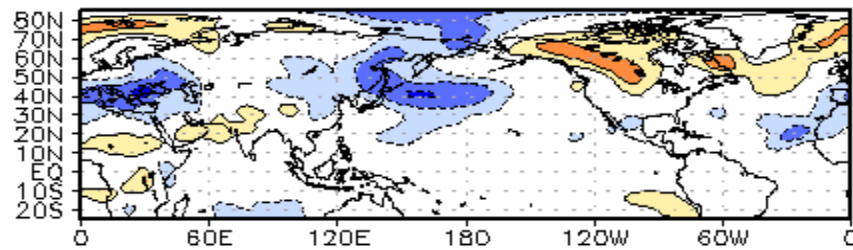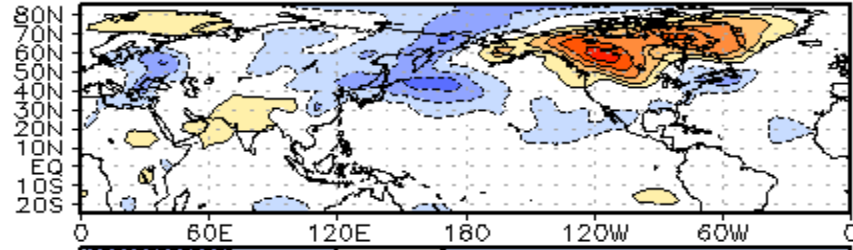
Lagged composites from MJO
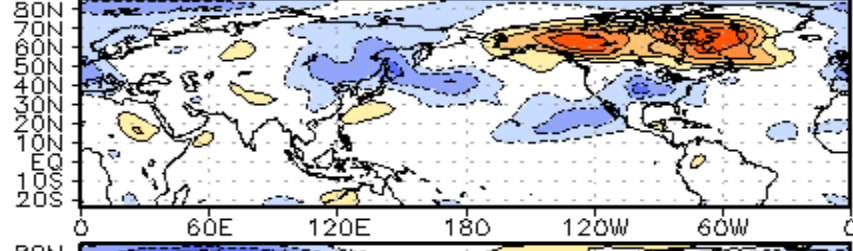## 5-day intervals

WHMJO Phase 7 olr Lagged Composite (jfm)
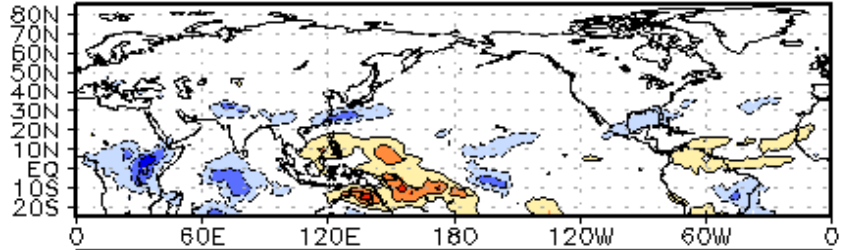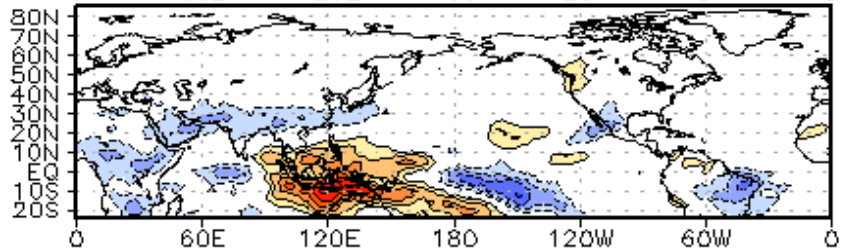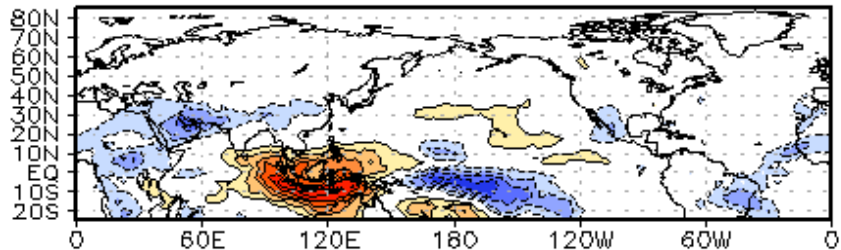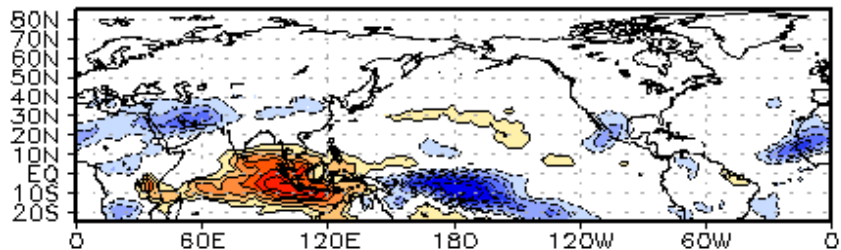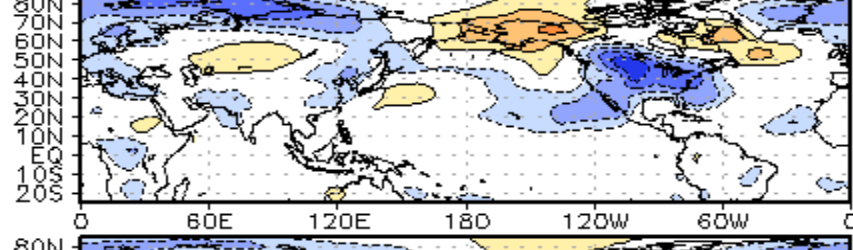
WHMJO Phase 7 t850 Lagged Composite (jfm)

+5-day
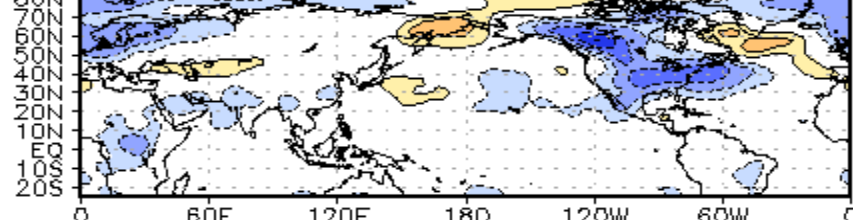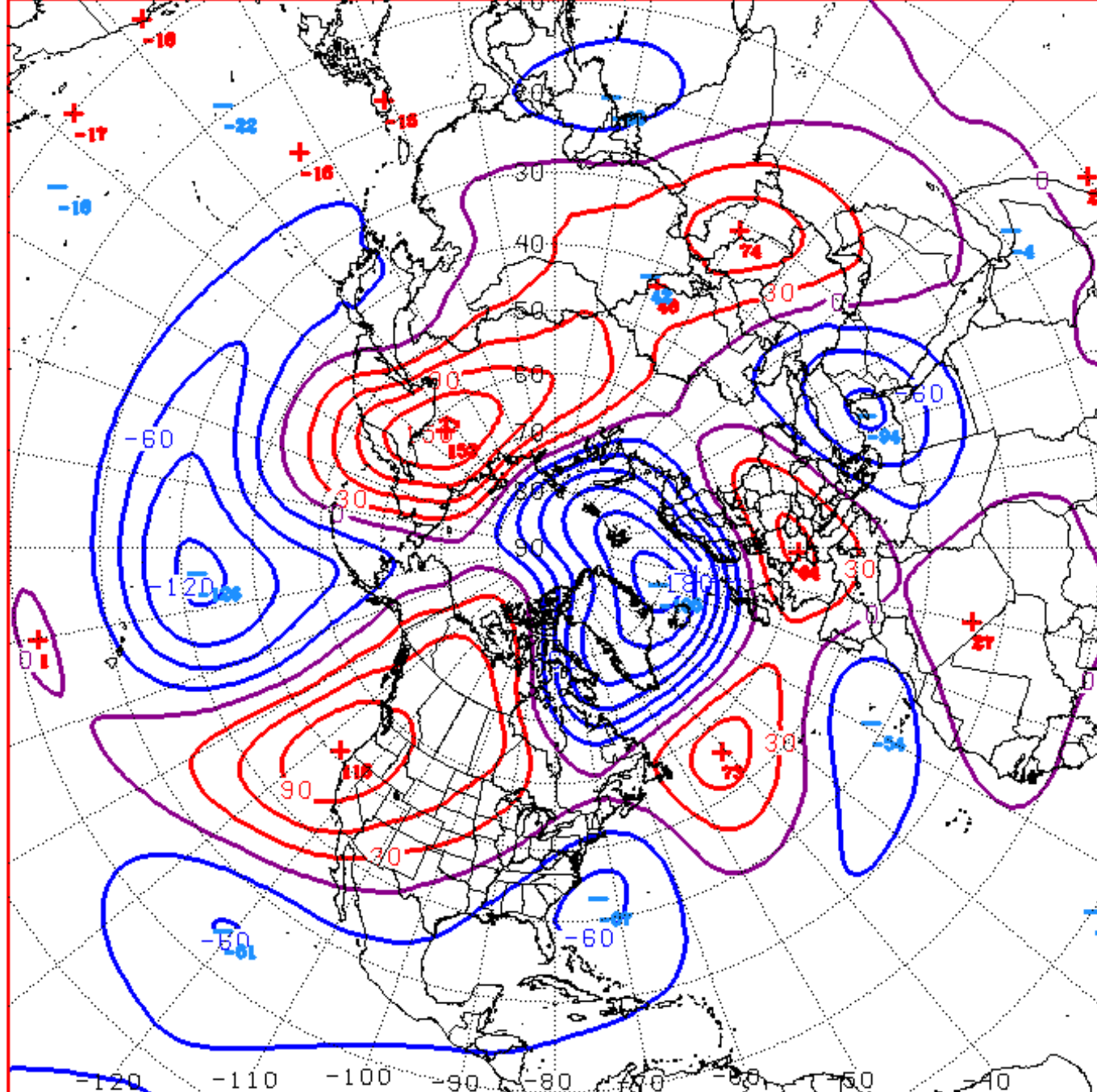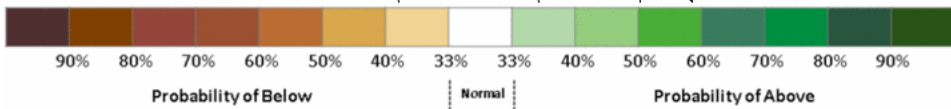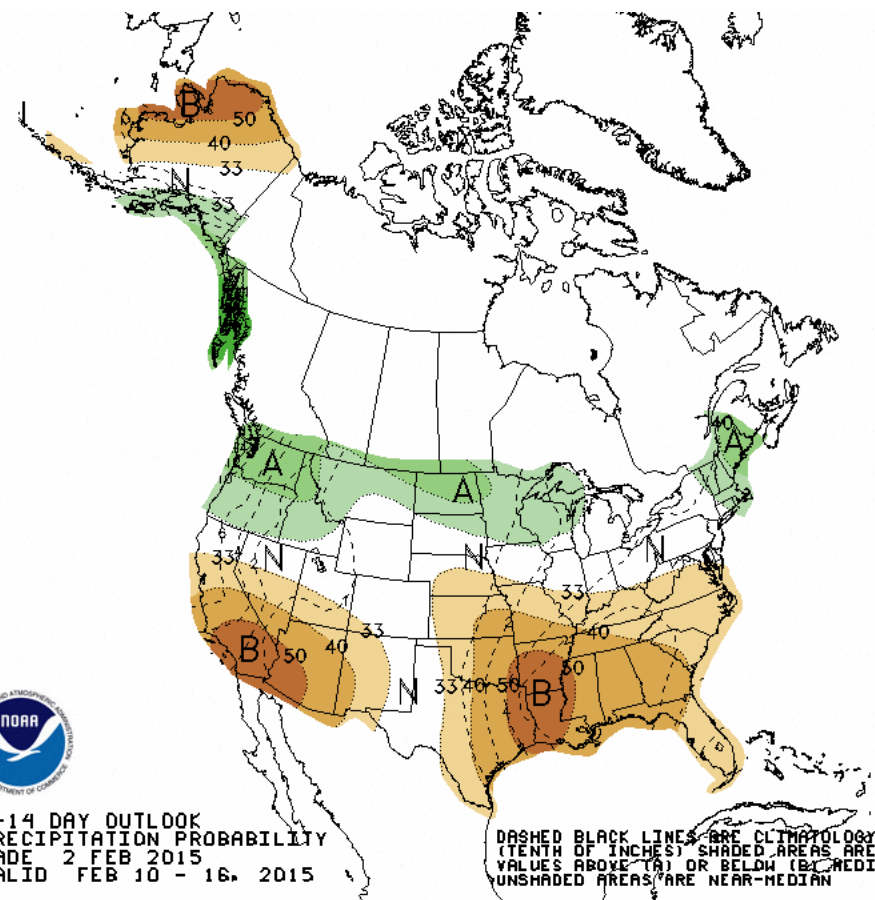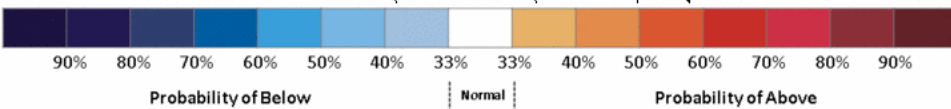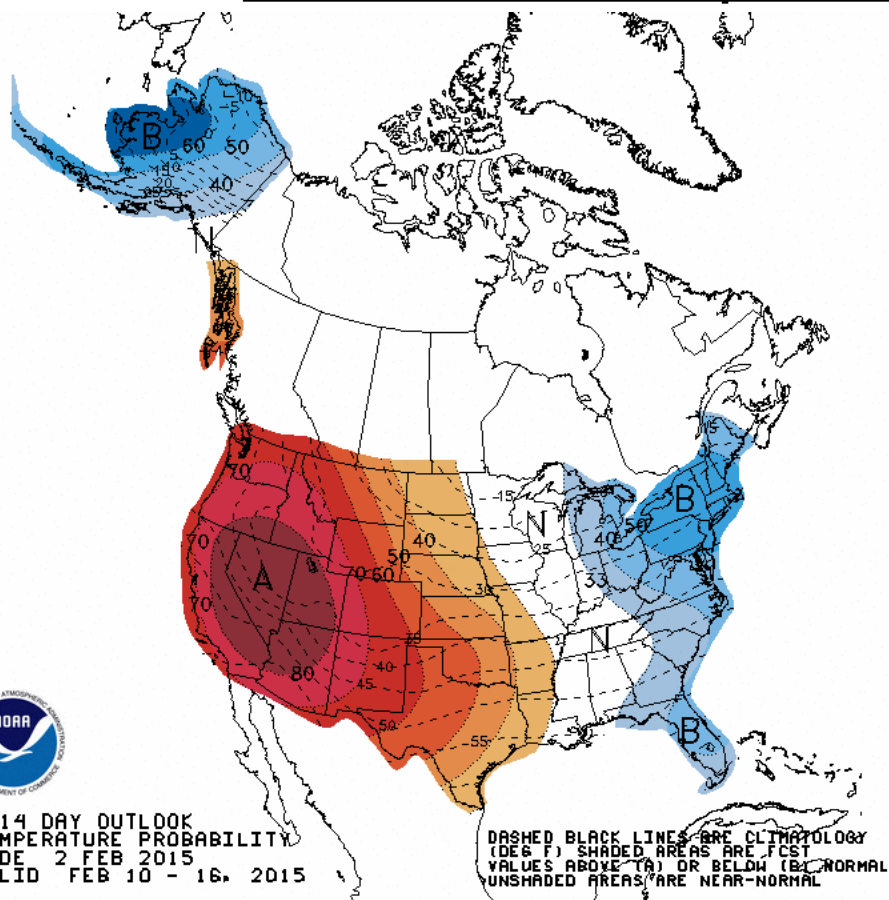
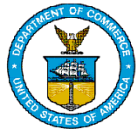+10-days

+15-days

+20-days

D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE FEB 03 2015 1045 UTC CNTD FEB 14 2015

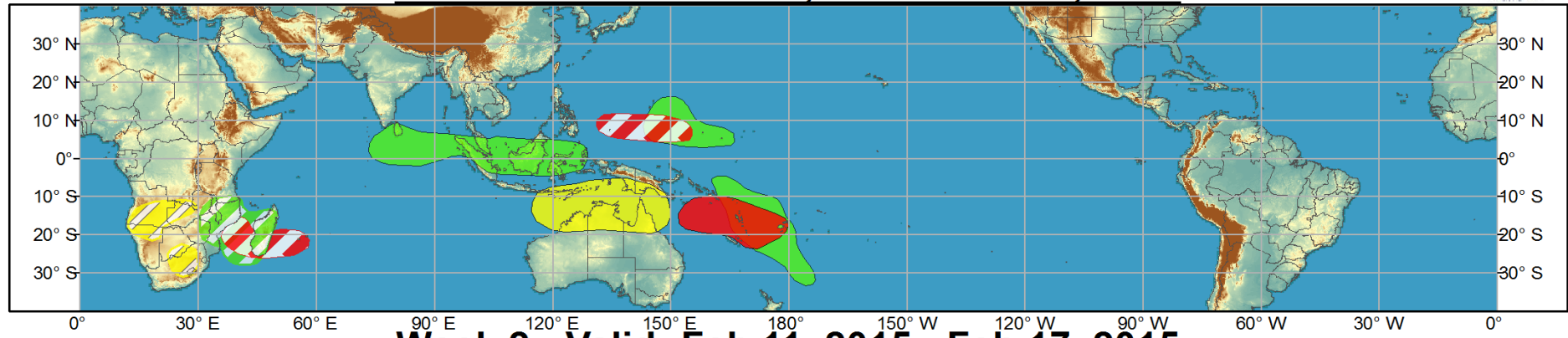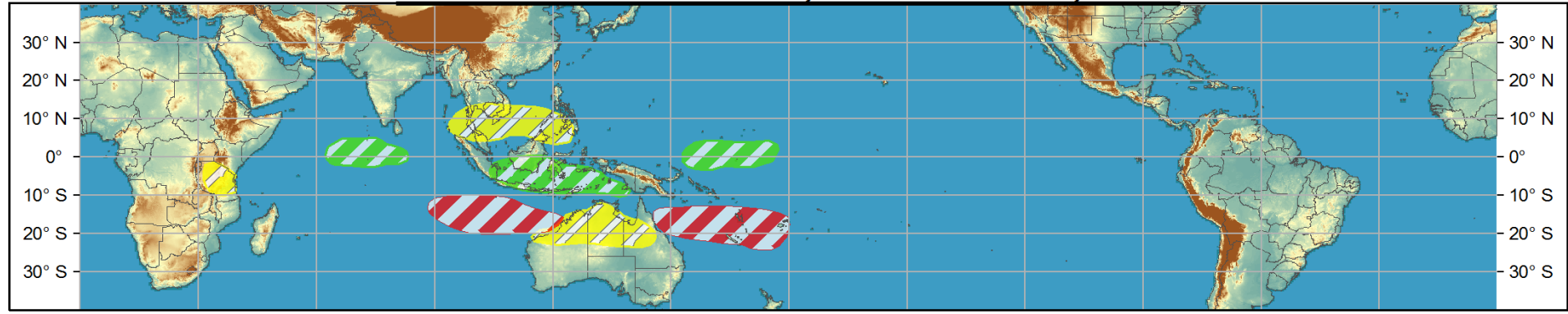# Week 2 – Temperature and Precipitation

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