

Global Tropics Hazards And Benefits Outlook

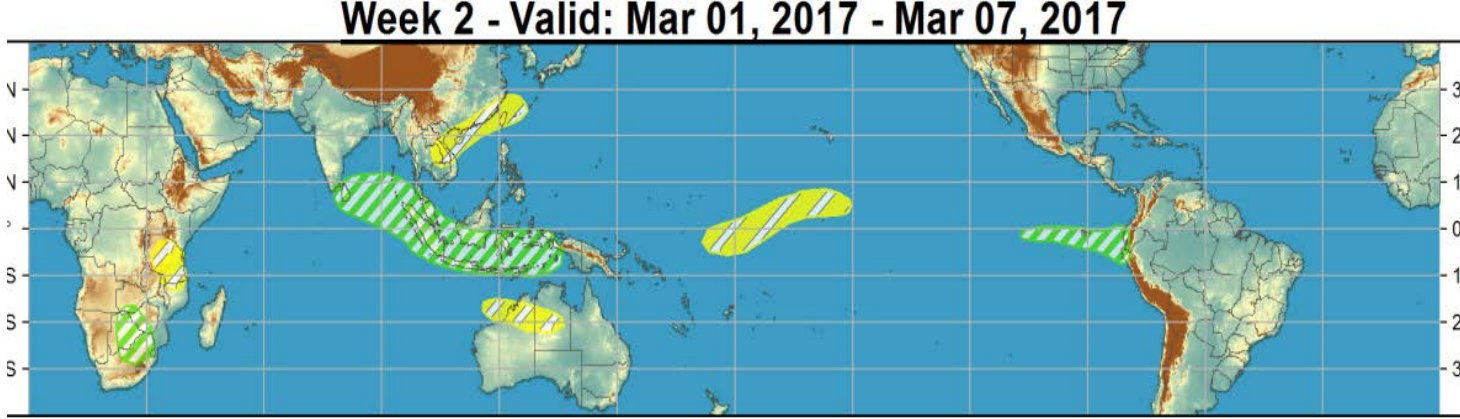
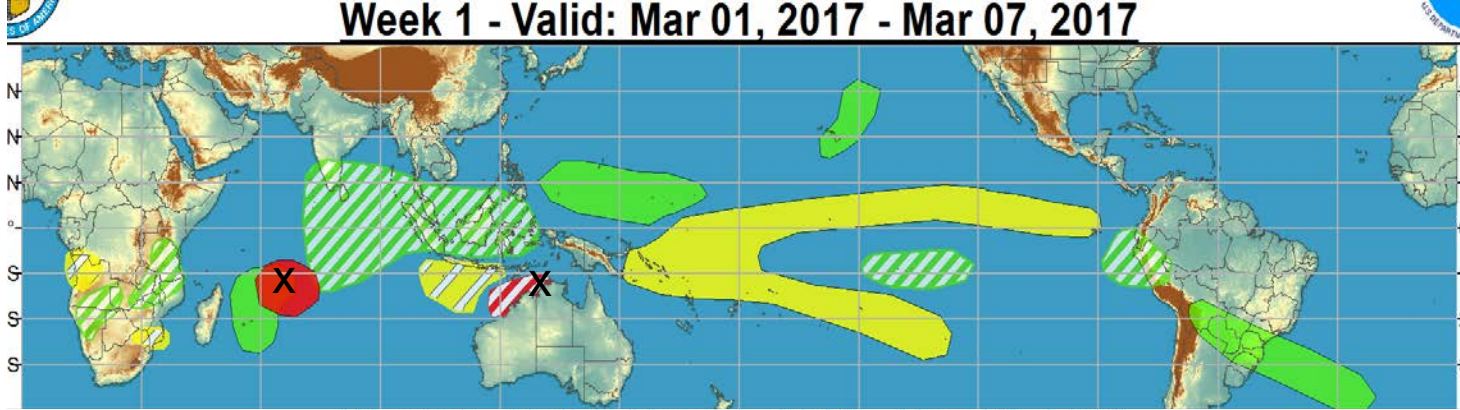
3/07/2017

Stephen Baxter

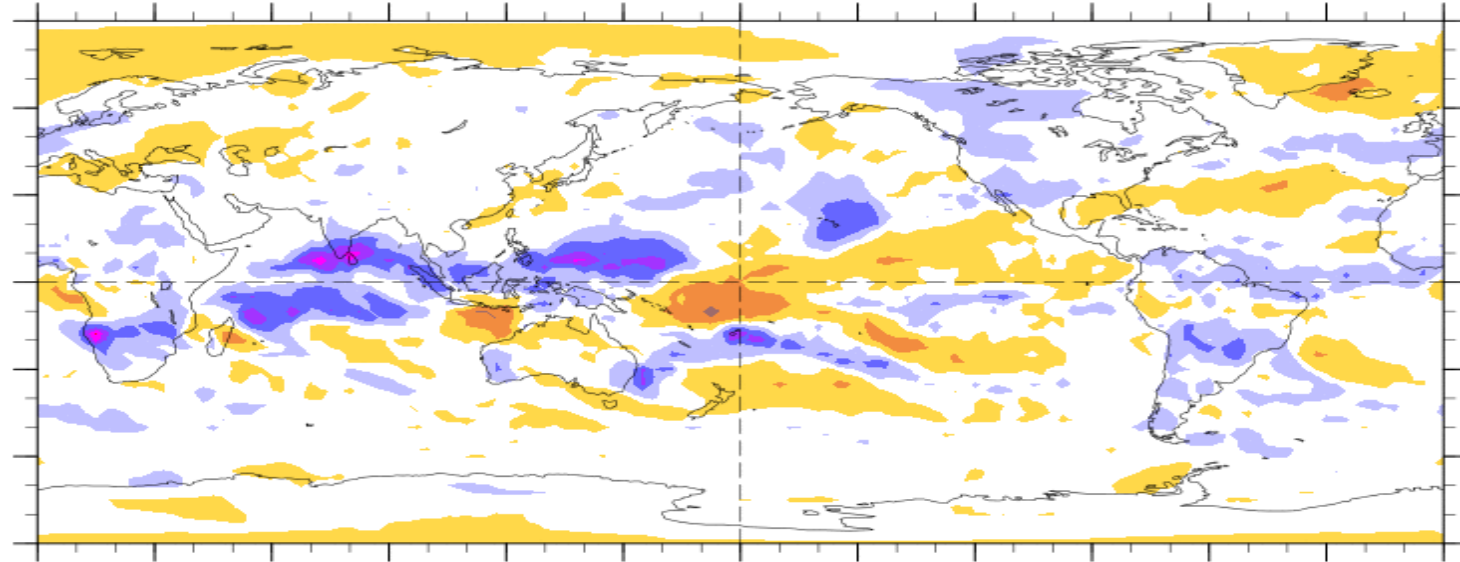
Outline

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

Outlook Review



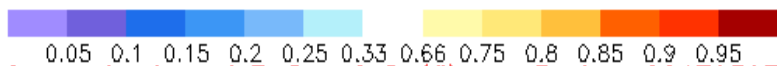
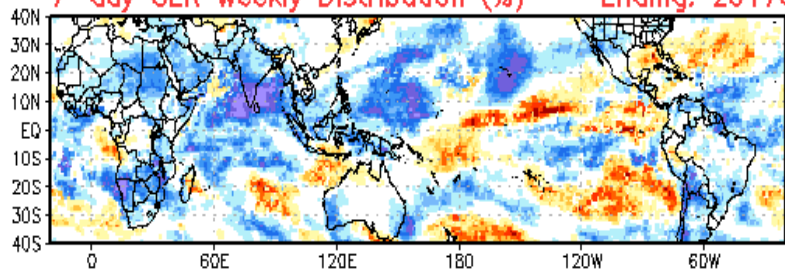
7-Day Average OLR Anomaly 2017/02/27 - 2017/03/05



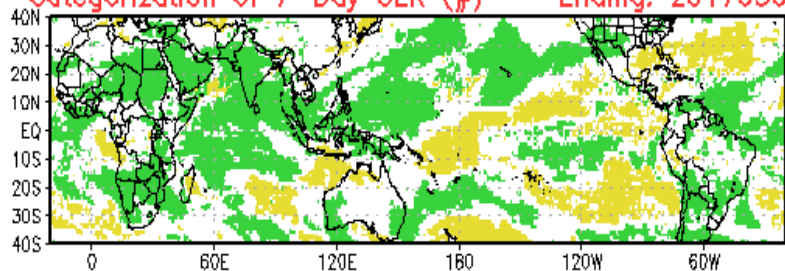
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

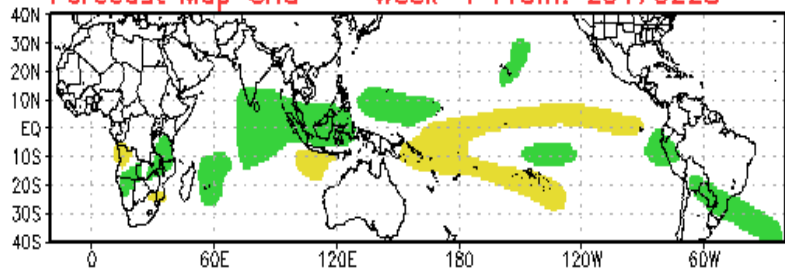
7-day OLR Weekly Distribution (%) -- Ending: 20170307



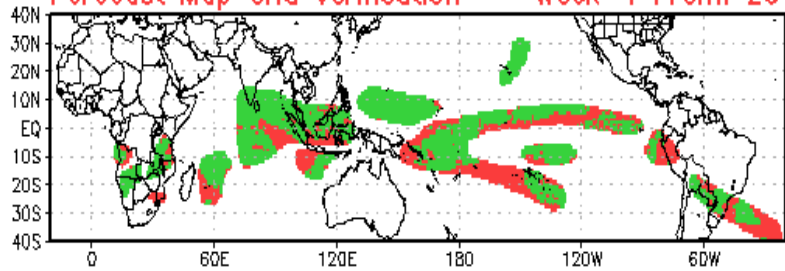
Categorization of 7-Day OLR (#) -- Ending: 20170307



Forecast Map Grid -- Week-1 From: 20170228

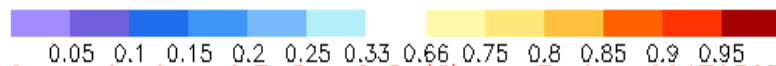
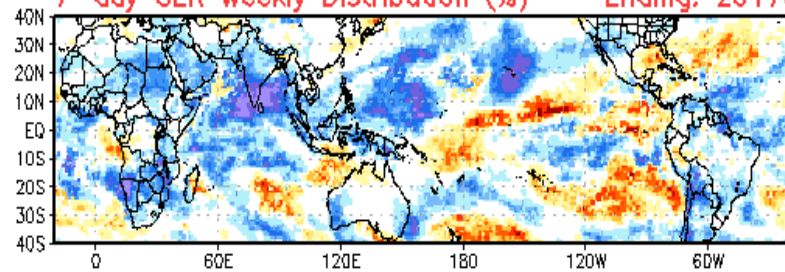


Forecast Map Grid Verification -- Week-1 From: 20170228

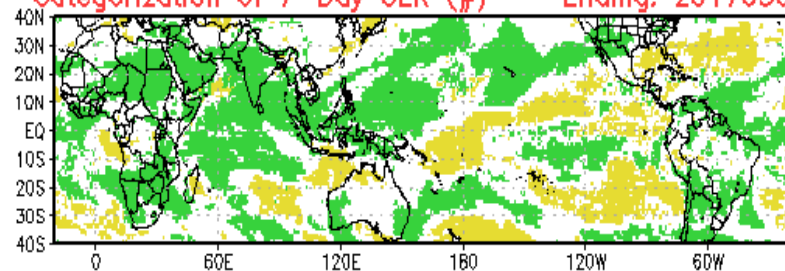


Hit: Green, Miss: Red
Heidke Skill Score: 48.9431

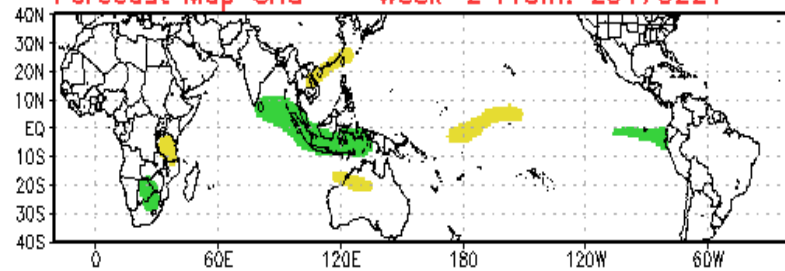
7-day OLR Weekly Distribution (%) -- Ending: 20170307



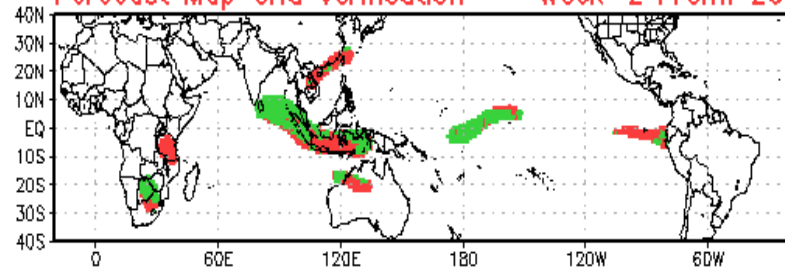
Categorization of 7-Day OLR (#) -- Ending: 20170307



Forecast Map Grid -- Week-2 From: 20170221



Forecast Map Grid Verification -- Week-2 From: 20170221



Hit: Green, Miss: Red
Heidke Skill Score: 32.8051

Synopsis of Climate Modes

ENSO:

- **Final La Niña Advisory was issued (9 Feb 2017)**
- **ENSO-neutral conditions are expected to continue through summer.**
- **Next ENSO update is released on 9 Mar 2017.**

MJO and other subseasonal tropical variability:

- Signal currently centered over eastern Indian Ocean and Maritime Continent, though at reduced amplitude compared to last week at this time.
- Dynamical models indicate continued weakening of the signal over the next couple of days.
- Some constructive interference between the background state and the intraseasonal signal is expected over the Maritime Continent and far western Pacific during the period.

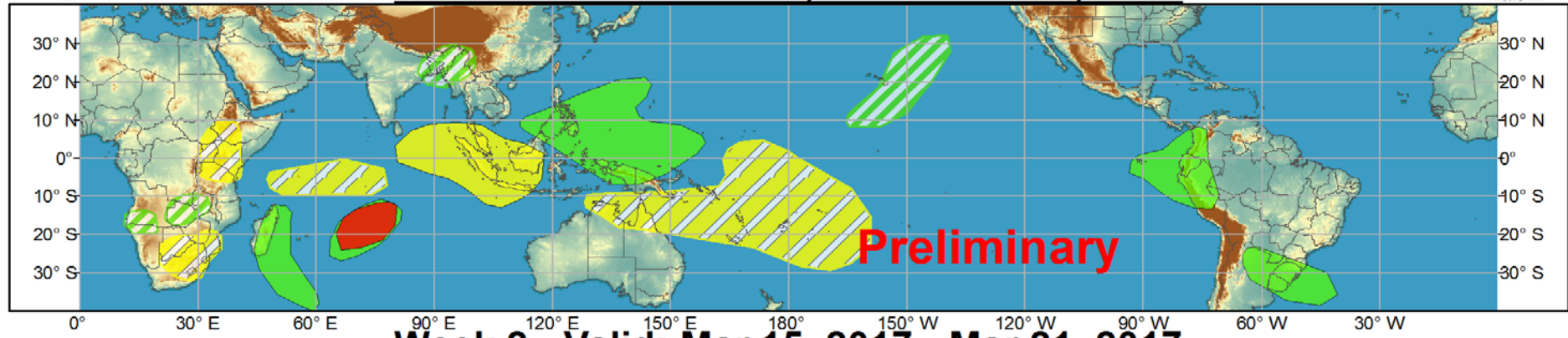
Extratropics:

- The influence of the MJO on the extratropics has been difficult to detect.
- Recent MJO forcing would favor a warmer-than-normal outcome over much of east-central North America in the 1-2 weeks time frame, a result at odds with some dynamical guidance.

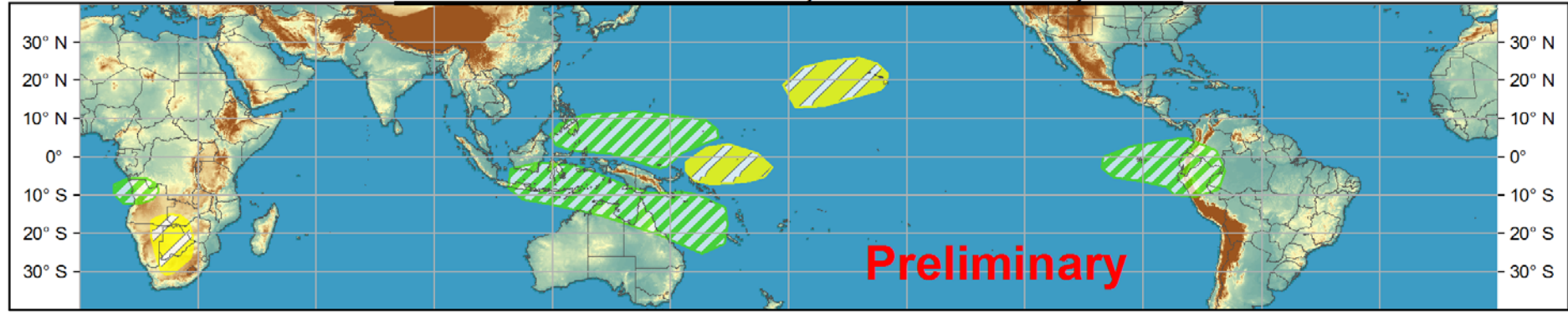


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Mar 08, 2017 - Mar 14, 2017



Week 2 - Valid: Mar 15, 2017 - Mar 21, 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: 03/07/2017
 Forecaster: Baxter

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IR Satellite & 200-hpa Velocity Potential Anomalies

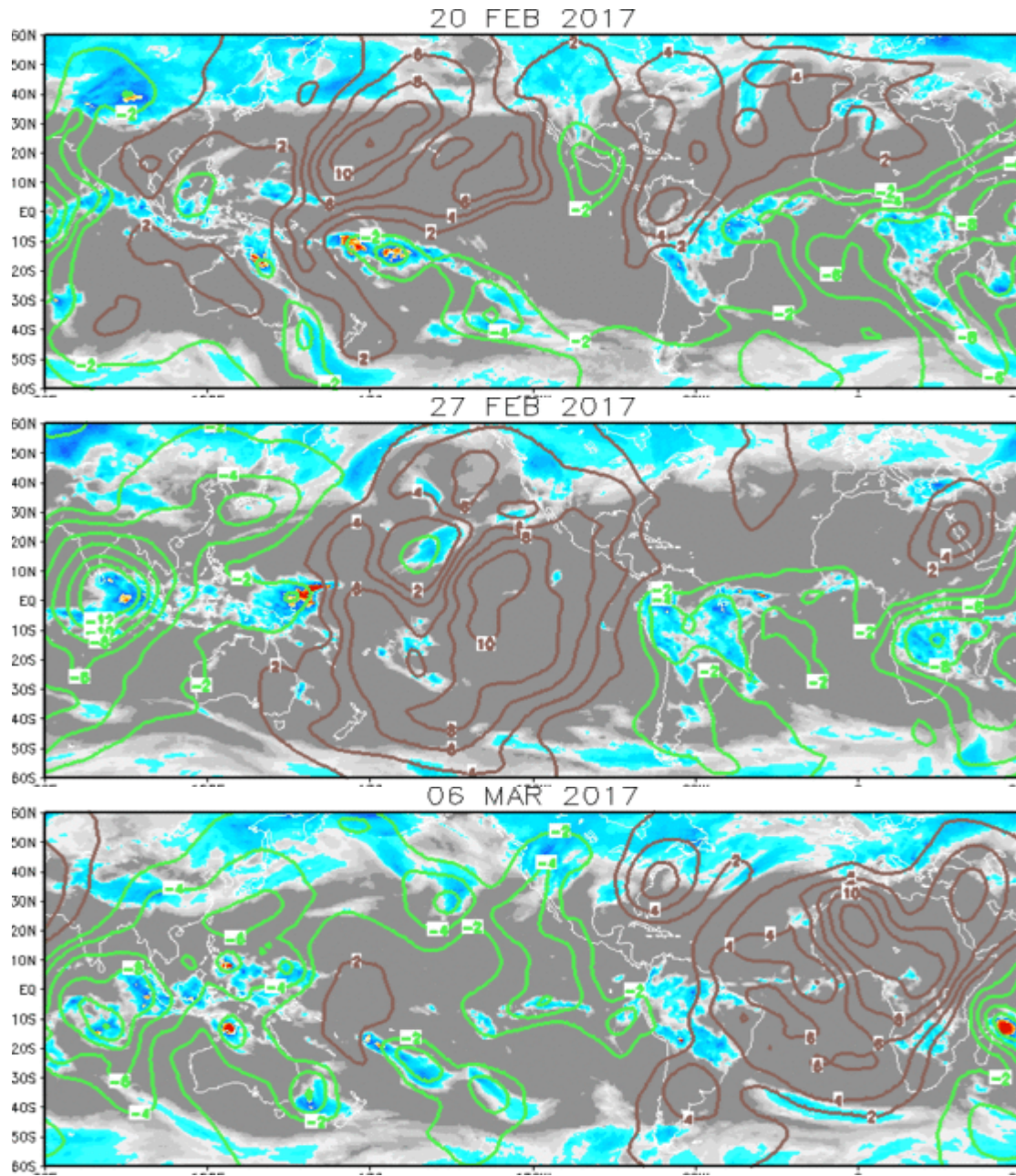
Green: Enhanced Divergence

Brown: Enhanced Convergence

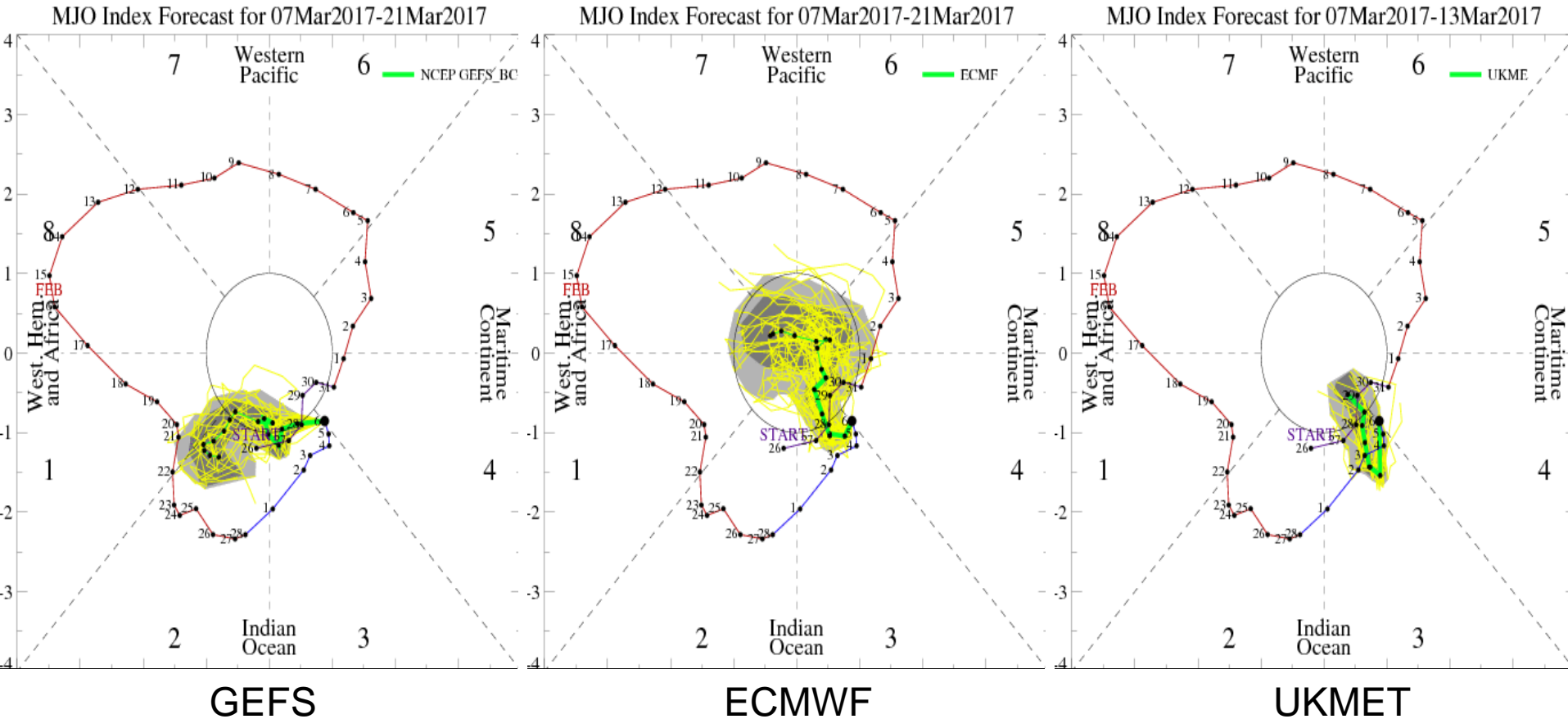
Destructive interference between MJO and low-frequency state is evident.

Wave-1 with enhanced phase over Africa and the Indian Ocean.

More of a wave-2 pattern developed due to conflicting signals over the Pacific.

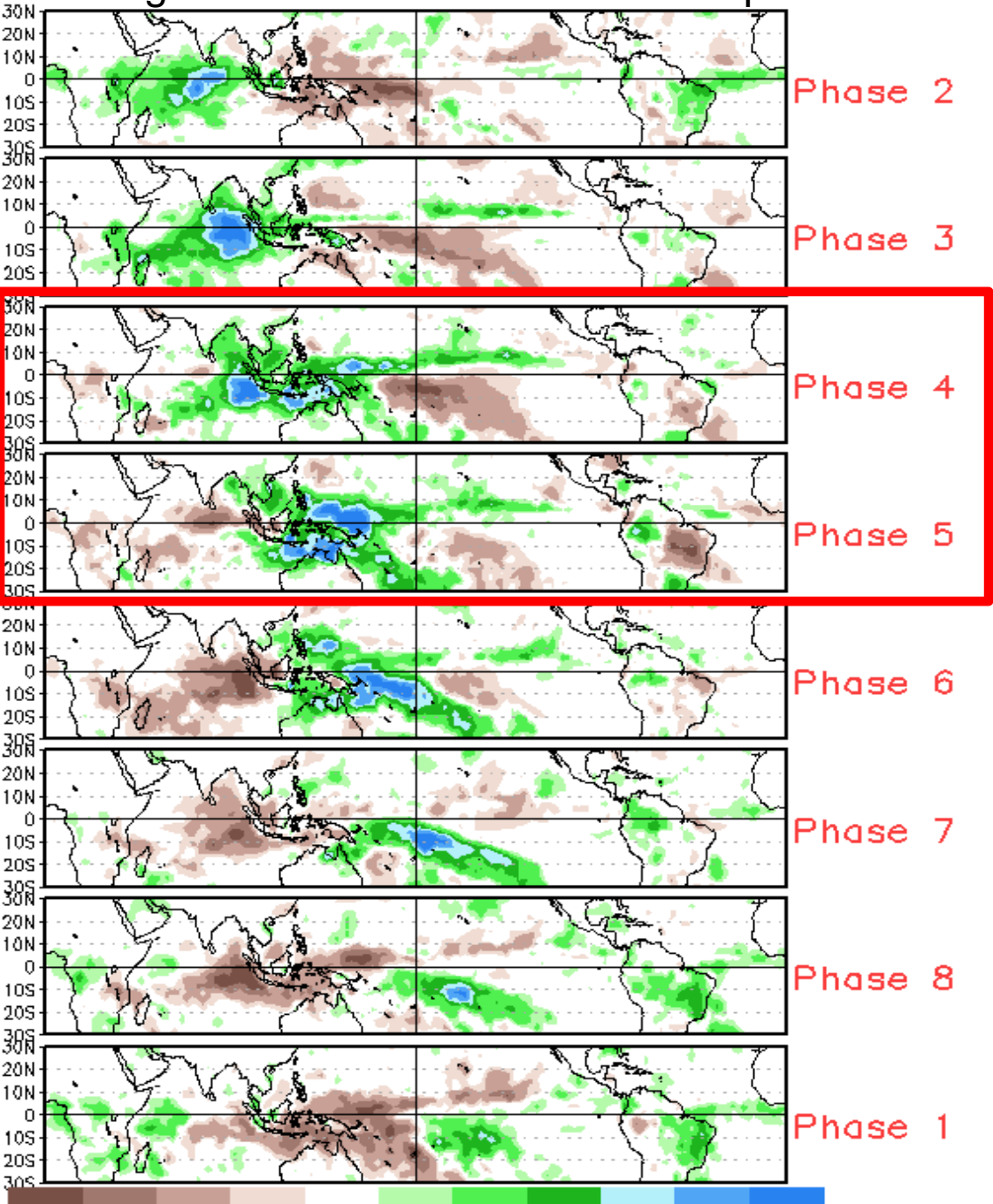


MJO Observation/Forecast



Models is reasonable agreement with a weak signal early. GEFS has forecast a reemerging signal over the western Indian Ocean in Week-2, possibly due to Kelvin wave and equatorial Rossby wave activity. ECMWF emphasizes MJO propagation a bit more.

Average Conditions when the MJO is present



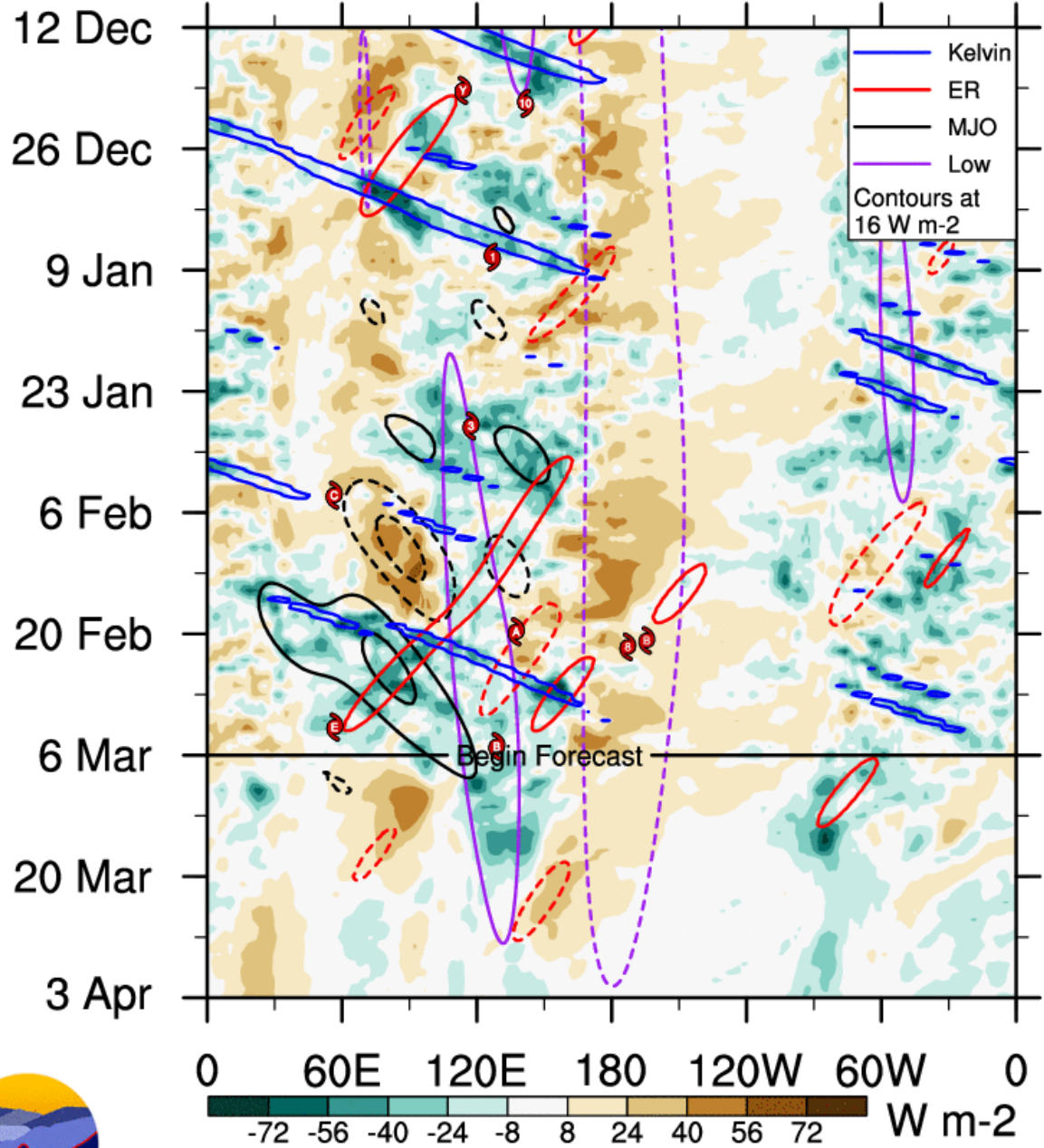
Phases 4/5 somewhat consistent with forecast for Week-1.

Uncertainty increases in Week-2.

CAVEAT: These panels are representative of robust MJO events.

OLR with CFS forecasts

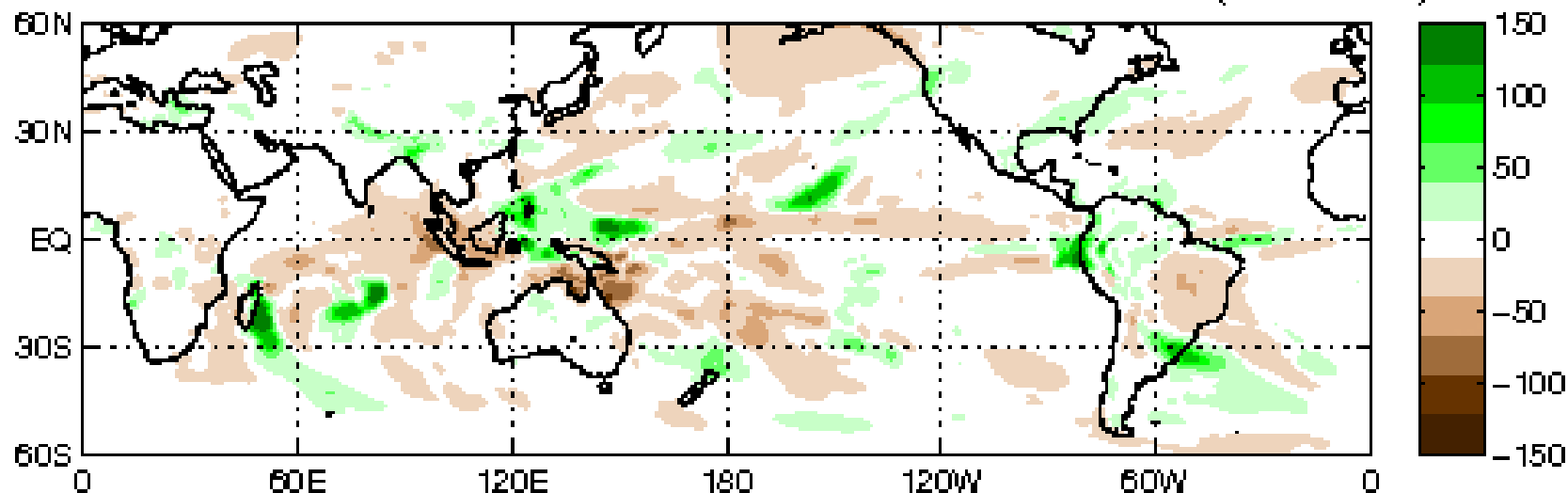
5S - 5N



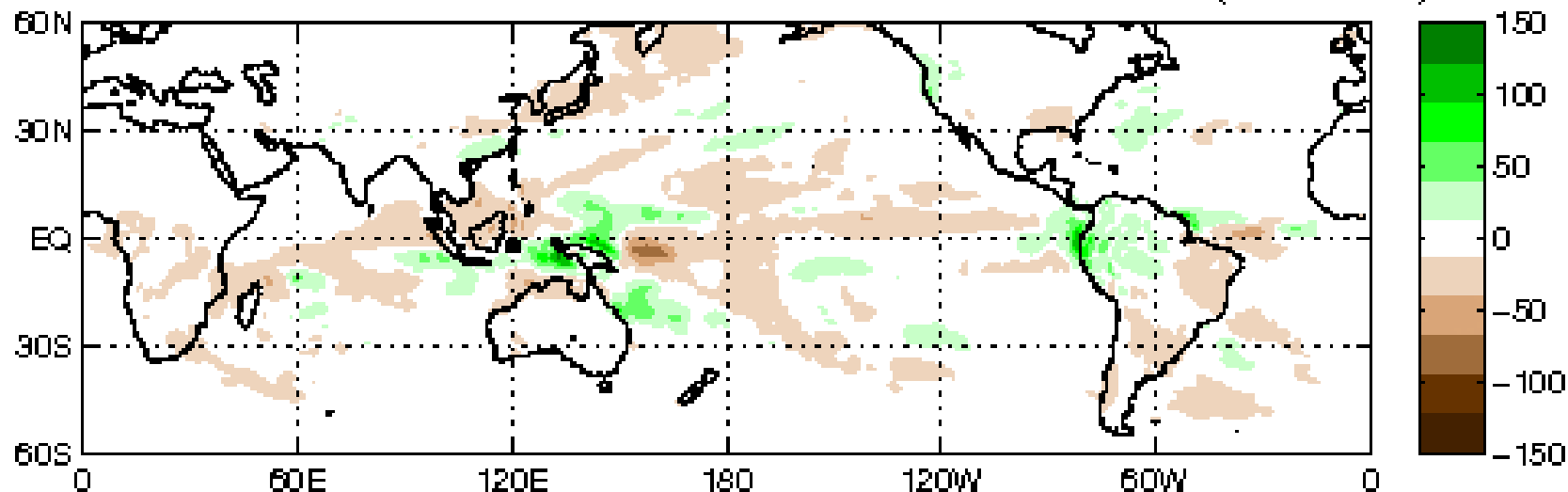
Convective signal now over the Maritime Continent, where the low-frequency state, the MJO, and an equatorial Rossby wave are constructively interfering.

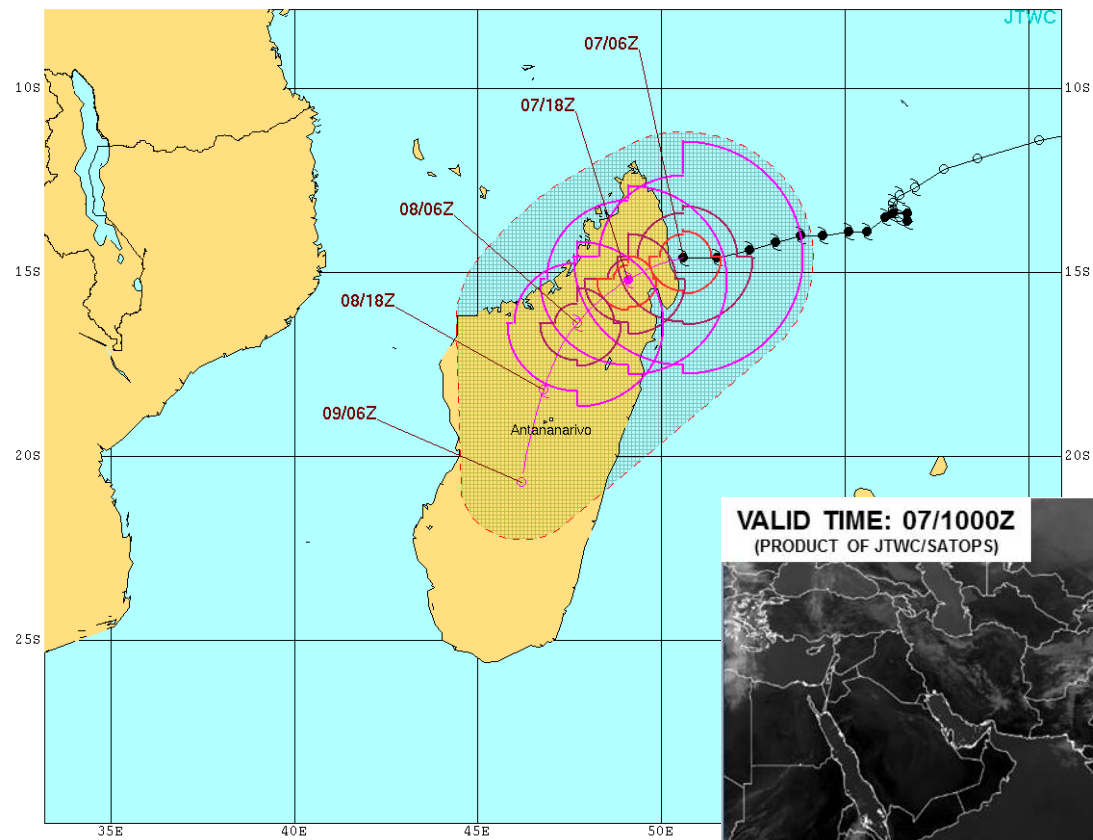


CFS: Anom. PREC Week: 1: 08-Mar-2017 to 14-Mar-2017 (mm/week)



CFS: Anom. PREC Week: 2: 15-Mar-2017 to 21-Mar-2017 (mm/week)



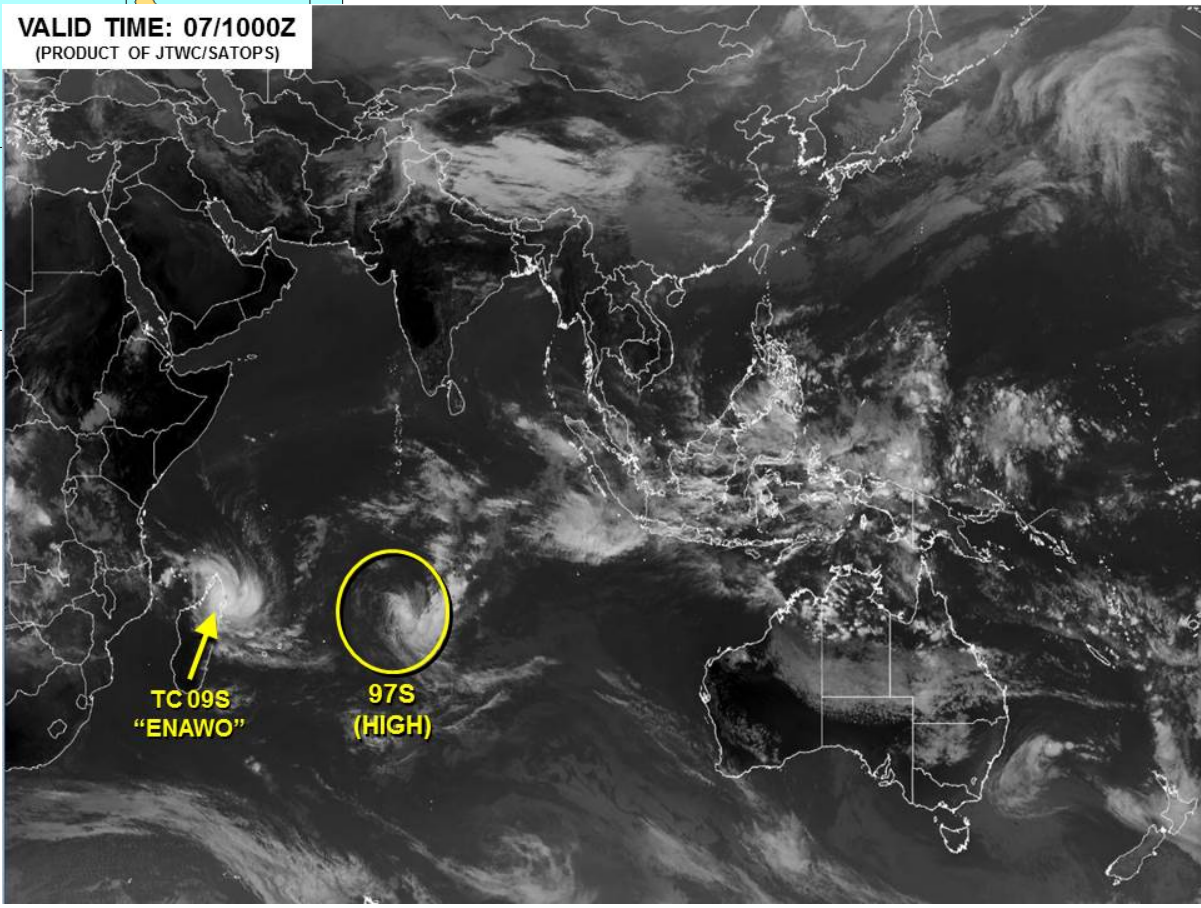


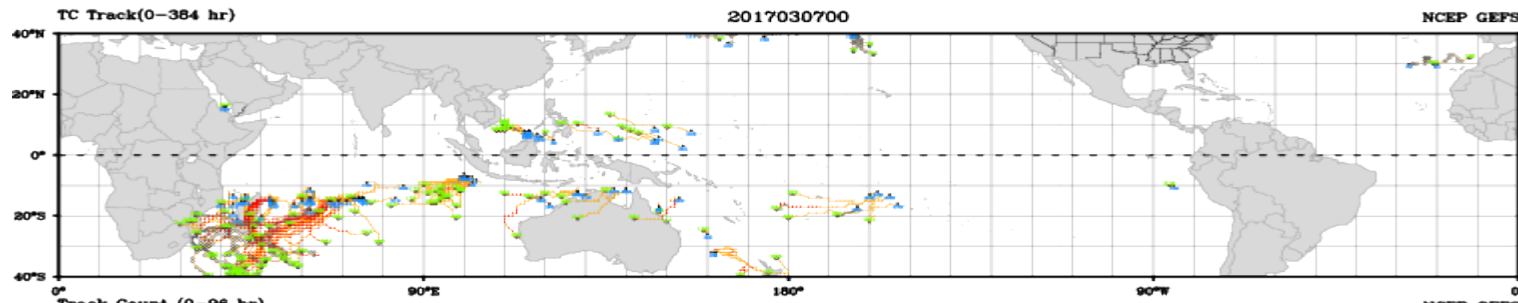
TROPICAL CYCLONE 09S (ENAWO) WARNING #9
 WTWS31 PGTW 070900
 070600Z POSIT: NEAR 14.6S 50.6E
 MOVING 270 DEGREES TRUE AT 09 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 32 FEET
 07/06Z, WINDS 125 KTS, GUSTS TO 150 KTS
 07/18Z, WINDS 090 KTS, GUSTS TO 110 KTS
 08/06Z, WINDS 060 KTS, GUSTS TO 075 KTS
 08/18Z, WINDS 040 KTS, GUSTS TO 050 KTS
 09/06Z, WINDS 030 KTS, GUSTS TO 040 KTS

CPA TO:	NM	DTG
EUROPA_ISLAND	347	09/06Z

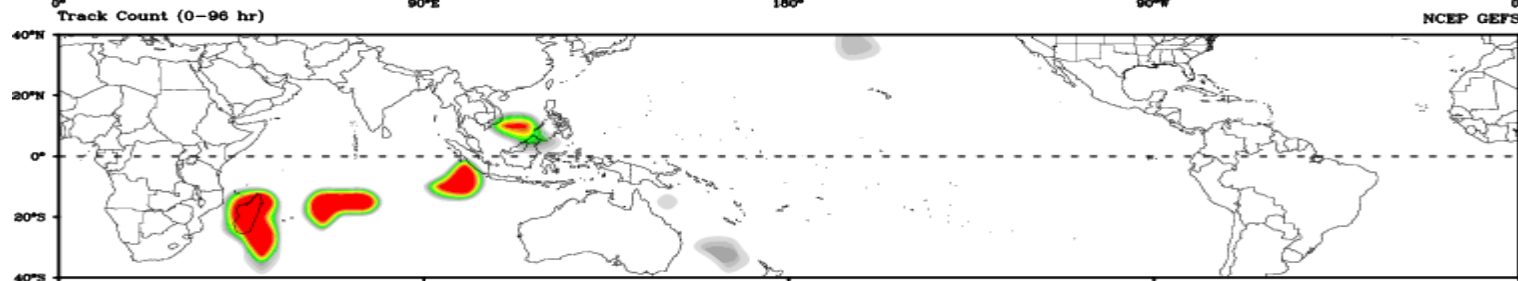
○ LESS THAN 34 KNOTS
 ◌ 34-63 KNOTS
 ● MORE THAN 63 KNOTS
 PAST 6 HOURLY CYCLONE POSITS IN BLACK
 FORECAST CYCLONE POSITS IN COLOR

VALID TIME: 07/1000Z
 (PRODUCT OF JTWC/SATOPS)

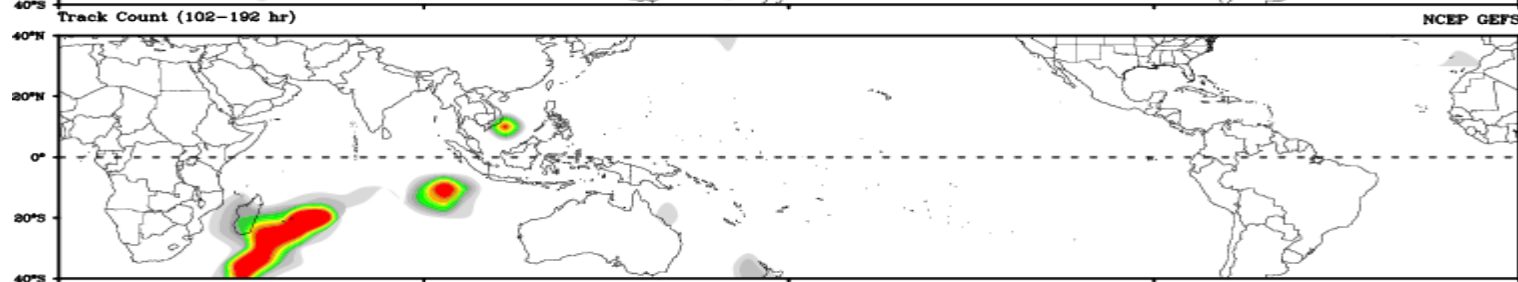




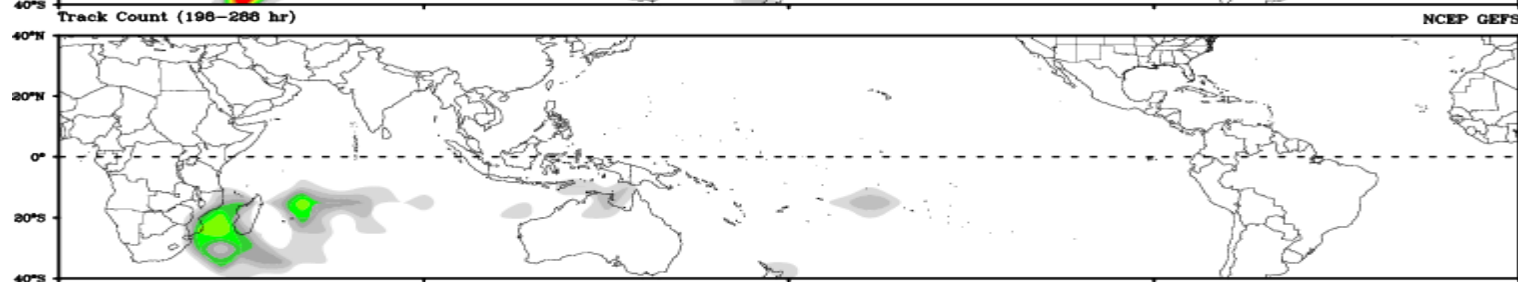
Days 1-4



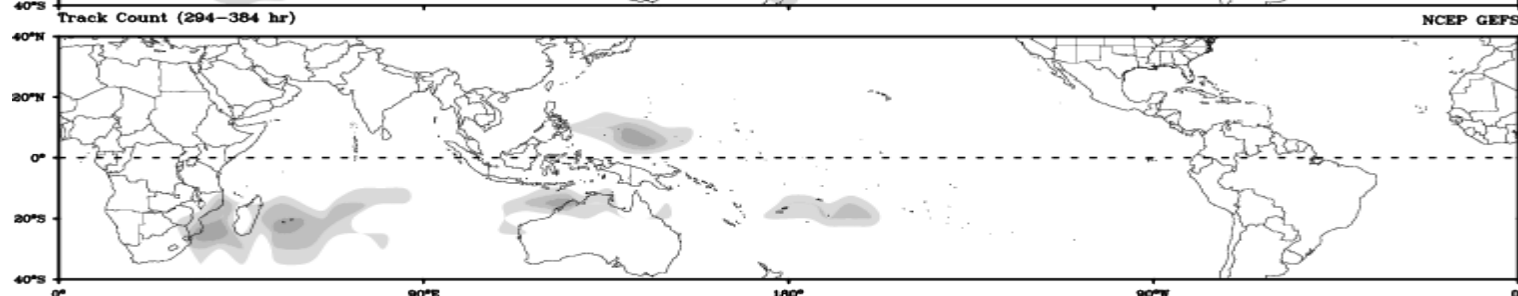
Day 5-8



Day 9-12

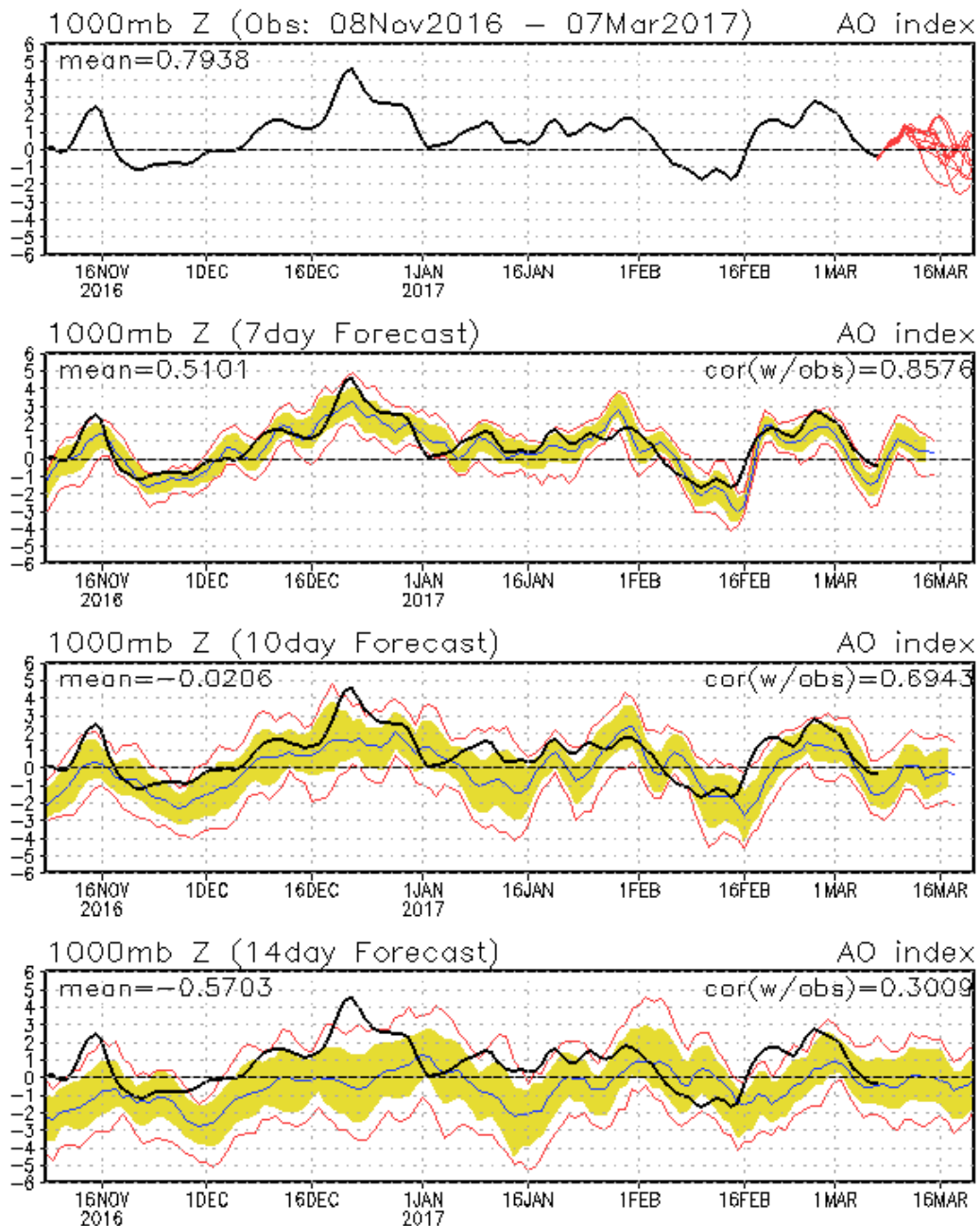


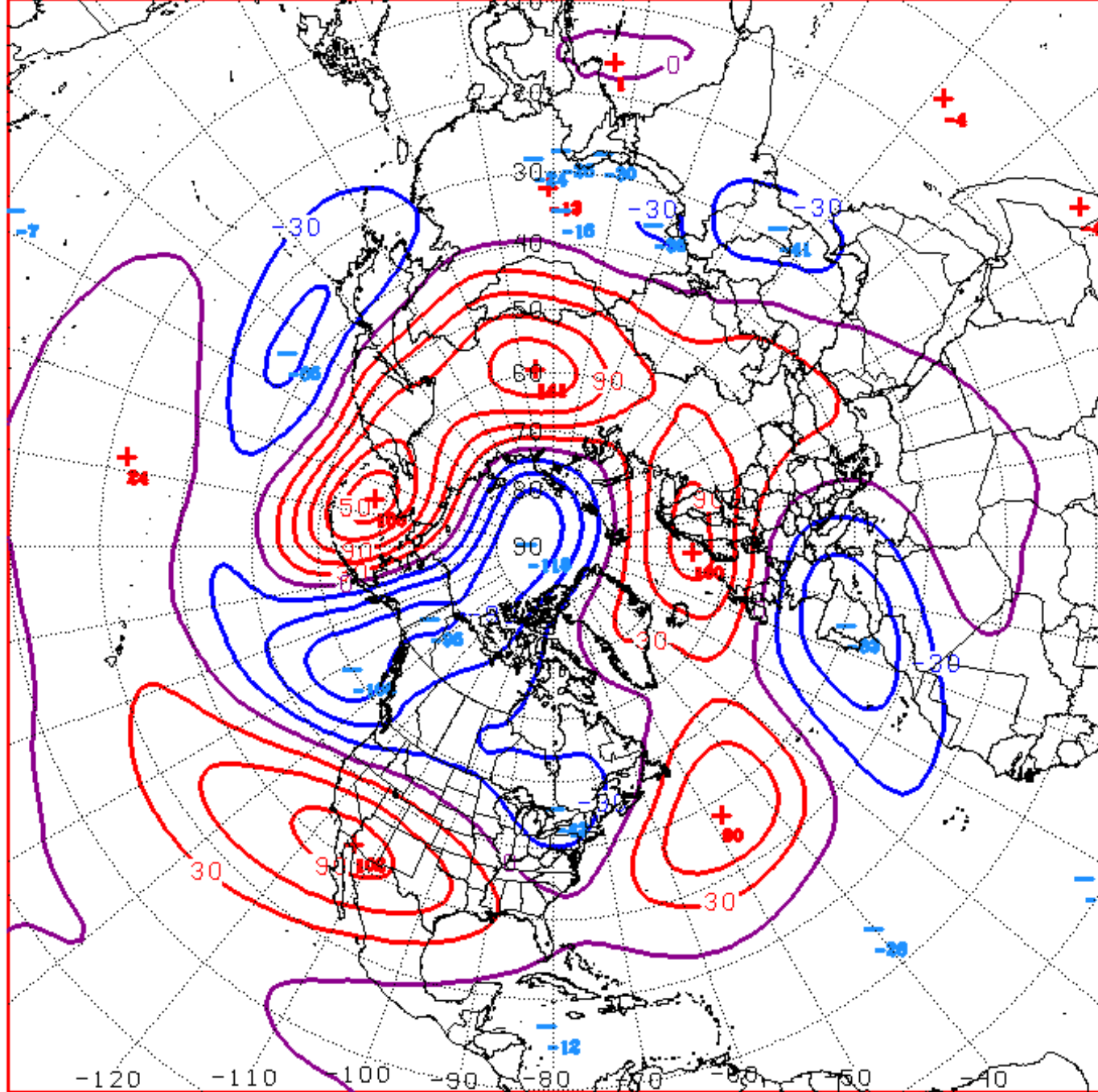
Day 13-15



Connections to U.S. Impacts

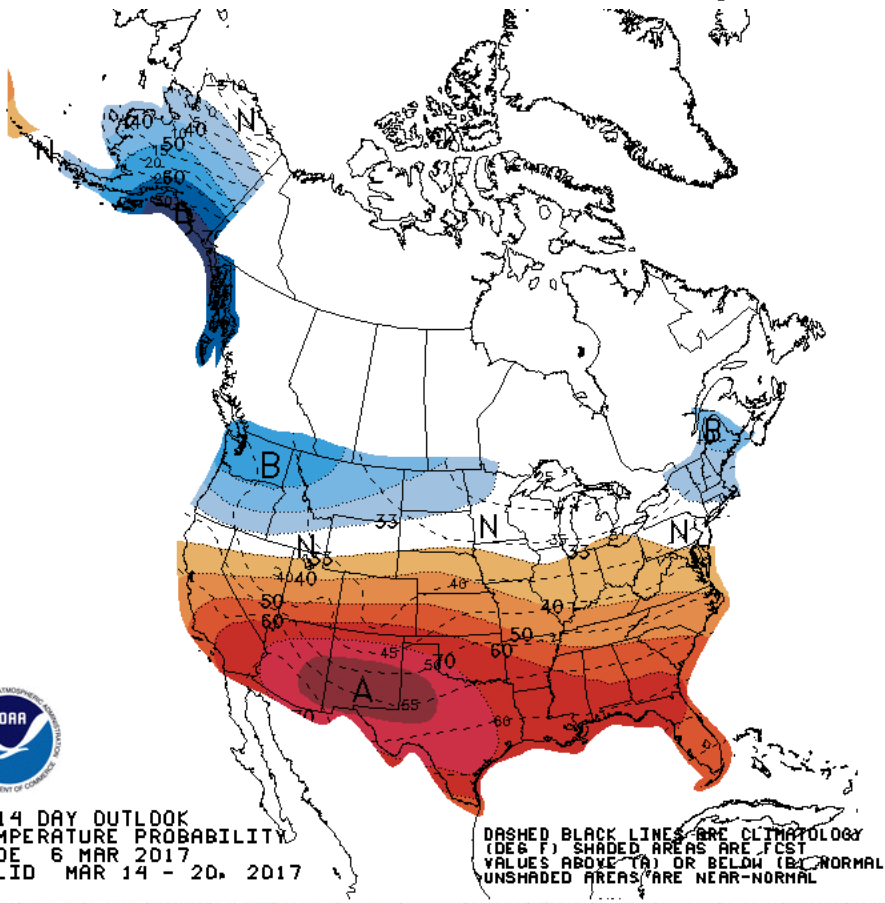
AO: Observed & ENSM forecasts





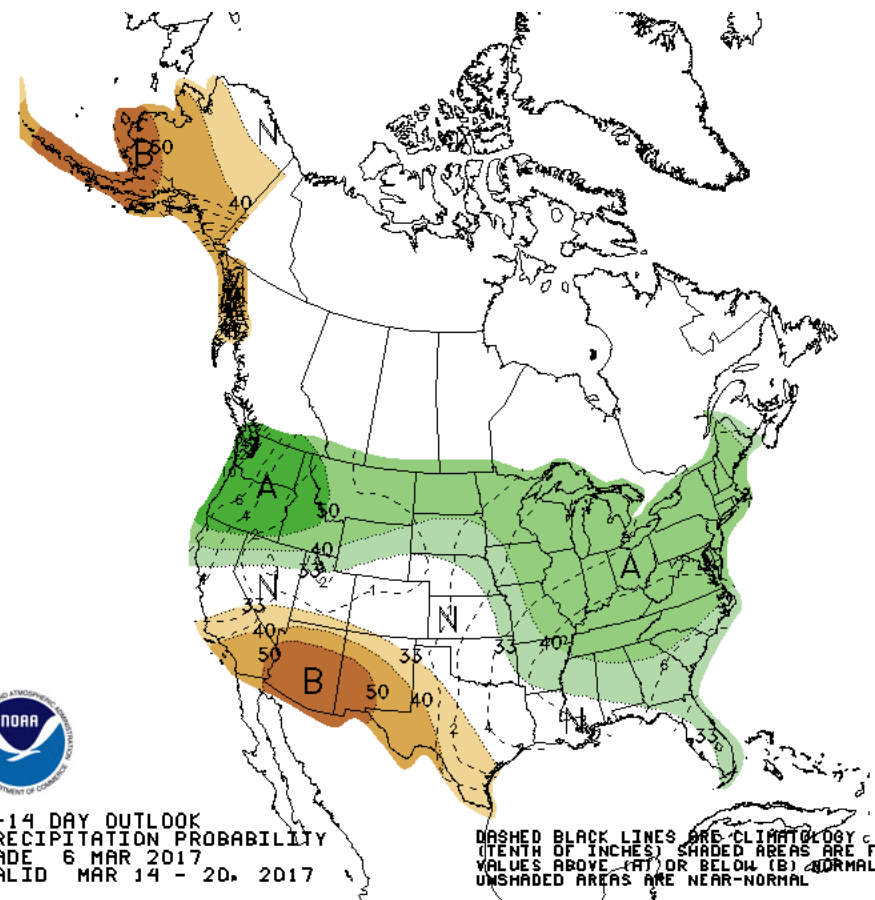
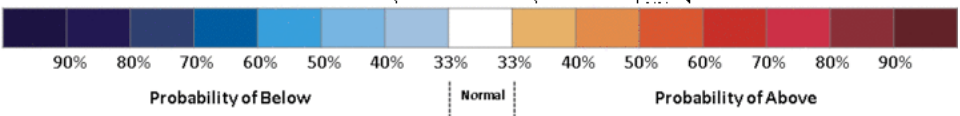
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAR 07 2017 1456 UTC CNTD MAR 18 2017

Week 2 – Temperature and Precipitation



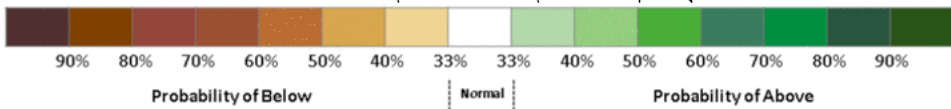
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 6 MAR 2017
VALID MAR 14 - 20, 2017

DASHED BLACK LINES ARE CLIMATE LOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 6 MAR 2017
VALID MAR 14 - 20, 2017

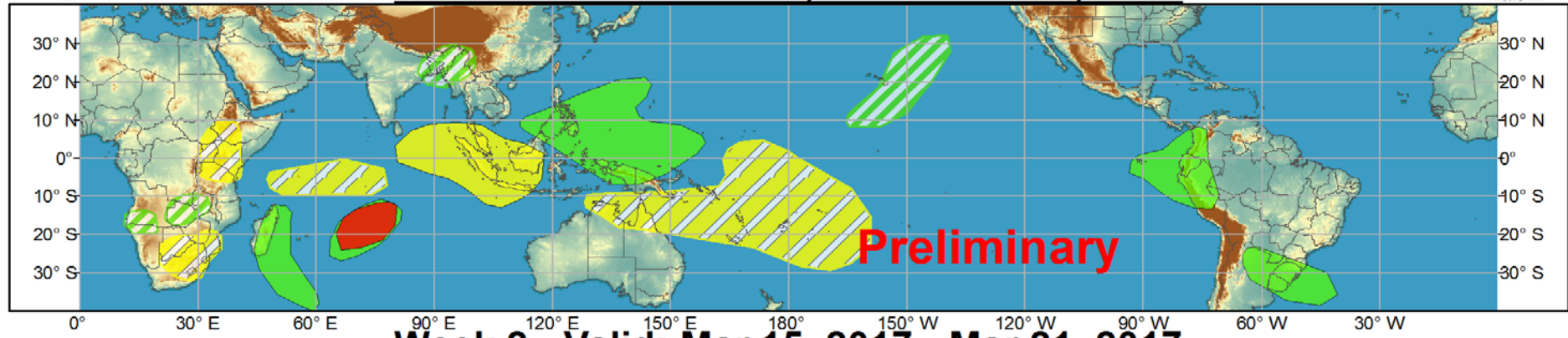
DASHED BLACK LINES ARE CLIMATE LOGY (TENTH OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL



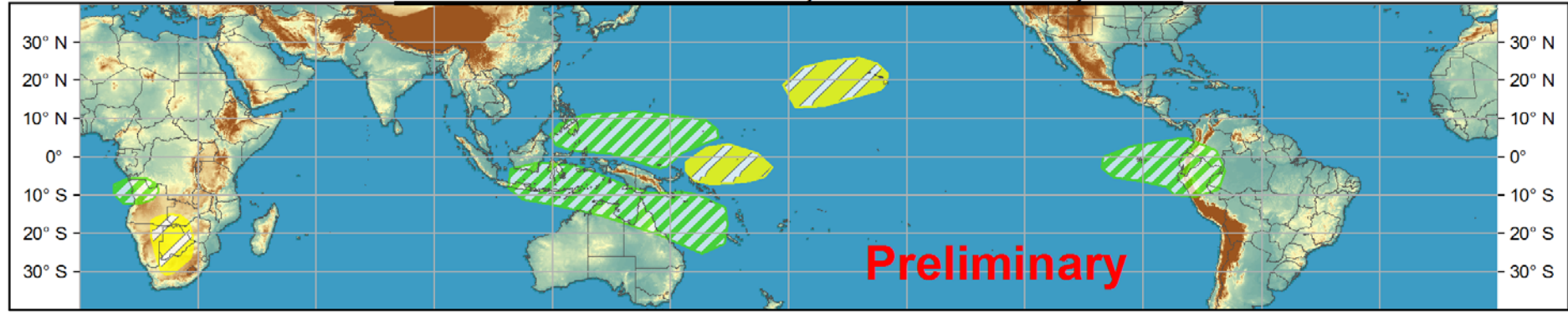


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