

Global Tropics Hazards And Benefits Outlook

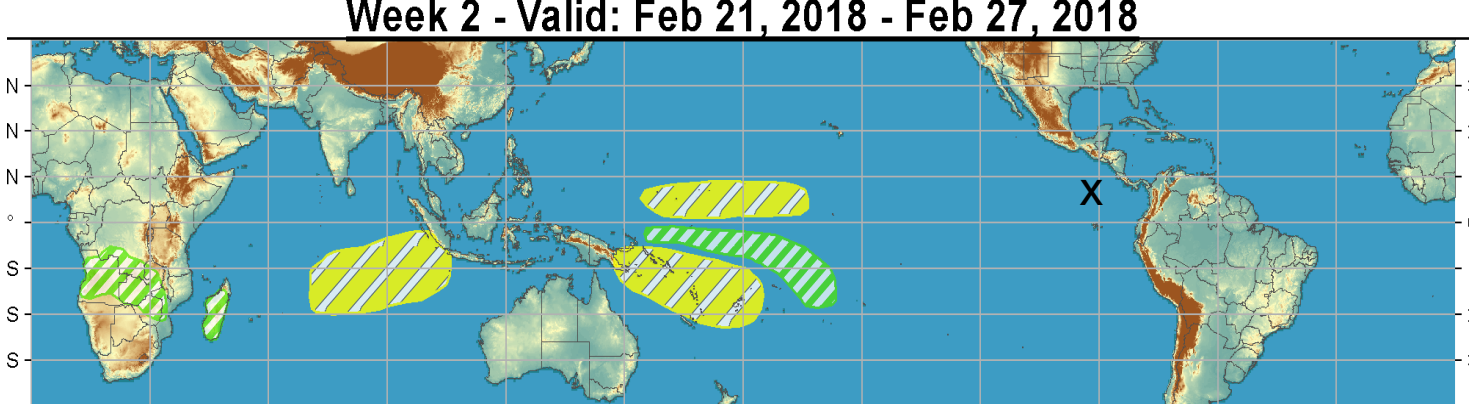
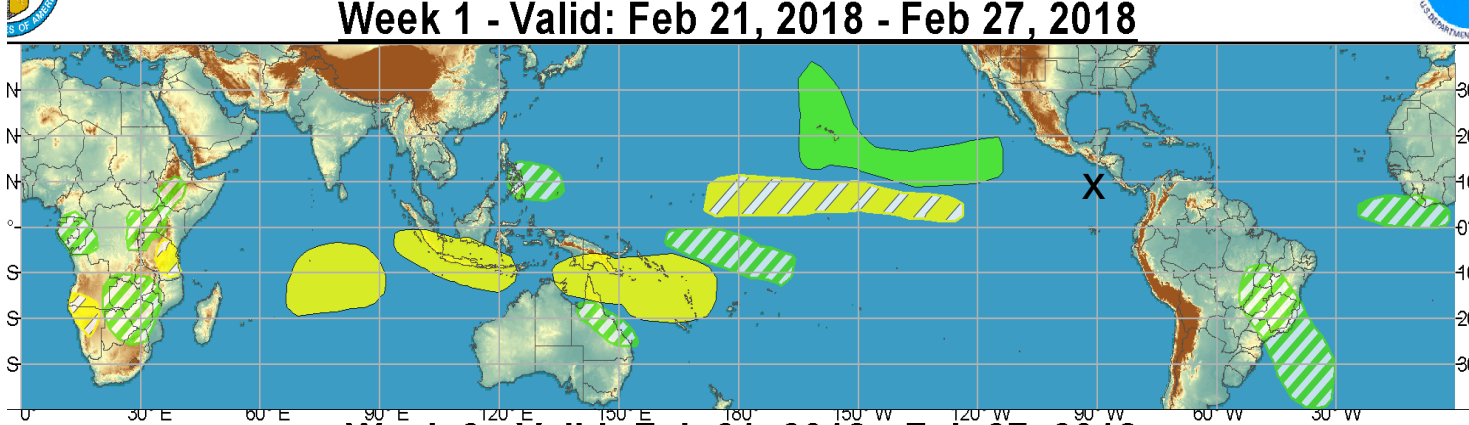
02/27/2018

Kyle MacRitchie

Outline

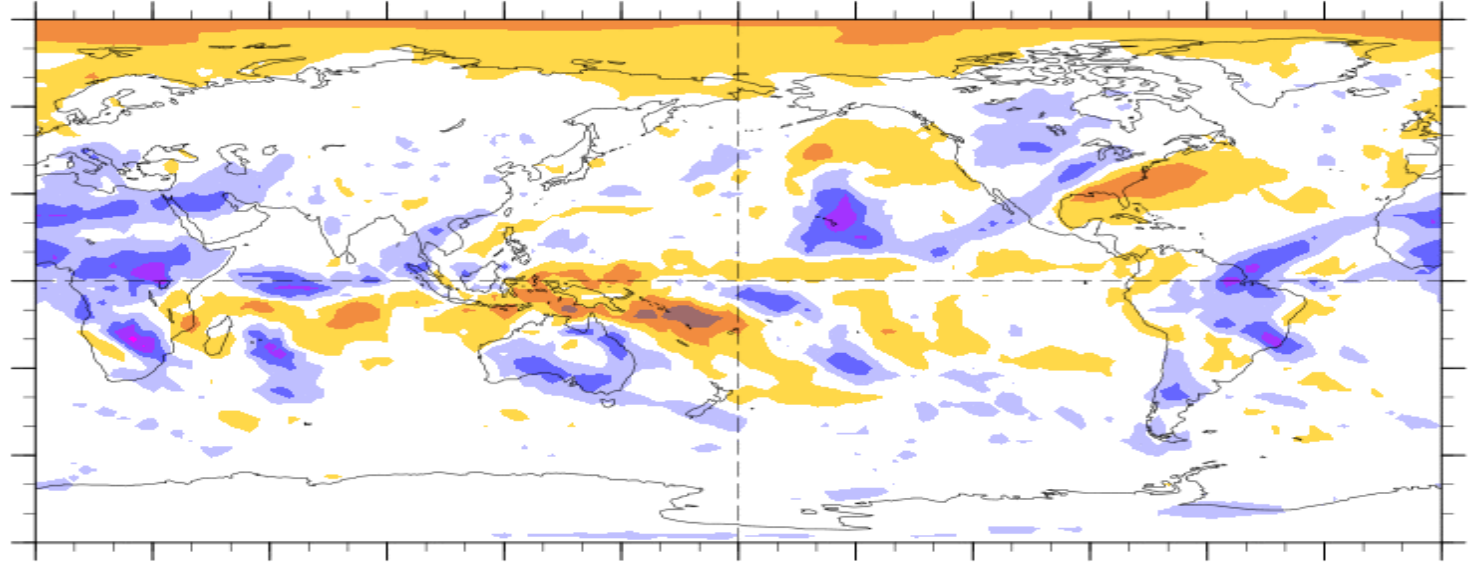
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review



7-Day Average OLR Anomaly

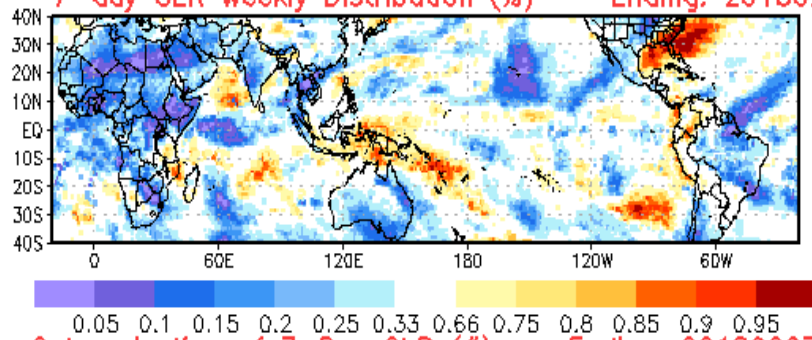
2018/02/18 - 2018/02/24



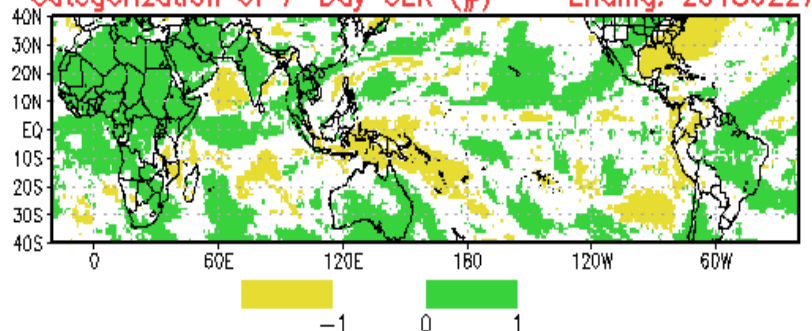
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

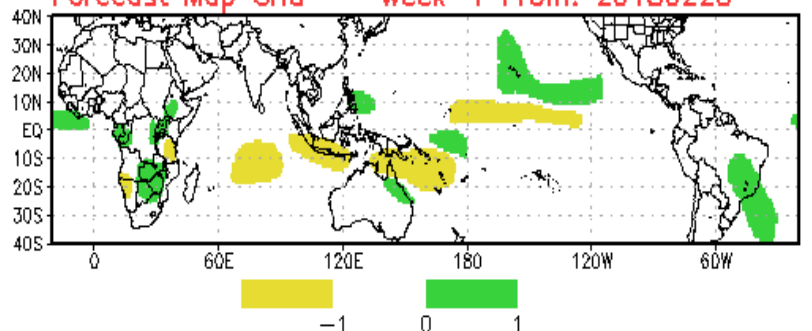
7-day OLR Weekly Distribution (%) -- Ending: 20180227



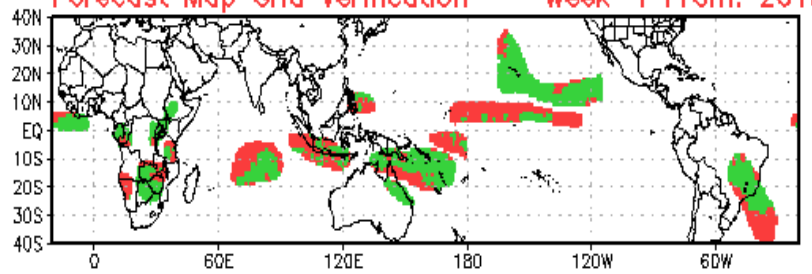
Categorization of 7-Day OLR (#) -- Ending: 20180227



Forecast Map Grid -- Week-1 From: 20180220

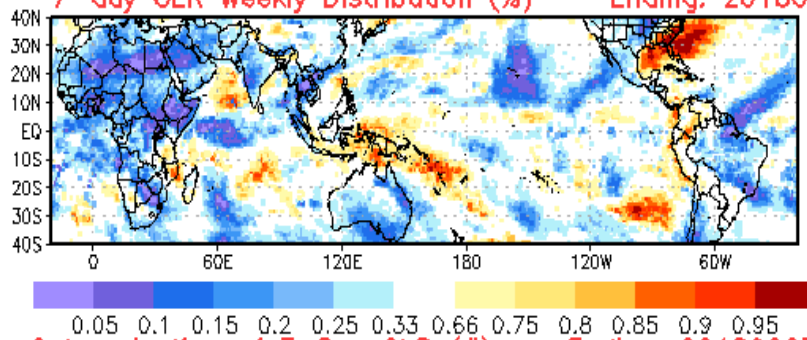


Forecast Map Grid Verification -- Week-1 From: 20180221

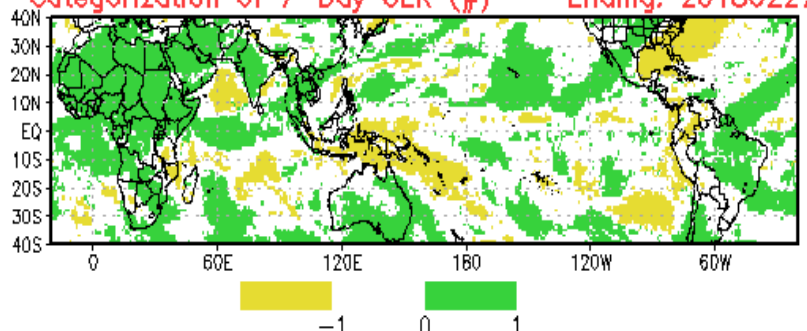


Hit: Green, Miss: Red
Heidke Skill Score: 34.4783

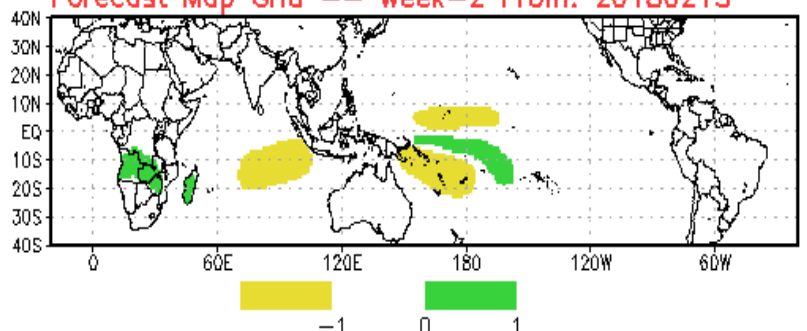
7-day OLR Weekly Distribution (%) -- Ending: 20180227



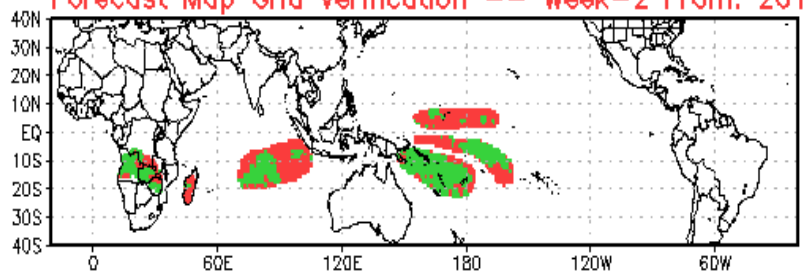
Categorization of 7-Day OLR (#) -- Ending: 20180227



Forecast Map Grid -- Week-2 From: 20180213



Forecast Map Grid Verification -- Week-2 From: 20180213



Hit: Green, Miss: Red
Heidke Skill Score: 21.6376

Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: [La Niña Advisory](#)
- February 8th Update: A transition from La Niña to ENSO-neutral is most likely during the Northern Hemisphere spring (~55% chance of ENSO-neutral during the March-May season).

MJO and other subseasonal tropical variability:

- The MJO has begun to re-emerge over eastern Africa.
- Dynamical and statistical models continue to propagate the MJO slowly eastward across the Indian Ocean.

Extratropics:

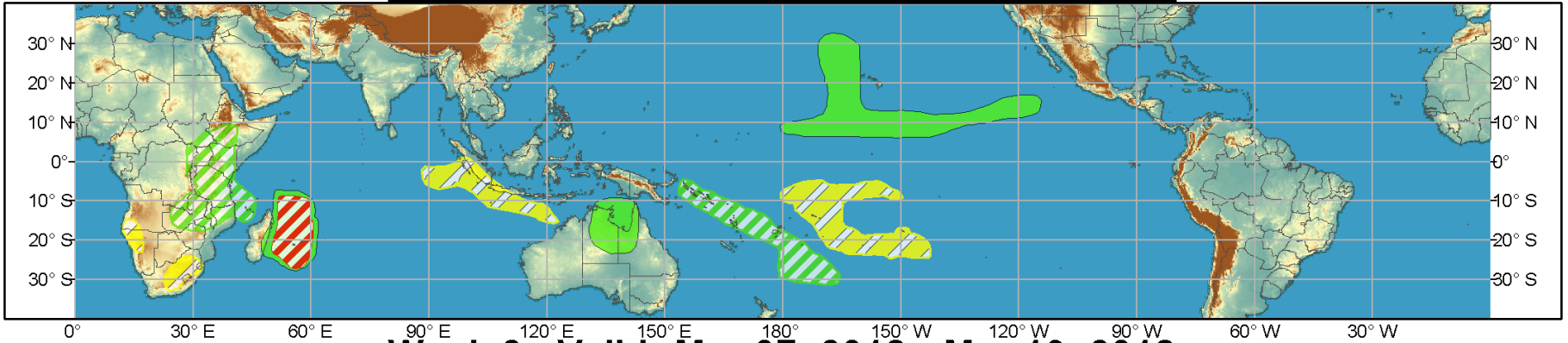
- Both the NAO and AO are negative and dynamical models forecast these teleconnections to stay negative through the Week-2 period.



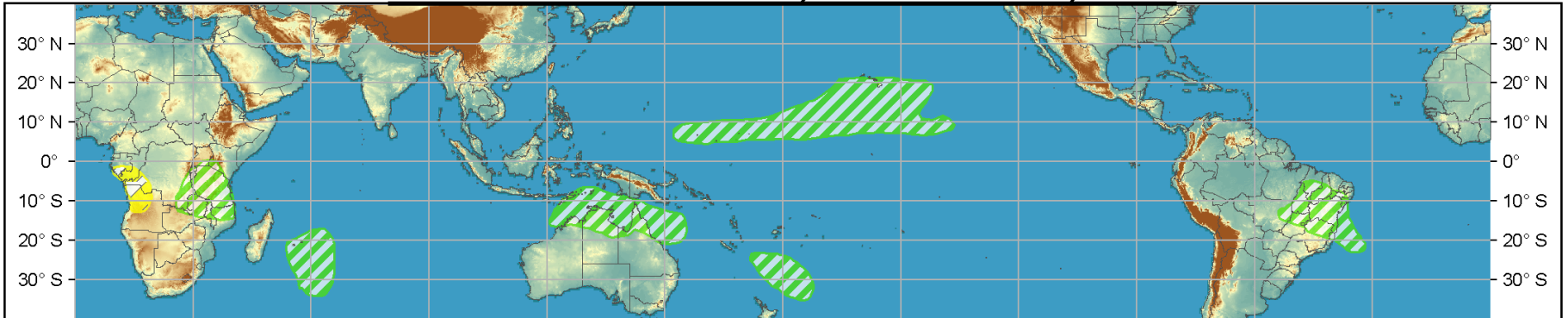
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Feb 28, 2018 - Mar 06, 2018



Week 2 - Valid: Mar 07, 2018 - Mar 13, 2018



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: 02/27/2018

Forecaster: MacRitchie

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.



IR Satellite & 200-hpa Velocity Potential Anomalies

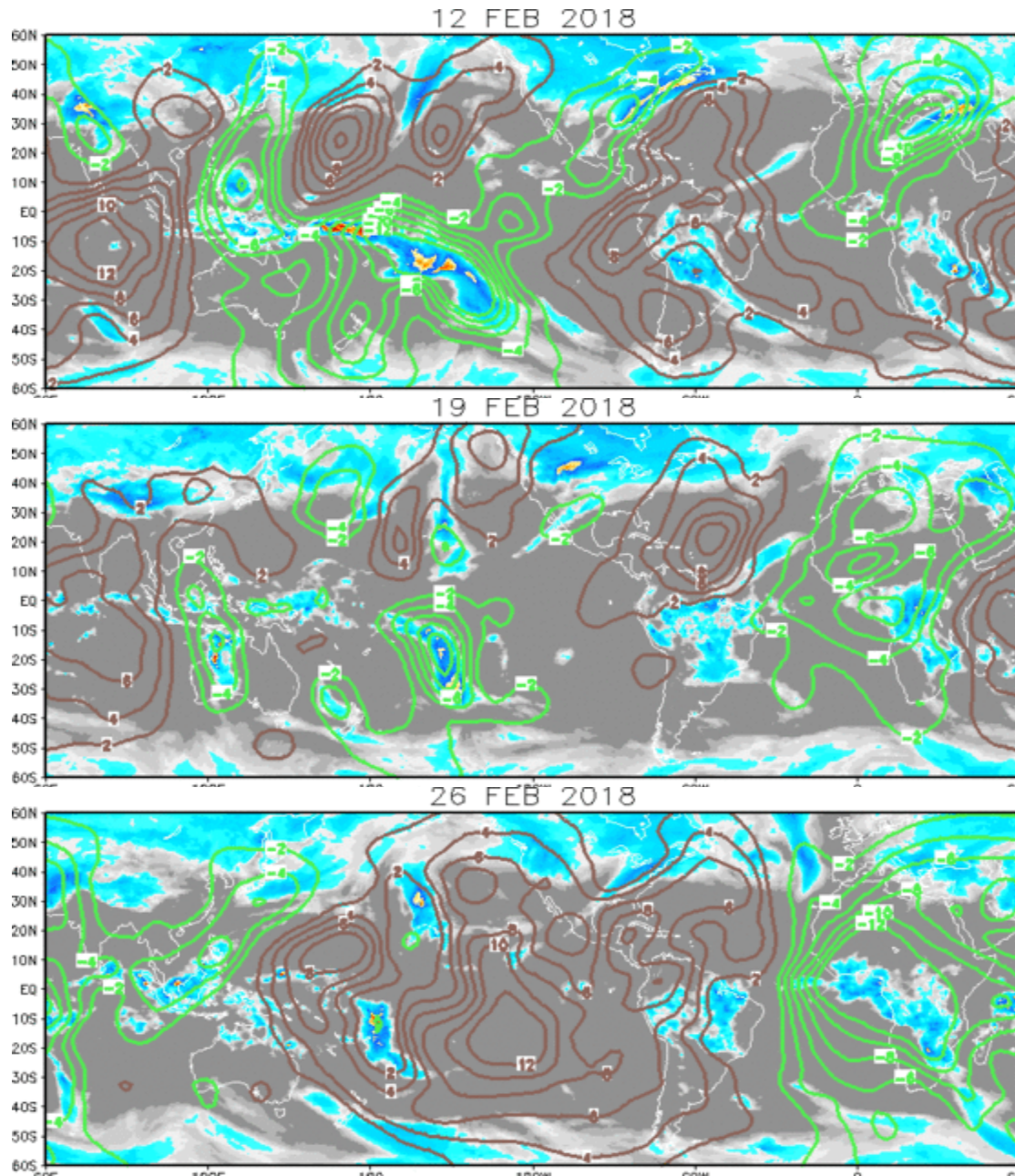
Green: Enhanced Divergence

Brown: Enhanced Convergence

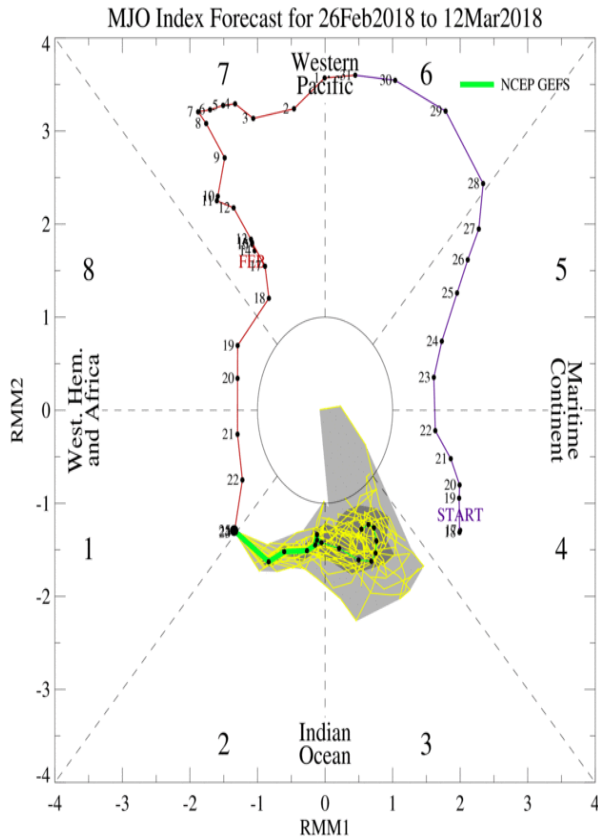
Suppressed convection over South America and Indian Ocean. Enhanced convection over much of Maritime Continent and SPCZ area.

Weakening MJO causes large-scale circulation to weaken as it becomes dominated by other tropical and extra-tropical features.

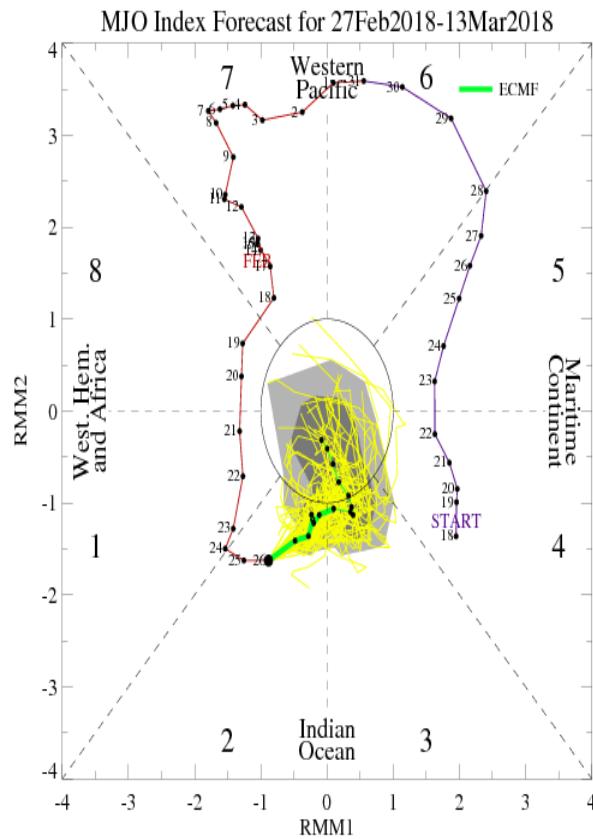
Wave-1 pattern dominates as the MJO re-emerges over Africa.



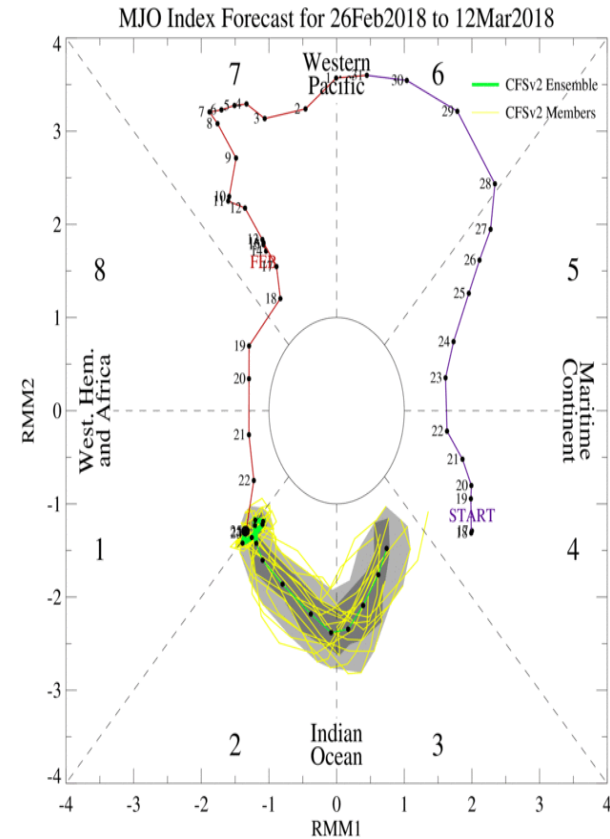
MJO Observation/Forecast



GEFS



ECMWF

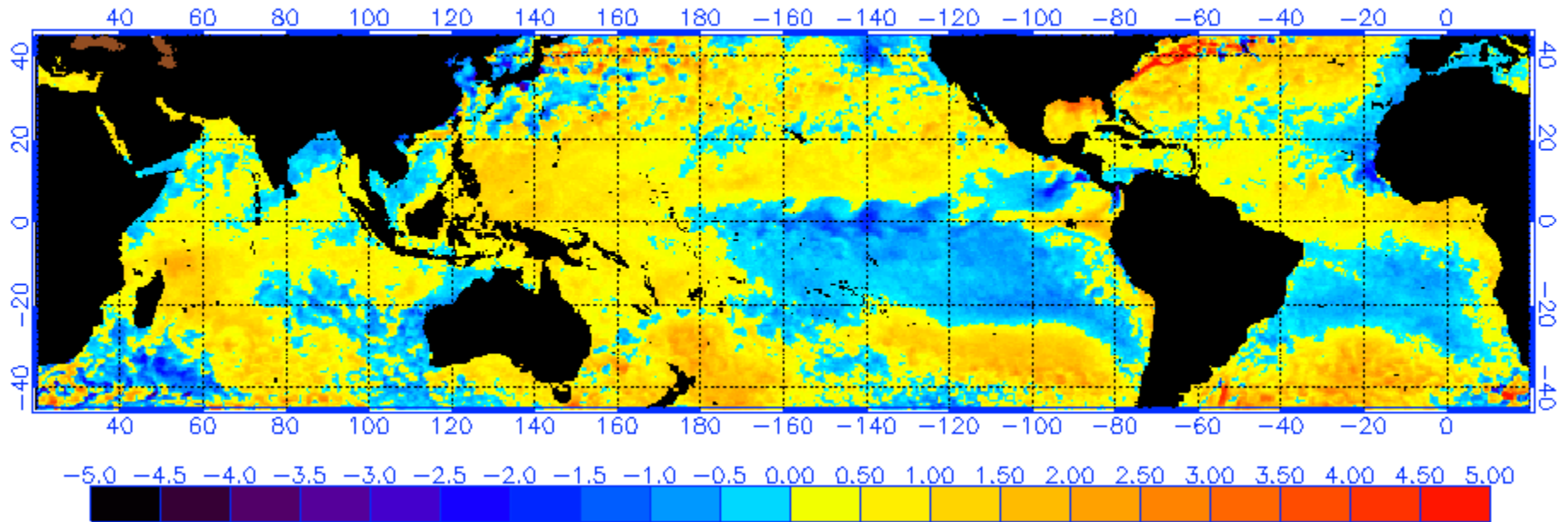


CFS (yesterday)

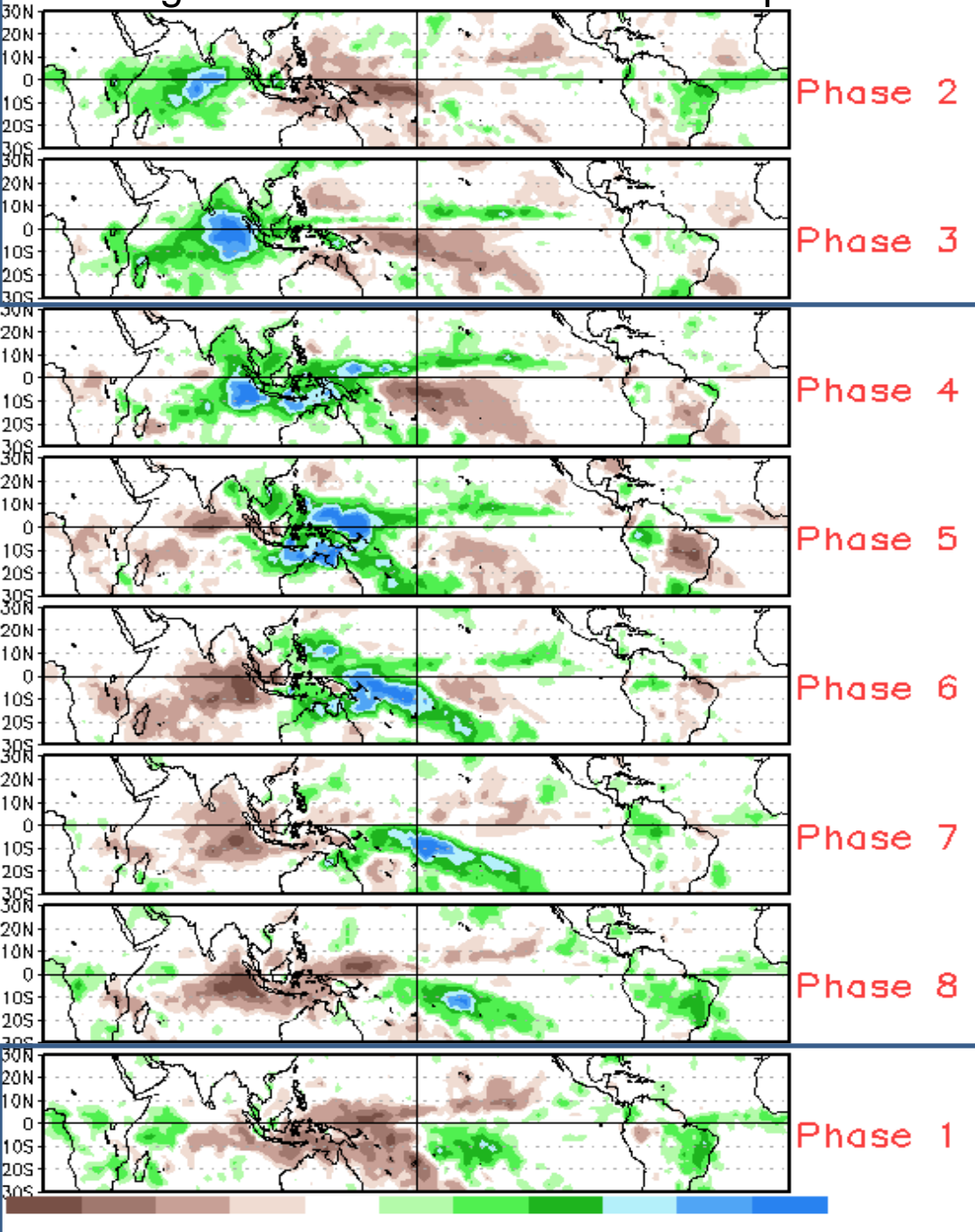
Wheeler-Hendon based analyses of model forecasts indicate propagation to the east. Divergence in how the models handle interaction with westward moving modes.

SST Anomalies

NOAA/NESDIS SST Anomaly (degrees C), 2/26/2018



Average Conditions when the MJO is present

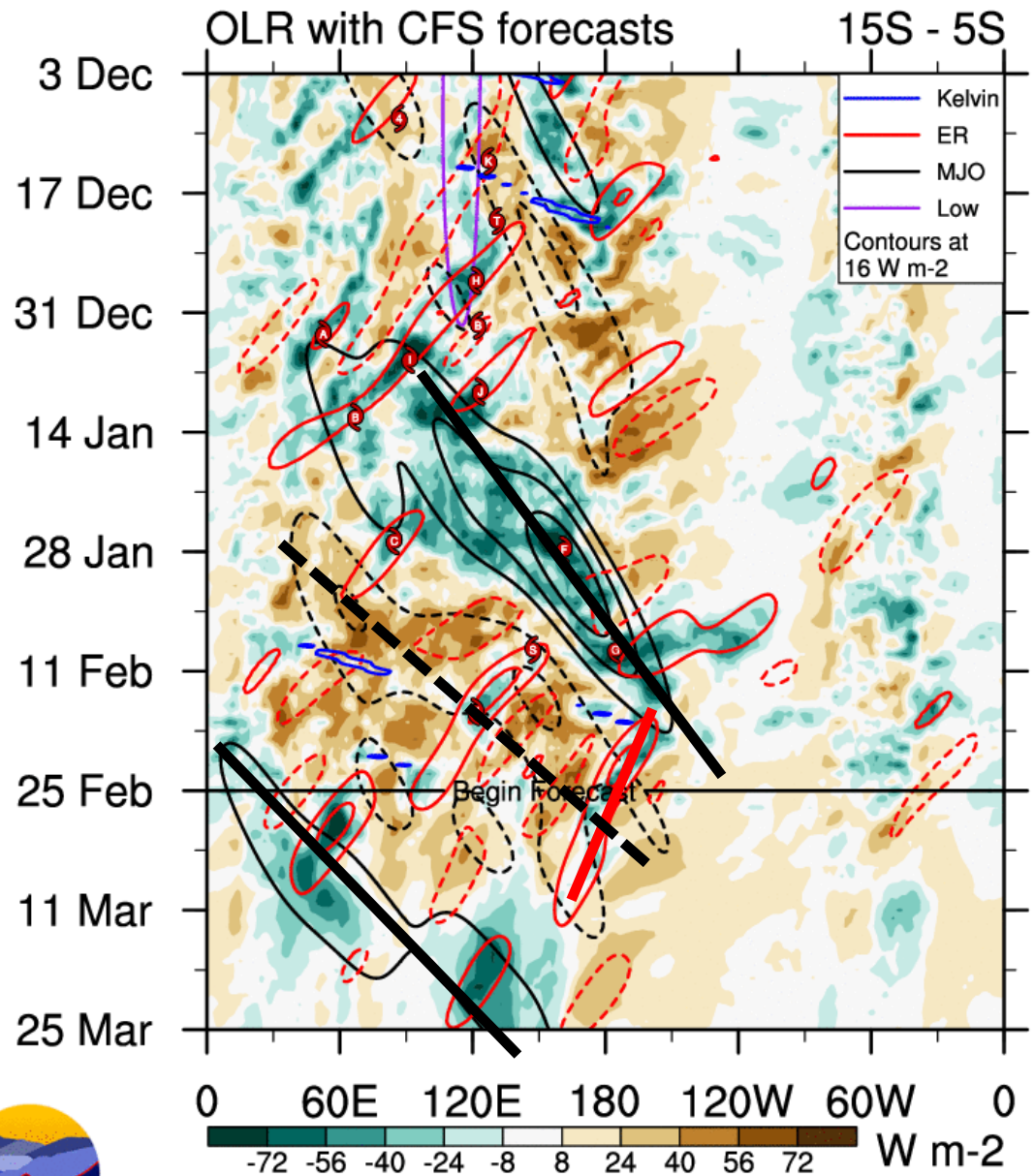


Week-1: Phase 1/2
Week-2: Phase 2/3,
weakening

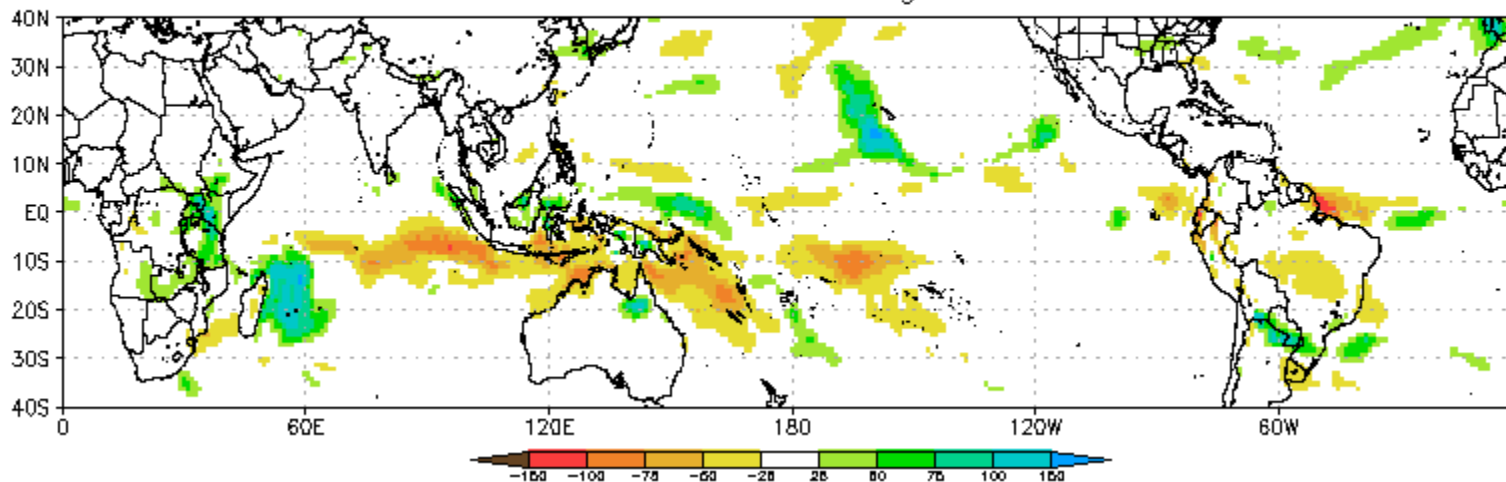
CAVEAT: These panels are representative of robust MJO events.

The **MJO** enhances convection over Africa and Indian ocean as it propagates eastward over the next two weeks and constructively interferes with **equatorial Rossby (ER) waves**.

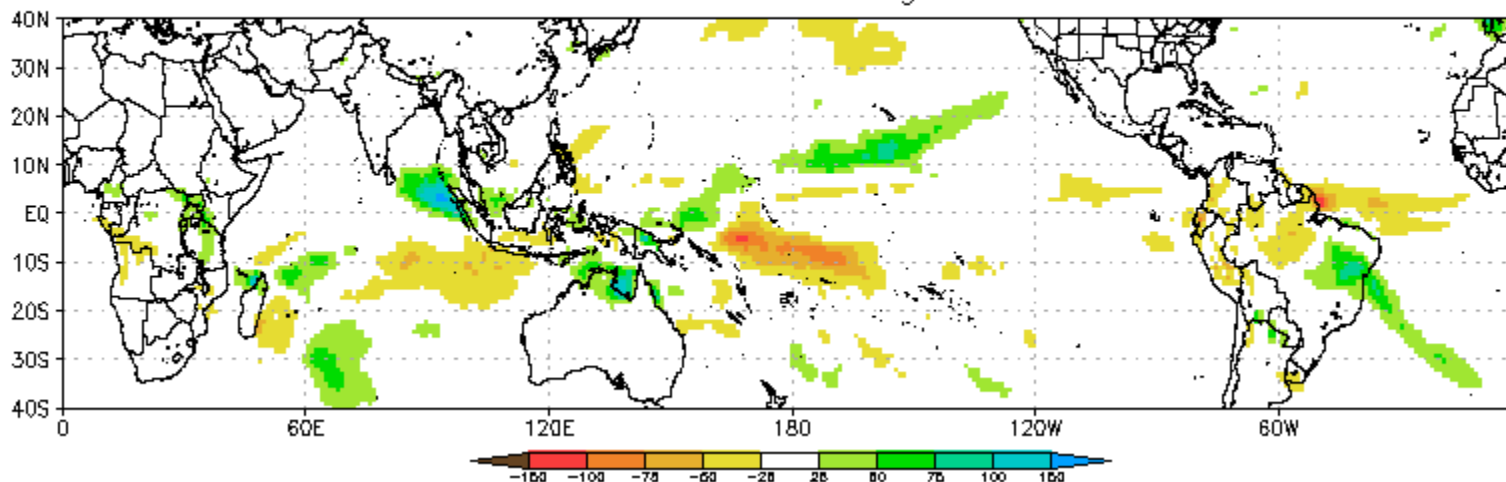
The CFS is forecasting the **MJO** to propagate over the Maritime Continent during Week-2.



CFS Precipitation Anomalies (mm) Issued 26Feb2018
Week-1 Forecast Ending 06Mar2018



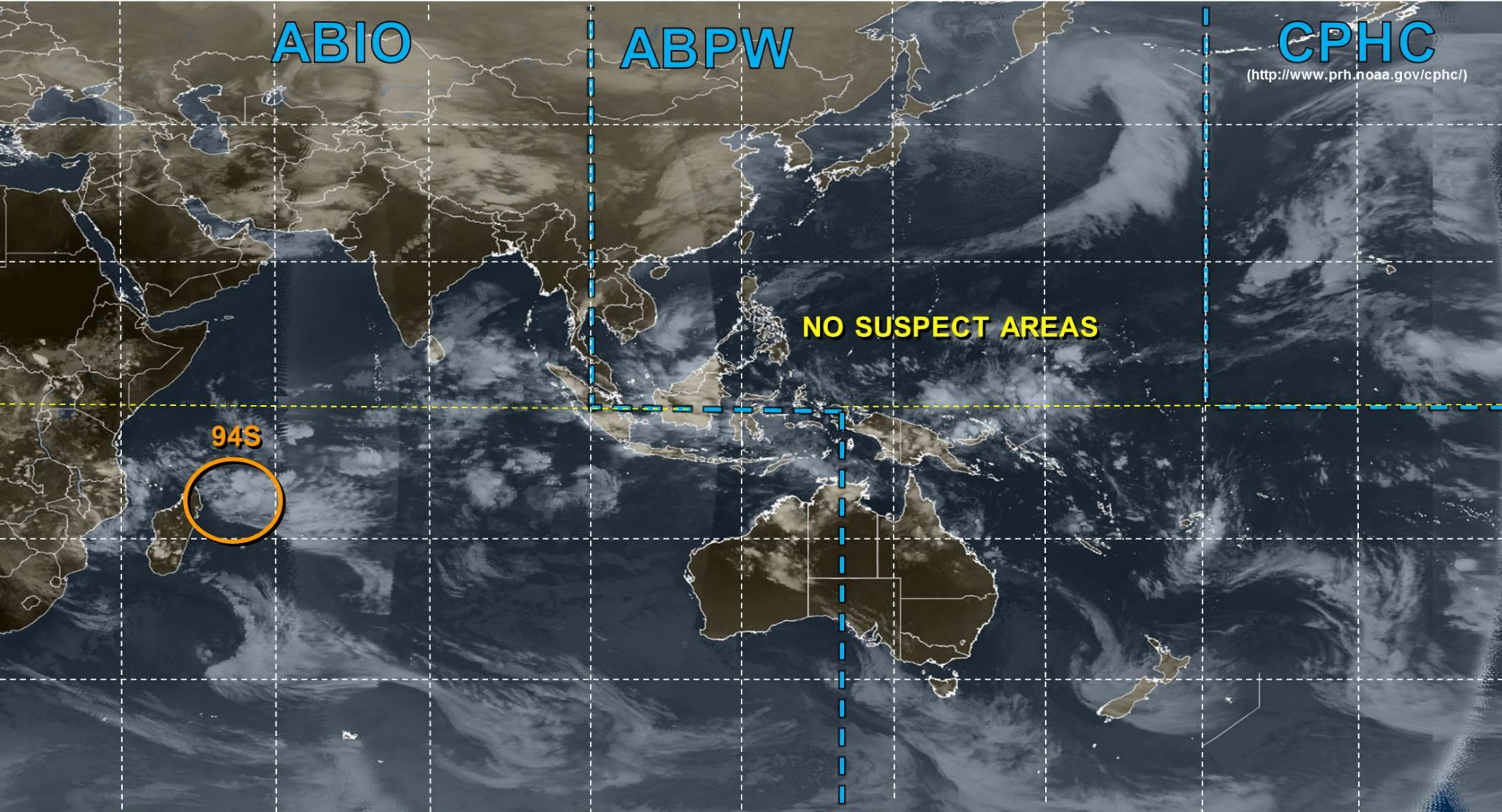
CFS Precipitation Anomalies (mm) Issued 26Feb2018
Week-2 Forecast Ending 13Mar2018





Tropical Cyclone Development Potential

IMAGE TIME 27/1230Z
(PRODUCT OF JTWC/SATOPS)



LOW

TC formation unlikely within 24 hours

MEDIUM

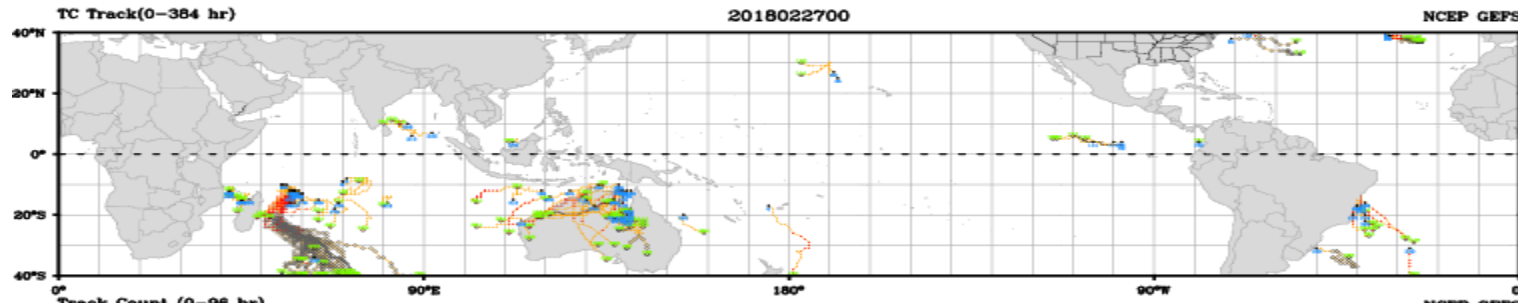
TC development likely, but expected to occur beyond 24 hours

HIGH

TC development likely within 24 hours (Reference TCFA)



Tropical Cyclone (Reference Warning)

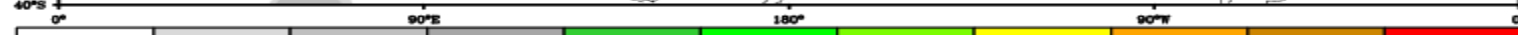
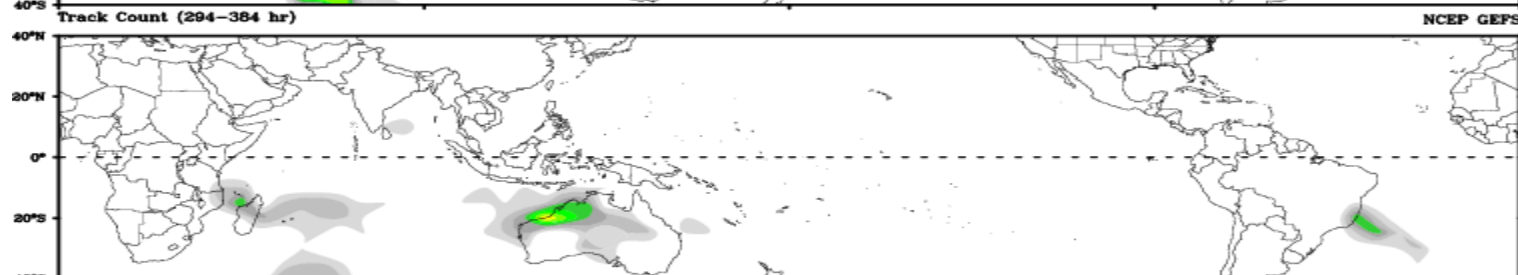
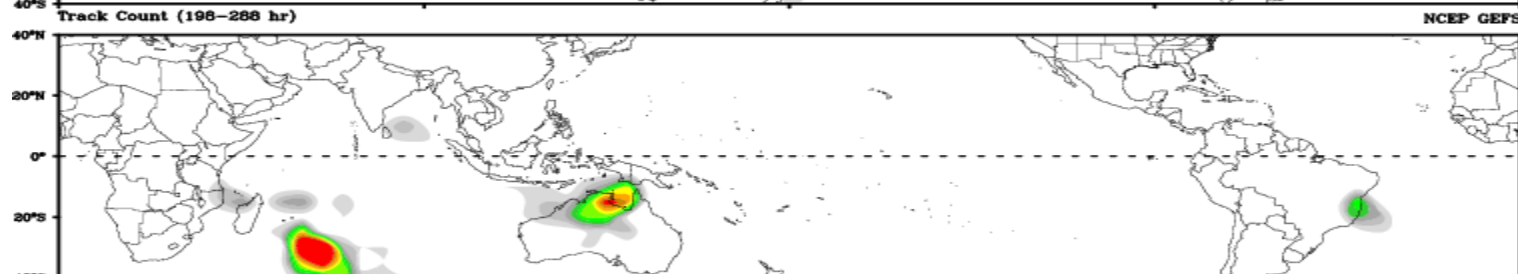
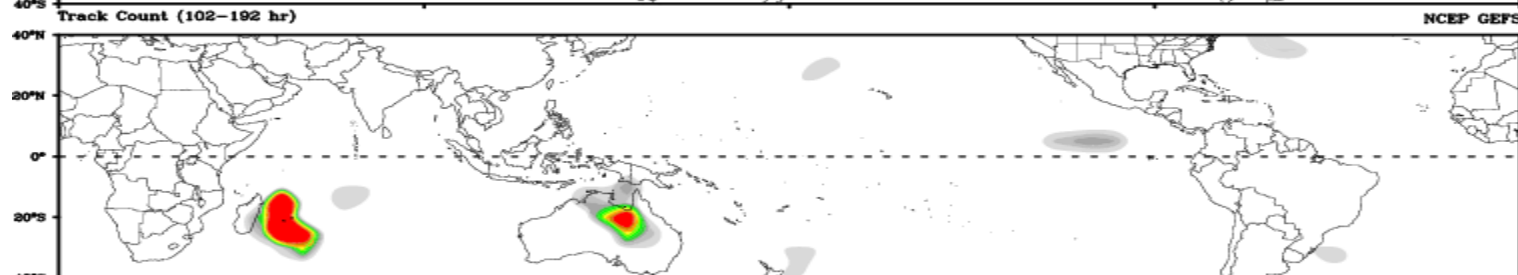
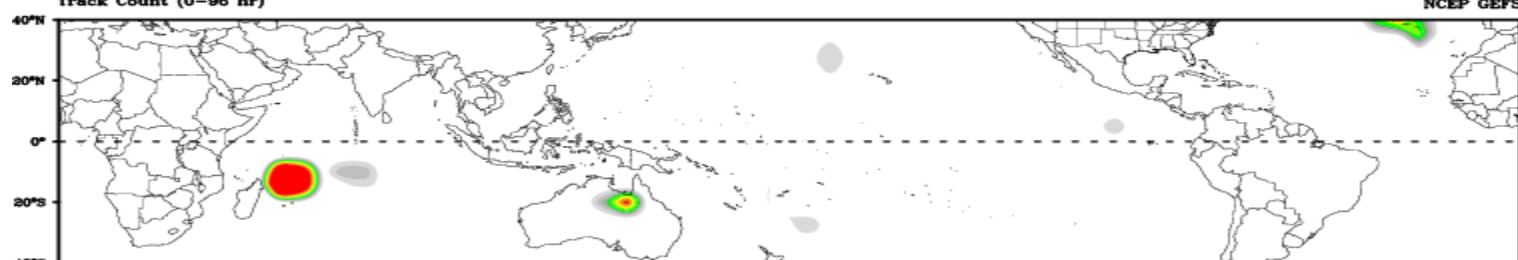


Days 1-4

Day 5-8

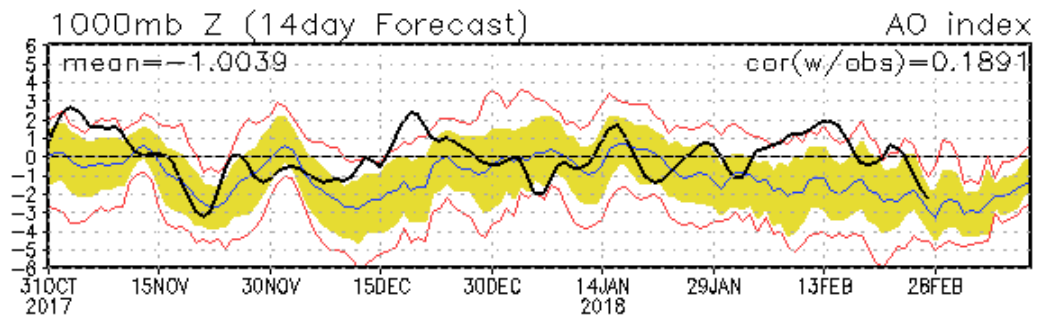
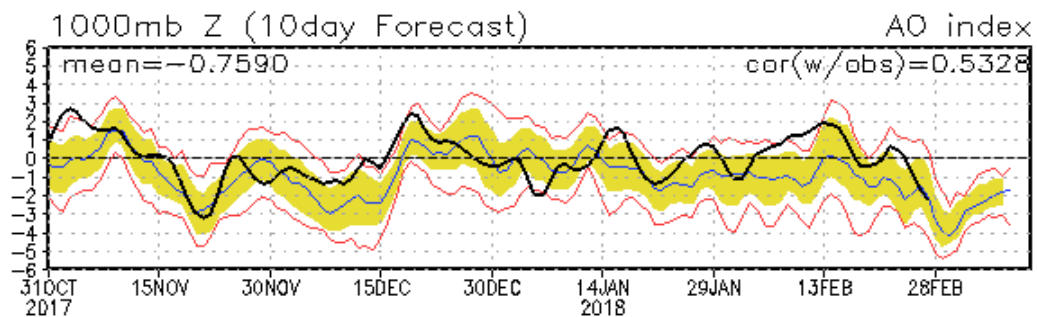
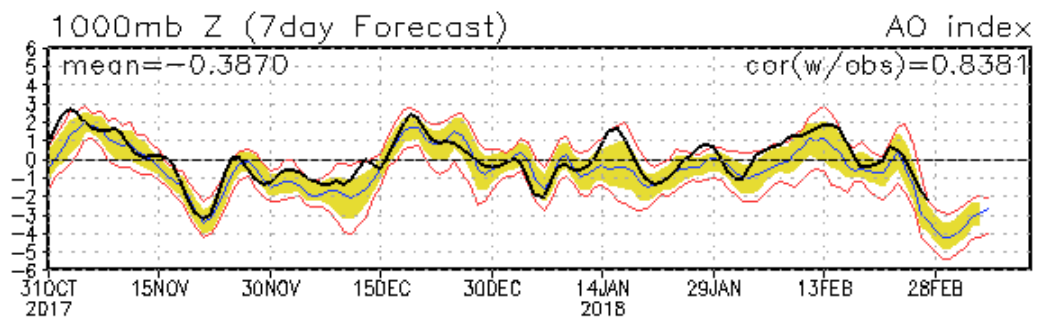
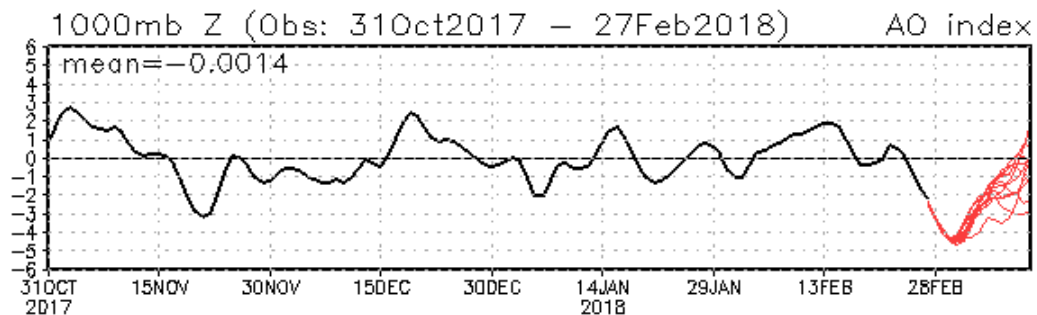
Day 9-12

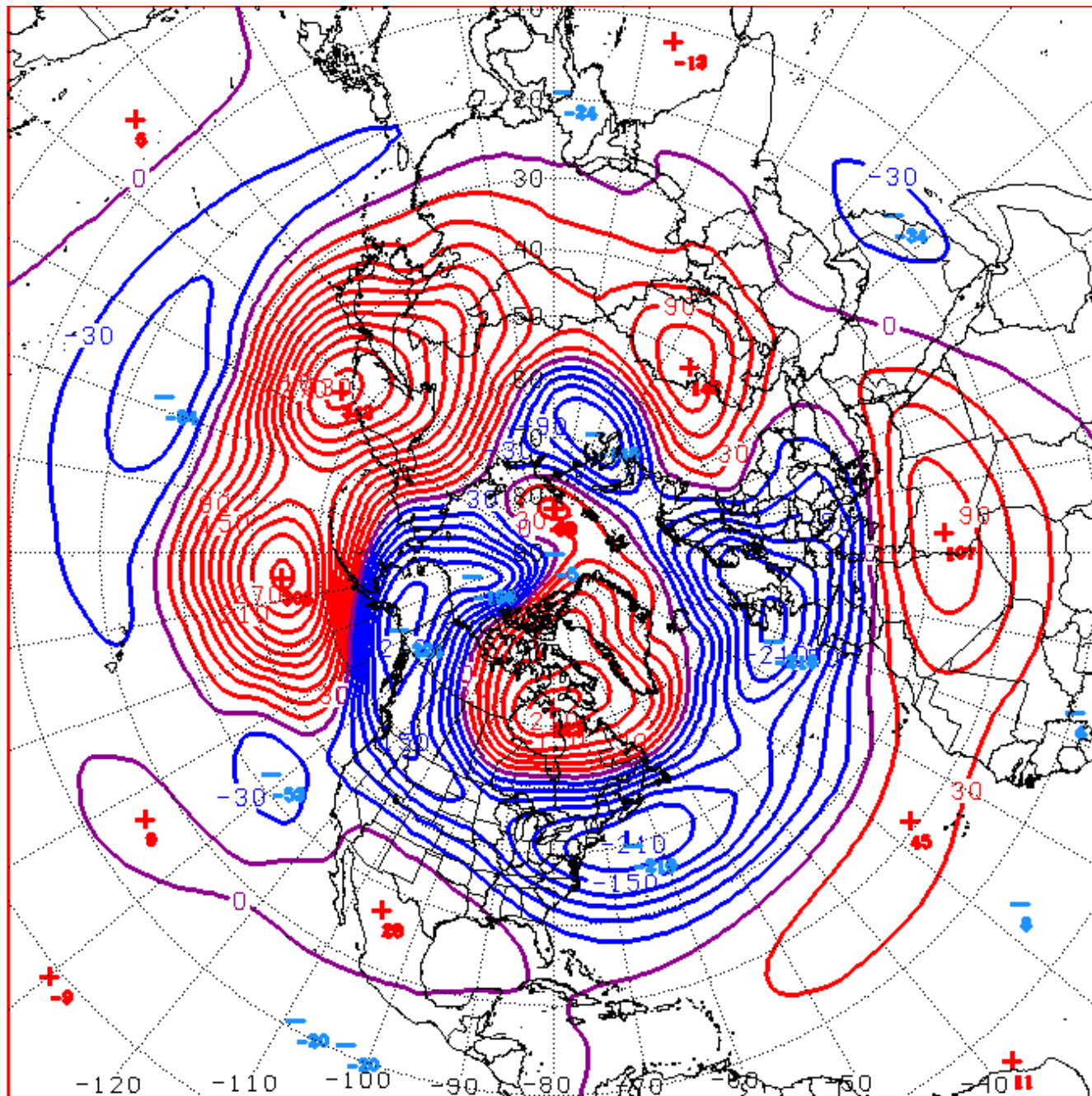
Day 13-15



Connections to U.S. Impacts

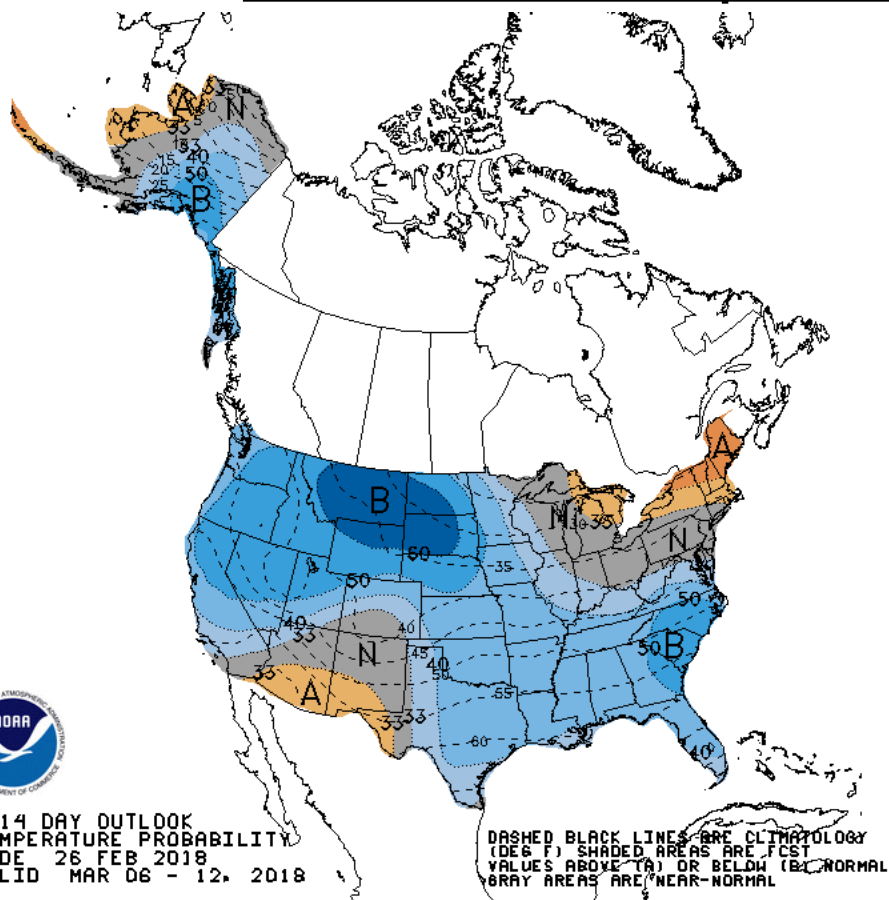
AO: Observed & ENSM forecasts





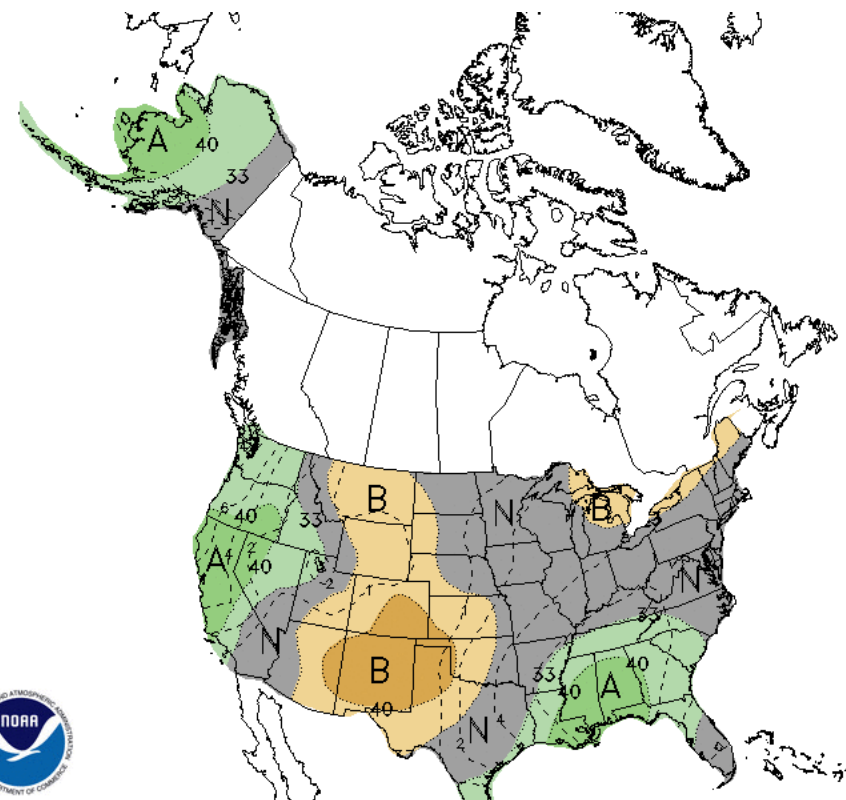
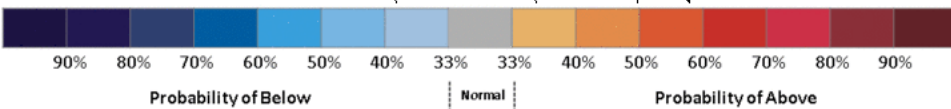
D+11 500 MB ANOMALIES FROM 12Z GFS
 CPC MAP MADE FEB 27 2018 1704 UTC CNTD MAR 10 2018

Week 2 – Temperature and Precipitation



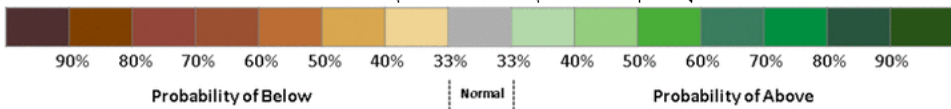
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 26 FEB 2018
VALID MAR 06 - 12, 2018

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



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 26 FEB 2018
VALID MAR 06 - 12, 2018

DASHED BLACK LINES ARE CLIMATOLOGY (TENTHS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.

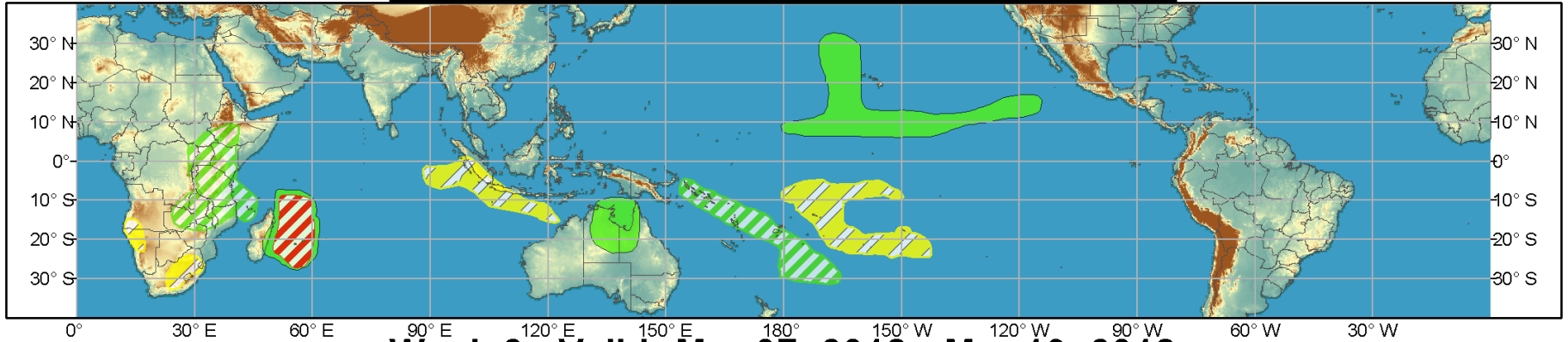




Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



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- | | | |
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