

Global Tropics Hazards And Benefits Outlook

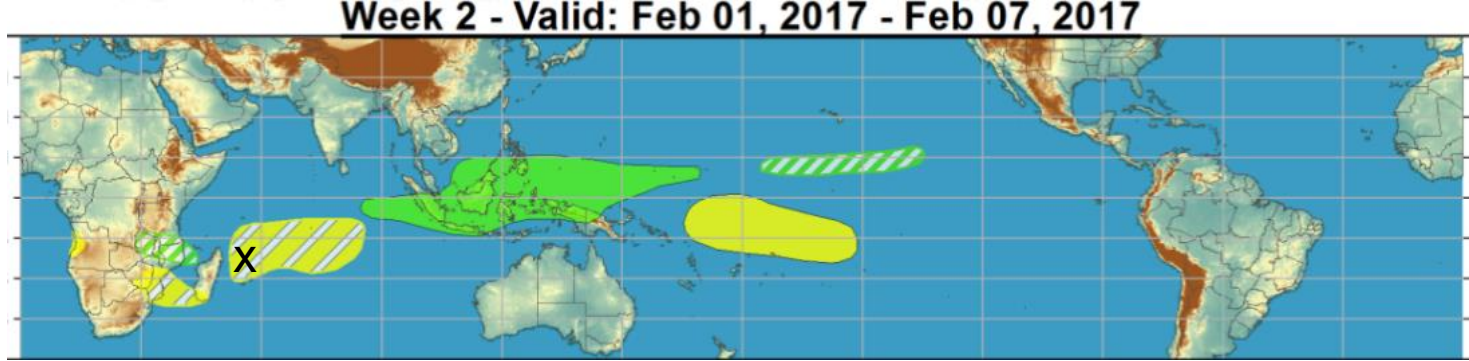
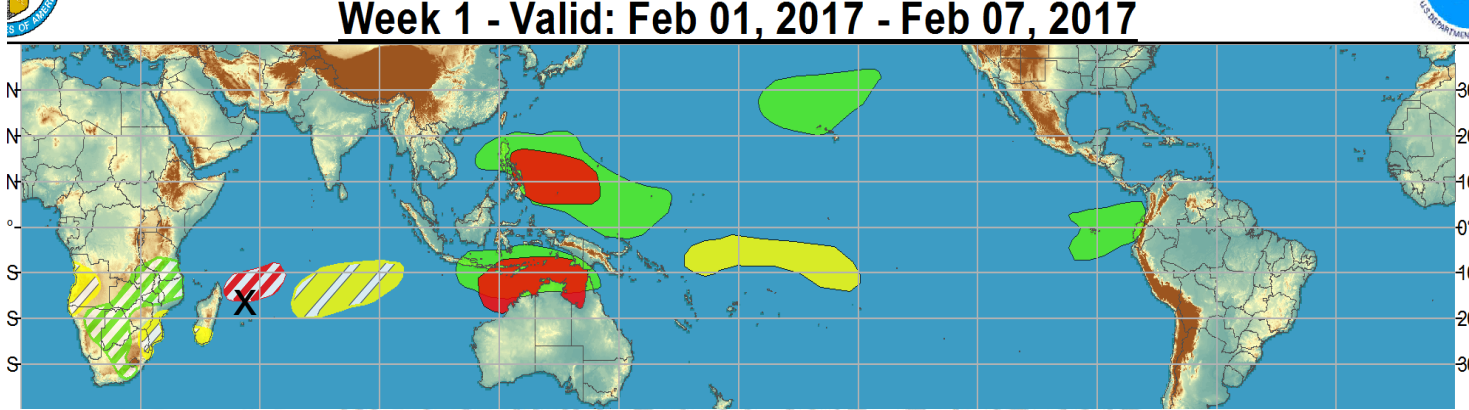
2/7/2017

Dan Harnos

Outline

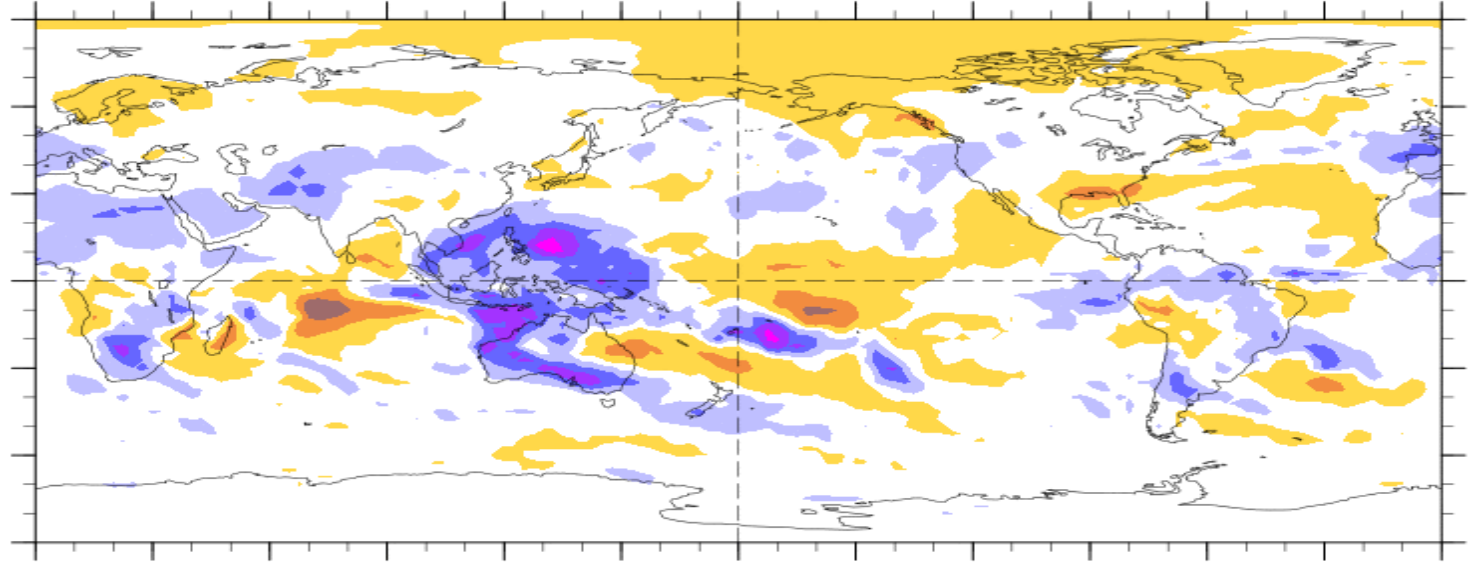
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review



7-Day Average OLR Anomaly

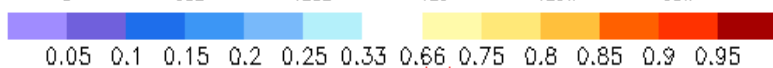
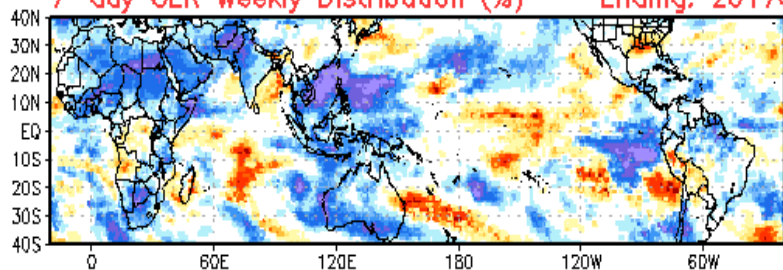
2017/01/30 - 2017/02/05



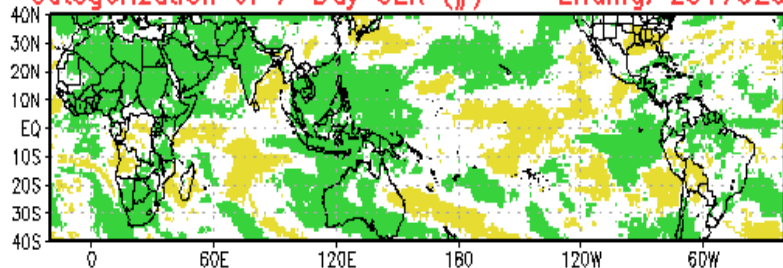
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

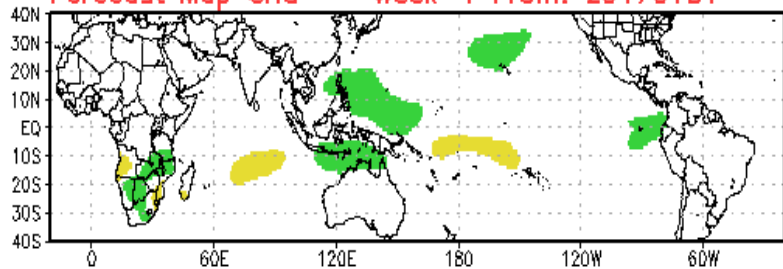
7-day OLR Weekly Distribution (%) -- Ending: 20170207



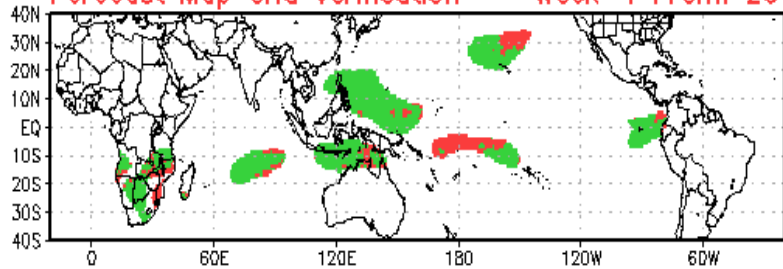
Categorization of 7-Day OLR (#) -- Ending: 20170207



Forecast Map Grid -- Week-1 From: 20170131

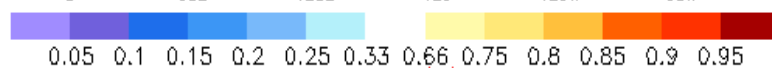
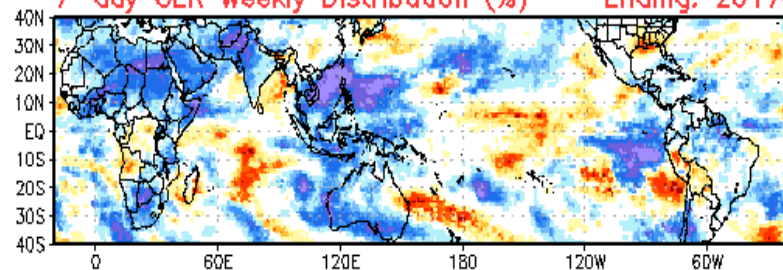


Forecast Map Grid Verification -- Week-1 From: 20170131

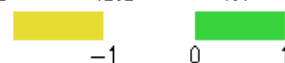
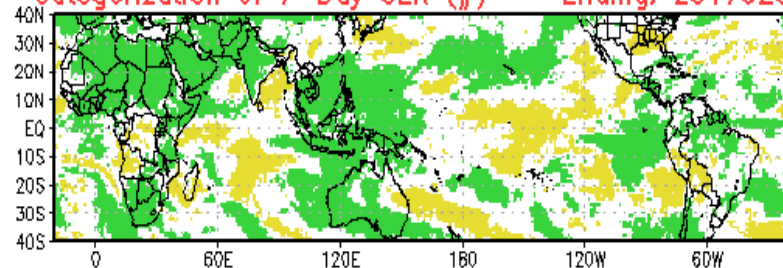


Hit: Green, Miss: Red
Heidke Skill Score: 66.1954

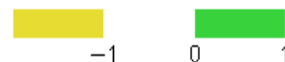
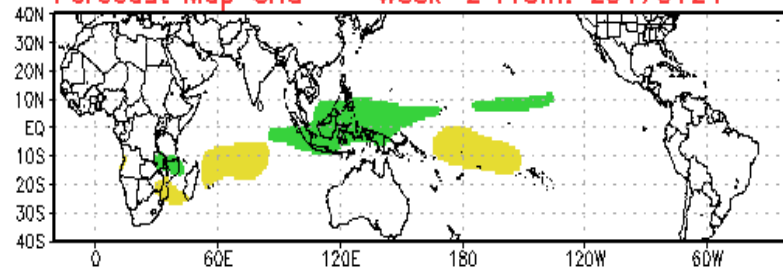
7-day OLR Weekly Distribution (%) -- Ending: 20170207



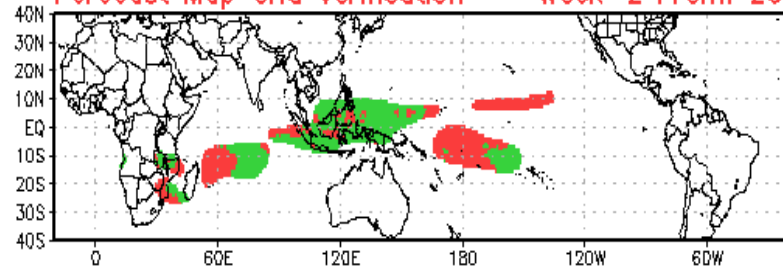
Categorization of 7-Day OLR (#) -- Ending: 20170207



Forecast Map Grid -- Week-2 From: 20170124



Forecast Map Grid Verification -- Week-2 From: 20170124



Hit: Green, Miss: Red
Heidke Skill Score: 31.1407

Synopsis of Climate Modes

ENSO:

- [La Niña Advisory](#)*
- **A transition to ENSO-neutral is expected to occur by February 2017*, with ENSO-neutral then continuing through the first half of 2017.**

* These statements are to be updated once a month (on the 2nd Thursday).

MJO and other subseasonal tropical variability:

- Signal currently present over the West Pacific.
- Dynamical and statistical models indicate strengthening and eastward propagation through the 2 week period. Signal over West Pacific in Week-1, shifting to Western Hemisphere in Week-2.
- Intraseasonal signal to eventually interfere with low frequency background state favoring suppressed convection over the Central Pacific.

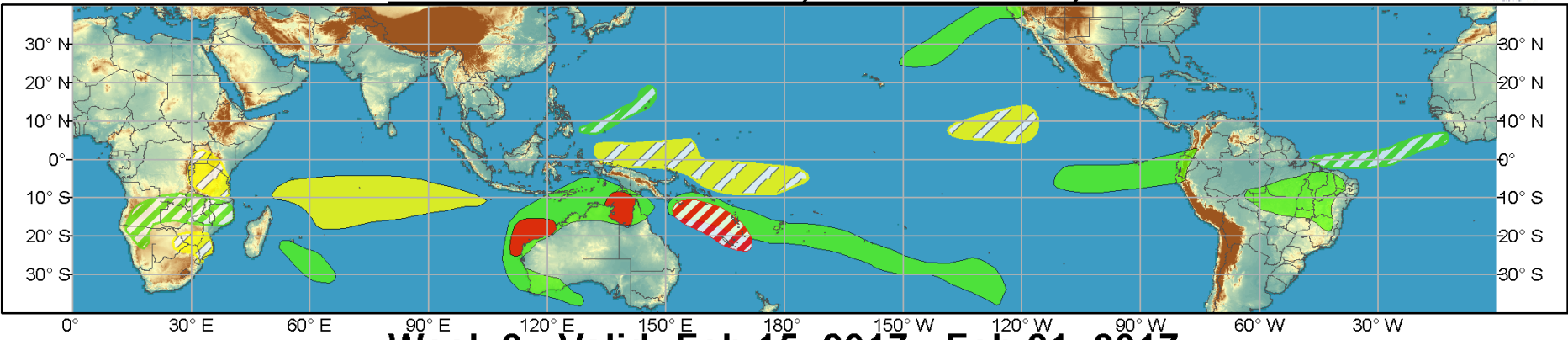
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are likely to have some reflection of tropical intraseasonal influence. Tropical cyclogenesis odds are increased in the Coral Sea.

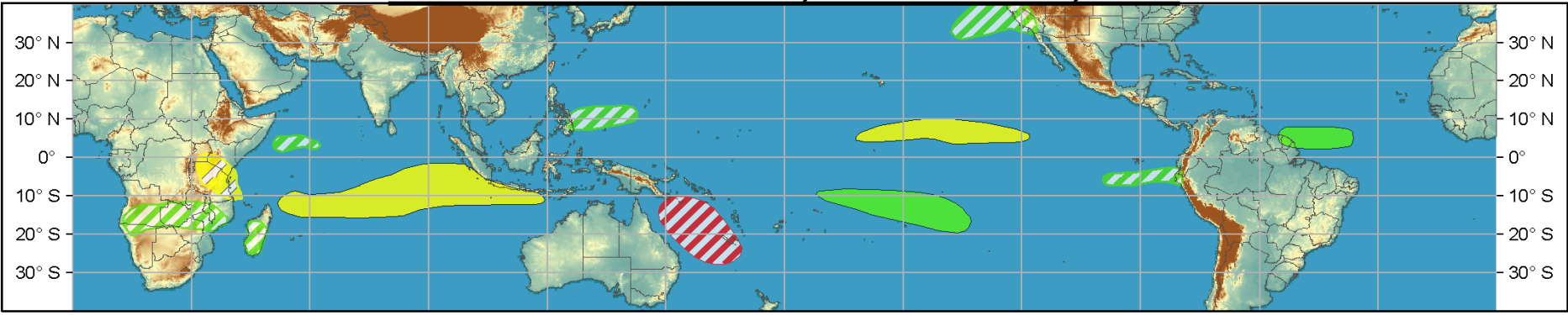


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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



Week 2 - Valid: Feb 15, 2017 - Feb 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: 02/07/2017

Forecaster: D.Harnos

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.

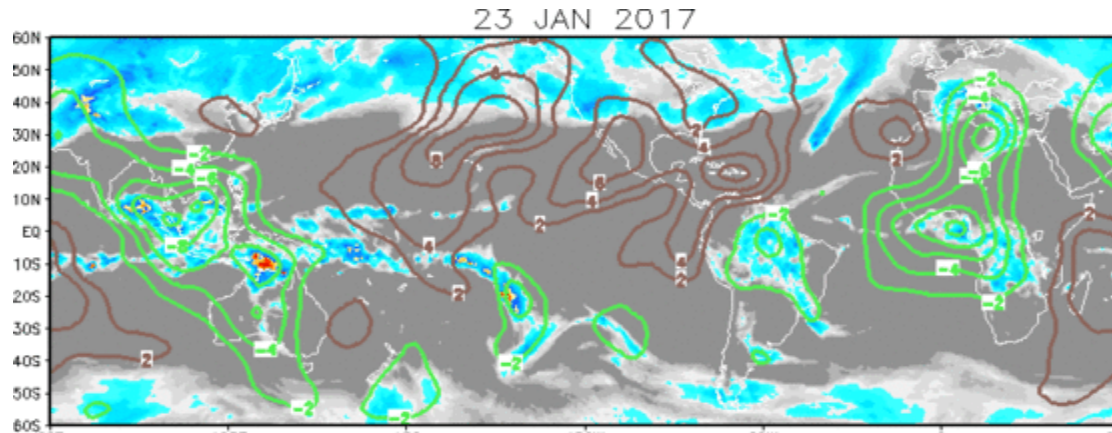


IR Satellite & 200-hpa Velocity Potential Anomalies

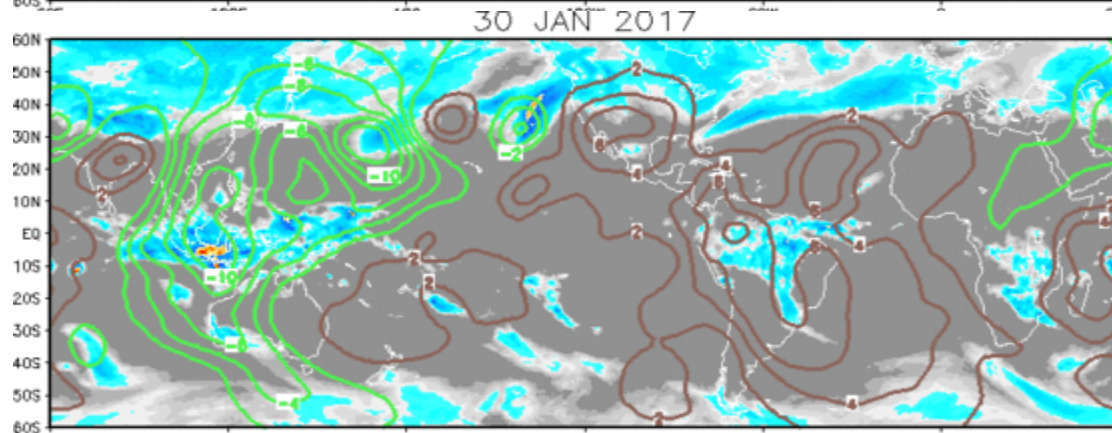
Green: Enhanced Divergence

Brown: Enhanced Convergence

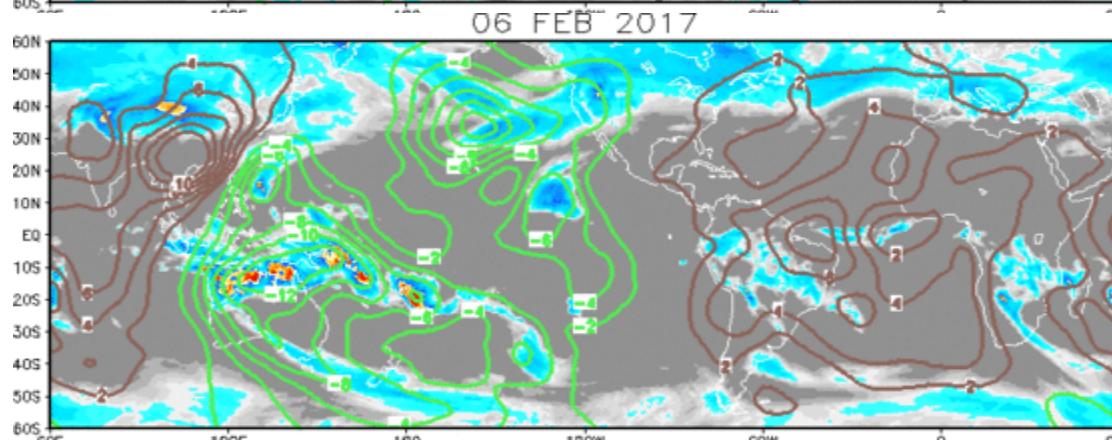
Wave-2 with enhanced phases over maritime Continent and Africa.



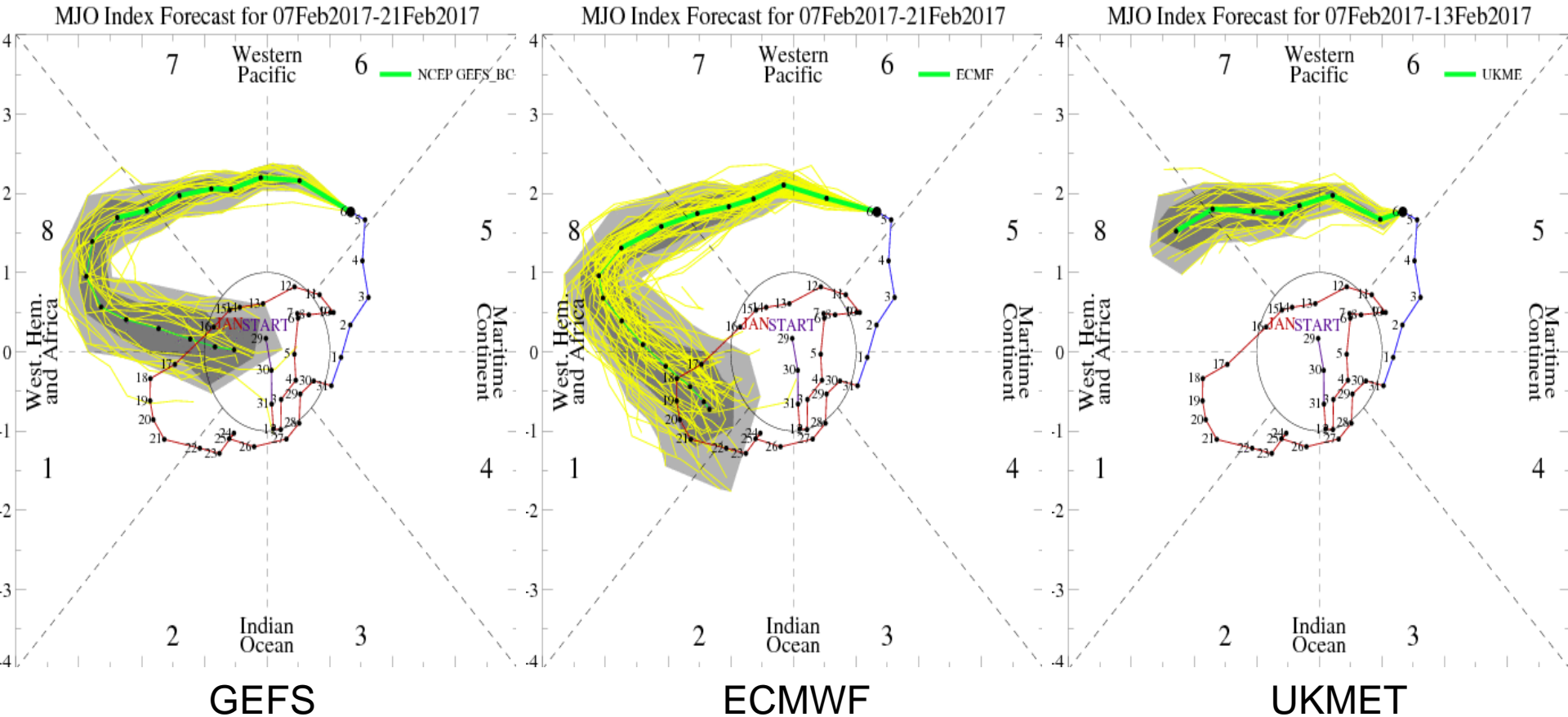
Wave-1 with enhanced phase over Maritime Continent and West Pacific.



Wave-1 with enhanced phase from Maritime Continent through Central Pacific.



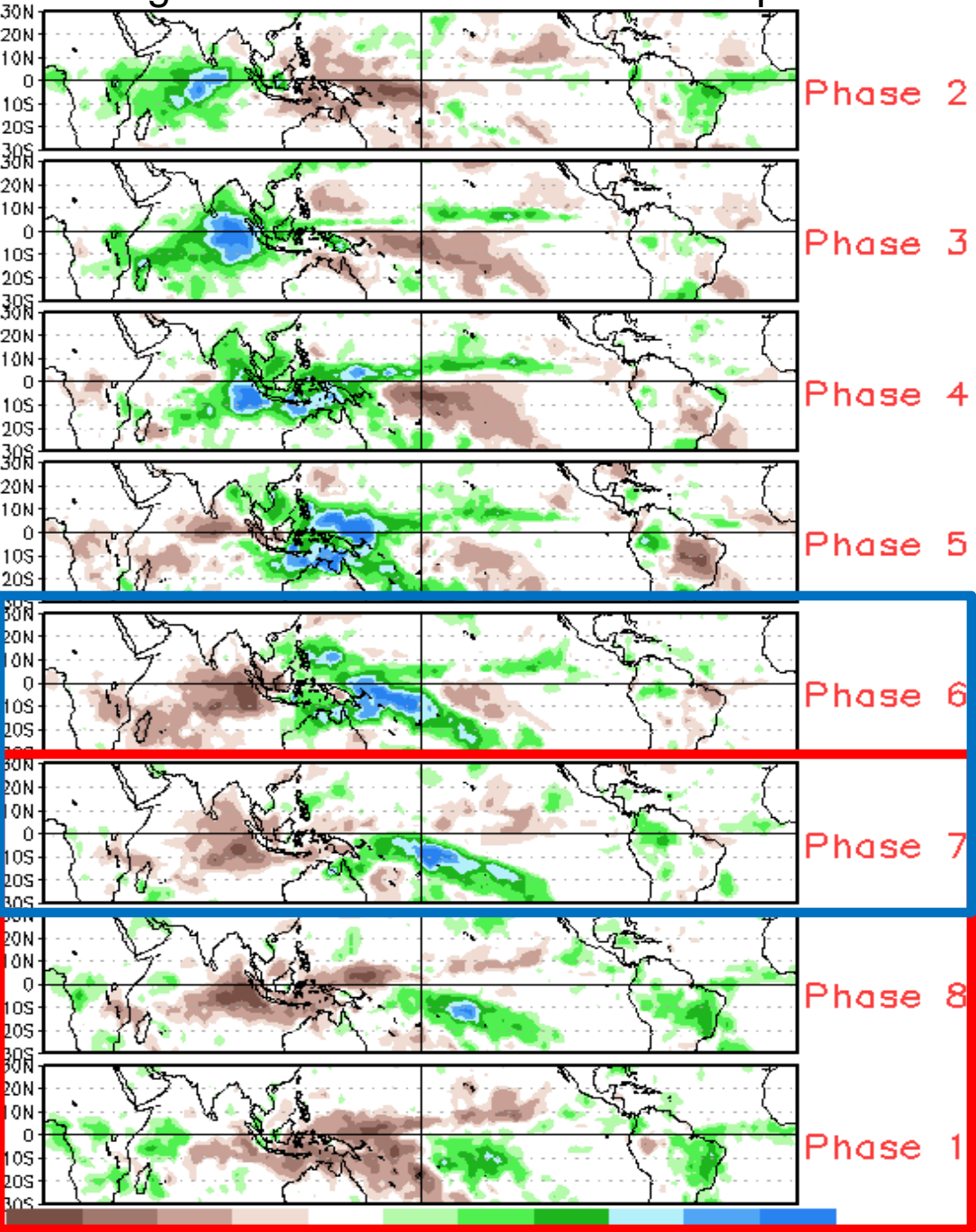
MJO Observation/Forecast



RMM analyses indicate continued eastward propagation of signal regardless of model, with strengthening over Western Hemisphere in Week-2.

GEFS weakens MJO during second half of Week-2, with this activity potentially tied to the model overdoing Rossby wave activity anticipated in the same vicinity.

Average Conditions when the MJO is present



Phases 6/7
anticipated during
Week-1

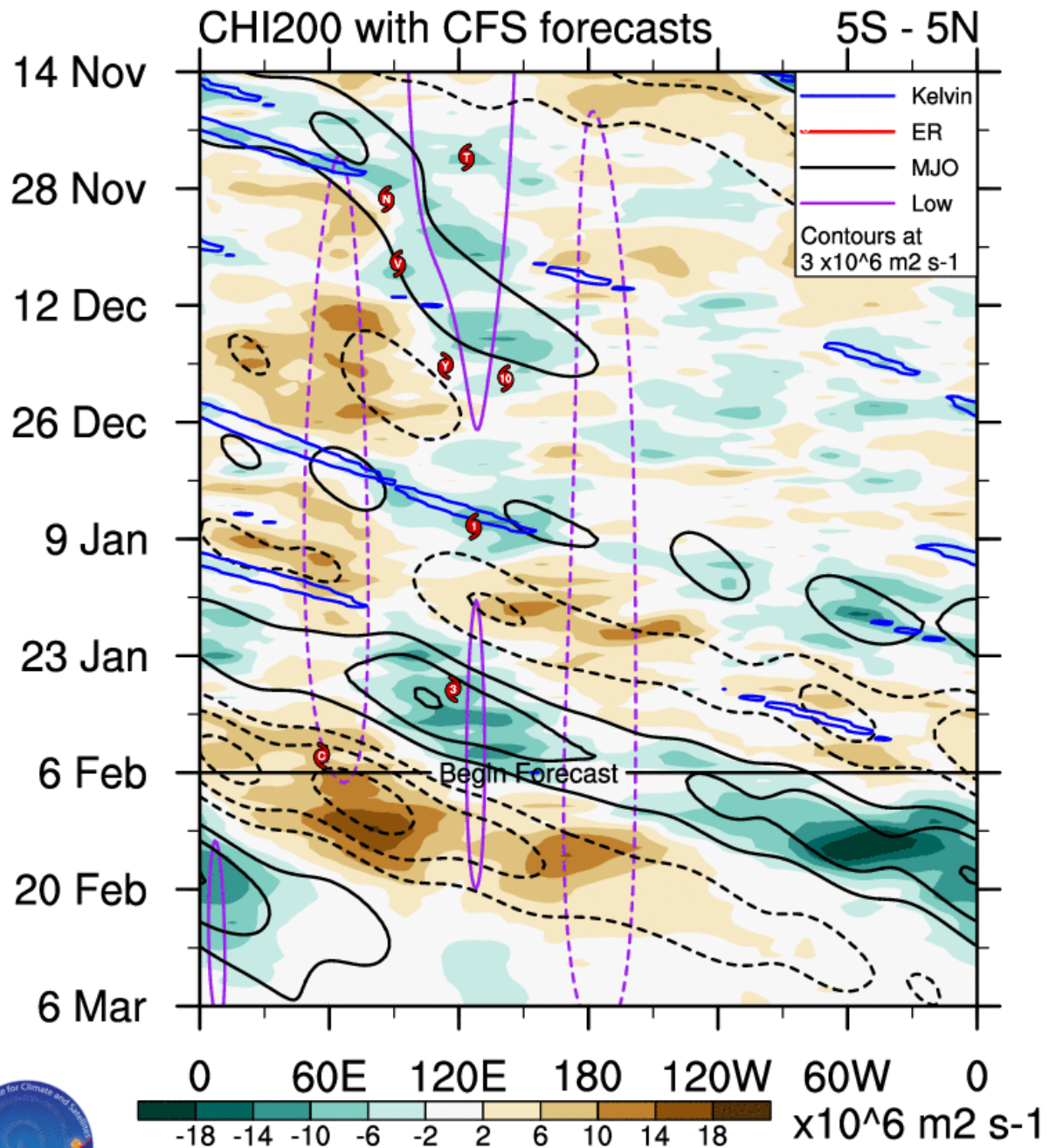
Phases 7/8/1
anticipated during
Week-2.

CAVEAT: These panels are
representative of robust MJO
events.

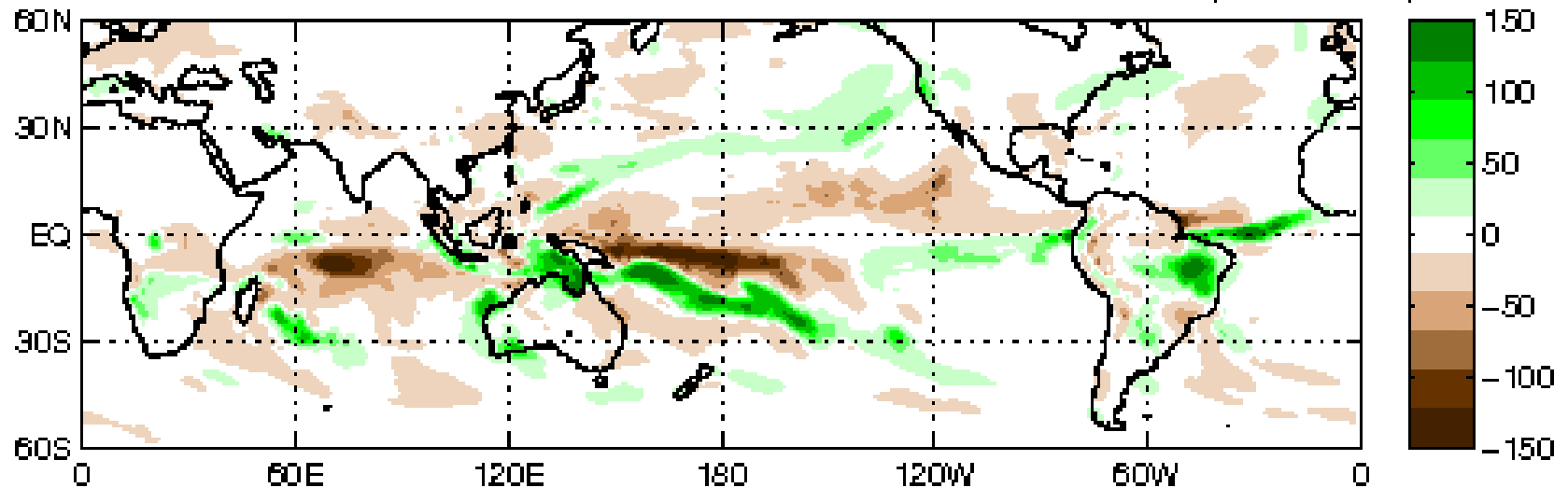
Tripole of **low frequency** convective signatures apparent among Indian Ocean/Maritime Continent/Central Pacific

Robust **MJO** envelope has reached the Pacific, some destructive interference with background state.

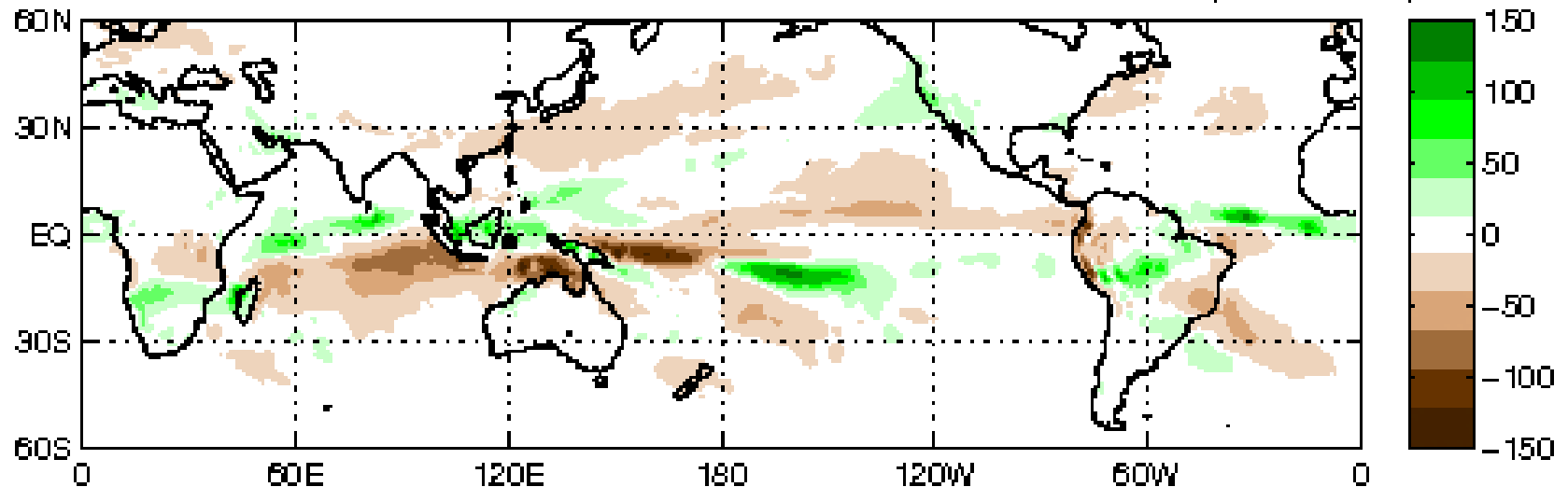
Westward tracking feature apparent to west of prime meridian about a week out.



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

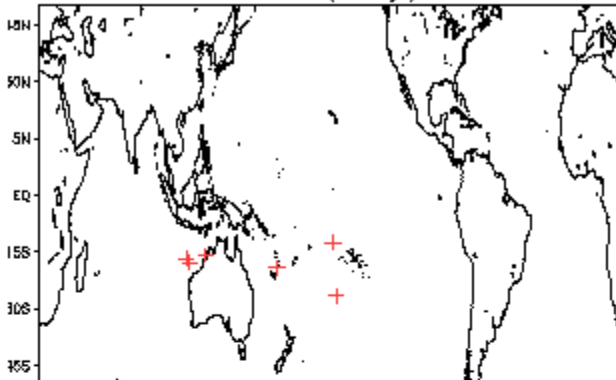


CFS: Anom. PREC Week: 2: 15-Feb-2017 to 21-Feb-2017 (mm/week)

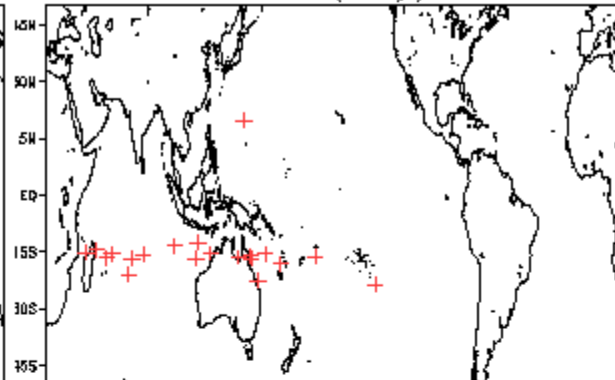


February Tropical Storm Formation by MJO phase

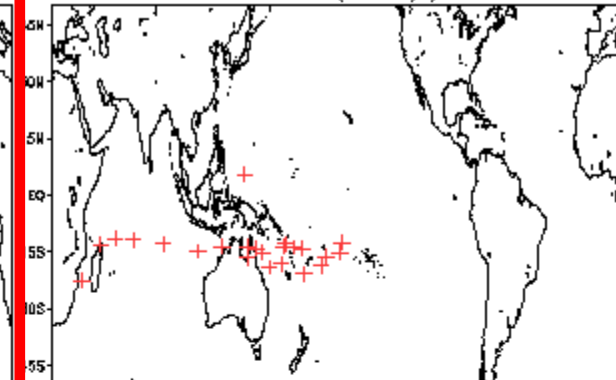
Phase 1 (41 days) 7 storms



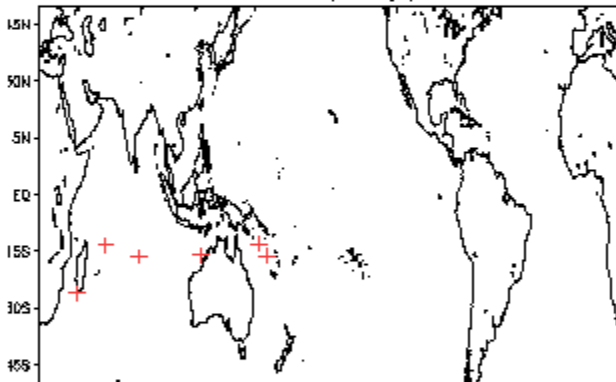
Phase 4 (92 days) 21 storms



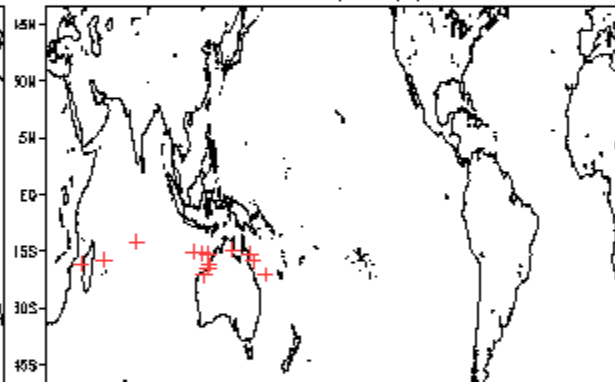
Phase 7 (125 days) 24 storms



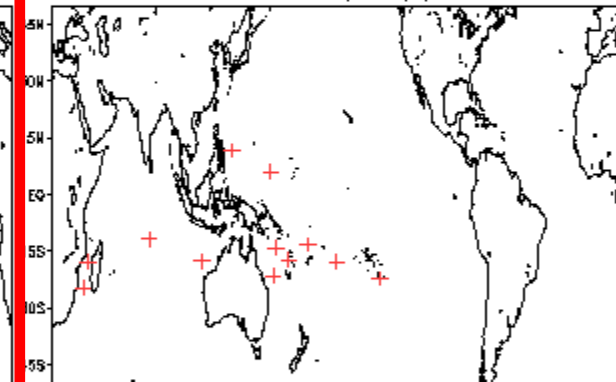
Phase 2 (51 days) 7 storms



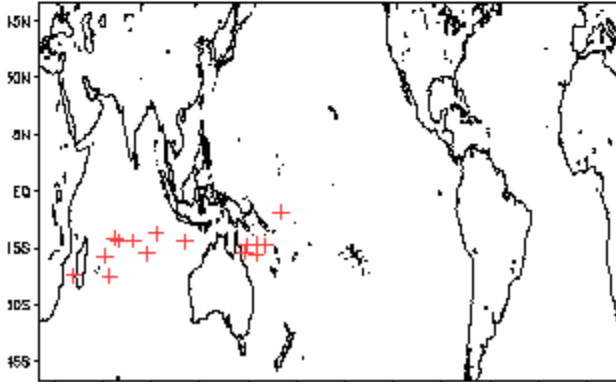
Phase 5 (70 days) 14 storms



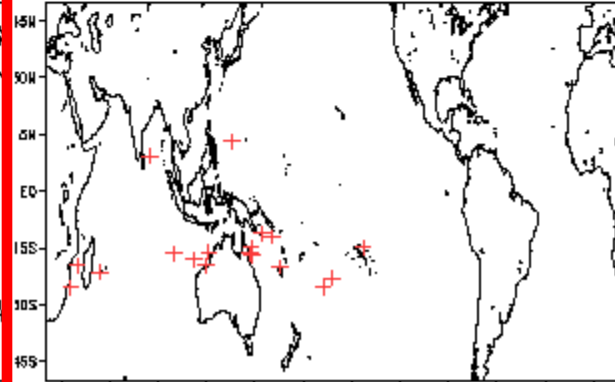
Phase 8 (84 days) 13 storms



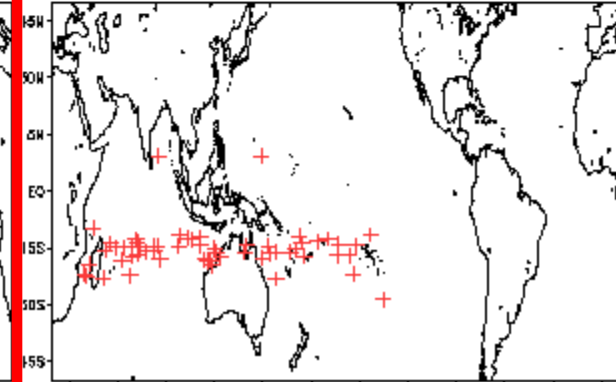
Phase 3 (89 days) 16 storms

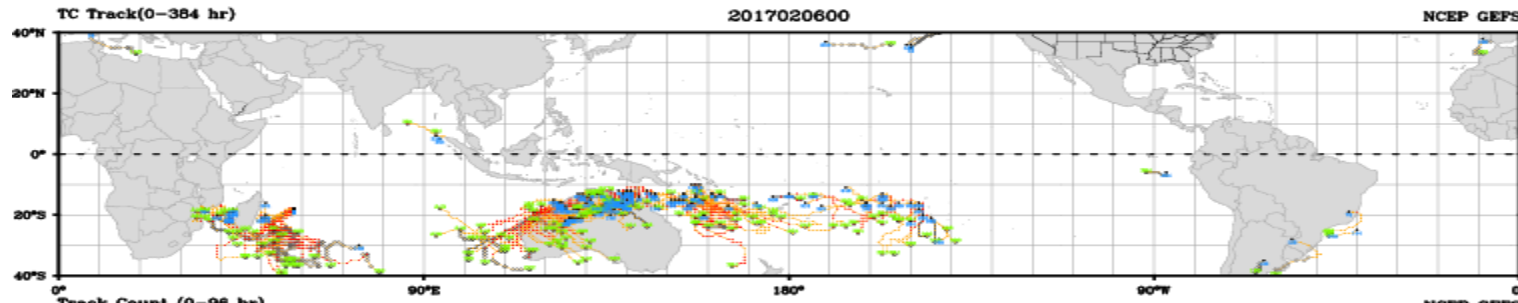


Phase 6 (92 days) 19 storms

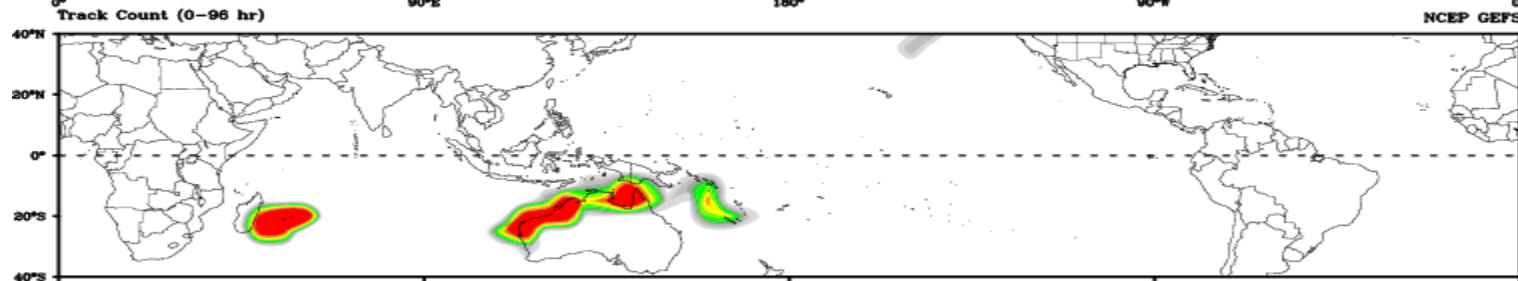


Null (308 days) 60 storms

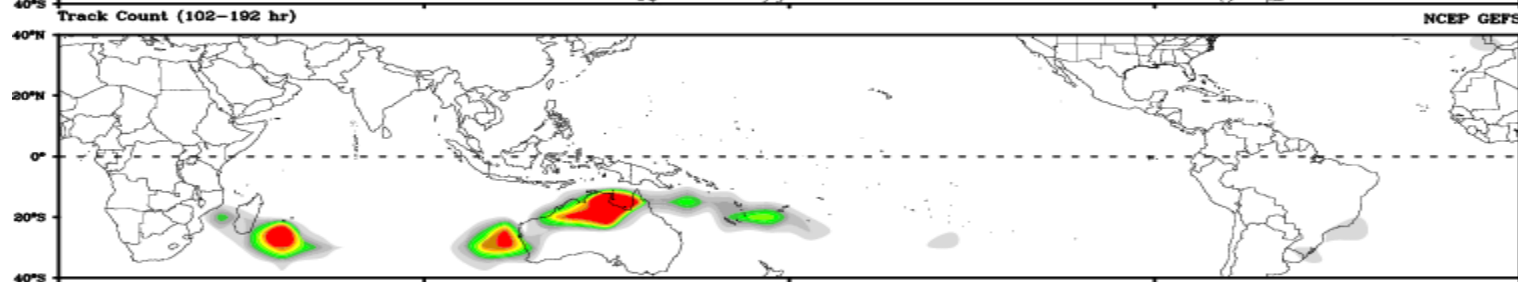




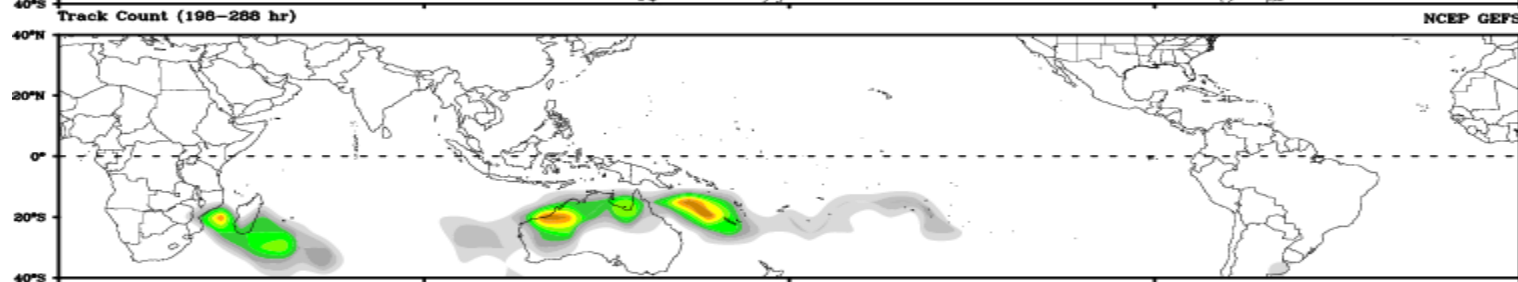
Days 1-4



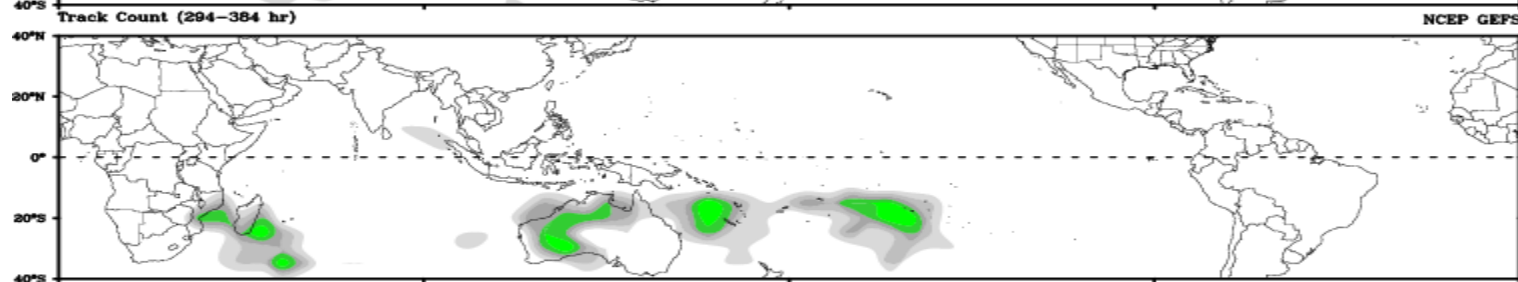
Day 5-8



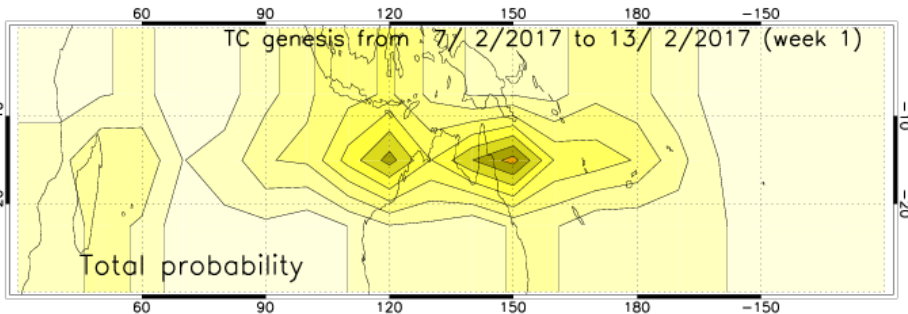
Day 9-12



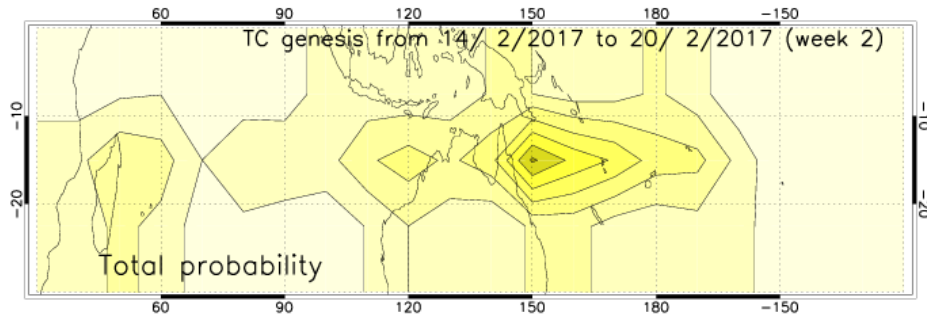
Day 13-15



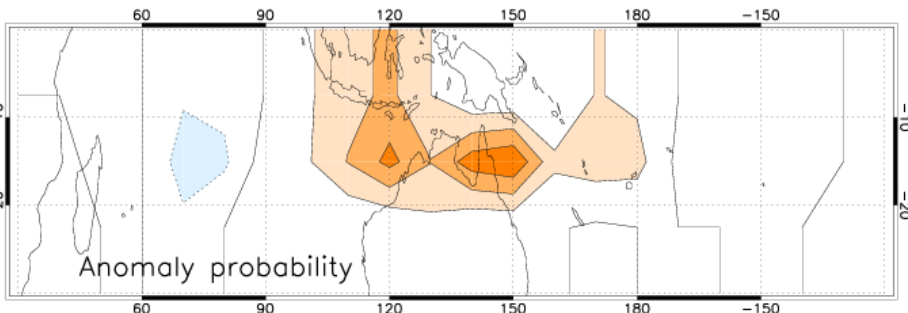
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 95



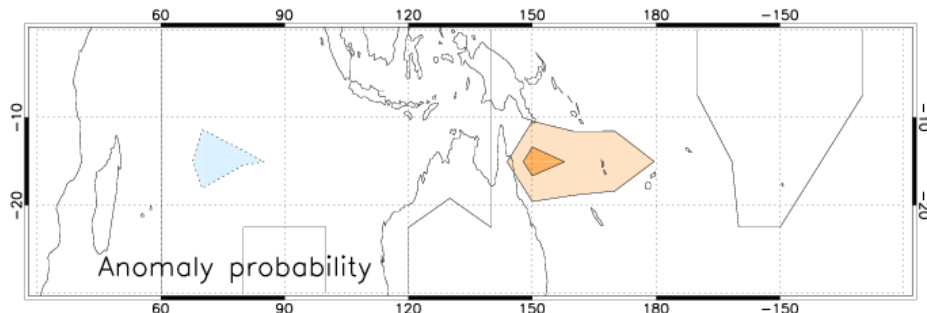
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 95



-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50

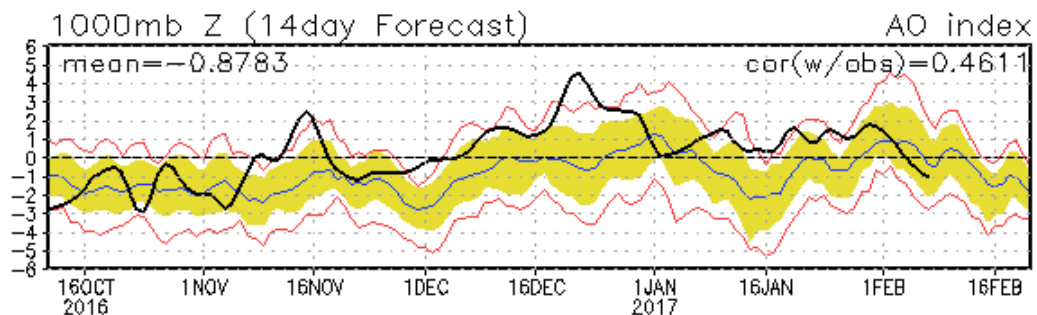
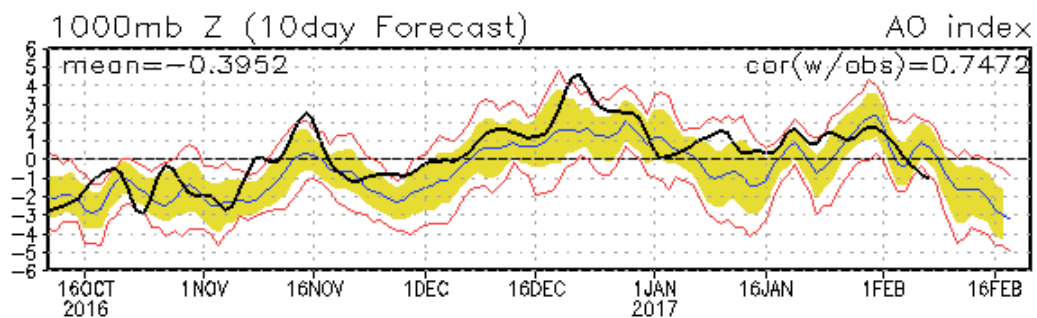
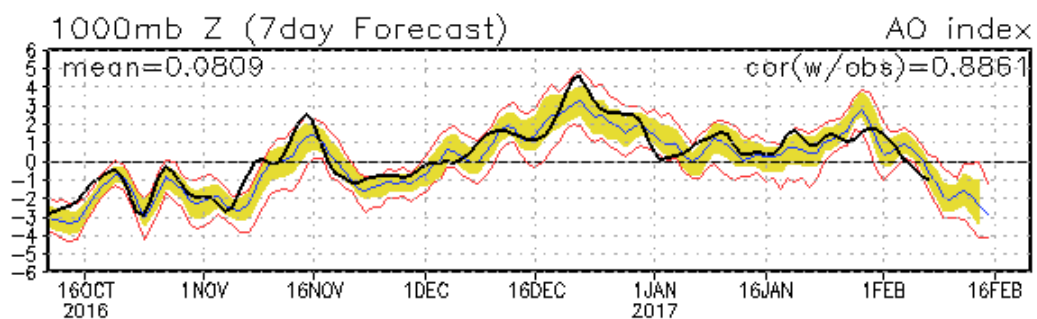
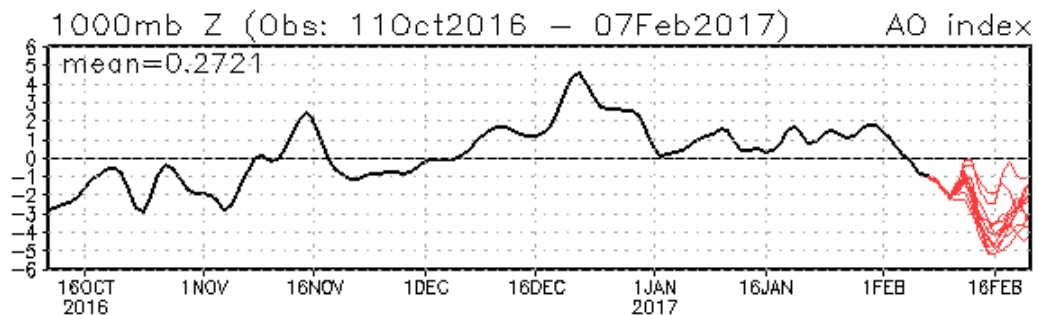


-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50

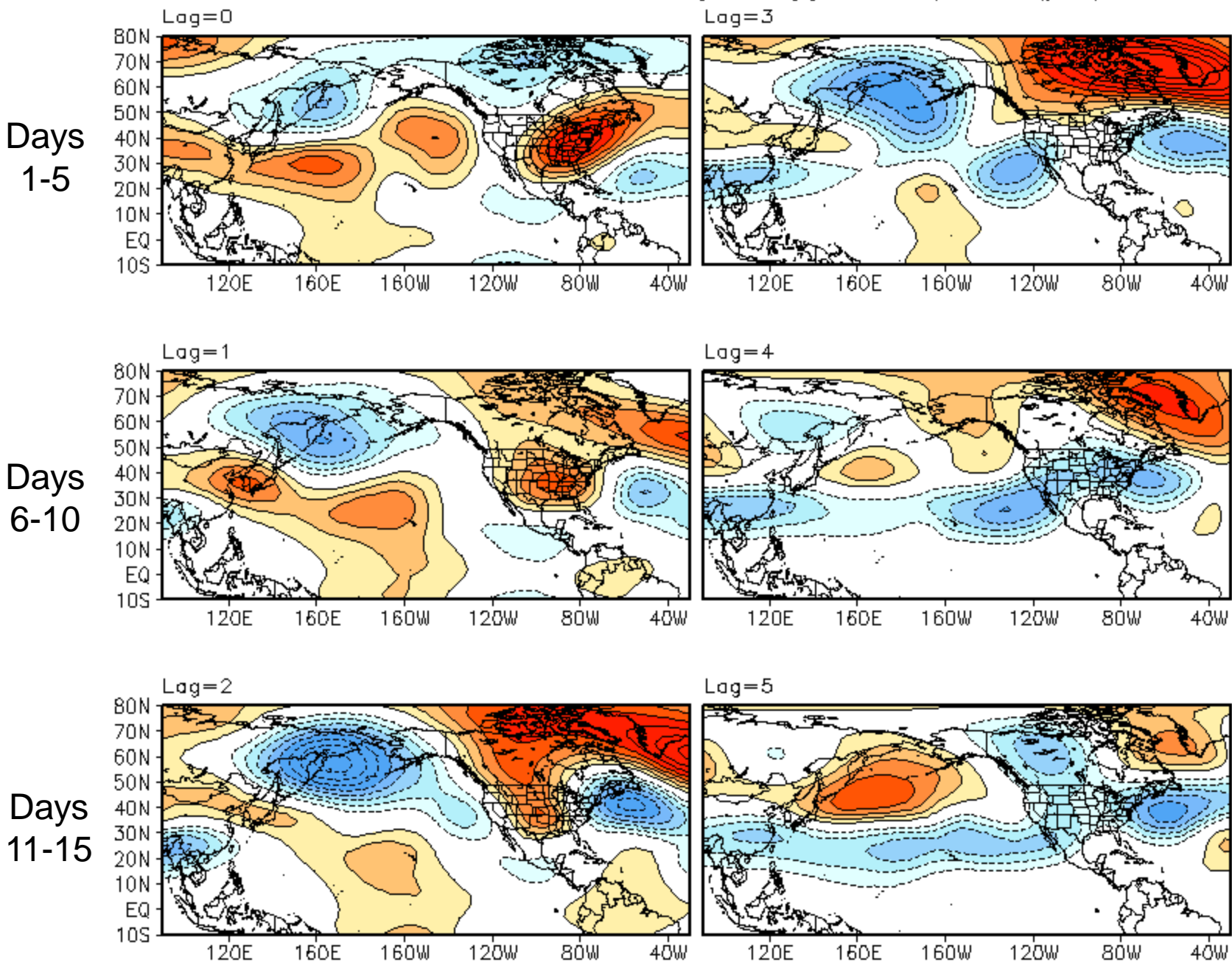


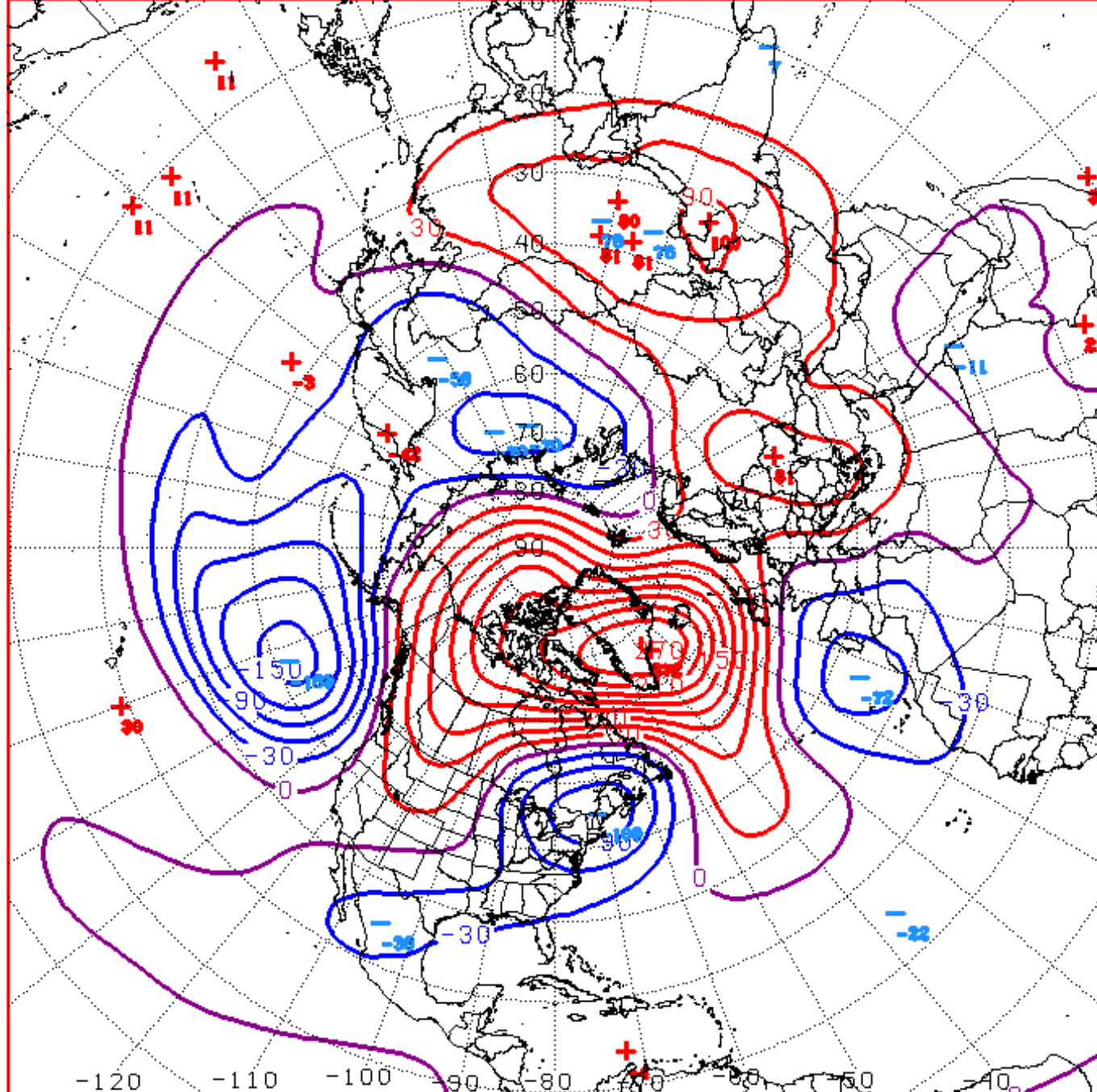
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



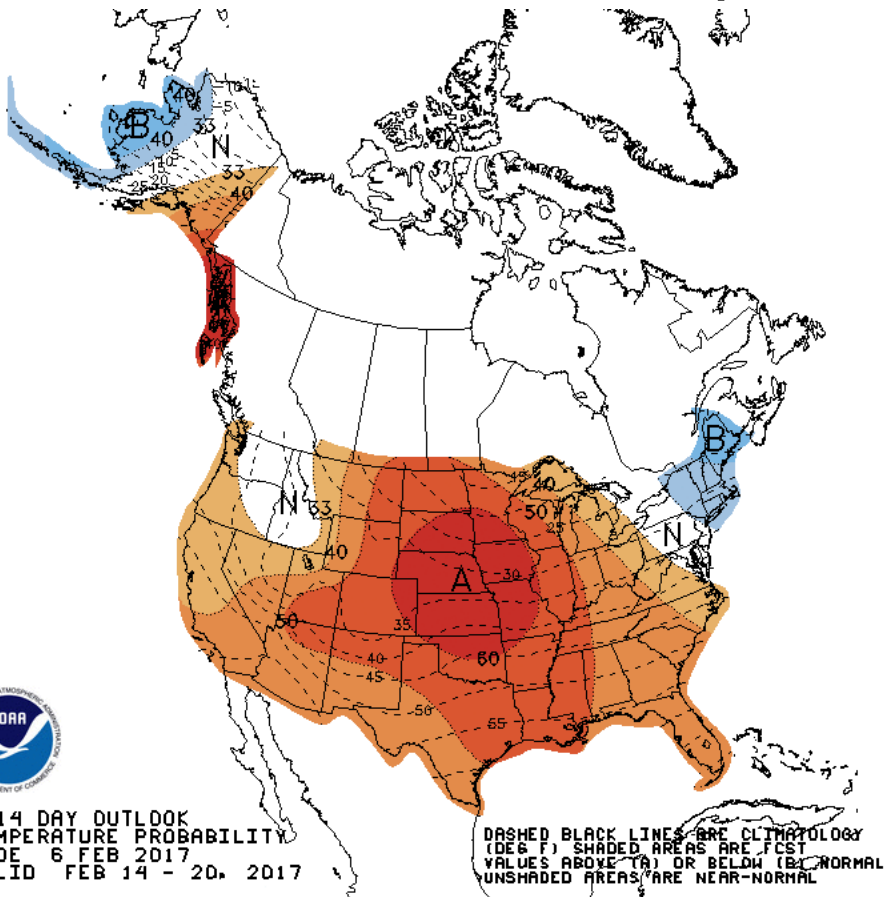
RMM Phase 6 200-hPa Height Lagged Composite (jfm)





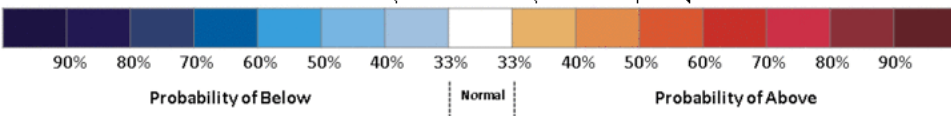
D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE FEB 07 2017 1338 UTC CNTD FEB 18 2017

Week 2 – Temperature and Precipitation

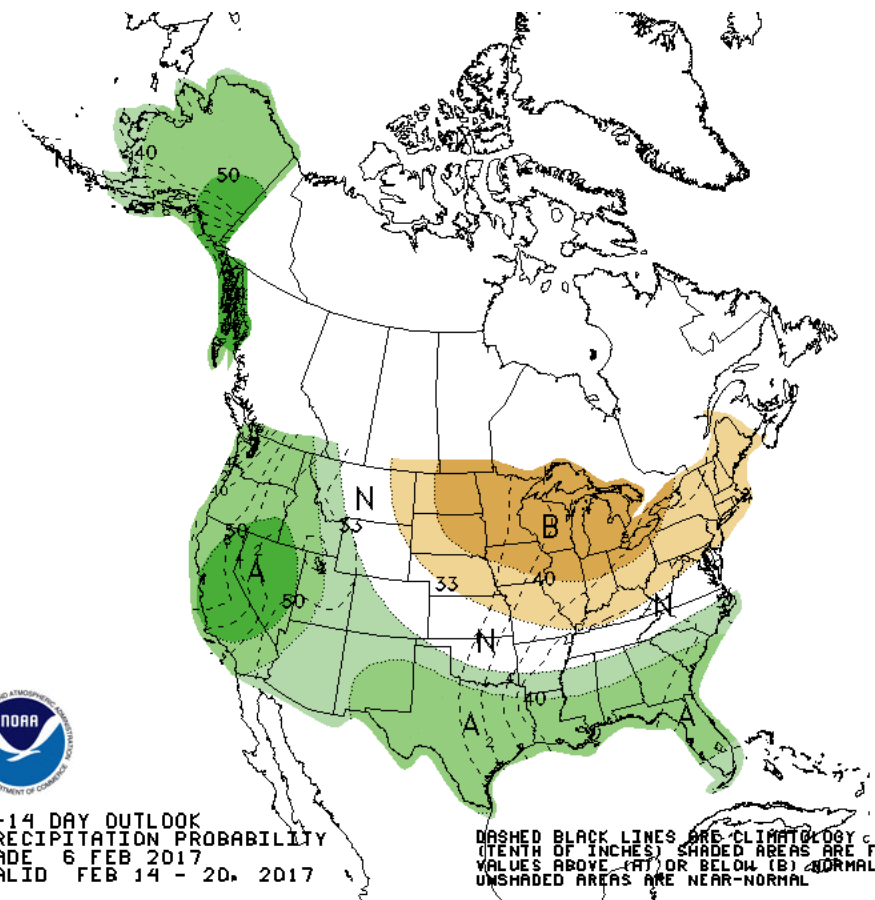


8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 6 FEB 2017
VALID FEB 14 - 20, 2017

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

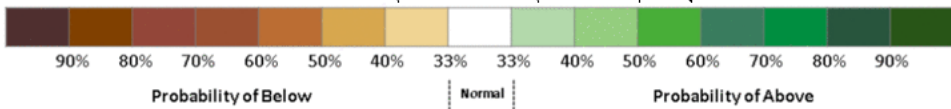


More expansive cold in Northeast today?



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

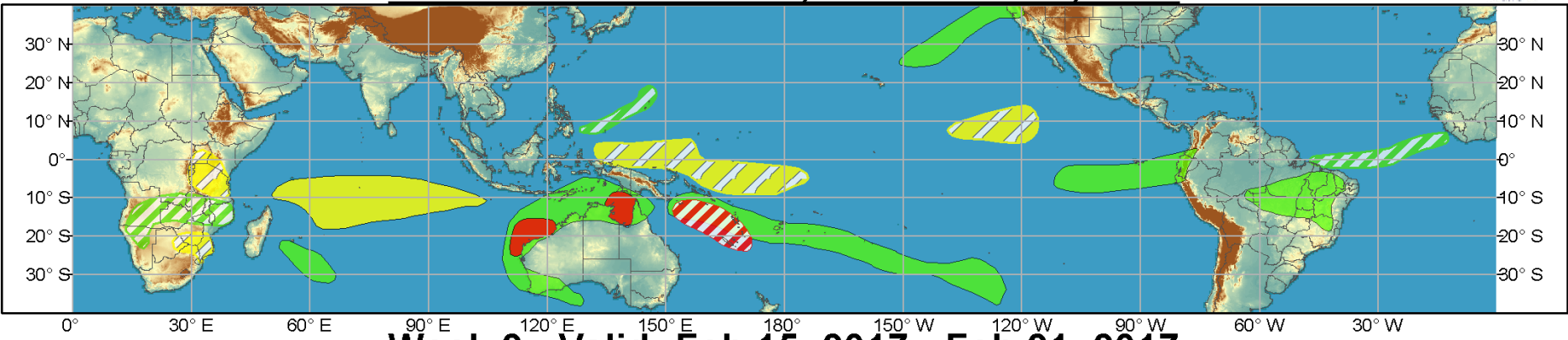
DASHED BLACK LINES ARE CLIMATE
(TENTH OF INCHES) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
UNSHADED AREAS ARE NEAR-NORMAL



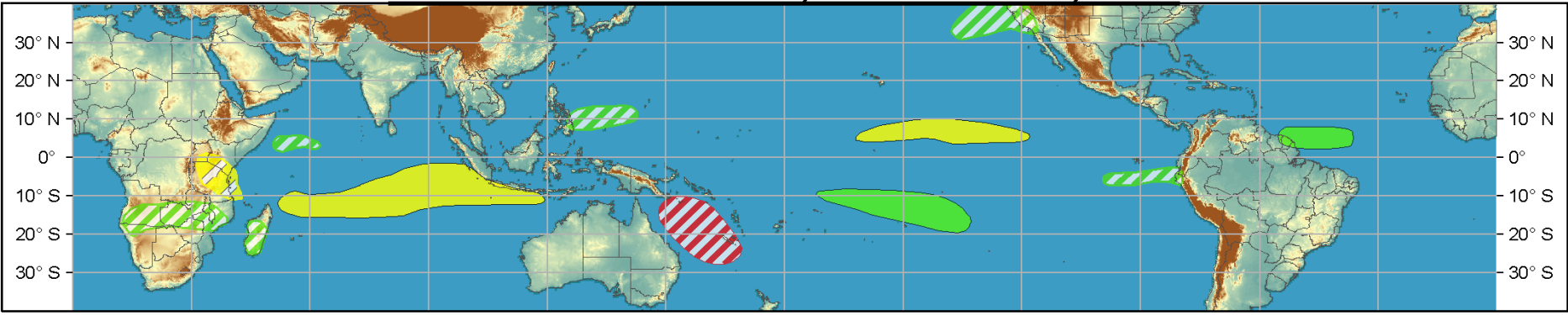


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