

Global Tropics Hazards And Benefits Outlook

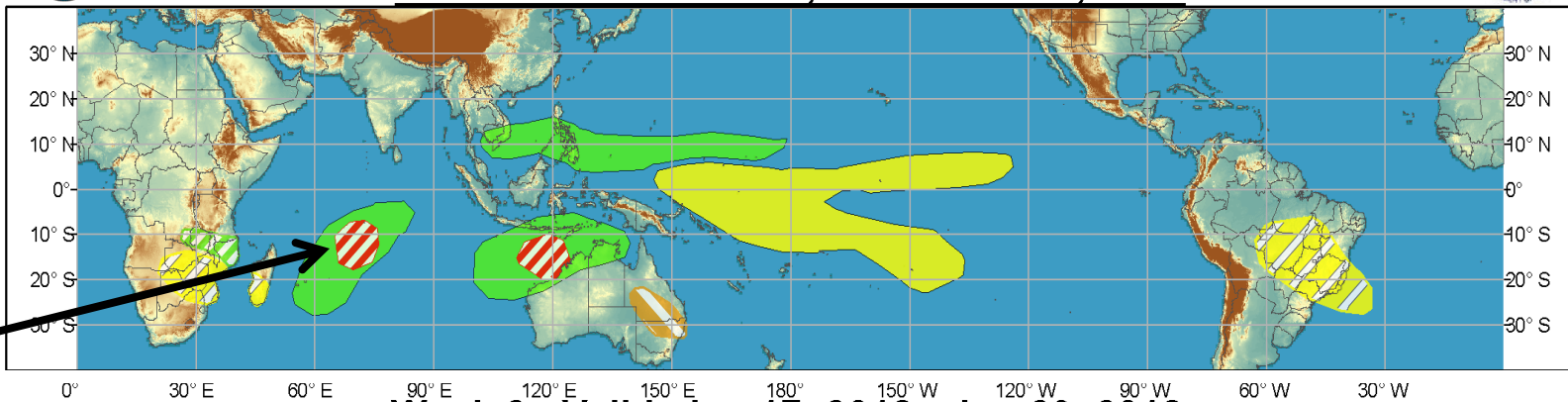
1/23/2018

Adam Allgood
Kyle MacRitchie

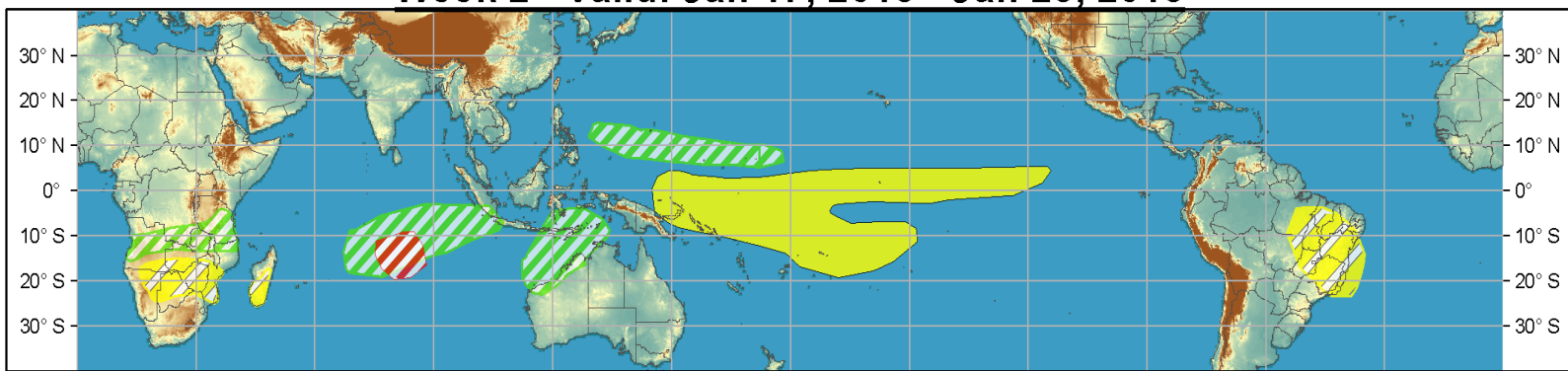
Outline

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

Week 1 - Valid: Jan 17, 2018 - Jan 23, 2018



Week 2 - Valid: Jan 17, 2018 - Jan 23, 2018



7-Day Average OLR Anomaly

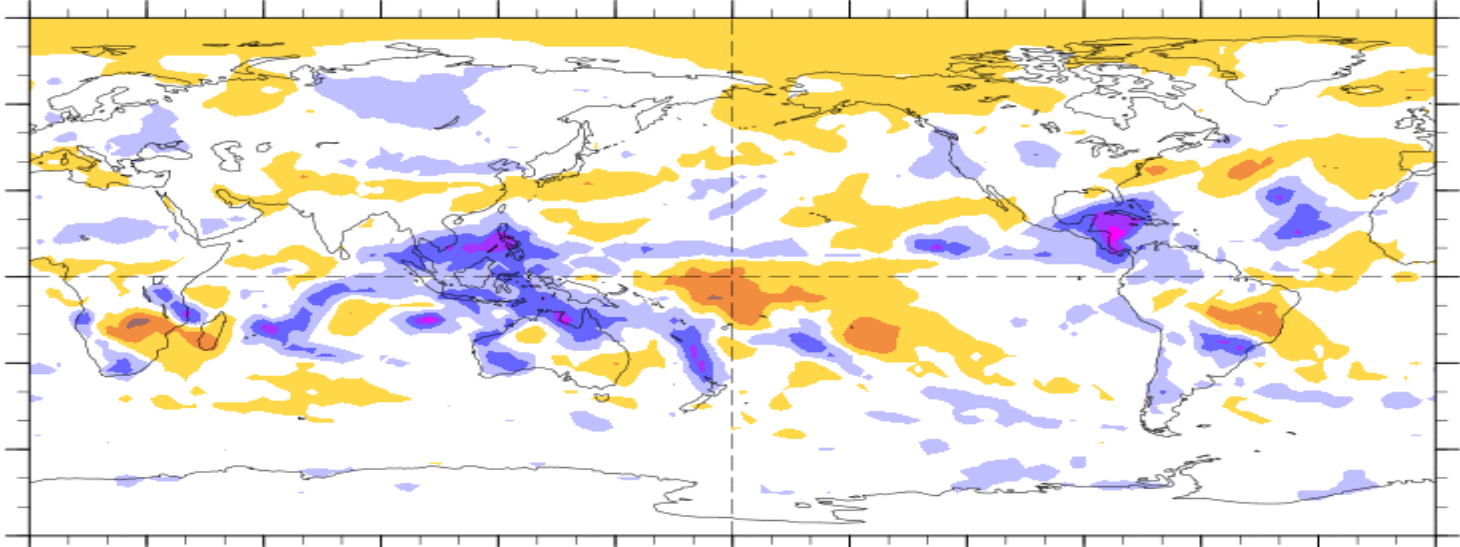
2018/01/15 - 2018/01/21

Outlook Review

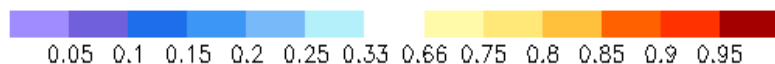
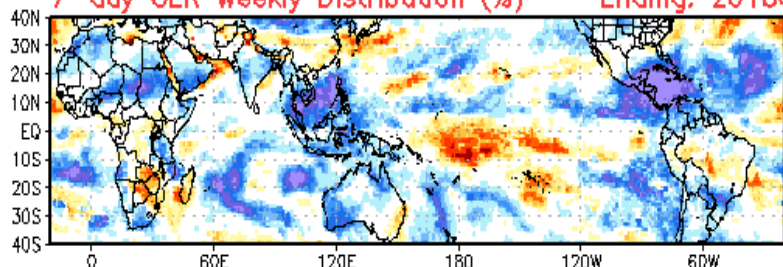
Cyclone Berguitta had already formed

Cool shading
More clouds/rain

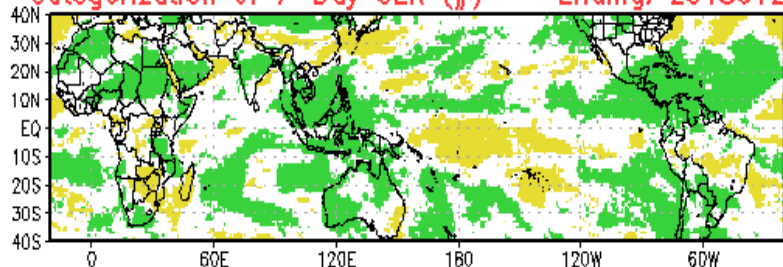
Warm shading
Less clouds/rain



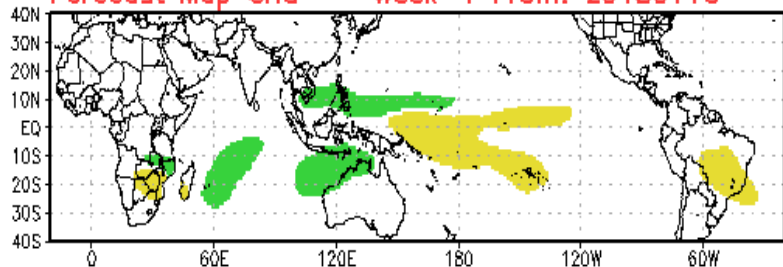
7-day OLR Weekly Distribution (%) -- Ending: 20180123



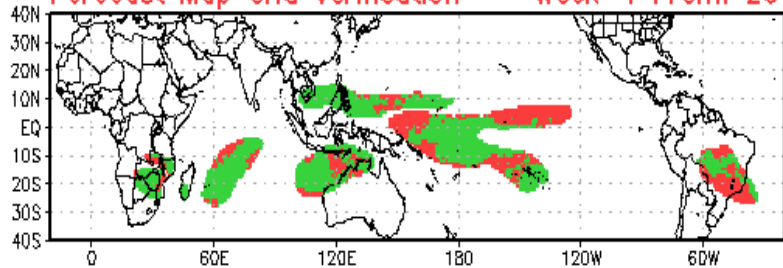
Categorization of 7-Day OLR (#) -- Ending: 20180123



Forecast Map Grid -- Week-1 From: 20180116

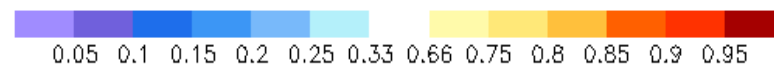
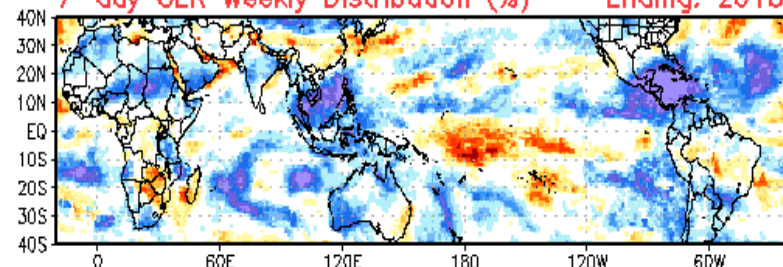


Forecast Map Grid Verification -- Week-1 From: 20180116

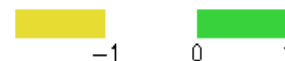
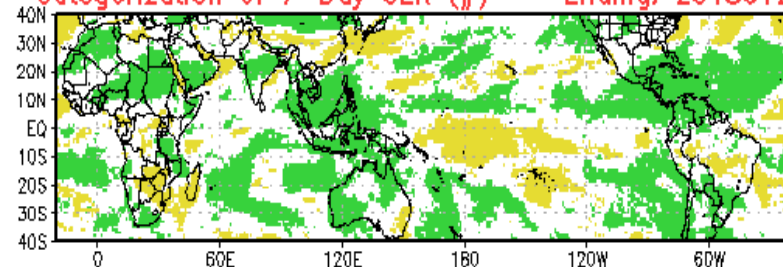


Hit: Green, Miss: Red
Heidke Skill Score: 46.7045

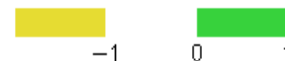
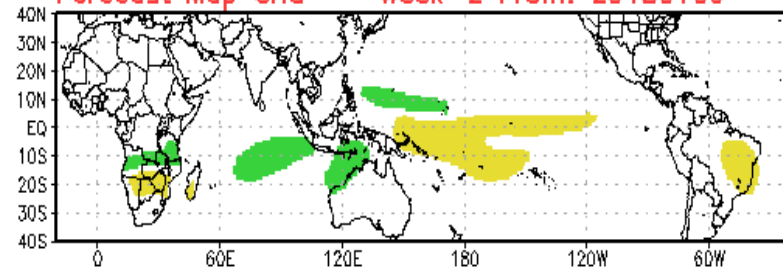
7-day OLR Weekly Distribution (%) -- Ending: 20180123



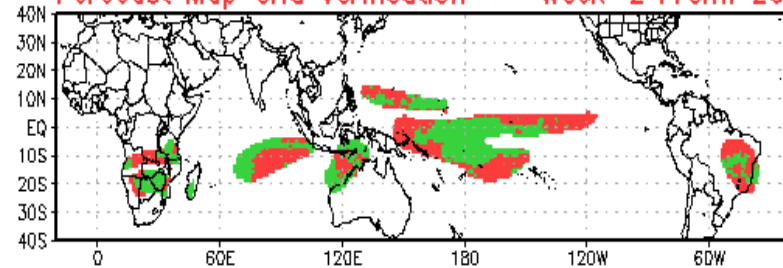
Categorization of 7-Day OLR (#) -- Ending: 20180123



Forecast Map Grid -- Week-2 From: 20180109



Forecast Map Grid Verification -- Week-2 From: 20180109



Hit: Green, Miss: Red
Heidke Skill Score: 26.8057

Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is likely (~85-95%) through Northern Hemisphere winter, with a transition to ENSO-neutral expected during the spring.

MJO and other subseasonal tropical variability:

- The MJO remained active, with the enhanced phase now over the Maritime Continent.
- Constructive interference with the La Niña base state is resulting in an amplified anomaly pattern.
- Dynamical and statistical models strongly favor continued propagation to the West Pacific by Week-2. Longer range models (ECMWF) show an amplified signal over the Western Hemisphere during Weeks 3-4.
- Tropical cyclone development over the Indian Ocean/Maritime Continent may slow the propagation as depicted on the RMM index.

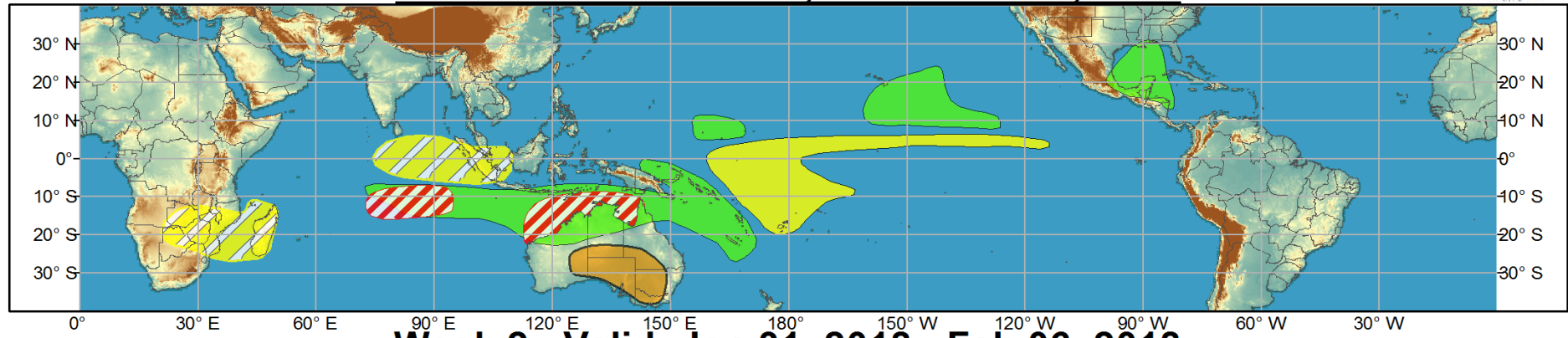
Extratropics:

- This MJO event has teleconnected well with the North American longwave pattern, and will likely continue to play a role. A West Pacific MJO event may help bring a pattern change in early to mid-February, with ridging (troughing) over western (eastern) North America.

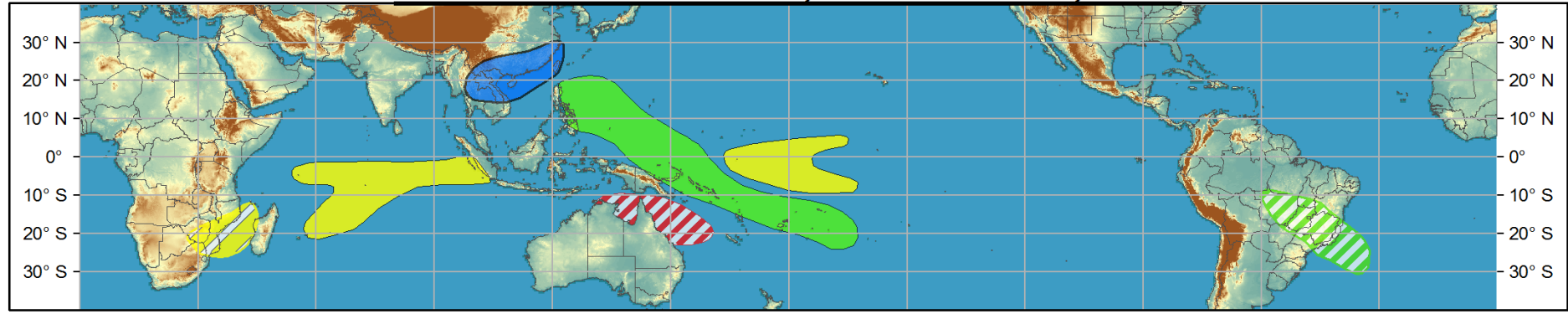


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 24, 2018 - Jan 30, 2018



Week 2 - Valid: Jan 31, 2018 - Feb 06, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 01/23/2018

Forecaster: Allgood/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

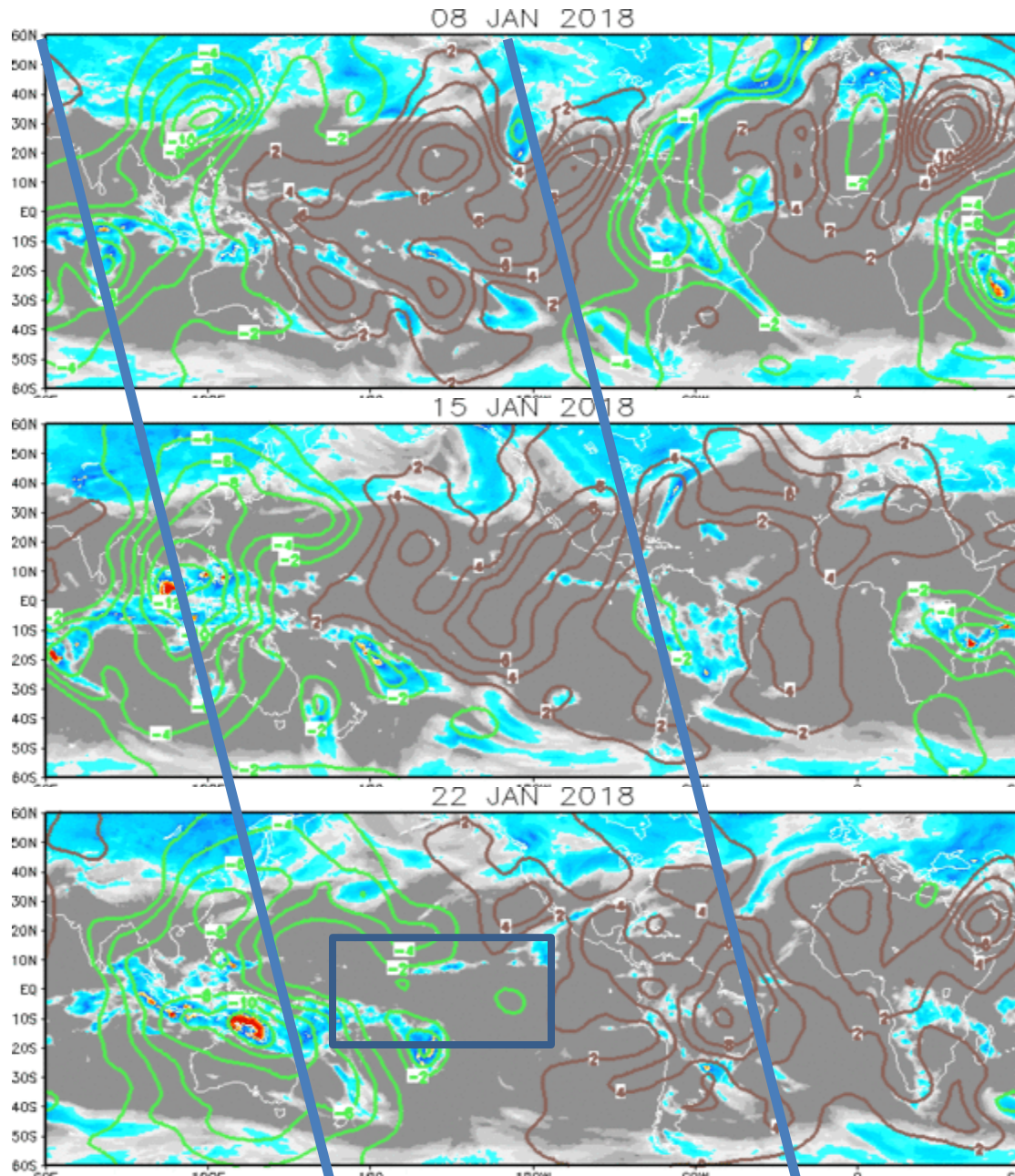
Green: Enhanced Divergence

Brown: Enhanced Convergence

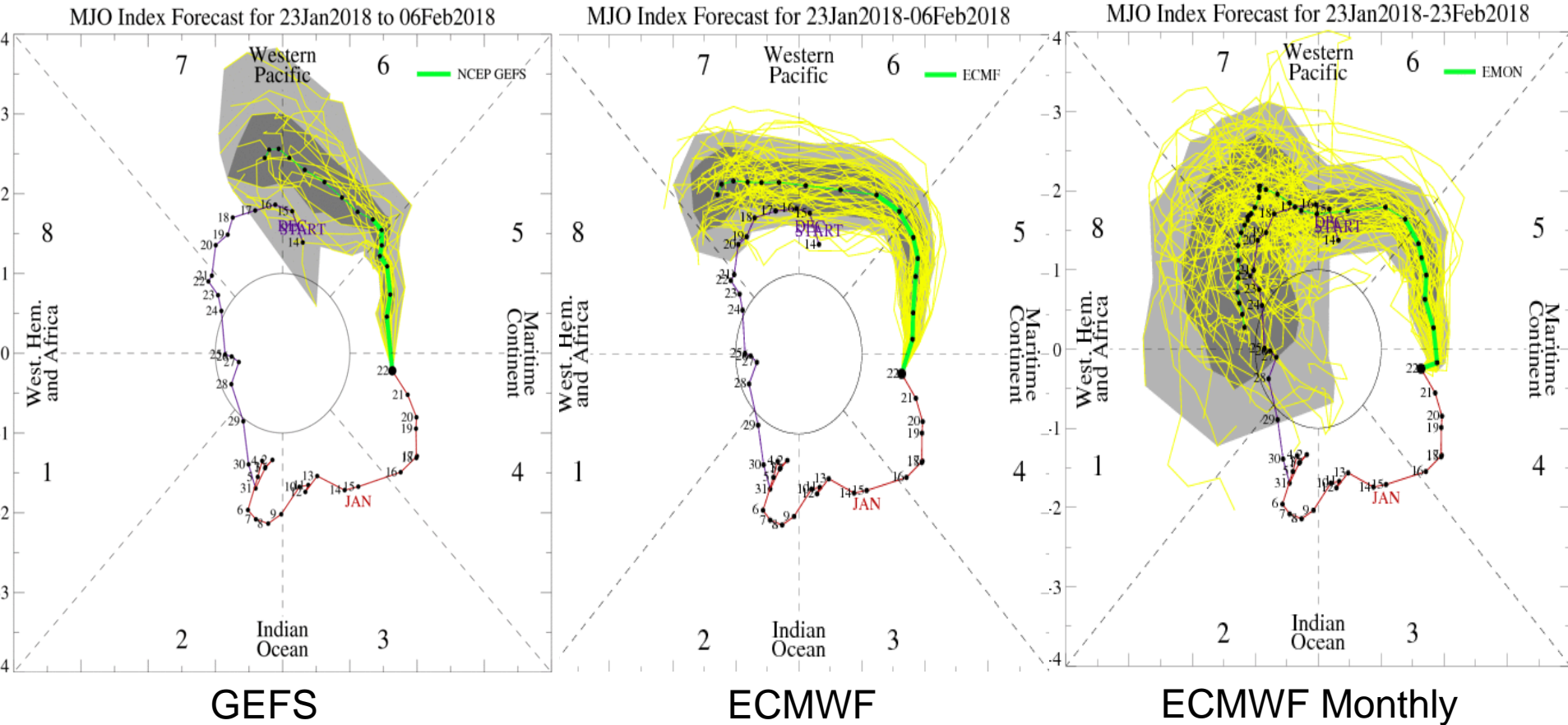
Indian Ocean MJO event, with enhanced convection over South America disrupting the suppressed phase.

Increasingly organized upper-level response as the MJO began propagating over the Maritime Continent.

Continuation of the organized pattern, with some destructive interference between KWs ahead of the MJO envelope and the low frequency Pacific suppression.

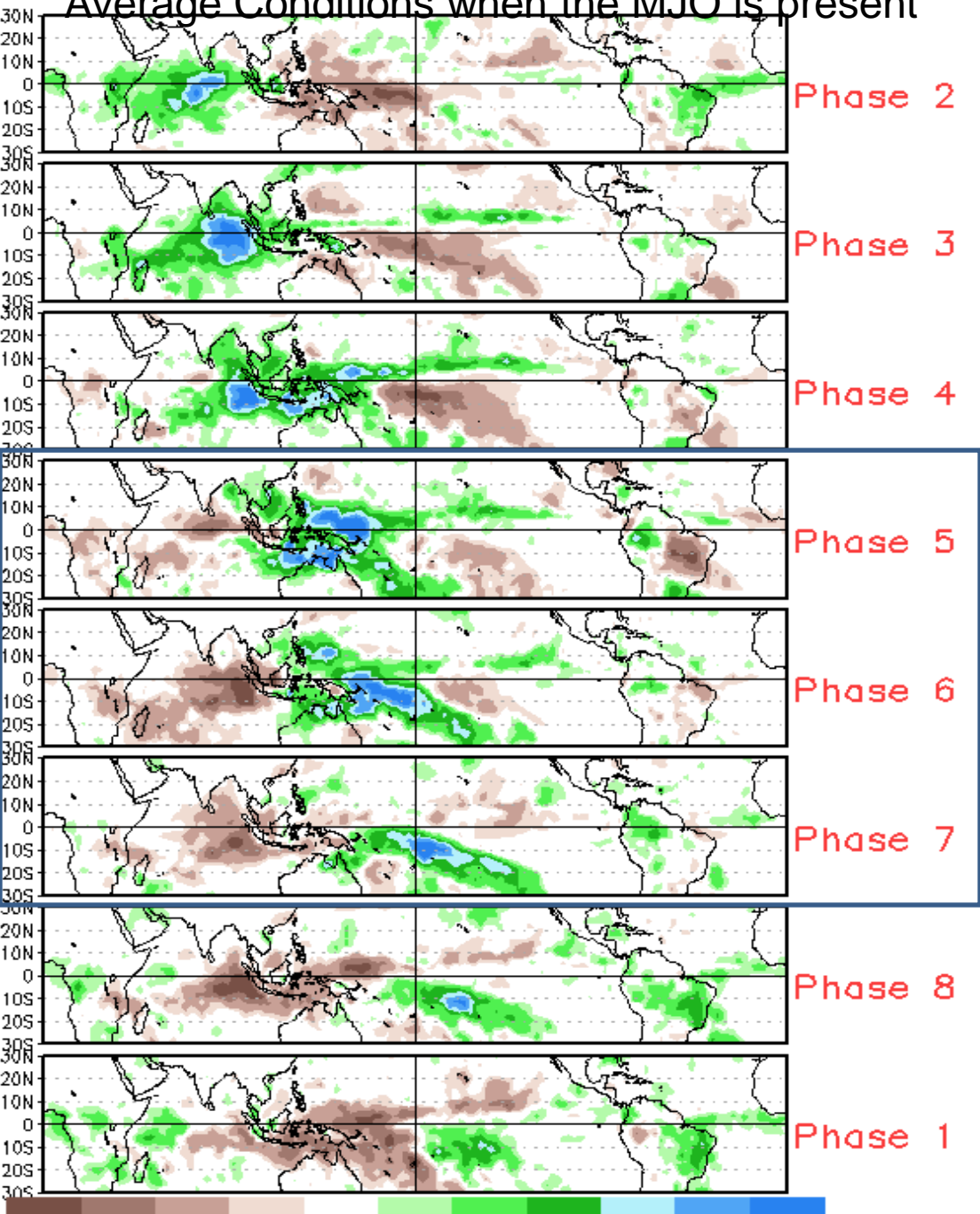


MJO Observation/Forecast



Dynamical models depict robust MJO propagation

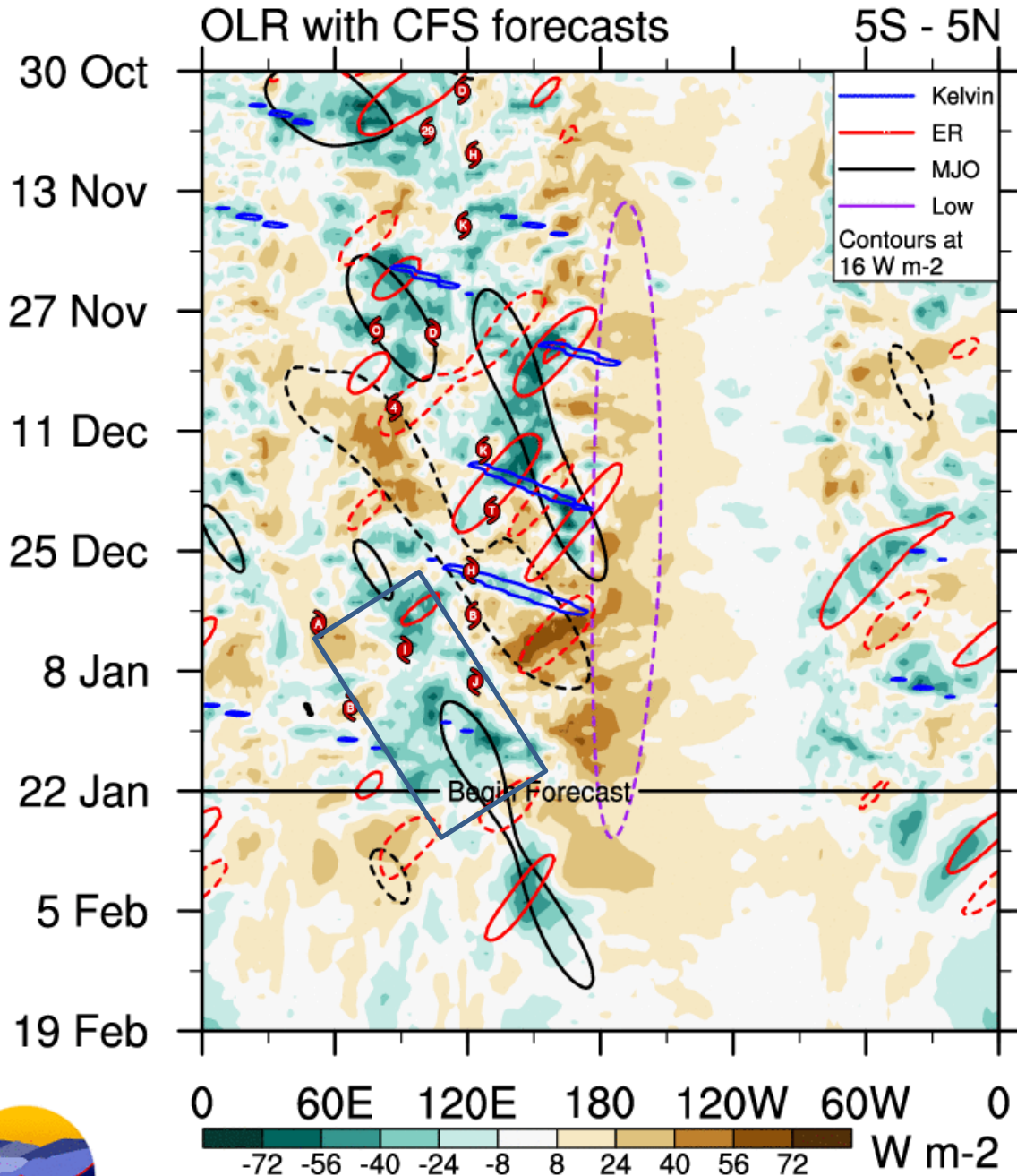
Average Conditions when the MJO is present



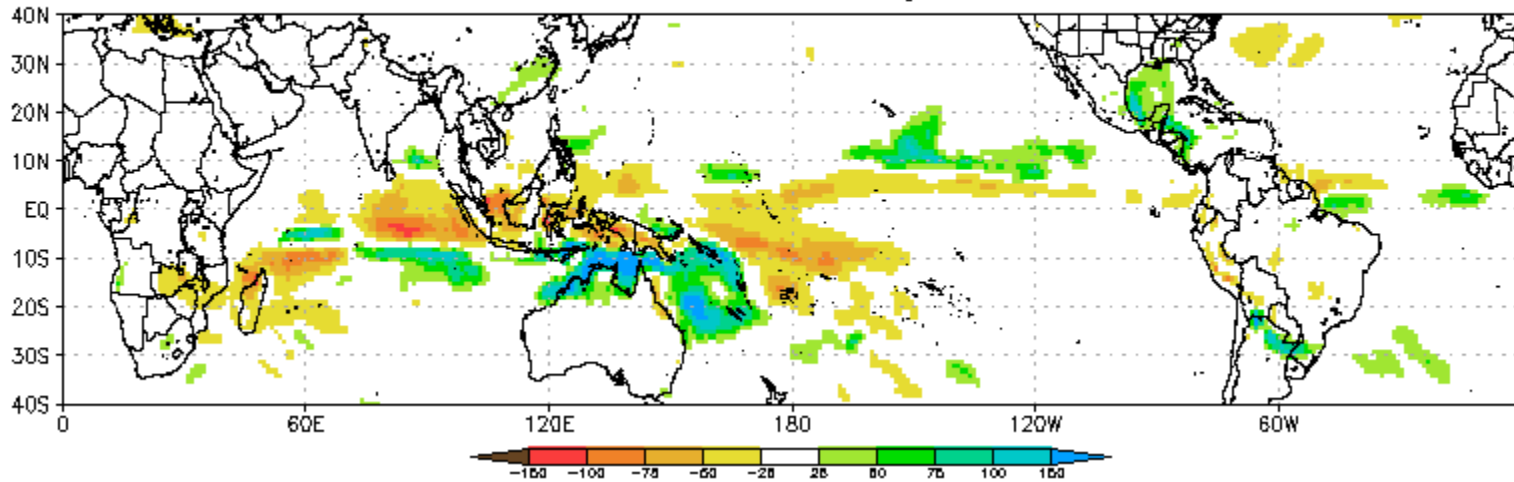
CAVEAT: These panels are representative of robust MJO events.

Previous MJO event disrupted the La Niña base state (December)

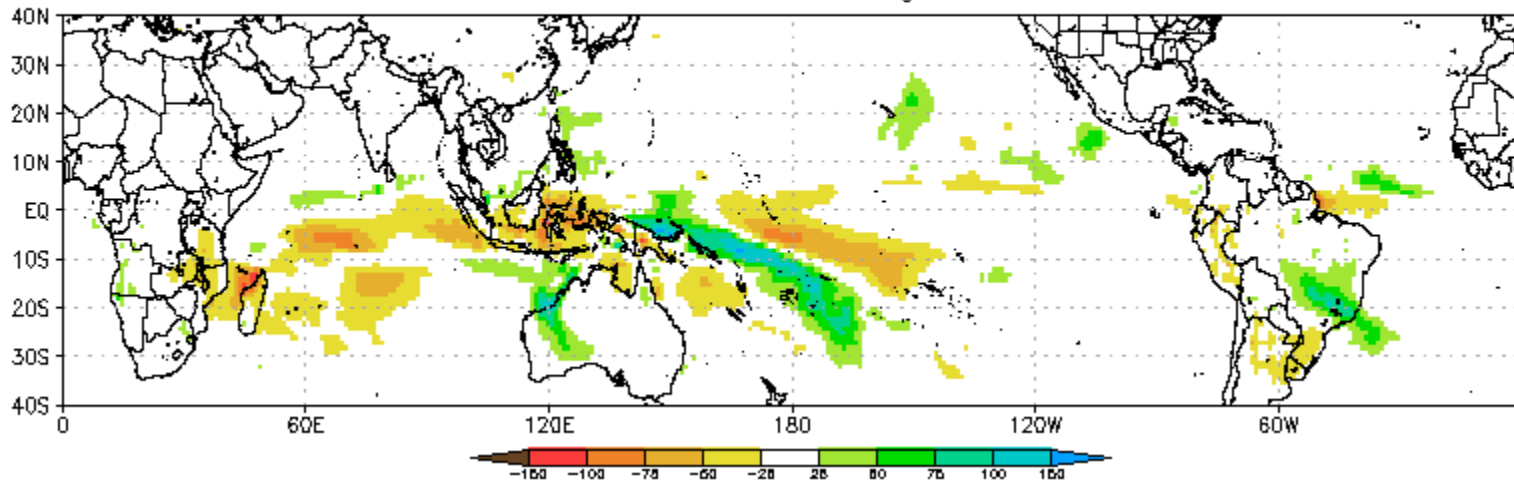
Current MJO currently constructively interfering with the base state. May cause eastward shift in the enhanced/suppressed envelopes.



CFS Precipitation Anomalies (mm) Issued 22Jan2018
Week-1 Forecast Ending 30Jan2018

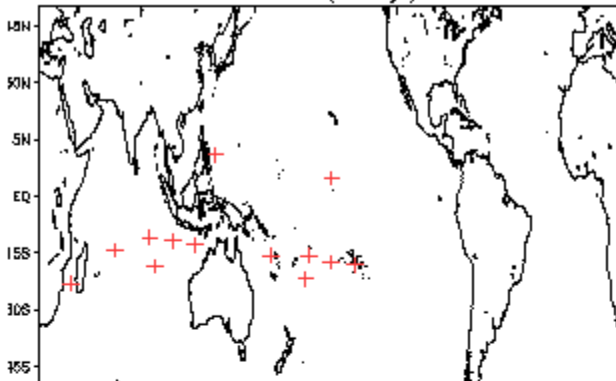


CFS Precipitation Anomalies (mm) Issued 22Jan2018
Week-2 Forecast Ending 06Feb2018

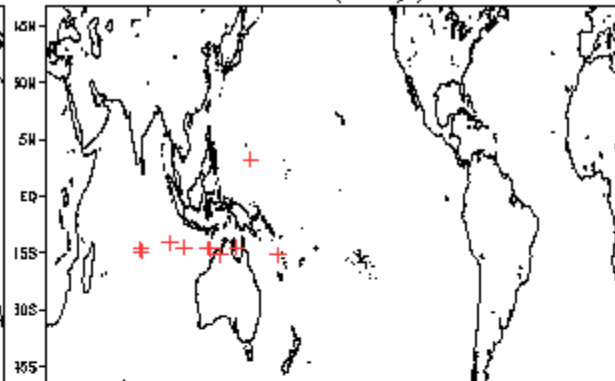


January Tropical Storm Formation by MJO phase

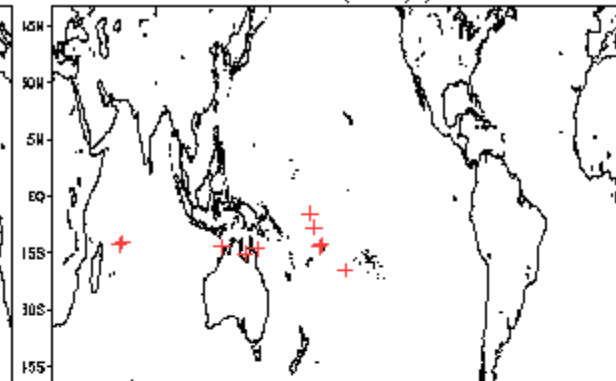
Phase 1 (67 days) 14 storms



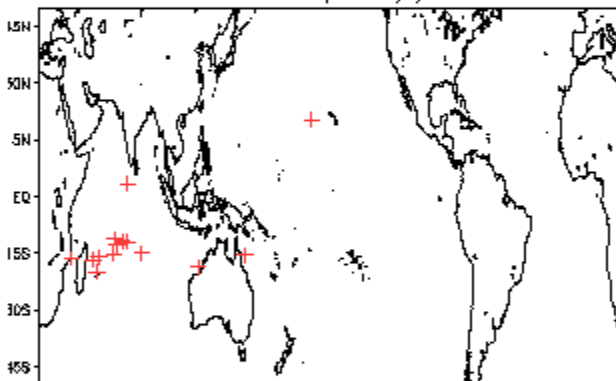
Phase 4 (69 days) 11 storms



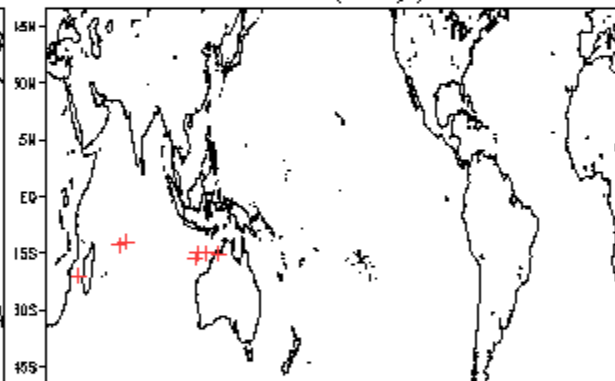
Phase 7 (81 days) 11 storms



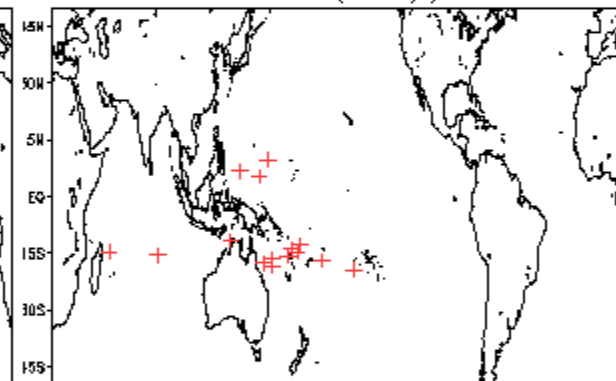
Phase 2 (101 days) 15 storms



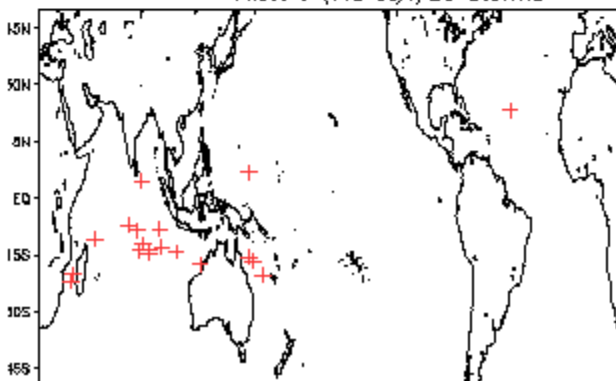
Phase 5 (67 days) 8 storms



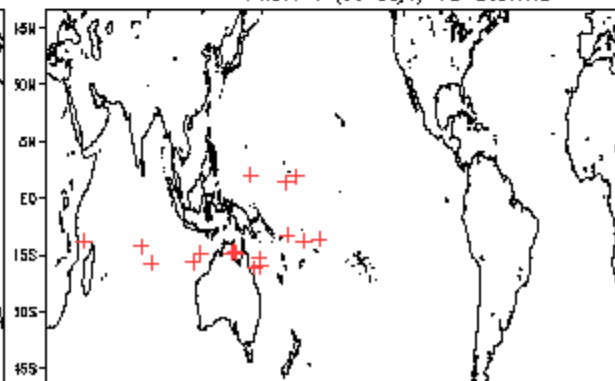
Phase 8 (105 days) 16 storms



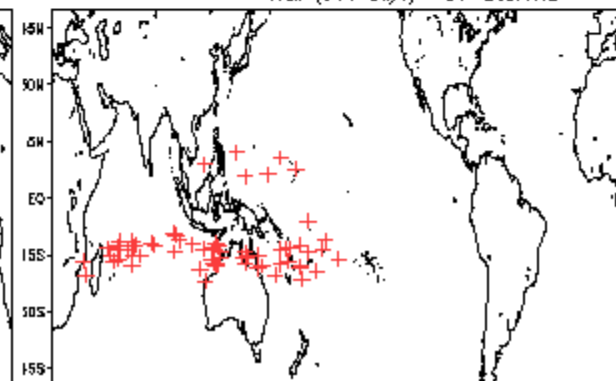
Phase 3 (112 days) 20 storms

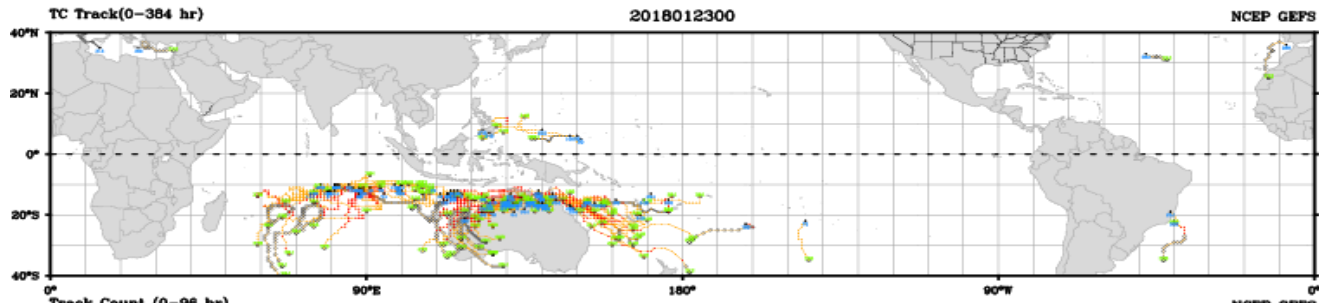


Phase 6 (88 days) 18 storms



Null (364 days) 67 storms



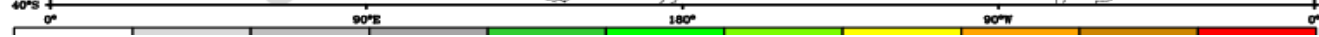
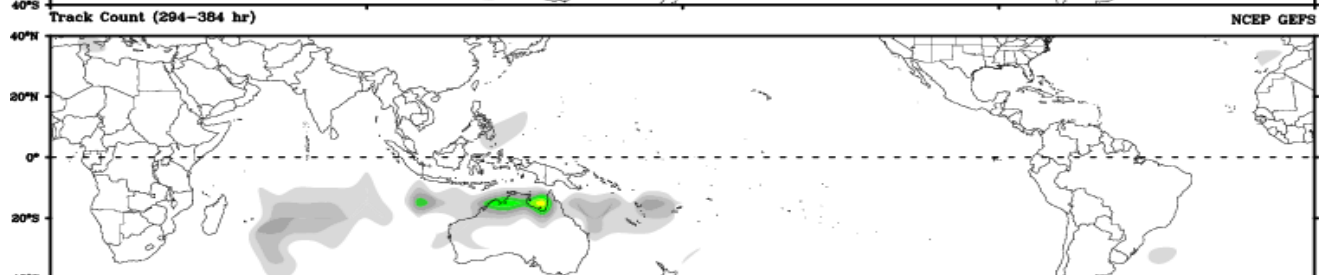
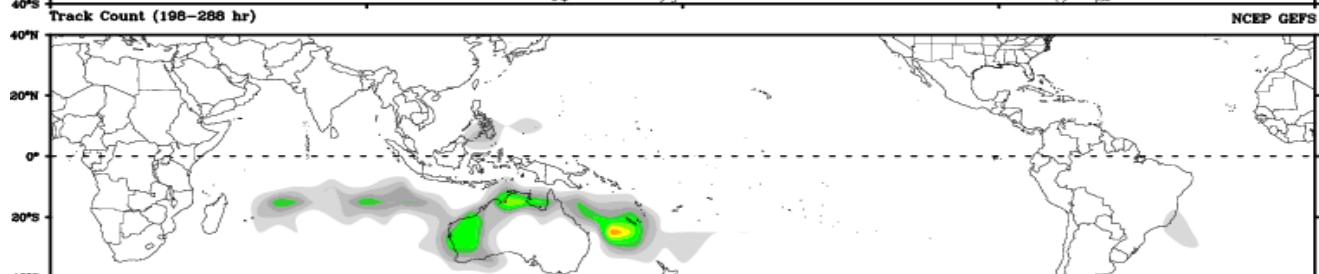
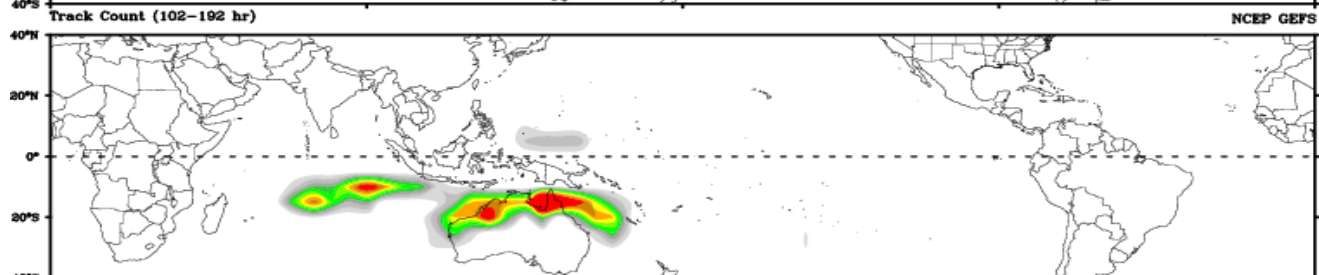
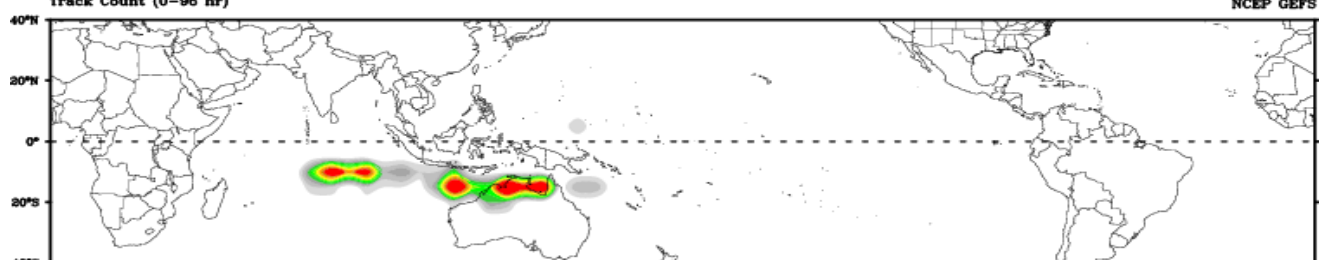


Days 1-4

Day 5-8

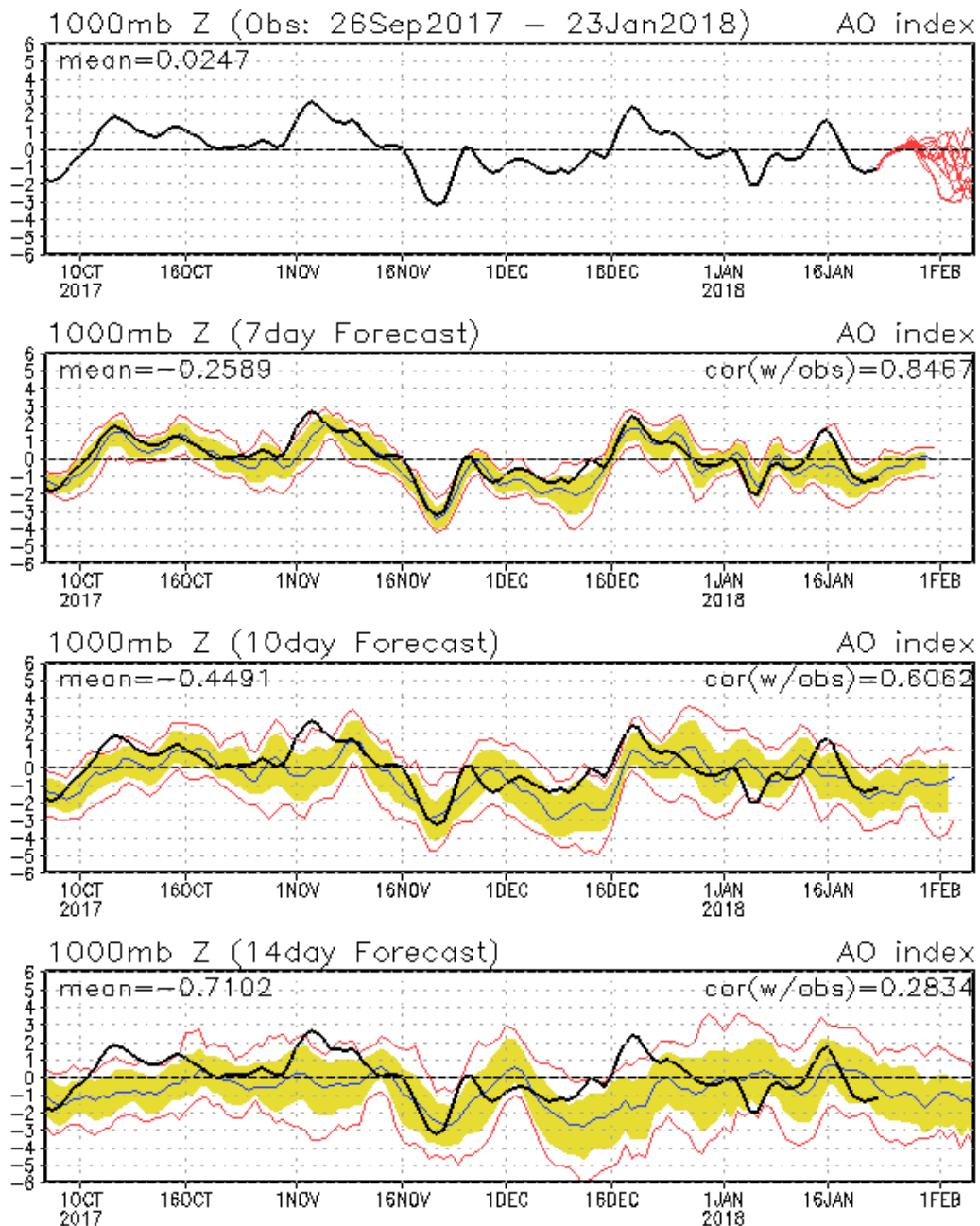
Day 9-12

Day 13-15

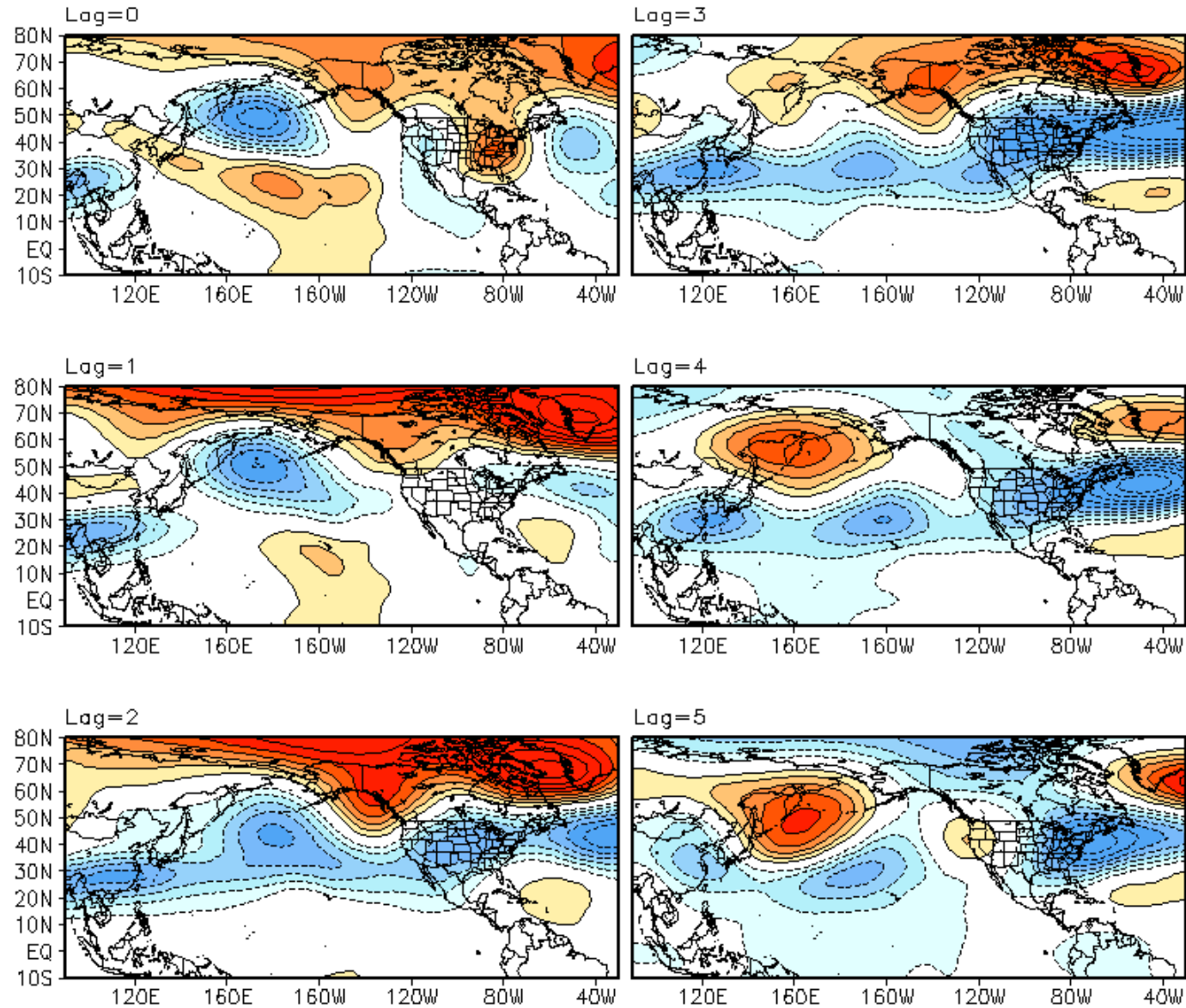


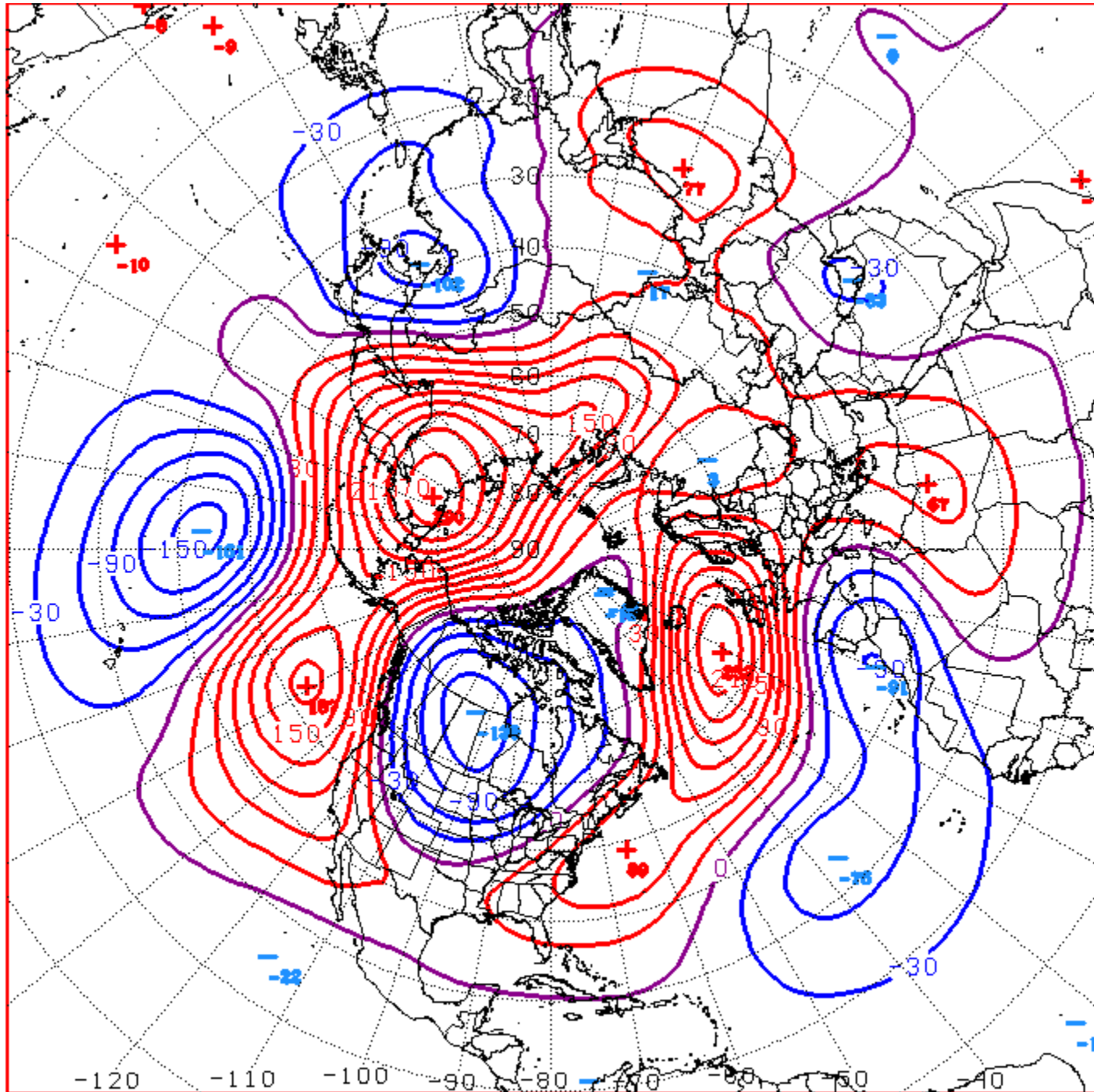
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



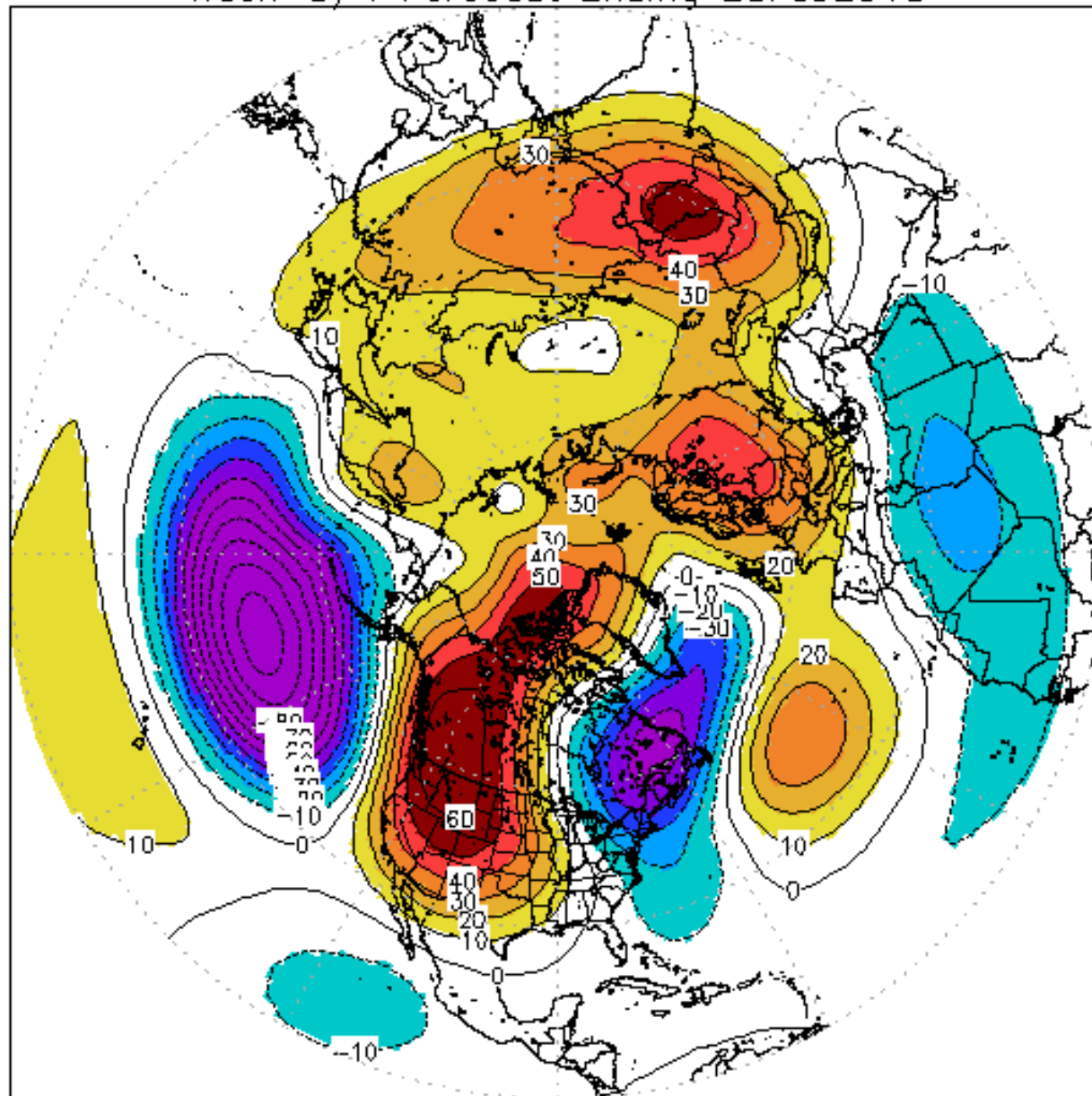
RMM Phase 7 200-hPa Height Lagged Composite (djf)



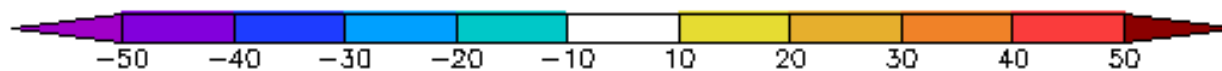


D+11 500 MB ANOMALIES FROM 06Z ENSM
CPC MAP MADE JAN 23 2018 1157 UTC CNTD FEB 03 2018

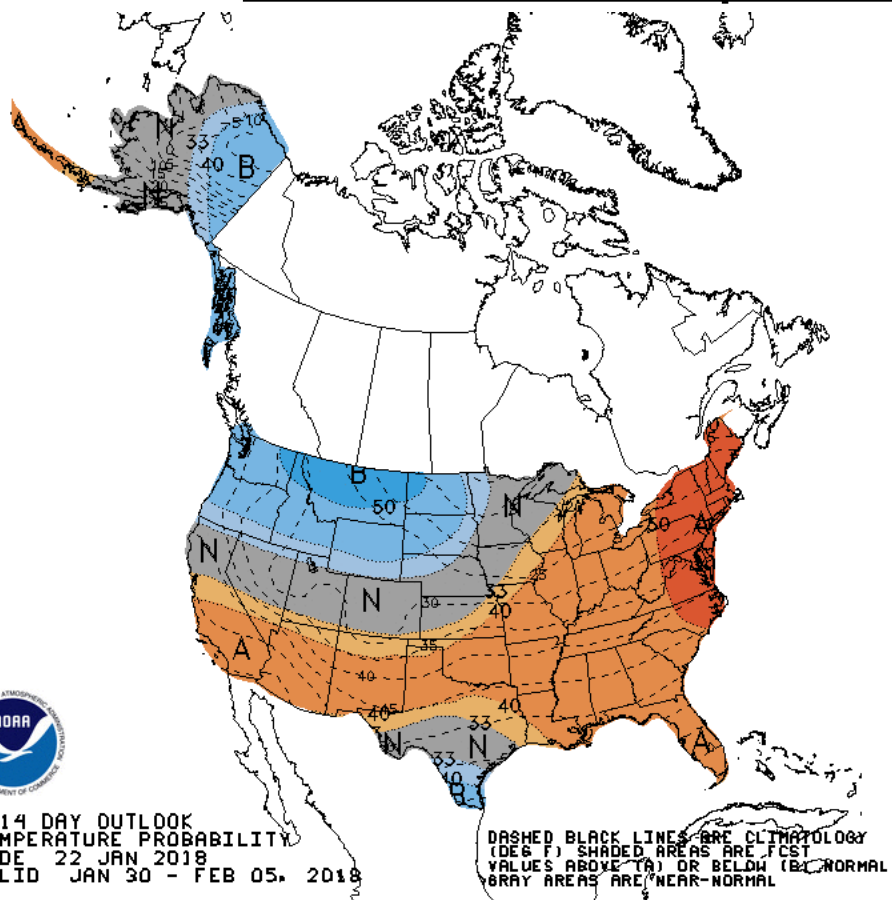
CFS 500hPa Height Anomalies Issued 22Jan2018
Week-3/4 Forecast Ending 20Feb2018



(meters)

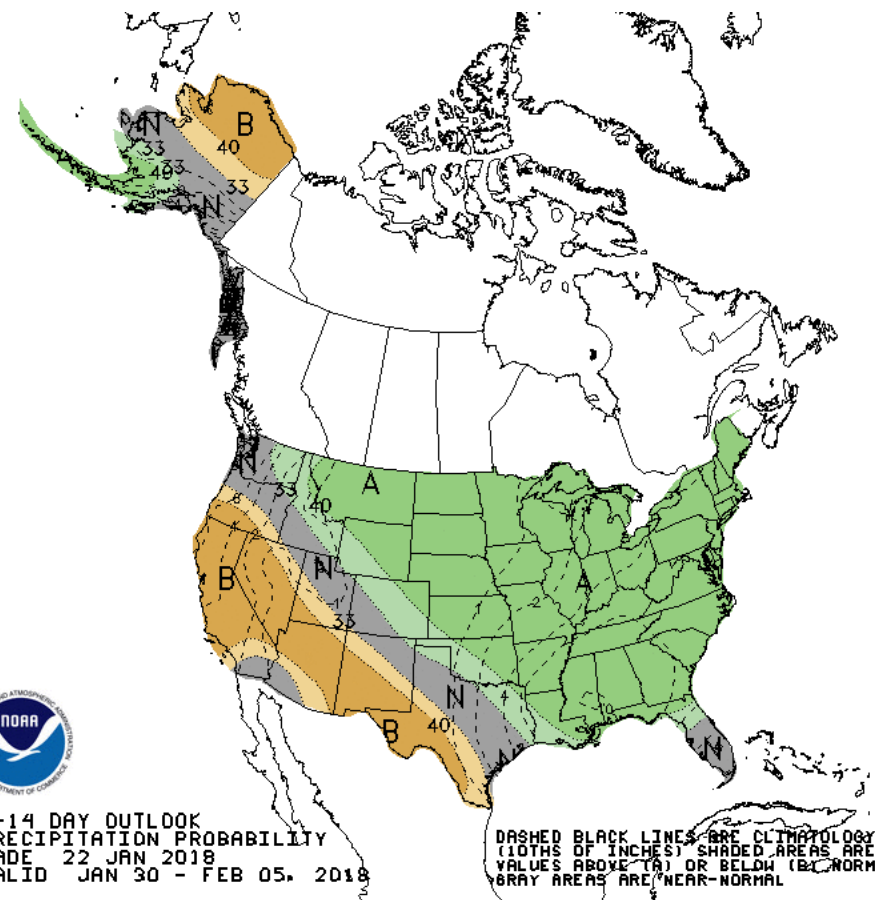
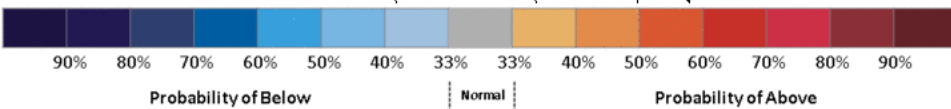


Week 2 – Temperature and Precipitation



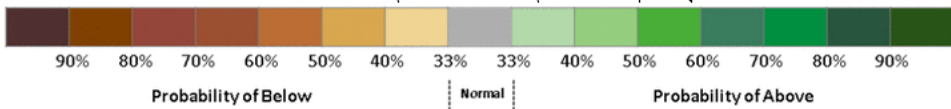
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 22 JAN 2018
VALID JAN 30 - FEB 05, 2018

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



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 22 JAN 2018
VALID JAN 30 - FEB 05, 2018

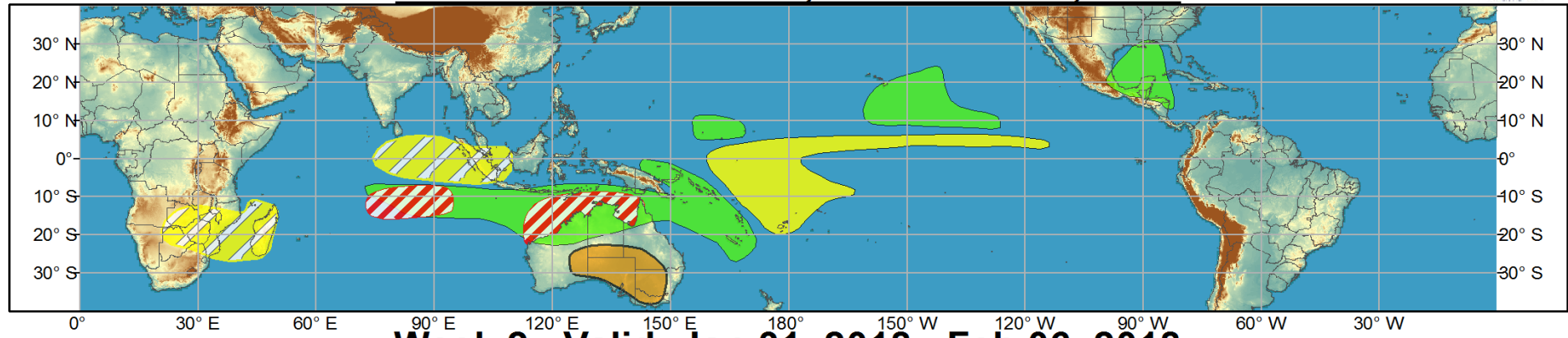
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCSST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



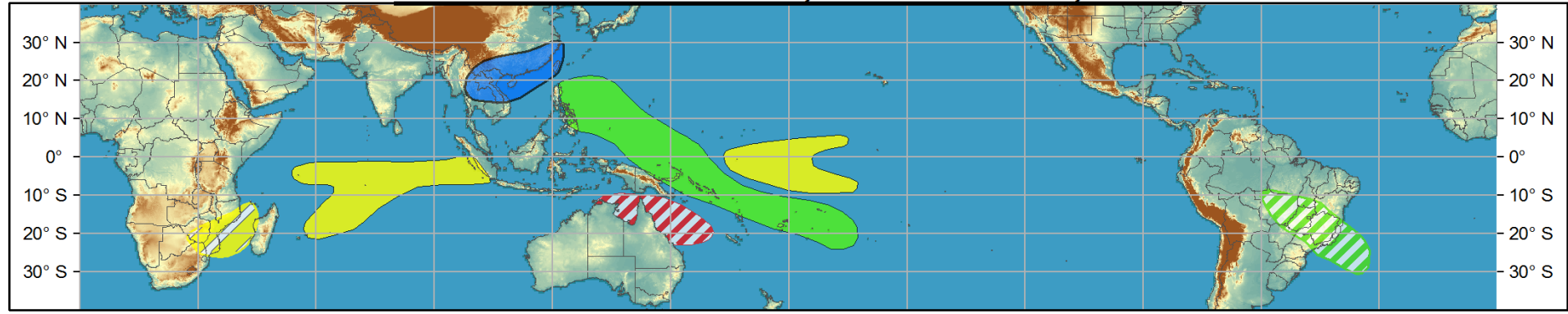


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