

Global Tropics Hazards And Benefits Outlook

1/9/2018

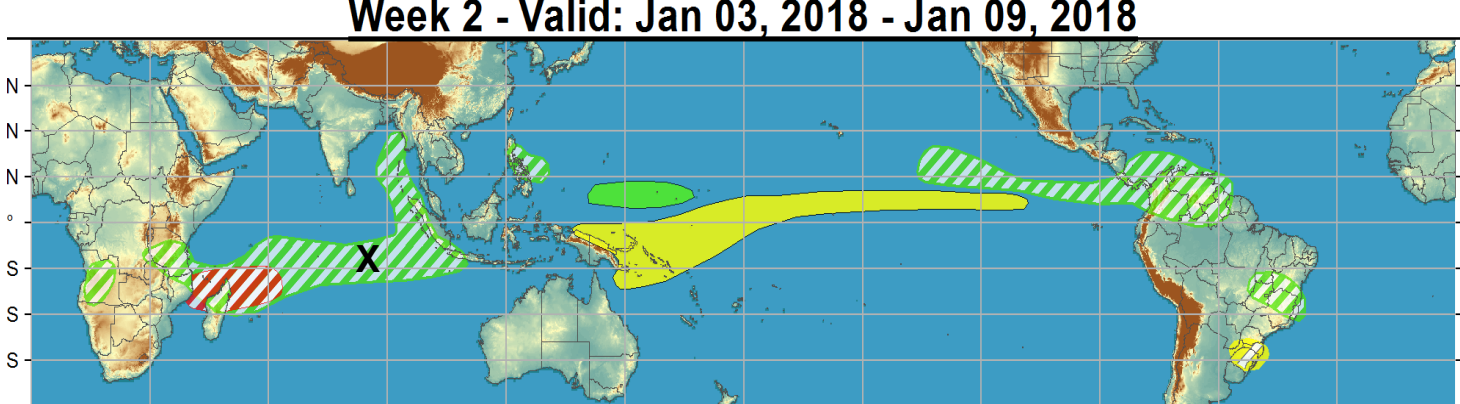
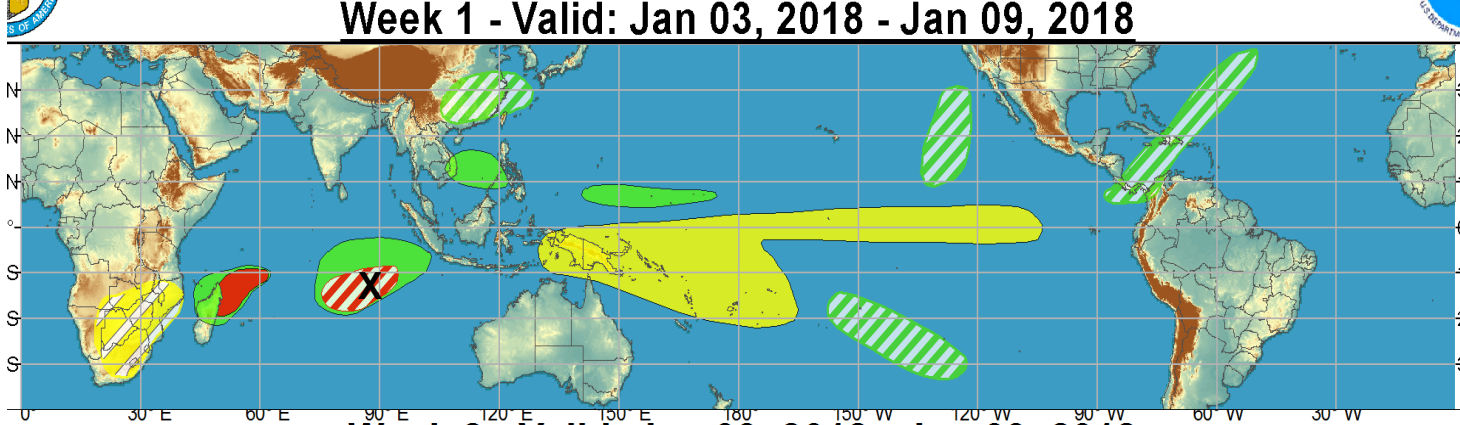
Christina Finan

Outline

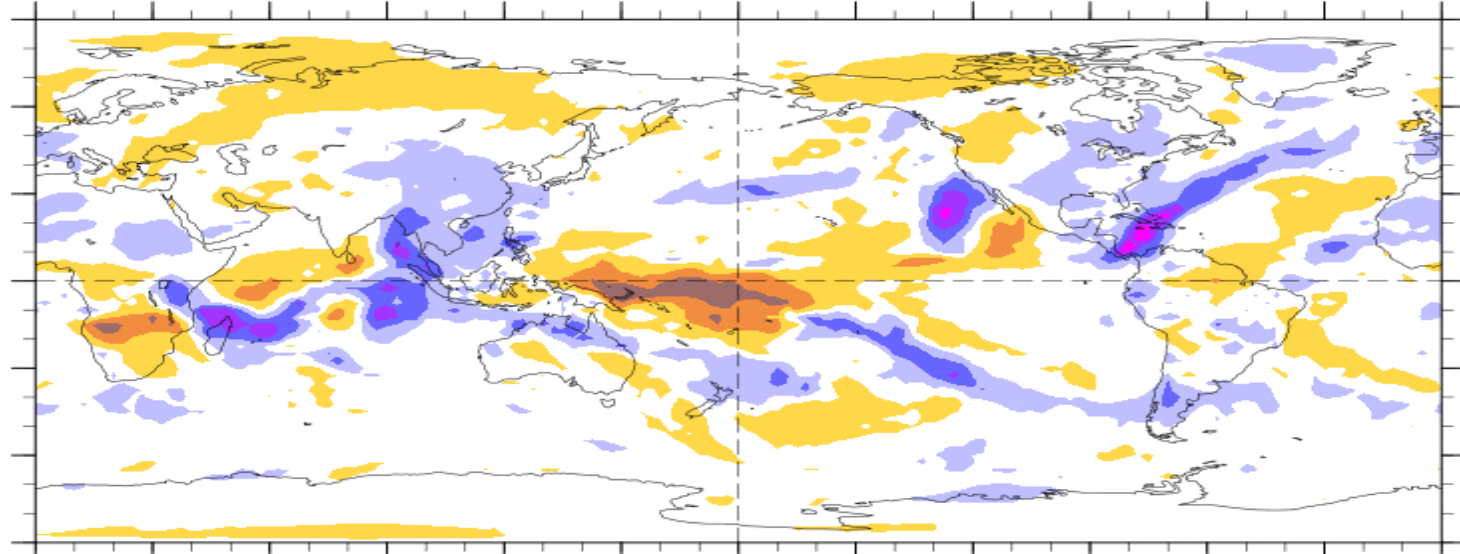
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

S. Ind: TC Irving
1/4-1/9



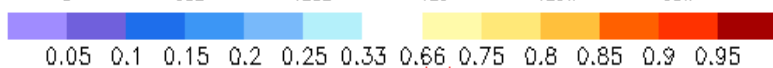
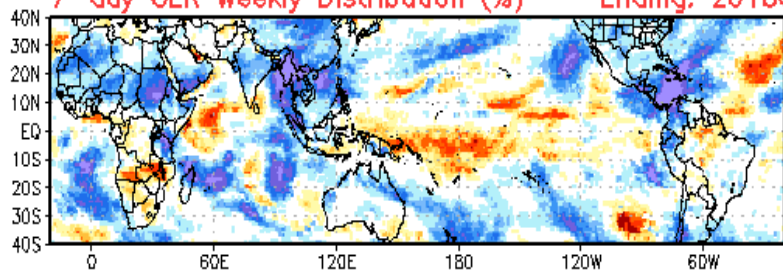
7-Day Average OLR Anomaly 2018/01/01 - 2018/01/07



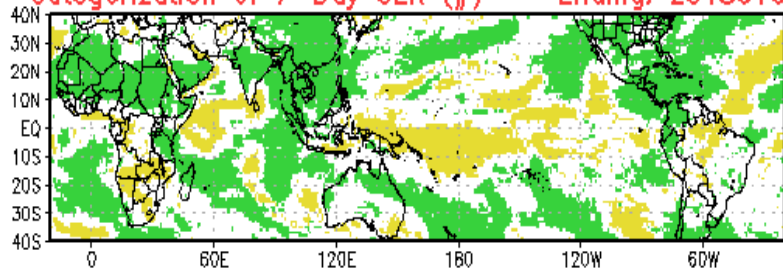
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

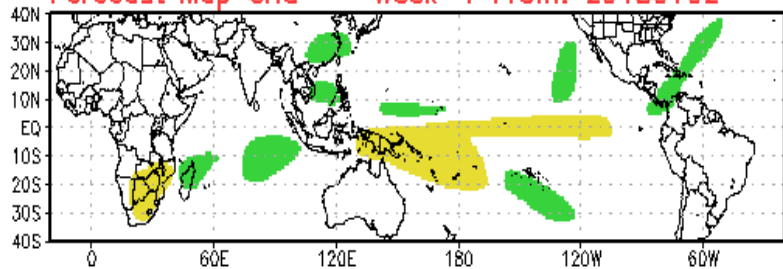
7-day OLR Weekly Distribution (%) -- Ending: 20180109



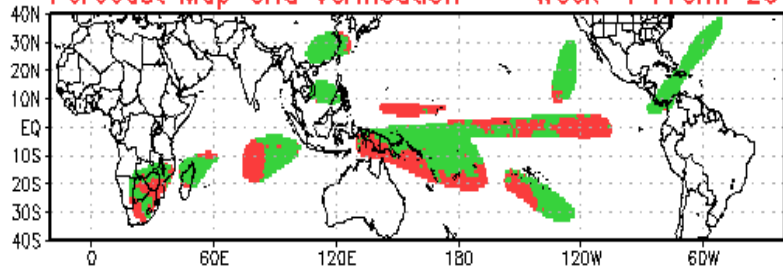
Categorization of 7-Day OLR (#) -- Ending: 20180109



Forecast Map Grid -- Week-1 From: 20180102

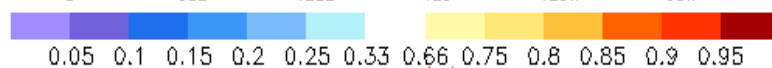
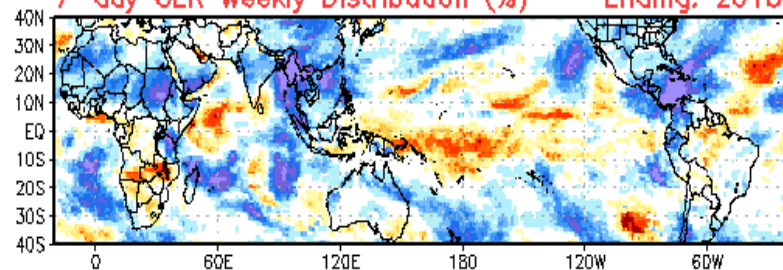


Forecast Map Grid Verification -- Week-1 From: 20180102

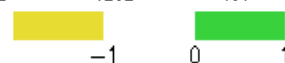
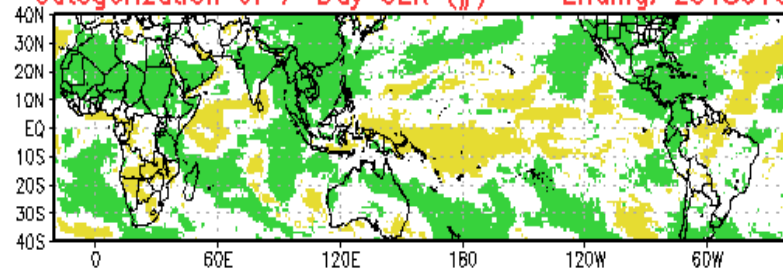


Hit: Green, Miss: Red
Heidke Skill Score: 46.1035

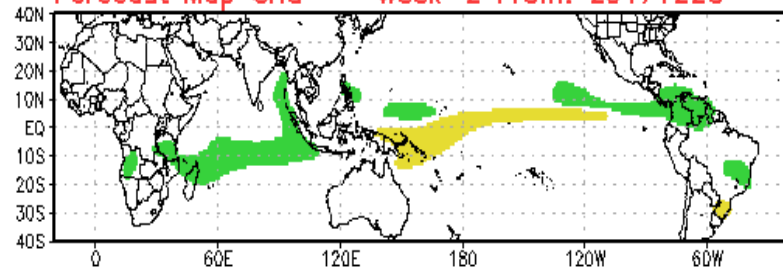
7-day OLR Weekly Distribution (%) -- Ending: 20180109



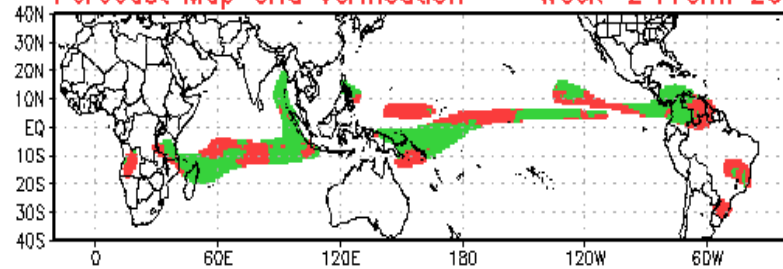
Categorization of 7-Day OLR (#) -- Ending: 20180109



Forecast Map Grid -- Week-2 From: 20171226



Forecast Map Grid Verification -- Week-2 From: 20171226



Hit: Green, Miss: Red
Heidke Skill Score: 36.9450

Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: **La Niña Advisory**
- La Niña is likely (exceeding ~80%) through the Northern Hemisphere winter 2017-18, with a transition to ENSO-neutral most likely during the mid-to-late spring.

MJO and other subseasonal tropical variability:

- The active phase of the MJO crossed Africa and reached the Indian Ocean.
- Dynamical models portray eastward propagation of the MJO envelope across the Maritime Continent and western Pacific over the next two weeks, with some possible interference from tropical cyclone activity.

Extratropics:

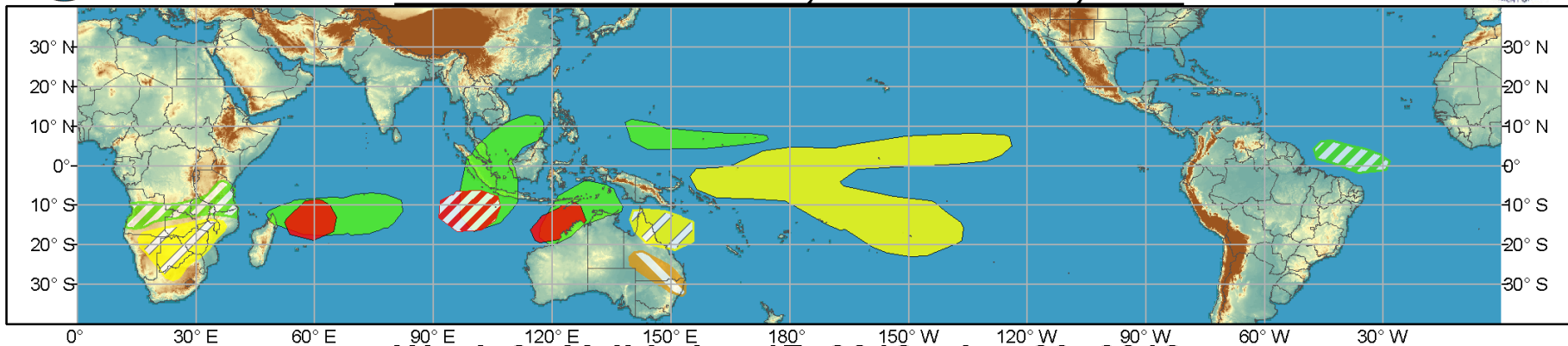
- Robust circulation responses across North America from MJO presence over the Indian Ocean are fairly common during boreal winter. Ridging over the continental US and North America is favored, with warming likely for the lower-48, especially the eastern US.



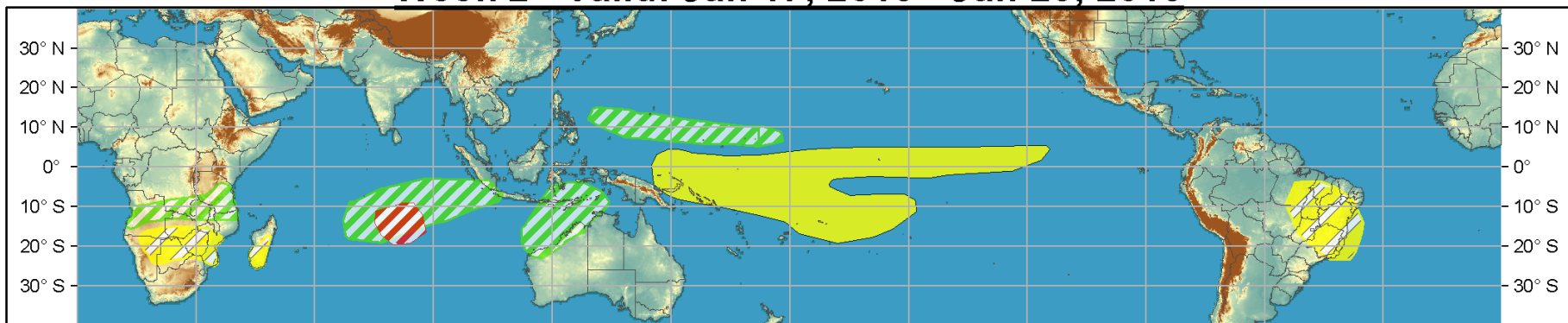
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jan 10, 2018 - Jan 16, 2018



Week 2 - Valid: Jan 17, 2018 - Jan 23, 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: 01/09/2018

Forecaster: Finan

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

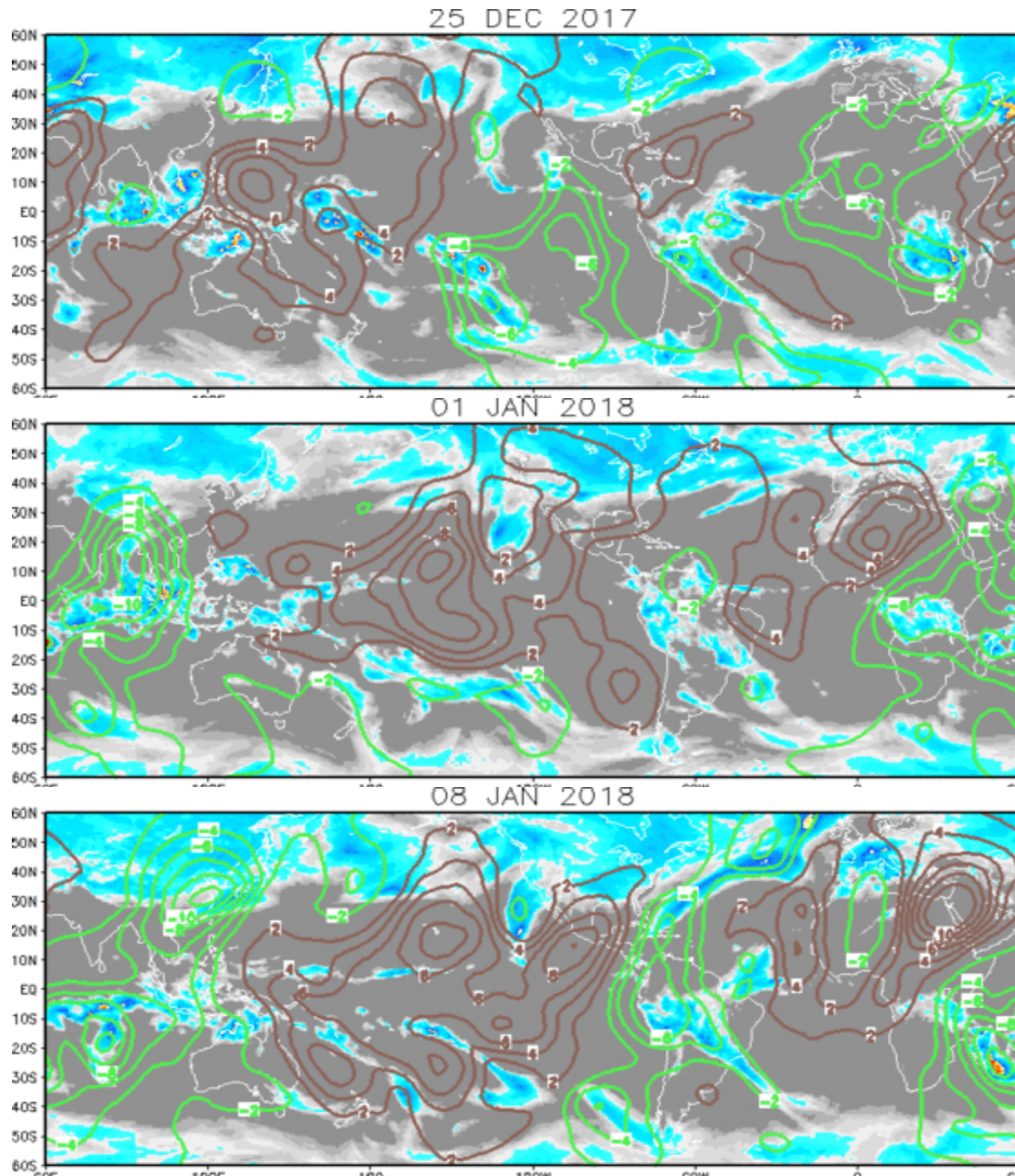
Green: Enhanced Divergence

Brown: Enhanced Convergence

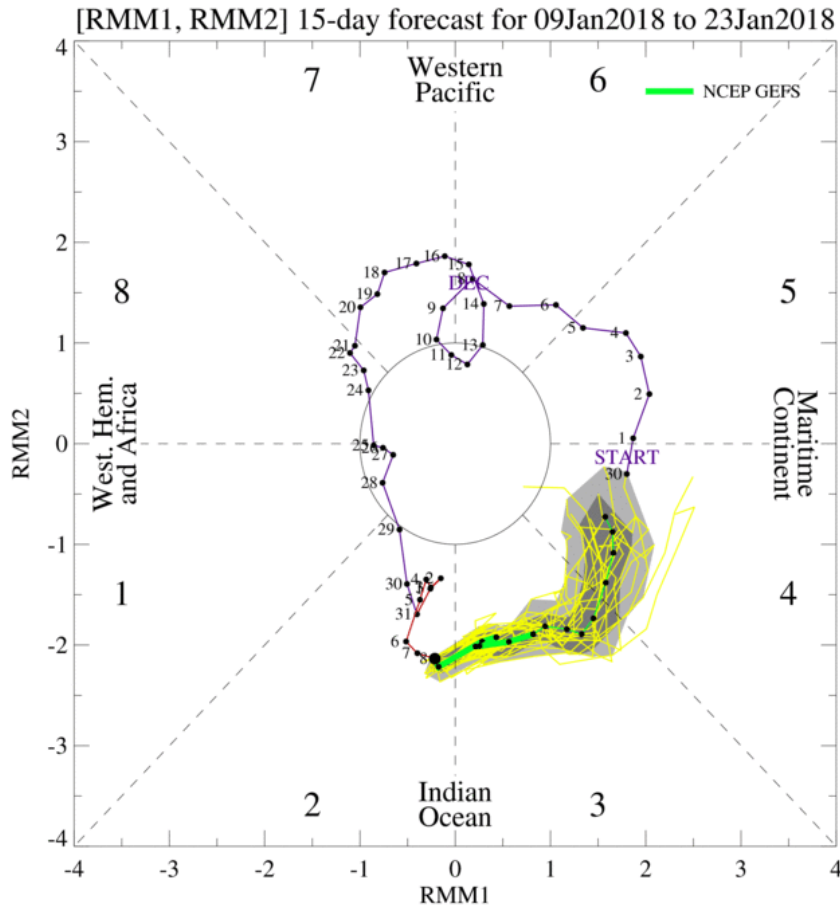
Weaker projection as the MJO traverses the Western Hemisphere and interferes with the base state.

Reversion to wave-1 structure with enhanced convection over Africa and the Indian Ocean.

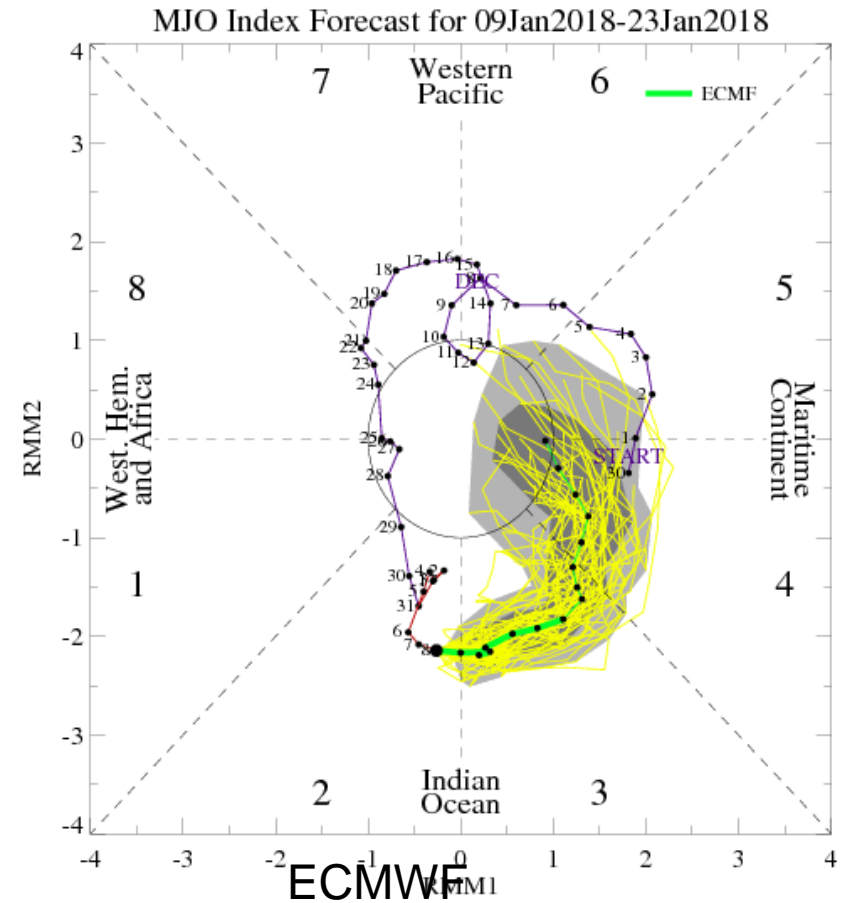
Wave-2 structure with the continued enhanced convection over Indian Ocean, and interference in the Atlantic due to Rossby wave activity.



MJO Observation/Forecast

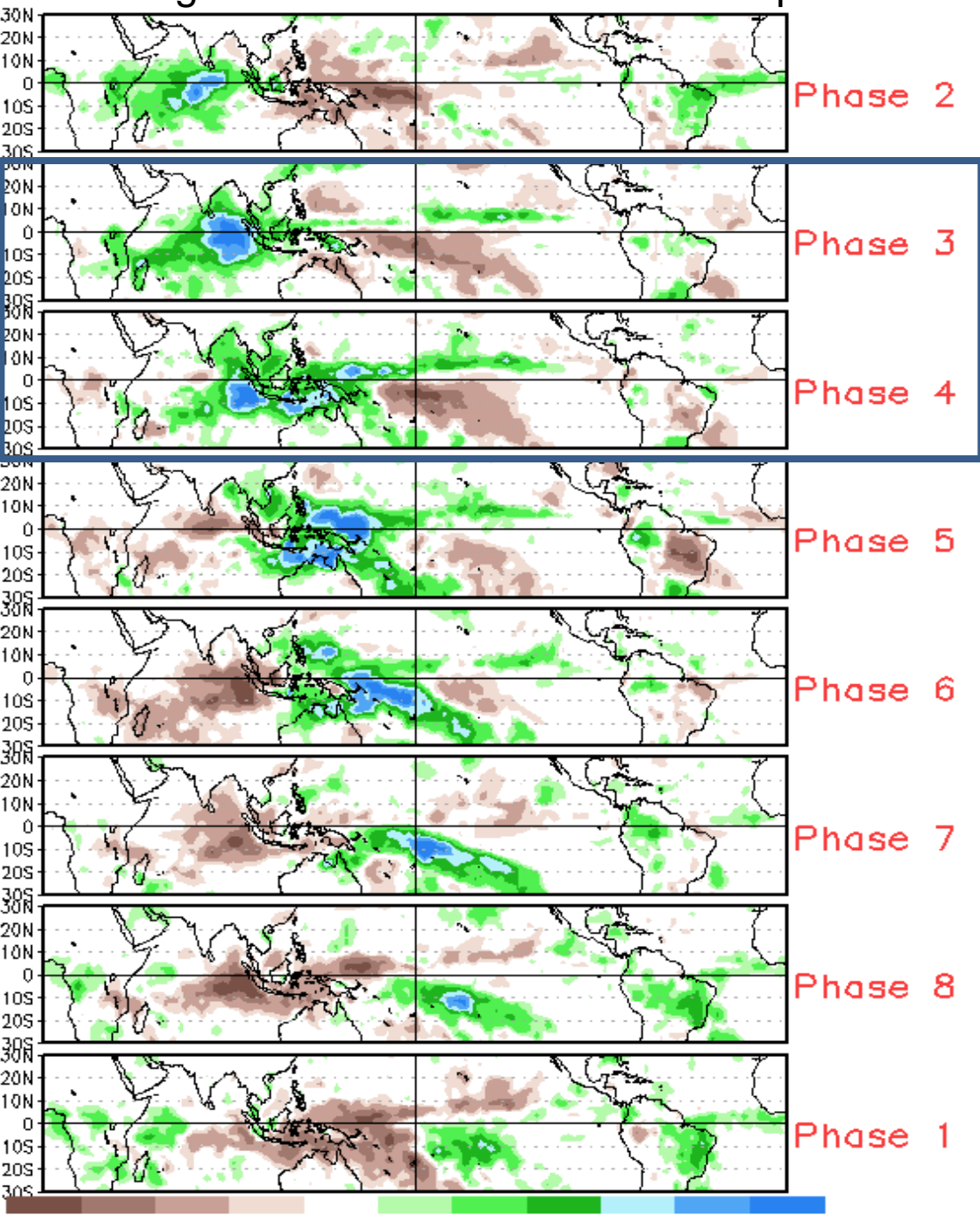


GEFS



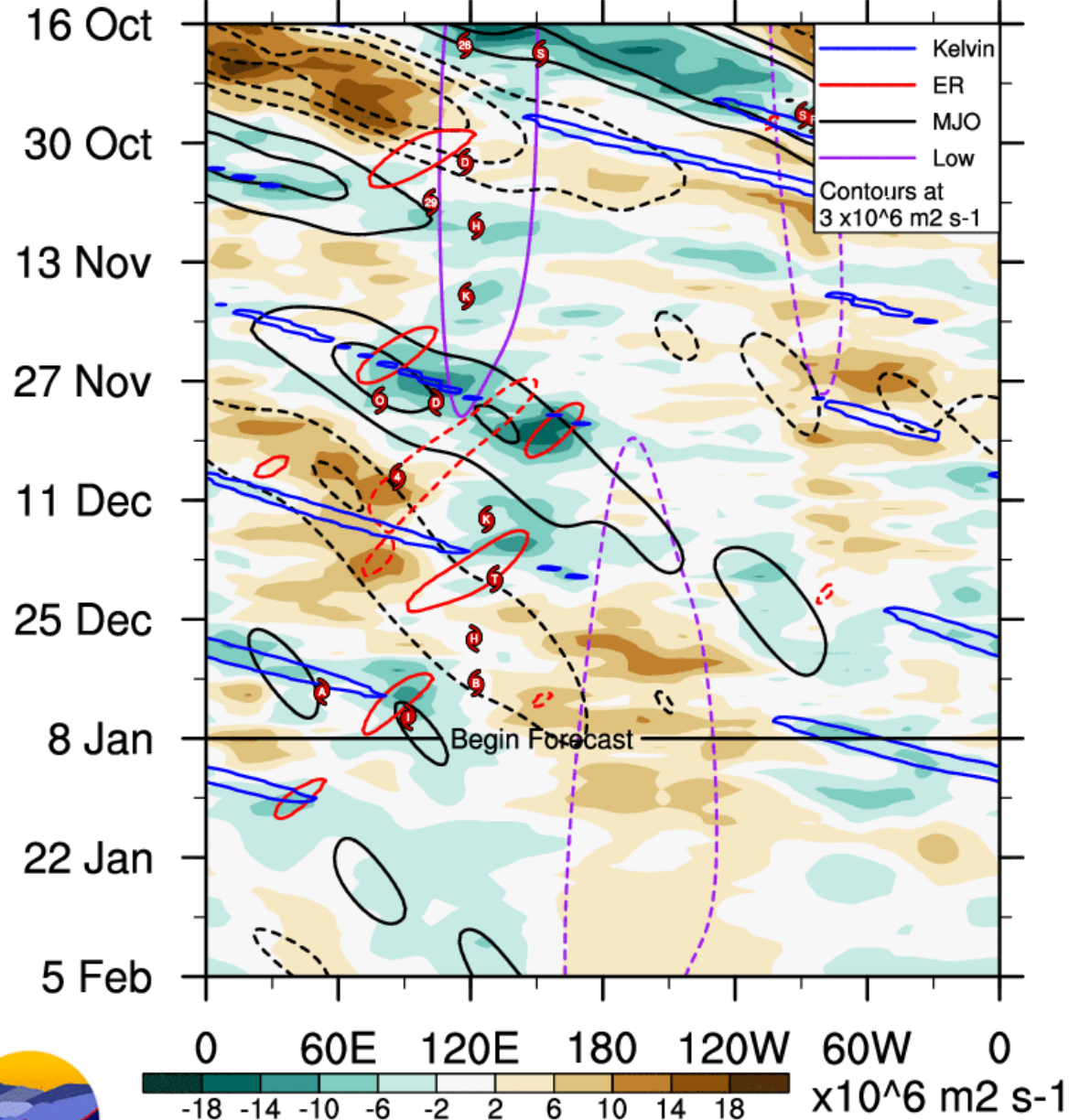
MJO signal forecast to maintain amplitude and stagnate initially (TC activity), before reaching the Maritime Continent during Week-2. The faster ECMWF solution approaches the western Pacific, and reduces amplitude.

Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

CHI200 with CFS forecasts 5S - 5N

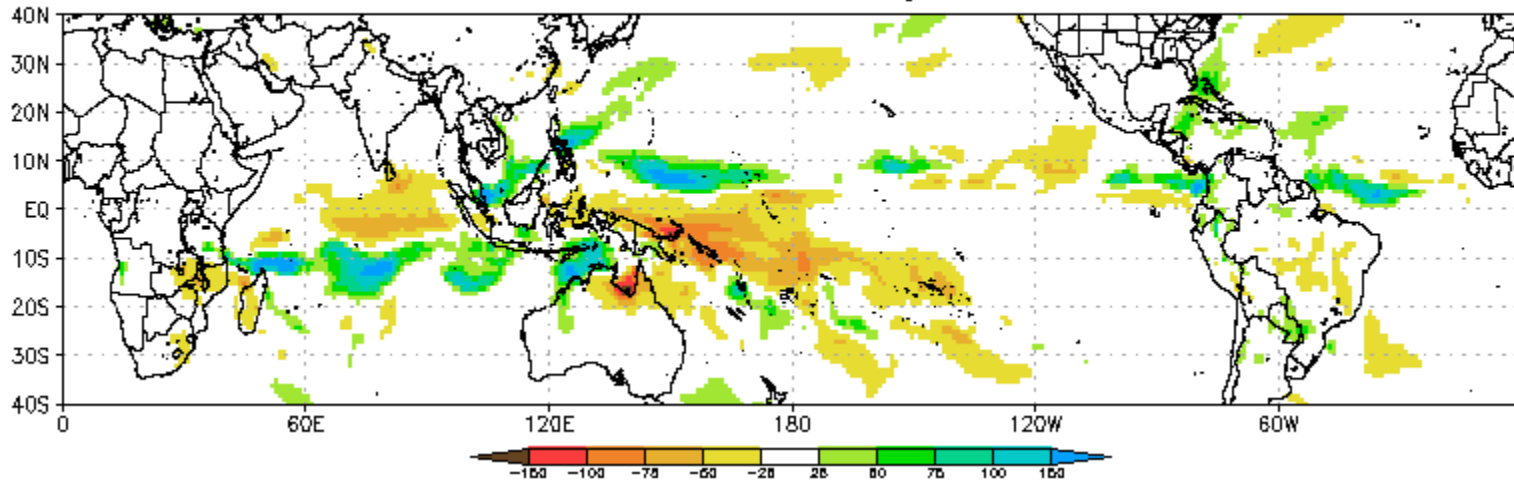


MJO pushing into the Maritime Continent.
Equatorial Rossby wave activity and **Kelvin wave activity** are likely over the Atlantic.

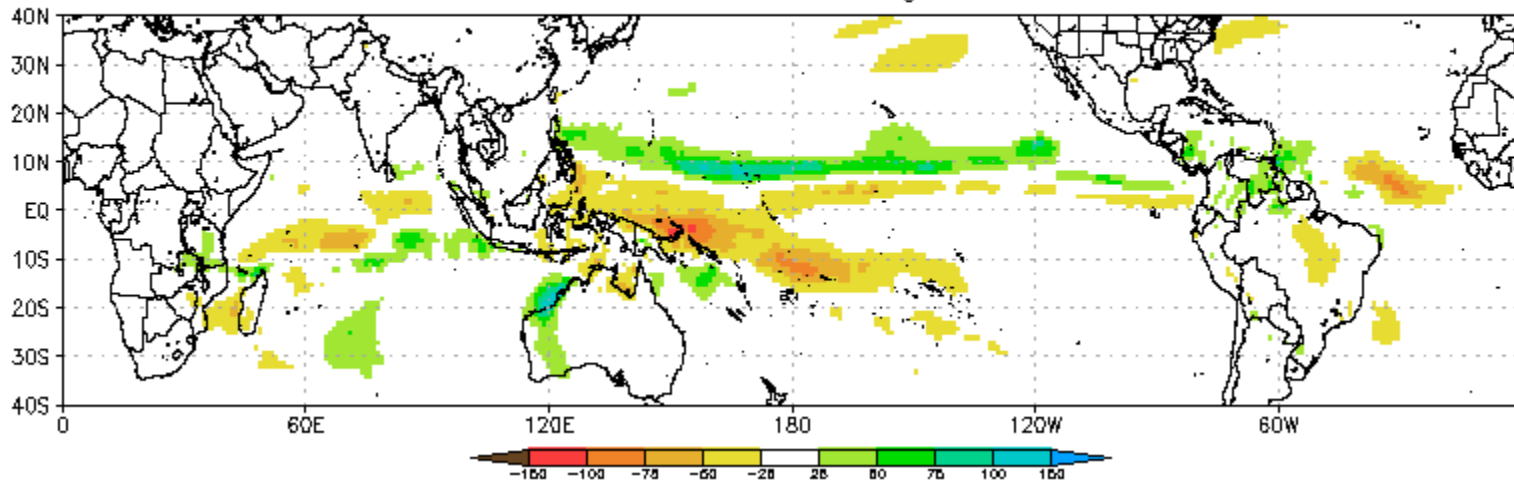
Low frequency La Niña footprint remains anchored near the Date Line.



CFS Precipitation Anomalies (mm) Issued 08Jan2018
Week-1 Forecast Ending 16Jan2018

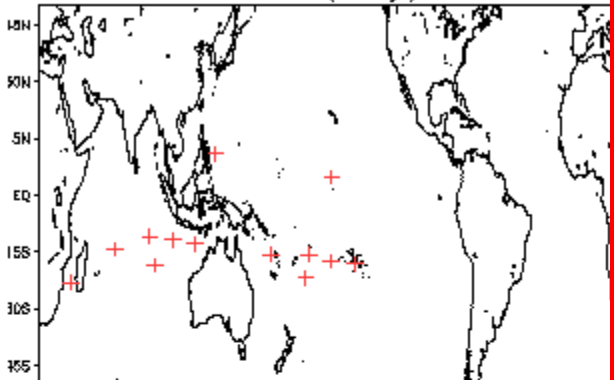


CFS Precipitation Anomalies (mm) Issued 08Jan2018
Week-2 Forecast Ending 23Jan2018

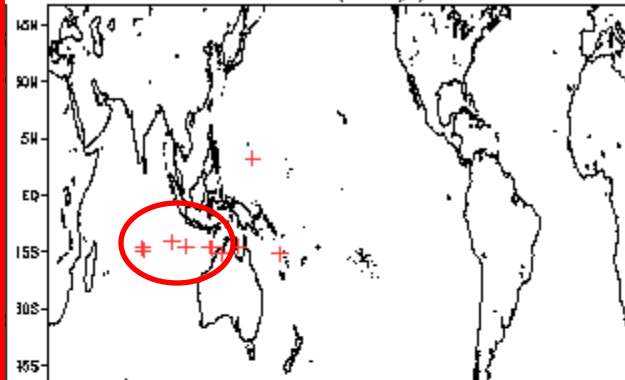


January Tropical Storm Formation by MJO phase

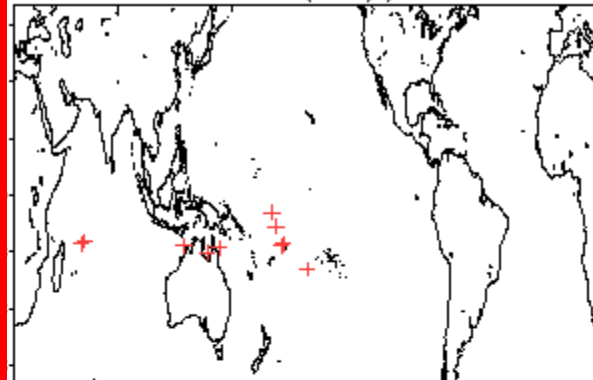
Phase 1 (67 days) 14 storms



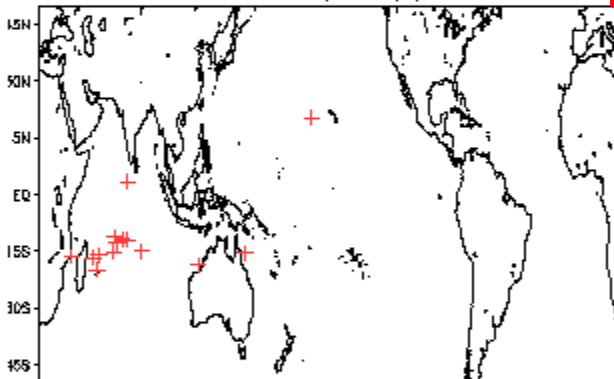
Phase 4 (69 days) 11 storms



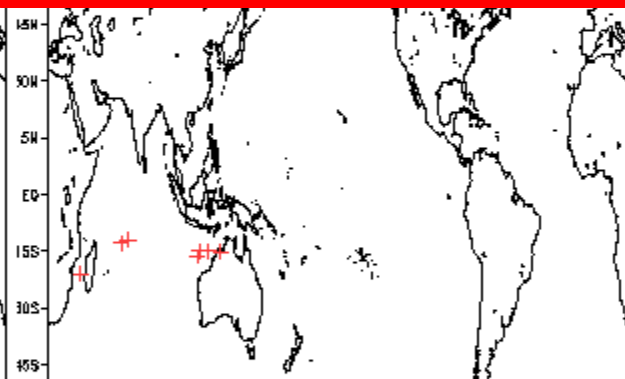
Phase 7 (81 days) 11 storms



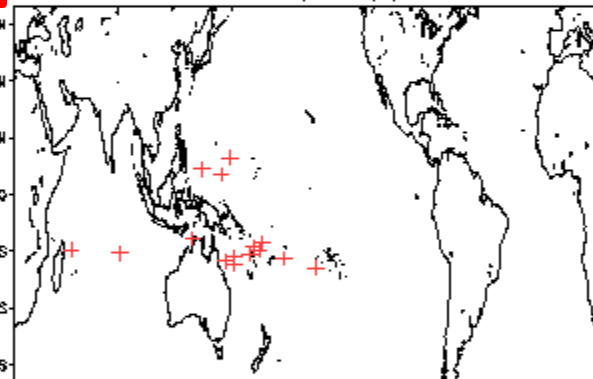
Phase 2 (101 days) 15 storms



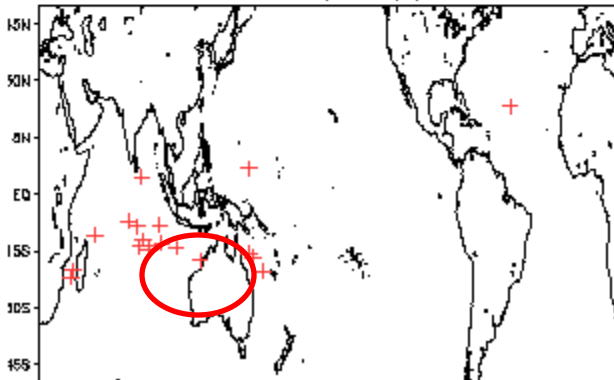
Phase 5 (67 days) 8 storms



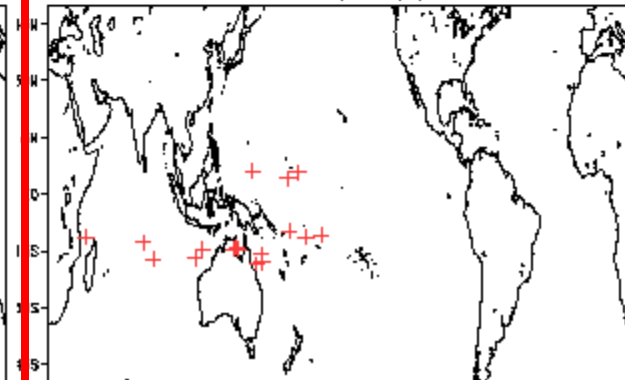
Phase 8 (105 days) 16 storms



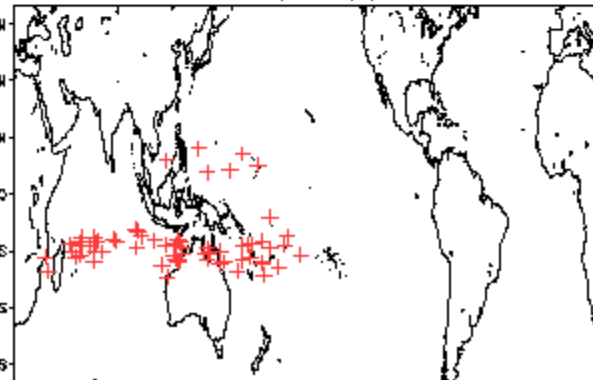
Phase 3 (112 days) 20 storms

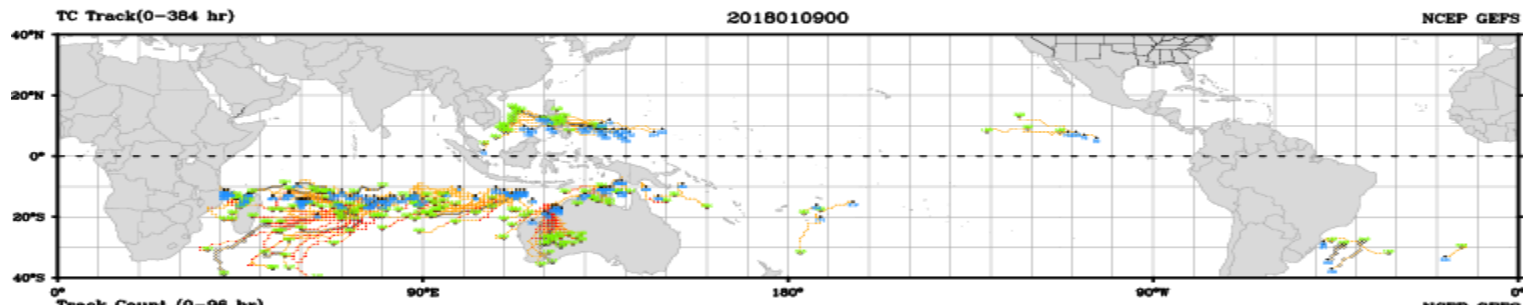


Phase 6 (88 days) 18 storms



Null (364 days) 67 storms



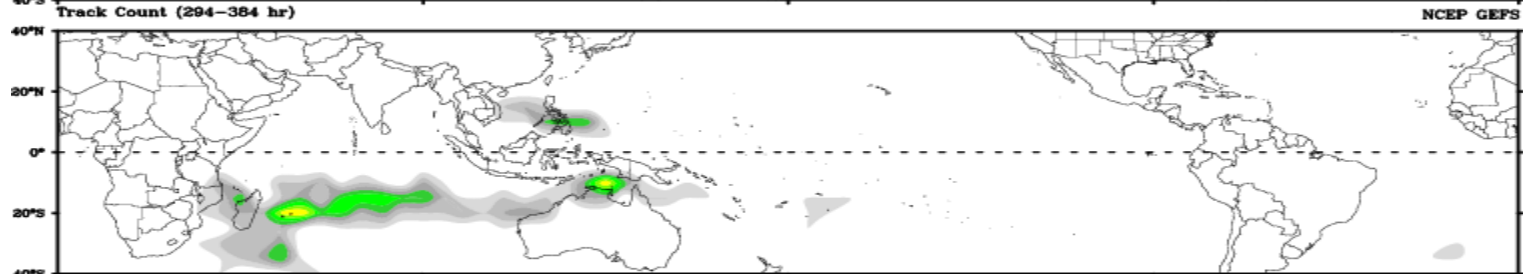
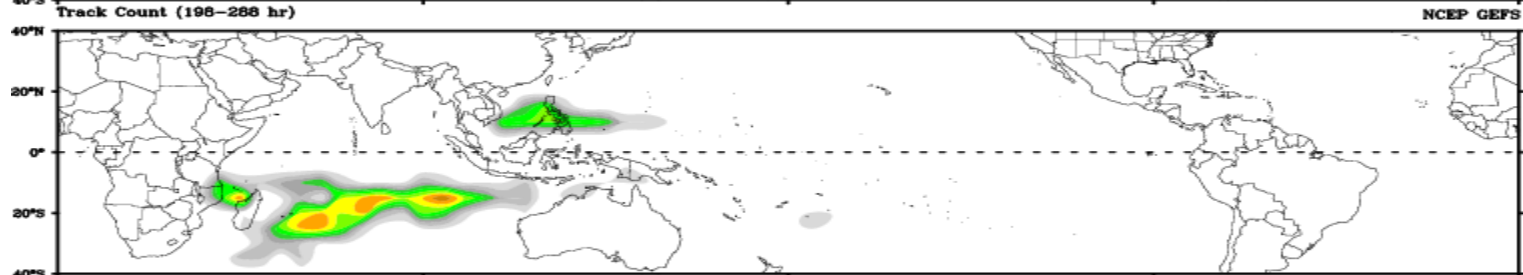
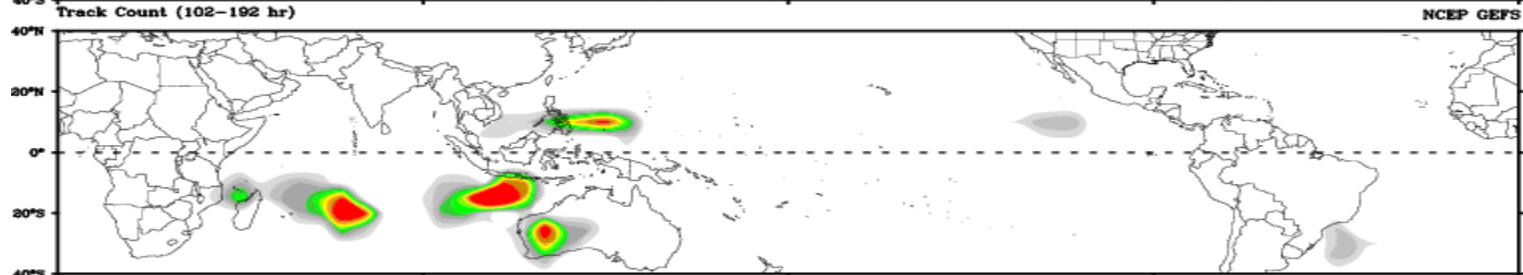
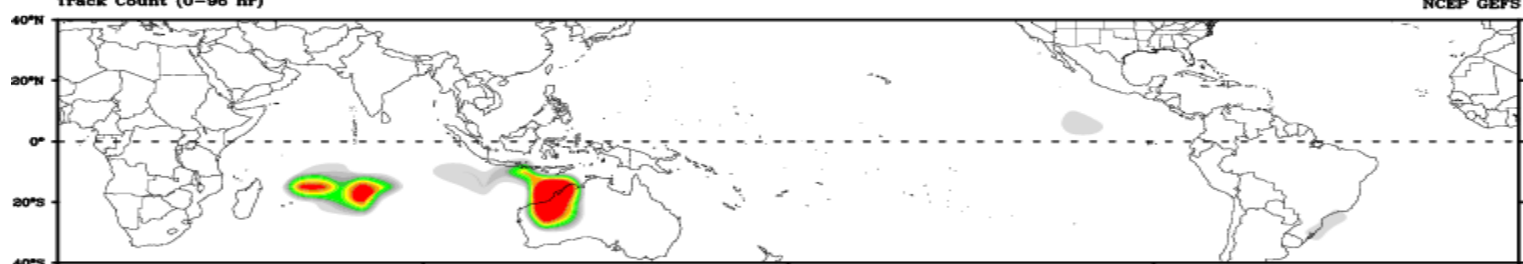


Days 1-4

Day 5-8

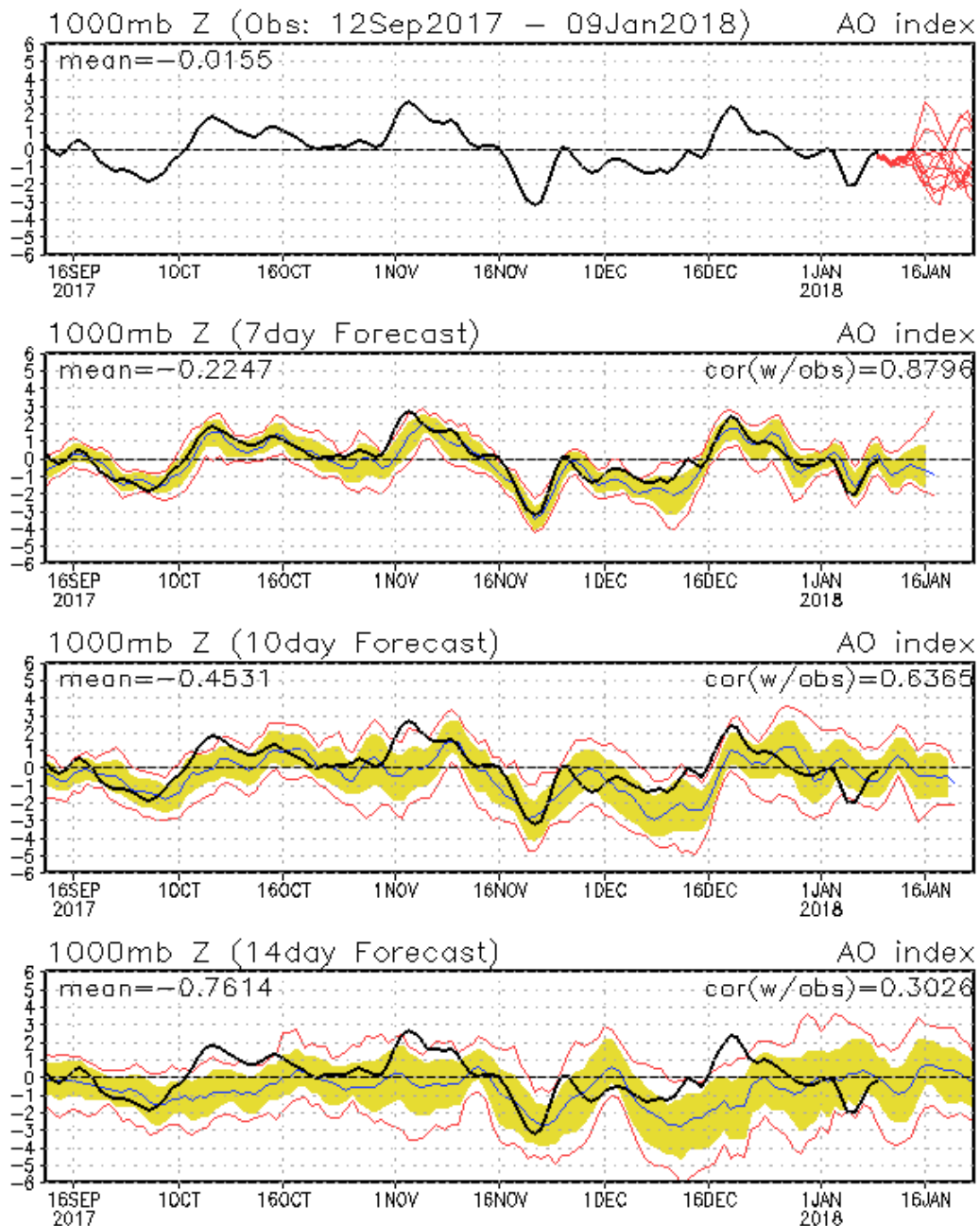
Day 9-12

Day 13-15

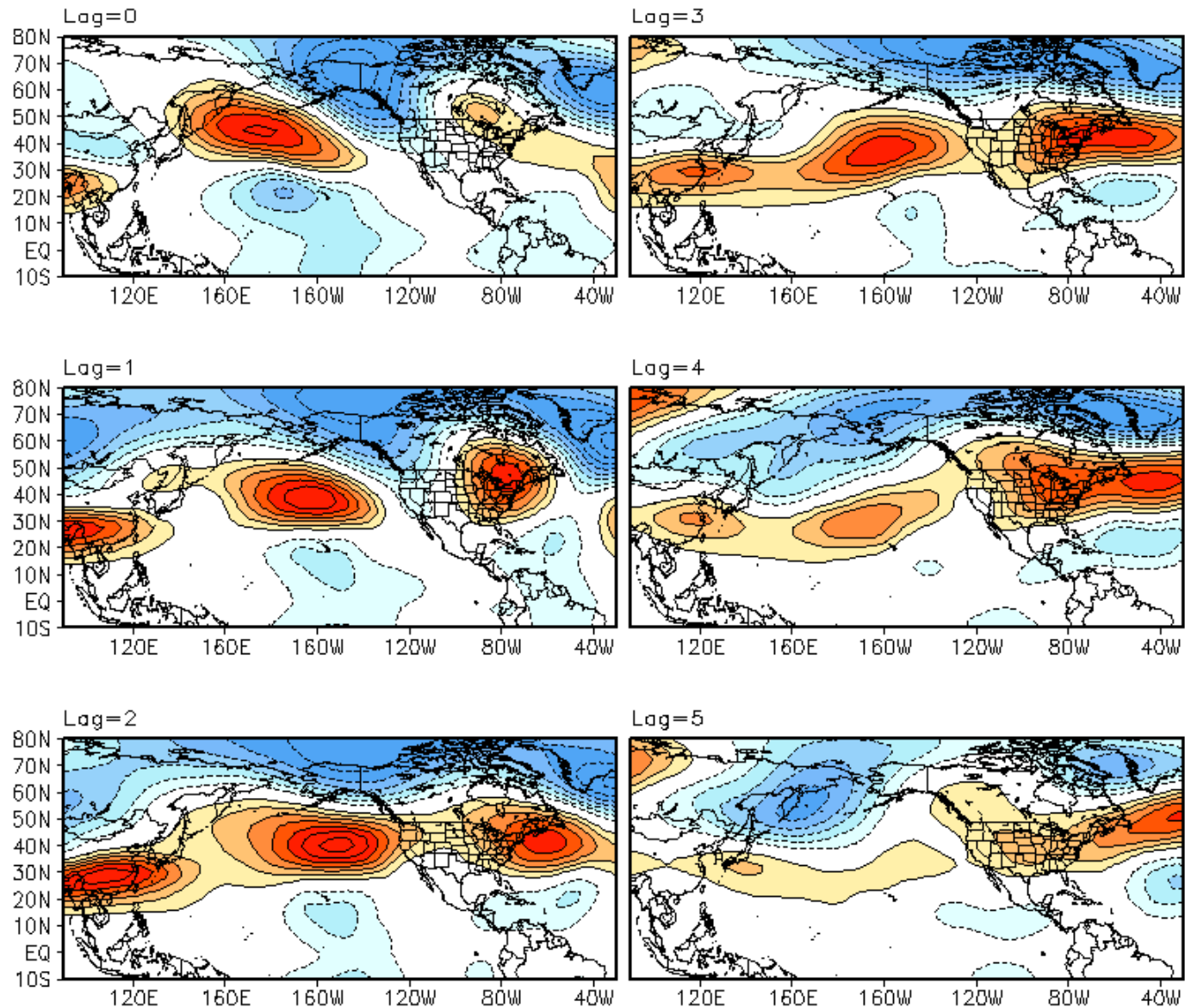


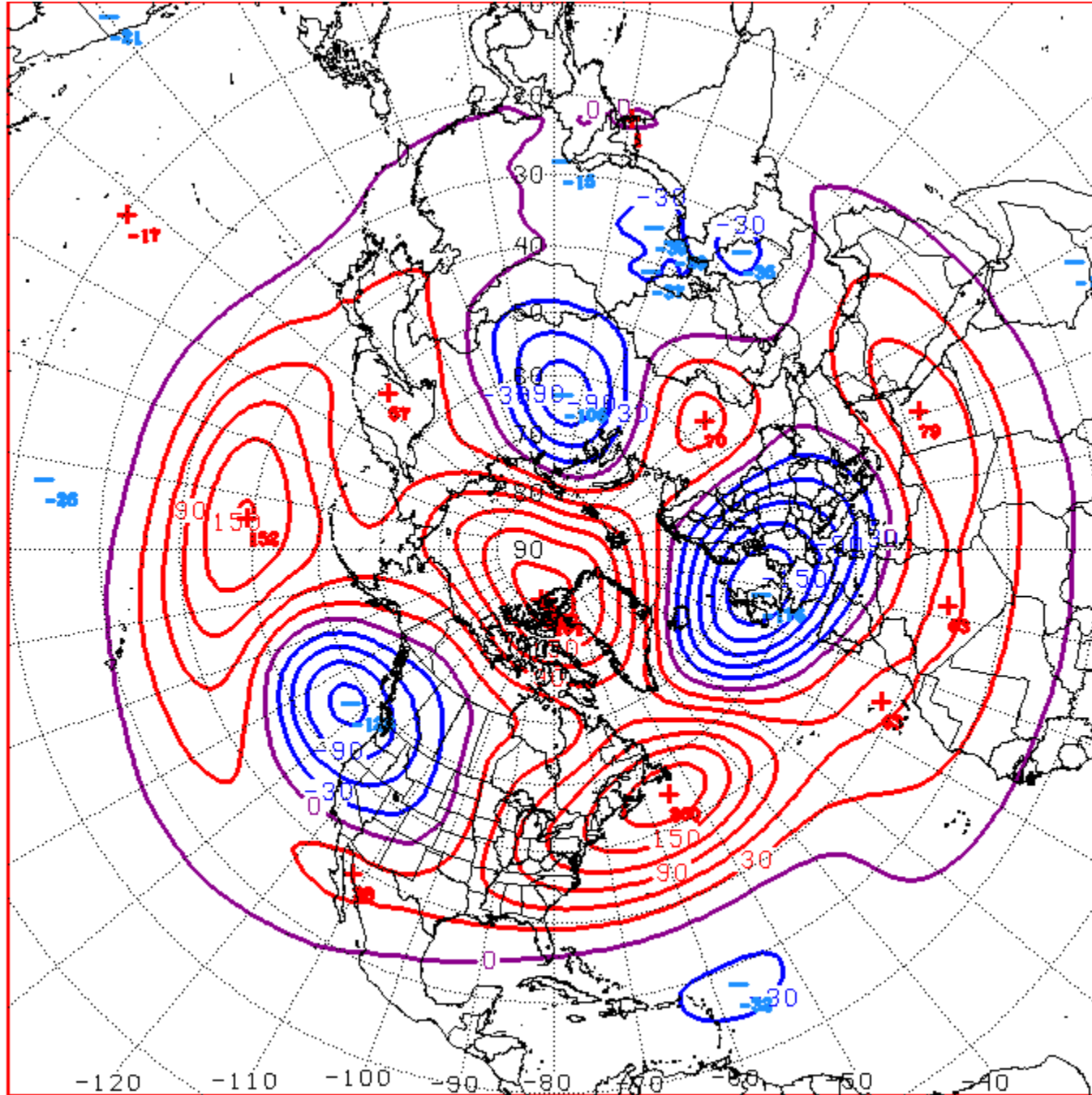
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



RMM Phase 3 200-hPa Height Lagged Composite (djf)





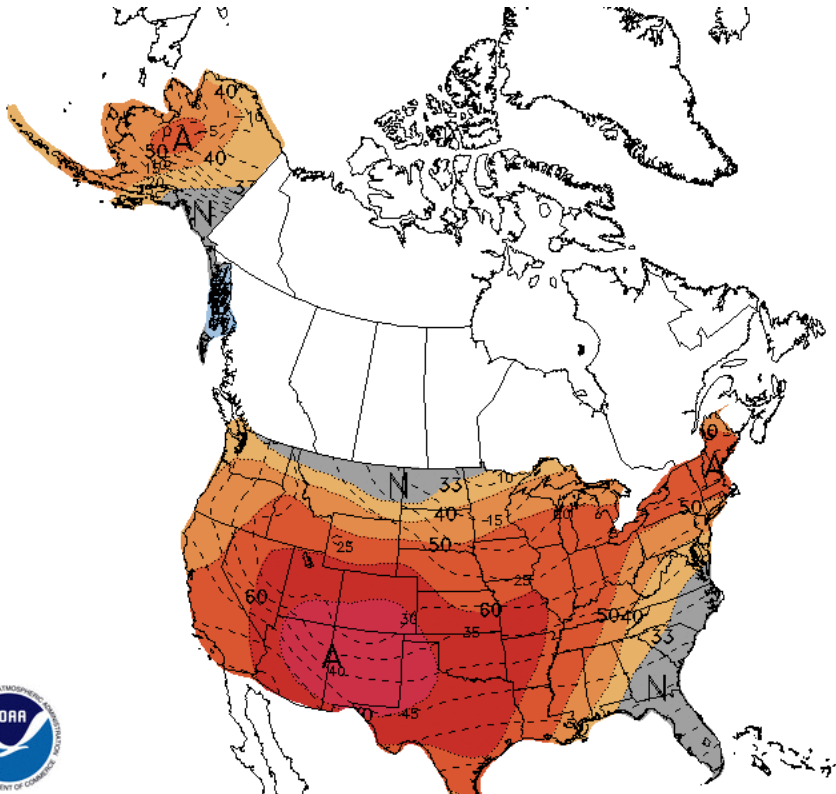
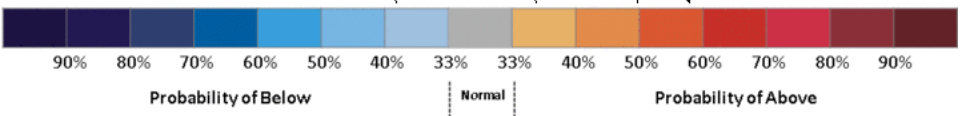
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JAN 09 2018 1308 UTC CNTD JAN 20 2018

Week 2 – Temperature and Precipitation



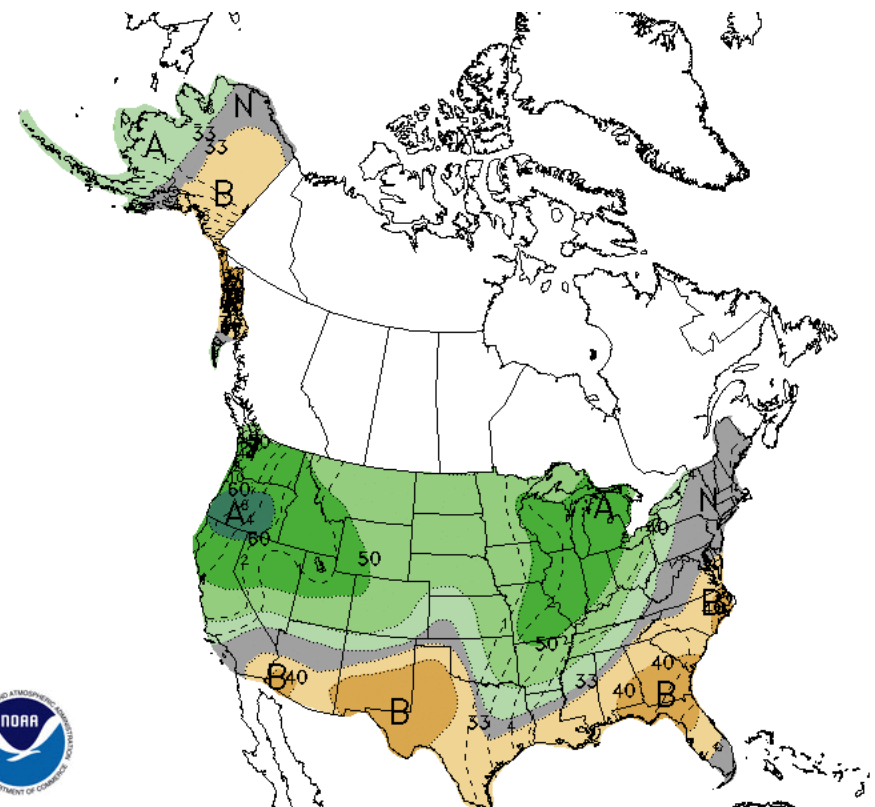
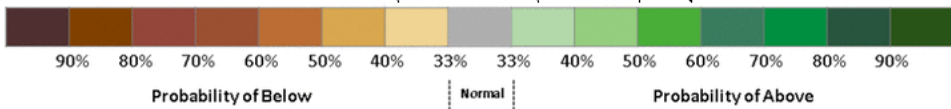
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 8 JAN 2018
VALID JAN 16 - 22, 2018

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 8 JAN 2018
VALID JAN 16 - 22, 2018

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

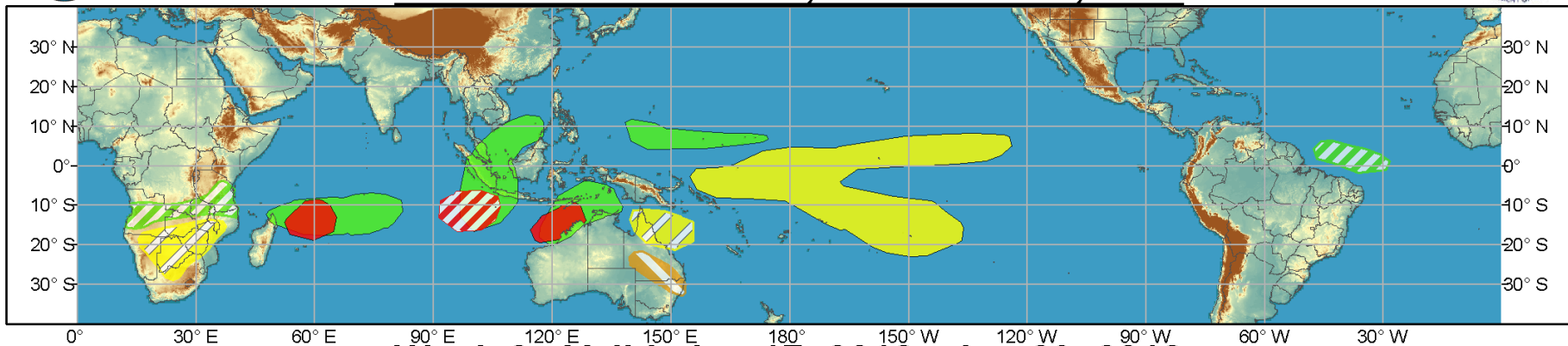




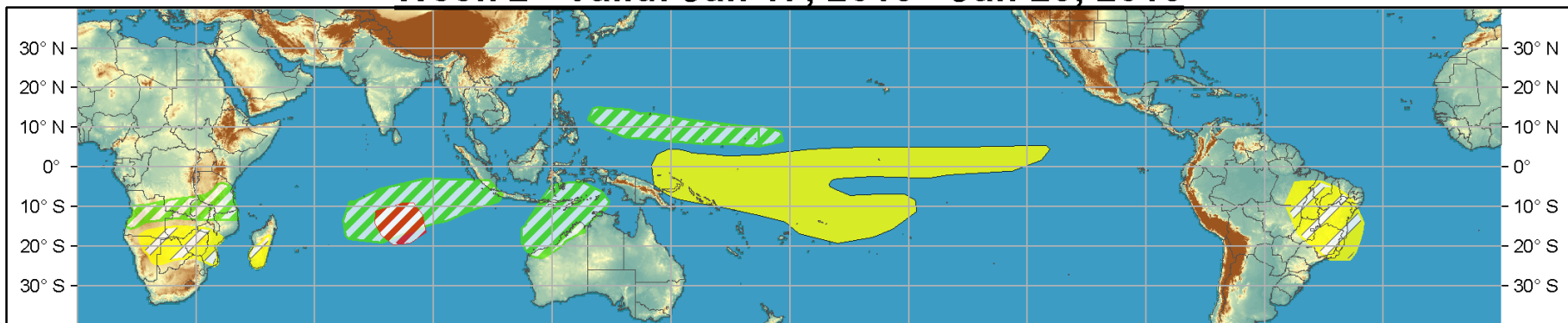
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