

Global Tropics Hazards And Benefits Outlook

12/05/2017

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Outline

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

Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: **La Niña Advisory**
- La Niña conditions are predicted to continue (~65-75% chance) at least through the Northern Hemisphere winter 2017-18

MJO and other subseasonal tropical variability:

- Increase in amplitude on both MJO indices – enhanced phase over Maritime Continent and West Pacific.
- Robust eastward propagation observed recently.
- The GEFS and ECWMF generally favor eastward propagation consistent with canonical MJO activity, however the GEFS indicates interference by a Kelvin wave late in Week-1.
- An active tropical pattern is favored for the Indian Ocean, West Pacific.

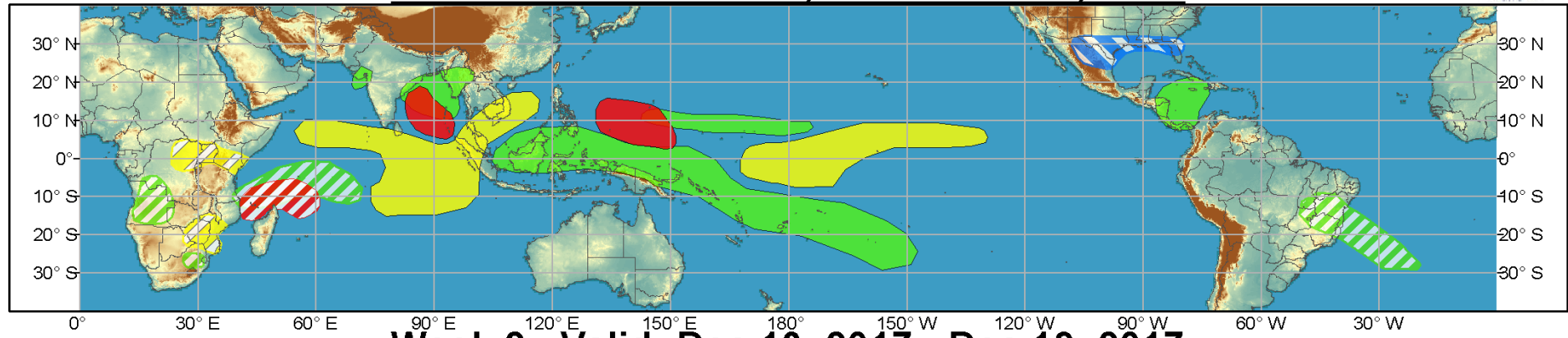
Extratropics:

- Current and forecast MJO forcing consisting of suppressed convection over the Indian Ocean and enhanced convection over the West Pacific is ideal for generating extratropical teleconnections.
- The MJO forcing favors upper-level troughing over east-central North America through the end of the month.

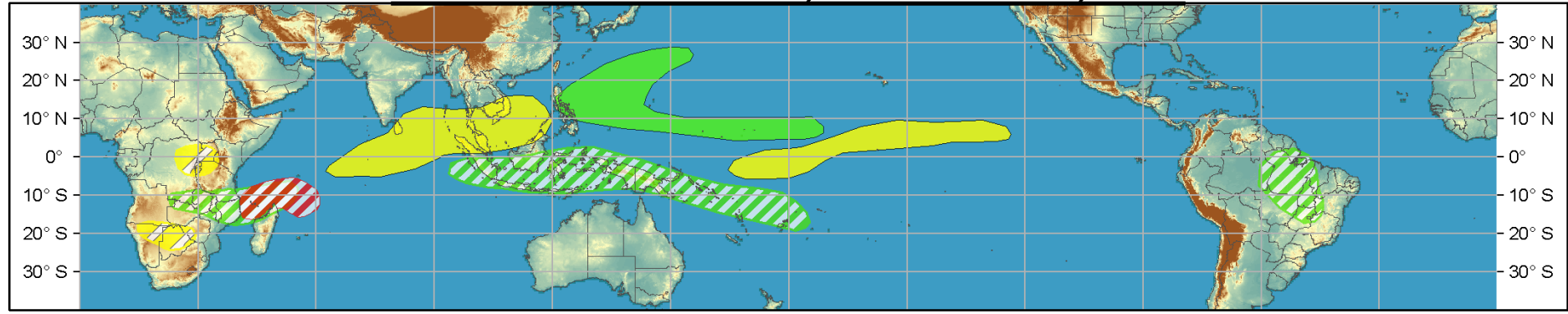


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Dec 06, 2017 - Dec 12, 2017



Week 2 - Valid: Dec 13, 2017 - Dec 19, 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: 12/05/2017

Forecaster: Baxter/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

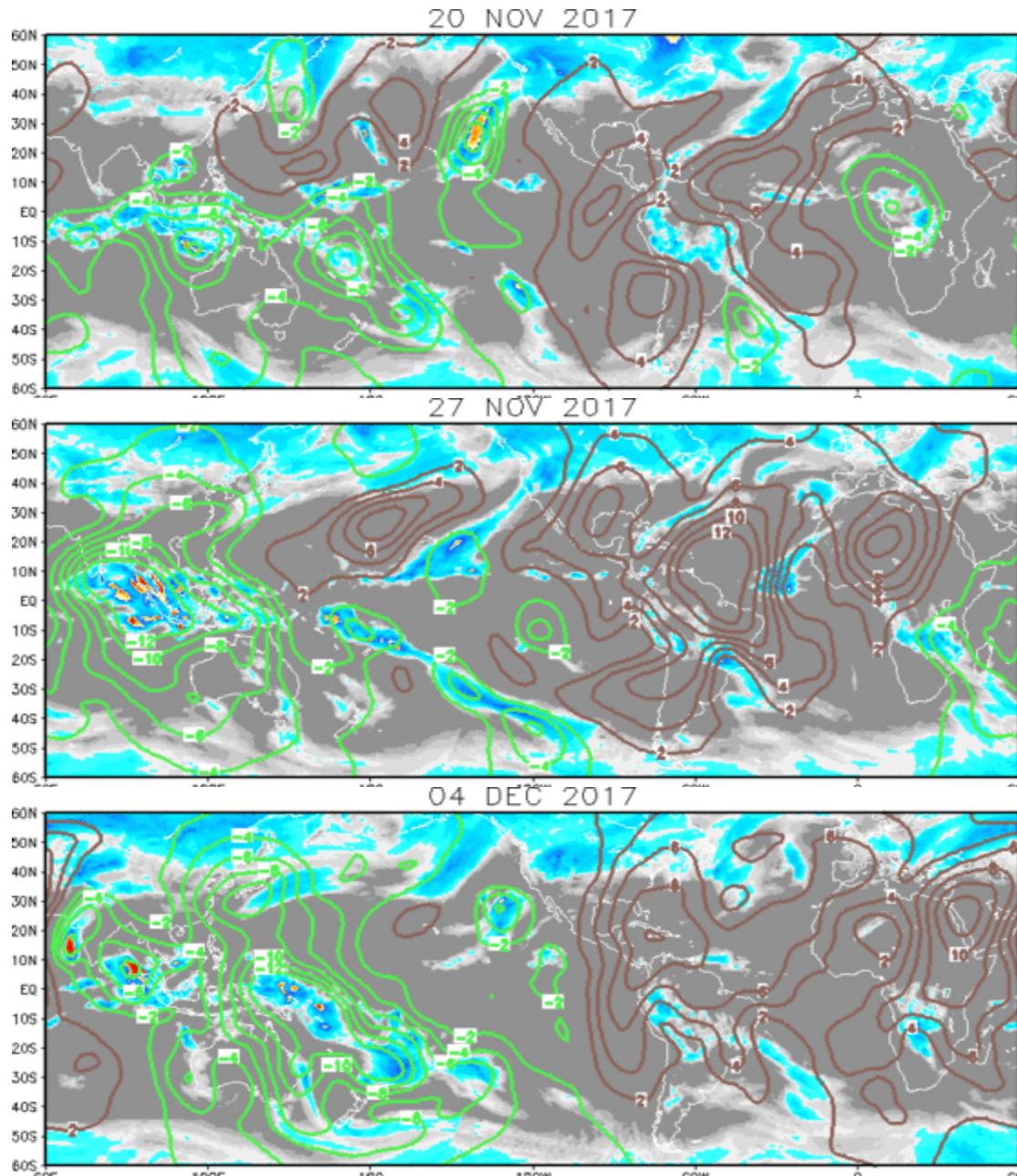
Green: Enhanced Divergence

Brown: Enhanced Convergence

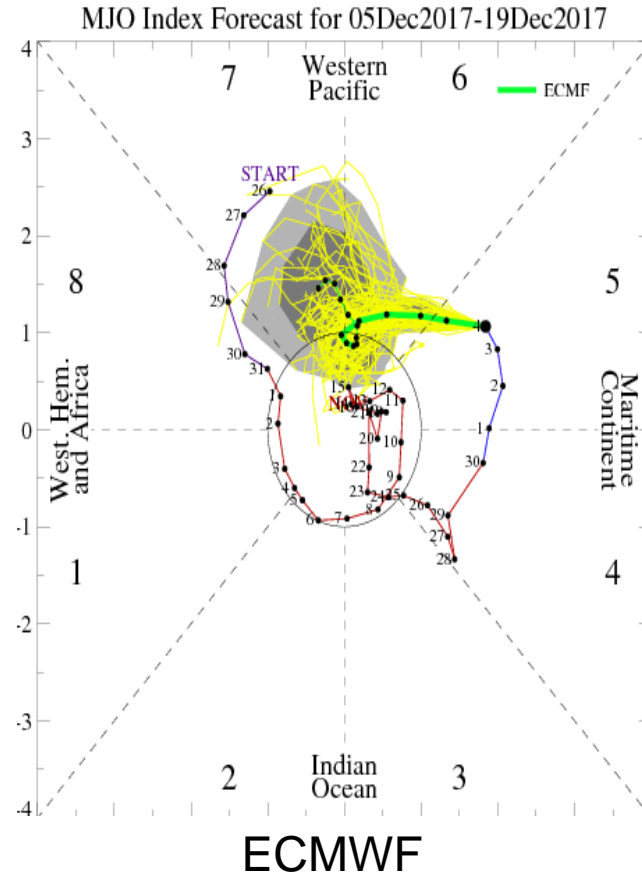
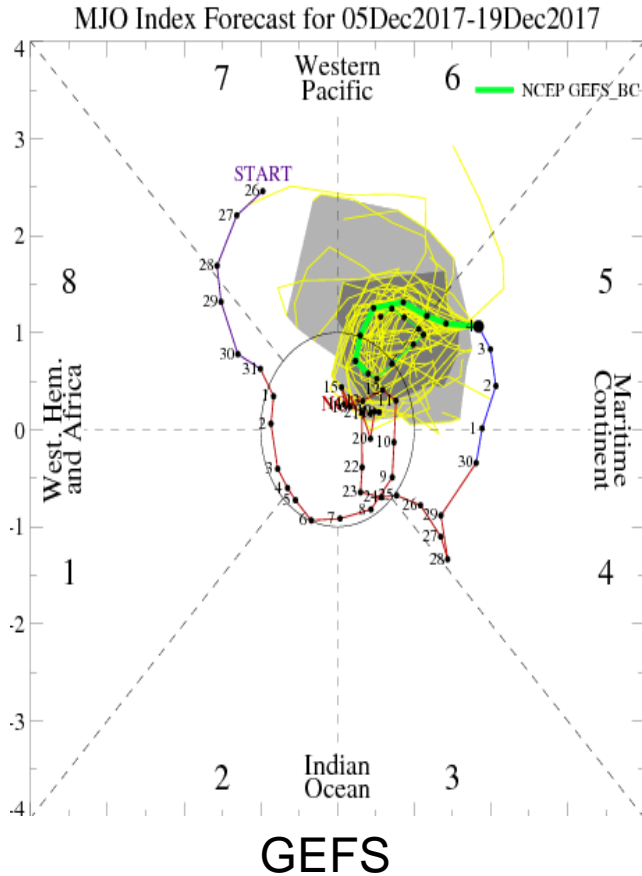
MJO signal largely broken down,
Kelvin wave (over Africa) and
Rossby wave over Indian Ocean
driving pattern.

Strong Wave-1 pattern indicative
of enhanced MJO phase over
the eastern Indian Ocean and
western Maritime Continent.

Some eastward propagation
consistent with ongoing MJO
activity.

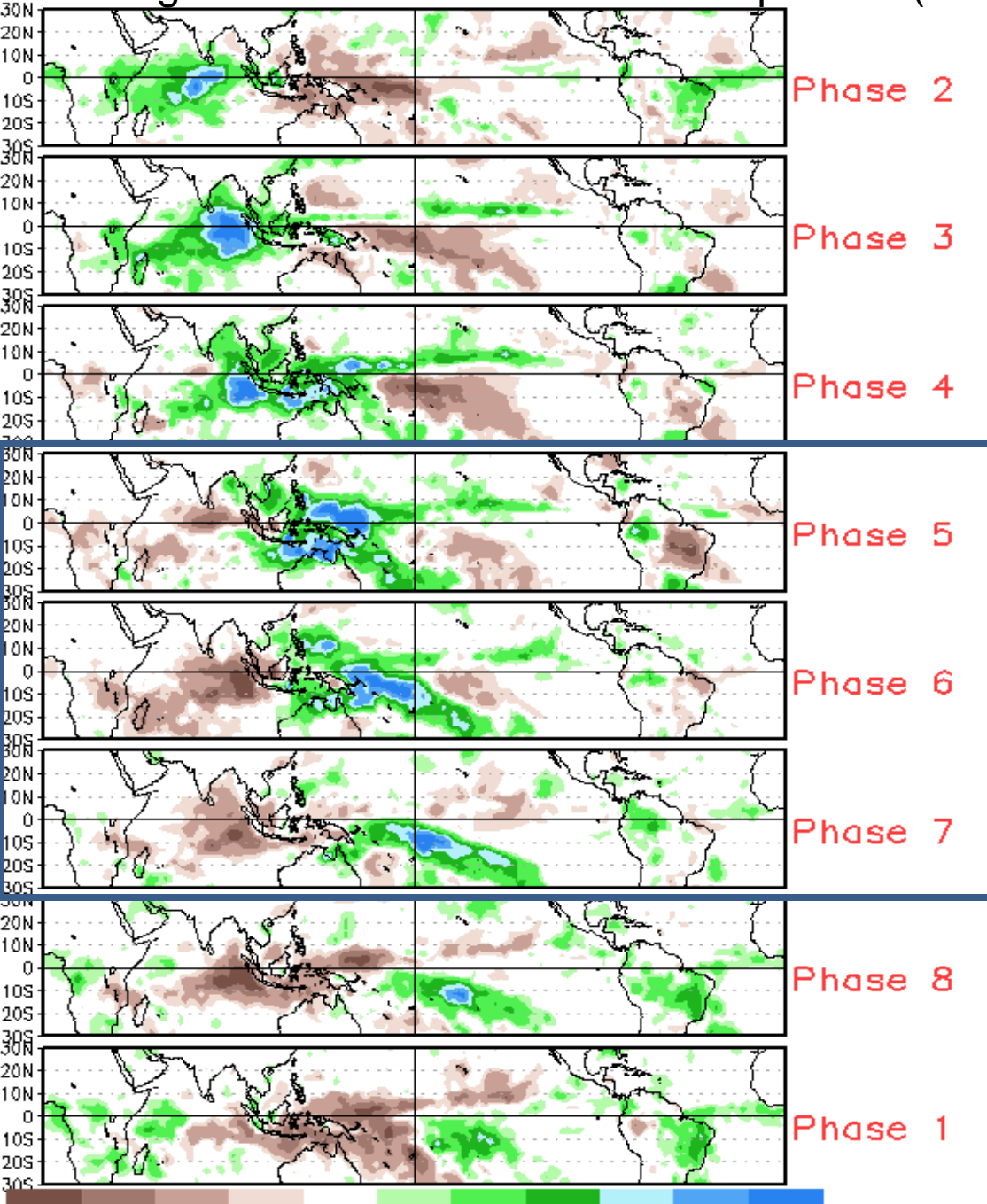


MJO Observation/Forecast



Both the GEFS and ECMWF ensembles show eastward propagation into the West Pacific. Interference with a faster Kelvin wave is likely causing loop in bias-corrected GEFS.

Average Conditions when the MJO is present (Nov-Mar)

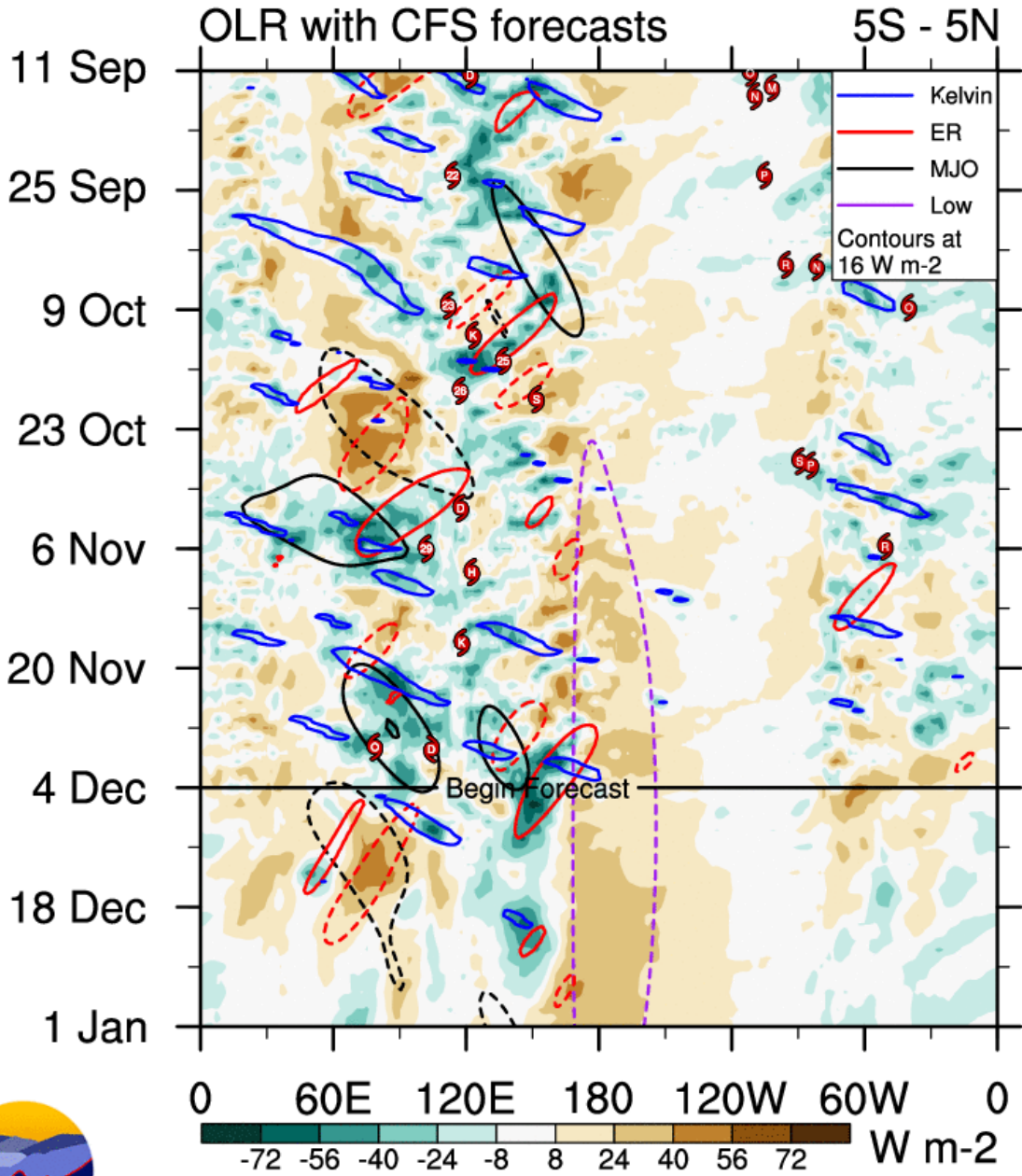


CAVEAT: These panels are representative of robust MJO events.

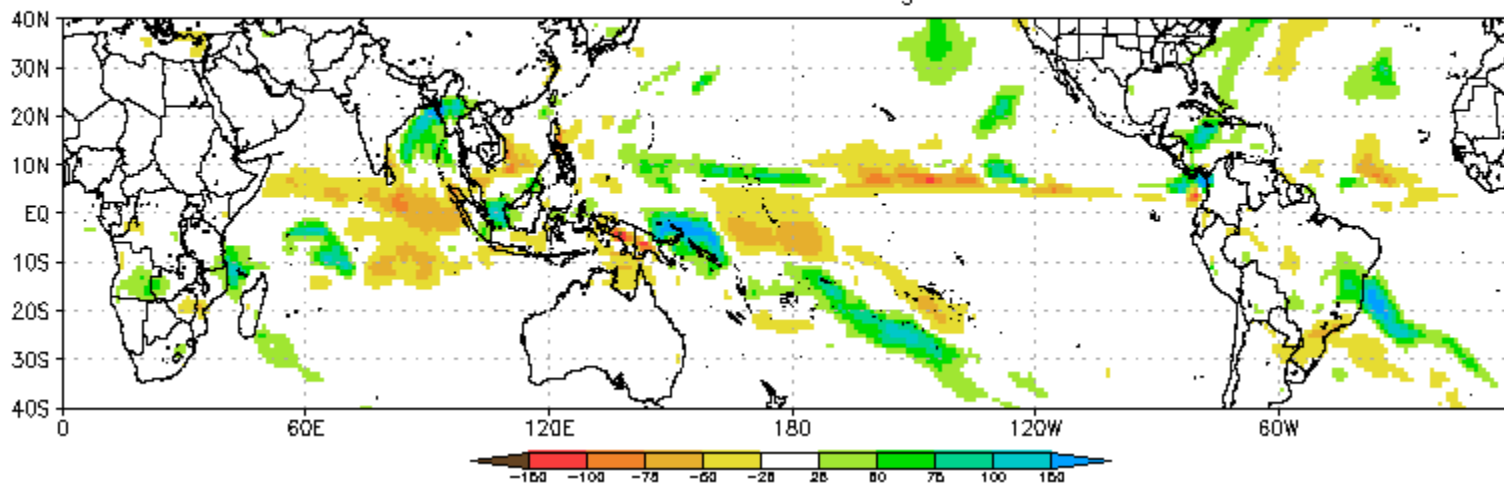
MJO enhanced phase is over the Maritime Continent and West Pacific. The suppressed phase is expected to intensify over the Indian Ocean.

Rossby wave- and forecast TC over West Pac - **Kelvin waves** contributing convective pattern.

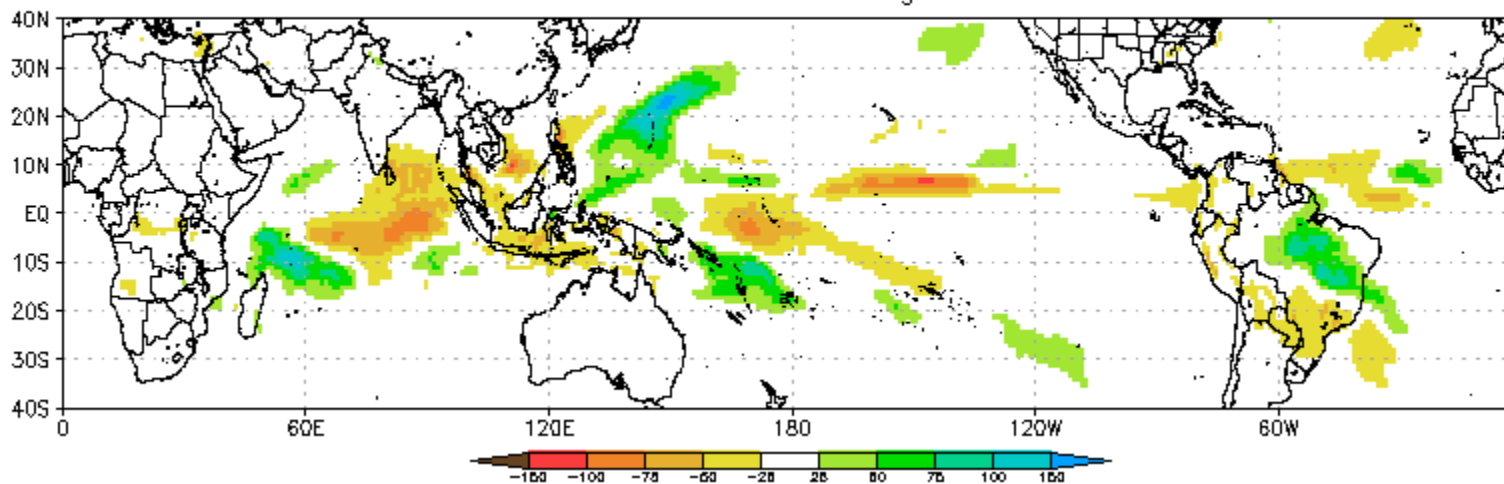
Low-frequency pattern continues.



CFS Precipitation Anomalies (mm) Issued 04Dec2017
Week-1 Forecast Ending 12Dec2017

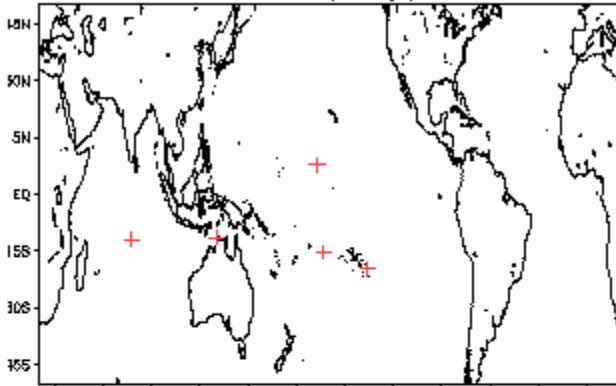


CFS Precipitation Anomalies (mm) Issued 04Dec2017
Week-2 Forecast Ending 19Dec2017

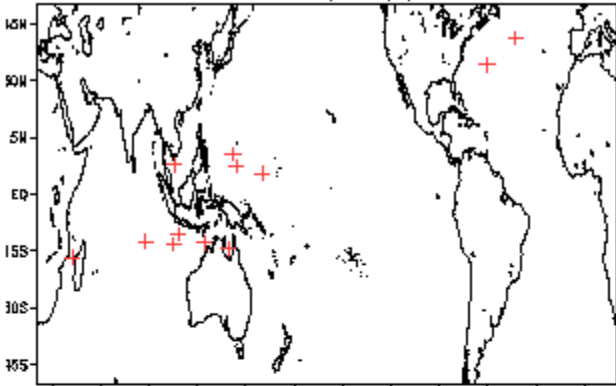


December Tropical Storm Formation by MJO phase

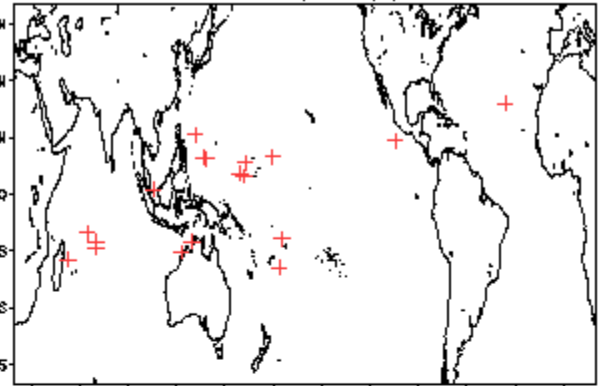
Phase 1 (48 days) 7 storms



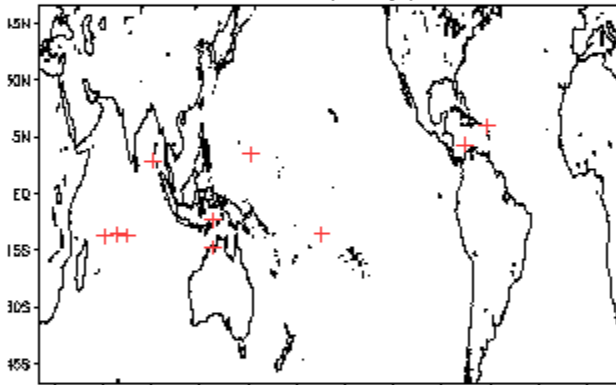
Phase 4 (72 days) 13 storms



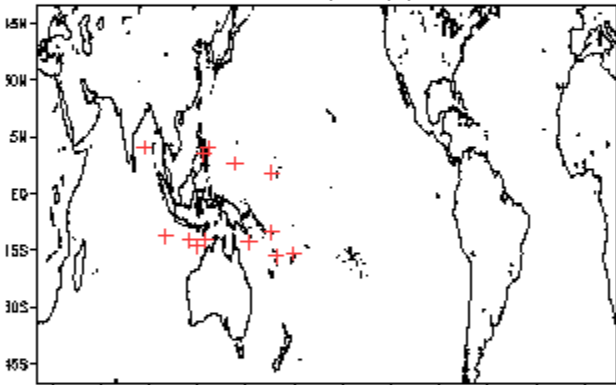
Phase 7 (103 days) 19 storms



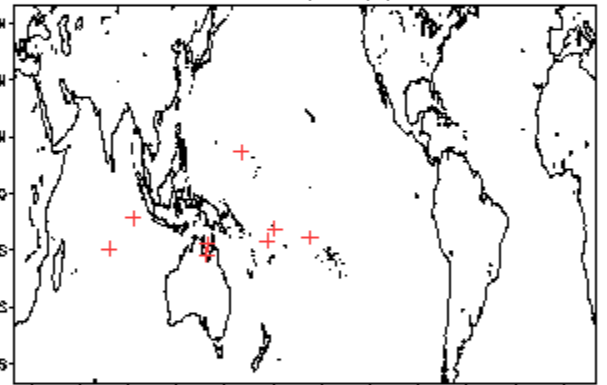
Phase 2 (67 days) 11 storms



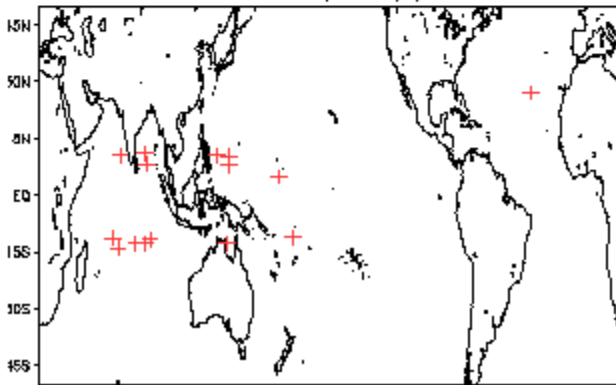
Phase 5 (73 days) 14 storms



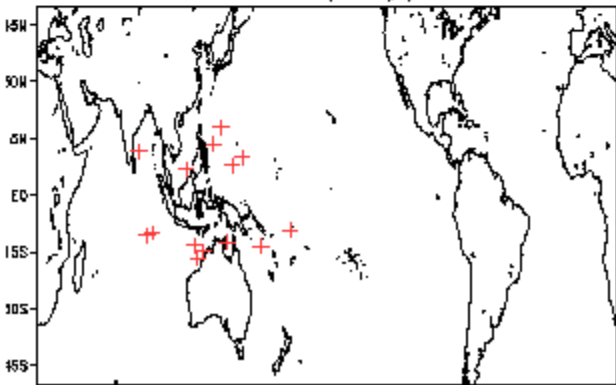
Phase 8 (76 days) 9 storms



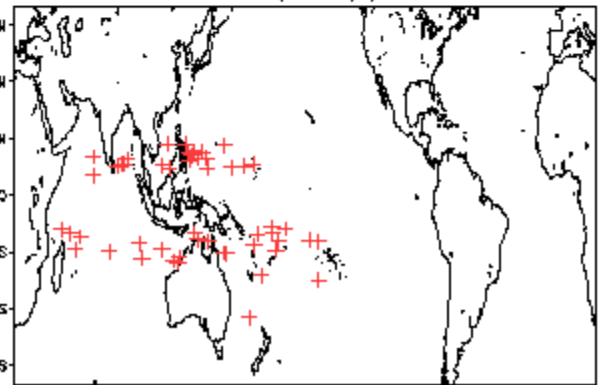
Phase 3 (101 days) 16 storms



Phase 6 (69 days) 15 storms



Null (416 days) 52 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



No new tropical cyclones are expected during the next five days.

7:00 pm EST
Thu Nov 30 2017

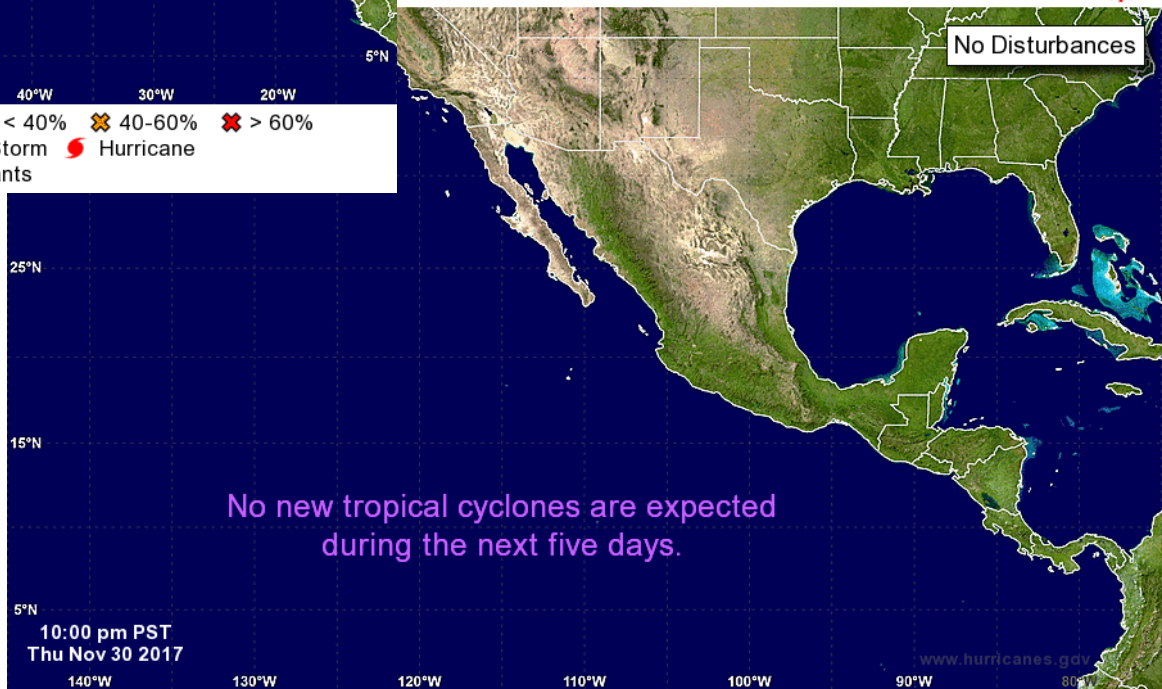
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



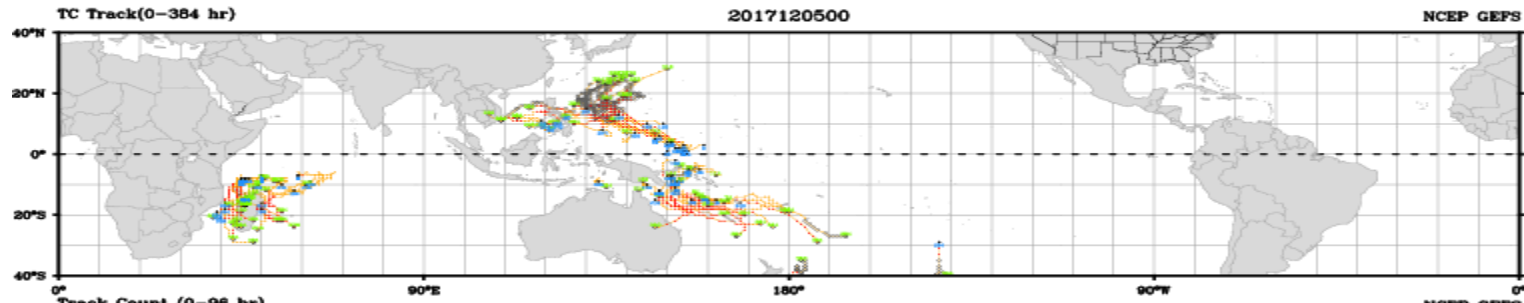
No new tropical cyclones are expected during the next five days.

10:00 pm PST
Thu Nov 30 2017

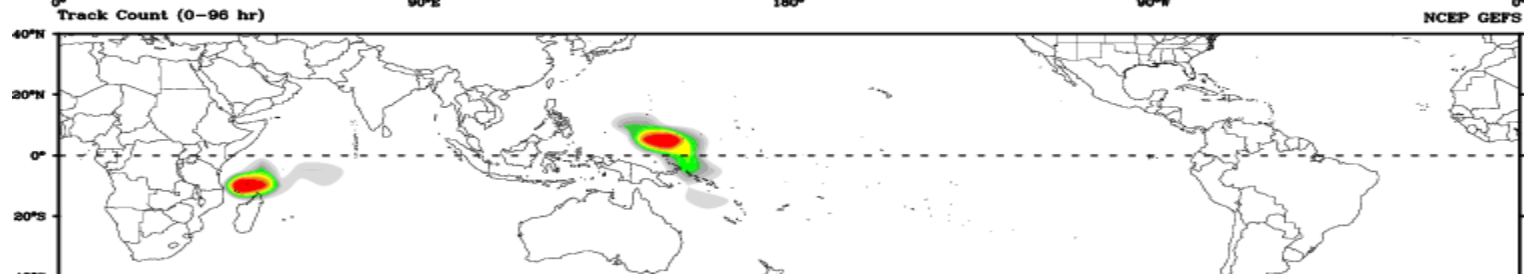
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Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

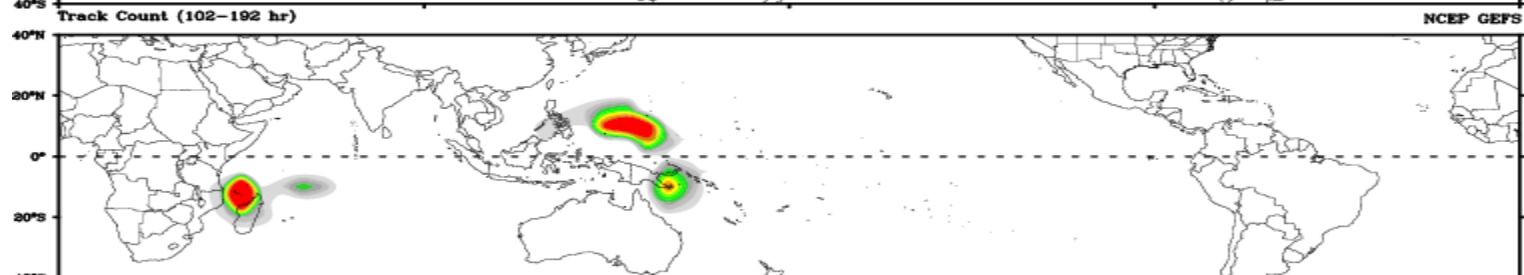
Post-Tropical Cyclone Remnants



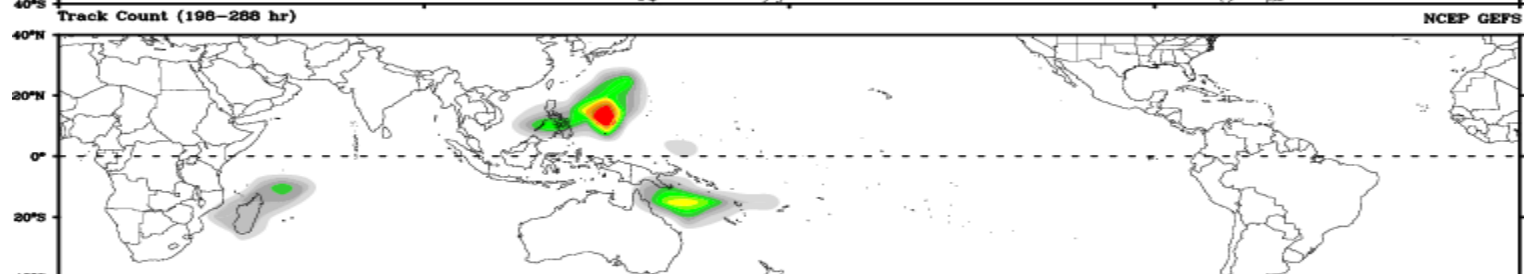
Days 1-4



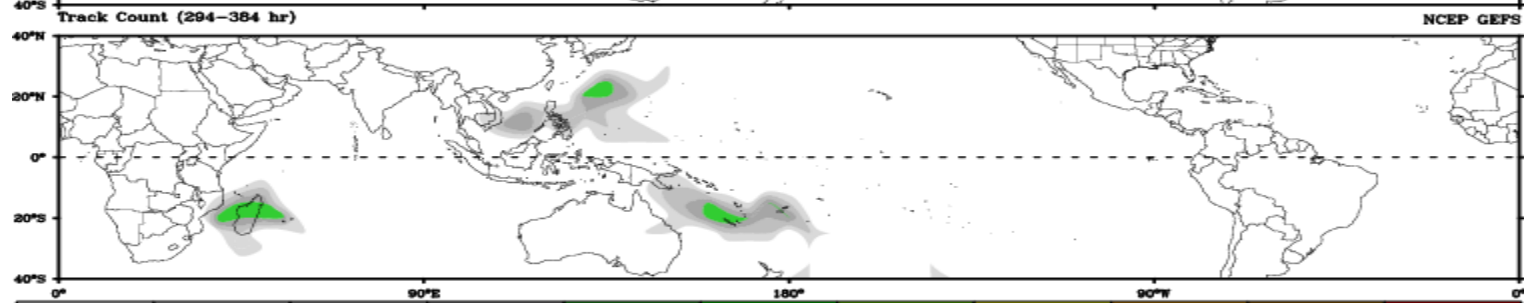
Day 5-8



Day 9-12

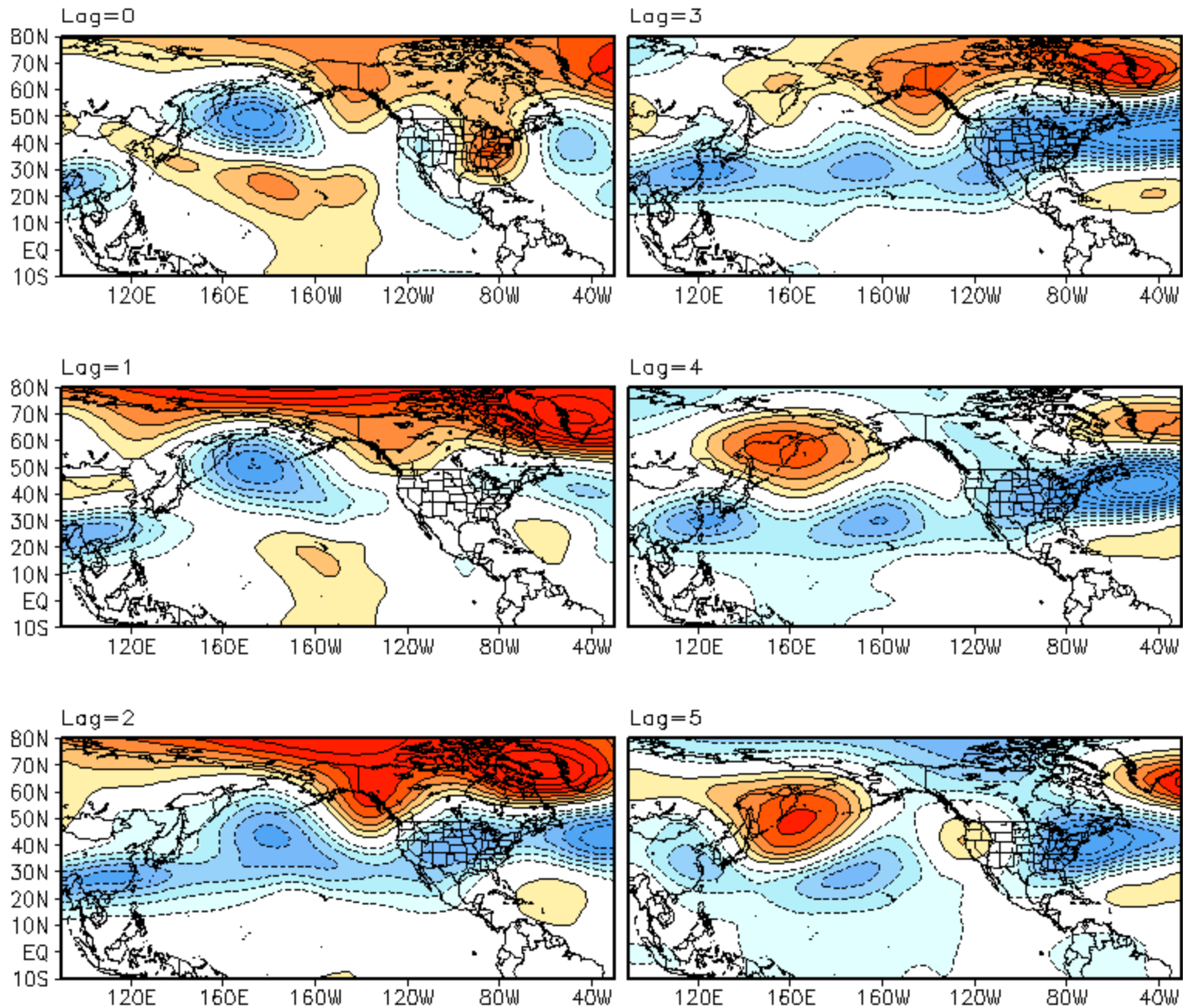


Day 13-15

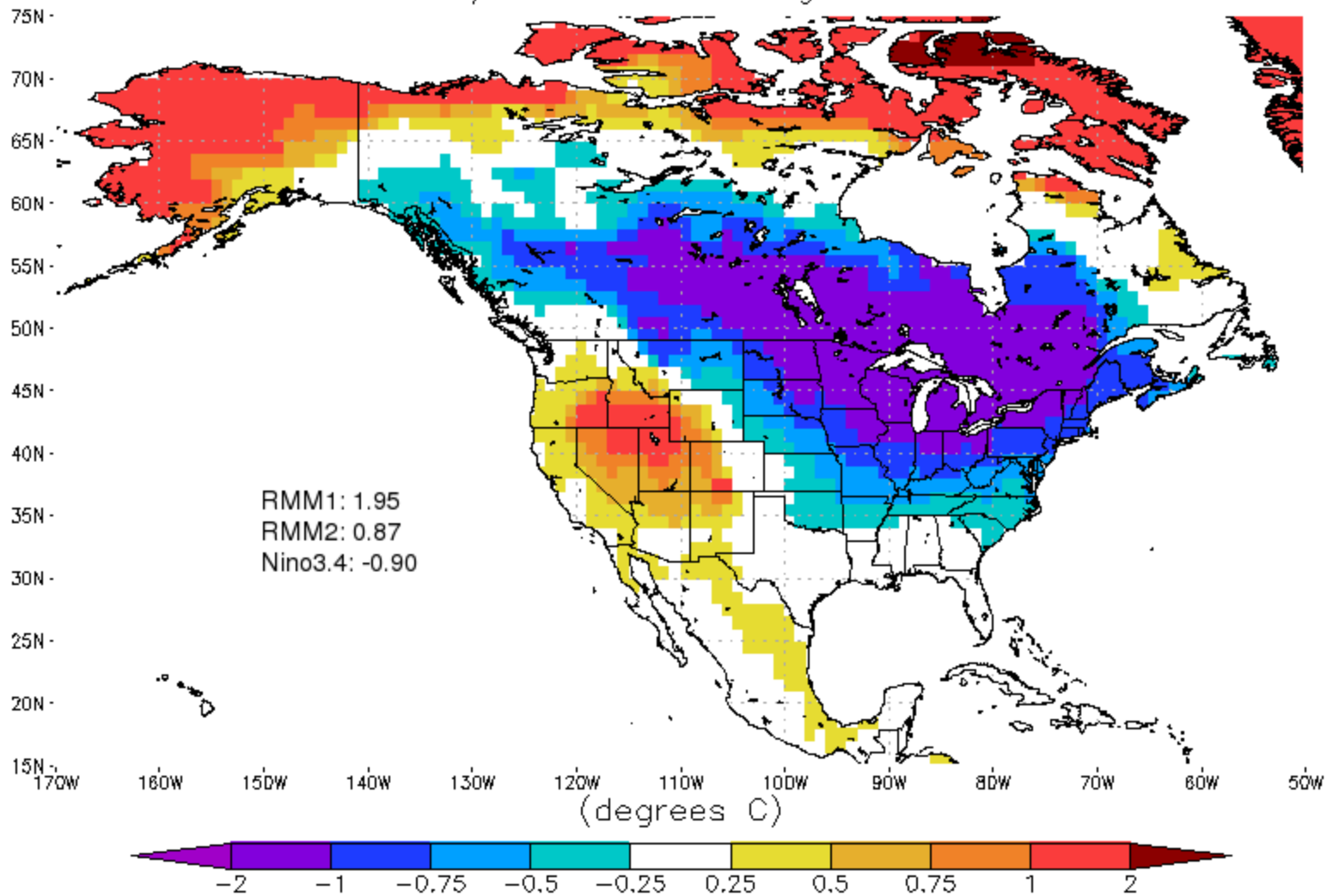


Connections to U.S. Impacts

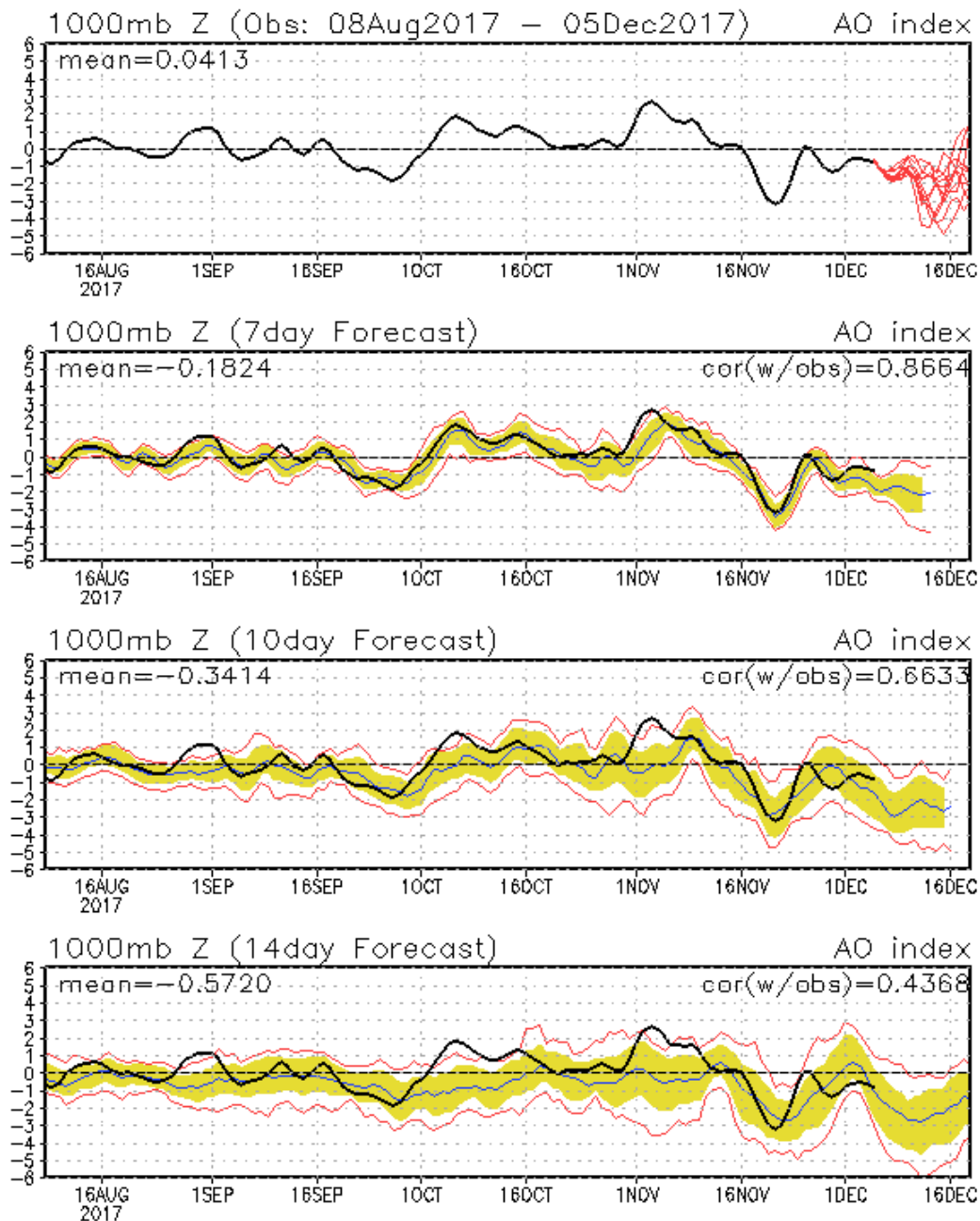
RMM Phase 7 200-hPa Height Lagged Composite (djf)



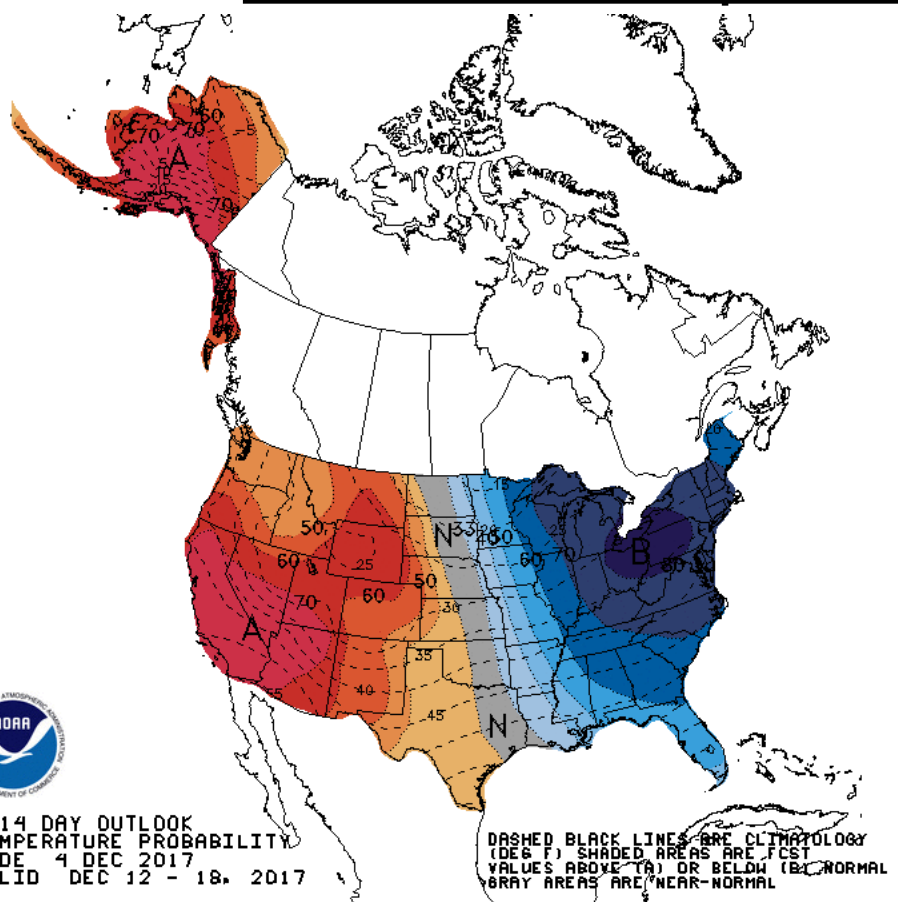
MLR-MJO Temperature Anomalies Issued 05Dec2017
Week-3/4 Forecast Ending 02Jan2018



AO: Observed & ENSM forecasts

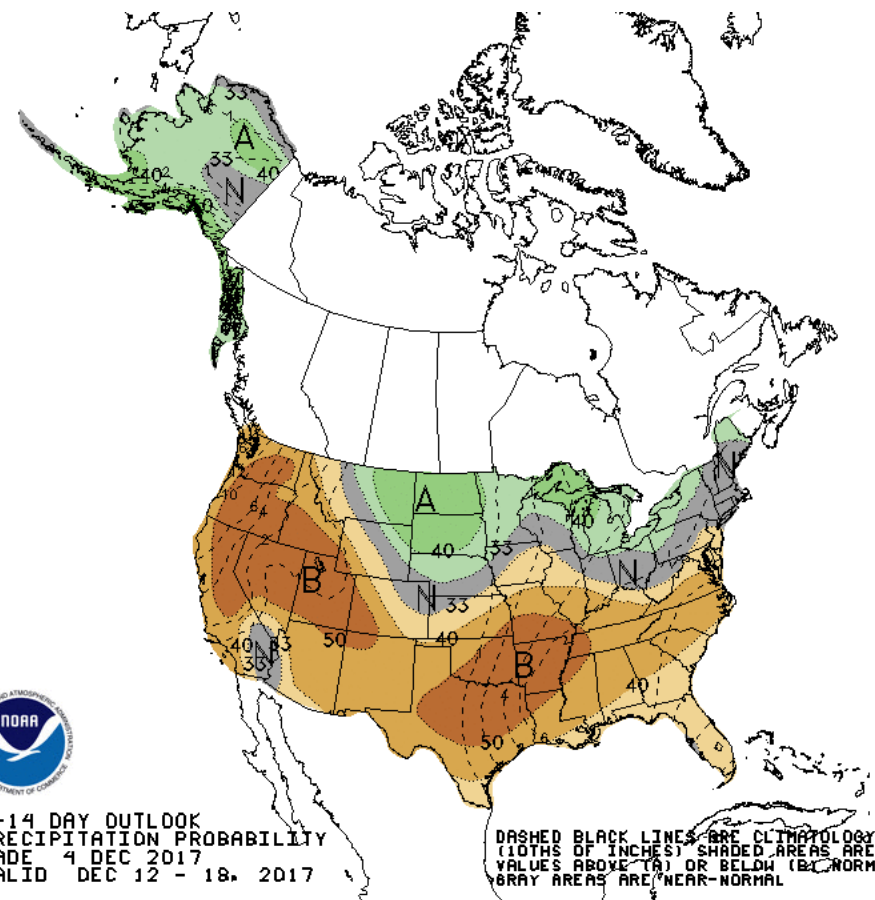
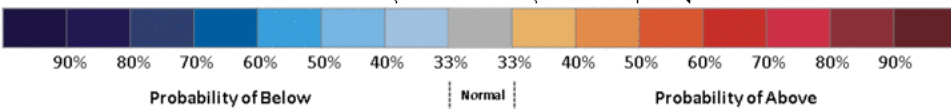


Week 2 – Temperature and Precipitation



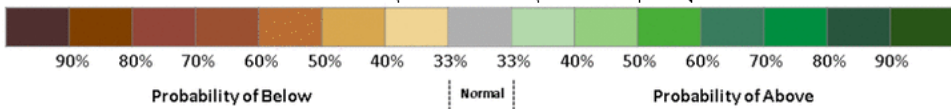
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 4 DEC 2017
VALID DEC 12 - 18, 2017

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 4 DEC 2017
VALID DEC 12 - 18, 2017

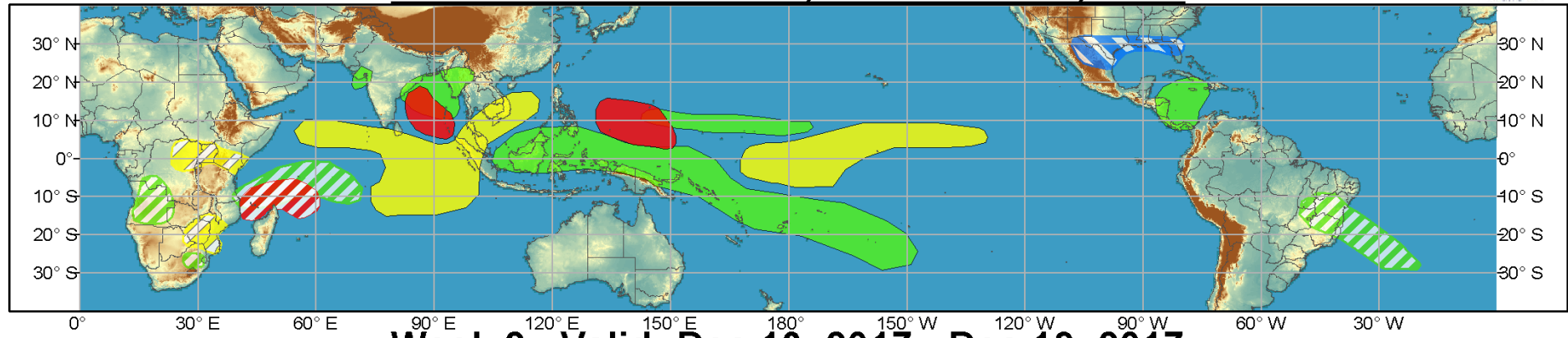
DASHED BLACK LINES ARE CLIMATOLOGY (TENTHS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



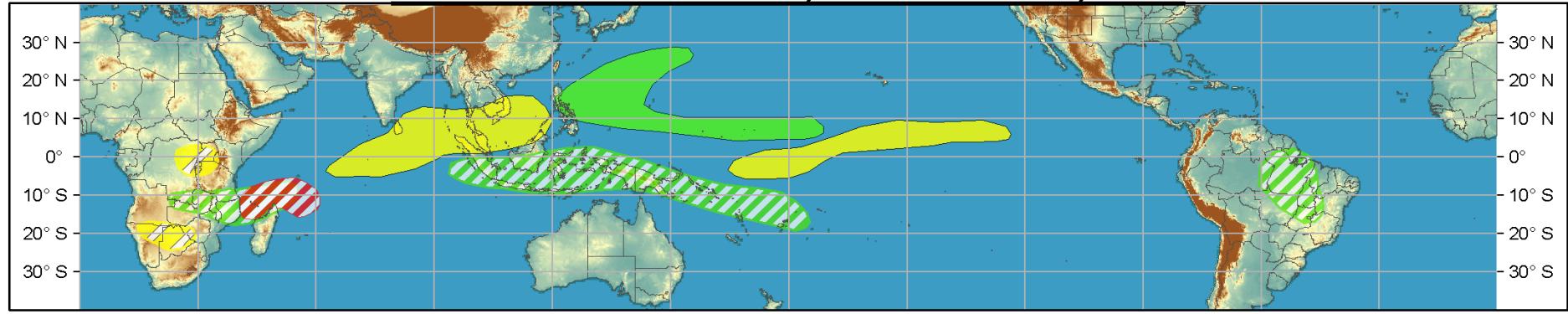


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