

Global Tropics Hazards And Benefits Outlook

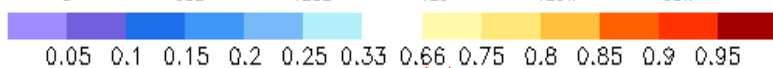
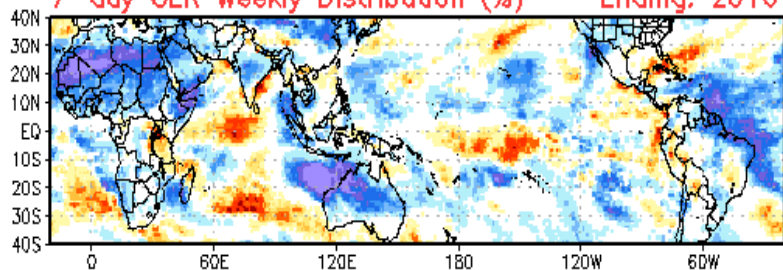
12/27/2016

Brad Pugh

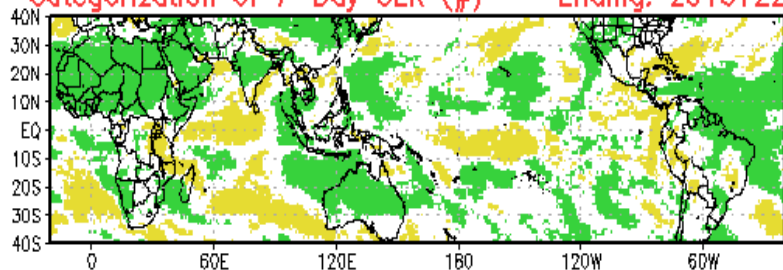
Outline

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

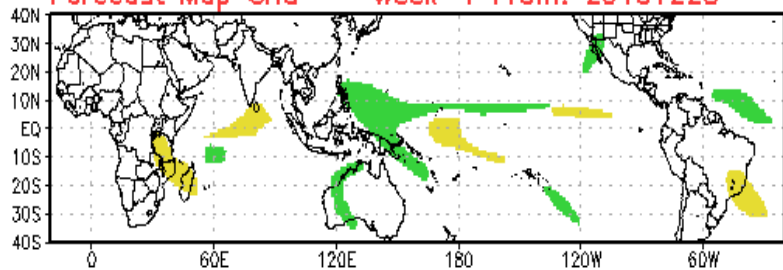
7-day OLR Weekly Distribution (%) -- Ending: 20161227



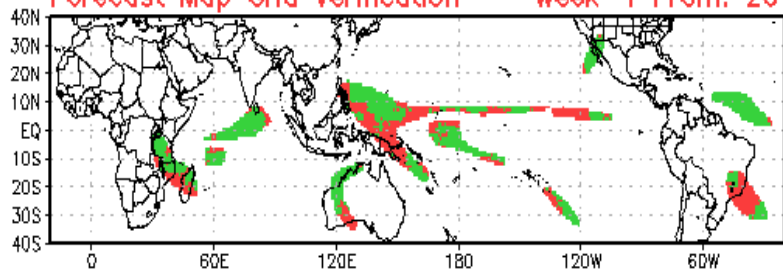
Categorization of 7-Day OLR (#) -- Ending: 20161227



Forecast Map Grid -- Week-1 From: 20161220

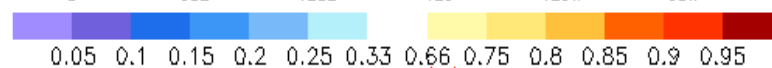
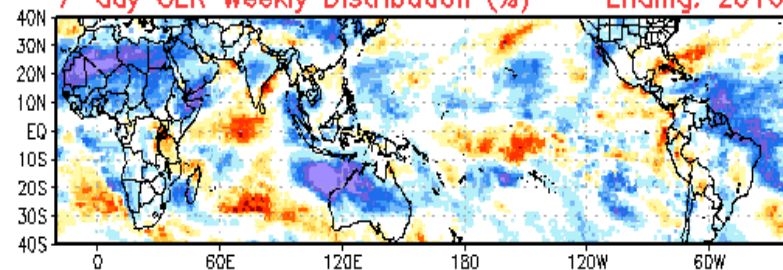


Forecast Map Grid Verification -- Week-1 From: 20161220

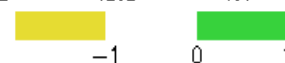
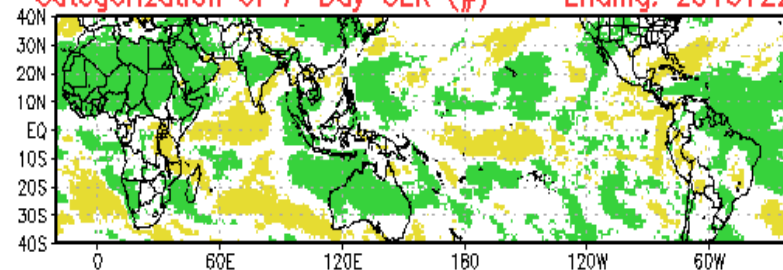


Hit: Green, Miss: Red
Heidke Skill Score: 41.1367

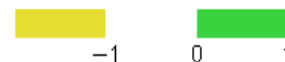
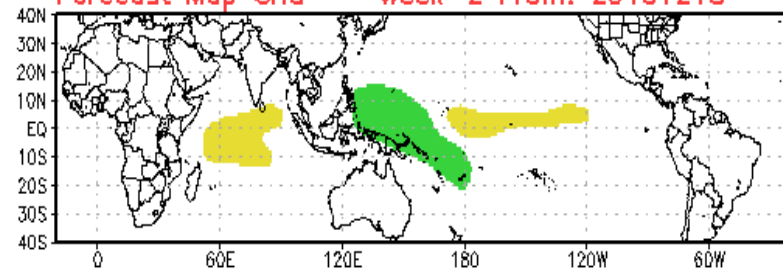
7-day OLR Weekly Distribution (%) -- Ending: 20161227



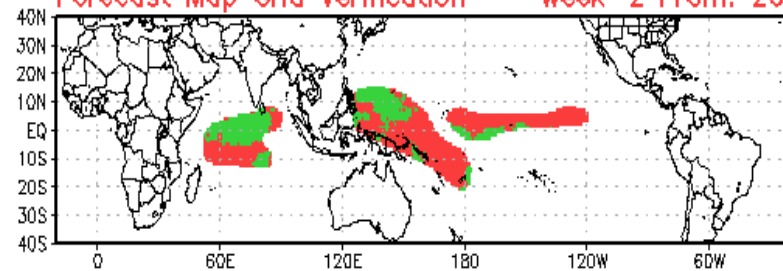
Categorization of 7-Day OLR (#) -- Ending: 20161227



Forecast Map Grid -- Week-2 From: 20161213



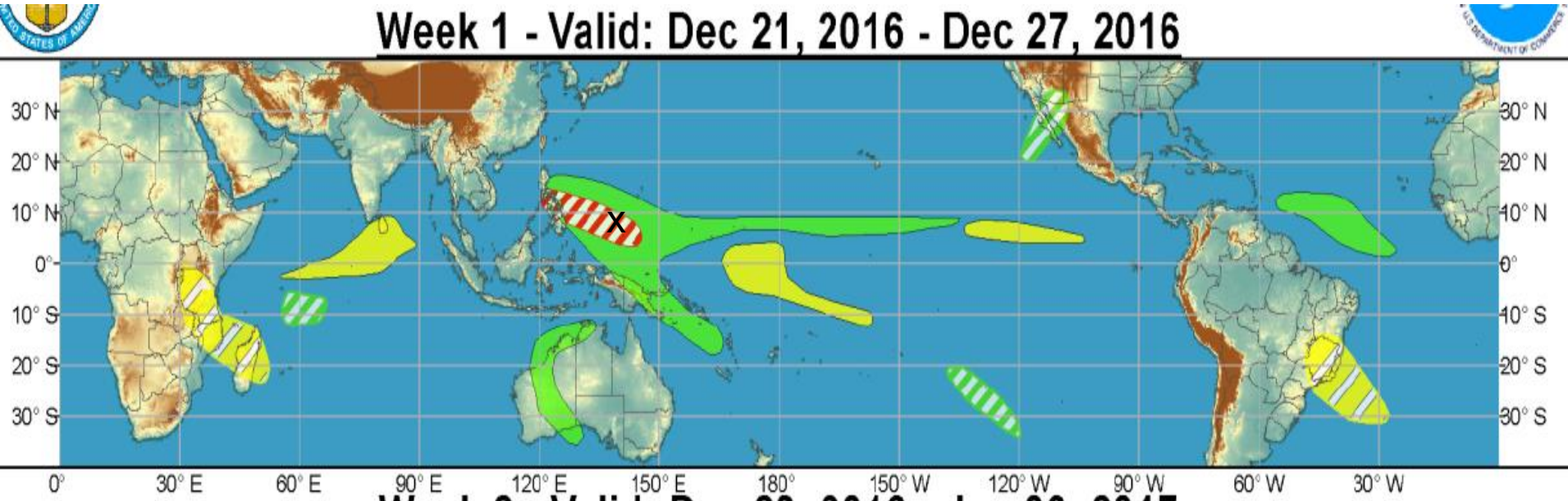
Forecast Map Grid Verification -- Week-2 From: 20161213



Hit: Green, Miss: Red
Heidke Skill Score: 0.7154

Tropical Cyclone Outlook

Week 1 - Valid: Dec 21, 2016 - Dec 27, 2016



Typhoon Nock-ten

- Maximum sustained winds of 135 knots
- Strongest tropical cyclone to make landfall in the Philippines this year

Tropical Cyclone Yvette

- Developed on Dec 19
- Enhanced moisture contributed to heavy rainfall (more than 200 mm) along Kimberley coast of Western Australia

Synopsis of Climate Modes

ENSO:

- [La Niña Advisory](#)

La Niña conditions are present, with a transition to ENSO-neutral favored during January-March, 2017.

MJO and other subseasonal tropical variability:

- MJO remains weak according to most diagnostic tools.
- Dynamical models maintain a weak MJO signal during the next two weeks.
- La Niña conditions continue to play a role in anomalous tropical convection.

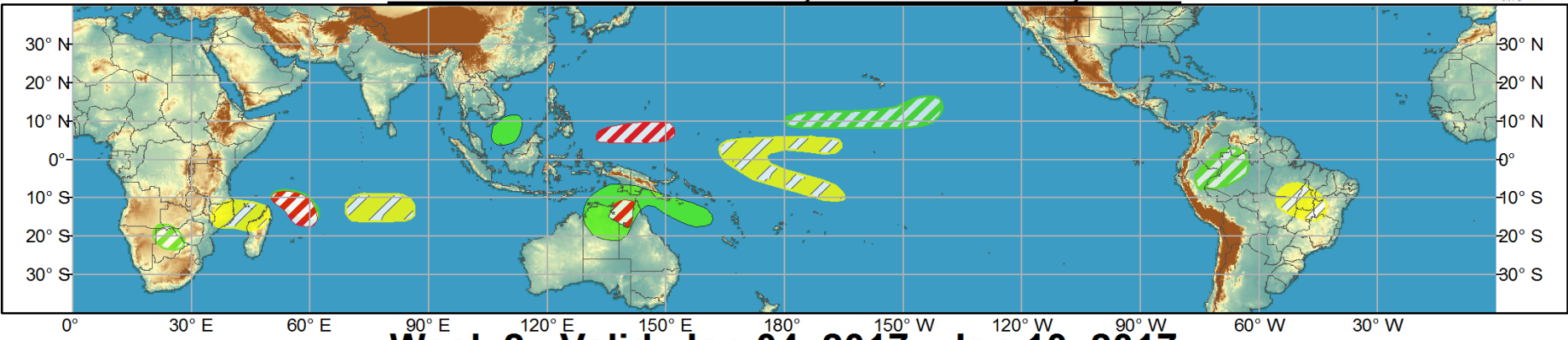
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO, but more likely to be affected by a blocking ridge at the higher latitudes of North America.

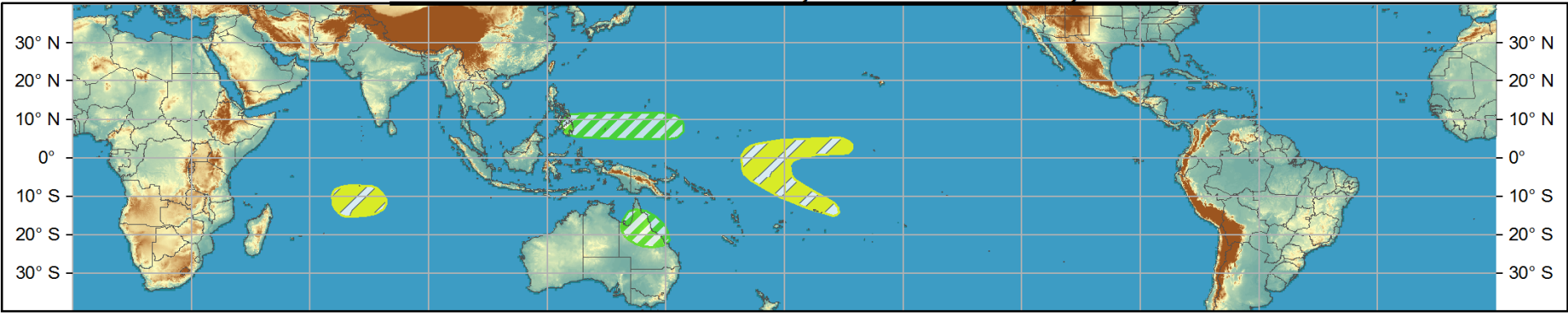


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Dec 28, 2016 - Jan 03, 2017



Week 2 - Valid: Jan 04, 2017 - Jan 10, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 12/27/2016
Forecaster: Pugh

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.

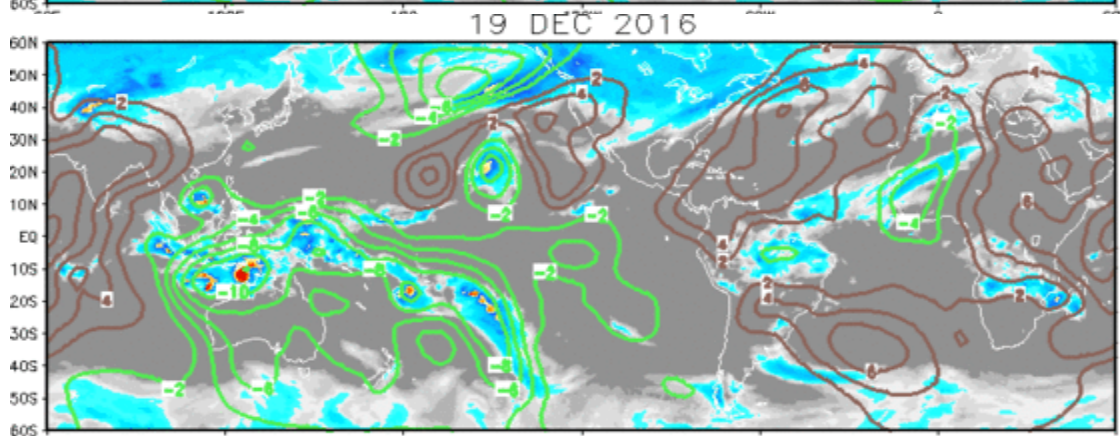
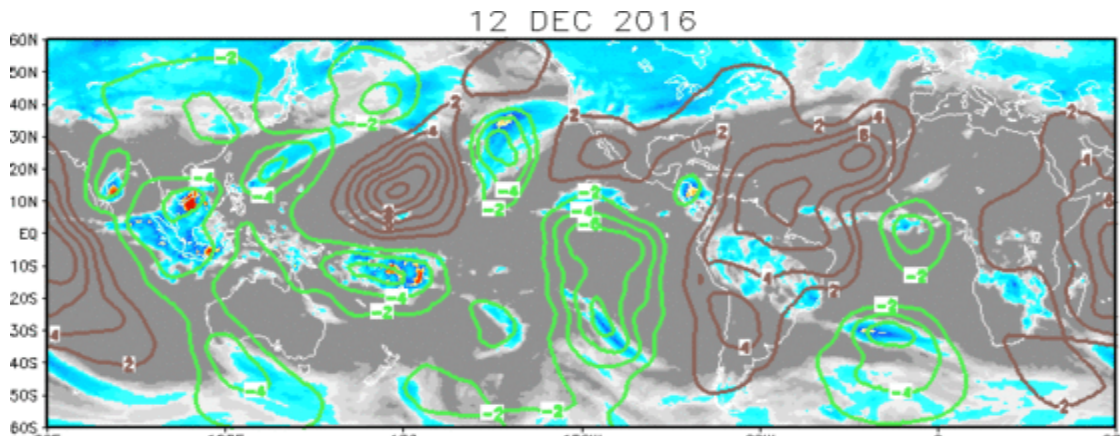


IR Satellite & 200-hpa Velocity Potential Anomalies

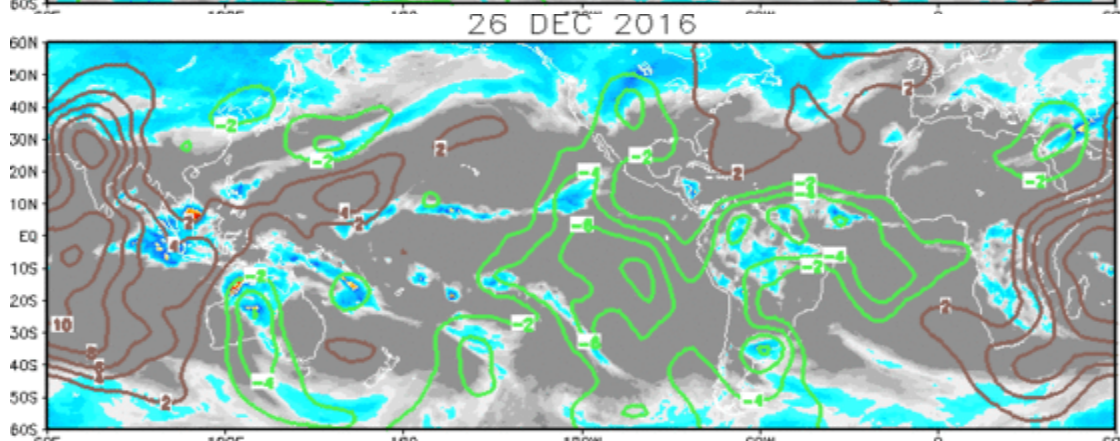
Green: Enhanced Divergence

Brown: Enhanced Convergence

Ill-defined pattern

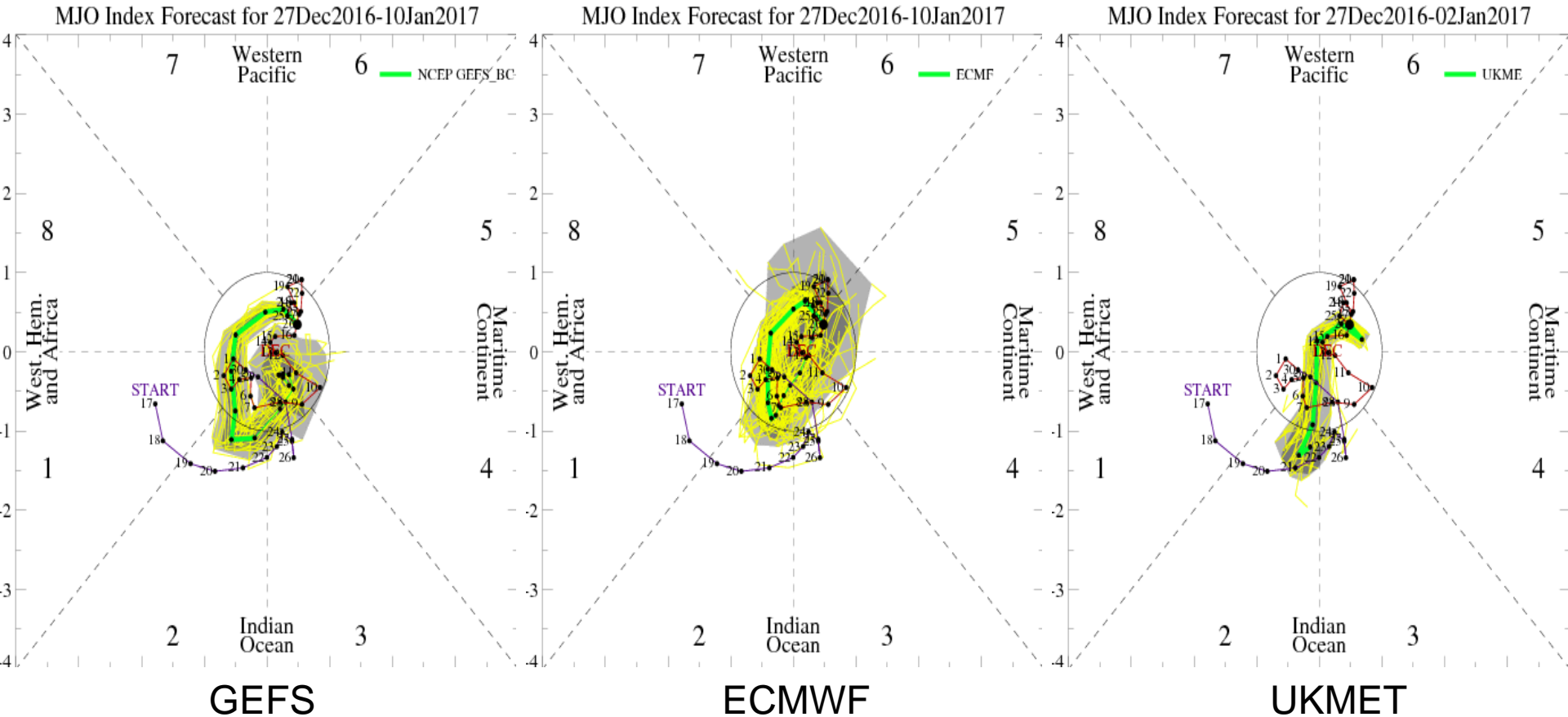


More coherent pattern of upper-level divergence (convergence) across the Maritime Continent and Pacific (Americas to Indian Ocean).



Other modes and remnant tropical cyclones interfering with the pattern.

MJO Observation/Forecast

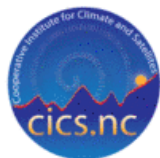
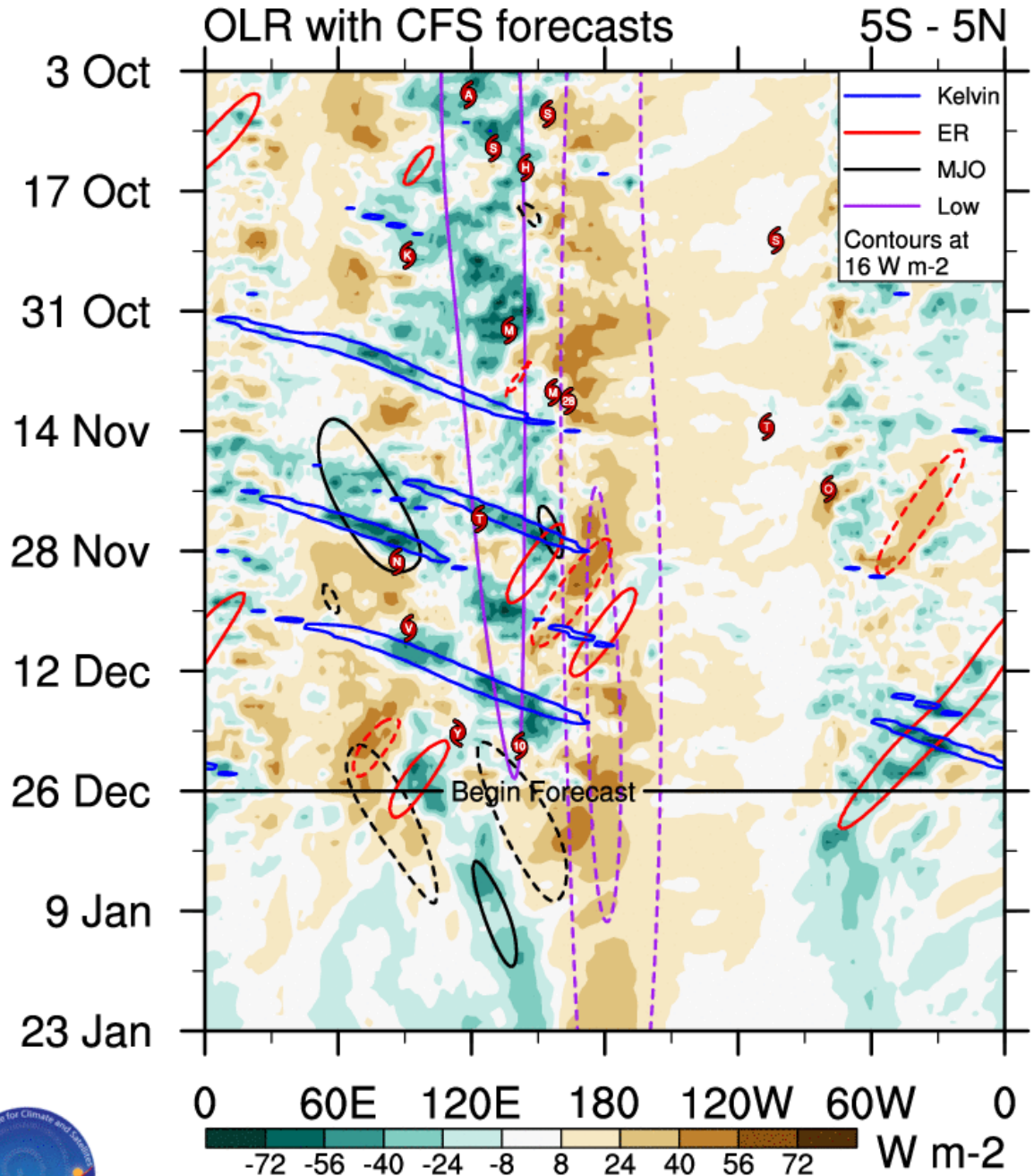


Wheeler-Hendon based analyses of model forecasts indicate an amplifying signal during Week-1 followed by a rapid decrease in amplitude during Week-2

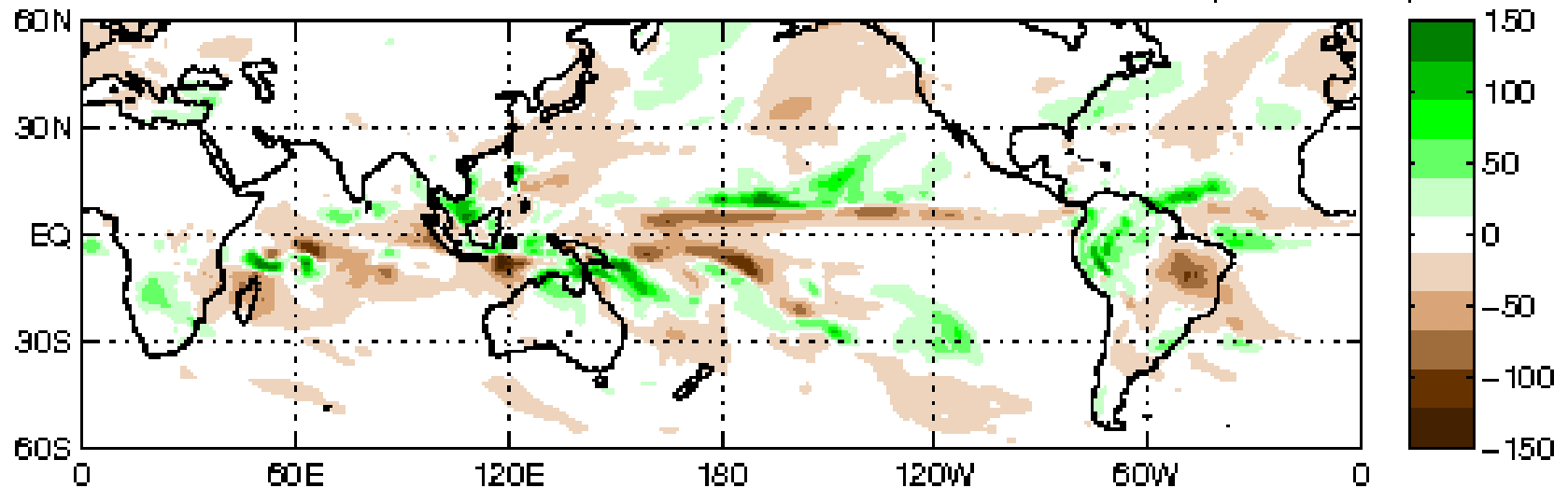
Everything against
backdrop of **low**
frequency state of
La Niña.

Kelvin wave
crossed the Western
Hemisphere past
week.

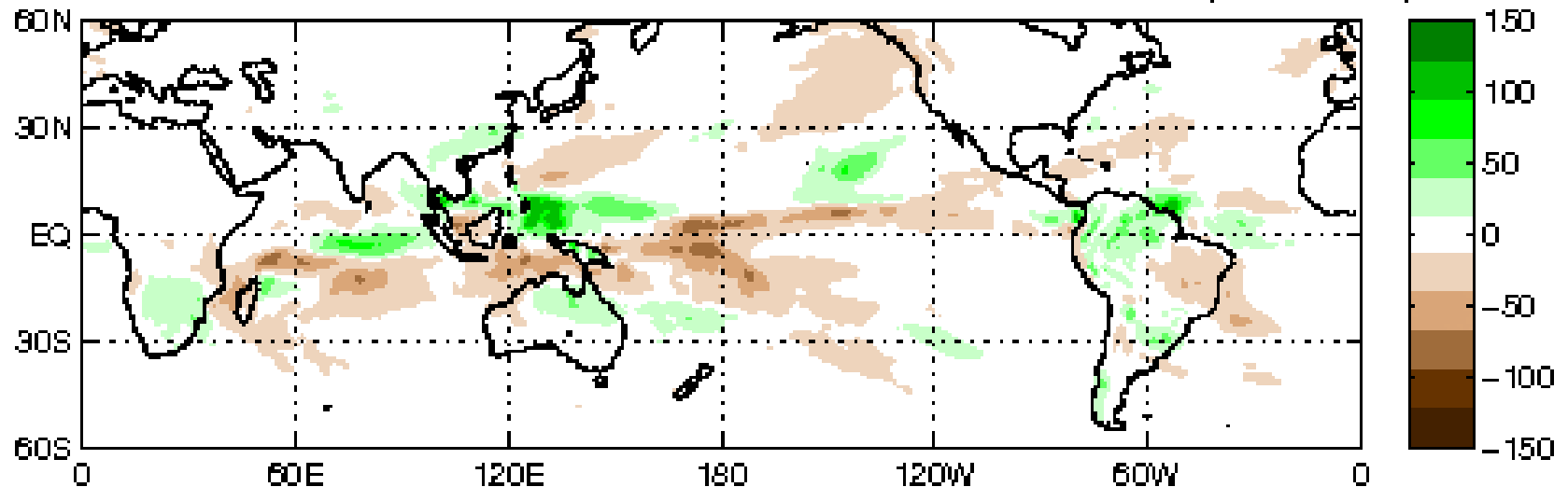
Rossby wave over
South America.



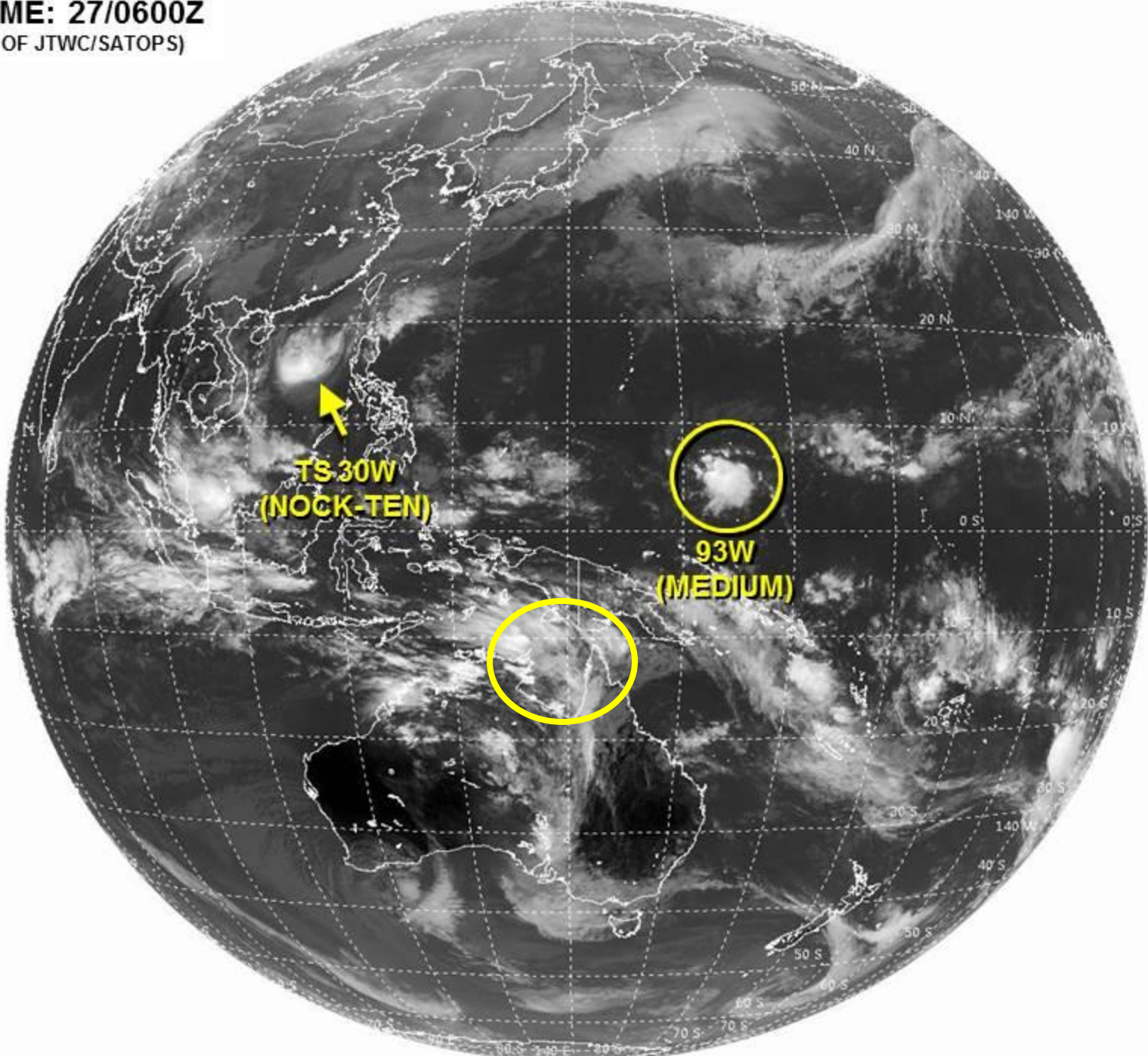
CFS: Anom. PREC Week: 1: 28-Dec-2016 to 03-Jan-2017 (mm/week)



CFS: Anom. PREC Week: 2: 04-Jan-2017 to 10-Jan-2017 (mm/week)

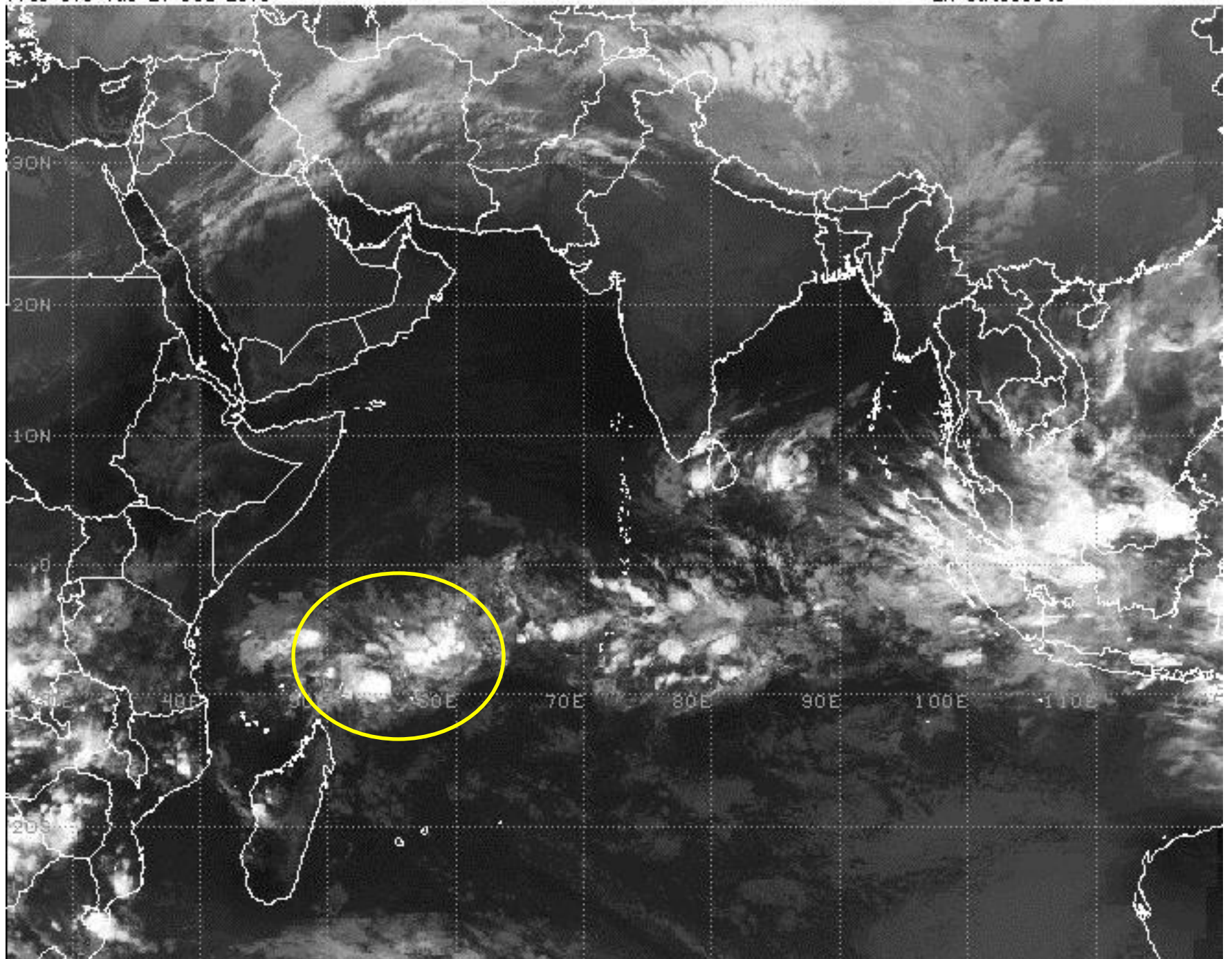


VALID TIME: 27/0600Z
(PRODUCT OF JTWC/SATOPS)



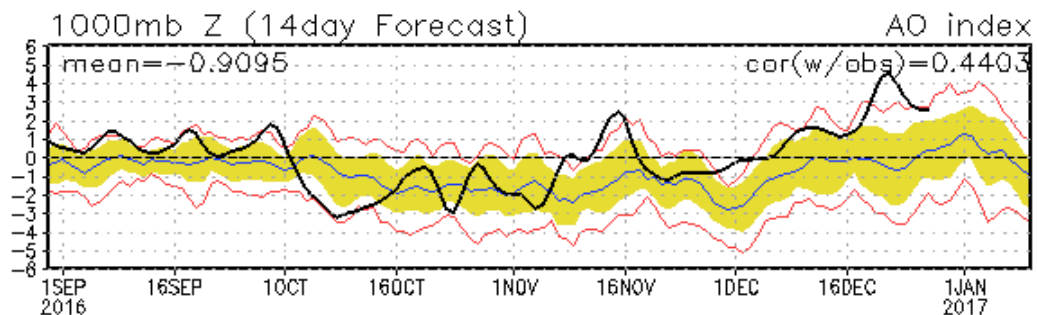
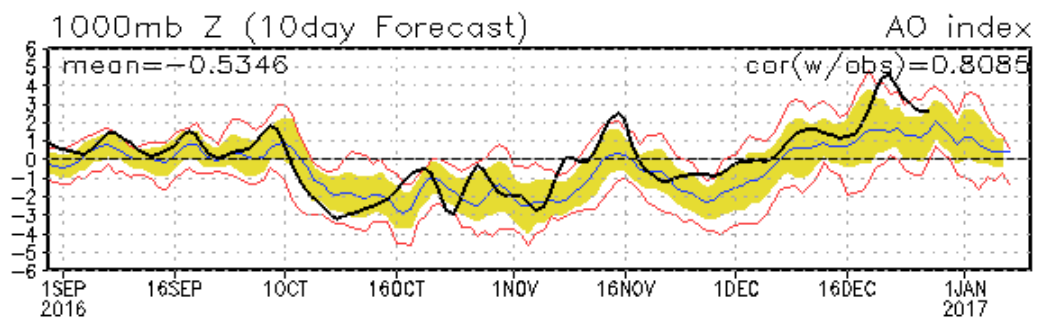
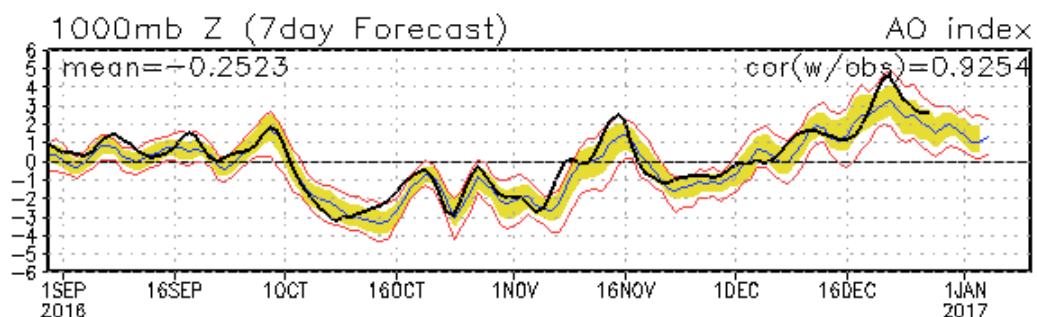
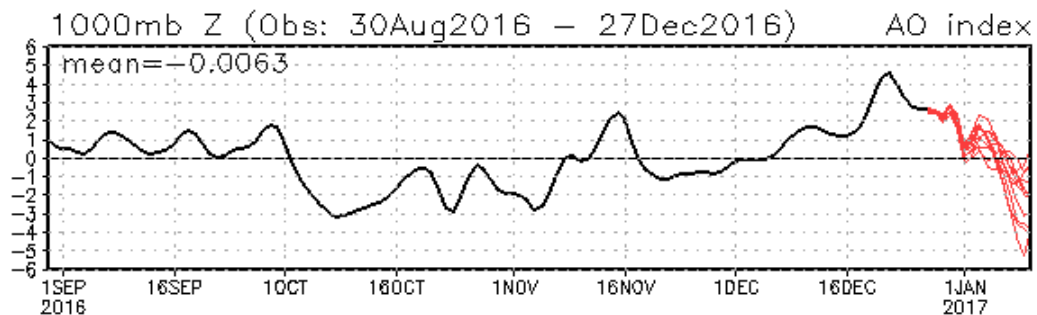
1745 UTC Tue 27 Dec 2016

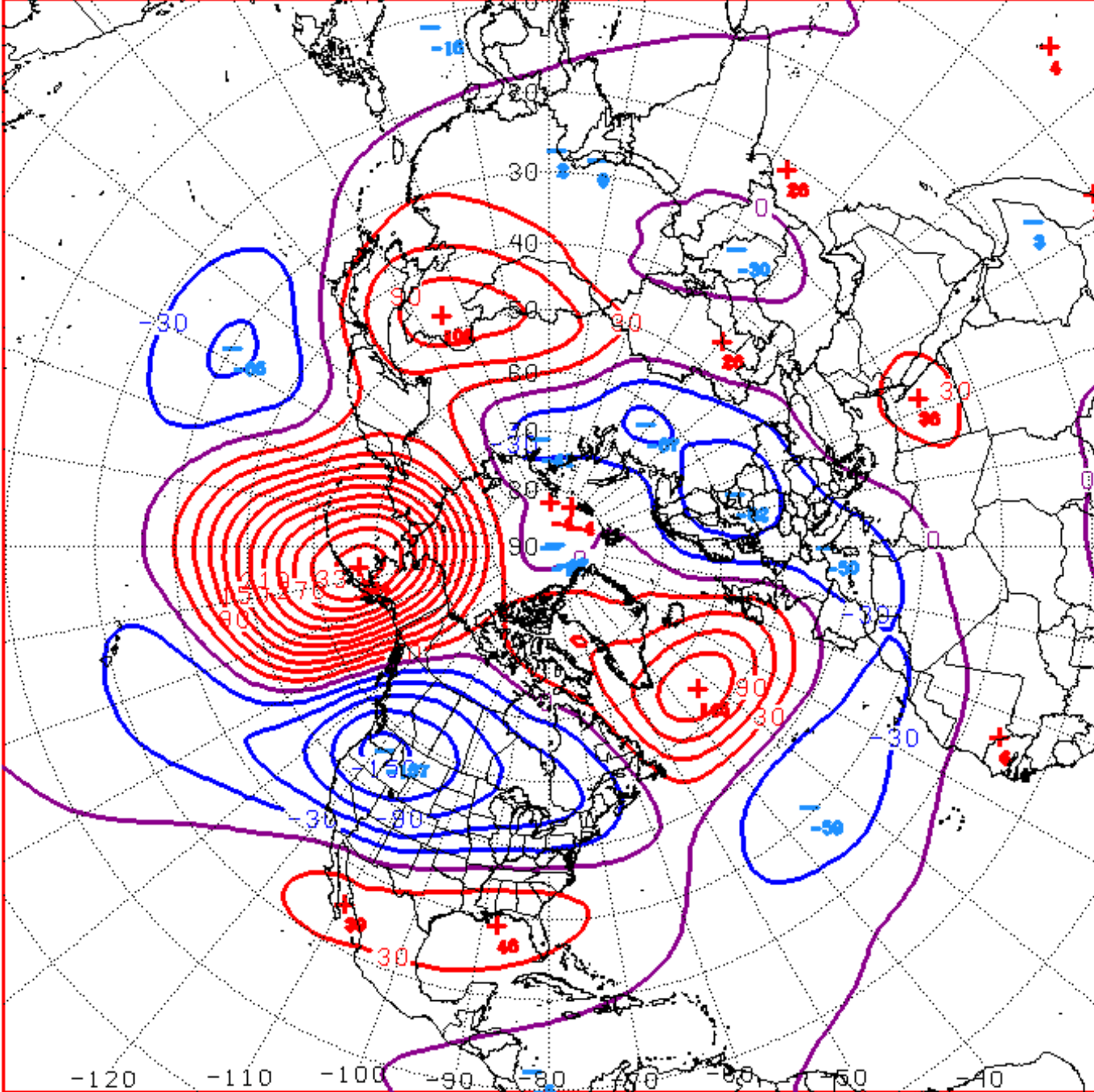
IR Satellite



Connections to U.S. Impacts

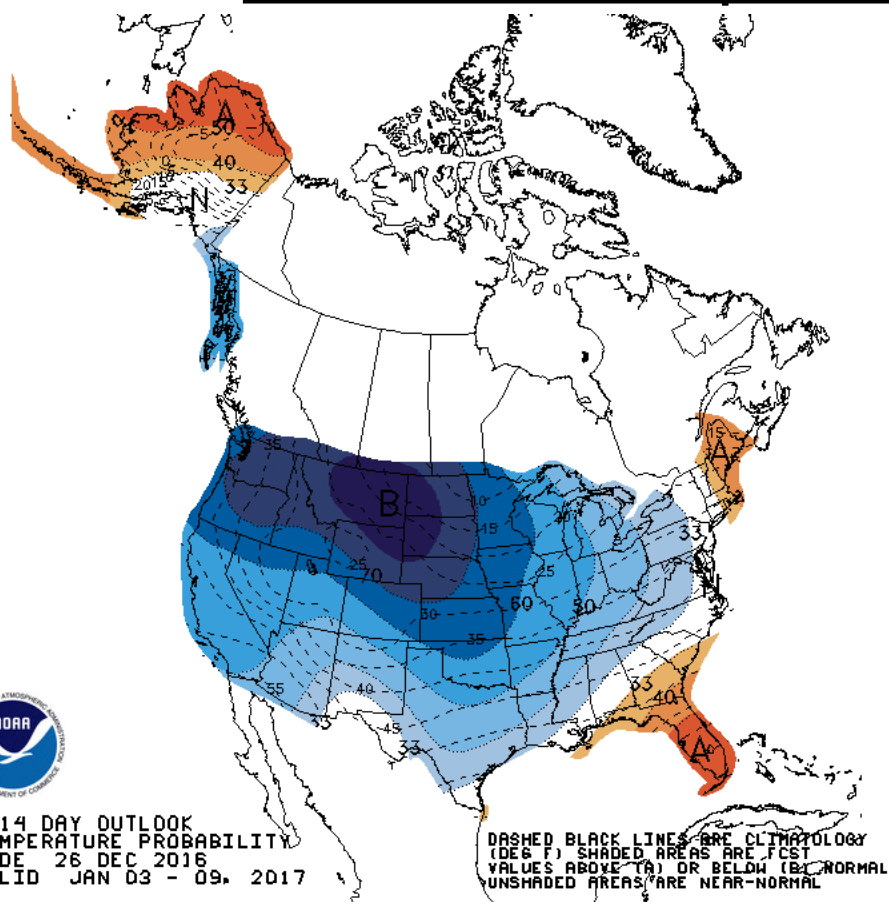
AO: Observed & ENSM forecasts





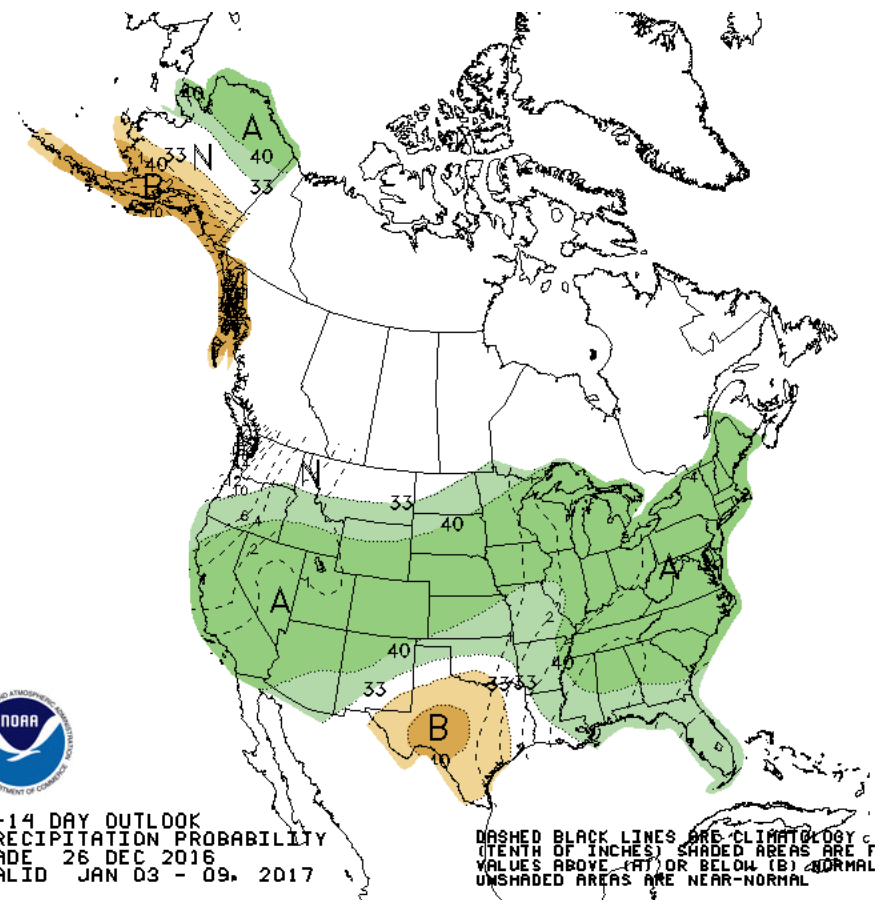
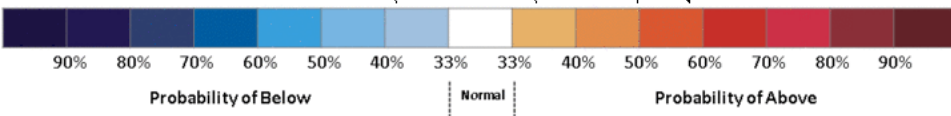
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE DEC 27 2016 1016 UTC CNTD JAN 07 2017

Week 2 – Temperature and Precipitation



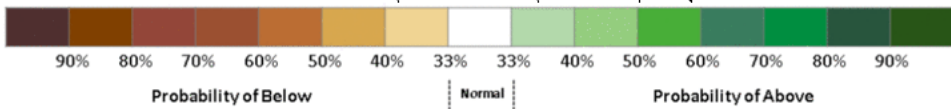
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 26 DEC 2016
VALID JAN 03 - 09, 2017

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



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 26 DEC 2016
VALID JAN 03 - 09, 2017

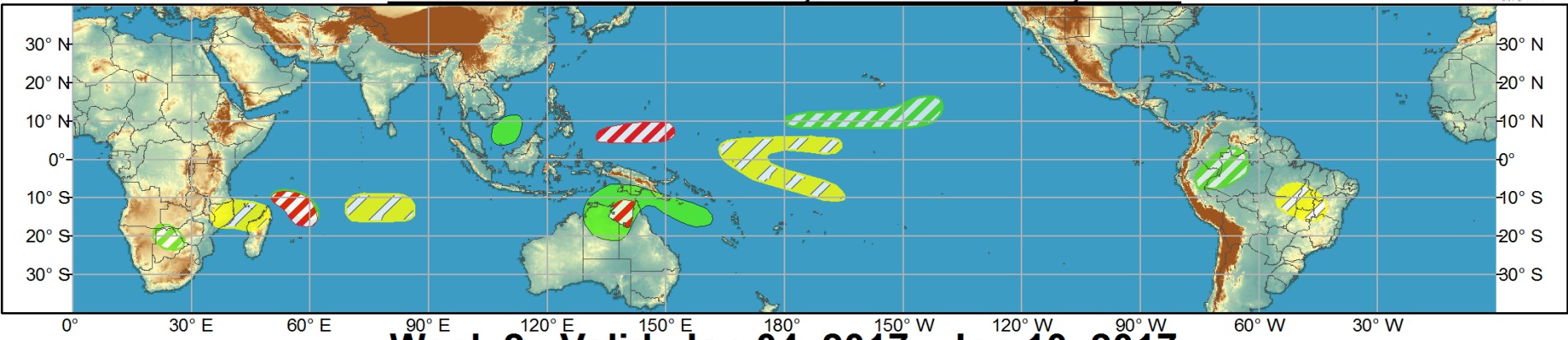
DASHED BLACK LINES ARE CLIMATOLOGY (TENTH OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL.



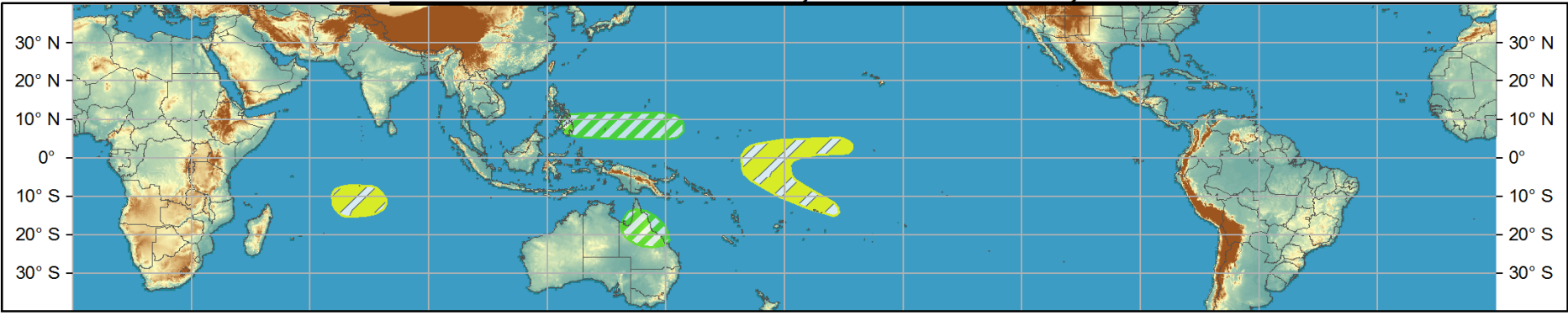


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