

# Global Tropics Hazards And Benefits Outlook

8/22/2017

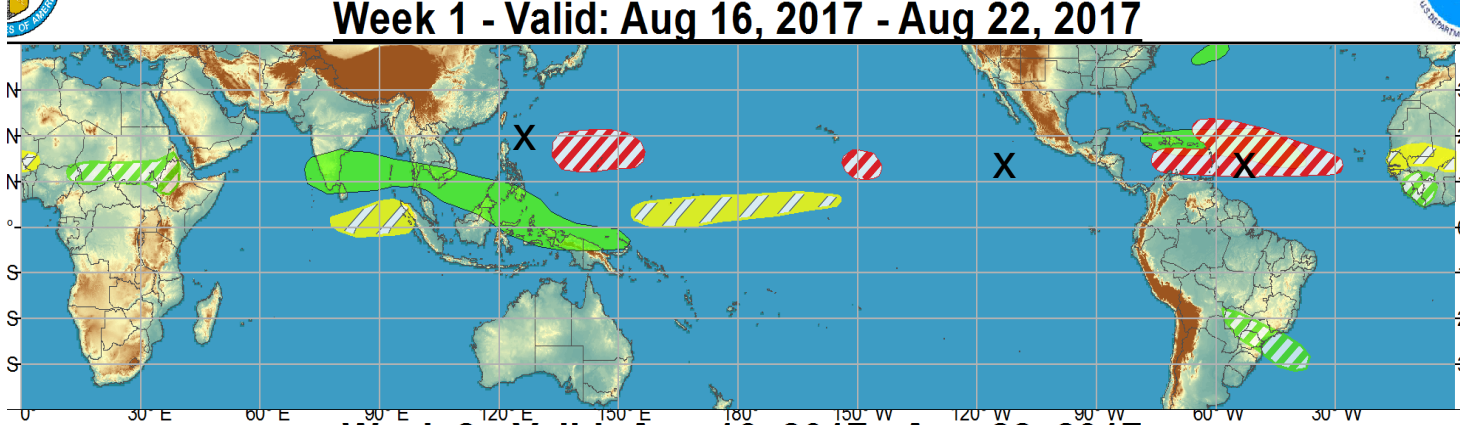
Dan Harnos

## Outline

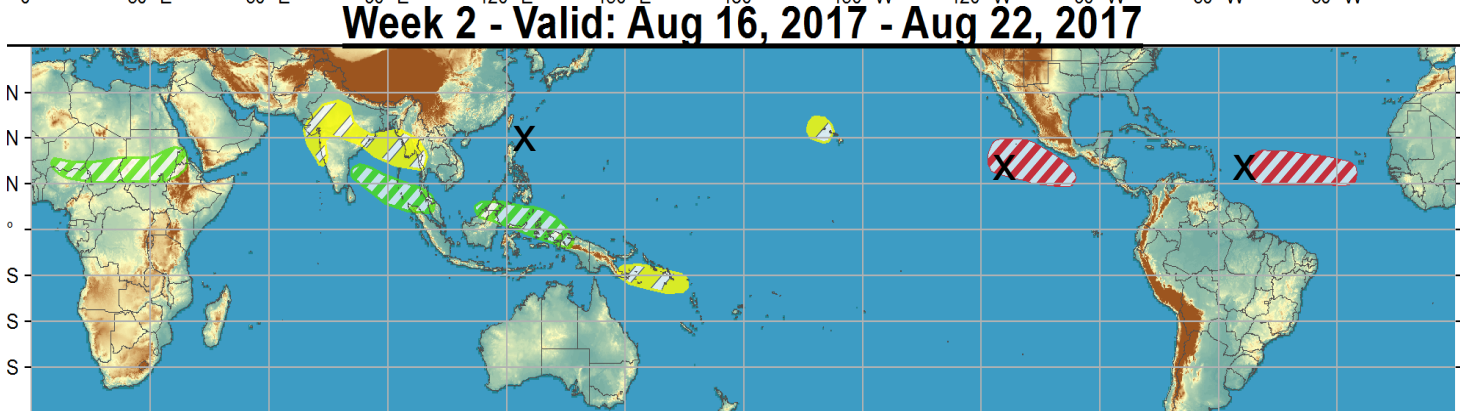
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

# Outlook Review

8/20-present  
Typhoon Hato

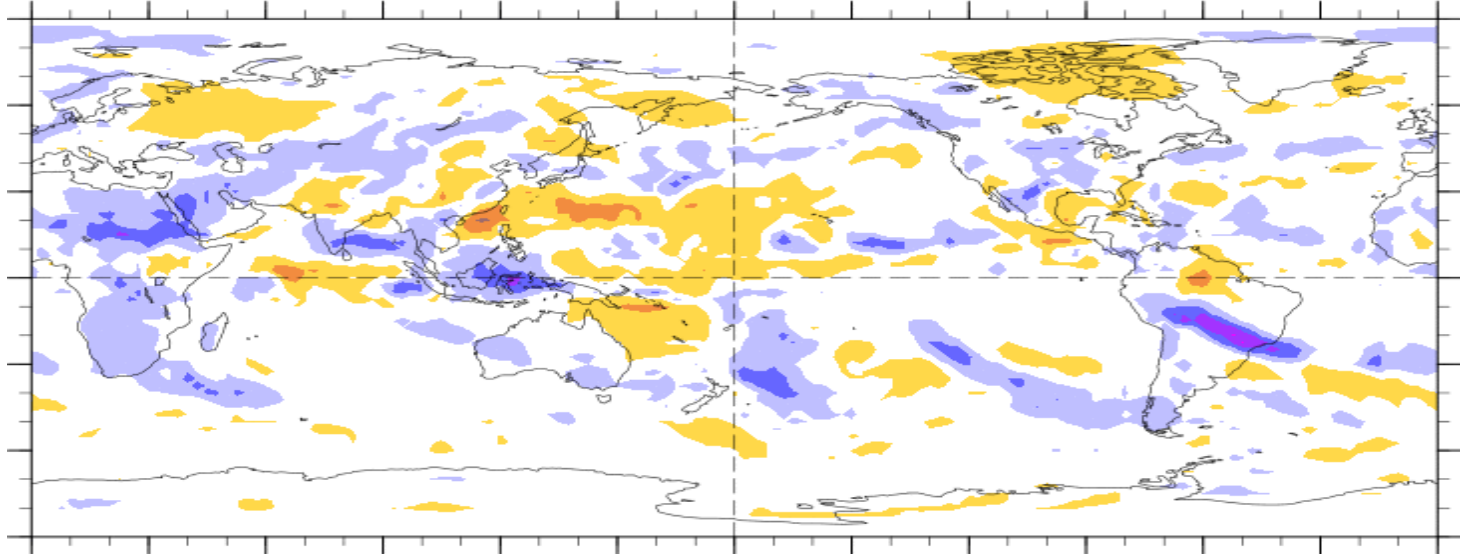


8/18-present  
M. Hurr. Kenneth



8/17-19, redevelop?  
TS Harvey

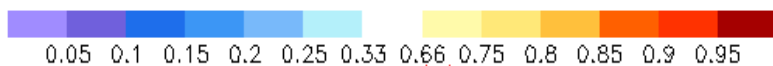
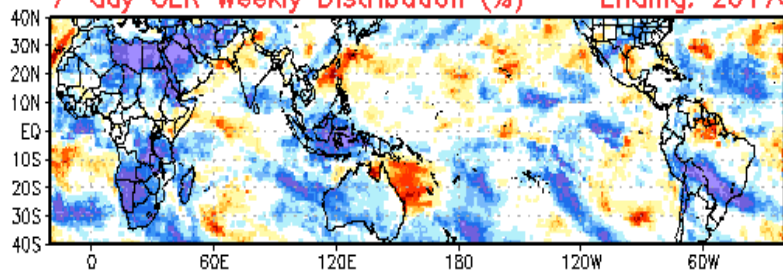
7-Day Average OLR Anomaly 2017/08/14 - 2017/08/20



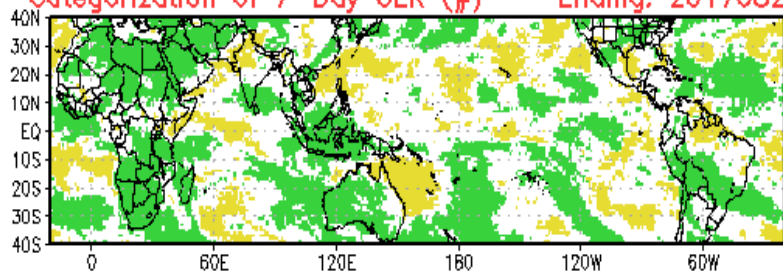
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

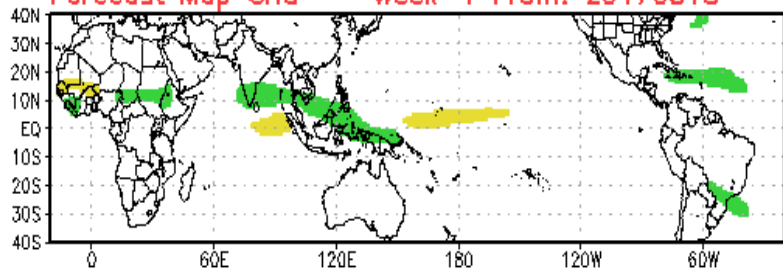
7-day OLR Weekly Distribution (%) -- Ending: 20170822



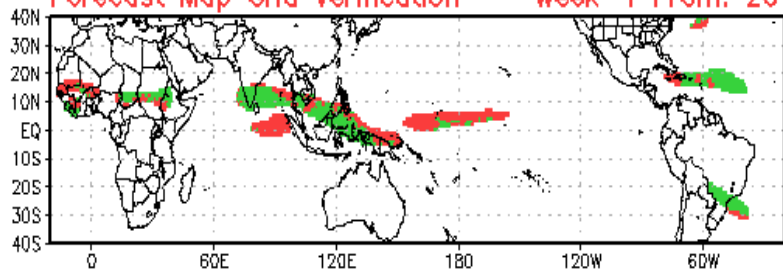
Categorization of 7-Day OLR (#) -- Ending: 20170822



Forecast Map Grid -- Week-1 From: 20170815

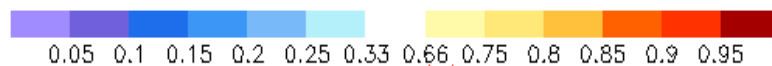
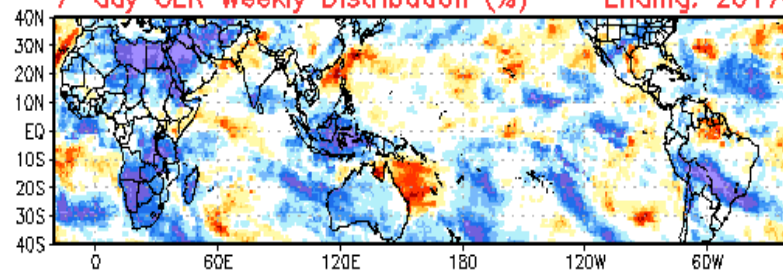


Forecast Map Grid Verification -- Week-1 From: 20170815

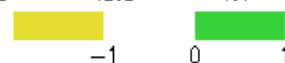
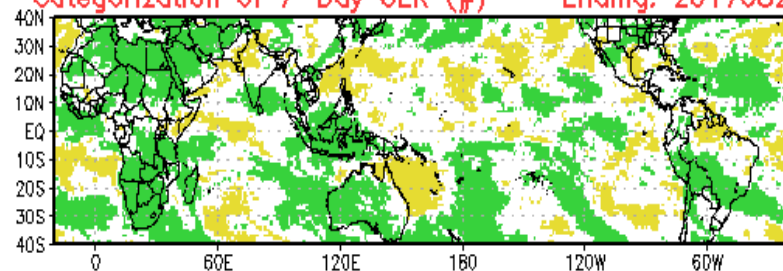


Hit: Green, Miss: Red  
Heidke Skill Score: 30.1375

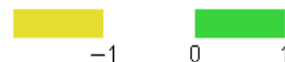
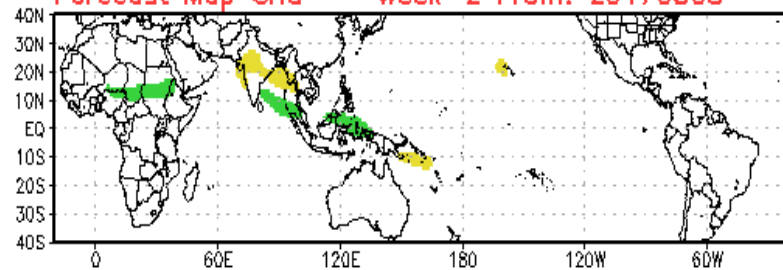
7-day OLR Weekly Distribution (%) -- Ending: 20170822



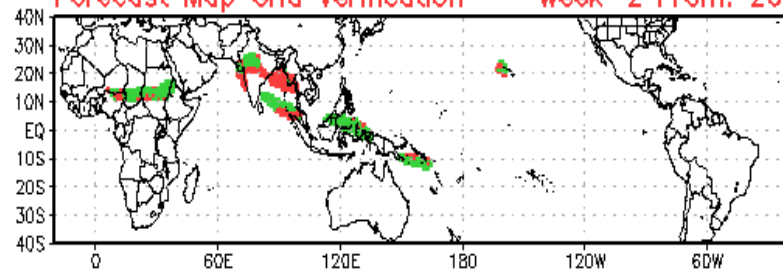
Categorization of 7-Day OLR (#) -- Ending: 20170822



Forecast Map Grid -- Week-2 From: 20170808



Forecast Map Grid Verification -- Week-2 From: 20170808



Hit: Green, Miss: Red  
Heidke Skill Score: 42.6700

# Synopsis of Climate Modes

## **ENSO:**

- ENSO-neutral is favored (~85% chance during Jul-Sep, decreasing to ~55% during Dec-Feb) through the Northern Hemisphere winter 2017-18.
- The next ENSO Diagnostic Discussion will be released on 14 September.

## **MJO and other subseasonal tropical variability:**

- The MJO continued to exhibit weakness over the past week, with limited variability apparent other than a pair of Kelvin waves.
- Dynamical models consistently forecast an intraseasonal feature emerging over the Indian Ocean during Week-1 and approaching the Maritime Continent in Week-2. Differences lie in the strength of this mode, but its character is consistent with the MJO.

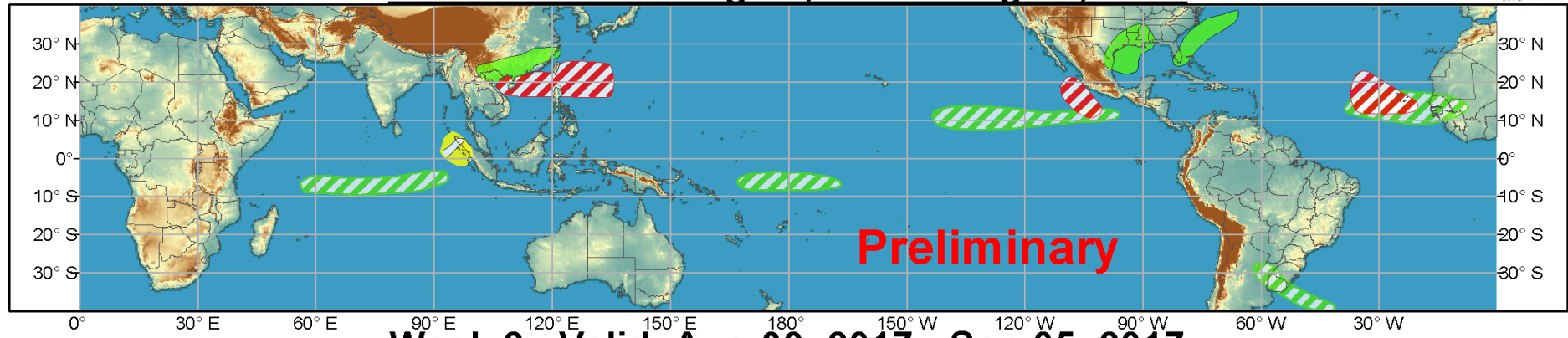
## **Extratropics:**

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity but tropical cyclone-related impacts will impact the Gulf States, Florida, and potentially the Southwest in Week-2.

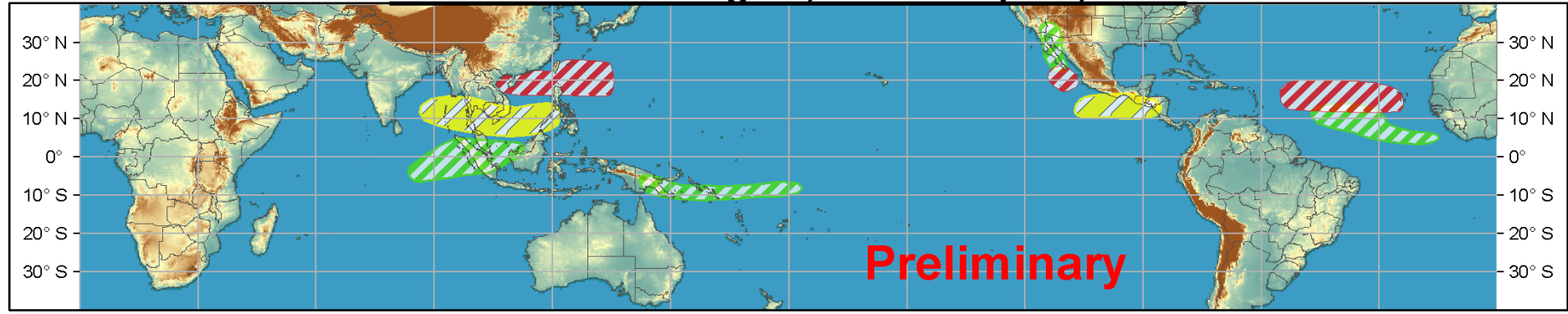


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Aug 23, 2017 - Aug 29, 2017



## Week 2 - Valid: Aug 30, 2017 - Sep 05, 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: 08/22/2017  
Forecaster: CPC

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

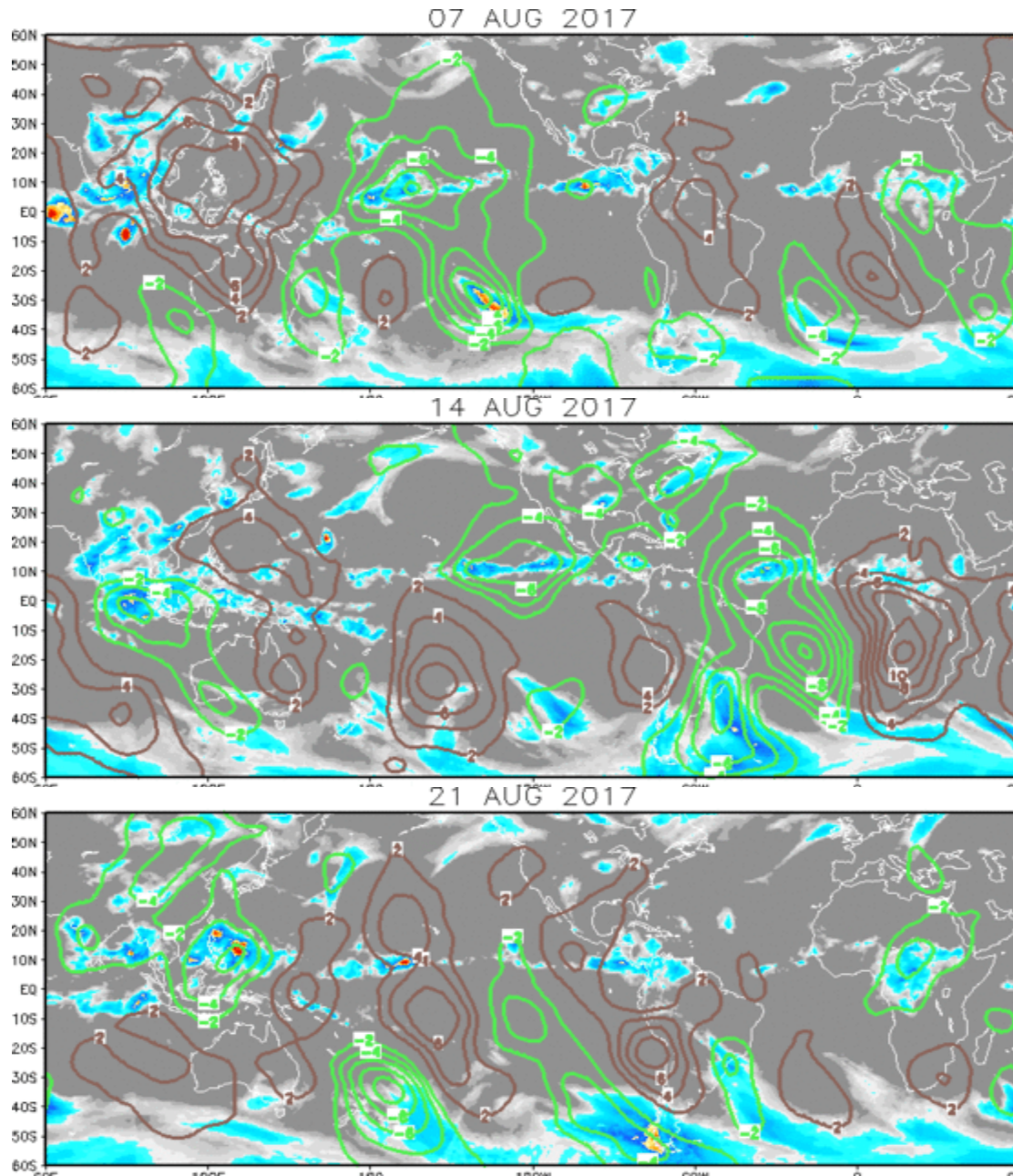
Green: Enhanced Divergence

Brown: Enhanced Convergence

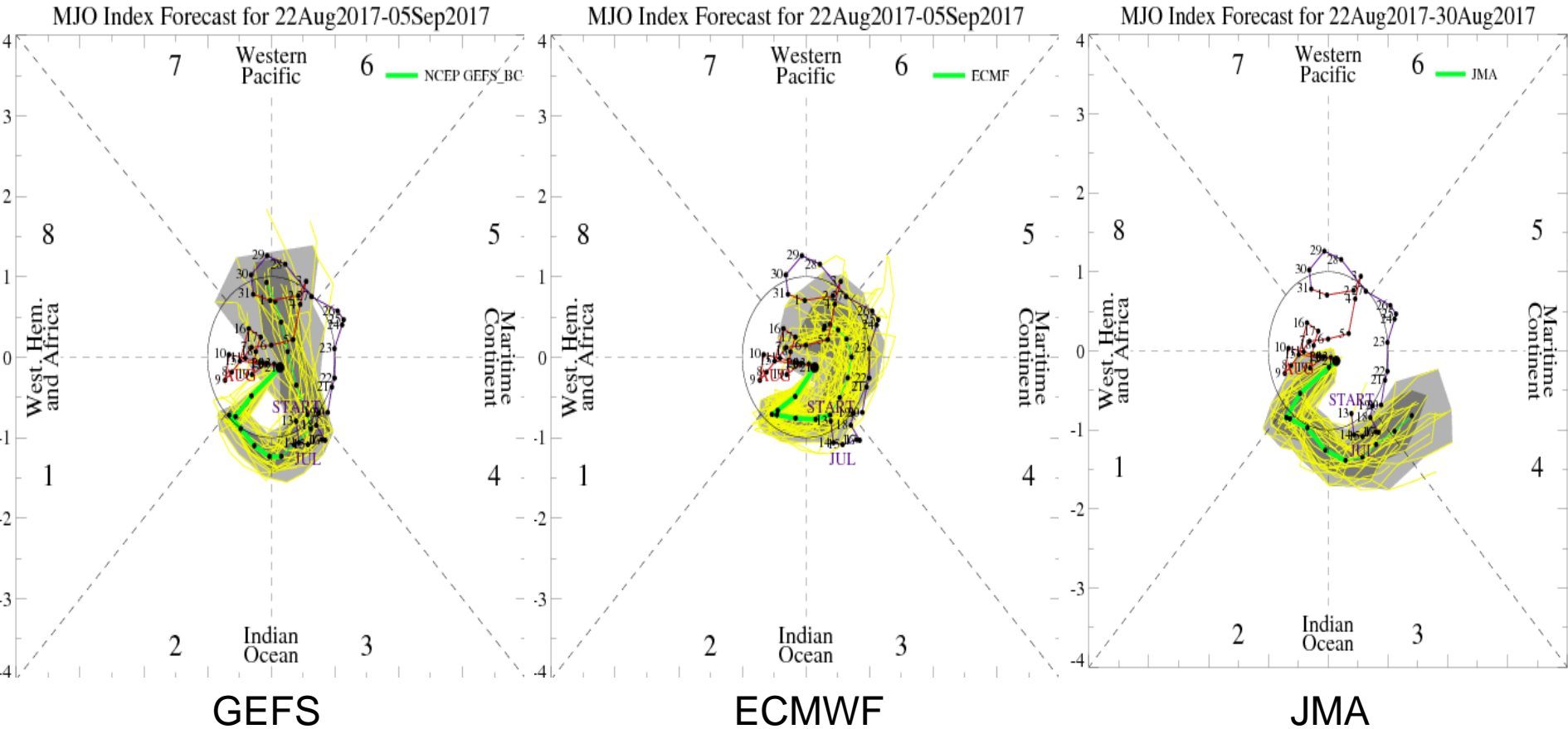
Little to no MJO projection.

Wave-2 pattern and generally disorganized.

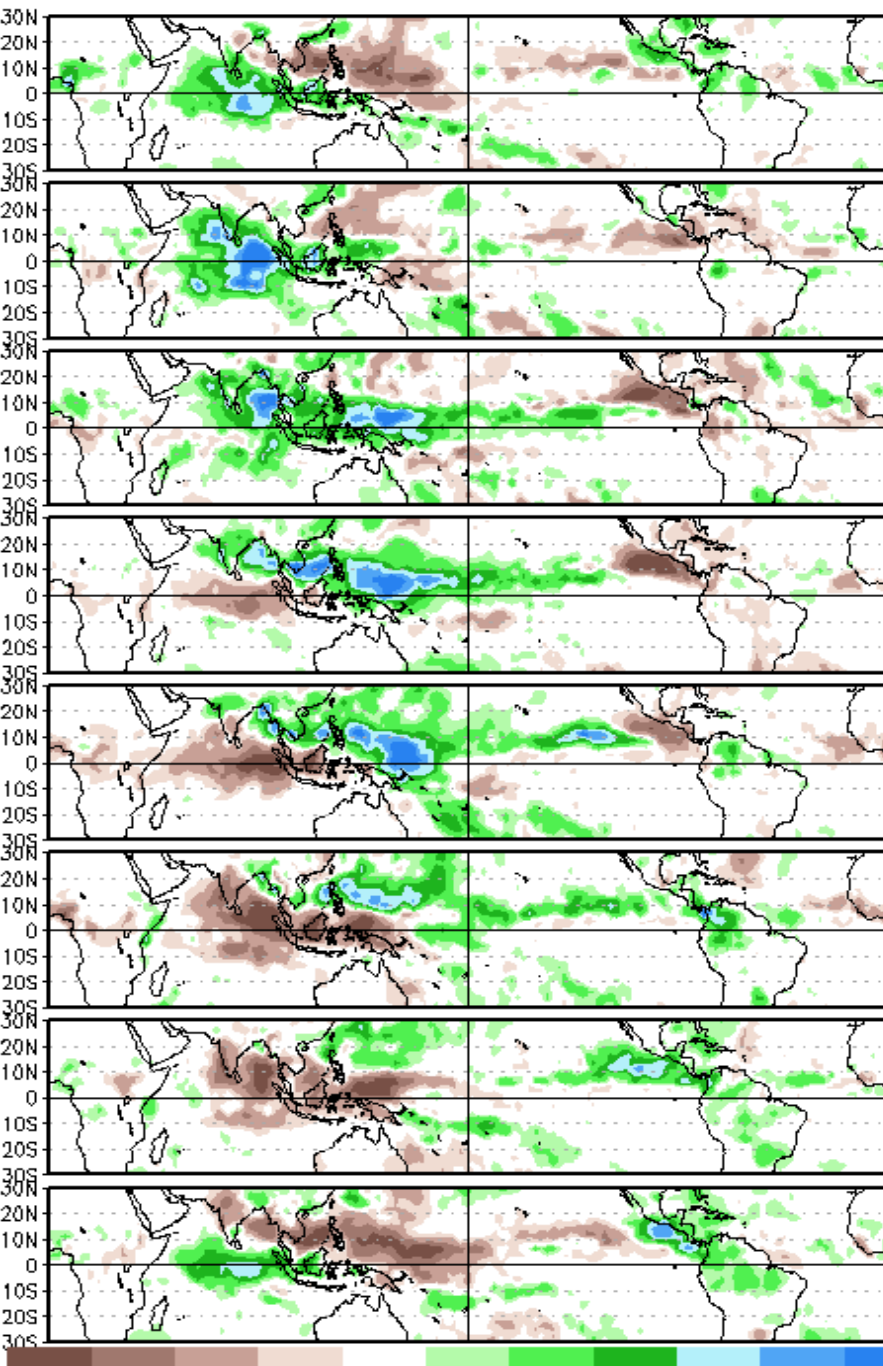
Somewhat wave-2 like, with extratropical influences throughout the tropics.



# MJO Observation/Forecast



GEFS – regressed propagation followed by amplification over the Western Hemisphere  
ECMWF and JMA – weak signal, non-bias corrected weakly favors Indian Ocean



Phase 2

Phase 3

Phase 4

Phase 5

Phase 6

Phase 7

Phase 8

Phase 1

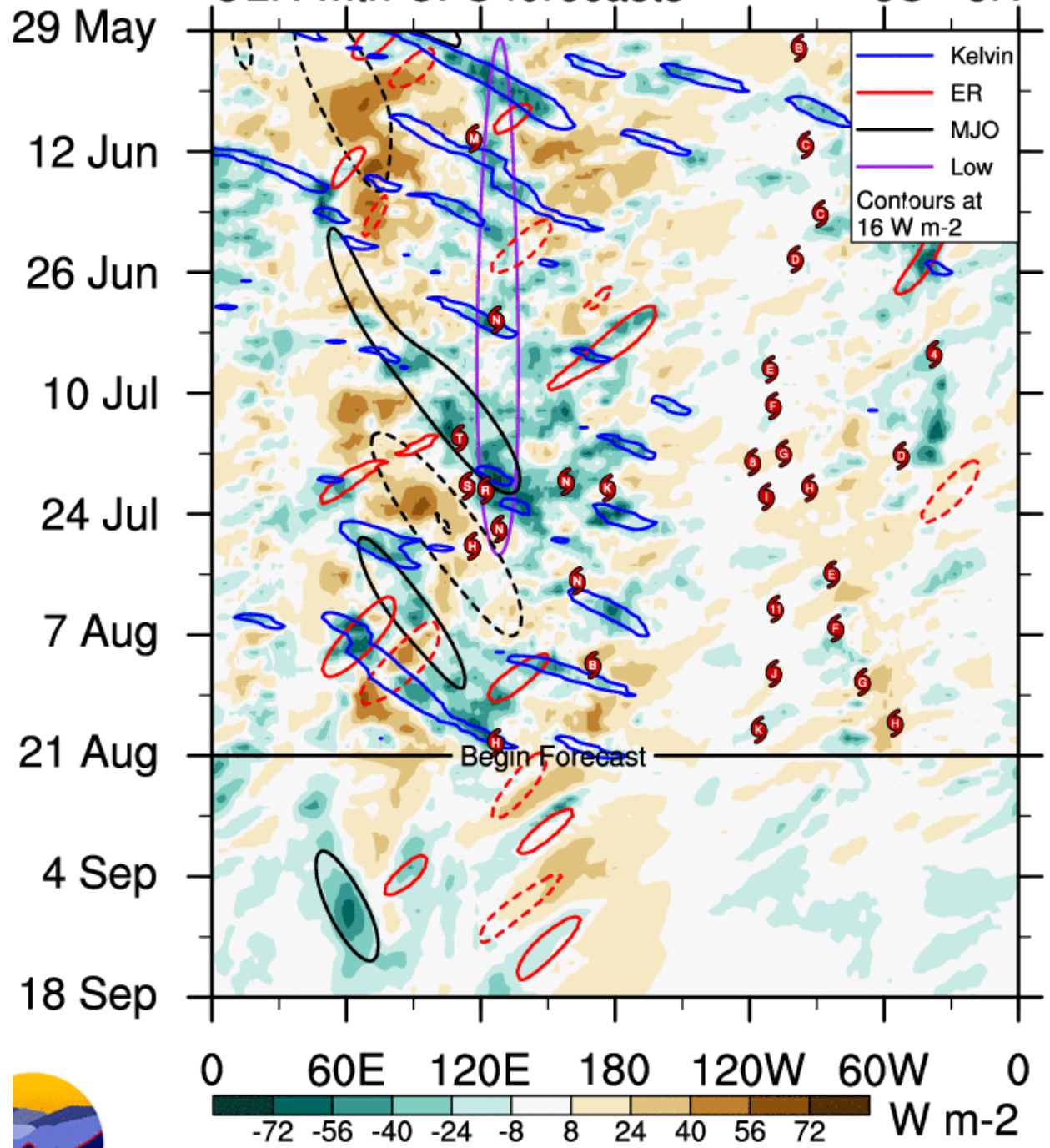
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.



# OLR with CFS forecasts

5S - 5N

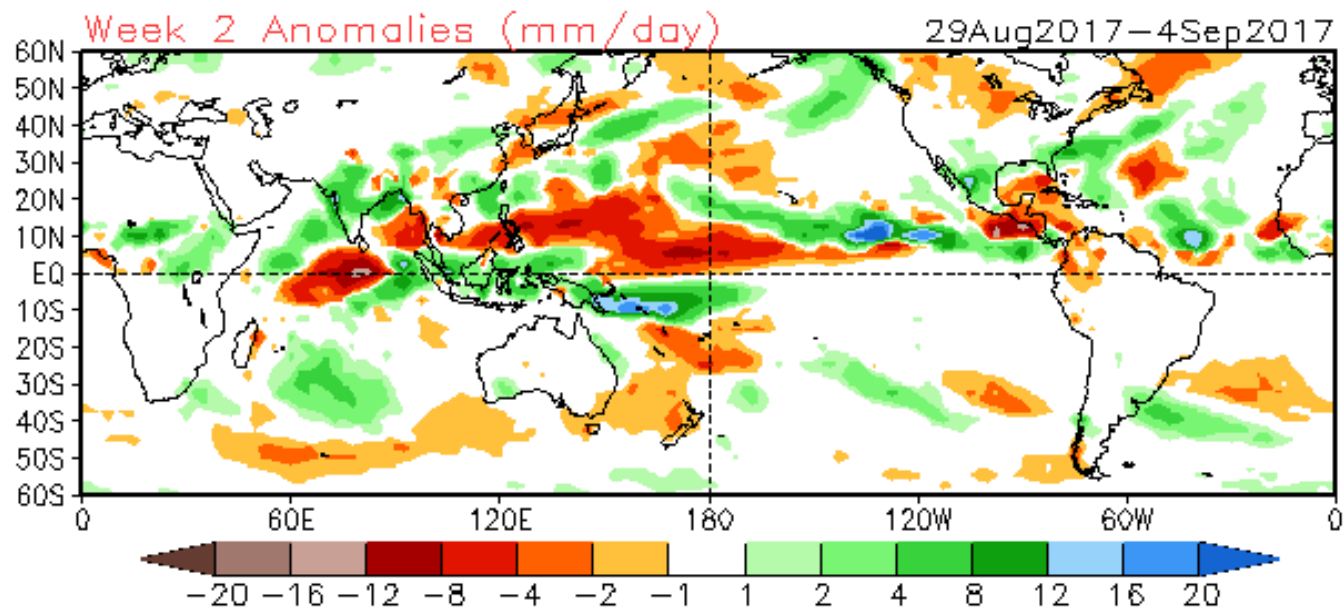
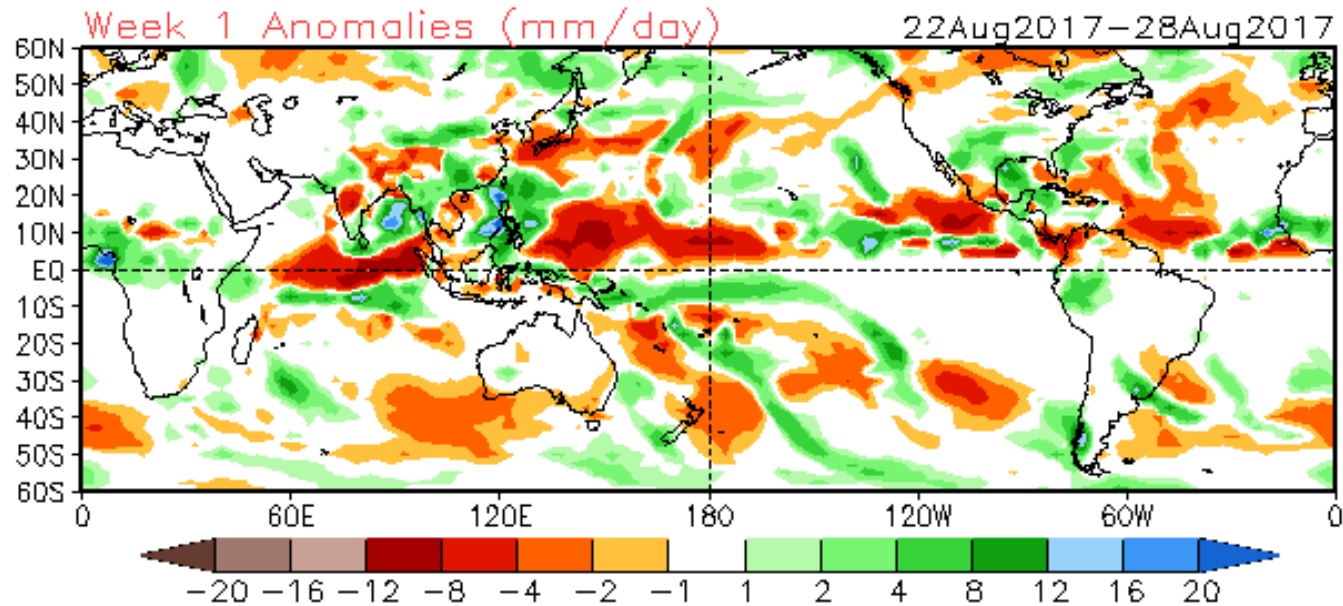


**Kelvin wave** activity observed over the Maritime Continent and near the Date Line.



# CFSv2 Weeks 1 & 2 Precipitation

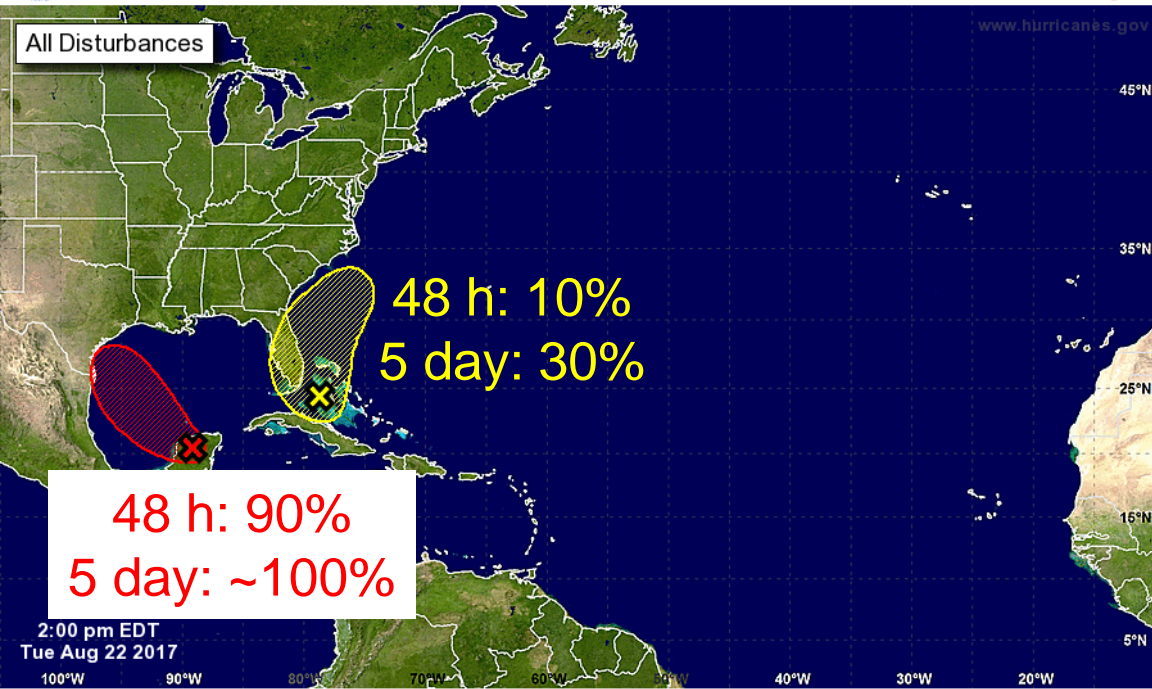
16 Member Ensemble Mean Forecast from 21Aug2017





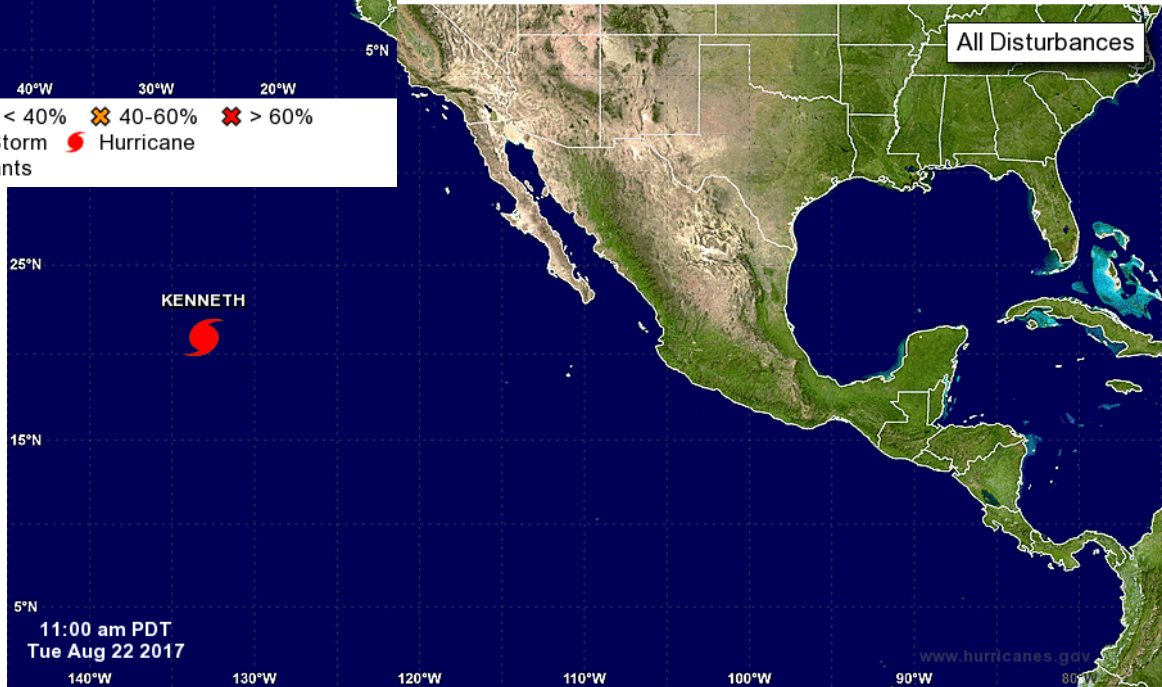
# Five-Day Graphical Tropical Weather Outlook

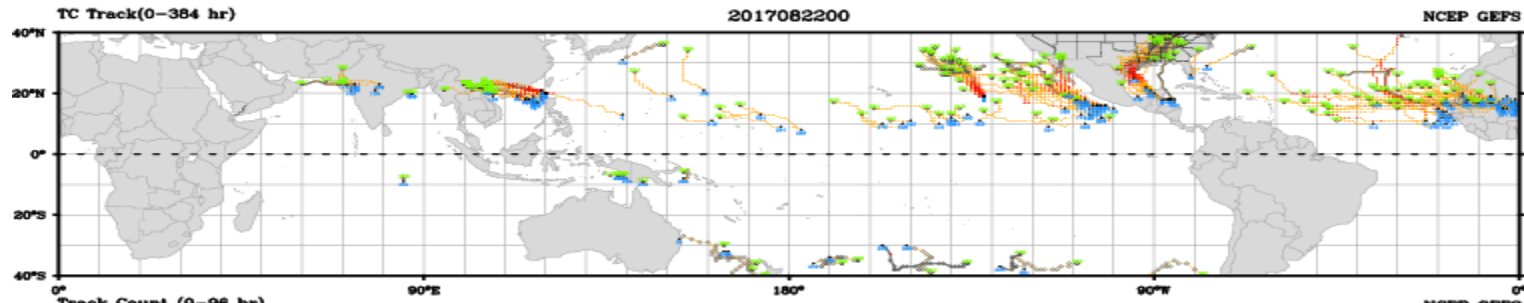
National Hurricane Center Miami, Florida



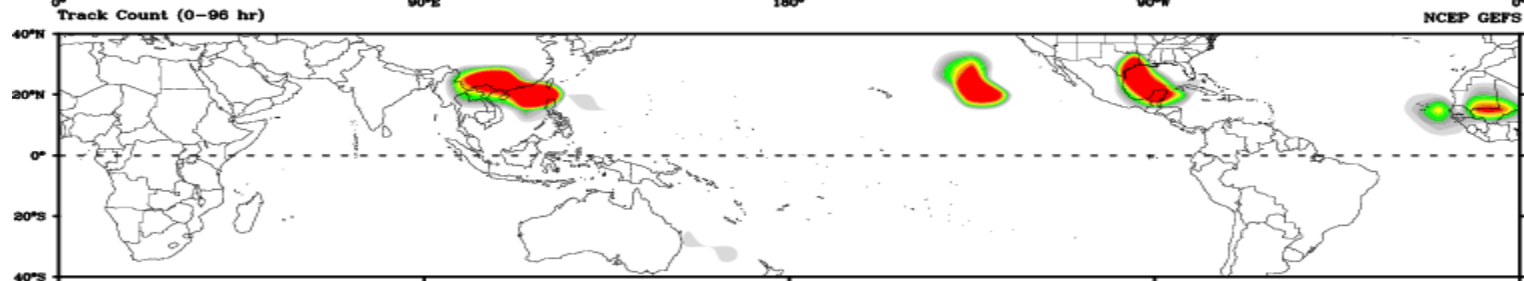
## Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

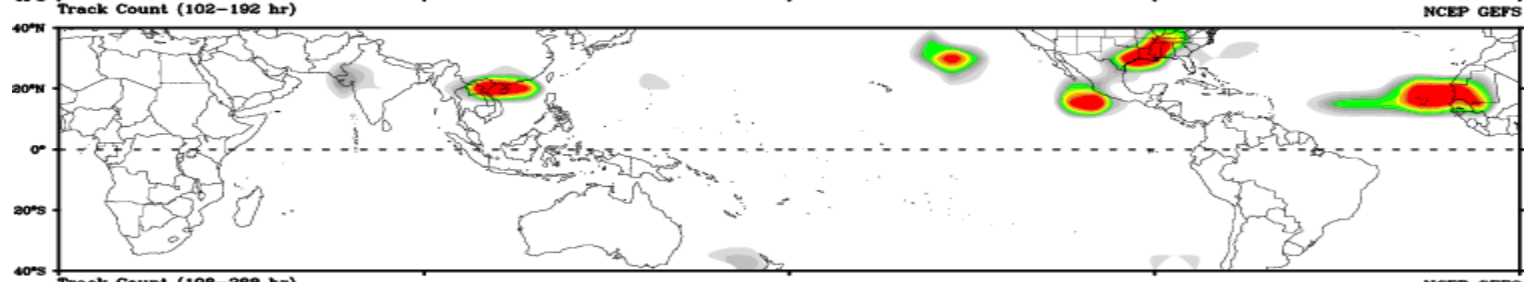




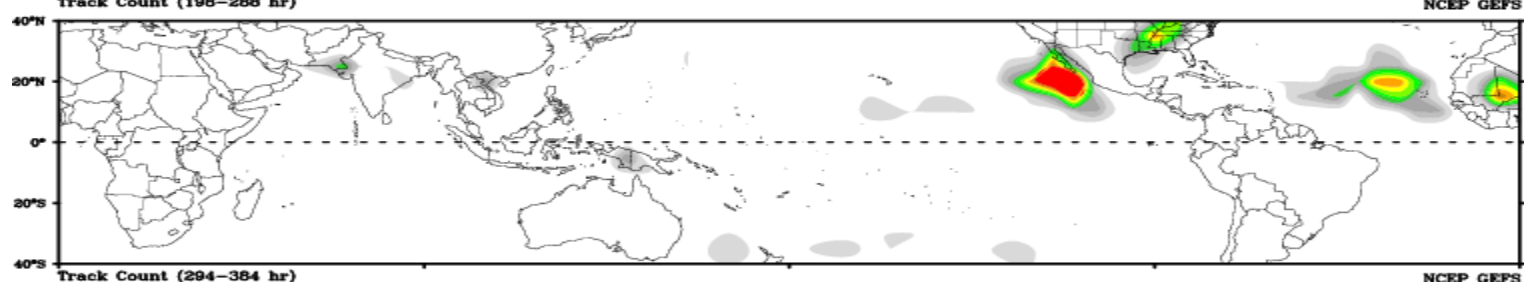
Days 1-4



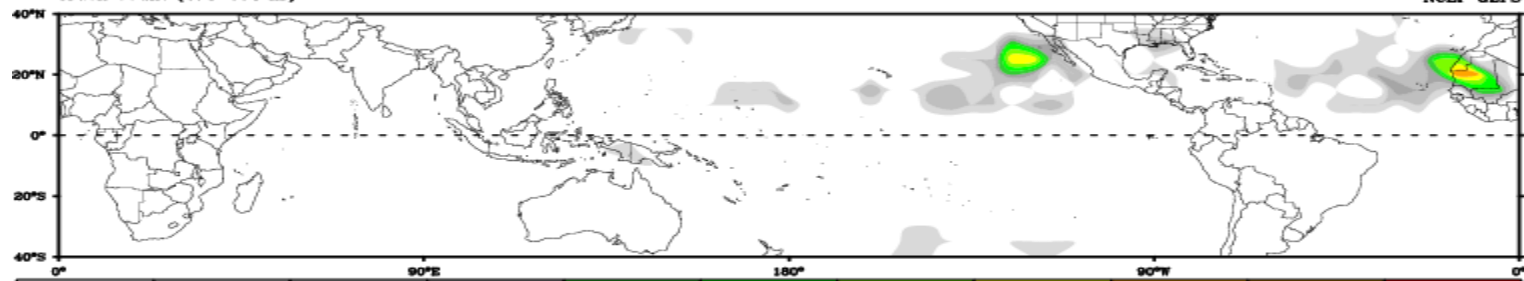
Days 5-8



Days 9-12

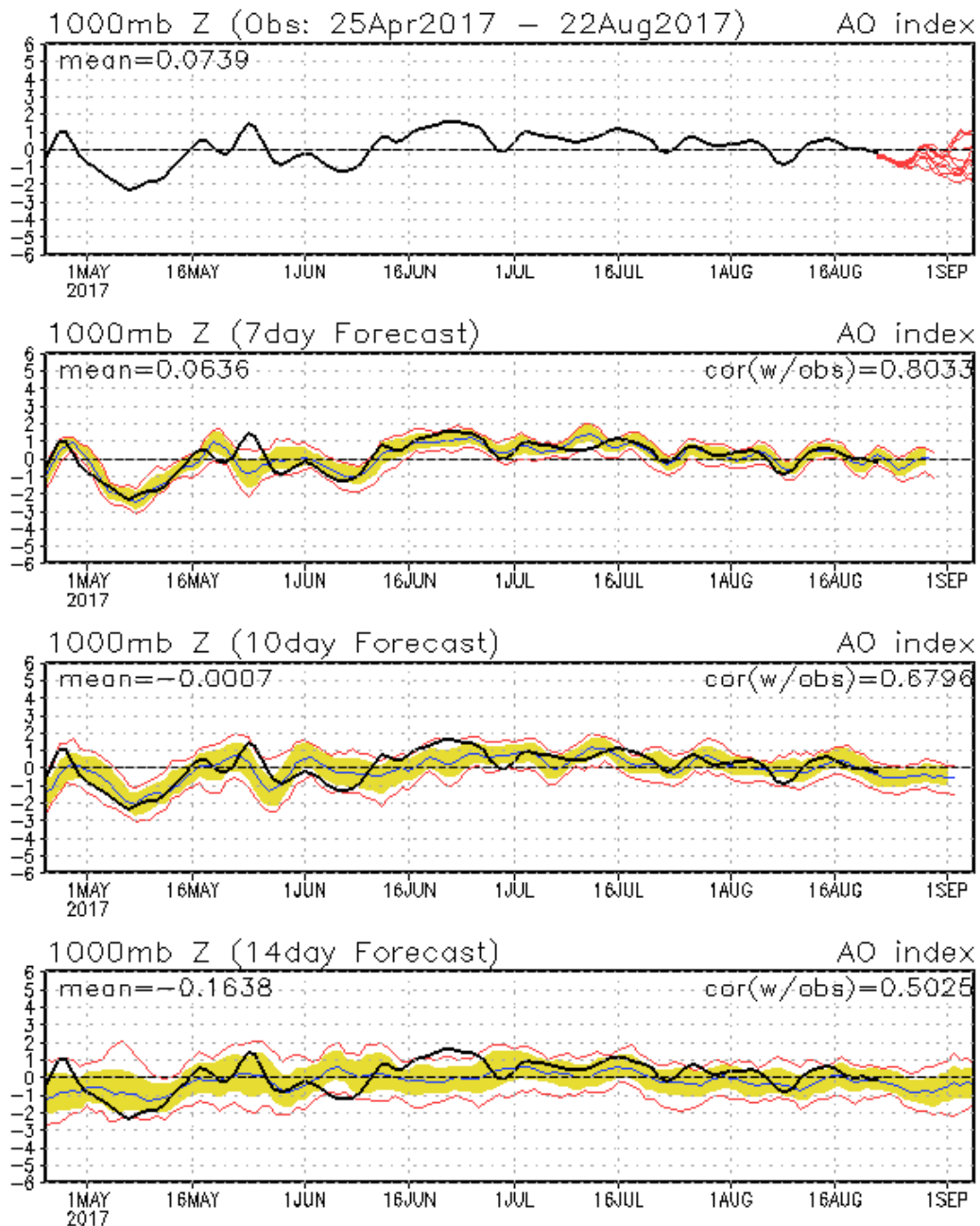


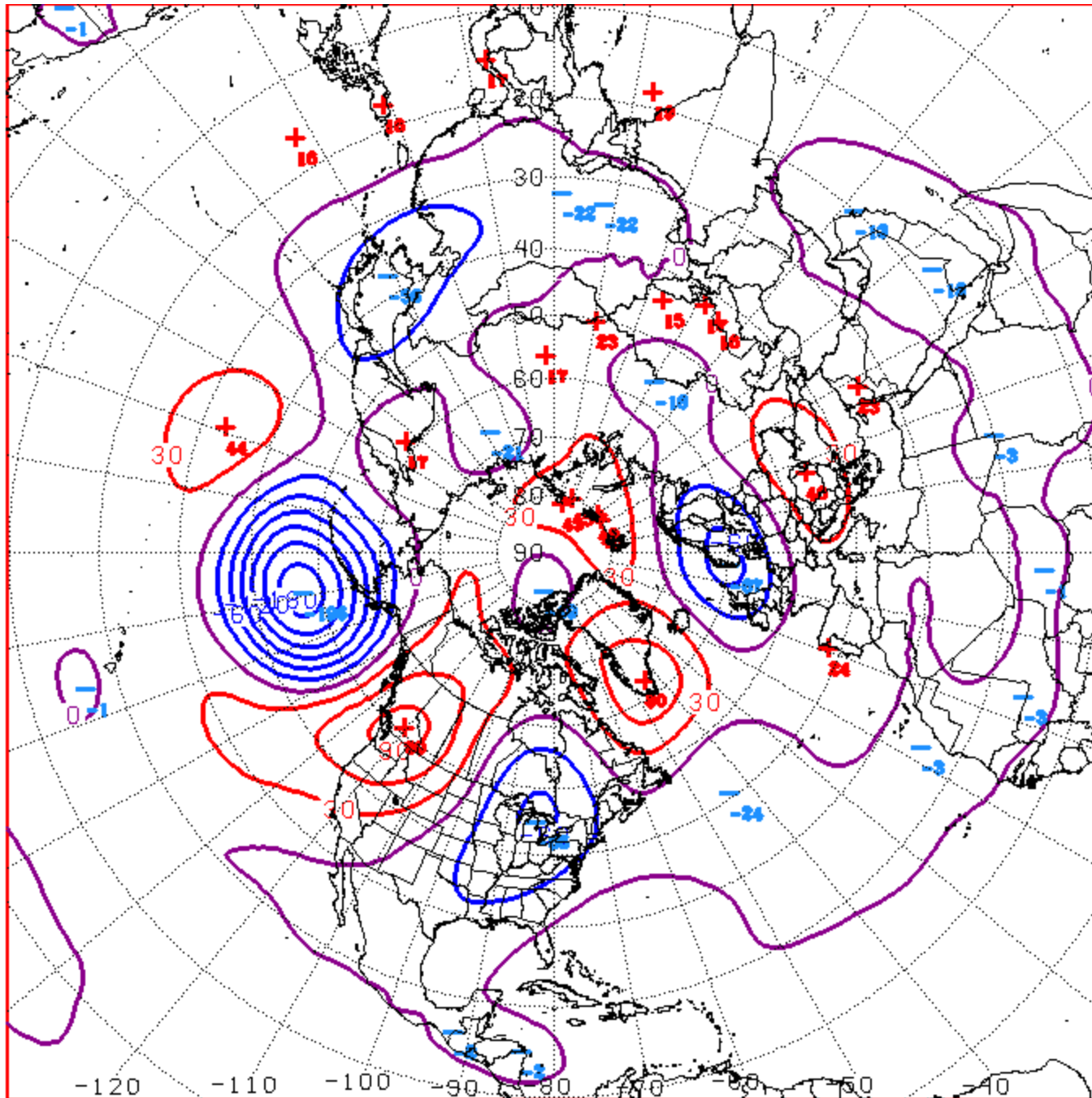
Days 13-16



# Connections to U.S. Impacts

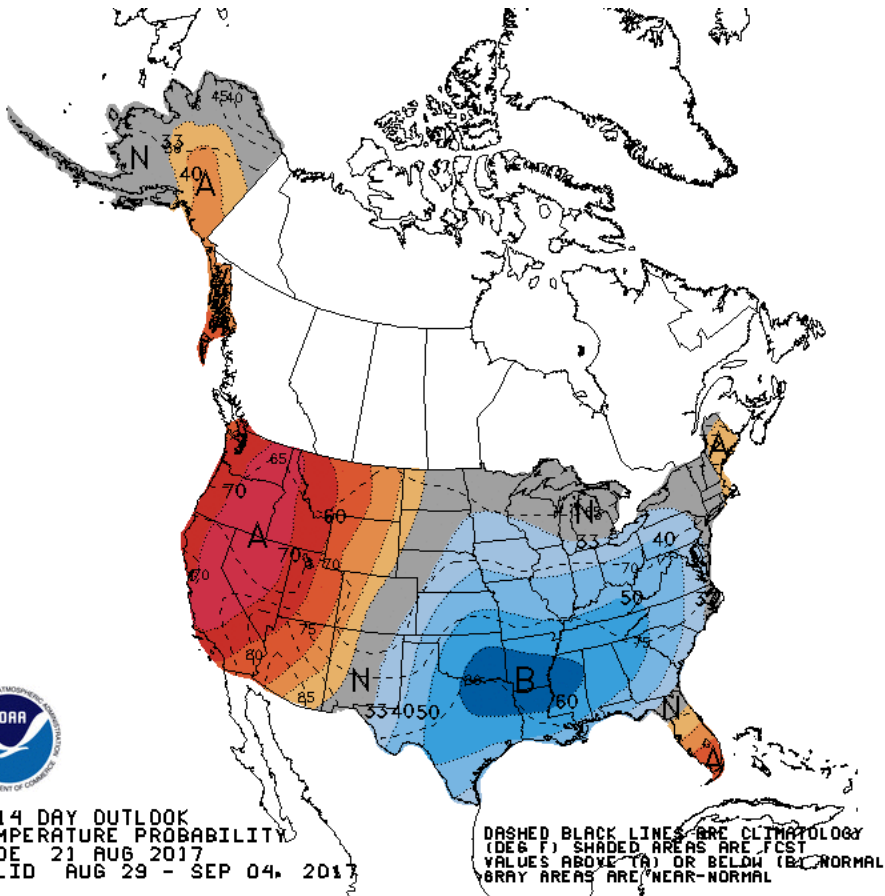
## AO: Observed & ENSM forecasts





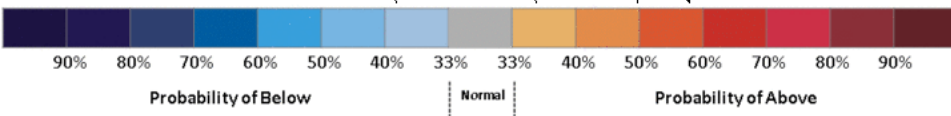
D+11 500 MB ANOMALIES FROM ALZ ENSM  
CPC MAP MADE AUG 22 2017 1305 UTC CNTD SEP 02 2017

# Week 2 – Temperature and Precipitation

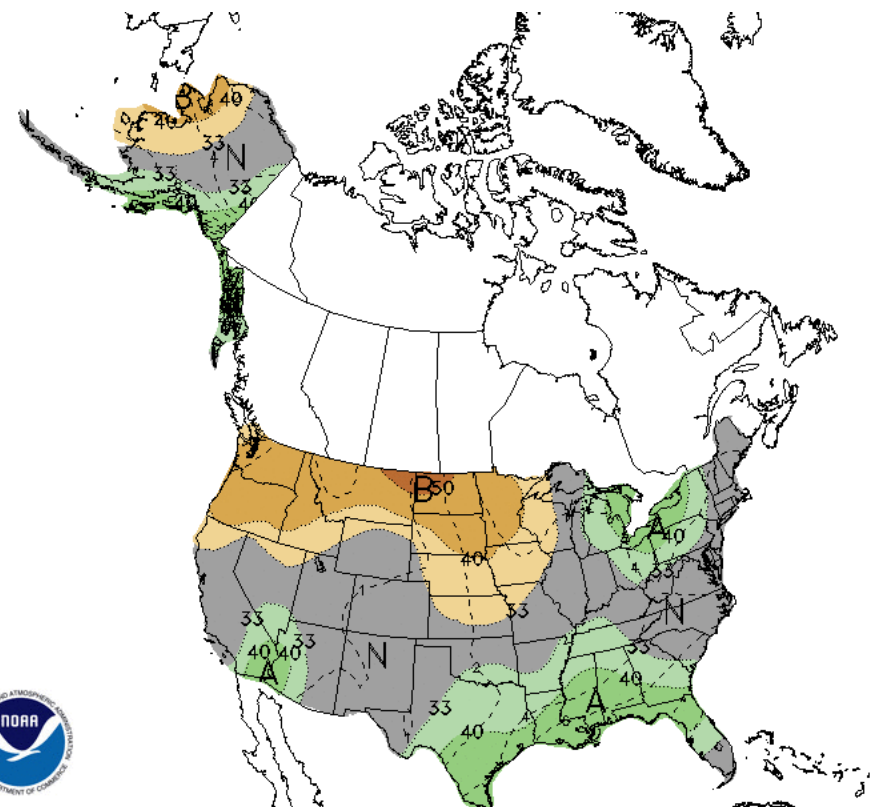


8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 21 AUG 2017  
VALID AUG 29 - SEP 04, 2017

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

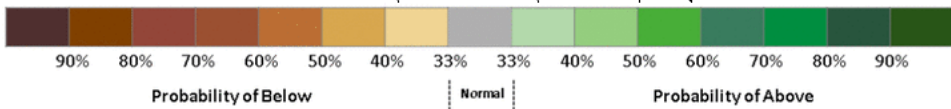


Likely to increase wet odds in Southwest and Ohio Valley



8-14 DAY OUTLOOK  
PRECIPITATION PROBABILITY  
MADE 21 AUG 2017  
VALID AUG 29 - SEP 04, 2017

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

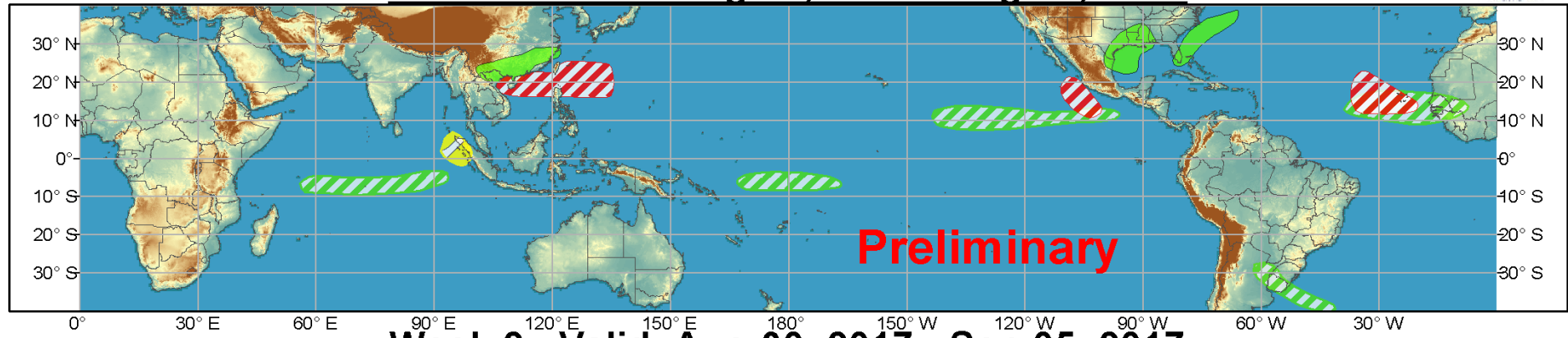




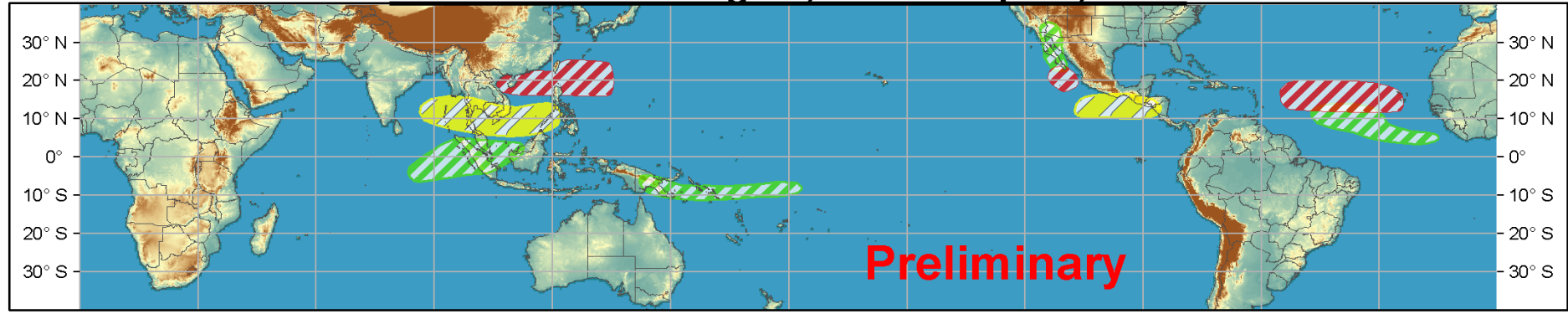


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Aug 23, 2017 - Aug 29, 2017



## Week 2 - Valid: Aug 30, 2017 - Sep 05, 2017



Produced: 08/22/2017

Forecaster: CPC

### 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.

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.

