

# Global Tropics Hazards And Benefits Outlook

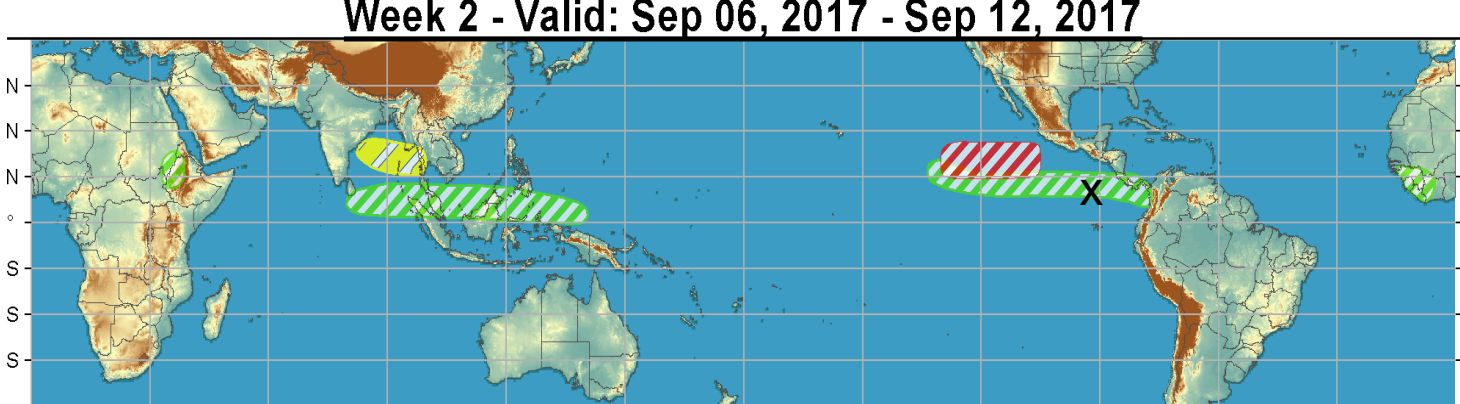
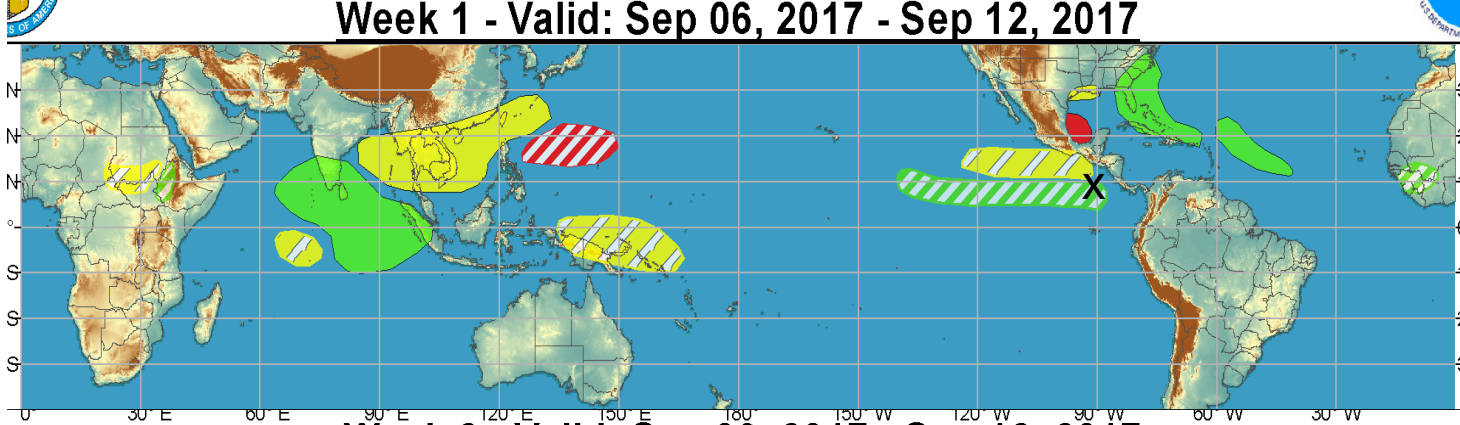
9/12/2017

Anthony Artusa

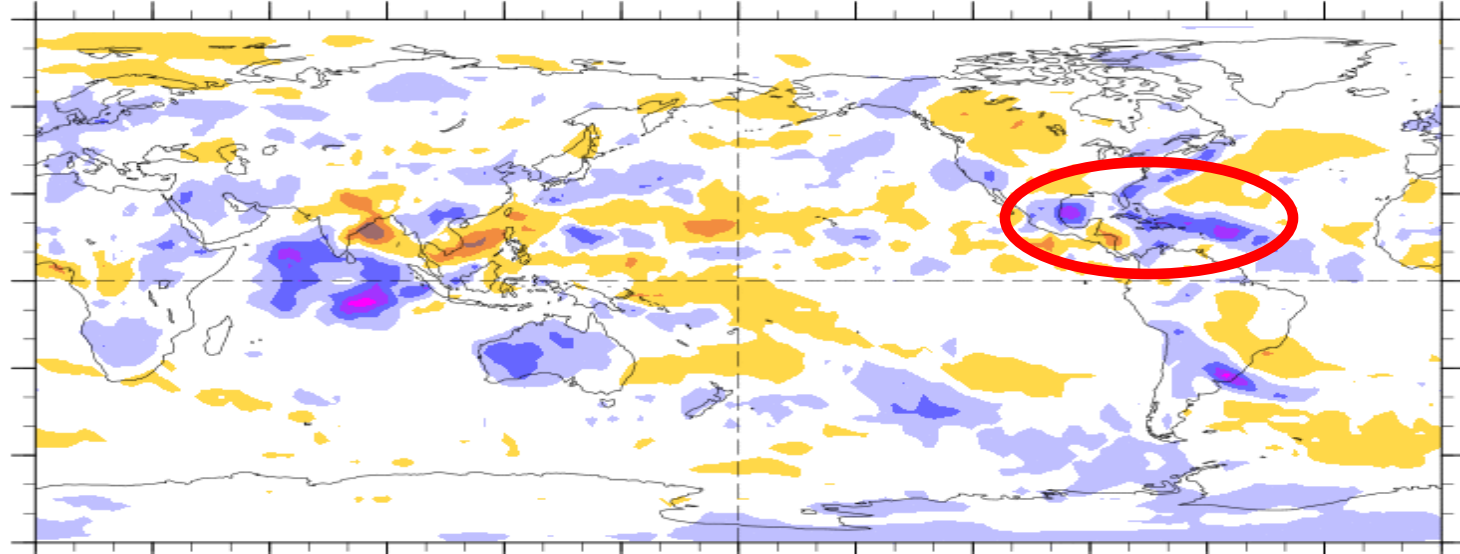
## Outline

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

# Outlook Review



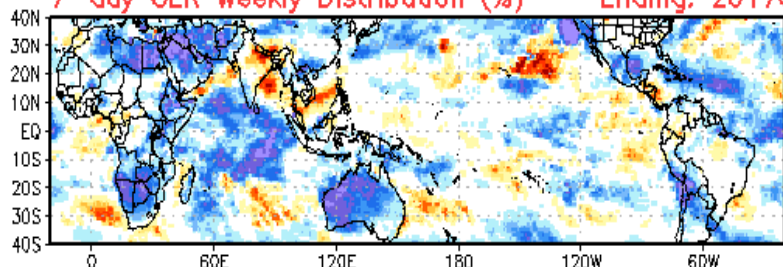
7-Day Average OLR Anomaly 2017/09/04 - 2017/09/10



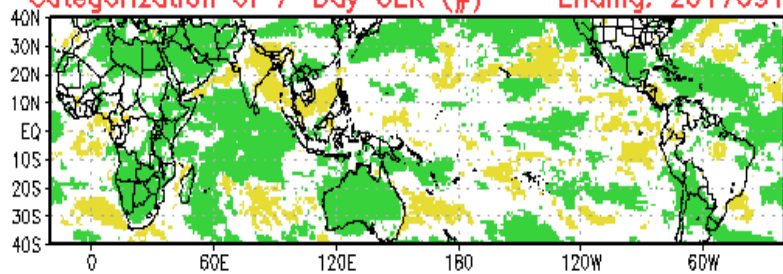
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

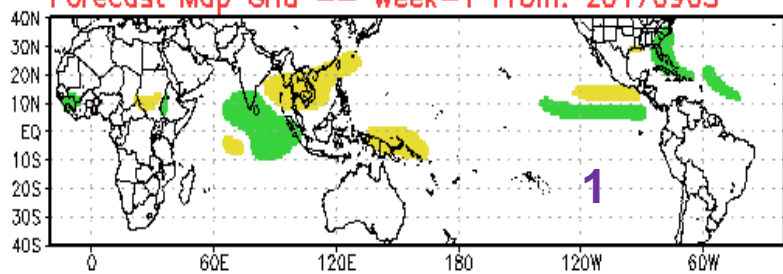
7-day OLR Weekly Distribution (%) -- Ending: 20170912



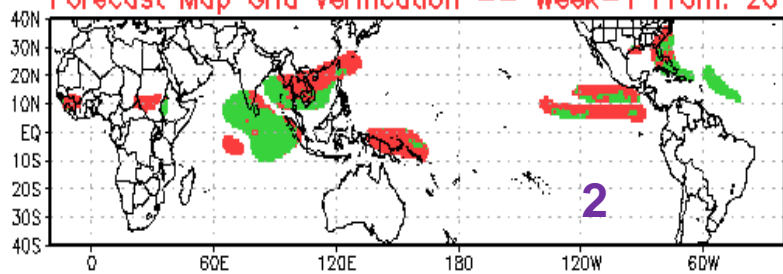
Categorization of 7-Day OLR (#) -- Ending: 20170912



Forecast Map Grid -- Week-1 From: 20170905

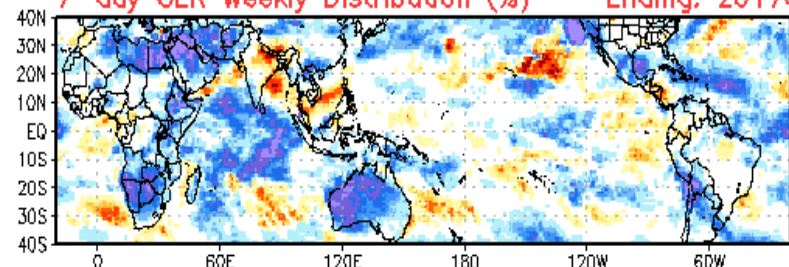


Forecast Map Grid Verification -- Week-1 From: 20170905

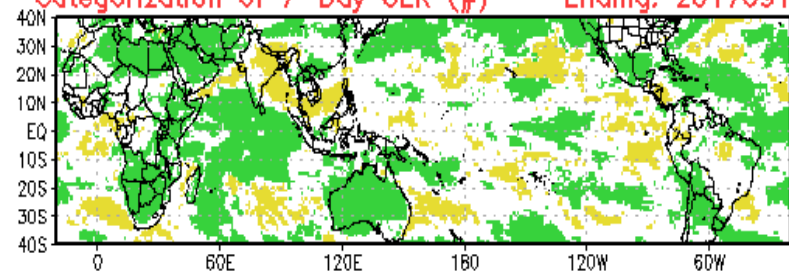


Hit: Green, Miss: Red  
Heidke Skill Score: 19.2179

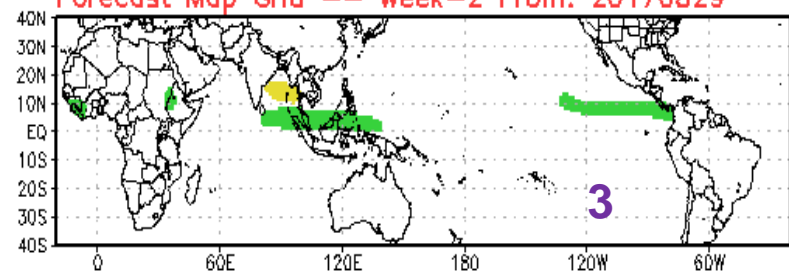
7-day OLR Weekly Distribution (%) -- Ending: 20170912



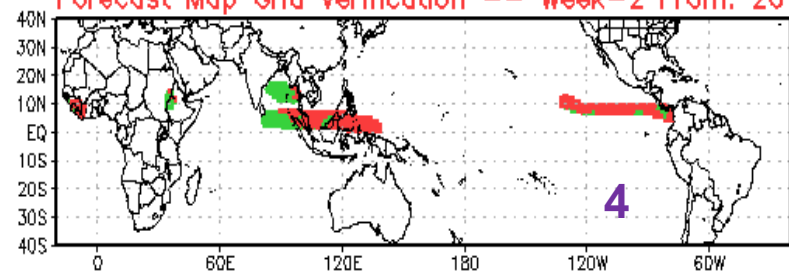
Categorization of 7-Day OLR (#) -- Ending: 20170912



Forecast Map Grid -- Week-2 From: 20170829



Forecast Map Grid Verification -- Week-2 From: 20170829



Hit: Green, Miss: Red  
Heidke Skill Score: -3.7804

# Synopsis of Climate Modes

## **ENSO: dated Aug 10**

- ENSO-neutral is favored (~85% chance through Sept, decreasing to ~55% during Dec-Feb) through the Northern Hemisphere winter 2017-18

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

- The MJO remained weak, with Kelvin wave activity over Pacific.
- Dynamical models indicate a weak, low amplitude signal in Week-1, which moves rapidly eastward across the Indian Ocean and western Maritime Continent. Week-2... MJO signal incoherent; possible emergence of weak signal over phase 8 (Western Hemisphere and Africa). Related to Kelvin wave activity? Westward-moving modes (ERWs) also interfering.

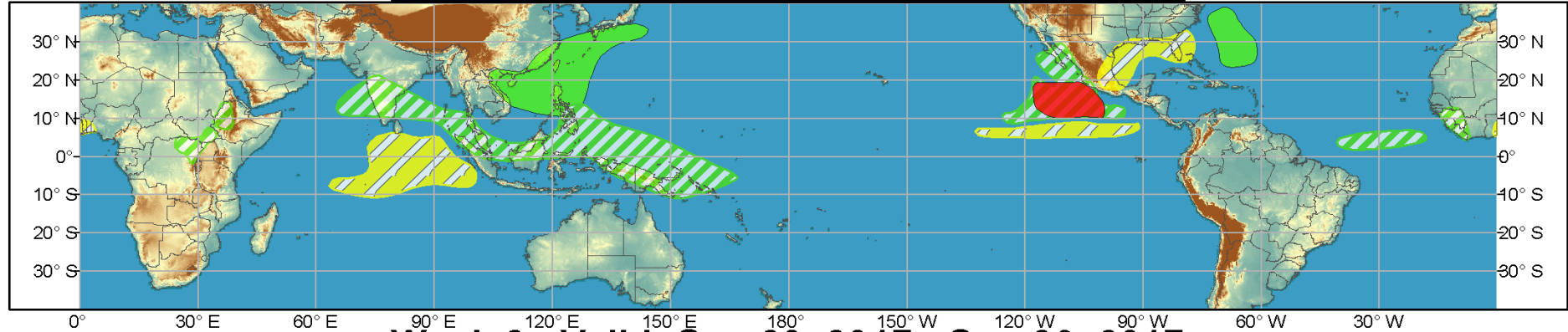
## **Extratropics:**

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be directly impacted by MJO activity (but indirect impacts could be realized through TC activity)

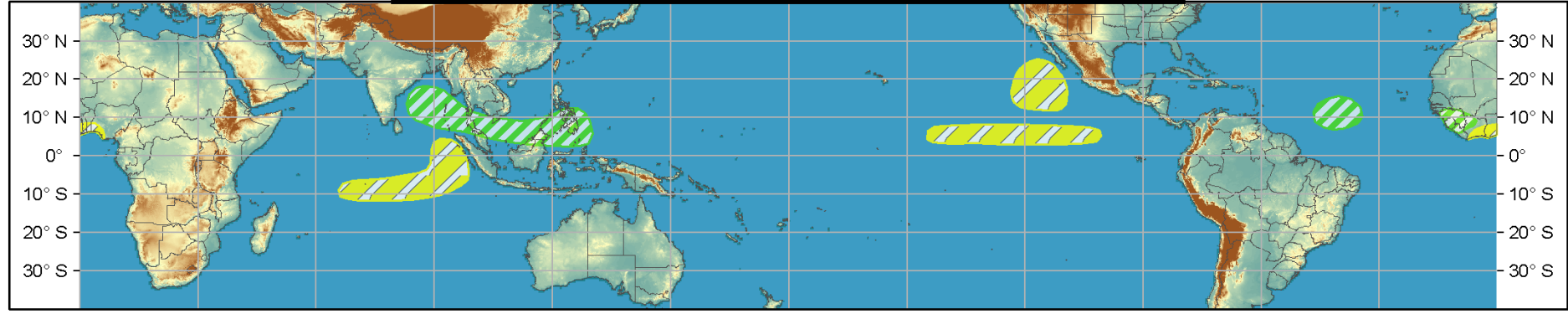


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Sep 13, 2017 - Sep 19, 2017



## Week 2 - Valid: Sep 20, 2017 - Sep 26, 2017



Produced: 09/12/2017  
Forecaster: Artusa

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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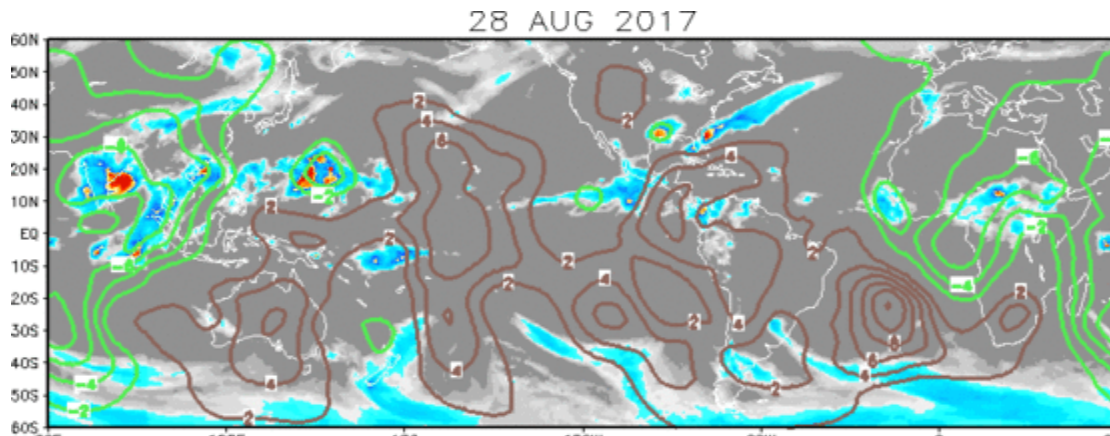


# IR Satellite & 200-hpa Velocity Potential Anomalies

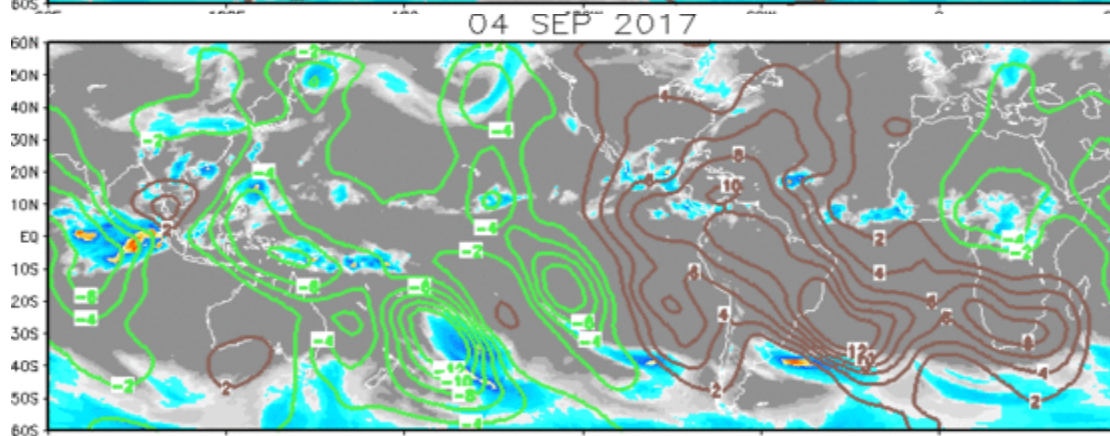
Green: Enhanced Divergence

Brown: Enhanced Convergence

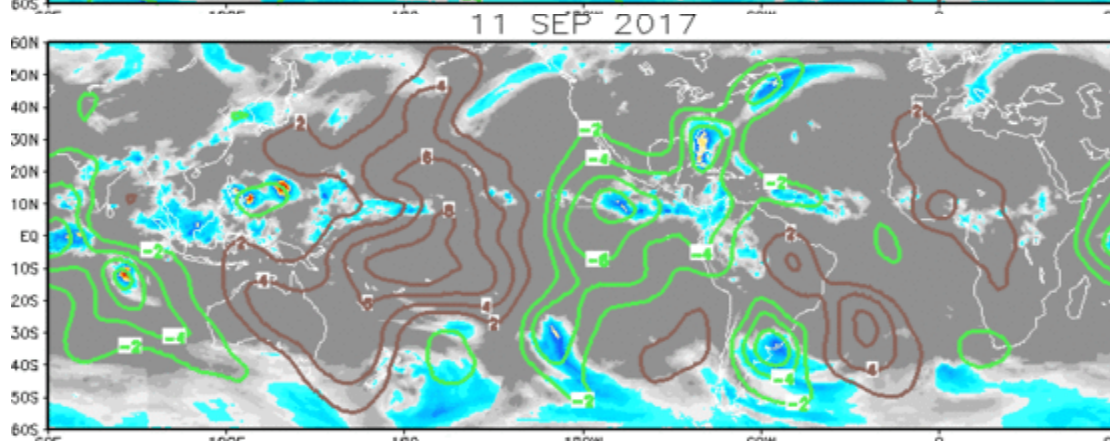
Wave-1 pattern



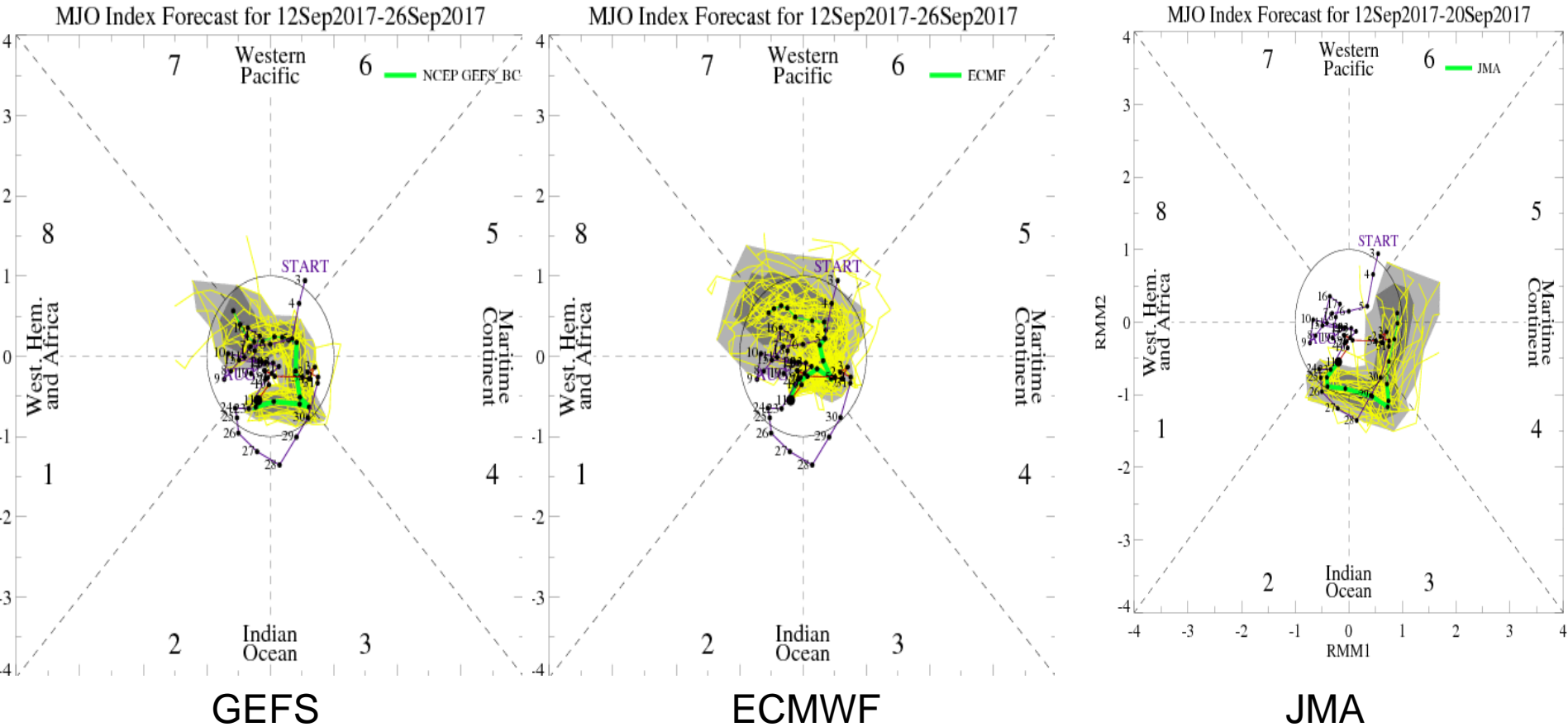
Wave-1 > Wave-2 pattern



Wave-2 pattern

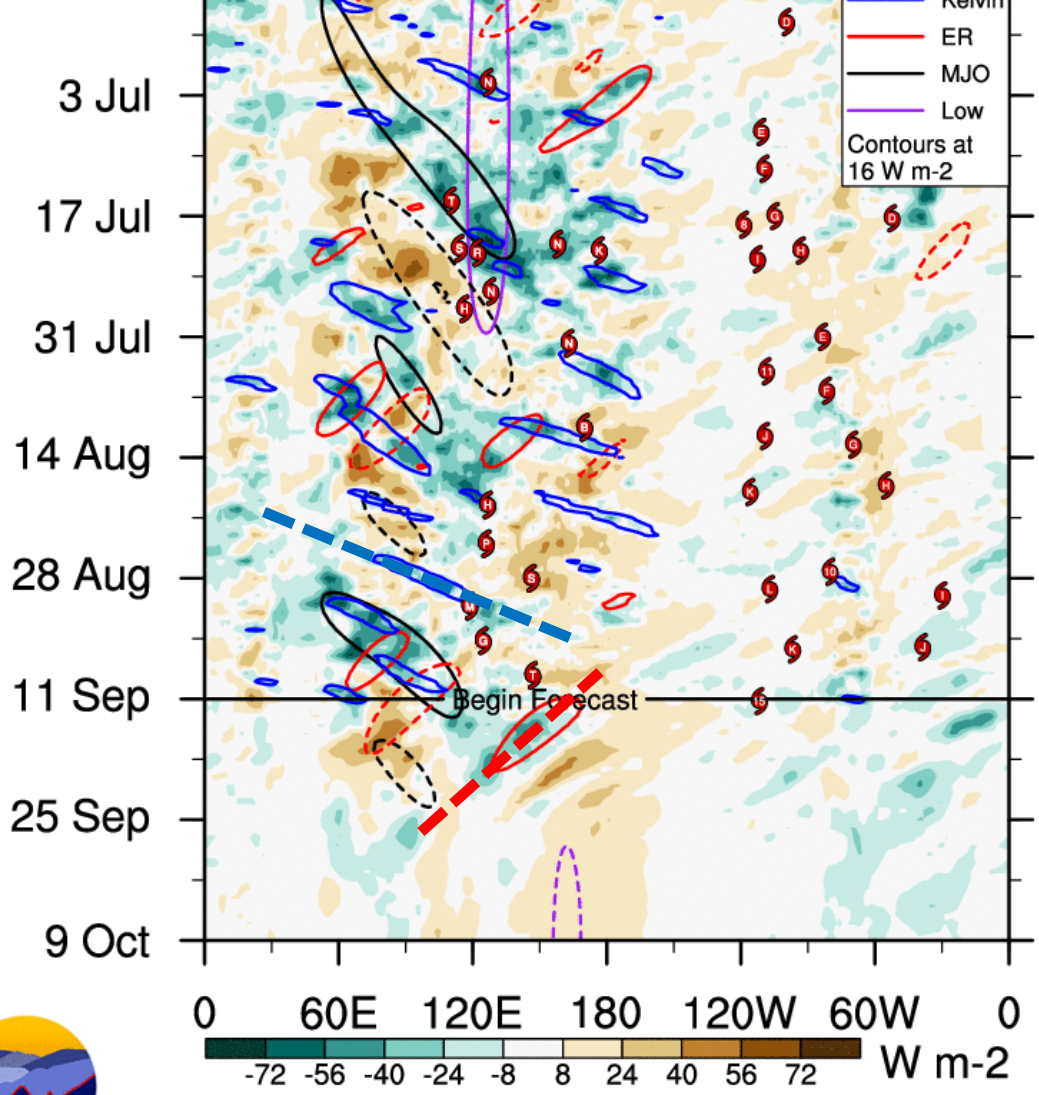


# MJO Observation/Forecast

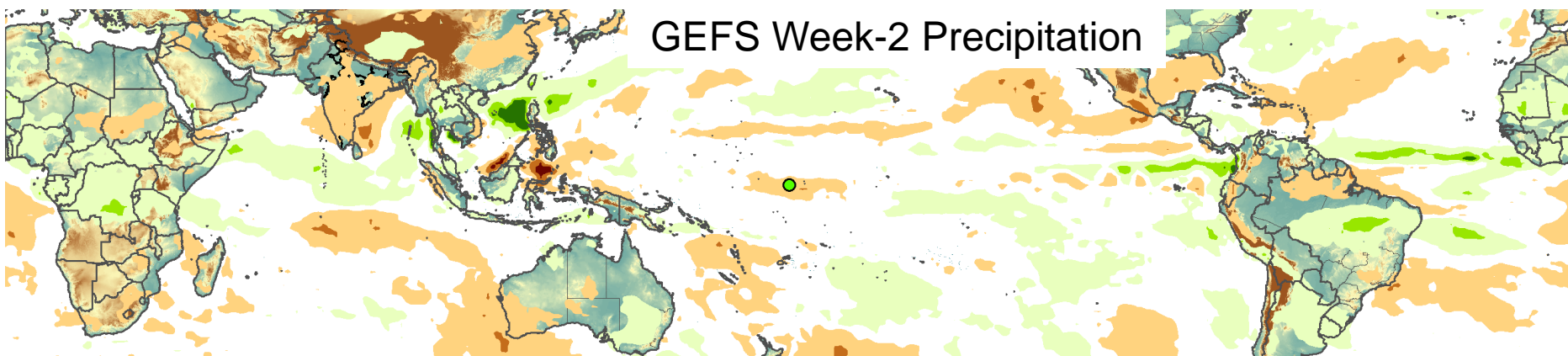
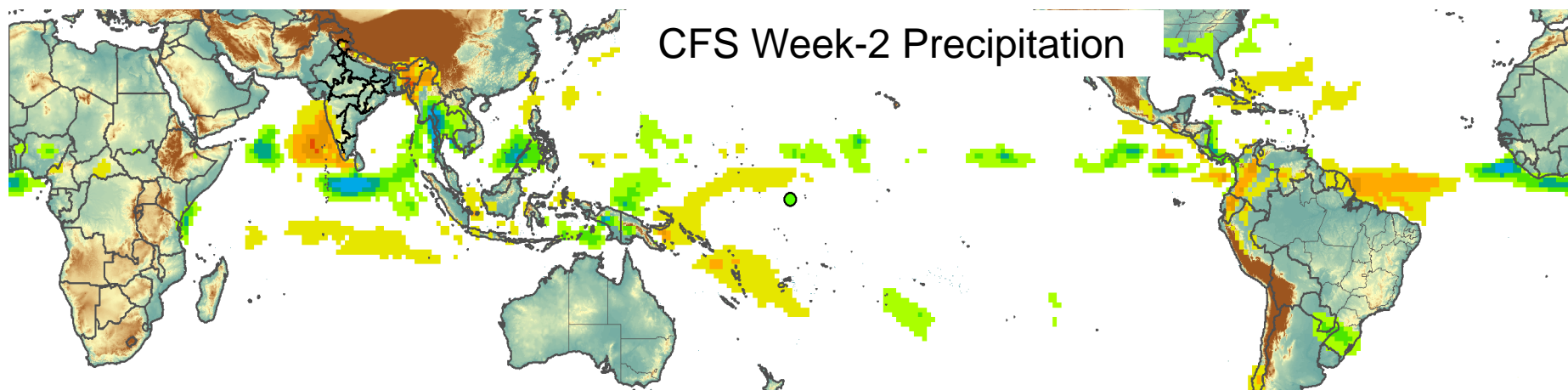
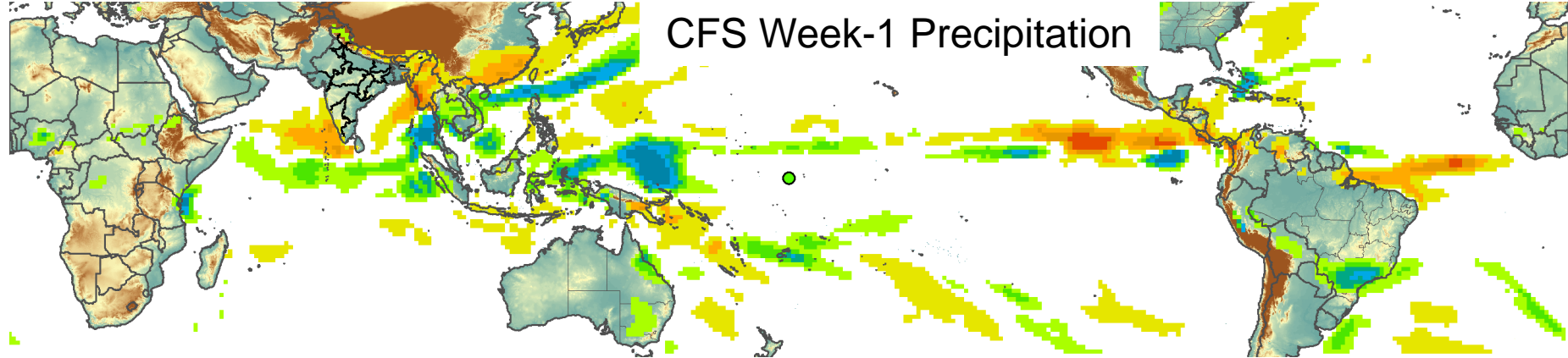


Wheeler-Hendon based analyses of model forecasts show significant differences.

MJO, Rossby wave, Kelvin wave, Low-frequency pattern having an influence



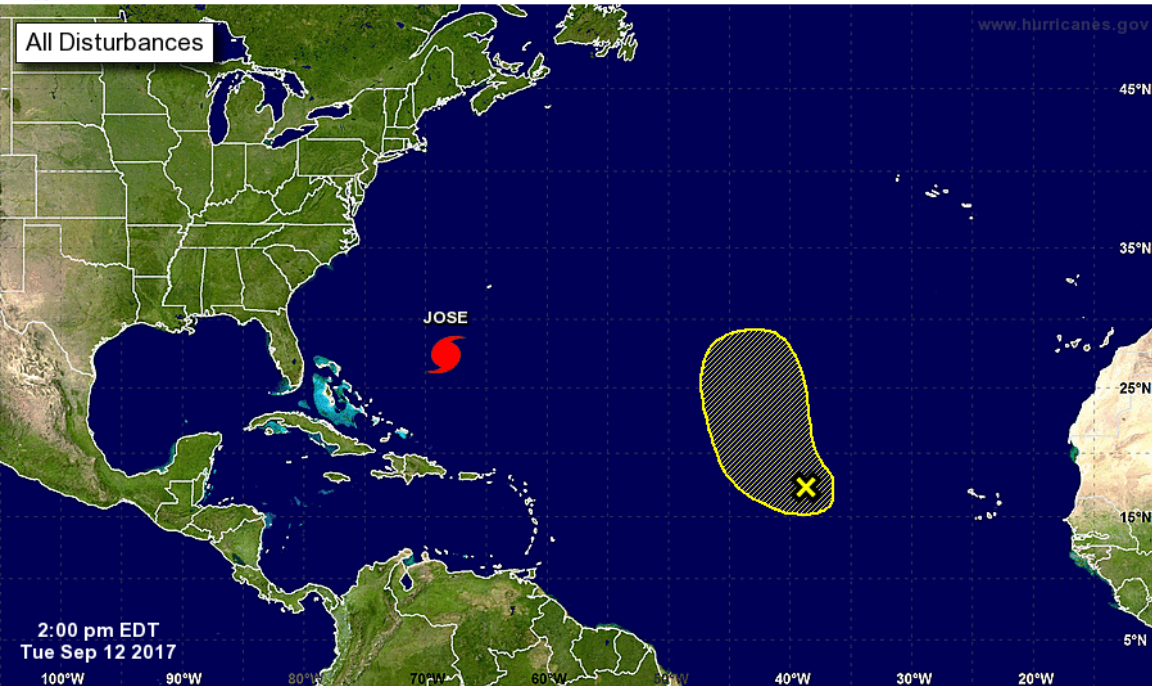






# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



All Disturbances

2:00 pm EDT  
Tue Sep 12 2017

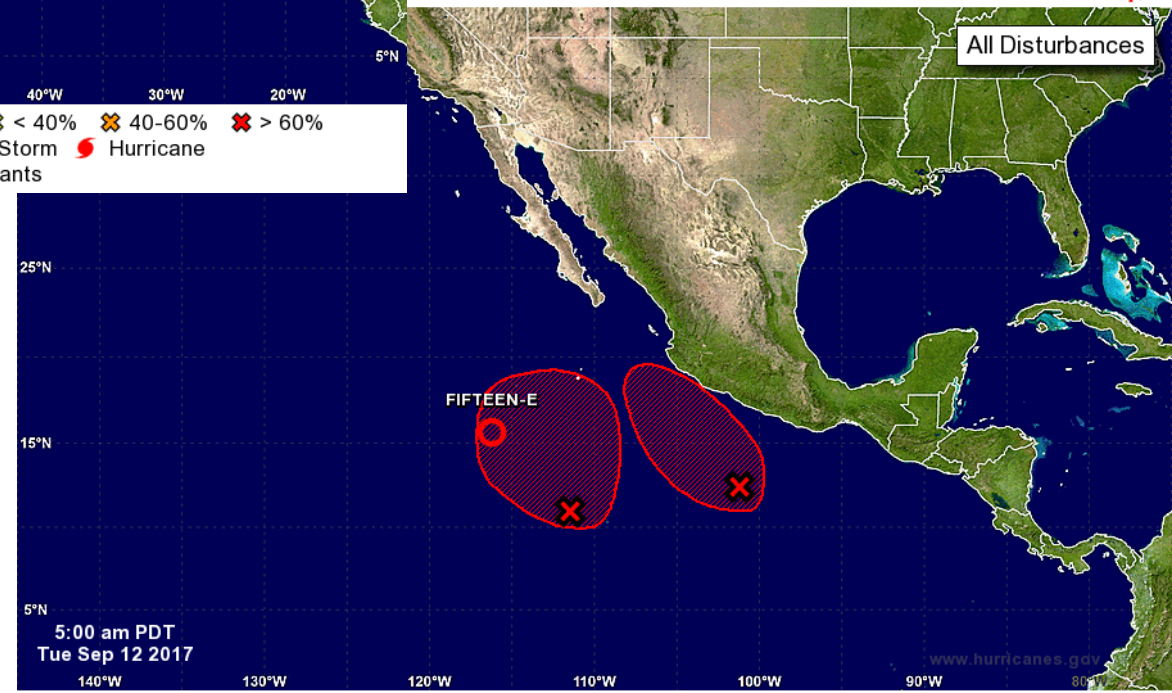
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

# Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



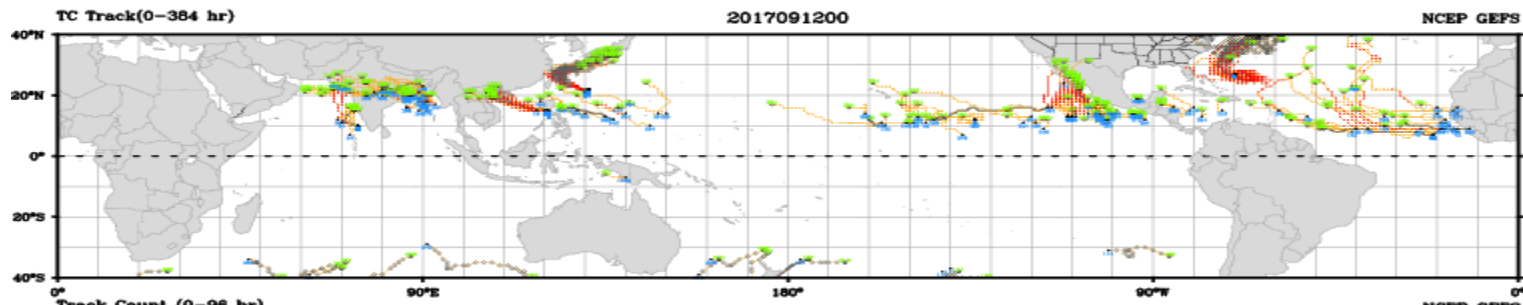
All Disturbances

5:00 am PDT  
Tue Sep 12 2017

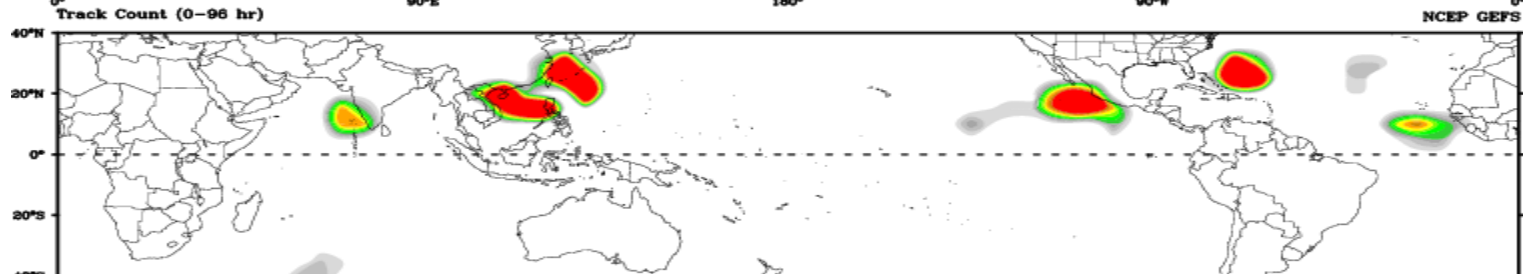
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

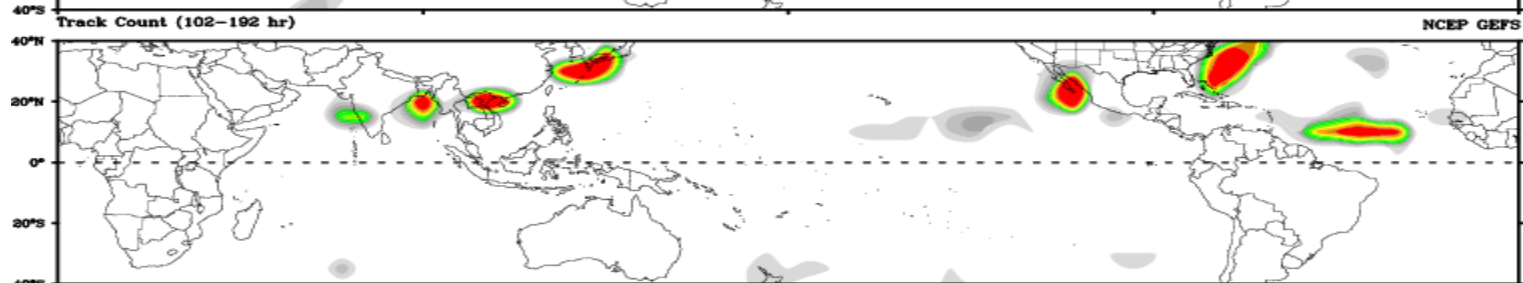
Post-Tropical Cyclone Remnants



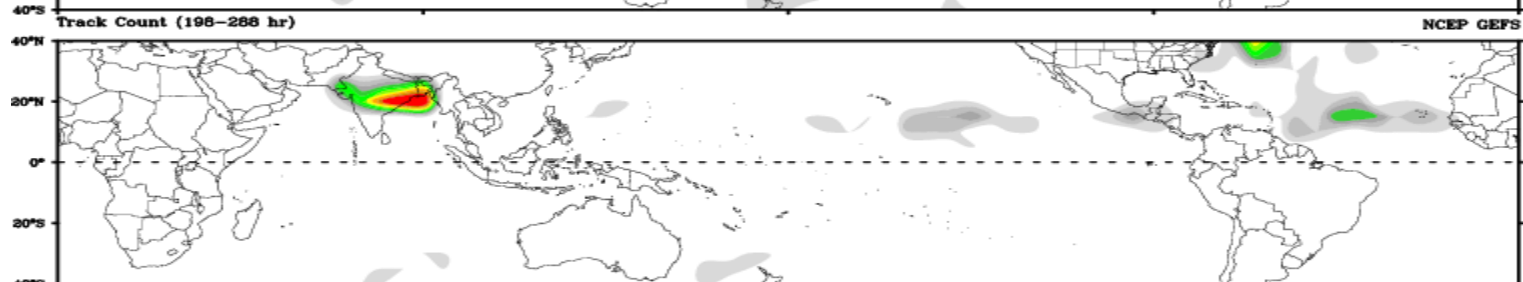
Days 1-4



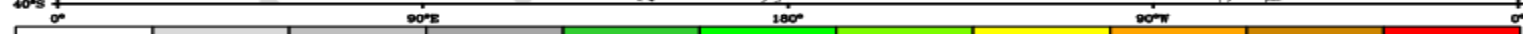
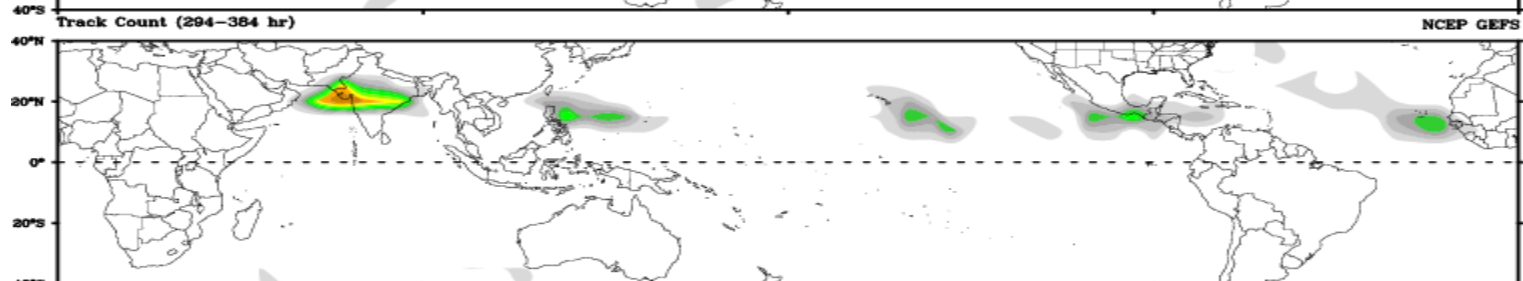
Day 5-8



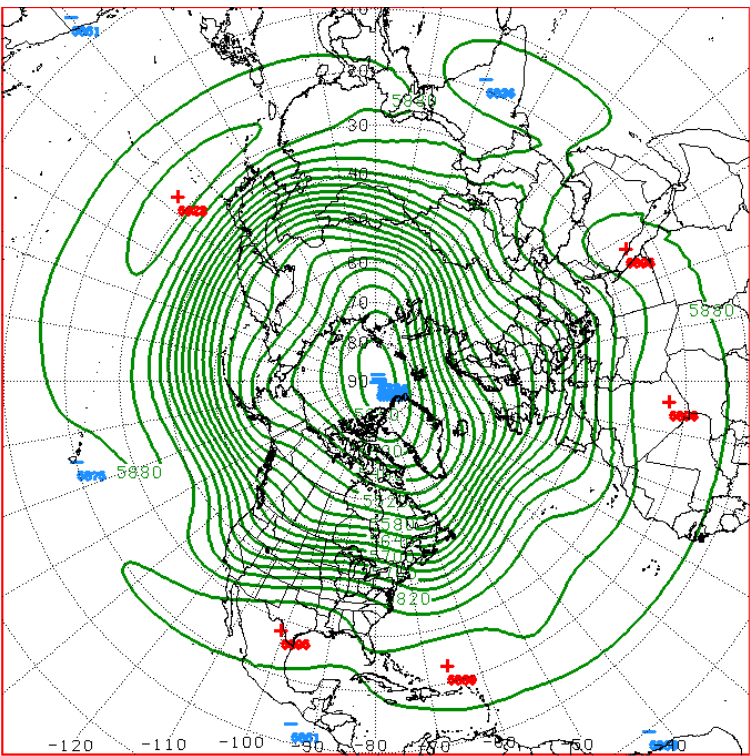
Day 9-12



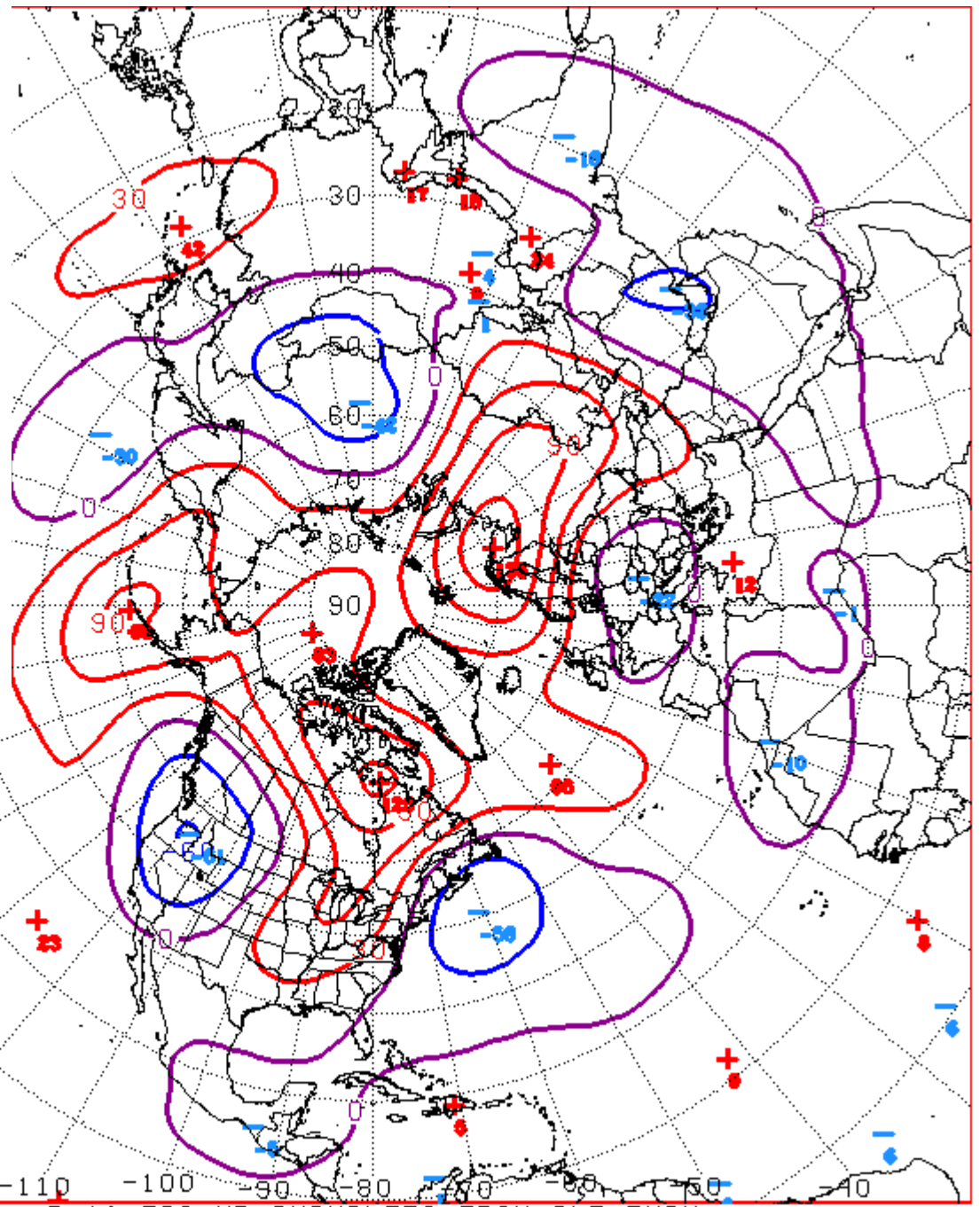
Day 13-15



# Connections to U.S. Impacts

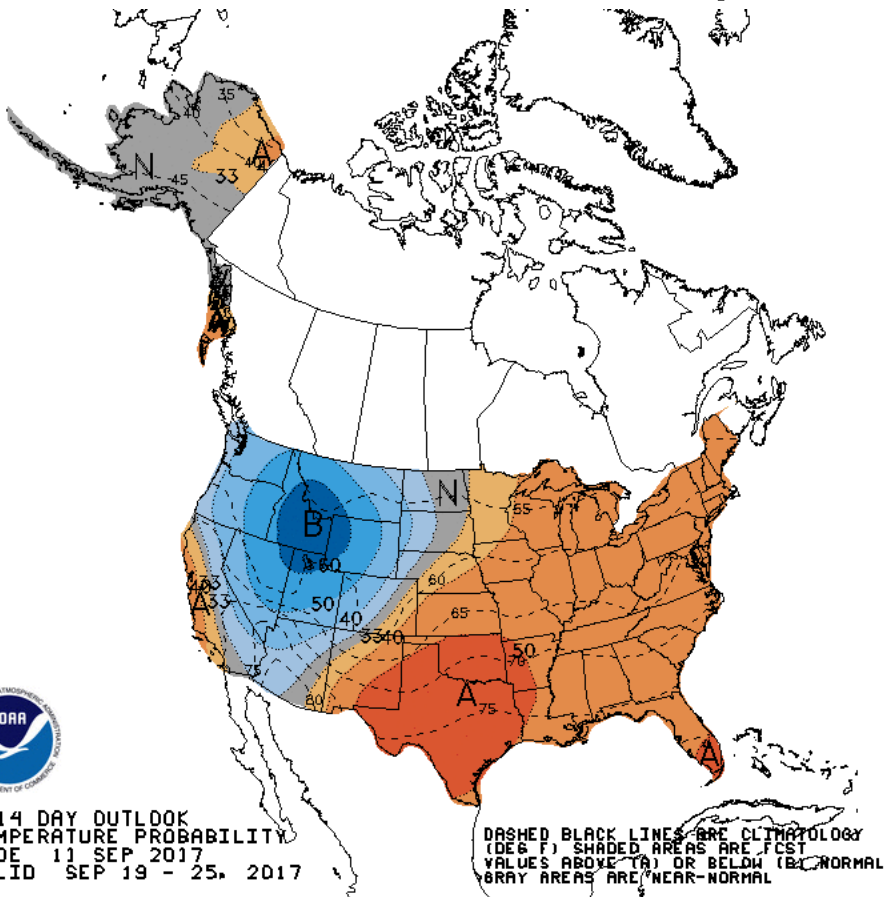


D+11 500 MB HEIGHTS FROM ALZ ENSM  
CPC MAP MADE SEP 12 2017 1308 UTC CNTD SEP 23 2017



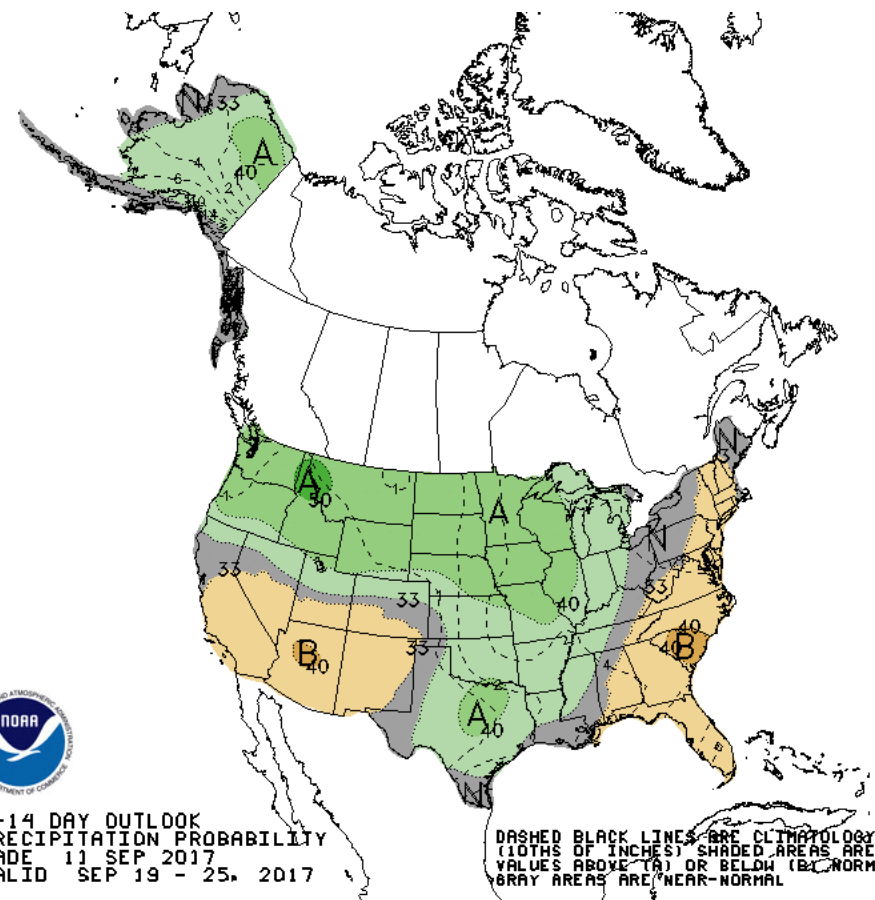
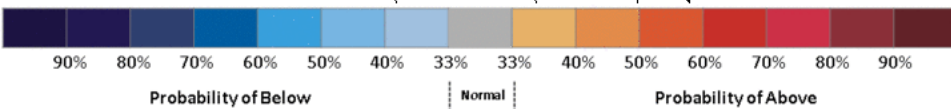
D+11 500 MB ANOMALIES FROM ALZ ENSM  
CPC MAP MADE SEP 12 2017 1309 UTC CNTD SEP 23 2017

# Week 2 – Temperature and Precipitation



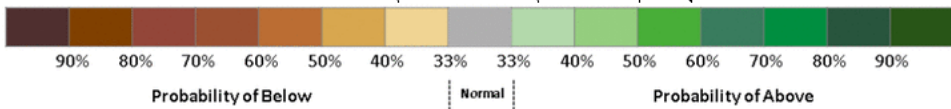
8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 11 SEP 2017  
VALID SEP 19 - 25, 2017

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 11 SEP 2017  
VALID SEP 19 - 25, 2017

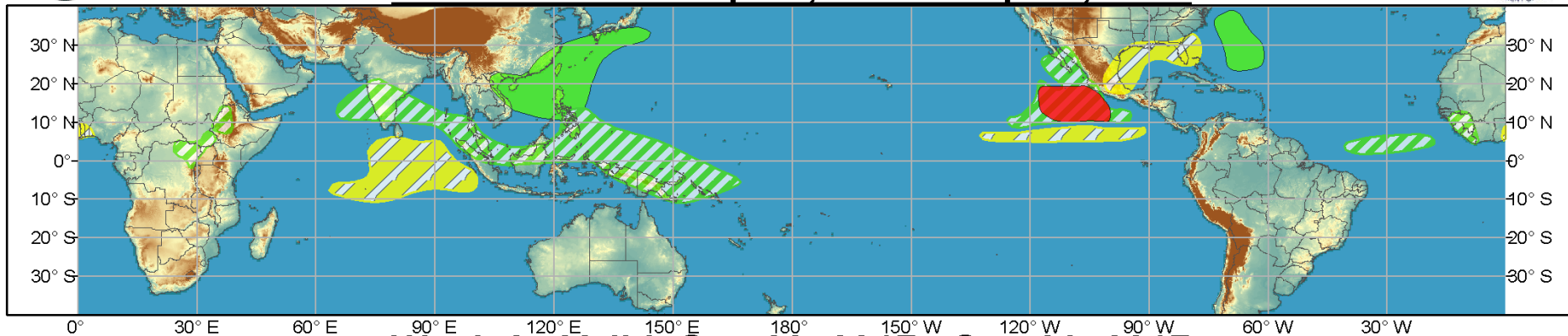
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



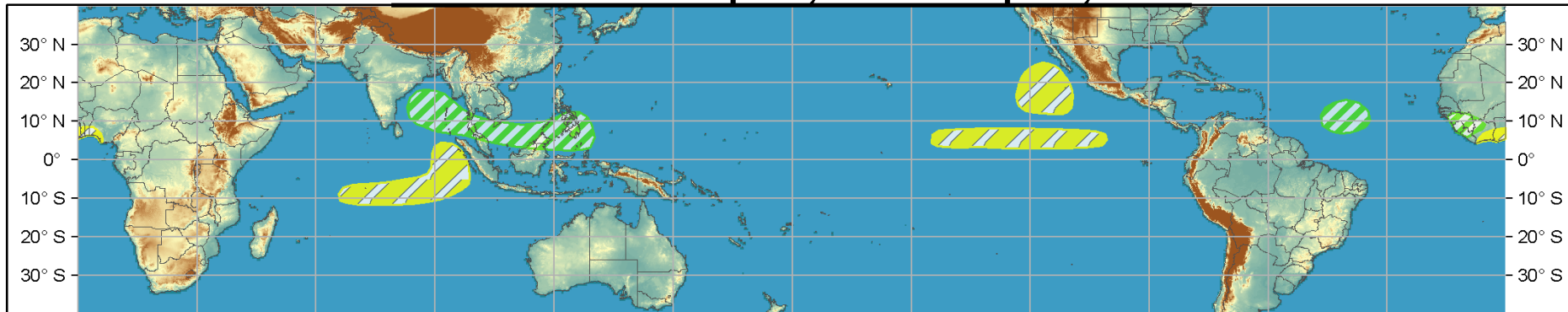


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