

# Global Tropics Hazards And Benefits Outlook

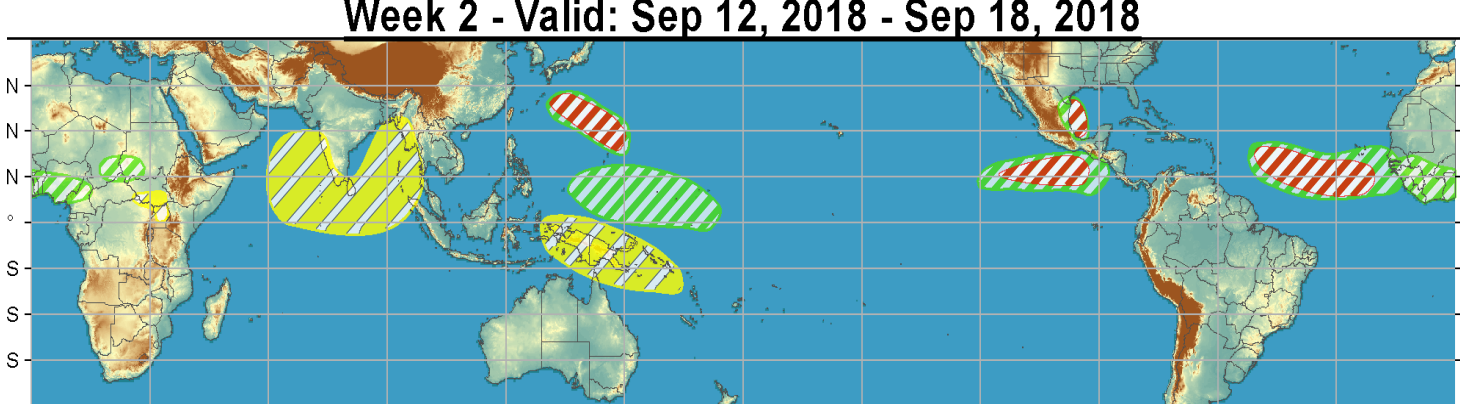
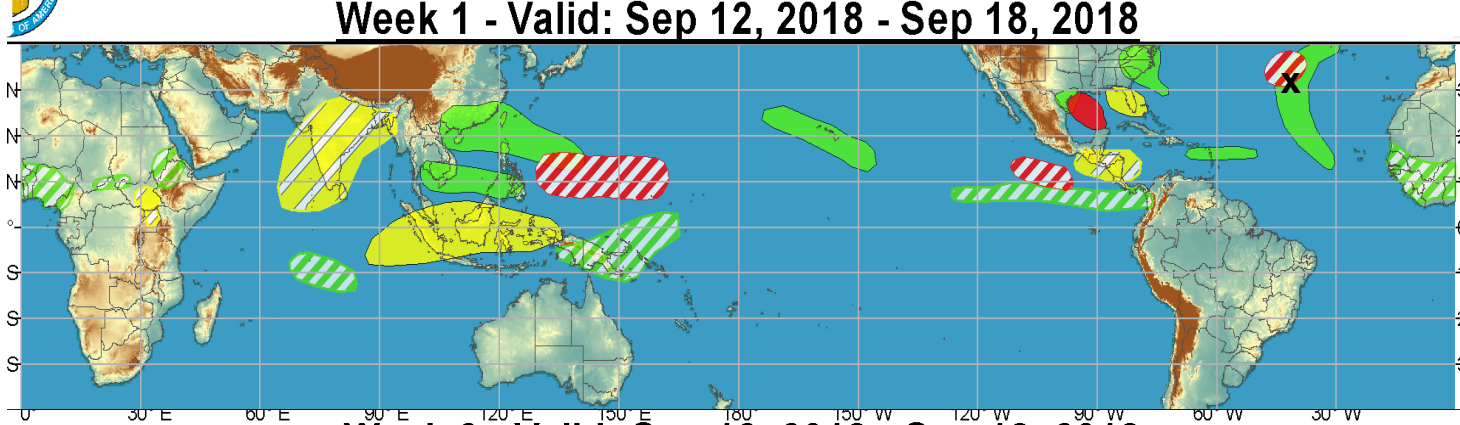
09/18/2018

Kyle MacRitchie

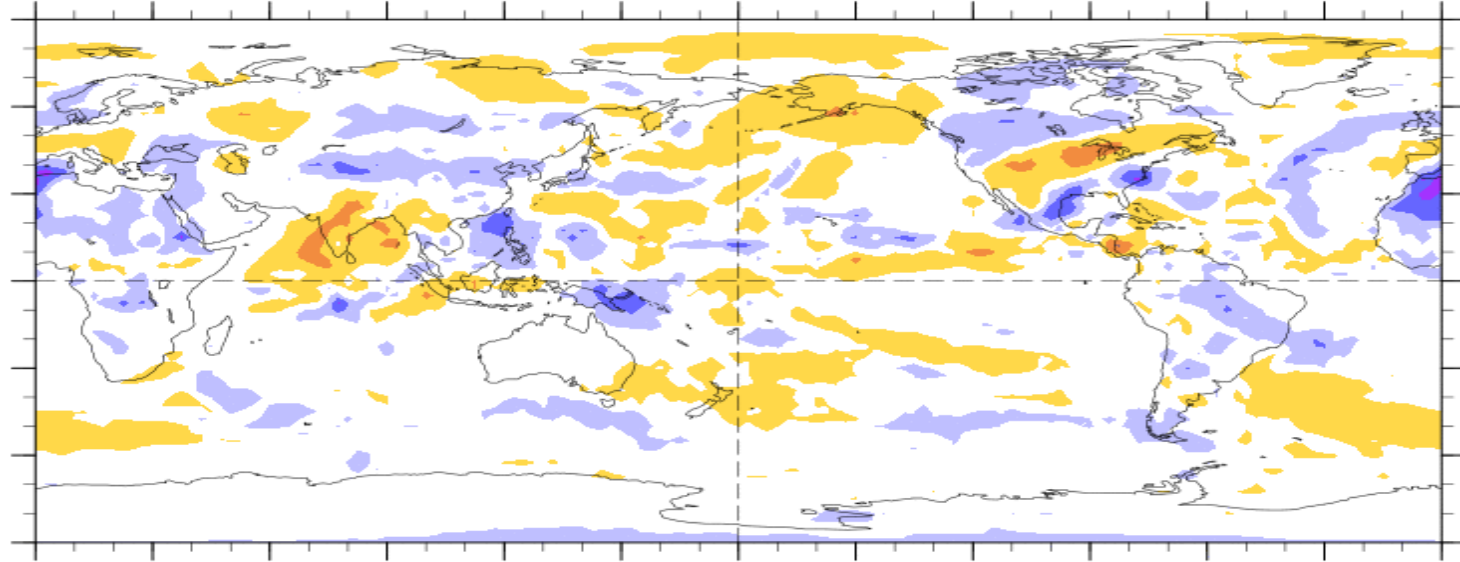
## Outline

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 2018/09/10 - 2018/09/16



Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

## **ENSO: (September 13, 2018 Update)**

- ENSO Alert System Status: [El Niño Watch](#)
- There is a 50-55% chance of El Niño onset during the Northern Hemisphere fall 2018 (September-November), increasing to 65-70% during winter 2018-19.

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

- The MJO is currently weak but models forecast it to strengthen and emerge in phases 8/1 by Week-2.
- Equatorial Rossby wave activity and a transition to an El Niño base state are the primary drivers along with several active TCs.

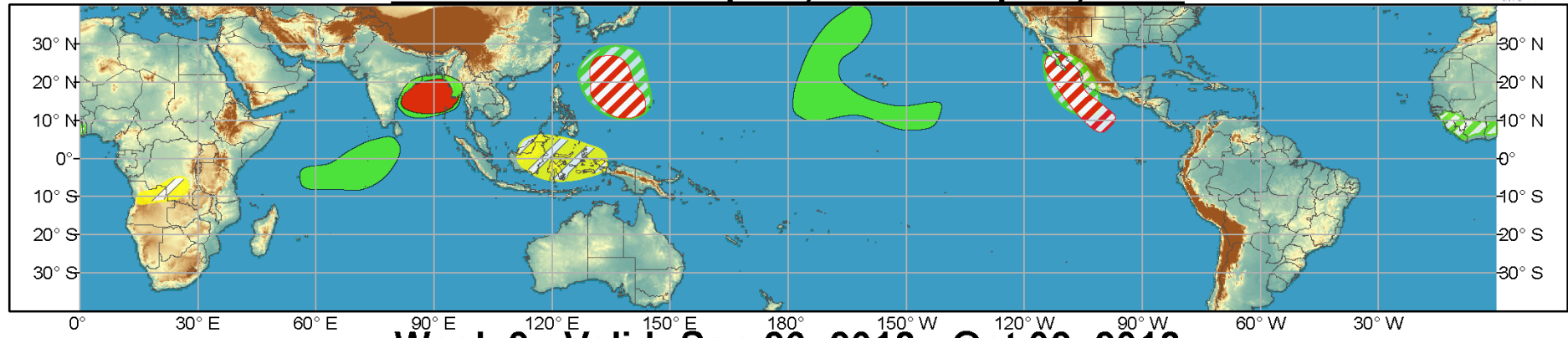
## **Extratropics:**

- Although the MJO is likely to re-emerge by Week-2, downstream extratropical impacts aren't likely to be significant until later.

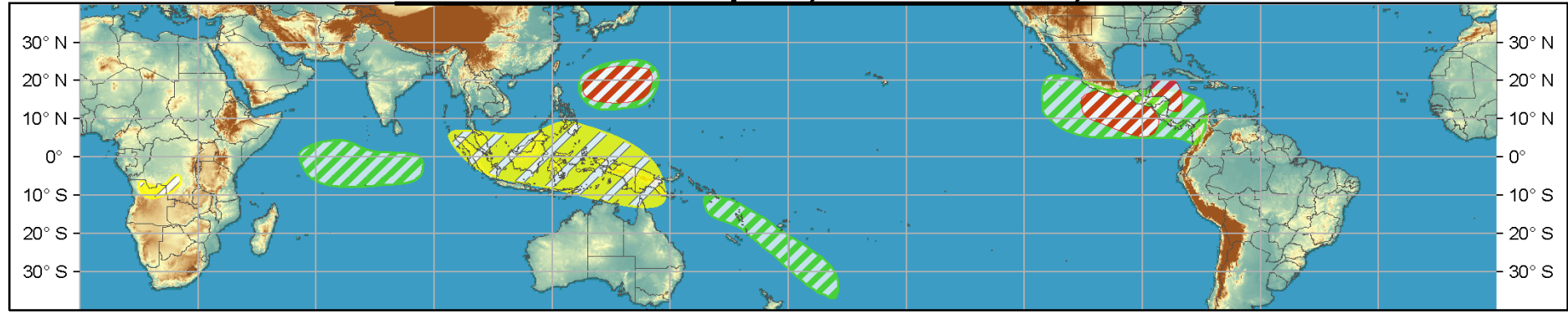


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Sep 19, 2018 - Sep 25, 2018



## Week 2 - Valid: Sep 26, 2018 - Oct 02, 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: 09/18/2018

Forecaster: MacRitchie

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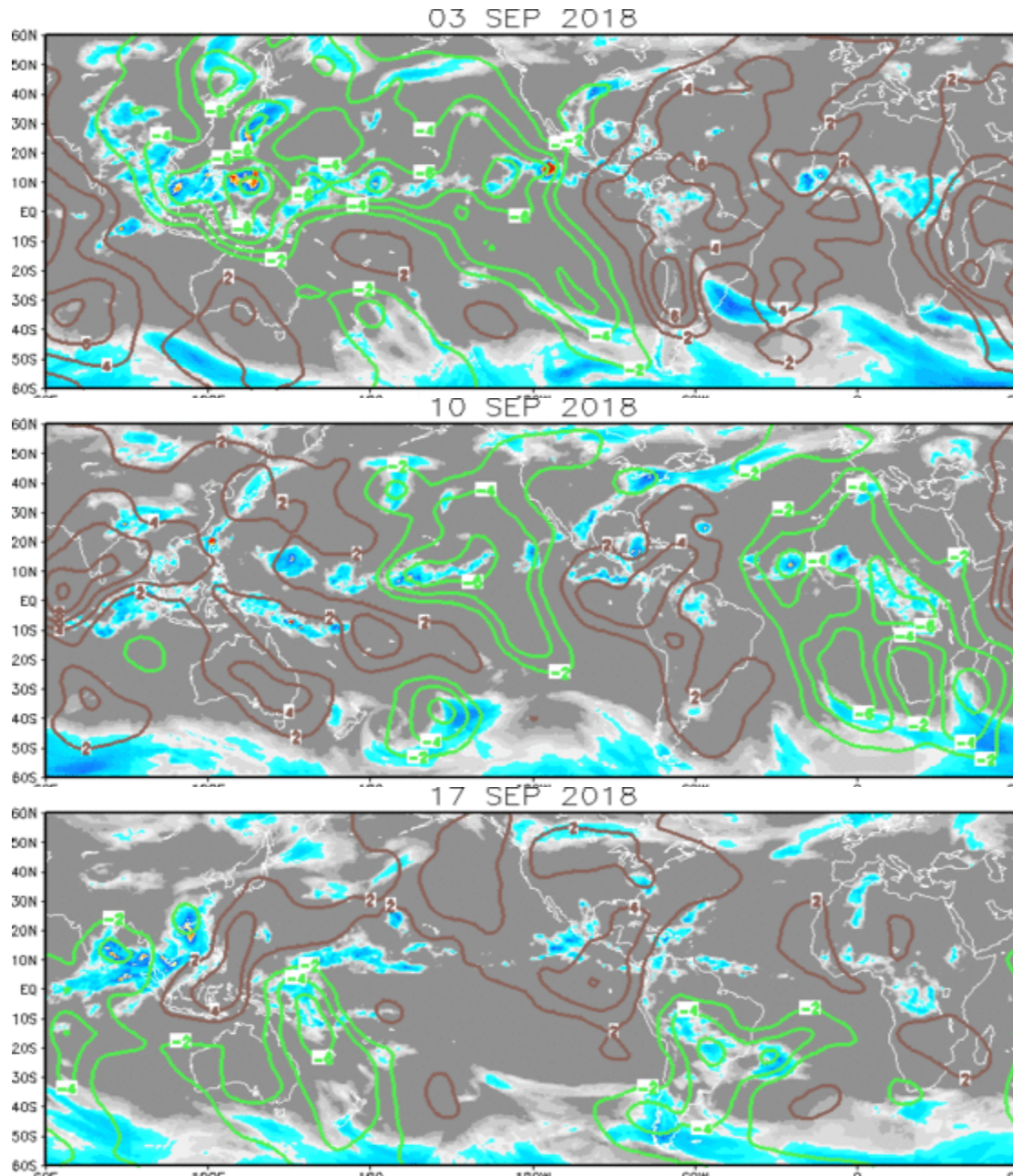
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

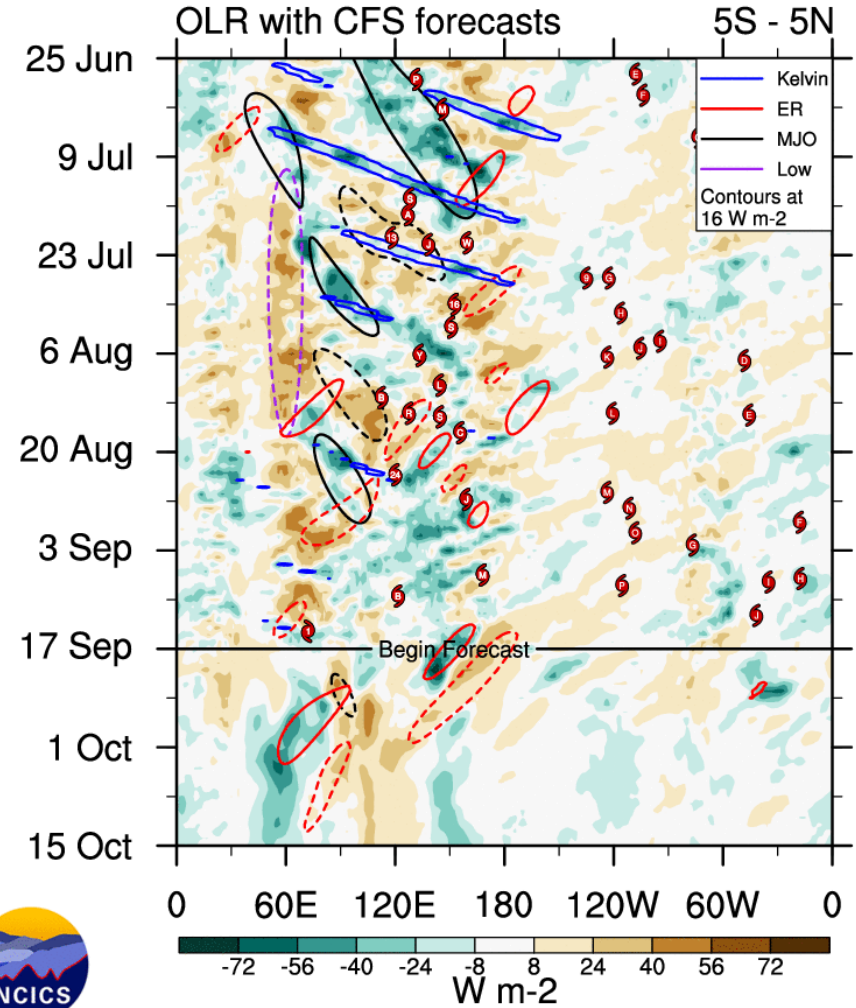
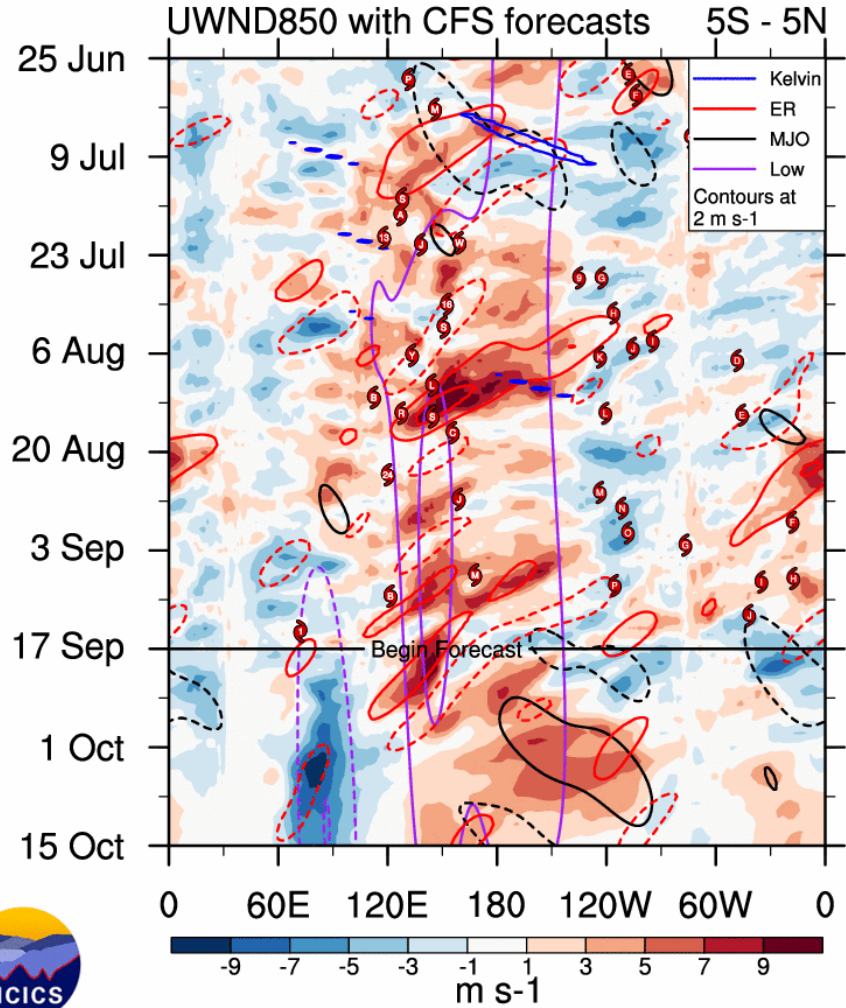
Brown: Enhanced Convergence

Wave-1 turns to Wave-2 as low-frequency variability weakens and TCs become active.

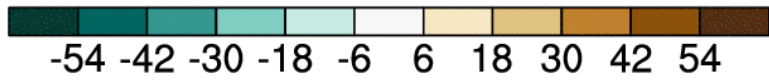
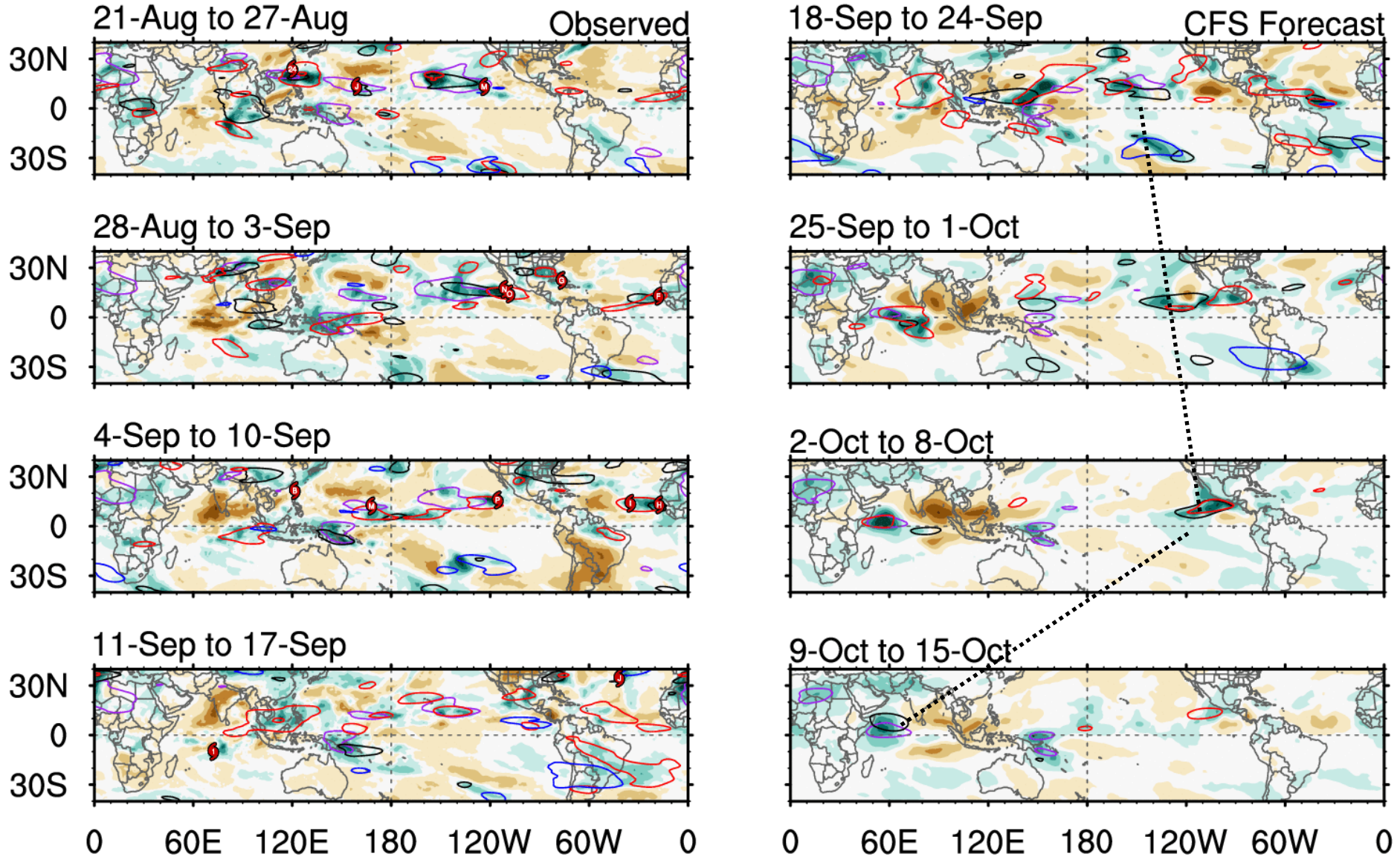
Regionally small areas of convection dominate the pattern but this should change by Week-2 as the MJO emerges.







MJO remains weak



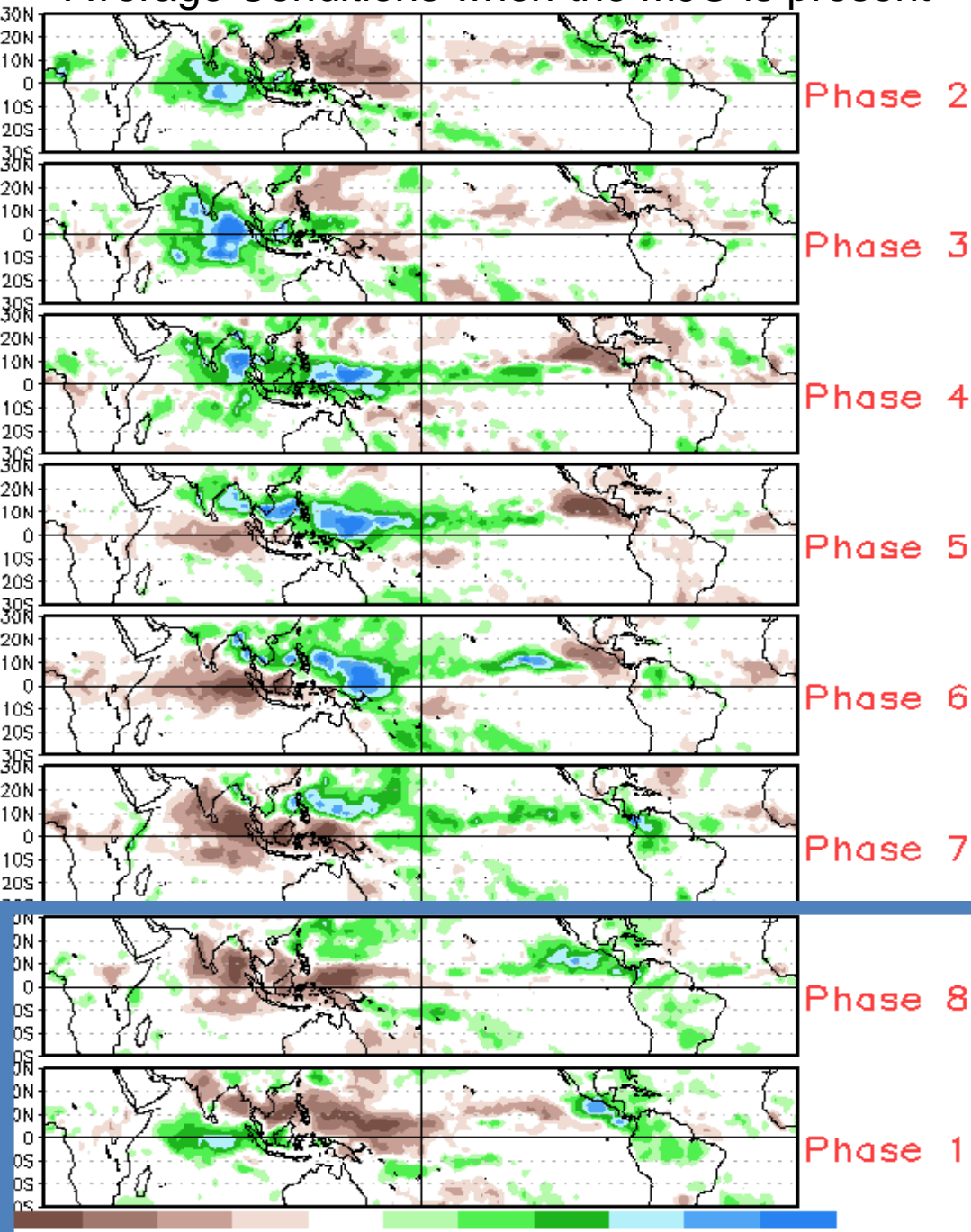
W m<sup>-2</sup>

# 7-day OLR with CFS forecasts

- MJO
  - Low
  - Kelvin x2
  - ER
- Contours at -12, -36 W m<sup>-2</sup>



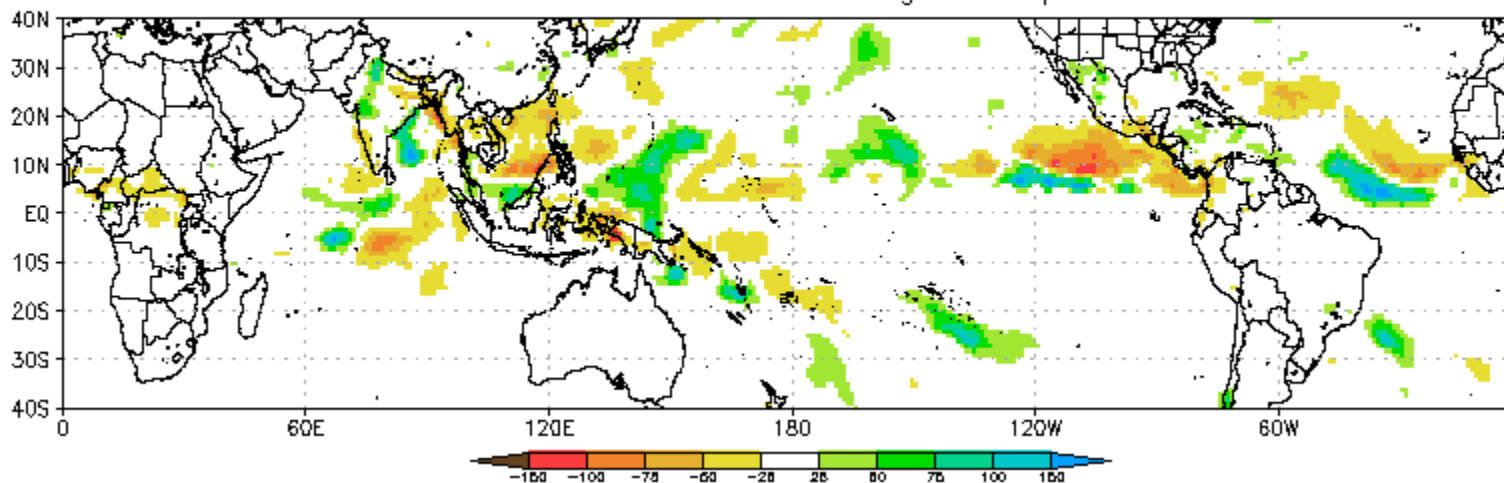
# Average Conditions when the MJO is present



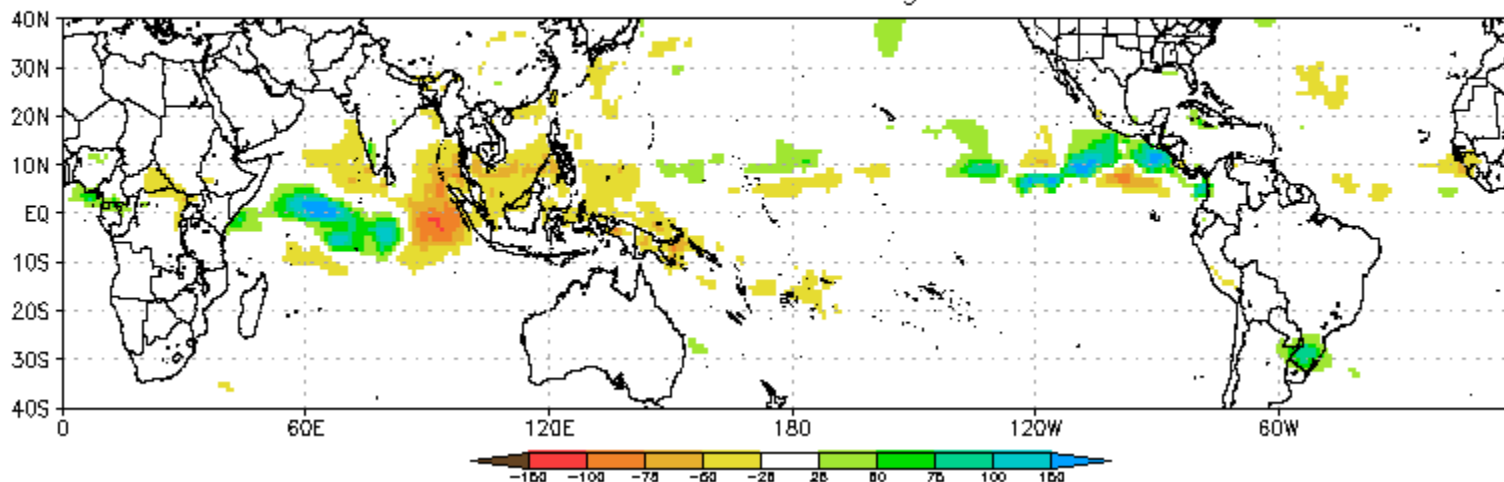
← Expected during Week-2

CAVEAT: These panels are representative of robust MJO events.

CFS Precipitation Anomalies (mm) Issued 17Sep2018  
Week-1 Forecast Ending 25Sep2018

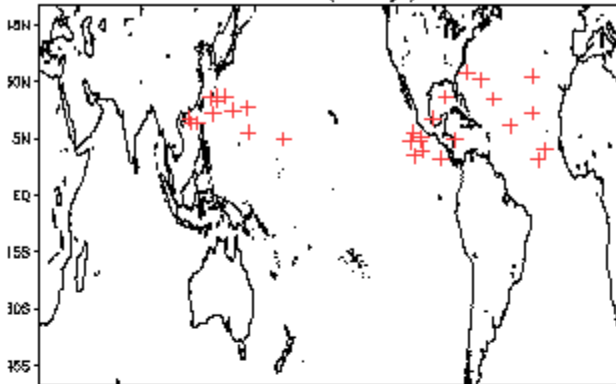


CFS Precipitation Anomalies (mm) Issued 17Sep2018  
Week-2 Forecast Ending 02Oct2018

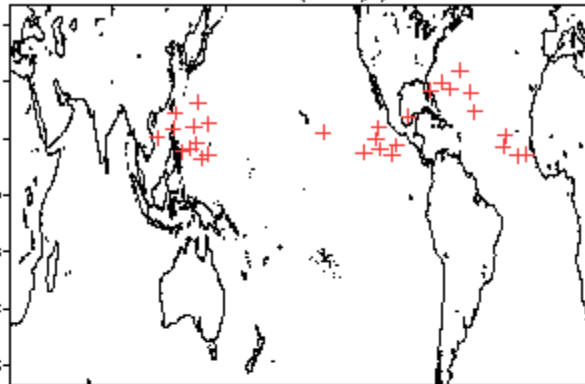


# September Tropical Storm Formation by MJO phase

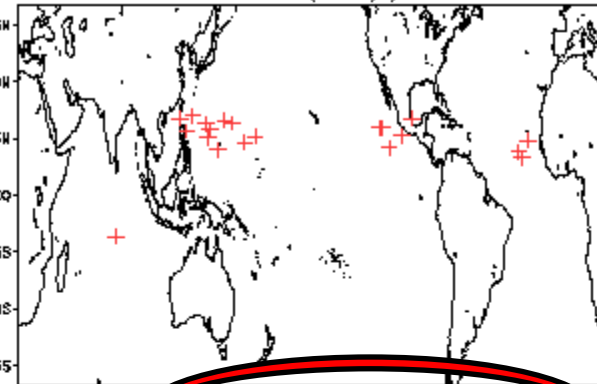
Phase 1 (81 days) 31 storms



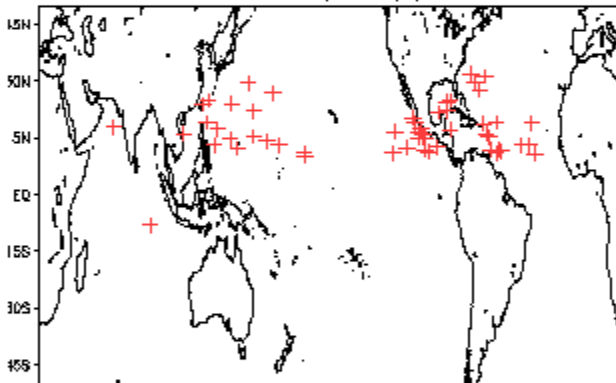
Phase 4 (70 days) 30 storms



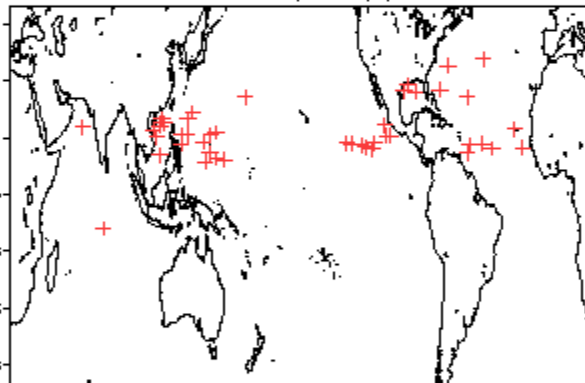
Phase 7 (38 days) 22 storms



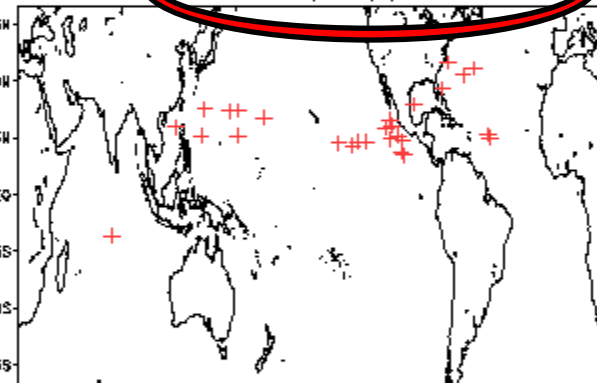
Phase 2 (122 days) 56 storms



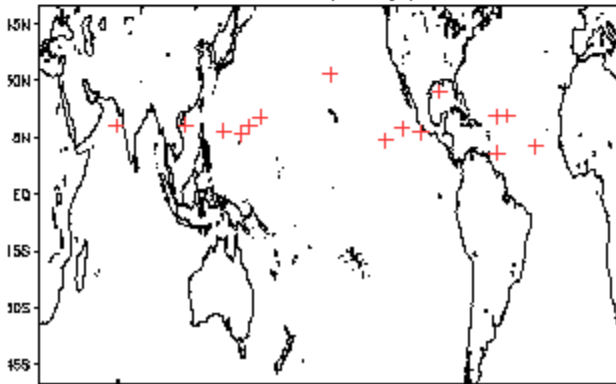
Phase 5 (106 days) 45 storms



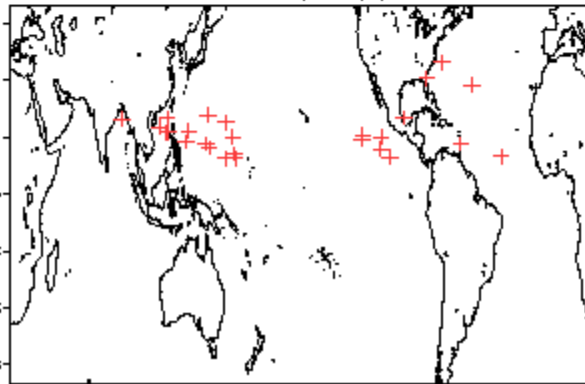
Phase 8 (67 days) 29 storms



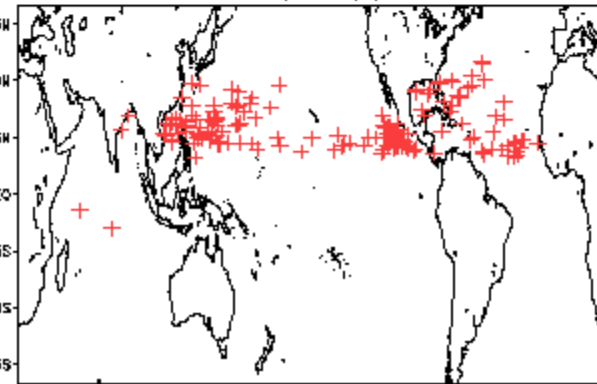
Phase 3 (51 days) 16 storms



Phase 6 (61 days) 27 storms



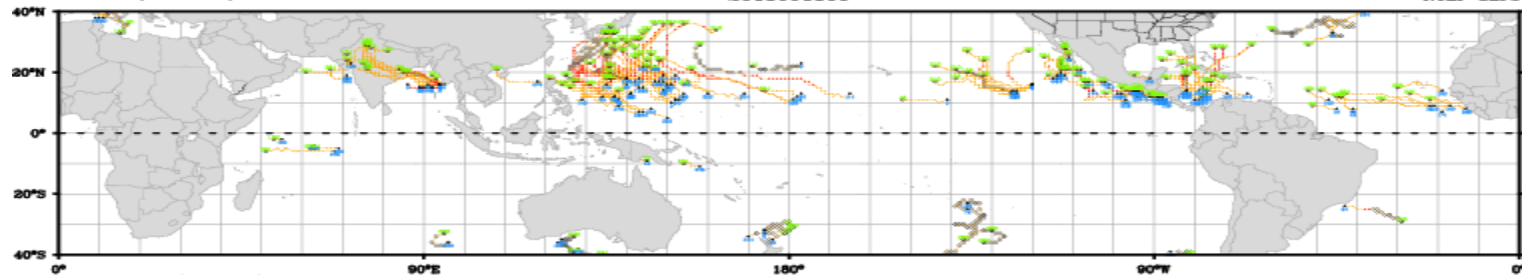
Null (393 days) 189 storms



TC Track(0-384 hr)

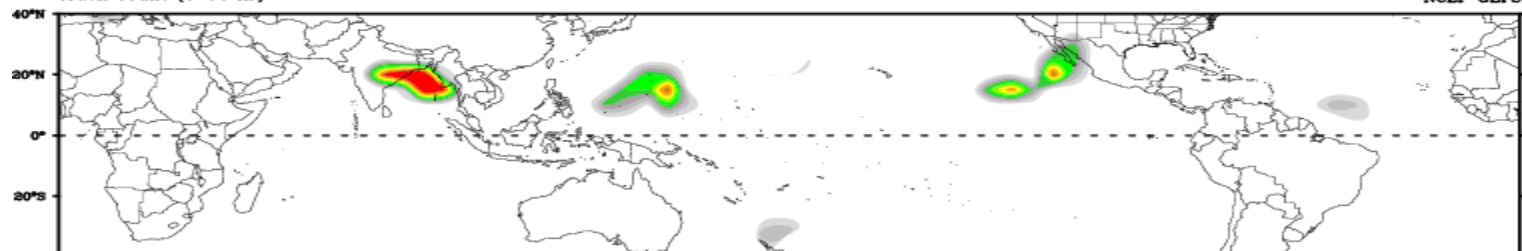
2018091800

NCEP GEFS



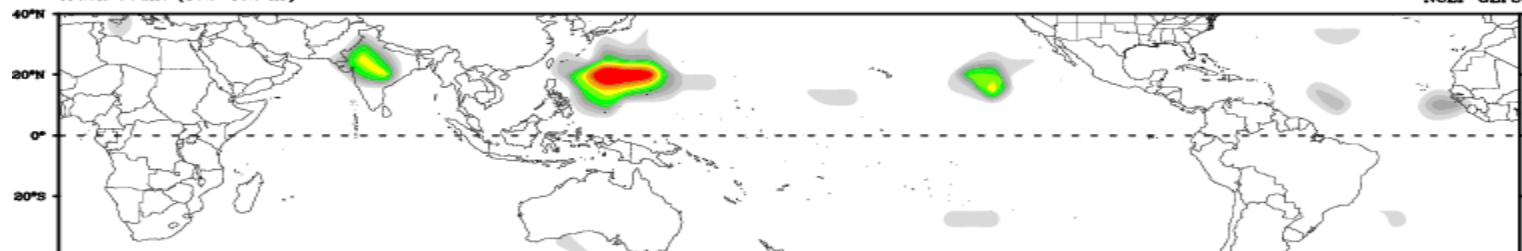
Track Count (0-96 hr)

NCEP GEFS



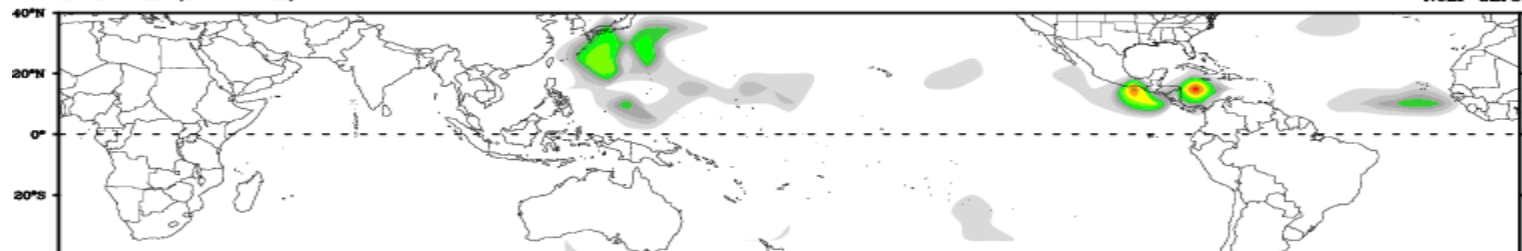
Track Count (102-192 hr)

NCEP GEFS



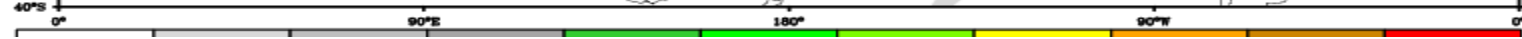
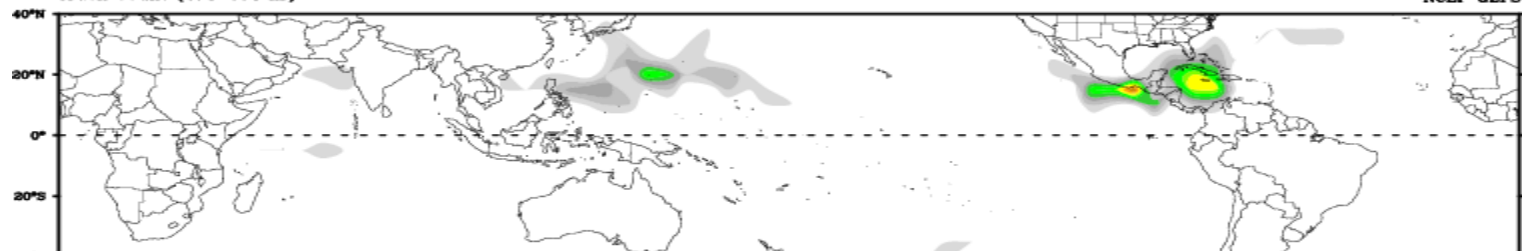
Track Count (198-288 hr)

NCEP GEFS



Track Count (294-384 hr)

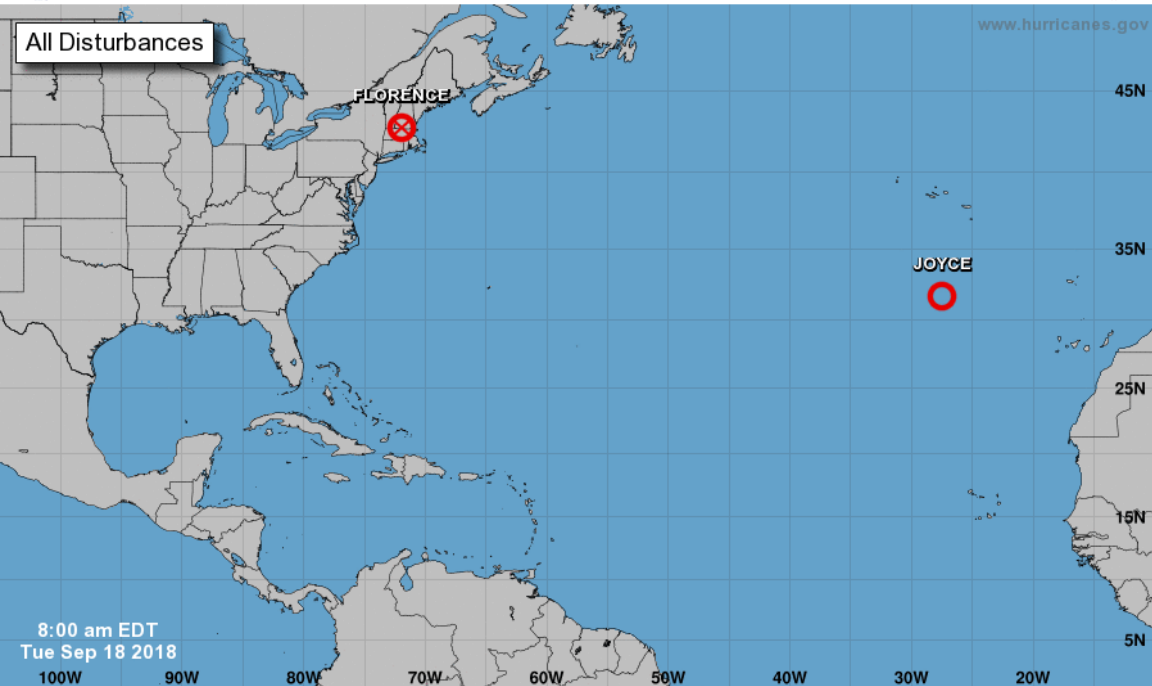
NCEP GEFS





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



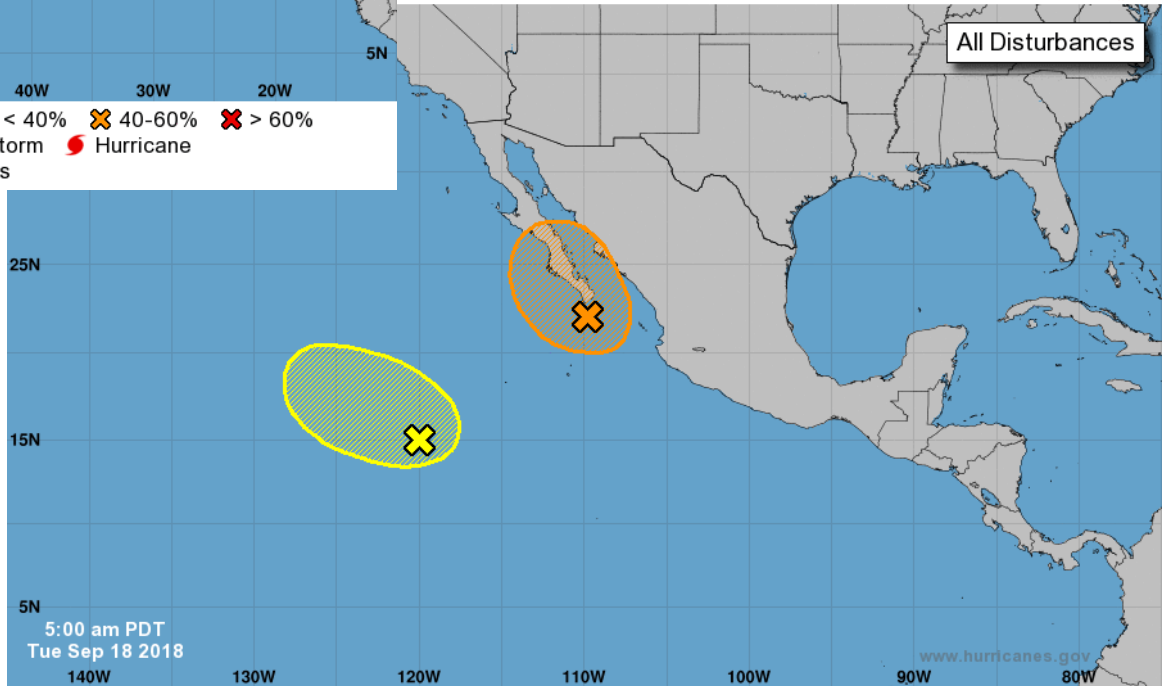
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

# Graphical Tropical Weather Outlook

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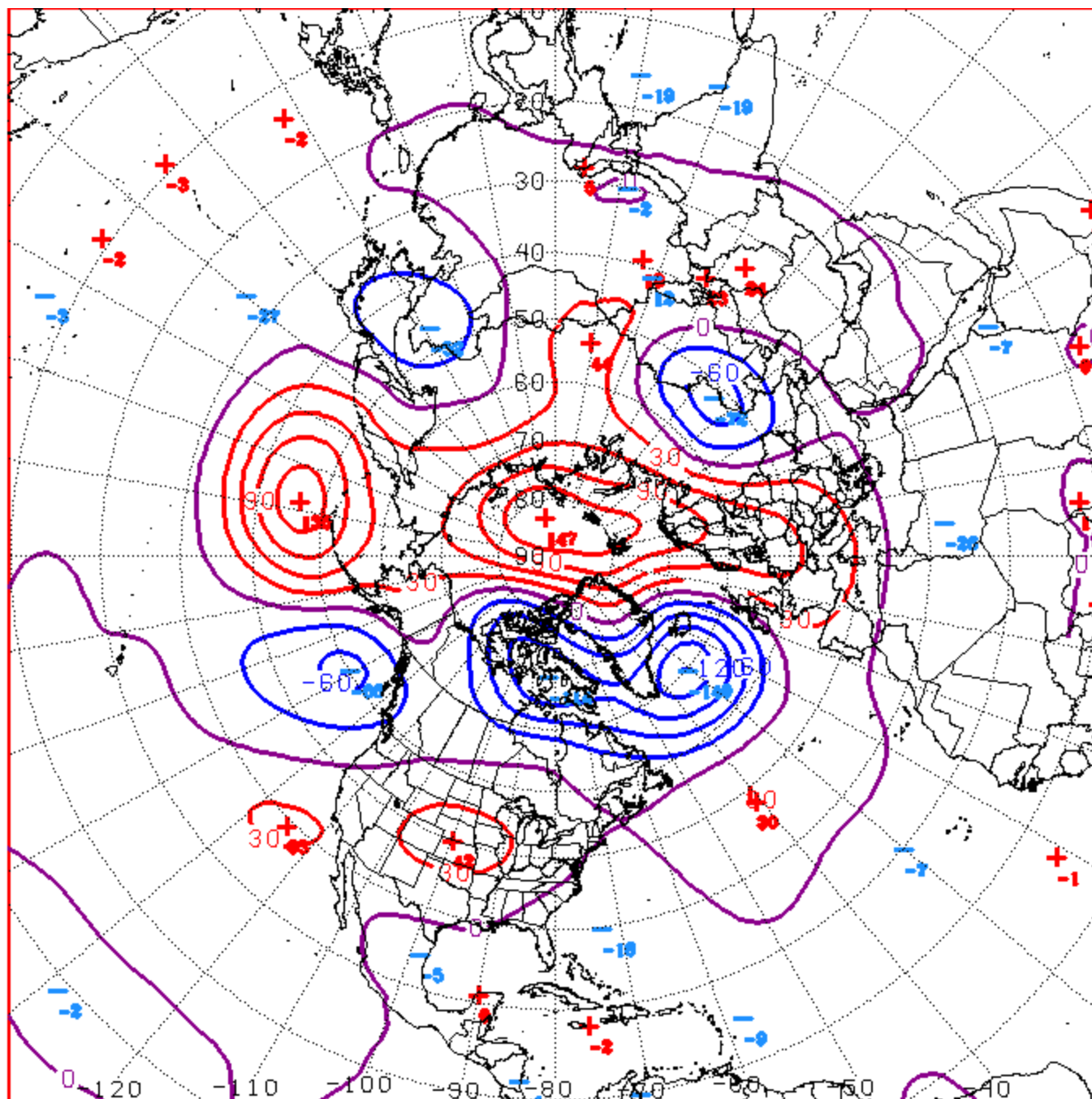


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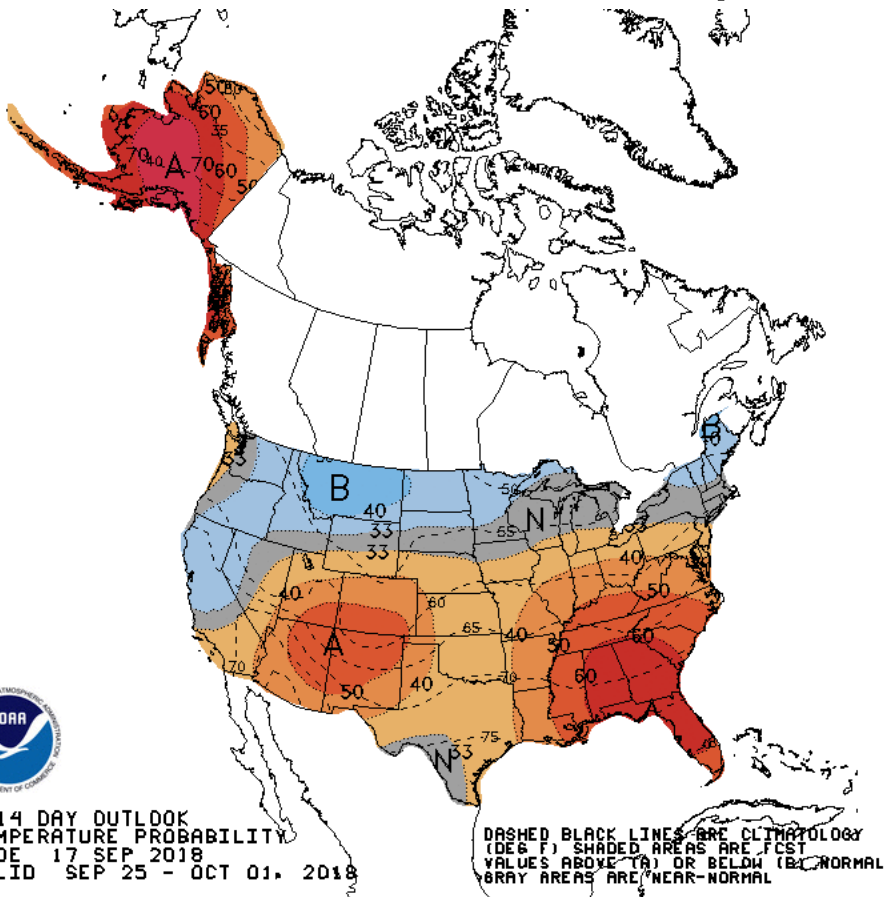
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# Connections to U.S. Impacts

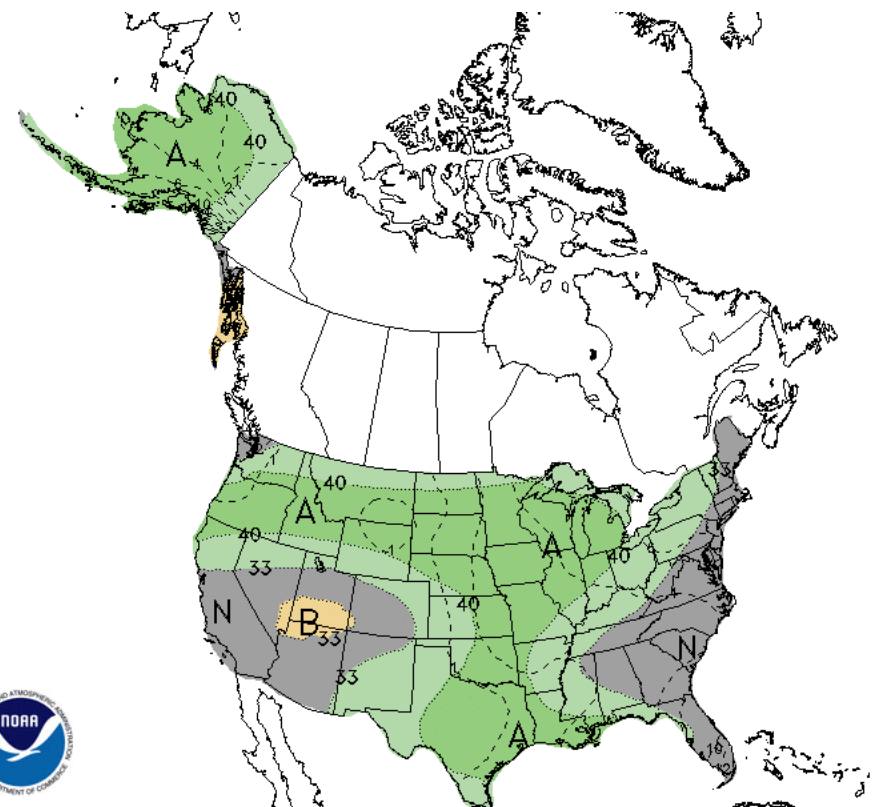
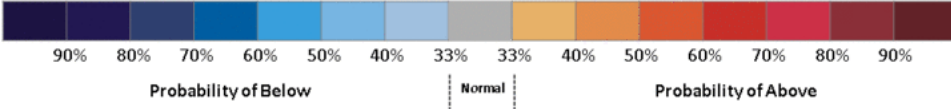


D+11 500 MB ANOMALIES FROM ALZ ENSM  
 CPC MAP MADE SEP 11 2018 1301 UTC CNTD SEP 22 2018

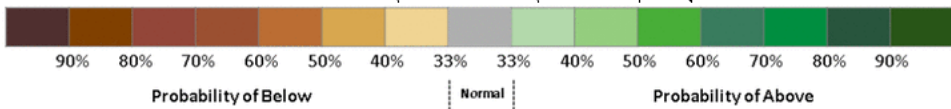
# Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 17 SEP 2018  
VALID SEP 25 - OCT 01, 2018



8-14 DAY OUTLOOK  
PRECIPITATION PROBABILITY  
MADE 17 SEP 2018  
VALID SEP 25 - OCT 01, 2018

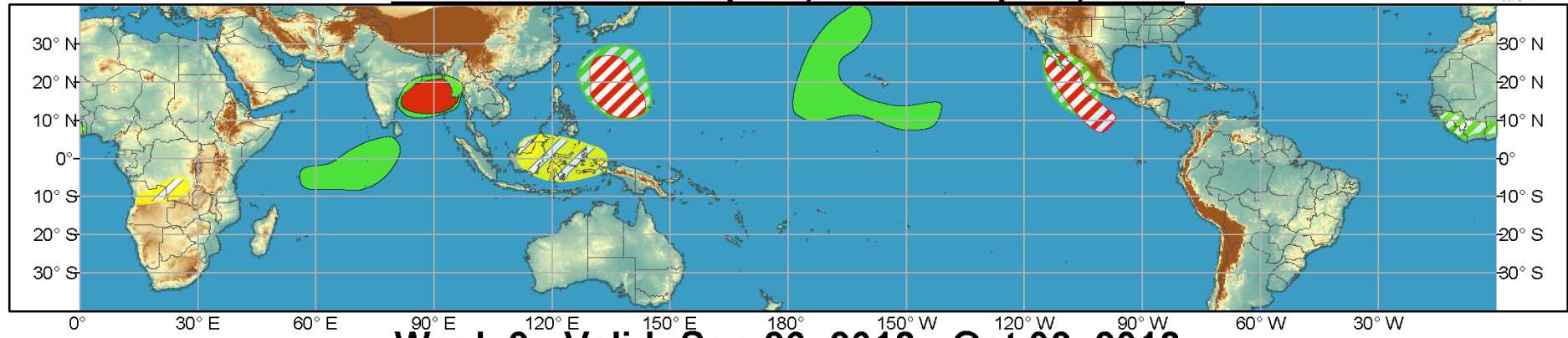




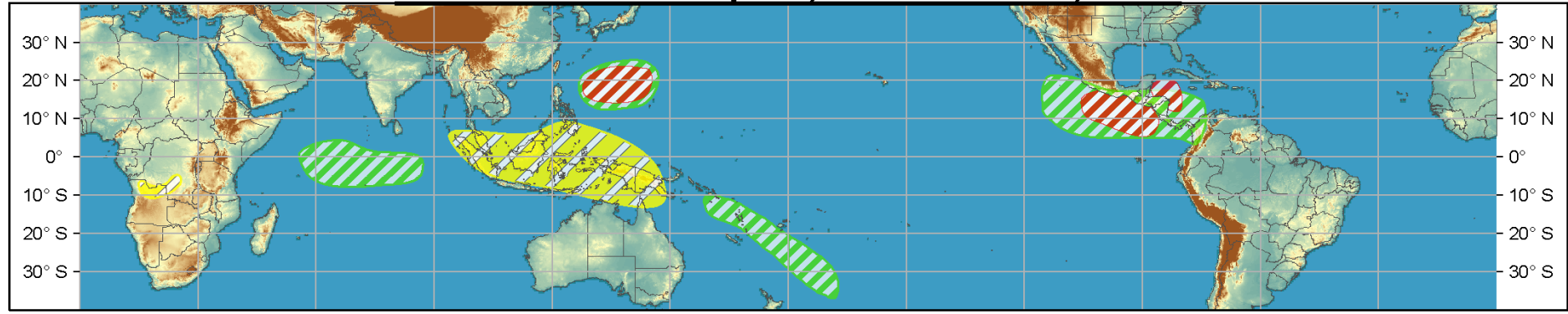


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