

# Global Tropics Hazards And Benefits Outlook

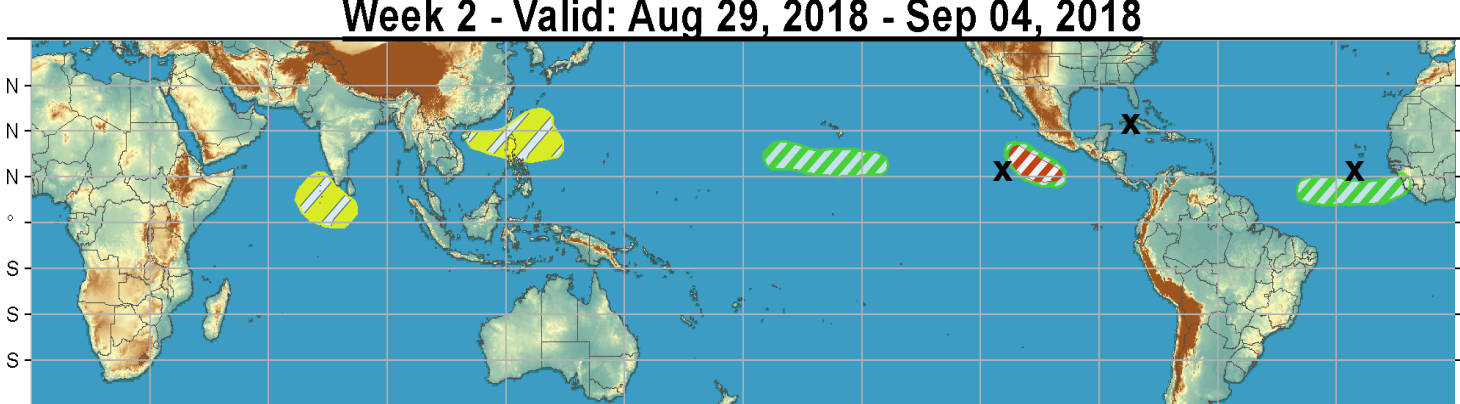
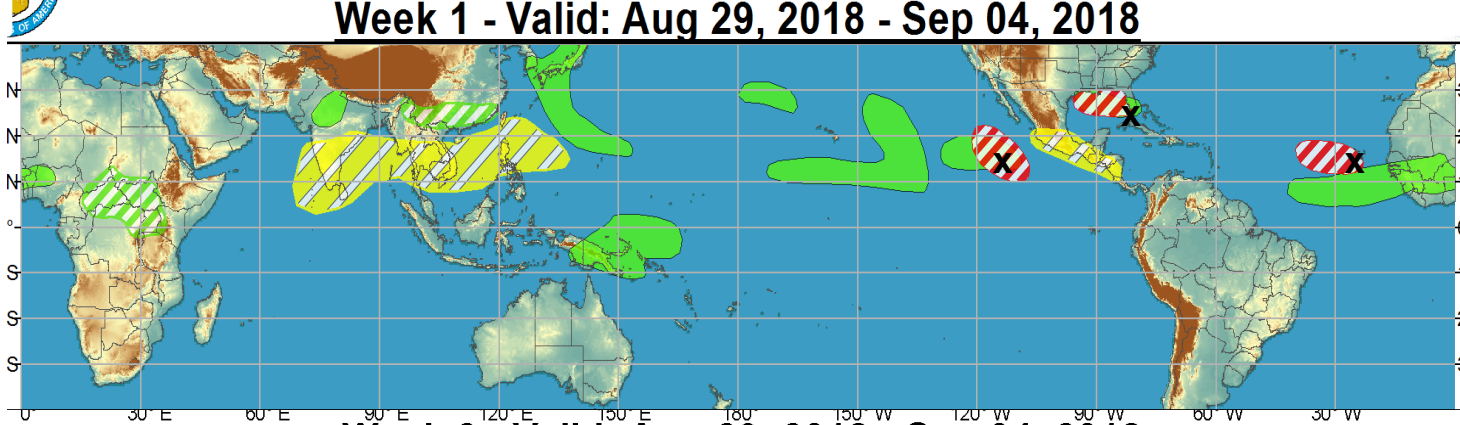
09/04/2018

Kyle MacRitchie

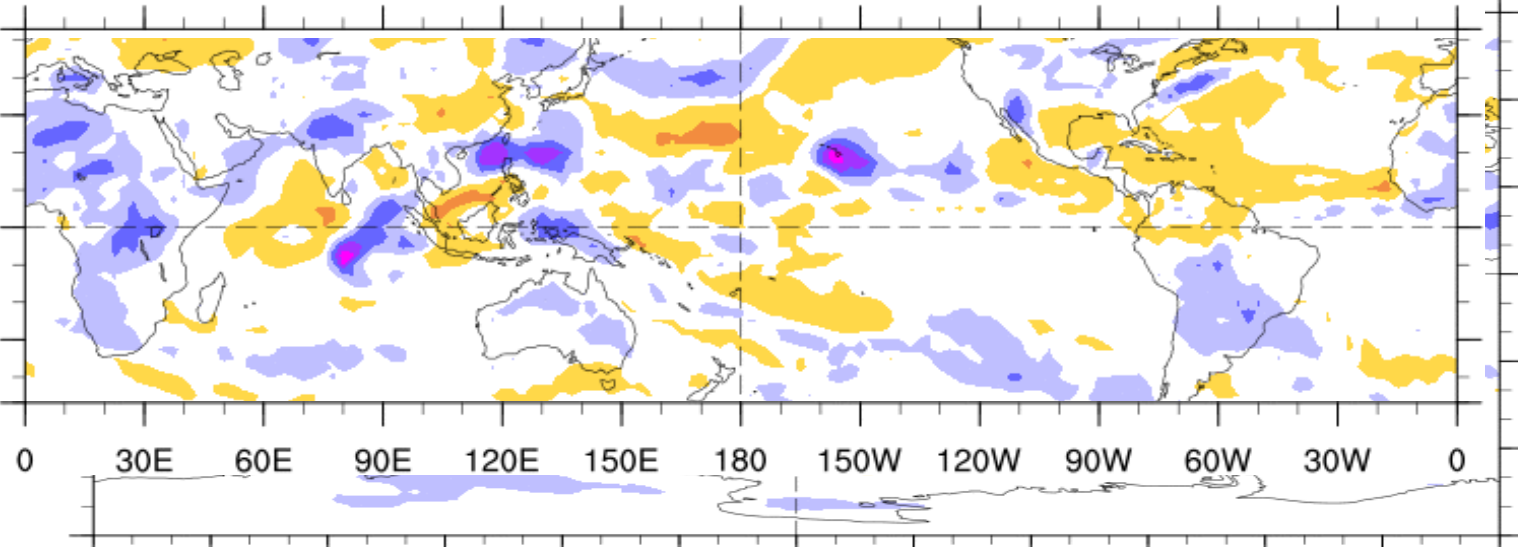
## Outline

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 2018/08/20 - 2018/08/26



Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

## **ENSO: (August 9, 2018 Update)**

- ENSO Alert System Status: [El Niño Watch](#)
- There is ~60% chance of El Niño in the Northern Hemisphere fall 2018 (September-November), increasing to ~70% during winter 2018-19.

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

- The MJO is still weak. Model forecasts are bearish about MJO development during forecast period.
- Weak Equatorial Rossby wave activity and a transition to an El Niño base state are the primary drivers.

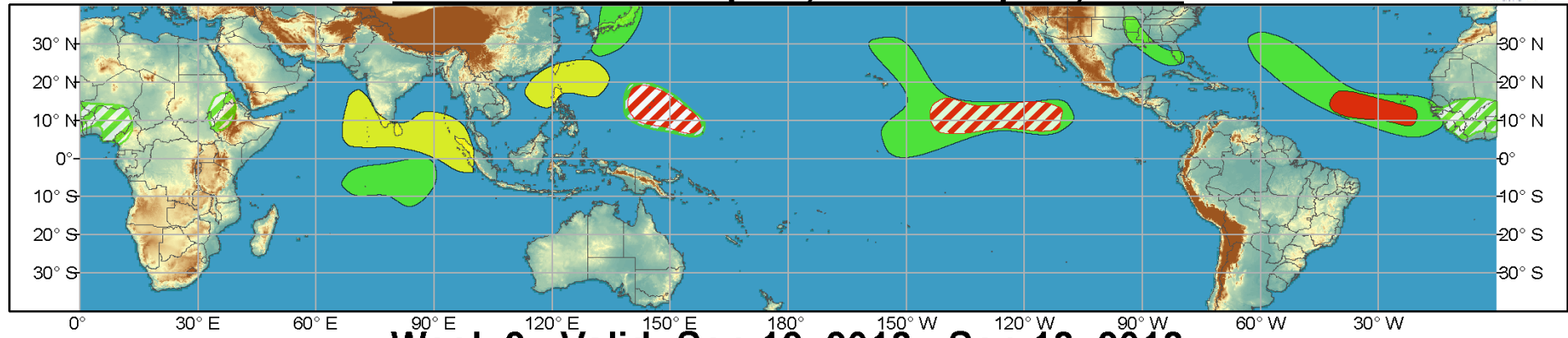
## **Extratropics:**

- The MJO is not likely to play a substantial role in the extratropical pattern over the next several weeks. The primary tropical/extratropical impacts will come from tropical cyclones or disturbances. TS Jebi may become an intense recurving West Pacific tropical cyclone.

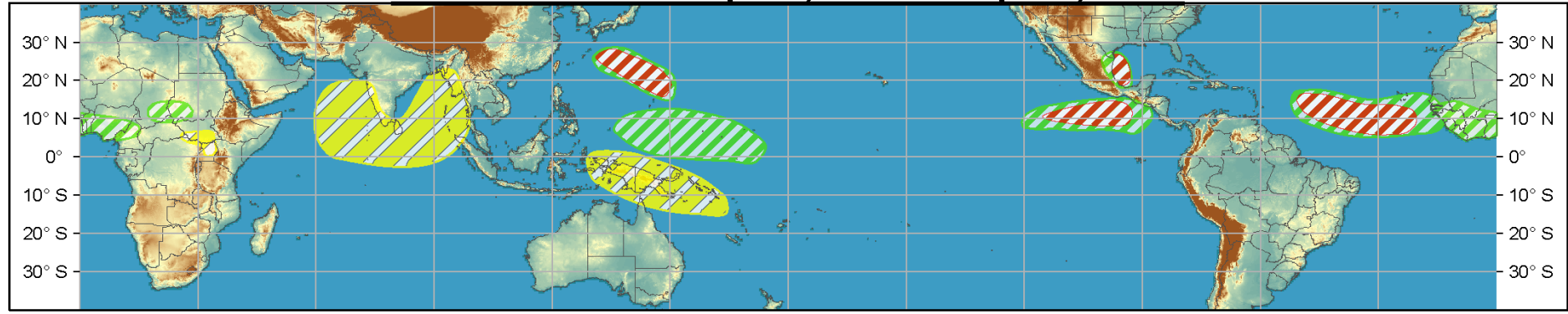


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Sep 05, 2018 - Sep 11, 2018



## Week 2 - Valid: Sep 12, 2018 - Sep 18, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 09/04/2018

Forecaster: MacRitchie

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.



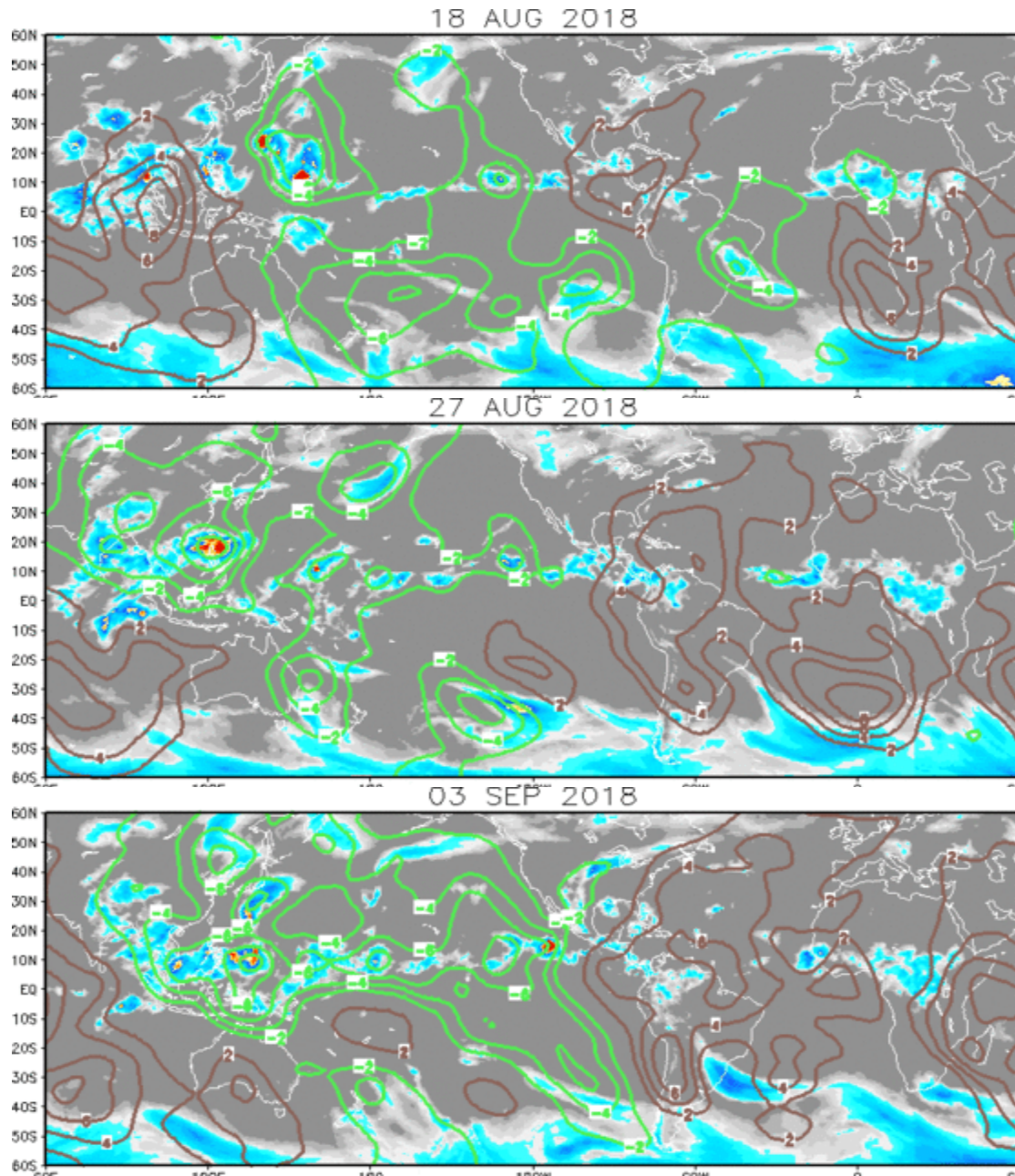
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

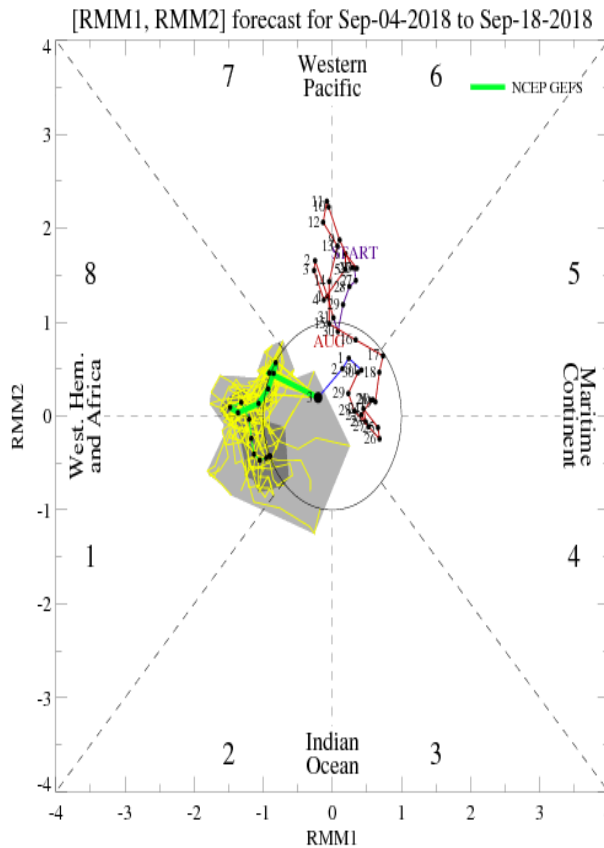
Brown: Enhanced Convergence

Fairly coherent Wave-1 structure,  
but no eastward propagation.

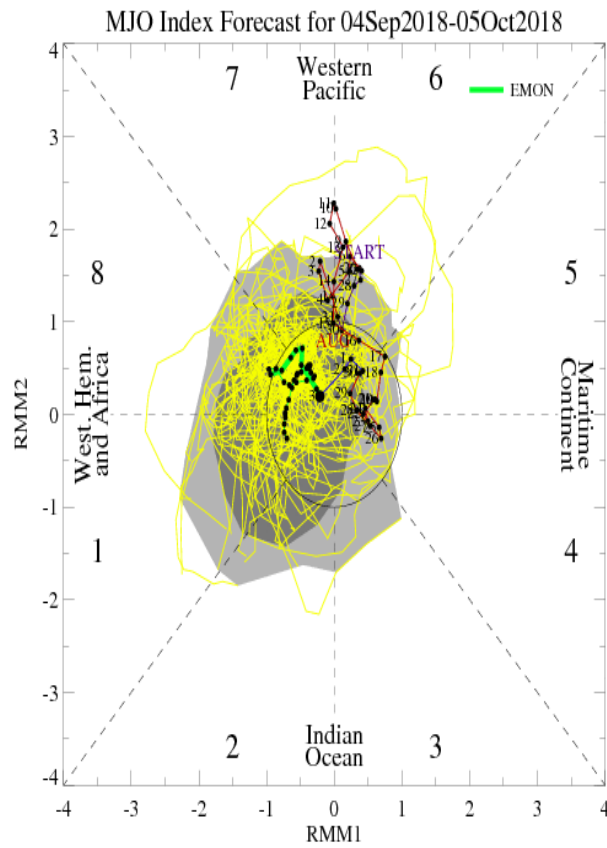
The active convection over the  
West Pacific lifts slightly north,  
the rest of the pattern remains  
mostly unchanged.



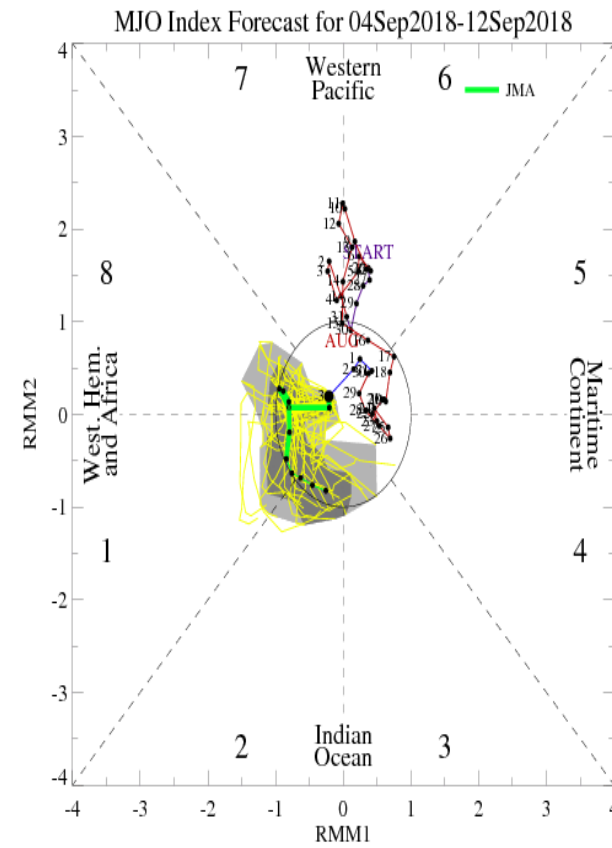
# MJO Observation/Forecast



GEFS



ECMWF

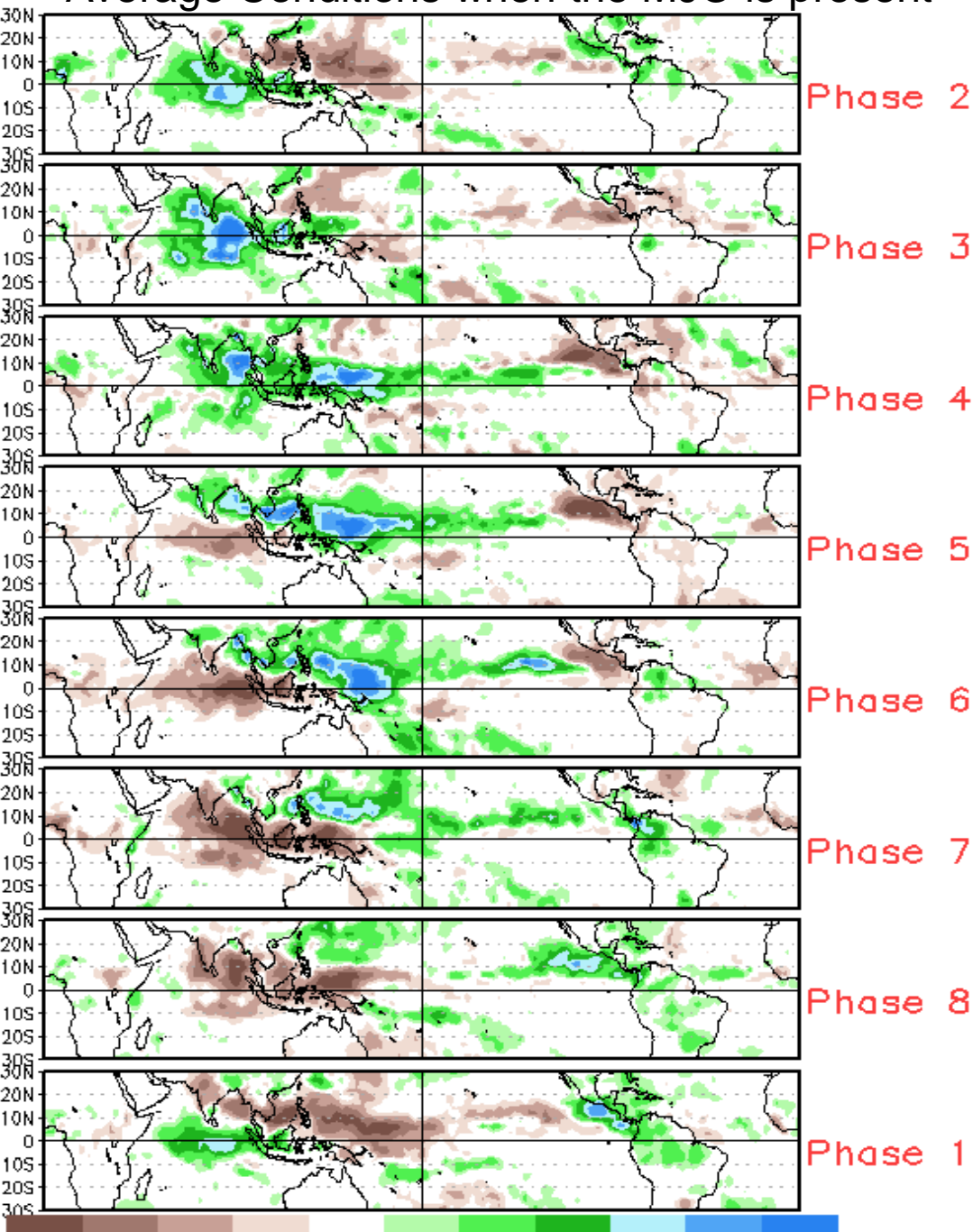


JMA

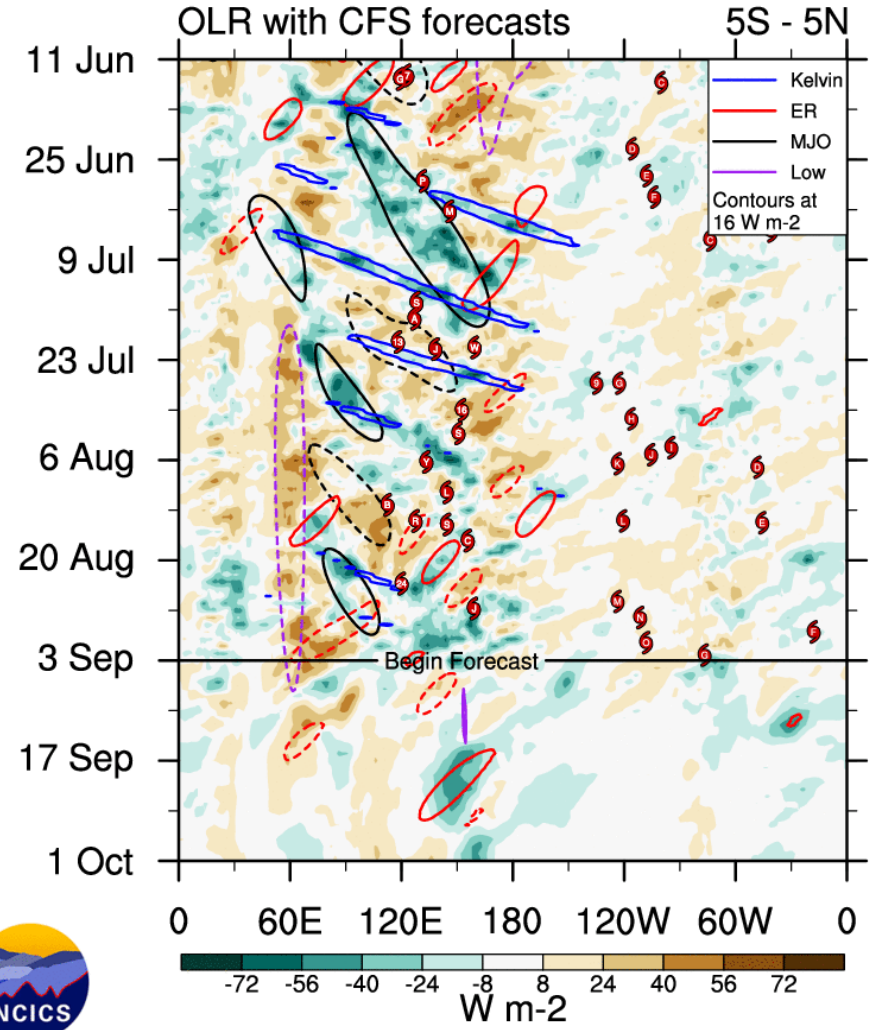
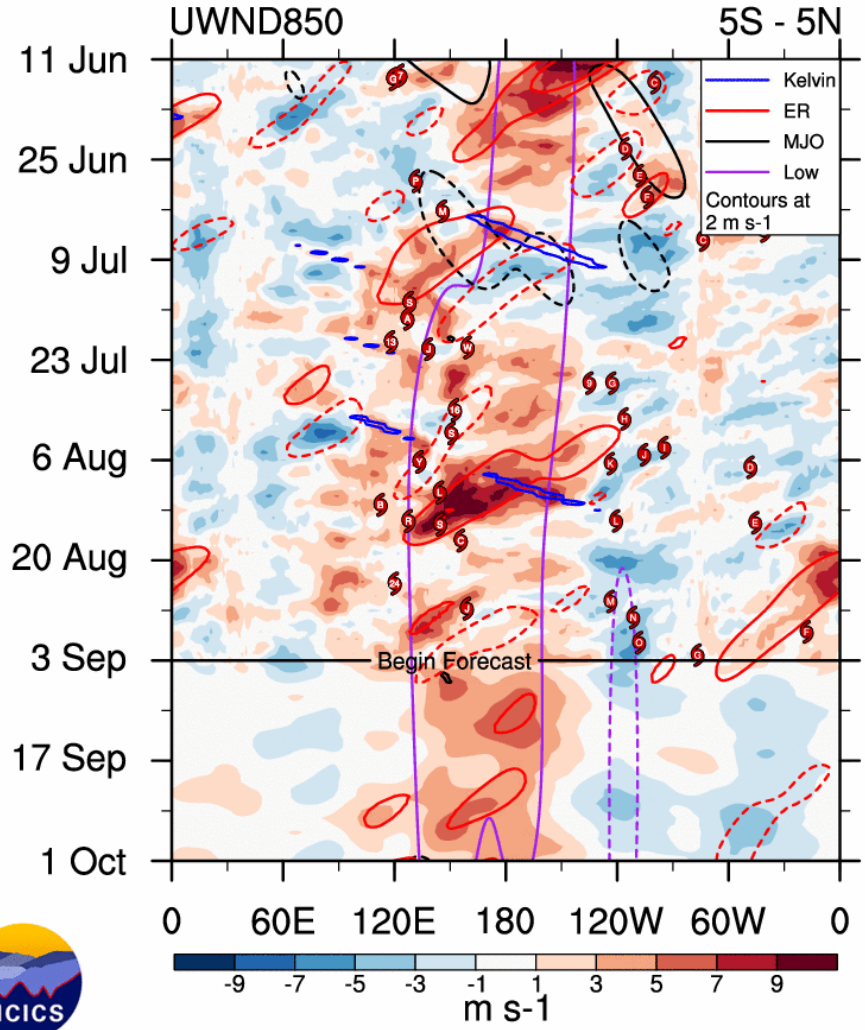
RMM index forecasts remain bearish and it appears that MJO re-emergence is unlikely over the next couple of weeks.

Other modes, such as model-forecasted TC activity, could be influencing the signal.

# Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.



ncics.org/mjo

Tue 2018-09-04 1041 UTC

Carl Schreck (cjschrec@ncsu.edu) ncics.org/mjo



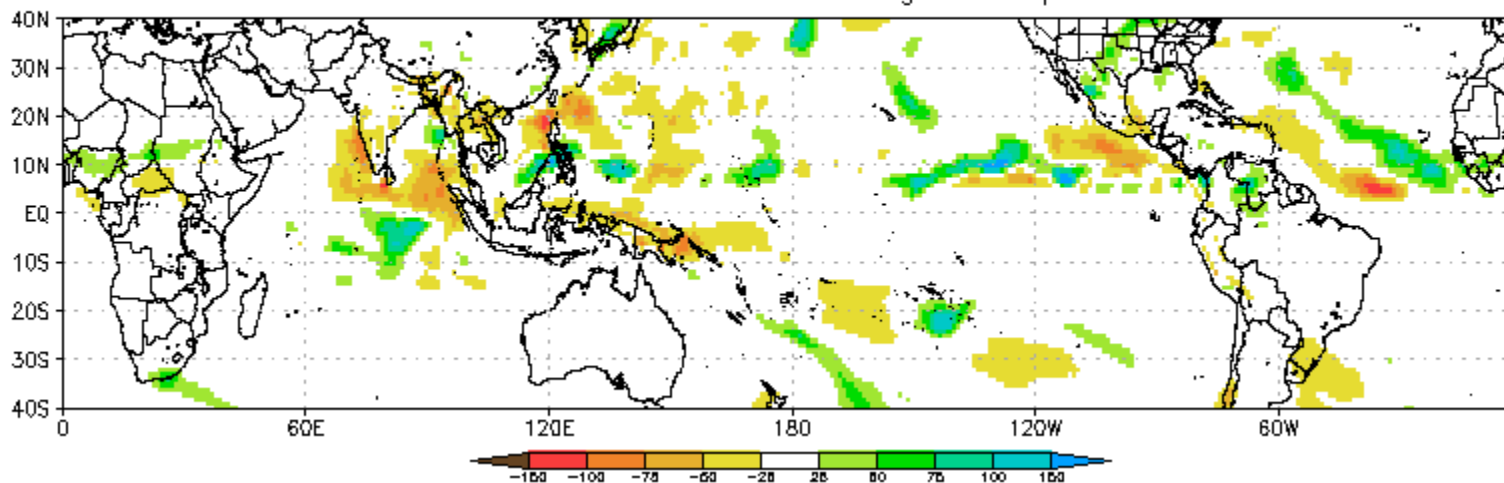
Tue 2018-09-04 1539 UTC

Carl Schreck (cjschrec@ncsu.edu)

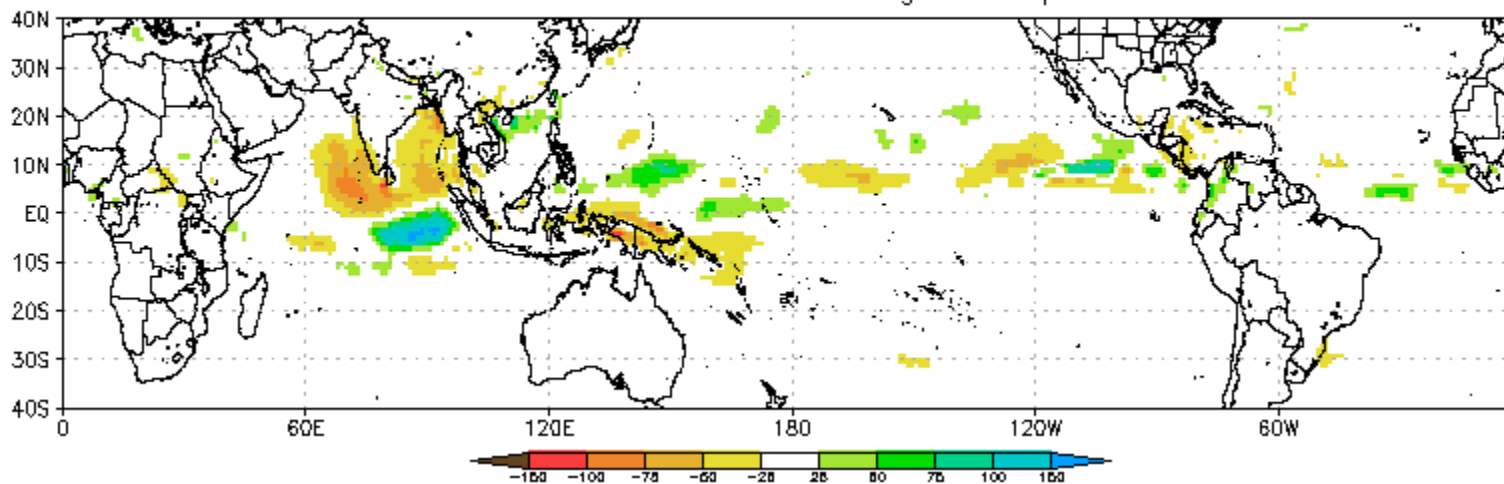
The MJO signal is quite weak but is some evidence of ER activity around the Dateline. The low-frequency (mostly ENSO) base state appears to be evolving towards El Niño.



CFS Precipitation Anomalies (mm) Issued 03Sep2018  
Week-1 Forecast Ending 11Sep2018

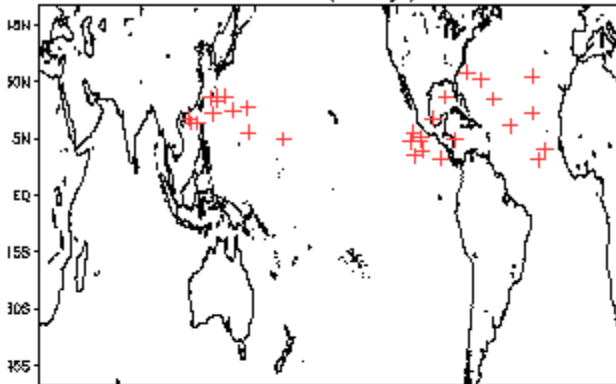


CFS Precipitation Anomalies (mm) Issued 03Sep2018  
Week-2 Forecast Ending 18Sep2018

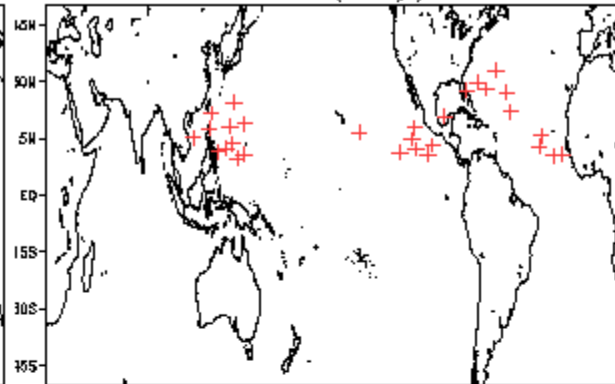


# September Tropical Storm Formation by MJO phase

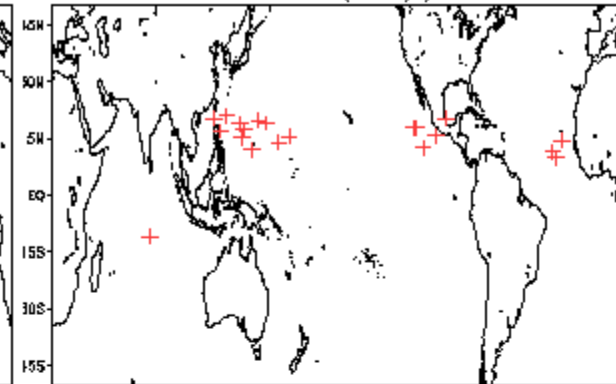
Phase 1 (81 days) 31 storms



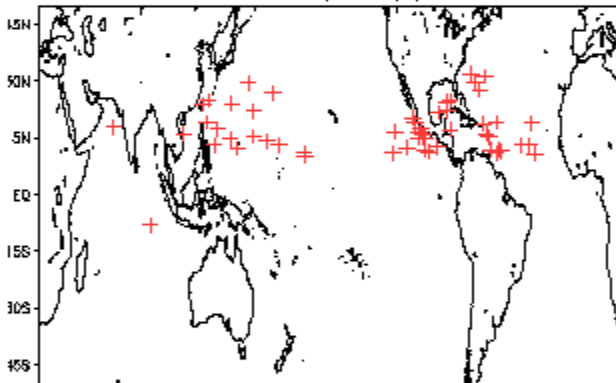
Phase 4 (70 days) 30 storms



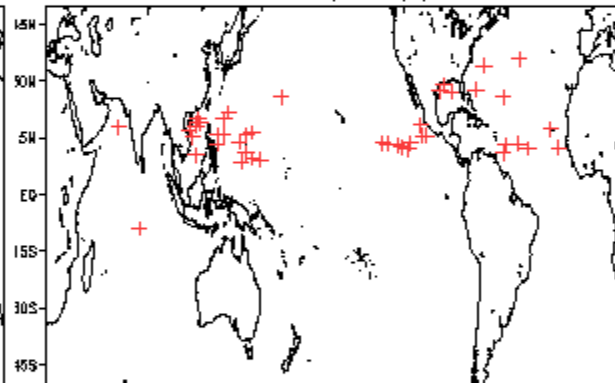
Phase 7 (38 days) 22 storms



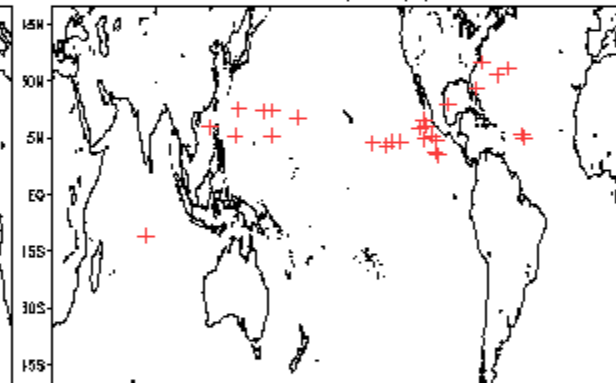
Phase 2 (122 days) 56 storms



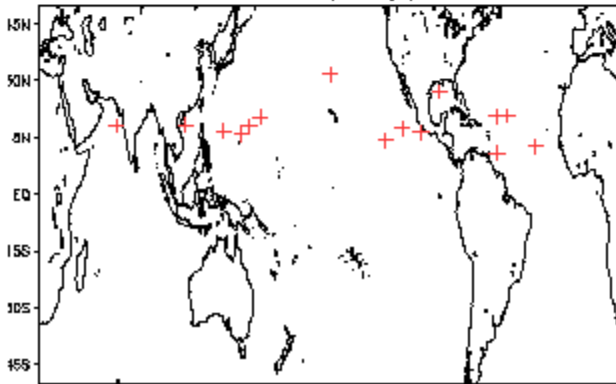
Phase 5 (106 days) 45 storms



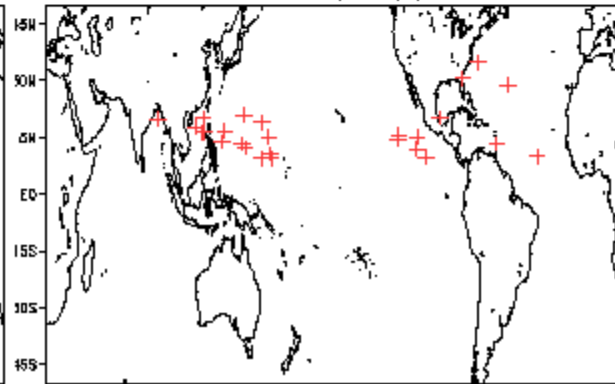
Phase 8 (67 days) 29 storms



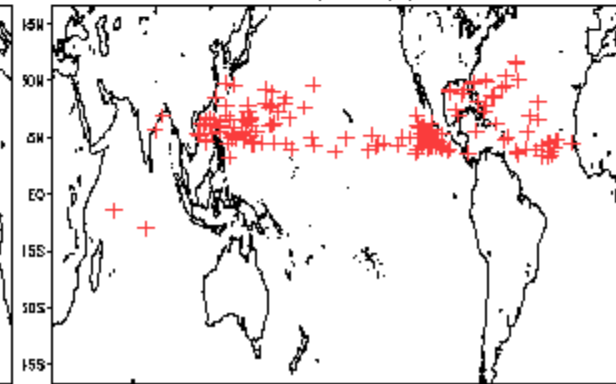
Phase 3 (51 days) 16 storms



Phase 6 (61 days) 27 storms



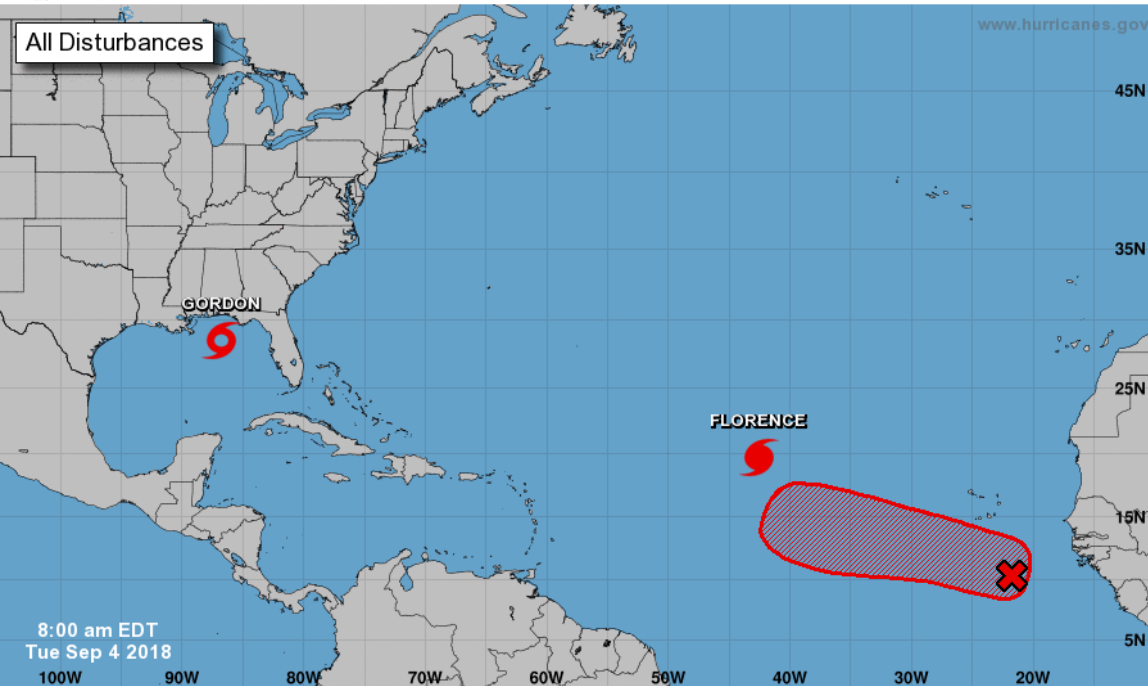
Null (393 days) 189 storms





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



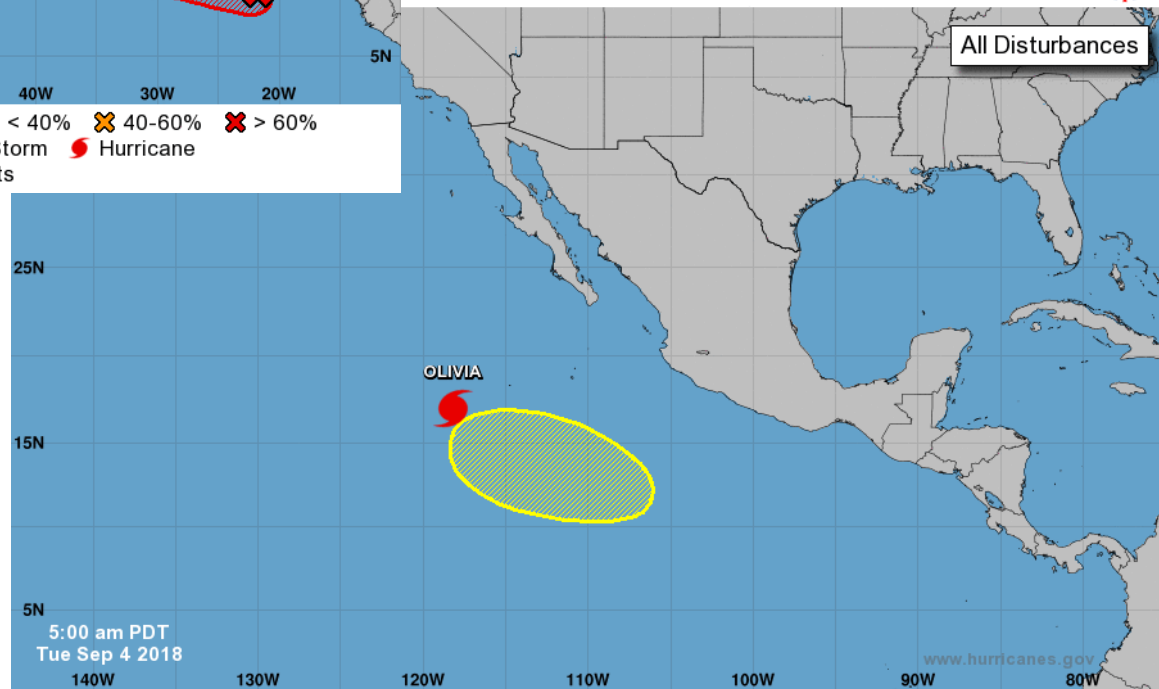
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

# Graphical Tropical Weather Outlook

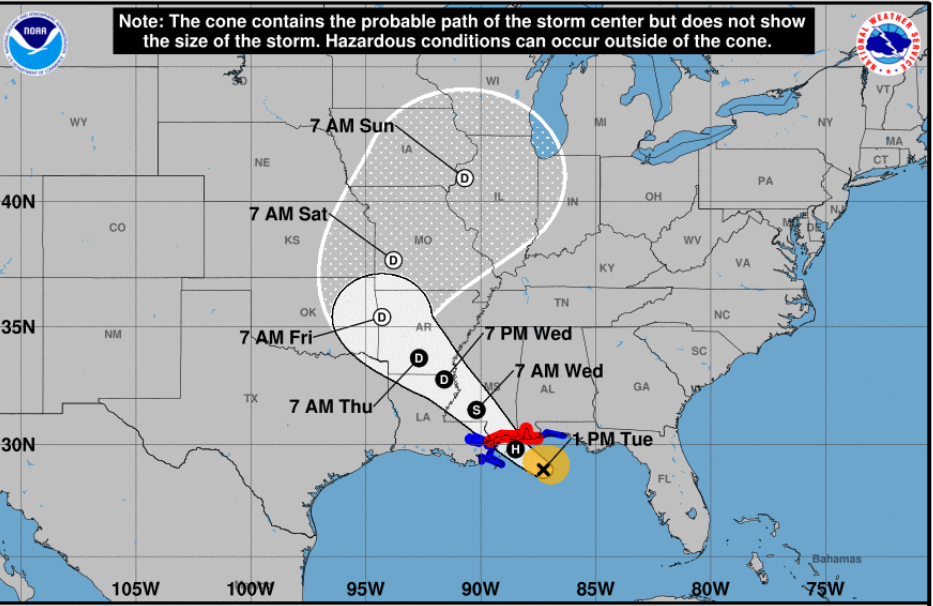
National Hurricane Center Miami, Florida



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



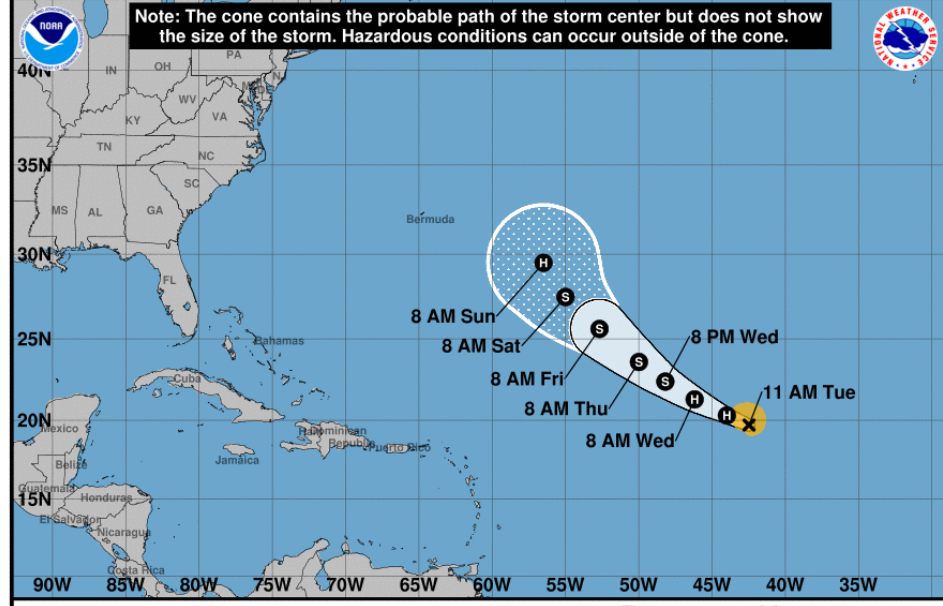
Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

**Tropical Storm Gordon**  
 Tuesday September 04, 2018  
 1 PM CDT Intermediate Advisory 9A  
 NWS National Hurricane Center

**Current information: x**  
 Center location 28.9 N 87.3 W  
 Maximum sustained wind 65 mph  
 Movement NW at 15 mph

**Forecast positions:**  
 ● Tropical Cyclone ○ Post/Potential TC  
 Sustained winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110 mph

**Potential track area:** Day 1-3 Day 4-5  
**Watches:** Hurricane Trop Stm  
**Wa**



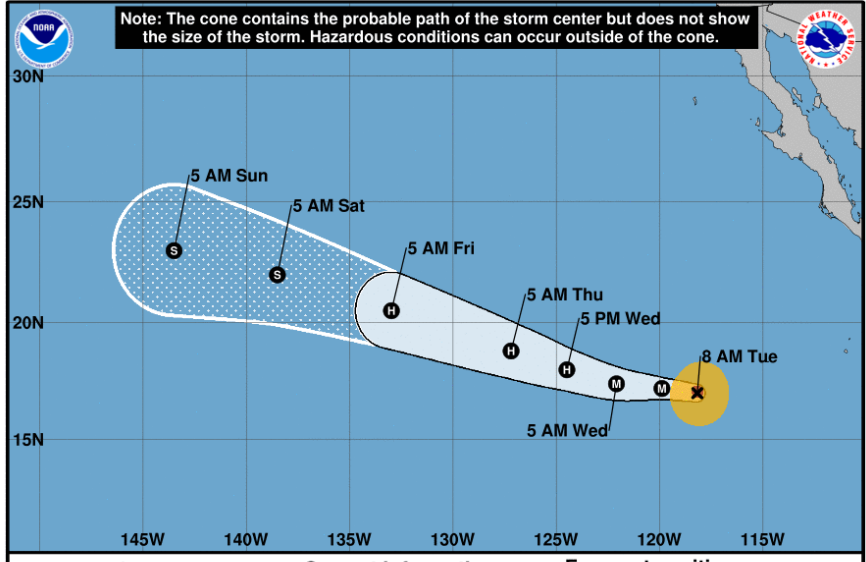
Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

**Hurricane Florence**  
 Tuesday September 04, 2018  
 11 AM AST Advisory 21  
 NWS National Hurricane Center

**Current information: x**  
 Center location 19.7 N 42.5 W  
 Maximum sustained wind 75 mph  
 Movement WNW at 12 mph

**Forecast positions:**  
 ● Tropical Cyclone ○ Post/Potential TC  
 Sustained winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110 mph

**Warnings:** Hurricane Trop Stm  
**Current wind extent:** Hurricane Trop Stm



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

**Hurricane Olivia**  
 Tuesday September 04, 2018  
 8 AM PDT Advisory 15  
 NWS National Hurricane Center

**Current information: x**  
 Center location 17.0 N 118.2 W  
 Maximum sustained wind 105 mph  
 Movement W at 12 mph

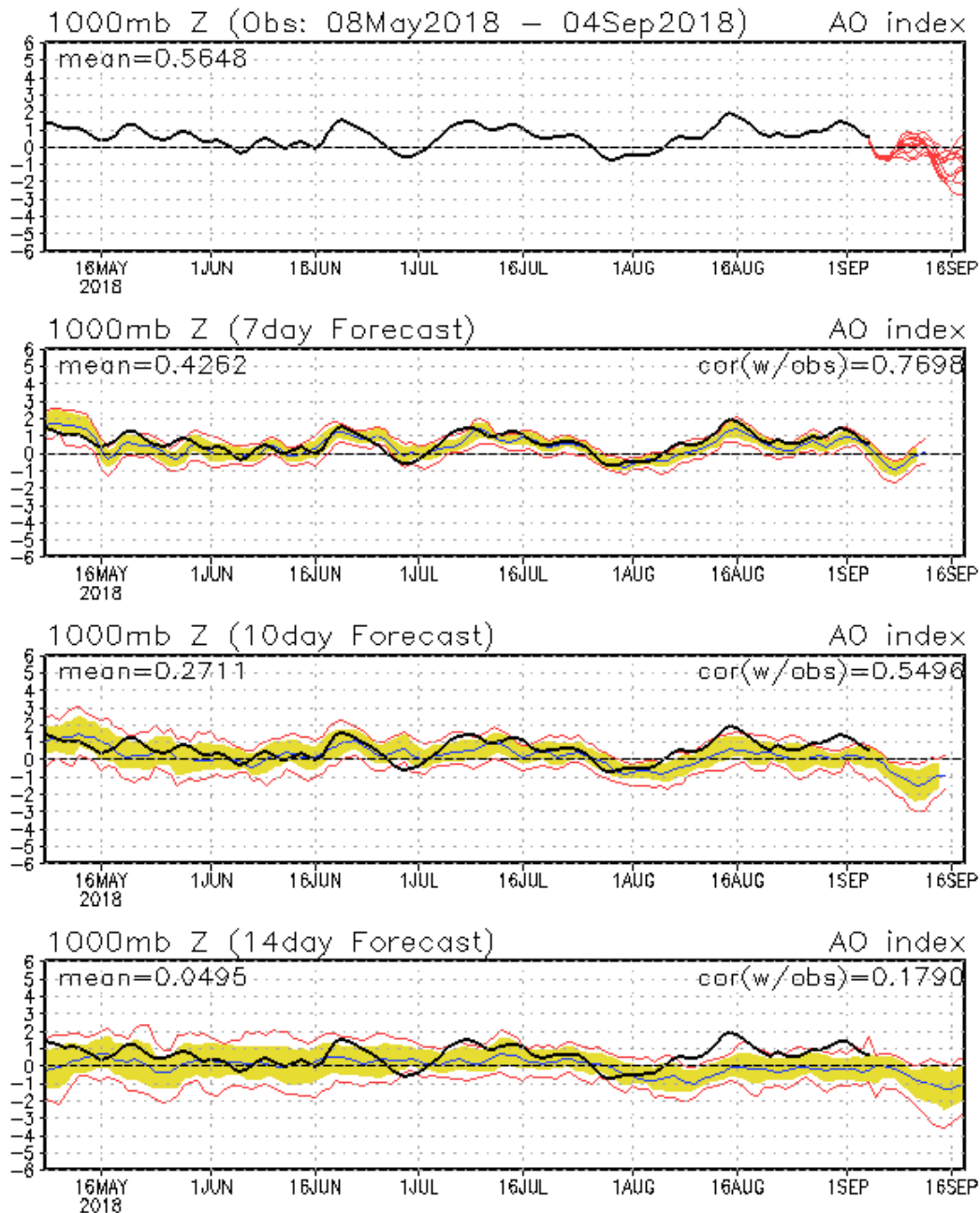
**Forecast positions:**  
 ● Tropical Cyclone ○ Post/Potential TC  
 Sustained winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110 mph

**Potential track area:** Day 1-3 Day 4-5  
**Watches:** Hurricane Trop Stm  
**Warnings:** Hurricane Trop Stm  
**Current wind extent:** Hurricane Trop Stm

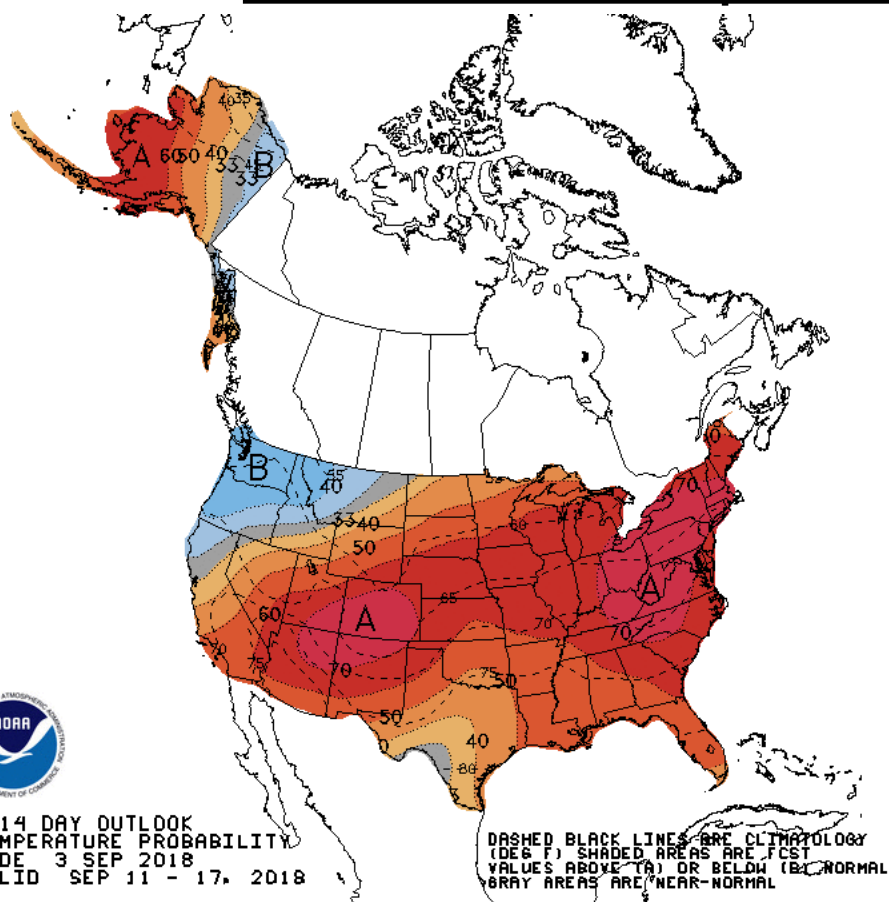


# Connections to U.S. Impacts

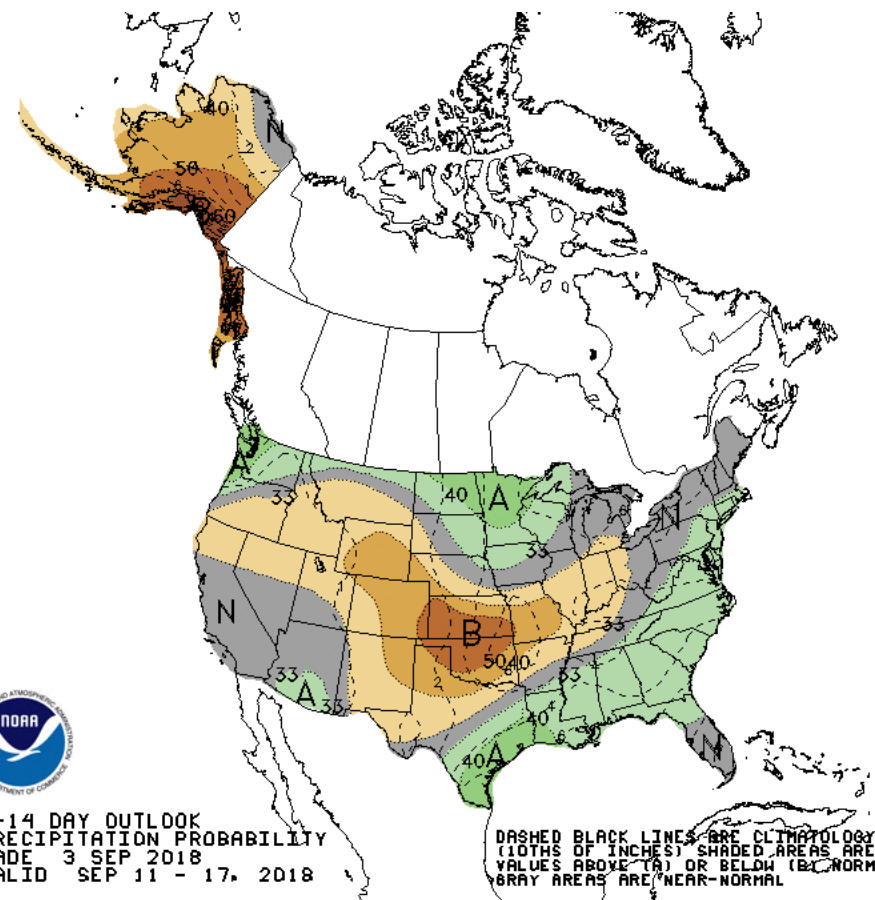
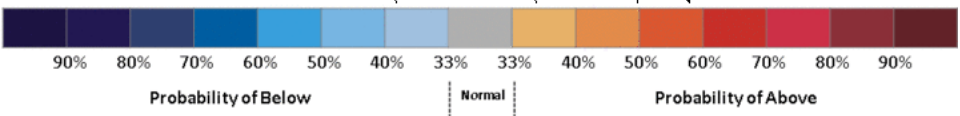
## AO: Observed & ENSM forecasts



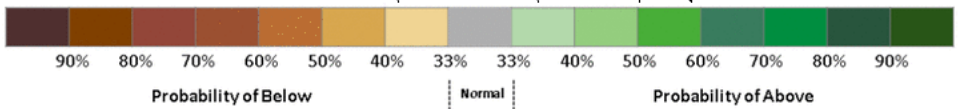
# Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 3 SEP 2018  
VALID SEP 11 - 17, 2018



8-14 DAY OUTLOOK  
PRECIPITATION PROBABILITY  
MADE 3 SEP 2018  
VALID SEP 11 - 17, 2018

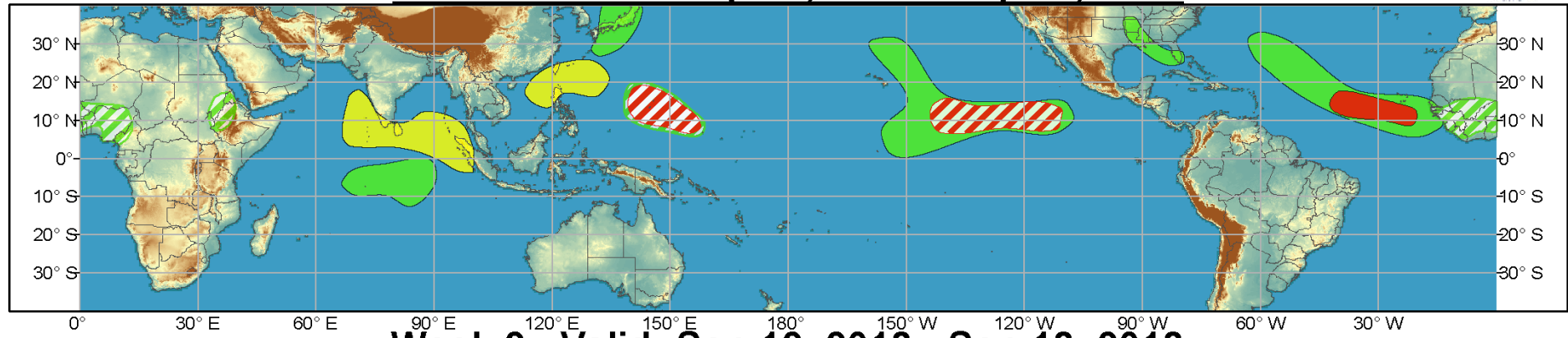




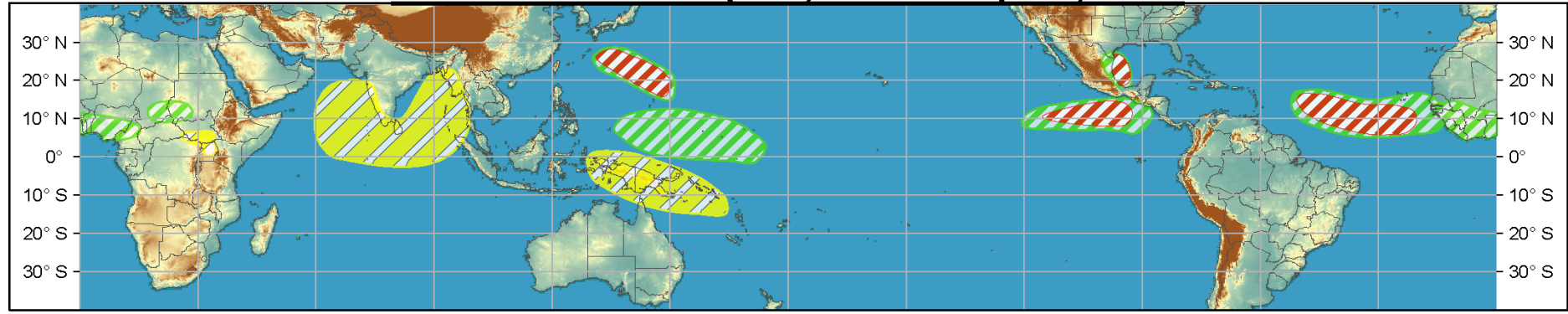


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Sep 05, 2018 - Sep 11, 2018



## Week 2 - Valid: Sep 12, 2018 - Sep 18, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 09/04/2018

Forecaster: MacRitchie

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.

