

# Global Tropics Hazards And Benefits Outlook

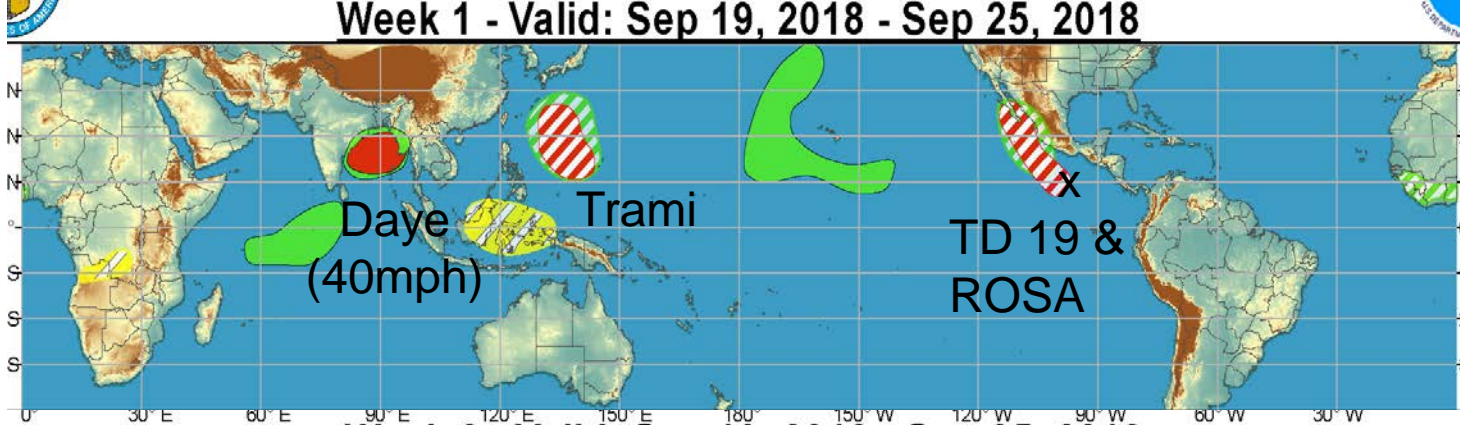
9/25/2018

Anthony Artusa

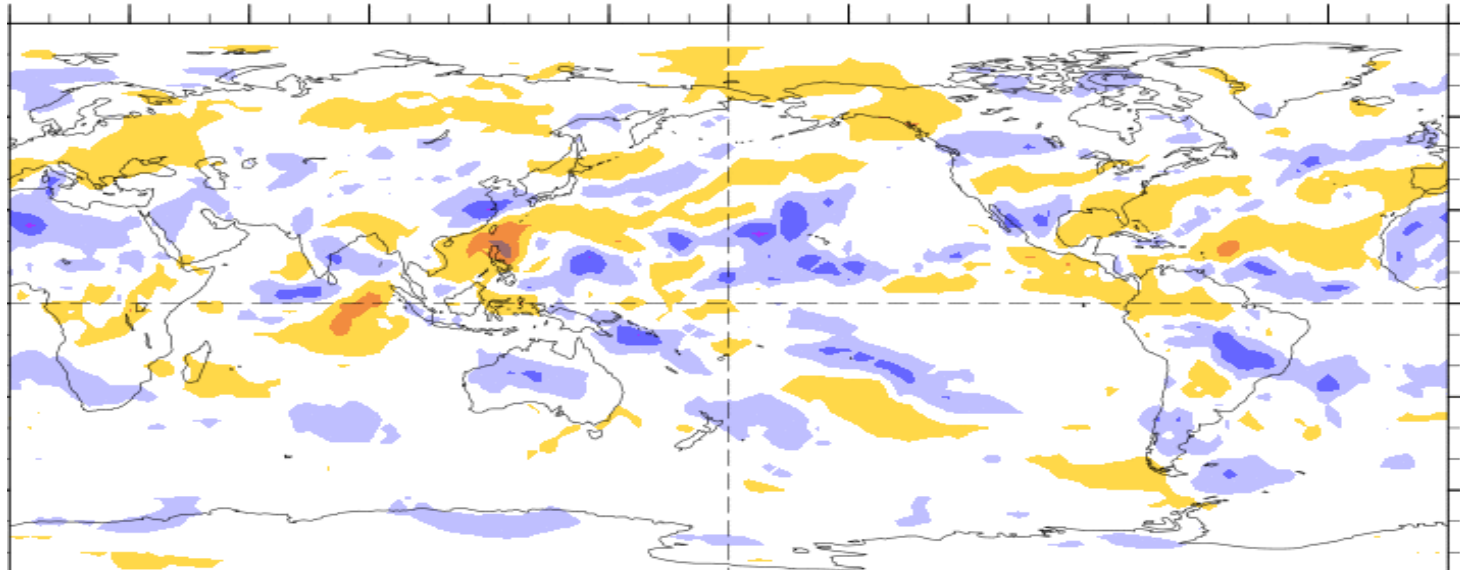
## Outline

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 2018/09/17 - 2018/09/23



Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

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

- ENSO Alert System Status: [El Niño Watch](#)
- There is a 50-55% chance of El Niño onset during NH Fall (SON) 2018, increasing to 65-70% during winter 2018-19.

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

- The MJO remained weak and incoherent during past 40-days, though there appears to be an emerging signal in Phase 8 (Western Hemisphere).
- In general.... dynamical models indicate a slight strengthening and eastward propagation of the signal across Phases 8 and 1 during the next two weeks. CFS is most amplified with this signal; Canadian CMET depicts most ensemble spread.

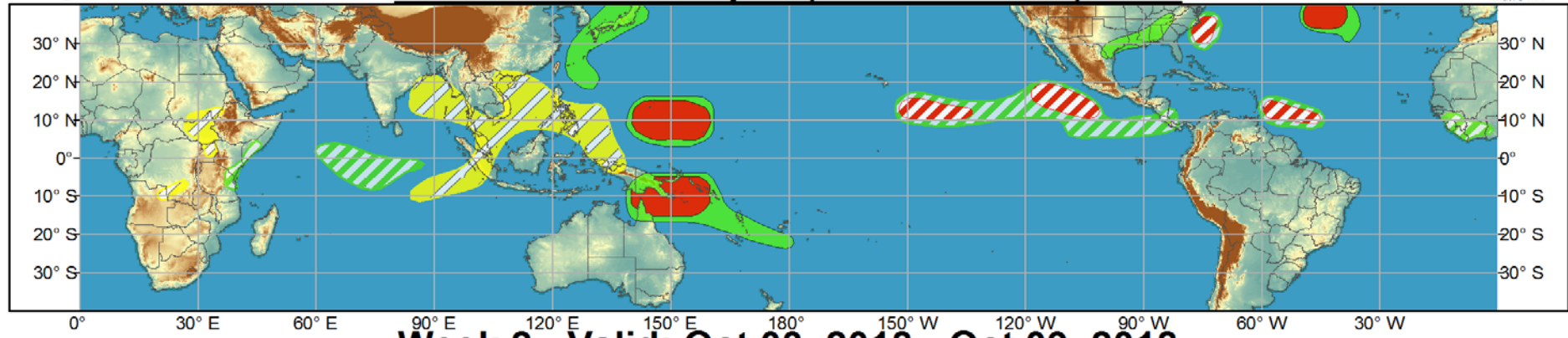
## **•Extratropics:**

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be significantly impacted by MJO activity; though there may be indirect influences from any TC's that form in either the eastern Pacific, or the western Caribbean Sea.

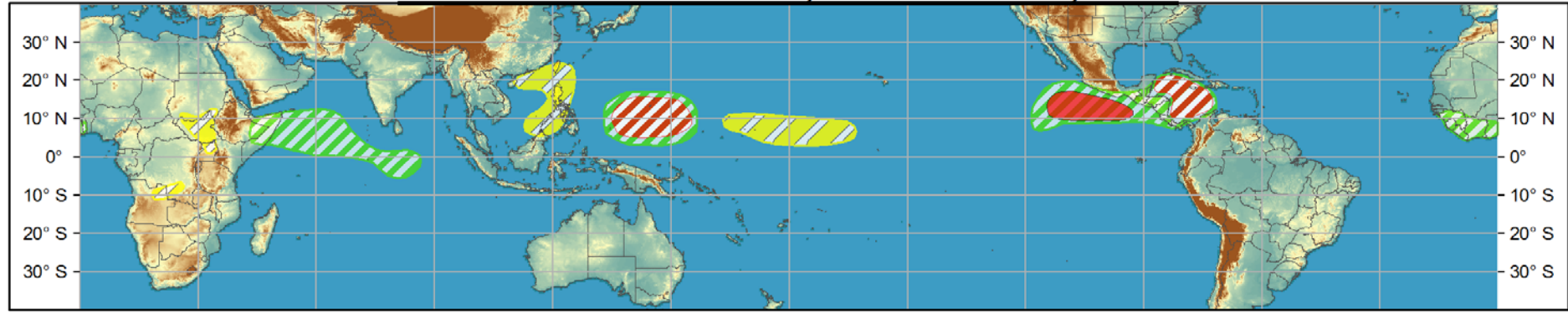


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Sep 26, 2018 - Oct 02, 2018



## Week 2 - Valid: Oct 03, 2018 - Oct 09, 2018



Produced: 09/25/2018  
Forecaster: Artusa

Confidence		
High	Moderate	
		<b>Tropical Cyclone Formation</b> Development of a tropical cyclone (tropical depression - TD, or greater strength).
		<b>Above-average rainfall</b> Weekly total rainfall in the upper third of the historical range.
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# IR Satellite & 200-hpa Velocity Potential Anomalies

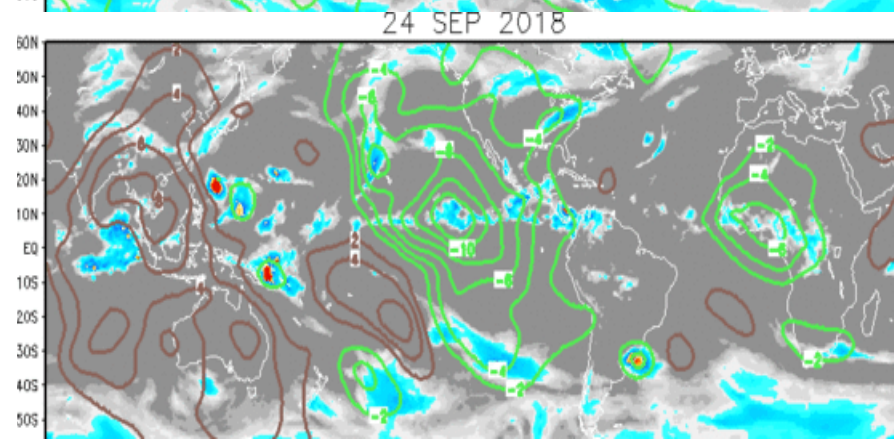
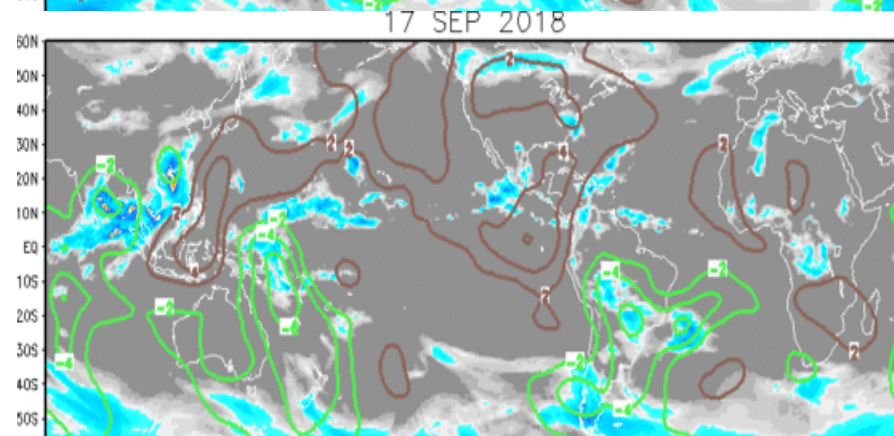
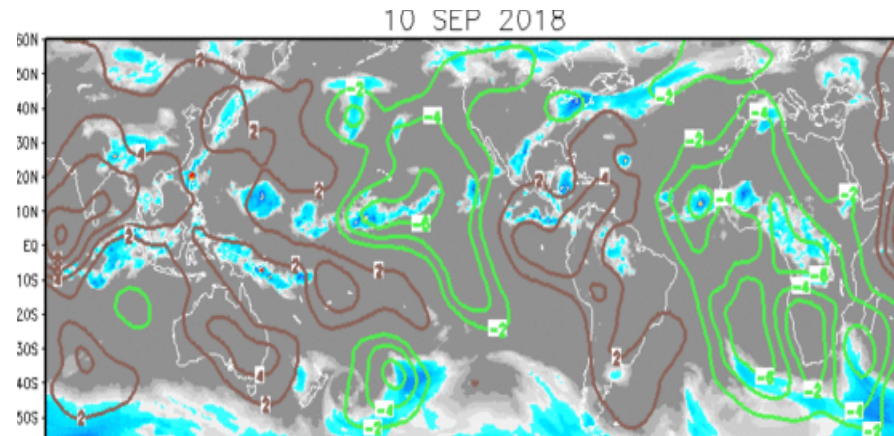
Green: Enhanced Divergence

Brown: Enhanced Convergence

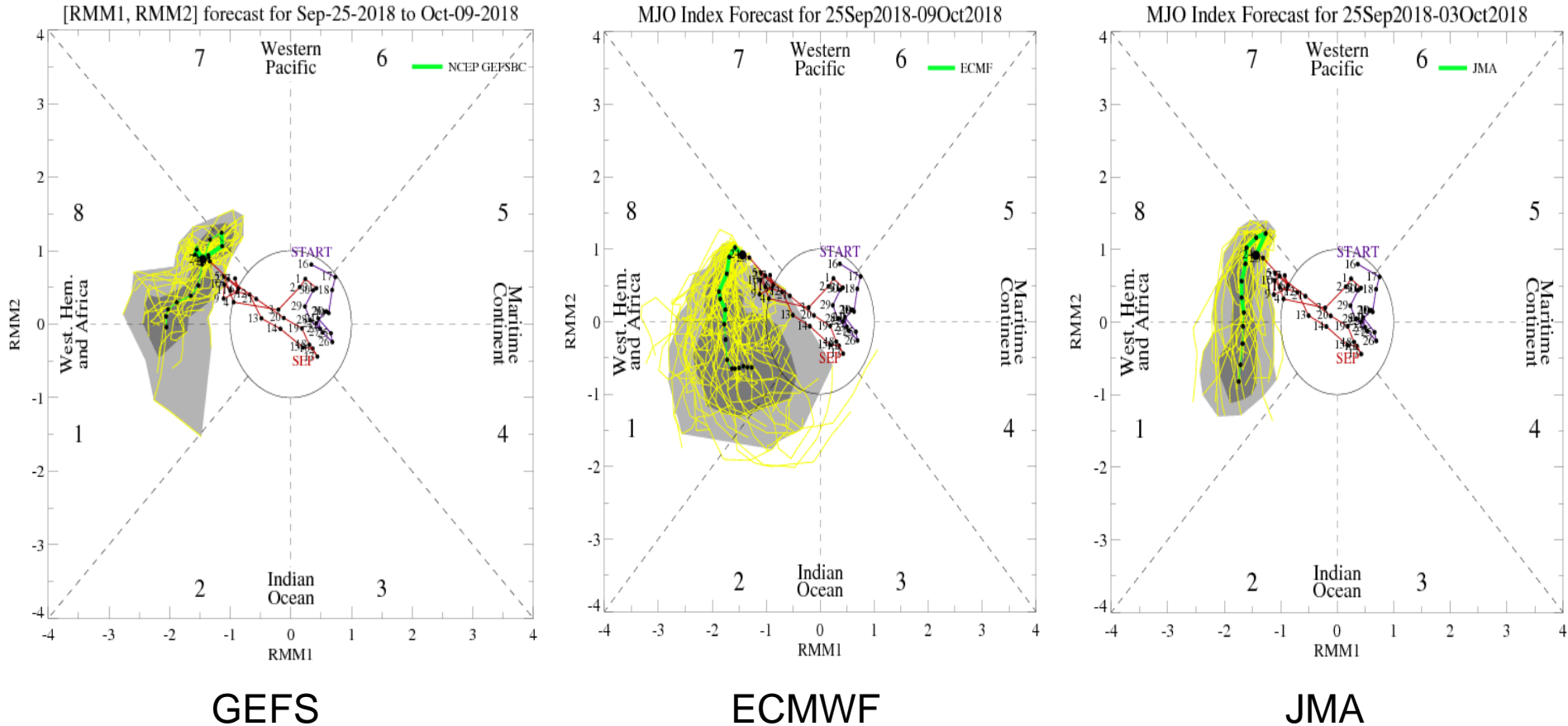
Wave-2 pattern with upper-level DIV over central and eastern Pacific, and eastern Atlantic/Africa.

Transitioning Wave-2 to Wave-1 pattern.

Wave-1 with a moderate MJO projection.

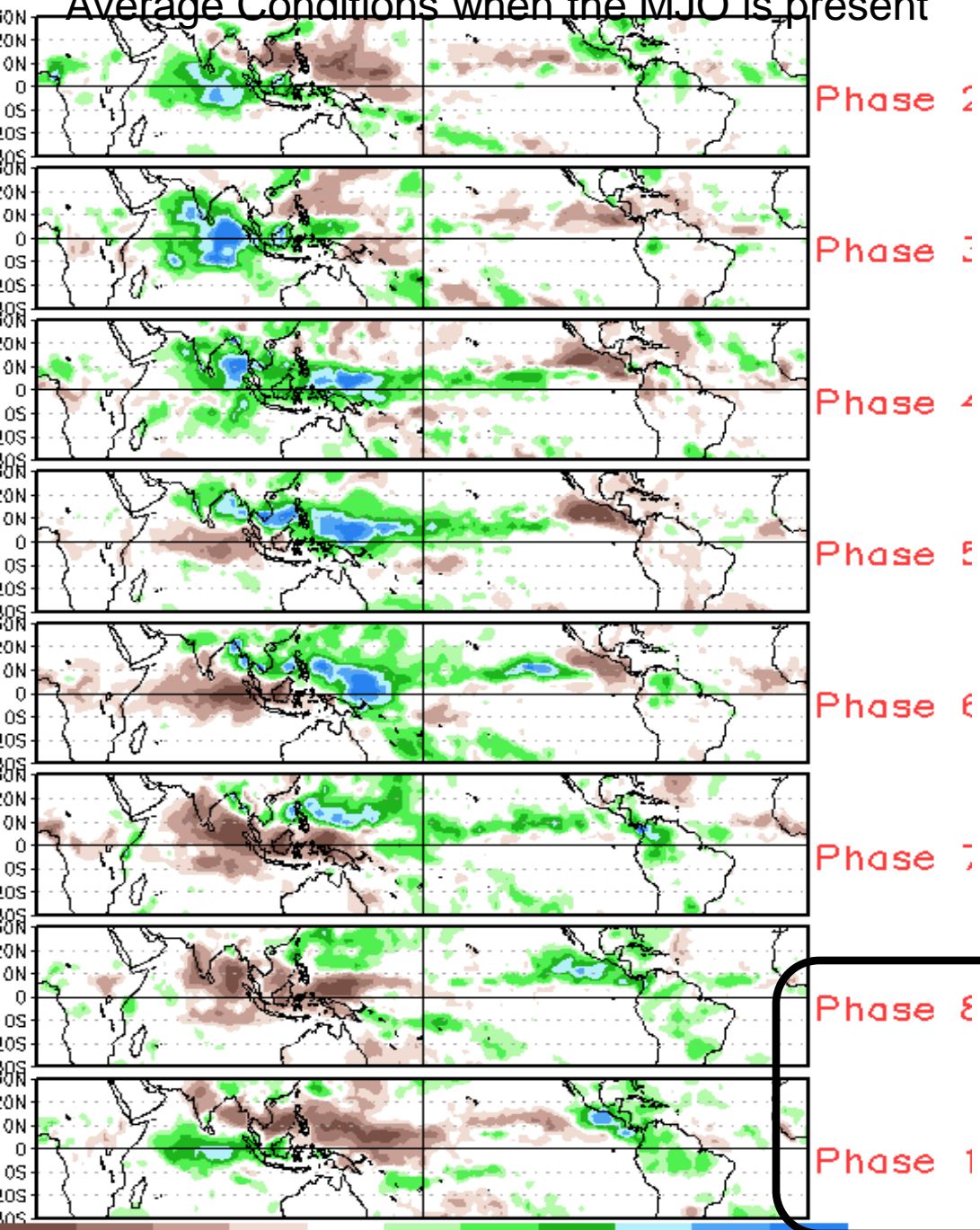


# MJO Observation/Forecast

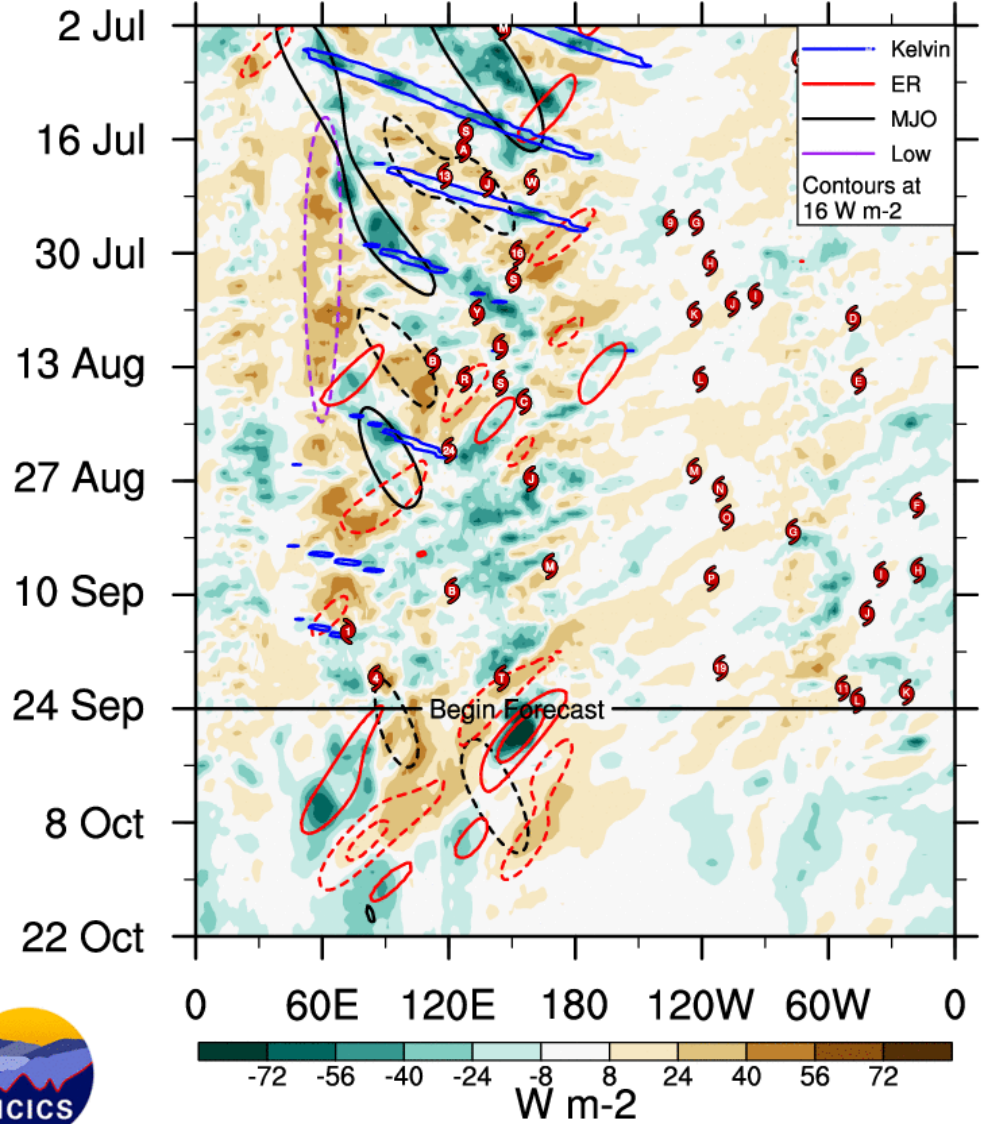


Wheeler-Hendon based analyses of model forecasts indicate a moderate intensity MJO signal propagating to the east across Phases 8 and 1 in the next 2 weeks.

# Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.



— Kelvin  
 - - ER  
 — MJO  
 - - Low  
 Contours at  
 16 W m-2

MJO competing with Rossby waves and TC's

Low-frequency pattern less of an influence



ncics.org/mjo

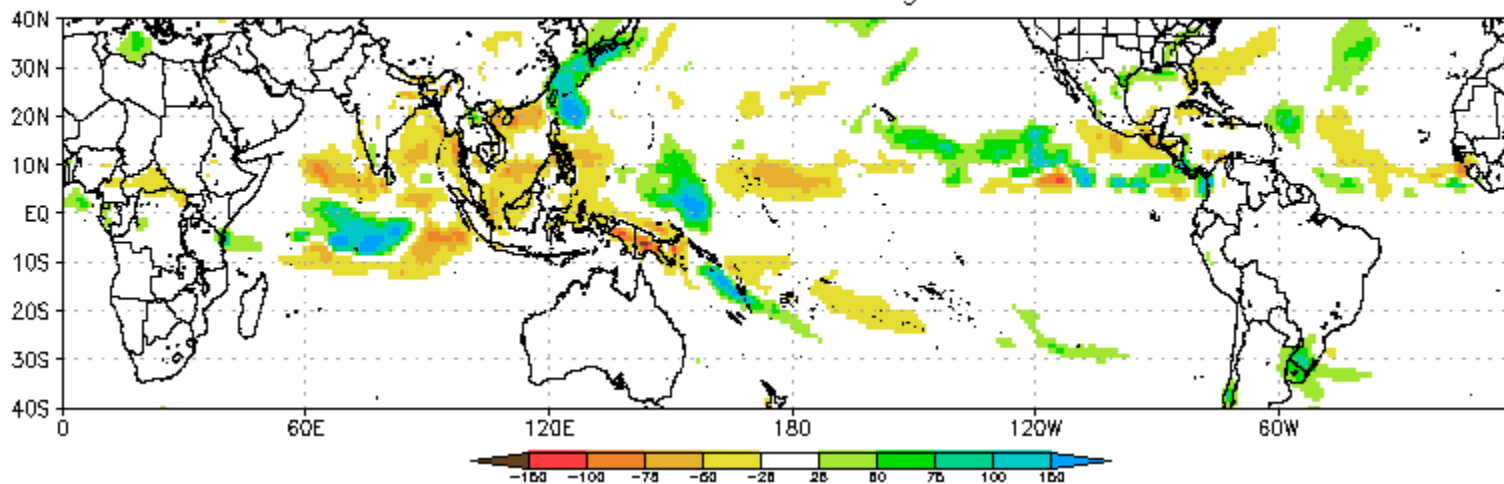
Tue 2018-09-25 1537 UTC

Carl Schreck (cjschrec@ncsu.edu)

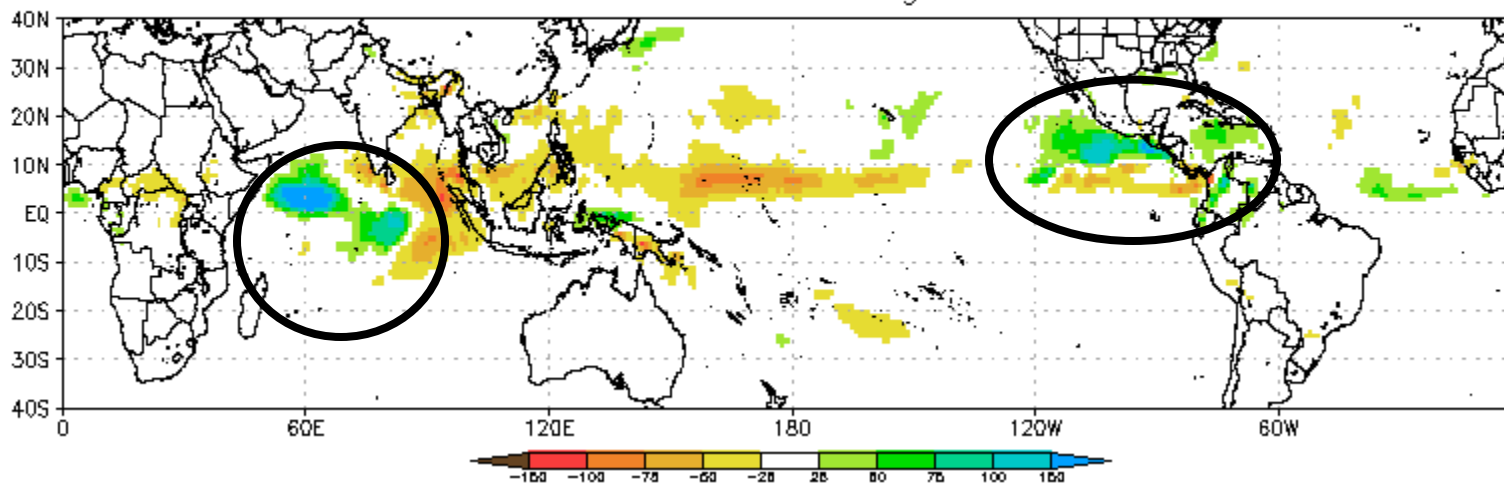




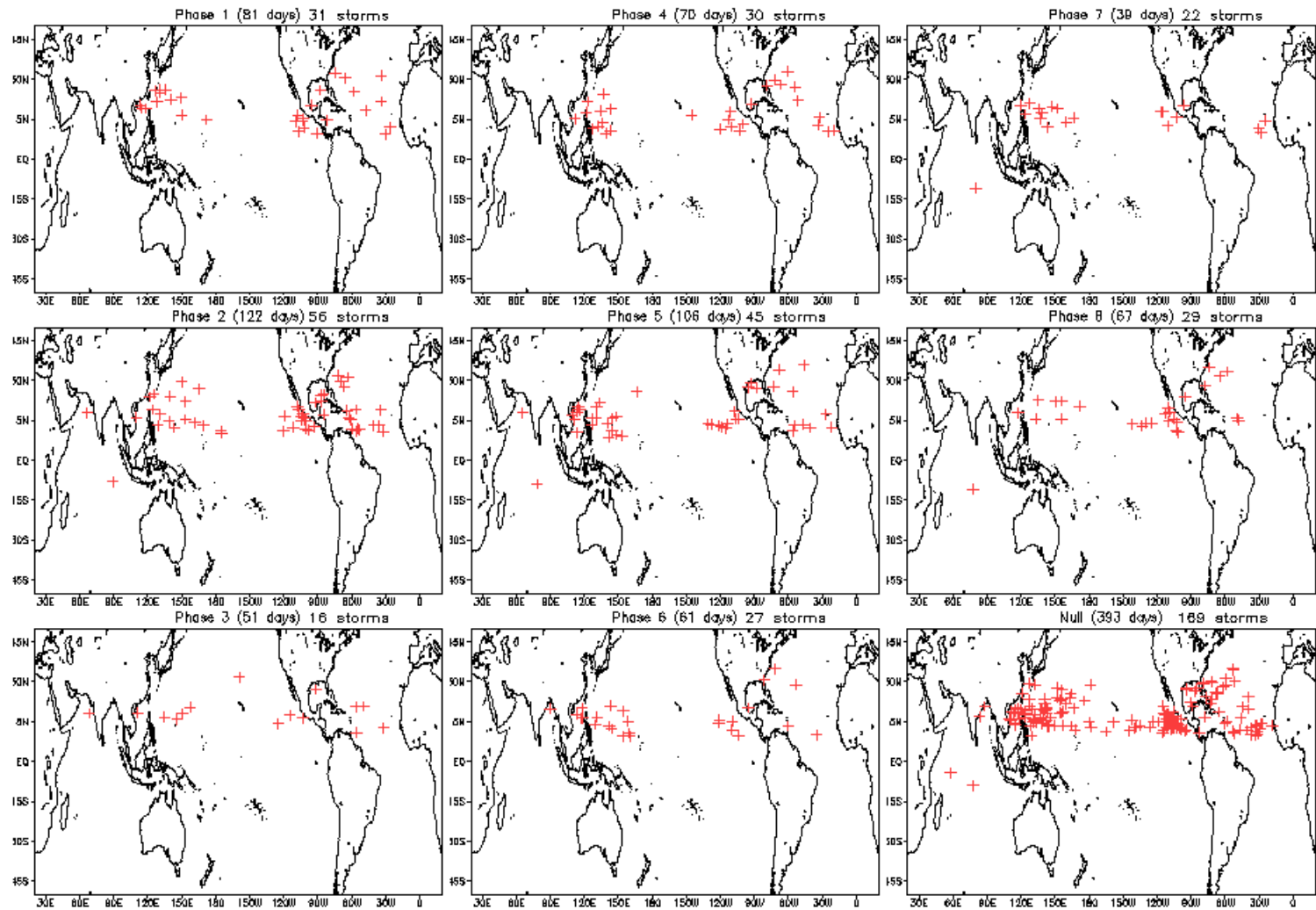
CFS Precipitation Anomalies (mm) Issued 24Sep2018  
Week-1 Forecast Ending 02Oct2018



CFS Precipitation Anomalies (mm) Issued 24Sep2018  
Week-2 Forecast Ending 09Oct2018



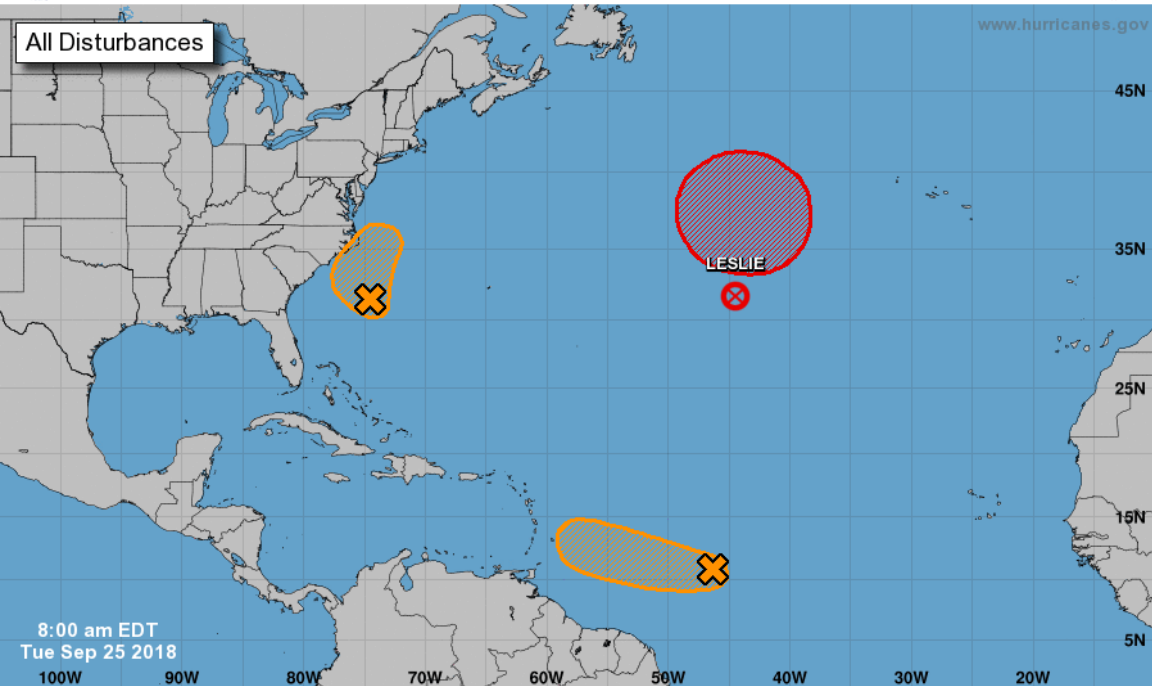
# September Tropical Storm Formation by MJO phase





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



8:00 am EDT  
Tue Sep 25 2018

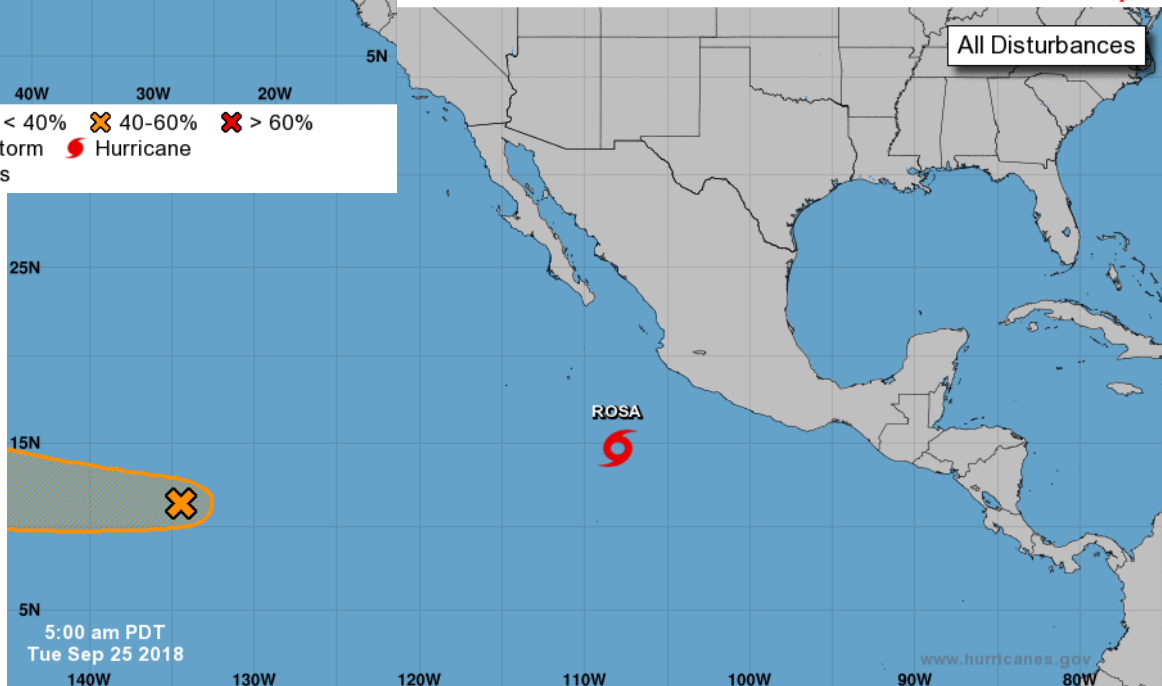
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

## Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



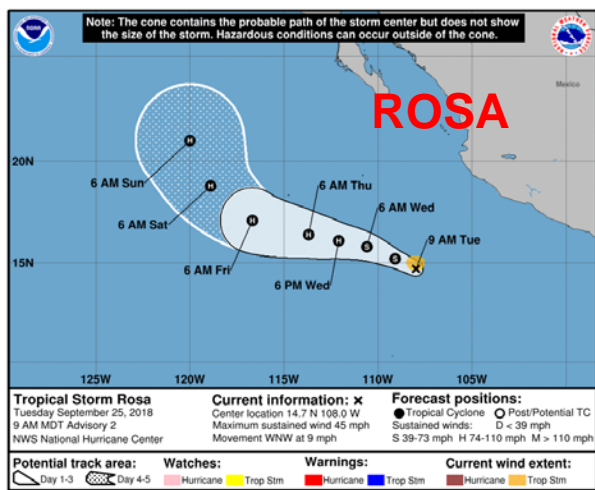
All Disturbances

5:00 am PDT  
Tue Sep 25 2018

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

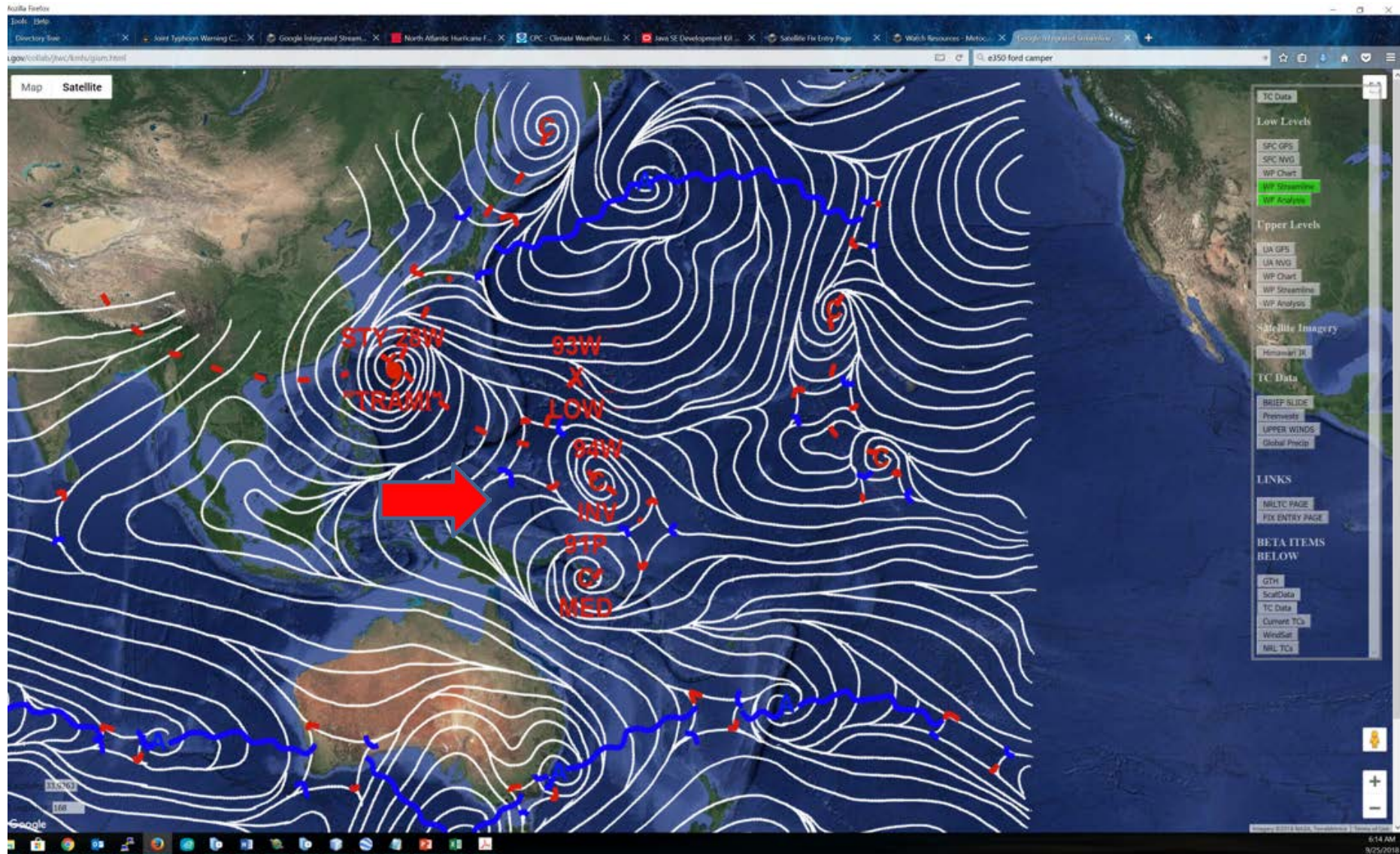
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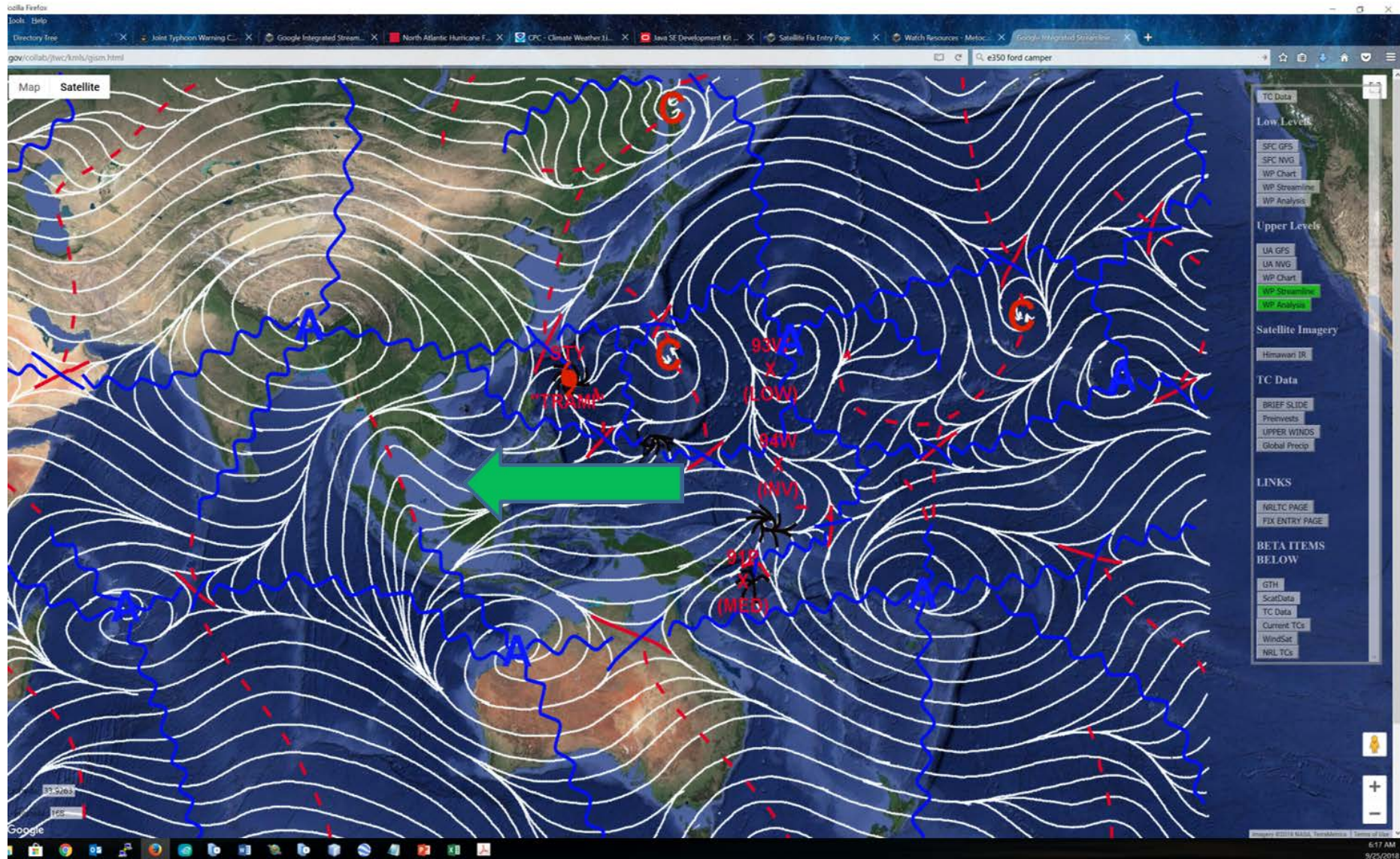


# Western Pacific **Low-Level** Streamline Analysis (JTWC)

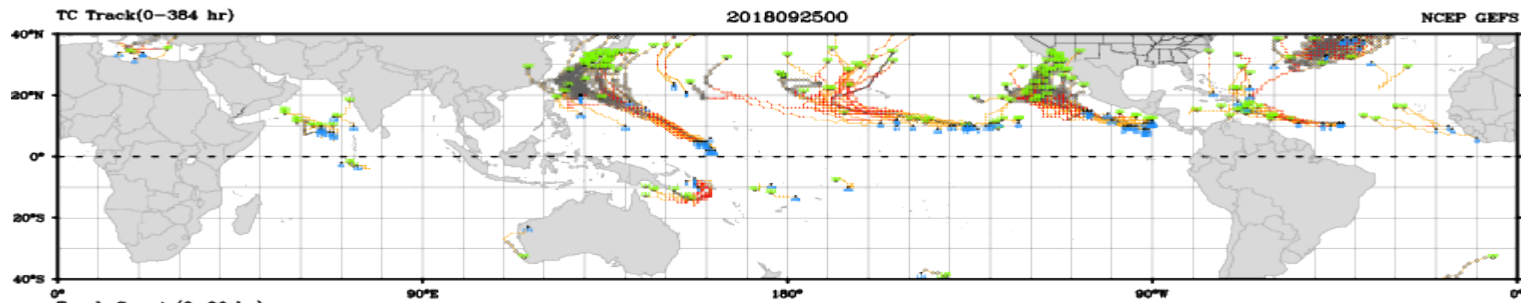




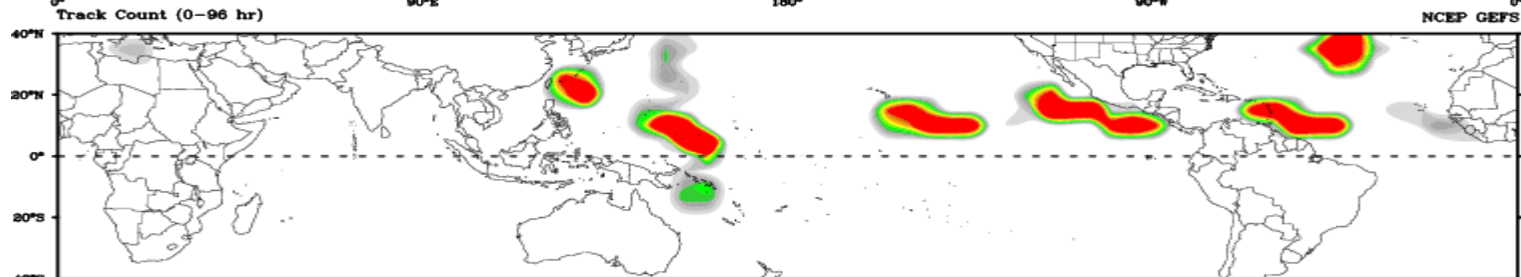
# Western Pacific **Upper-Level** Streamline Analysis (JTWC)



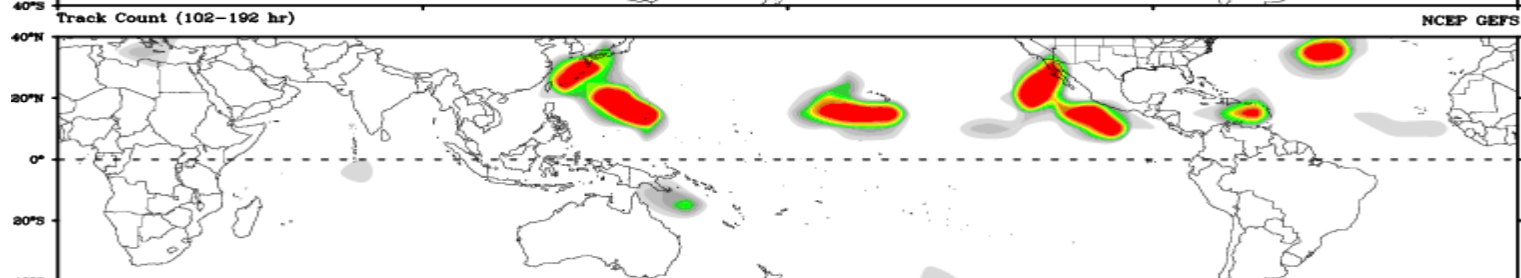




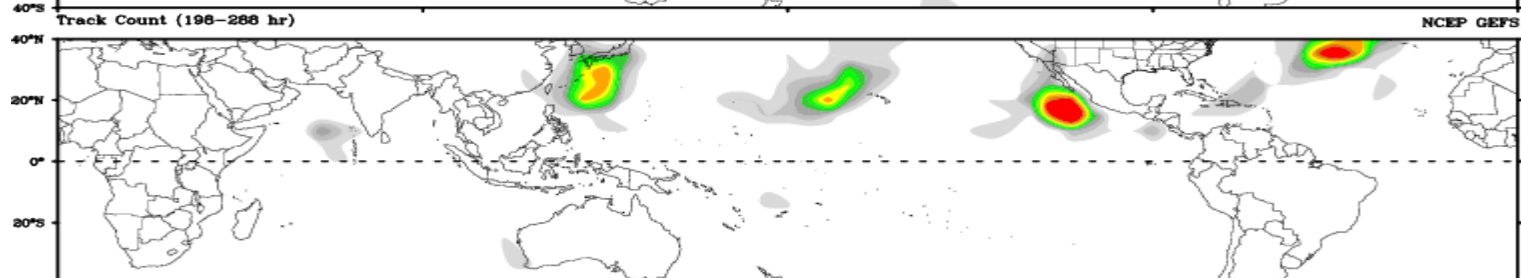
Days 1-4



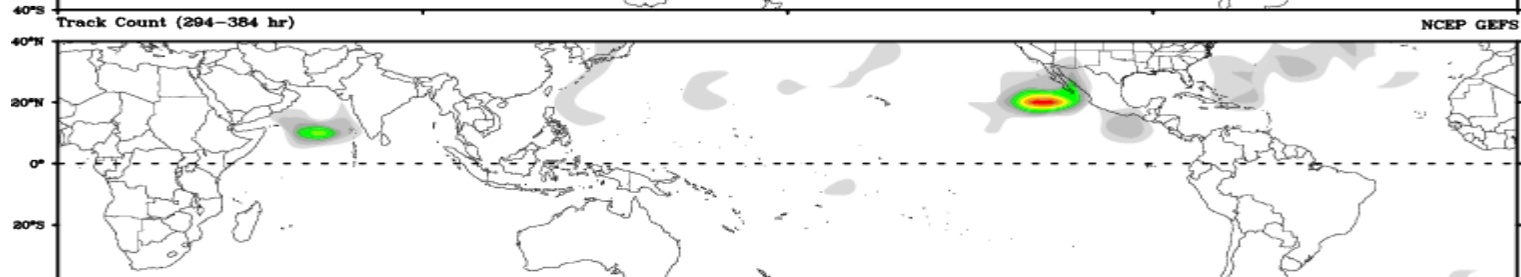
Day 5-8



Day 9-12

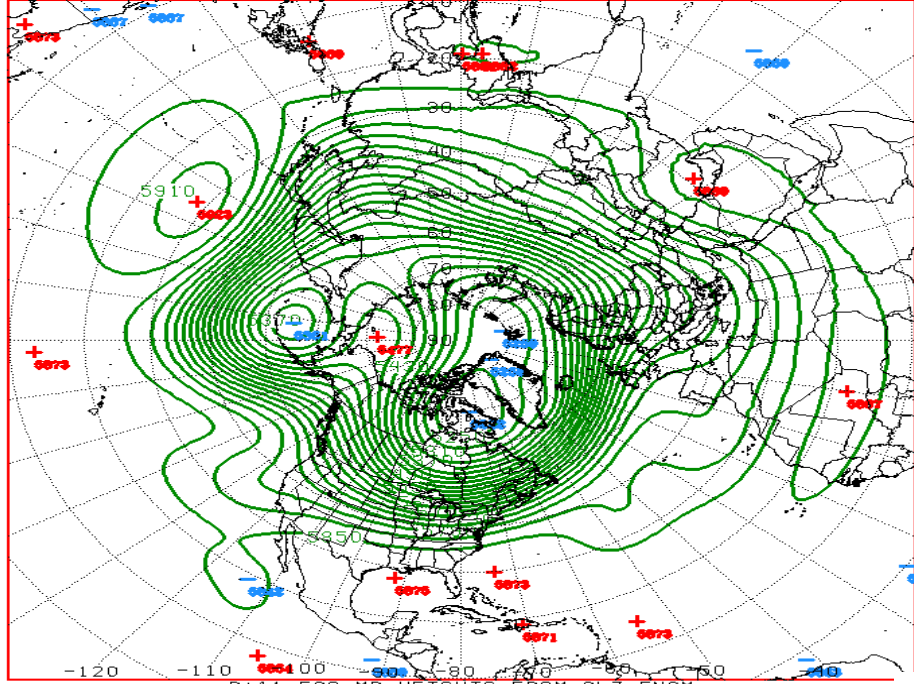


Day 13-15

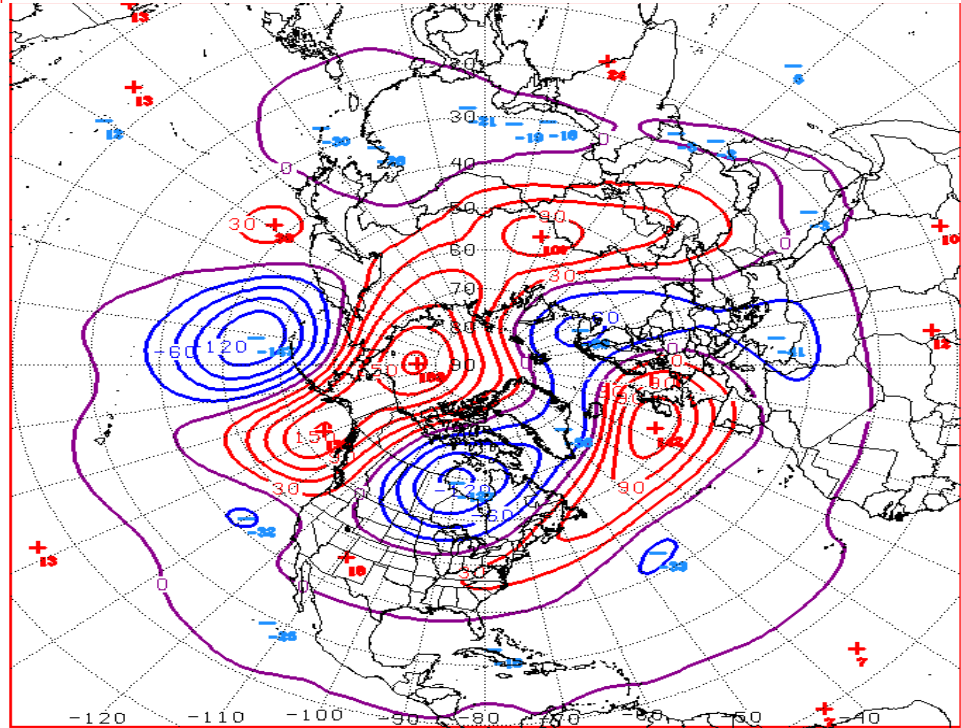


# Connections to U.S. Impacts

# Week 2 500-hPa Circulation (GFS Super-ensemble Mean) 25 Sep 2018



D+11 500 MB HEIGHTS FROM AL2 ENSM  
CPC MAP MADE SEP 25 2018 1255 UTC CNTD OCT 06 2018

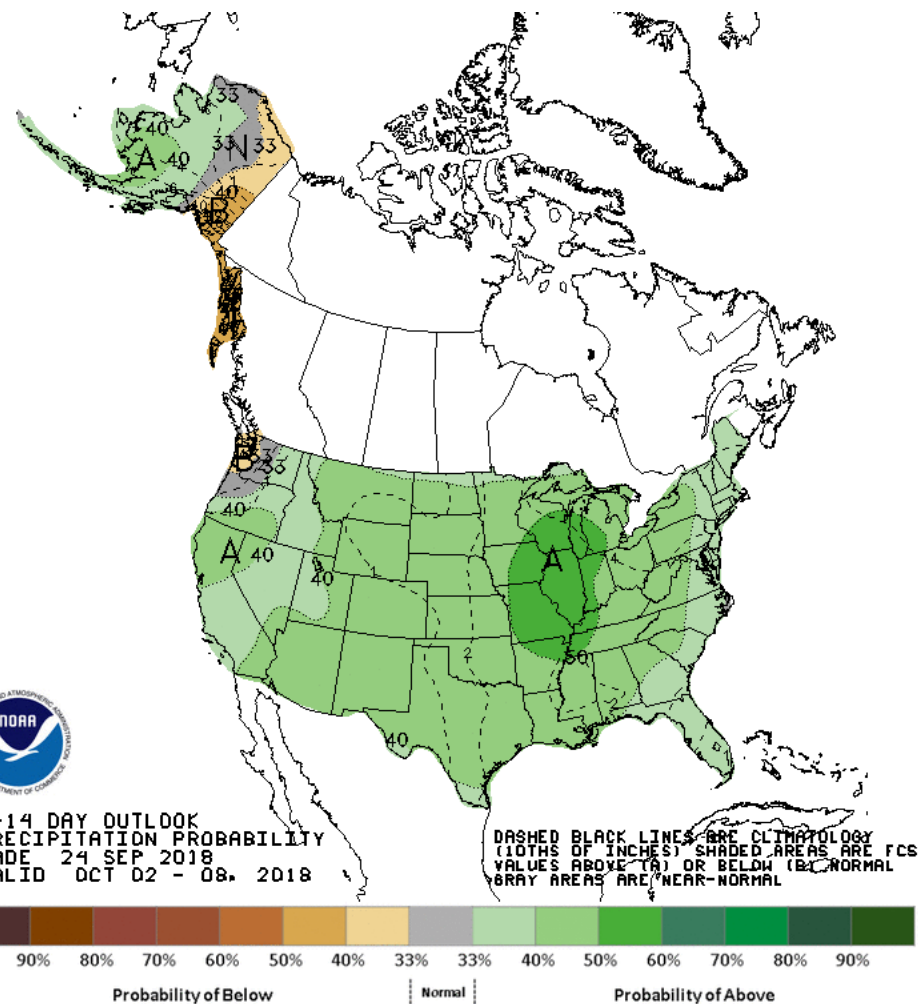
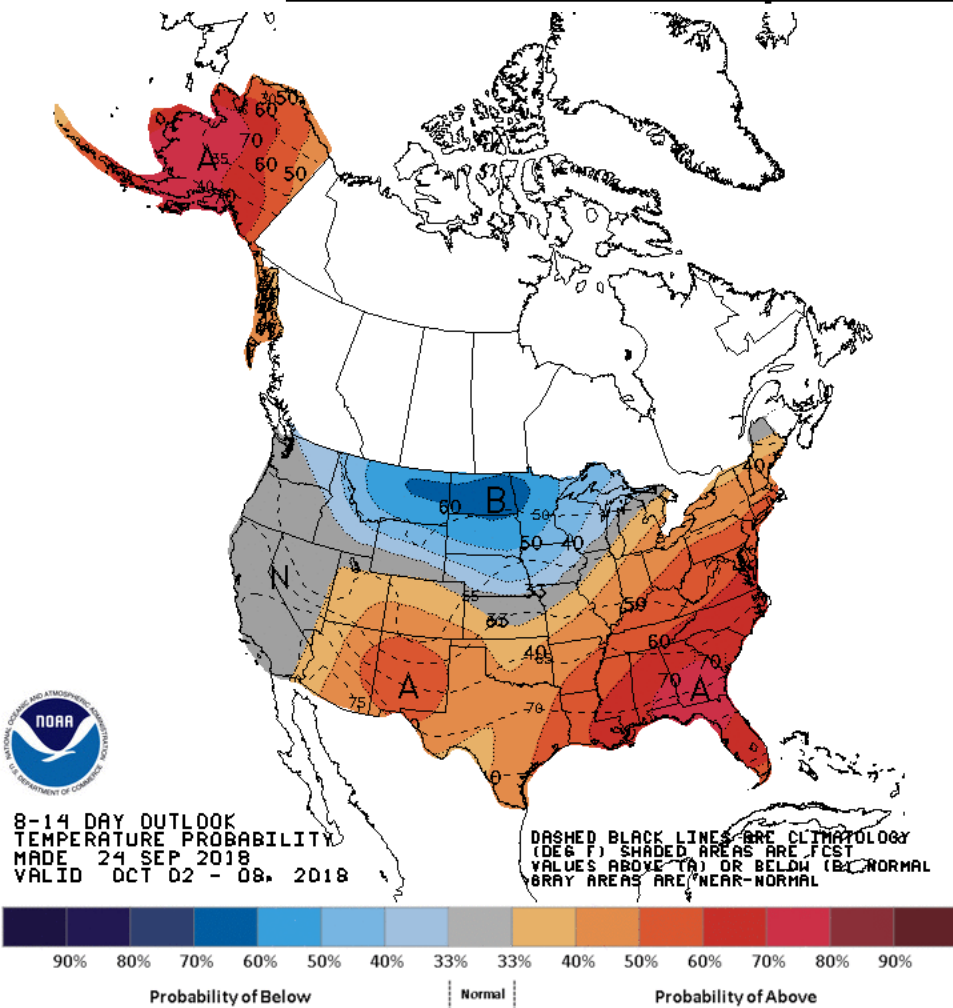


D+11 500 MB ANOMALIES FROM AL2 ENSM  
CPC MAP MADE SEP 25 2018 1257 UTC CNTD OCT 06 2018



# Week 2 – Temperature and Precipitation

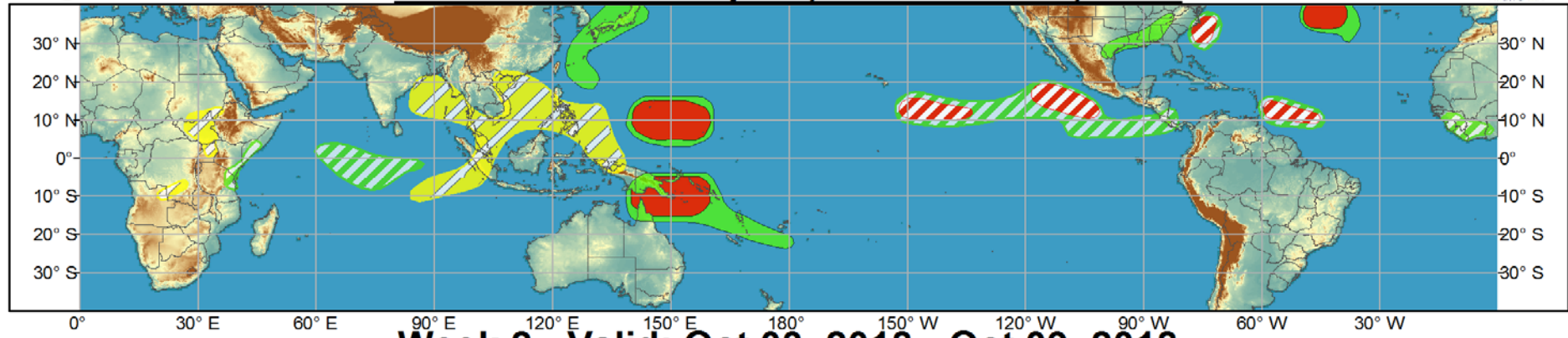
24 Sep 2018



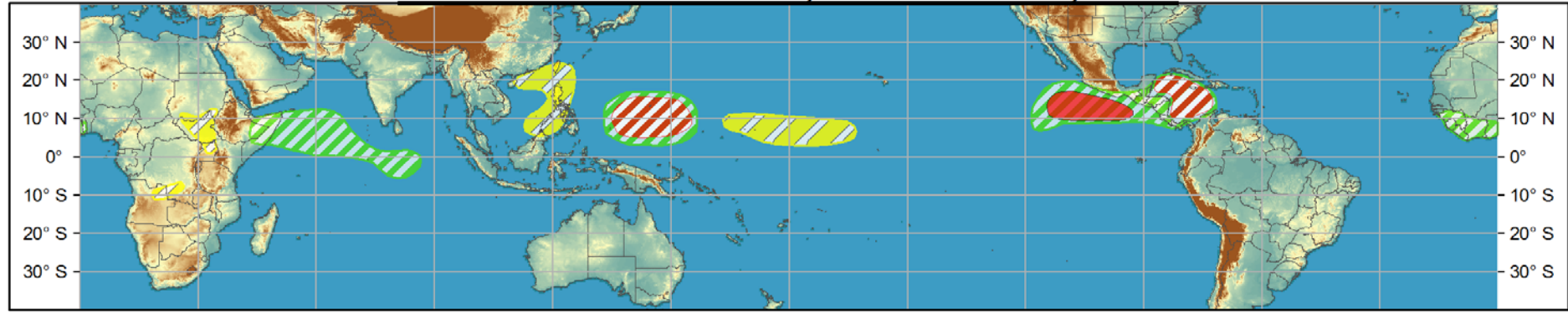


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