

# Global Tropics Hazards And Benefits Outlook

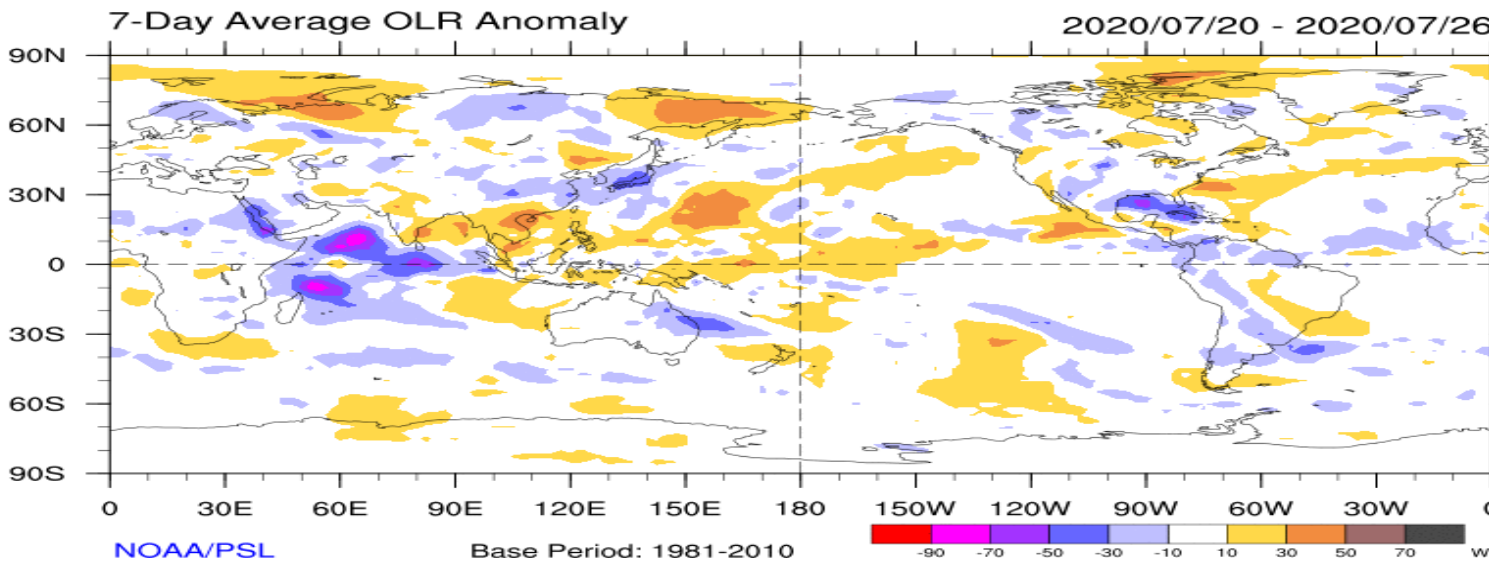
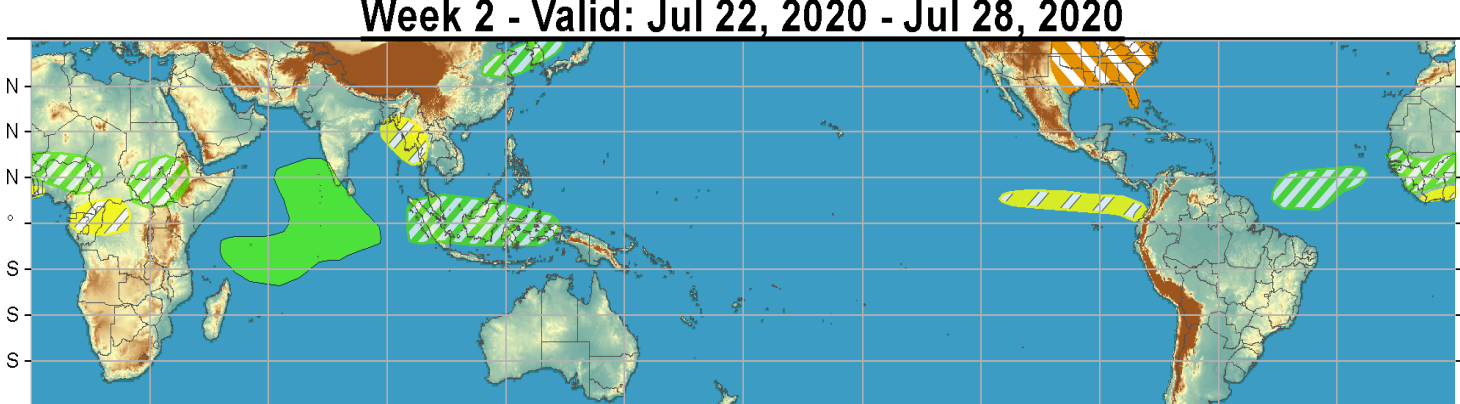
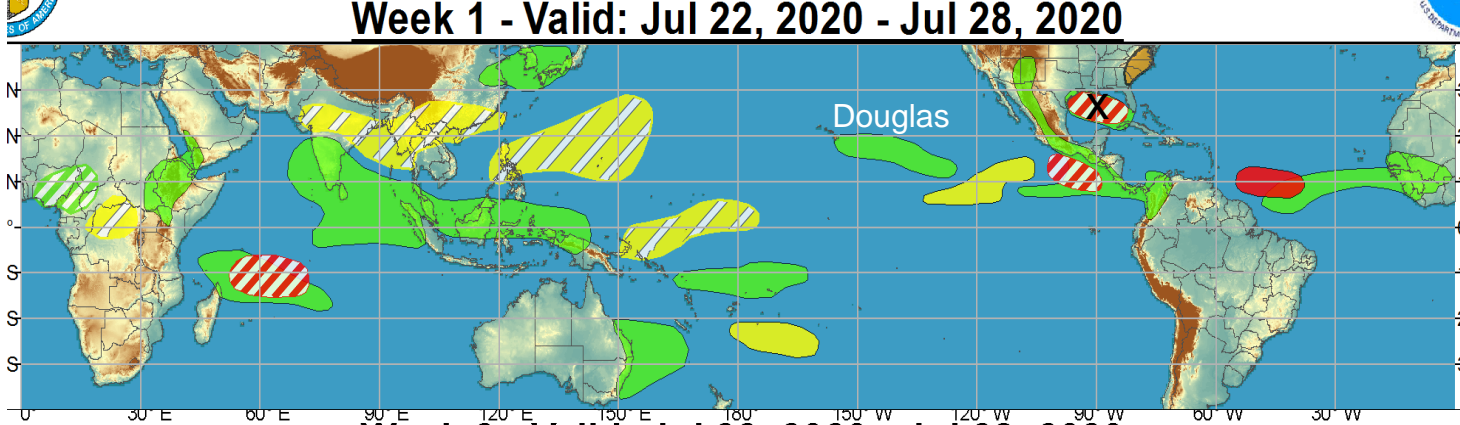
7/28/2020

Brad Pugh

## 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



Cool shading  
More clouds/rain

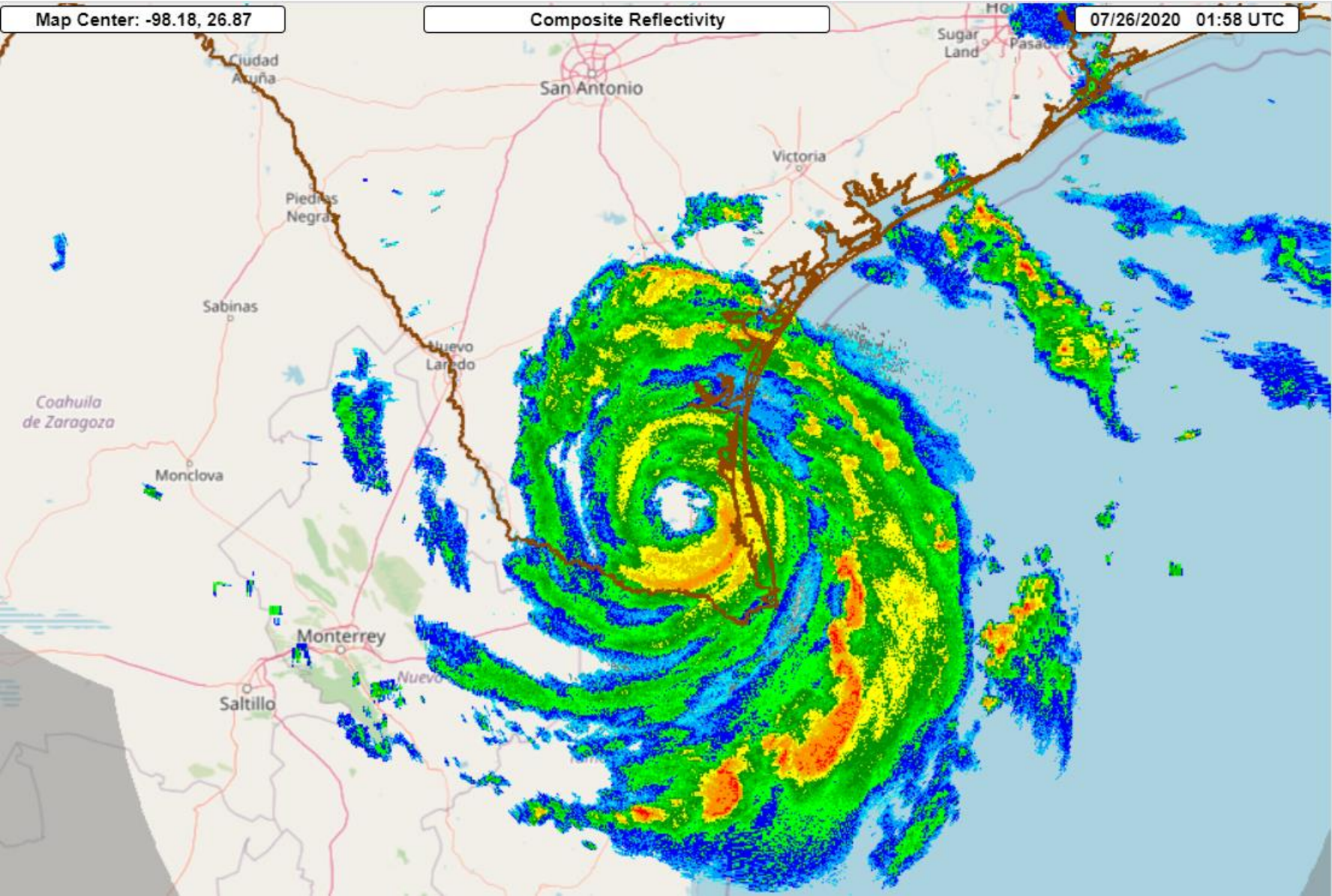
Warm shading  
Less clouds/rain

Map Center: -98.18, 26.87

Composite Reflectivity

07/26/2020 01:58 UTC

dBZ



What is UTC time?

Map Help

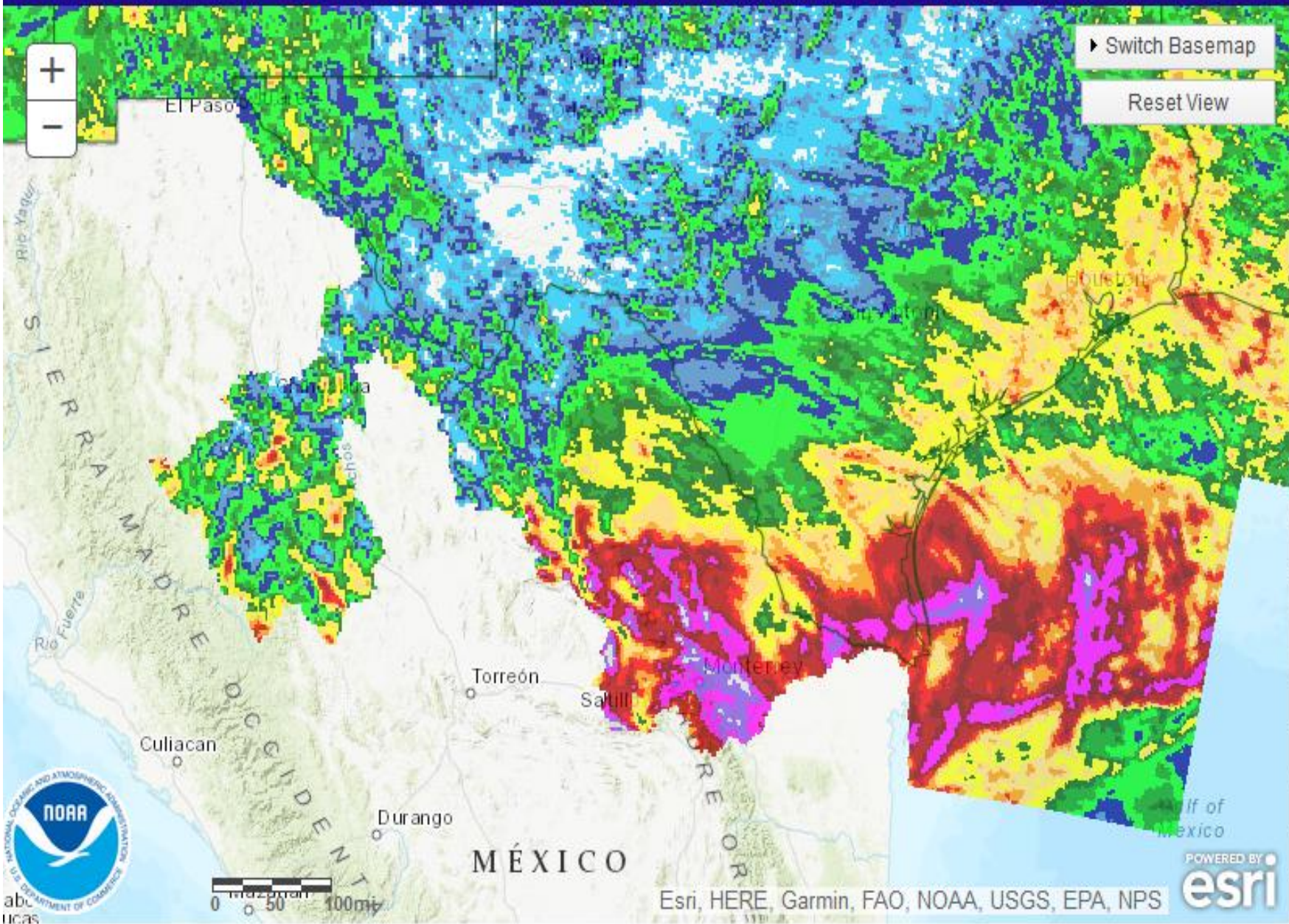
Find address or location



Switch Basemap  
Reset View



Inches



# Synopsis of Climate Modes

**ENSO: (July 9, 2020 Update)**

*next update on 13<sup>th</sup> of Aug.!*

- ENSO Alert System Status: [La Niña Watch](#)
- ENSO-neutral is favored to continue through the summer, with a 50-55% chance of La Niña development during Northern Hemisphere fall 2020 and continuing through winter 2020-21 (~50% chance).

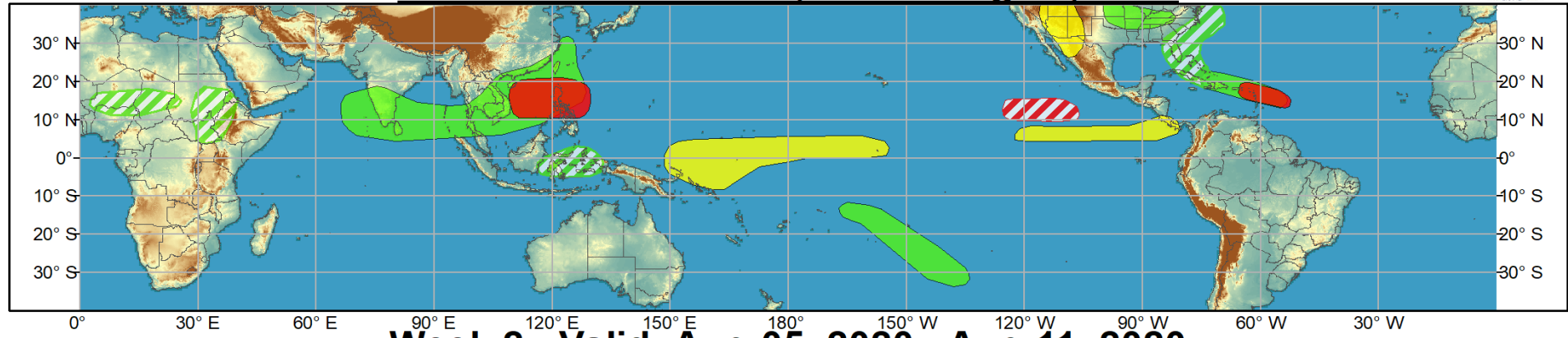
**MJO and other subseasonal tropical variability:**

- The MJO indices (CPC velocity potential and RMM) depict an eastward propagation of a signal over the Indian Ocean.
- Dynamical models agree that the MJO continues to shift east to the Maritime Continent by the beginning of August.
- This predicted MJO evolution favors tropical cyclone development across the South China Sea or near the Philippines during the next week.

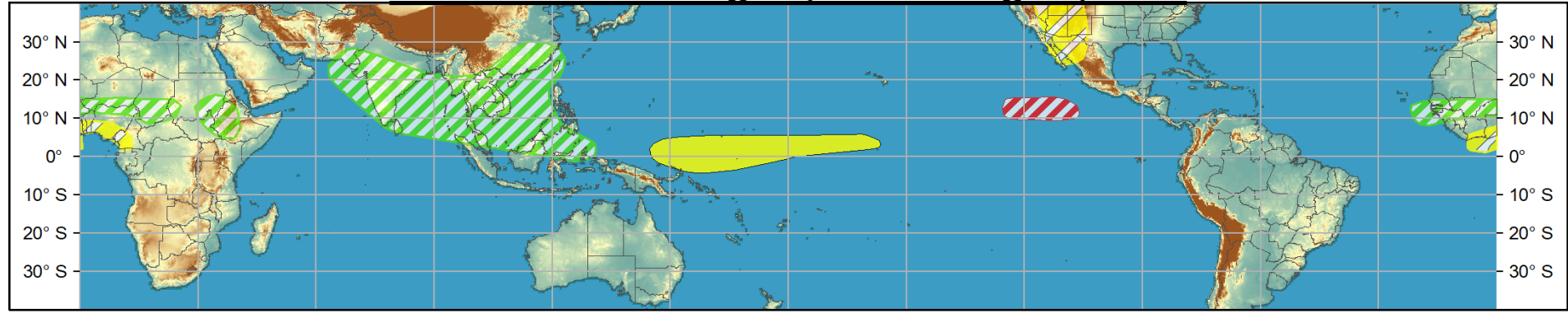


# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Jul 29, 2020 - Aug 04, 2020



## Week 2 - Valid: Aug 05, 2020 - Aug 11, 2020



Produced: 07/28/2020

Forecaster: Pugh

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.
		<b>Below-average rainfall</b> Weekly total rainfall in the lower third of the historical range.
		<b>Above-normal temperatures</b> 7-day mean temperatures in the upper third of the historical range.
		<b>Below-normal temperatures</b> 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.

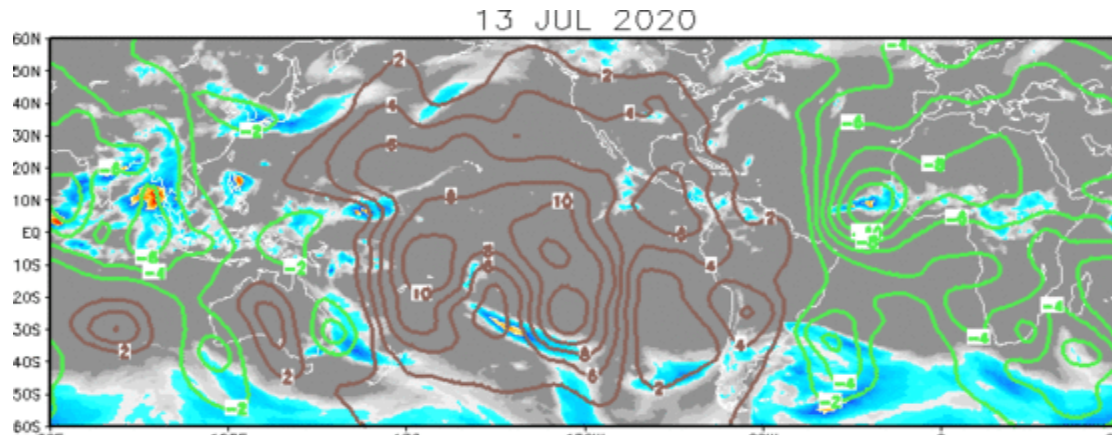


# IR Satellite & 200-hpa Velocity Potential Anomalies

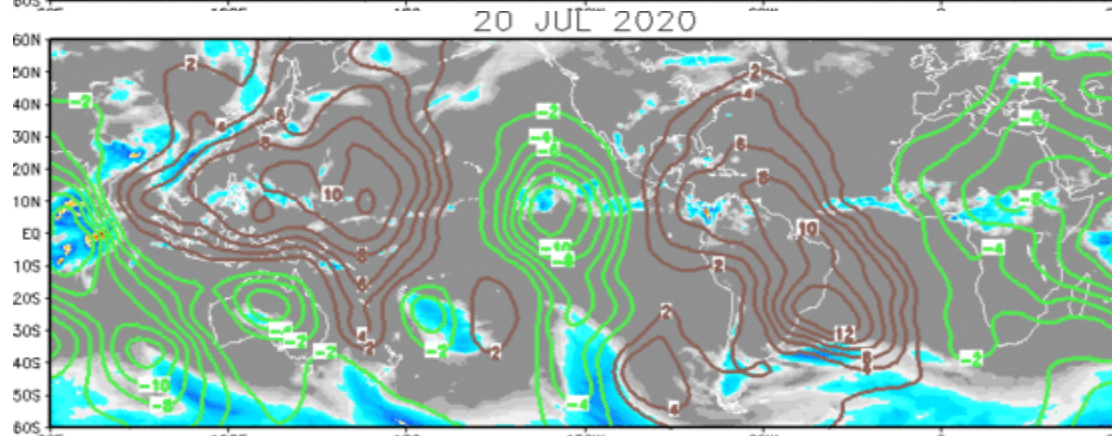
Green: Enhanced Divergence

Brown: Enhanced Convergence

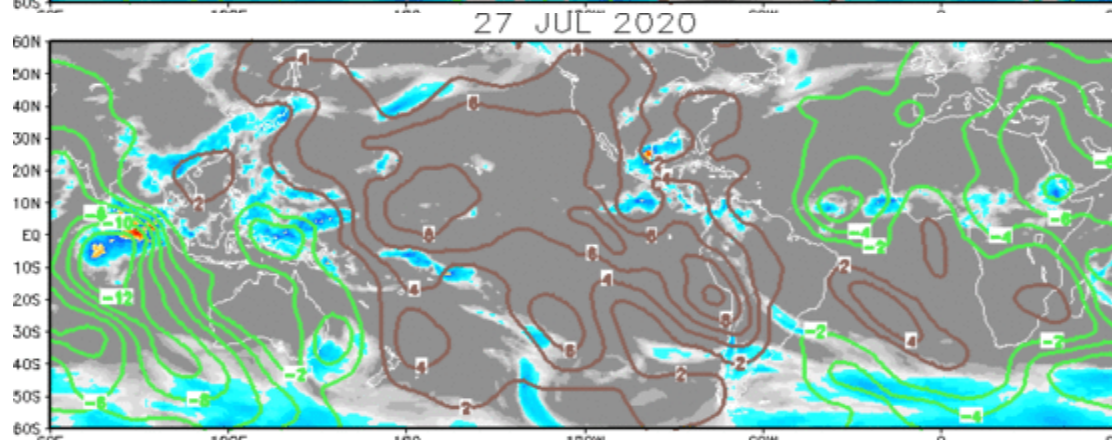
Wave-1 spatial pattern



Wave-2 asymmetry as a Kelvin wave moved ahead of the broader envelope and crossed the Pacific.

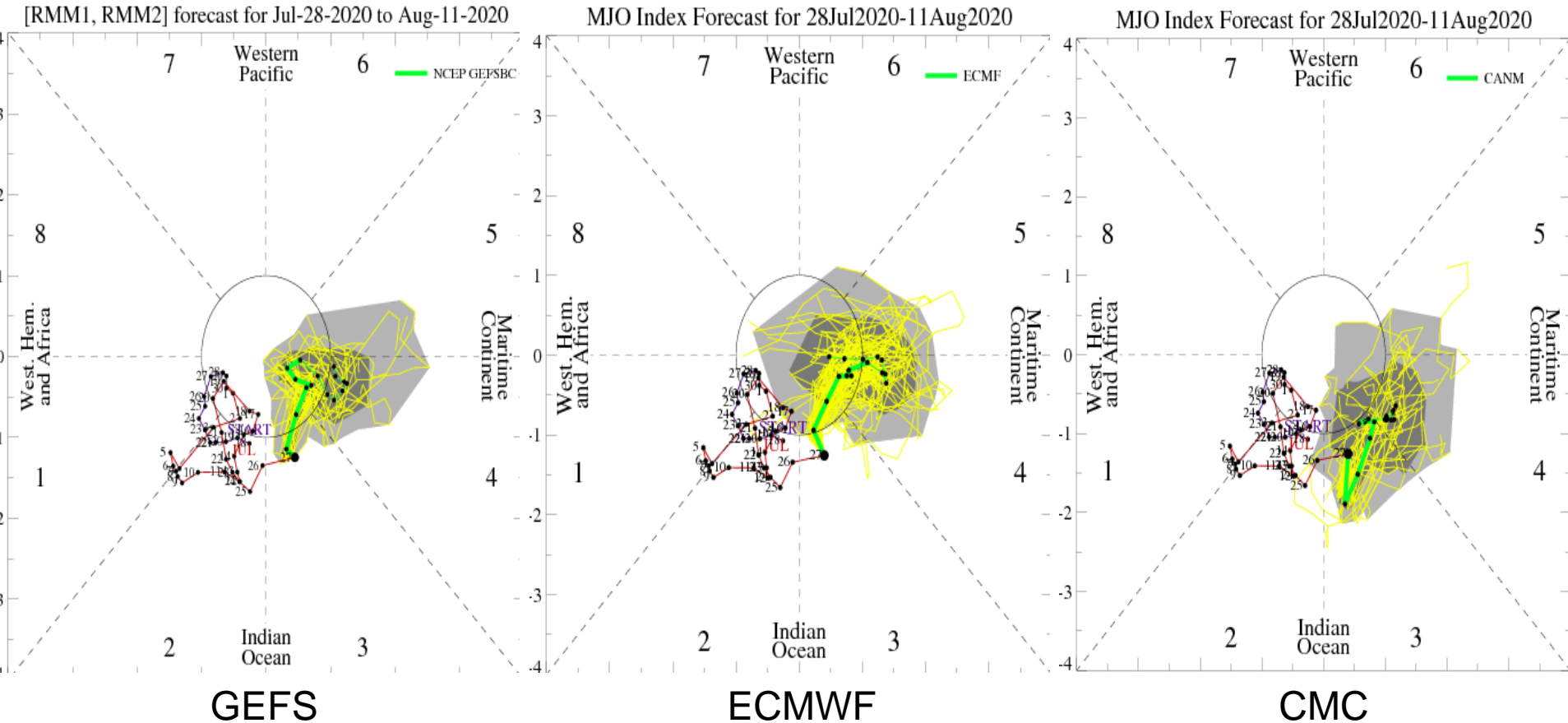


Kelvin wave propagated to the tropical Atlantic



Coherent MJO pattern has returned to the global tropics

# MJO Observation/Forecast

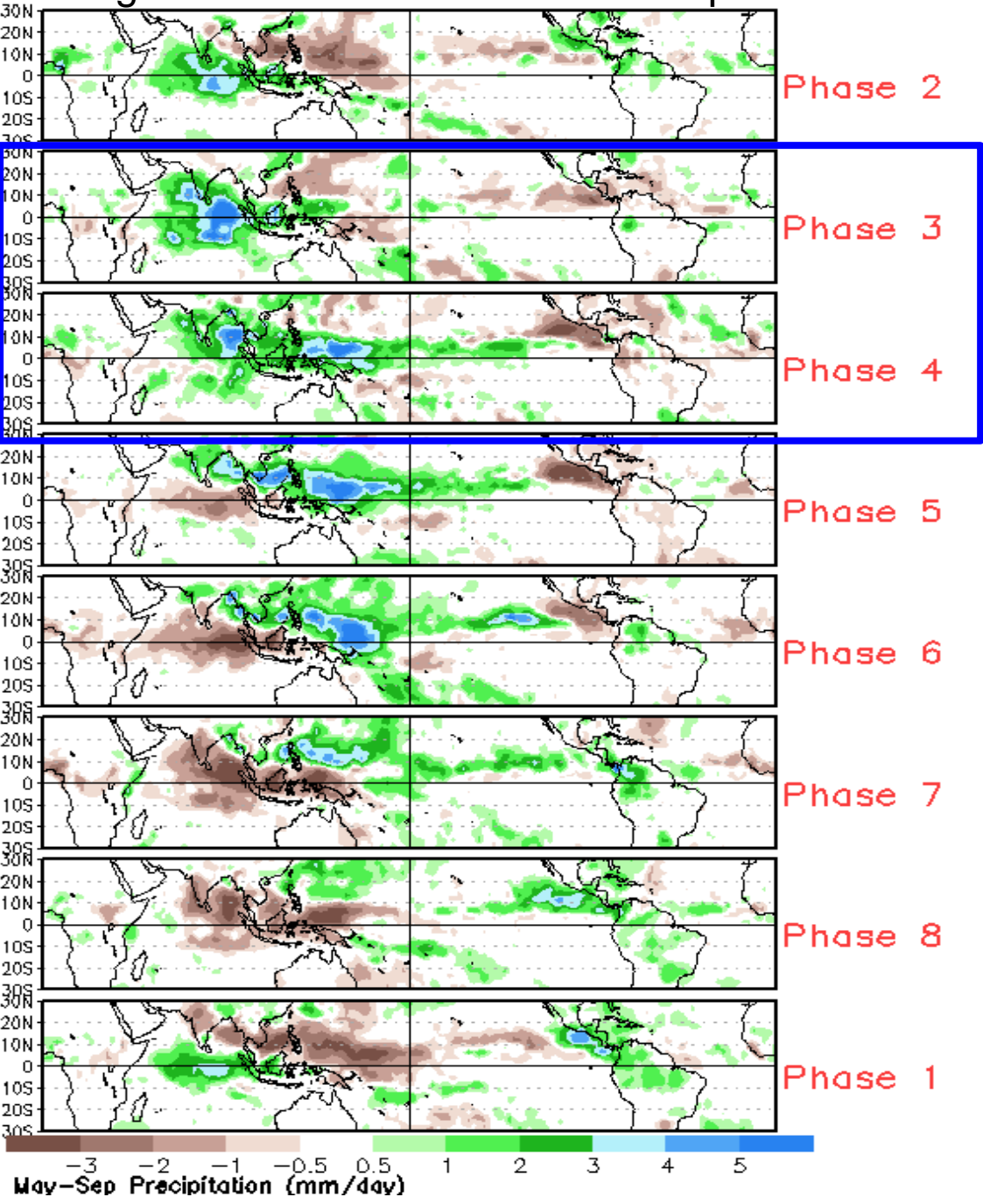


GEFS and ECMWF ensemble means depict continued eastward propagation to the Maritime Continent early in Week-1.

Large ensemble spread in the amplitude during Week-2.



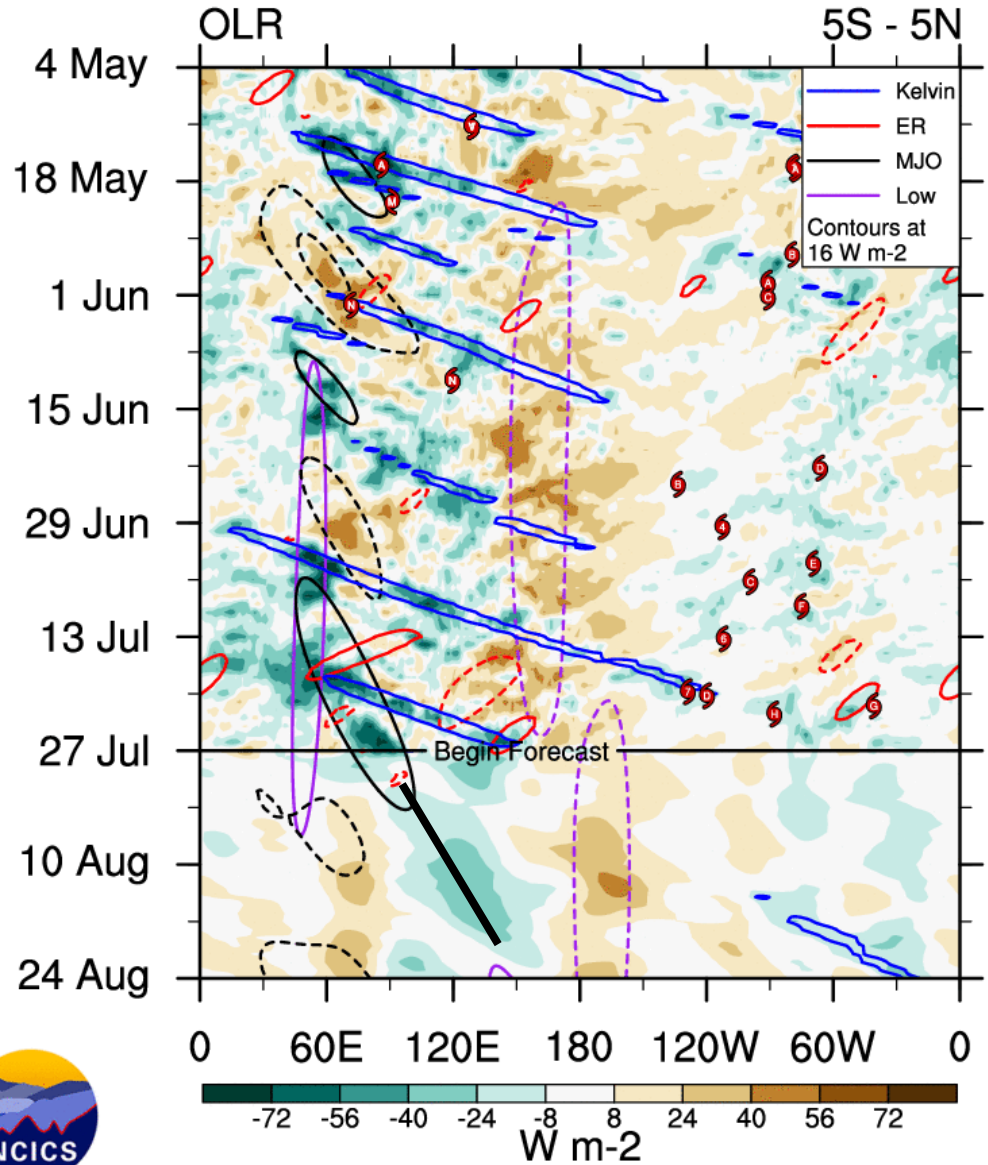
# Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

**Enhanced convection  
shifting east 90 to 120E**

**Persistent dry signal near  
the Date Line**

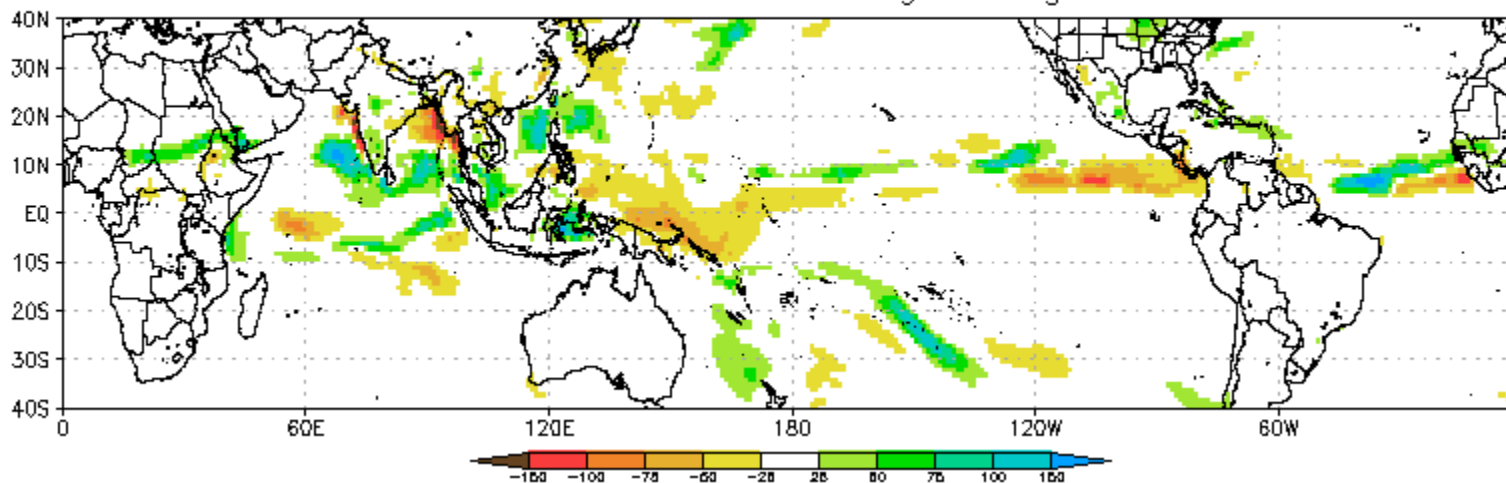


[ncics.org/mjo](http://ncics.org/mjo)

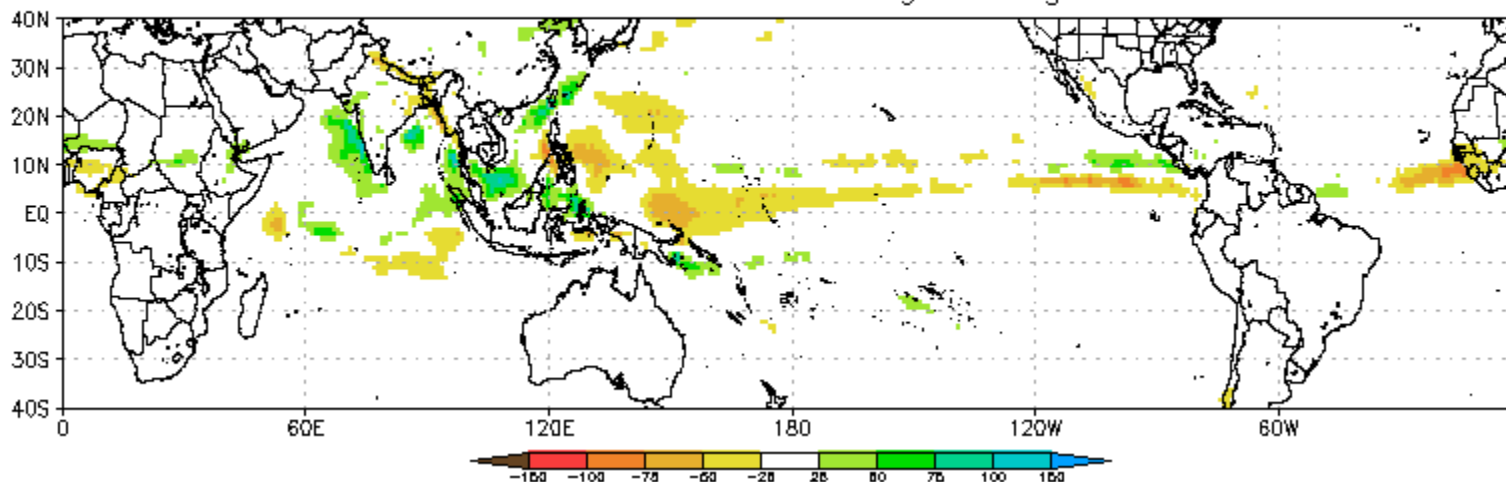
Tue 2020-07-28 1511 UTC

Carl Schreck  
[carl\\_schreck@ncsu.edu](mailto:carl_schreck@ncsu.edu)

CFS Precipitation Anomalies (mm) Issued 27Jul2020  
Week-1 Forecast Ending 04Aug2020

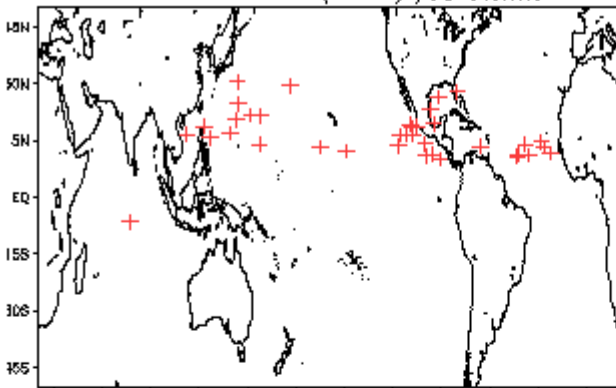


CFS Precipitation Anomalies (mm) Issued 27Jul2020  
Week-2 Forecast Ending 11Aug2020

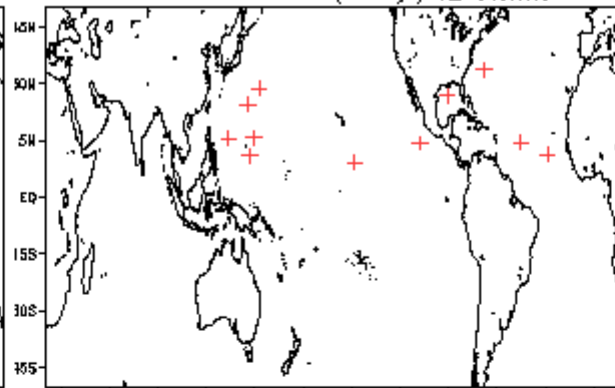


# August Tropical Storm Formation by MJO phase

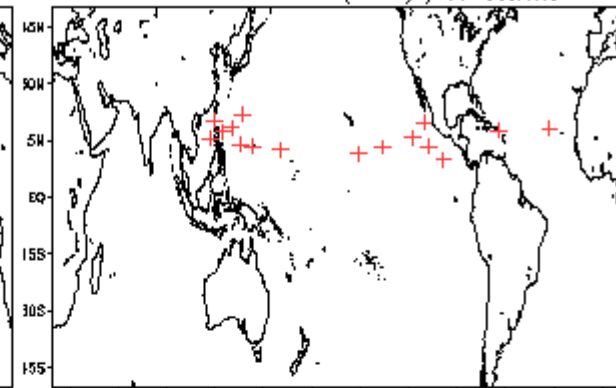
Phase 1 (101 days) 38 storms



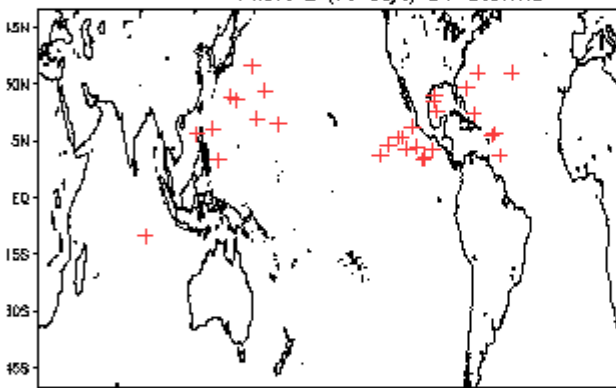
Phase 4 (40 days) 12 storms



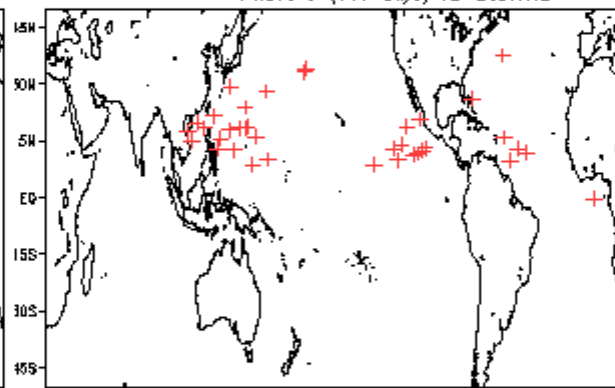
Phase 7 (43 days) 17 storms



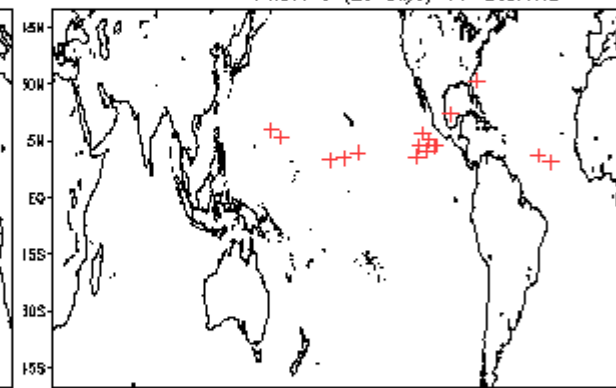
Phase 2 (79 days) 31 storms



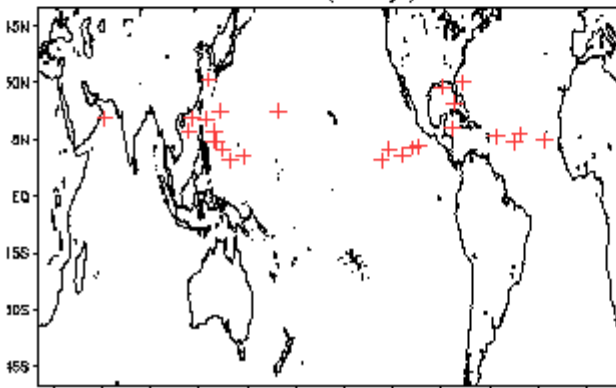
Phase 5 (117 days) 40 storms



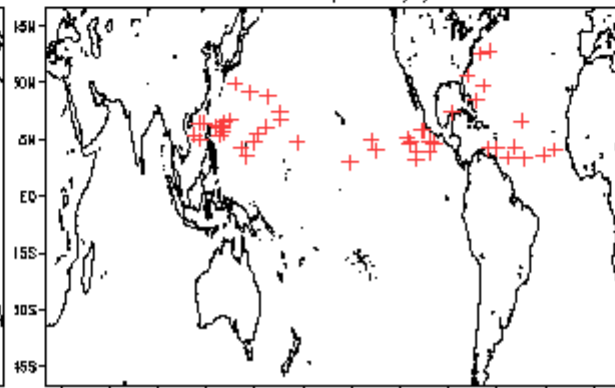
Phase 8 (25 days) 17 storms



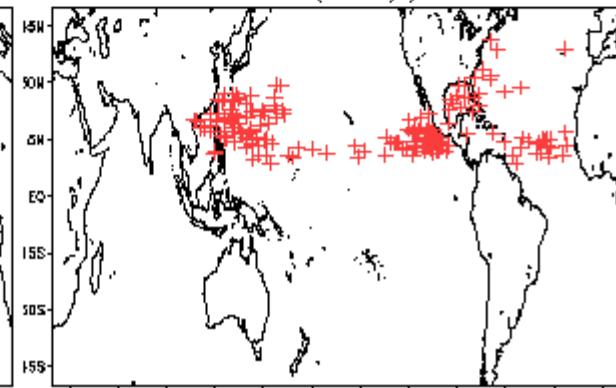
Phase 3 (51 days) 27 storms



Phase 6 (101 days) 50 storms



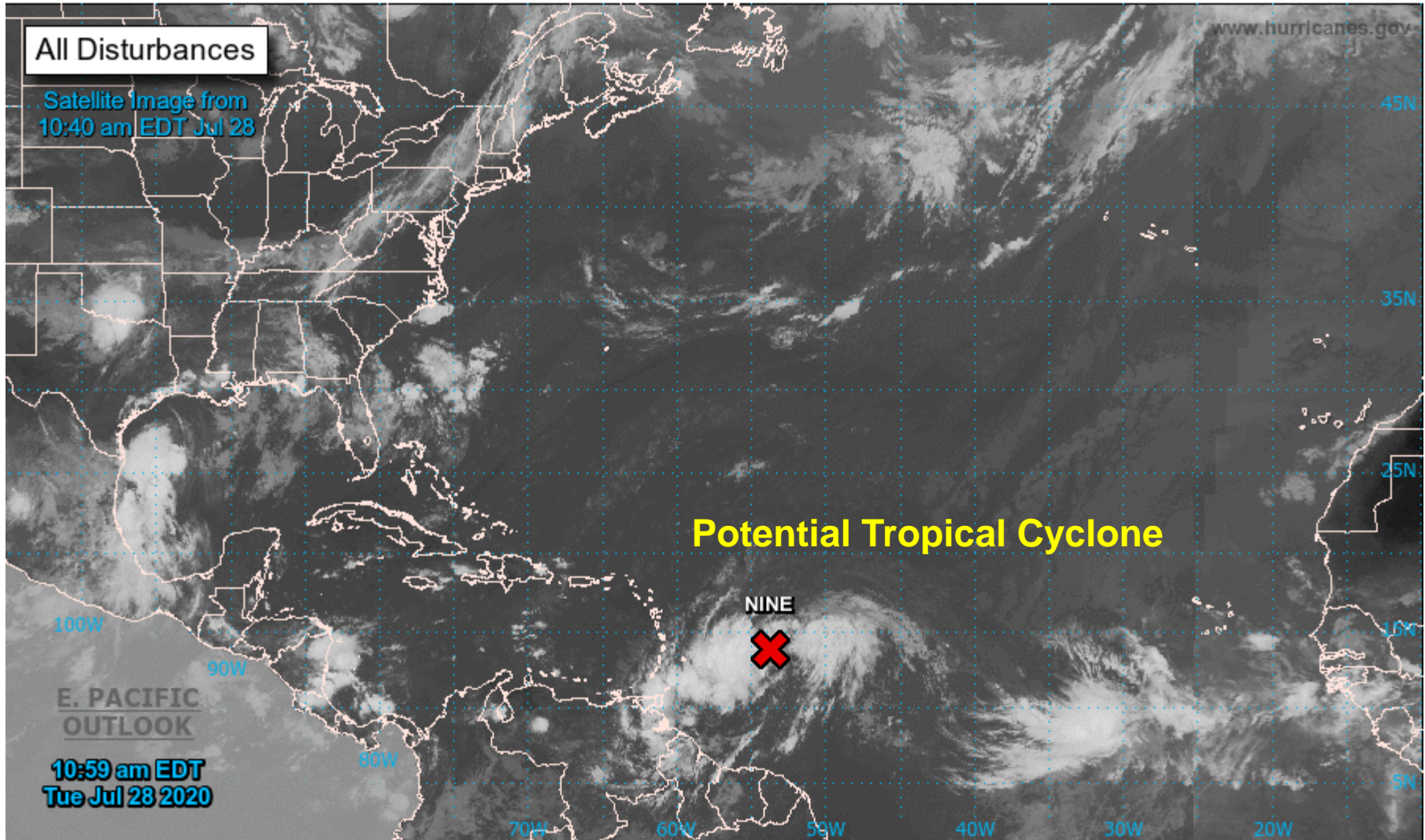
Null (466 days) 189 storms





# Two-Day Graphical Tropical Weather Outlook

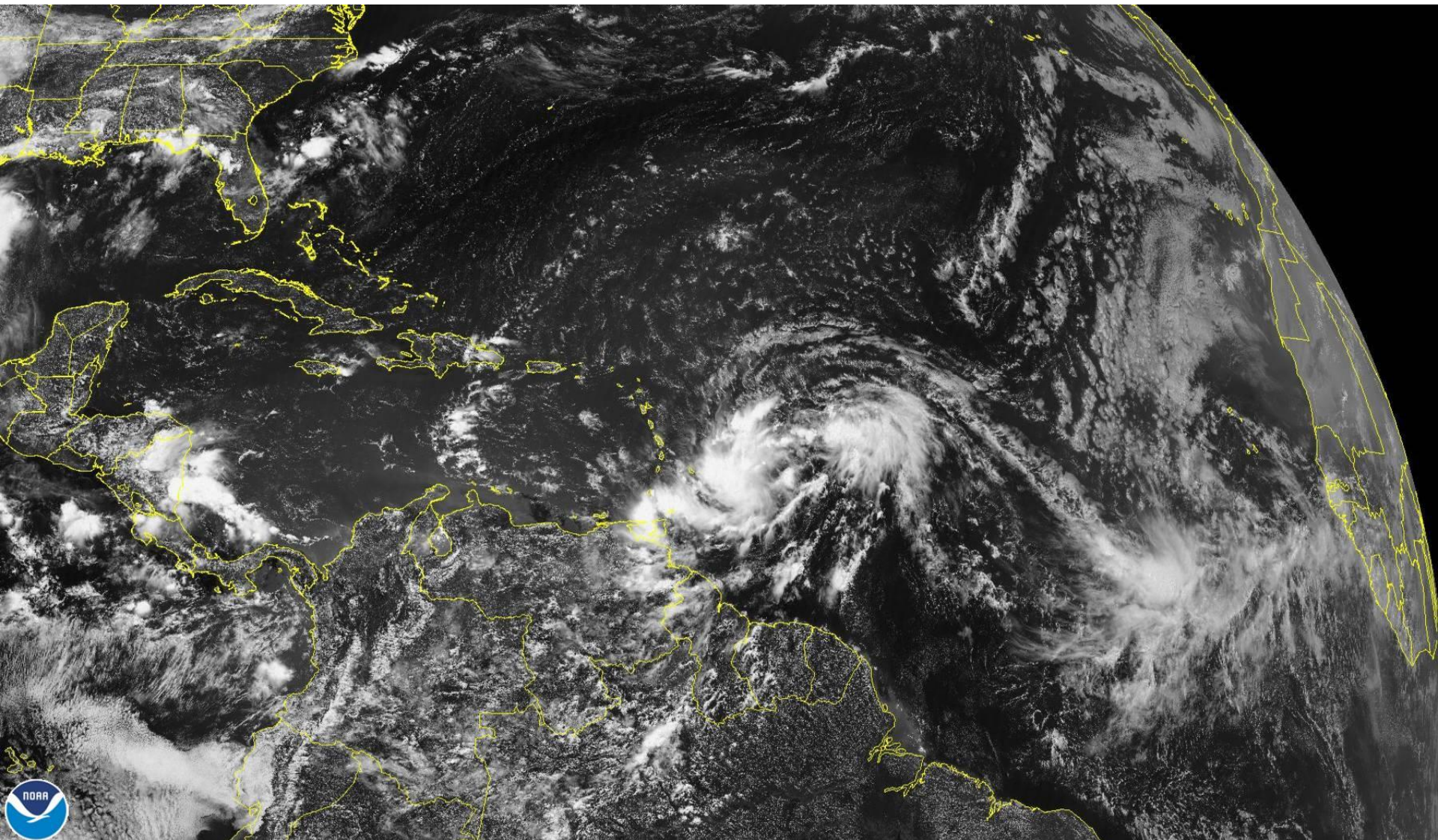
National Hurricane Center Miami, Florida



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

Tropical or Sub-Tropical Cyclone:    Depression    Storm    Hurricane

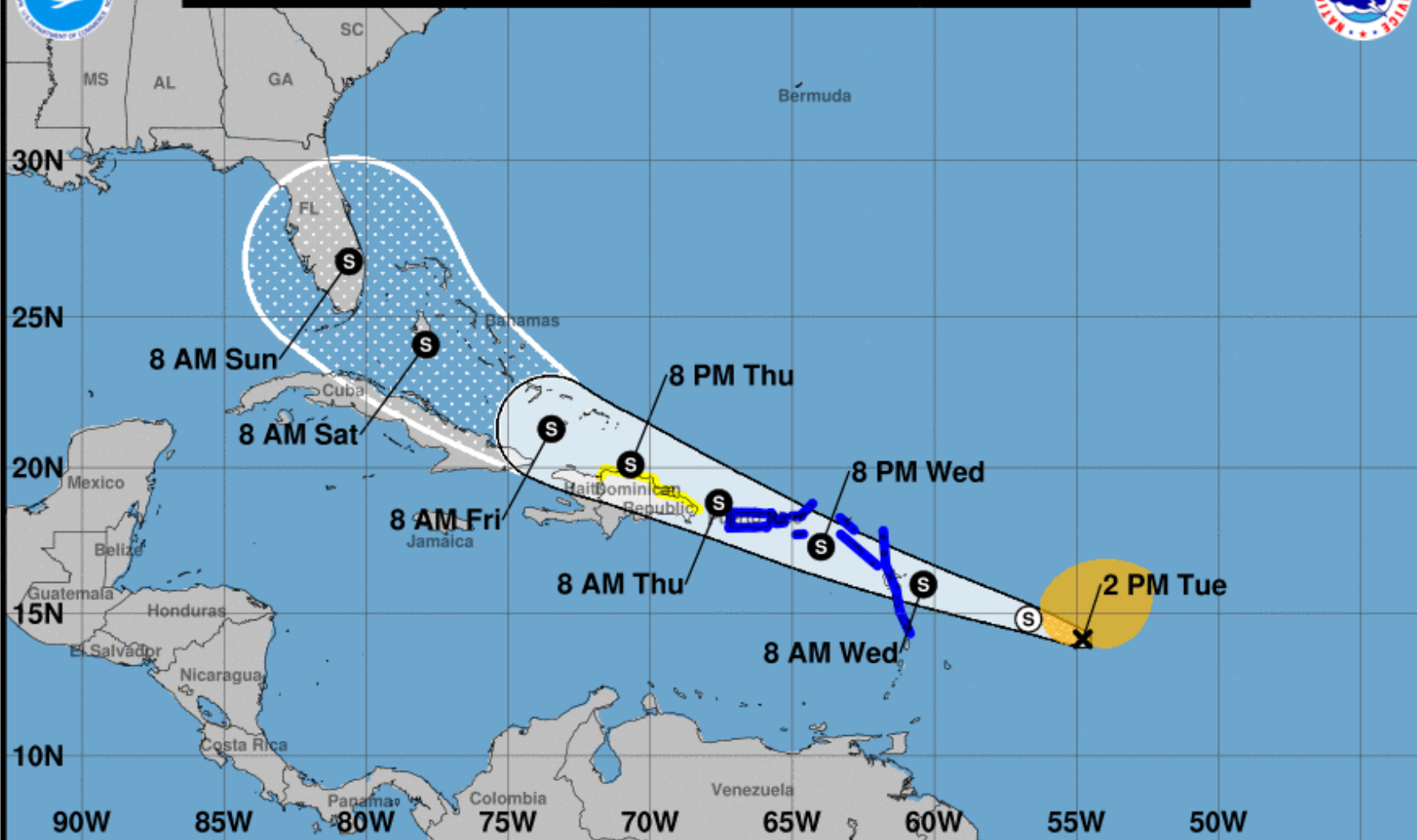
Post-Tropical Cyclone or Remnants



28 Jul 2020 16:40Z NOAA/NESDIS/STAR GOES-East Band 02



**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.**



**Potential Tropical Cyclone Nine**  
 Tuesday July 28, 2020  
 2 PM AST Intermediate Advisory 1A  
 NWS National Hurricane Center

**Current information: X**  
 Center location 14.1 N 54.8 W  
 Maximum sustained wind 40 mph  
 Movement W at 23 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:**

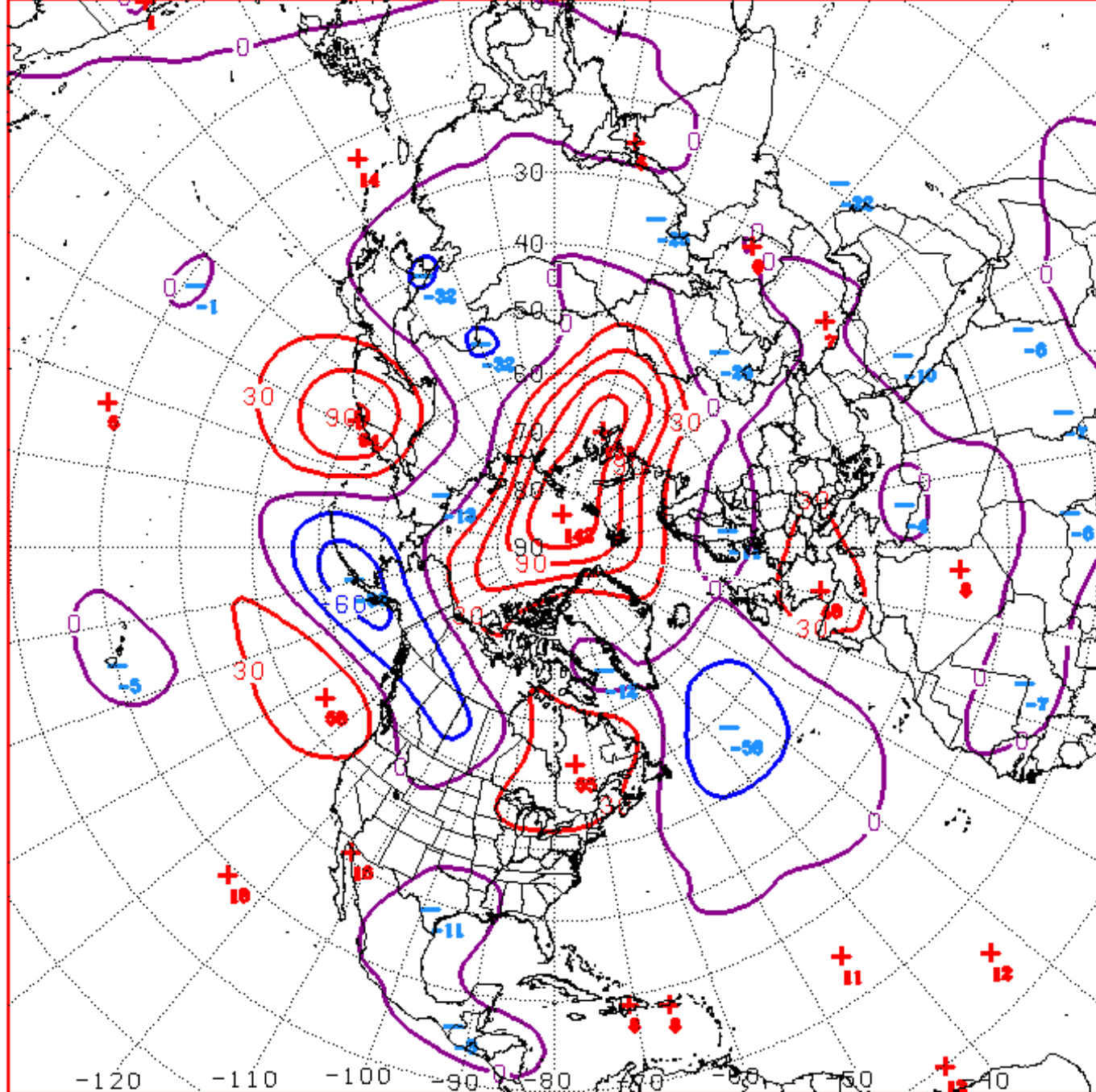
Hurricane Trop Stm

**Current wind extent:**

Hurricane Trop Stm

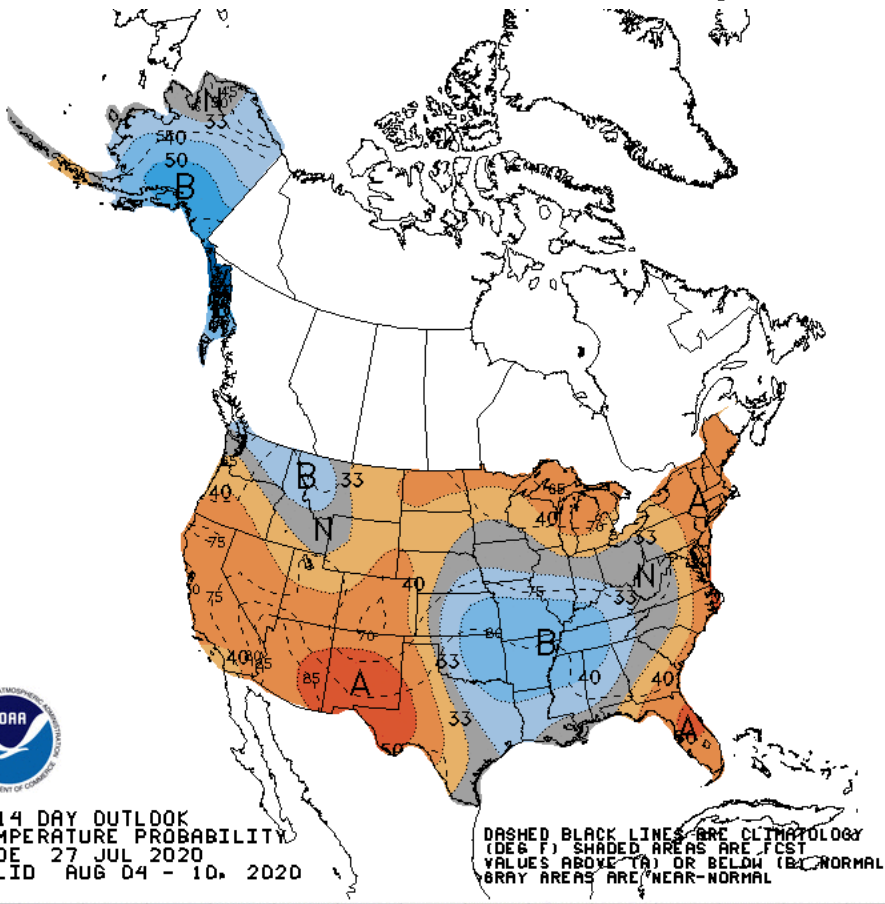
# Connections to U.S. Impacts





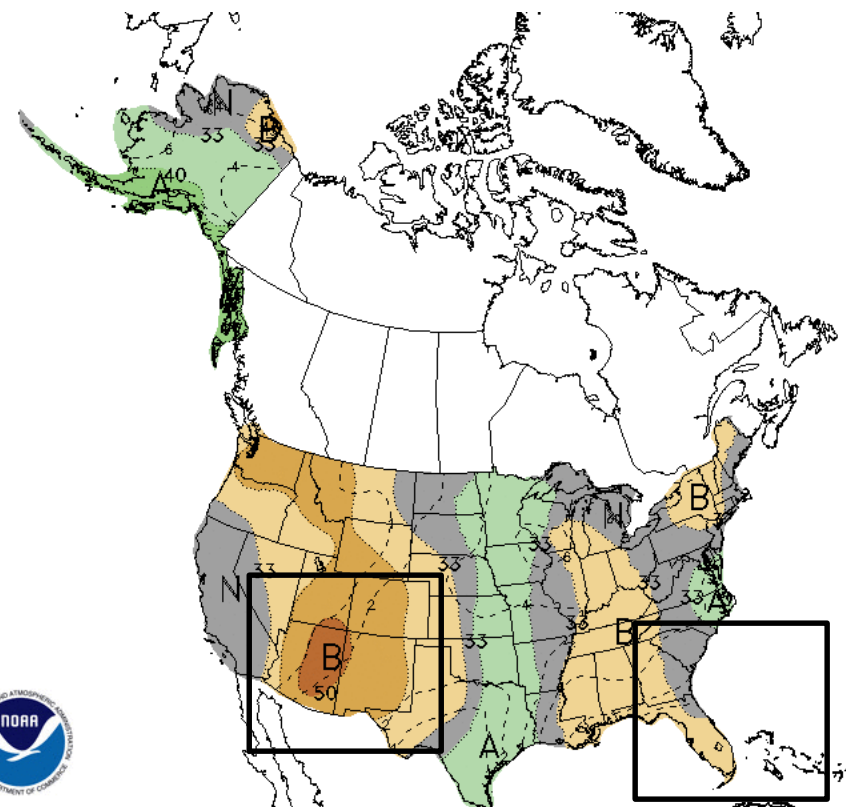
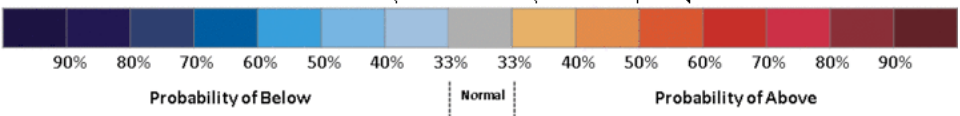
D+11 500 MB ANOMALIES FROM ALZ ENSM  
 CPC MAP MADE JUL 28 2020 1246 UTC CNTD AUG 08 2020

# Week 2 – Temperature and Precipitation



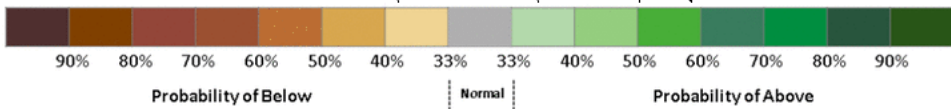
8-14 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 27 JUL 2020  
VALID AUG 04 - 10, 2020

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 27 JUL 2020  
VALID AUG 04 - 10, 2020

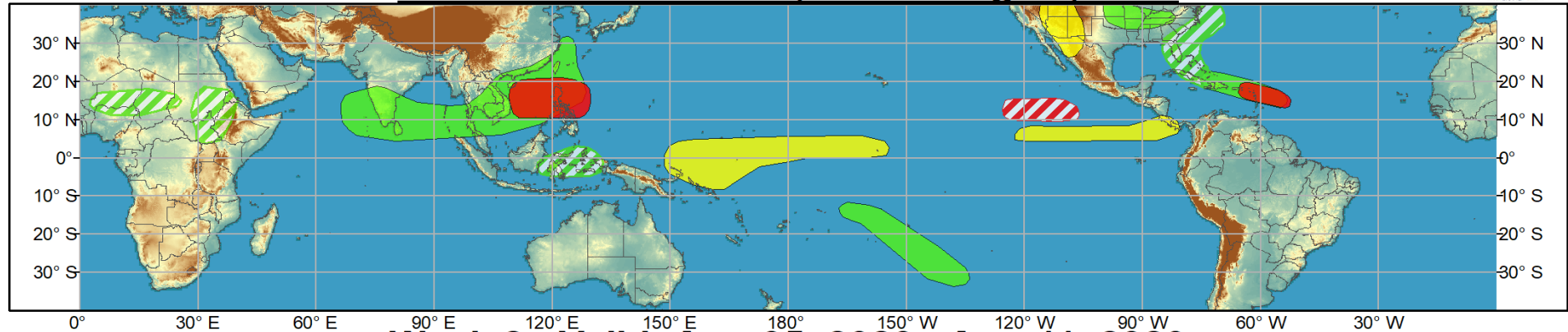
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



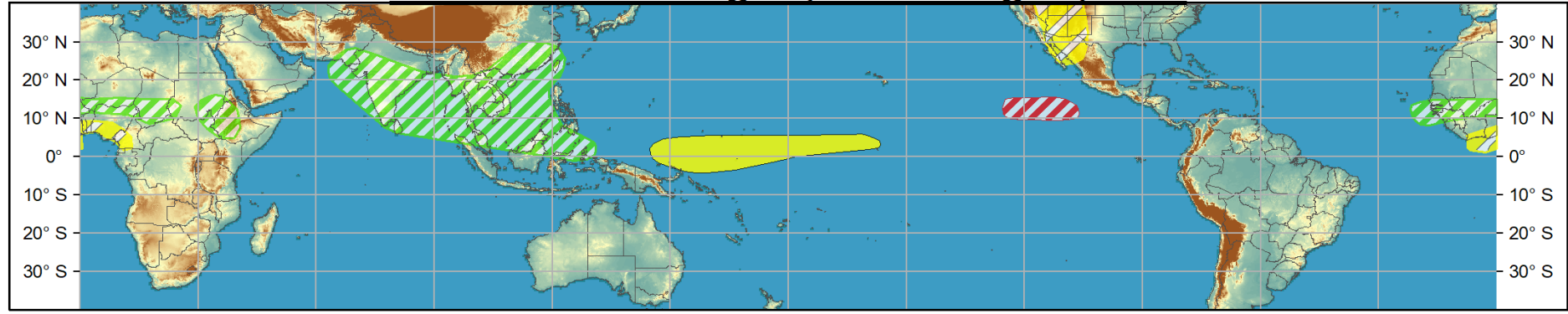


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