

# Global Tropics Hazards And Benefits Outlook

7/12/2022

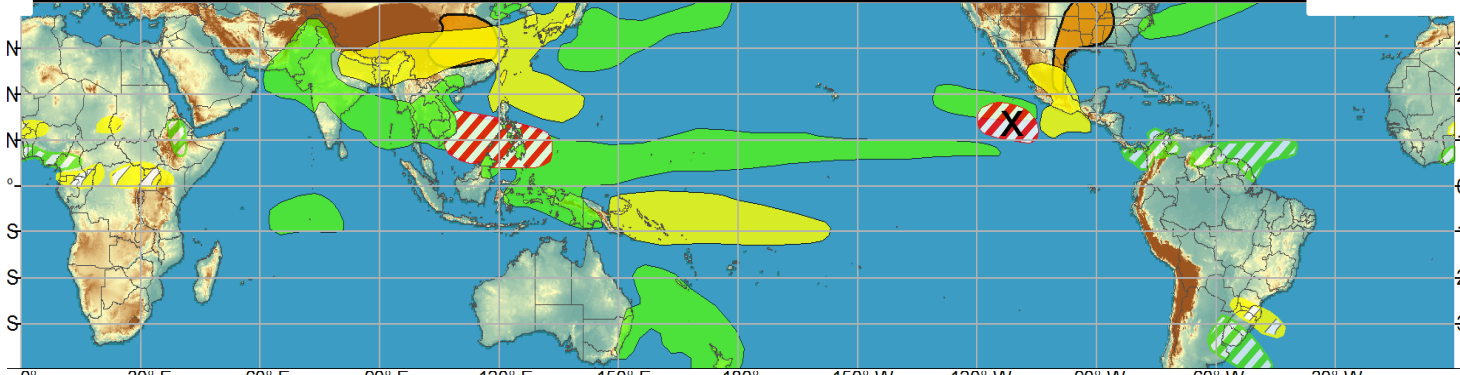
Danny Barandiaran

## Outline

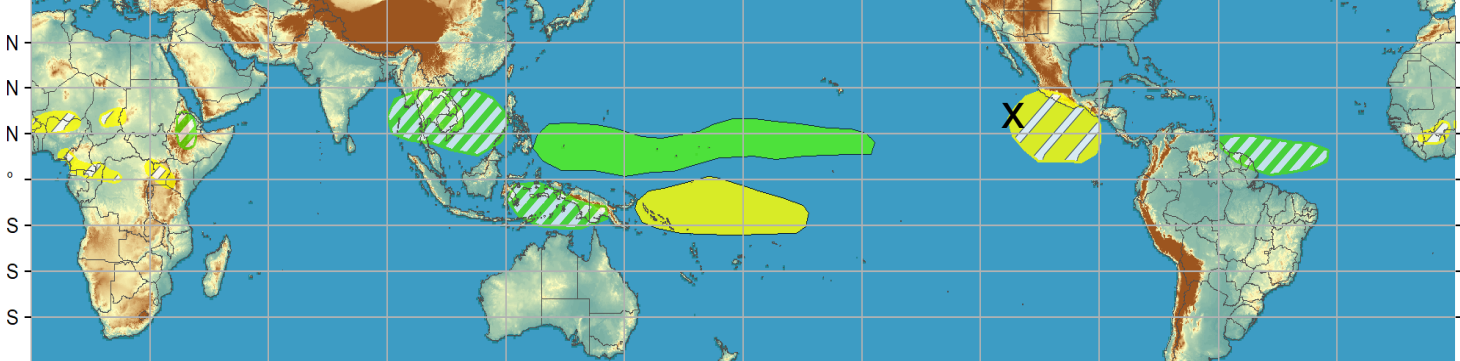
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

# Outlook Review

Week 1 - Valid: Jul 06, 2022 - Jul 12, 2022

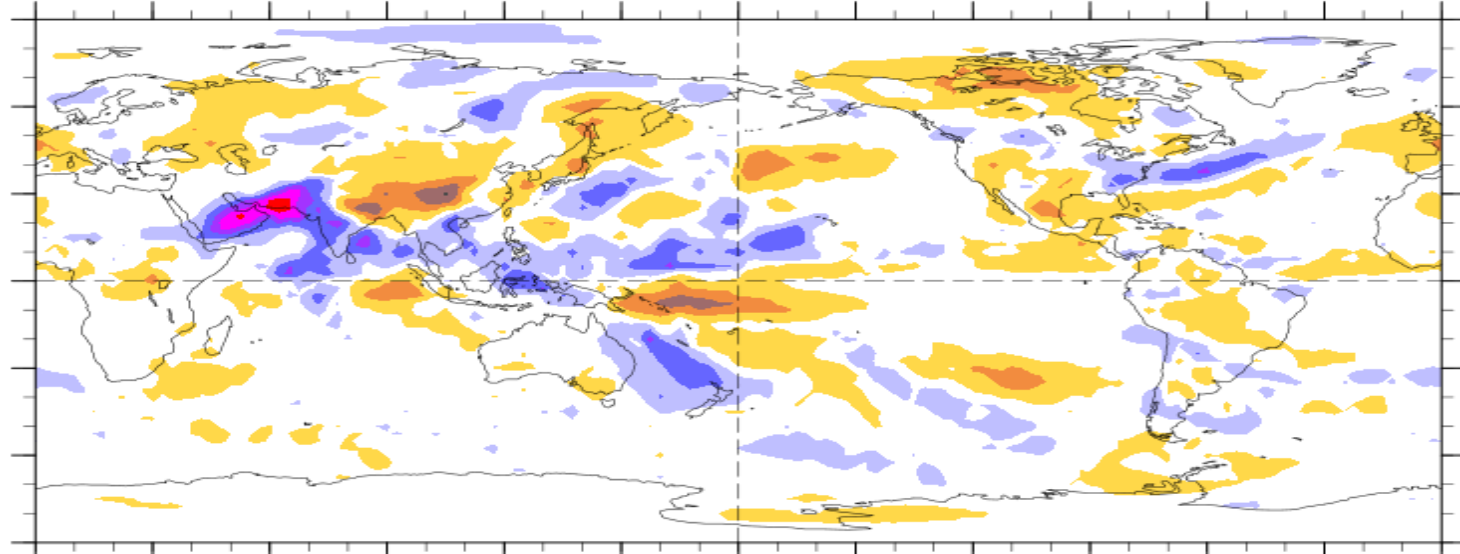


Week 2 - Valid: Jul 06, 2022 - Jul 12, 2022



x: Darby  
(7/9)

7-Day Average OLR Anomaly 2022/07/04 - 2022/07/10



Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

**ENSO:** (June 9, 2022 Update)

*next update on Thursday, July 14<sup>th</sup>*

- ENSO Alert System Status: [La Niña Advisory](#)
- Though La Niña is favored to continue through the end of the year, the odds for La Niña decrease into the Northern Hemisphere late summer (52% chance in July-September 2022) before slightly increasing through the Northern Hemisphere fall and early winter 2022 (58-59% chance)

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

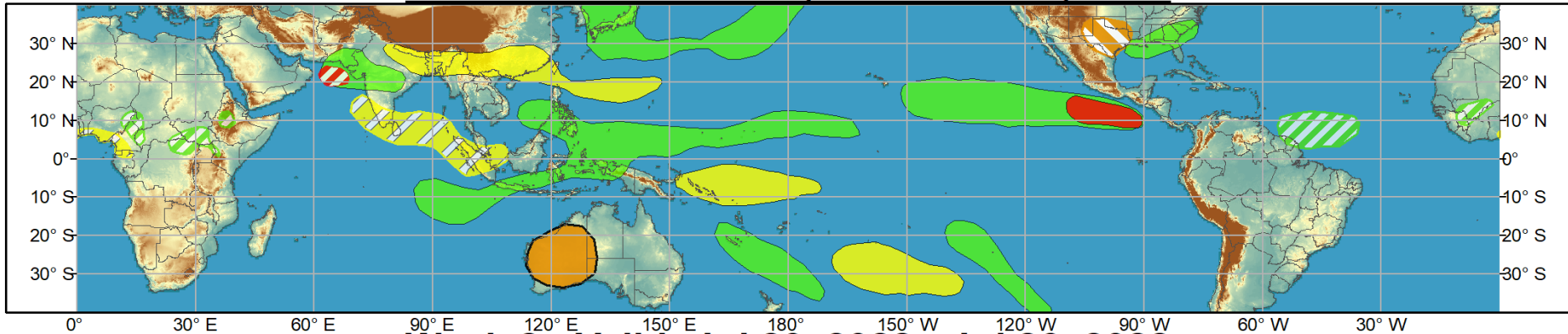
- Active MJO pattern has stalled, with eastward propagation slowing when convective envelope reached the Maritime Continent.
- High uncertainty regarding future evolution of the signal over the next two weeks, as Equatorial Rossby wave and La Niña conditions may interfere with the signal.
- TC activity across the East Pacific basin continues despite unfavorable MJO phase.
- An enhanced monsoon trough extending across the South China Sea and West Pacific may provide favorability for TC genesis.



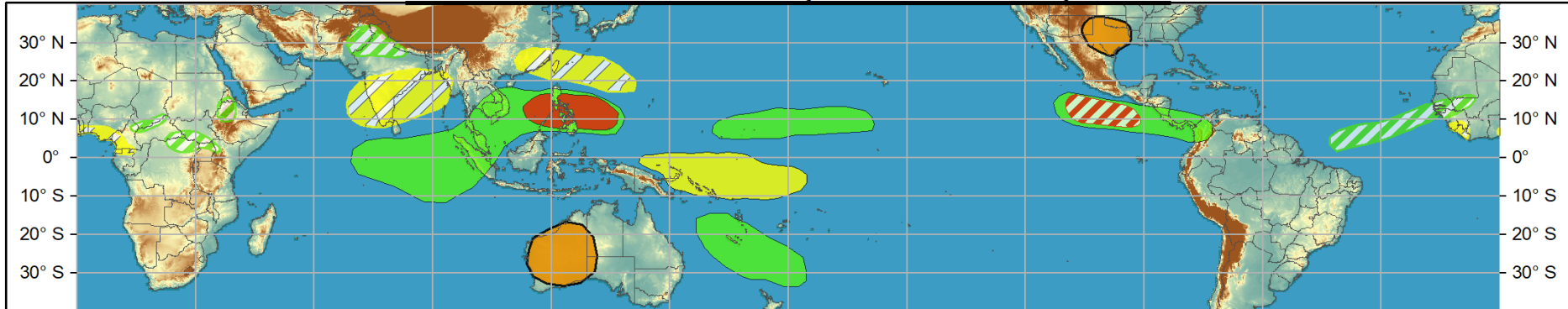
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Jul 13, 2022 - Jul 19, 2022



## Week 2 - Valid: Jul 20, 2022 - Jul 26, 2022



### 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: 07/12/2022

Forecaster: Barandiaran

**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

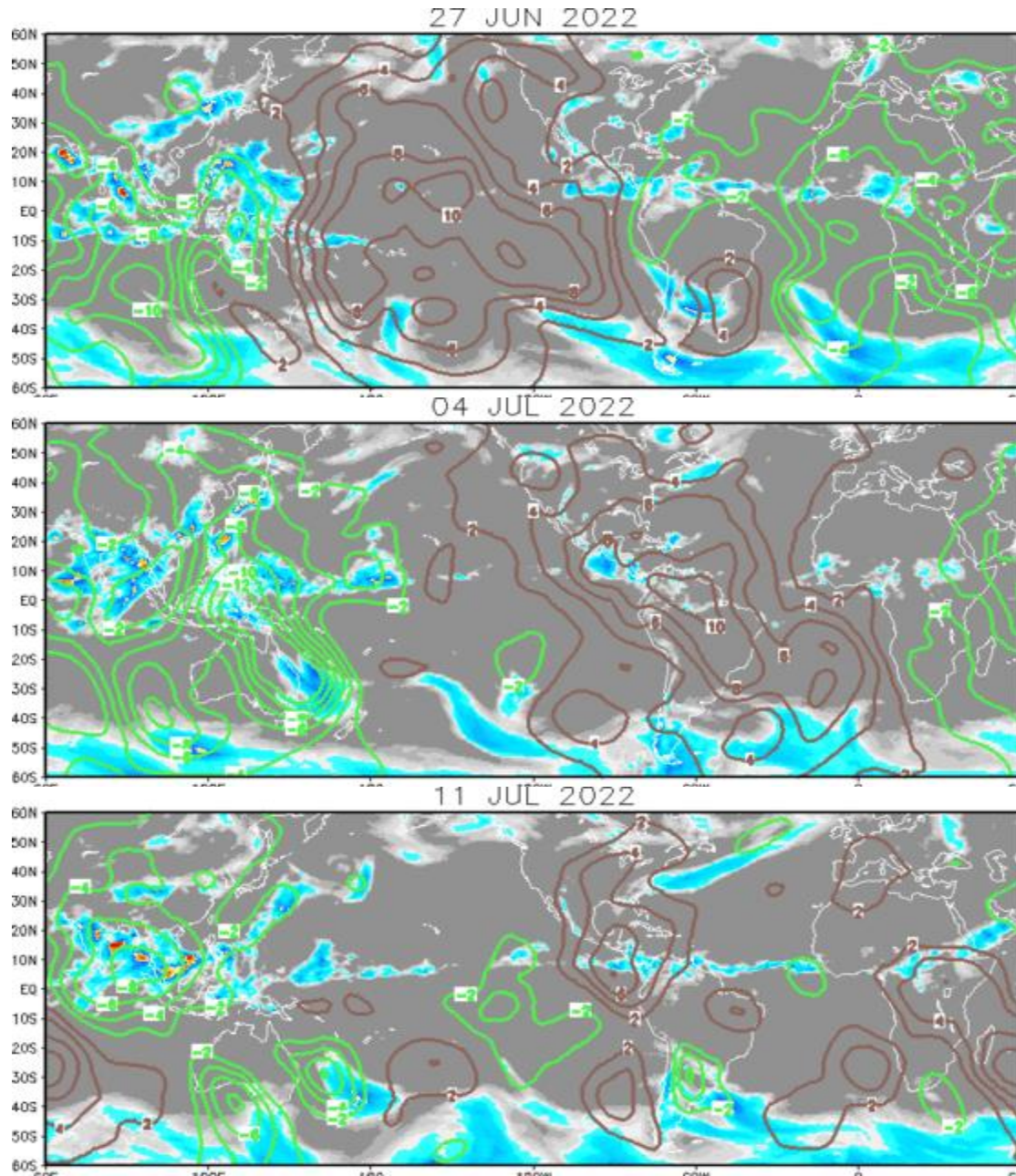
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-1, consistent with ENSO cold.

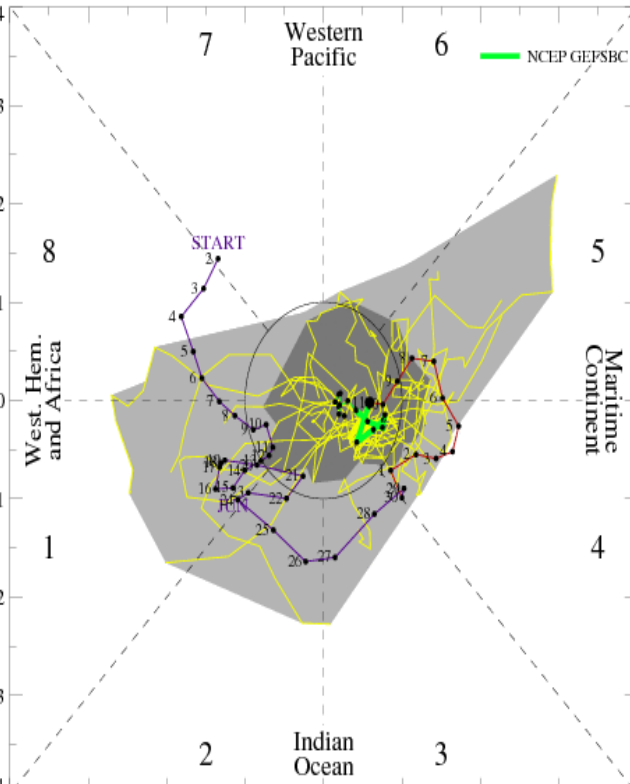
Clear eastward propagation was evident from late June into early July.

More recently, eastward propagation has been stalled with main convective envelope located over Maritime Continent. Wave-1 pattern may be breaking up.

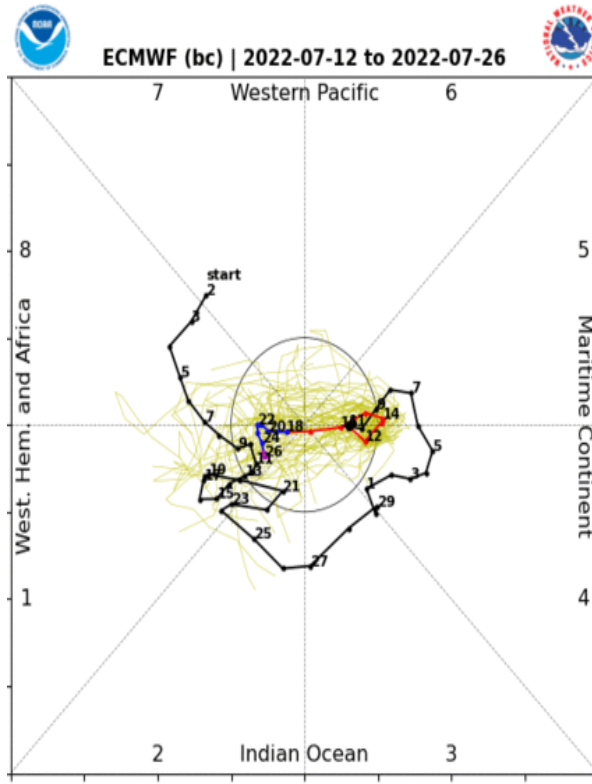


# MJO Observation/Forecast

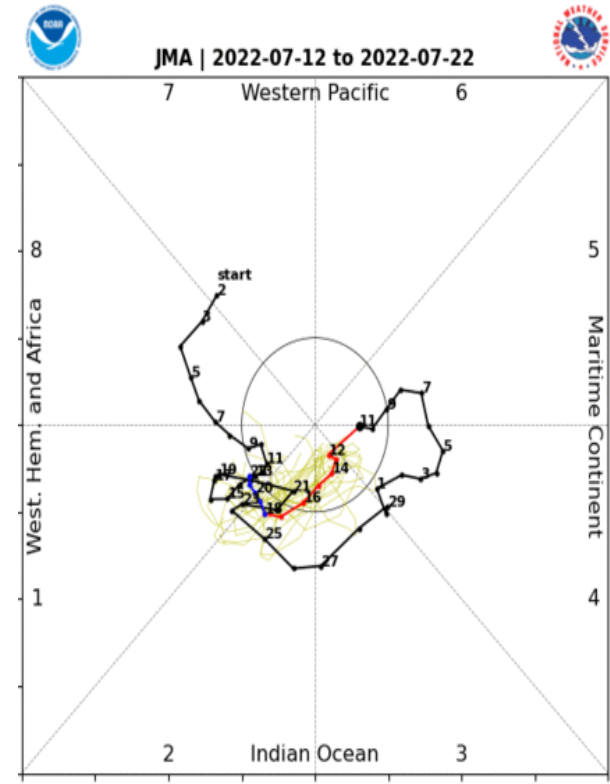
[RMM1, RMM2] forecast for Jul-12-2022 to Jul-26-2022



GEFS



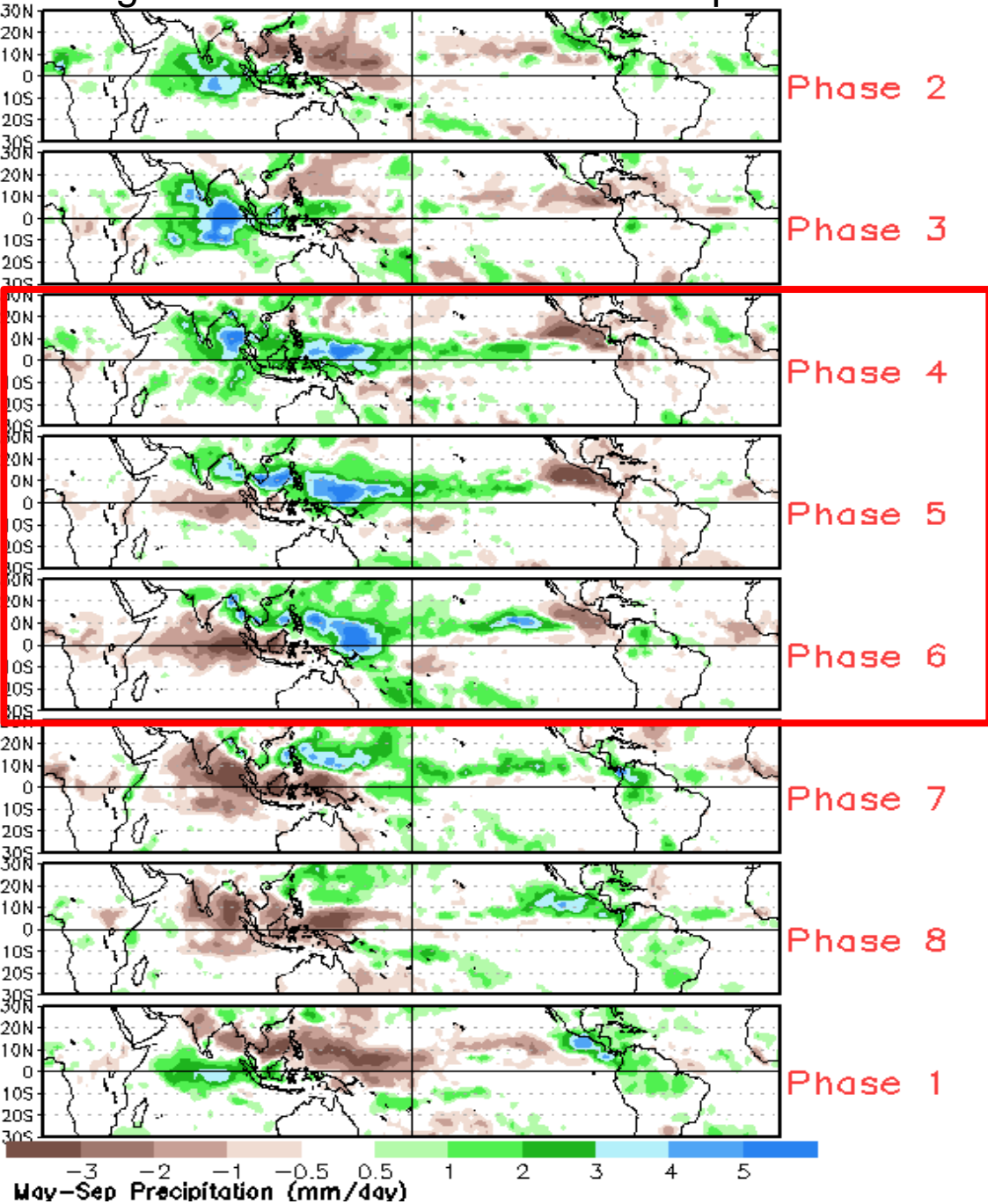
ECMWF



JMA

Large spread on model solutions regarding MJO evolution. GEFS ensemble mean favors a weak signal with little eastward propagation with large spread among members. ECMWF ensemble is more coherent and forecasts a re-emergence of MJO signal in week-2 after an initially weakening signal. JMA offers similar solution to ECMWF, but with MJO signal re-emerging in phase 2.

# Average Conditions when the MJO is present

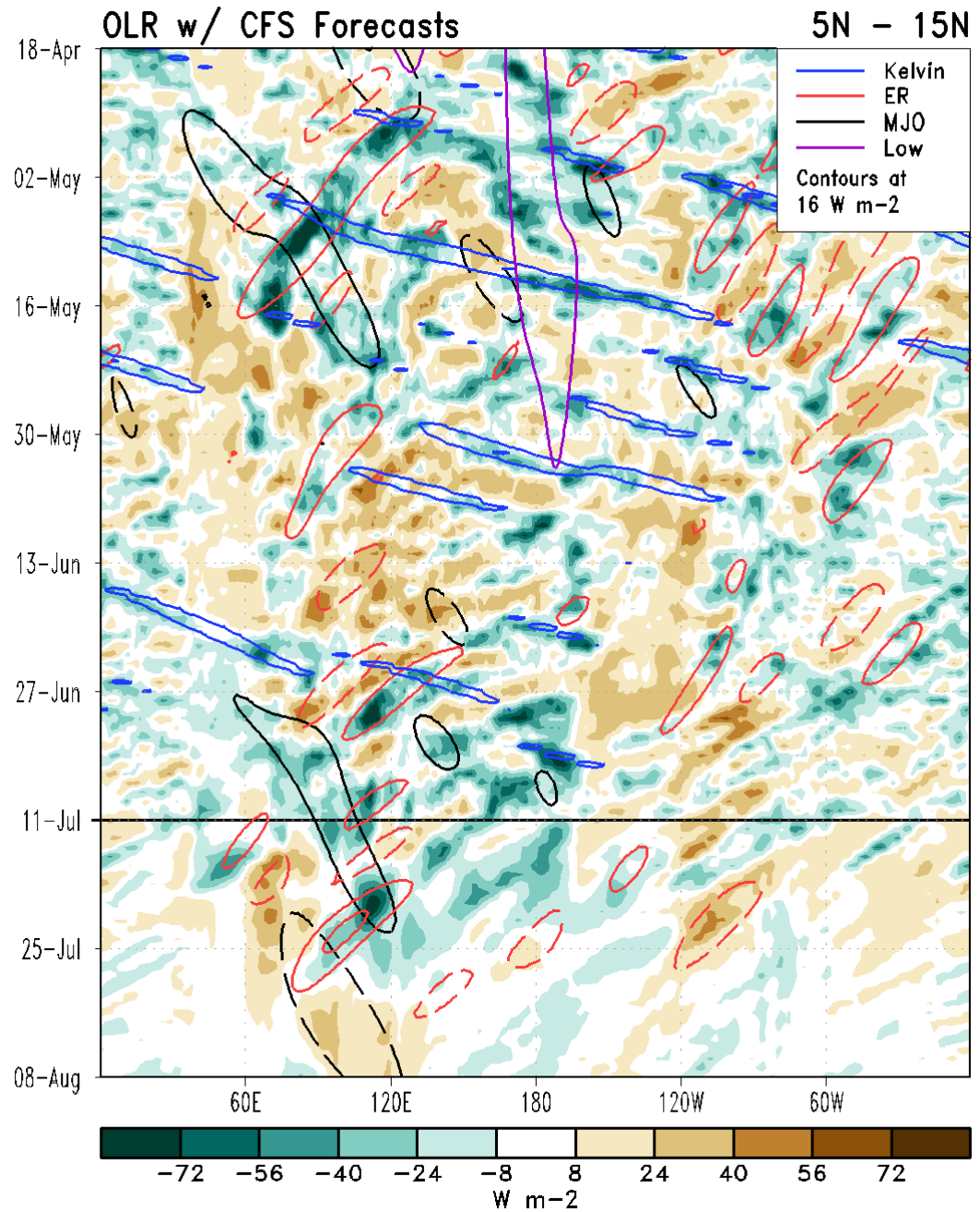


CAVEAT: These panels are representative of robust MJO events.



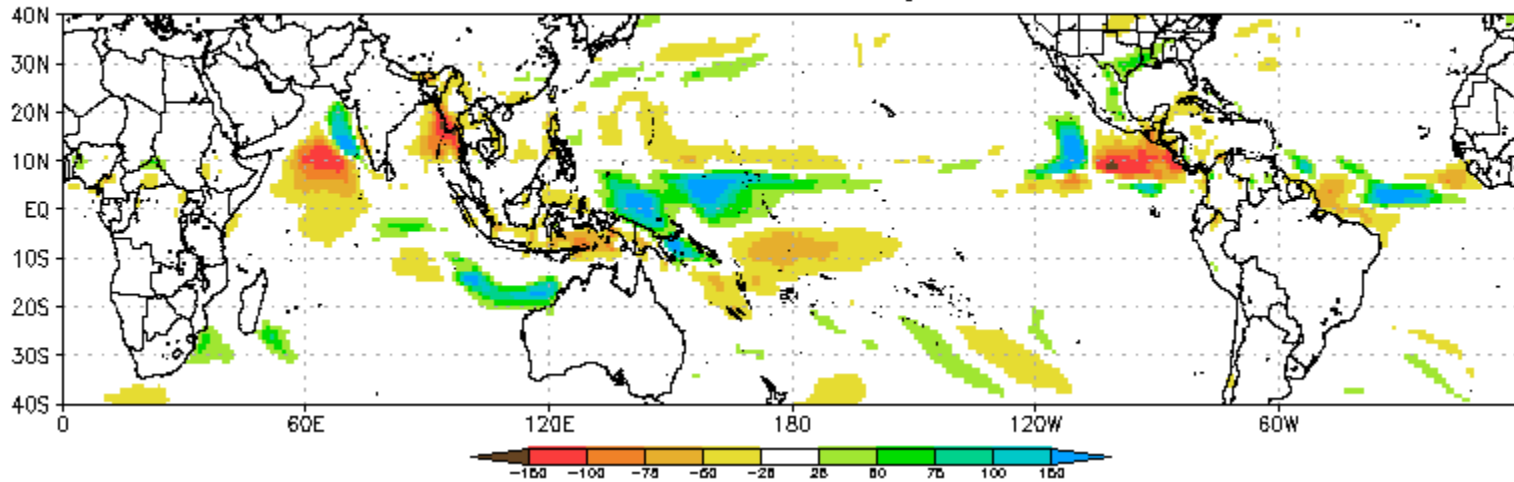
**MJO** activity is depicted in the filtering despite uncertainty in RMM-based model forecasts.

**Rosby wave** activity is apparent over the Maritime Continent and Pacific Ocean.

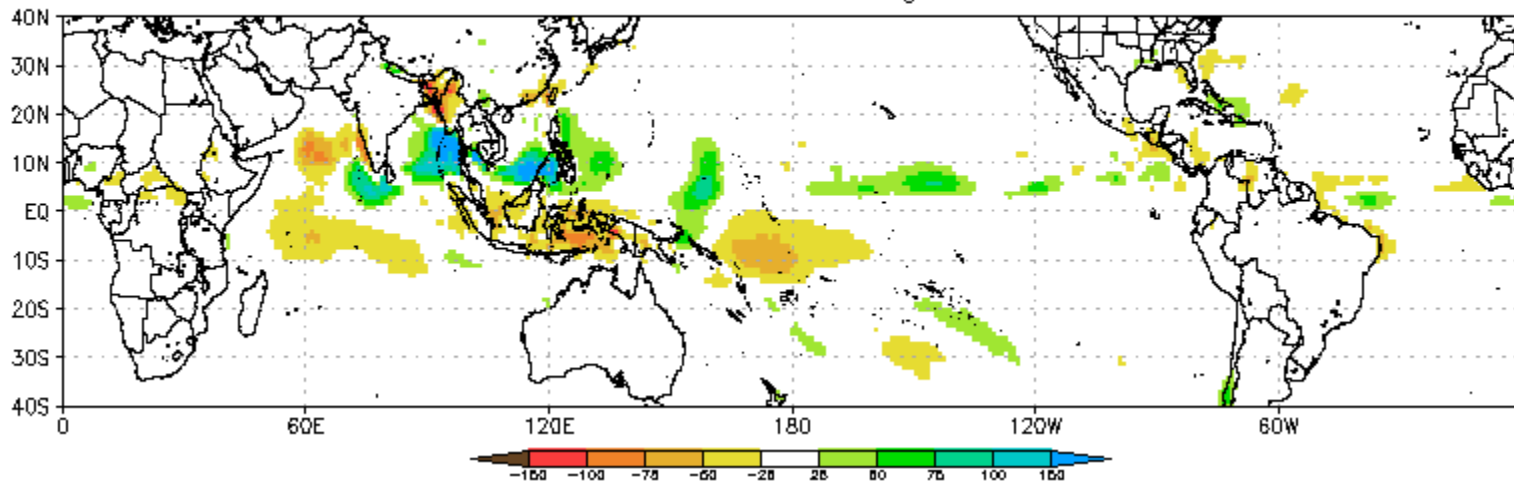




CFS Precipitation Anomalies (mm) Issued 31May2021  
Week-1 Forecast Ending 08Jun2021

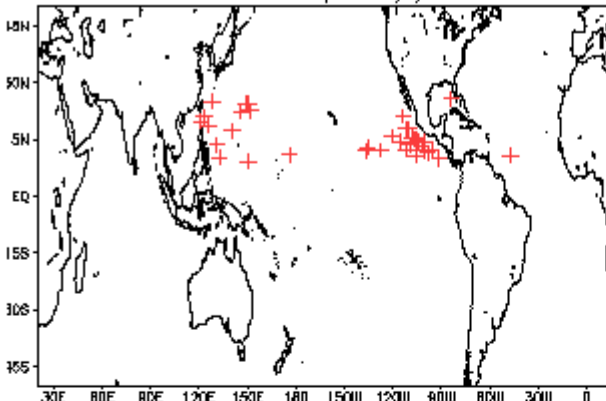


CFS Precipitation Anomalies (mm) Issued 31May2021  
Week-2 Forecast Ending 15Jun2021

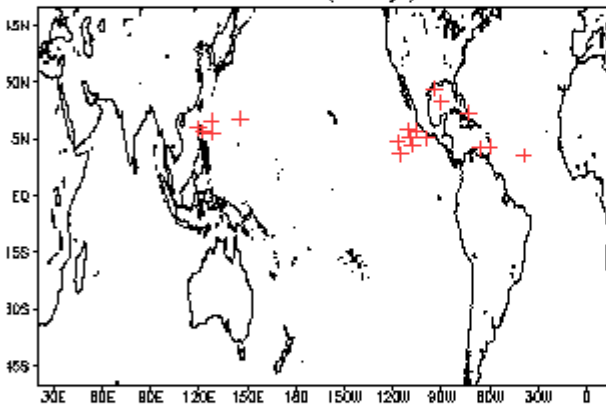


# July Tropical Storm Formation by MJO phase

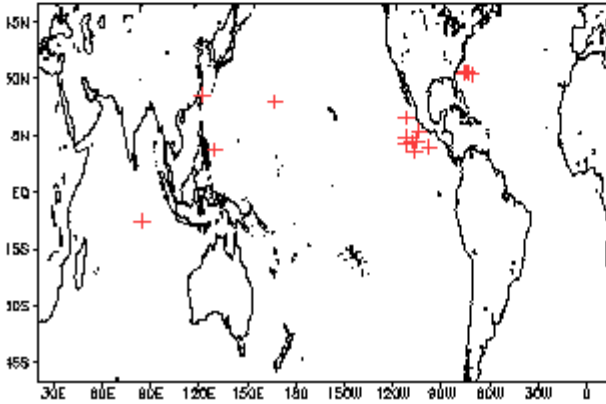
Phase 1 (144 days) 37 storms



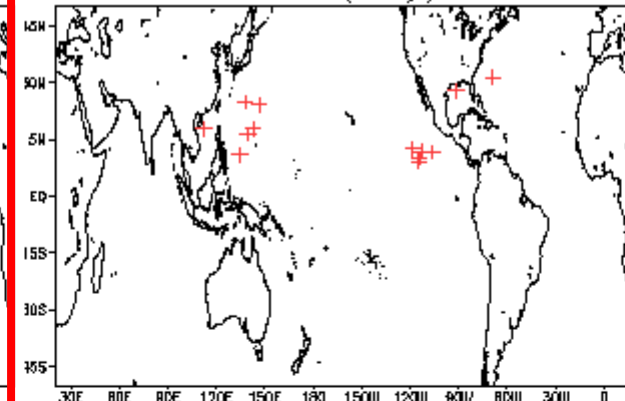
Phase 2 (74 days) 20 storms



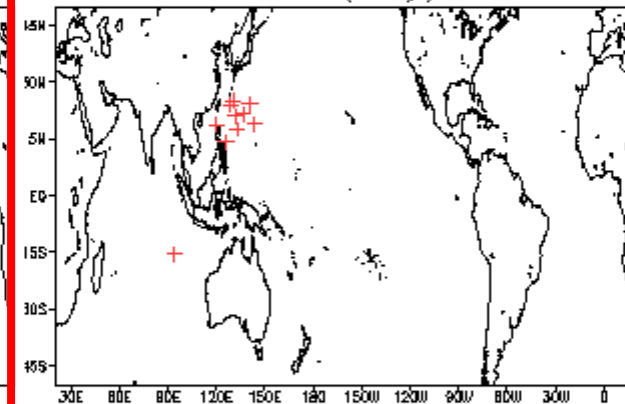
Phase 3 (49 days) 17 storms



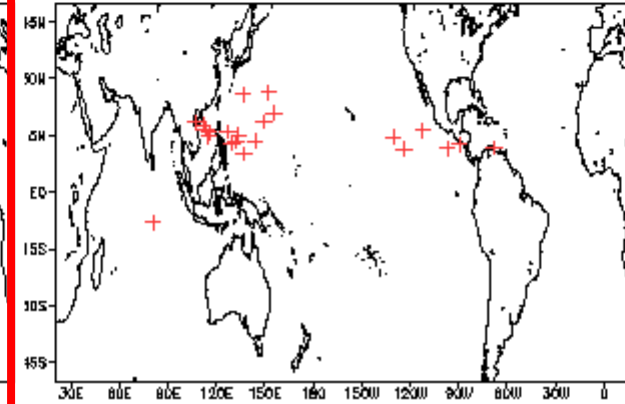
Phase 4 (40 days) 14 storms



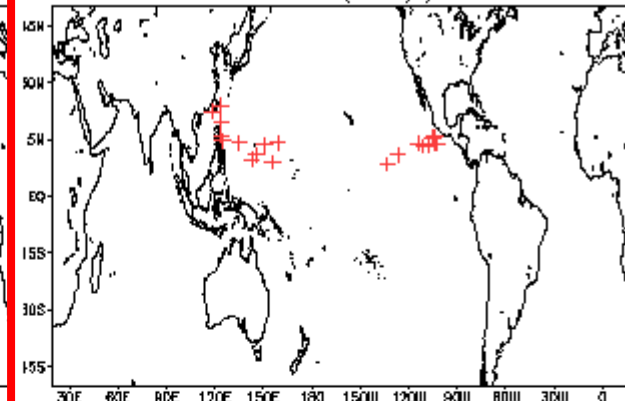
Phase 5 (63 days) 11 storms



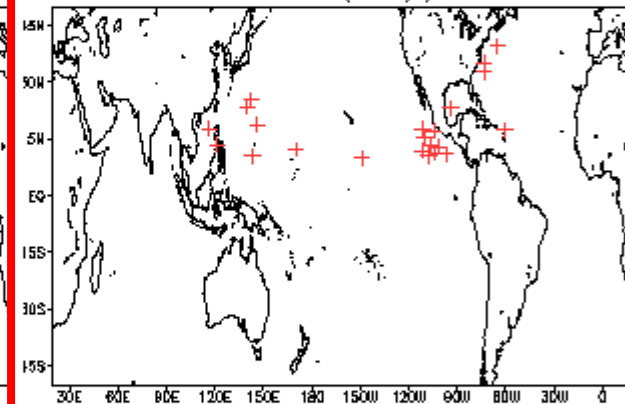
Phase 6 (60 days) 23 storms



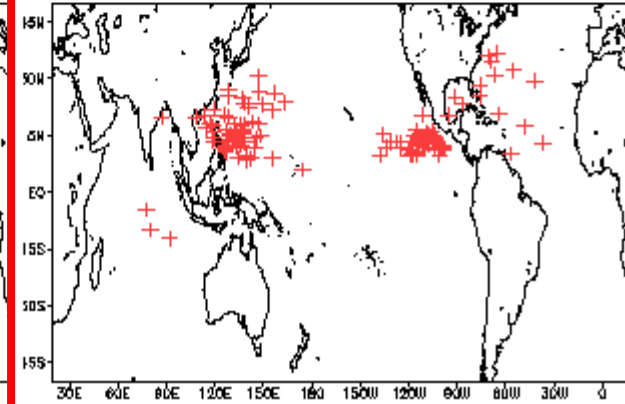
Phase 7 (87 days) 21 storms



Phase 8 (61 days) 24 storms



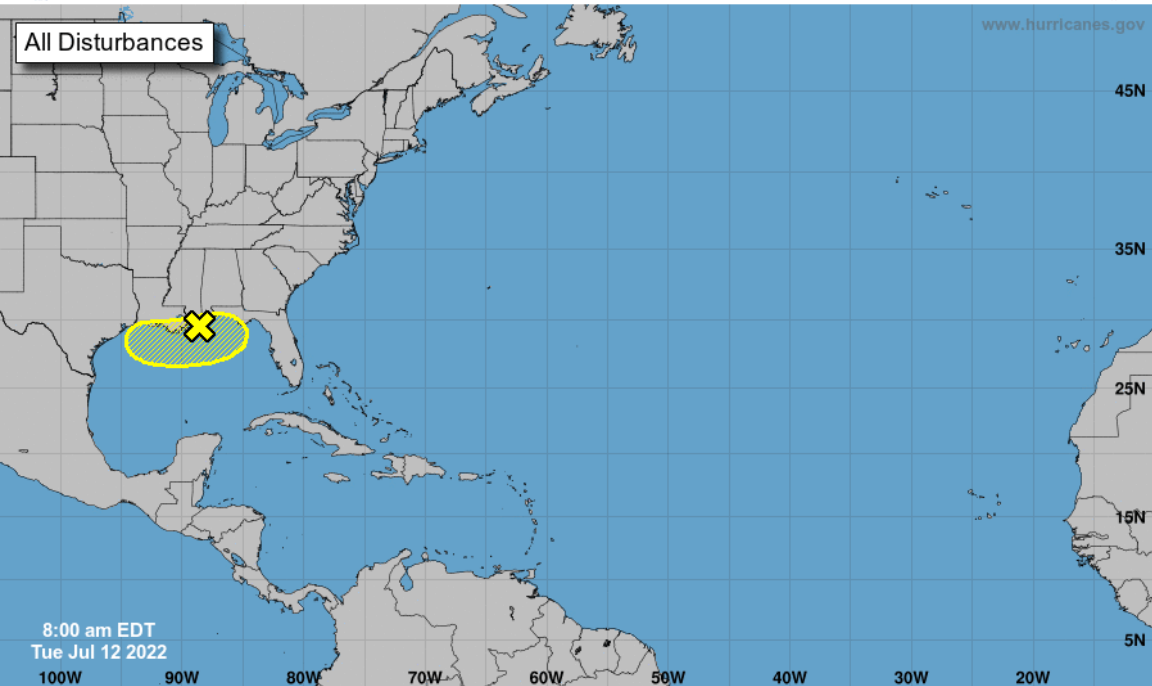
Null (480 days) 130 storms





# Five-Day Graphical Tropical Weather Outlook

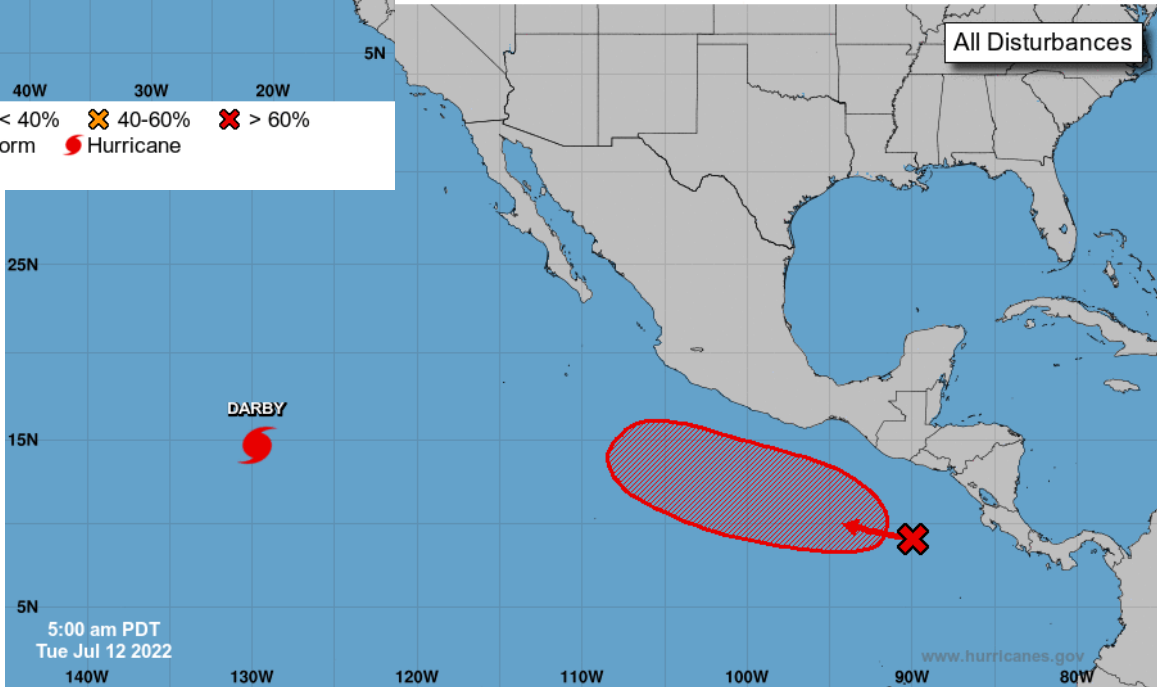
National Hurricane Center Miami, Florida



Current Disturbances and Five-Day Cyclone Formation Chance:   
 X < 40%    X 40-60%    X > 60%  
 Tropical or Sub-Tropical Cyclone:    ○ Depression    ○ Storm    ○ Hurricane  
 ⊗ Post-Tropical Cyclone or Remnants

# Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

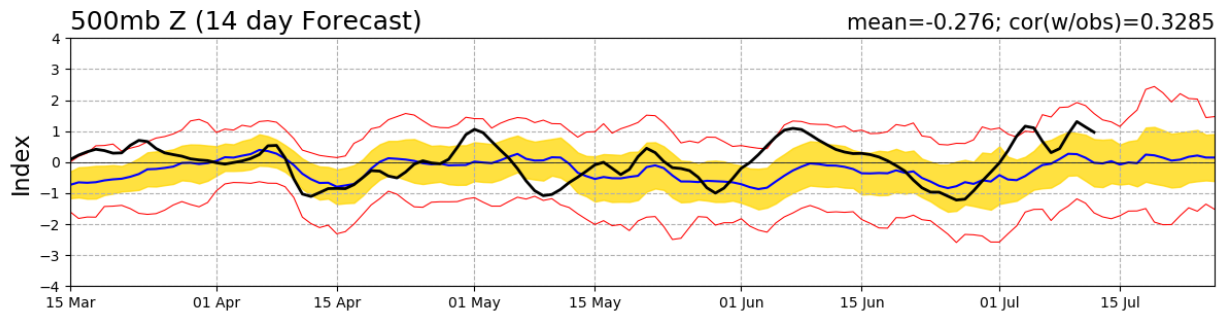
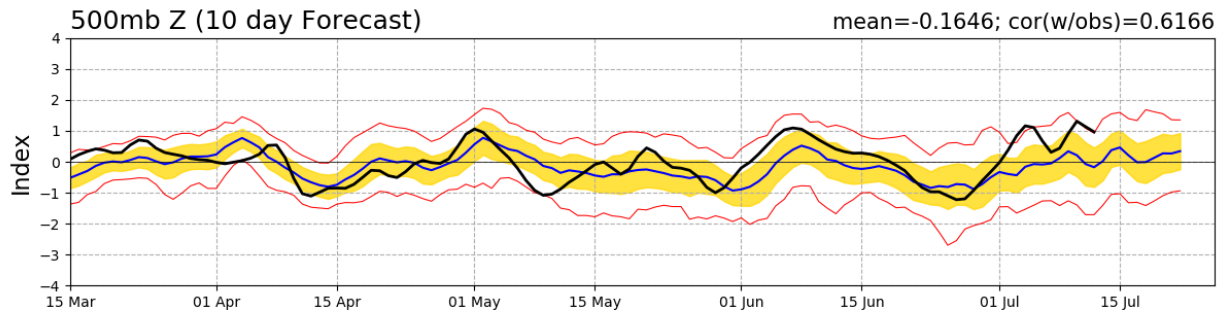
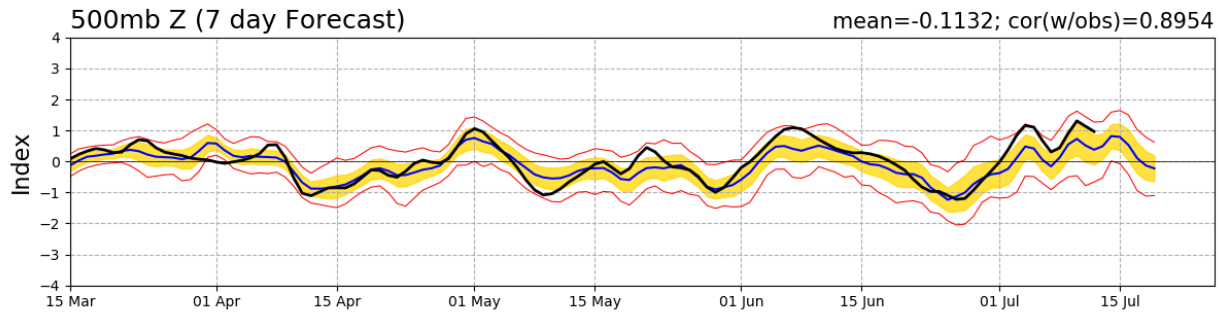
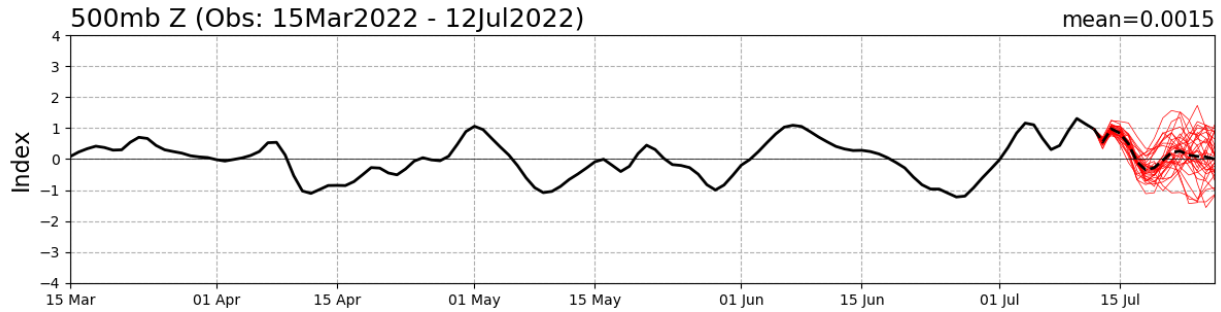


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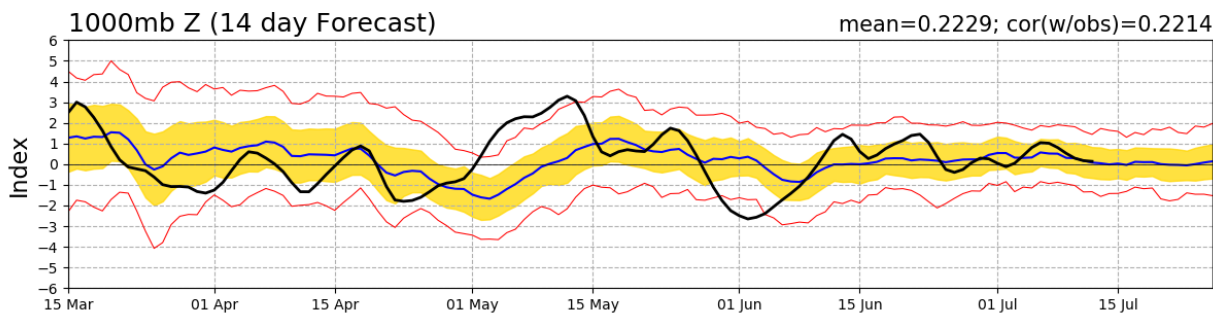
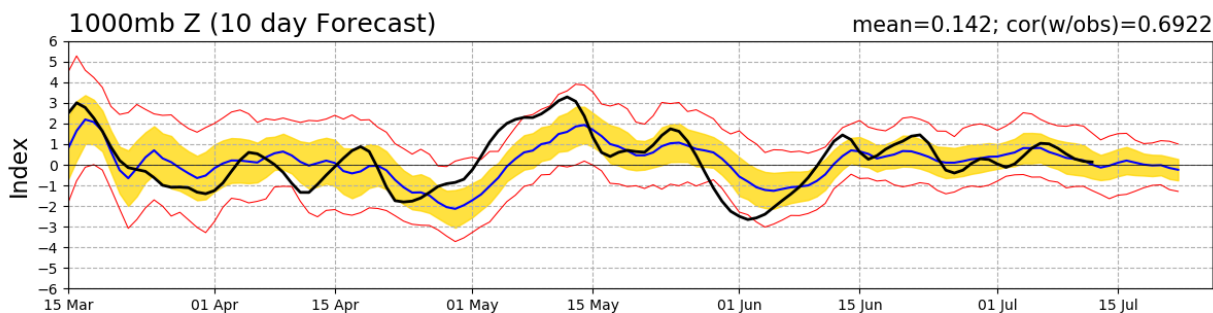
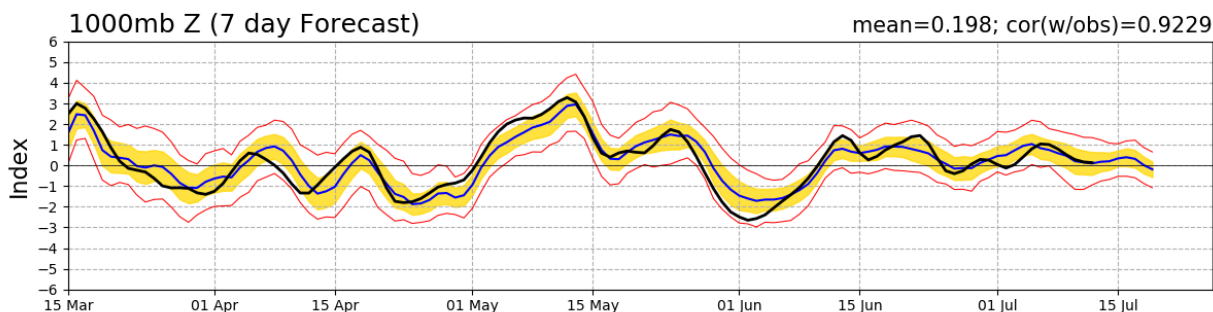
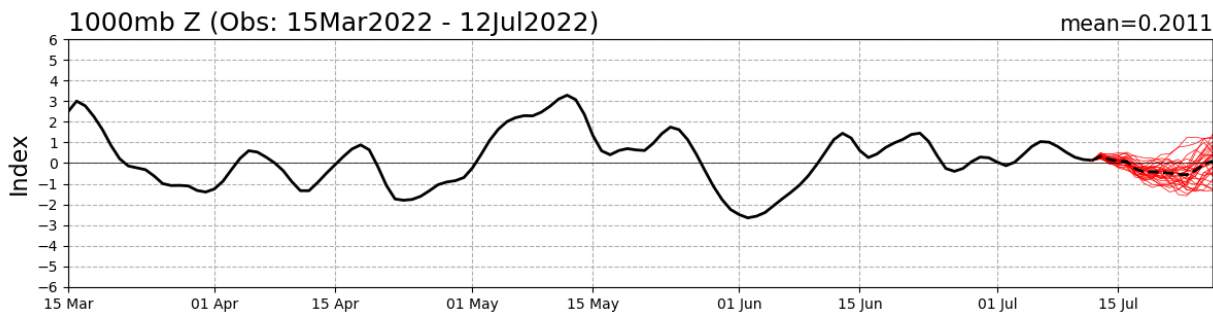
# Connections to U.S. Impacts

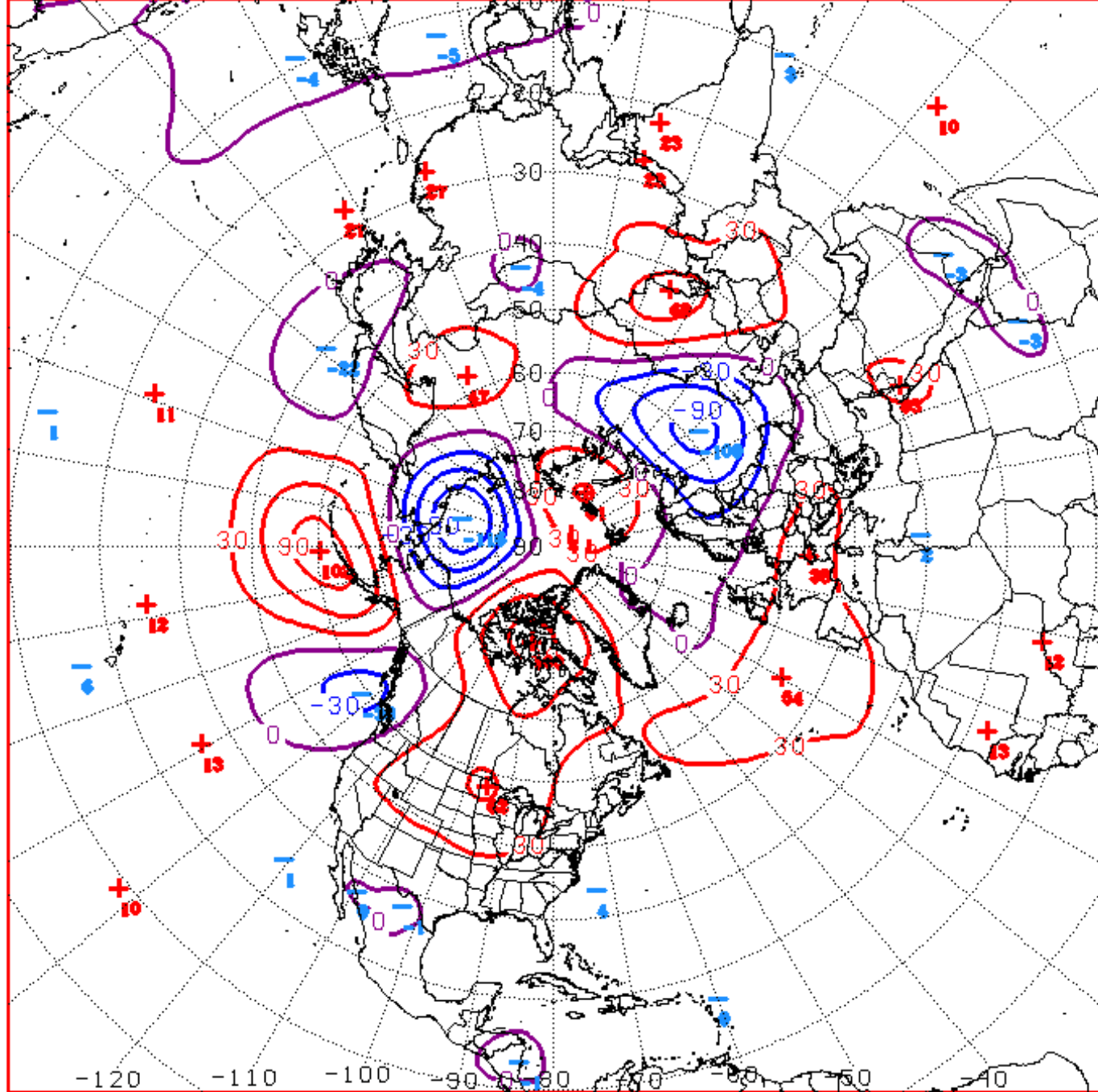


# PNA Index: Observed & GEFS Forecasts



# AO Index: Observed & GEFS Forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM  
 CPC MAP MADE JUL 12 2022 1350 UTC CNTD JUL 23 2022

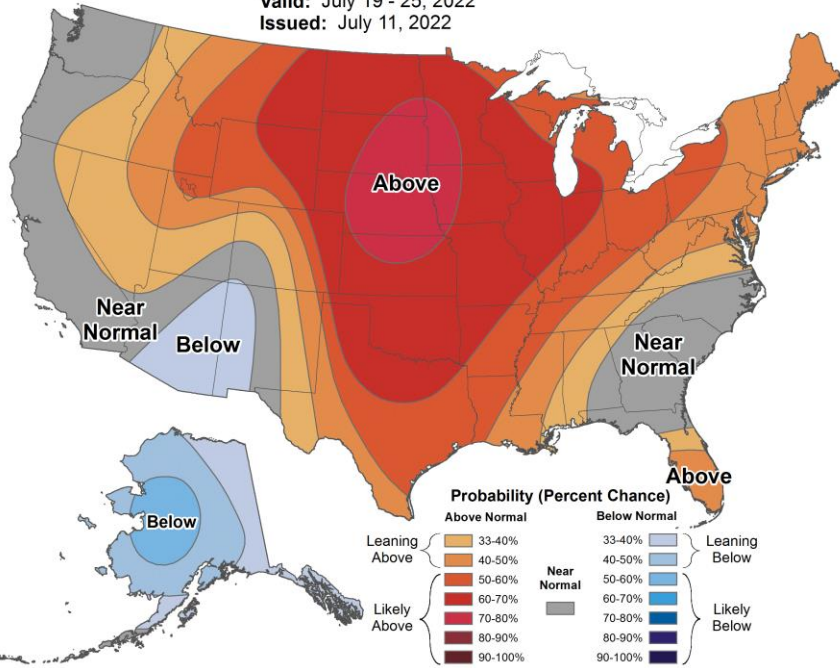
# Week 2 – Temperature and Precipitation



## 8-14 Day Temperature Outlook



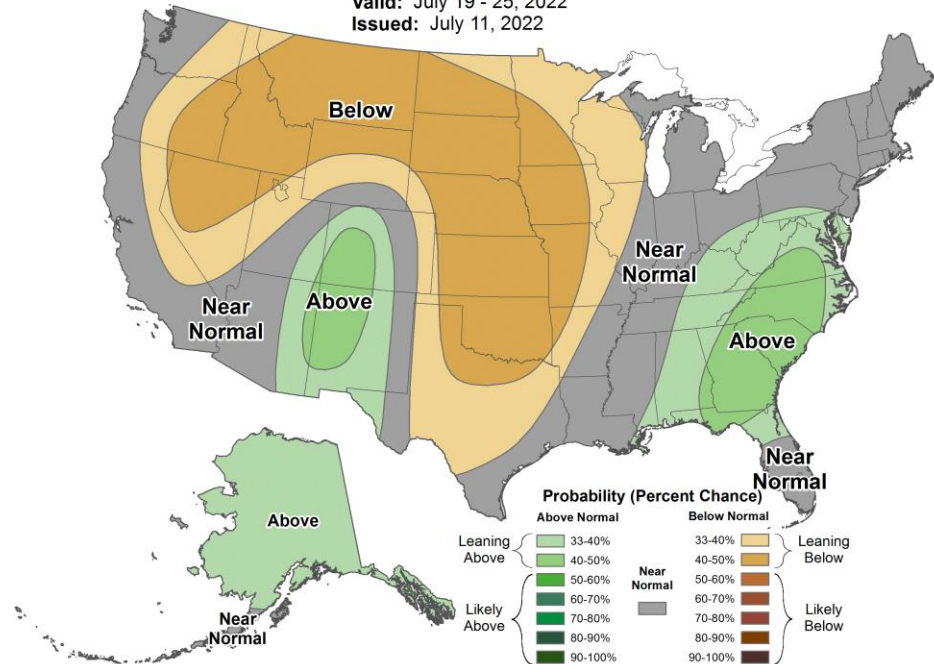
Valid: July 19 - 25, 2022  
 Issued: July 11, 2022



## 8-14 Day Precipitation Outlook



Valid: July 19 - 25, 2022  
 Issued: July 11, 2022



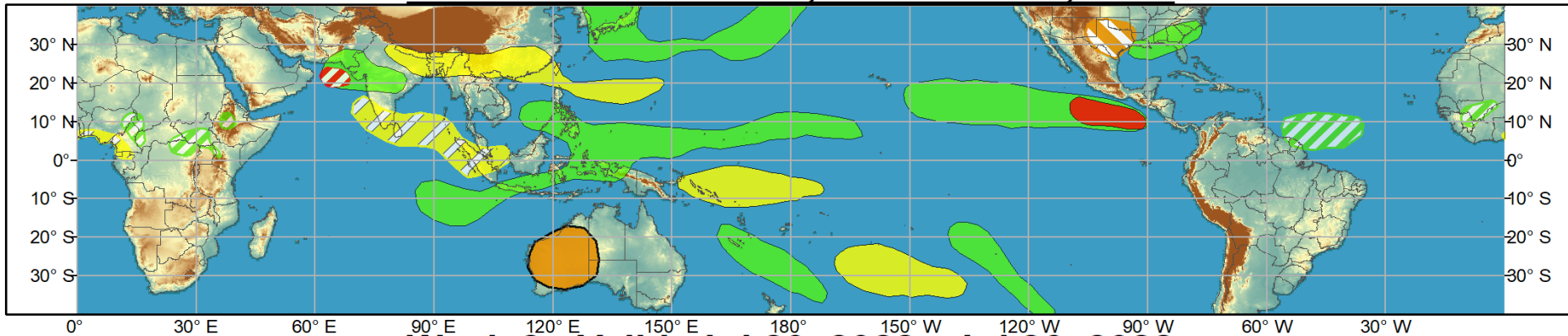




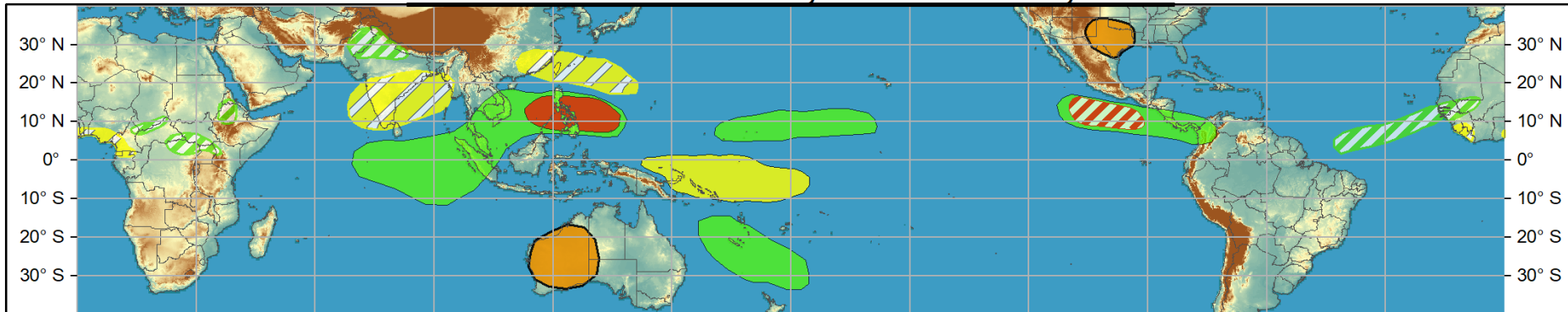
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## Week 2 - Valid: Jul 20, 2022 - Jul 26, 2022



Produced: 07/12/2022

Forecaster: Barandiaran

	Confidence		
	High	Moderate	
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<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.
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