WMO VLab Regional Focus Group
of the Americas and Caribbean

Since 2004

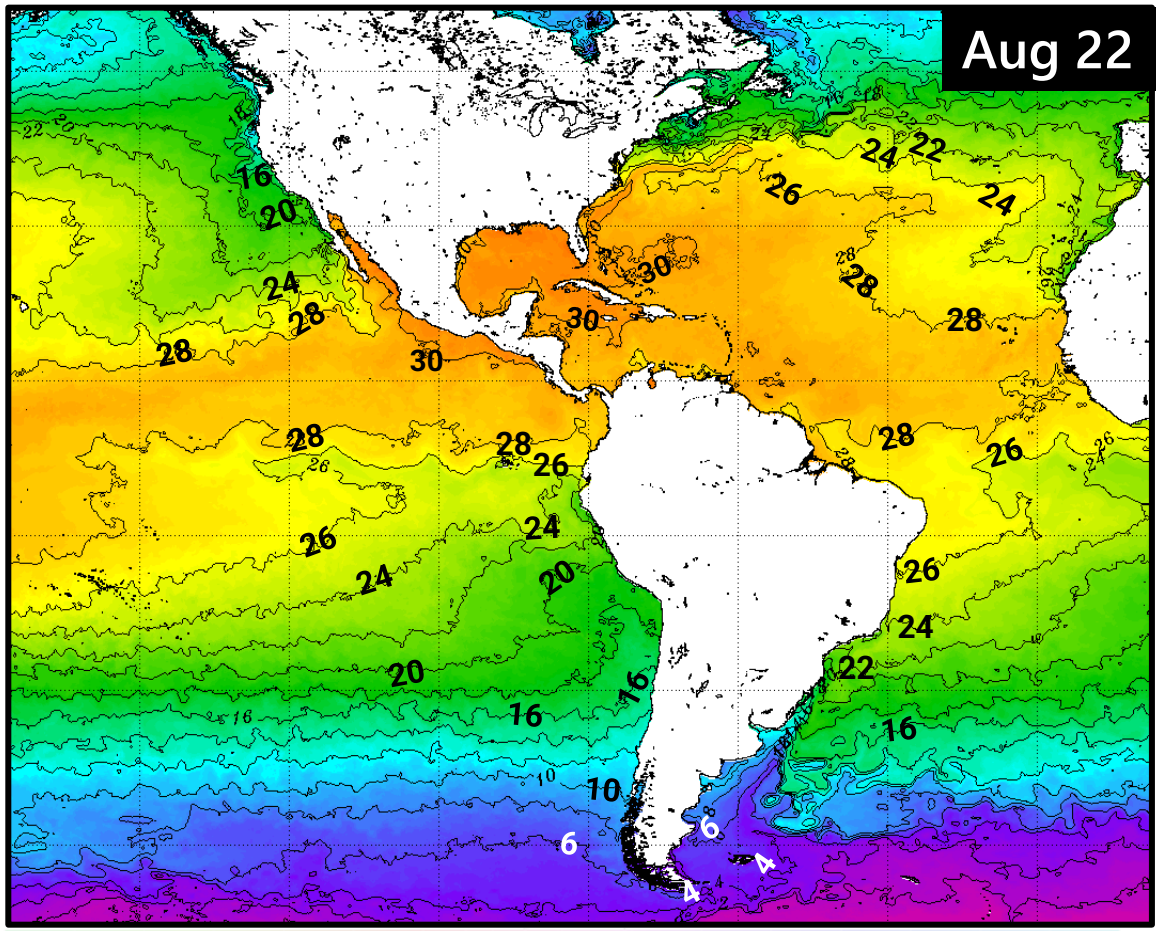
Climate Indices

Current Status and Projections

Thursday 24 August 2023

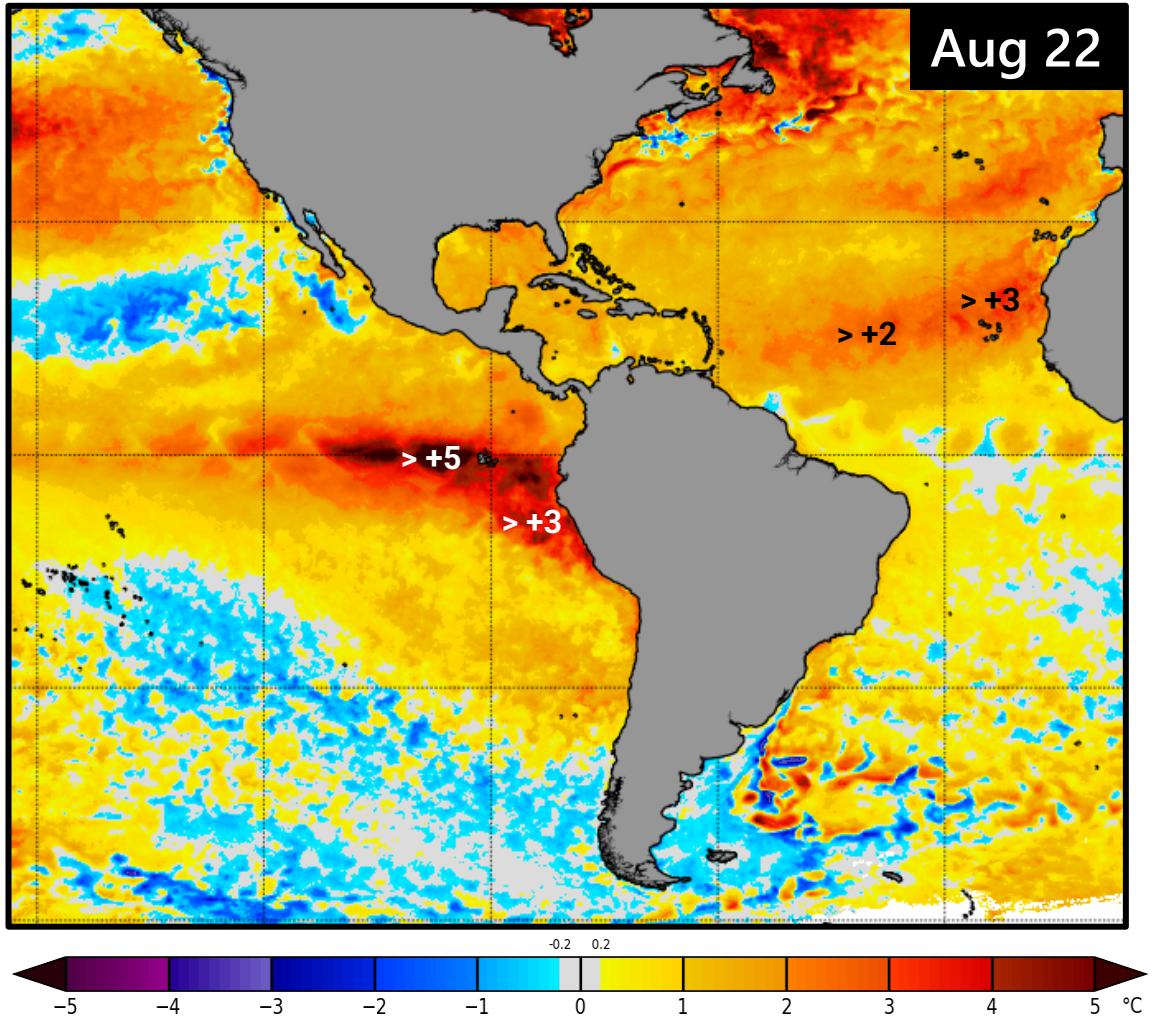
Sea Surface Temperature (SST)

SST



NOAA OSPO https://www.ospo.noaa.gov/data/sst/contour/global_small.c.gif

SST Anomaly

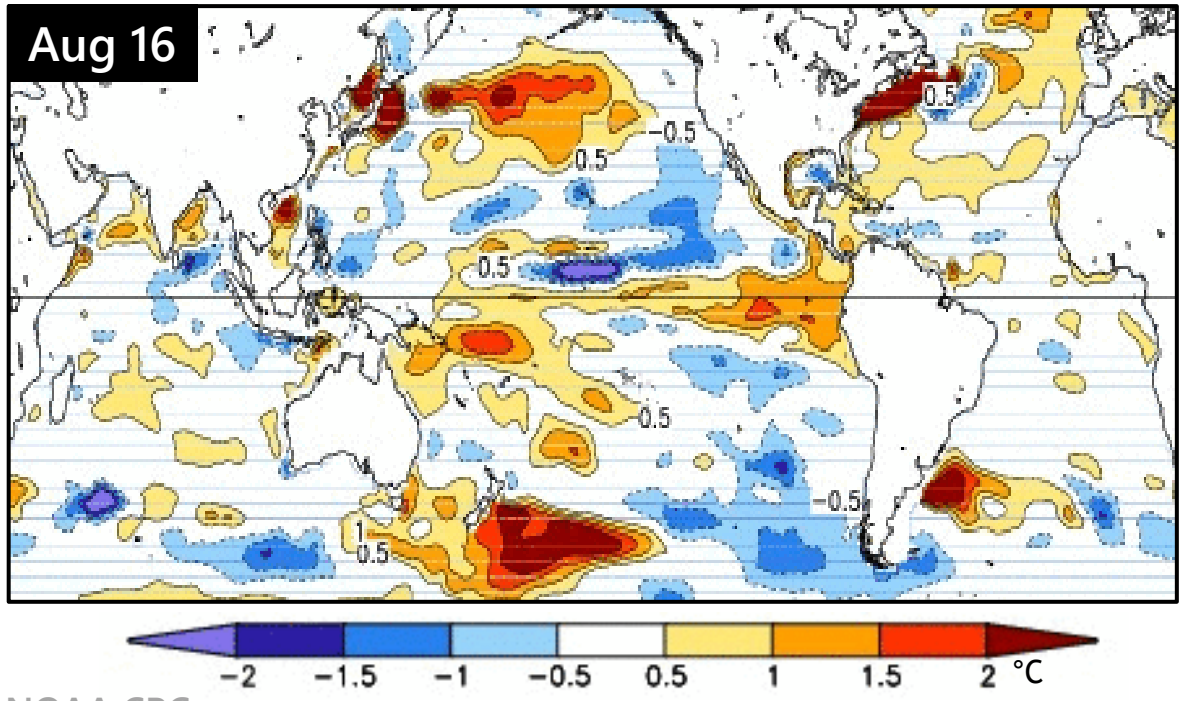


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Top Layer Temperature Anomaly

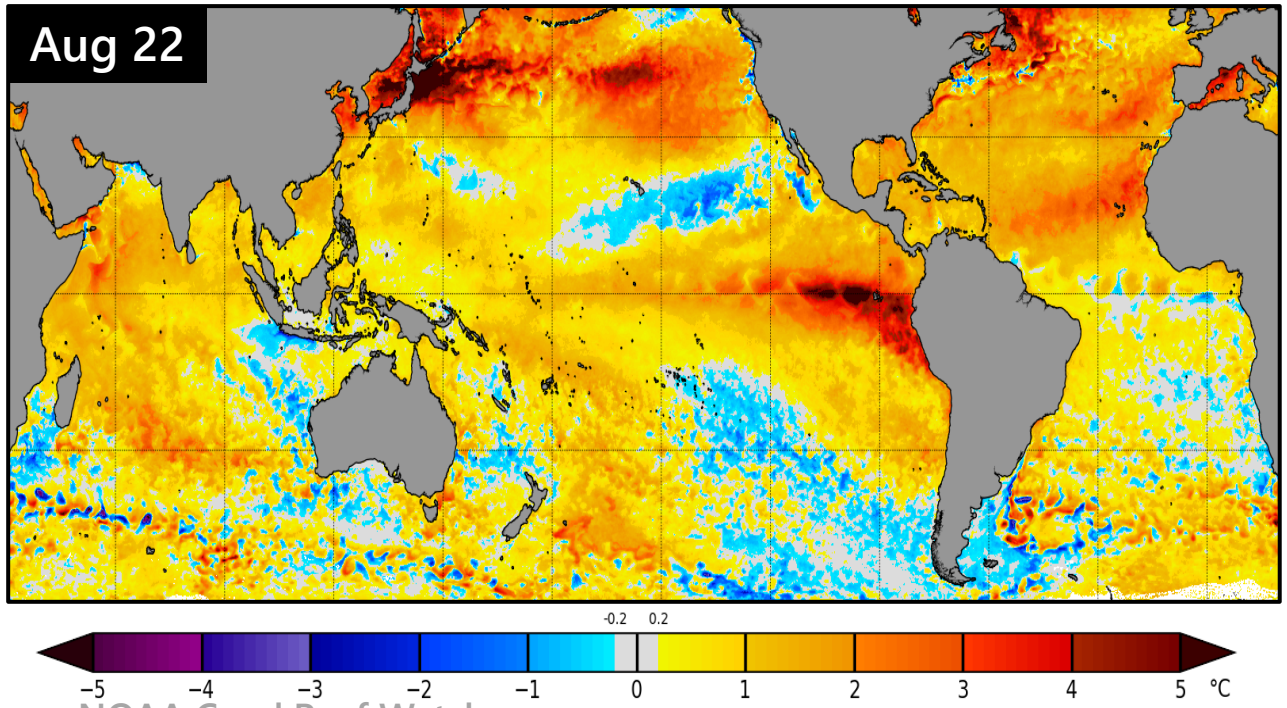
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top 300m-Layer Anomaly



NOAA CPC
Source: CPC GODAS, https://www.cpc.ncep.noaa.gov/products/GODAS/

Surface Anomaly

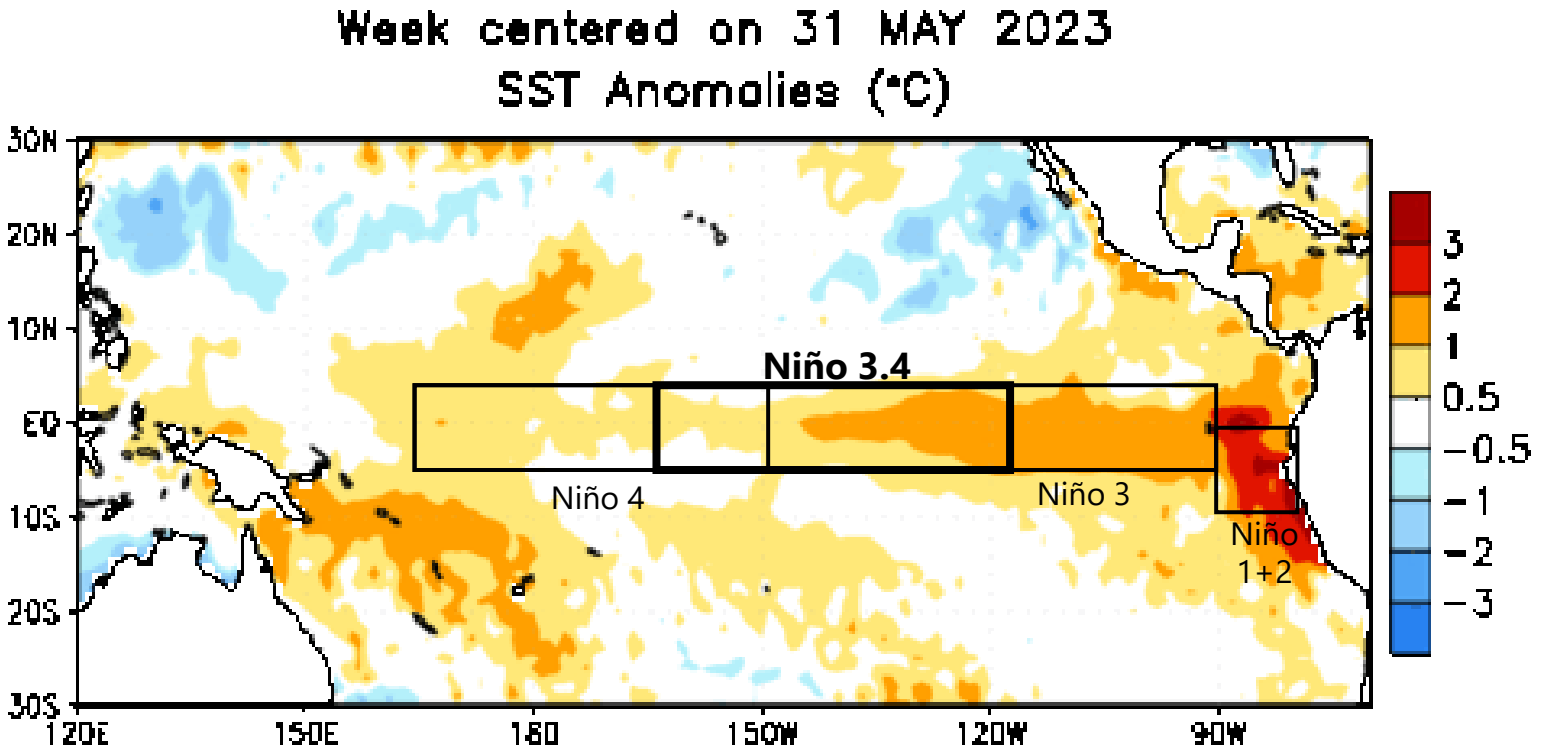


NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

El Niño-Southern Oscillation (ENSO)

CPC Official Statement
Status: El Niño Advisory

- El Niño conditions are observed.*
- Equatorial sea surface temperatures (SSTs) are above average across the central and eastern Pacific Ocean.
- The tropical Pacific atmospheric anomalies are consistent with El Niño.

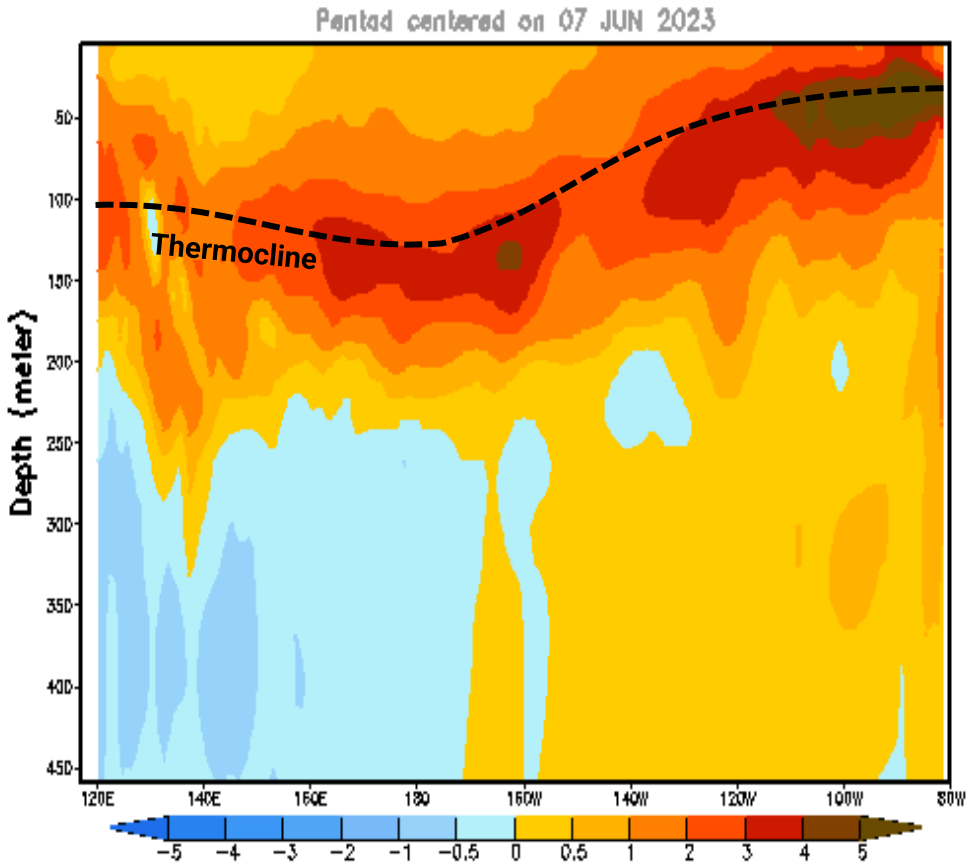


TAKEAWAYS

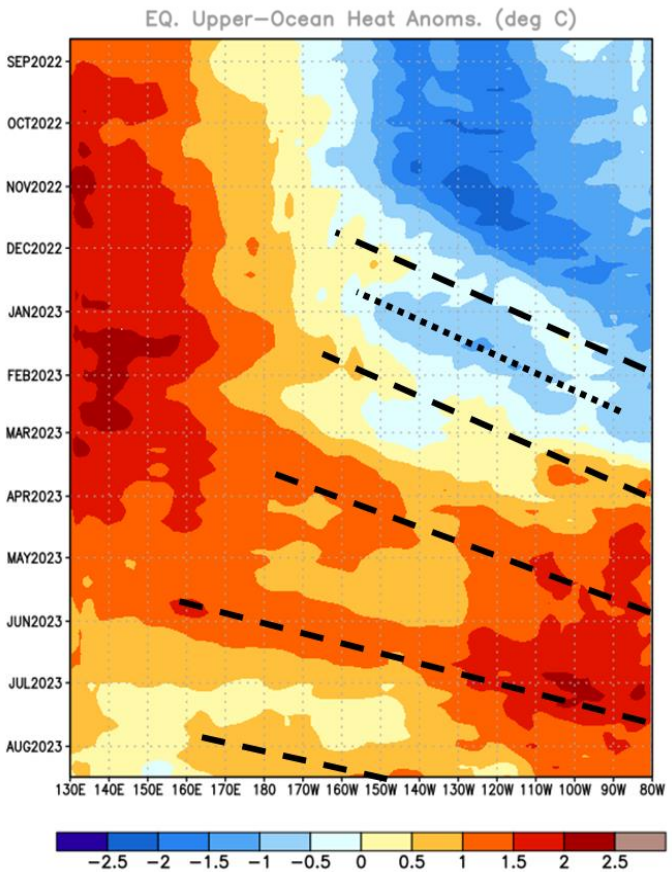
- **El Niño conditions are observed and the warming continues expanding westward.**
- **Ocean-atmospheric coupling exists, but is still not very robust.**

ENSO: Oceanic Kelvin Waves

Equatorial Pacific Temperature Anomaly Section



Heat Content Hovmoller



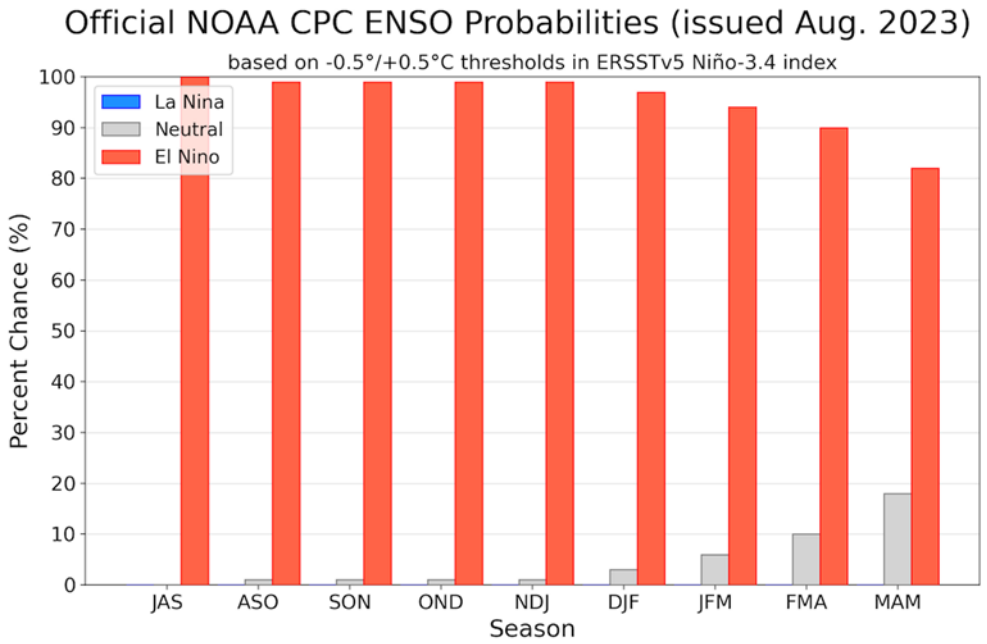
TAKEAWAYS

- Heat content and temperatures anomalies have cooled some since last month, but are still positive.
- A new Kelvin Wave is propagating, but weaker than previous ones.
- Forecast to arrive in South America around early October.

ENSO Outlook

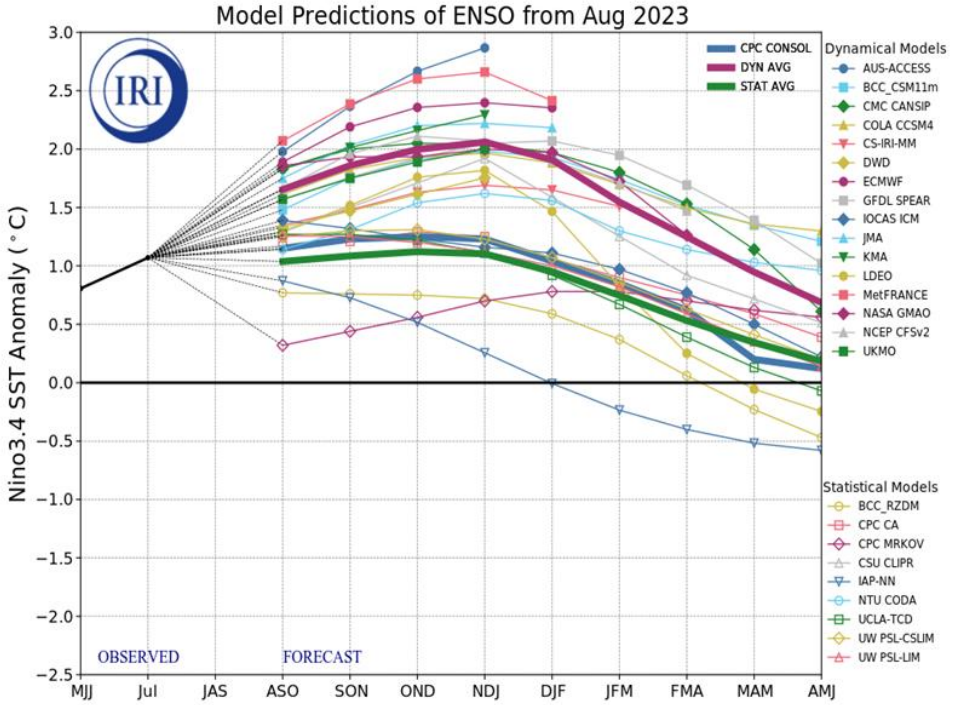
El Niño is favored through Northern Hemisphere winter 2023-24, with chances exceeding 95% through Dec-Feb 2023-24.

Probabilistic Forecast



Source: CPC

IRI/CPC Dynamic Models

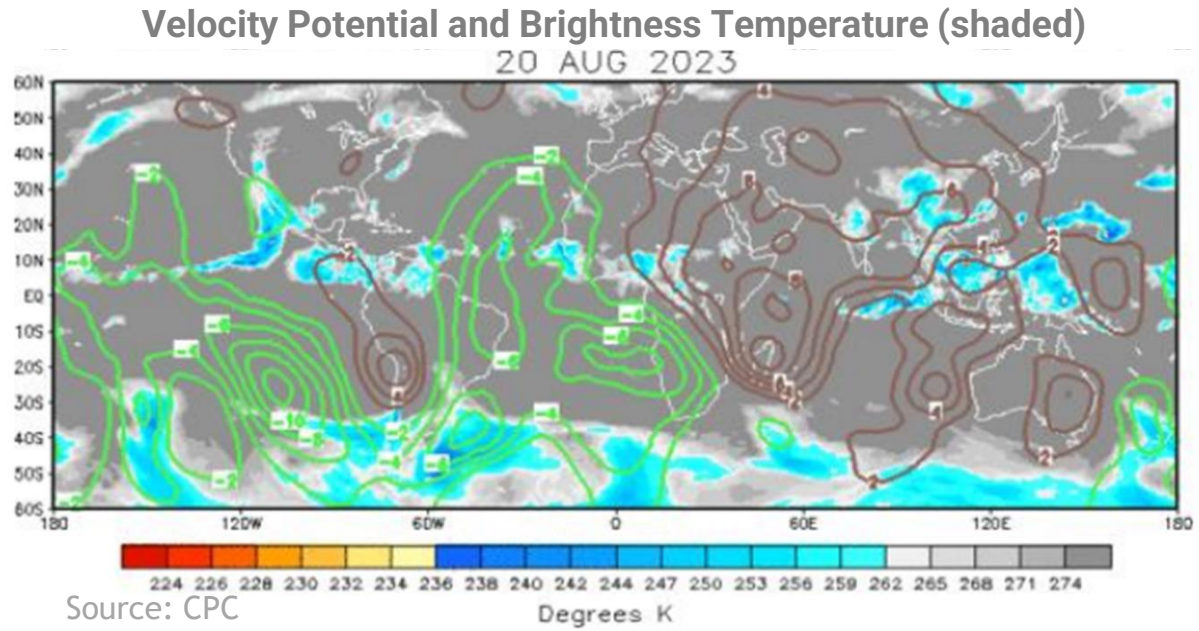


Source: IRI, updated 19 August 2023

Madden-Julian Oscillation (MJO)

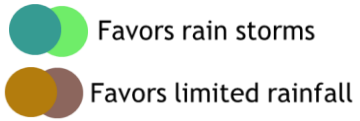
Current Observations:

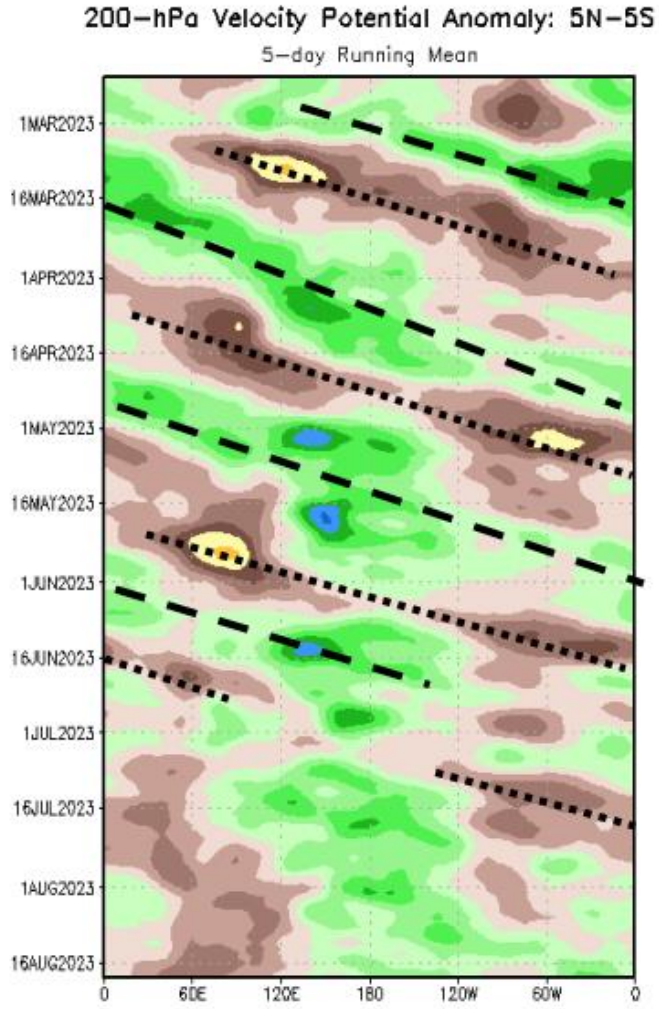
- MJO has struggled to propagate since mid-July, partly due to El Niño.
- Slow propagation started in mid-August, but the structure is not fully organized.



Source: CPC

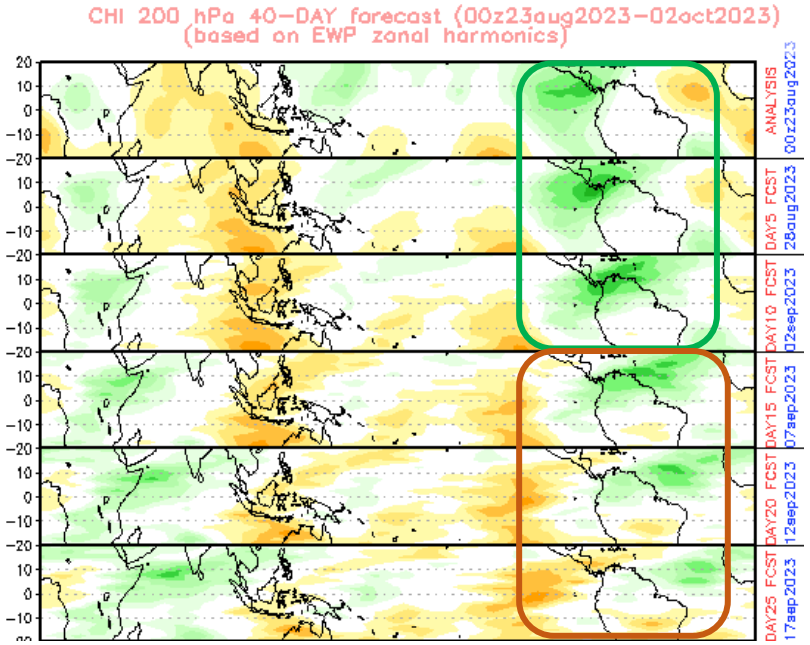
AUG 20



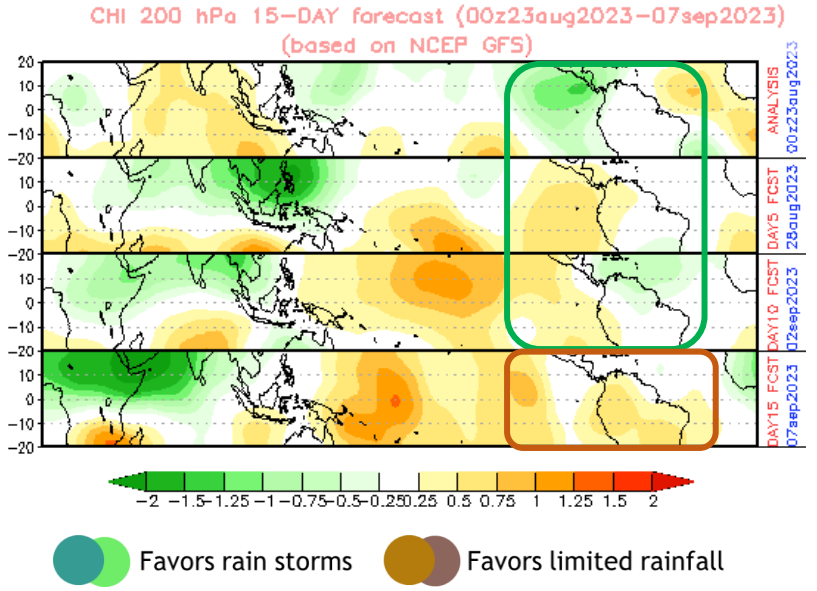


MJO Forecasts

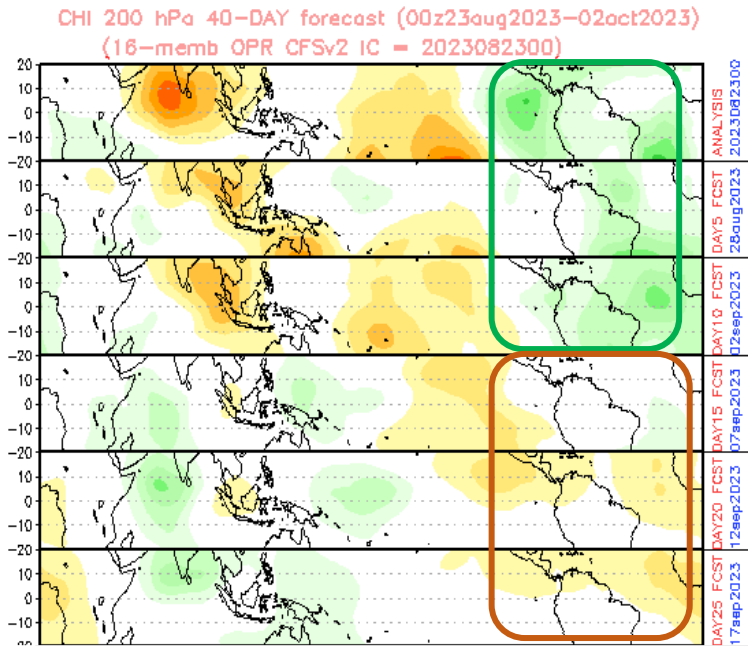
Empirical Wave Propagation (EWP)



Global Forecast System (GFS)



Climate forecast System (CFS)



Source: CPC

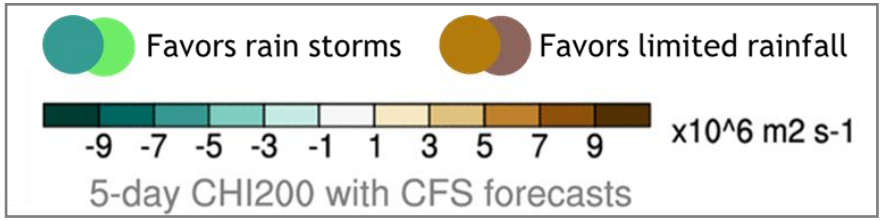
TAKEAWAYS

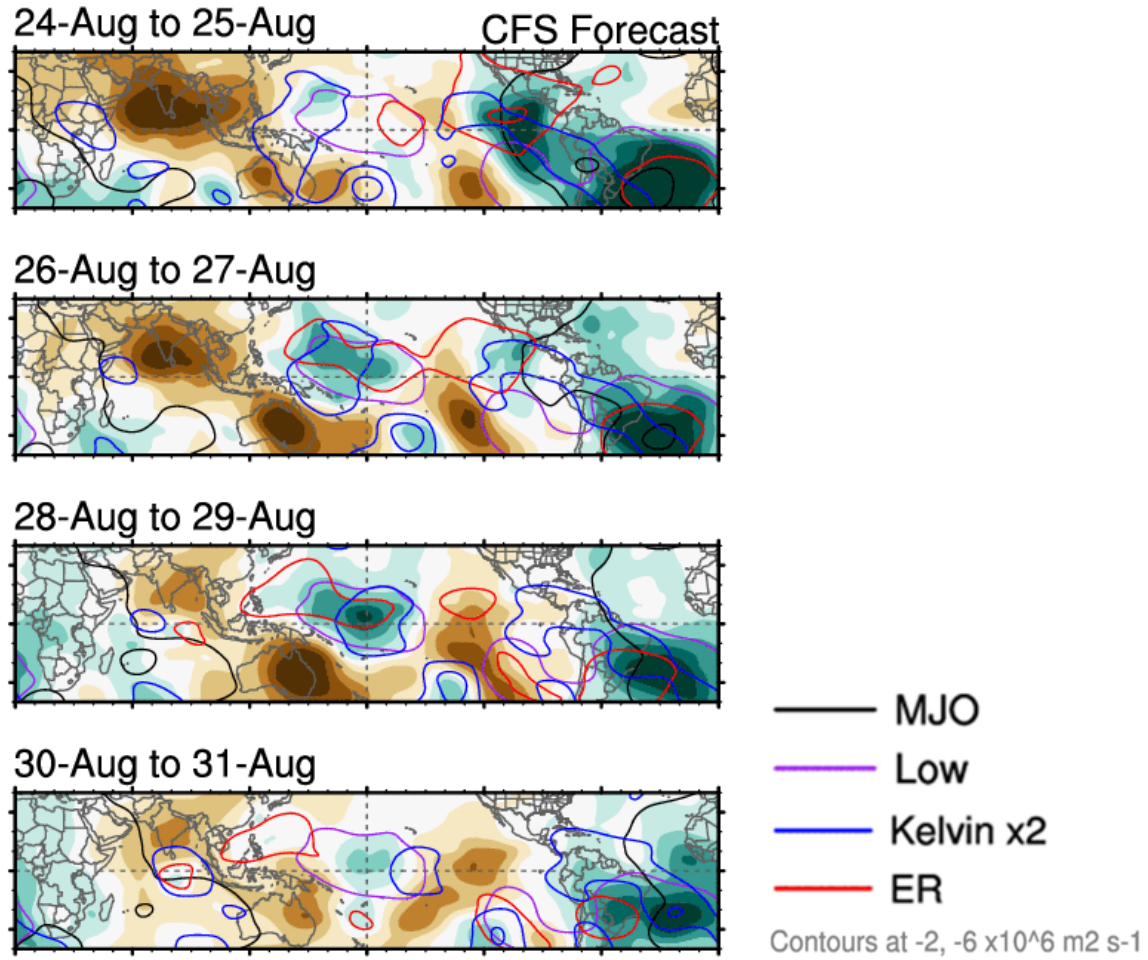
- **MJO propagation is slow and not well structured. Models not fully in tune.**
- **Weakening wet pulse (upper divergent) through Sep 2, becoming dry through Sep 20 or so.**

MJO and Upper Tropospheric Waves

Outlook for the next few days:

- Wet MJO slowly leaving the basin.
- A wet Kelvin is forecast from Aug 26 through Sep 1.
- Impacts: Locally wetter than normally expected where heavy rain-producing systems occur in the Tropical Americas.

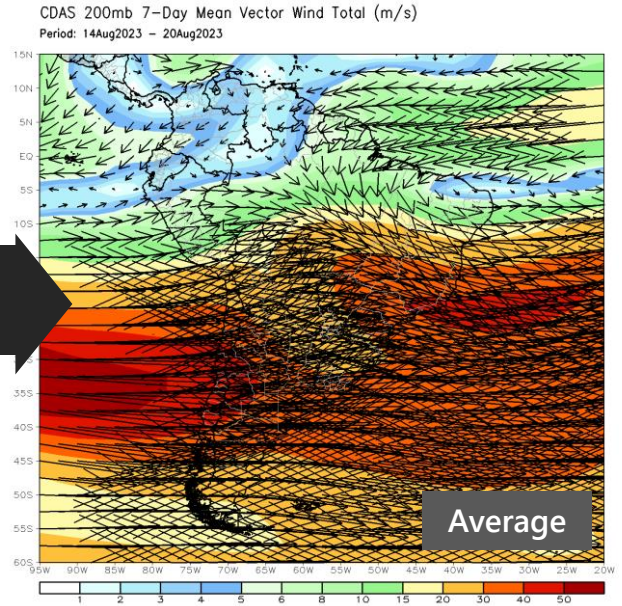


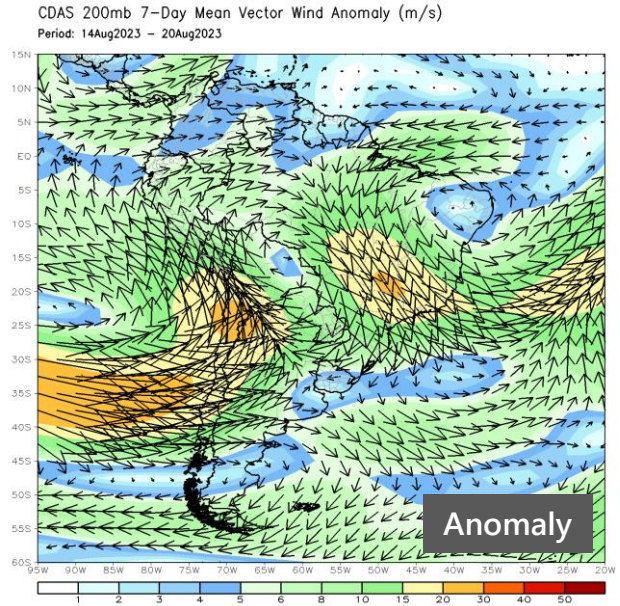


Source: NCICS

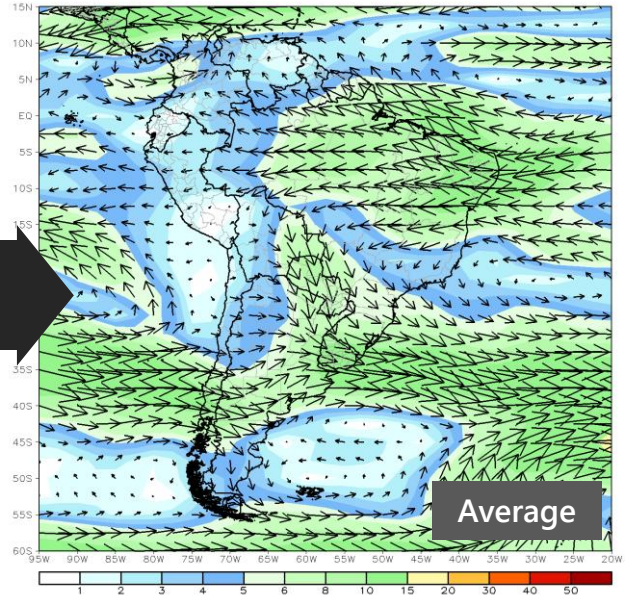
South America, Last 7 Days

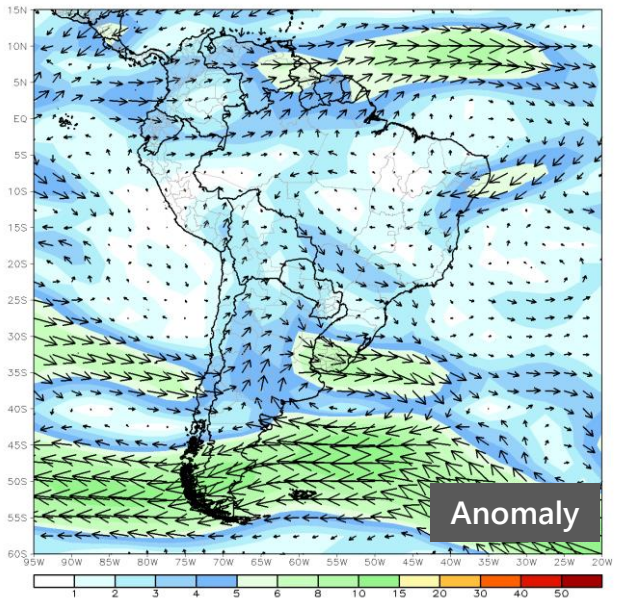
200 hPa Flow



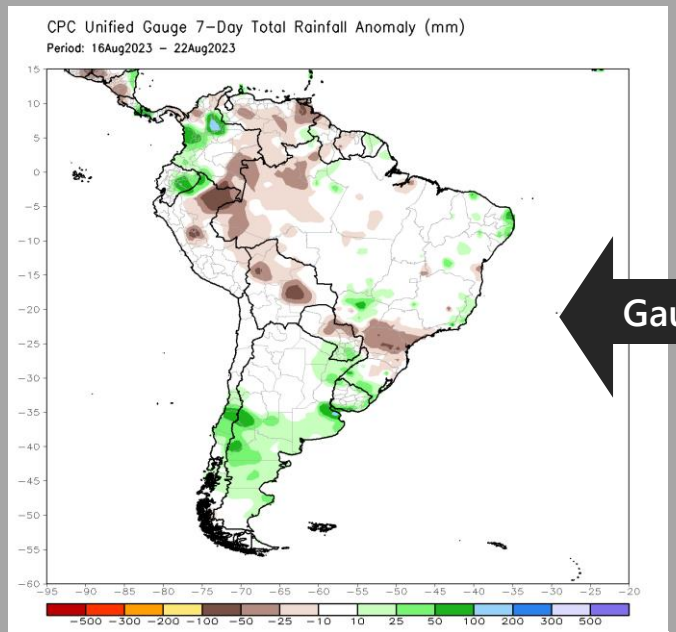


850 hPa Flow

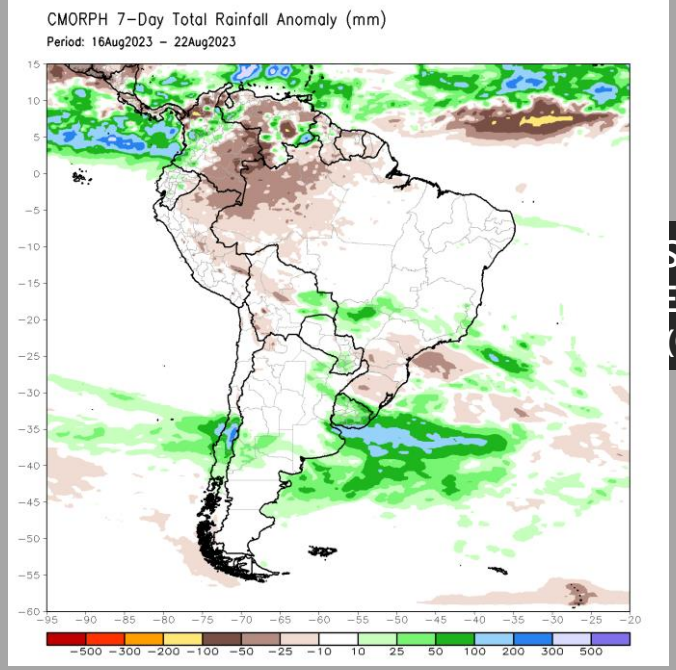




Rainfall Anomalies



Gauges

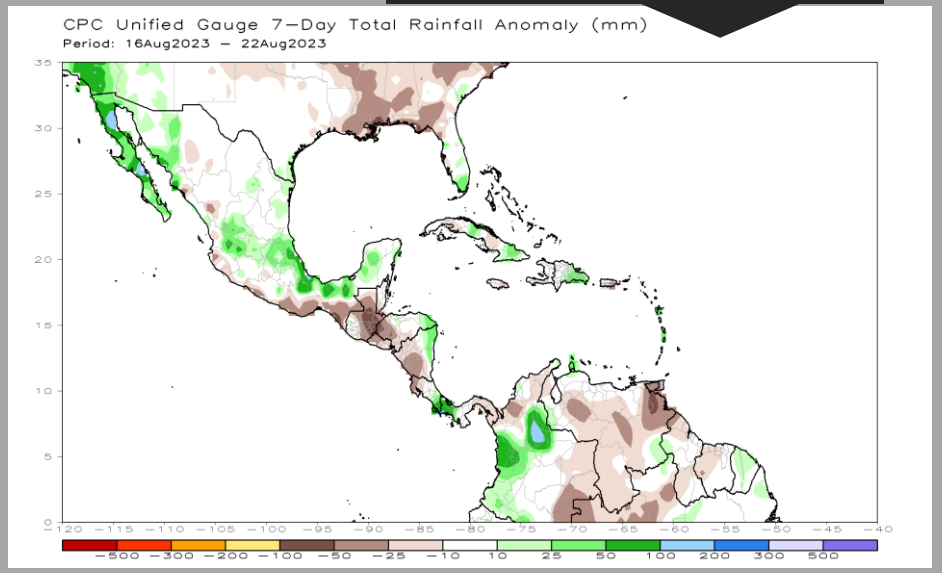


Satellite – Estimated (CMORPH)

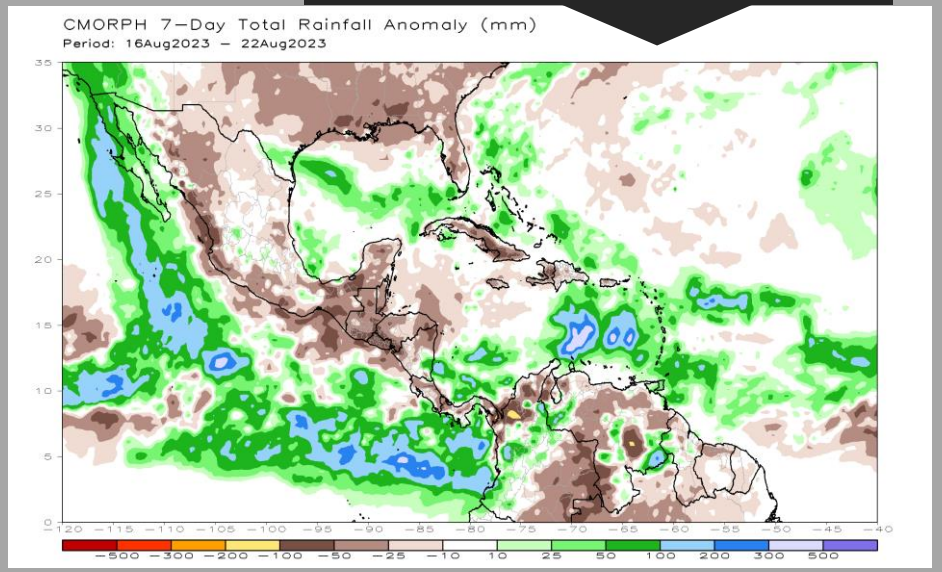
Caribbean and Central America, Last 7 Days

Rainfall Anomalies

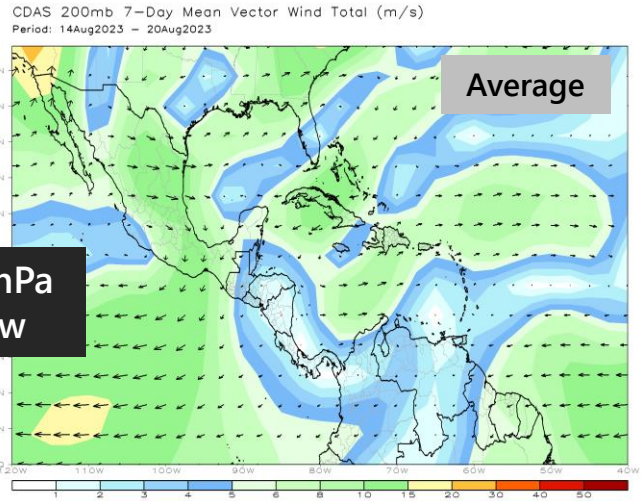
Gauges (CPC)

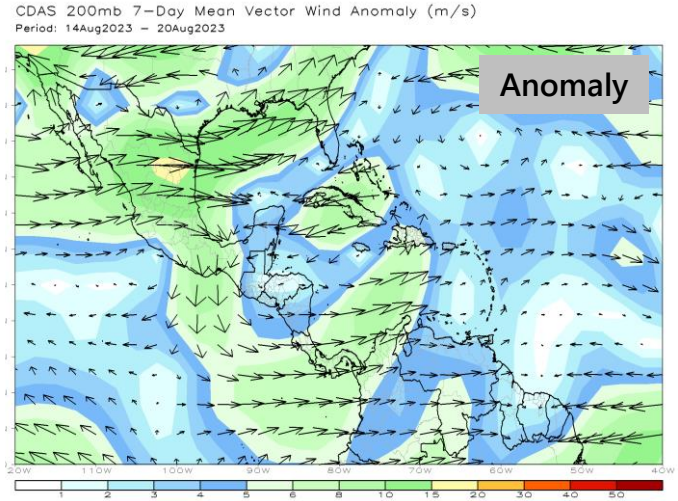


Satellite – Estimated (CMORPH)

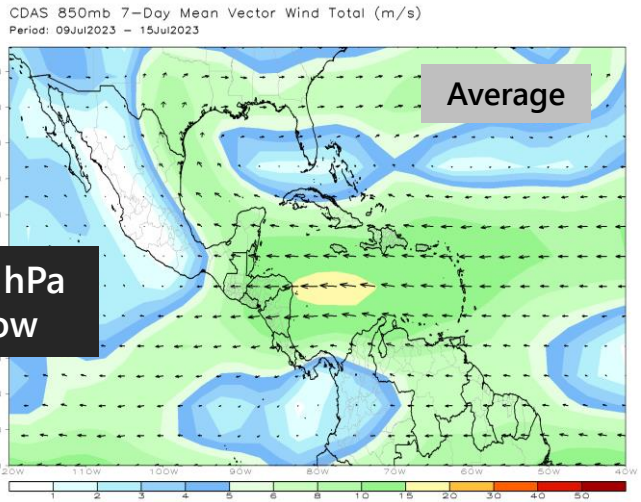


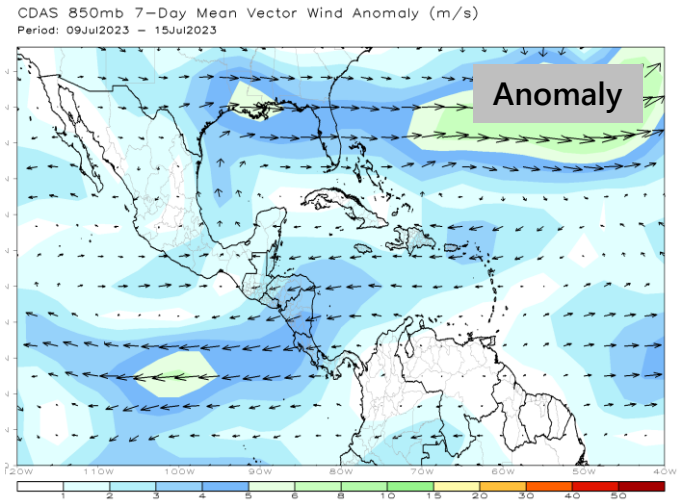
200 hPa Flow





850 hPa Flow





¡Gracias! Thank you! ¡Obrigado!

Next Session: 20 September 2023, 15 UTC

Recorded sessions and more information available at:
https://rammb2.cira.colostate.edu/training/rmtc/focusgroup/

For enrolling in the distribution list for RFG announcements, please send an email to jose.galvez@noaa.gov or bernie.connell@colostate.edu