WMO VLab Regional Focus Group
of the Americas and Caribbean

Since 2004

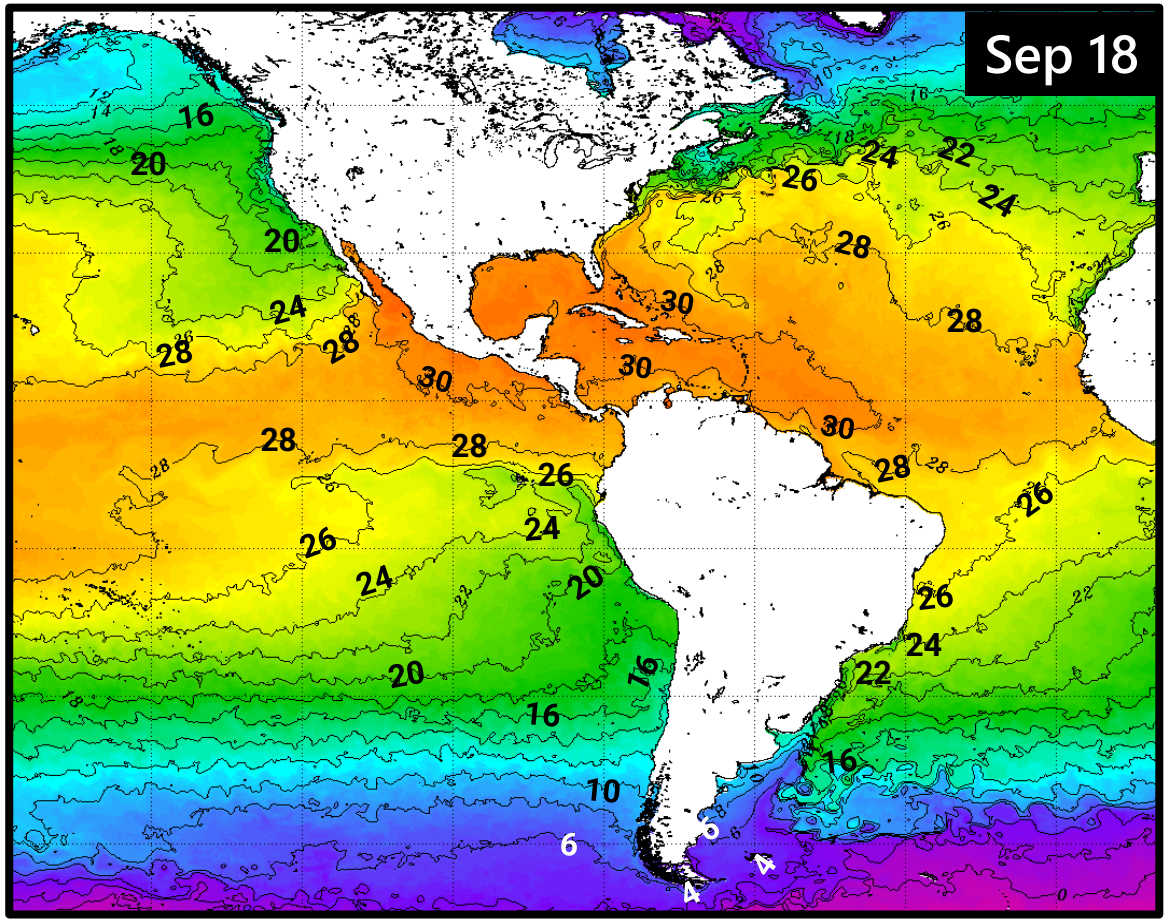
Climate Indices

Current Status and Projections

Wednesday 20 September 2023

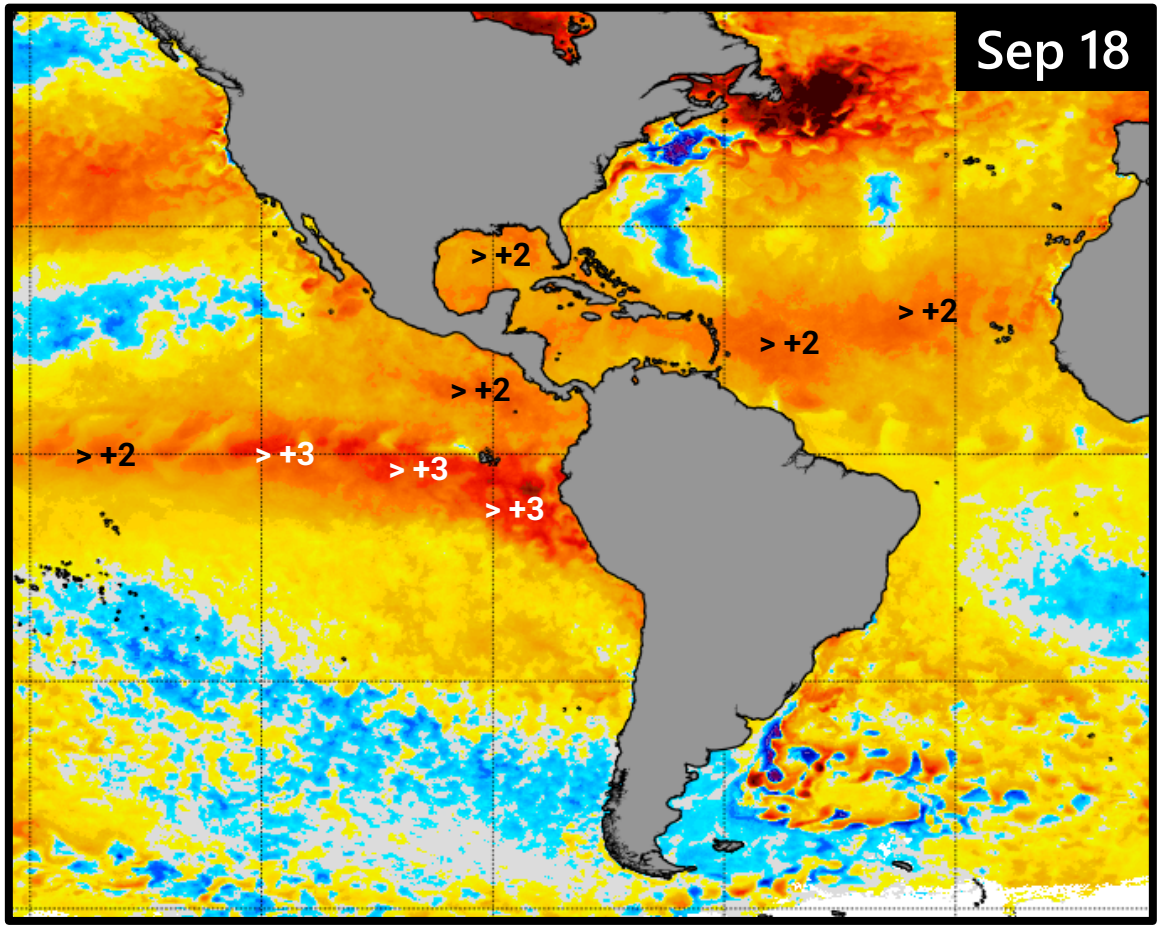
Sea Surface Temperature (SST)

SST



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

SST Anomaly

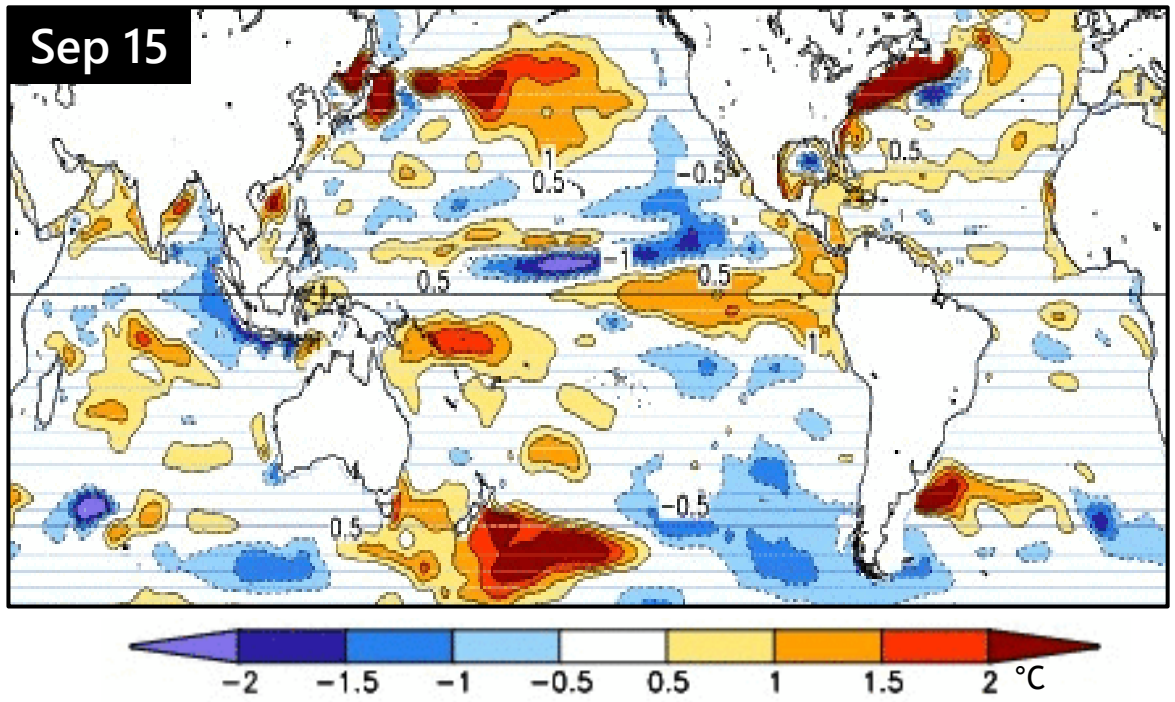


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Top Layer Temperature Anomaly

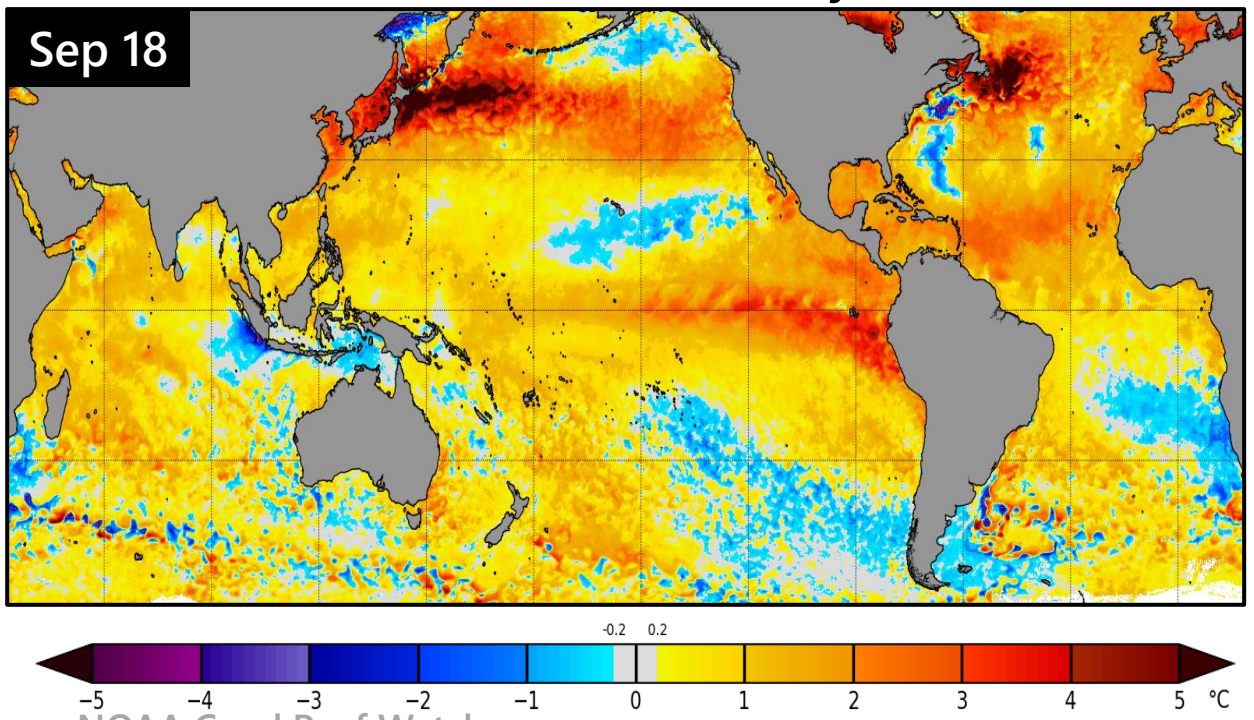
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top 300m-Layer Anomaly



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

Surface Anomaly

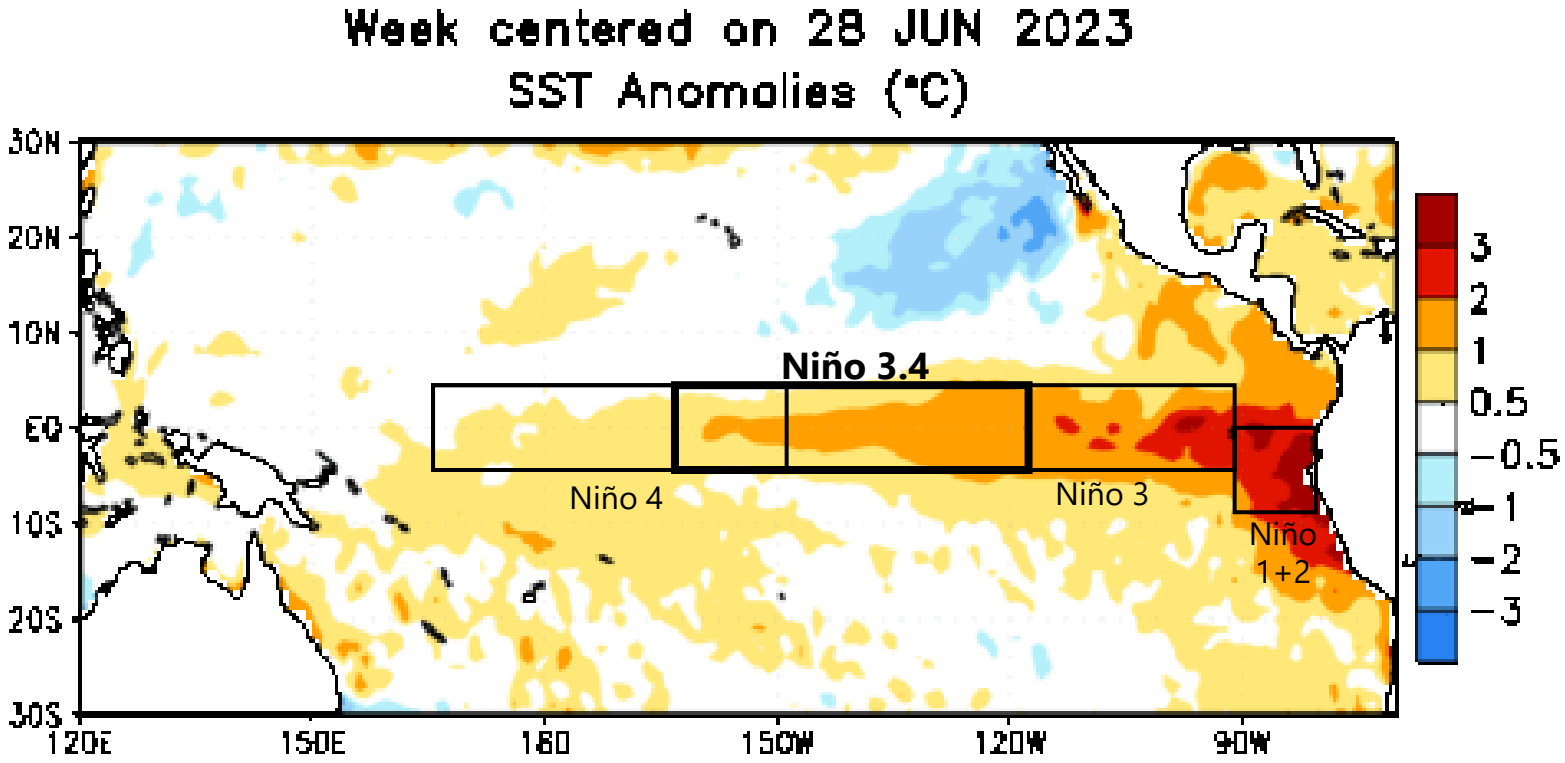


NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

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.

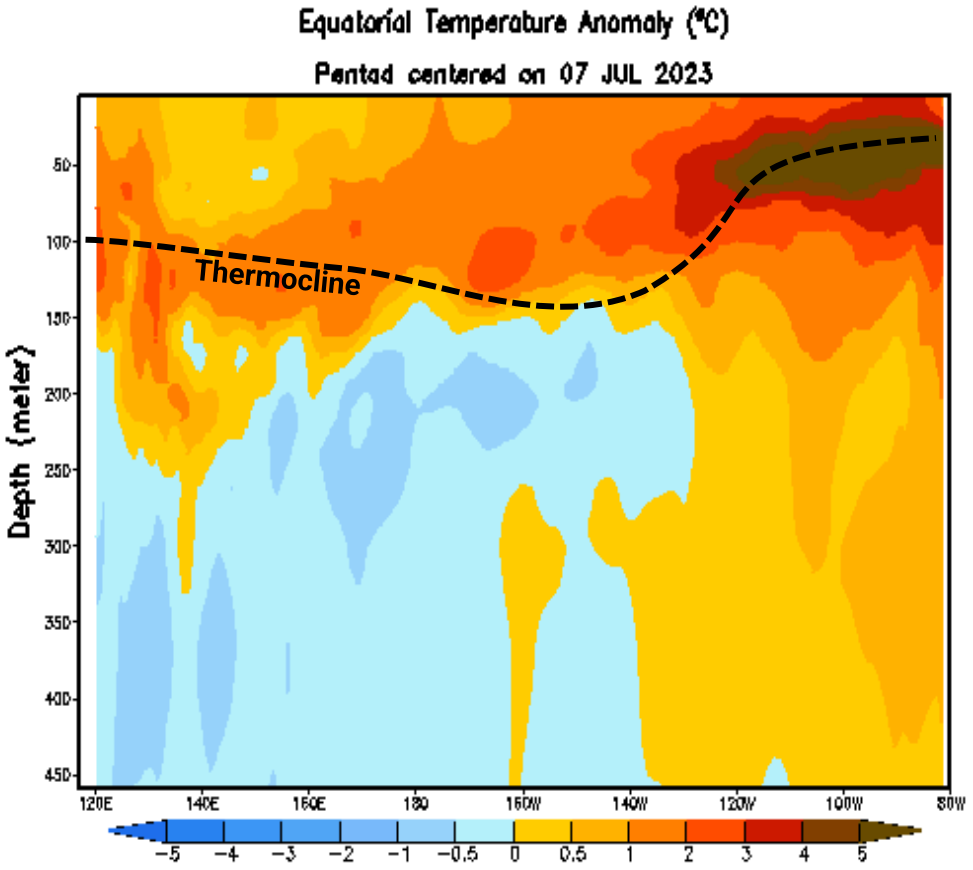


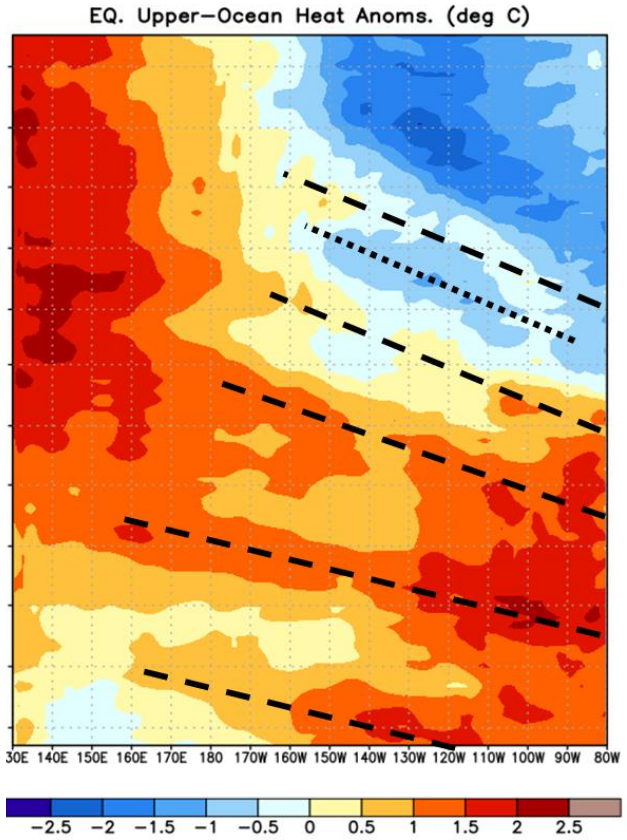
TAKEAWAYS

- **All Niño regions are warm, all >1°C.**
- **Niño 1+2 has cooled down (strong South Pacific Anticyclone). Still>2°C.**

ENSO: Oceanic Kelvin Waves

Temperature Anomalies with Depth and Heat Content Anomalies





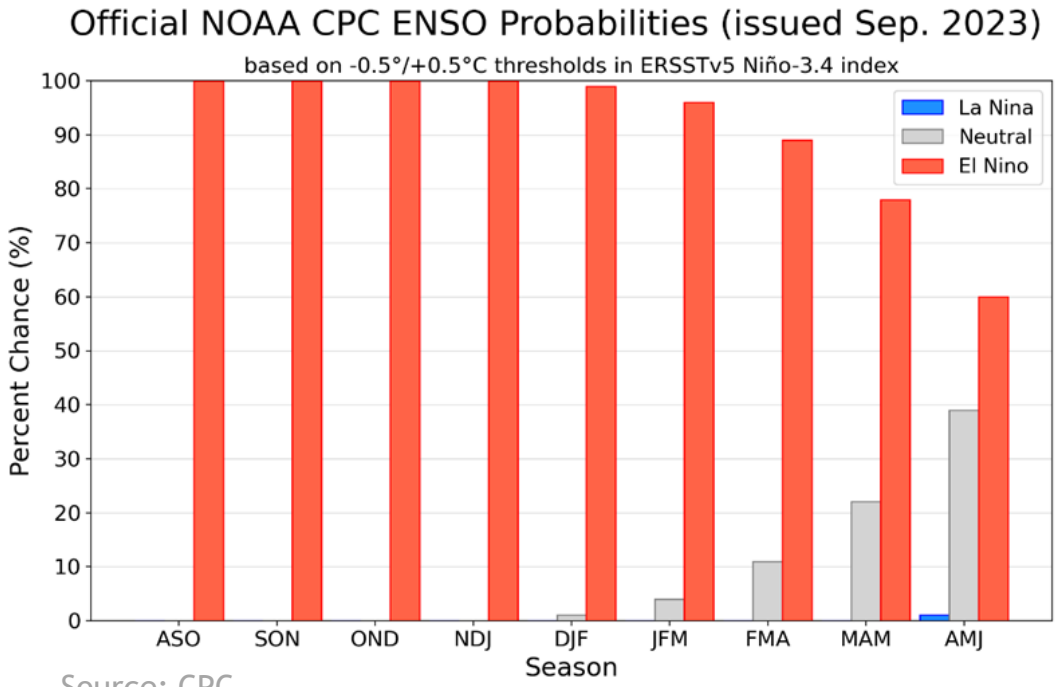
TAKEAWAYS

- Heat content and temp. anomalies continue cooling, especially in the west Pacific.
- A warm Kelvin propagates around 110°W, forecast to reach the coast in early October.
- No trailing warm Kelvin at the moment. Will have to wait to see if westerly bursts occur in early October with next wet MJO.

ENSO Outlook

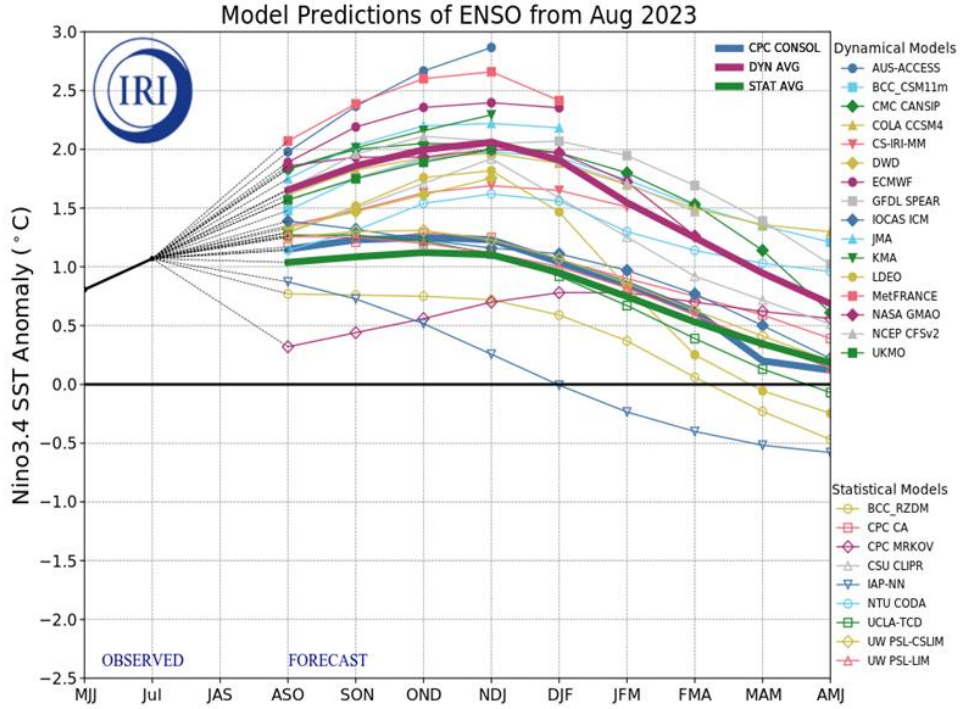
El Niño is anticipated to continue through the Northern Hemisphere winter (with greater than a 95% chance through January-March 2024).*

Probabilistic Forecast



Source: CPC

IRI/CPC Dynamic Models

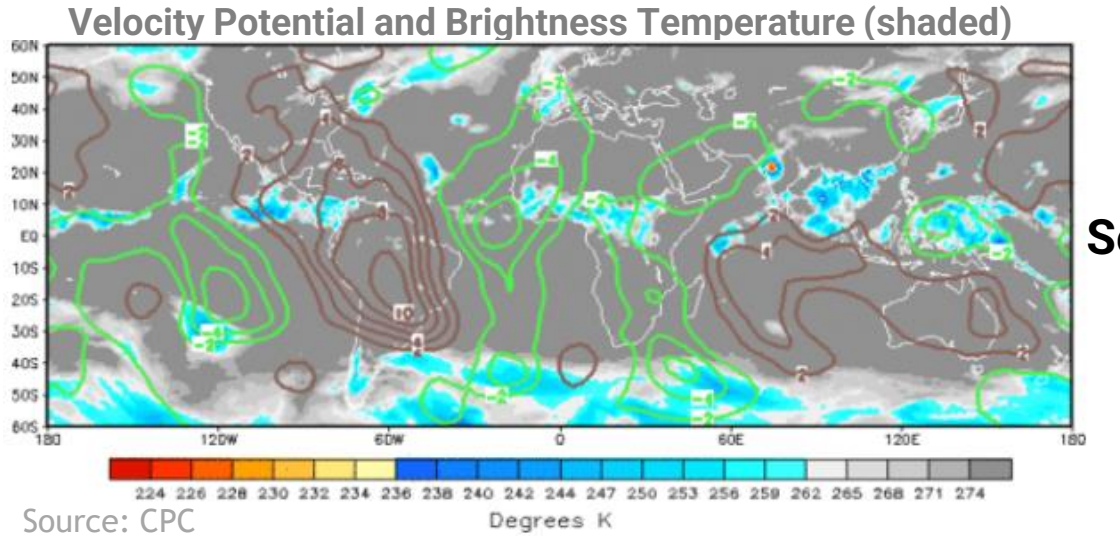


Source: IRI, updated 19 August 2023

Madden-Julian Oscillation (MJO)

Current Observations:

- The MJO has struggled to propagate since mid-July, including persistent upper divergence (wet) conditions in the central Pacific. This is often consistent with a well established El Niño.
- Yet weak, propagation is evident. Next wet pulse might arrive in the Americas in early October.

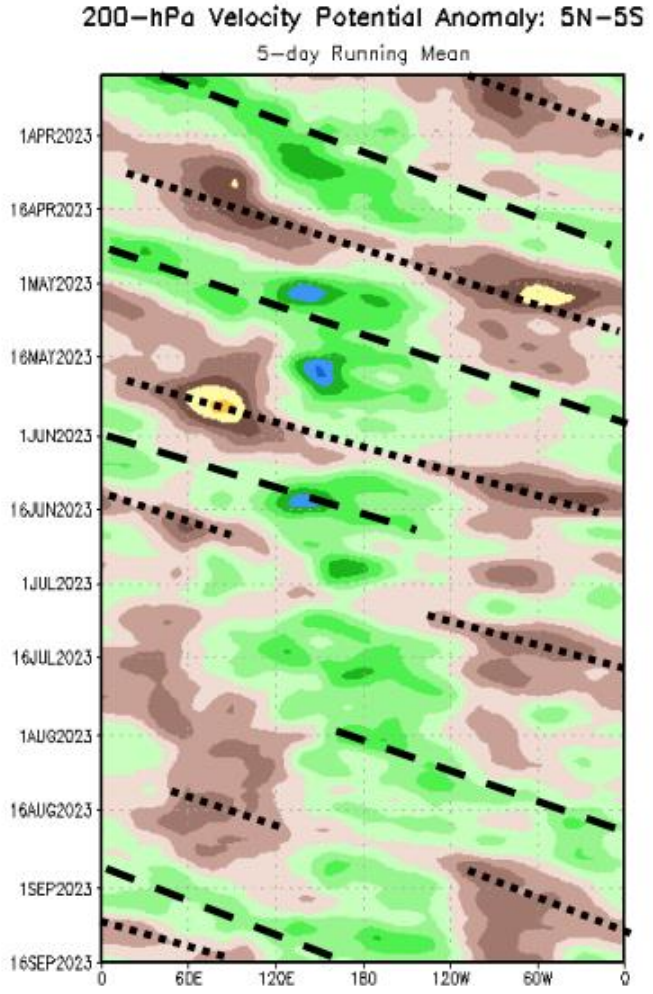


Source: CPC

Sep 17

Favors rain storms

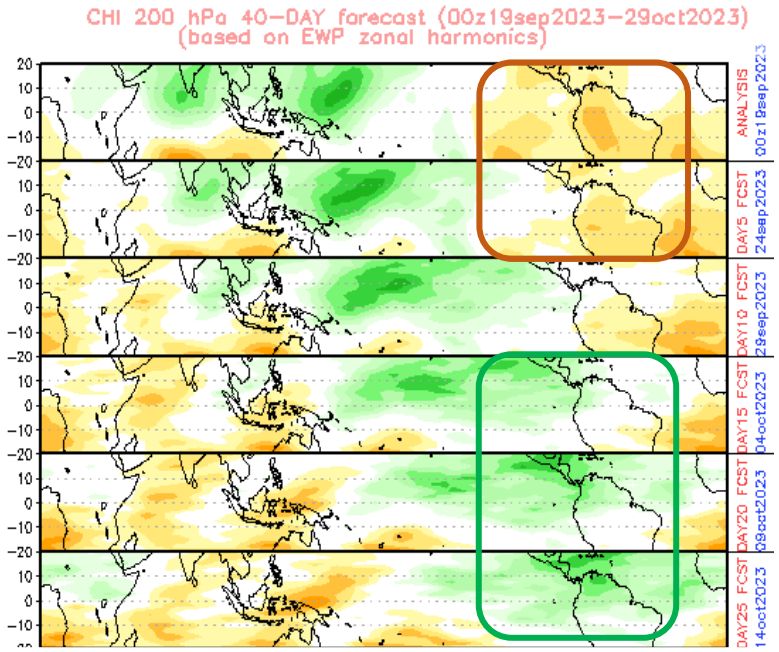
Favors limited rainfall



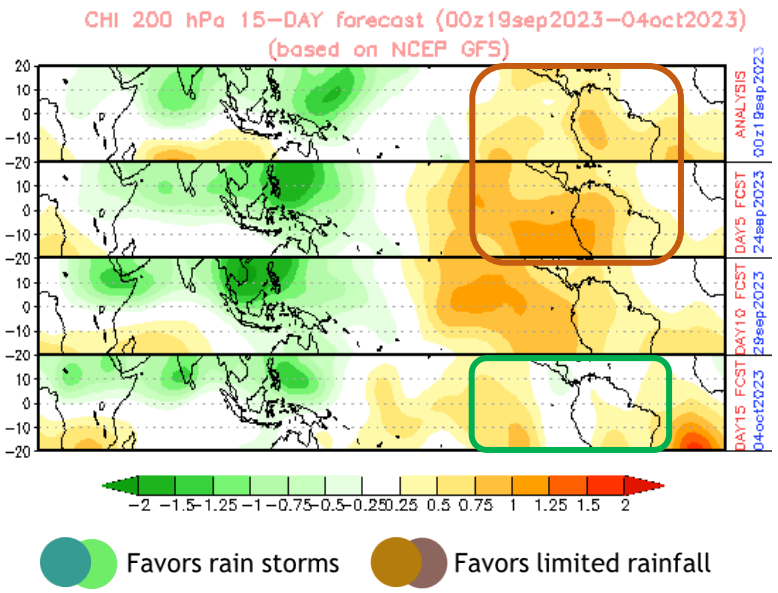
Source: CPC

MJO Forecasts

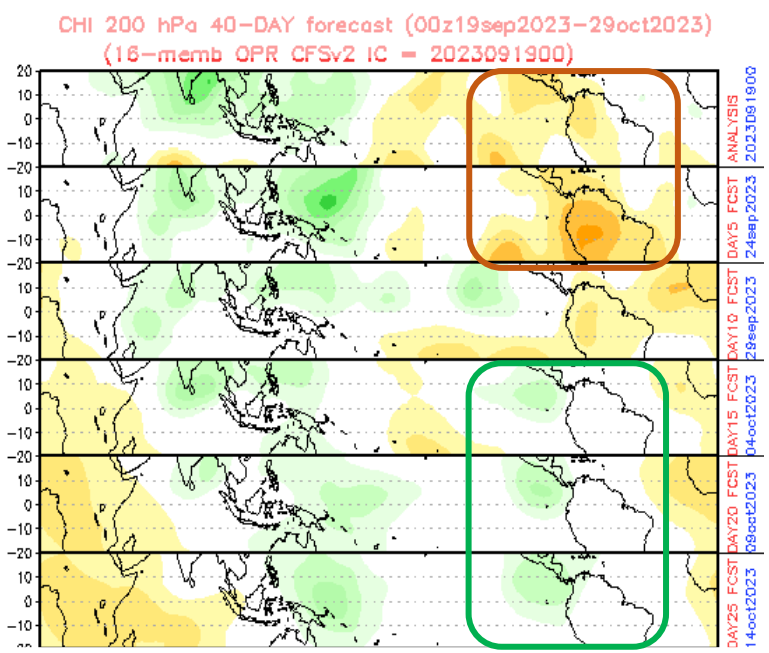
Empirical Wave Propagation (EWP)



Global Forecast System (GFS)



Climate forecast System (CFS)



Source: CPC

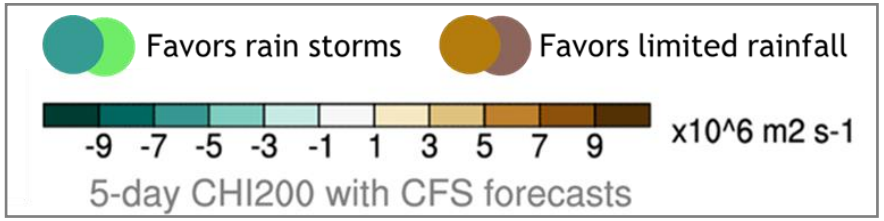
TAKEAWAYS

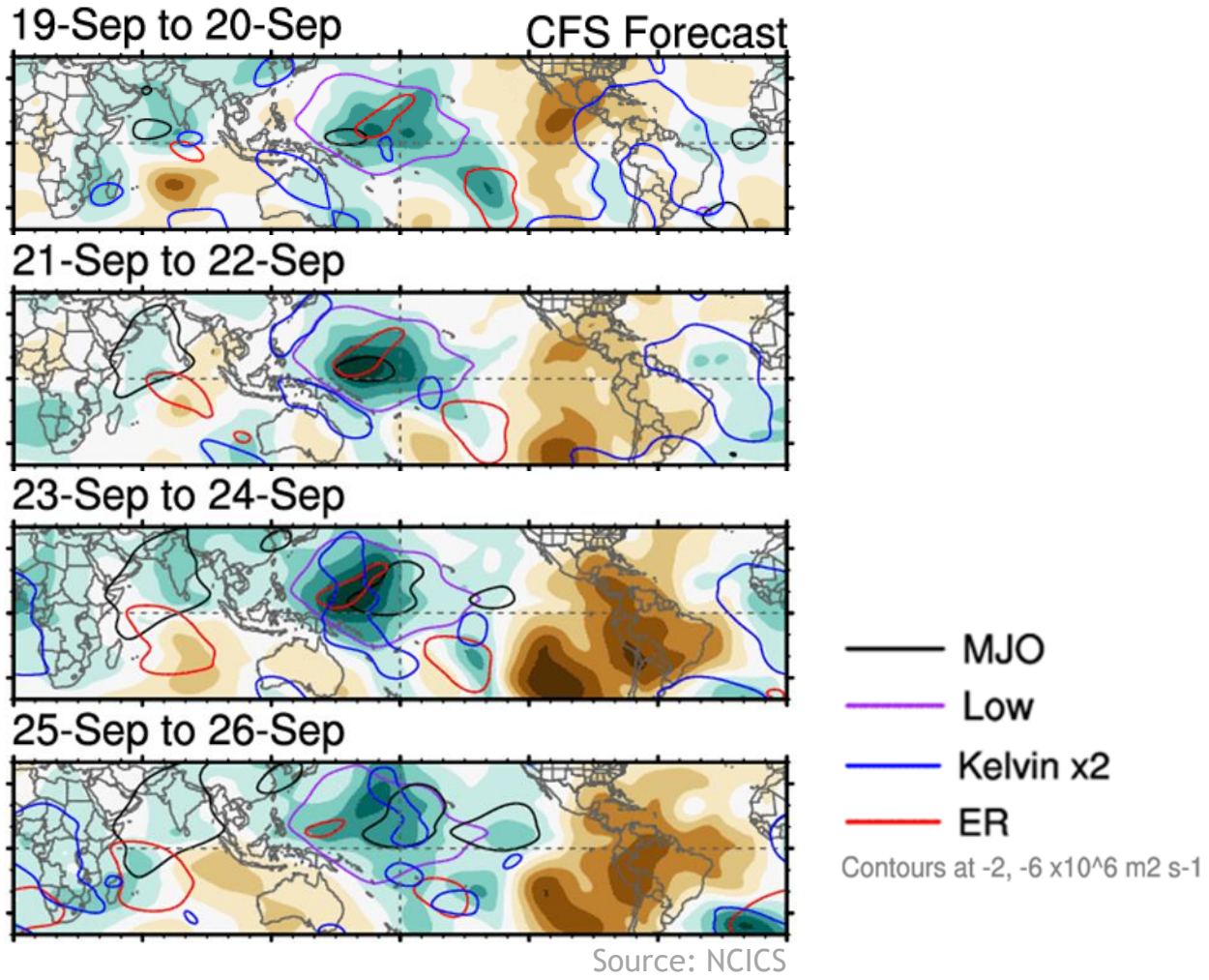
- Models are somewhat in agreement.
- Next wet MJO, likely the first half of October, yet, does not appear too organized. This is consistent with observations.

MJO and Upper Tropospheric Waves

Outlook for the next few days:

- A wet Kelvin Wave will propagate across the equatorial Americas through Sep 22, embedded in an upper convergent (dry) large scale pattern.
- Means a minor enhancement of regions with deep convection, yielding to a much drier weather pattern through the end of the month.

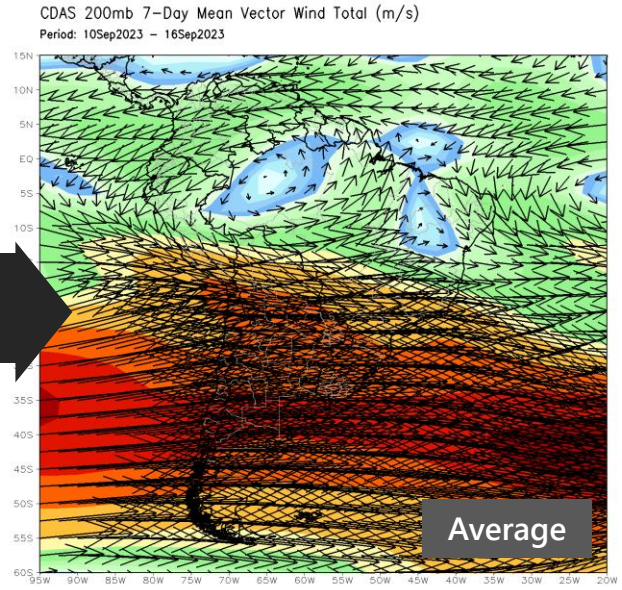


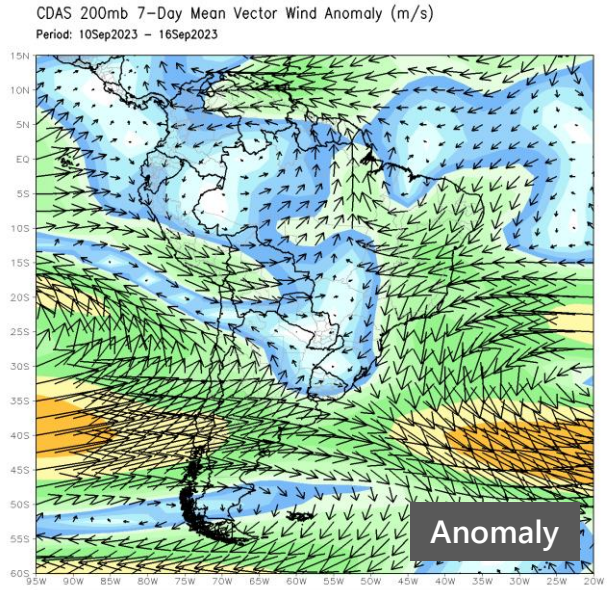


Source: NCICS

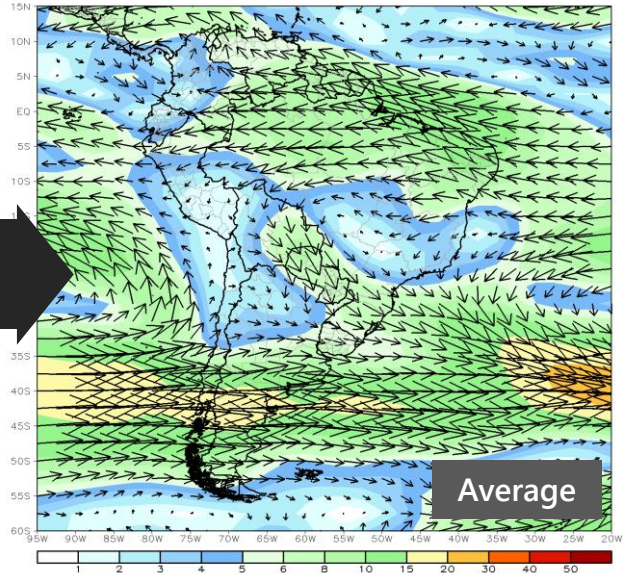
South America, Last 7 Days

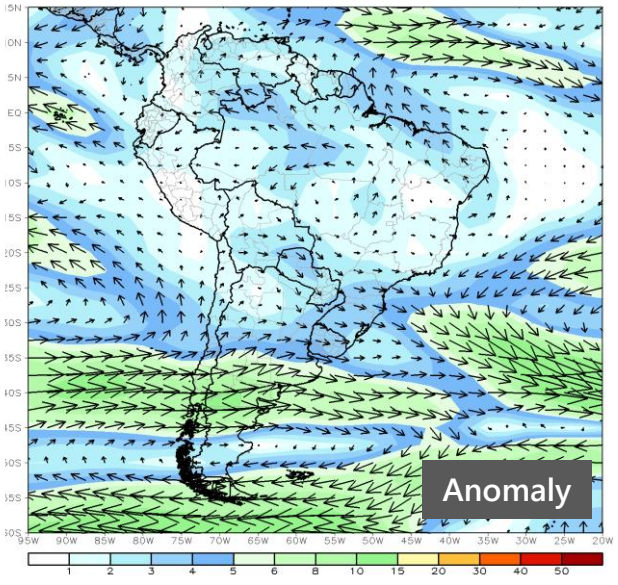
200 hPa Flow



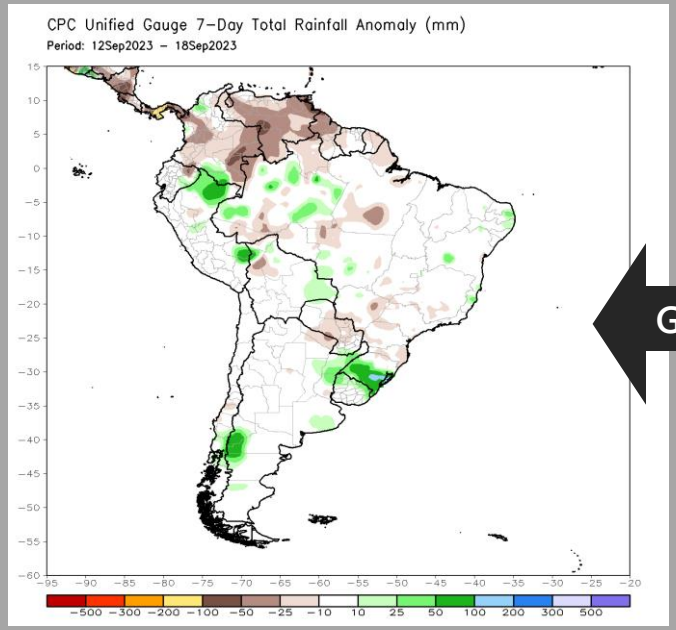


850 hPa Flow

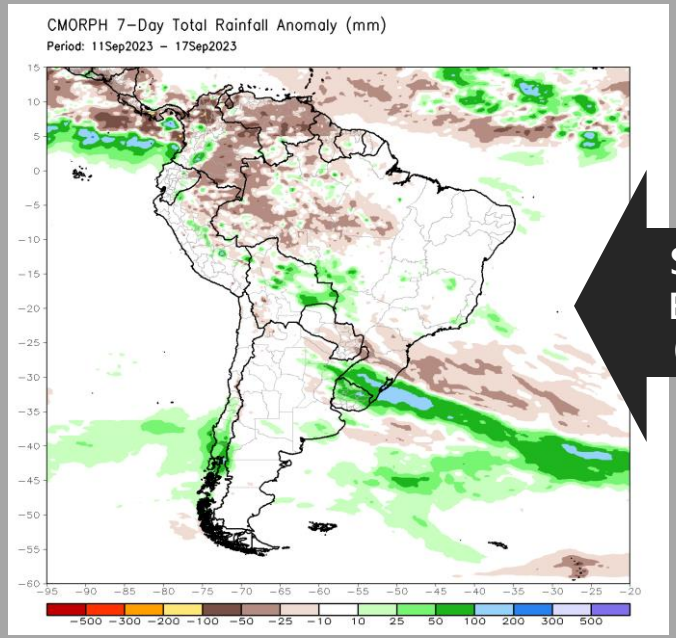




Rainfall Anomalies



Gauges

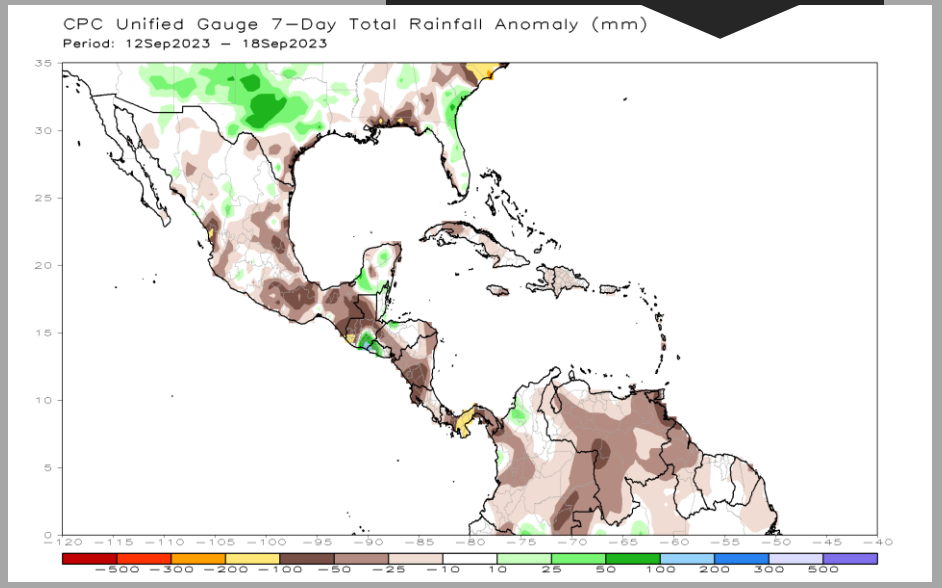


Satellite – Estimated (CMORPH)

Caribbean and Central America, Last 7 Days

Rainfall Anomalies

Gauges (CPC)



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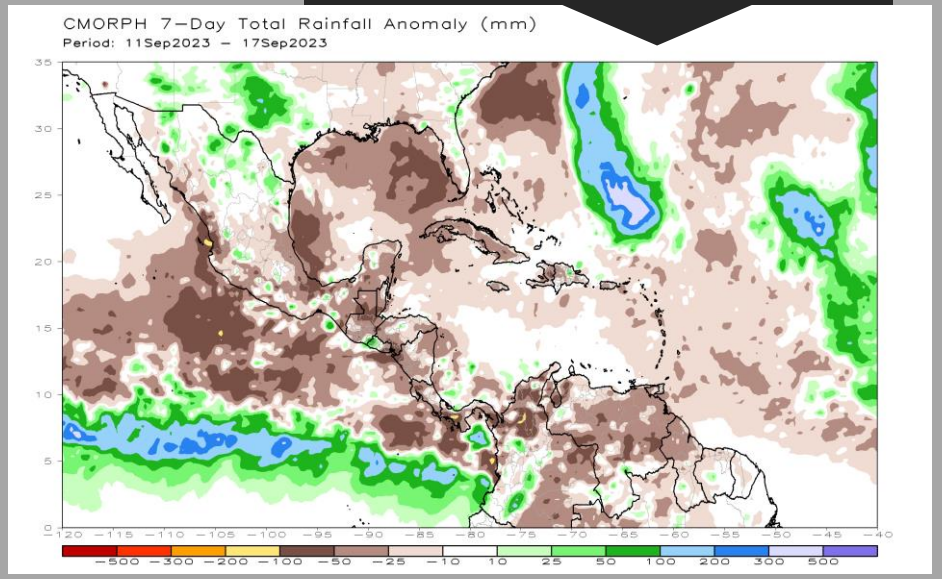
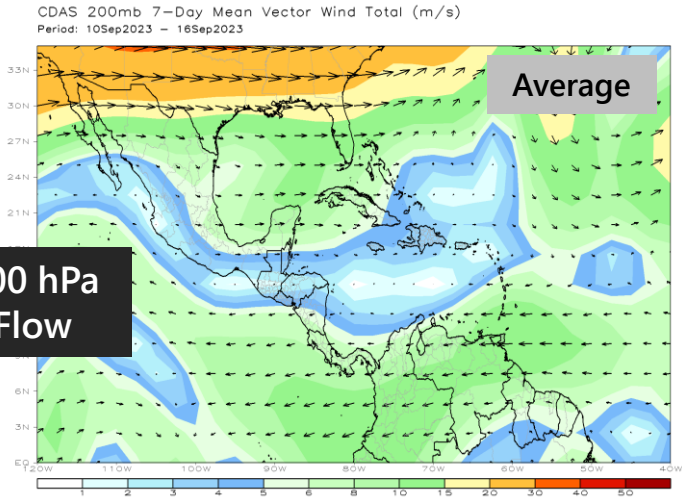
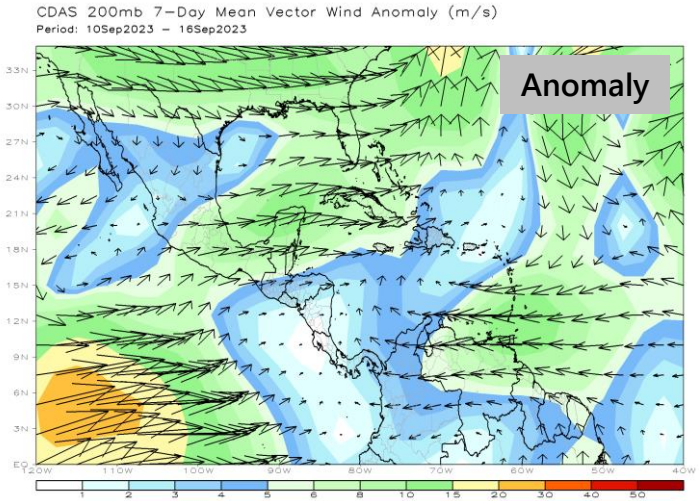
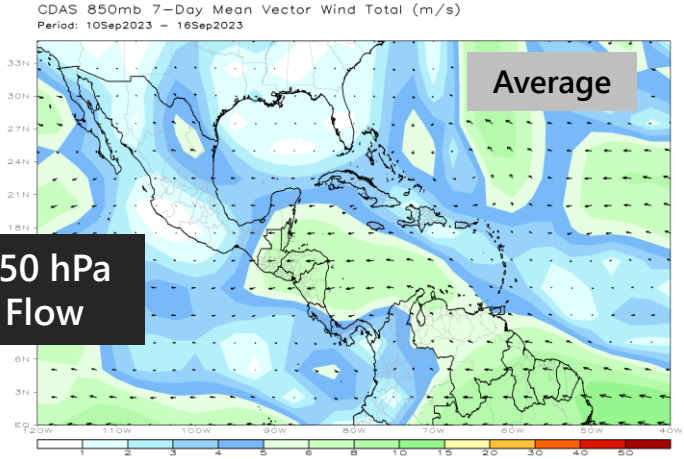


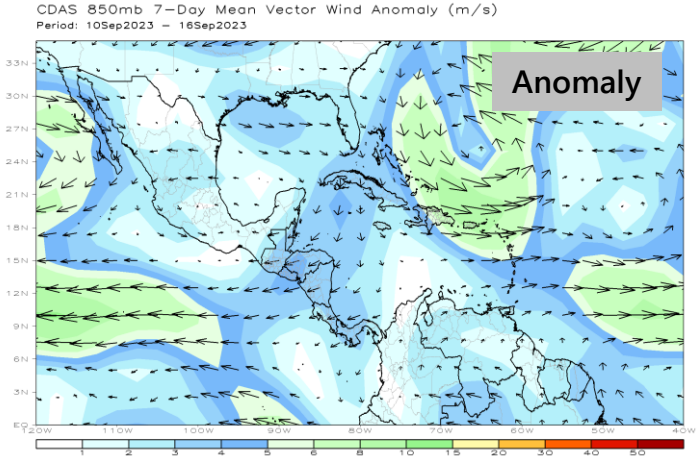
200 hPa Flow





850 hPa Flow





¡Gracias! Thank you! ¡Obrigado!

Next Session: Wednesday October 18 at 14 UTC

Final sessions of 2023:
November Session: Tuesday Nov. 21 at 16 UTC
December Session: Tuesday Dec. 19 at 16 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