WMO VLab Regional Focus Group
of the Americas and Caribbean

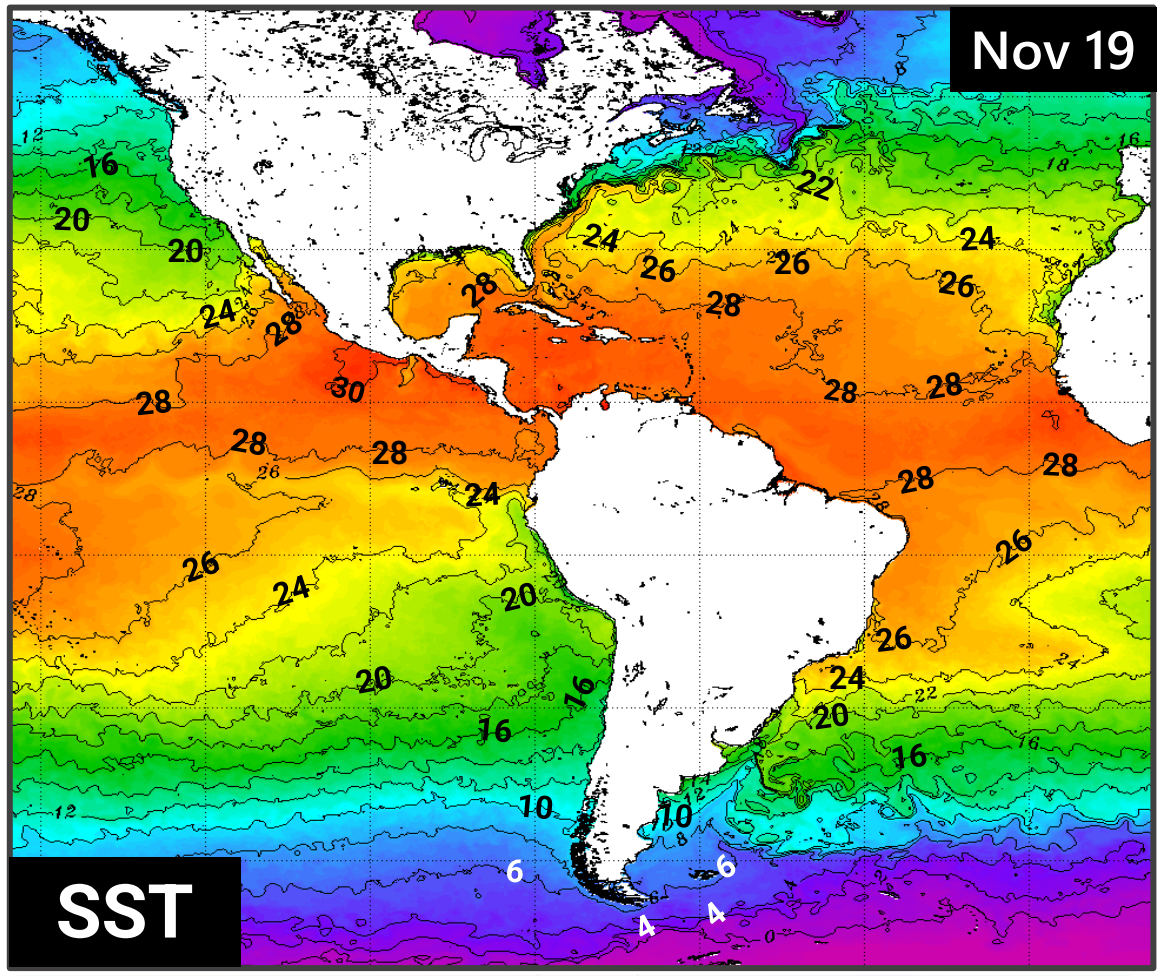
Since 2004

Climate Indices

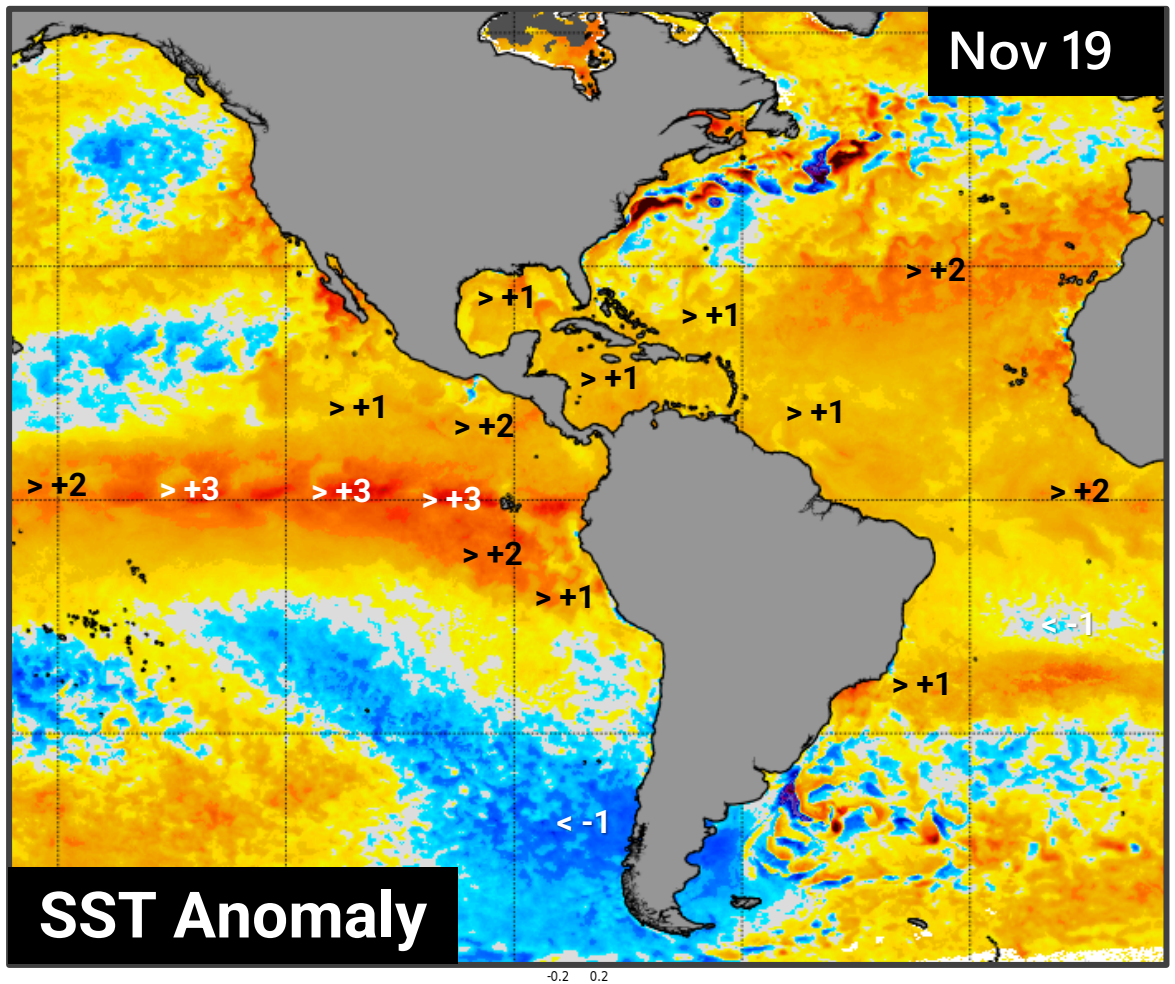
Current Status and Projections

Tuesday 21 November 2023

Sea Surface Temperature (SST)



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

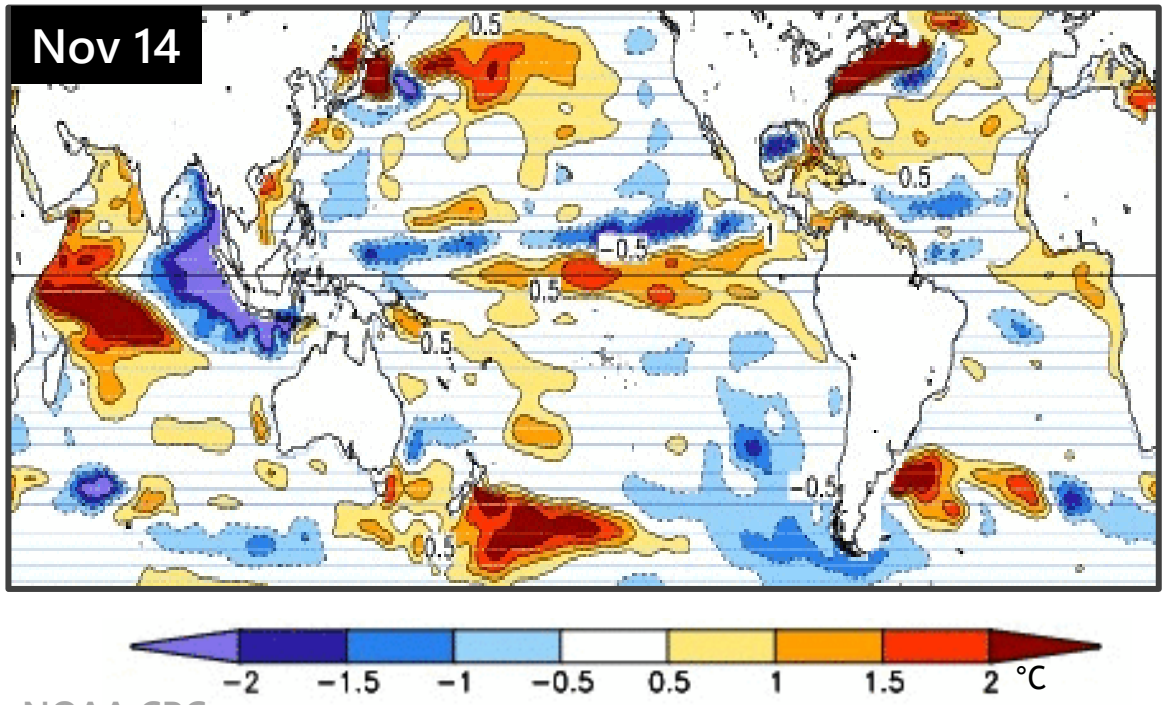


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Top Layer Temperature Anomaly

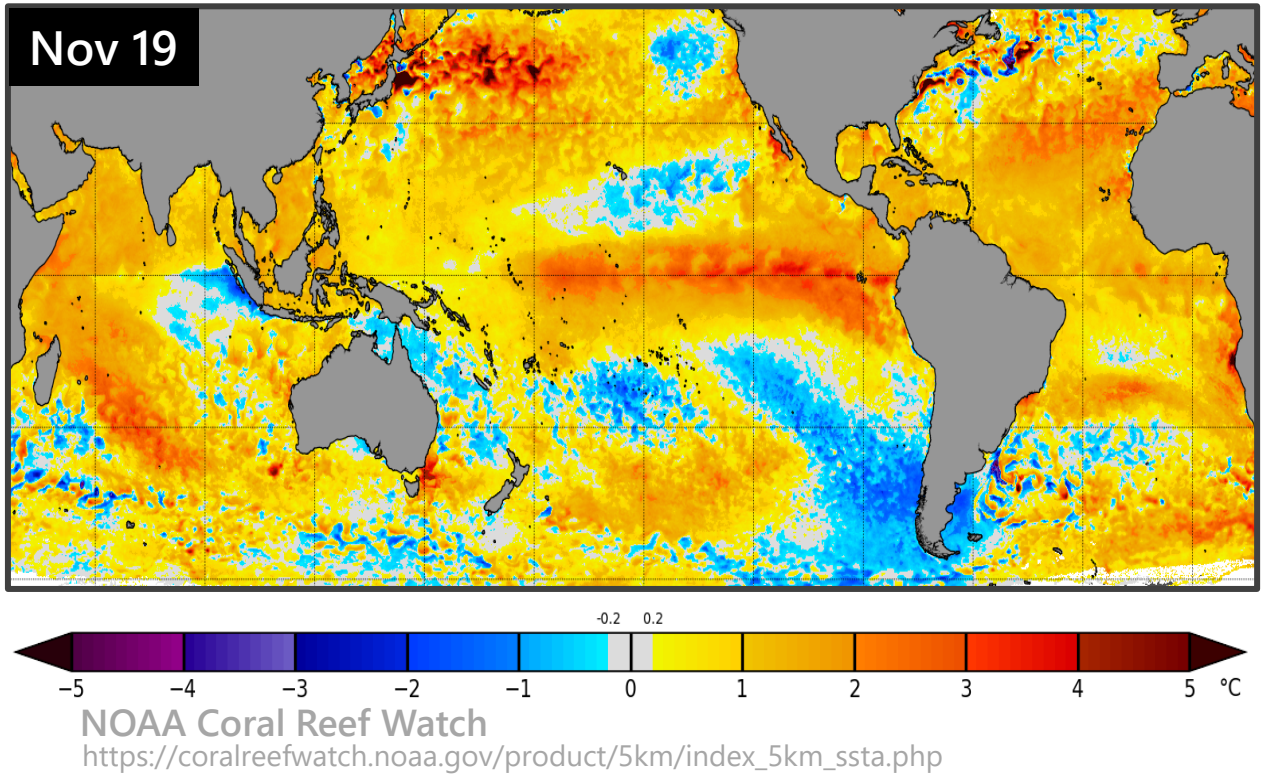
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top 300m-Layer Anomaly



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

Surface Anomaly



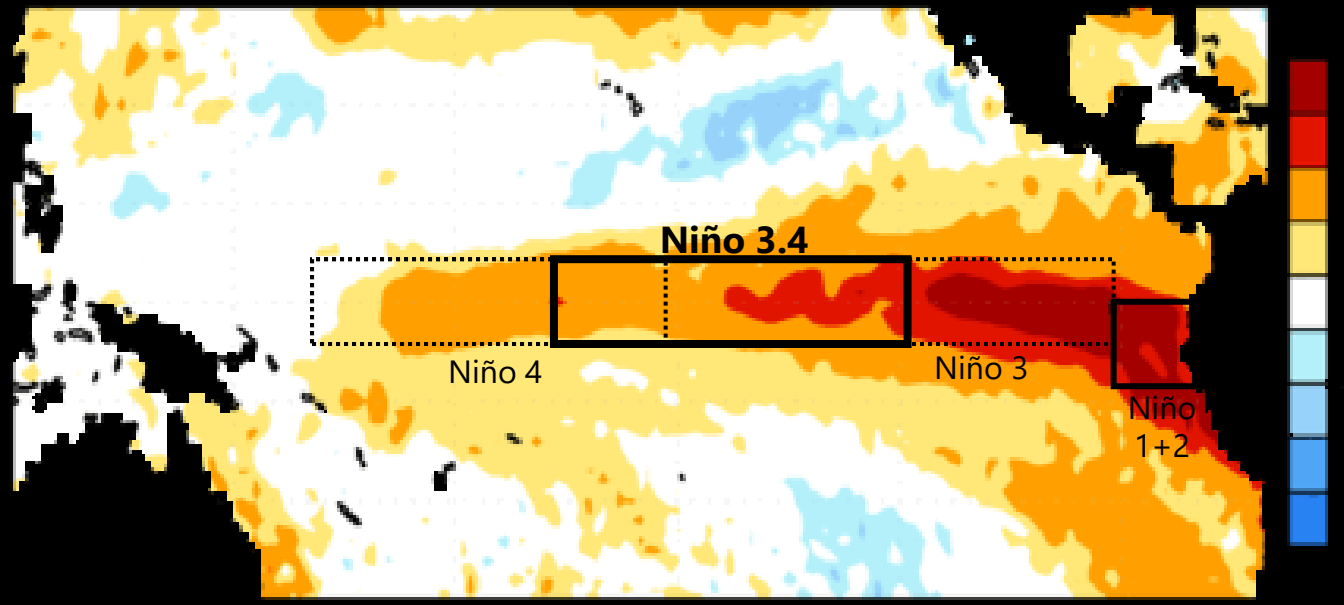
NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

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.

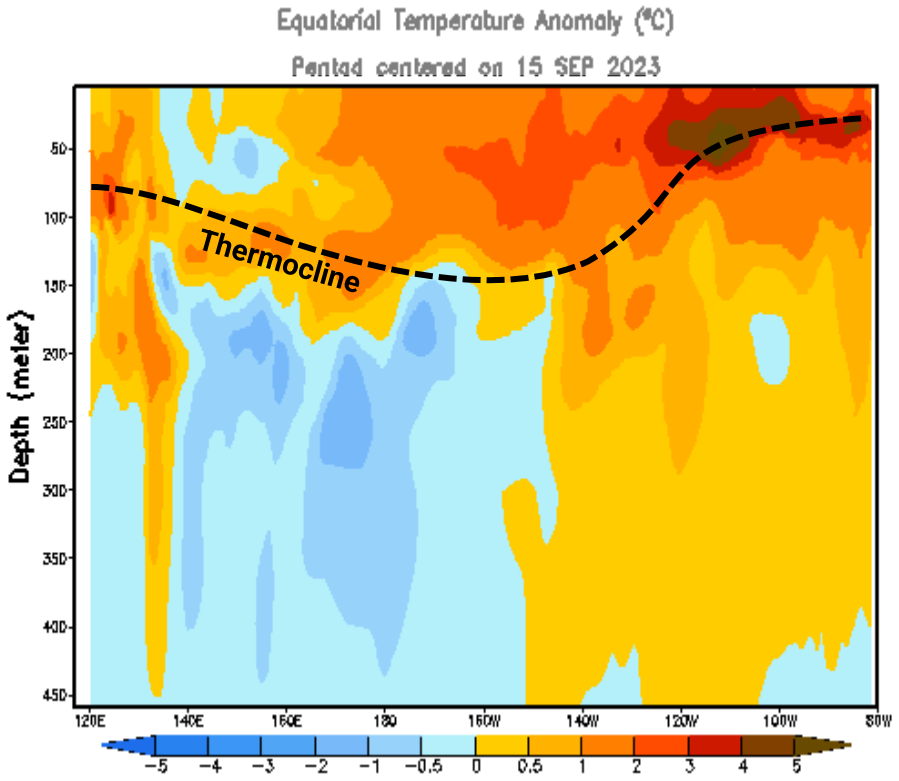


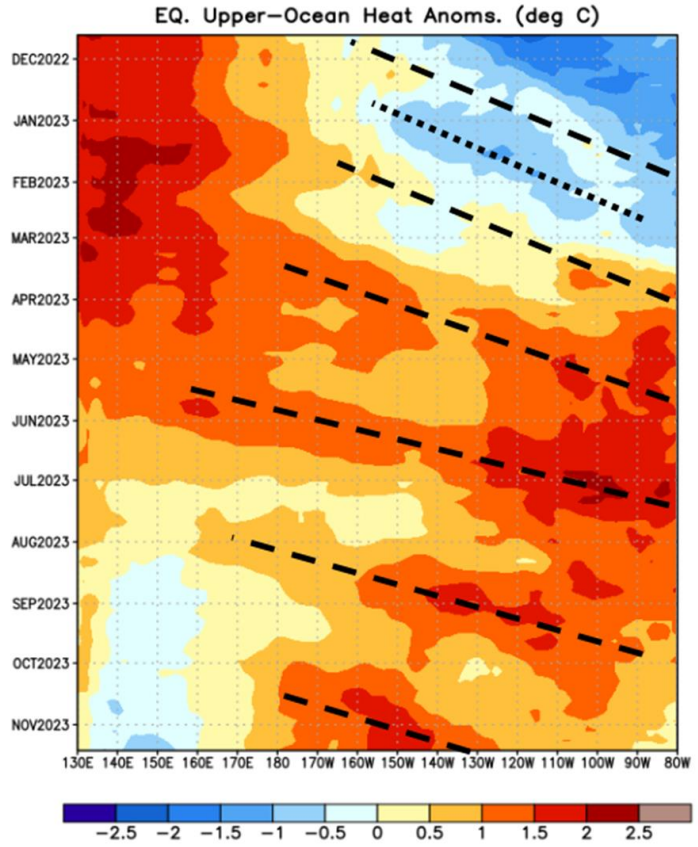
TAKEAWAYS

- Central Pacific continues warming up.
- Anomalies decreased along South American coast from enhanced south easterly winds.

ENSO: Oceanic Kelvin Waves

Temperature Anomalies with Depth and Heat Content Anomalies





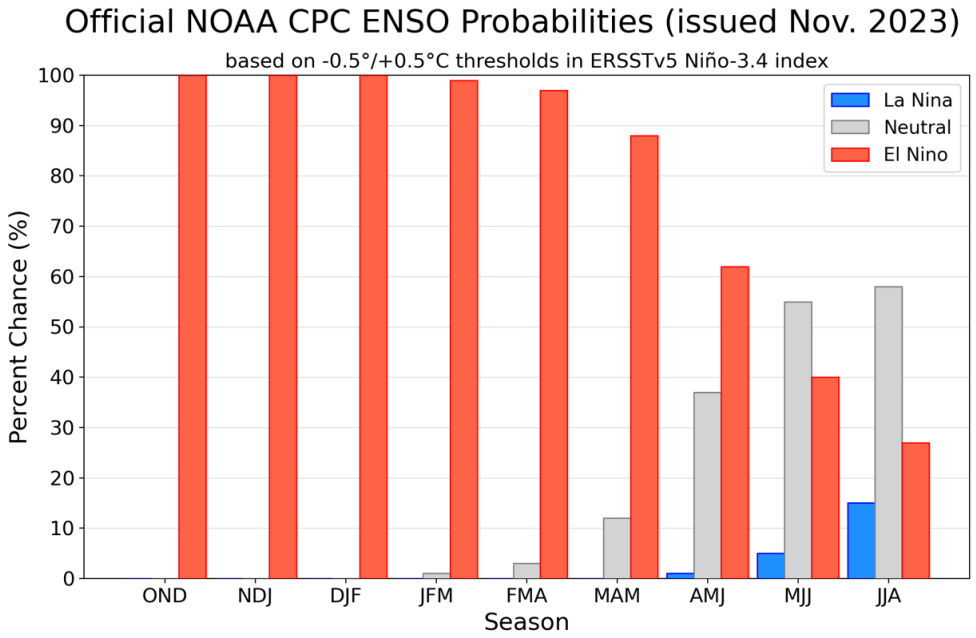
TAKEAWAYS

- A downwelling (warm) Kelvin wave formed in early October.
- It is propagating near 120W.
- Slow propagation. Questions: Is late December a reasonable time for arrival in South America? Will it warm up the coast significantly?

ENSO Outlook

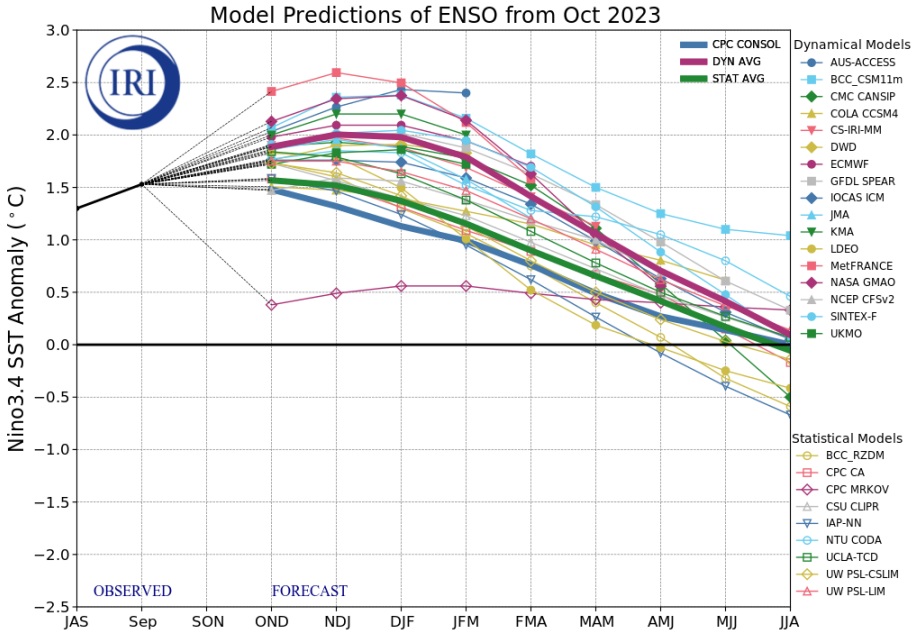
El Niño is anticipated to continue through the Northern Hemisphere spring (with a 62% chance during April-June 2024).*

Probabilistic Forecast



Source: CPC

IRI/CPC Dynamic Models



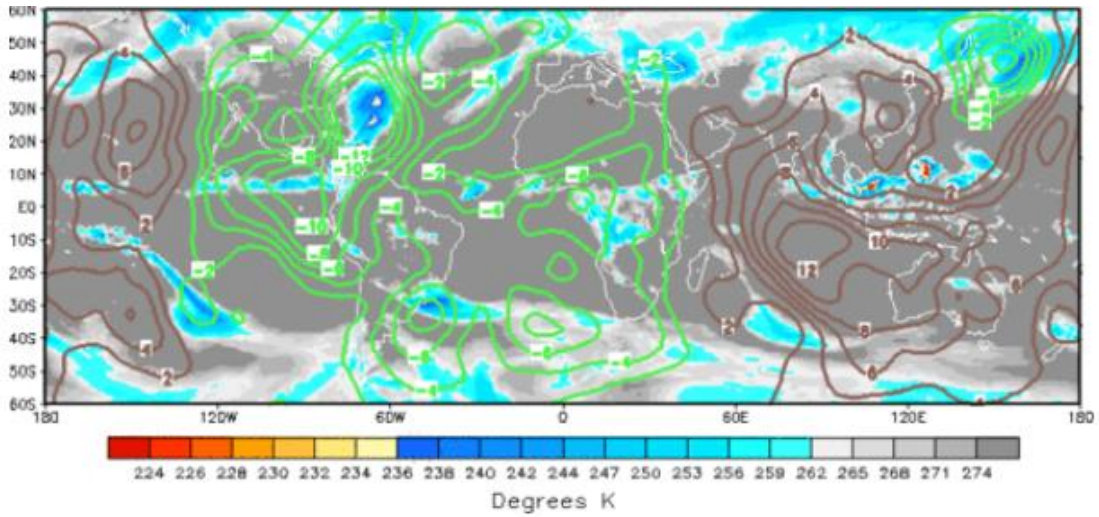
Source: IRI, updated 19 October 2023

Madden-Julian Oscillation (MJO)

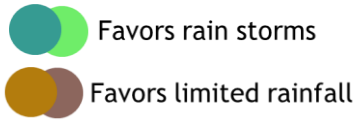
Current Observations:

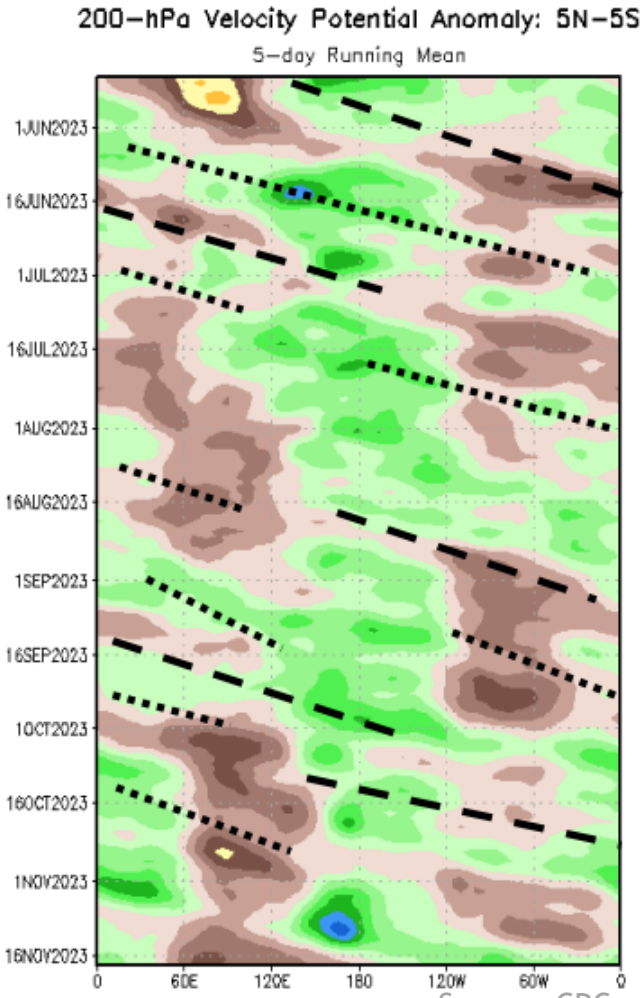
- Wet MJO Pulse exiting the Americas.
- It favored heavy rainfall events in the Greater Antilles, Central America and southeast Brazil.
- Dry MJO pulse entering the region through late November.

Velocity Potential and Brightness Temperature (shaded)



Nov 19

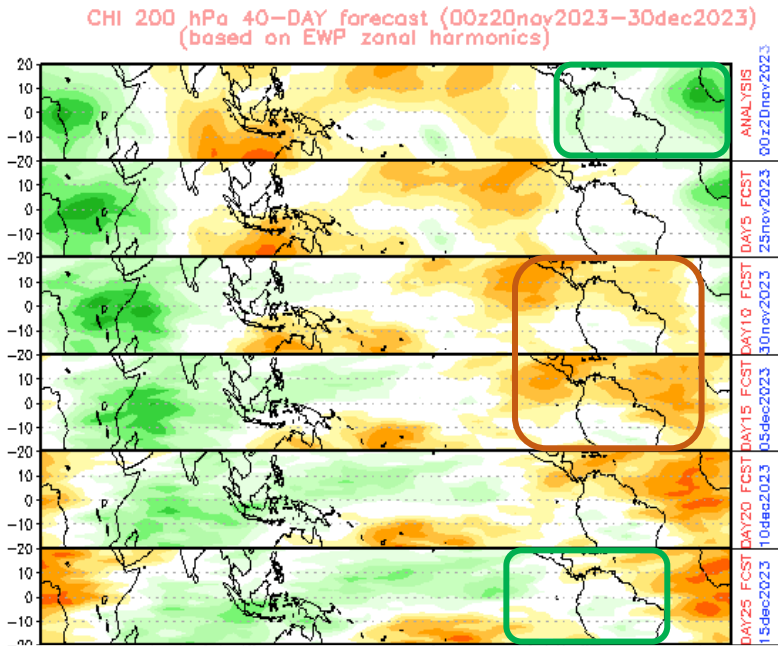




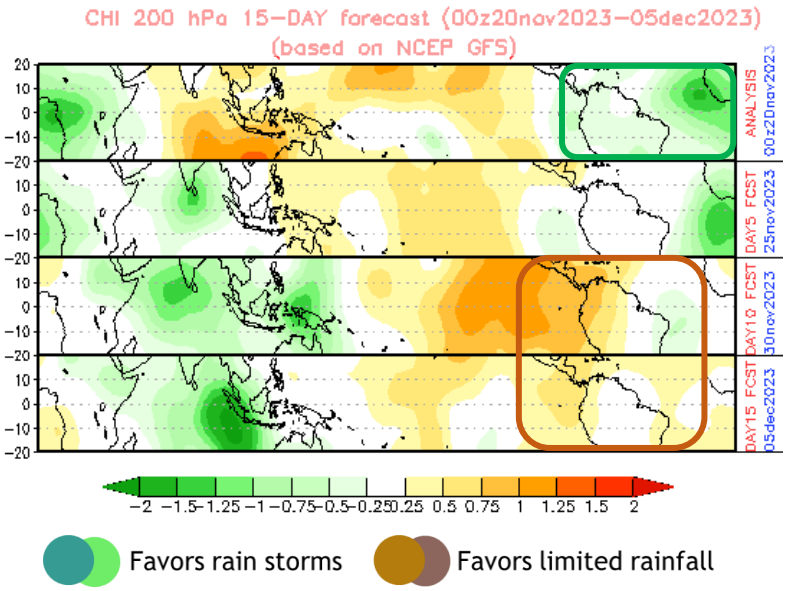
Source: CPC

MJO Forecasts

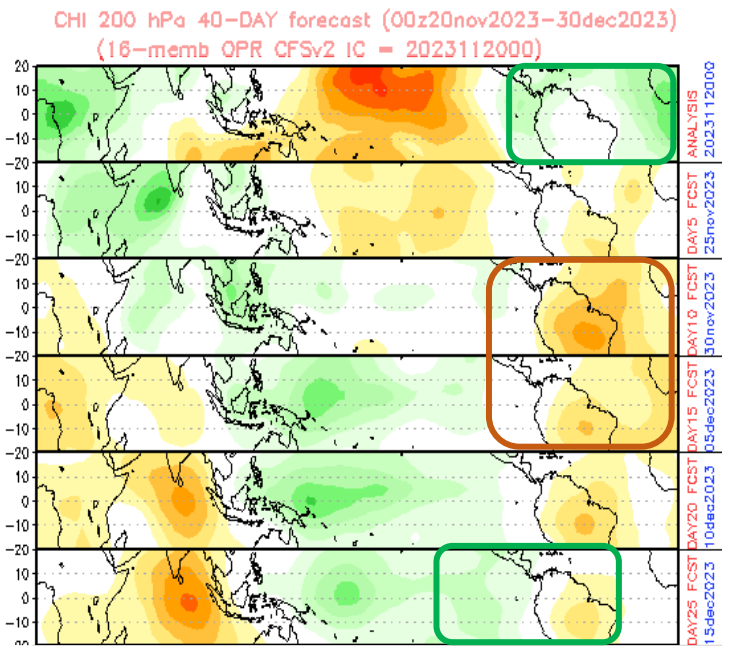
Empirical Wave Propagation (EWP)



Global Forecast System (GFS)



Climate forecast System (CFS)



Source: CPC

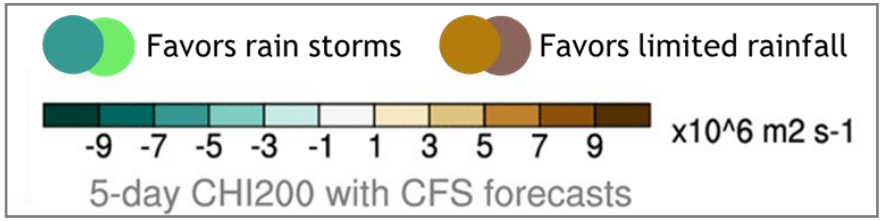
TAKEAWAYS

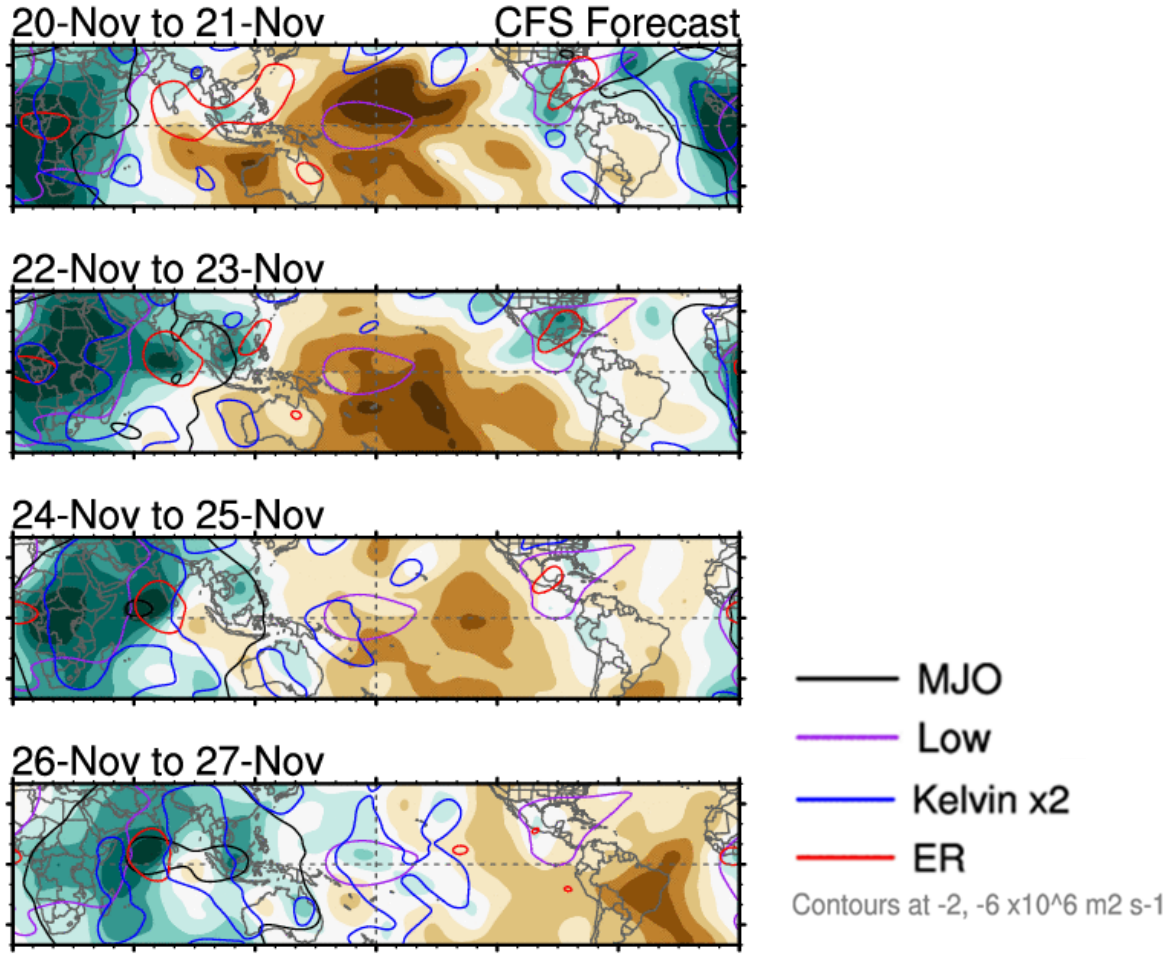
- Models in some agreement.
- Currently exiting Wet MJO. Pontentially prominent dry phase late November through Dec. 10.
- Potentially wet MJO the second half of December.

MJO and Upper Tropospheric Waves

Outlook for the next few days:

- Weak Kelvin crossing the basin, embedded in a lo-frequency large scale divergent anomaly over the Caribbean, Mexico and Central America.
- No wave trails closely: Should become increasingly dry through Nov 27.

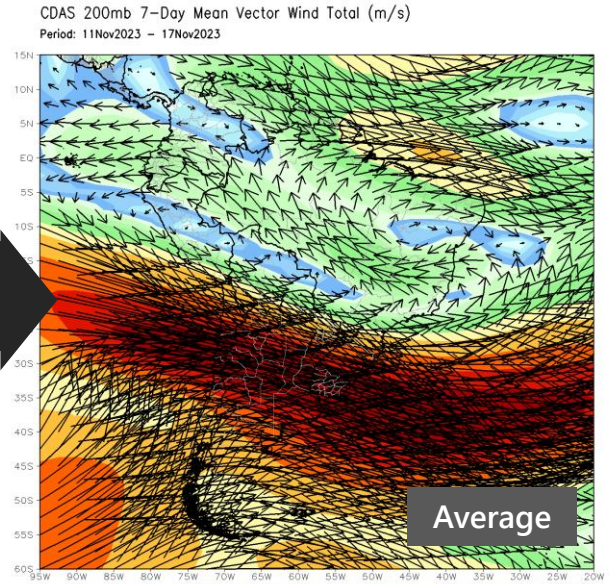


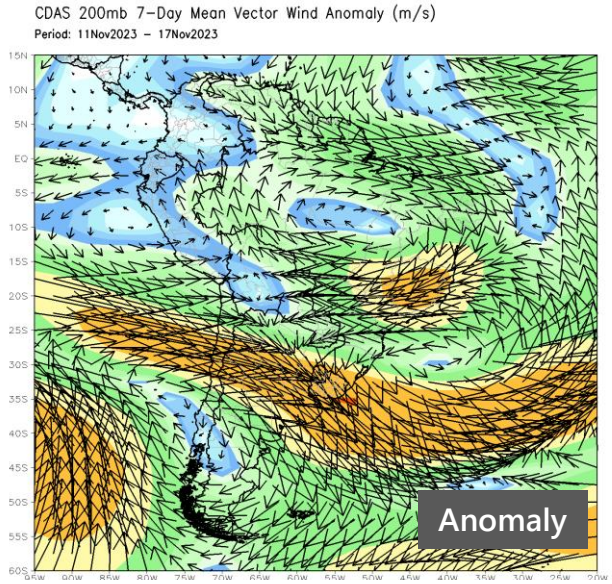


Source: NCICS

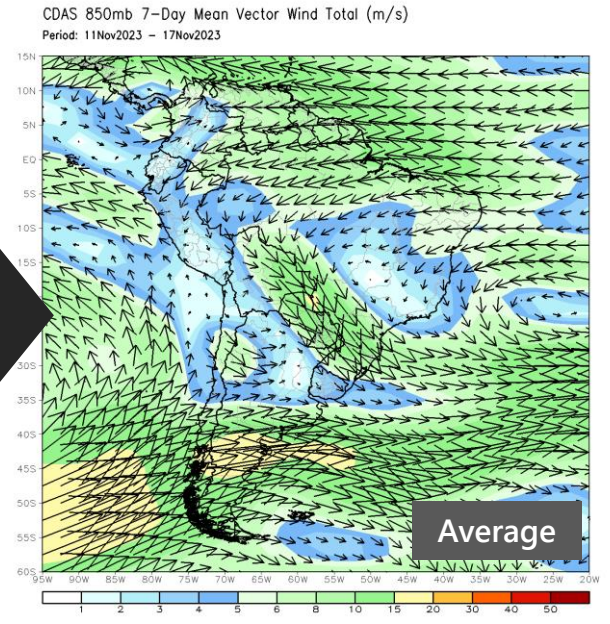
South America, Last 7 Days

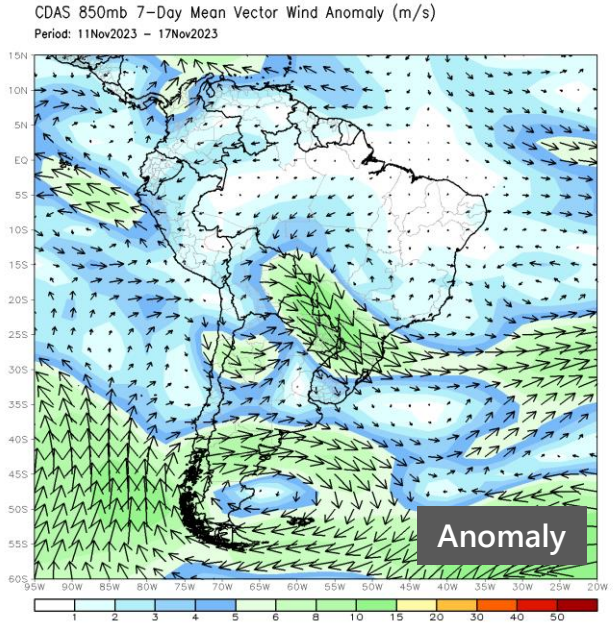
200 hPa Flow



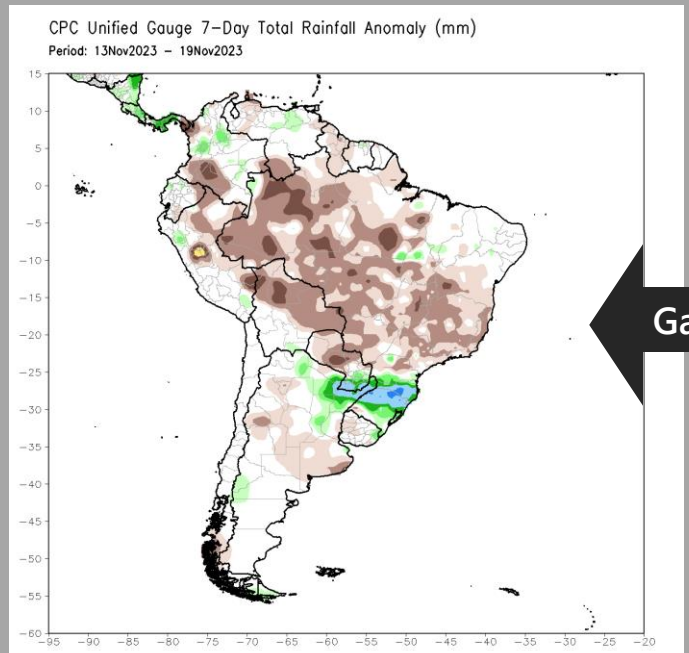


850 hPa Flow

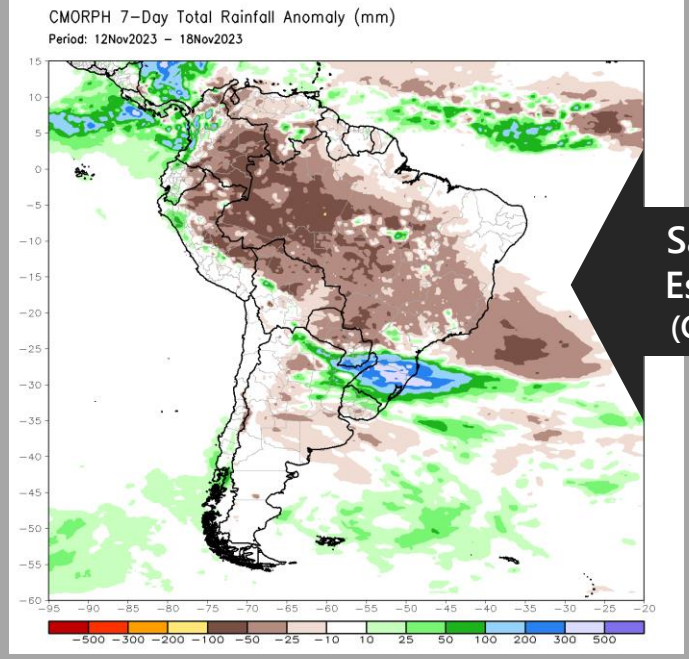




Rainfall Anomalies



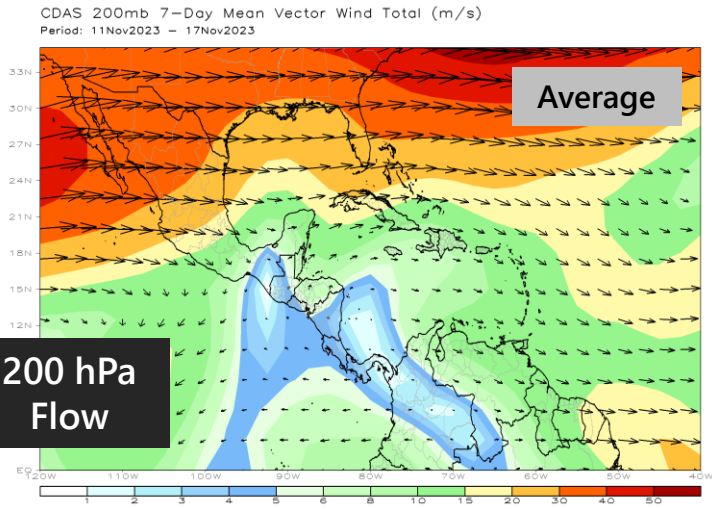
Gauges

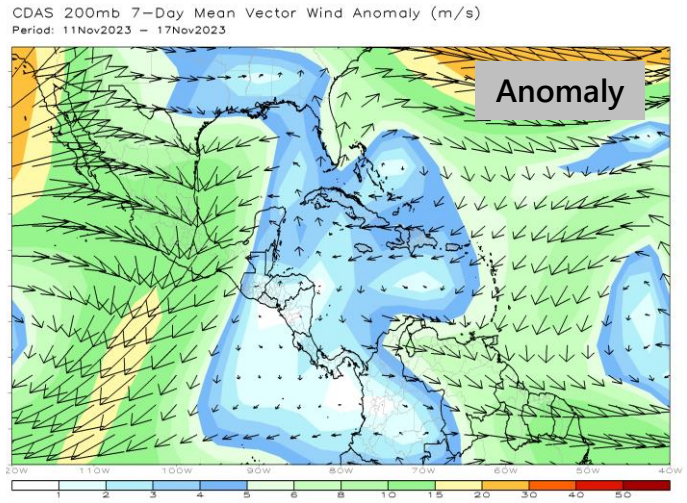


Satellite – Estimated (CMORPH)

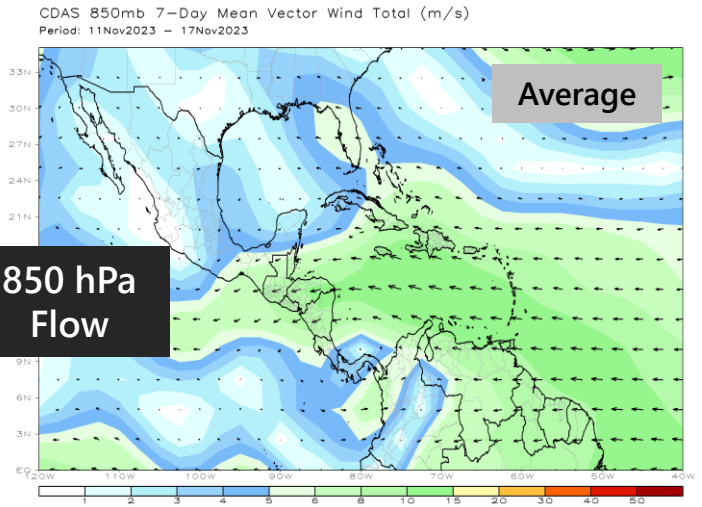
Caribbean and Central America, Last 7 Days

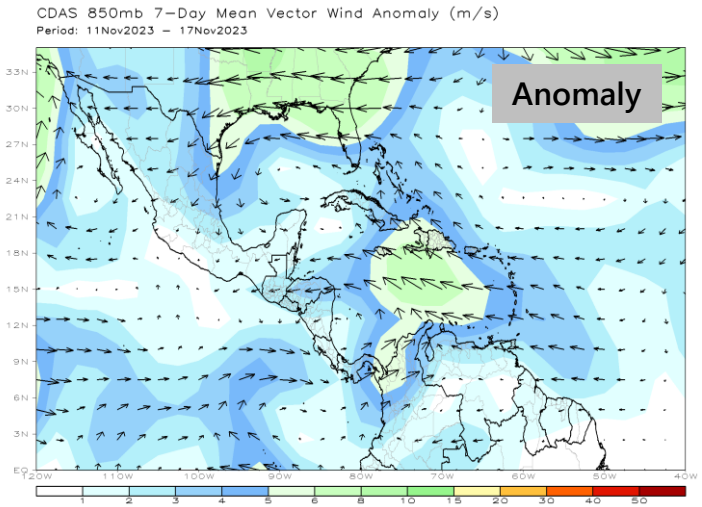
200 hPa Flow





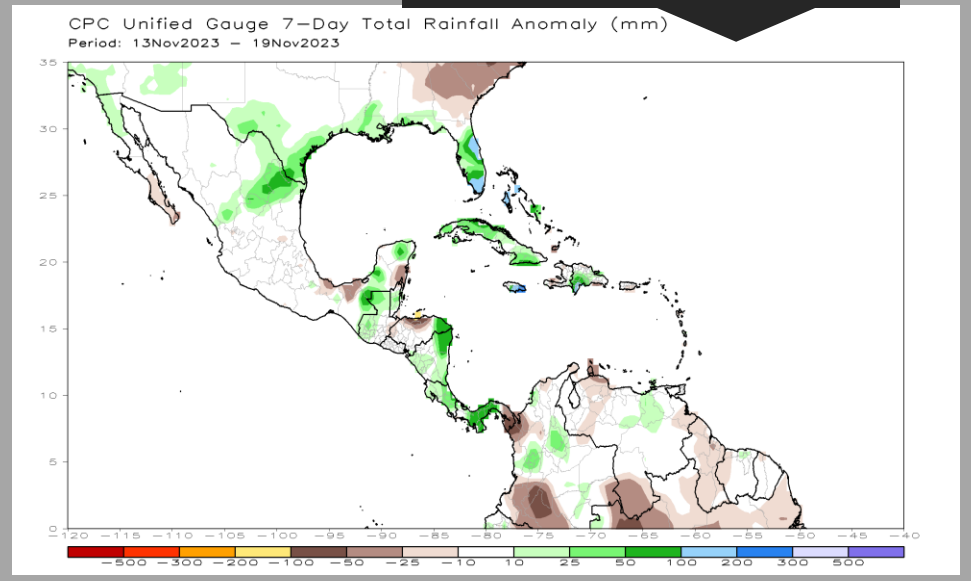
850 hPa Flow





Rainfall Anomalies

Gauges (CPC)



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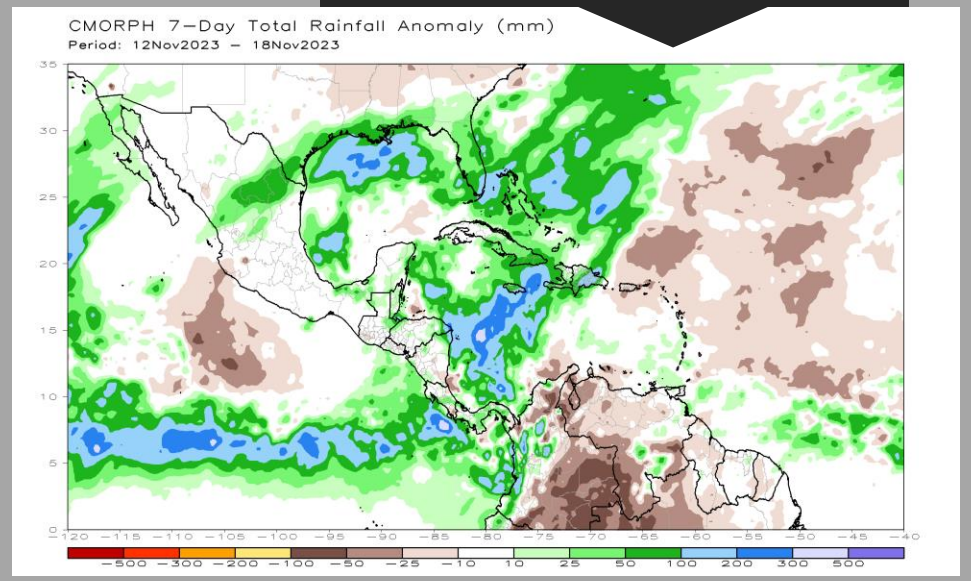

¡Gracias! Thank you! ¡Obrigado!

Next Session: Tuesday December 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