WMO VLab Regional Focus Group
of the Americas and Caribbean

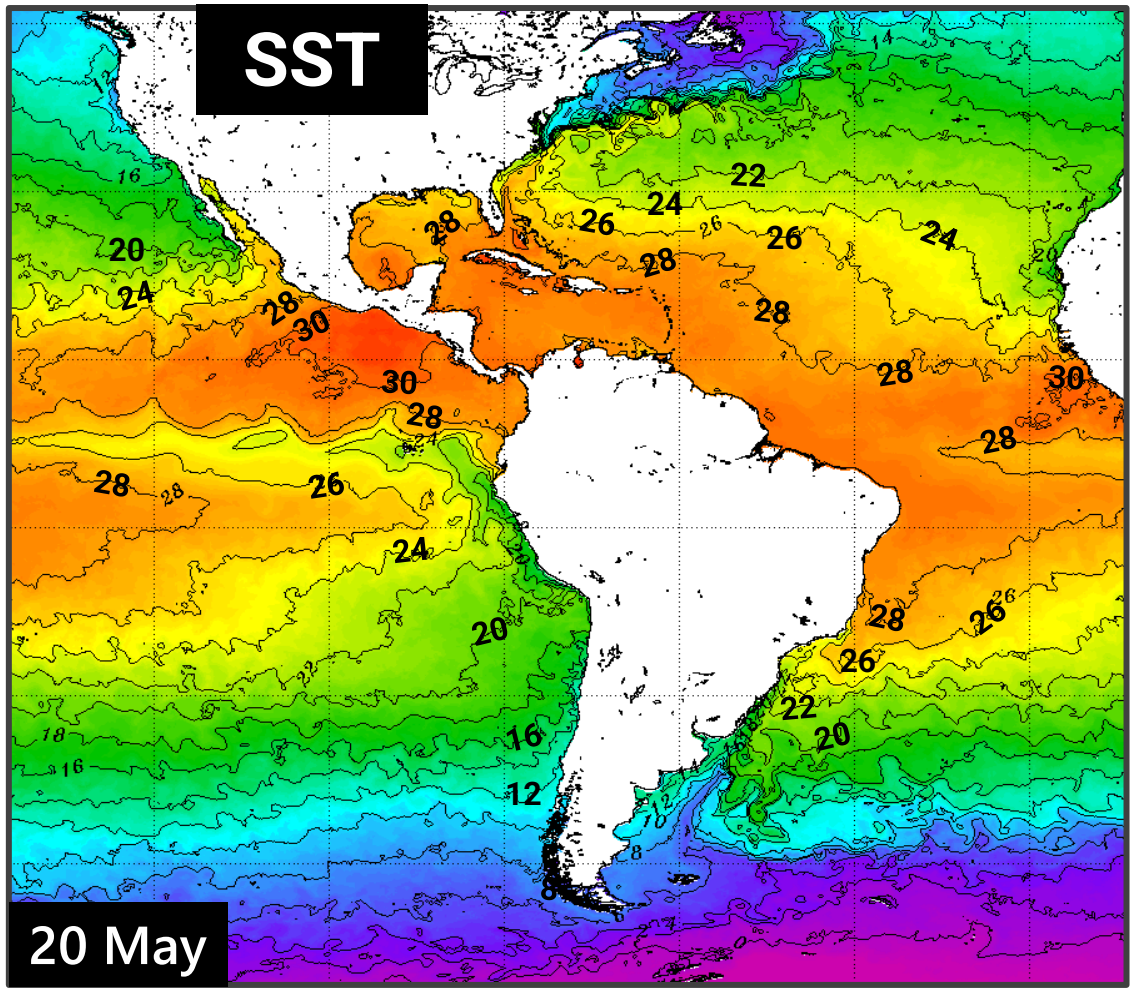
Since 2004

Climate Indices

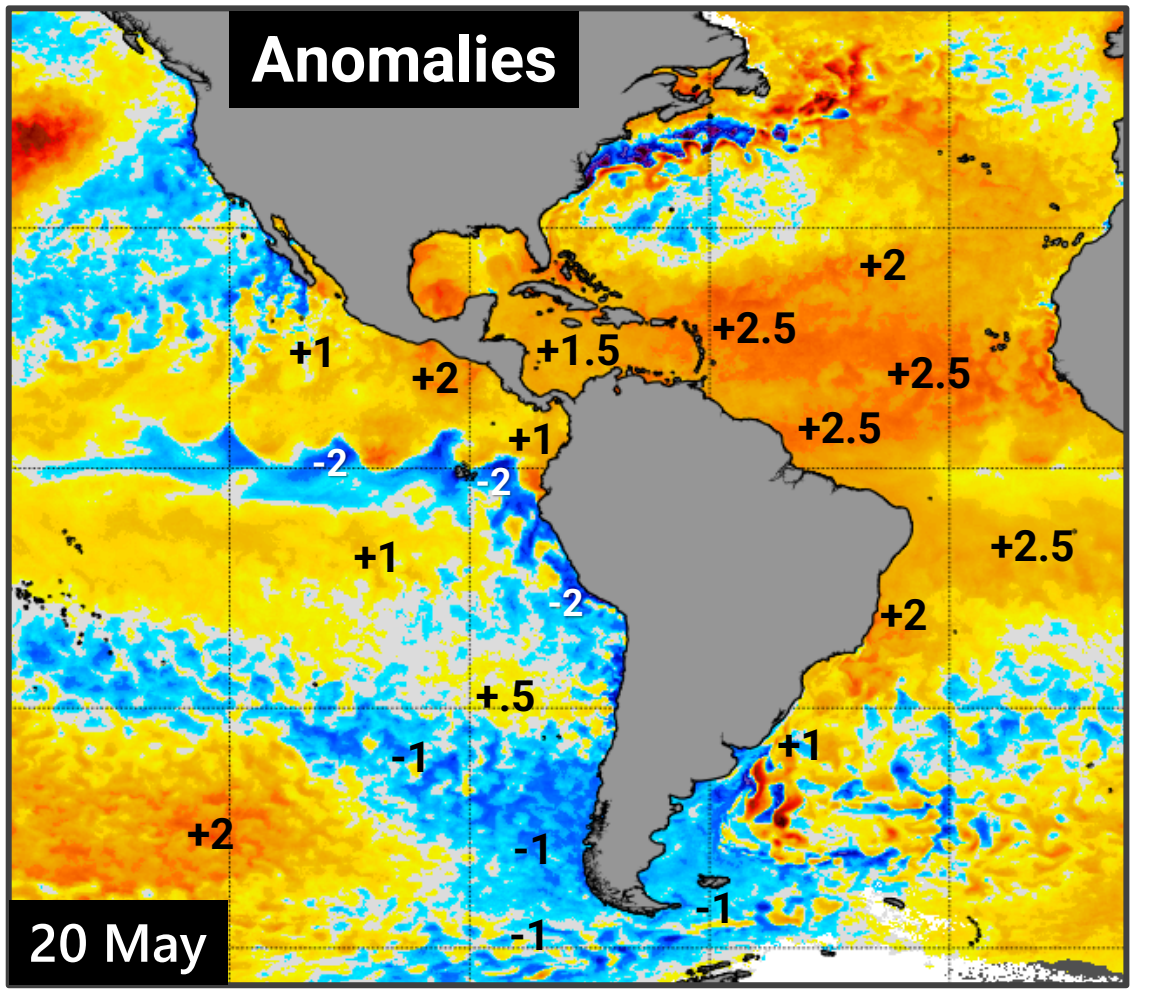
Current Status and Projections

Wednesday 22 May 2024

Sea Surface Temperature (SST)



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

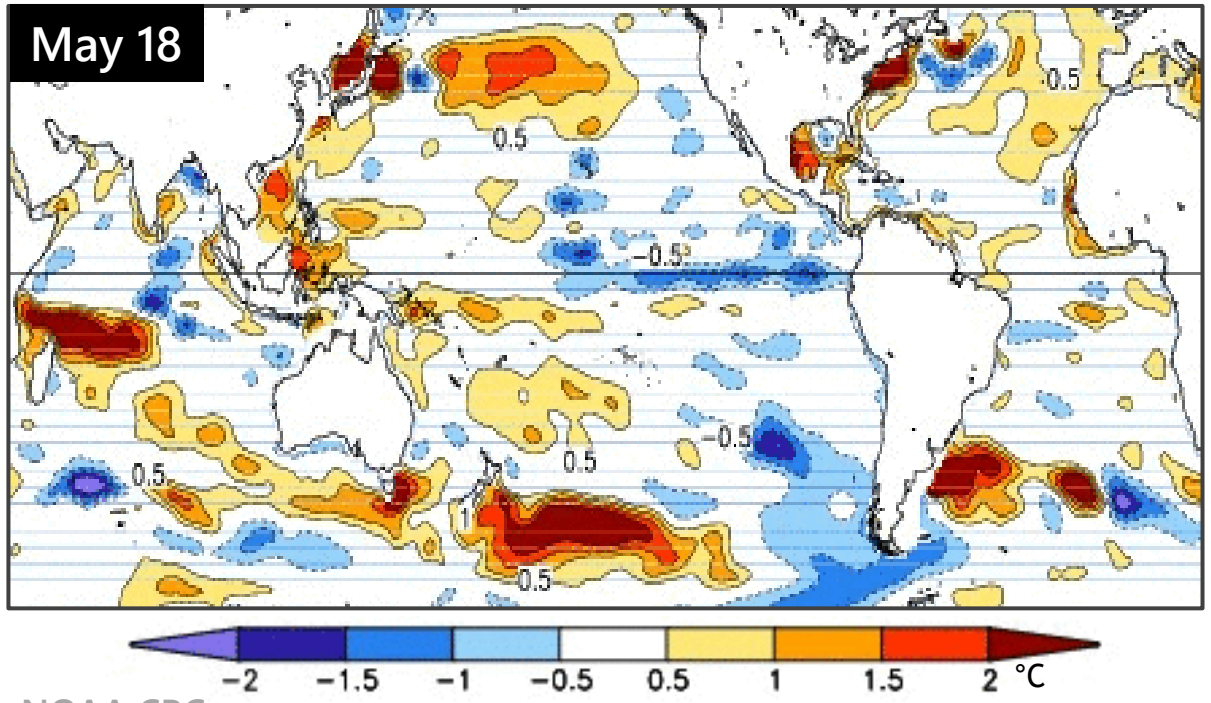


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Top Layer Temperature Anomaly

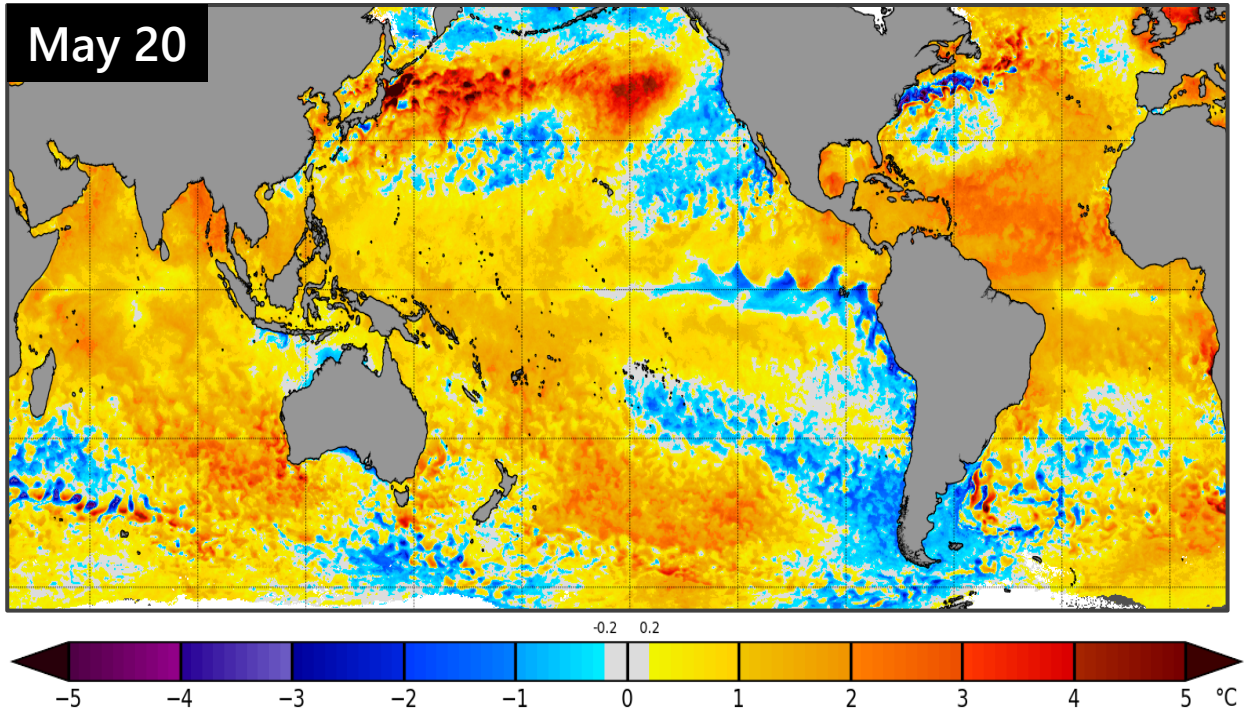
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top 300m-Layer Anomaly



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

Surface Anomaly



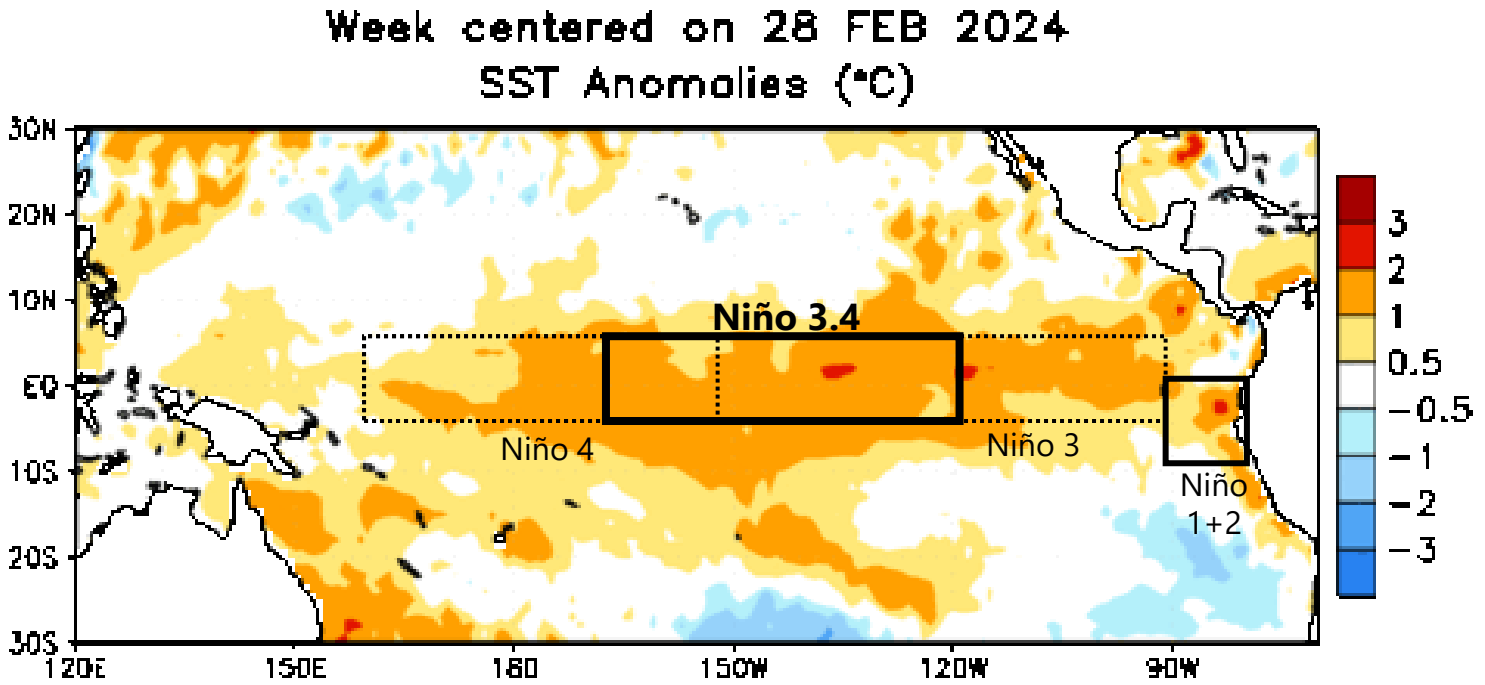
NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

El Niño-Southern Oscillation (ENSO)

CPC Official Statement

El Niño Advisory / La Niña Watch

- El Niño is transitioning toward ENSO-neutral.*
- Equatorial sea surface temperatures (SSTs) are above average in the western and central Pacific Ocean, and below-average SSTs are emerging in the east-central and eastern Pacific Ocean.

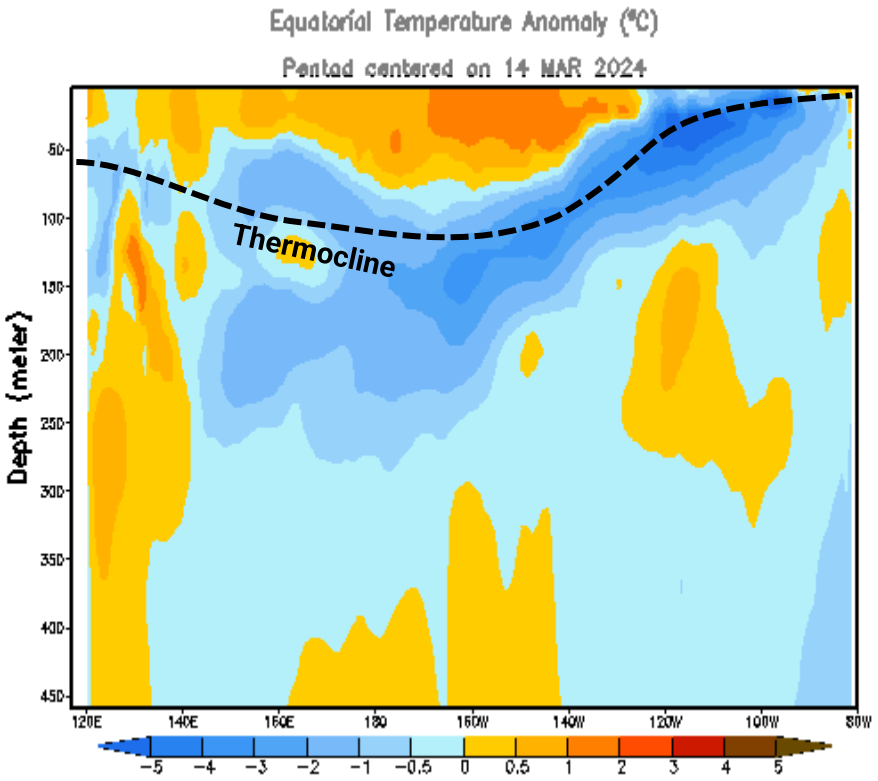


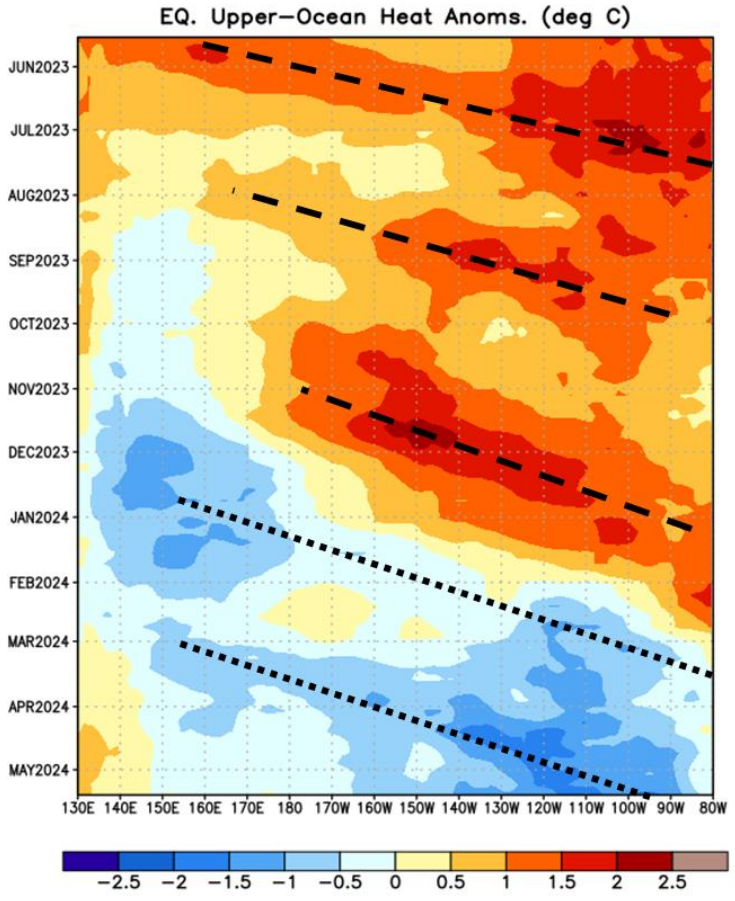
TAKEAWAYS

- Cold tongue rapidly forming.
- South American coast is cooling.

ENSO: Oceanic Kelvin Waves

Temperature Anomalies with Depth and Heat Content Anomalies





TAKEAWAYS

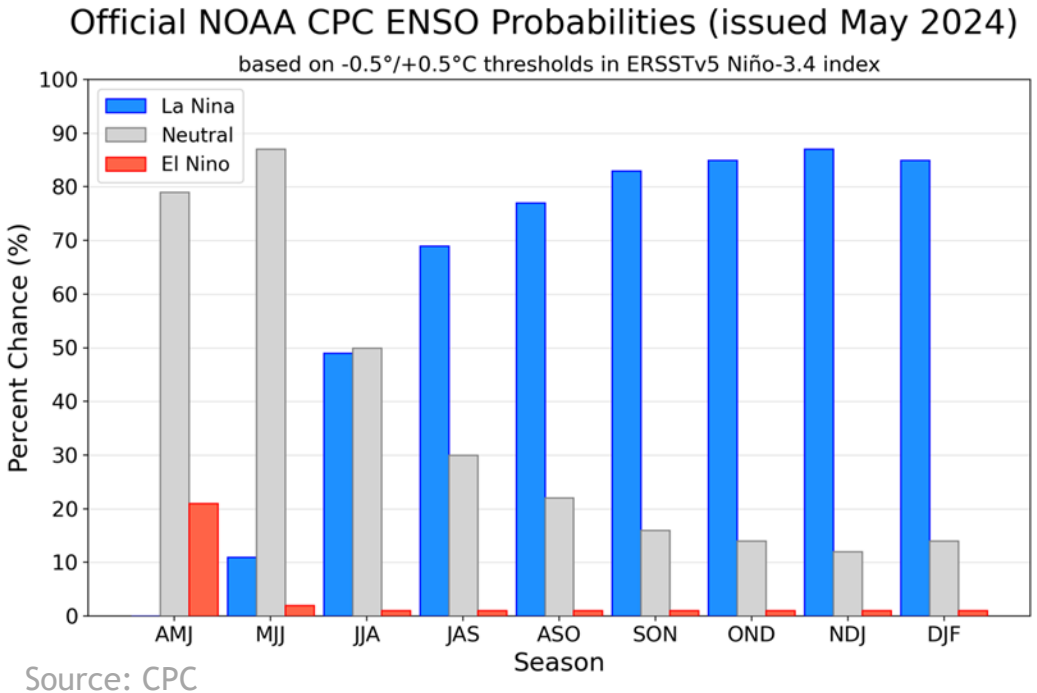
- A strong cool (upwelling) Kelvin wave is propagating into the South American coast. It should stimulate the current cooling of the coast through mid-June.

Source: CPC

ENSO Outlook

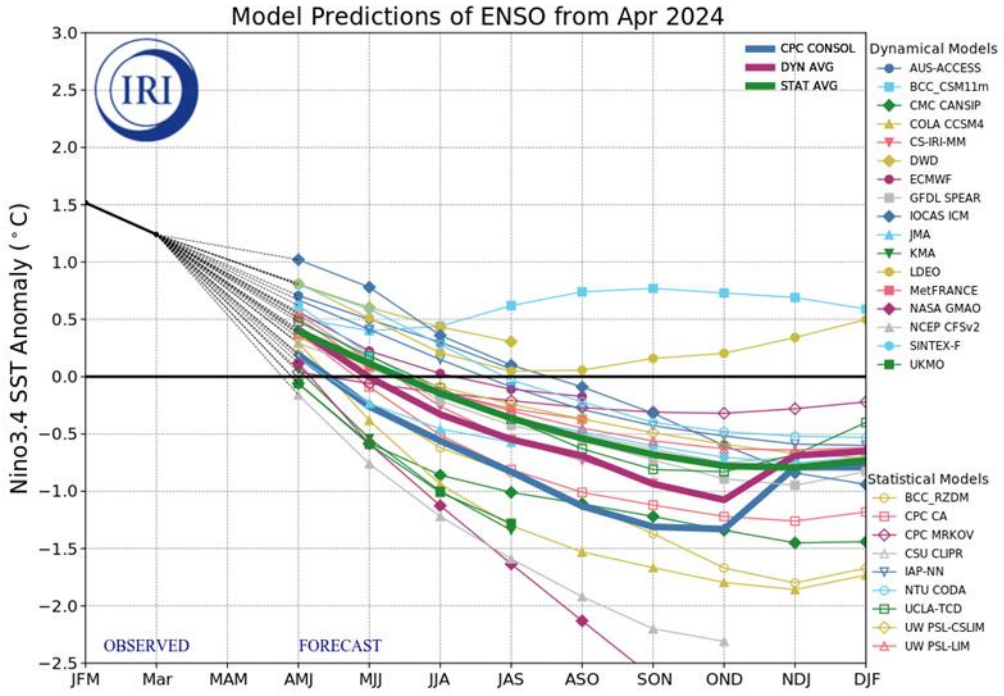
A transition from El Niño to ENSO-neutral is likely in in the next month. La Niña may develop in June-August 2024 (49% chance) or July-September (69% chance).*

Probabilistic Forecast



Source: CPC

IRI/CPC Dynamic Models



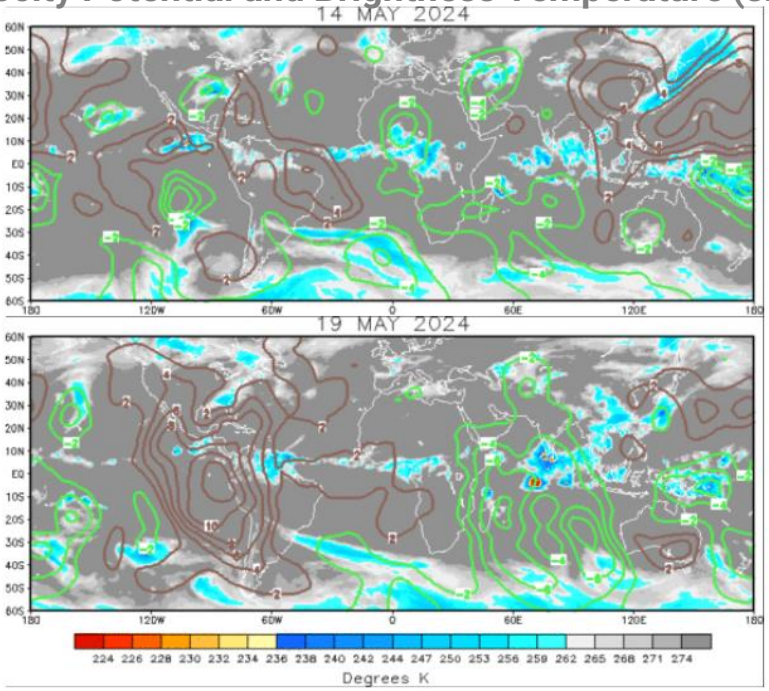
Source: IRI, updated 19 Mar 2024

Madden-Julian Oscillation (MJO)

Current Observations:

- The MJO has become better organized in the last couple of weeks, and is exhibiting a wave-1 pattern. Wave 1 = One divergent region and one convergent region across the globe.
- The upper convergent phase is crossing the Americas.

Velocity Potential and Brightness Temperature (shaded)



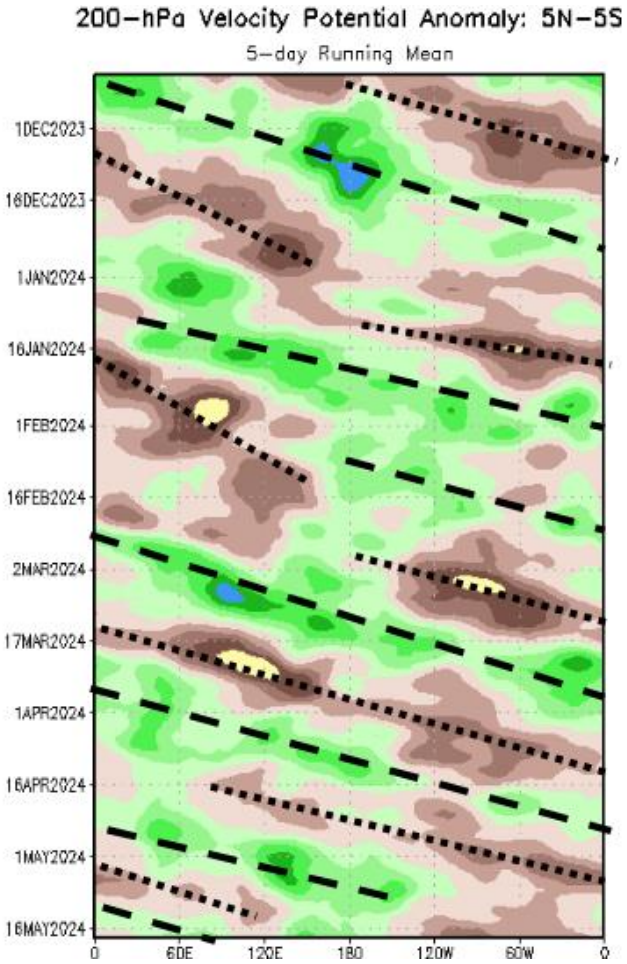
May 14

May 19

Source: CPC

Favors rain storms

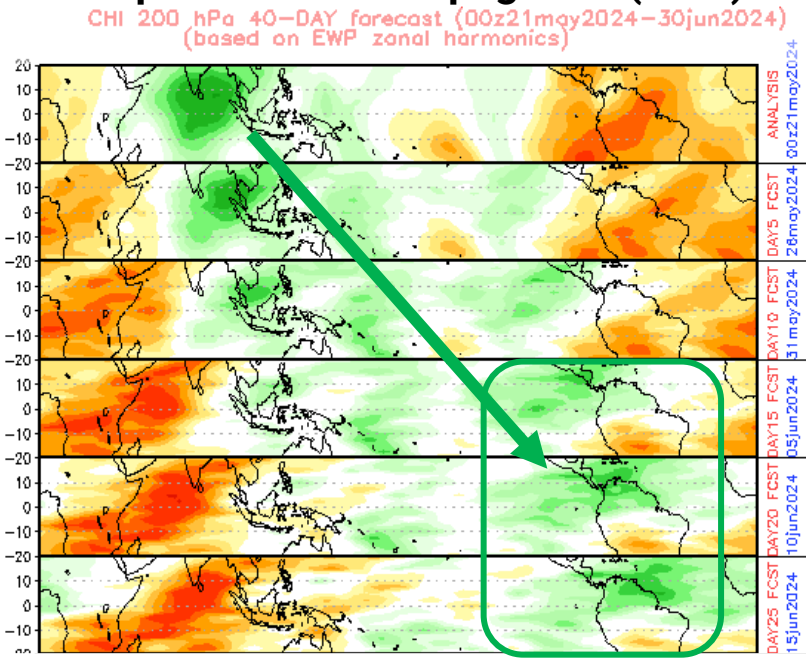
Favors limited rainfall



Source: CPC

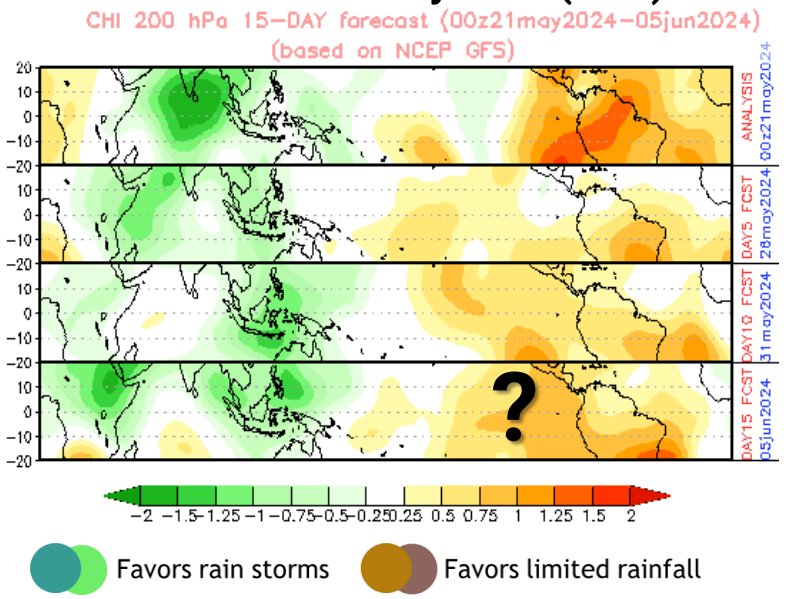
MJO Forecasts

Empirical Wave Propagation (EWP)

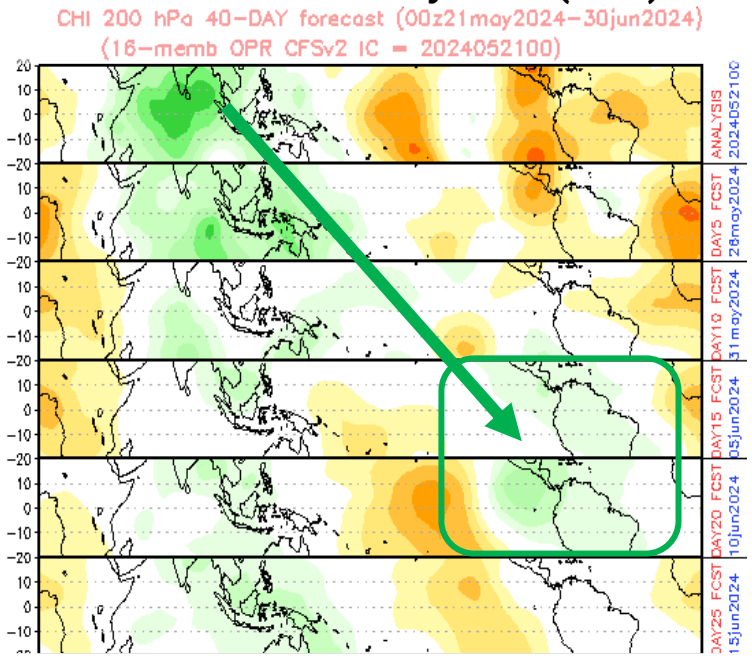


Source: CPC

Global Forecast System (GFS)



Climate forecast System (CFS)



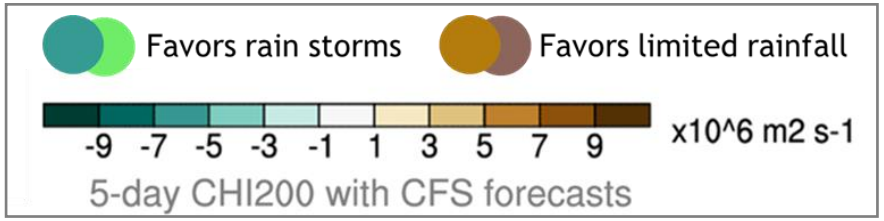
TAKEAWAYS

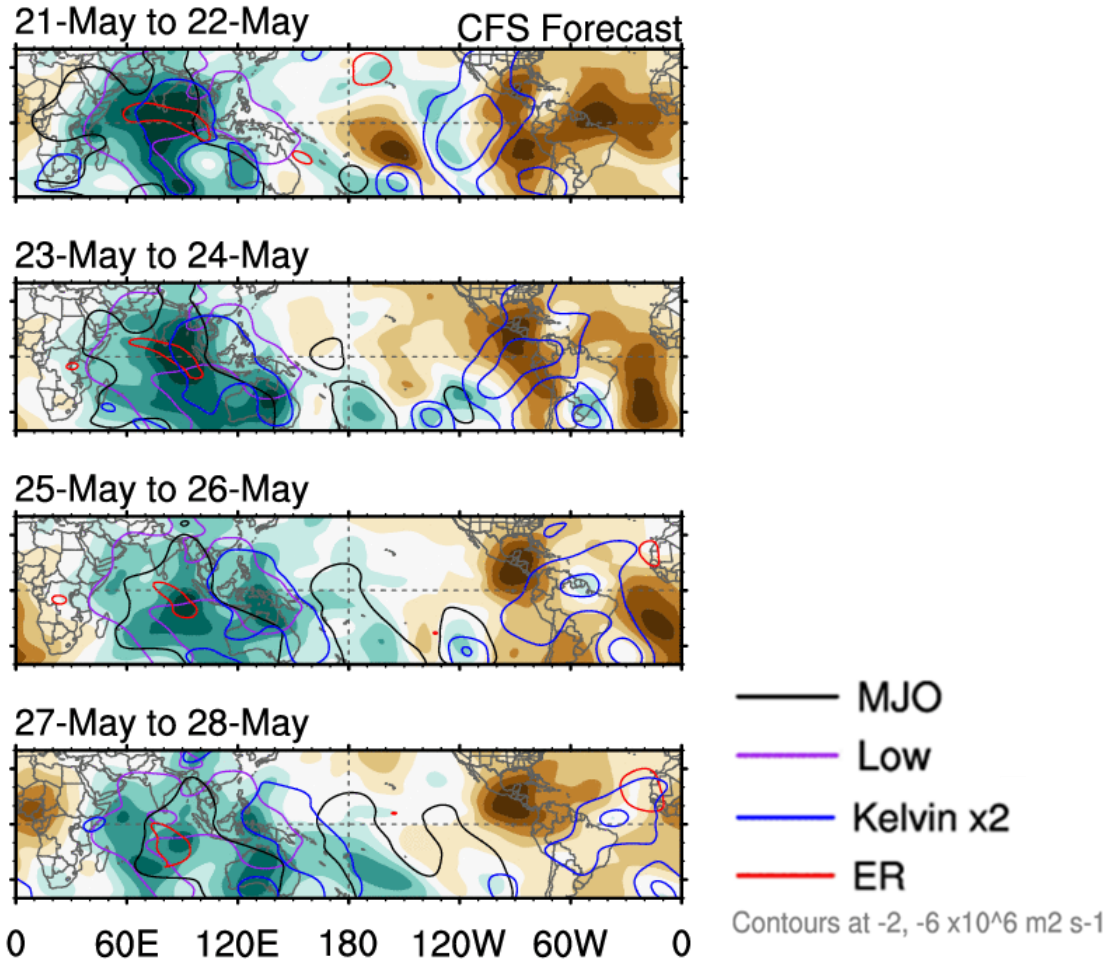
- EWP more reliable than in previous times. This time the GFS is the outlier.
- Next wet phase, potentially during the second and third weeks of June. **Important for the hurricane season!**

MJO and Upper Tropospheric Waves

Outlook for the next few days:

- Although a large-scale upper convergent pattern is present in the Americas, a Kelvin wave is forecast to cross the region through the weekend.
- This might marginally enhance the rainfall event occurring in the Greater Antilles through Saturday May 25th.

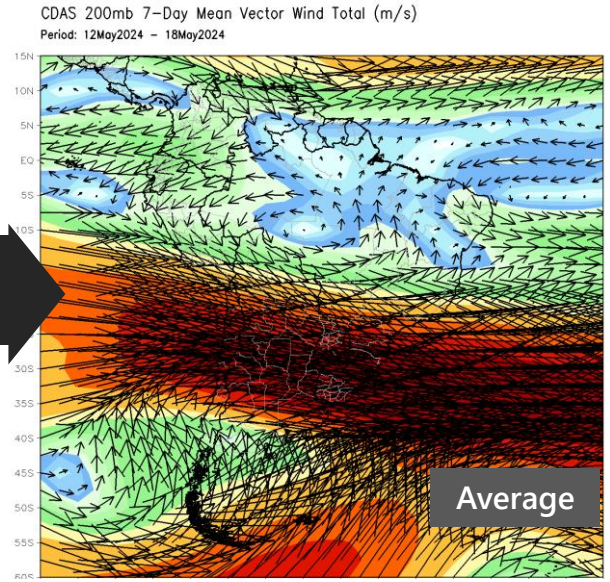


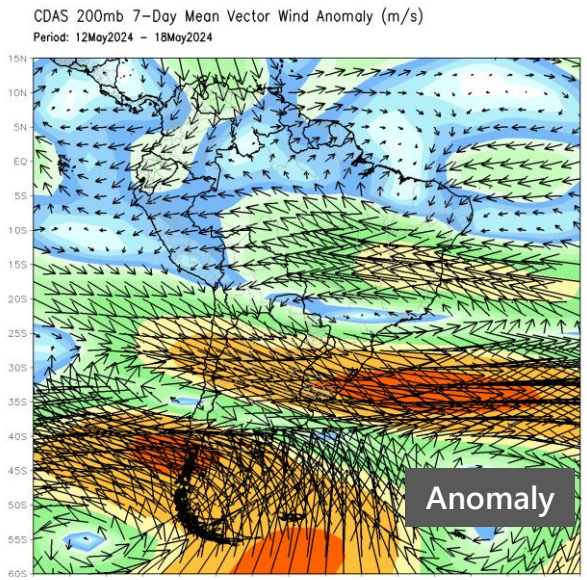


Source: NCICS

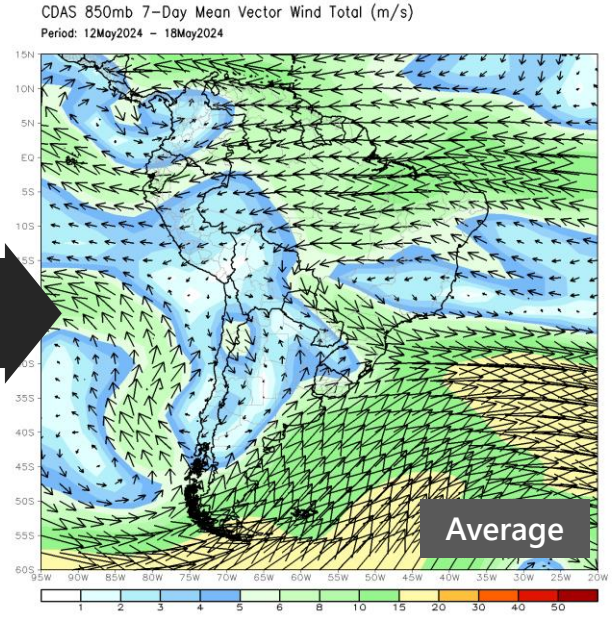
South America, Last 7 Days

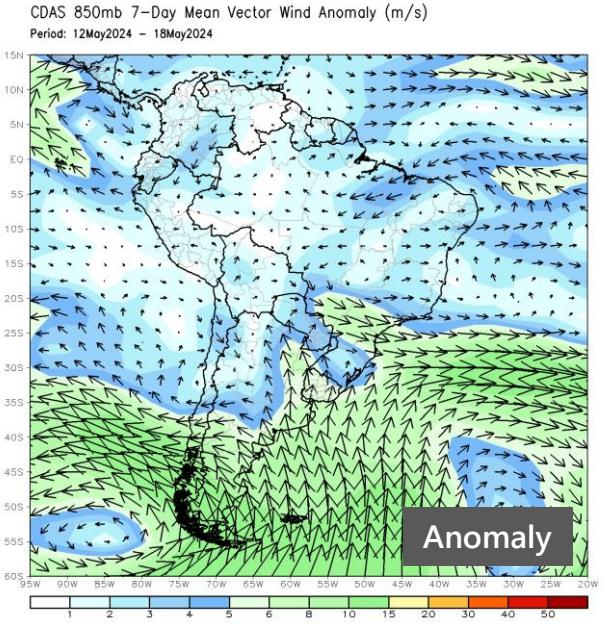
200 hPa Flow



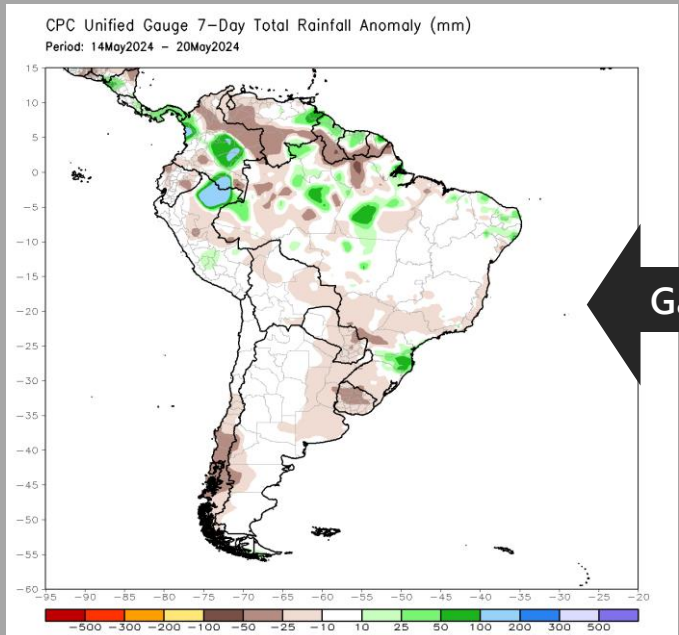


850 hPa Flow

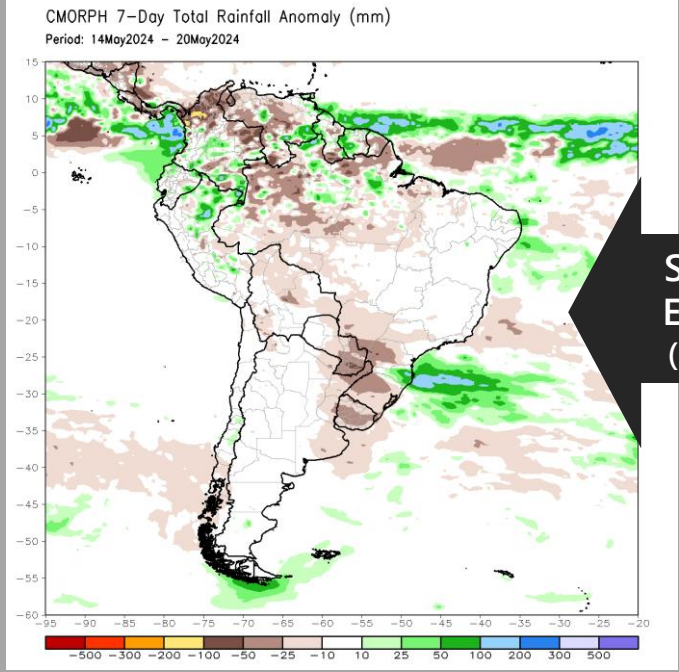




Rainfall Anomalies

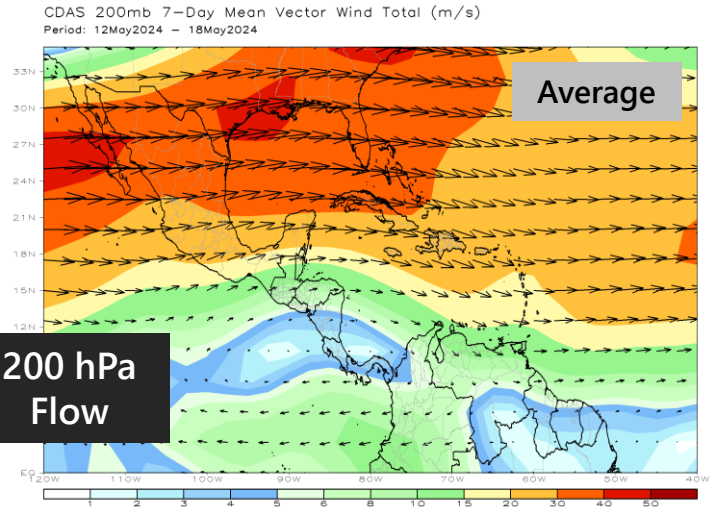


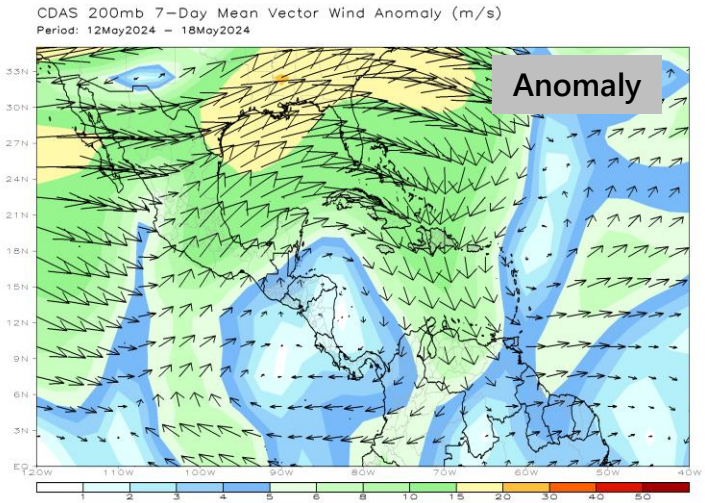
Gauges



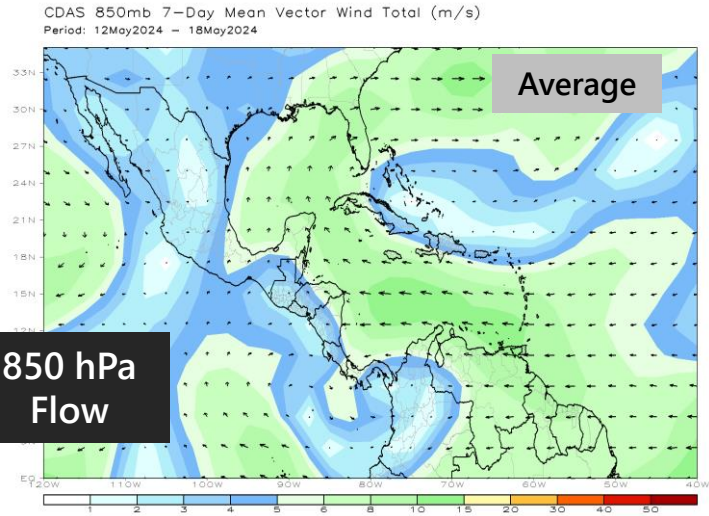
Satellite – Estimated (CMORPH)

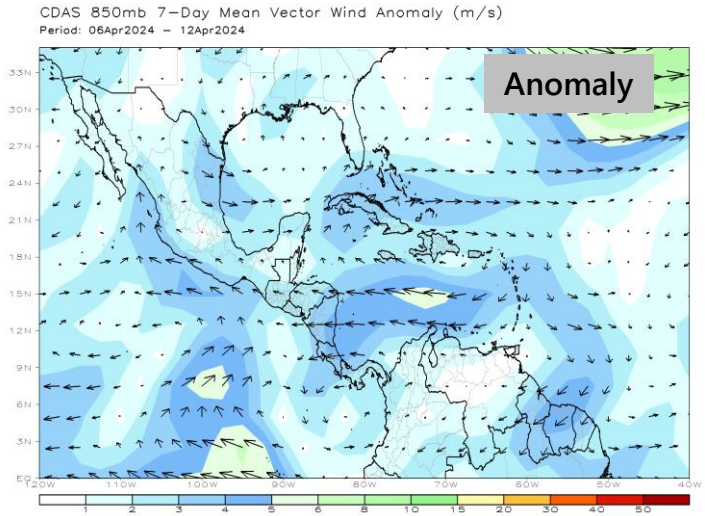
Caribbean and Central America, Last 7 Days





200 hPa Flow

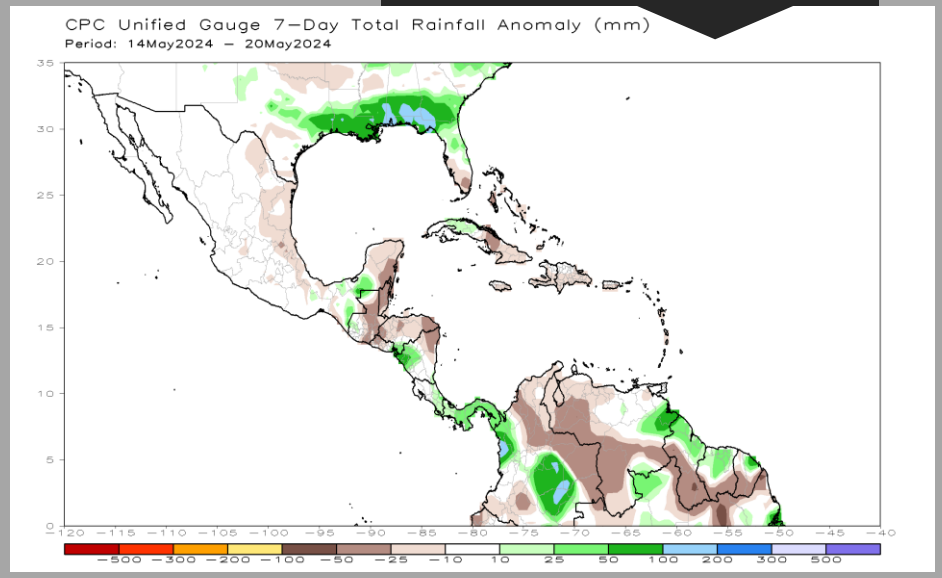




850 hPa Flow

Rainfall Anomalies

Gauges (CPC)



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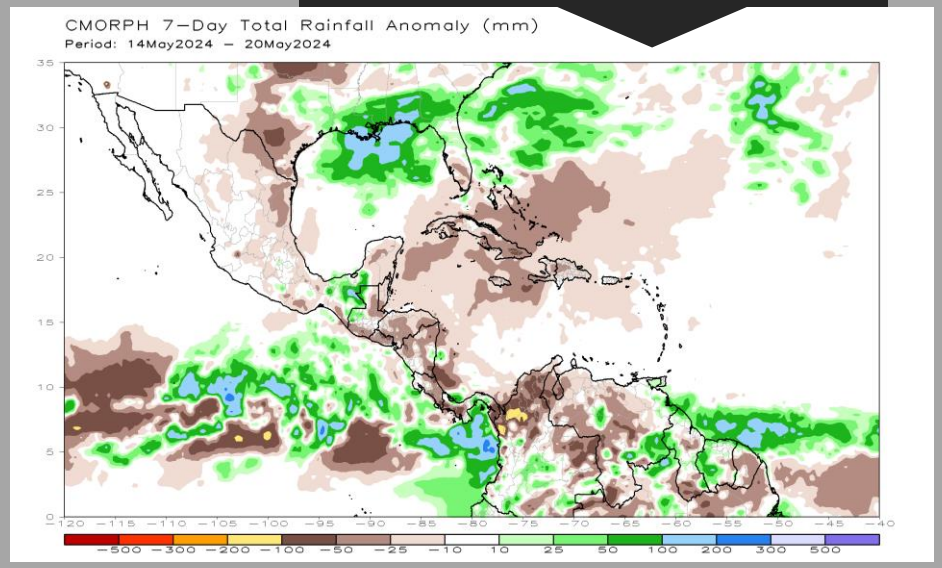

¡Gracias! Thank you! ¡Obrigado!

Next Session: Tuesday June 18, 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