WMO VLab Regional Focus Group
of the Americas and Caribbean

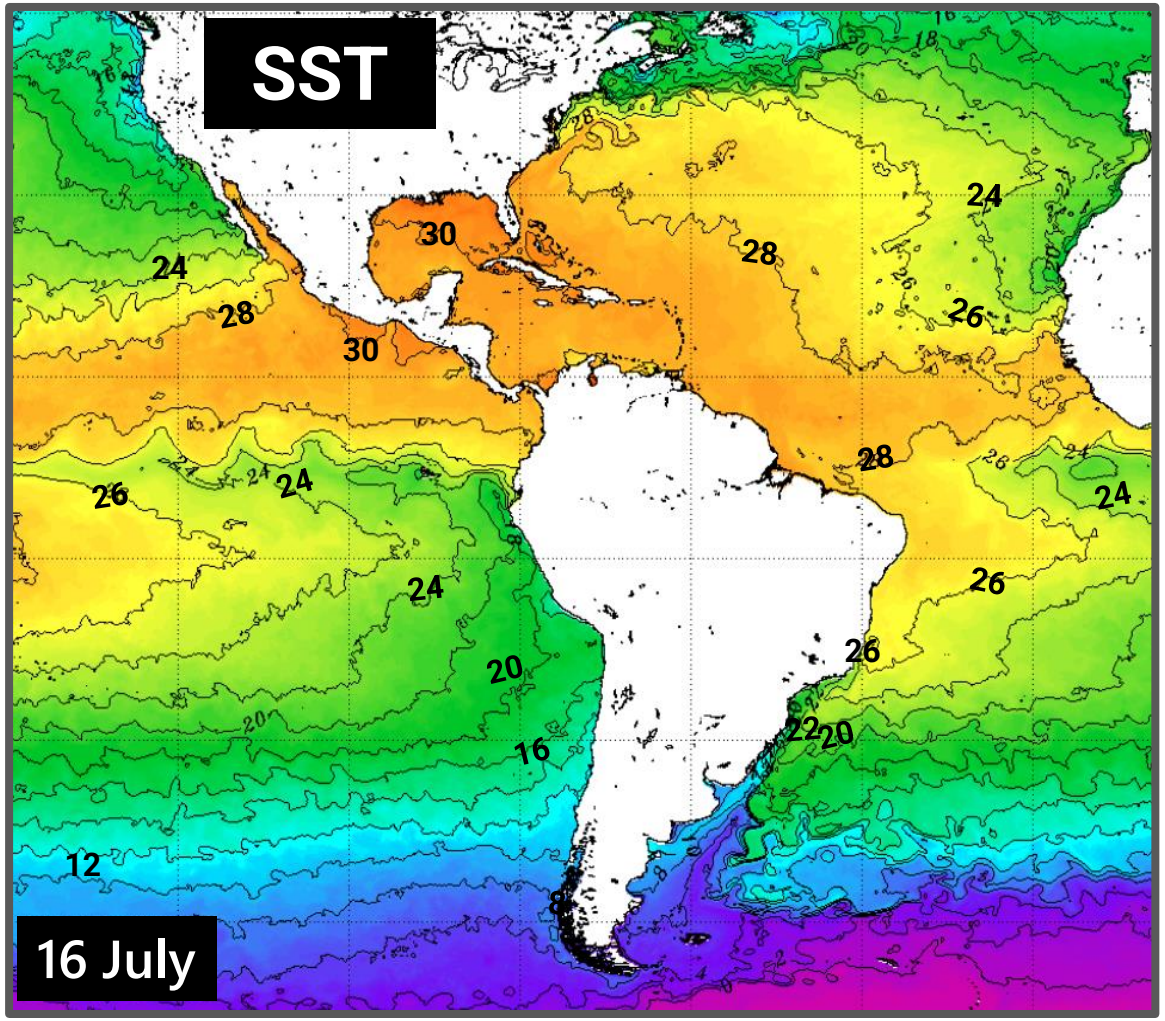
Since 2004

Climate Indices

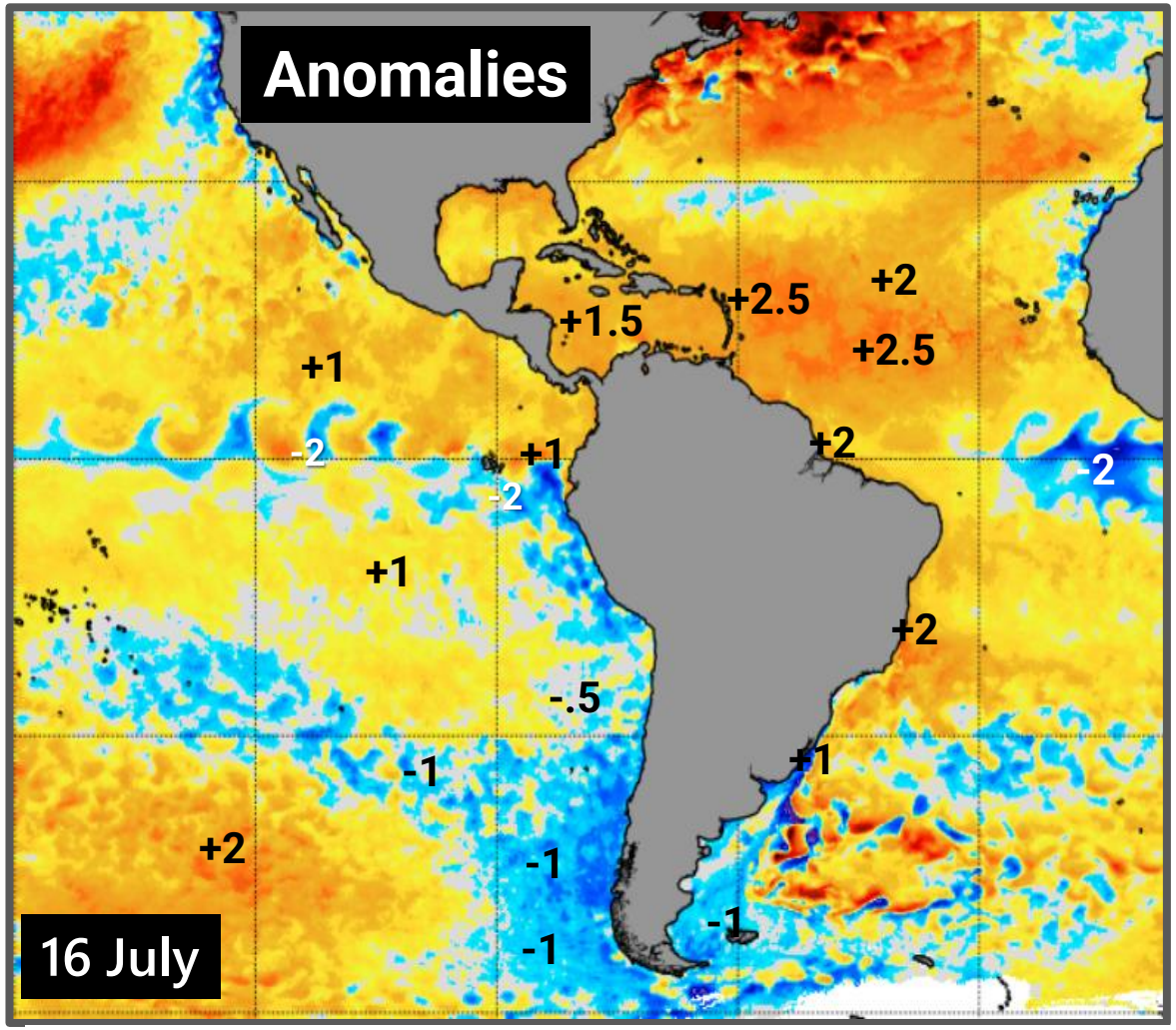
Current Status and Projections

Thursday 18 July 2024

Sea Surface Temperature (SST)



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

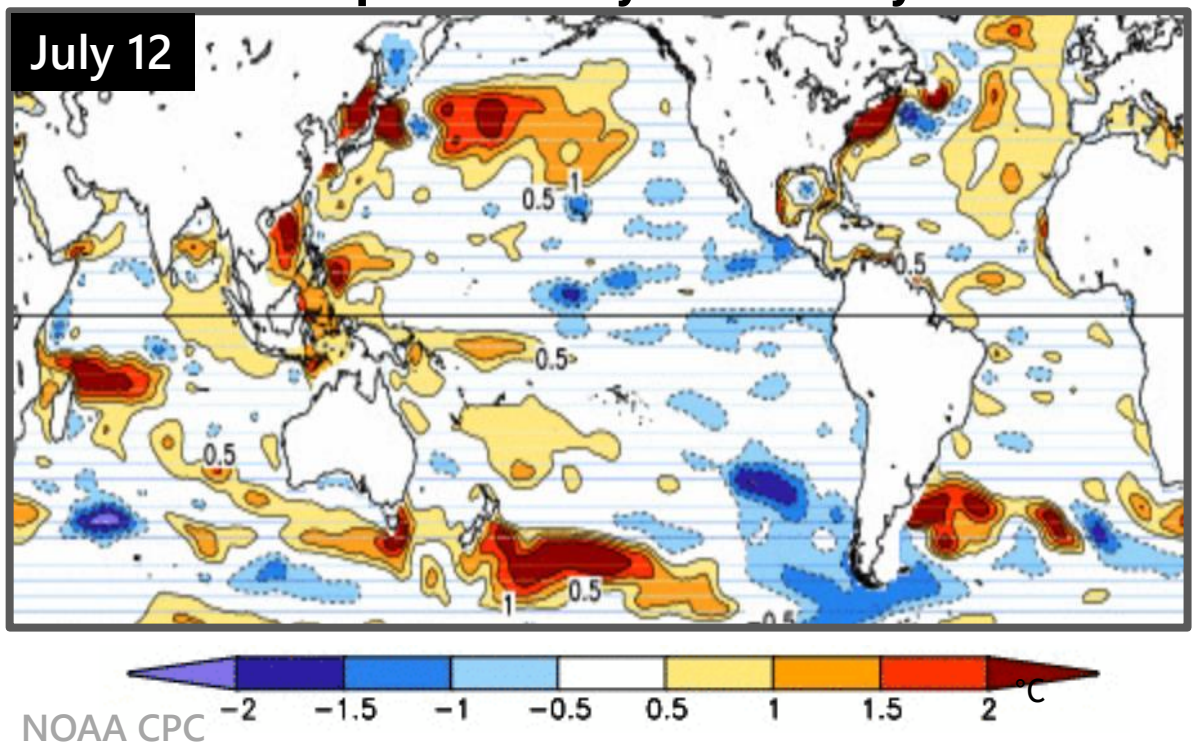


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Top Layer Temperature Anomaly

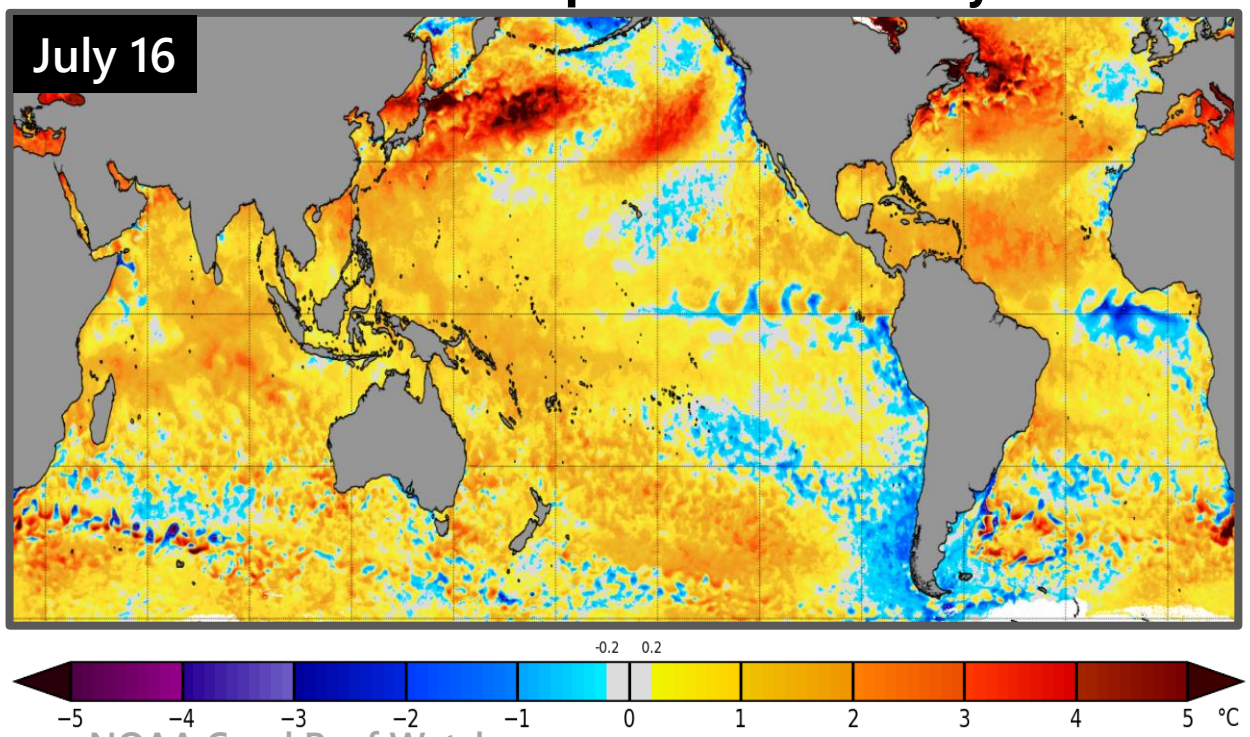
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top 300m-Layer Anomaly



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

Surface Temperature Anomaly



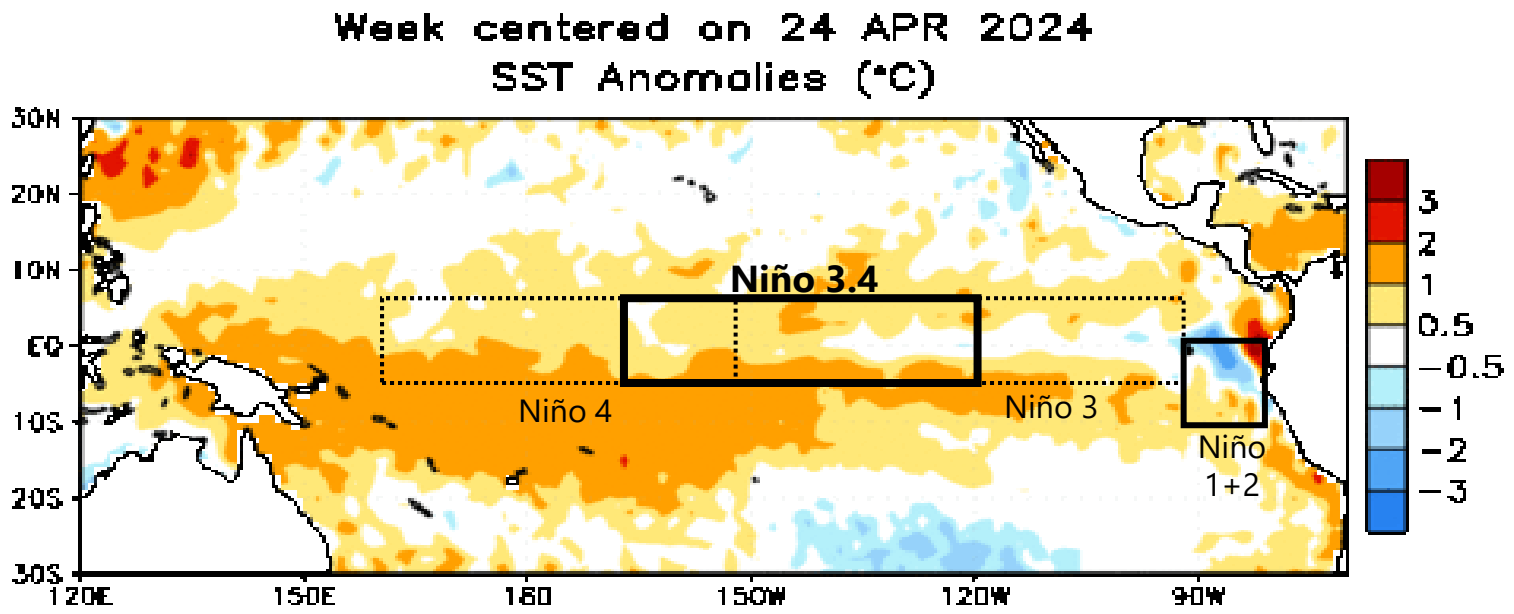
NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

El Niño-Southern Oscillation (ENSO)

CPC Official Statement

La Niña Watch

- ENSO-neutral conditions are present.*
- Equatorial sea surface temperatures (SSTs) are above average in the western and west-central Pacific, near average in the east-central Pacific, and below average in the eastern Pacific Ocean.

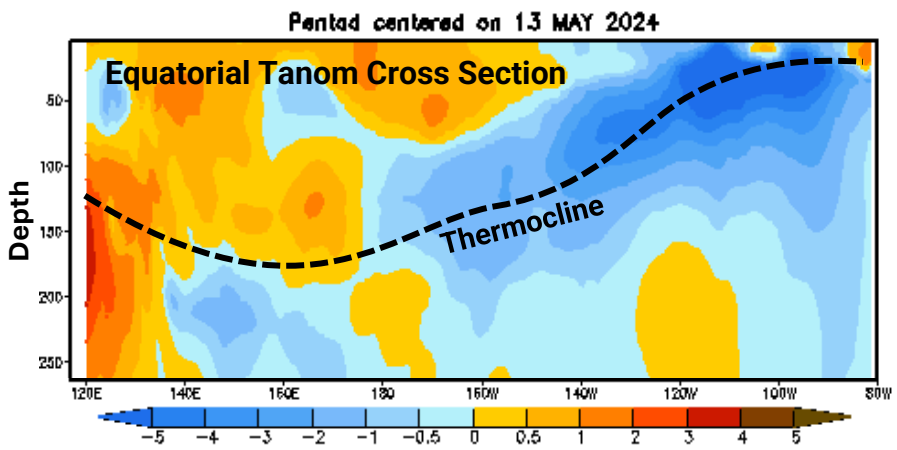


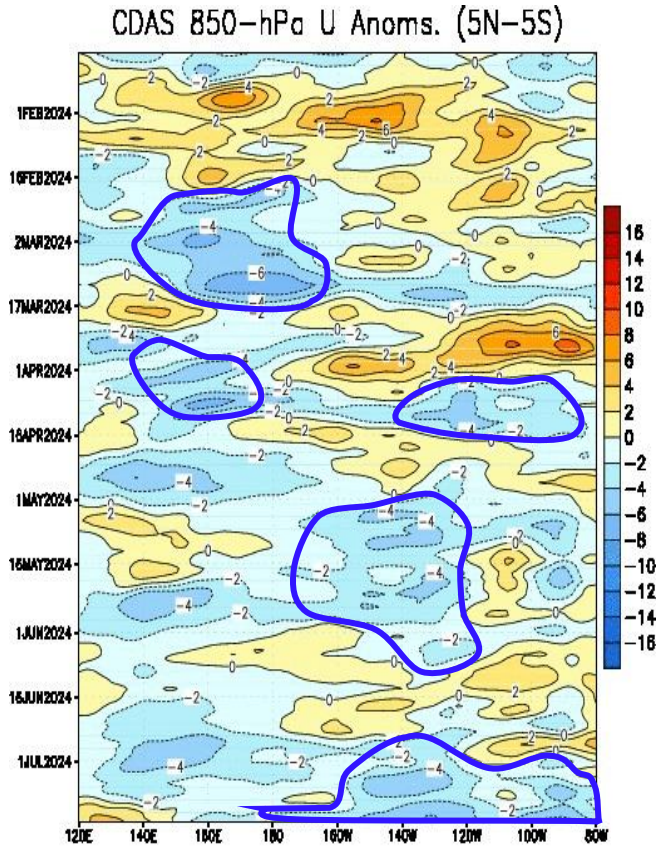
TAKEAWAYS

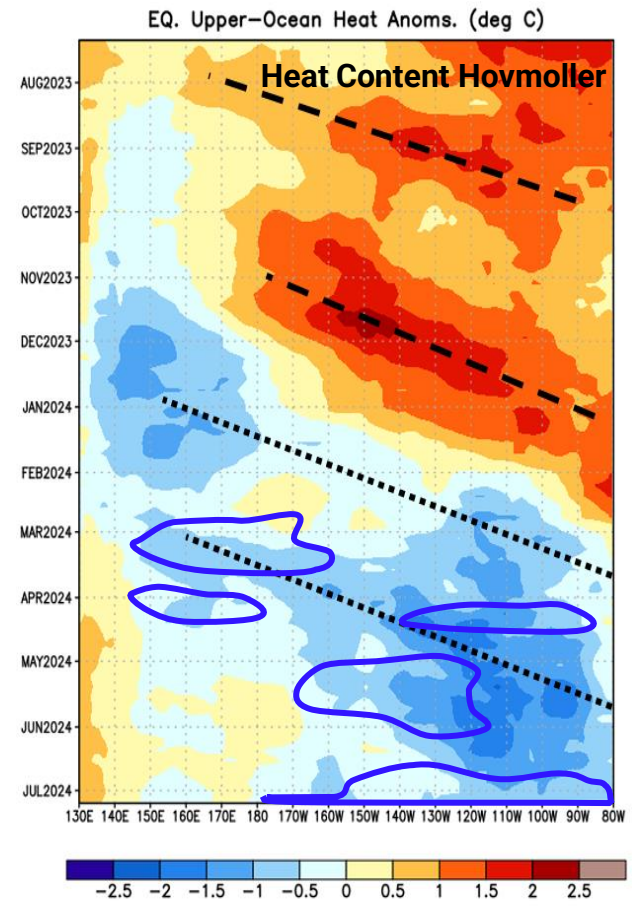
- Cold tongue continues forming, but the current cooling rate is rapid as what the models were resolving.
- SST in the South American coast continues below normal.

ENSO: Oceanic Kelvin Waves

Anomalies of Temperature with Depth, 850 hPa Zonal Winds and Heat Content







TAKEAWAYS

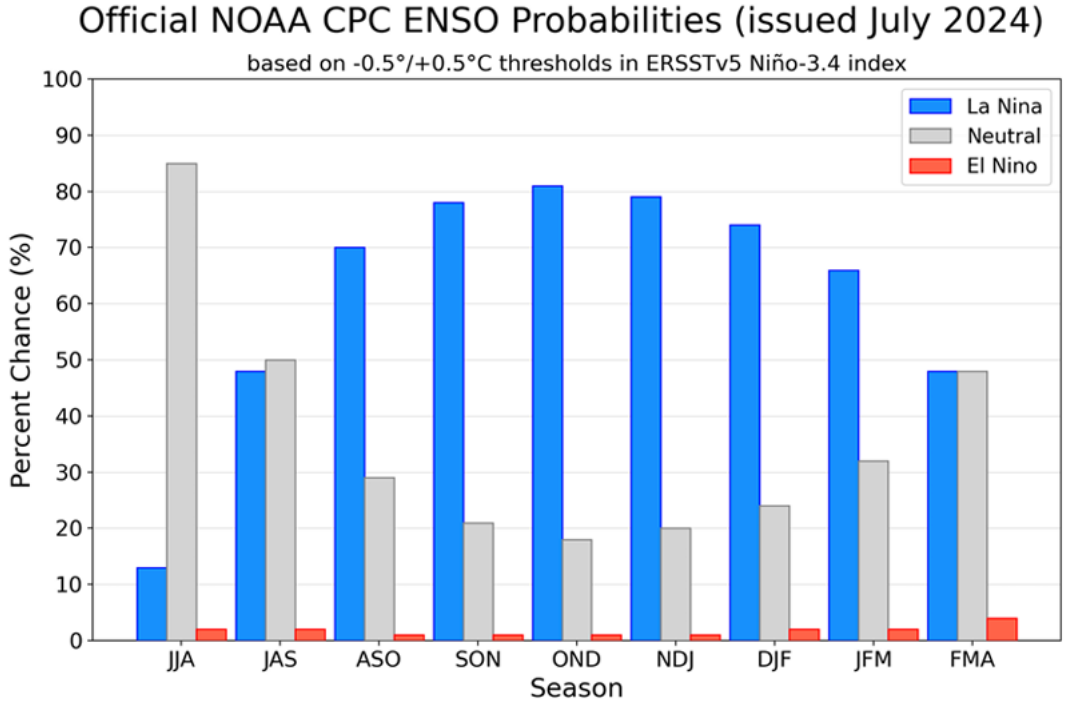
- Still no evidence of a new cooling Kelvin forming in the western Pacific, genesis seems to be occurring on the central and eastern Pacific.
- Could current easterly wind burst develop an additional EPAC cooling through September?

Source: CPC

ENSO Outlook

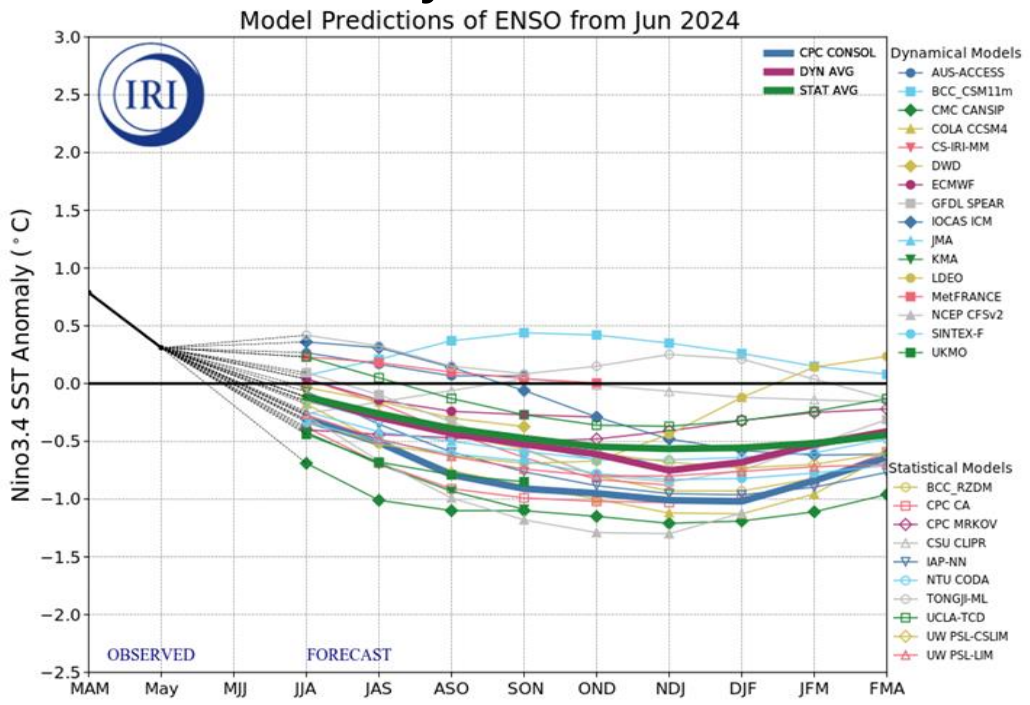
ENSO-neutral is expected to continue for the next several months, with La Niña favored to develop during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).

Probabilistic Forecast



Source: CPC

IRI/CPC Dynamic Models

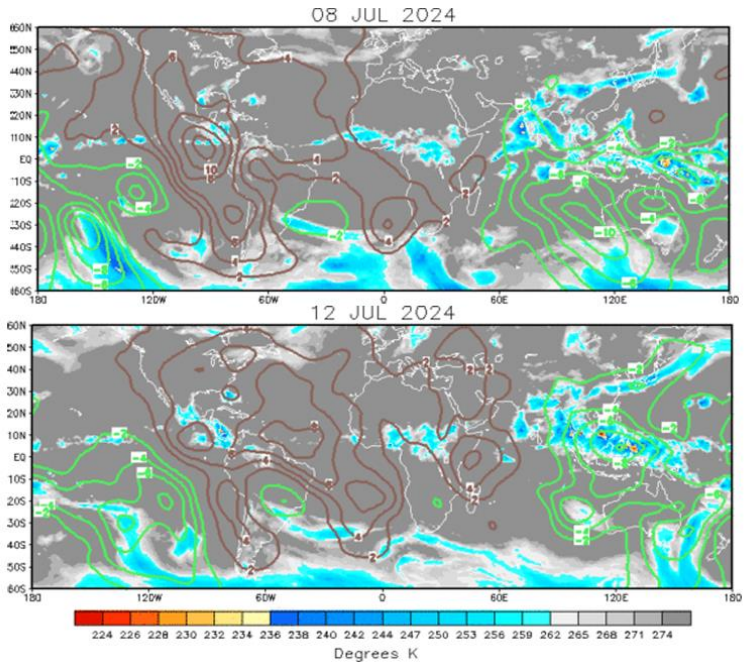


Source: IRI, updated 20 June 2024

Madden-Julian Oscillation (MJO)

Current Observations:

- The upper-level velocity potential anomaly field remains coherent, bit little eastward propagation is evident (partially from Rossby Wave Interference)
- Broad-scale convergence continues over the Americas.



Velocity Potential (CHI) and
Brightness Temperature (shaded)

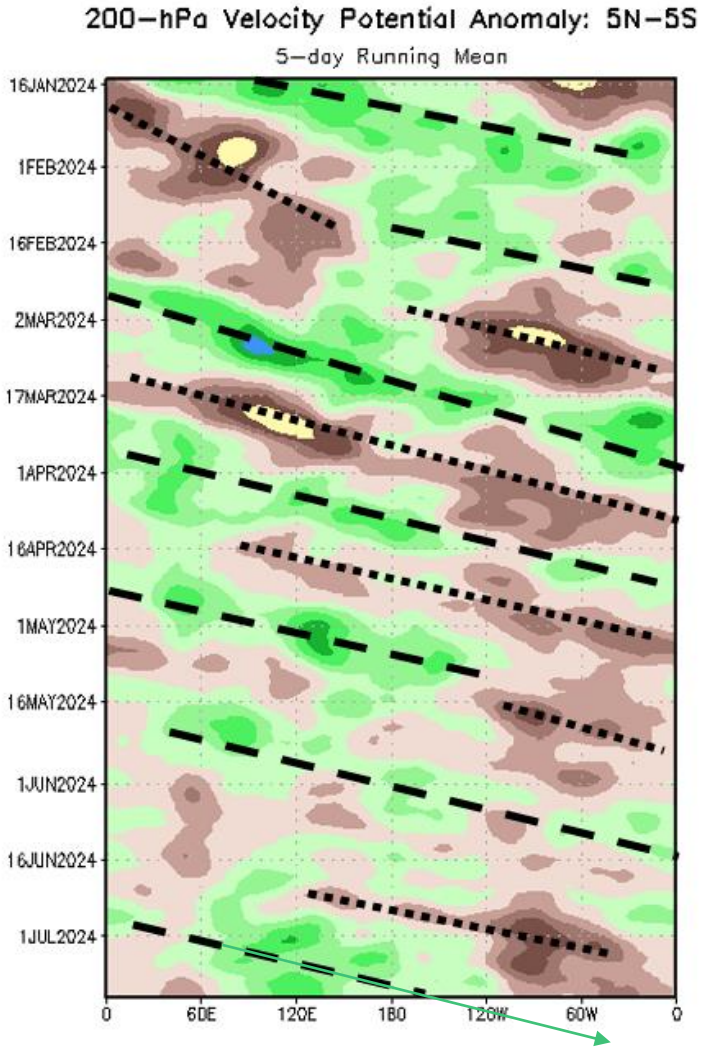
July 8

July 12

Favors rain storms
Enhanced upper divergence

Favors limited rainfall
Enhanced upper convergence

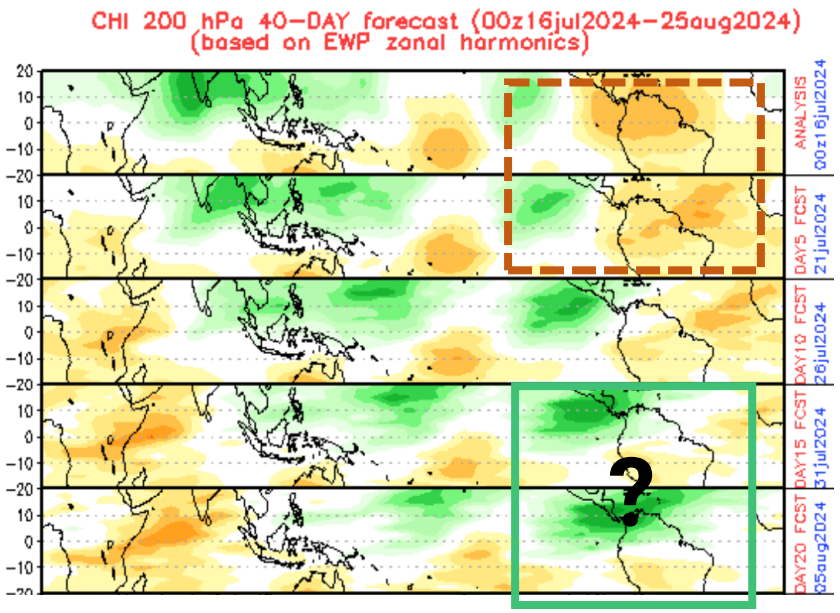
Source: CPC



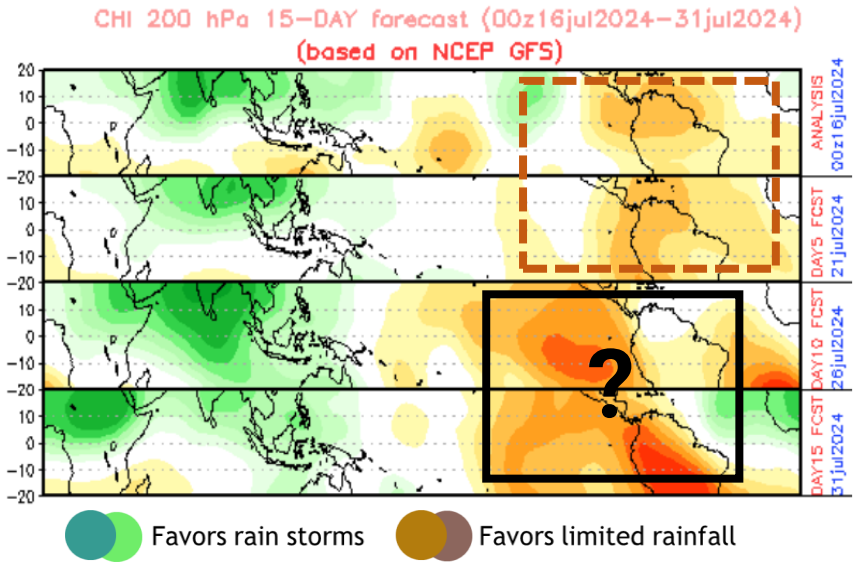
Source: CPC

MJO Forecasts

Empirical Wave Propagation (EWP)

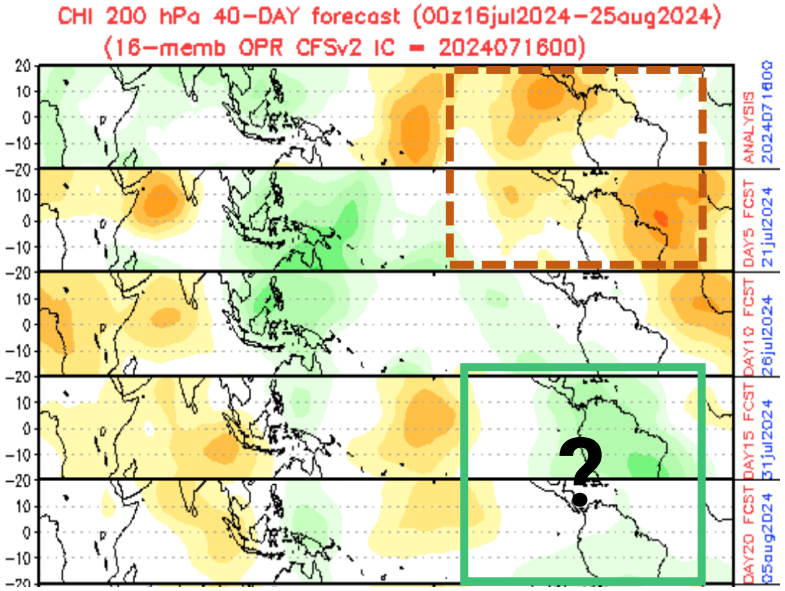


Global Forecast System (GFS)



Source: CPC

Climate forecast System (CFS)



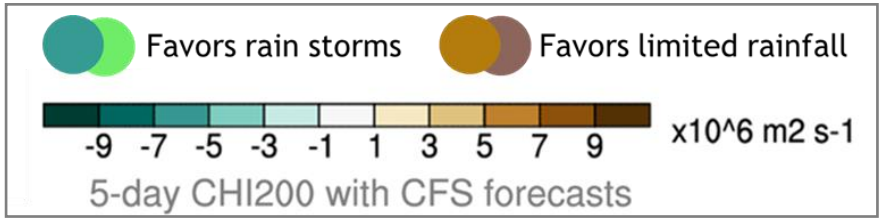
TAKEAWAYS

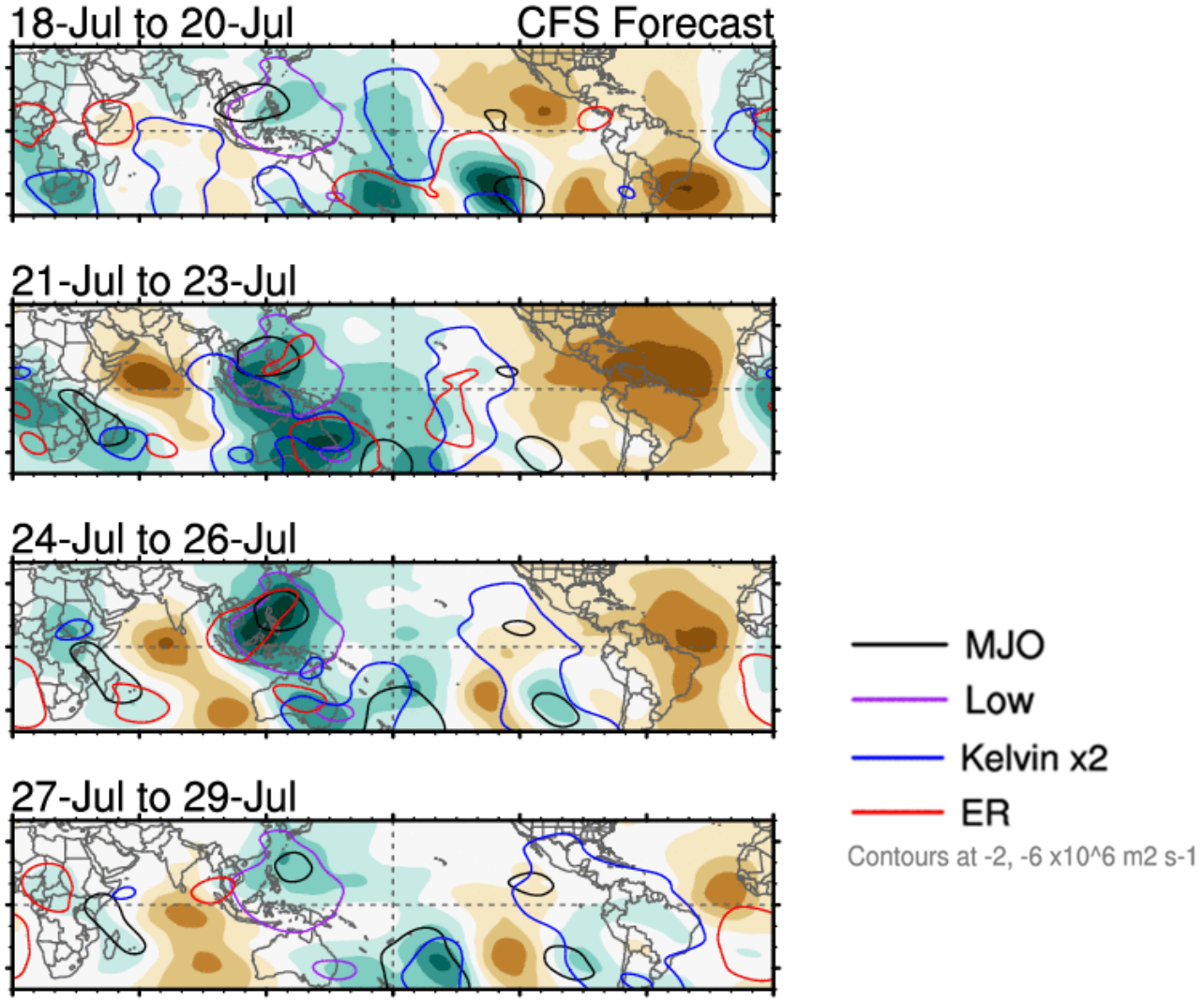
- Models are NOT very reliable due to interference with MJO propagation.
- Observations could provide insight. They suggest les upper convergent (dry) conditions in the Americas by the beginning of August. This is somewhat consistent with the CFS and EWP, but models are changing.

MJO and Upper Tropospheric Waves

Outlook for the next few days:

- For the next 10 days a large-scale upper convergence pattern is present in the Americas.
- A Kelvin wave arrives after July 25th, which could enhance rainfall events occurring in Central America/Mexico and the Greater Antilles.

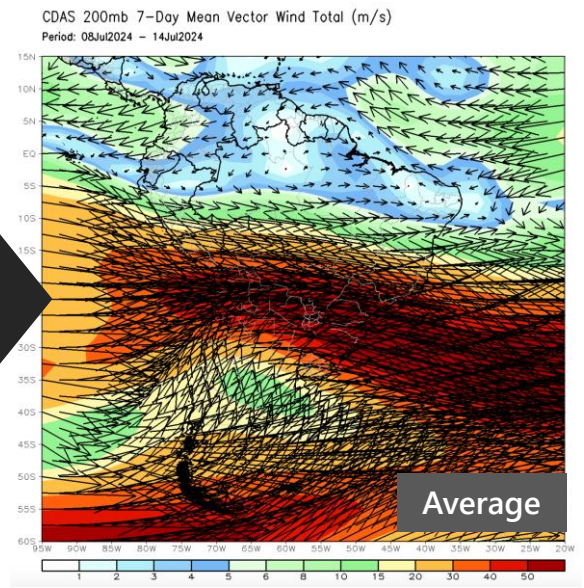


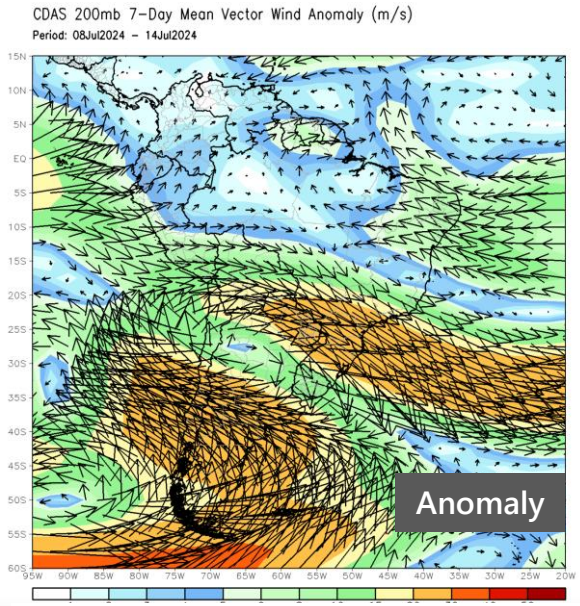


Source: NCICS

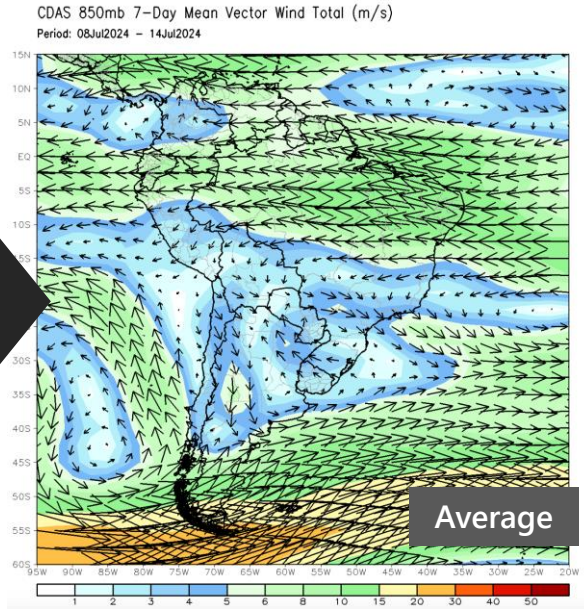
South America, Last 7 Days

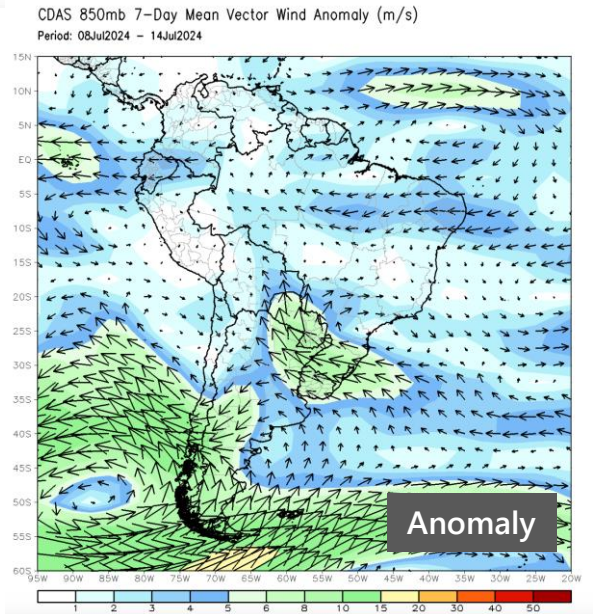
200 hPa Flow



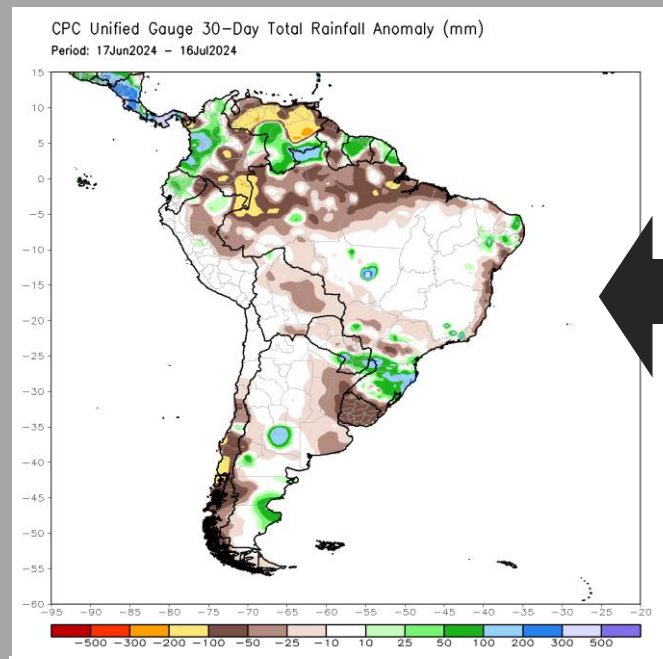


850 hPa Flow

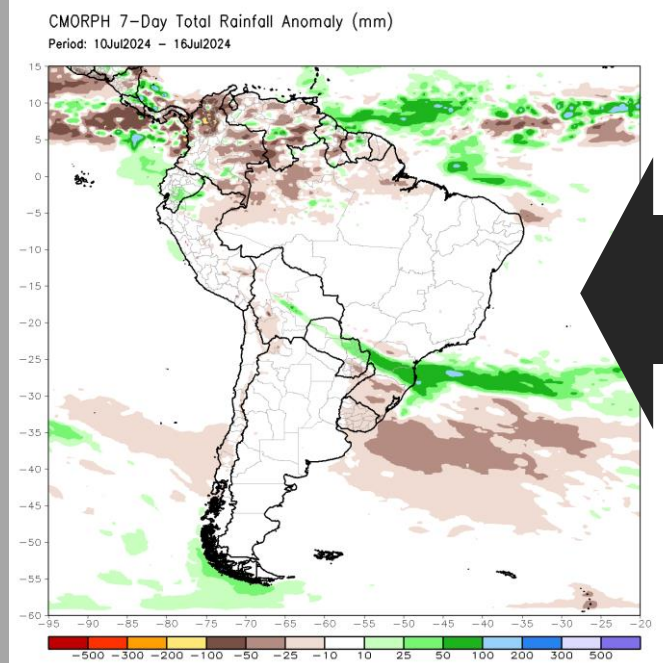




Rainfall Anomalies



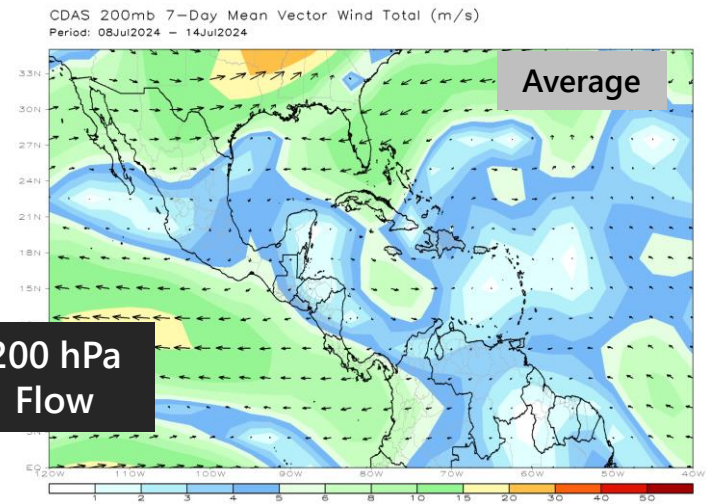
Gauges

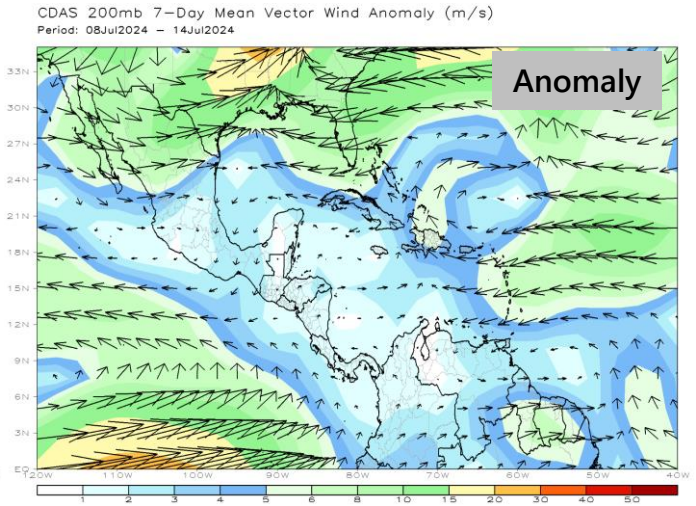


Satellite – Estimated (CMORPH)

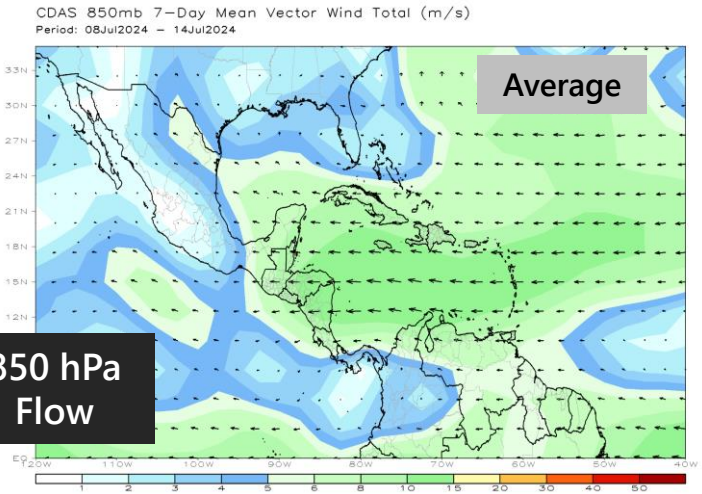
Caribbean and Central America, Last 7 Days

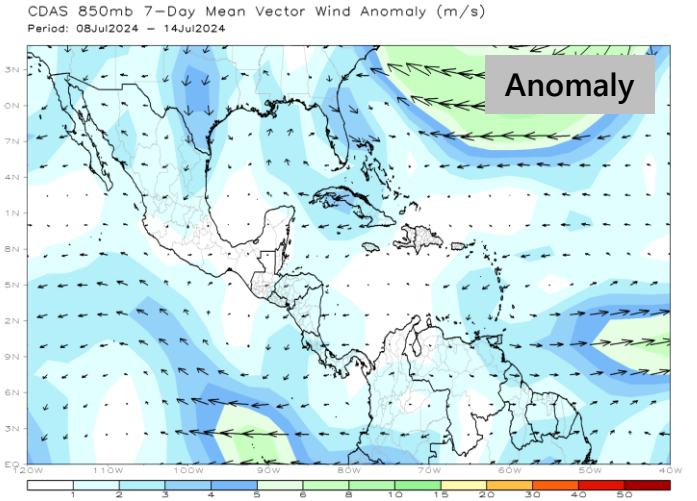
200 hPa Flow





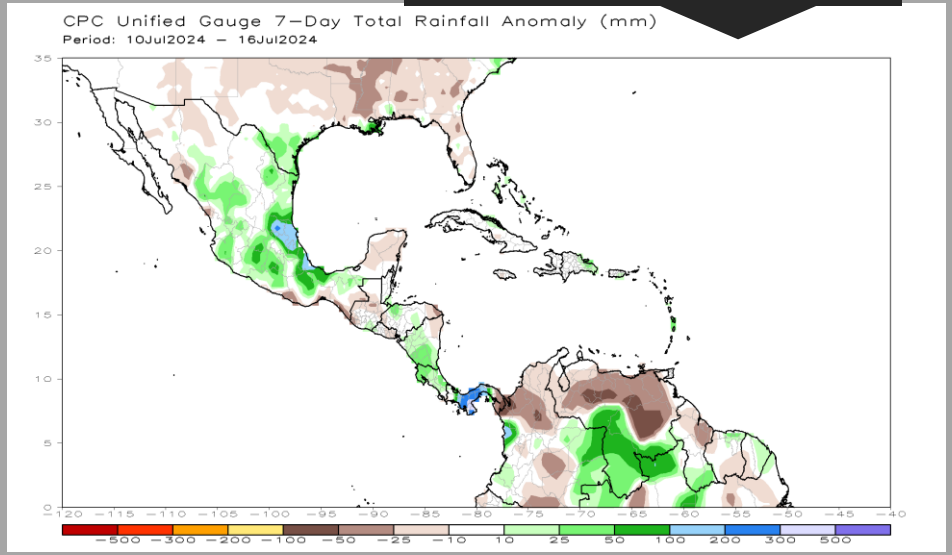
850 hPa Flow



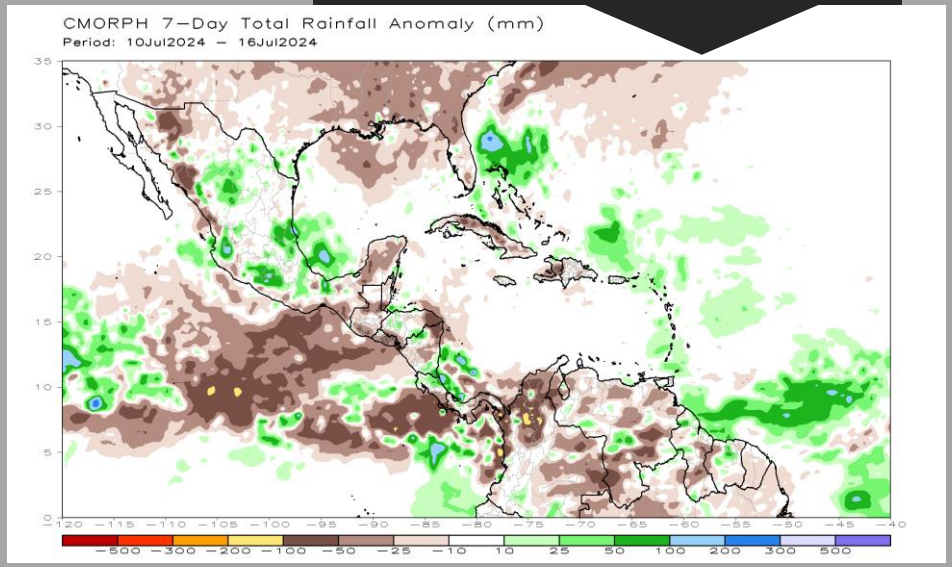


Rainfall Anomalies

Gauges (CPC)



Satellite – Estimated (CMORPH)



¡Gracias! Thank you! ¡Obrigado!

Next Session: Thursday 22 August at 15 UTC

Following Sessions:
18 September 2024 at 15:00 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