

WMO VL^Ab Regional Focus Group
of the Americas and Caribbean

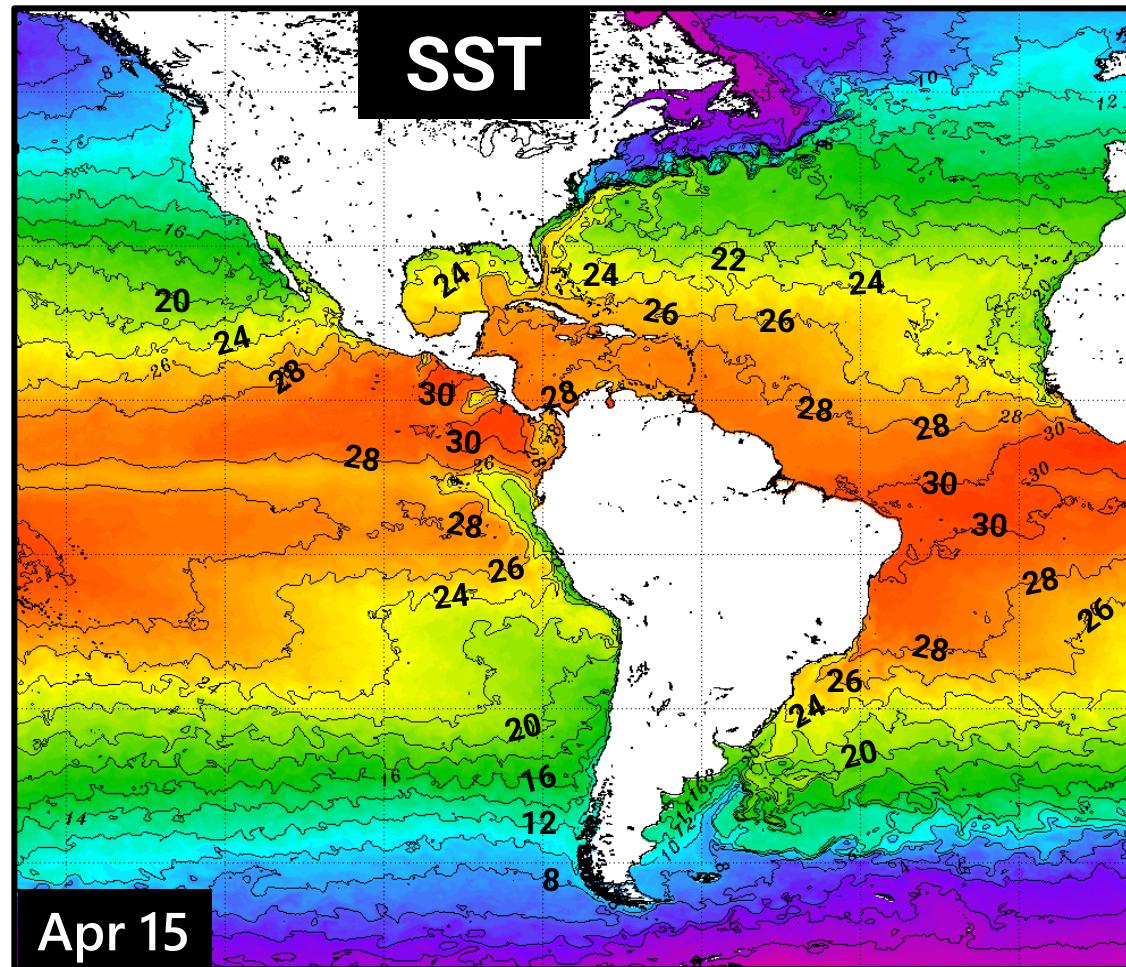


Since 2004

Climate Indices Current Status and Projections

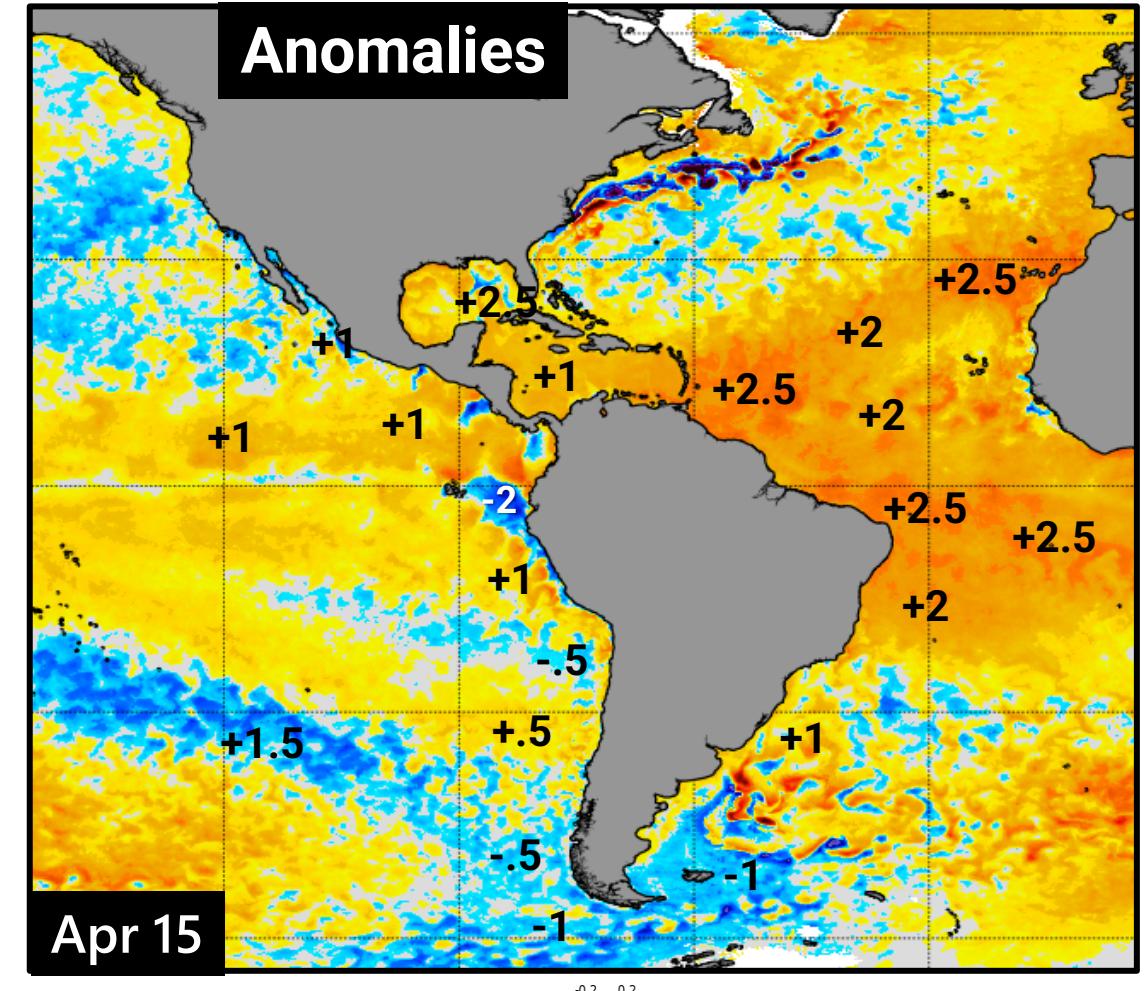
Wednesday 17 April 2024

Sea Surface Temperature (SST)



NOAA OSPO

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

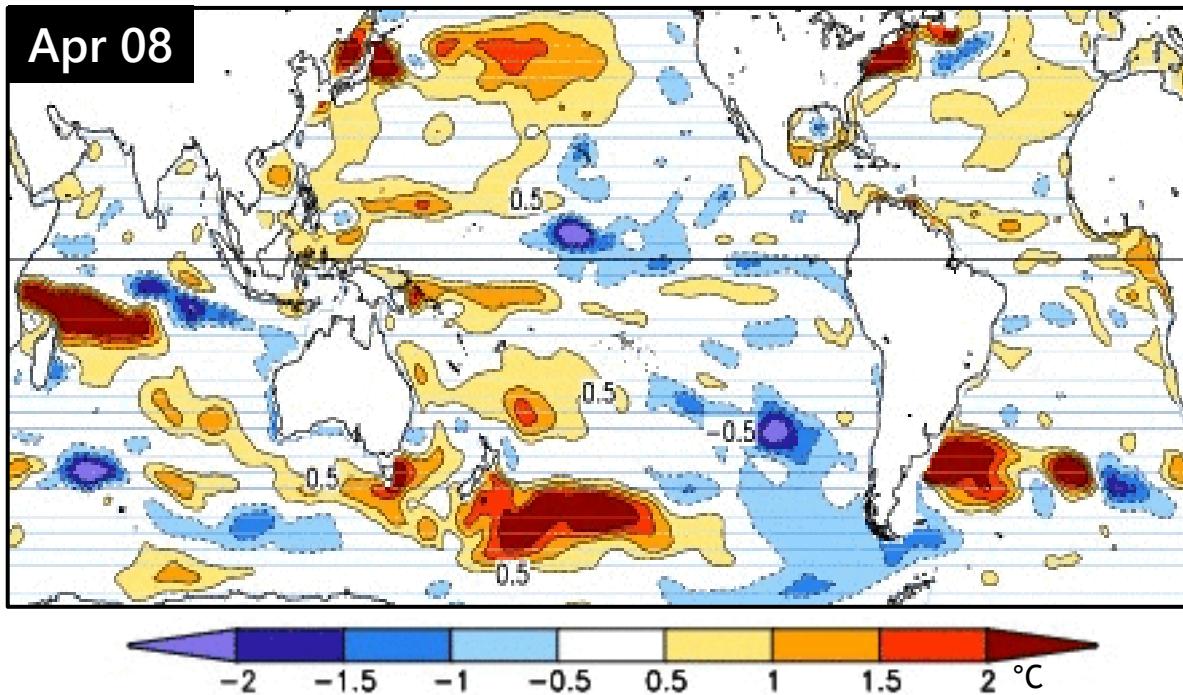


NOAA Coral Reef Watch https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

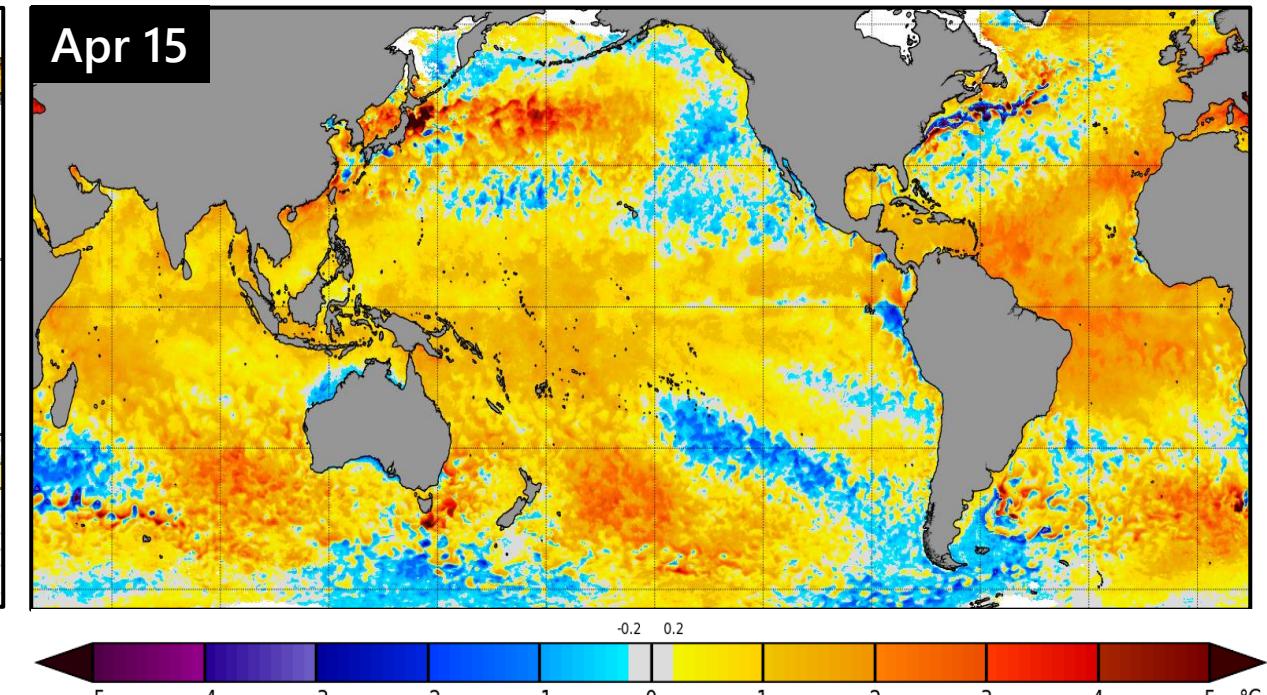
Top Layer Temperature Anomaly

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

Top 300m-Layer Anomaly



Surface Anomaly



El Niño-Southern Oscillation (ENSO)

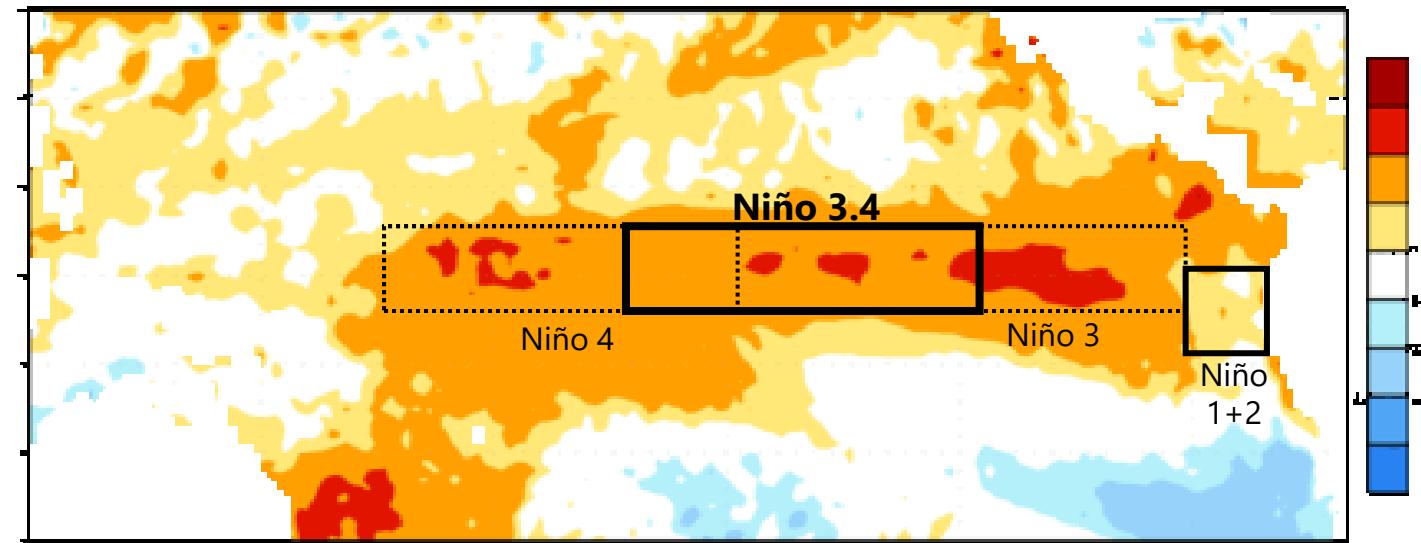
CPC Official Statement

El Niño Advisory / La Niña Watch

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



Error plotting dates

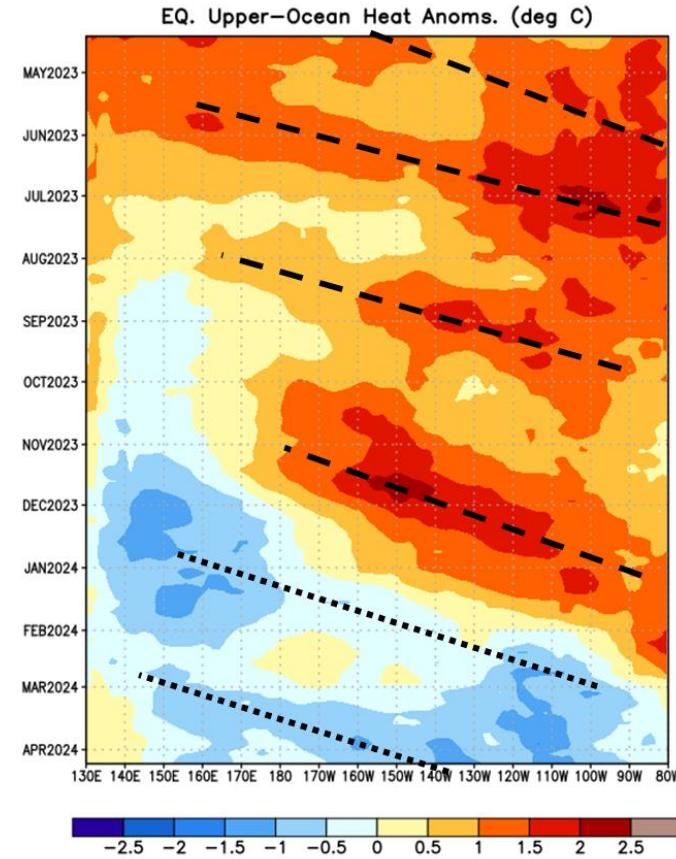
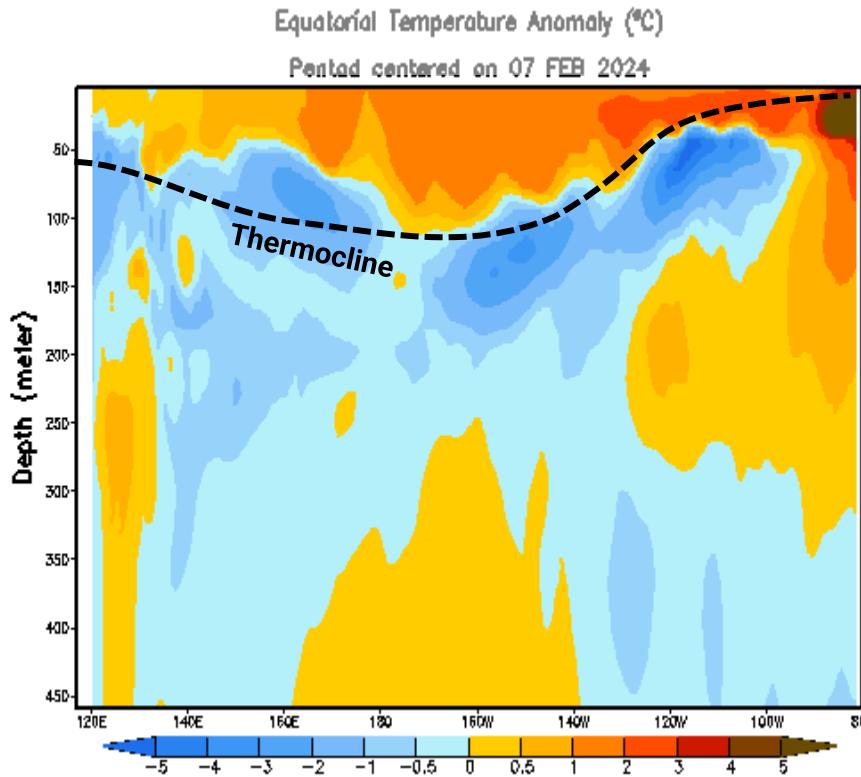


TAKEAWAYS

- Warm anomalies continue collapsing.
- South American coast is cooling down.

ENSO: Oceanic Kelvin Waves

Temperature Anomalies with Depth and Heat Content Anomalies



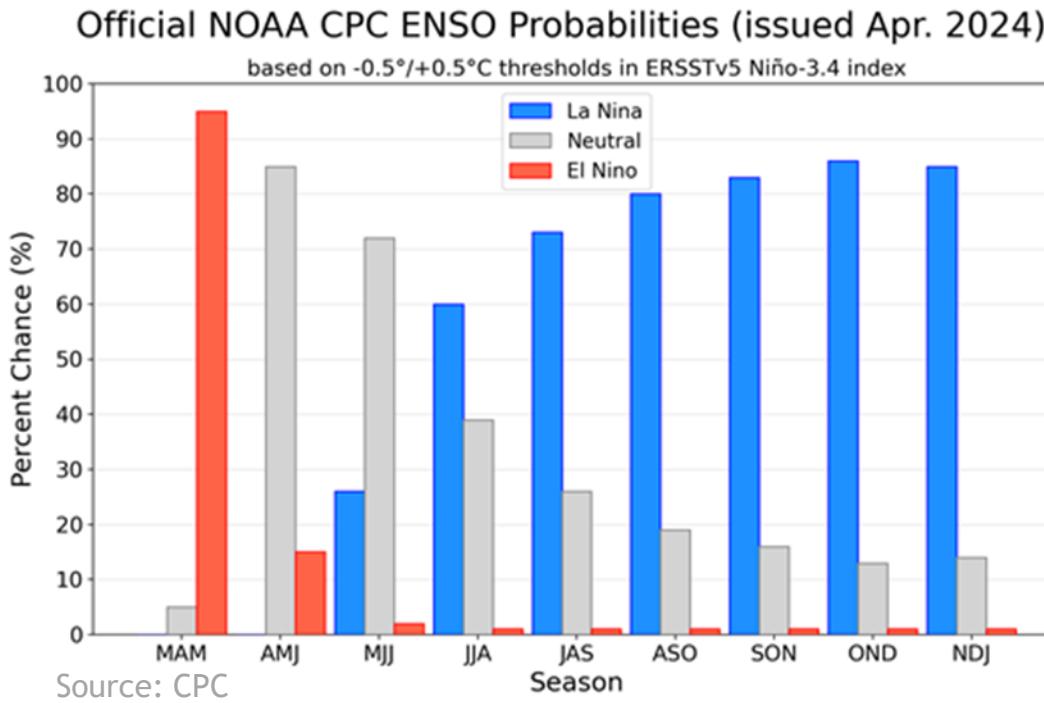
TAKEAWAYS

- Cool (upwelling) Kelvin propagating near 120W. Forecast to potentially cool down the South American Coast by late April/early May.
- No warm Kelvin is present, consistent with a transition away from el Niño.

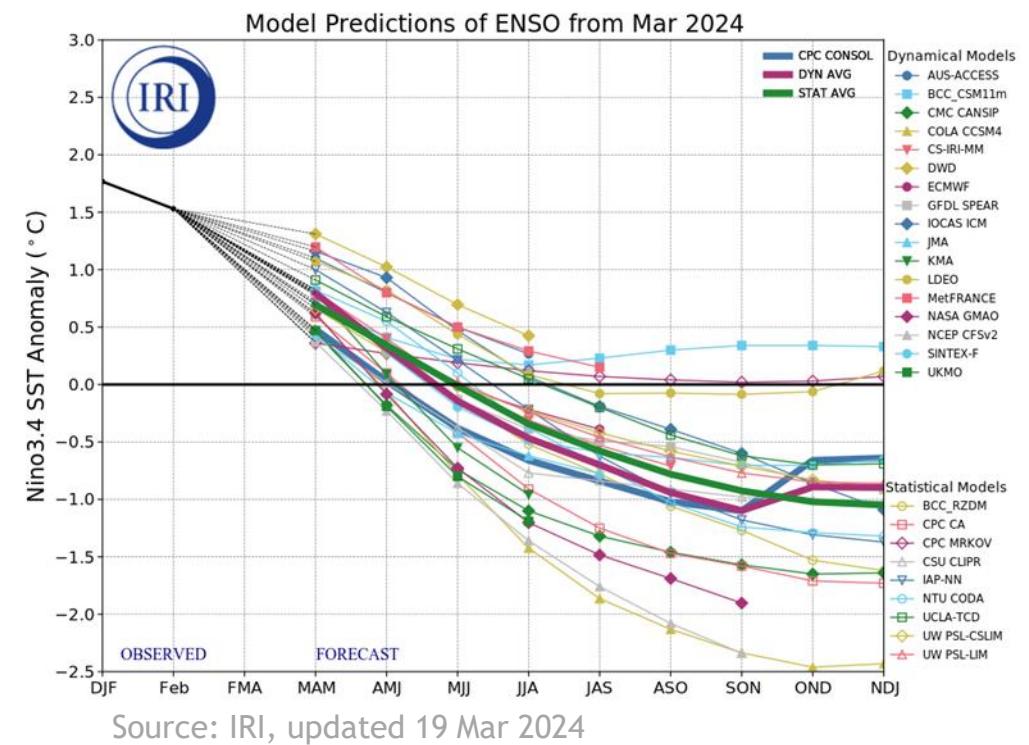
ENSO Outlook

A transition from El Niño to ENSO-neutral is likely by April-June 2024 (85% chance), with the odds of La Niña developing by June-August 2024 (60% chance).*

Probabilistic Forecast



IRI/CPC Dynamic Models

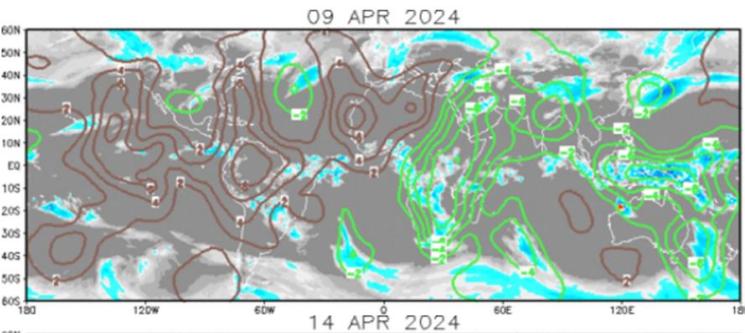


Madden-Julian Oscillation (MJO)

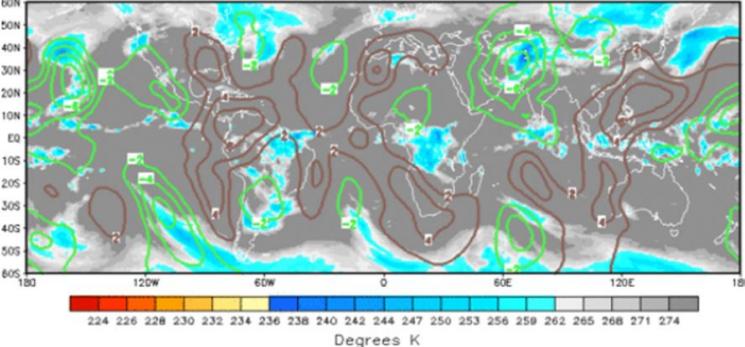
Current Observations:

- MJO is in wave-1 Mode and propagating fast.
- Yet, it is becoming disorganized (breakdown of wave energy).
- Wetter phase over the Pacific, reaching the Americas Apr 18-25.

Velocity Potential and Brightness Temperature (shaded)



Apr 09



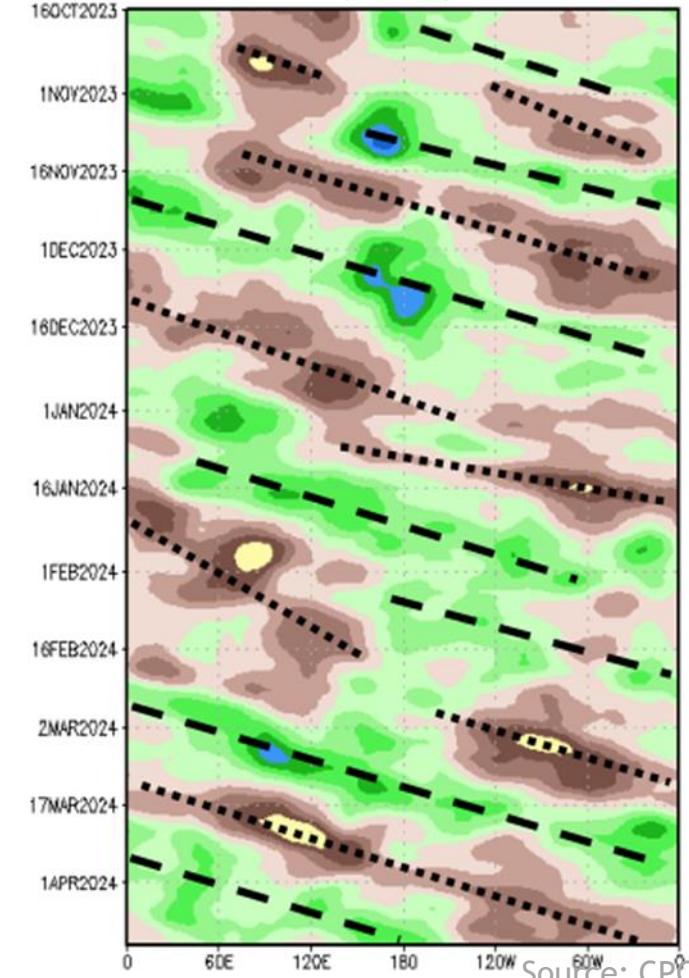
Apr 14

Source: CPC

- Favors rain storms
- Favors limited rainfall

200-hPa Velocity Potential Anomaly: 5N-5S

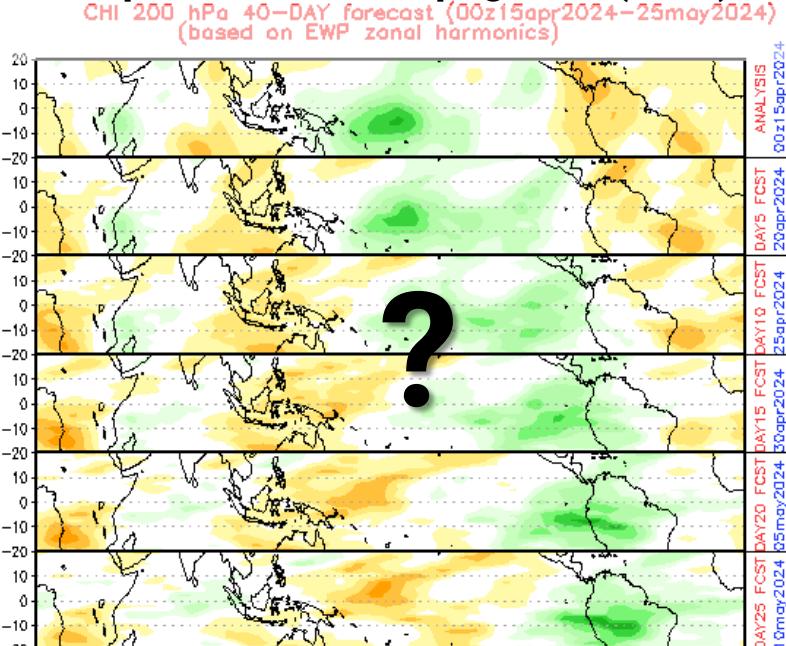
5-day Running Mean



Source: CPC

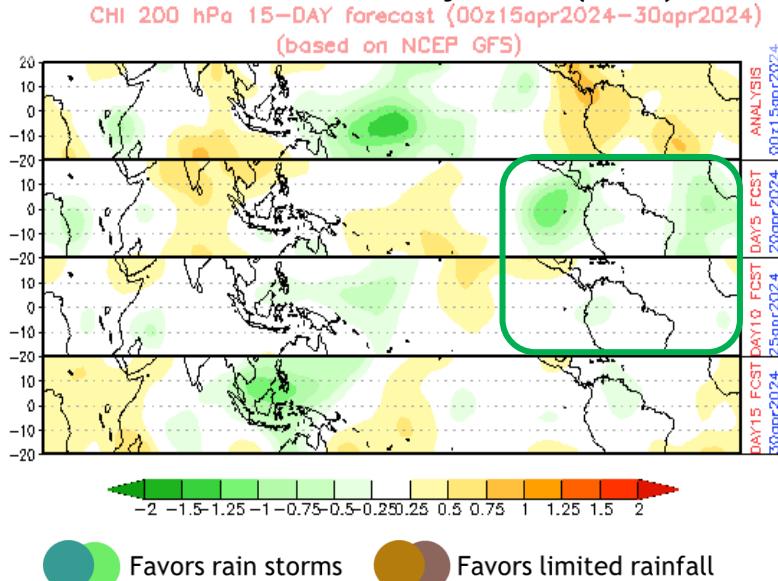
MJO Forecasts

Empirical Wave Propagation (EWP)

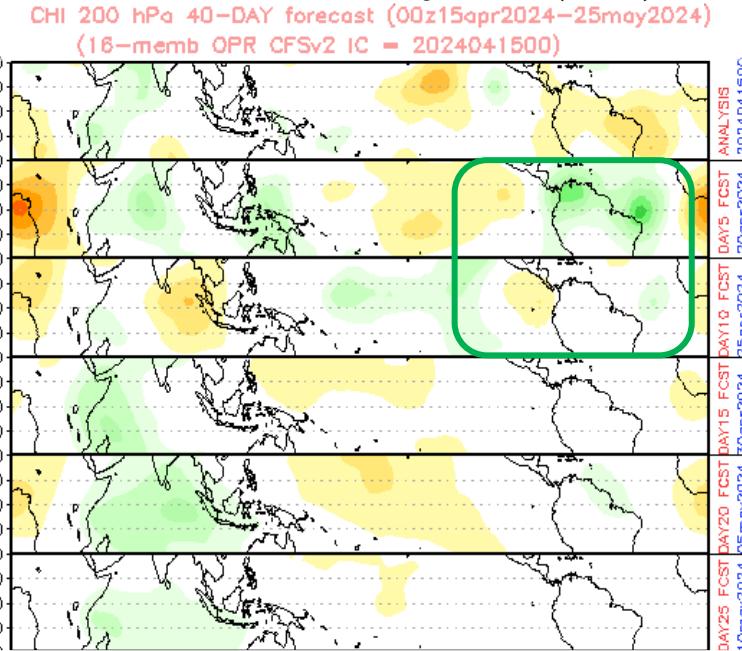


Source: CPC

Global Forecast System (GFS)



Climate forecast System (CFS)



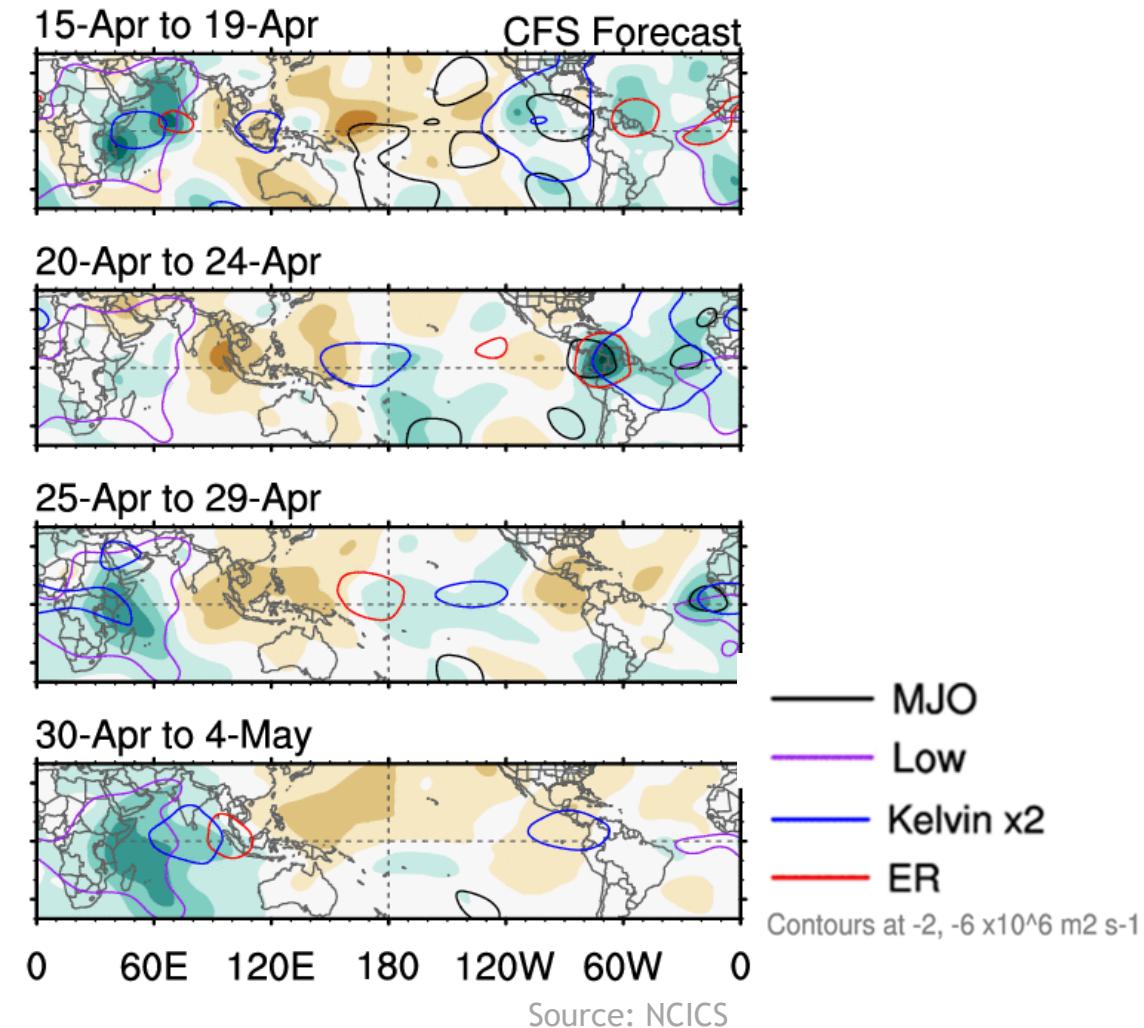
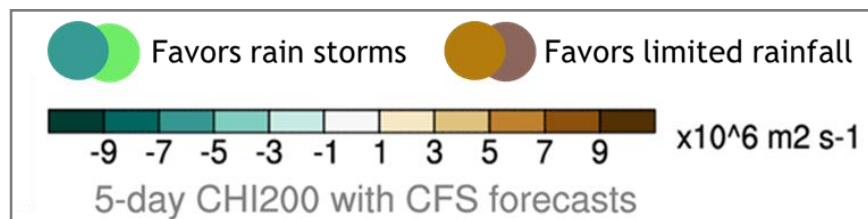
TAKEAWAYS

- CFS and GFS are more in tune, but agreement is not great.
- Wetter through April 25th, but what happens after (through Mid-May) is unclear.

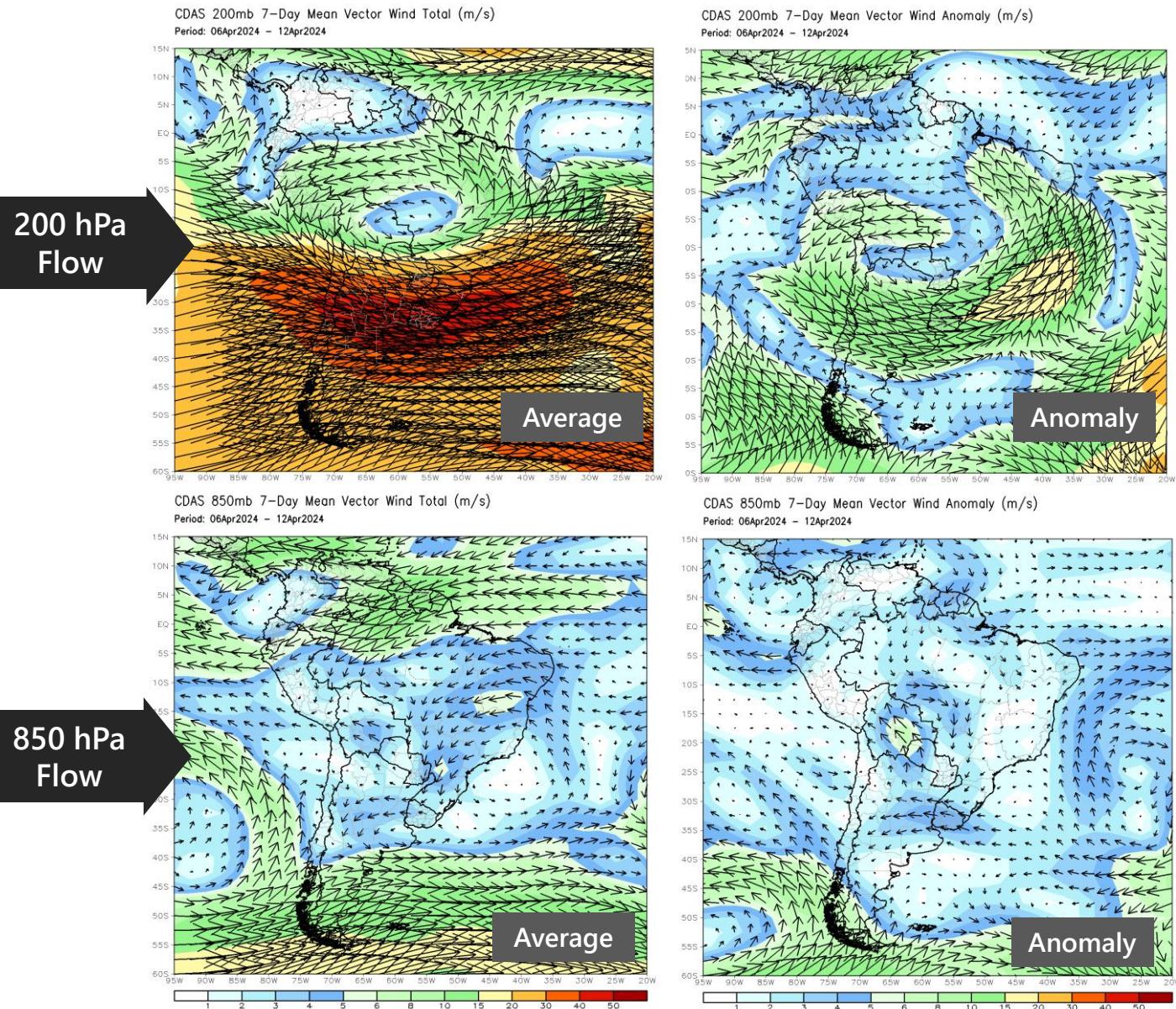
MJO and Upper Tropospheric Waves

Outlook for the next few days:

- A wet (upper divergent) Kelvin is forecast to cross the Americas from April 17 through April 22.
- This will likely enhance convection in tropical regions, especially Colombia/Venezuela
- Another potential wet Kelvin arrives near May 1, but embedded in a drier/upper convergent pattern.

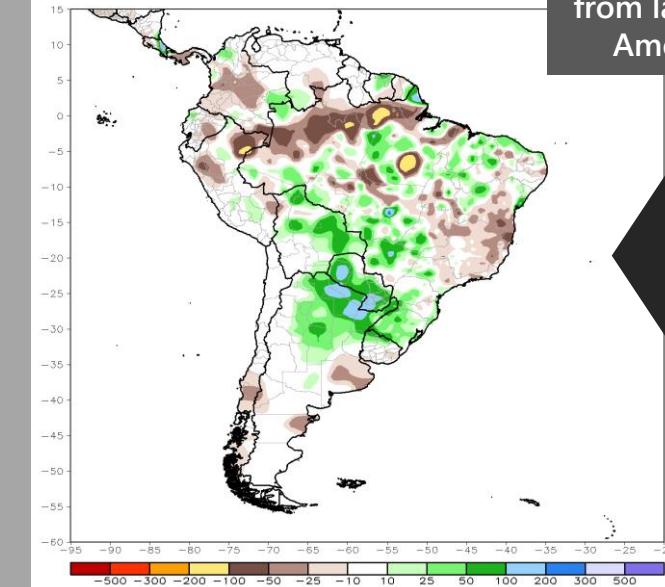


South America, Last 7 Days



Rainfall Anomalies

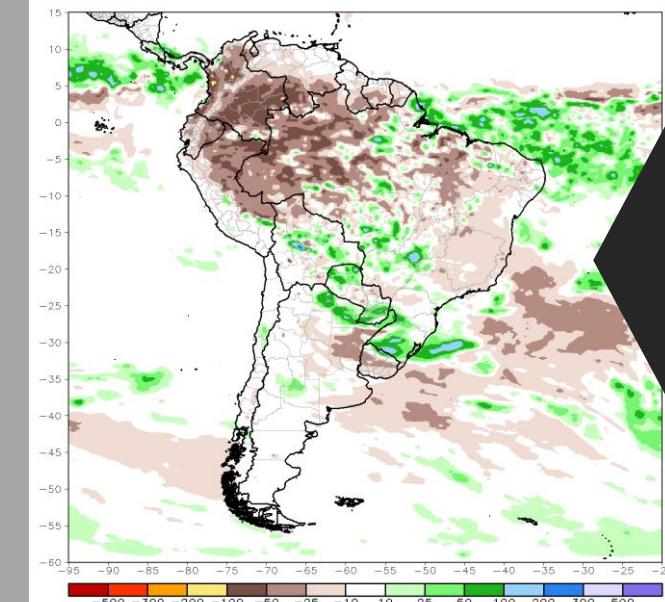
CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)
Period: 07Apr2024 – 13Apr2024



Does not capture
Rainfall/Snowfall event
from last weekend in South
America (ends Apr 13)

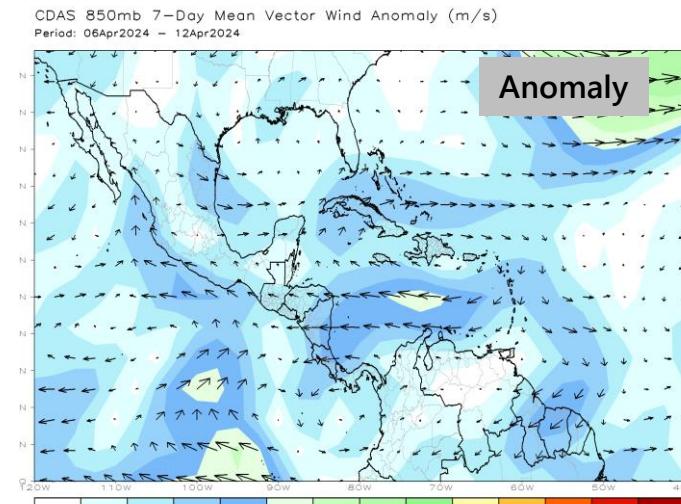
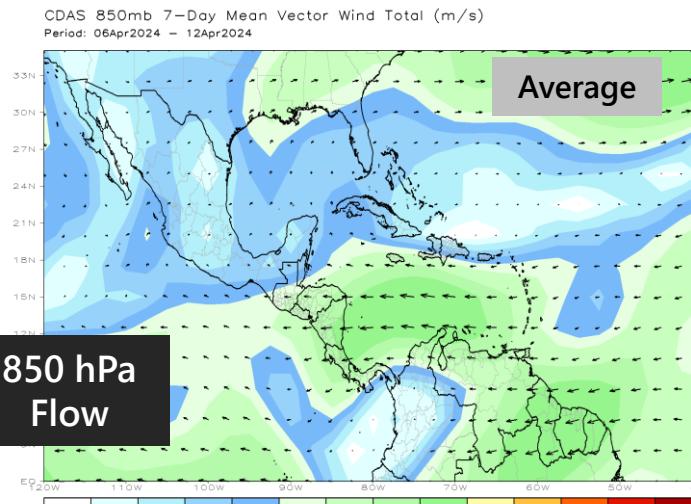
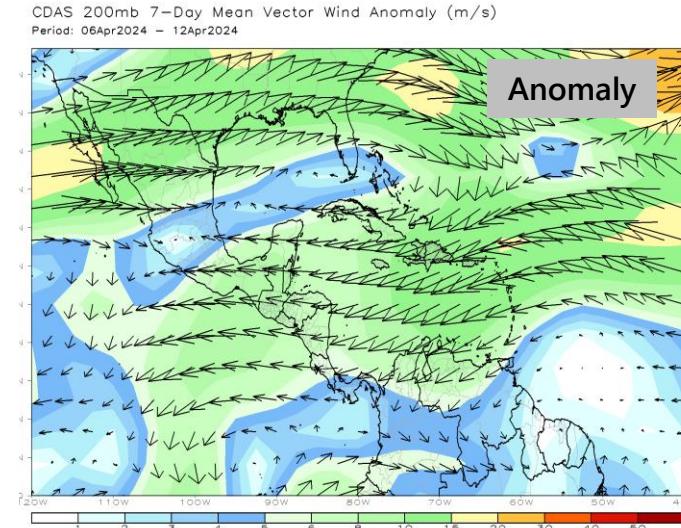
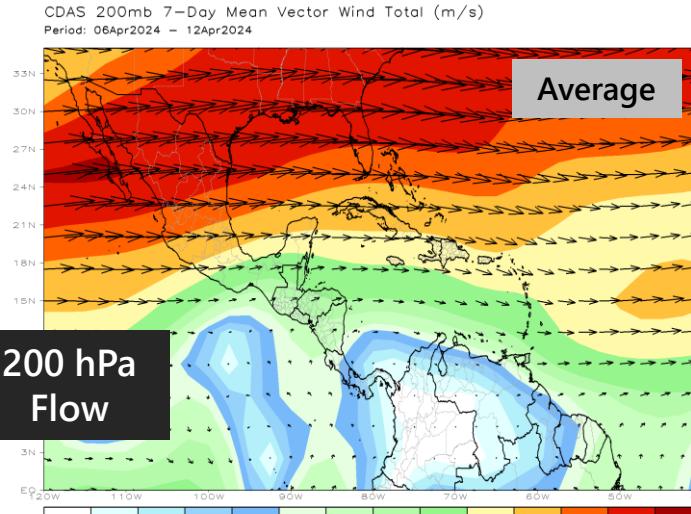
Gauges

CMORPH 7-Day Total Rainfall Anomaly (mm)
Period: 07Apr2024 – 13Apr2024



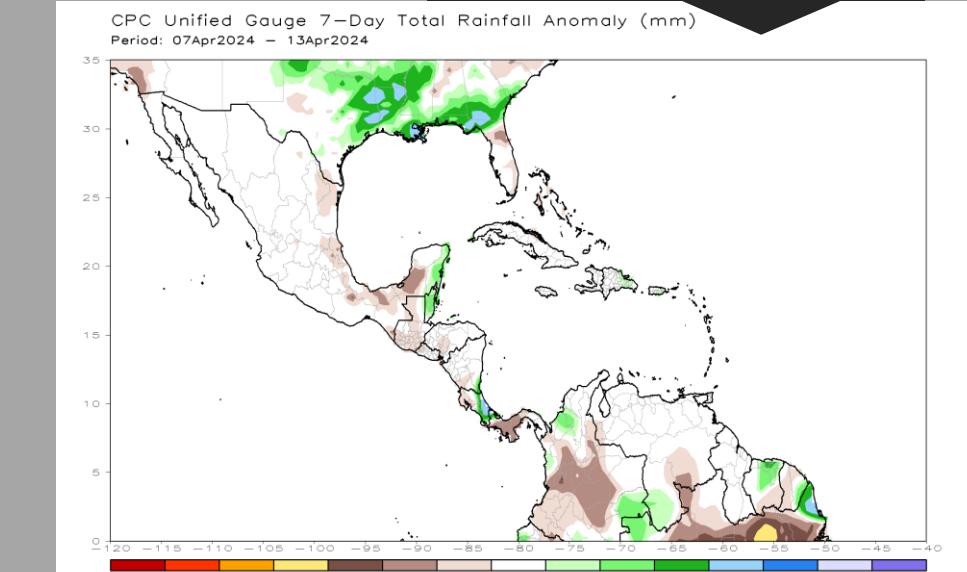
Satellite –
Estimated
(CMORPH)

Caribbean and Central America, Last 7 Days

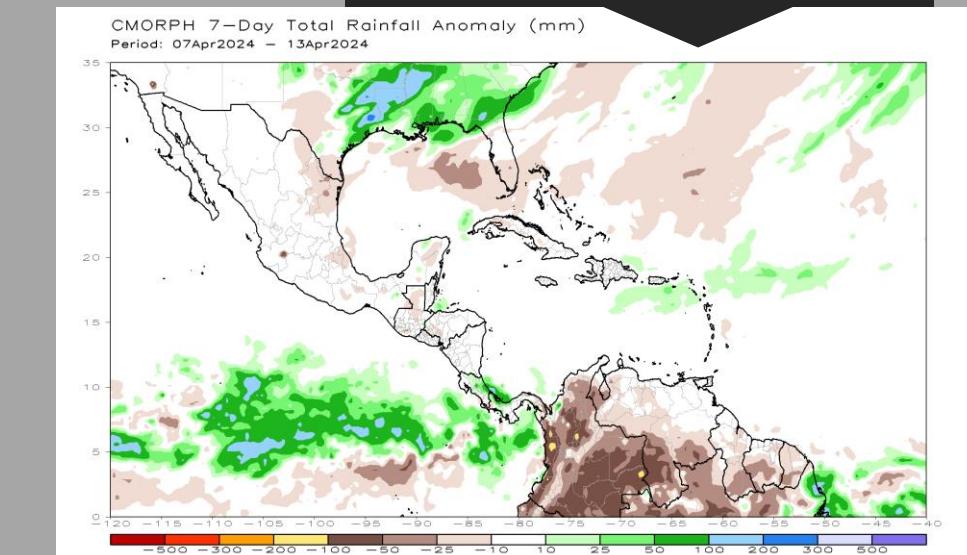


Rainfall Anomalies

Gauges (CPC)



Satellite – Estimated (CMORPH)



¡Gracias!

Thank you!

¡Obrigado!

Next Session: Wednesday May 22, 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