Monthly Regional Focus Group Session

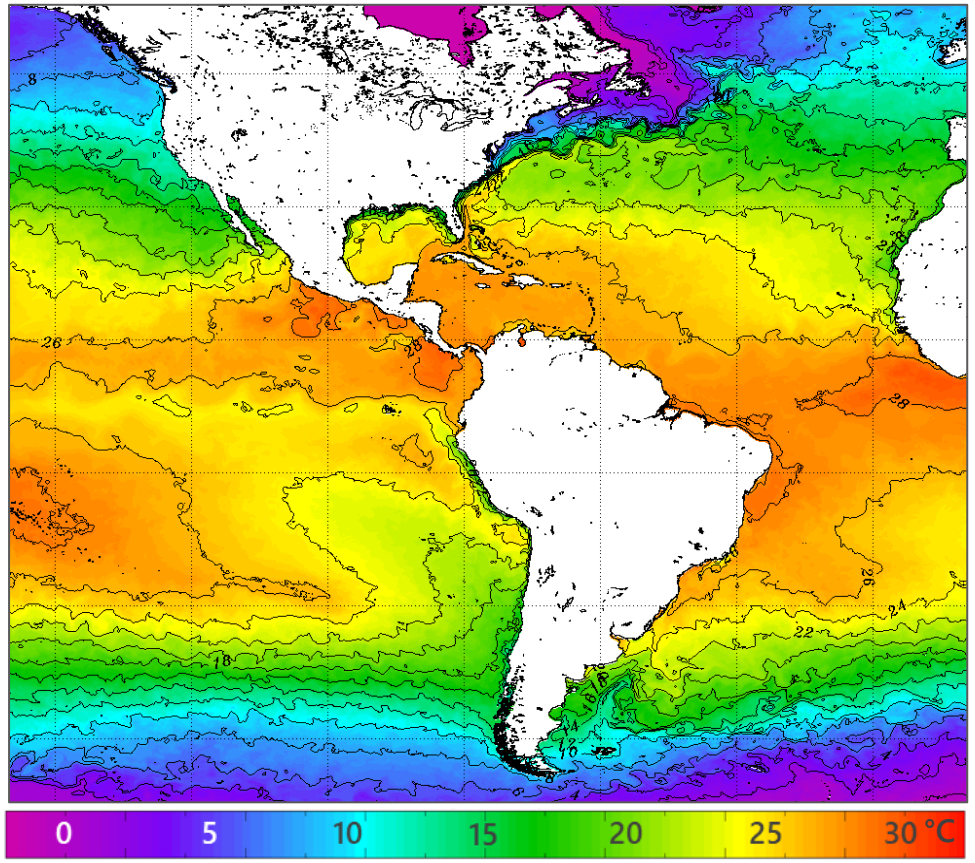
Wednesday 25 January 2022 at 15 UTC

RFG Website: https://rammb2.cira.colostate.edu/training/rmtc/focusgroup/

Sea Surface Temperatures (SST)

January 23

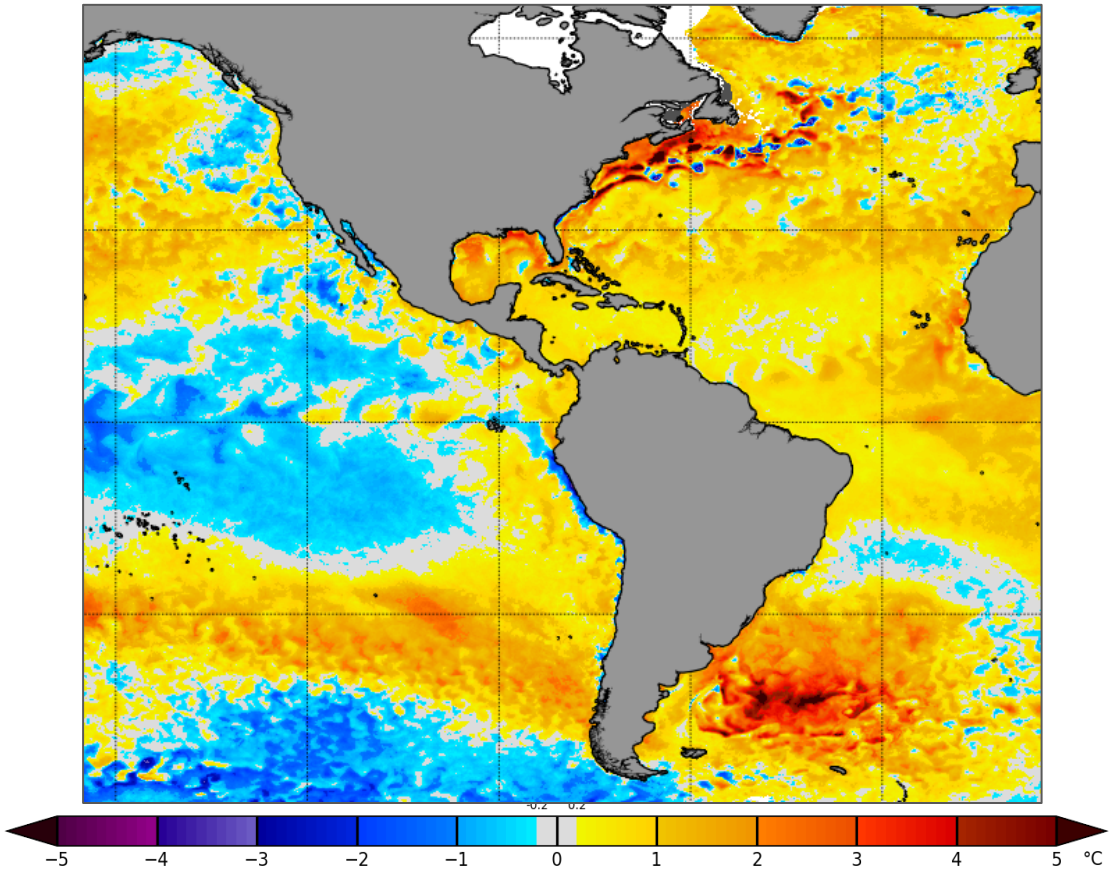
SST



NOAA OSPO

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

Anomaly



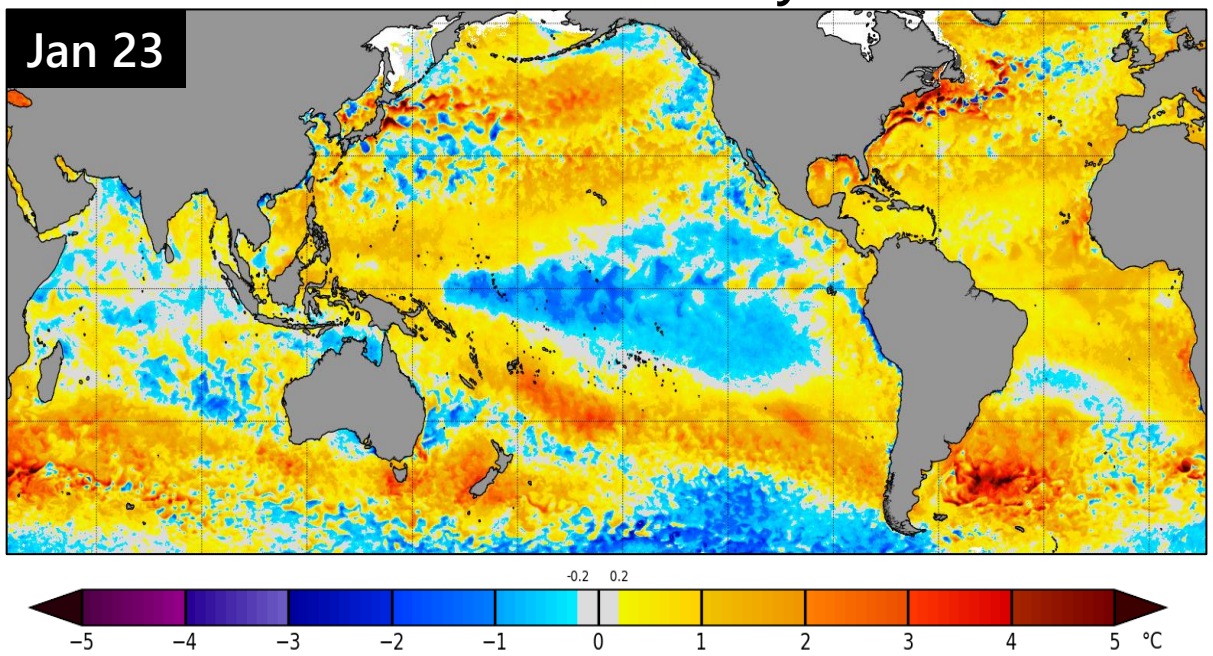
NOAA Coral Reef Watch

https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php

Sea Temperature Anomalies in top layer

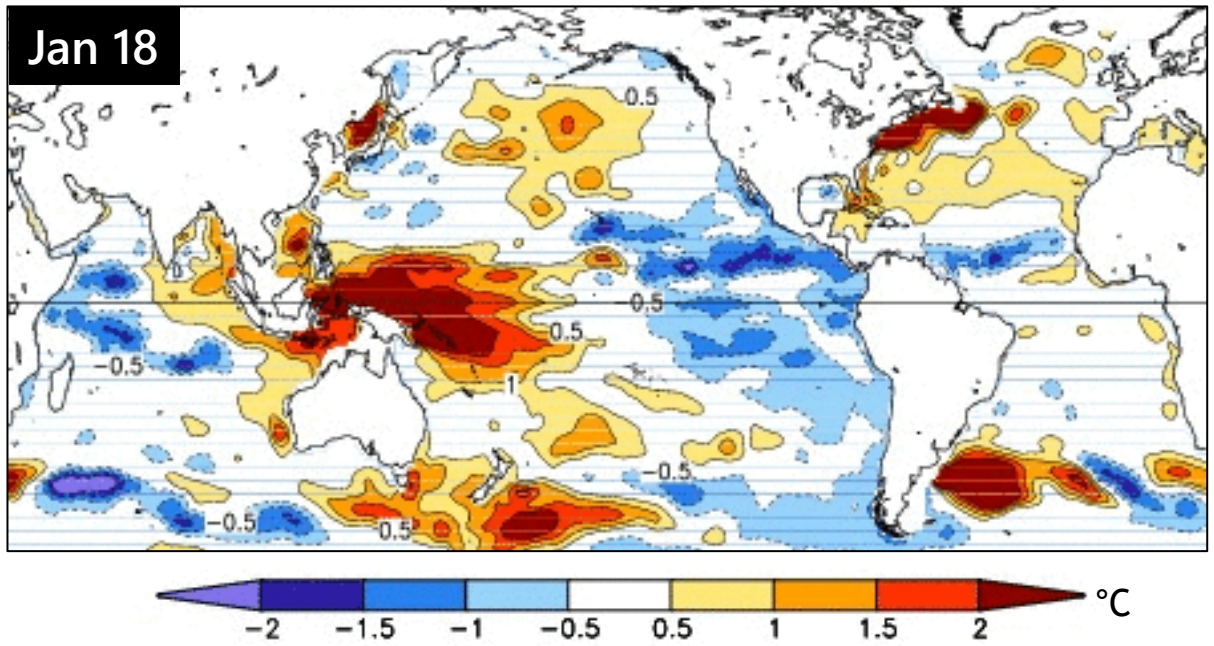
DEEP ANOMALIES LAST LONGER, WHICH MAKES THEM USEFUL FOR SUBSEASONAL FORECASTING

Surface Anomaly



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

Top 300m-Layer Anomaly (GODAS)

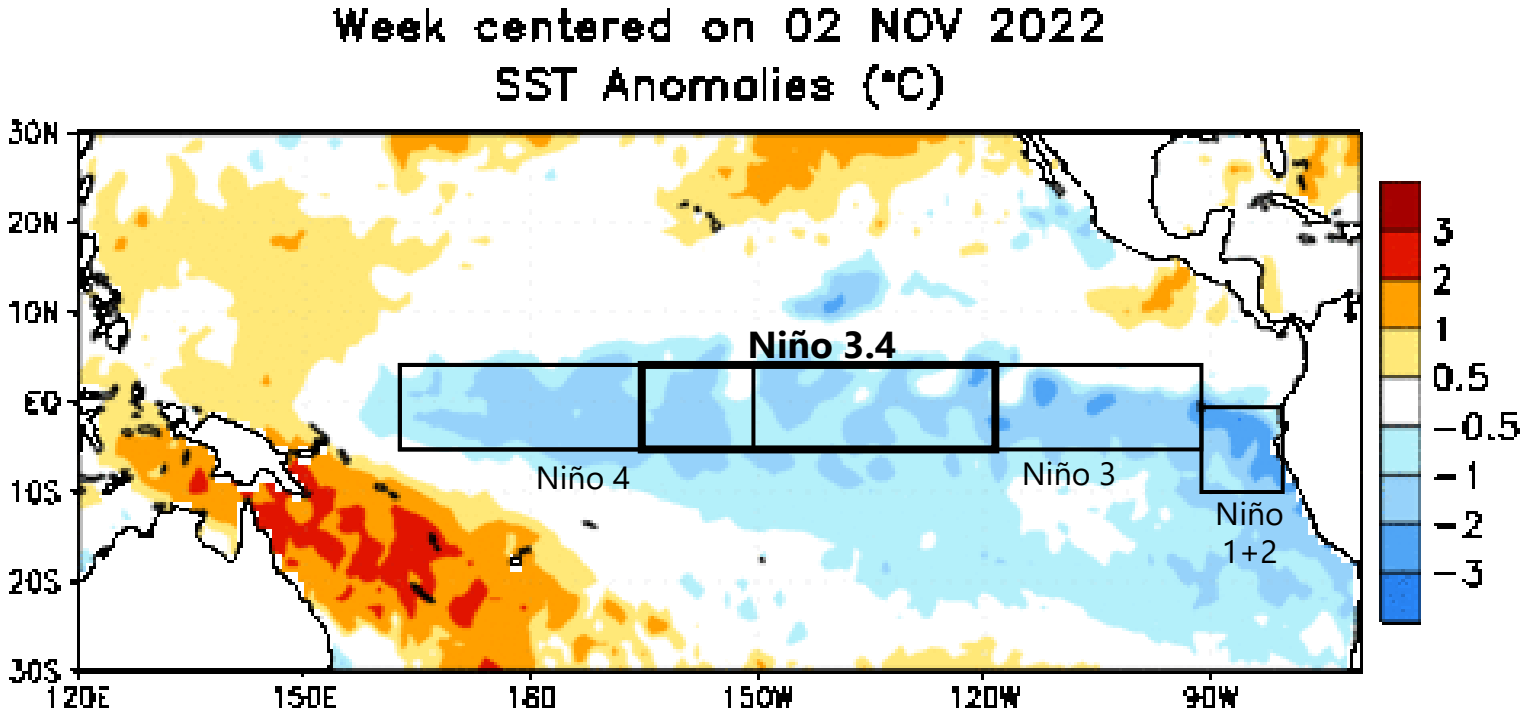


NOAA CPC
Source: CPC GODAS, https://www.cpc.ncep.noaa.gov/products/GODAS/

El Niño-Southern Oscillation (ENSO)

Status: La Niña
(no changes since April '22)

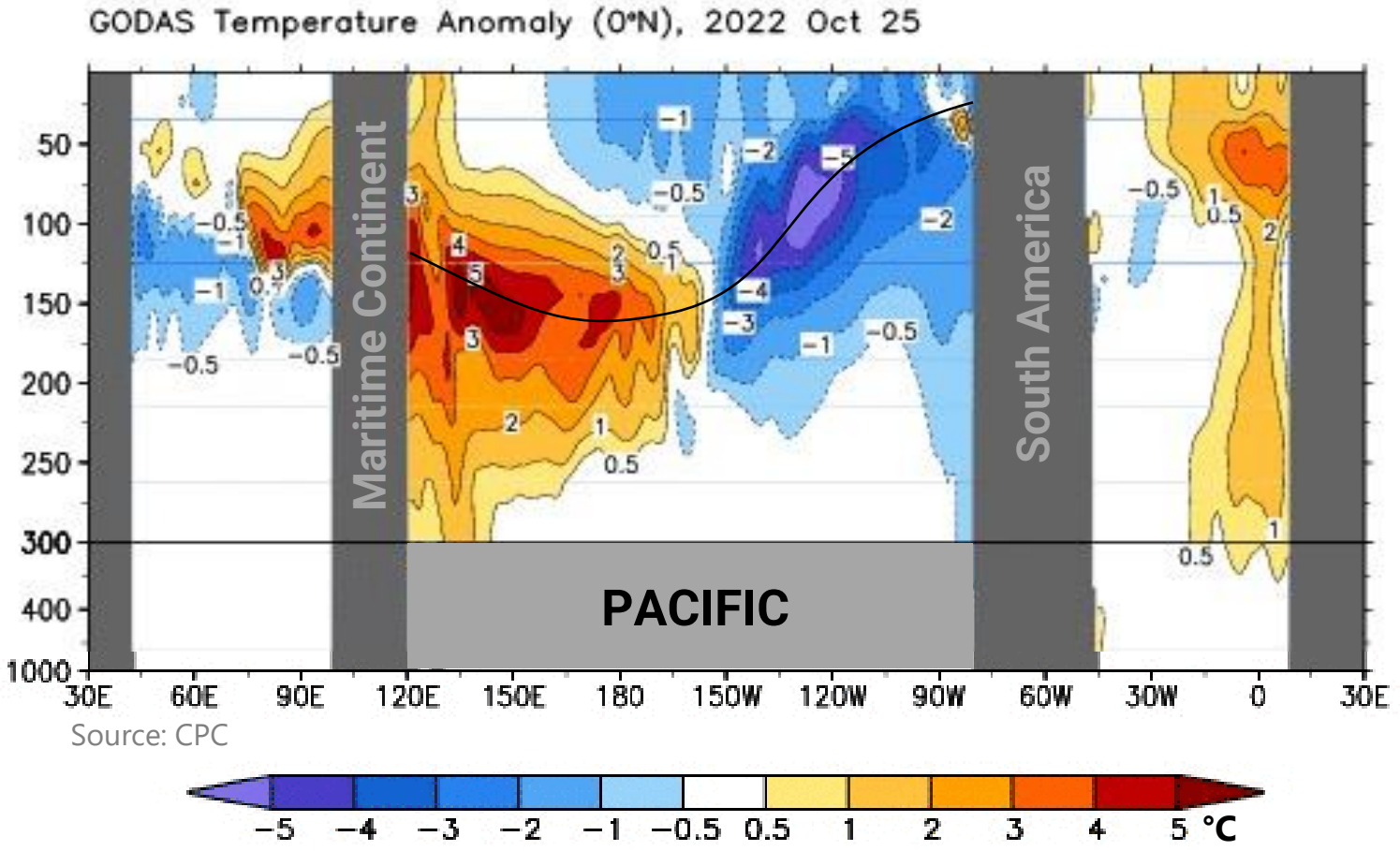
- La Niña is present.*
- Equatorial SSTs are below average across most of the Pacific Ocean.
- The tropical Pacific atmosphere is consistent with La Niña.



TAKEAWAY: La Niña is still present but a general warming of the surface is evident.

ENSO: Oceanic Kelvin Waves

Temperature Anomaly Section in Equatorial Oceans



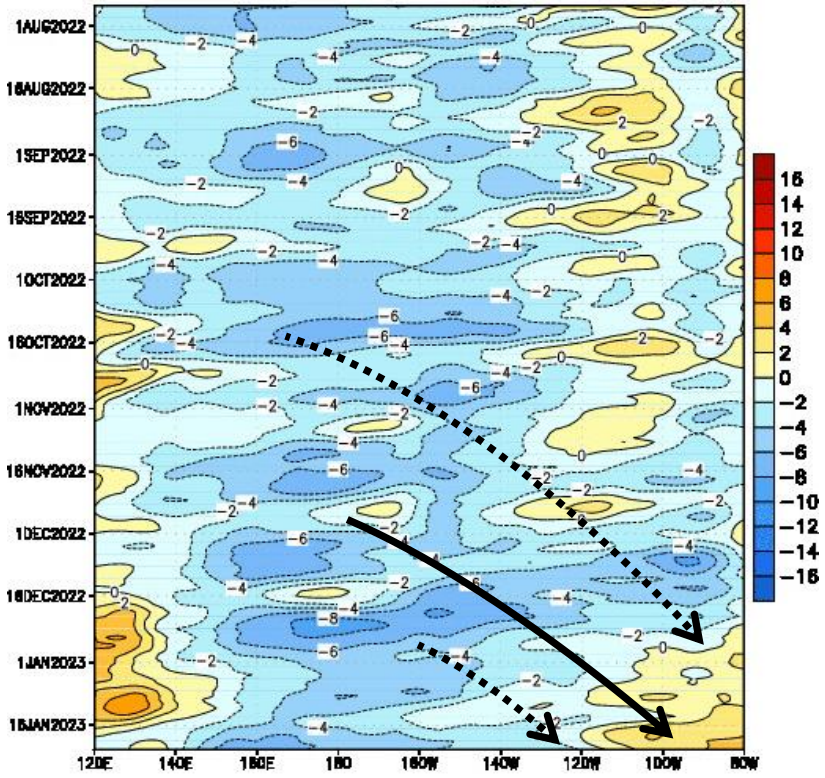
Source: CPC

TAKEAWAYS:

- Large area of important warm sub-superficial anomalies continues building in the western Pacific, but not propagating yet.
- A cool Kelvin Wave appears to be propagating along 120W while a warm one is arriving in South America.

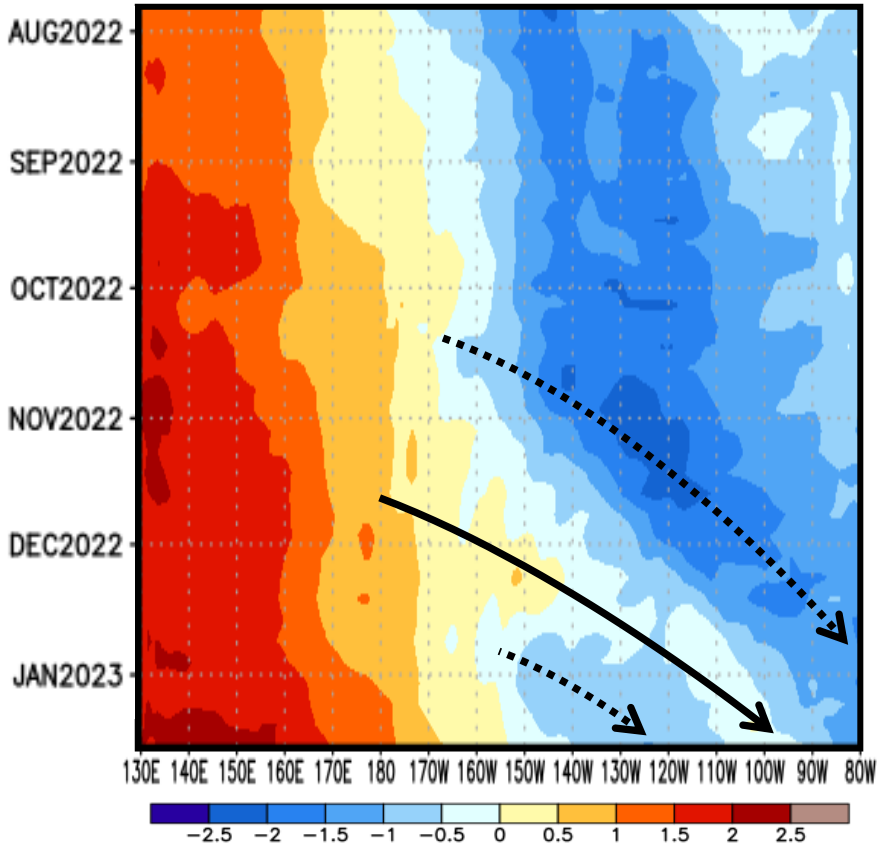
Hovmöller: Winds vs Heat Content

850 hPa Zonal Wind Anomaly (CDAS)



Source: CPC, 22 Jan 2023

Heat Content Anomaly Hovmöller

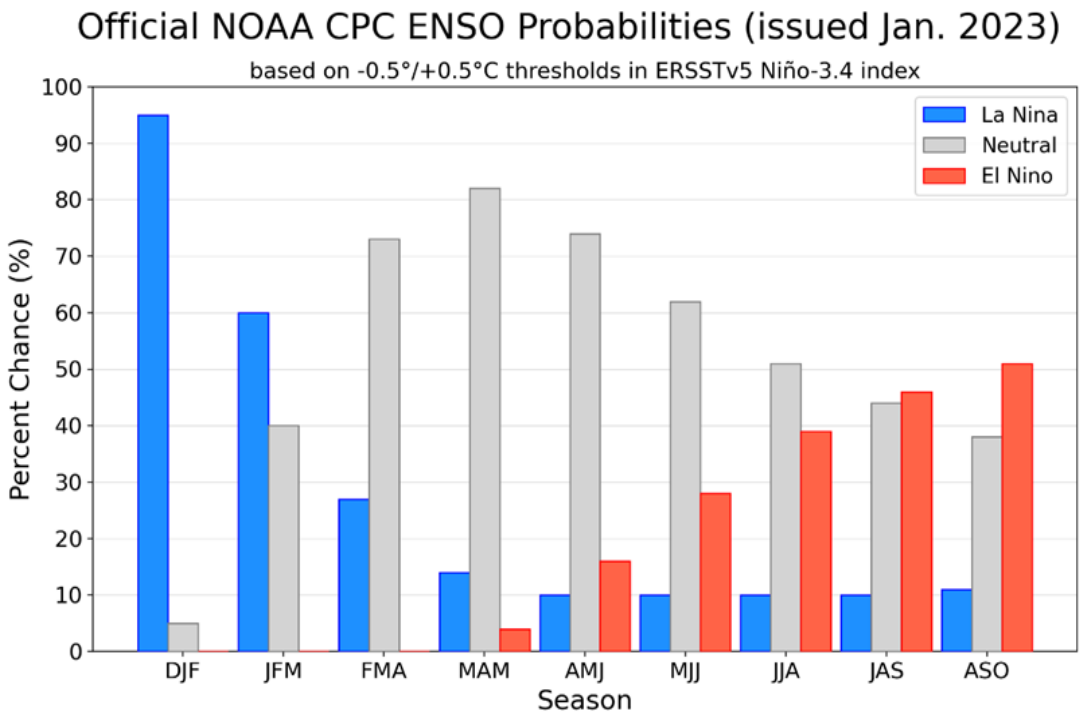


- Zonal wind anomalies can trigger Oceanic Kelvin Waves that propagate into the South American coast.
- Westerlies can trigger warm waves, easterlies cool waves.

ENSO Outlook

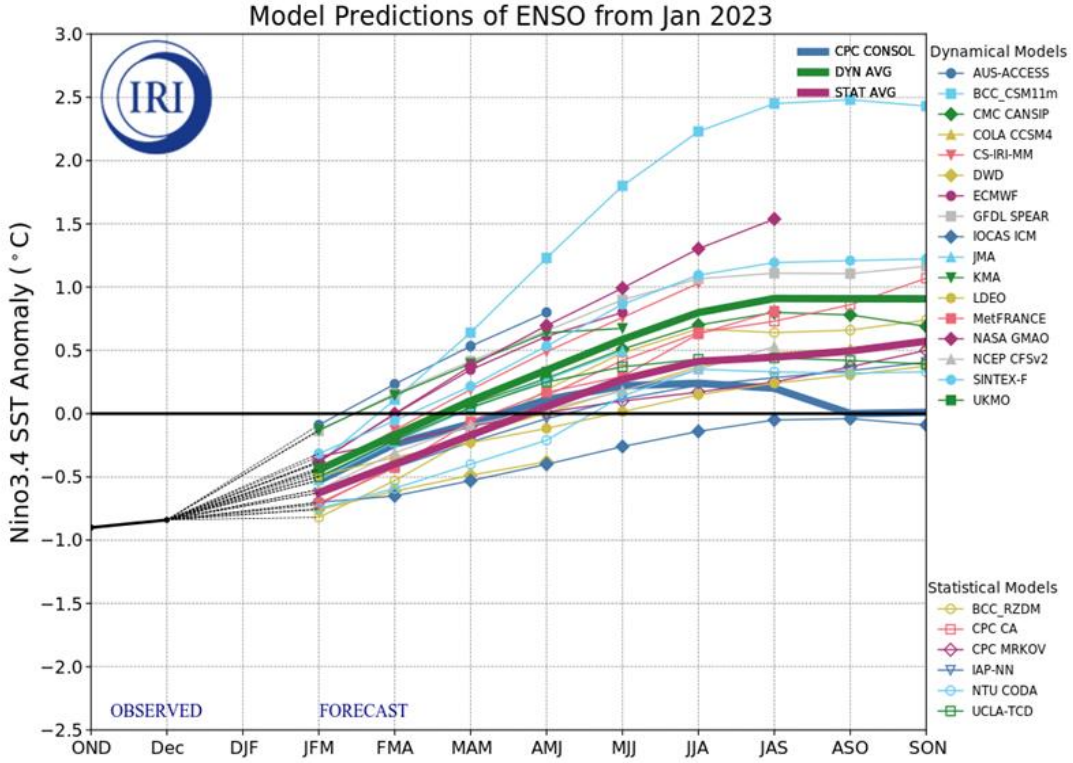
A transition from La Niña to ENSO-neutral is anticipated during the February-April 2023 season. By Northern Hemisphere spring (March-May 2023), the chance for ENSO-neutral is 82%.*

CPC Probabilistic Forecast



Source: CPC

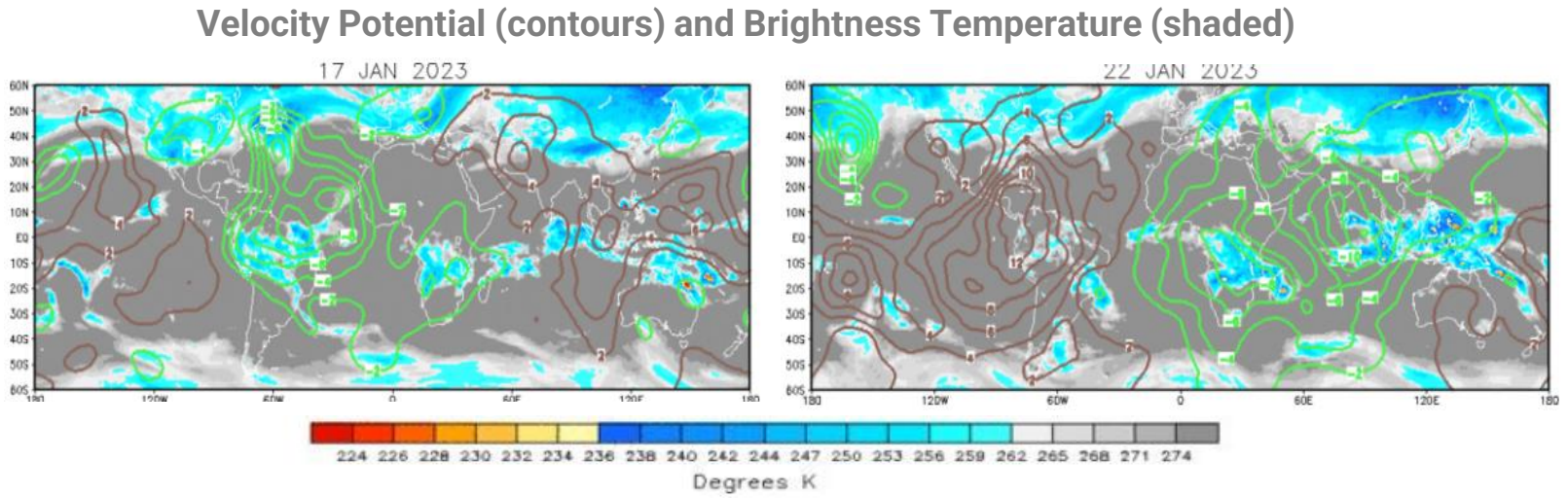
IRI/CPC Dynamic Models

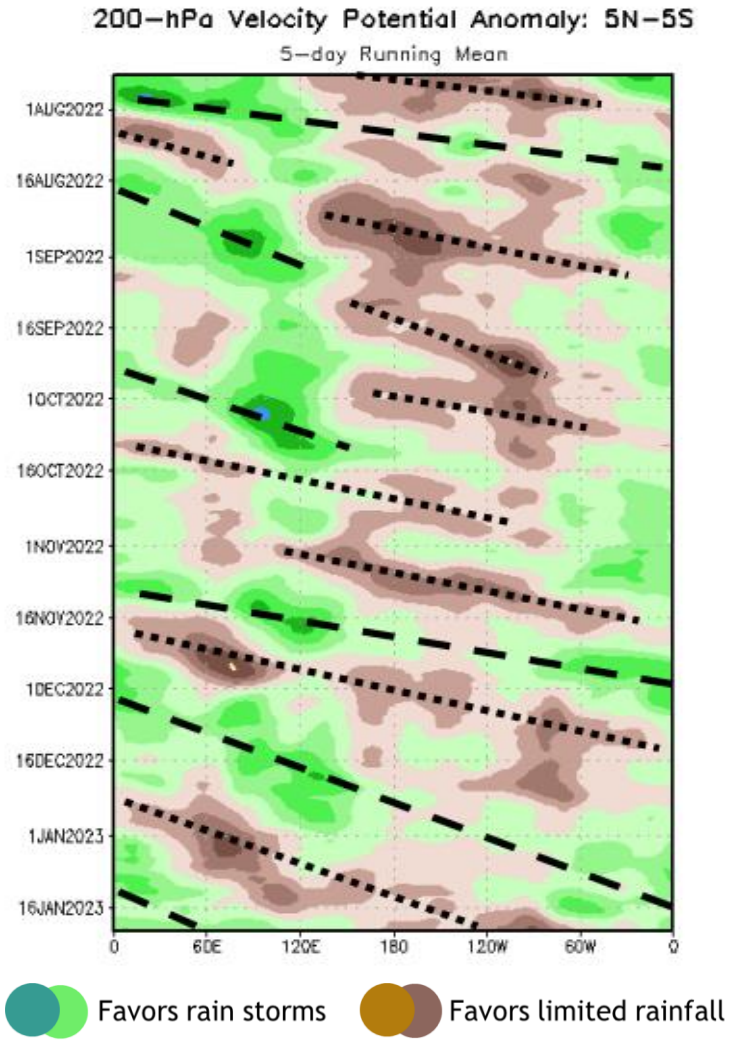


Madden-Julian Oscillation (MJO)

Current Observations:

- Wave-1 Pattern and coherent propagation continue. Upper convergent phase (brown) moving into the Americas.
- Speed: Slower than average (1.5 Months to traverse the globe)
- Last wet phase in the Americas: Early January. This means higher chances for the next wet phase during the second half of February.

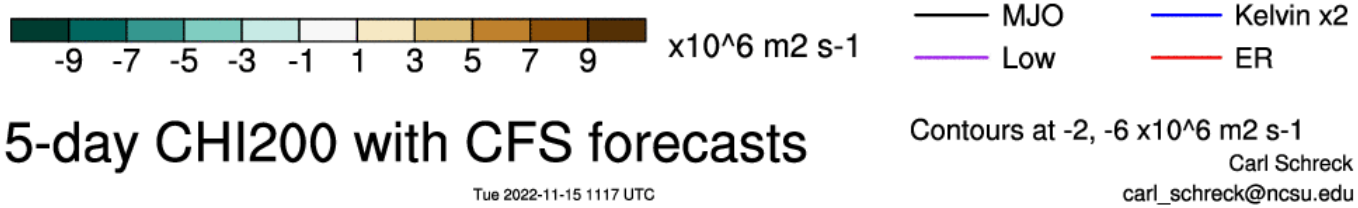


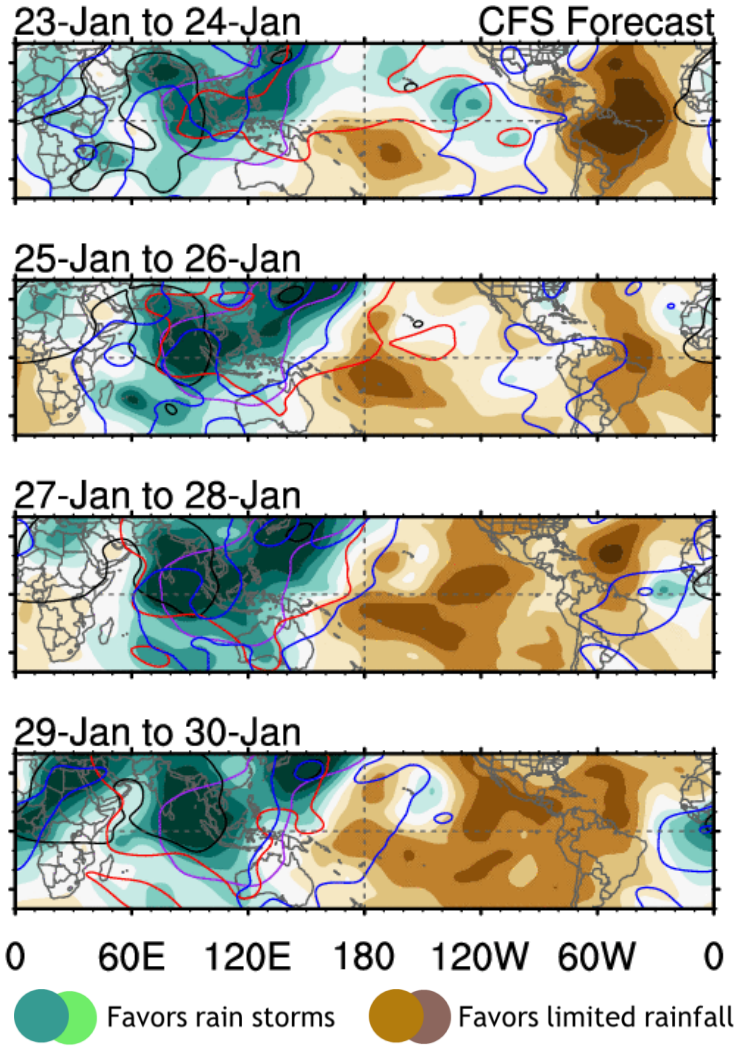


MJO and Upper Tropospheric Waves

Outlook for the next week:

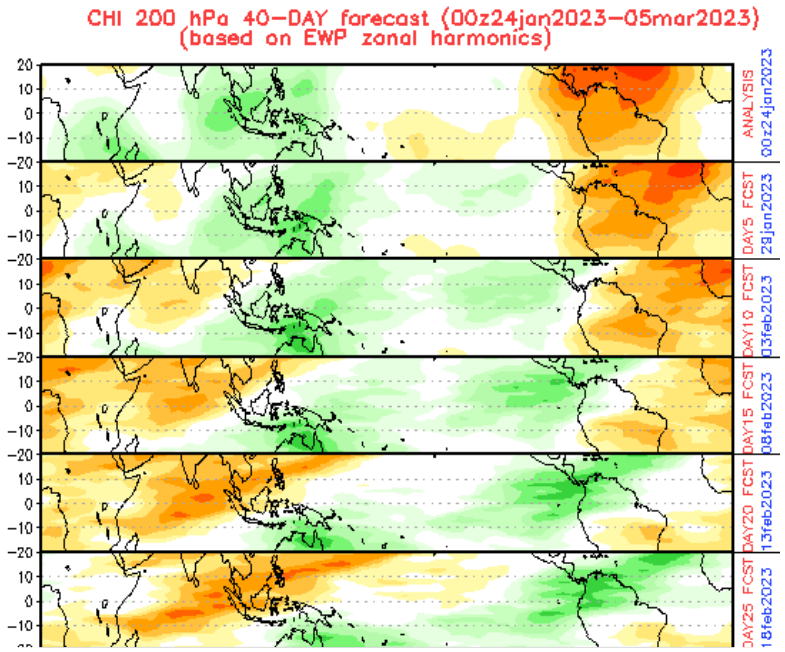
- Large scale upper convergent MJO dominant through the entire week.
- Embedded in this, a wet Kelvin is forecast across the basin today through Friday, but impacts will be limited.
- Looks very dry again this weekend and all next week.



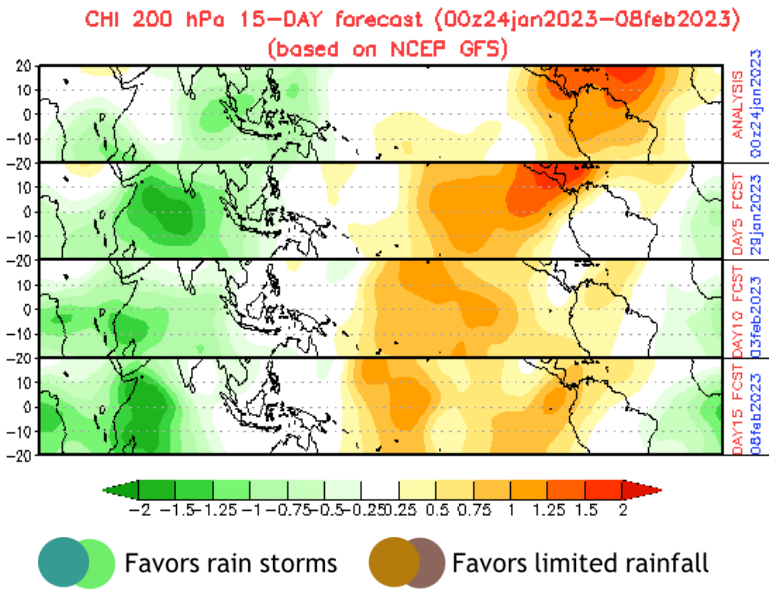


MJO Forecasts for the Americas

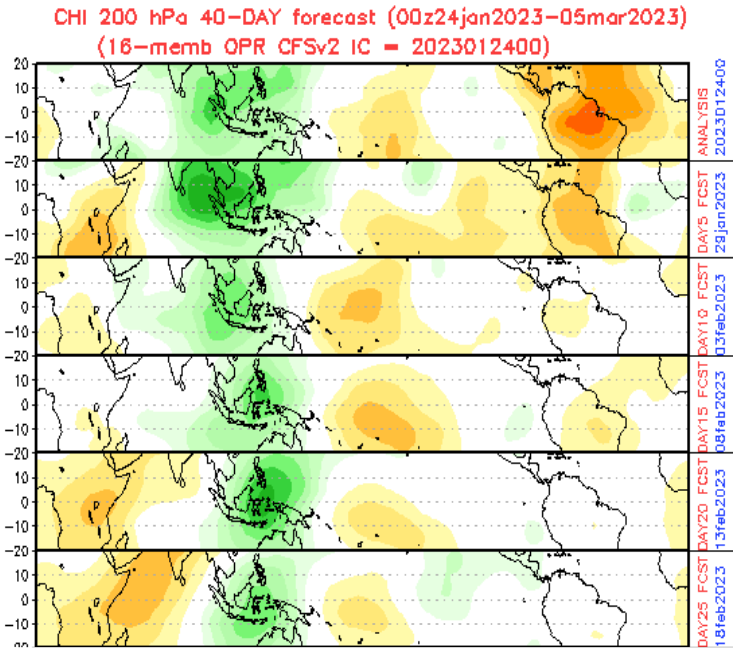
Empirical Wave Propagation (EWP)



Global Forecast System (GFS)



Climate forecast System (CFS)

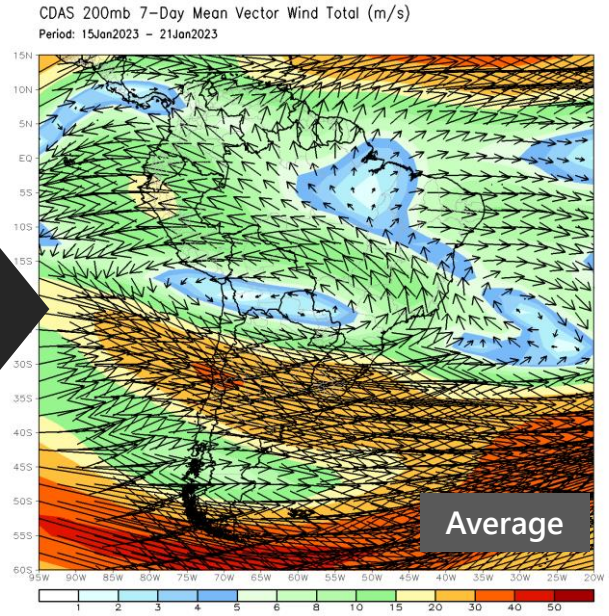


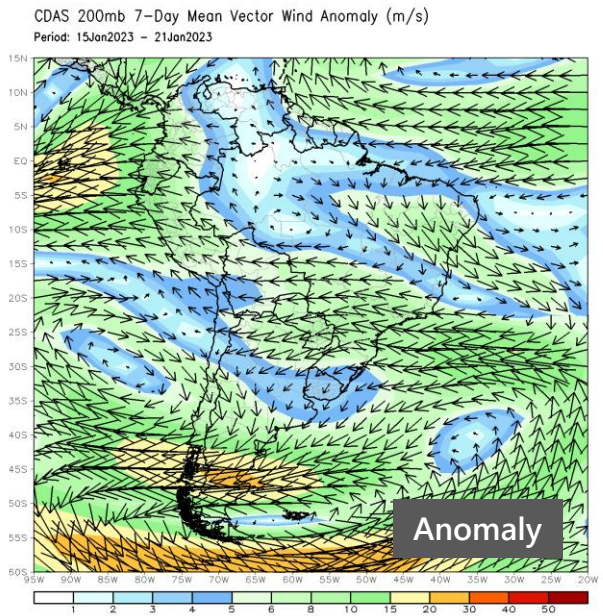
TAKEAWAYS

- Upper convergence dominant through at least February 10.
- Strongly convergent (dry) through February 5.
- Wetter on the second half of February.

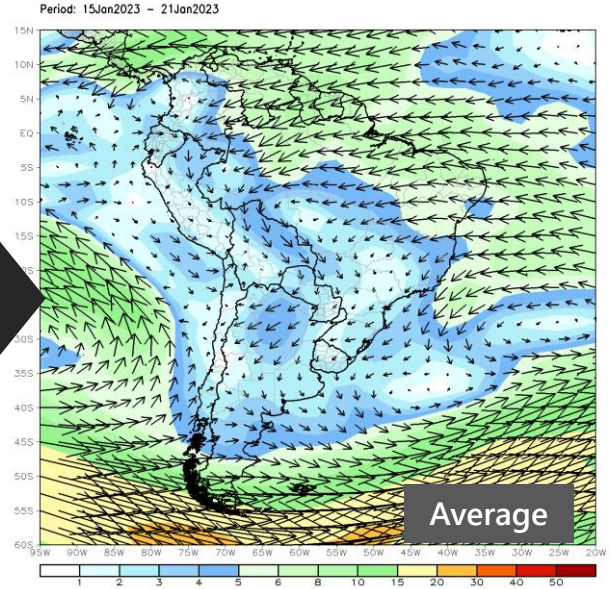
South America, Last 7 Days

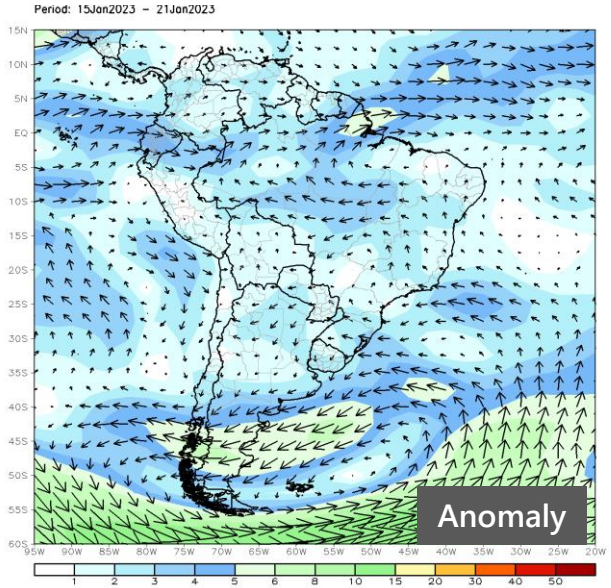
200 hPa Flow

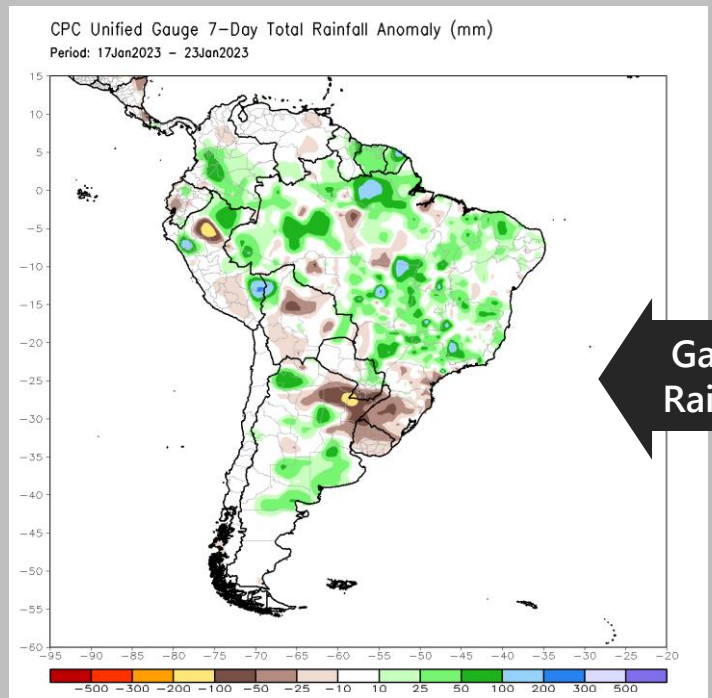




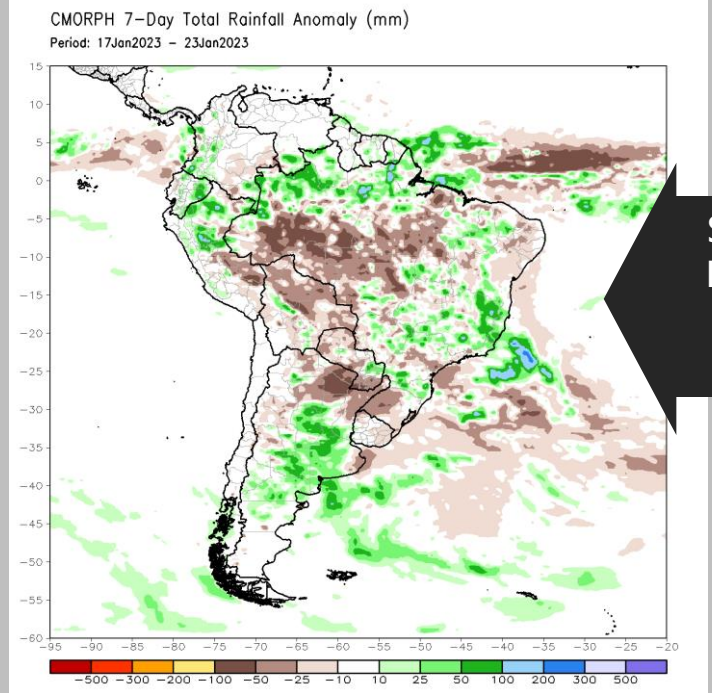
850 hPa Flow







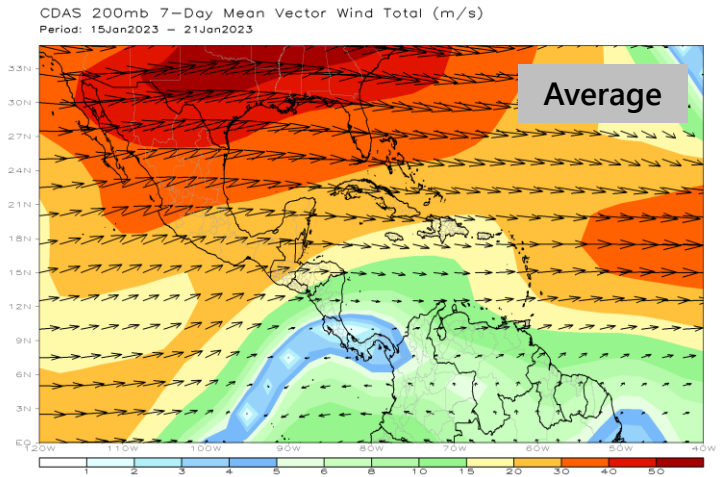
Gauge Rainfall

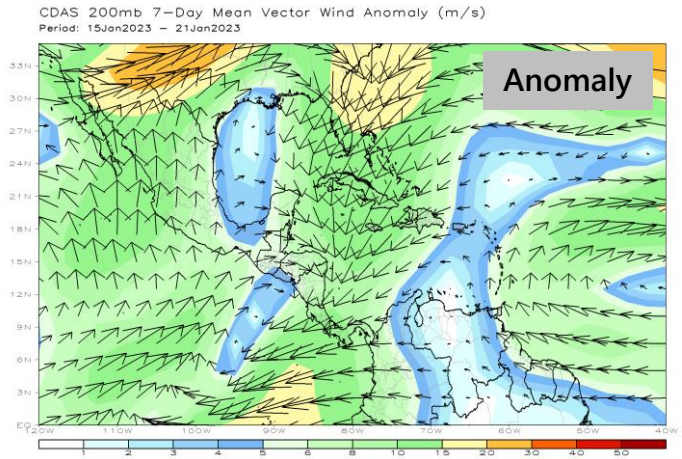


Satellite – Estimated Rainfall (CMORPH)

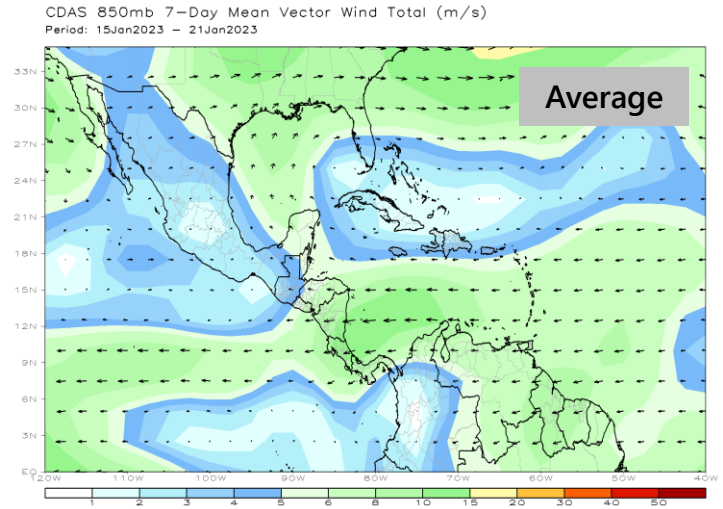
Caribbean/Central America, Last 7 Days

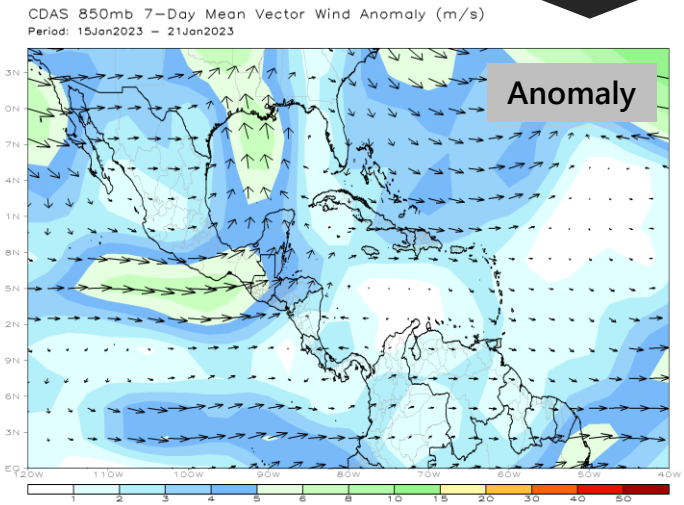
200 hPa Flow



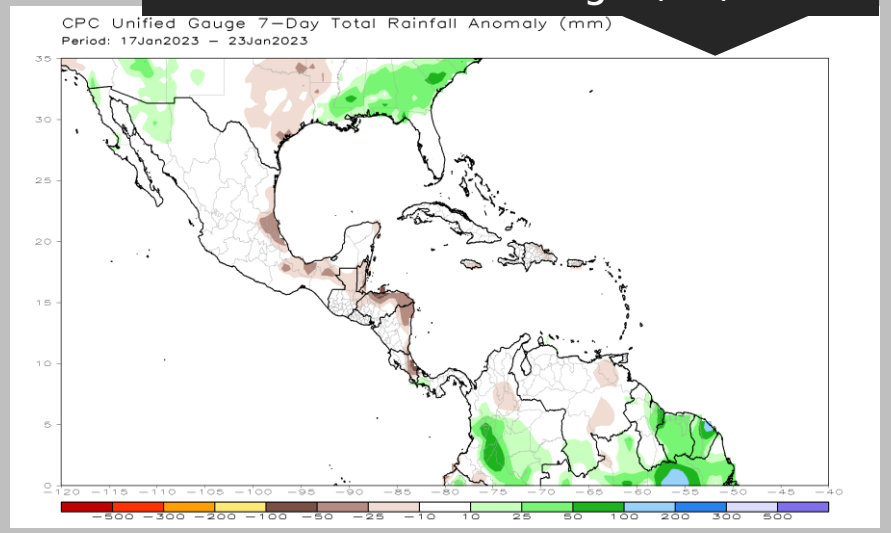


850 hPa Flow

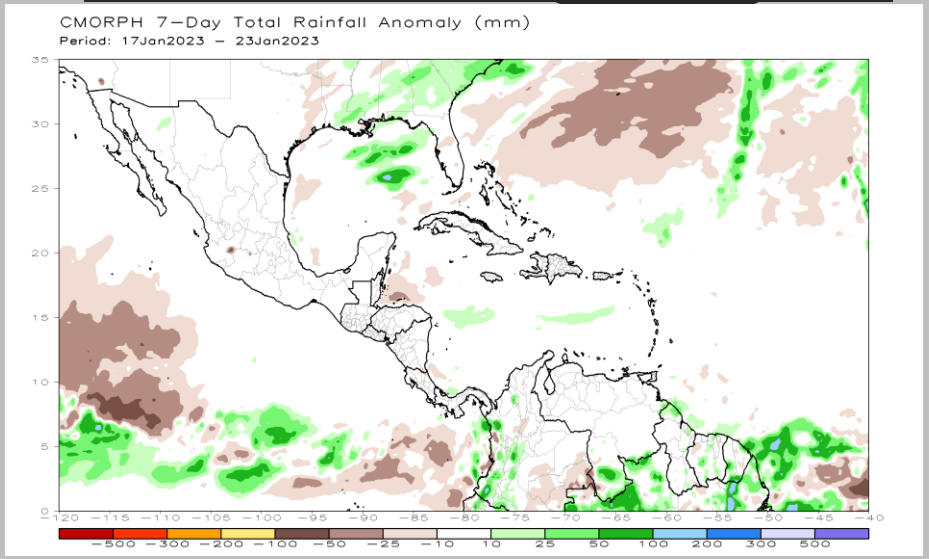




Rainfall from Gauges (CPC)



Satellite – Estimated Rainfall (CMORPH)



¡Gracias! Thank you! ¡Obrigado!

Next RFG Session: Wed 8 February 2023, 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