WMO VLab Regional Focus Group
of the Americas and Caribbean

Since 2004

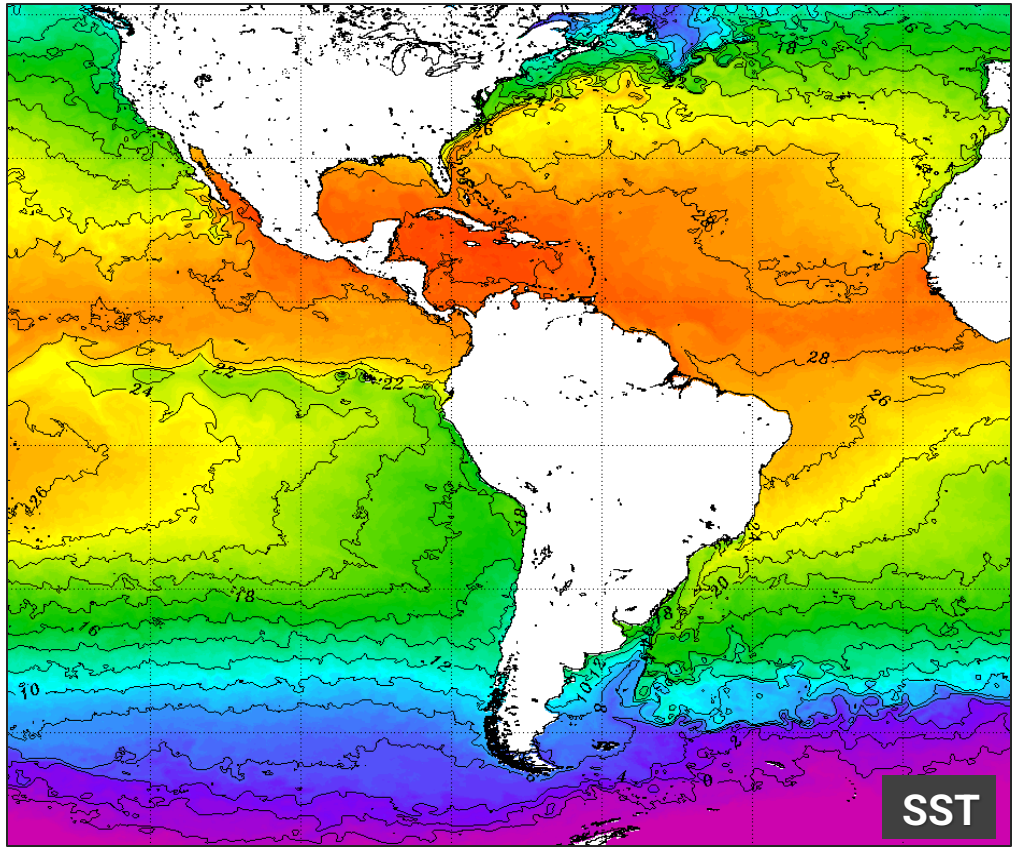
Climate Indices

Current Status and Projections

Wednesday 22 October 2025

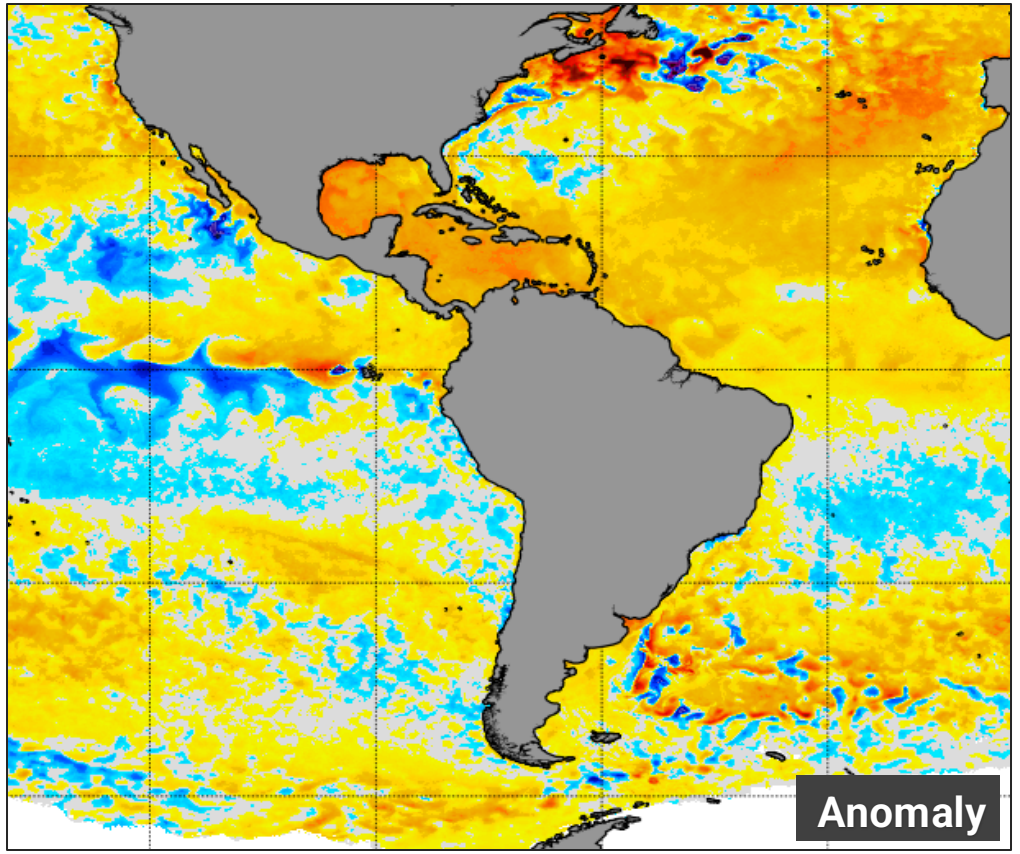
Sea Surface Temperature (SST)

20 October



Source: OSPO

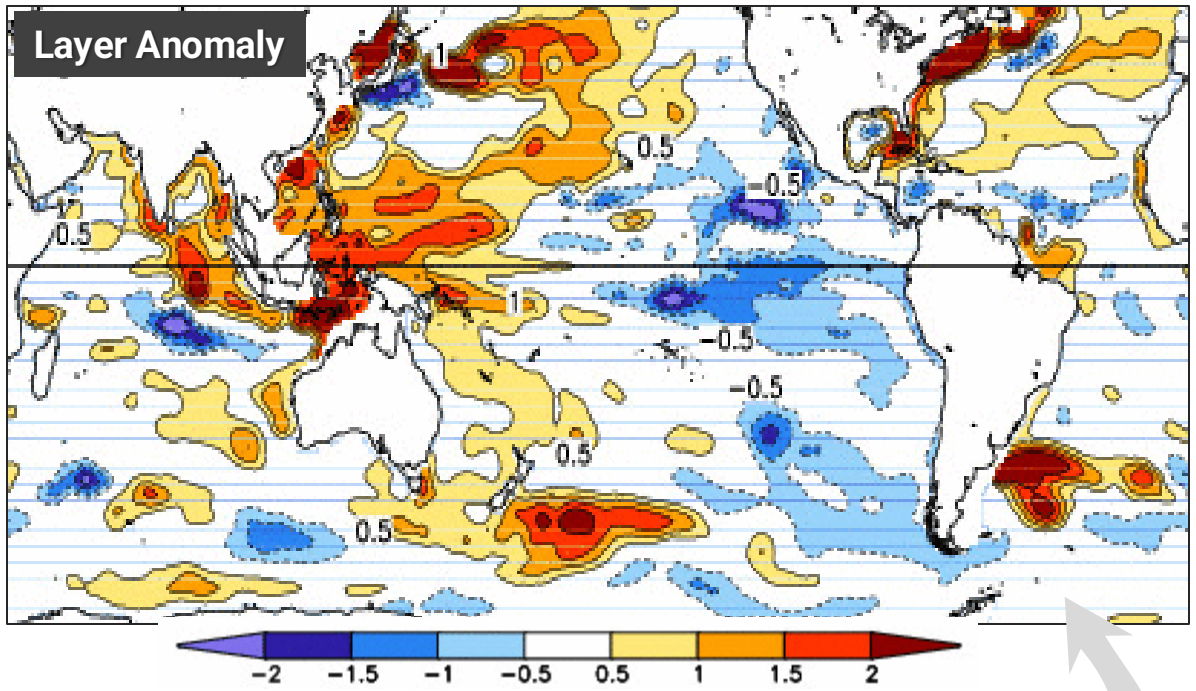
20 October



Source: NOAA Coral Reef Watch

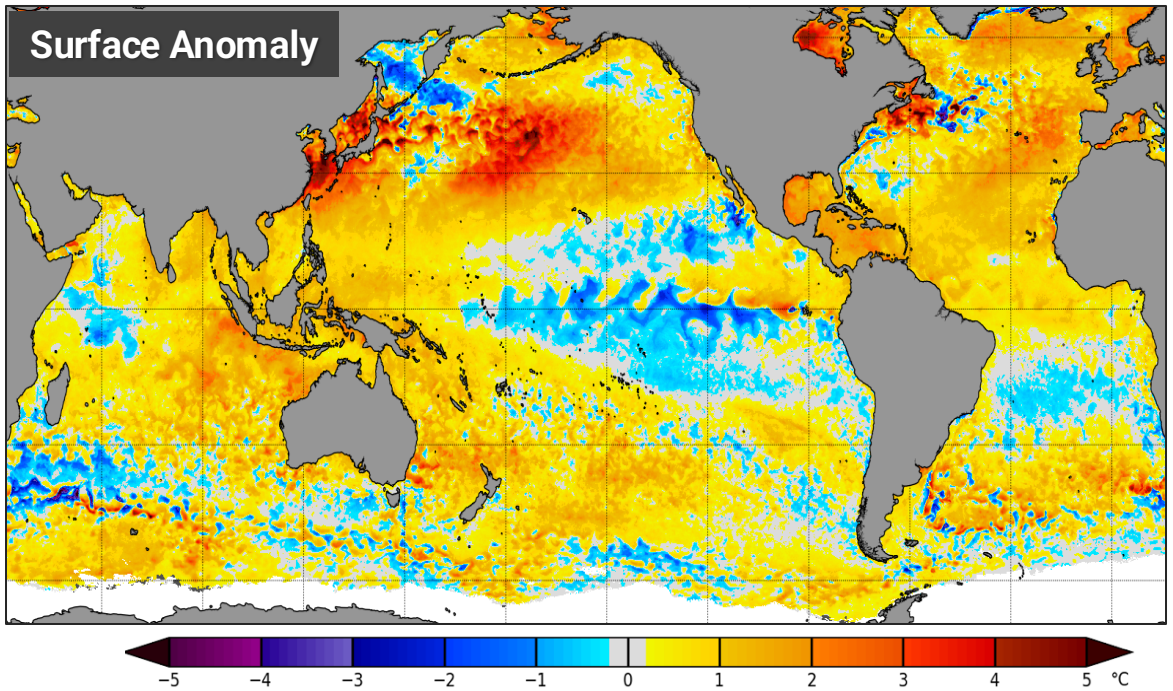
Top 300m Layer Temperature Anomaly

15 October



Source: GODAS, CPC

20 October



Source: NOAA Coral Reef Watch

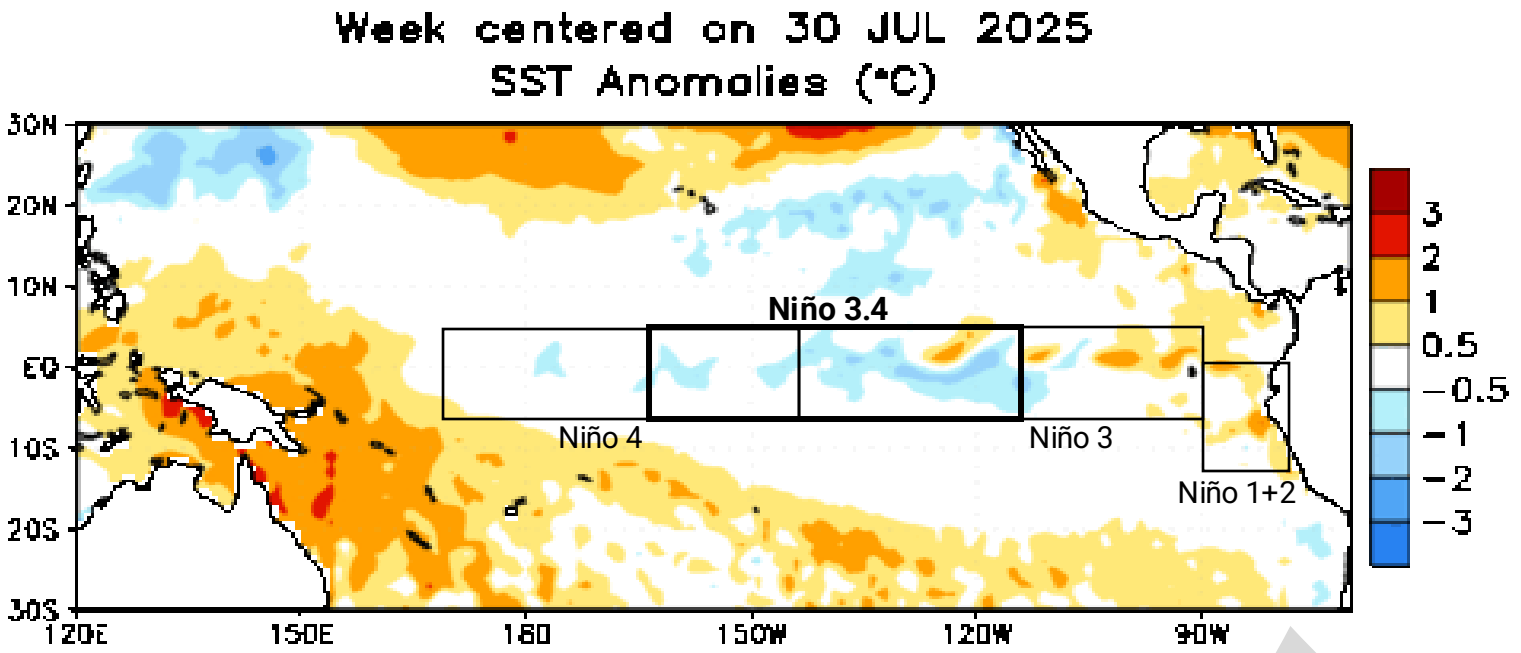
Layer anomalies take longer to dissipate than superficial ones, which makes them a great subseasonal forecasting tool!

El Niño-Southern Oscillation (ENSO)

CPC Official Statement

La Niña Advisory

- La Niña conditions are present.*
- Equatorial SSTs are mostly below average across most of the Pacific Ocean.
- Atmospheric anomalies over the tropical Pacific Ocean are consistent with La Niña.



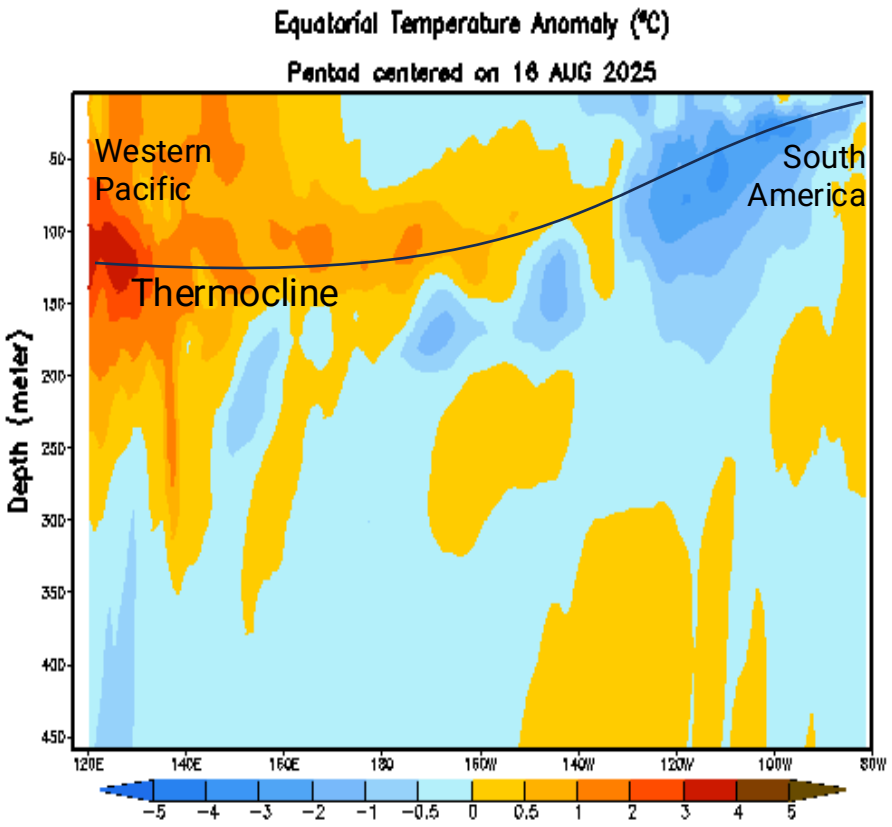
Source: CPC

Takeaway

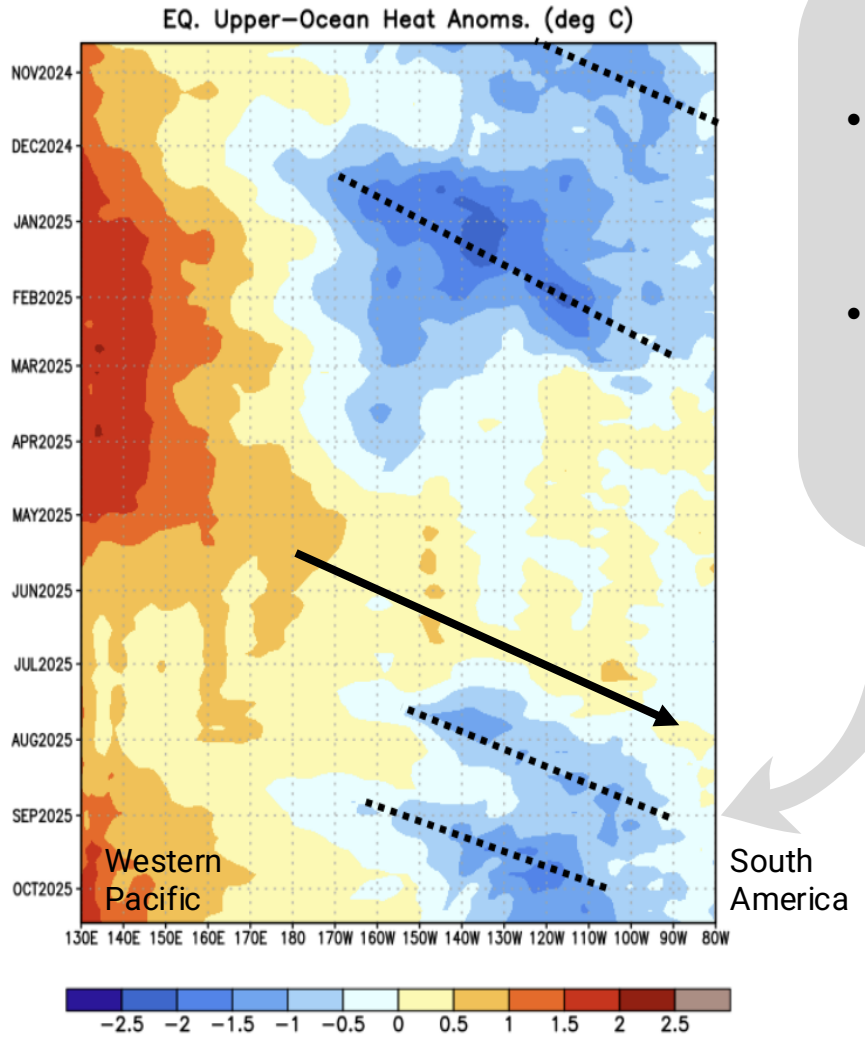
- The equatorial Pacific continues cooling.

Oceanic Kelvin Wave Activity (ENSO)

Temperature Anomaly Cross Section



Heat Content Hovmöller



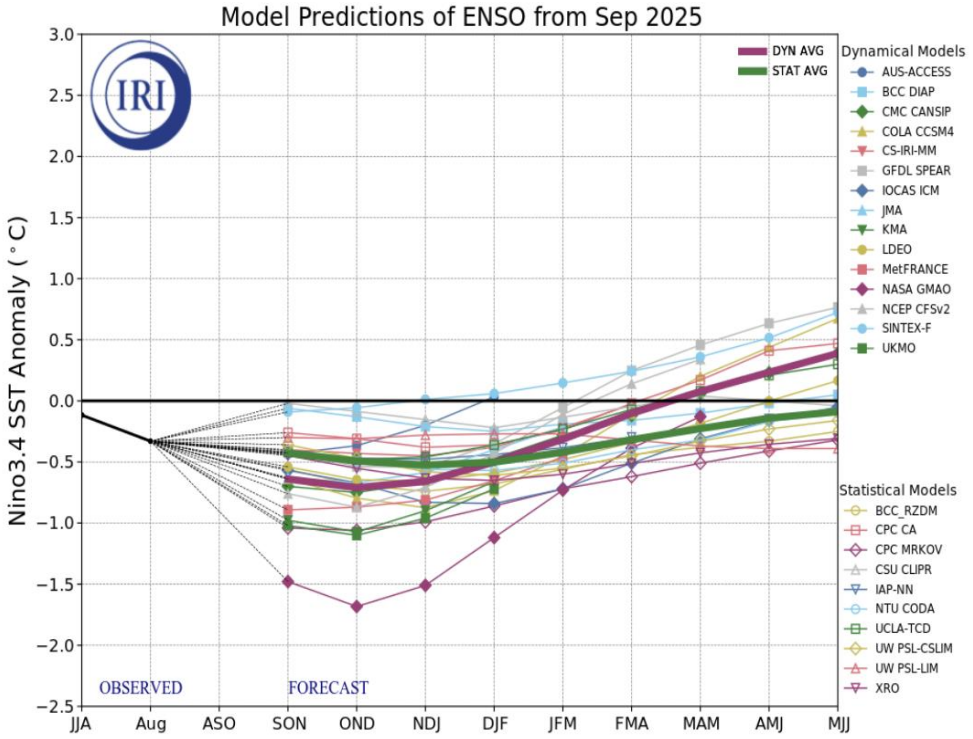
Takeaways

- Cool Kelvin Waves have become more active since July.
- These are helping to cool the Eastern Pacific, strengthening the La Niña State.

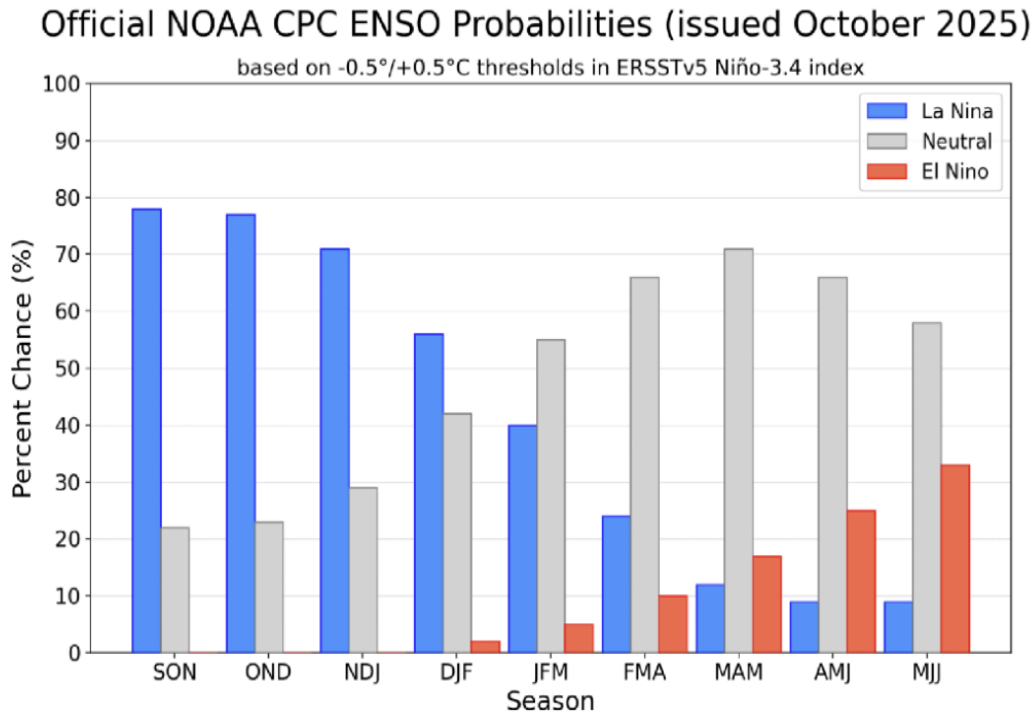
ENSO Outlook:

La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance).*

Dynamical Models



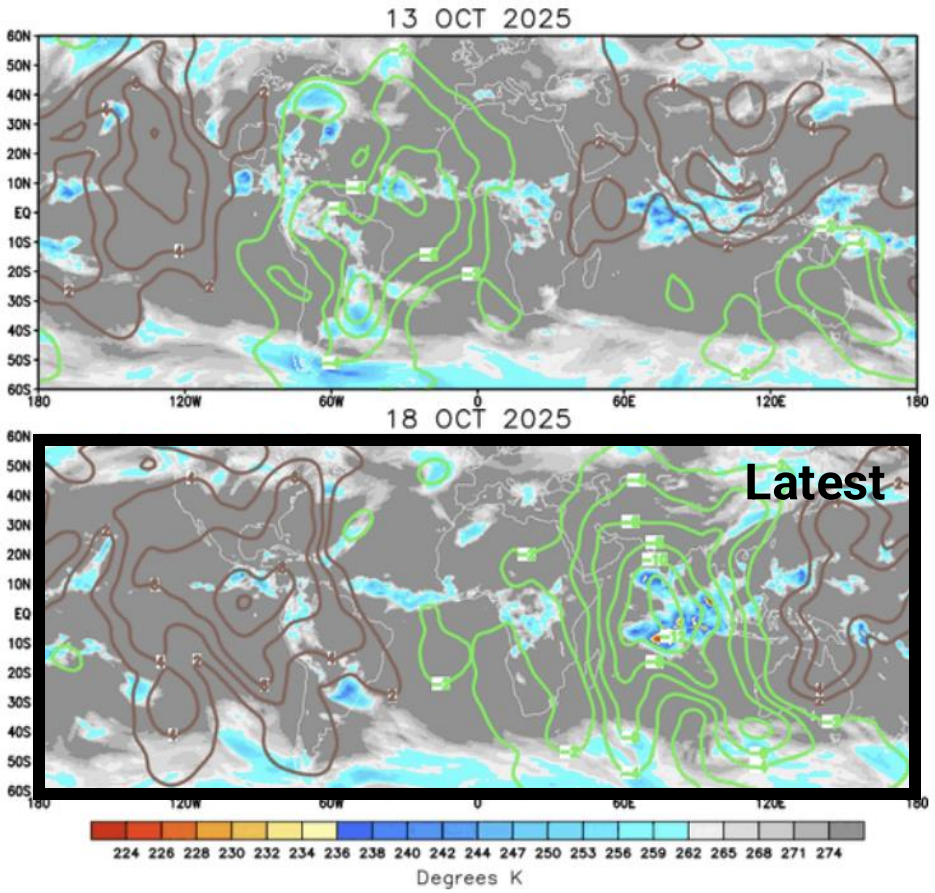
Probabilistic Forecast



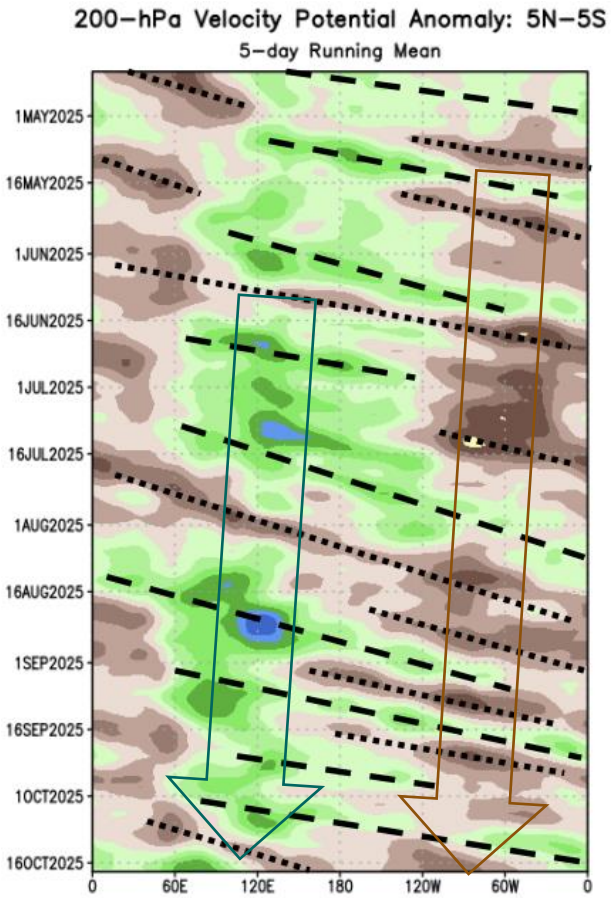
Takeaway La Niña should continue through February.

Madden-Julian Oscillation (MJO)

Velocity Potential and Outgoing Long Wave Radiation



CHI Hovmöller

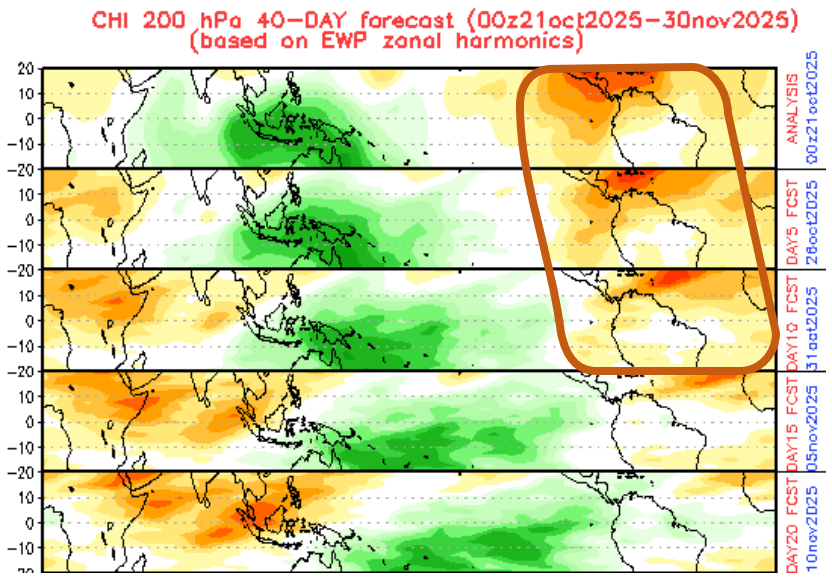


Takeaways

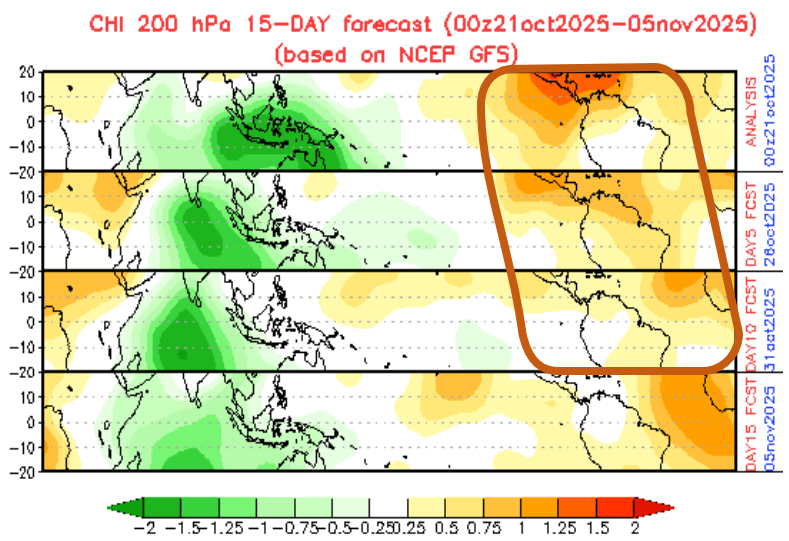
- The MJO is on a Wave-1 mode.
- Propagation has improved since last month, but it is fast and disorganized.
- A low frequency signal continues favoring wetter conditions over the Indian Ocean (green) and drier over the Americas (brown).
- This should favor continued upper convergent (dry) conditions over the Americas through the next several weeks, decreasing in intensity through early November.

MJO Forecasts

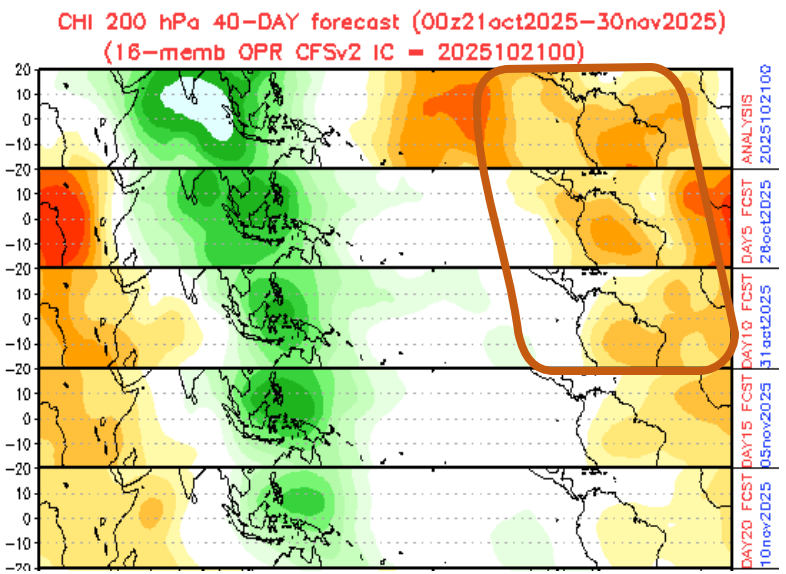
Empirical Wave Propagation



Global Forecast System (GFS)



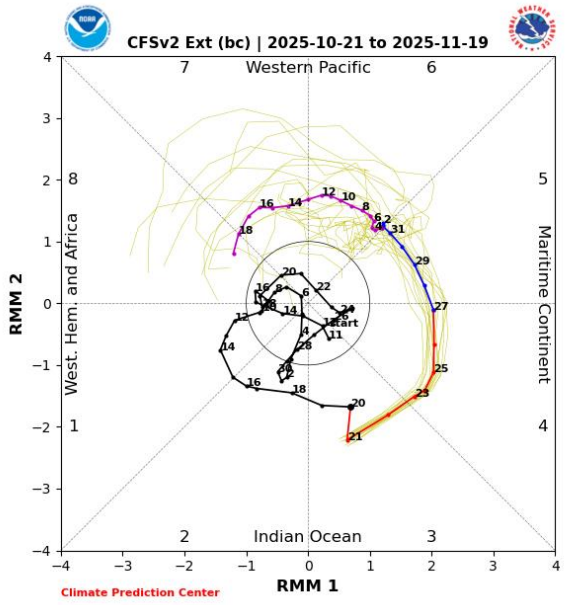
Climate Forecast System (CFS)

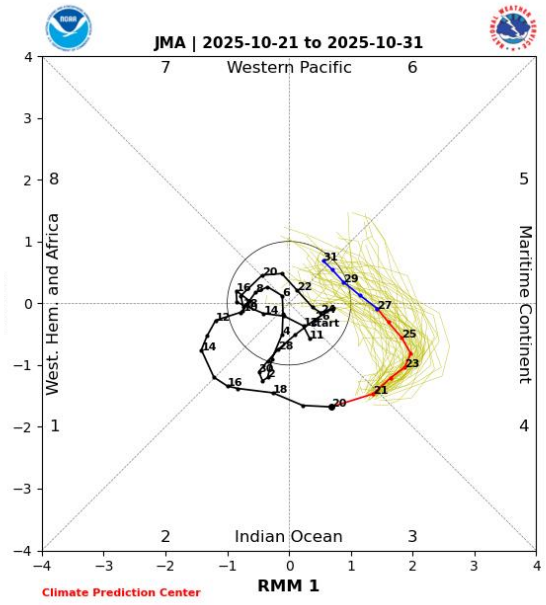


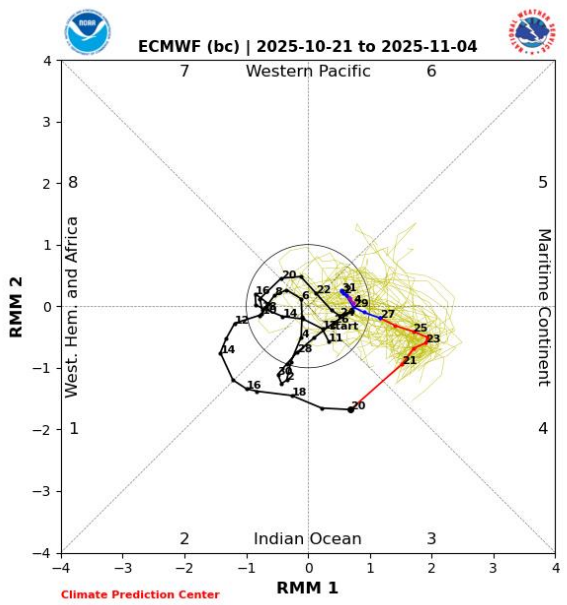
Takeaways

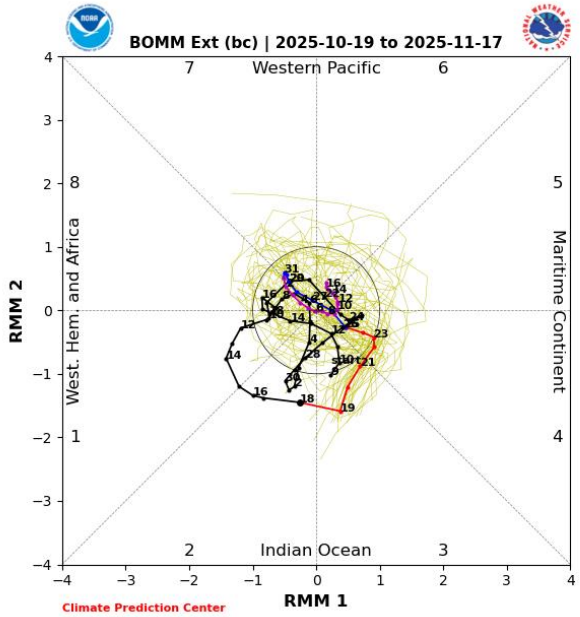
- Models are resolving a clear upper convergent (dry) signal persisting over the Americas through the end of October.
- The large scale scale environment should become less upper convergent (more favorable for deep convection) by the beginning of November.

MJO Forecasts: Phase Diagrams





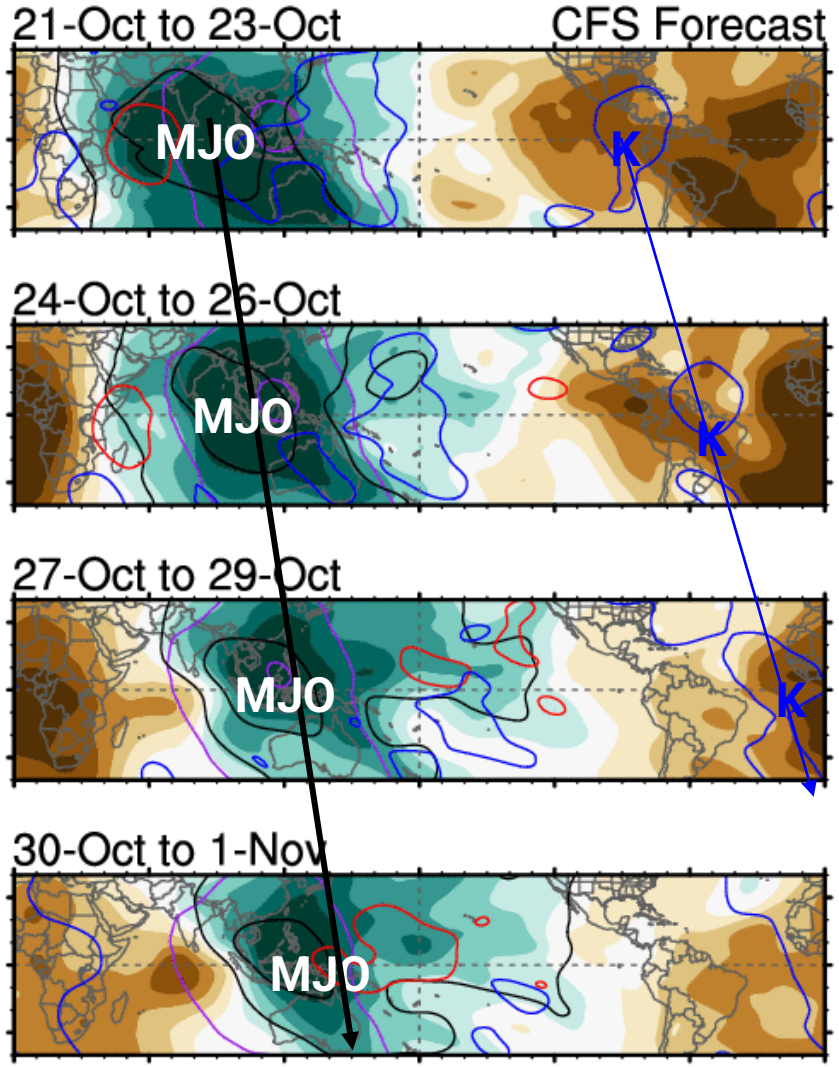




Takeaways

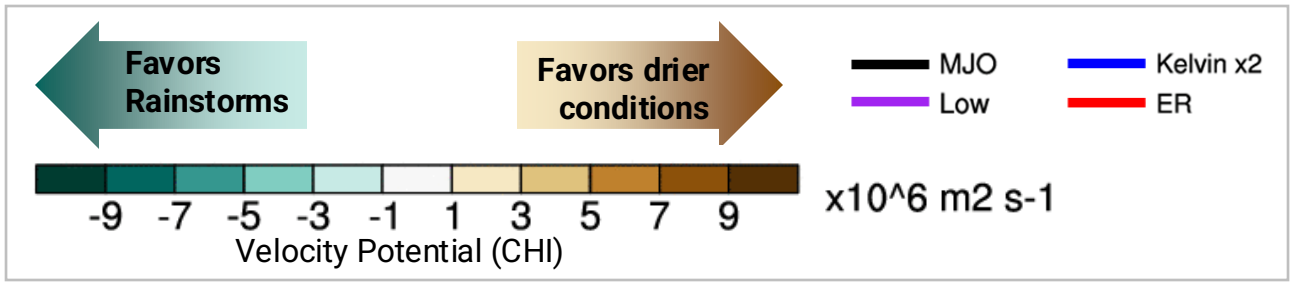
- As the MJO gains structure, models are in better agreement in resolving propagation.
- MJO in phases 5 and 6 through the end of October is consistent with generally drier conditions over the Americas.

MJO and Upper Tropospheric Waves



Takeaways

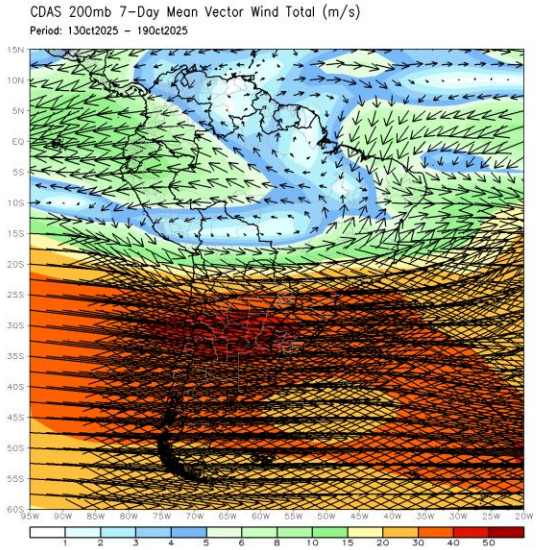
- A Kelvin is propagating embedded in a dry MJO pulse. This means that its effects in enhancing convection are limited.
- Yet, large scale upper convergence should still be gradually decreasing, favoring an increase in deep convection. But no Kelvin wave trailing behind the current one is apparent at the moment.

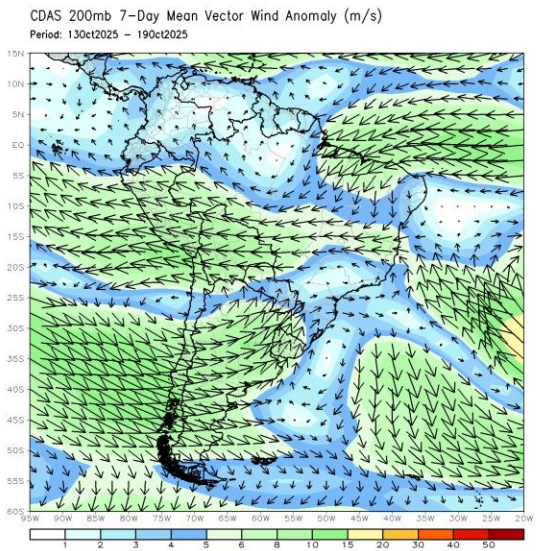


South America, last 7 days

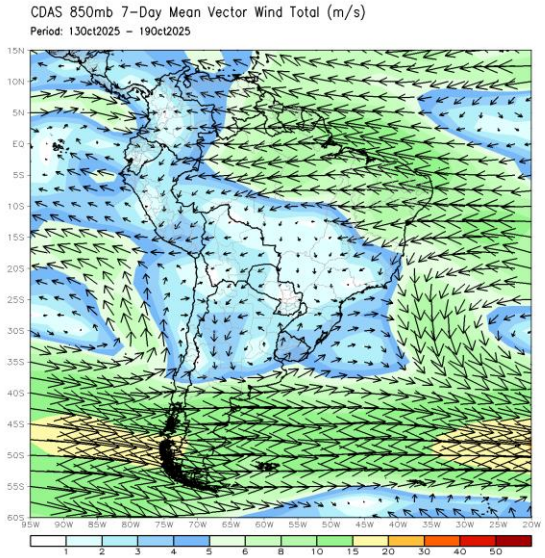
Flow

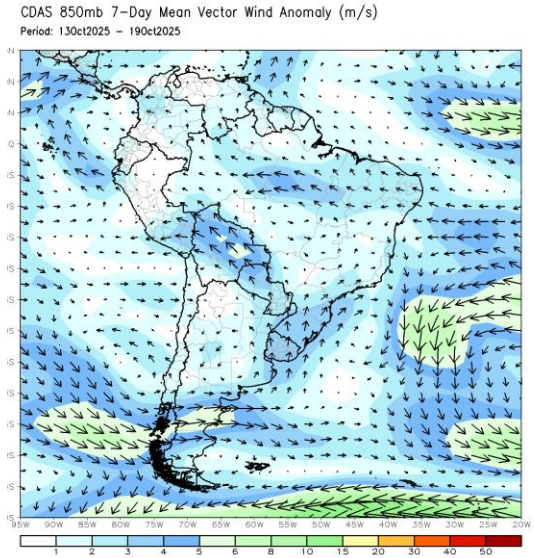
200 hPa



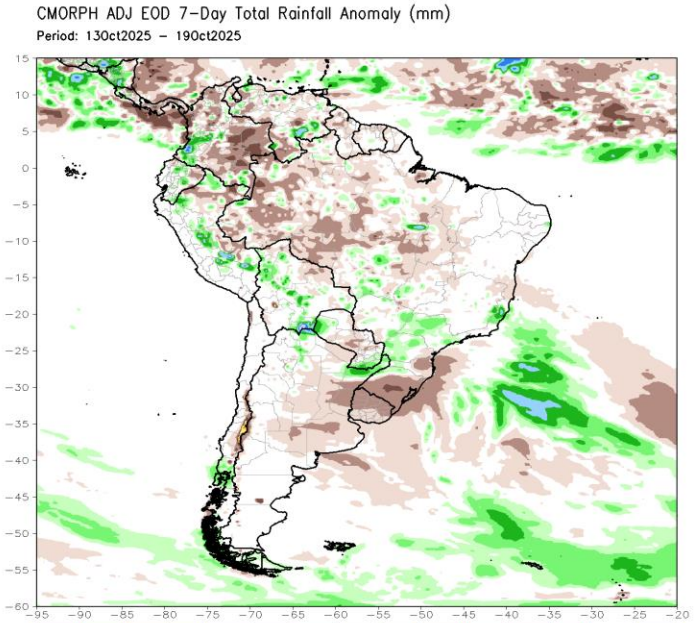


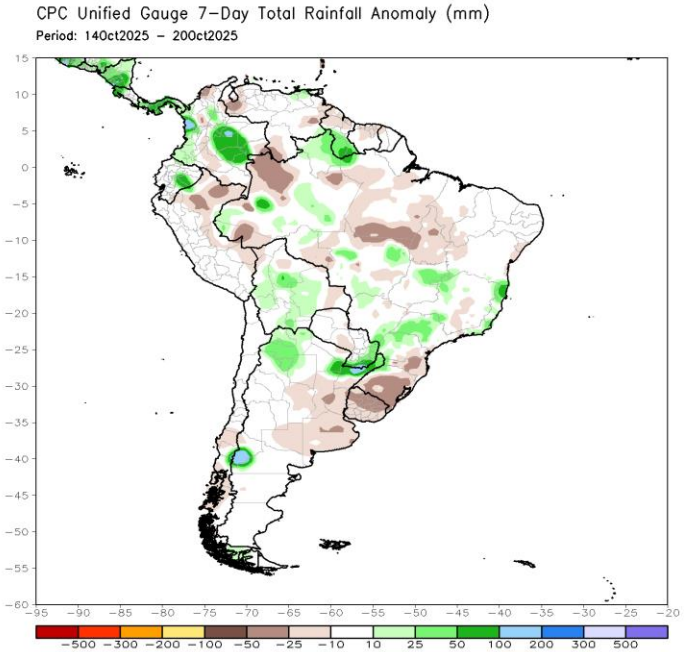
850 hPa





Rainfall Anomalies

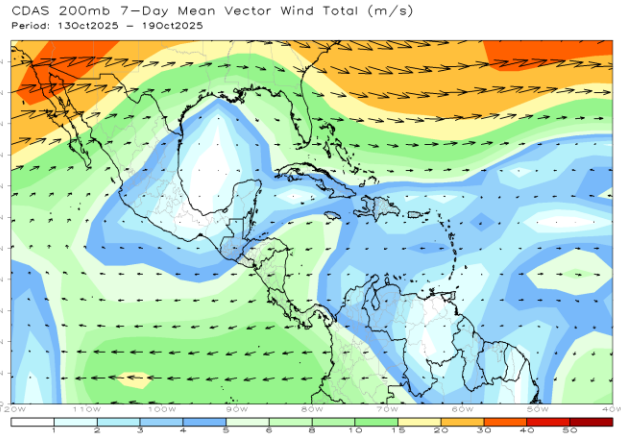


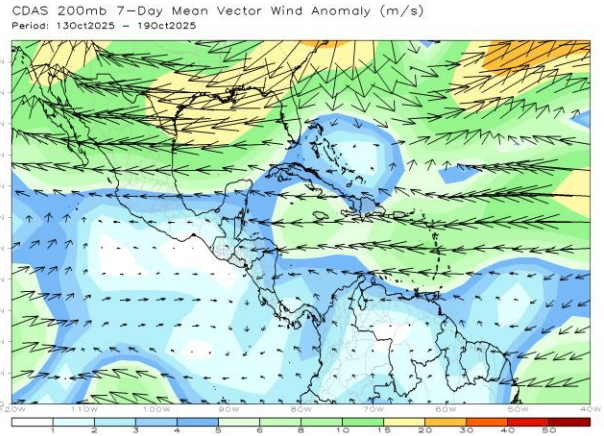


Caribbean, Central America and Mexico, last 7 days

Flow

200 hPa





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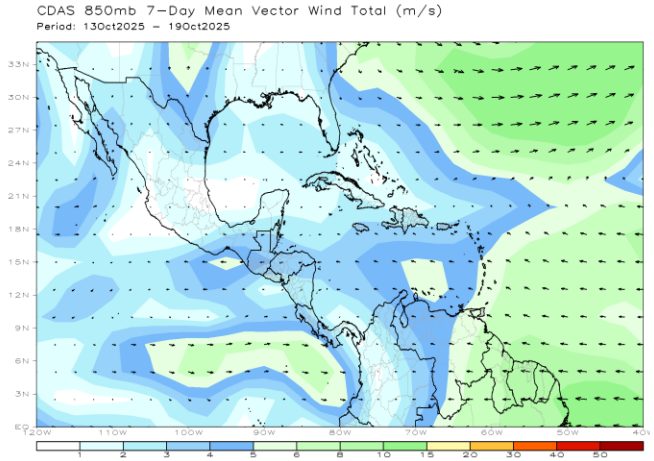

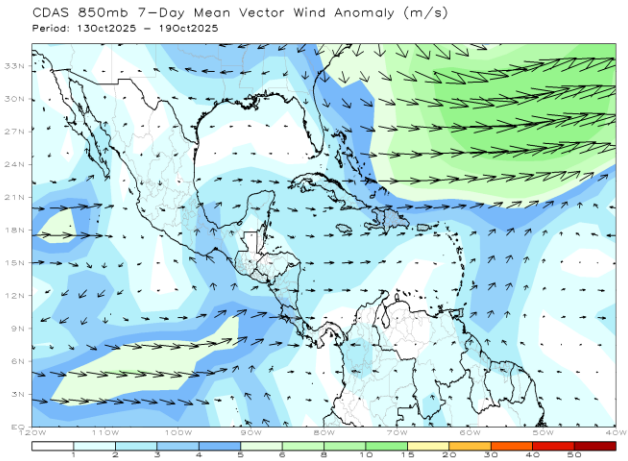

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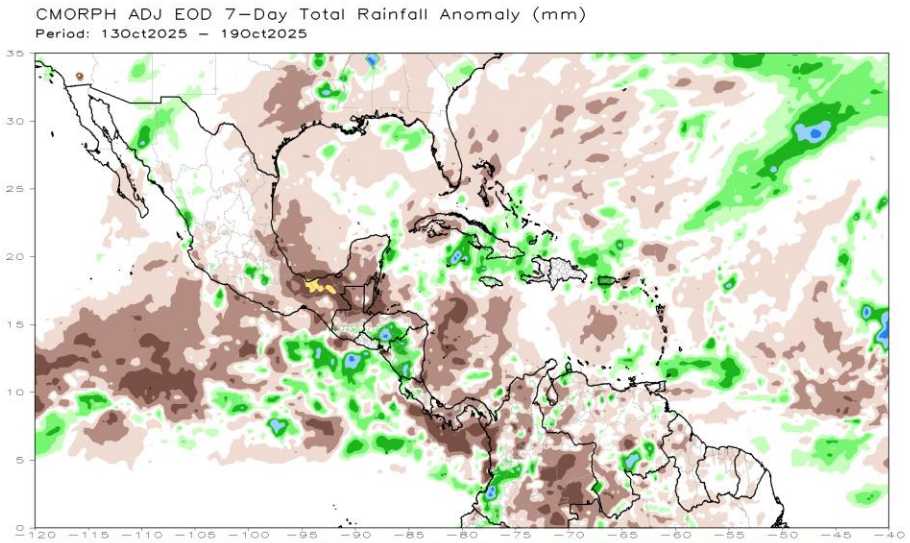

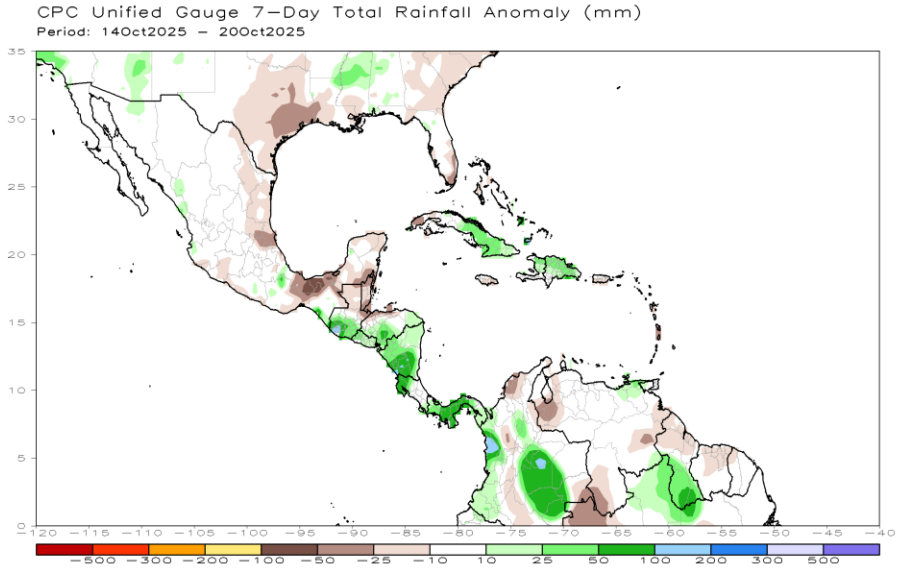

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Since 2004

Next Sessions: **Wednesday 12 November at 16 UTC**
Wednesday 17 December at 16 UTC

★ **Our website: https://rammb2.cira.colostate.edu/training/rmtc/focusgroup/**

★ **To join our distribution list: email erin.sanders@colostate.edu, or jose.galvez@colostate.edu**

Thank you! Gracias! Obrigado!