

WMO VLab Regional Focus Group  
of the Americas and Caribbean



Since 2004

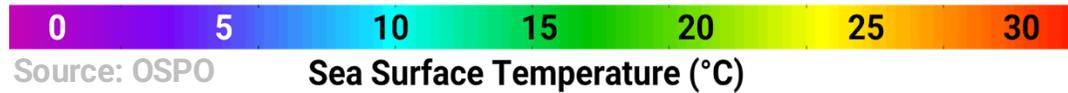
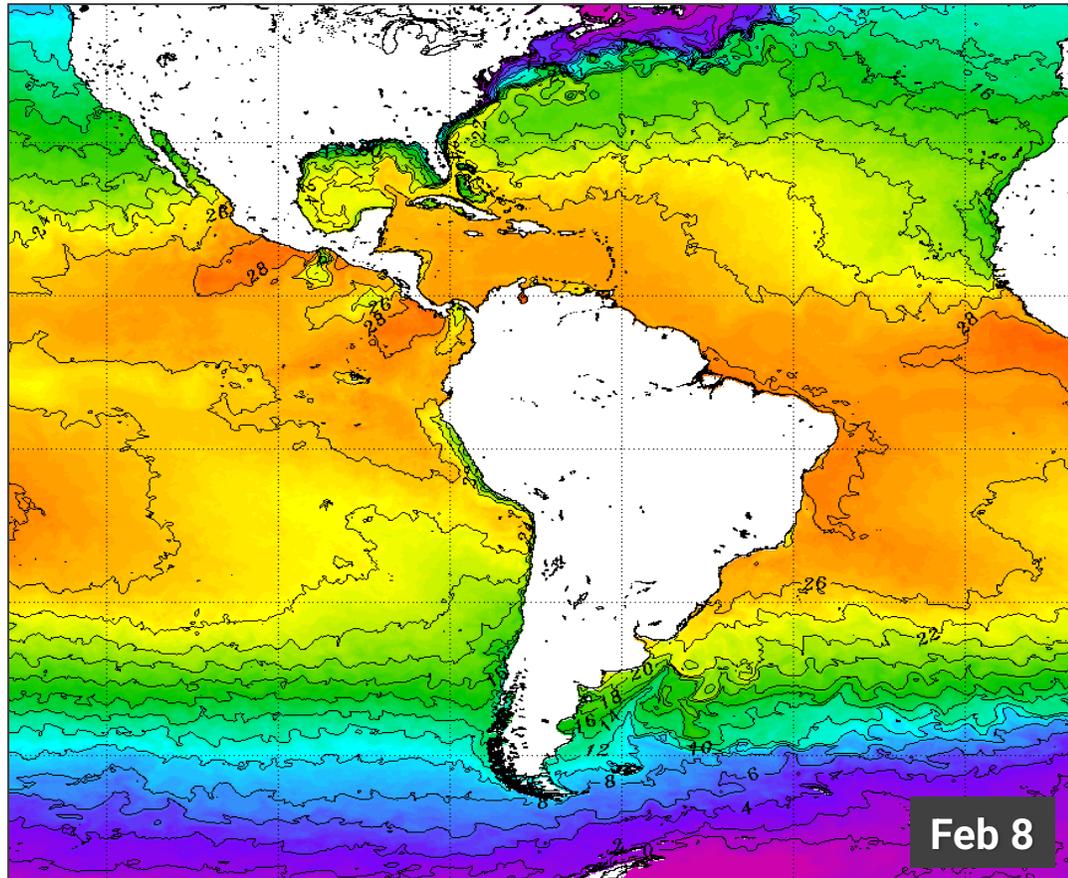
# Climate Indices

## Current Status and Projections

Wednesday 11 February 2026

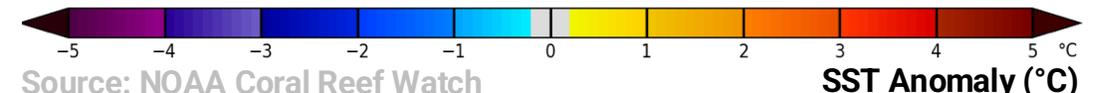
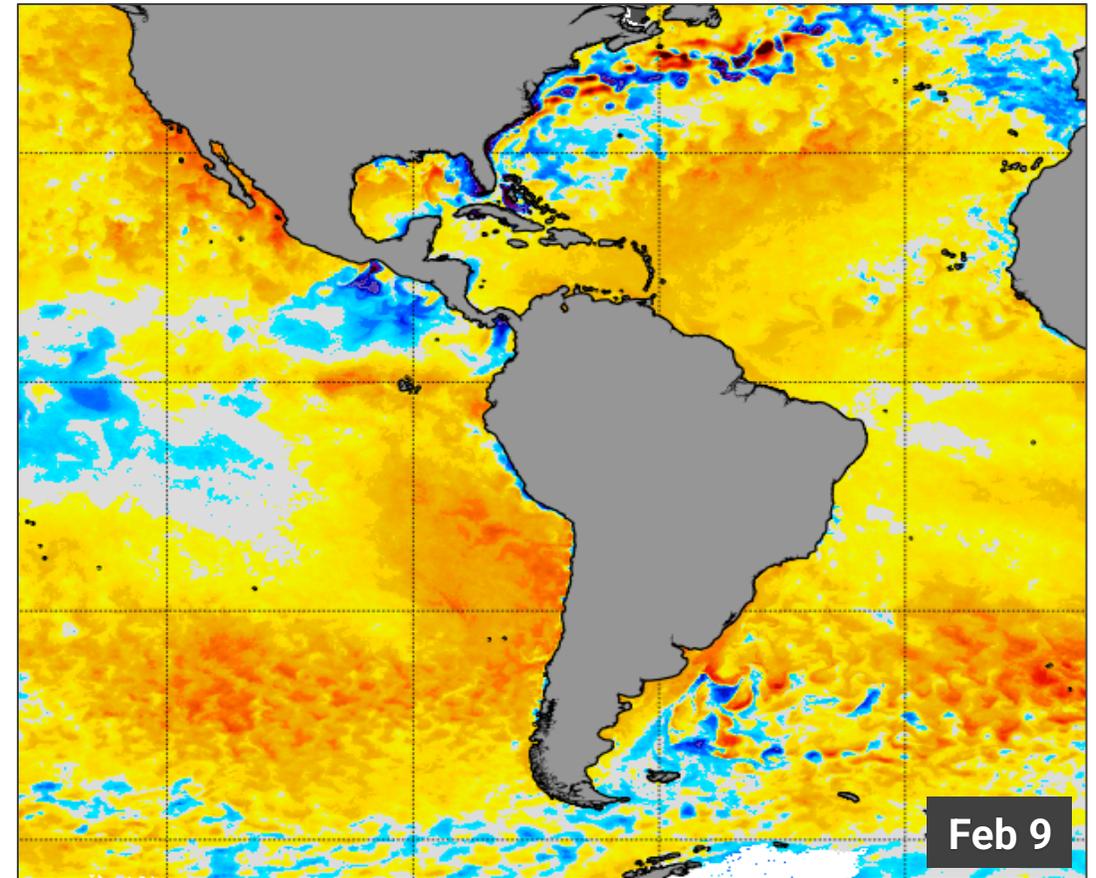
# Sea Surface Temperature (SST)

## SST



Source: OSPO

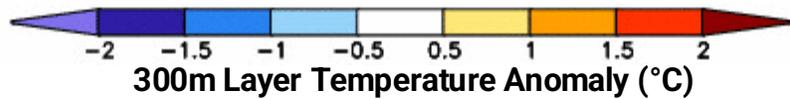
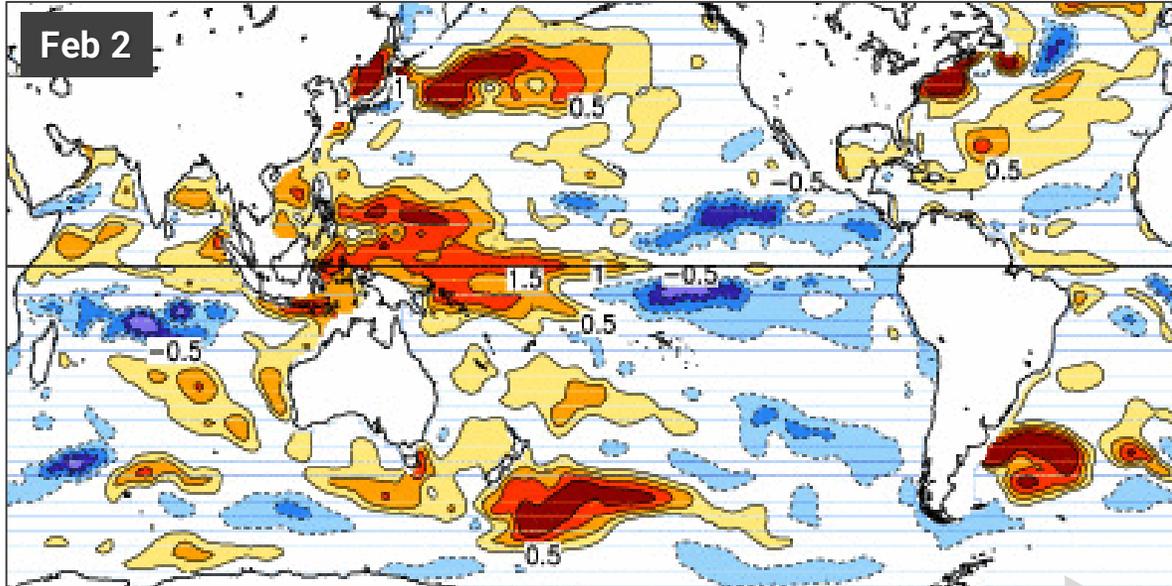
## SST Anomaly



Source: NOAA Coral Reef Watch

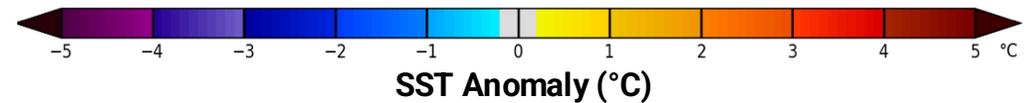
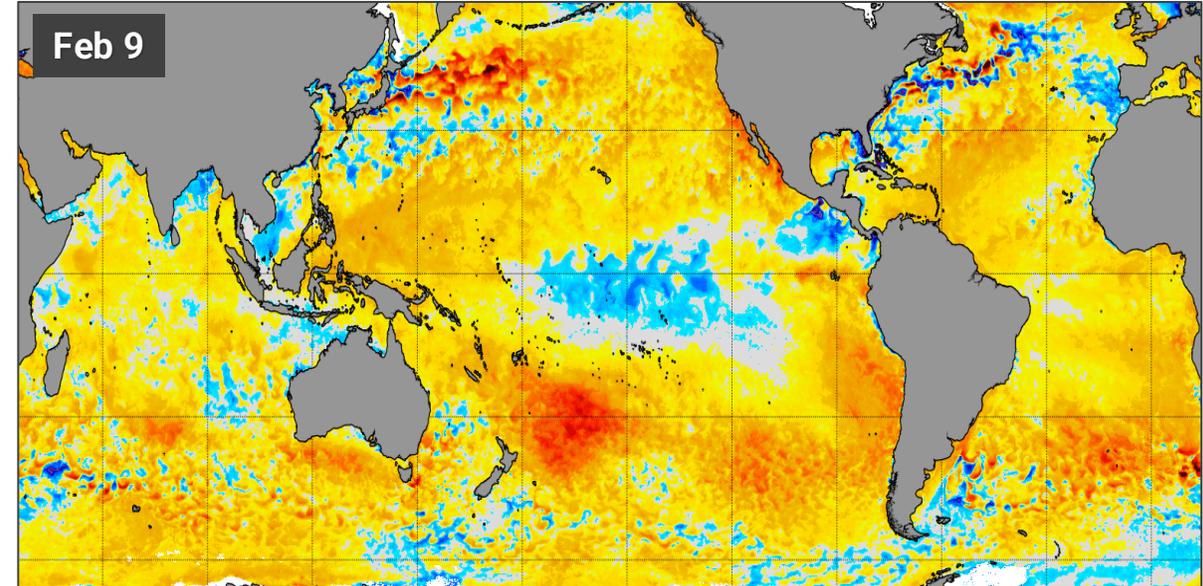
# Top 300m Layer Temperature Anomaly

Layer Anomaly



Source: GODAS, CPC

Surface Anomaly



Source: NOAA Coral Reef Watch

Layer anomalies matter, as they last longer than superficial ones, making them a great subseasonal forecasting tool!

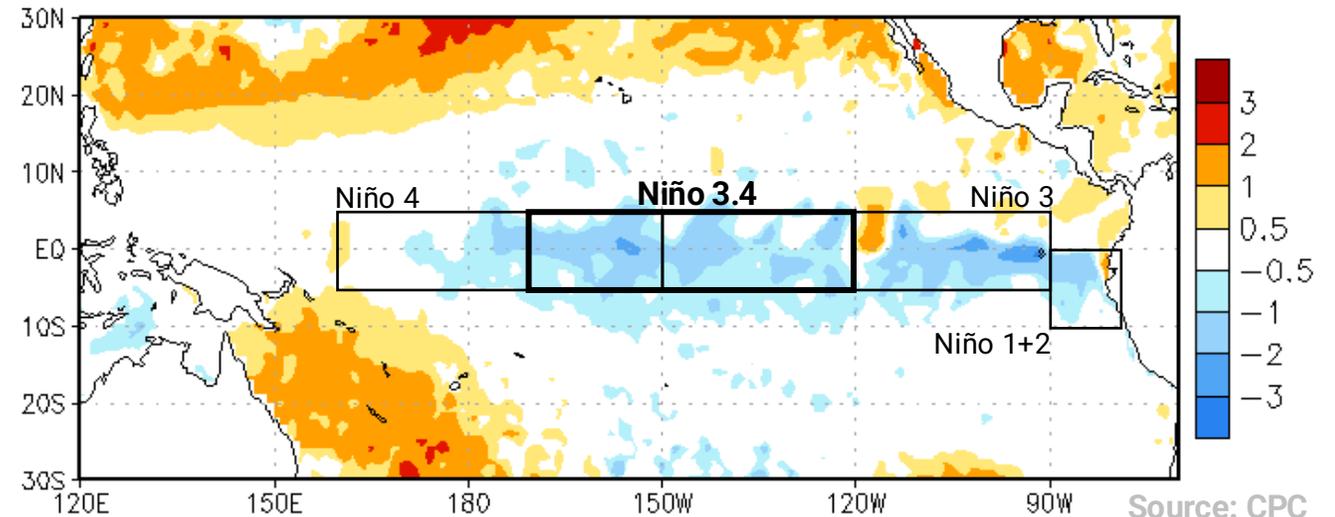
# El Niño-Southern Oscillation (ENSO)

## CPC Official Statement

### La Niña Advisory

- La Niña is present.\*
- Equatorial sea surface temperatures (SSTs) are below average across the east-central and eastern Pacific Ocean.
- Atmospheric anomalies over the tropical Pacific Ocean are consistent with La Niña.

Week centered on 19 NOV 2025  
Relative SST Anomalies (°C)



## Takeaways

- La Niña anomalies are still present, but secluded in Niño 3.4 only.
- The South American coast and Niño 3 are warming.

**El Niño is now being monitored with the Relative Oceanic Niño Index: RONI !** It is a normalized ONI, which measures how warm or cool the Niño 3.4 region is relative to the rest of the tropical oceans.

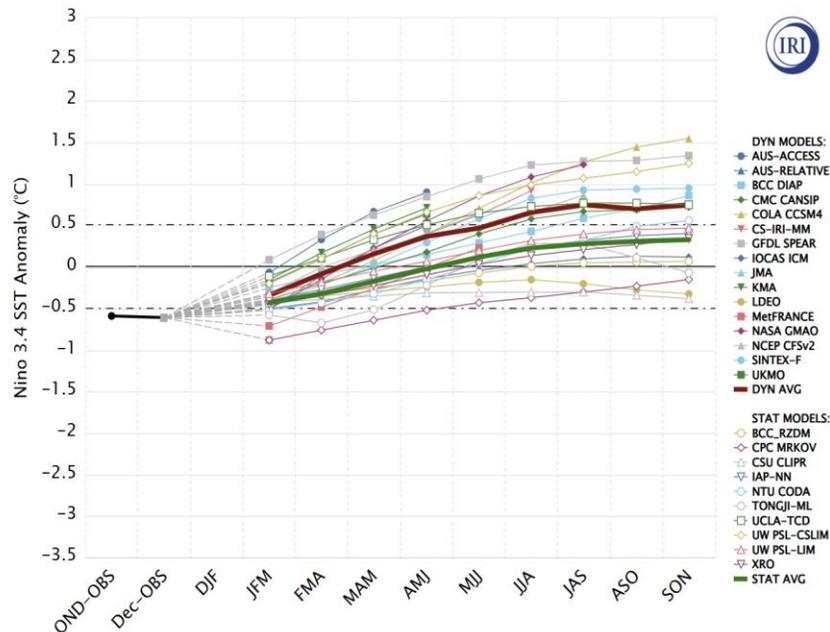
$$\text{RONI} = \text{Niño SST anomaly} - \text{mean tropical SST anomaly}$$

# ENSO Outlook:

There is a 75% chance of a transition to ENSO-neutral during January-March 2026. ENSO-neutral is likely through at least Northern Hemisphere late spring 2026.\*

## Dynamical Models

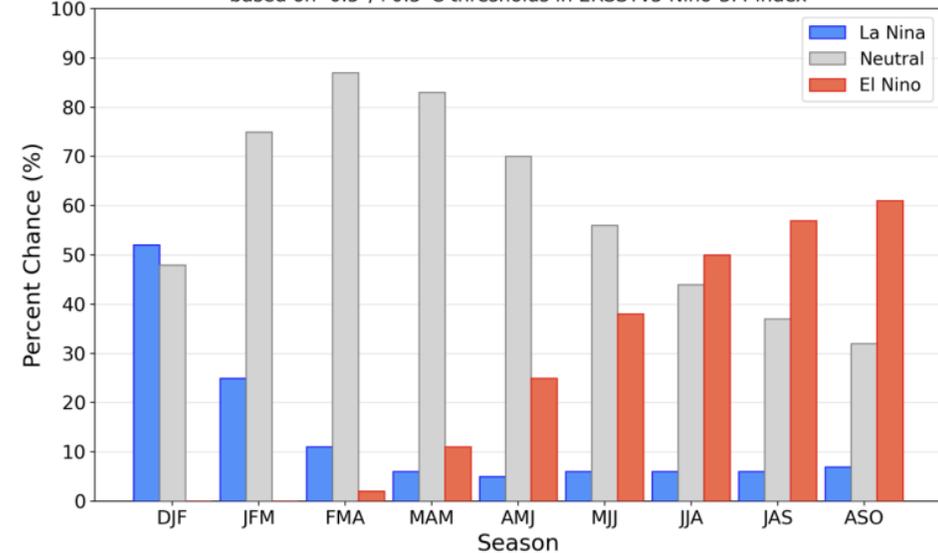
Model Predictions of ENSO from Jan 2026



## Probabilistic Forecast

Official NOAA CPC ENSO Probabilities (issued January 2026)

based on  $-0.5^{\circ}/+0.5^{\circ}\text{C}$  thresholds in ERSSTv5 Niño-3.4 index

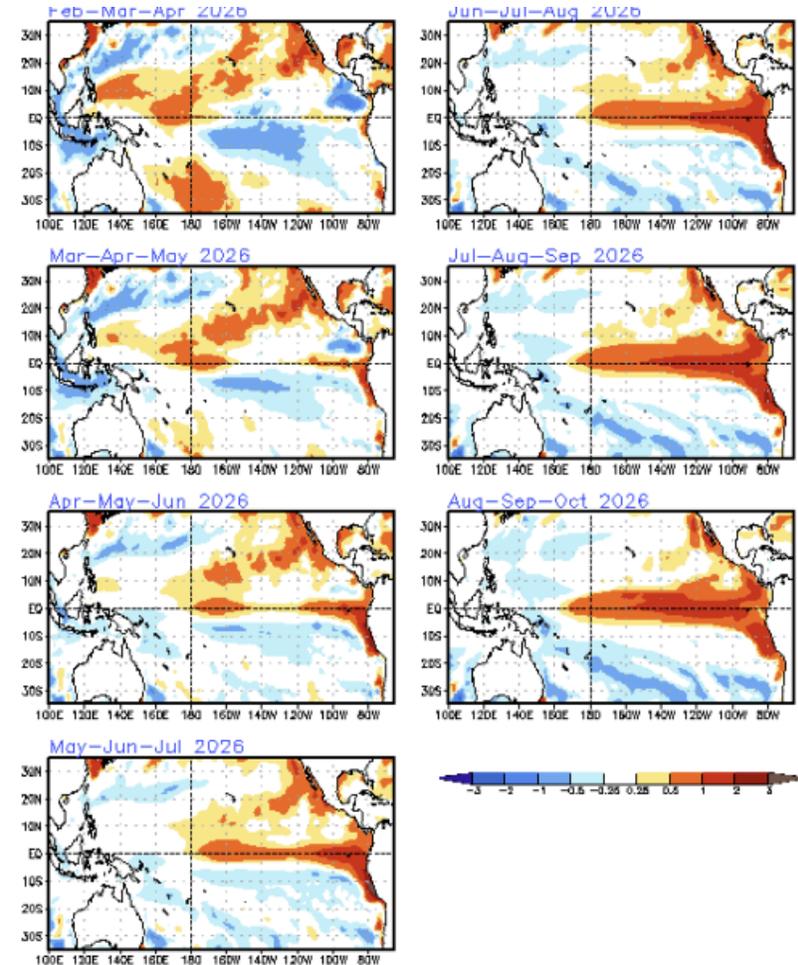
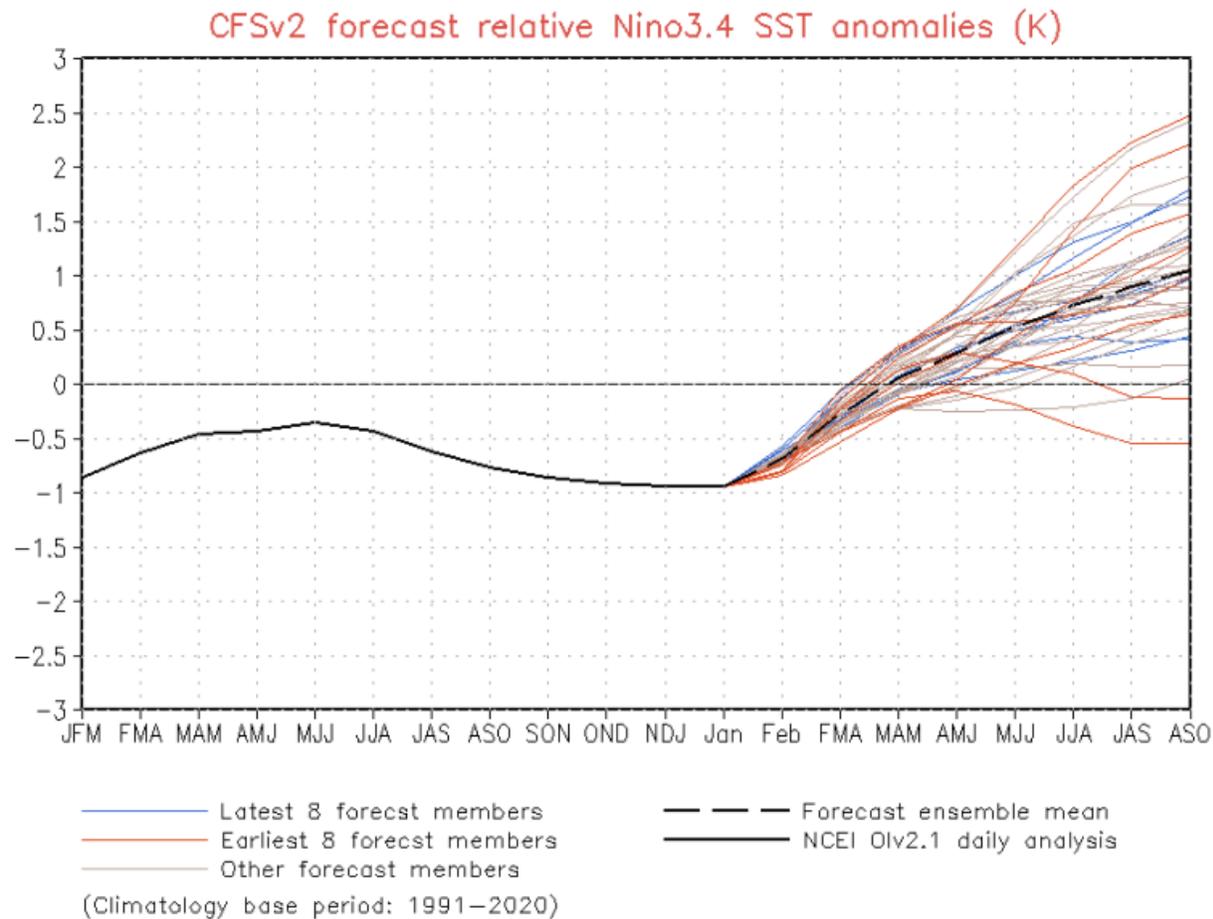


## Takeaways

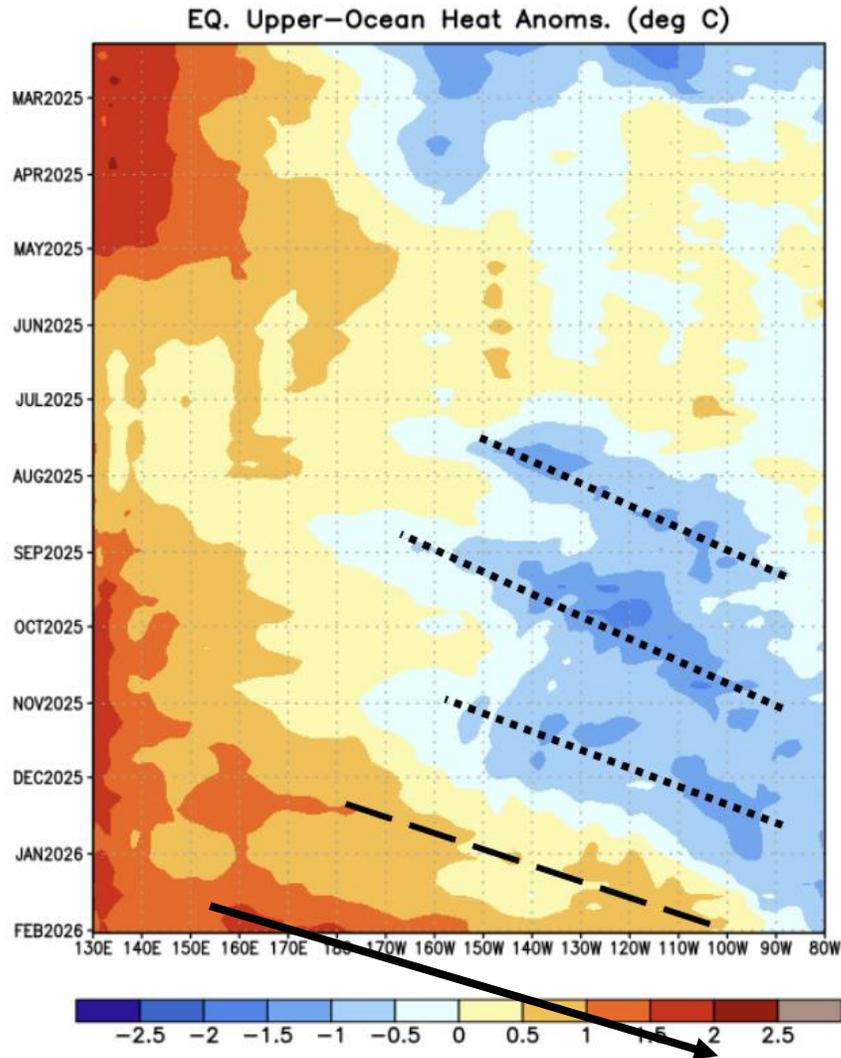
- A rapid transition to ENSO Neutral is expected sometime during the Jan-Mar trimester.
- Chances for El Niño increase during the north hemisphere spring, becoming dominant past June 2026.

# ENSO Outlook:

There is a 75% chance of a transition to ENSO-neutral during January-March 2026. ENSO-neutral is likely through at least Northern Hemisphere late spring 2026.\*

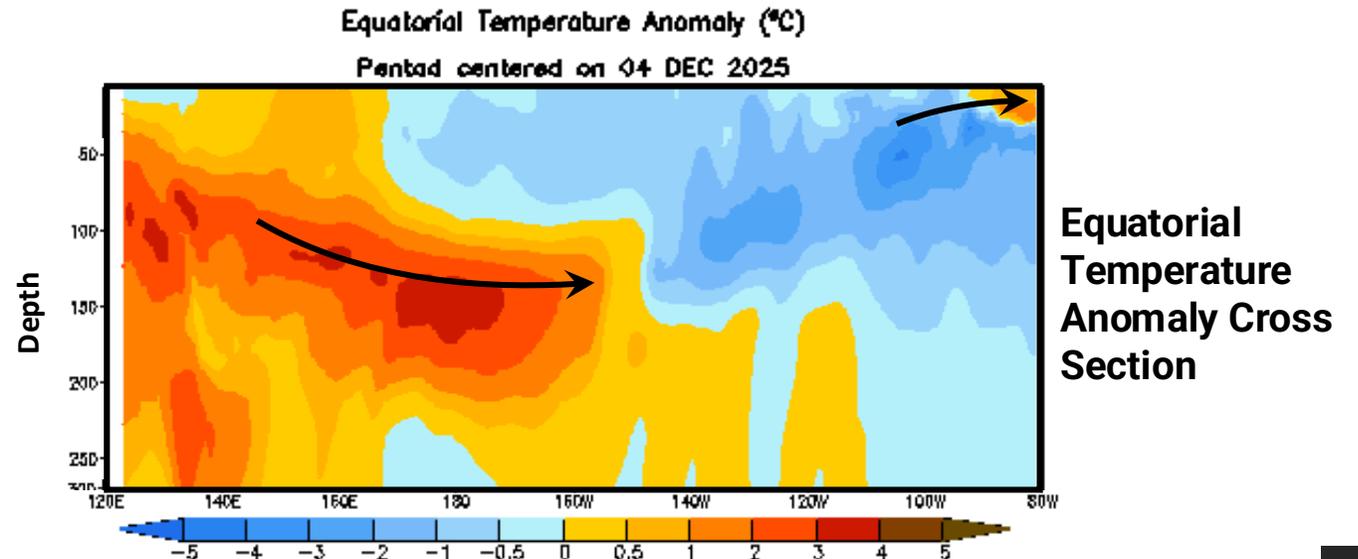


# Oceanic Kelvin Wave Activity (ENSO)



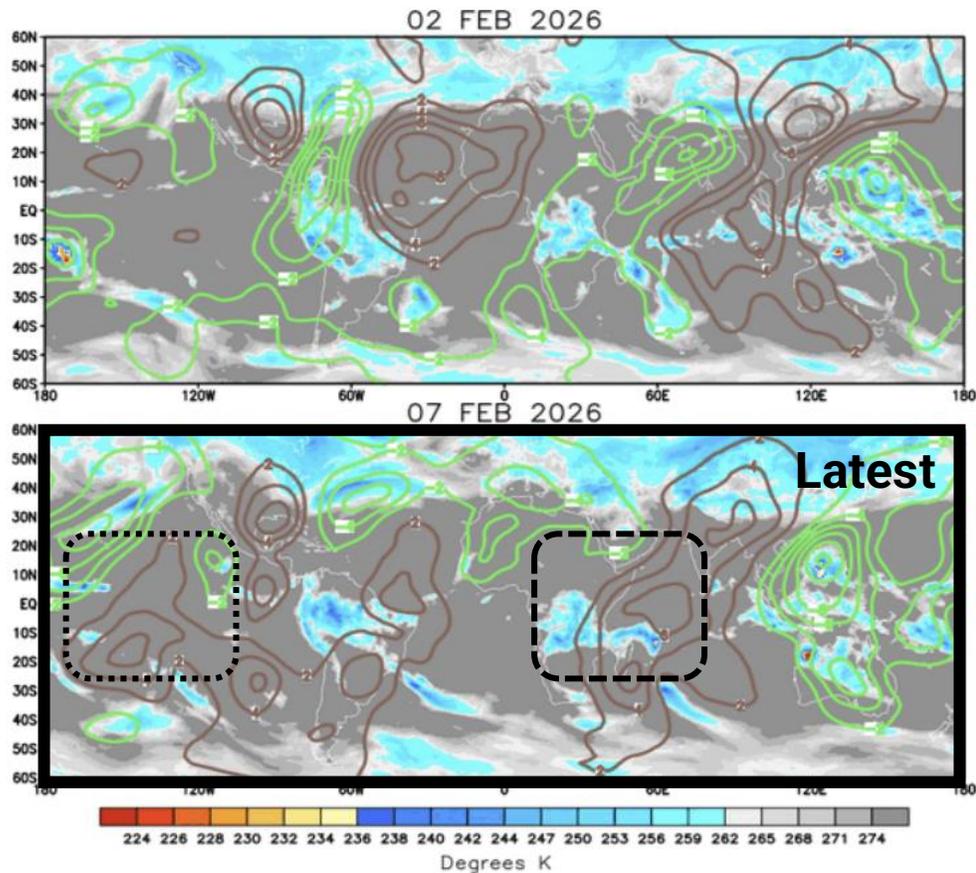
## Takeaways

- A Kelvin wave is entering in the South American coast, although it is interacting with cool sub superficial waters. This is delaying some the surface warming.
- A new potent and long train of Kelvin Waves is propagating between 150E and 160W. This will likely produce a significant warming of the South American coast by April, producing a rapid switch of Niño 1+2 into warm conditions. This potential warming should be monitored given potential heavy rainfall impacts in Ecuador and far northern Perú.

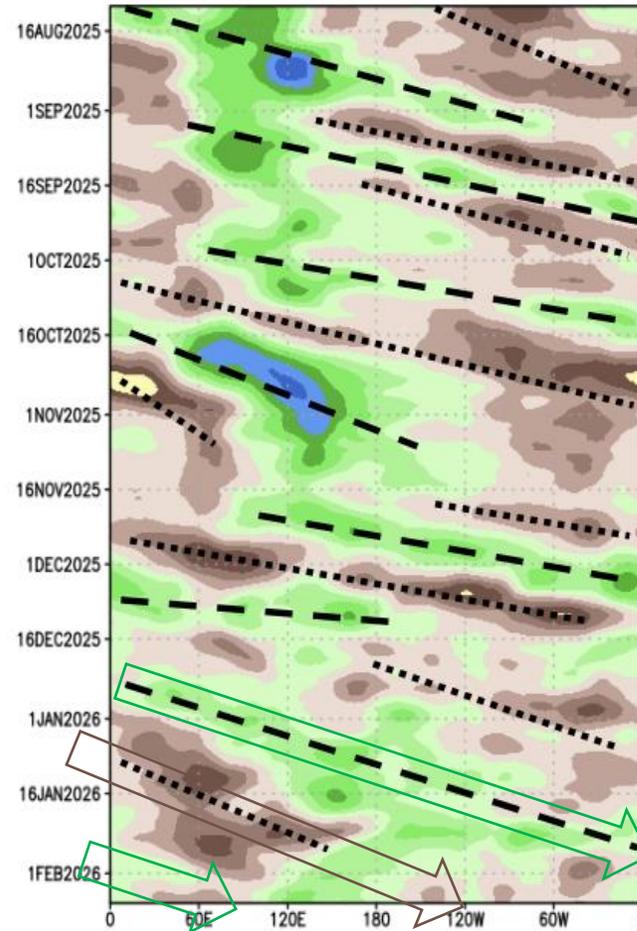


# Madden-Julian Oscillation (MJO)

## Velocity Potential and Outgoing Long Wave Radiation



200-hPa Velocity Potential Anomaly: 5N-5S  
5-day Running Mean



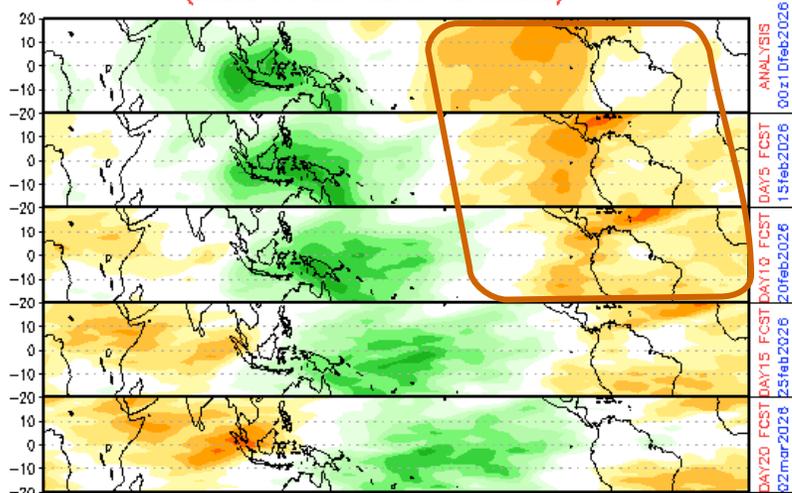
## Takeaways

- The MJO has become disorganized into a Wave 2 pattern.
- Not evident in current CHI anomalies, a very weak wet signal is attempting to propagate across the Indian Ocean = a disorganized Phase 2.
- It's current propagation is slow, which means that the wet phase might take at least 3 weeks to approach the Americas.

# MJO Forecasts

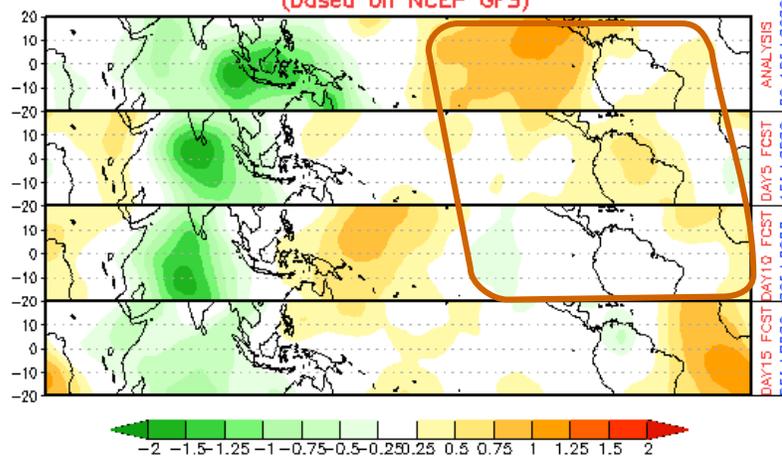
## Empirical Wave Propagation

CHI 200 hPa 40-DAY forecast (00z10feb2026-22mar2026)  
(based on EWP zonal harmonics)



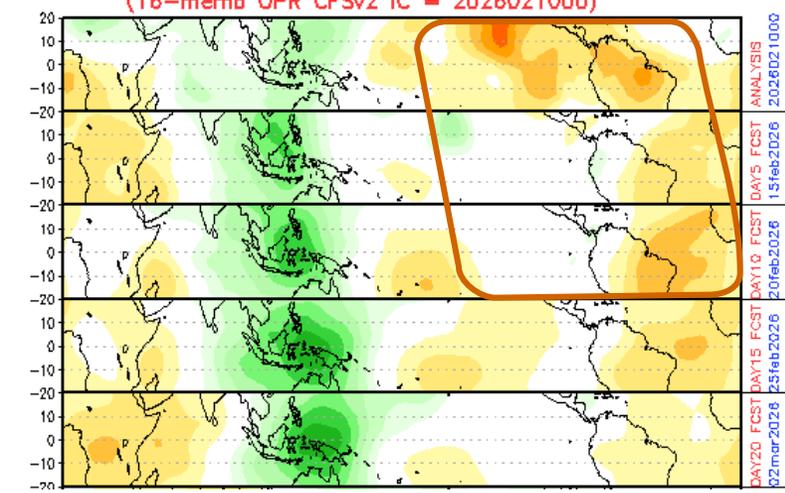
## Global Forecast System (GFS)

CHI 200 hPa 15-DAY forecast (00z10feb2026-25feb2026)  
(based on NCEP GFS)



## Climate Forecast System (CFS)

CHI 200 hPa 40-DAY forecast (00z10feb2026-22mar2026)  
(16-memb OPR CFSv2 IC = 2026021000)

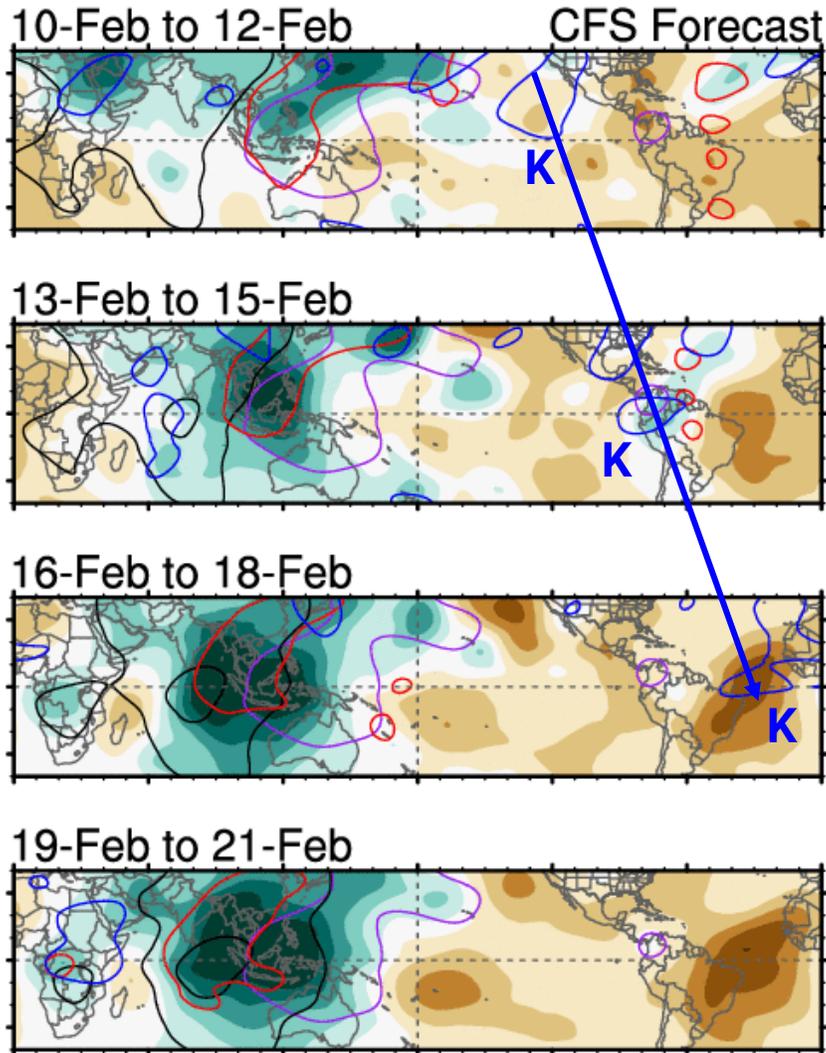


## Takeaways

- Upper convergence (generally drier) over the Americas through next week.
- Given observations, next wet MJO will likely arrive sometime in March.
- In the mean time, variability might be influenced by smaller-scale perturbations such as tropospheric Kelvin Waves and the synoptic weather pattern.

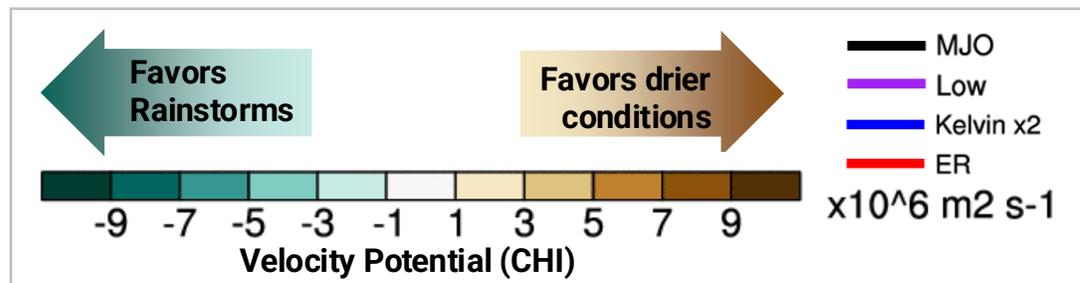
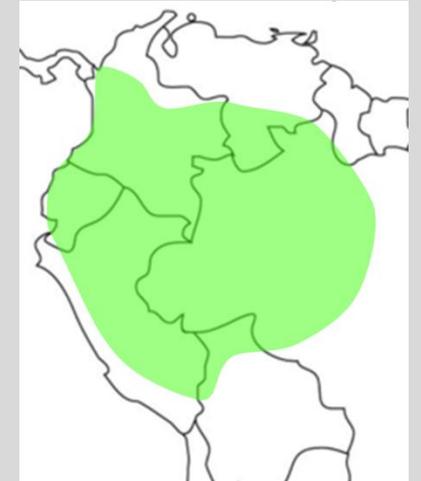
The MJO is expected to transit  
Phase 3 through February 21<sup>st</sup>.

# MJO and Upper Tropospheric Waves



## Takeaways

- A Kelvin Wave will likely cross the Americas between February 13 and the 15<sup>th</sup>, highlighting precipitation in western Tropical South America (Ecuador, Perú, Colombia and western Brasil). The upper flow looks favorable for a broad region with enhanced upper divergence.

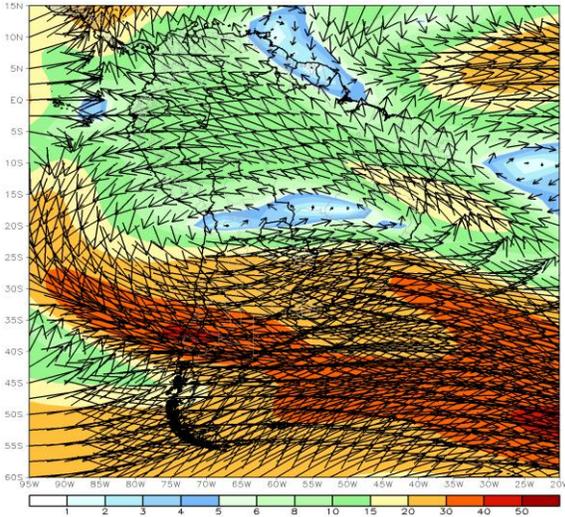


# South America - Last 7 days

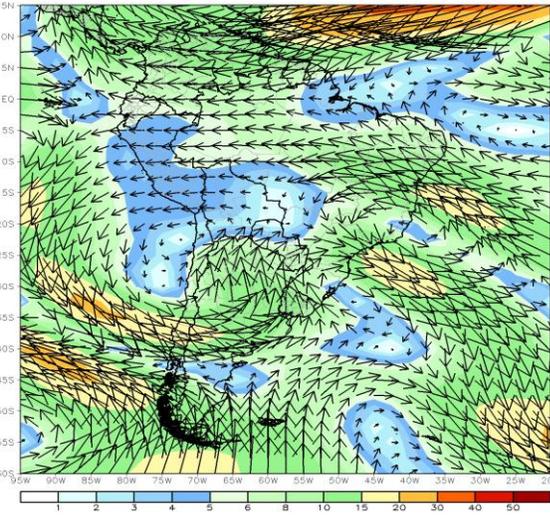
## Flow

200 hPa

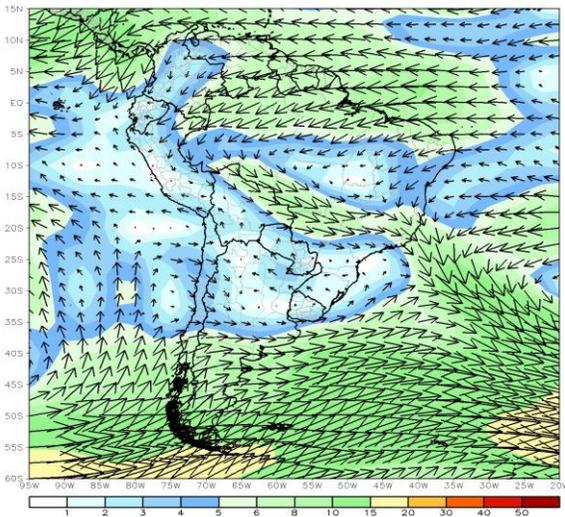
CDAS 200mb 7-Day Mean Vector Wind Total (m/s)  
Period: 02Feb2026 - 08Feb2026



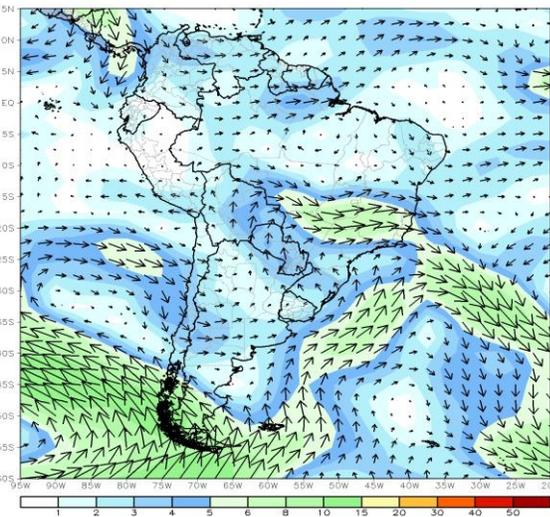
CDAS 200mb 7-Day Mean Vector Wind Anomaly (m/s)  
Period: 02Feb2026 - 08Feb2026



CDAS 850mb 7-Day Mean Vector Wind Total (m/s)  
Period: 02Feb2026 - 08Feb2026



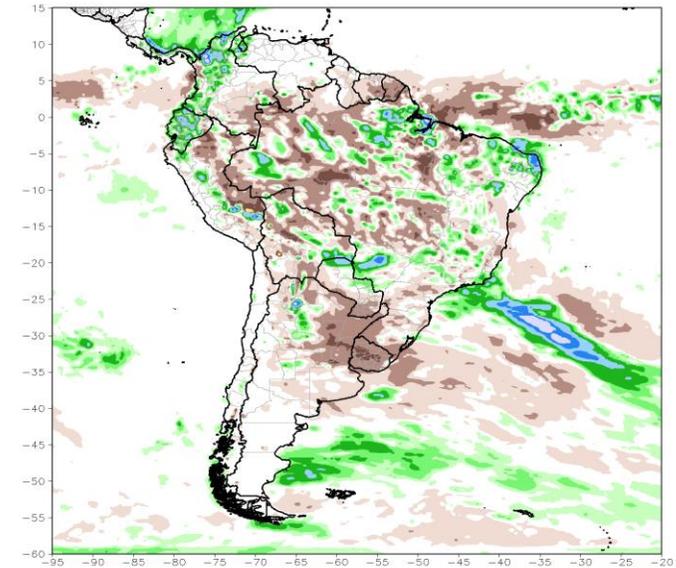
CDAS 850mb 7-Day Mean Vector Wind Anomaly (m/s)  
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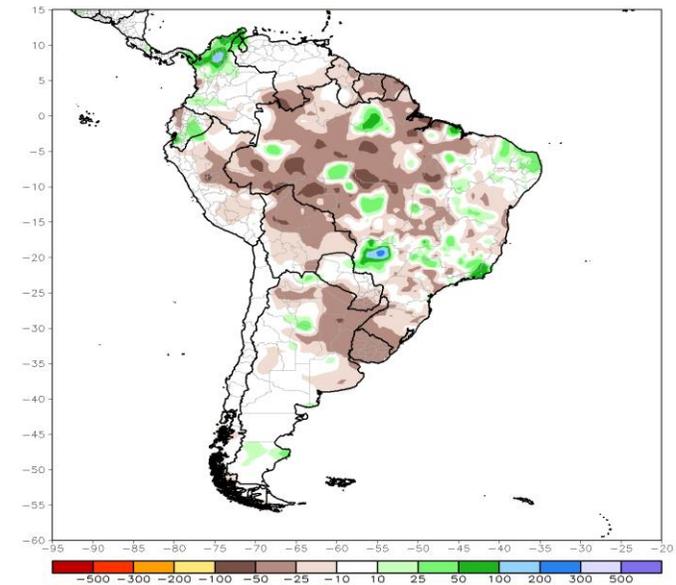
850 hPa

## Rainfall Anomalies

CMORPH ADJ EOD 7-Day Total Rainfall Anomaly (mm)  
Period: 02Feb2026 - 08Feb2026



CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)  
Period: 03Feb2026 - 09Feb2026



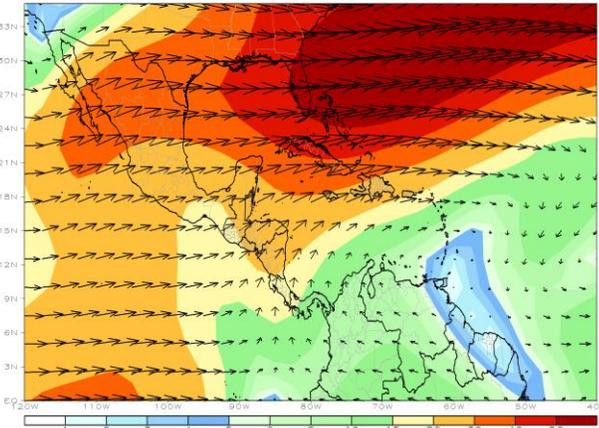
# Caribbean, Central America and Mexico last 7 days

## Rainfall Anomalies

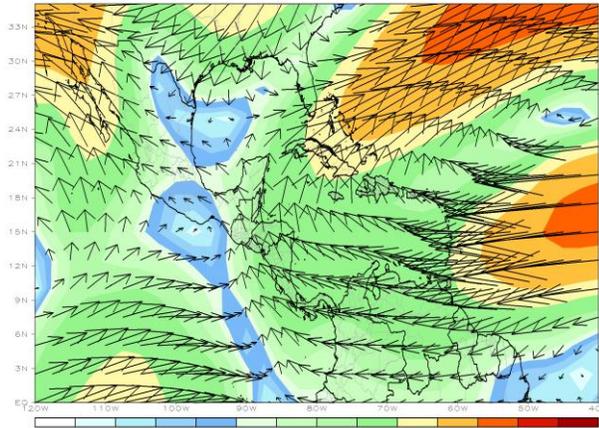
### Flow

200  
hPa

CDAS 200mb 7-Day Mean Vector Wind Total (m/s)  
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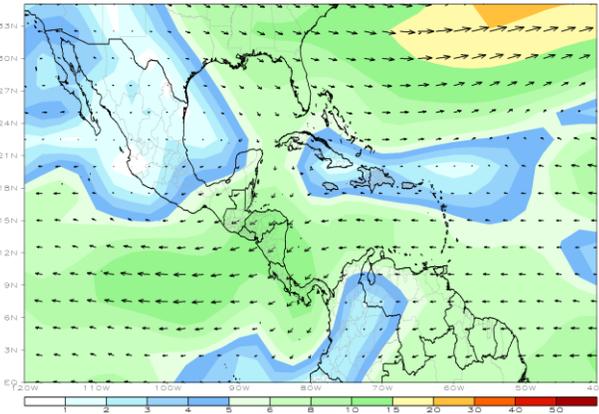


CDAS 200mb 7-Day Mean Vector Wind Anomaly (m/s)  
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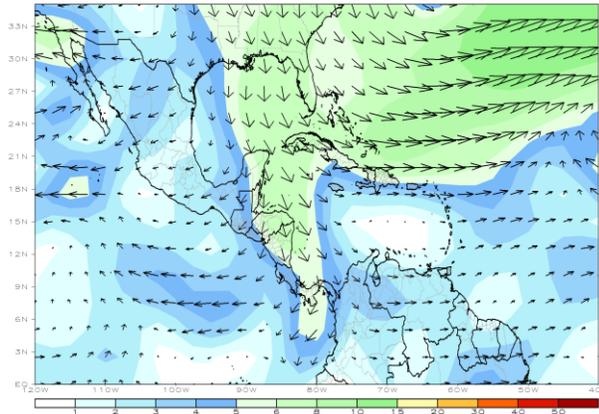


850  
hPa

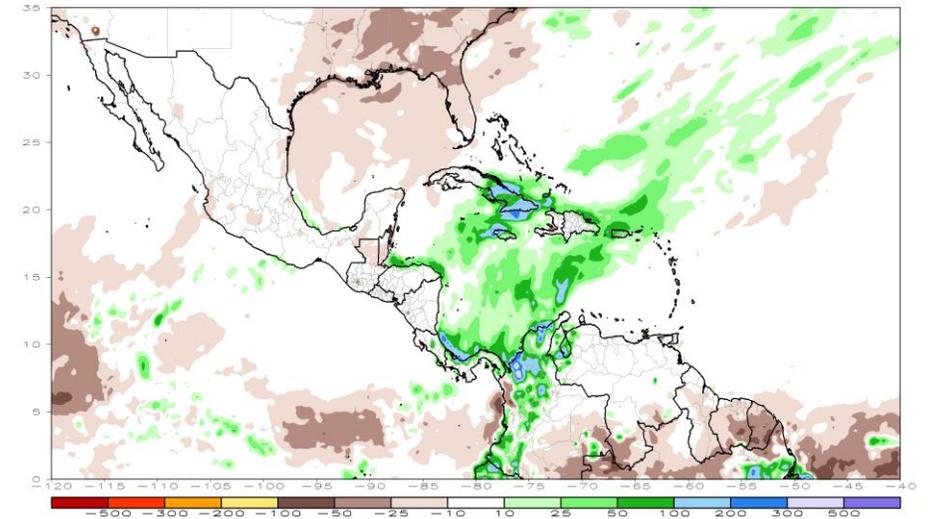
CDAS 850mb 7-Day Mean Vector Wind Total (m/s)  
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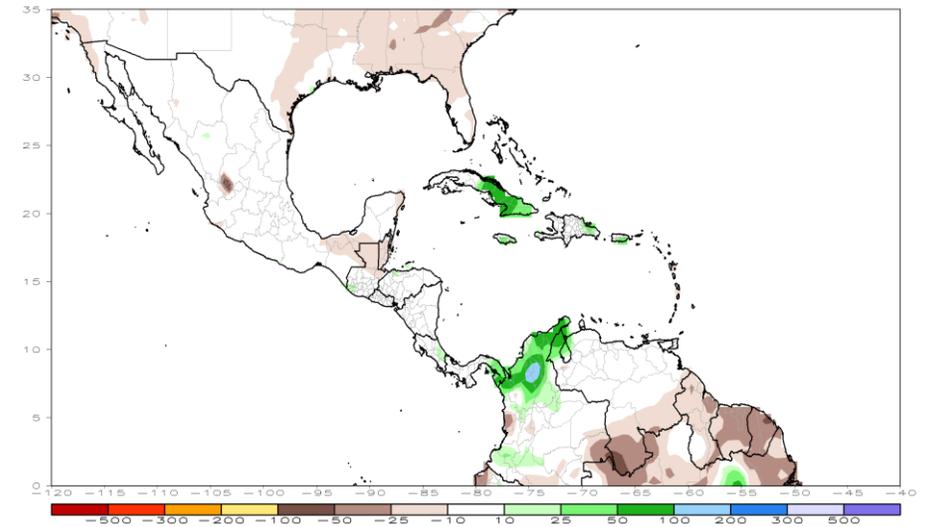
CDAS 850mb 7-Day Mean Vector Wind Anomaly (m/s)  
Period: 02Feb2026 - 08Feb2026



CMORPH ADJ EOD 7-Day Total Rainfall Anomaly (mm)  
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CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)  
Period: 03Feb2026 - 09Feb2026



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Since 2004

## Next Sessions

Wednesday, [25 March 2025 at 15:00 UTC](#)

*Thank you!*

*Gracias!*

*Obrigado!*

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