Climate Indices
Current Status and Projections

Wednesday 19 July 2023
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

Top Layer Temperature Anomaly

Top 300m-Layer Anomaly


Surface Anomaly

NOAA Coral Reef Watch
https://coralreefwatch.noaa.gov/product/5km/index_5km_ssta.php
El Niño-Southern Oscillation (ENSO)

CPC Official Statement
Status: El Niño Advisory

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

TAKEAWAYS
- El Niño is establishing rapidly.
- Niño 1+2 warming is intensifying and expanding again!
Hovmöller of Zonal Wind & Heat Content Anomalies

Westerly wind bursts can trigger warm Kelvin Waves that propagate towards South America.

TAKEAWAYS

- Downwelling (warm) Kelvin arriving in the South American coast.
- Warm anomalies are present west of this wave, but there is no additional Kelvin Wave at the moment.
ENSO: Oceanic Kelvin Waves

**TAKEAWAYS**

- Very warm close to the coast of South America (arriving warm Kelvin).
- No trailing Kelvin.
There is a greater than 90% chance that El Niño will continue through the Northern Hemisphere winter.
Madden-Julian Oscillation (MJO)

Current Observations:

- MJO looks like a Wave-1 pattern, but this is recent.
- Propagation has been very incoherent since Mid-June.
- There are no clear signs of reorganization at this time.

Source: CPC
**TAKEAWAYS**

- MJO is not propagating coherently. Yet...
- There is some agreement in a transition towards wetter conditions by early August.
Outlook for the next few days:

- Upper convergent pattern continues in the basin.
- A tropospheric Kelvin is forecast to arrive in Central America/northern South America around July 24-25, still embedded in a large scale upper convergent pattern. → Localized enhancement of deep convection.

Source: NCICS
South America, Last 7 Days

Rainfall Anomalies

CPC Unified Gauge 30-Day Total Rainfall Anomaly (mm)
Period: 18 Jun 2023 – 17 Jul 2023

CMORPH 7-Day Total Rainfall Anomaly (mm)
Period: 11 Jun 2023 – 17 Jul 2023

Satellite – Estimated (CMORPH)

Gauges

200 hPa Flow

850 hPa Flow

Average

Anomaly
Caribbean and Central America, Last 7 Days

Rainfall Anomalies

Gauges (CPC)

Satellite – Estimated (CMORPH)

200 hPa Flow

850 hPa Flow

Average

Anomaly
¡Gracias!      Thank you!      ¡Obrigado!

Next Session: 24 August 2023, 15 UTC

Recorded sessions and more information available at:
https://rammb2.cira.colostate.edu/training/rmtc/focusgroup/

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