Climate Indices
Current Status and Projections

Tuesday 18 June 2024
Sea Surface Temperature (SST)

[Map of Sea Surface Temperature (SST) with temperature ranges and anomaly values for 16 June.]
Anomalies in a layer take longer to dissipate than superficial ones, and can last for weeks.

**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**

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

CPC Official Statement

El Niño Advisory / La Niña Watch

- ENSO-neutral conditions are present.*
- Equatorial sea surface temperatures (SSTs) are above average in the west-central Pacific Ocean, near average in the east-central Pacific Ocean, and below-average in the far eastern Pacific Ocean.

TAKEAWAYS

- Cold tongue continues forming, but the current cooling rate is rapid as what the models were resolving.
- SST in the South American coast continues below normal.
ENS0: Oceanic Kelvin Waves

Temperature Anomalies with Depth and Heat Content Anomalies

TAKEAWAYS

- Is there a last cool (downwelling) Kelvin wave propagating towards the South American coast?

- No additional Kelvin waves are propagating behind. Does this mean there might be a “break” in the current surface cooling by August/September?

Source: CPC
La Niña is favored to develop during July-September (65% chance) and persist into the Northern Hemisphere winter 2024-25 (85% chance during November-January).*

*IRI/CPC Dynamic Models

Source: CPC

Source: IRI, updated 19 May 2024
Madden-Julian Oscillation (MJO)

Current Observations:
- The MJO has lost coherence in June, partly due to the summer transition in the north Hemisphere.
- Neutral MJO conditions are located over the Americas, which is allowing heavy rain producing systems such as the Central American Gyre (CAG)

Velocity Potential (CHI) and Brightness Temperature (shaded)

June 11
- Favors rain storms
- Enhanced upper divergence

June 16
- Favors limited rainfall
- Enhanced upper convergence
TAKEAWAYS

• Since the MJO is loosely organized, confidence in models is limited. Especially EWP.
• CFS and GFS are also struggling, but there is some consistency on neutral-to-wet conditions through late June.
• July appears drier in terms of potential MJO enhancement. But confidence is limited.
MJO and Upper Tropospheric Waves

Outlook for the next few days:

- Although a large-scale upper divergence pattern is present in the Americas, a Kelvin wave is forecast to cross the region through the weekend.

- This might enhance rainfall events occurring in Central America/Mexico and the Greater Antilles through Saturday June 26th.
South America, Last 7 Days

Rainfall Anomalies

200 hPa Flow

850 hPa Flow

Average

Satellite – Estimated (CMORPH)

Gauges
Caribbean and Central America, Last 7 Days

Rainfall Anomalies

Gauges (CPC)

Satellite – Estimated (CMORPH)

850 hPa Flow

200 hPa Flow
¡Gracias!  Thank you!  ¡Obrigado!

Next Session: Thursday July 18, 15 UTC

Following Sessions:
22 August 2024 at 15:00 UTC
18 September 2024 at 15:00 UTC

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

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