Climate Indices
Current Status and Projections

Wednesday 21 February 2024
Sea Surface Temperature (SST)

Feb 19

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

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

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

Top Layer Temperature Anomaly

Top 300m-Layer Anomaly

Feb 12


Surface Anomaly

Feb 19

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

- 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 El Niño.

TAKEAWAYS

- Warm anomalies are rapidly collapsing, but still above El Niño thresholds.
- SAM coast has warmed up slightly (end of Oceanic Kelvin envelopes and transient weakenings of the South Pacific Anticyclone winds)
ENSO: Oceanic Kelvin Waves

**Temperature Anomalies with Depth and Heat Content Anomalies**

- Last of envelope of warm Kelvins is reaching the SAM coast.
- Coastal warming enhanced by local effects too.
- The leading edge of a large cool (upwelling) Kelvin should arrive by early March.

Source: CPC
A transition from El Niño to ENSO-neutral is likely by April-June 2024 (79% chance), with increasing odds of La Niña developing in June-August 2024 (55% chance).*

*Source: CPC, updated 19 December 2023

**Probabilistic Forecast**

Official NOAA CPC ENSO Probabilities (issued Feb. 2024)

Percent Chance (%)

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<th>MAM</th>
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Source: CPC

**IRI/CPC Dynamic Models**

Model Predictions of ENSO from Feb 2024

Source: IRI, updated 19 December 2023
Madden-Julian Oscillation (MJO)

Current Observations:
- The MJO is somewhat organized but not too much.
- Is taking about 1.5 months to circle the globe.
- A Kelvin is crossing the Americas, but a broad dry signal trails behind it.

Velocity Potential and Brightness Temperature (shaded)

Source: CPC

Feb 13

Feb 18

Favors rain storms
Favors limited rainfall

Source: CPC
TAKEAWAYS

• Models are not in great agreement. The CFS and GFS are more in tune.
• Upper divergent (wet) this week. Then drier, especially through mid-March.
MJO and Upper Tropospheric Waves

Outlook for the next few days:

- Kelvin crossing this week, embedded in the rear end of the wet MJO. Dry after.
- Another wet Kelvin by Feb 27-29, but impacts mostly constrained to northwest Mexico and the US.
South America, Last 7 Days

Rainfall Anomalies

200 hPa Flow

Average

Anomaly

850 hPa Flow

Average

Anomaly

CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)
Period 1/16/2024 - 1/22/2024

CMORPH 7-Day Total Rainfall Anomaly (mm)
Period 1/16/2024 - 1/22/2024

Satellite – Estimated (CMORPH)

Gauges
Caribbean and Central America, Last 7 Days

Rainfall Anomalies

Gauges (CPC)

Satellite – Estimated (CMORPH)
¡Gracias! Thank you! ¡Obrigado!

Next Session: Wednesday March 20 at 14 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