Climate Indices Presentation

Wednesday 8 February 2023 at 15 UTC
Sea Surface Temperature (SST)

06 February

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
DEEP ANOMALIES LAST LONGER, WHICH MAKES THEM USEFUL FOR SUBSEASONAL FORECASTING

**Surface Anomaly**

February 6

[Map of surface anomaly]

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

**Top 300m-Layer Anomaly (GODAS)**

February 2

[Map of top 300m-layer anomaly]

CPC Official Statement

Status: La Niña
(no changes since April ’22)

- La Niña is present.*
- Equatorial SSTs are below average across most of the Pacific Ocean.
- The tropical Pacific atmosphere is consistent with La Niña.

TAKEAWAYS
- The EPAC is warming rapidly, but mostly superficially.
- The warming is starting to produce impacts in South America.
- Local ENSO impacts often occur BEFORE official classification.
ENSO: Oceanic Kelvin Waves

Equatorial Pacific Temperature Anomaly

Pentad centered on 04 DEC 2022

TAKEAWAYS

• An extensive area of important warm sub-superficial anomalies continues in the western Pacific.

• Warmer EPAC: Arriving warm Kelvin and surface wind anomalies.

• A cool Kelvin Wave appears to be propagating along 110W, trailed by a warm one near 160W.
Hovmöller of Winds and Heat Content

Zonal wind anomalies can trigger Oceanic Kelvin Waves that propagate into the South American coast.

Westerlies can trigger warm waves, easterlies cool waves.

WHY DO WE MONITOR THIS?
A transition from La Niña to ENSO-neutral is anticipated during the February-April 2023 season. By Northern Hemisphere spring (March-May 2023), the chance for ENSO-neutral is 82%.*
Madden-Julian Oscillation (MJO)

Current Observations:

- Wave-1 Pattern and coherent propagation continue. Upper convergent phase (brown) over the Americas now.
- Speed: Slower than average (1.5 Months to traverse the globe)
- Strong MJO suggests La Niña is fading.

![Velocity Potential (contours) and Brightness Temperature (shaded)](image)
**MJO Forecasts**

**Empirical Wave Propagation (EWP)**

CHI 200 hPa 40-DAY forecast (00z07feb2023–19mar2023)
(based on EWP zonal harmonics)

**Global Forecast System (GFS)**

CHI 200 hPa 15-DAY forecast (00z07feb2023–22feb2023)
(based on NCEP GFS)

**Climate forecast System (CFS)**

CHI 200 hPa 40-DAY forecast (00z07feb2023–19mar2023)
(18-memb GPR CFSv2 IC = 2023020700)

Source: CPC

**TAKEAWAYS**

- Upper convergence (dry) through the weekend.
- Upper divergent (wet) on the second half of February. Watch out for excessive precipitation in portions of South America.
Outlook for the next few days:

- Upper convergent MJO (dry) through Friday.
- Note that CFS might be a bit too fast with transition towards wetter. I will likely develop next week.
- A wet Kelvin arrives around Feb 14, increasing chance for wetter conditions through Feb 17.
South America, Last 7 Days

200 hPa Flow

850 hPa Flow

Average

Anomaly

Gauge Rainfall

Satellite – Estimated Rainfall (CMORPH)

Monthly WMO Regional Focus Session
Caribbean/Central America, Last 7 Days

200 hPa Flow

Rainfall from Gauges (CPC)

Satellite – Estimated Rainfall (CMORPH)

Monthly WMO Regional Focus Session
¡Gracias! Thank you! ¡Obrigado!

Next Session: Wed 8 March 2023, 16 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