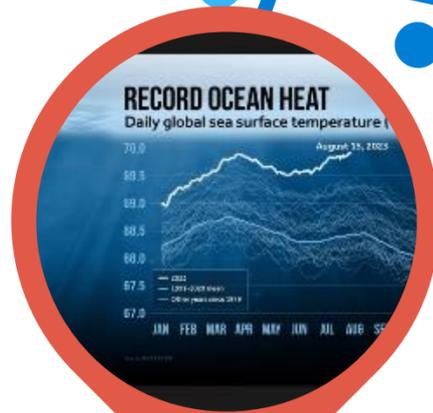


16TH SESSION OF THE PACIFIC ISLANDS CLIMATE OUTLOOK FORUM

PICOF-16

23 APRIL, 2025
ONLINE: ZOOM



REVIEW AND OVERVIEW OF NOVEMBER 2024 TO MARCH 2025 - OCEAN

Moleni Tu'uholoaki (SPC), Grant Smith (BOM)



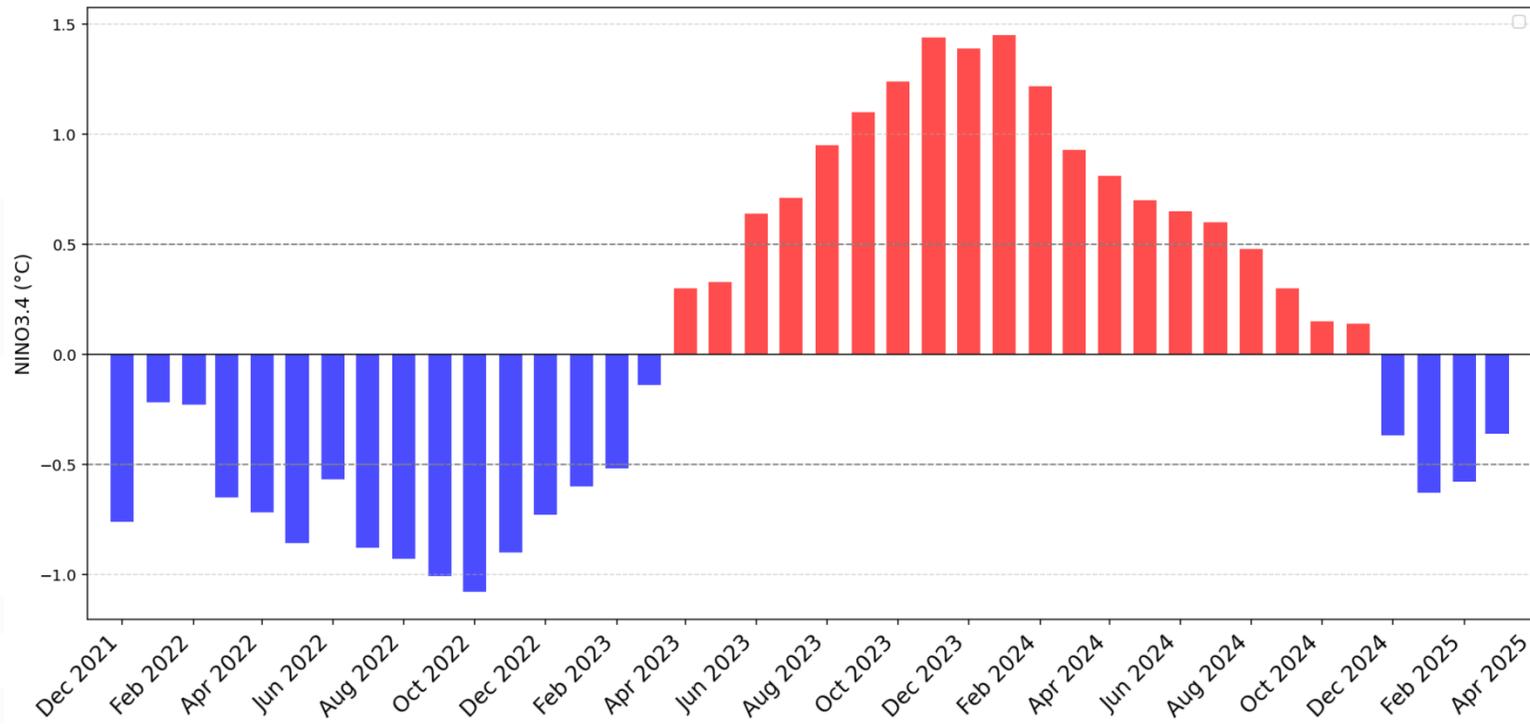
PICOF-15 Outlook (November 2024 - March 2025)

- **La Niña or La Niña-like patterns are the most likely outcome for remainder of 2024. Climate models indicate that should La Niña develop, it would be relatively short-lived with a return to ENSO-neutral in early 2025.**
- **Near to Above normal sea surface temperatures are favoured in regions excluding the central and eastern equatorial Pacific.**
- **Sea level is favoured to be higher than normal around PNG, FSM, the Republic of the Marshall Islands (RMI), Palau, Solomon Islands, New Caledonia and southern part of Tonga. Below normal sea level is favoured around Kiribati, southern parts of Tuvalu, Samoa, northern Fiji, northern Tonga, Niue, parts of Cook Islands, parts of French Polynesia and the Pitcairn Islands.**
- **Coral Bleaching Forecast for PNG, FSM, RMI, Palau, and Nauru**

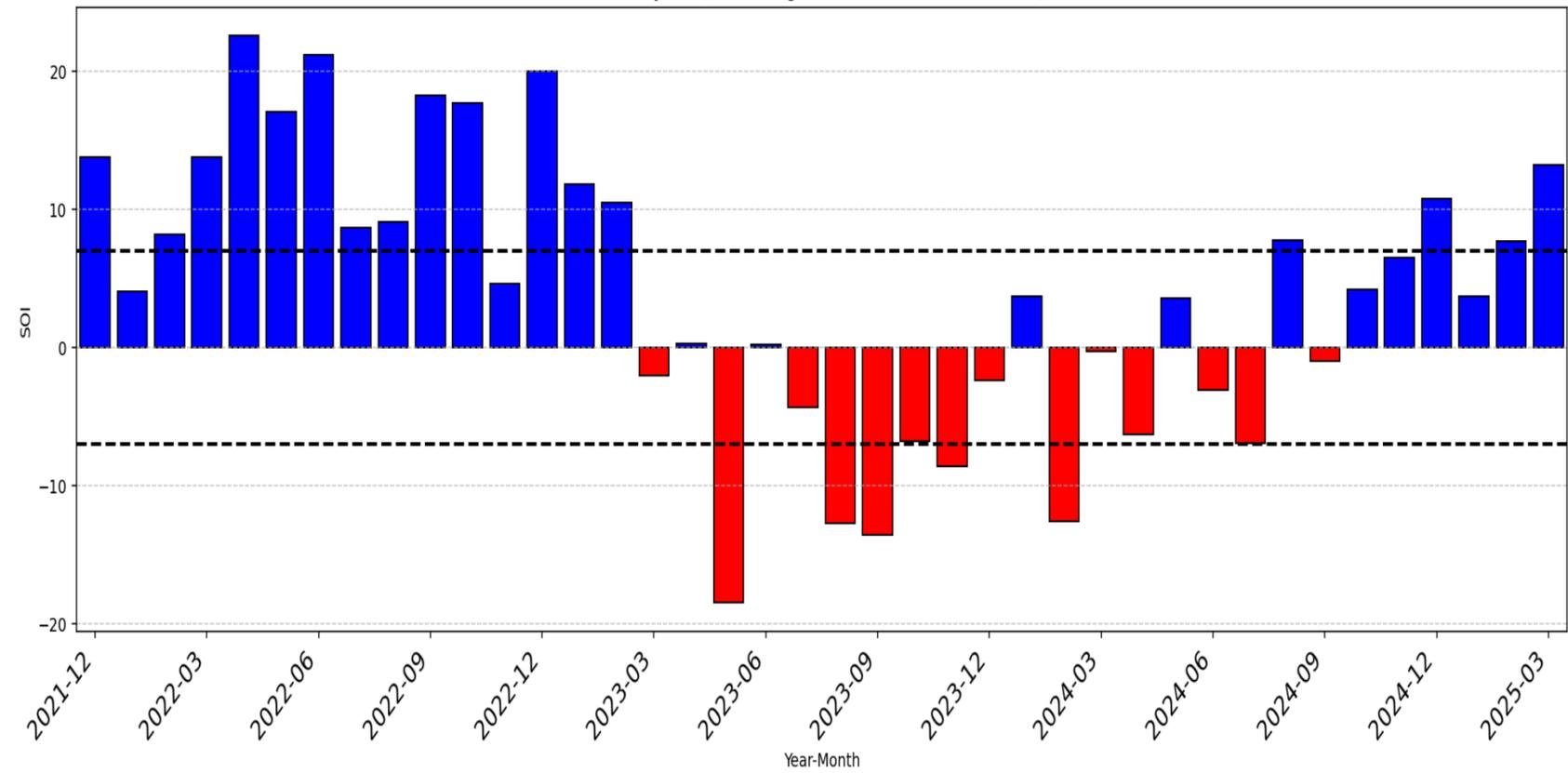
Outlook Review

•La Niña or La Niña-like patterns are the most likely outcome for remainder of 2024. Climate models indicate that should La Niña develop, it would be relatively short-lived with a return to ENSO-neutral in early 2025.

NINO3.4 Index, OISSTv2.1

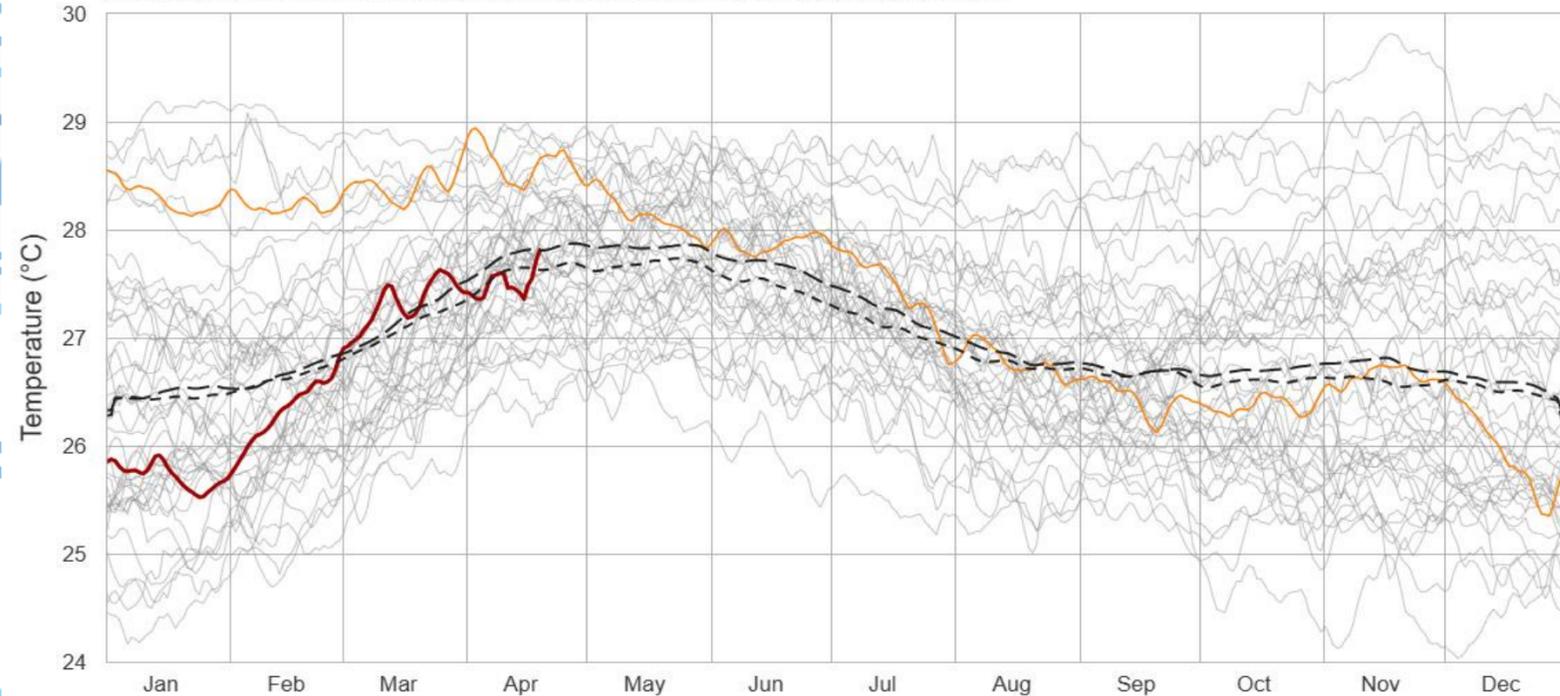


Monthly SOI (Red = Negative SOI, Blue = Positive SOI)

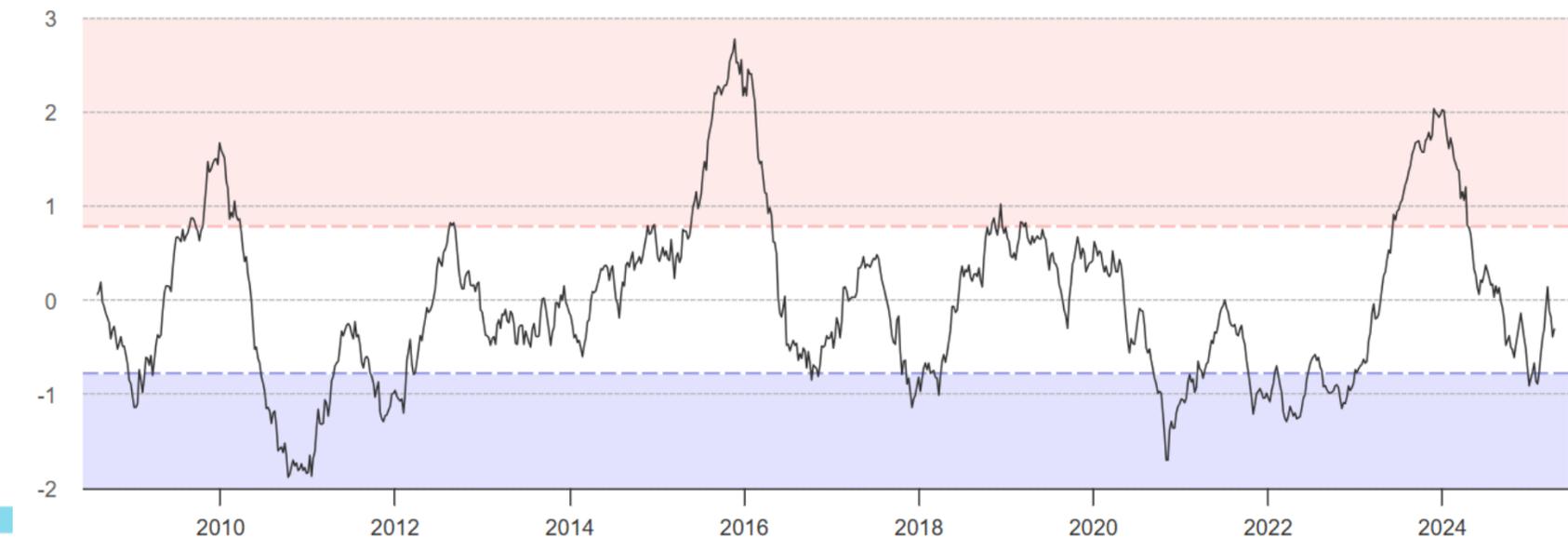


Daily Sea Surface Temperature, Niño 3.4 (5°S–5°N, 120–170°W)

Dataset: NOAA OISST V2.1 | Image Credit: ClimateReanalyzer.org, Climate Change Institute, University of Maine



Niño3.4 index (weekly updates of weekly averages)

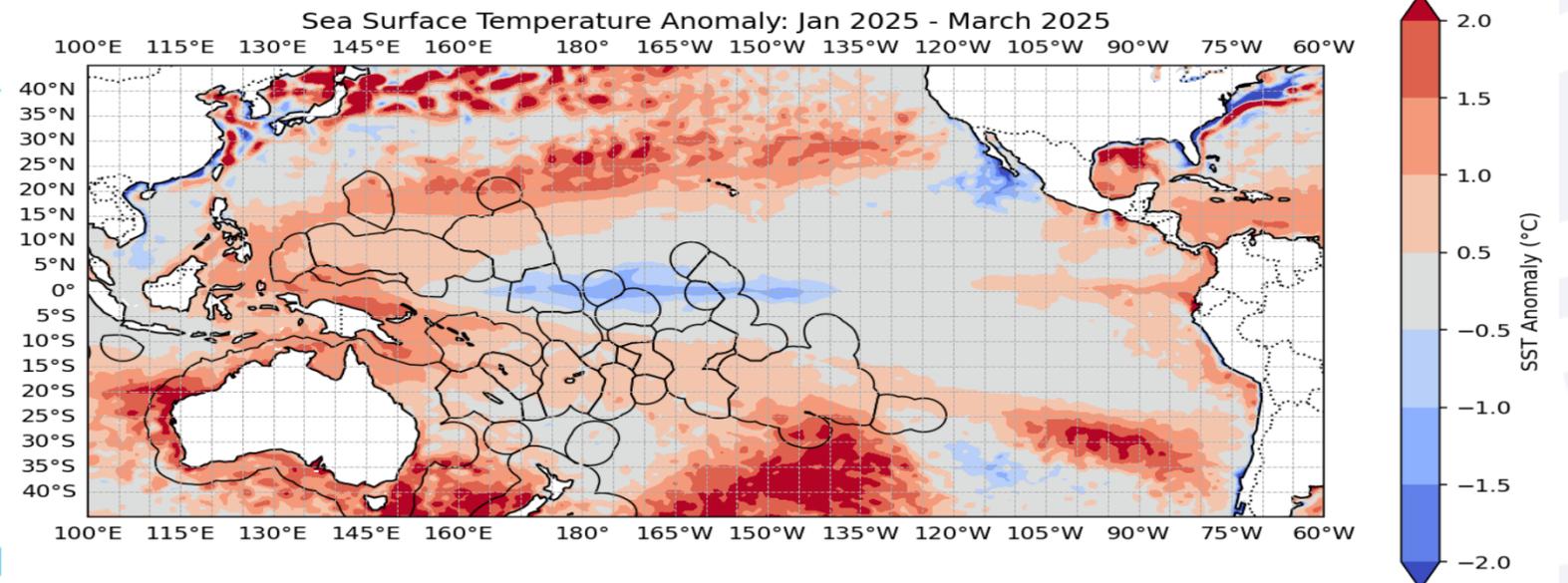
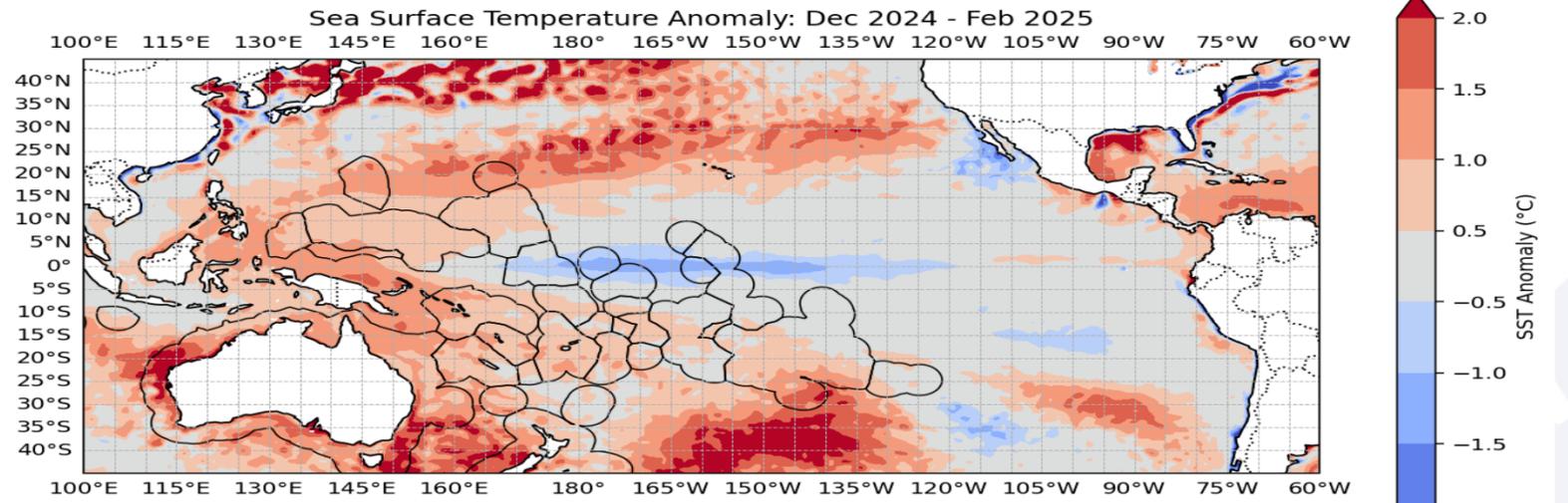
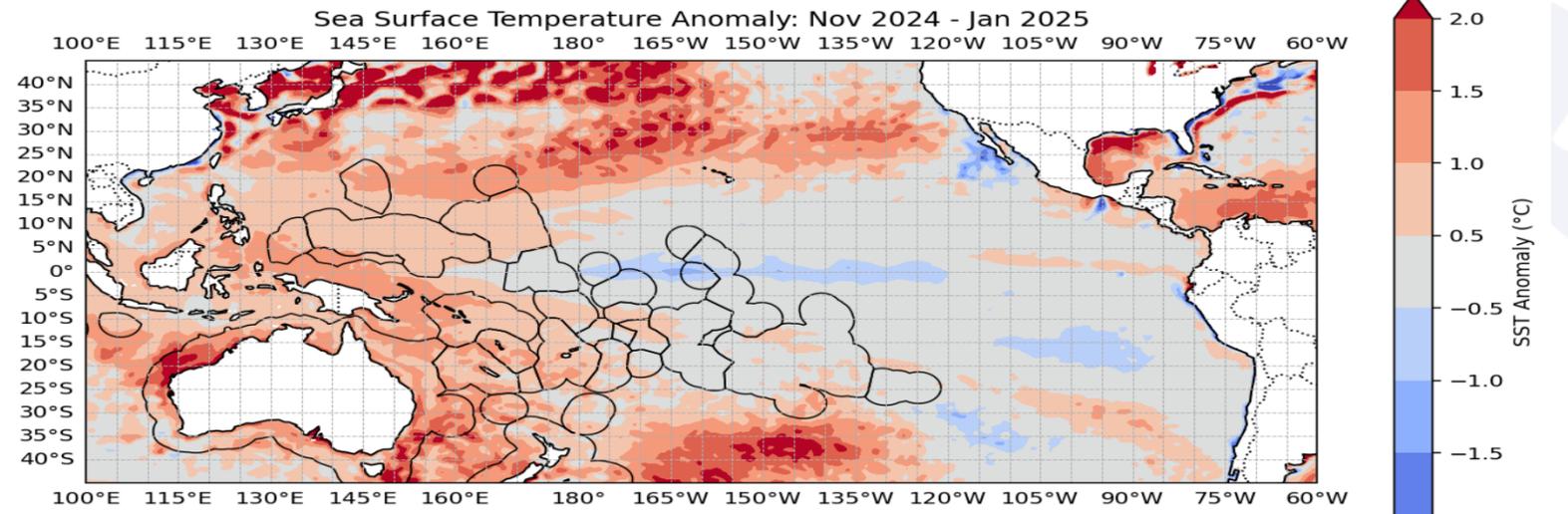
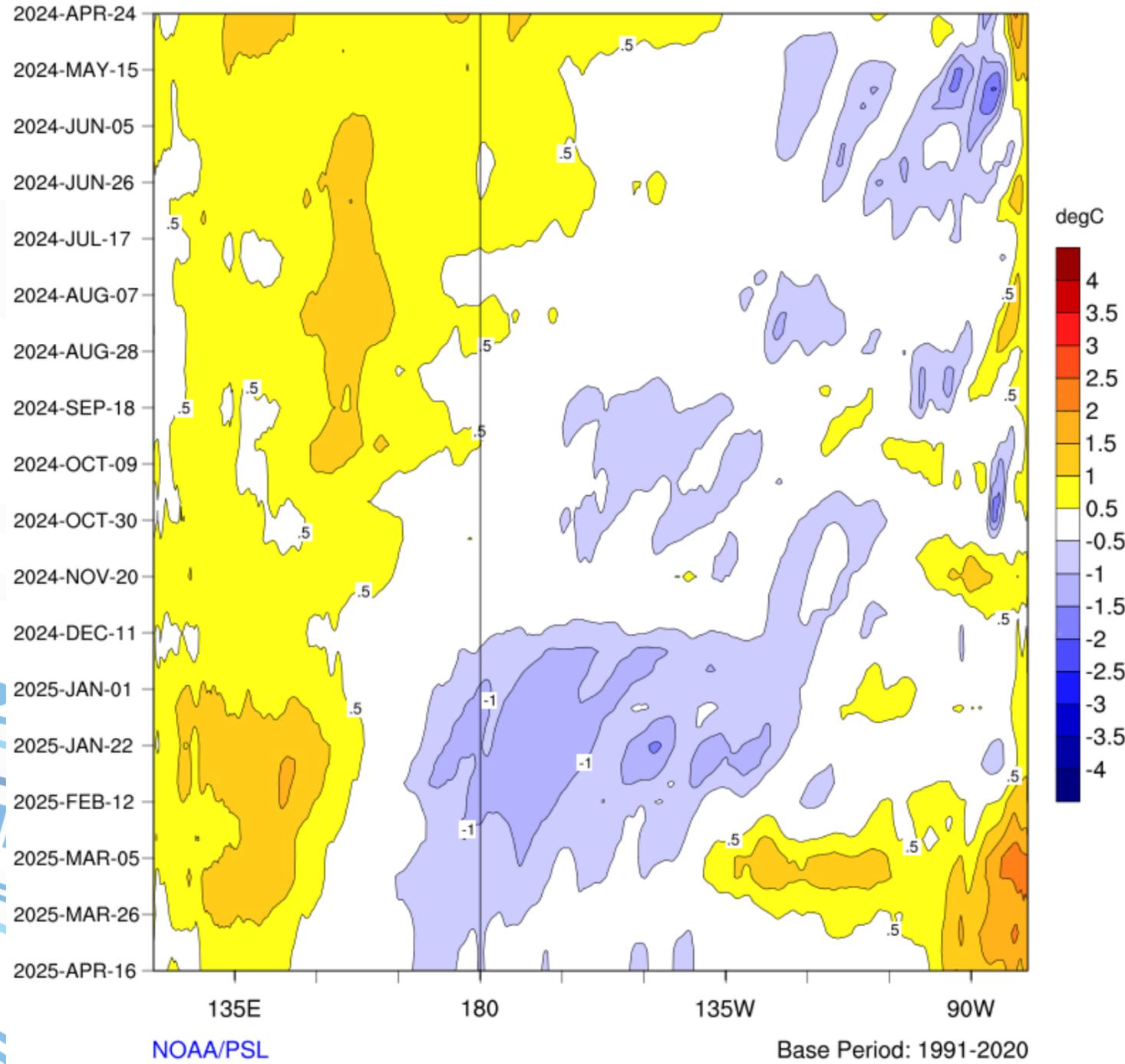


Data from NOAA; <https://climatoreanalyzer.org>

Data from BOM; Southern hemisphere monitoring

SST

SST Anomalies (3.5N-3.5S)

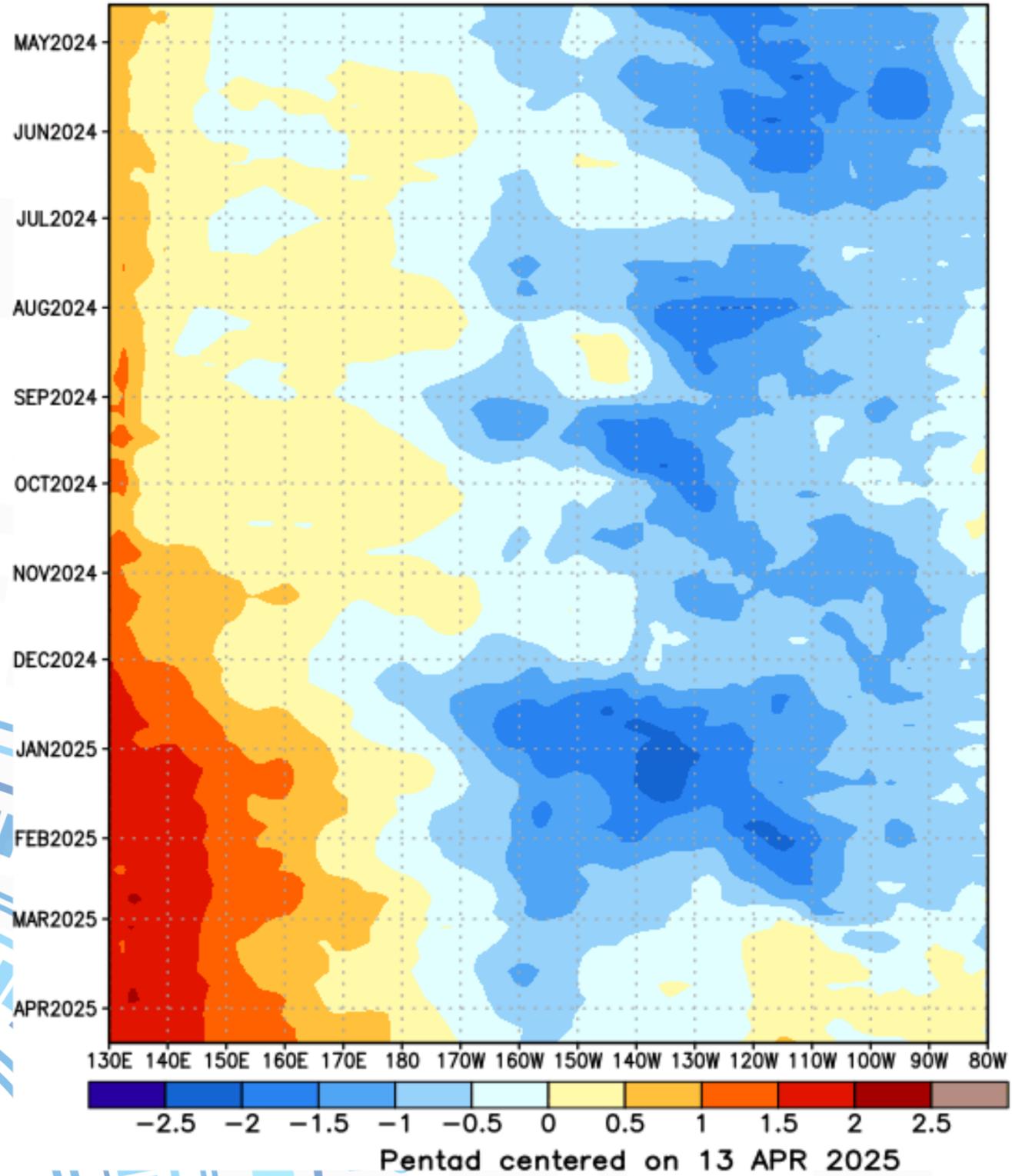


Source: <https://psl.noaa.gov/map/images/sst/sst.anom.hov.gif>

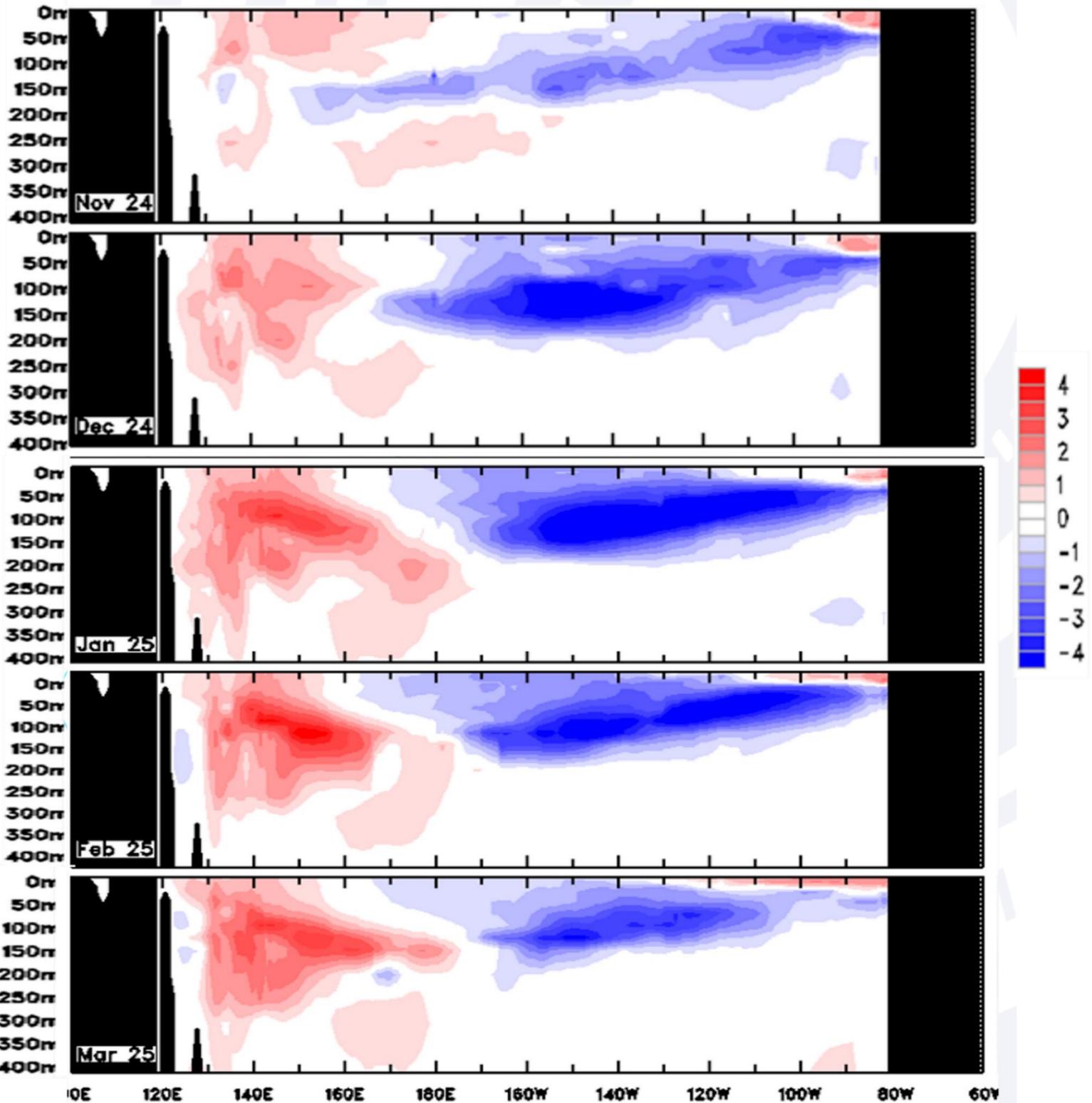
Data: NOAA (Reynolds)

Subsurface Temperature

EQ. Upper-Ocean Heat Anoms. (deg C)



Pacific Ocean Eq Anomaly $\Delta=0.5^\circ\text{C}$

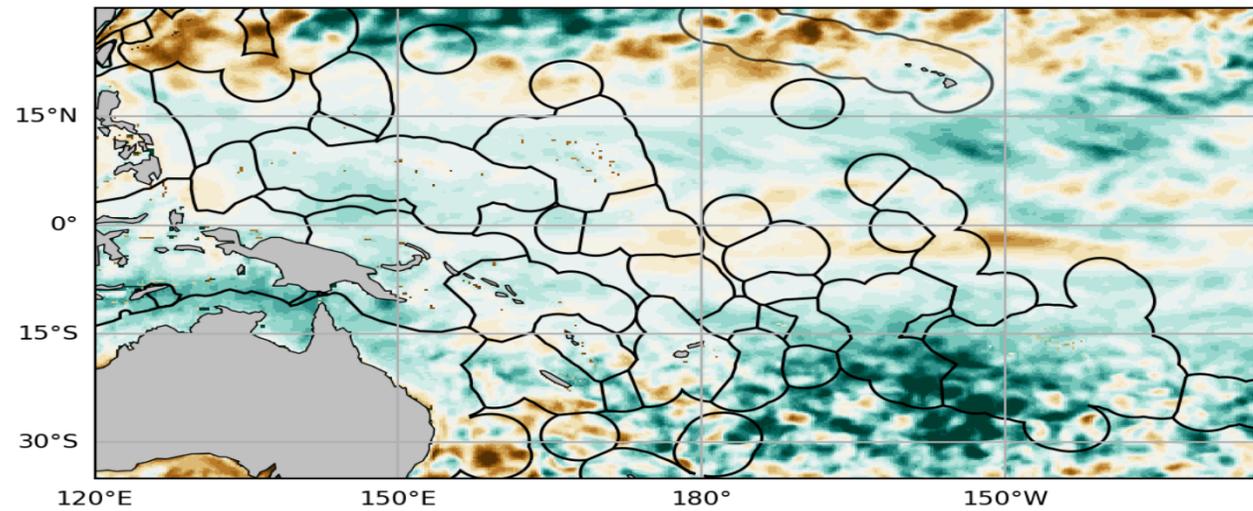


Outlook Review

•ACCESS-S Verification

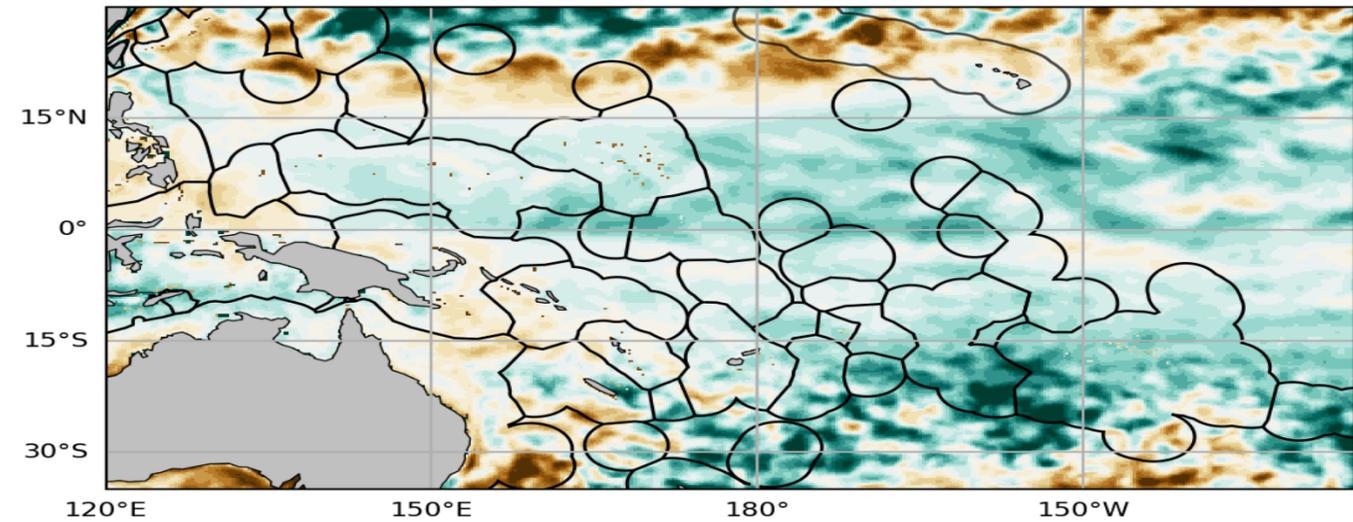
ACCESS-S minus Observations

October to December 2024



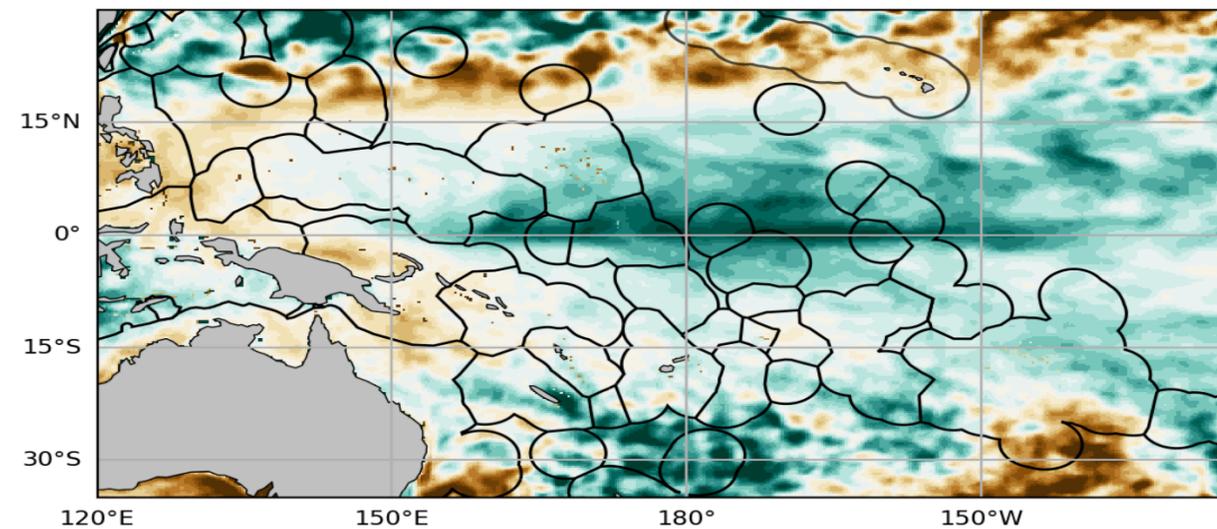
ACCESS-S minus Observations

November 2024 to January 2025



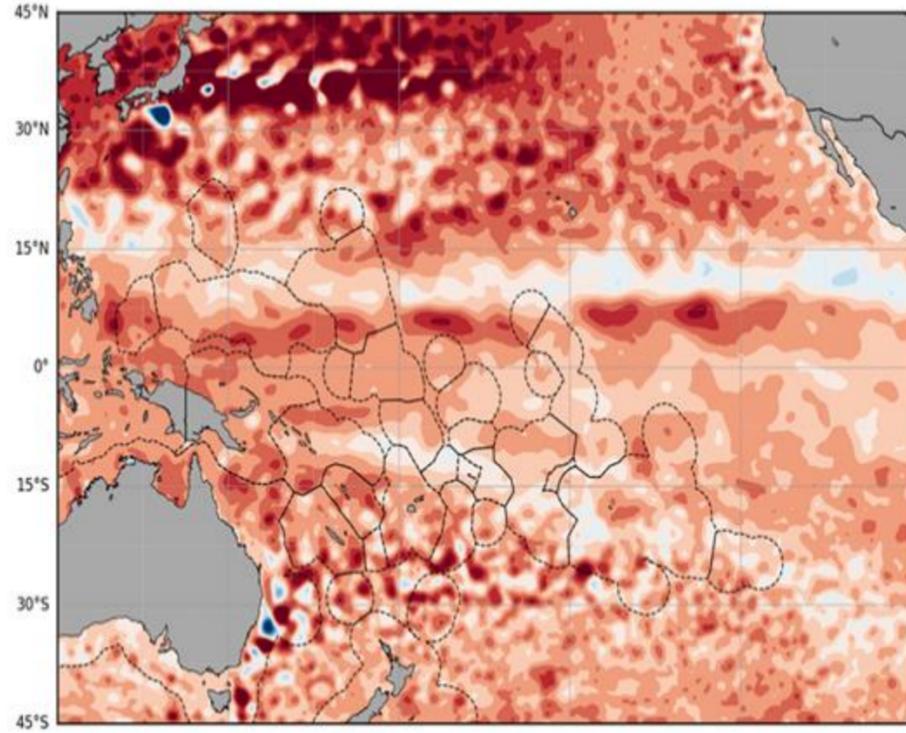
ACCESS-S minus Observations

December 2024 to March 2025

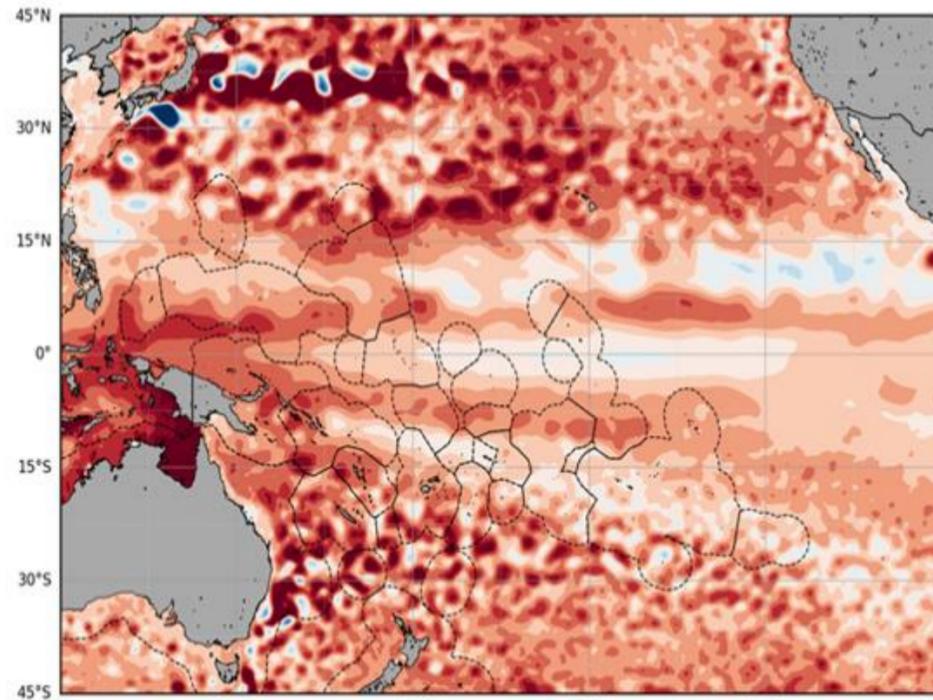


Sea Levels

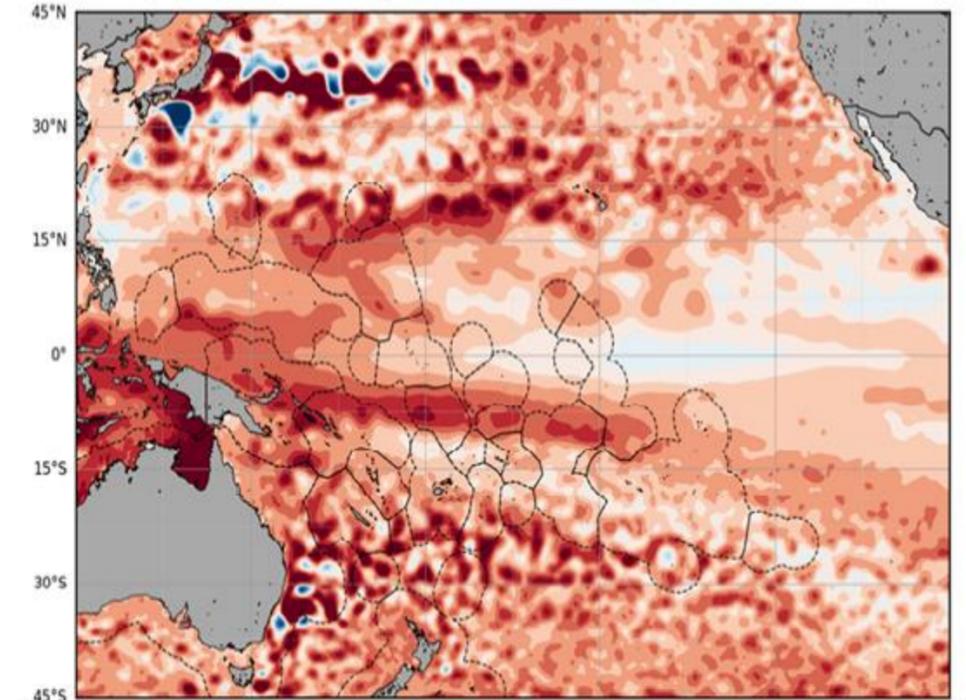
Pacific Islands
Monthly Sea Level Anomaly: November 2024



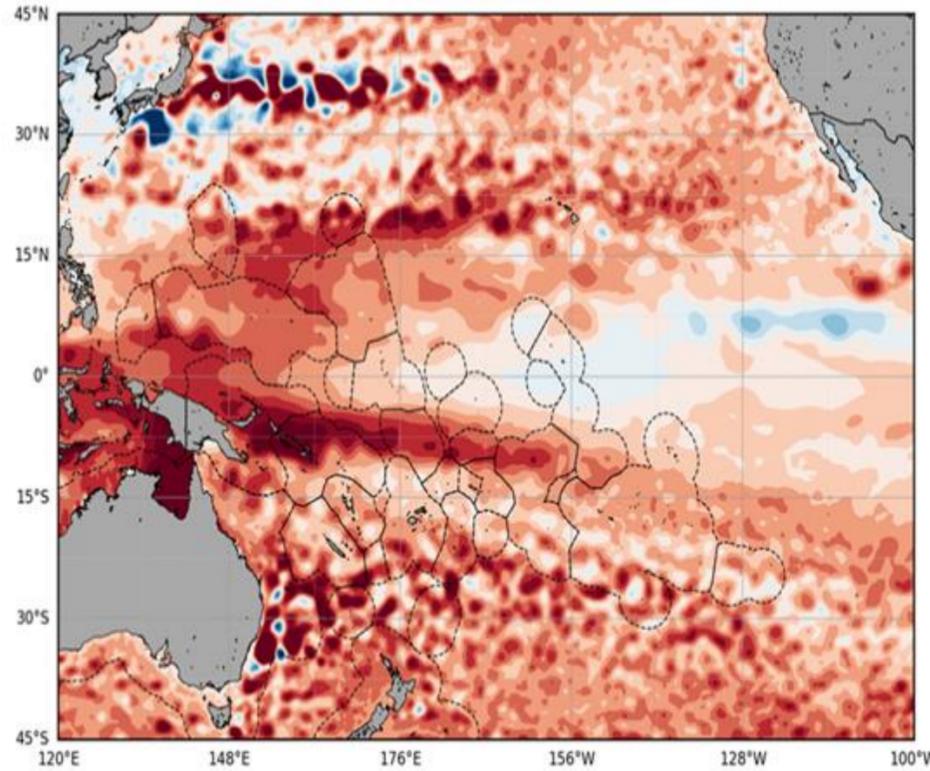
Pacific Islands
Monthly Sea Level Anomaly: December 2024



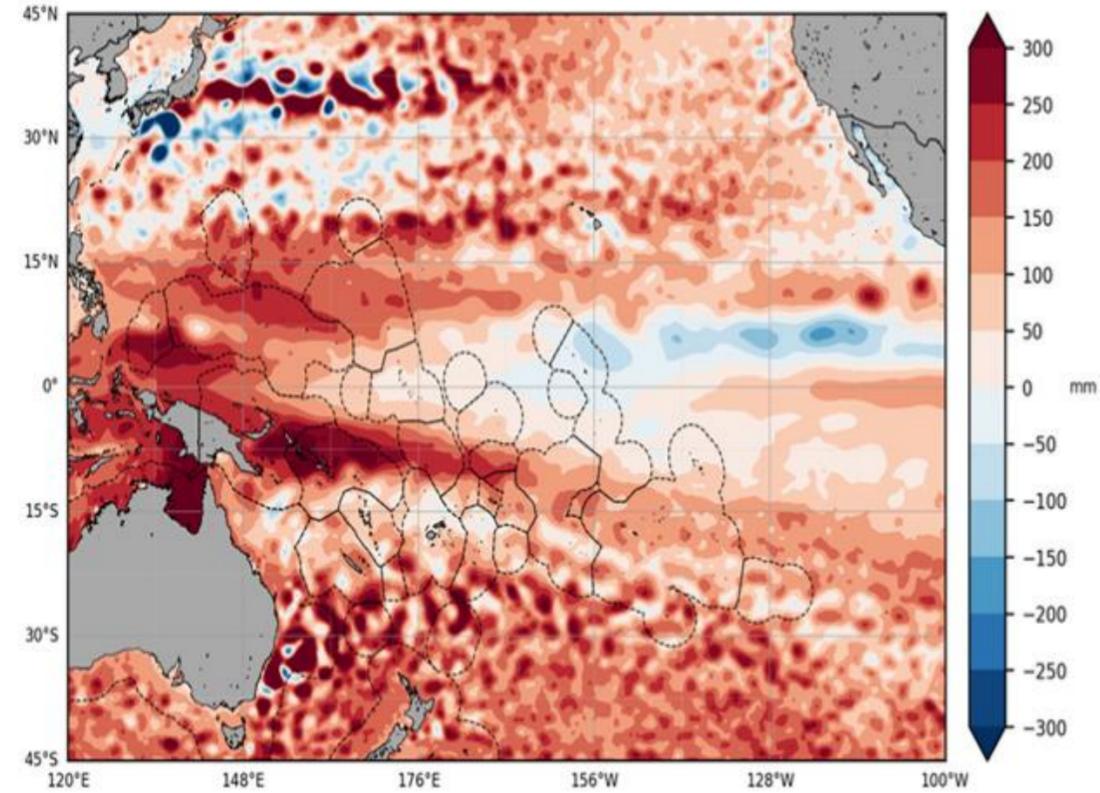
Pacific Islands
Monthly Sea Level Anomaly: January 2025



Pacific Islands
Monthly Sea Level Anomaly: February 2025

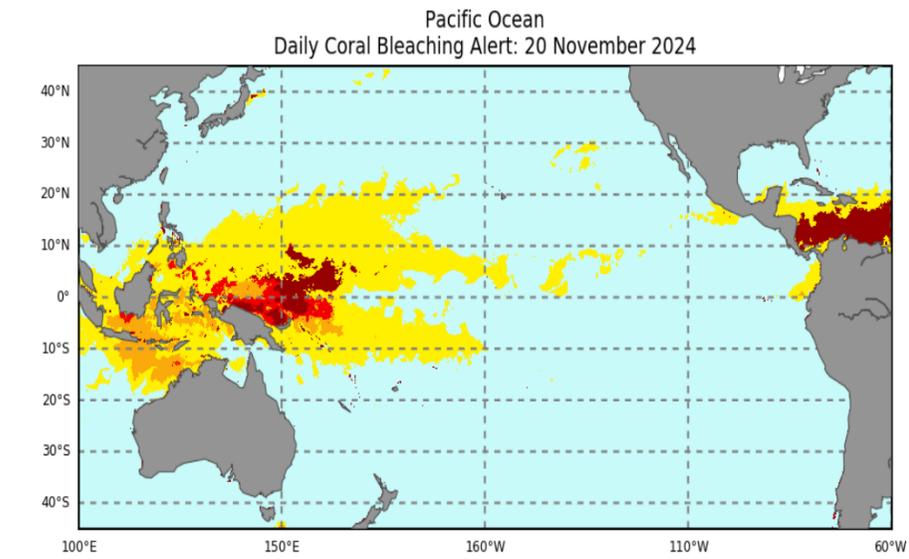


Pacific Islands
Monthly Sea Level Anomaly: March 2025



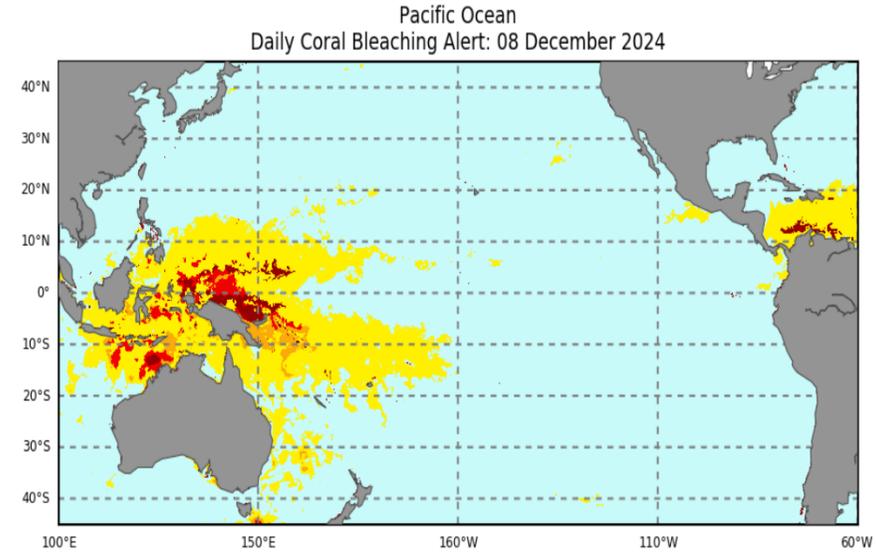
Source: [CMEMS/Avizo](https://www.aviso.oceanobs.com/)

CORAL BLEACHING



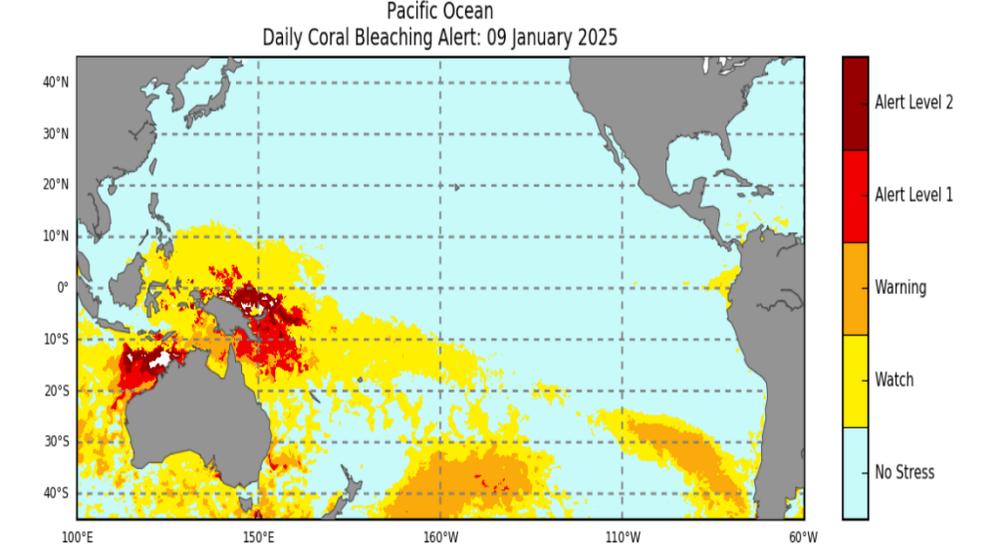
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NOAA Coral Reef Watch



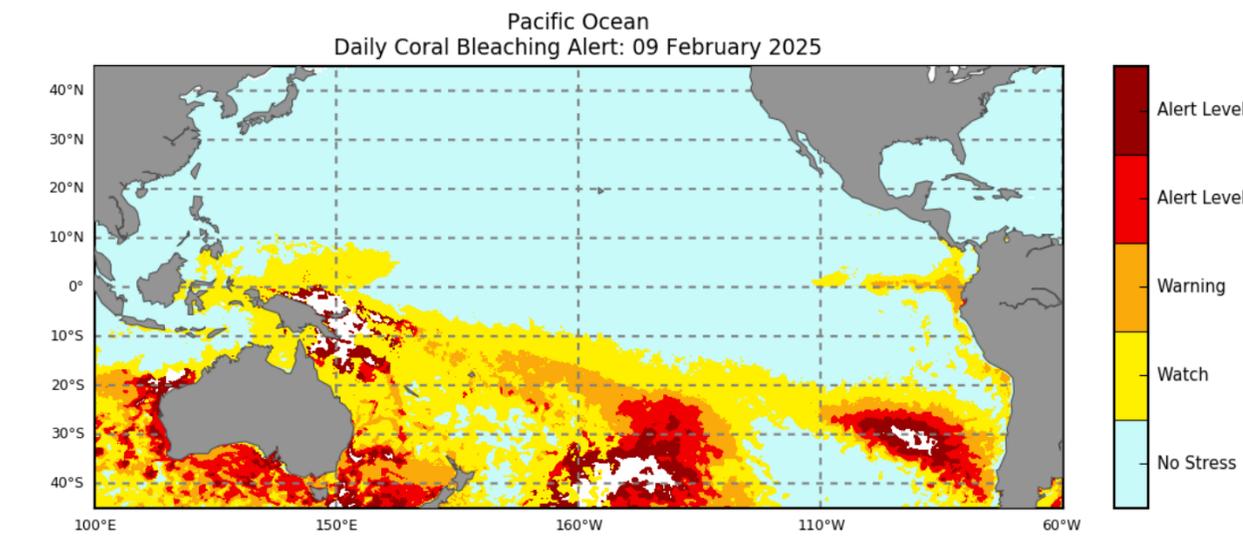
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NOAA Coral Reef Watch



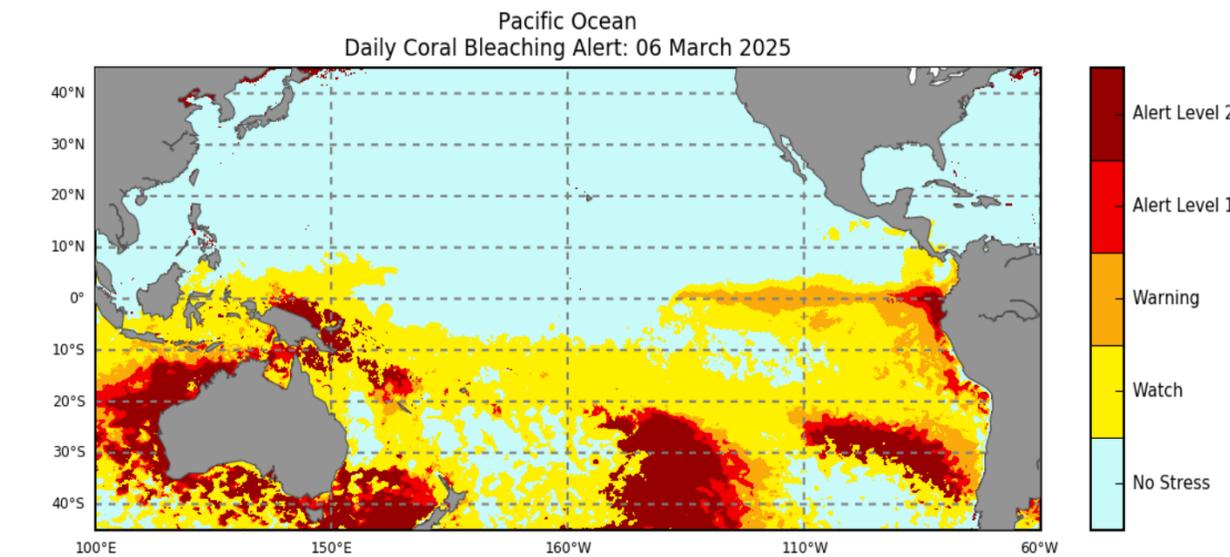
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NOAA Coral Reef Watch



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NOAA Coral Reef Watch



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NOAA Coral Reef Watch

November 2024 to March 2025

Source: NOAA Coral Reef Watch

Summary

- November 2024 to March 2025 conditions align with the PICOF 15 outlook. La Niña-like pattern developed at the end of the year, and short lived. Below normal SST observed in part of Kiribati. Elsewhere near to above normal SST.
- Sea level generally higher than normal for most Pacific Island Countries. Below average anomalies observed in part of Kiribati.
- Coral bleaching Alert observed as forecast over PNG from November 2024 to March 2025, Nov-Dec over Palau and FSM, Nov-Nauru and RMI. Observed but not forecast over Solomon Is, Vanuatu, patches over Fiji & Tonga



THANK YOU!

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