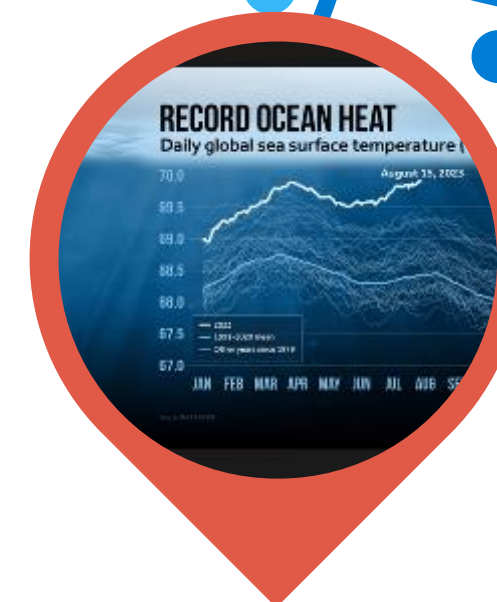


# 16<sup>TH</sup> SESSION OF THE PACIFIC ISLANDS CLIMATE OUTLOOK FORUM

## PICOF-16

23 APRIL, 2025

ONLINE: ZOOM



# ENSO STATUS AND OUTLOOK

Jin Ho Yoo

Research Fellow

APEC Climate Center (APCC)

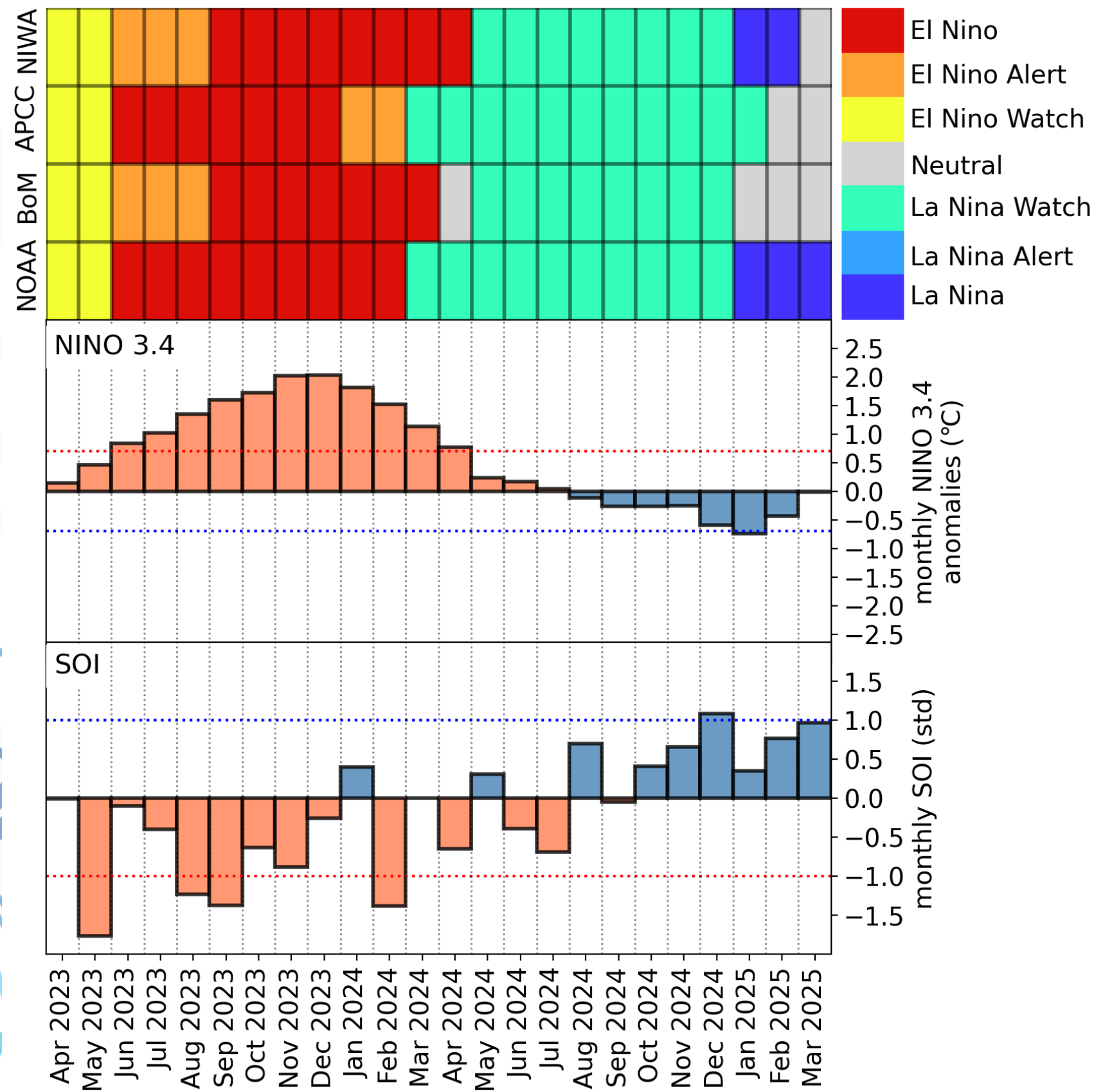




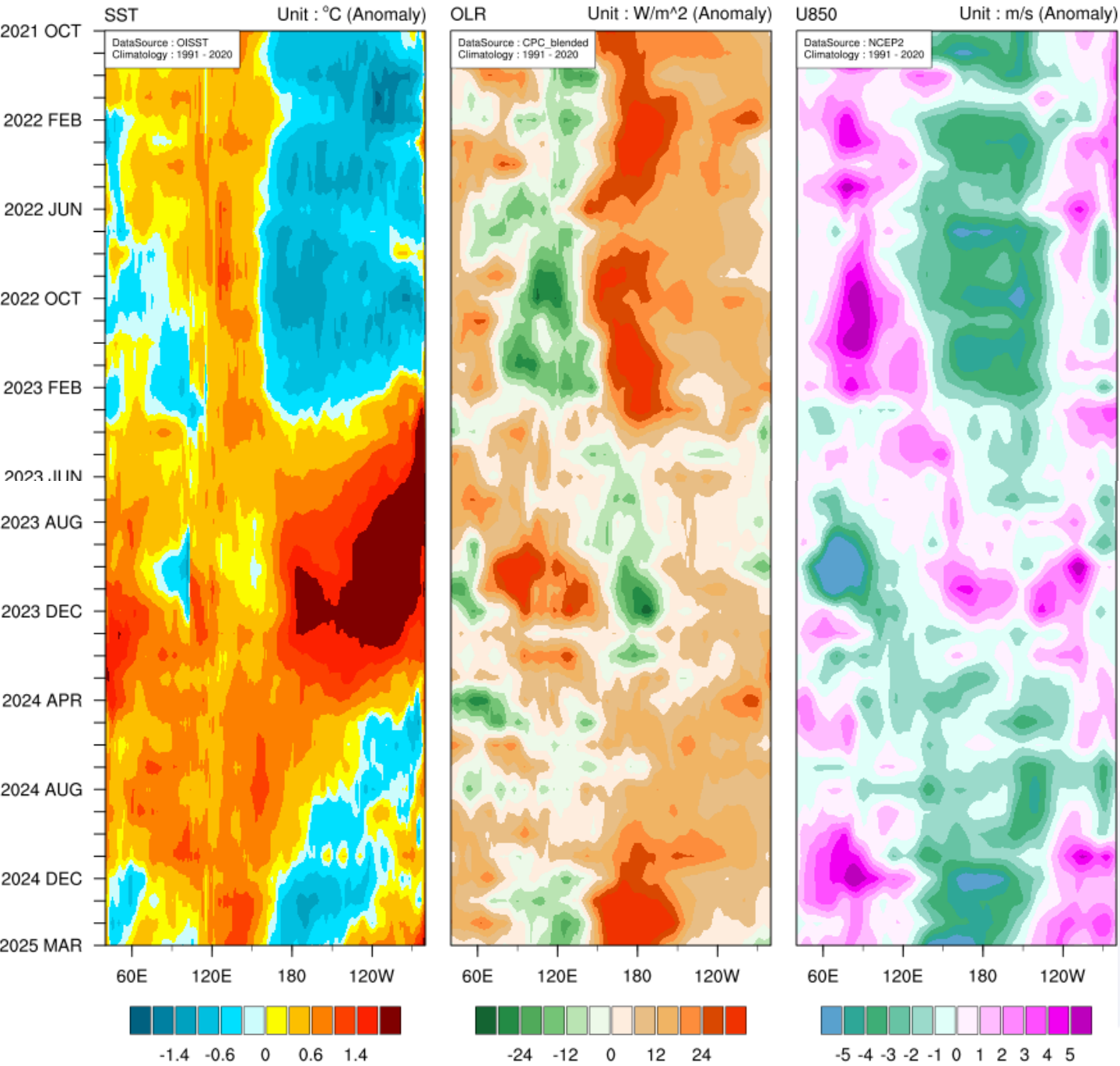
# ENSO status : surface

Source: PRCC ENSO tracker, APCC

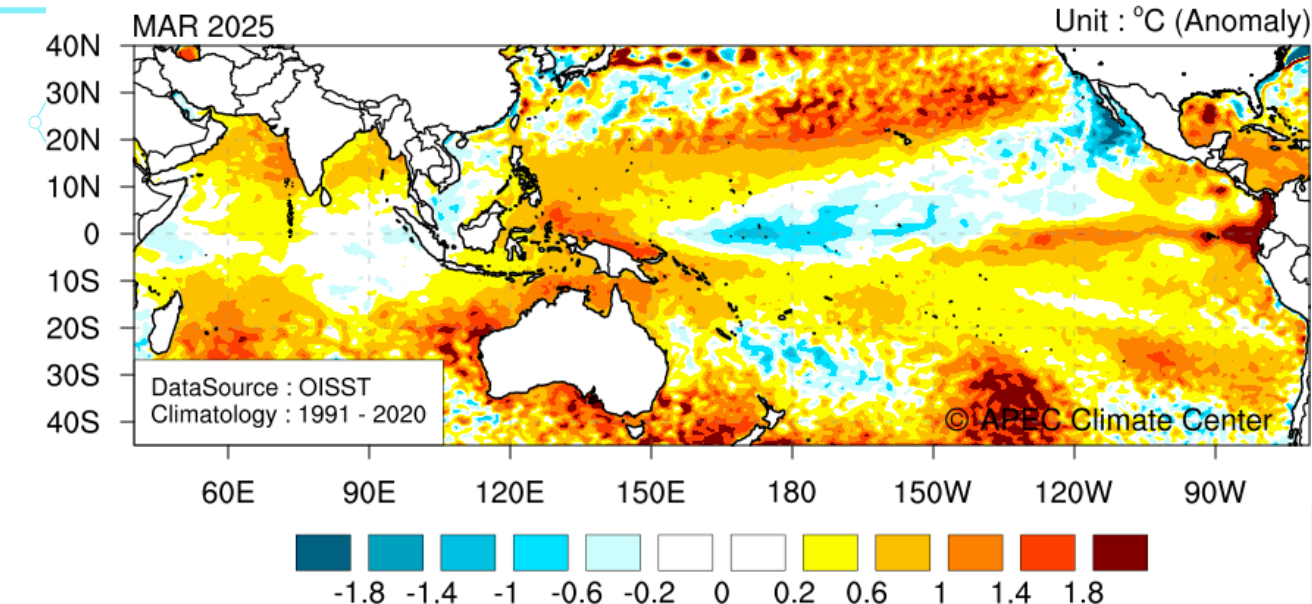
Pacific Regional Climate Centre ENSO tracker



## Sea Surface Temperature / Outgoing Longwave Radiation / U-wind at 850hPa



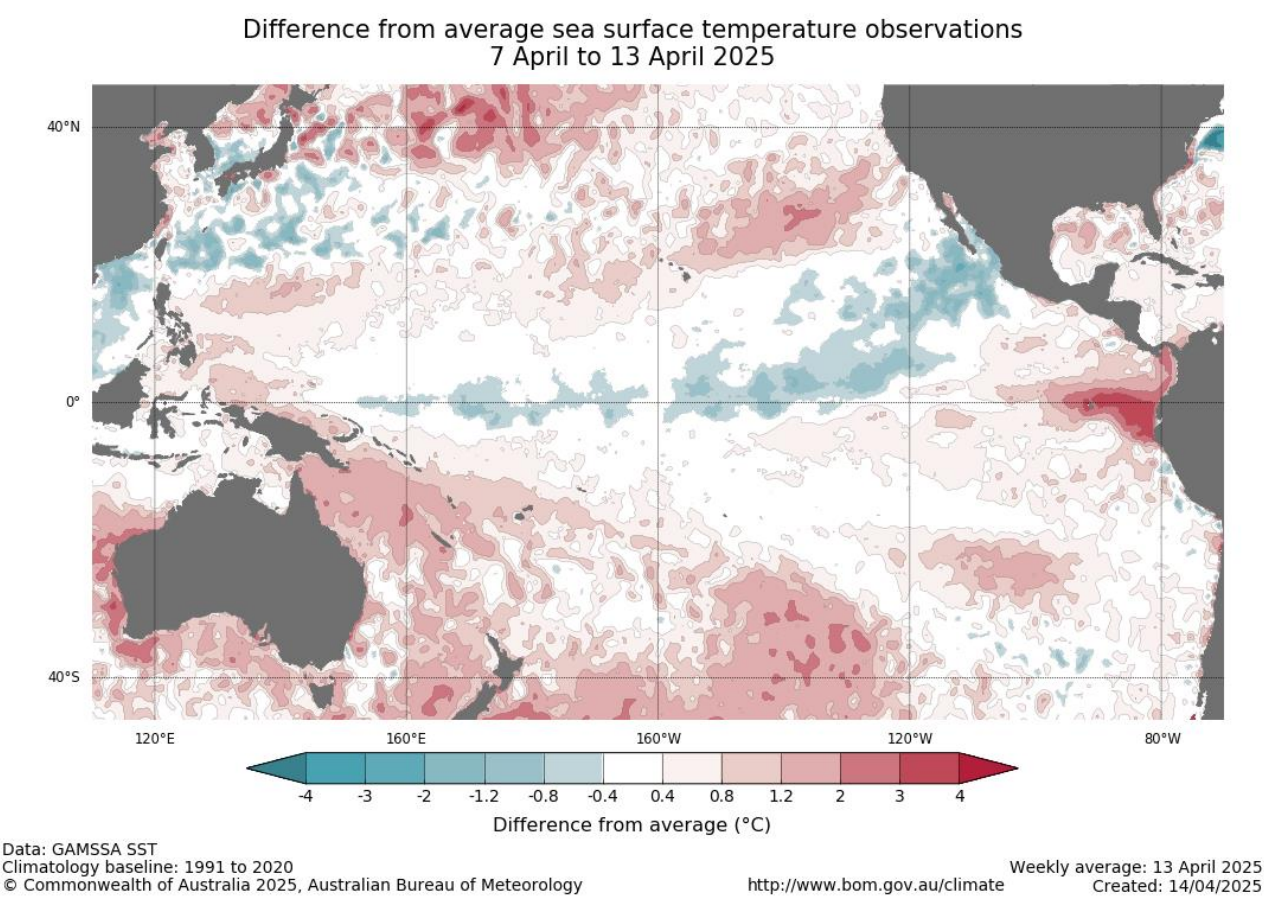
\* Anomalies are averaged between 5°S and 5°N. © APEC Climate Center



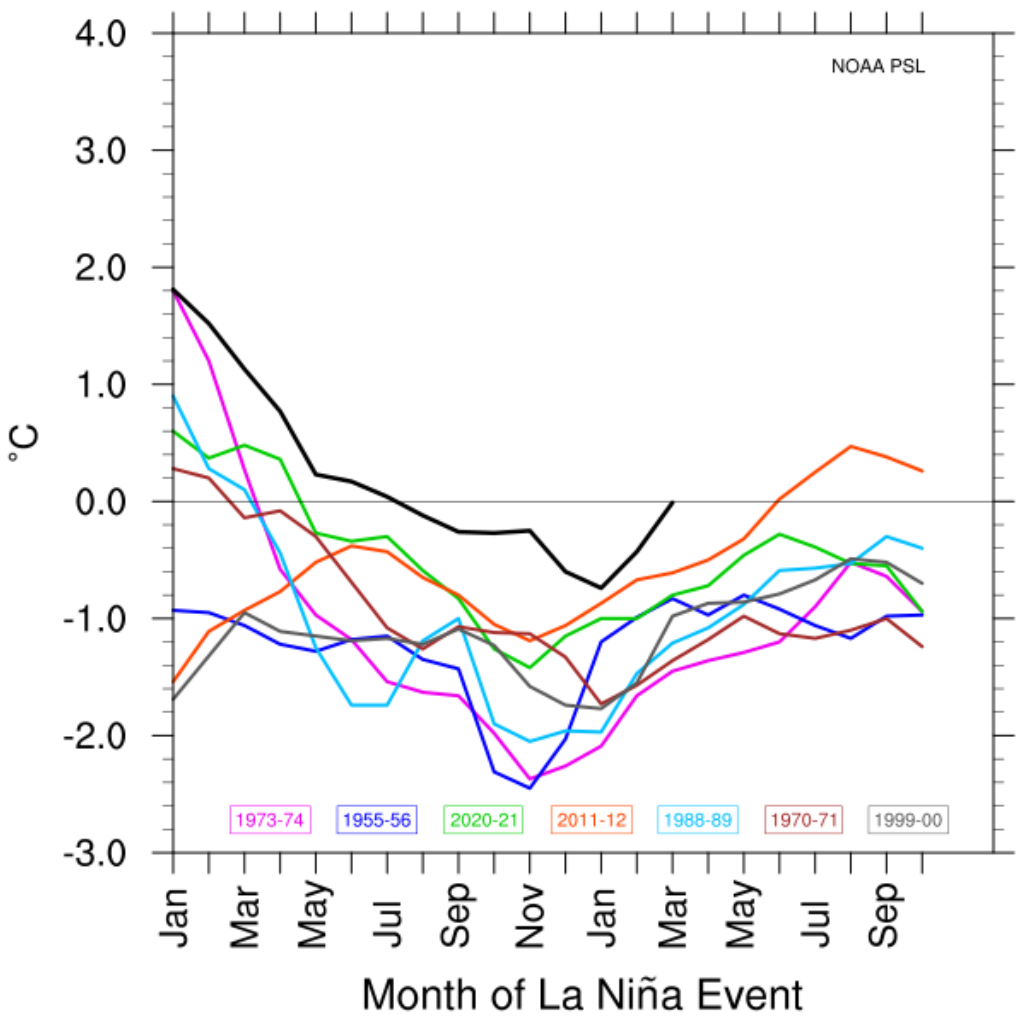


# ENSO status : surface

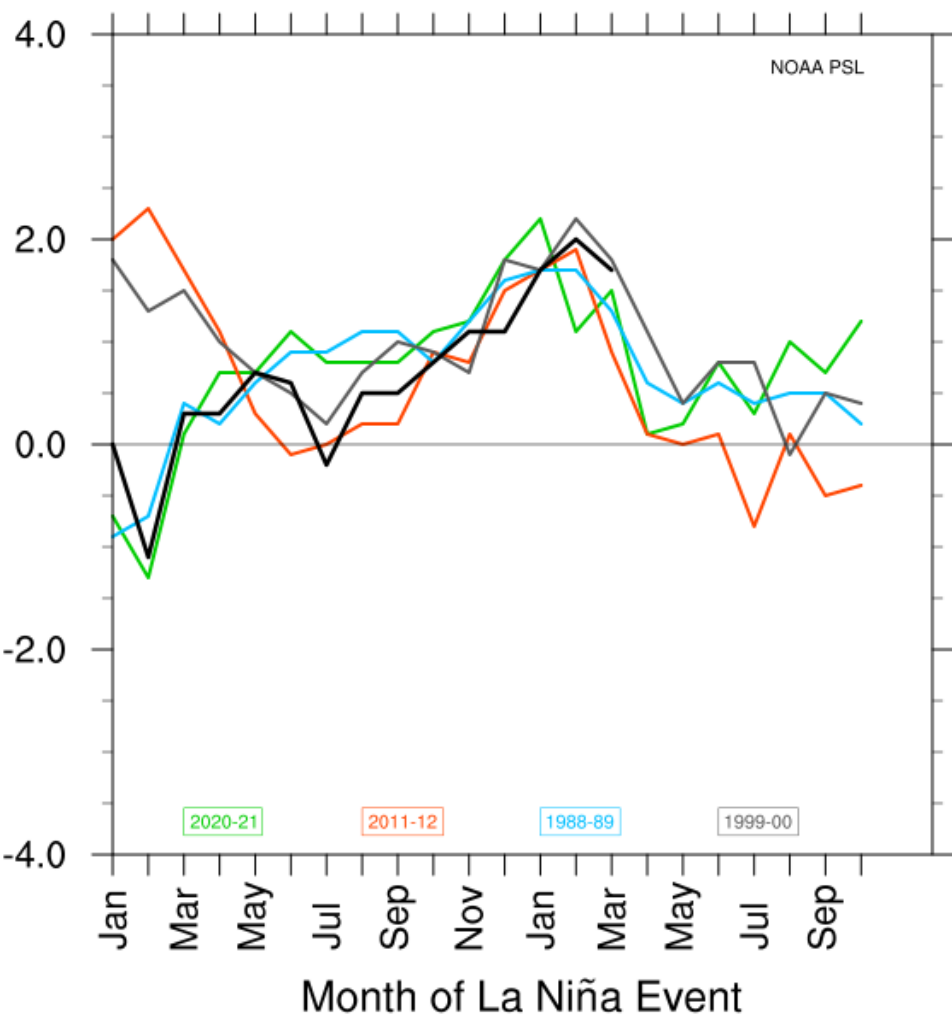
Source: BoM, PSL/NOAA, CPC/NOAA



Niño 3.4 for the top 7 La Niña events since 1950  
vs. 2024- values

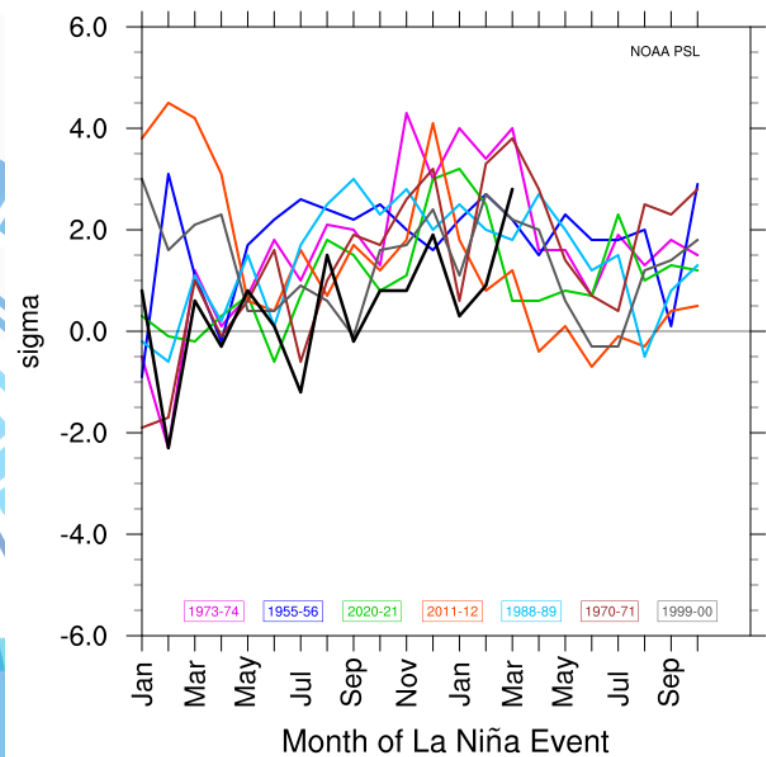


OLR Index for the top 4 La Niña events since 1974  
vs. 2024- values

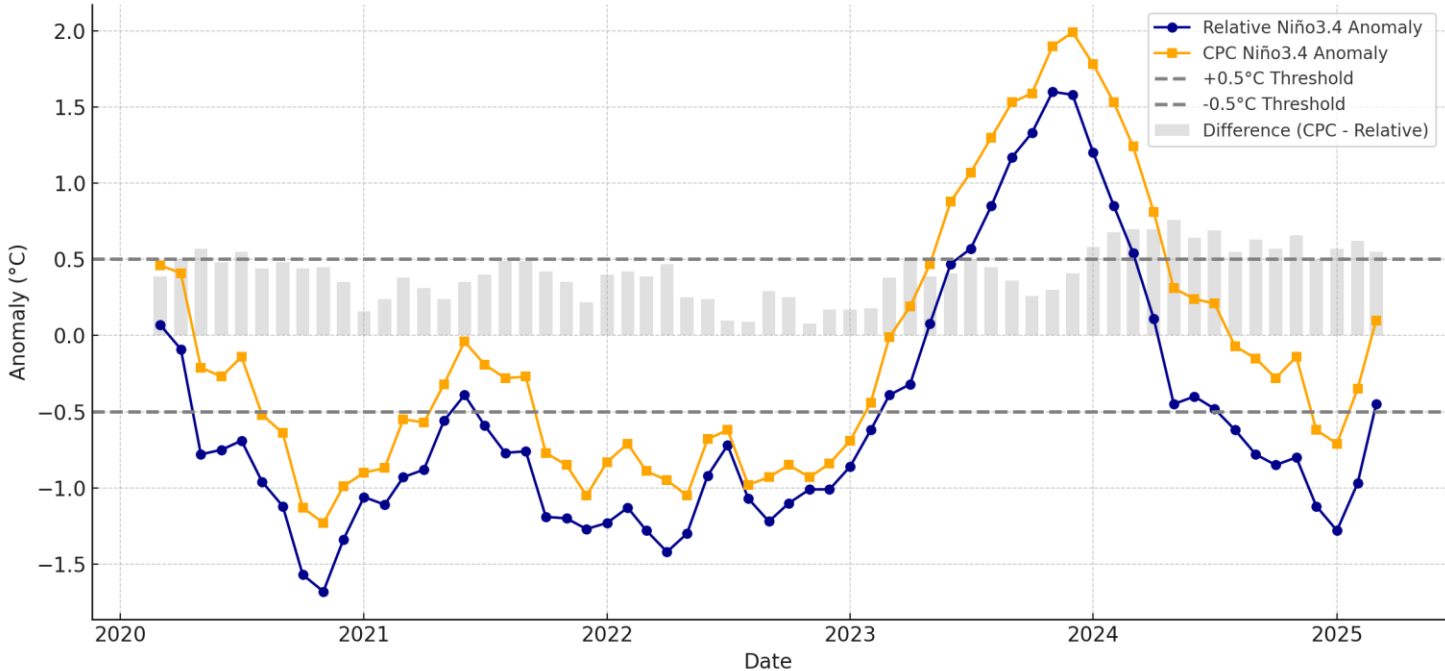


<https://psl.noaa.gov/enso/dashboard.lanina.html>

SOI for the top 7 La Niña events since 1950  
vs. 2024- values



Niño 3.4 Anomalies (Last 5 Years) with ENSO Thresholds and Differences



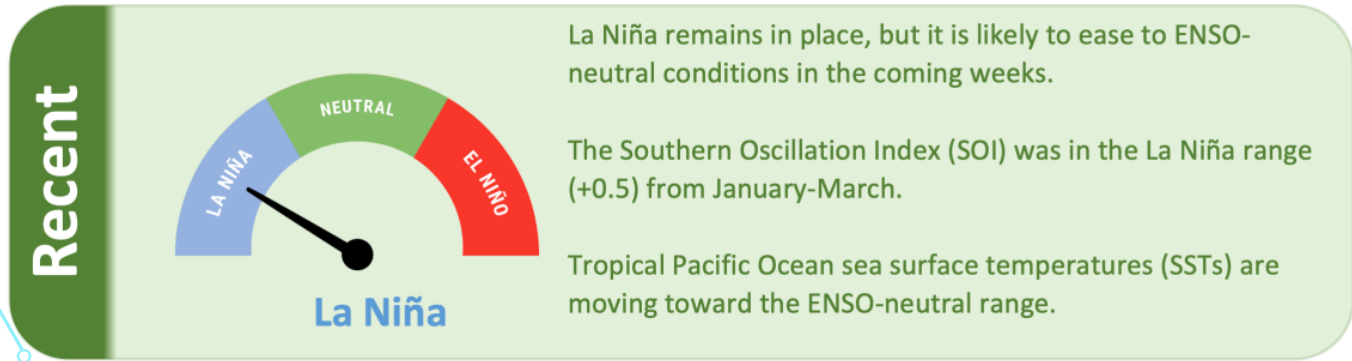
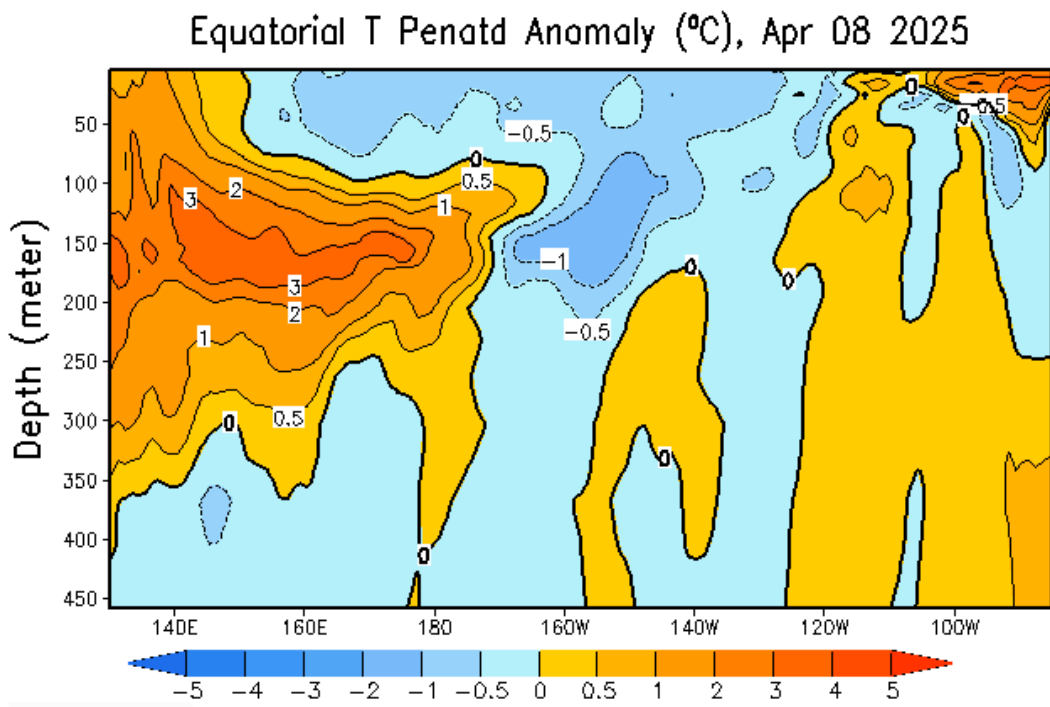
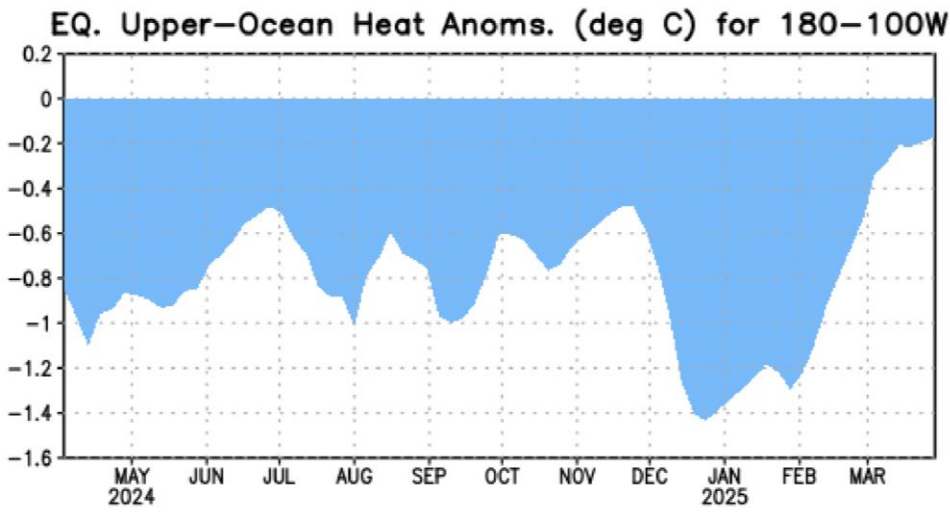
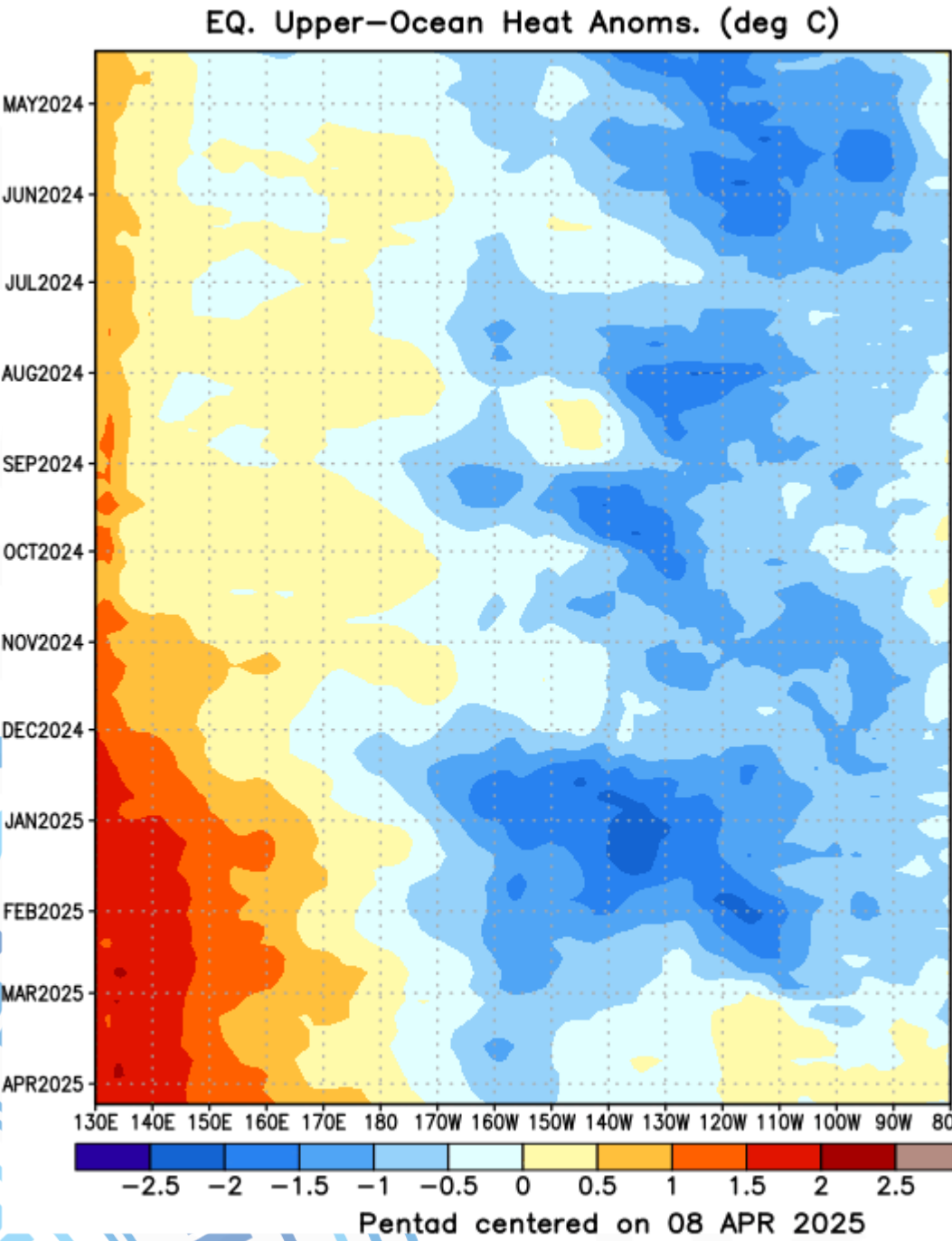
Data source : CPC/NOAA

## GSCU (issued Mar. 2025)

For the seasonal mean spanning December 2024 to February 2025, The Pacific Niño SST index anomalies in the far eastern Pacific (Niño 1+2) and the eastern Pacific (Niño 3) were near zero, while those in the central Pacific (**Niño 3.4 and Niño 4**) were **slightly below average**. **Despite** these weak below-average SST anomalies, oceanic and atmospheric conditions in the **equatorial central and eastern Pacific remained consistent with a weak La Niña**.

# ENSO status : subsurface

Source: CPC/NOAA, NIWA



A short and weak La Nina is almost ended

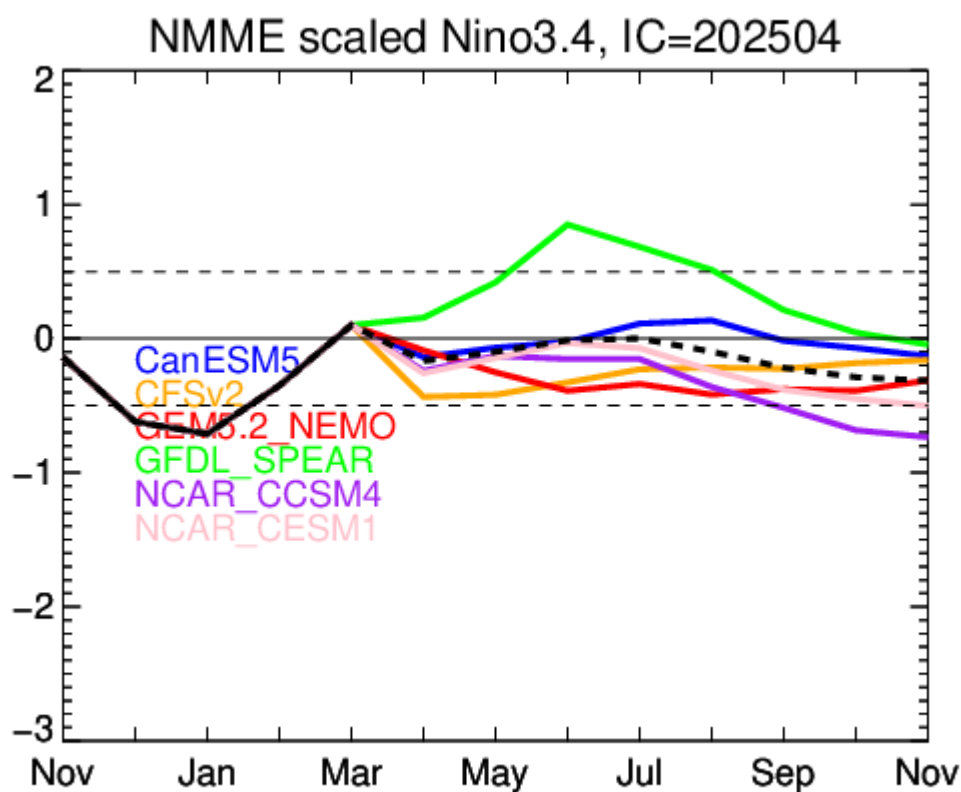
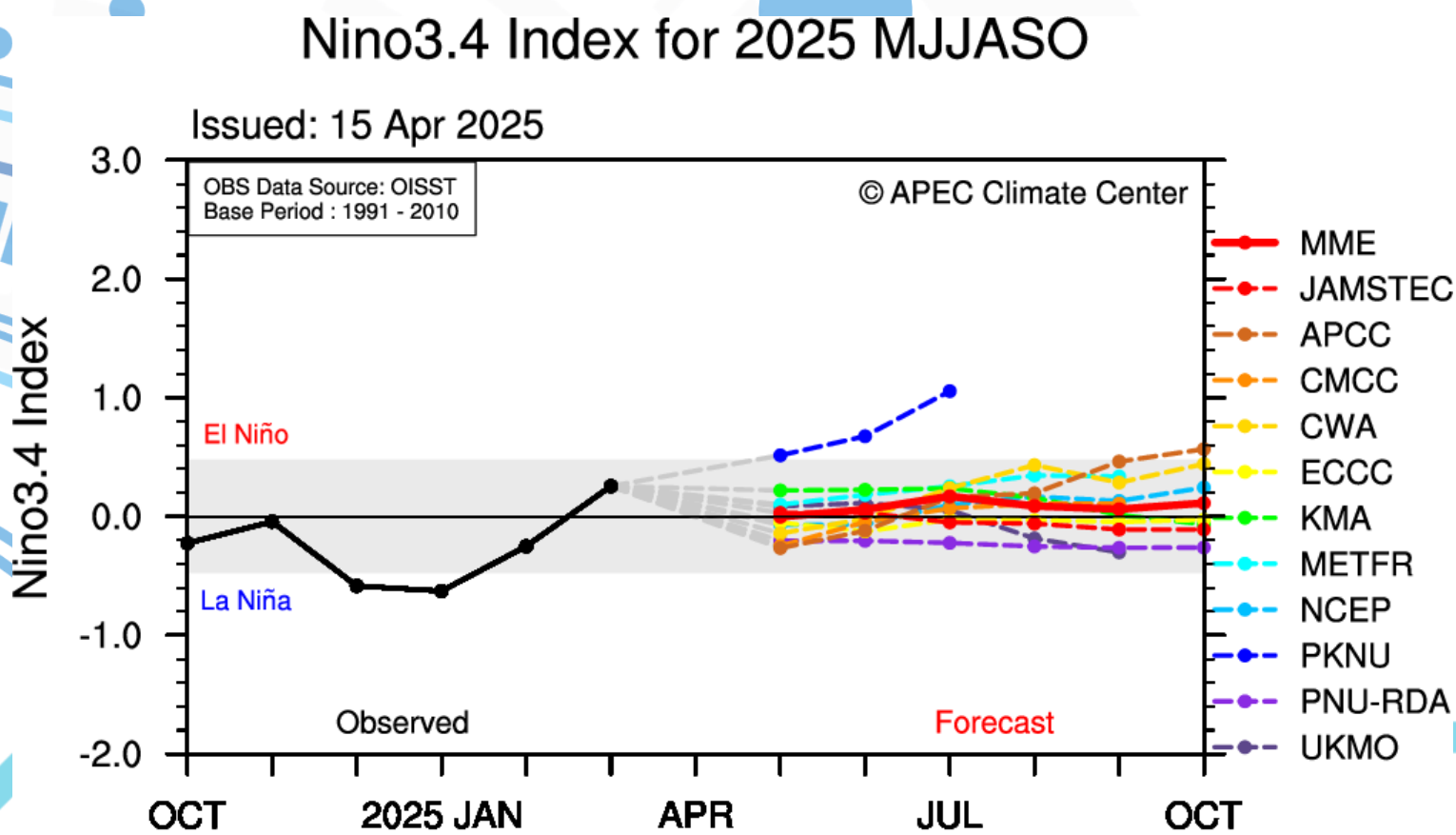
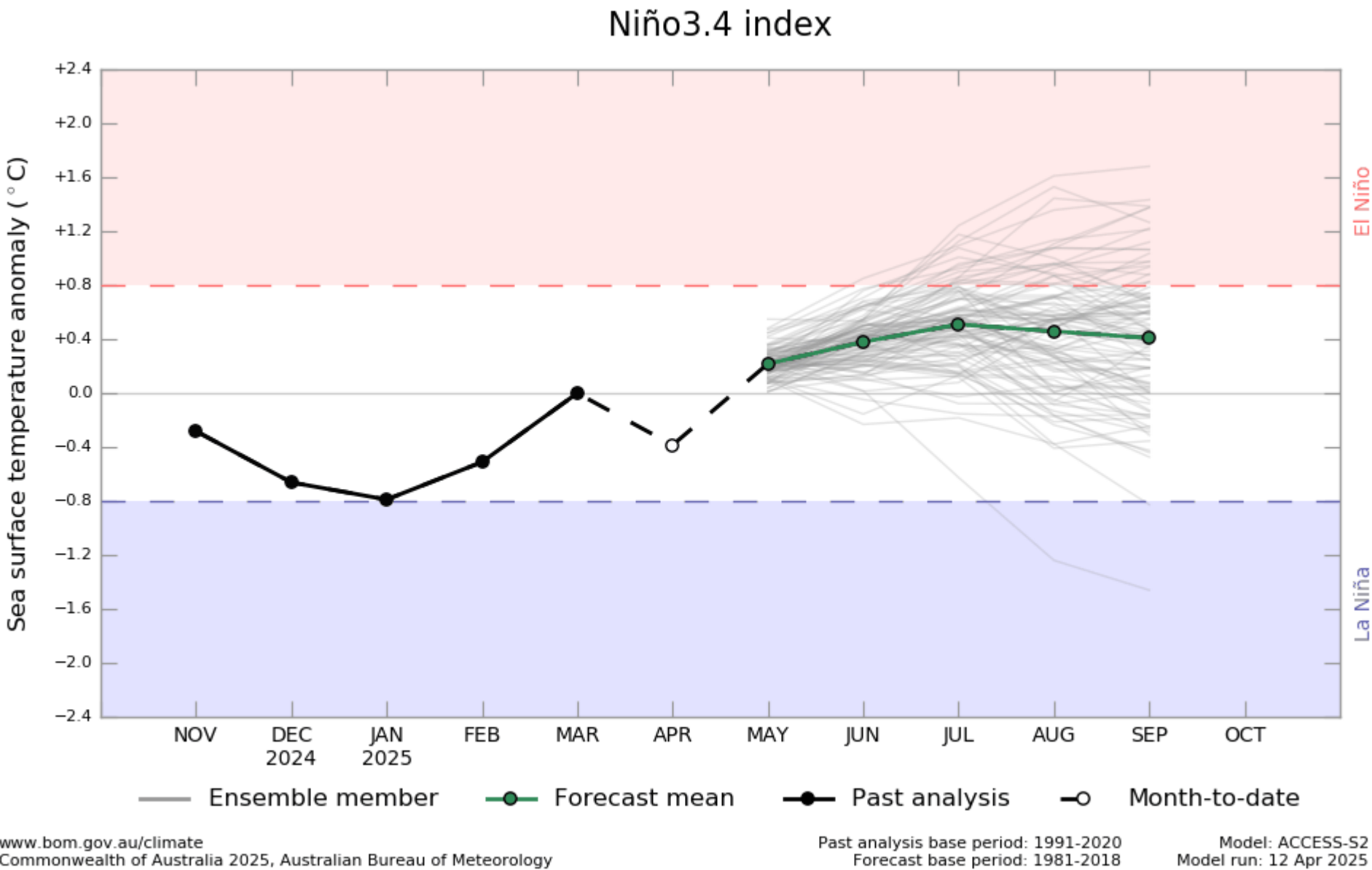
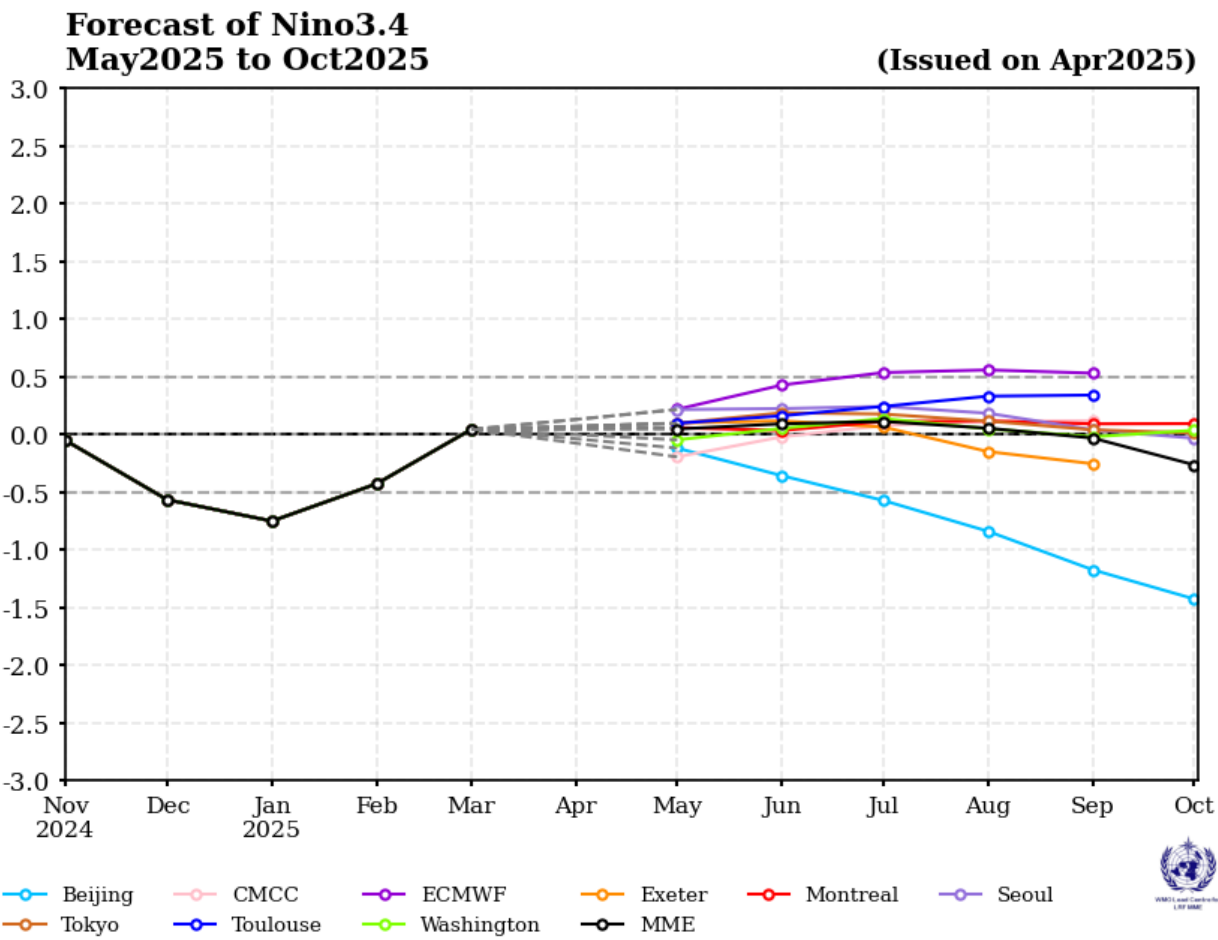
Atmosphere felt La Nina signature stronger than it is presented in the SST (related with basin-wide warming)

Subsurface status indicates La Nina may not be sustained



# ENSO Outlook

Source: WMO LC-SP, BoM, APCC, NMME (NOAA)



# ENSO Outlook

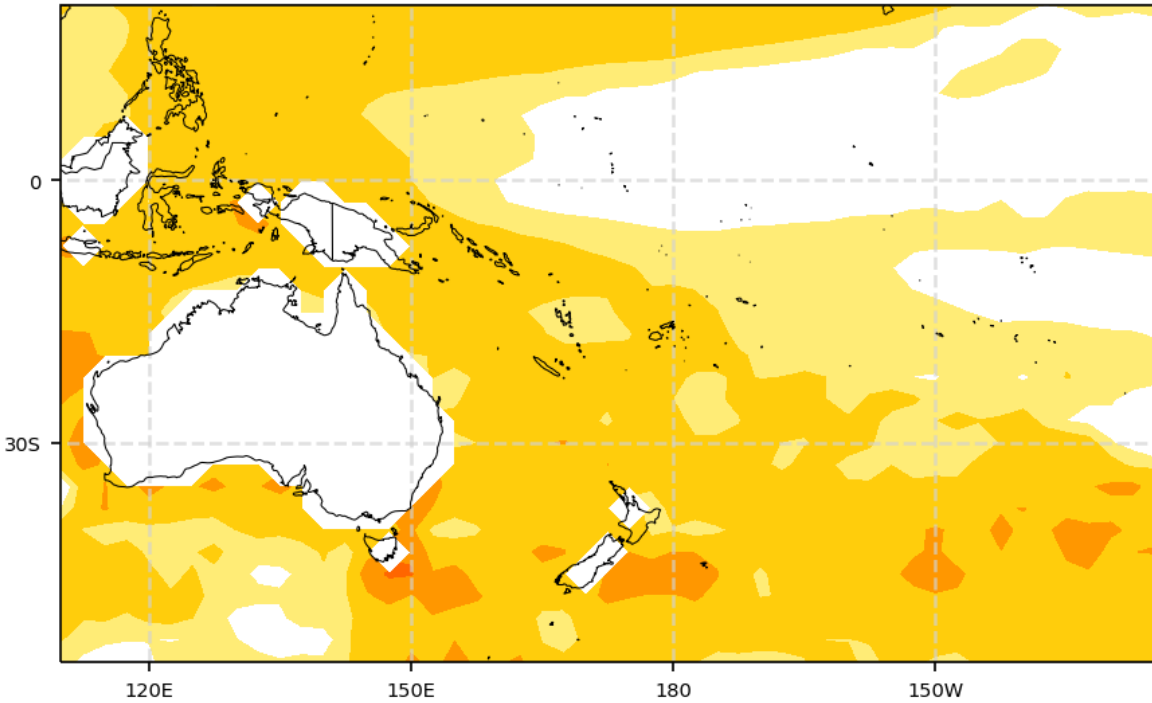
Source: WMO LC-SP, APCC

Simple Composite Map

CMCC,ECMWF,Exeter,Montreal,Seoul,Tokyo,Toulouse,Washington

Sea Surface Temperature : MJJ2025

[Unit: K]  
(issued on Apr2025)

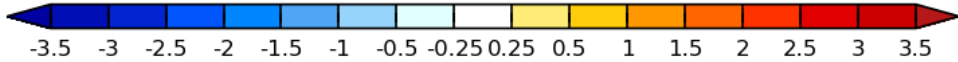
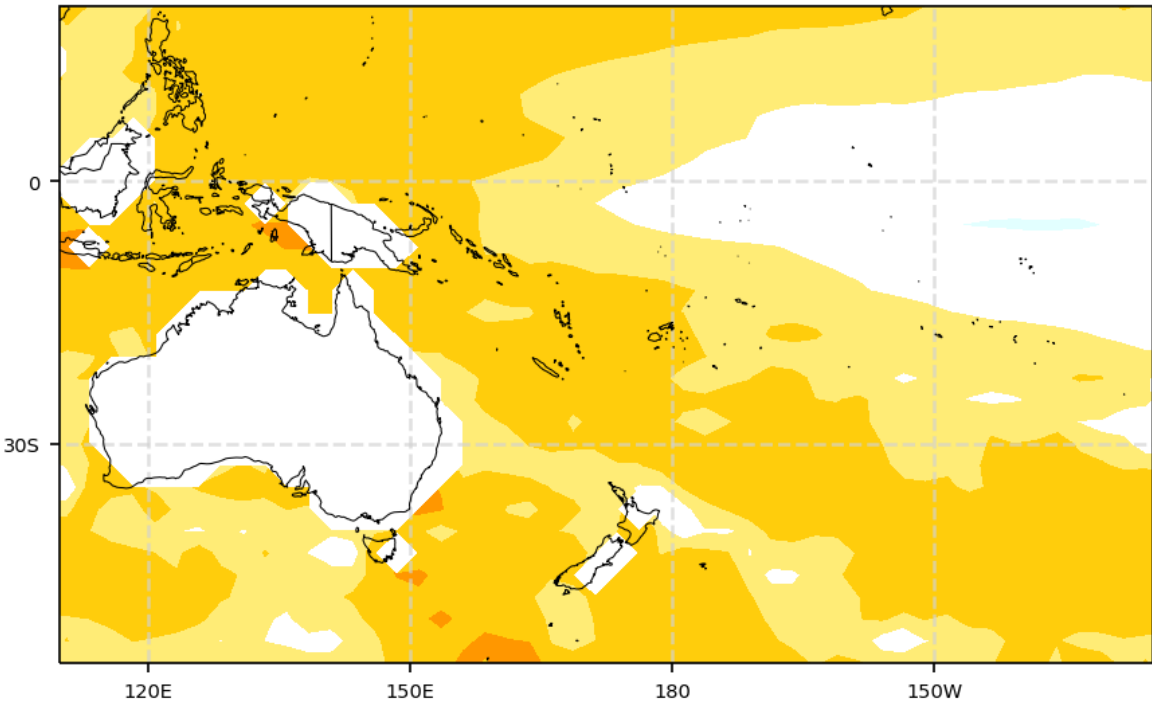


Simple Composite Map

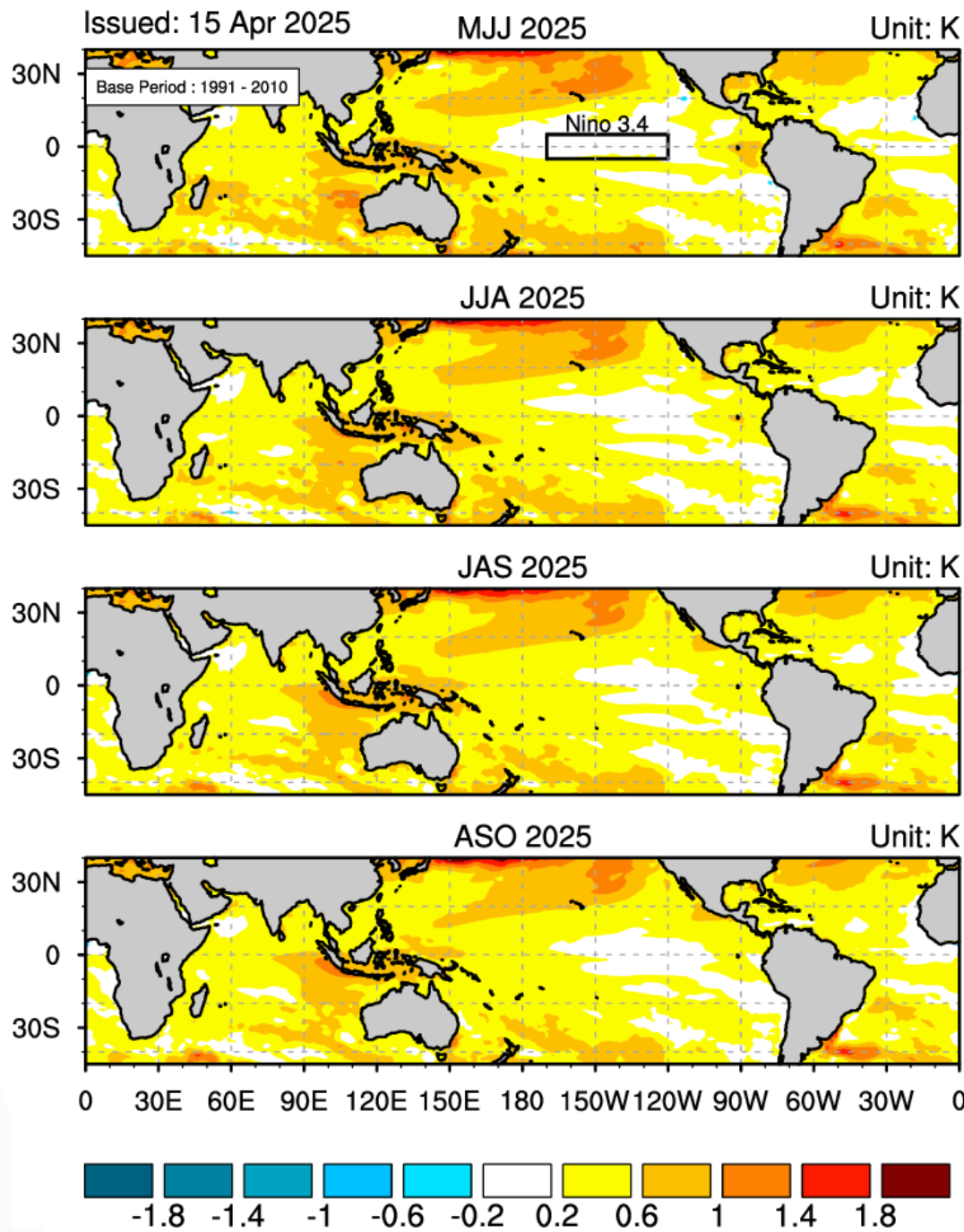
Beijing,CMCC,ECMWF,Exeter,Montreal,Seoul,Tokyo,Toulouse,Washington

Sea Surface Temperature : ASO2025

[Unit: K]  
(issued on Apr2025)



## SST Anomaly for MJJ-ASO 2025

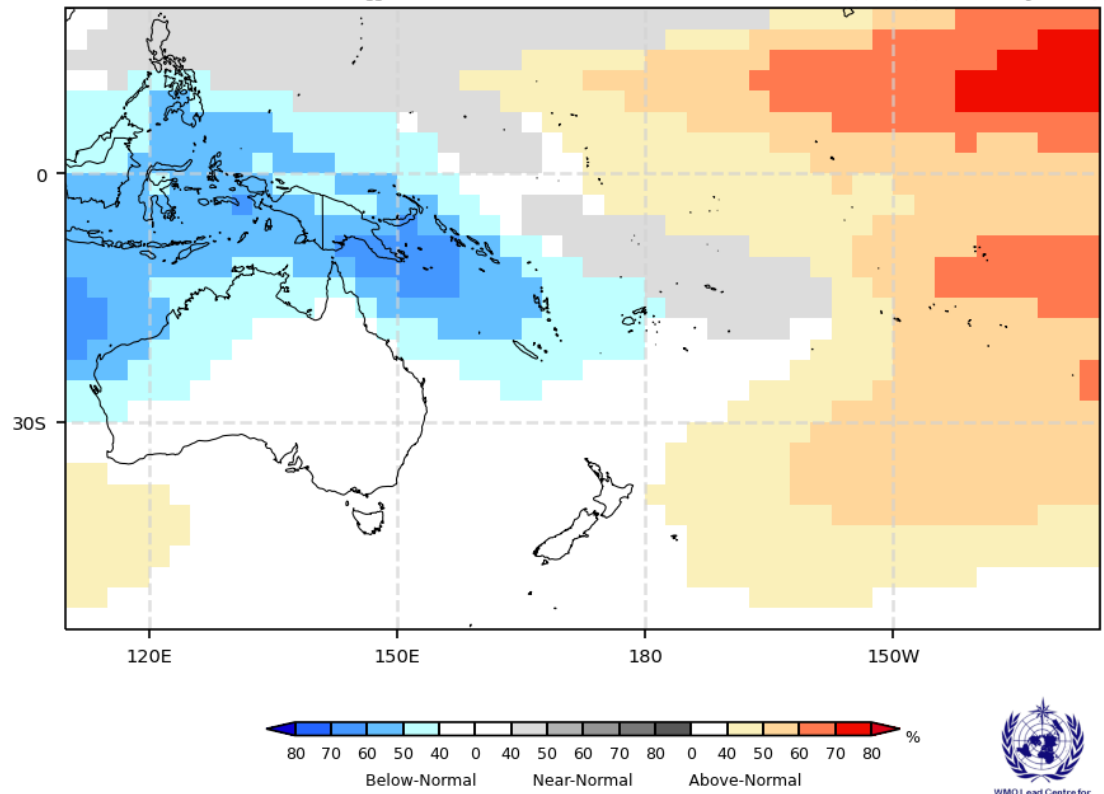


Probabilistic Multi-Model Ensemble Forecast

CMCC,CPTEC,ECMWF,Exeter,Montreal,Moscow,Seoul,Tokyo,Toulouse,Washington

Mean Sea Level Pressure : MJJ2025

(issued on Apr2025)

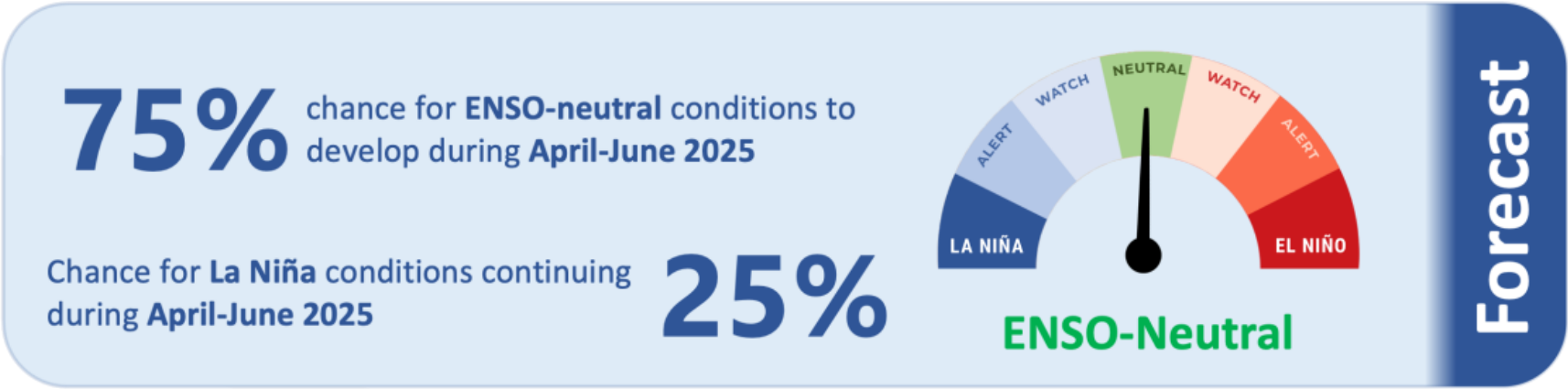


## GSCU (issued Mar. 2025)

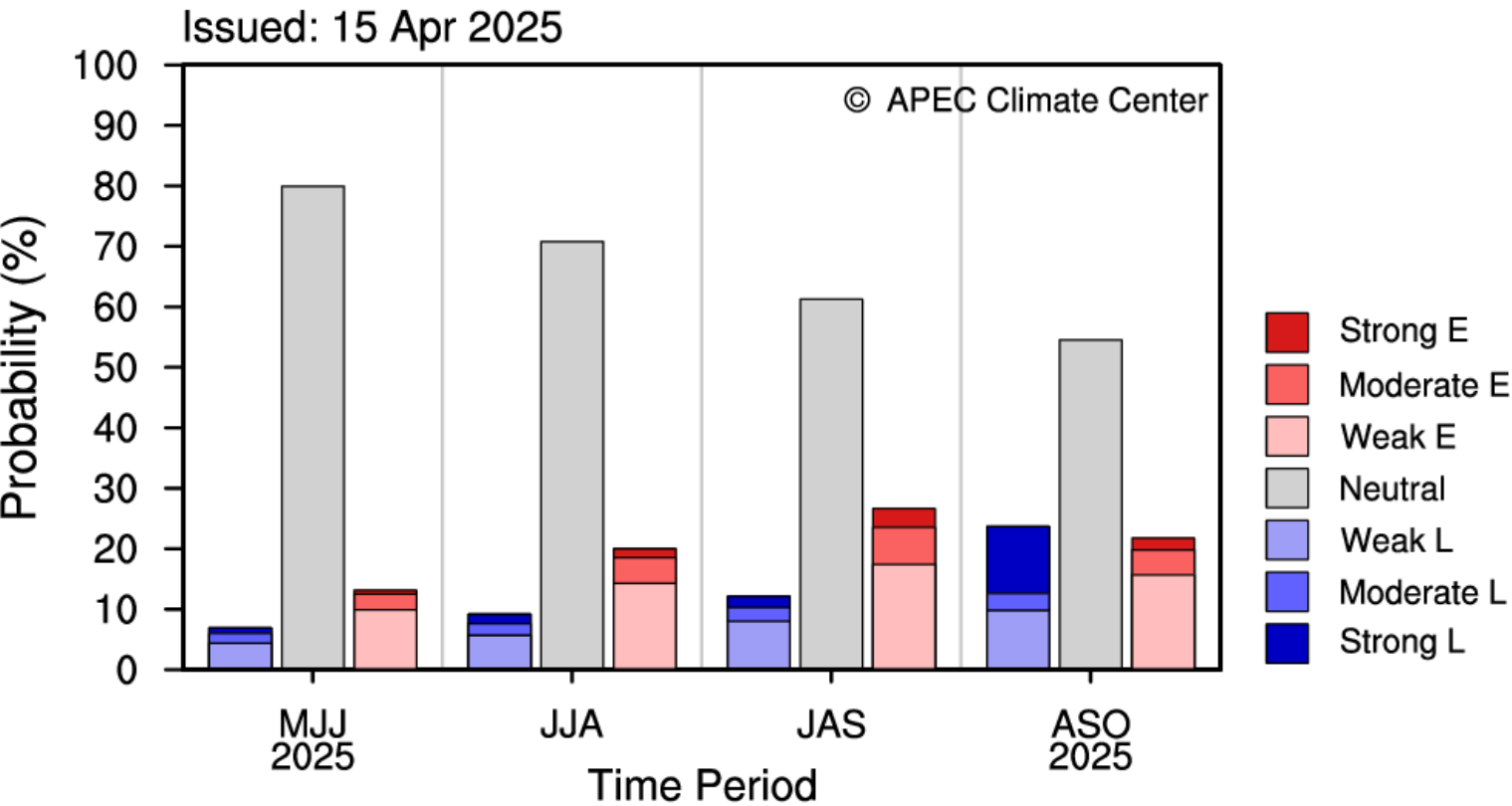
For April–June 2025, sea surface temperature anomalies in the **Niño 3.4** and **Niño 3** regions are forecast to decline to **near-average levels**, indicating a **neutral state** for the El Niño–Southern Oscillation (ENSO). In the **Niño 4** region farther west, sea surface temperature anomalies are also projected to **decrease to near-average**.

# ENSO Outlook

Source: NIWA, APCC, CPC (NOAA)

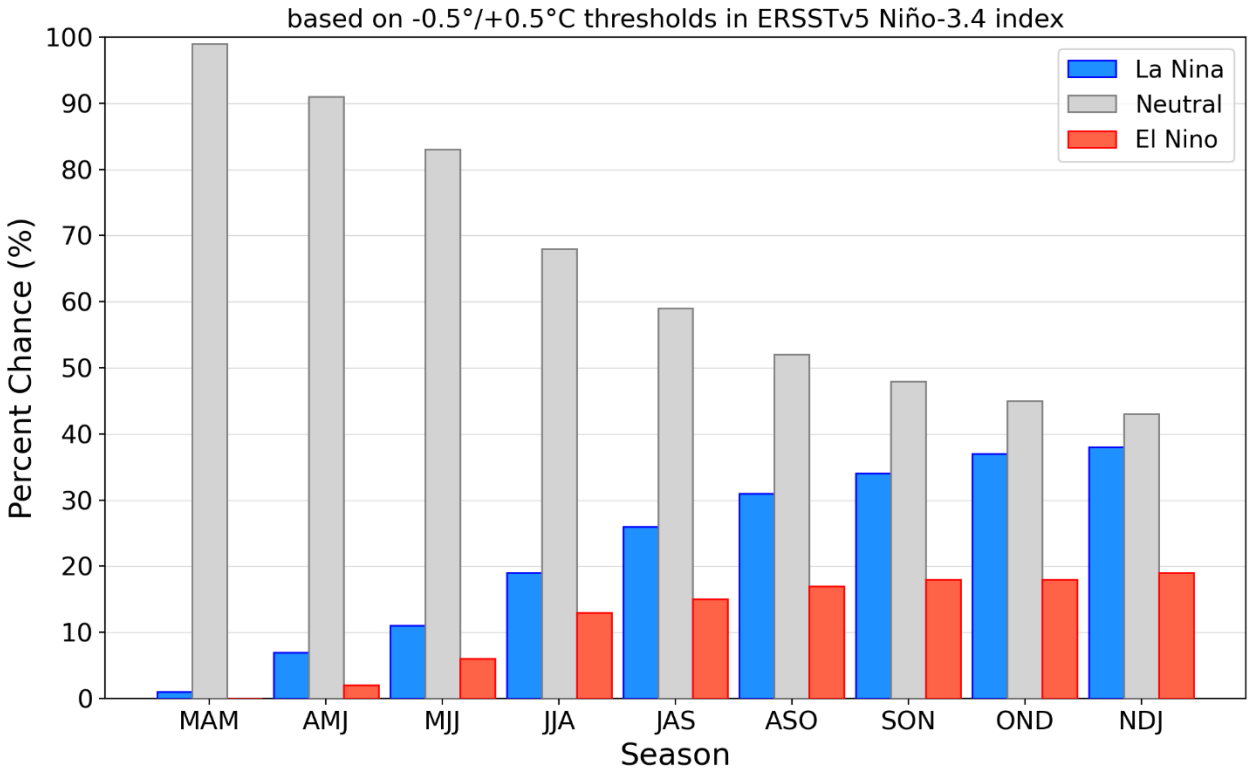


Probabilistic ENSO Forecast for 2025 MJJASO



\* ENSO Intensity based on 3M Mean Nino3.4 SST Anomaly (Category Boundaries: +/-1.5, 1.0, 0.5°C)

Official NOAA CPC ENSO Probabilities (issued April 2025)



ENSO neutral state will be prevalent for coming seasons

Prediction for later this year is uncertain

*Will Atmosphere still feel La Nina like East-West SST gradient?*



# Summary

- Since the PICOF-15, La Niña has been developed and is about to end
  - Cooler than normal SST anomalies are remained central equatorial Pacific but weak
  - Eastern, western pacific is warmer than Normal
  - Favorable subsurface structure to persist La Nina is weak.
- Neutral condition is expected until the next PICOF
  - Agreement from the models on sustained near normal SSTs
  - Above 80% chance of ENSO Neutral conditions up to July 2025

# THANK YOU!

[jhyoo@apcc21.org](mailto:jhyoo@apcc21.org)



**PACIFIC REGIONAL  
CLIMATE CENTRE NETWORK**



**SPREP**  
Secretariat of the Pacific Regional  
Environment Programme



Pacific Community  
Communauté  
du Pacifique



**COSPPac**  
Climate and Ocean Science Programme in the Pacific



**NIWA**  
Taihoro Nukurangi

