



No SF-2024-04-ENSO-IOD

Current condition and forecasts of ENSO and IOD for AMJ 2024

Issued on 02nd April 2024 by Seasonal forecasting Division of the Department of Meteorology, Sri Lanka.

1. El Niño and La Niña update

A transition from El Niño to ENSO-neutral is expected by April-June season 2024, with ENSO-neutral persisting through May-July 2024. Thereafter, La Niña is favored in June-August, and chances increase through the October-December season (Fig 3a). (Climate Prediction Center / NCEP).

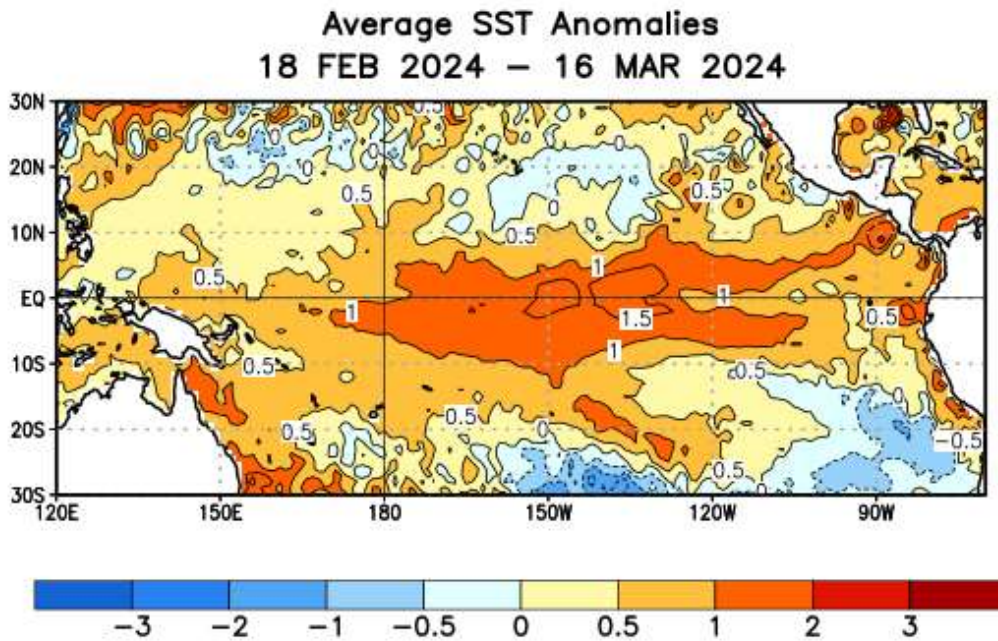


Fig 1: Observed Average sea surface temperature (SST) anomalies (°C)

Weekly SST Anomalies (DEG C)

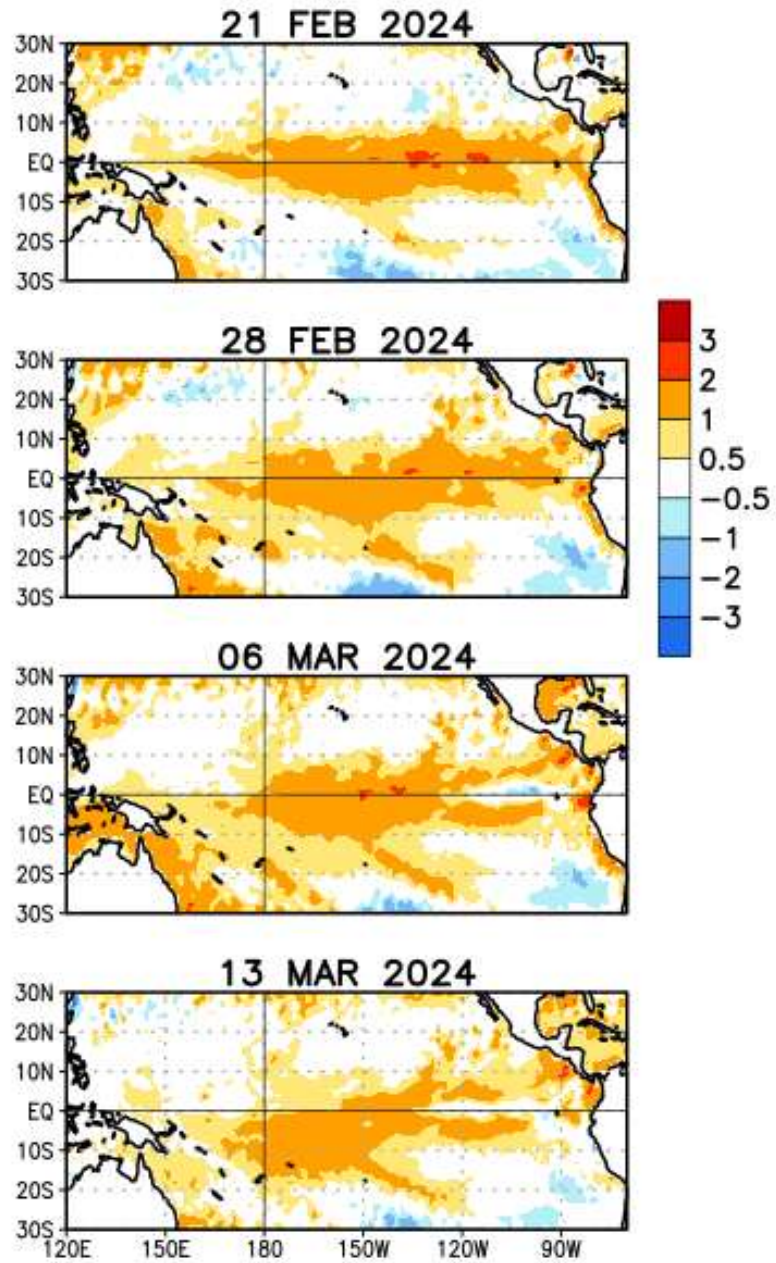


Fig 2: Weekly Observed Average sea surface temperature (SST) anomalies (°C)

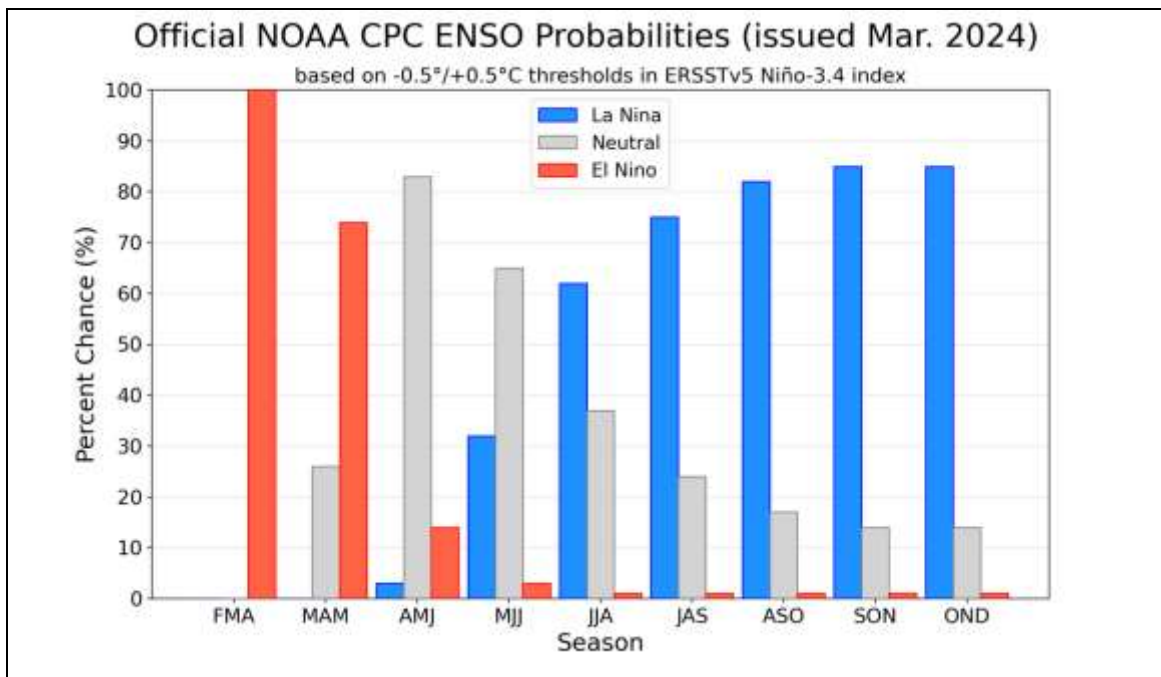


Fig 3a: ENSO forecast from Climate Prediction Center (CPC)/ IRI Forecast

1.1.1 Impacts of El-Niño on monthly rainfall anomaly during April, May and June

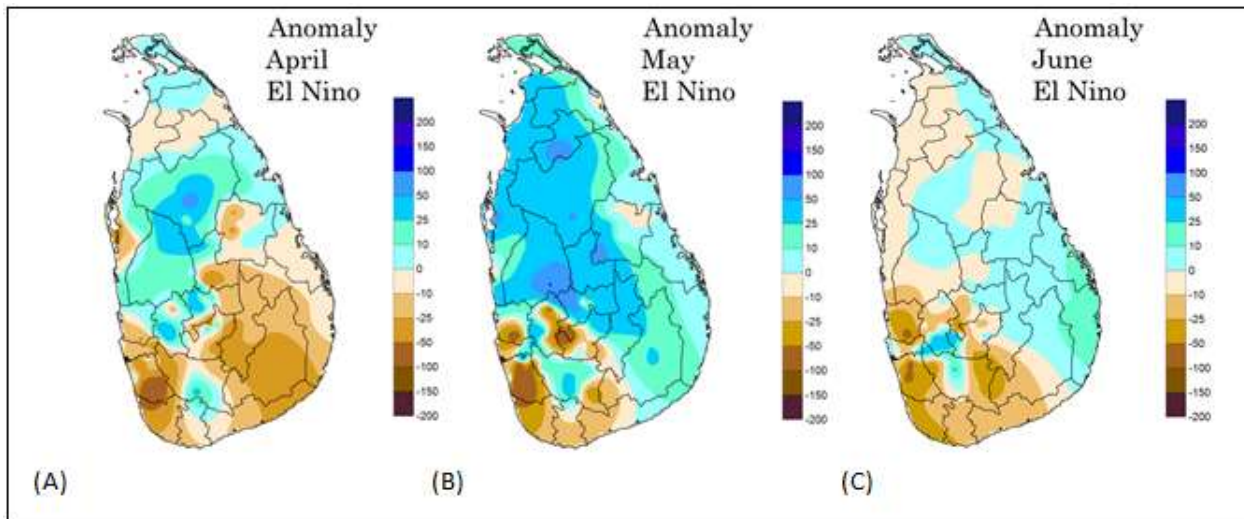


Fig 3b: Monthly Rainfall Anomaly maps of the months of April (A), May (B) and June (C) during El-Niño years (Hapuarachchi et al 2016)

A research conducted by the Department of Meteorology, it has been found that, slightly above normal rainfalls were observed Anuradhpura, Trincomalee, Kilinochchi, Jaffna and Kurunegala districts and below normal over remaining areas during the month of April. It has been observed below normal rainfalls in some areas in Western, Southern and Central parts of the country and above normal rainfalls are possible in remaining areas during the month of May. During the month of June slightly below normal rainfalls were experienced over south western parts and near normal

over remaining areas of the country during past El Nino conditions (Fig 3b(C)).

2. The Indian Ocean Dipole (IOD) update

Although the most recent value of the Indian Ocean Dipole (IOD) index (+0.86 °C) is above the positive IOD threshold, the IOD is currently neutral.

IOD events are typically unable to form between December and April. When the monsoon trough shifts southwards into the southern hemisphere, it changes the broad scale wind patterns, meaning that the IOD pattern is unable to form. Most global climate models suggest IOD values will remain neutral until at least April. Beyond this time, models tend towards a positive IOD. However, at this time of year the confidence in model IOD forecasts beyond autumn is low. (source- BOM, Australia).

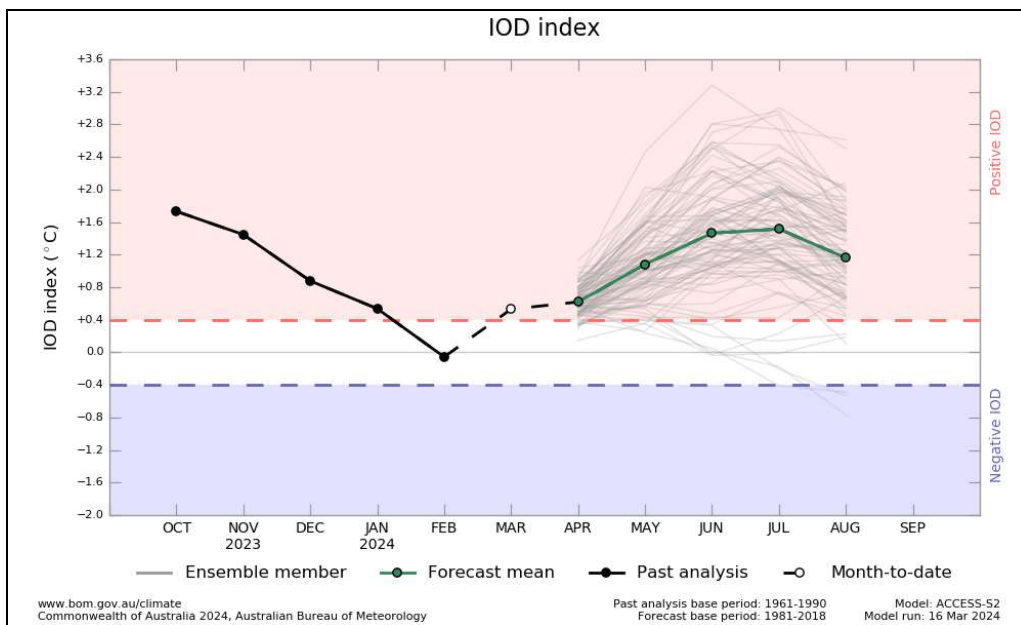


Figure 4a: IOD forecast from Australian Bureau of Meteorology