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## Current condition and forecasts of ENSO and IOD for JFM 2021

Issued on 3<sup>rd</sup> January 2021 by Seasonal forecasting Division of the Department of Meteorology, Sri Lanka.

### 1. El Nino and La Nina update

Prevailing La Niña conditions are likely to continue through the Northern Hemisphere winter (January to March) 2020-21 (~95% chance) and into spring 2021 (~65% chance during March-May). Most models suggest La Niña will peak in January or February 2021 at moderate to strong levels with a likely return to neutral conditions during April to June 2021 (~50% chance). (Source CPC-USA, BoM) (Fig 3).

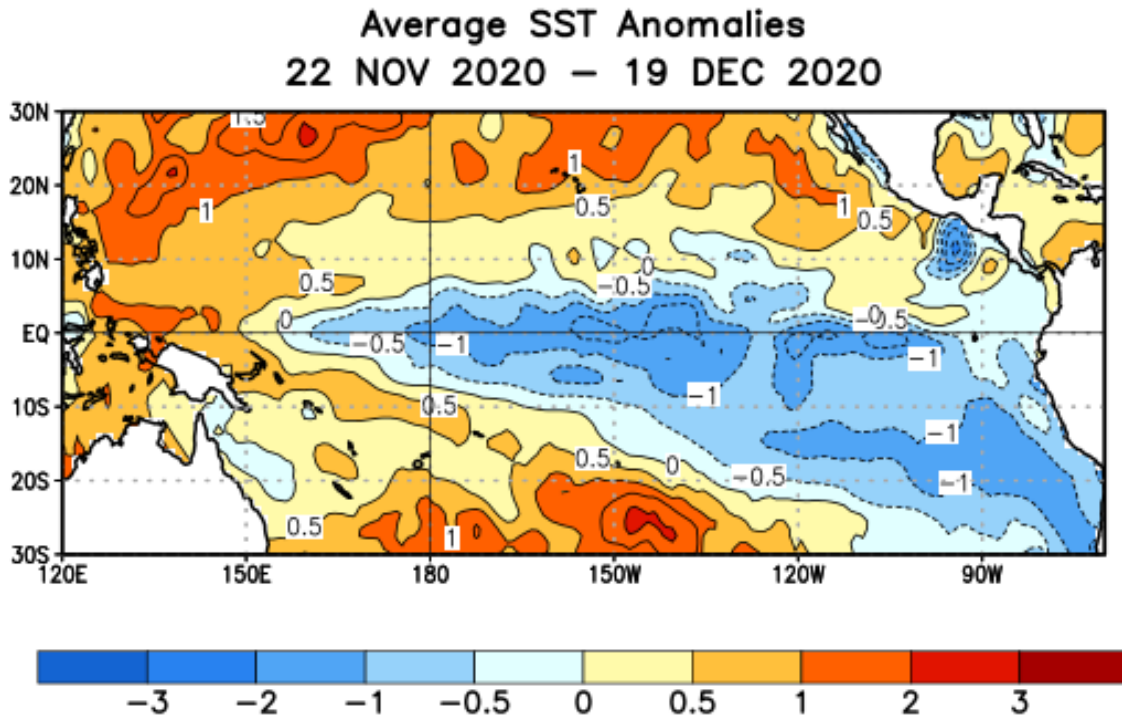


Fig 1: Observed Average sea surface temperature (SST) anomalies (°C)

# Weekly SST Anomalies (DEG C)

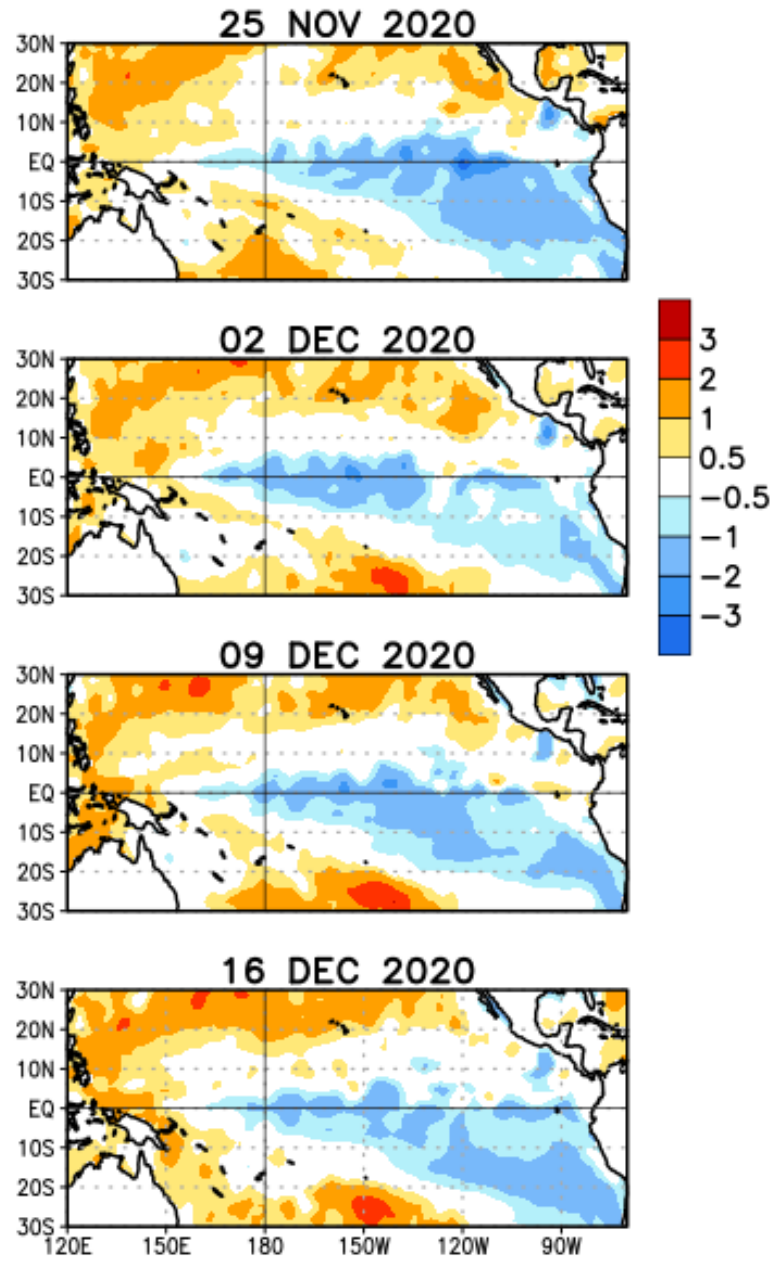


Fig 2: Weekly Observed Average sea surface temperature (SST) anomalies ( $^{\circ}\text{C}$ )

Early-December 2020 CPC/IRI Official Probabilistic ENSO Forecasts

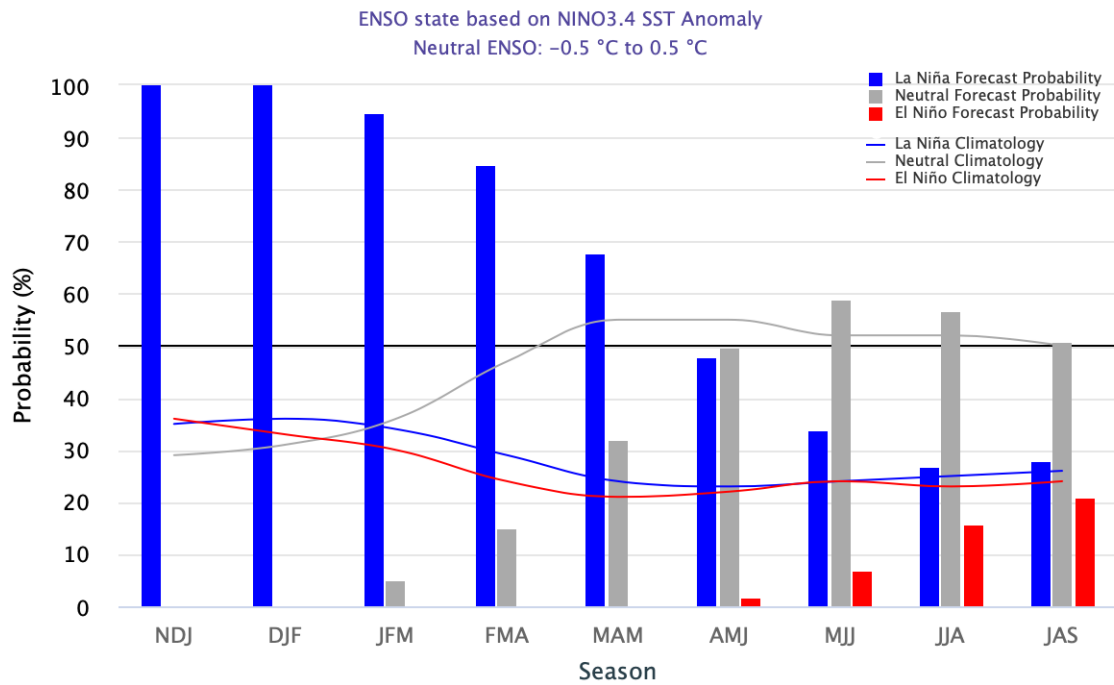


Fig 3: ENSO forecast from Climate Prediction Center (CPC)/ IRI Forecast

**1.1 Impacts of La-Nina on monthly rainfall anomaly during January, February and March**

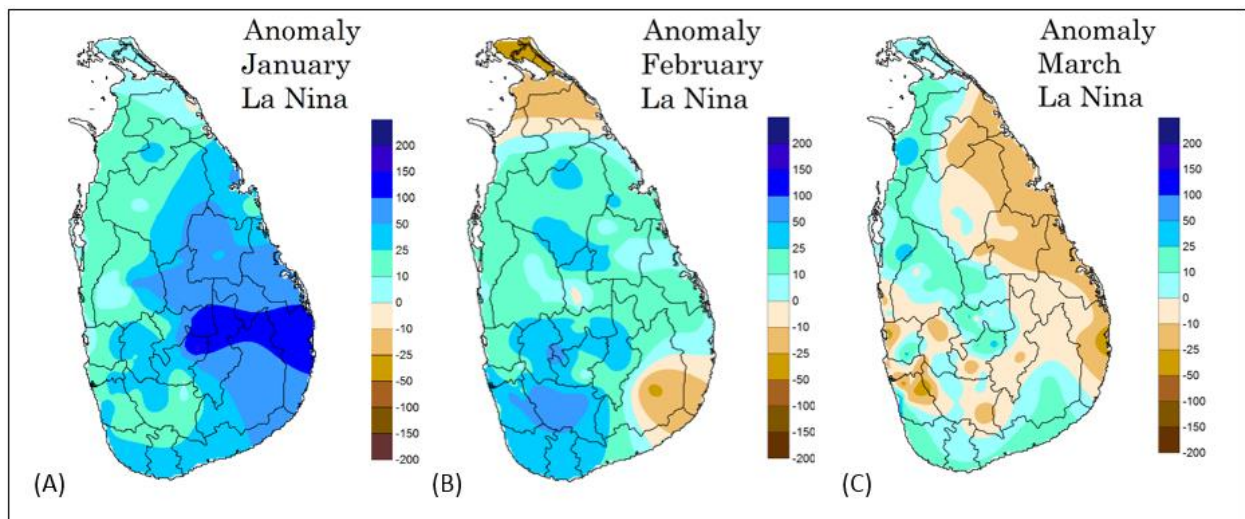


Fig 4: Monthly Rainfall Anomaly maps of the months of January (A), February (B) and March (C) during La-Nina years (Hapuarachchi et al 2016)

Previous studies conducted by the Department of Meteorology, identified that, during La-Nina years, it is evident that above normal rainfalls over the country during the month of January(Fig 4-A). During the month of February it is evident above normal rainfall over most parts of the country except some parts of Northern Province and Hambantota, Monaragala and Ampara Districts (Fig 4-B) and during the month of March below normal rainfall can be expected most parts of the island

especially in the Eastern and North-Central Provinces and parts of Uva and Northern Provinces and Rathnapura, Kalutara, Kegale, Gampaha, Colombo, Puttalam and Kurunegala districts (Fig 4-C).

### 1.2 The Indian Ocean Dipole (IOD) update

The Sea surface temperatures north of 20°S in the Indian Ocean are average to warmer than average, while to the south, they are average to cooler than average and the Indian Ocean Dipole (IOD) is currently neutral. Most of the models show this IOD neutral condition will continue until March - June 2021. (Figure 5). (Source-Bureau of Meteorology, Australia).

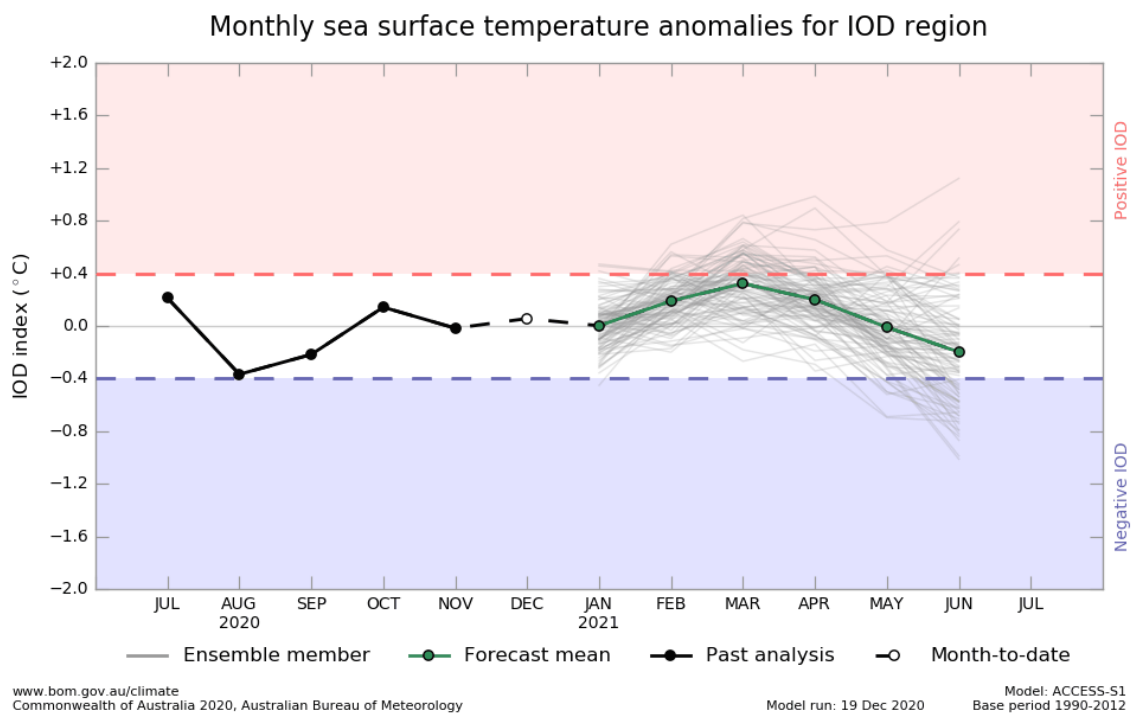


Figure 5: IOD forecast from Australian Bureau of Meteorology.