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No SF-2021-11-ENSO-IOD

Current condition and forecasts of ENSO and IOD for NDJ 2021

Issued on 3rd November 2021 by Seasonal forecasting Division of the Department of Meteorology, Sri Lanka.

1. El Nino and La Nina update

La Niña conditions were observed and the tropical Pacific atmosphere is consistent with La Niña conditions. And also the La Niña is expected to continue with an 87% chance on December 2021-February 2022. Since the month of March the cool SST anomaly from Nino 3.4 region is expected to keep decreasing and the weakening of La Niña conditions can be expected until April 2022.

(source-CPC-USA) (Fig.3a).

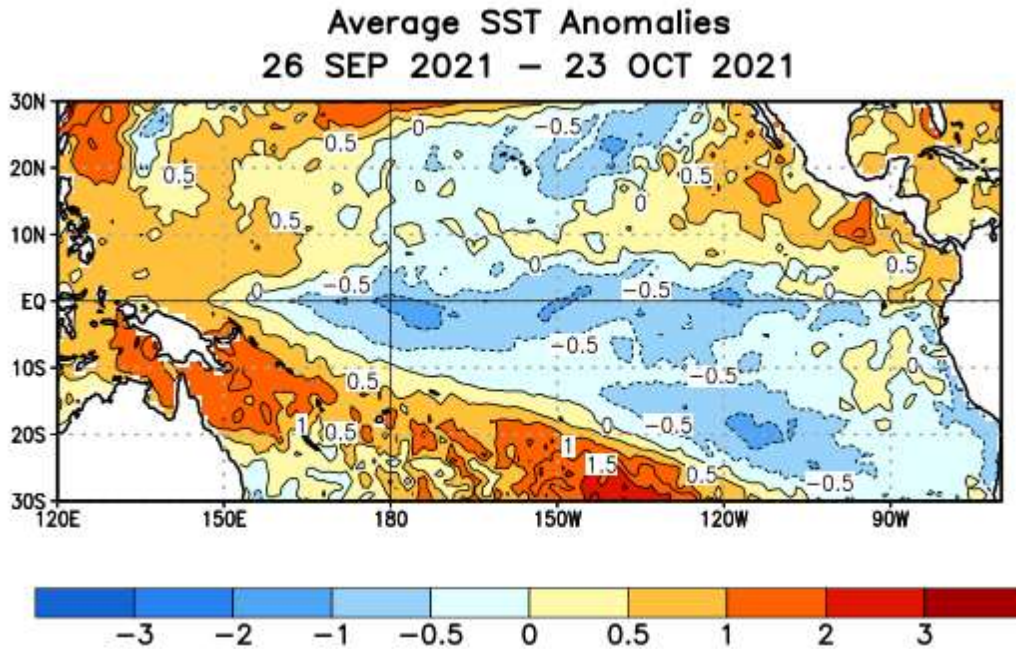


Fig 1: Observed Average sea surface temperature (SST) anomalies (°C)

Weekly SST Anomalies (DEG C)

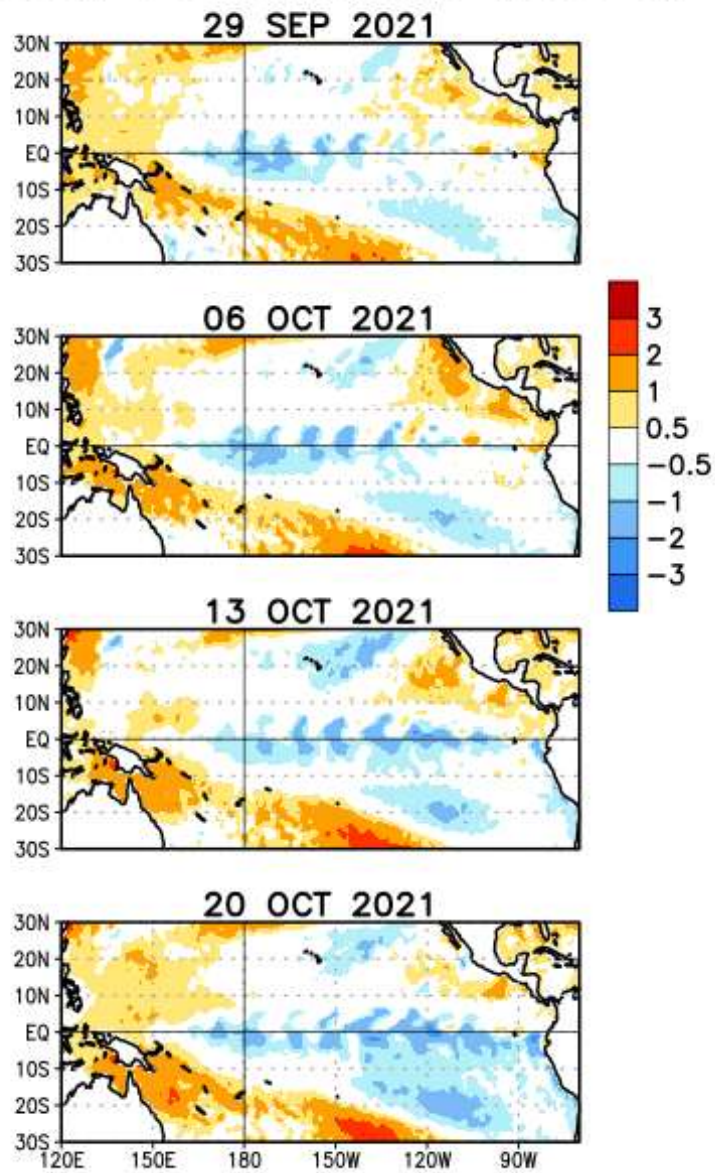


Fig 2: Weekly Observed Average sea surface temperature (SST) anomalies (°C)

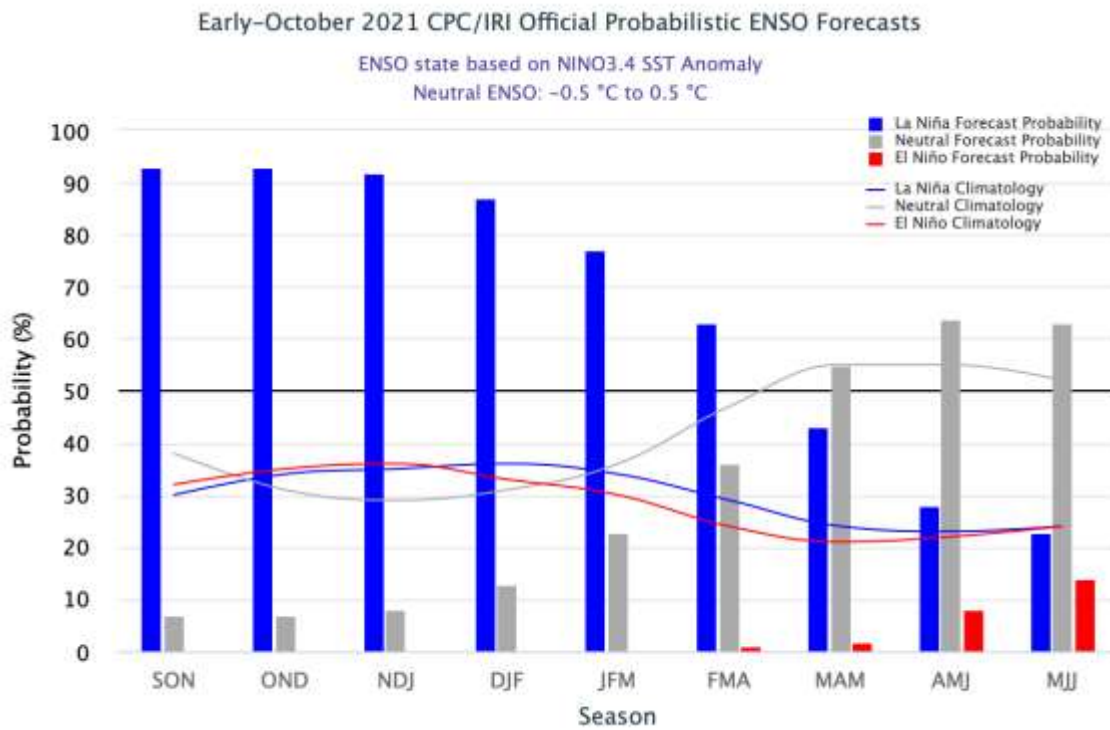


Fig 3a: ENSO forecast from Climate Prediction Center (CPC)/ IRI Forecast

1.1.1 Impacts of La-Nina on monthly rainfall anomaly during November, December and January

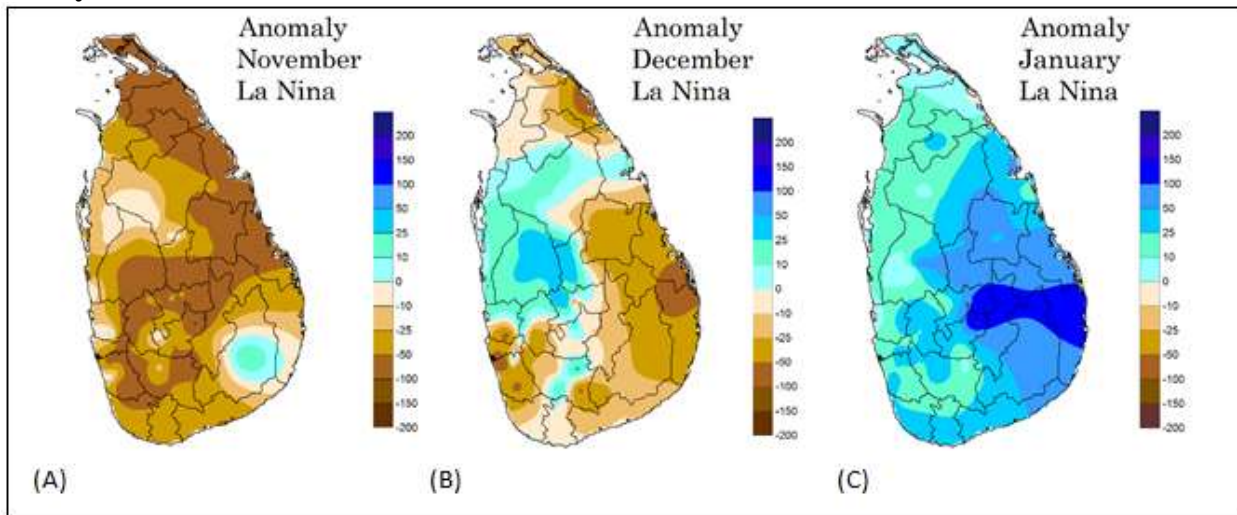


Fig 3b: Monthly Rainfall Anomaly maps of the months of November (A), December (B) and January (C) during La-Nina years (Hapuarachchi et al 2016)

Previous studies conducted by the Department of Meteorology, identified that, during La-Nina years, it is evident that Below normal rainfalls over most parts of the country except some parts of Monaragala District where above normal rainfall was observed during the month of November (Fig 3b-A). Below normal rainfall were observed in some parts of Eastern, Uva, Southern and western provinces and in Mulative and Pollonnaruwa districts and above normal rainfall in

remaining areas of the country, during the month of December (Fig 3b-B). During the month of January, it can be expected above normal rainfall over the country specially in eastern parts (Fig 3b-C).

2. The Indian Ocean Dipole (IOD) update

Near normal Sea surface temperatures (SSTs) were observed over most parts of the Indian Ocean including Arabian Sea and Bay of Bengal except some pockets from eastern Bay of Bengal and south Indian Ocean below the equator where warmer than normal SSTs were observed. The negative Indian Ocean Dipole (IOD) event persists. The latest weekly value of the Indian Ocean Dipole (IOD) index to 24 October 2021 was $-0.57\text{ }^{\circ}\text{C}$. However, four of the five international climate models surveyed by the BoM indicate the monthly IOD value for November will be within the neutral range, and thereafter, enhanced probability for neutral IOD conditions are likely to continue until April 2022. (Source-Bureau of Meteorology, Australia).

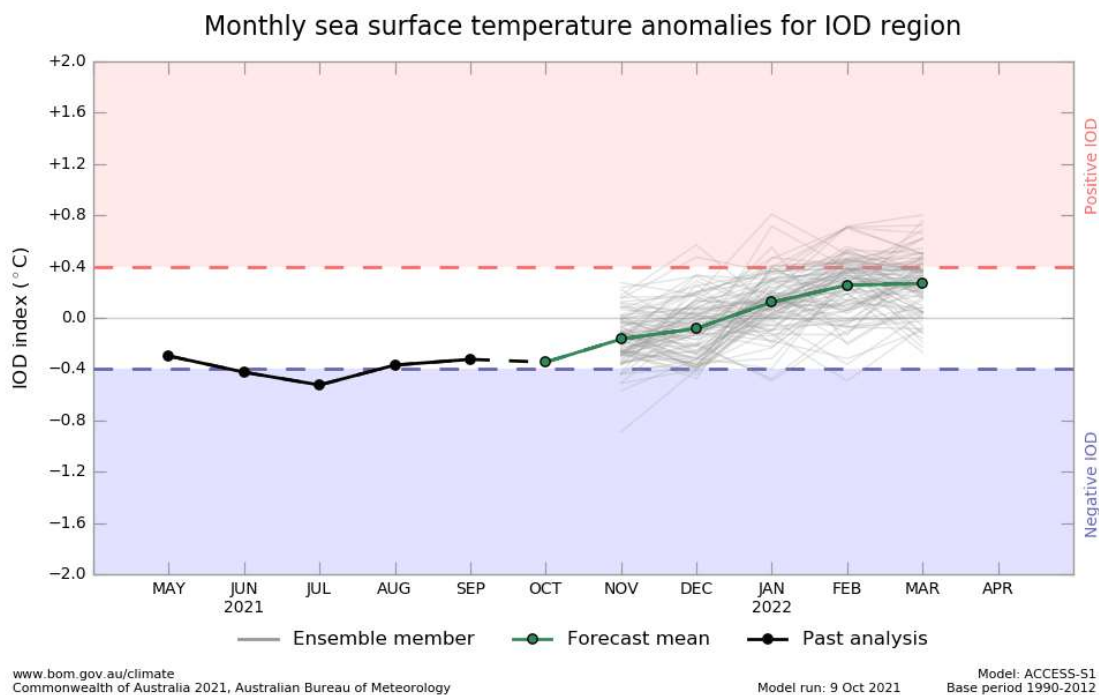


Figure 4a: IOD forecast from Australian Bureau of Meteorology