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**SEASONAL CLIMATE OUTLOOK FOR SOUTH ASIA
(October 2025 to January 2026)**

Highlights

- Currently, neutral El Nino-Southern Oscillation (ENSO) conditions are prevailing over the equatorial Pacific region. The latest Monsoon Mission Climate Forecast System (MMCFS) as well as other climate model forecasts indicate that the increased likelihood of La Niña conditions during the upcoming months.
- At present, negative Indian Ocean Dipole (IOD) conditions are observed over the Indian Ocean. The latest MMCFS forecast as well as other climate model forecasts indicates that the negative IOD conditions are likely to develop during OND season and likely to continue for a short period of time.
- The probability forecast for precipitation for OND season indicate that enhanced probability of above normal precipitation is likely over most parts South Asia except over northwest, extreme north and extreme south of South Asia where enhanced probability of below normal precipitation is likely. The same for NDJ season indicate that enhanced probability of above normal precipitation is likely over most parts of west, north west, north along the plains of Himalayas, central, east, north east, south east and southern regions of South Asia and enhanced probability of below normal precipitation is likely over extreme northwest, extreme north and extreme south of South Asia.
- In October the country averaged monthly precipitation is likely to be normal to above normal for all South Asia countries except Afghanistan and Pakistan where it is likely to be below normal. In November, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Afghanistan, Pakistan and Maldives where it is likely to be below normal. In December it is likely to be normal to below normal for all countries. In January, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Sri Lanka where it is likely to be below normal.
- Temperature probability forecast for OND and NDJ seasons indicate that enhanced probability of above normal temperatures is likely over northwest, north, east, northeast and south east parts of South Asia and enhanced probability of below normal temperatures is likely over Peninsular India, west and central parts of South Asia.
- The country averaged monthly temperatures during October 2025 to January 2026 is likely to be above normal for all the south Asian countries.

DISCLAIMER:

- (1) The long-range forecasts presented here are currently experimental and are produced using techniques that have not been validated.
- (2) The content is only for general information and its use is not intended to address particular requirements.
- (3) The geographical boundaries shown in this report do not necessarily correspond to the political boundaries.

1. Important Global Climate Factors

1.1 Sea Surface Temperatures over the Pacific Ocean

In September 2025, sea surface temperatures (SSTs) were near to below average over central and equatorial Pacific Ocean (Fig. 1a). SSTs were above average over the western parts of equatorial Pacific Ocean. Warmer-than-average SSTs were observed in the northern extra-tropical regions of the Pacific. Compared to August 2025, negative SST anomalies developed over the eastern & central Pacific Ocean while positive SST anomalies seen across the western Pacific Ocean. Additionally, cool SST anomalies were present in some parts of both the South and North Pacific Ocean (Fig. 1a). Currently, neutral El Nino-Southern Oscillation (ENSO) conditions are prevailing over the equatorial Pacific region. The latest Monsoon Mission Climate Forecast System (MMCFS) as well as other climate model forecasts indicate that the increased likelihood of La Niña conditions during the upcoming months (Fig.2).

1.2 Sea Surface Temperatures over Indian Ocean

In September 2025, warmer than average SSTs were seen over eastern parts of the equatorial Indian Ocean and near average over the western Indian Ocean (Fig. 1a). Cool SSTs were observed in the Arabian Sea and warm SSTs over northern Bay of Bengal. Compared to August 2025, warm SSTs were observed across the north Arabian Sea, north Bay of Bengal and eastern Indian Ocean (Fig. 1b) while cool SSTs were observed over some parts of the western and central Indian Ocean. At present, negative Indian Ocean Dipole (IOD) conditions are observed over the Indian Ocean. The latest MMCFS forecast as well as other climate model forecasts indicates that the negative IOD conditions are likely to develop during OND season and likely to continue for a short period of time.

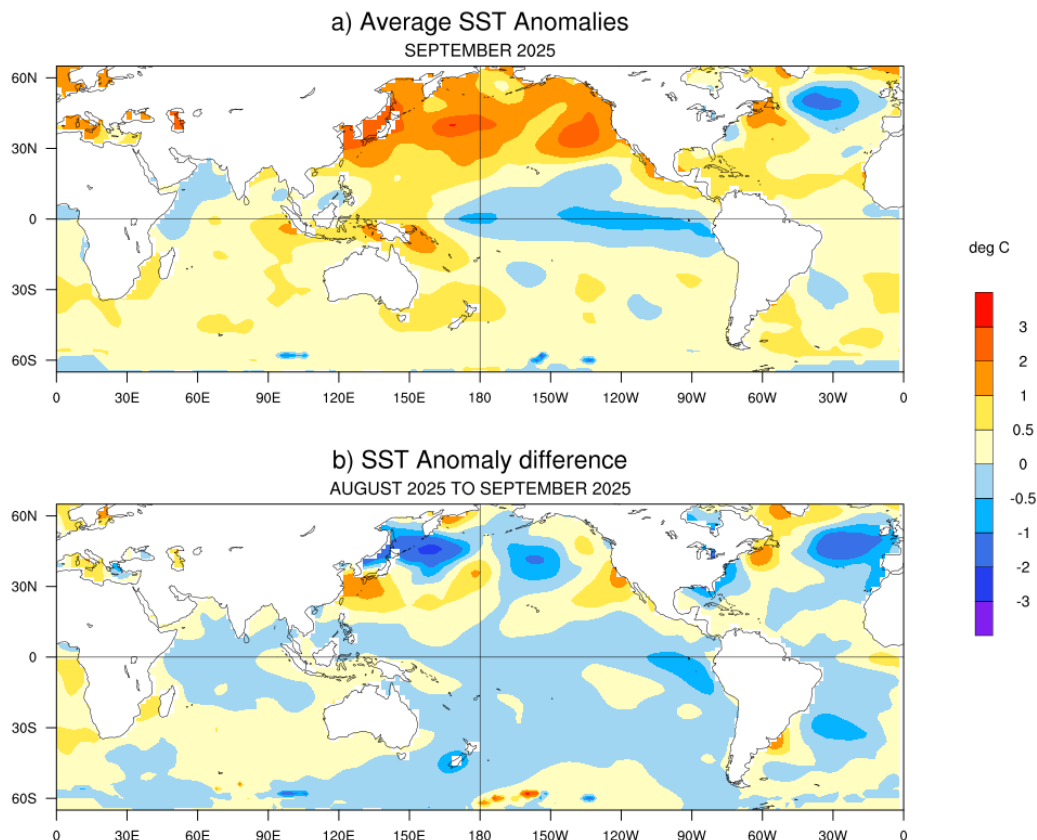


Fig.1: (a) Sea surface temperature (SST) anomalies ($^{\circ}\text{C}$) during September 2025 and (b) changes in the SST anomalies ($^{\circ}\text{C}$) from August to September 2025. SSTs are based on the ERSSTv5, from NOAA, and anomalies are computed with respect to 30-year (1991-2020) long term mean.

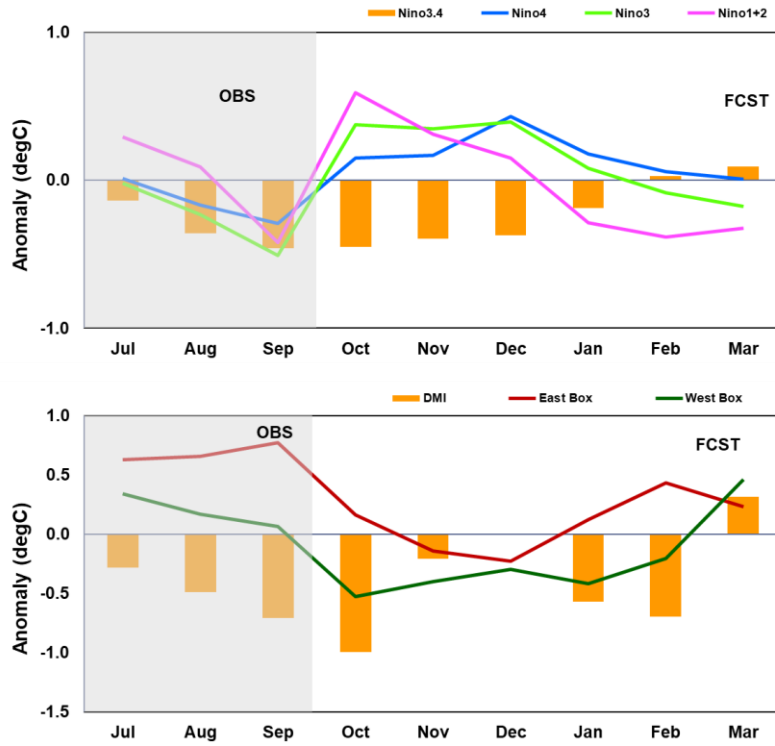


Fig.2: Time series of monthly area-averaged SST anomalies (°C) in the 4 Niño regions. ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF corrected anomaly forecast for the next 6 months.

Fig.3: The time series of the monthly area-averaged SST anomaly Indices (°C) over west equatorial Indian Ocean (WEI) & east equatorial Indian Ocean (EEI) along with Dipole Mode Index (DMI=WEI-EEI) representing Indian Ocean Dipole (IOD). ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF corrected anomaly forecast for the next 6 months.

1.3 Convection (OLR Anomaly) Pattern over the Asia Pacific Region

The Outgoing Longwave Radiation (OLR) anomaly during September 2025 is shown in (Fig.4). Negative OLR anomalies (enhanced convection, blue shading) were observed over Head Arabian sea, Bay of Bengal, South China Sea, east Indian Ocean and western tropical Pacific Ocean. Negative OLR anomalies were also observed over western parts of South Asia and Maritime Continent. Positive OLR anomalies (suppressed convection, orange/red shading) were observed over west Indian Ocean near equator, equatorial central Pacific Ocean and some parts of west tropical Pacific Ocean.

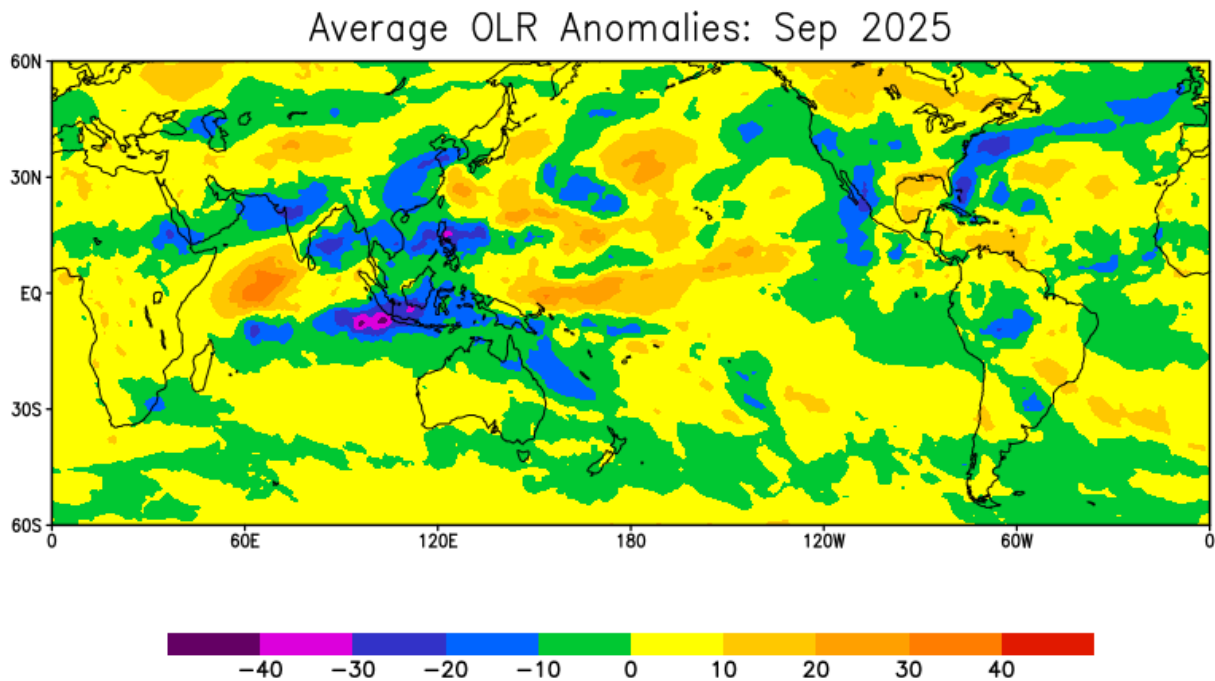


Fig.4: Outgoing Long Wave Radiation (OLR) Anomaly (W/m^2) for September 2025 (Data source: NCEP-NOAA)

1.4 Snow Cover Area over the Northern Hemisphere (NH)

During September 2025, the NH snow cover area (5.74 million Sq. km) was more than the 1991-2020 normal by 0.23 million Sq. km (Fig. 5). Eurasian Snow cover area (2.23 million Sq. km) was 0.595 million Sq. km more than the 1991-2020 normal. North America snow cover area of 3.51 million sq. km was less by 0.37 million Sq. Km with respect to 1991-2020 normal.

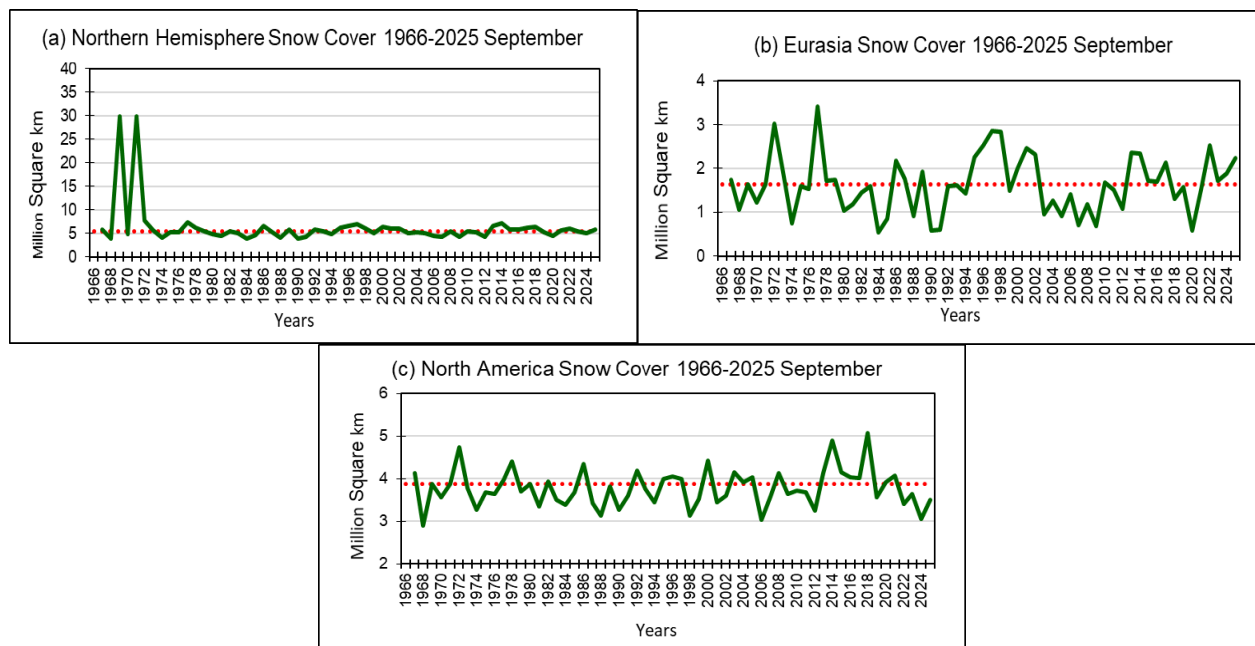


Fig.5. Snow cover area (million Sq. km) for the month of September during the period 1966-2025 (green solid lines) and normal value (1991-2020) (red dotted line) for (a) Northern Hemisphere (b) Eurasia and (c) North America. (Data Source: Rutgers University Snow Lab).

1.5 Madden Julian Oscillation (MJO)

During the first week of September 2025, MJO moved eastwards from Phase 5 to Phase 2 (Indian Ocean) with an amplitude < 1. During the second week it further moved eastwards to Phase 3 (Indian Ocean) with amplitude >1 in the initial days of the week and then weakening later in the week. In the second fortnight it moved eastwards to Phase 2 with amplitude <1. The MJO phase diagram illustrates the progression of the MJO through different phases, which generally coincide with locations along the equator around the globe.

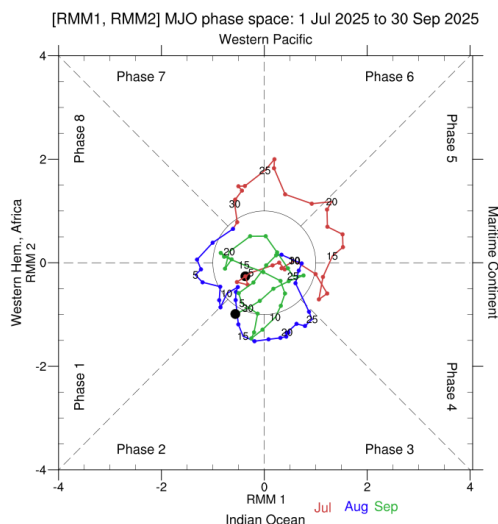


Fig.6. RMM phase diagram for Madden Julian Oscillation (MJO) for the period July to September 2025. (Data Source: <http://www.bom.gov.au/climate/mjo/>).

2. Seasonal Outlook for South Asia

The seasonal outlook was prepared based on the forecast from Monsoon Mission Coupled Forecasting System (MMCFS). The model is a fully coupled ocean-atmosphere-land model. The atmospheric component of CFSv2 is Global Forecast System (GFS) with spectral resolution of T382 (approximately 38 km) and 64 hybrid vertical levels and the ocean component is Geophysical Fluid Dynamics Laboratory (GFDL) Flexible Modelling System (FMS) Modular Ocean Model version.

2.1. Precipitation Probability Forecast:

The probability forecasts for precipitation for the seasons October to December 2025 (OND) and November to January 2025-26 (NDJ) are given in the Figures 7a and 7b respectively. The forecast is prepared based on the September initial conditions. The probability forecast for precipitation for OND season indicate that enhanced probability of above normal precipitation is likely over most parts South Asia except over northwest, extreme north and extreme south of South Asia where enhanced probability of below normal precipitation is likely. The same for NDJ season indicate that enhanced probability of above normal precipitation is likely over most parts of west, north west, north along the plains of Himalayas, central, east, north east, south east and southern regions of South Asia and enhanced probability of below normal precipitation is likely over extreme northwest, extreme north and extreme south of South Asia.

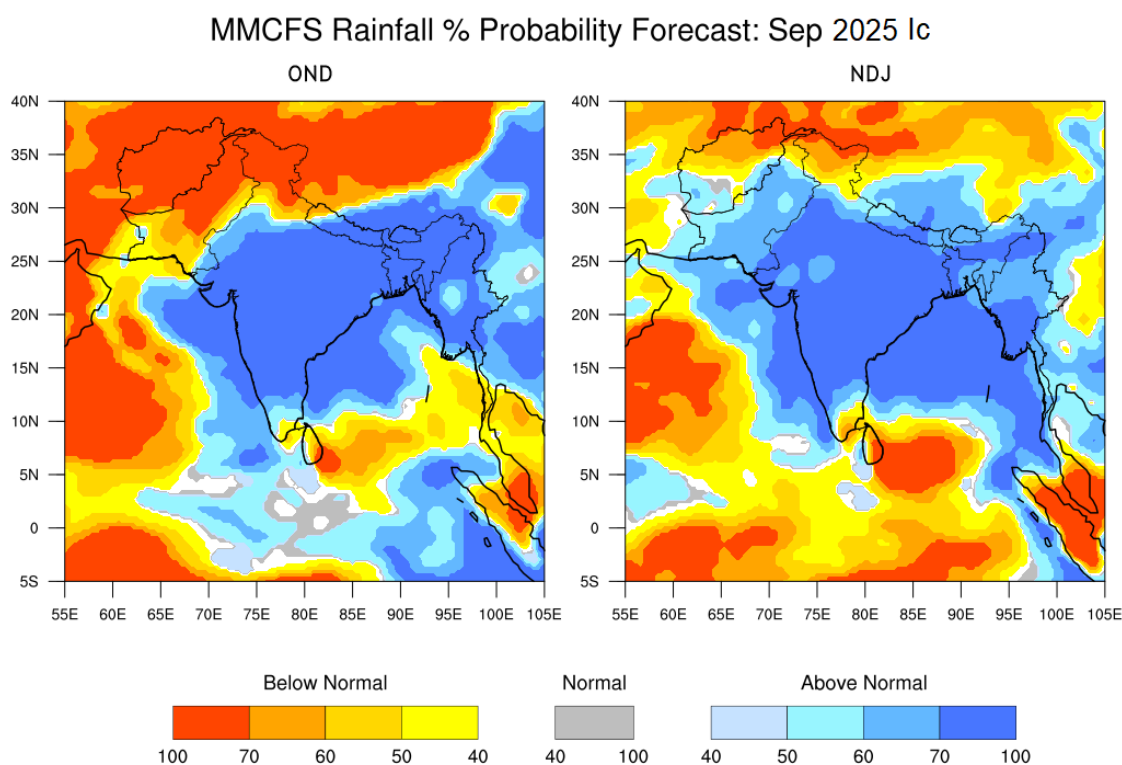


Fig.7: Seasonal probability (%) forecasts of precipitation for (a) OND 2025 (left) and (b) NDJ 2025-26 (right) based on initial conditions of September 2025. The white colour indicates climatological probability.

2.2. Temperature Probability Forecast:

The probability forecasts for temperature for the season October to December 2025 (OND) and November to January 2025 - 26 (NDJ) are given in the Figures 8a and 8b respectively. The forecast is prepared based on the September initial conditions. Temperature probability forecast for OND and NDJ seasons indicate that enhanced probability of above normal temperatures is likely over northwest, north, east, northeast and south east parts of South Asia and enhanced probability of below normal temperatures is likely over Peninsular India, west and central parts of South Asia.

MMCFS Temperature % Probability Forecast : Sep 2025 Ic

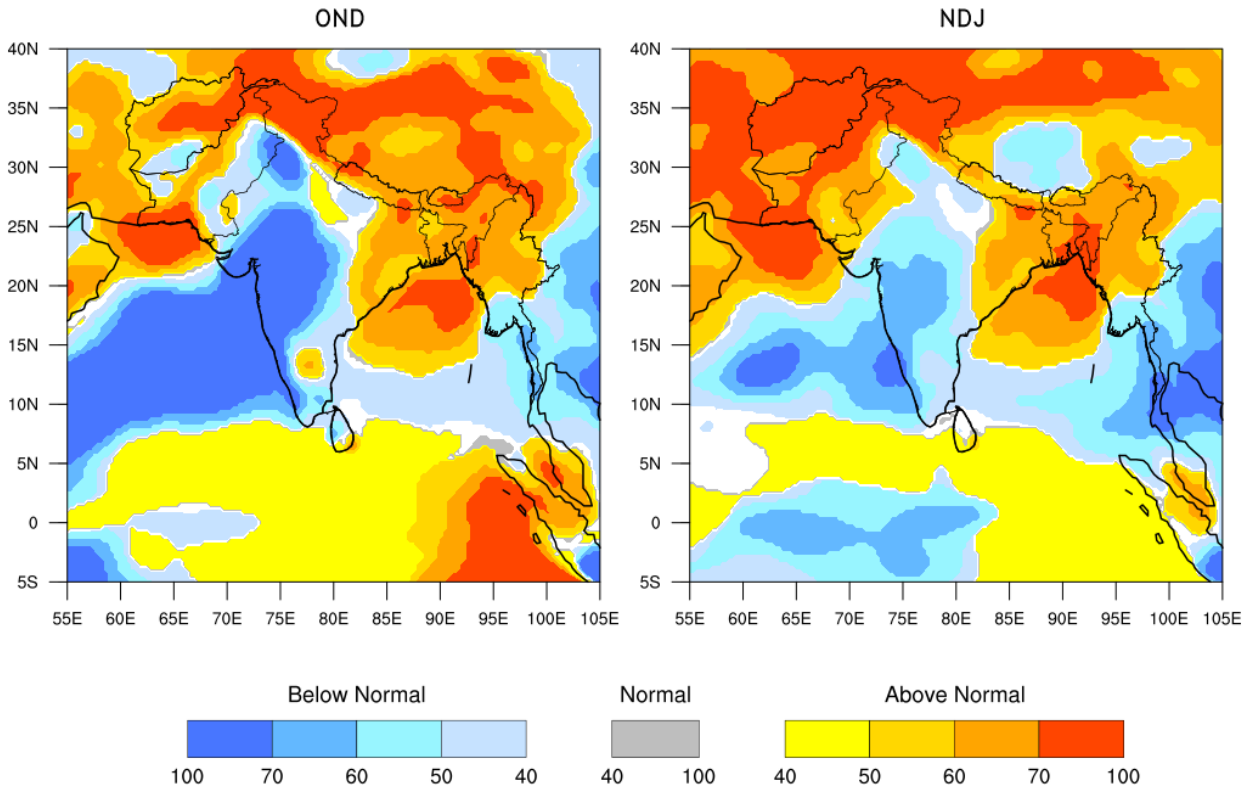


Fig. 8: Probability (%) forecast for the seasonal mean temperature for (a) OND 2025 (left) and (b) NDJ 2025 - 26 (right) based on initial conditions of September 2025. The white colour indicates climatological probability.

3. Forecast Outlook for the Country Averaged Monthly Precipitation and Temperature

The MMCFS model forecast for monthly precipitation and temperature for the next four months (from October 2025 to January 2026) averaged over the 9 south Asian countries viz., Afghanistan, Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka were shown in the Figures 9. The monthly rainfall anomaly is expressed as percentage departure from Long Period Model Average (LPMA) and monthly temperature anomaly is expressed in degree Celsius.

In October the country averaged monthly precipitation is likely to be normal to above normal for all South Asia countries except Afghanistan and Pakistan where it is likely to be below normal. In November, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Afghanistan, Pakistan and Maldives where it is likely to be below normal. In December it is likely to be normal to below normal for all countries. In January, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Sri Lanka where it is likely to be below normal.

The country averaged monthly temperatures during October 2025 to January 2026 is likely to be above normal for all the south Asian countries.

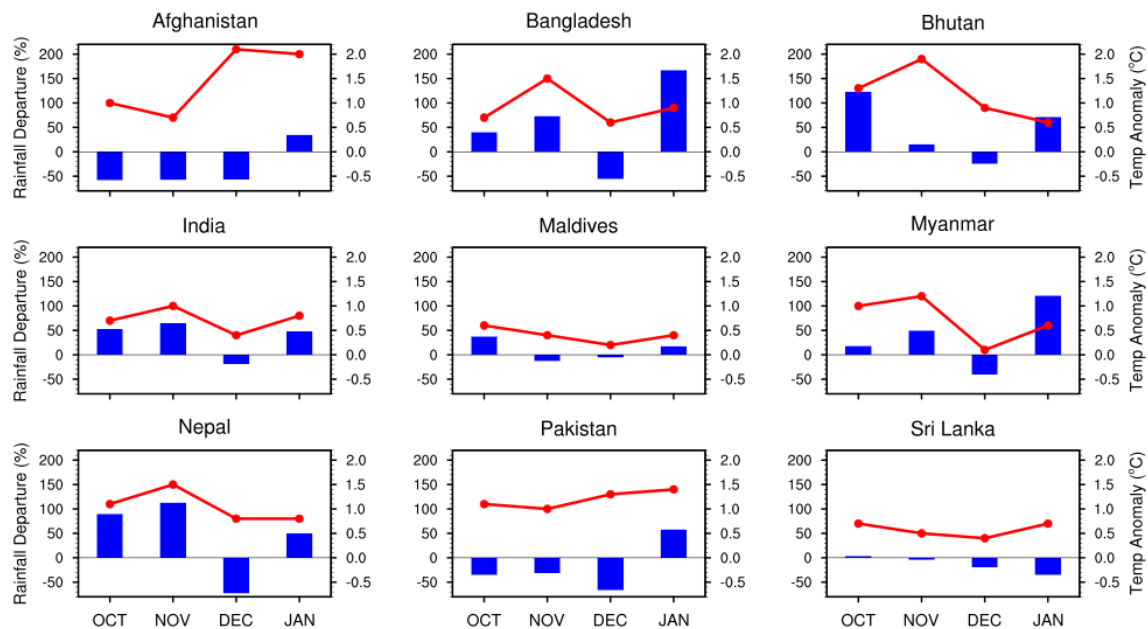


Fig. 9: Monthly country averaged rainfall forecast expressed as percentage departures (%) and Monthly country averaged temperature anomaly (°C) forecast during October 2025 to January 2026. Here, the normal range for country averaged monthly precipitation is taken as -10% to +10% (Left Vertical Axis Scale for Precipitation indicated in blue shaded bars) and the normal range for country averaged monthly temperature is taken -0.25°C to +0.25°C (Right Vertical Axis Scale for Temperature indicated in red coloured lines).