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Ministry of Earth Sciences (MoES)
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SEASONAL CLIMATE OUTLOOK FOR SOUTH ASIA
(October to January 2026)

Highlights

- Currently, strong to very strong El Niño conditions prevail over the equatorial Pacific, with SSTs well above average in the central-eastern and eastern Pacific. These are expected to strengthen further through end-2026, with Monsoon Mission Coupled Forecast System (MMCFS) indicating a high likelihood of strong-to-very strong El Niño conditions persisting through January–March 2027.

- Currently, neutral IOD conditions prevail over the Indian Ocean. Sea surface temperatures are warmer than normal in both the western and eastern equatorial Indian Ocean, with stronger warming in the west. MMCFS predicts that neutral IOD conditions are most likely to continue throughout the forecast period, while some international centers expect the positive IOD phase to continue in the near term.

- The Precipitation probability forecasts indicate an enhanced probability of below-normal precipitation over most parts of South Asia during OND season except over parts of northwest, extreme north, southeast and extreme southern regions where above normal precipitation is likely. The same for NDJ season indicate an enhanced probability of above normal precipitation over northeast and south-west parts of South Asia and above normal precipitation probability over north, central, northwest., west and southern parts of South Asia.

- In October, the country averaged monthly precipitation is likely to be normal to below normal for all countries except Afghanistan and Pakistan where it is likely to above normal. In November, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Bangladesh, Bhutan and Myanmar where it is likely to be below normal. In December, it is likely to be normal to above normal for all countries. In January, it is likely to be normal to above normal for all countries except Bhutan and Nepal where it is likely to be below normal.

- Temperature probability forecast indicate an enhanced probability of above-normal temperature over most parts of South Asia during both OND and NDJ seasons. However, parts of the extreme northern region, particularly along the Himalayan plains are likely to experience below-normal temperatures during both seasons.

- The country averaged monthly temperatures during October to January is likely to be normal to above normal for all the 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

During September 2026, El Niño conditions strengthened further relative to August. SST anomalies exceeded +2.0°C over the eastern equatorial Pacific, with positive anomalies intensifying east of the Date Line and extending across the eastern basin (Fig. 1a). Above average SSTs were also observed over parts of the North Pacific and several other global ocean regions, while near-normal to slightly below-normal SSTs prevailed over portions of the southern Pacific and south Atlantic. Compared with August 2026, positive SST anomalies strengthened over the eastern equatorial Pacific, whereas cooling occurred over parts of the central and western equatorial Pacific as well as parts of the northern and southern subtropical Pacific (Fig. 1b). •

Currently, strong to very strong El Niño conditions prevail over the equatorial Pacific, with SSTs well above average in the central-eastern and eastern Pacific. These are expected to strengthen further through end-2026, with Monsoon Mission Coupled Forecast System (MMCFS) indicating a high likelihood of strong-to-very strong El Niño conditions persisting through January–March 2027 (Fig. 2).

1.2 Sea Surface Temperatures over Indian Ocean

In September 2026, positive SST anomalies were observed over both the western and eastern Indian Ocean (Fig. 1a). Compared with August 2026, warm SST anomalies strengthened over the western and central equatorial Indian Ocean, while cooling occurred over the eastern equatorial Indian Ocean and the Bay of Bengal. The Arabian Sea continued to exhibit warm SSTs (Fig. 1b). Currently, neutral IOD conditions prevail over the Indian Ocean. Sea surface temperatures are warmer than normal in both the western and eastern equatorial Indian Ocean, with stronger warming in the west. MMCFS predicts that neutral IOD conditions are most likely to continue throughout the forecast period, while some international centers expect the positive IOD phase to continue in the near term.

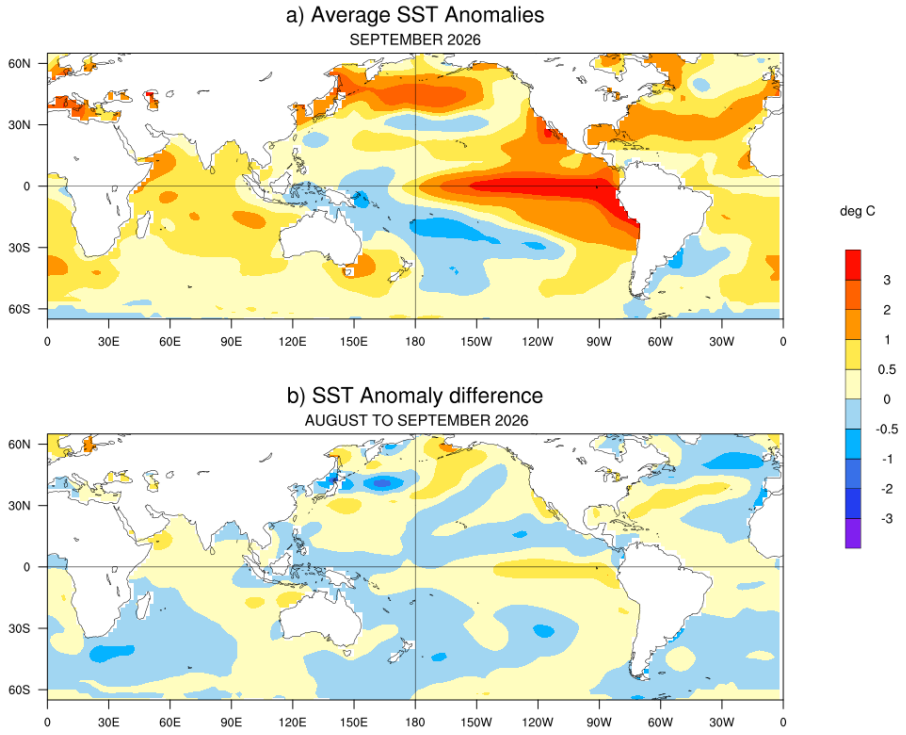


Fig.1: (a) Sea surface temperature (SST) anomalies (^{0}C) during September 2026 and (b) changes in the SST anomalies (^{0}C) from August to September 2026. SSTs are based on the ERSSTv5, from NOAA, and anomalies are computed with respect to 30-year (1991-2020) long term mean.

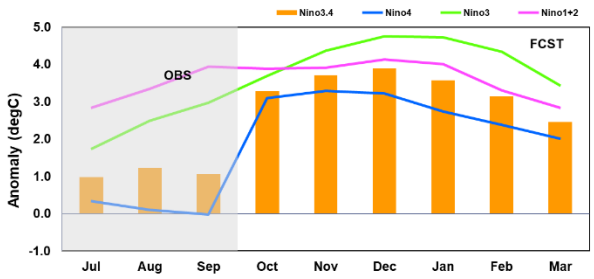


Fig.2: Time series of monthly area-averaged SST anomalies (°C) in the 4 Niño regions. ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF corrected anomaly forecast for the next 6 months.

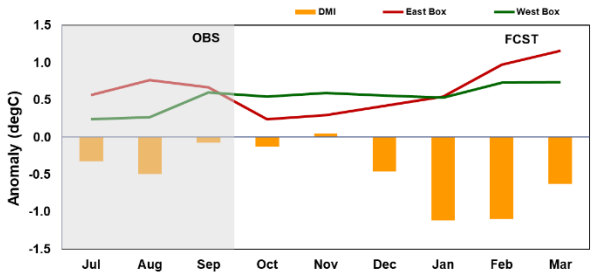


Fig.3: The time series of the monthly area-averaged SST anomaly Indices (°C) over west equatorial Indian Ocean (WEI) & east equatorial Indian Ocean (EEI) along with Dipole Mode Index (DMI=WEI-EEI) representing Indian Ocean Dipole (IOD). ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF 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 2026 is shown in Fig. 4. Negative OLR anomalies (enhanced convection; blue/purple shading) were observed over the central and eastern tropical Pacific Ocean, South China Sea, and some parts of extreme north of South Asia. Positive OLR anomalies (suppressed convection; yellow/orange/red shading) were observed over the western tropical Pacific, Southern tropical Pacific Ocean, North Indian Ocean including the Arabian Sea and Bay of Bengal, parts of the Maritime Continent, parts of Southeast Asia and portions of North and South America.

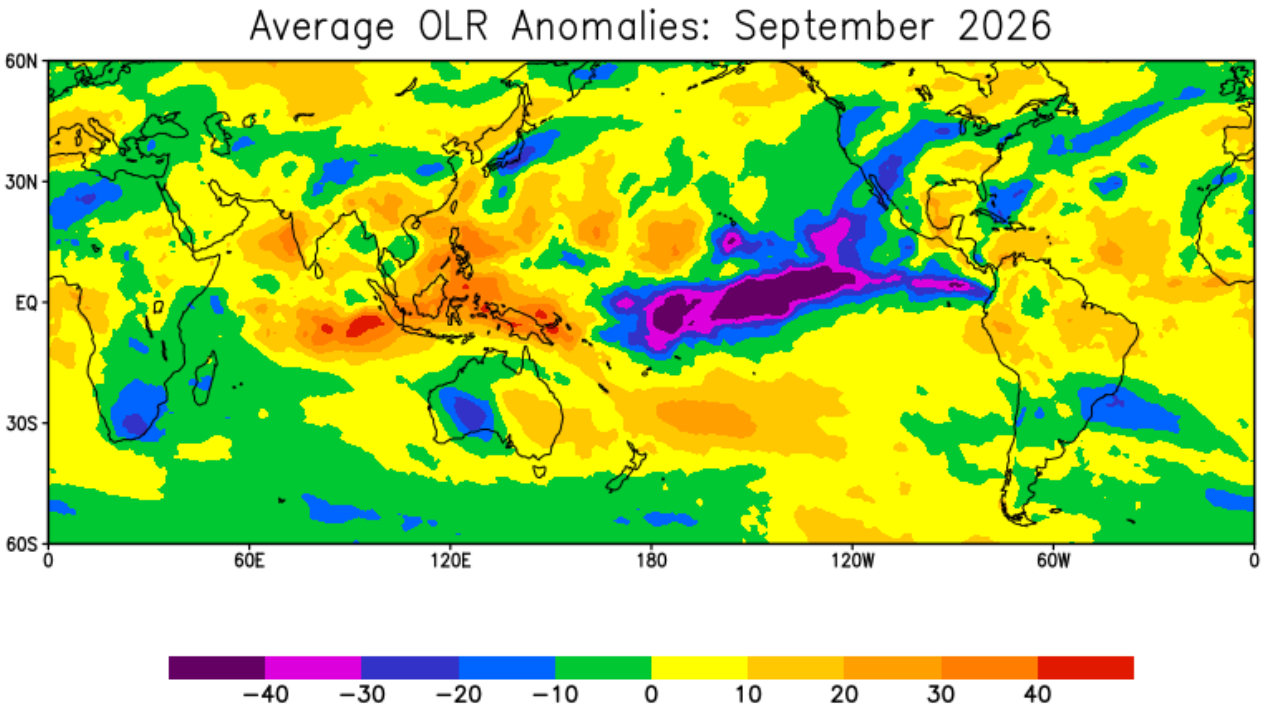


Fig.4: Outgoing Long Wave Radiation (OLR) Anomaly (W/m^2) for September 2026 (Data source: NCEP-NOAA)

1.4 Snow Cover Area over the Northern Hemisphere (NH)

During September 2026, the NH snow cover area (5.03 million Sq. km) was less than the 1991-2020 normal by 0.48 million Sq. km (Fig. 5). Eurasian Snow cover area (1.42 million Sq. km) was 0.22 million Sq. km less than the 1991-2020 normal. North America snow cover area of 3.61 million sq. km was less by 0.26 million Sq. Km with respect to 1991-2020 normal.

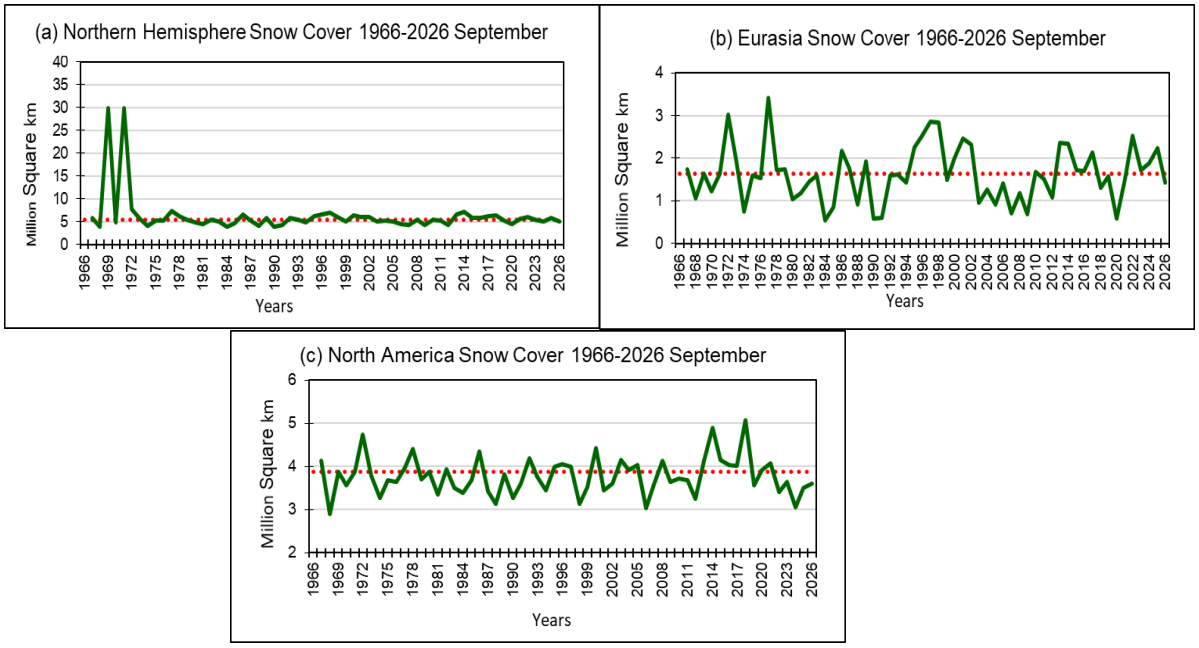


Fig 5: Snow cover area (million Sq. km) for the month of September during the period 1966-2026 (green solid lines) and normal value (1991-2020) (red dotted line) for (a) Northern Hemisphere (b) Eurasia and (c) North America. (Data Source: Rutgers University Snow Lab).

1.5. Madden Julian Oscillation (MJO)

During September 2026, the Madden–Julian Oscillation (MJO) propagated with an amplitude less than 1 during the first three weeks indicating weak MJO activity. After that the MJO moved from phase 8 (Western Hemisphere, Africa) to phase 1 during the 4th week with amplitude greater than 1 indicating strong MJO activity. The MJO phase diagram illustrates the evolution and eastward propagation of the MJO through different phases, which correspond to convective activity over different regions along the equator around the globe.

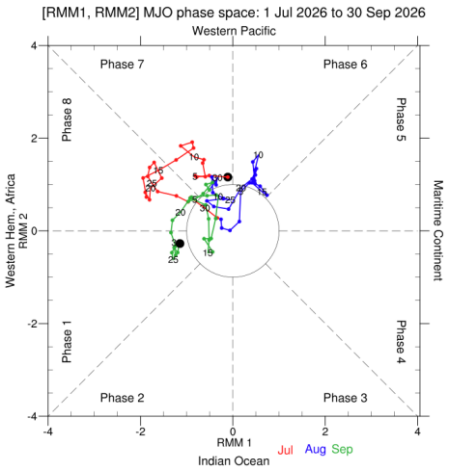


Fig.6. RMM phase diagram for Madden Julian Oscillation (MJO) for the period July to September 2026. (Data Source: http://www.bom.gov.au/climate/mjo/).

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 October–December 2026 (OND) and November–January 2026-27 (NDJ) seasons are shown in Figures 7a and 7b, respectively. These forecasts were prepared using the September initial conditions. The forecasts indicate an enhanced probability of below-normal precipitation over most parts of South Asia during OND season except over parts of northwest, extreme north, southeast and extreme southern regions where above normal precipitation is likely. The same for NDJ season indicate an enhanced probability of above normal precipitation over northeast and south-west parts of South Asia and above normal precipitation probability over north, central, northwest., west and southern parts of South Asia.

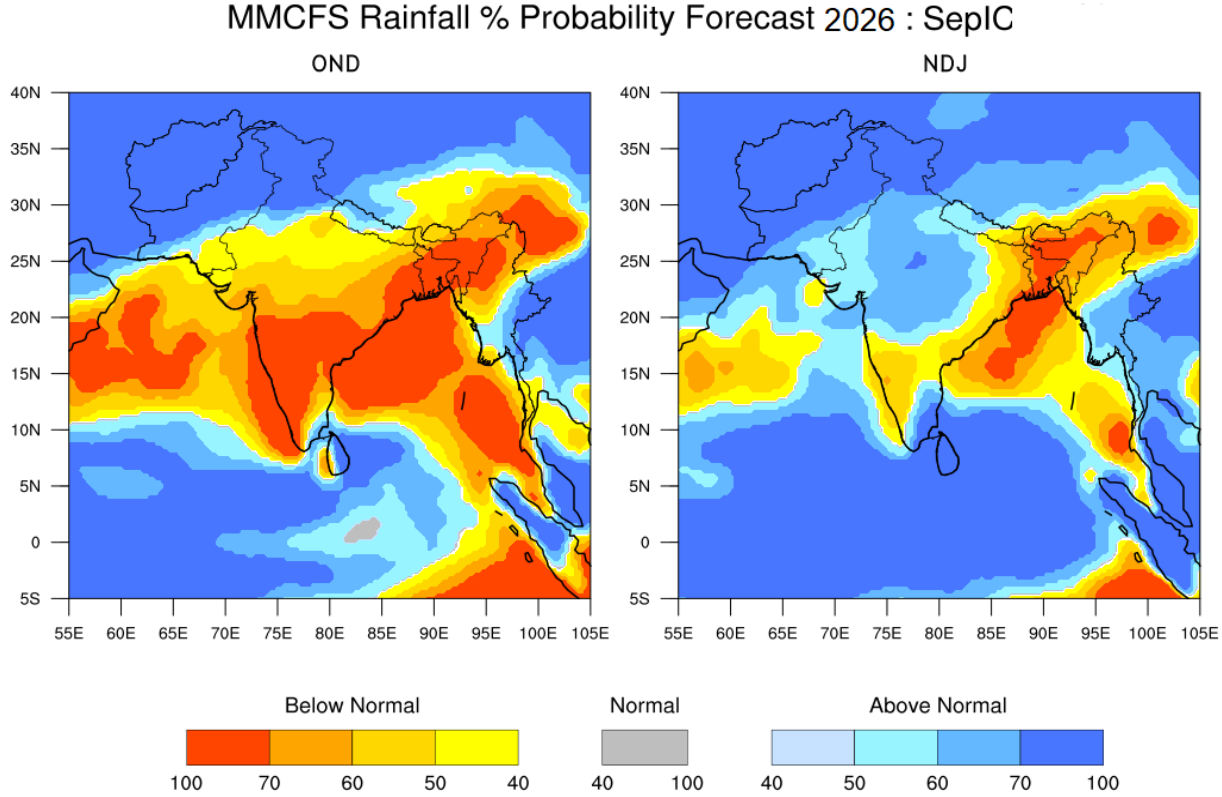


Fig.7: Seasonal probability (%) forecasts of precipitation for (a) OND 2026 (left) and (b) NDJ 2026-27(right) based on initial conditions of September 2026.The white colour indicates climatological probability.

2.2. Temperature Probability Forecast*:*

The probability forecasts for temperature for October-December 2026 (OND) and November-January 2026-27 (NDJ) seasons are shown in the Figures 8a and 8b, respectively. These forecasts were prepared using the September initial conditions. The forecasts indicate an enhanced probability of above-normal temperature over most parts of South Asia during both OND and NDJ seasons. However, parts of the extreme northern region, particularly along the Himalayan plains are likely to experience below-normal temperatures during both seasons.

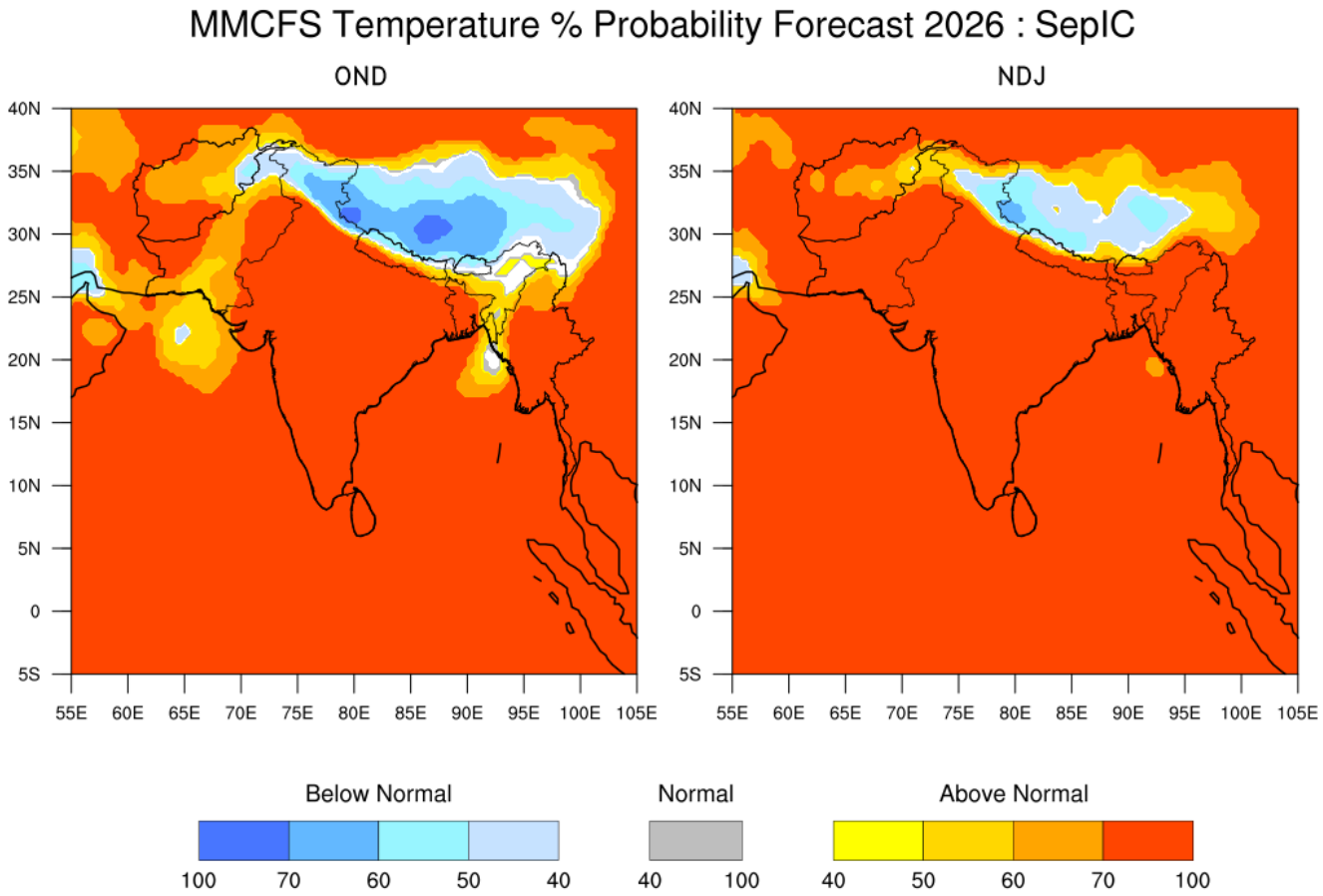


Fig. 8: Probability (%) forecast for the seasonal mean temperature for (a) OND 2026 (left) and (b) NDJ 2026-27 (right) based on initial conditions of September 2026. The white color indicates climatological probability.

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 2026 to January 2027) averaged over the 9 south Asian countries viz., Afghanistan, Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka were shown in the Figure 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 below normal for all countries except Afghanistan and Pakistan where it is likely to above normal. In November, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Bangladesh, Bhutan and Myanmar where it is likely to be below normal. In December, it is likely to be normal to above normal for all countries. In January, it is likely to be normal to above normal for all countries except Bhutan and Nepal where it is likely to be below normal.

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

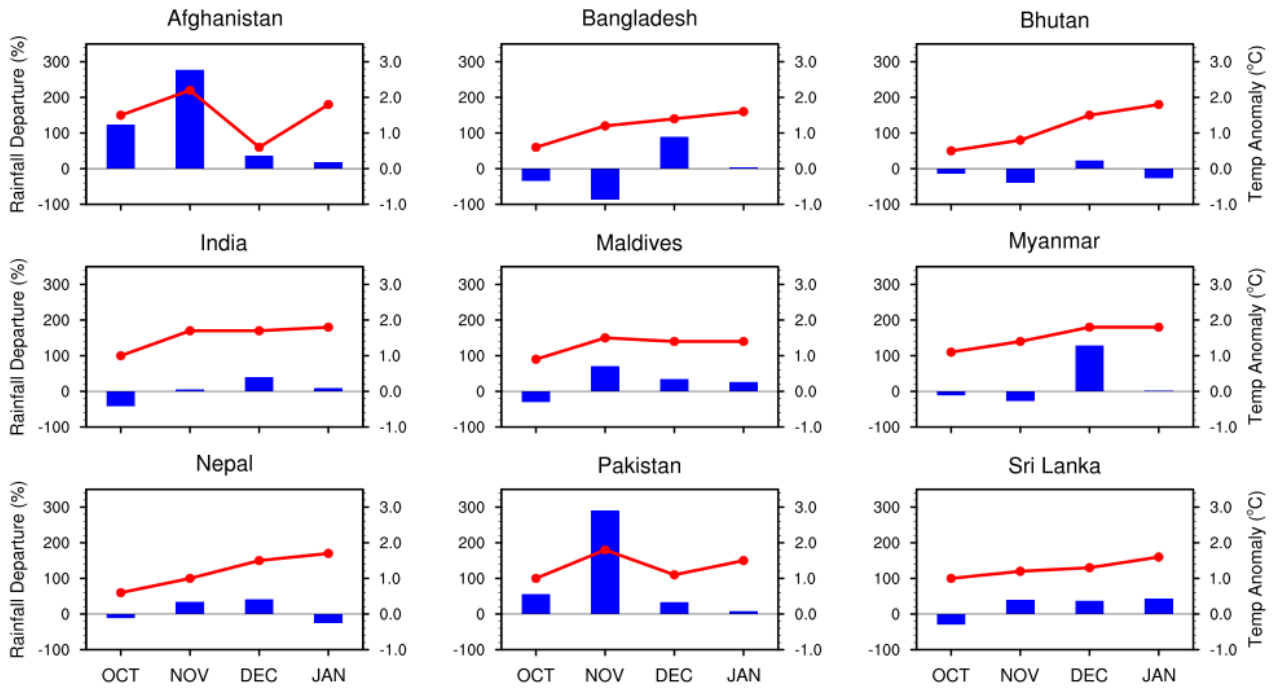


Fig. 9: Monthly country averaged rainfall forecast expressed as percentage departures (%) and monthly country averaged temperature anomaly (°C) forecast during October 2026 to January 2027. Here, the normal range for country averaged monthly precipitation is taken as -10% to +10% (Left Vertical Axis Scale for Precipitation indicated in blue shaded bars) and the normal range for country averaged monthly temperature is taken -0.25ºC to +0.25ºC (Right Vertical Axis Scale for Temperature indicated in red colored lines).