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SEASONAL CLIMATE OUTLOOK FOR SOUTH ASIA
(March to June 2026)

Highlights

- At present, Weak La Niña–like conditions are transitioning to ENSO-neutral conditions over the equatorial Pacific. Atmospheric circulation features across the tropical Pacific remain consistent with weak La Niña–like conditions. The Monsoon Mission Climate Forecast System (MMCFS) suggests the development of El Niño conditions during the southwest monsoon season.

- At present, neutral Indian Ocean Dipole (IOD) conditions are present over the Indian Ocean and the latest Climate models forecast indicates that the positive IOD conditions are likely to develop towards the end of the southwest monsoon season.

- The probability forecast for precipitation for AMJ season indicates that enhanced probability of above normal precipitation is likely over most parts of South Asia except over few parts of extreme north, northeast and southeast of South Asia where enhanced probability of below normal rainfall is likely. The same for MJJ season indicates that enhanced probability of above normal precipitation is likely over some parts of northwest, north along the plains of Himalayas, northeast and extreme south of South Asia and enhanced probability of below normal rainfall is likely over central, east and southeast parts of South Asia

- In April, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Maldives where it is likely to be below normal. In May, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Myanmar where it is likely to be below normal. In June, it is likely to be normal to above normal for all countries. In July, it is likely to be normal to above normal for all countries except India, Nepal and Pakistan where it is likely to be below normal.

- Temperature probability forecast for AMJ season indicates that enhanced probability of below normal temperatures is likely over most parts of South Asia except over some parts of extreme north and south east Asia where above normal temperatures are likely. The same for AMJ season indicate that enhanced probability of below normal temperatures is likely over some parts of northwest, north along the plains of Himalayas and north east of South Asia and enhanced probability of above normal temperatures is likely central, east, west, south and southeast of South Asia.

- The country averaged monthly temperatures during April is likely to be normal to below normal for all the countries. In May, it is likely to be below normal to normal for all the countries. except Maldives where it is likely to be above normal. In June and July, it is likely to be normal to above normal for all the countries

1. Important Global Climate Factors

1.1 Sea Surface Temperatures over the Pacific Ocean

During March 2026, above-average SSTs were prevalent over most of the global oceans (Fig. 1a). However, equatorial SST anomalies were warmer in the western and far eastern Pacific compared to the east-central Pacific. In addition, warmer-than-average SSTs prevailed over the northern and southern extra-tropical regions of the Pacific Ocean (Fig. 1a). In comparison with February 2026, mostly positive SST anomaly were observed across the central and eastern equatorial Pacific Ocean and eastern Indian Ocean. Negative SST anomaly were evident in the western equatorial Indian Ocean, near the Maritime Continent (Fig. 1b). At present, Weak La Niña–like conditions are transitioning to ENSO-neutral conditions over the equatorial Pacific. Atmospheric circulation features across the tropical Pacific remain consistent with weak La Niña–like conditions. The Monsoon Mission Climate Forecast System (MMCFS) suggests the development of El Niño conditions during the southwest monsoon season. (Fig. 2)

1.2 Sea Surface Temperatures over Indian Ocean

In March 2026, sea surface temperatures (SSTs) were near-to-above-average in the Atlantic Ocean and were below average north of Australia (Fig. 1a). Warm SSTs were observed in the Arabian Sea and Bay of Bengal. Compared to February 2026, mostly positive SST anomaly were observed across the western Indian Ocean (Fig. 1b). At present, neutral Indian Ocean Dipole (IOD) conditions are present over the Indian Ocean and the latest Climate models forecast indicates that the positive IOD conditions are likely to develop towards the end of the southwest monsoon season. (Fig. 3)

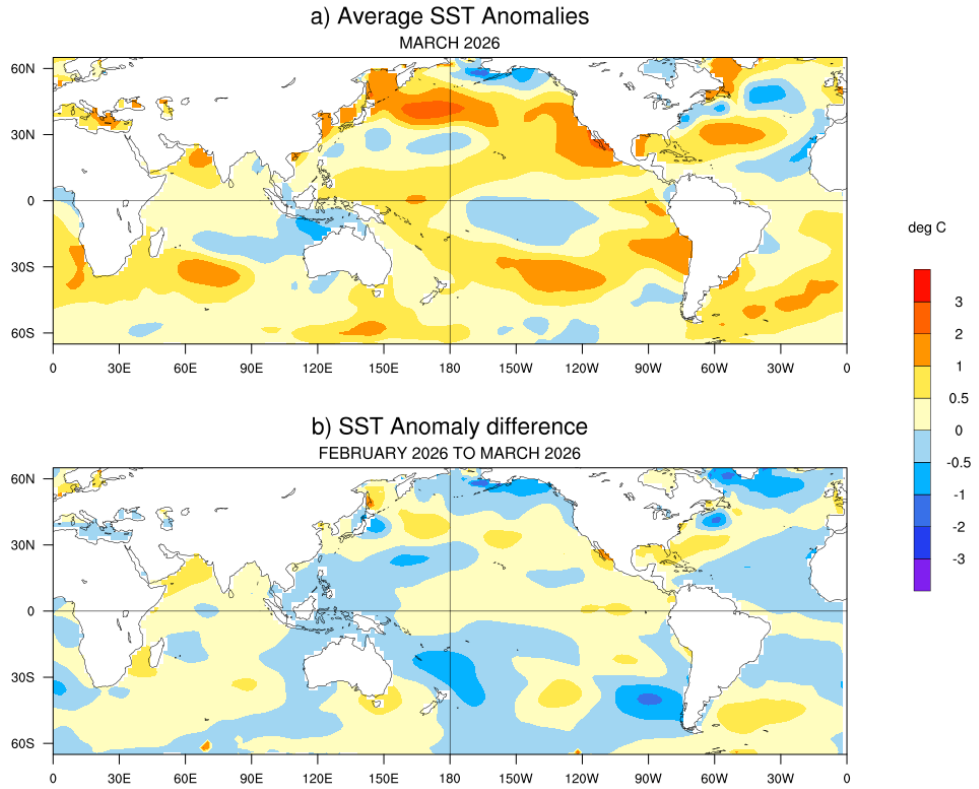

Fig.1: (a) Sea surface temperature (SST) anomalies (^{0}C) during March 2026 and (b) changes in the SST anomalies (^{0}C) from February to March 2026. SSTs are based on the ERSSTv5, from NOAA, and anomalies are computed with respect to 30-year (1991-2020) long term mean.

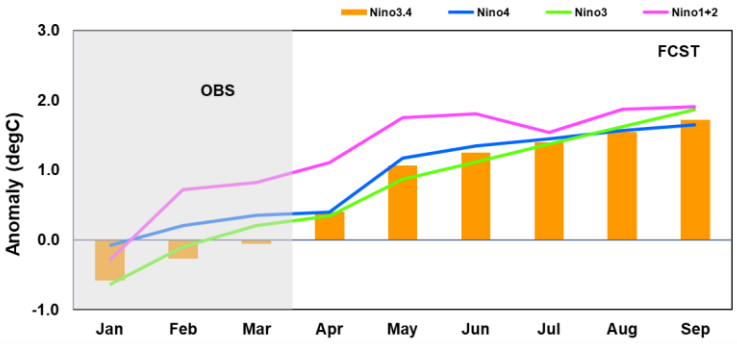

Fig.2: Time series of monthly area-averaged SST anomalies (°C) in the 4 Niño regions. ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF corrected anomaly forecast for the next 6 months.

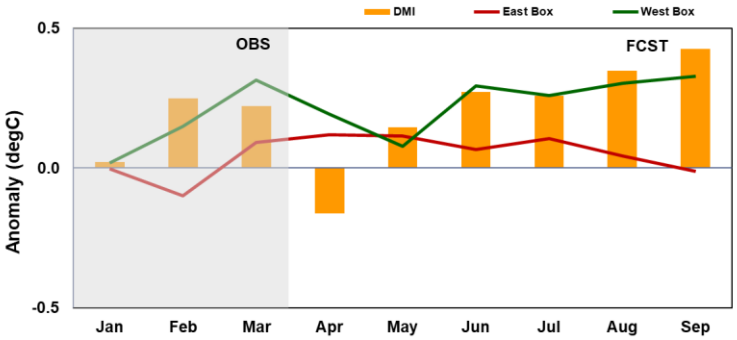

Fig.3: The time series of the monthly area-averaged SST anomaly Indices (°C) over west equatorial Indian Ocean (WEI) & east equatorial Indian Ocean (EEI) along with Dipole Mode Index (DMI=WEI-EEI) representing Indian Ocean Dipole (IOD). ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF 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 March 2026 is shown in (Fig.4). Negative OLR anomalies (enhanced convection, blue shading) were observed over western and central tropical Pacific Ocean, western parts of southern tropical Pacific Ocean. Negative OLR anomalies were also observed over Maritime Continent, North Australia and east Africa. Positive OLR anomalies (suppressed convection, orange/red shading) were observed over Indian Ocean, central equatorial Pacific Ocean and north America.

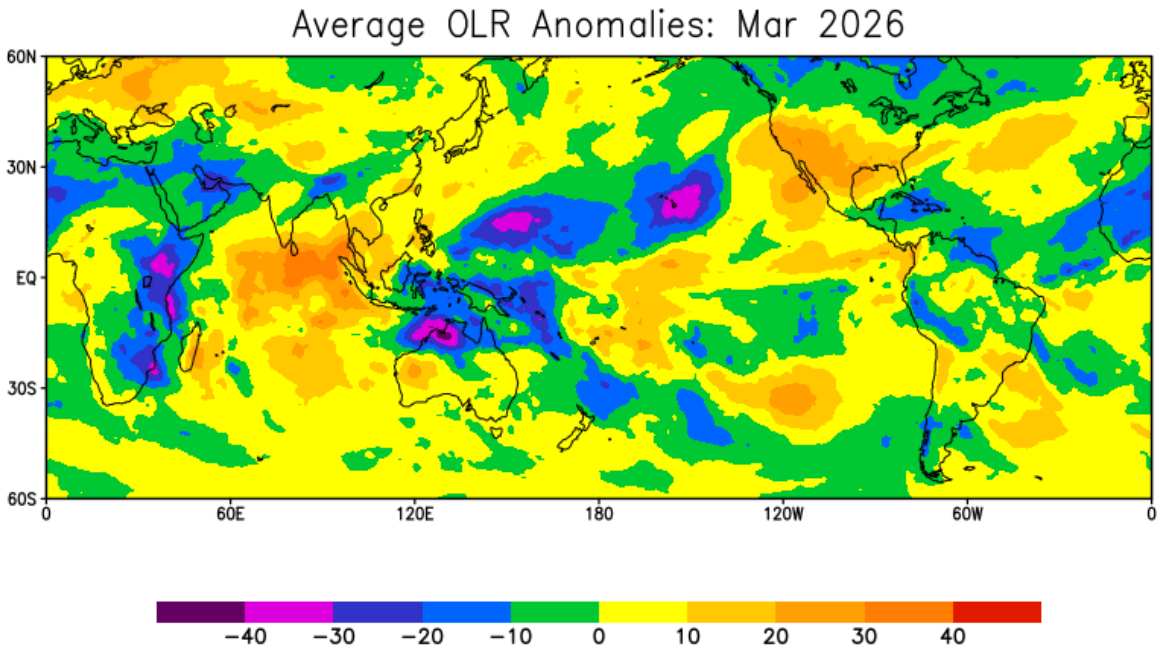

Fig.4: Outgoing Long Wave Radiation (OLR) Anomaly (W/m^2) for March 2026 (Data source: NCEP-NOAA)

1.4 Snow Cover Area over the Northern Hemisphere (NH)

During March 2026, the NH snow cover area (37.80 million Sq. km) was less than the 1991-2020 normal by 2.0 million Sq. km (Fig. 5). Eurasian Snow cover area (22.69 million Sq. km) was 1.40 million Sq. km less than the 1991-2020 normal. North America snow cover area of 15.114 million sq. km was less by 0.6 million Sq. Km with respect to 1991-2020 normal.

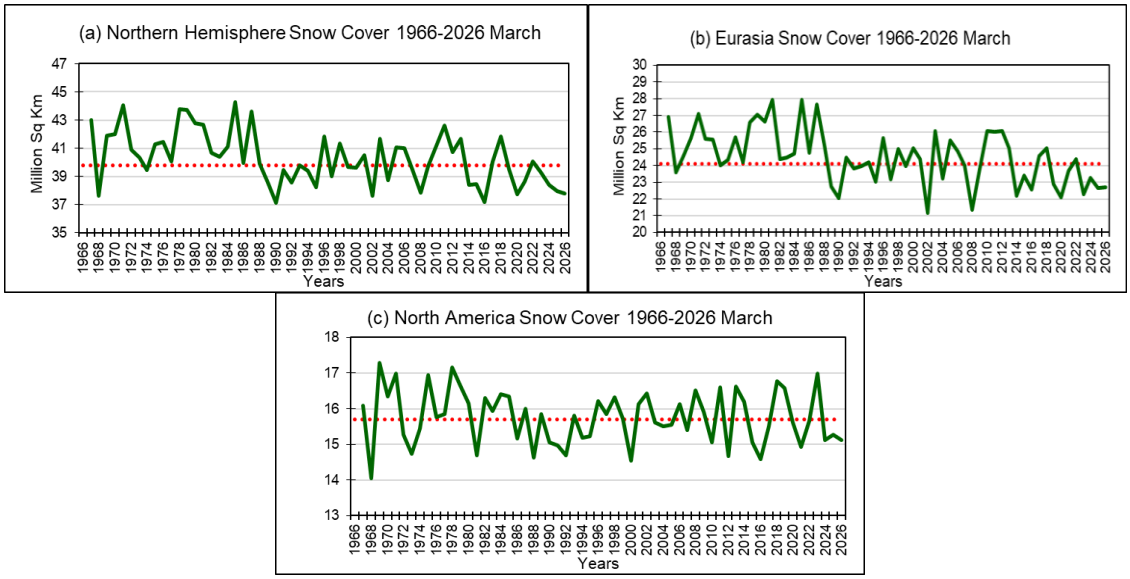

Fig 5: Snow cover area (million Sq. km) for the month of March during the period 1966-2026 (green solid lines) and normal value (1991-2020) (red dotted line) for (a) Northern Hemisphere (b) Eurasia and (c) North America. (Data Source: Rutgers University Snow Lab).

1.5. Madden Julian Oscillation (MJO)

During the month of March, MJO moved east from phase 5 (Maritime Continent) to phase 7 (Western Pacific) with amplitude < 1 during the first fortnight. In the second fortnight it moved further eastwards to phase 1(Western Hem. And Africa) with amplitude > 1 during most of the days. MJO phase diagram illustrates the progression of the MJO through different phases, which generally coincide with locations along the equator around the globe.

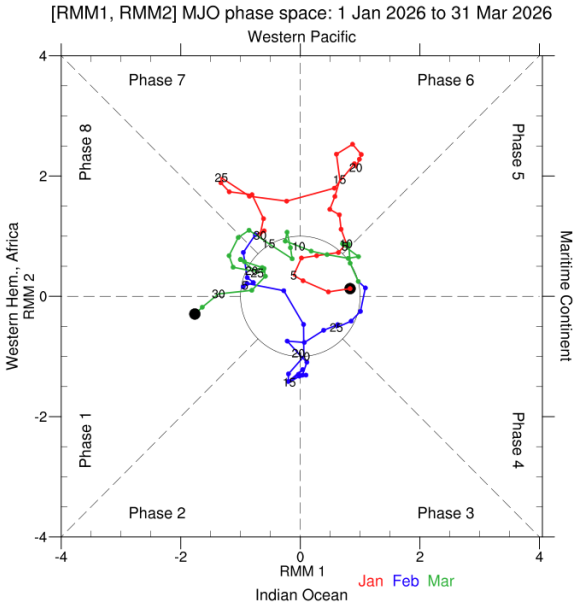

Fig.6. RMM phase diagram for Madden Julian Oscillation (MJO) for the period January to March 2026. (Data Source: http://www.bom.gov.au/climate/mjo/).

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 seasons April to June 2026 (AMJ) and May to July 2026 (MJJ) are given in the Figures 7a and 7b respectively. The forecast is prepared based on the March initial conditions. The probability forecast for precipitation for AMJ season indicates that enhanced probability of above normal precipitation is likely over most parts of South Asia except over few parts of extreme north, northeast and southeast of South Asia where enhanced probability of below normal rainfall is likely. The same for MJJ season indicates that enhanced probability of above normal precipitation is likely over some parts of northwest, north along the plains of Himalayas, northeast and extreme south of South Asia and enhanced probability of below normal rainfall is likely over central, east and southeast parts of South Asia.

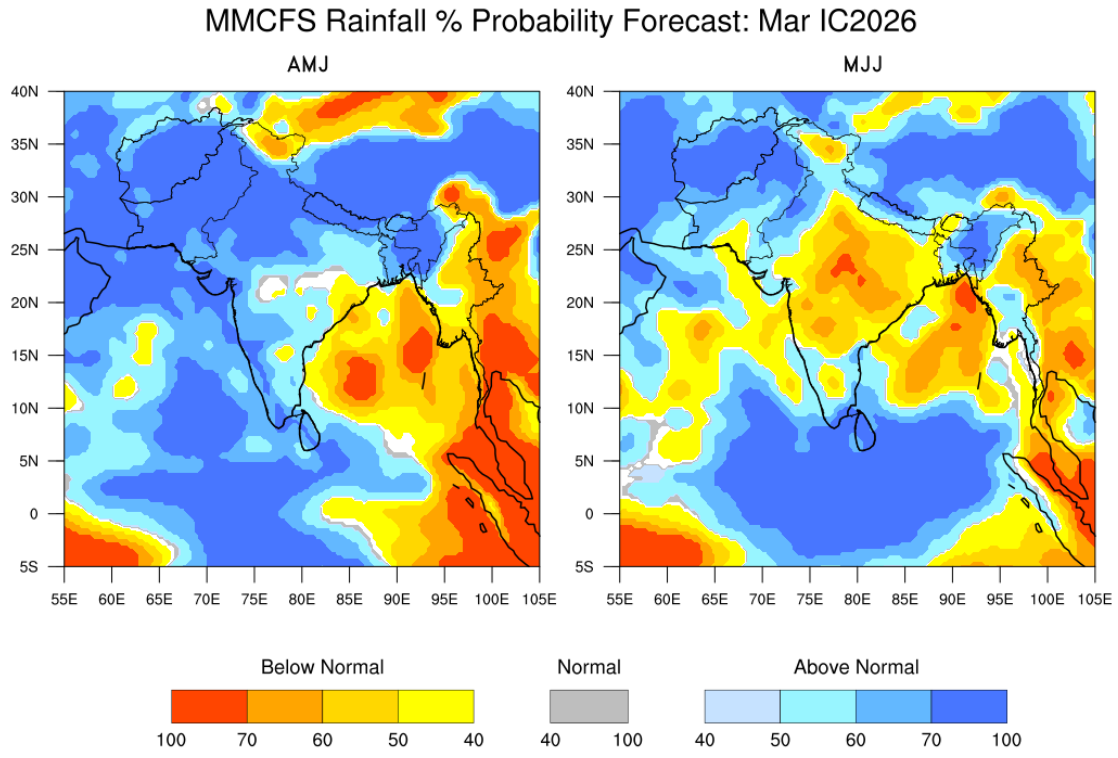

Fig.7: Seasonal probability (%) forecasts of precipitation for (a) AMJ 2026 (left) and (b) MJJ 2026 (right) based on initial conditions of March 2026.The white colour indicates climatological probability.

2.2. Temperature Probability Forecast*:*

The probability forecasts for temperature for the season April to June 2026 (AMJ) and May to July 2026 (MJJ) are given in the Figures 8a and 8b respectively. The forecast is prepared based on the March initial conditions. Temperature probability forecast for AMJ season indicates that enhanced probability of below normal temperatures is likely over most parts of South Asia except over some parts of extreme north and south east Asia where above normal temperatures are likely. The same for AMJ season indicate that enhanced probability of below normal temperatures is likely over some parts of northwest, north along the plains of Himalayas and north east of South Asia and enhanced probability of above normal temperatures is likely central, east, west, south and southeast of South Asia.

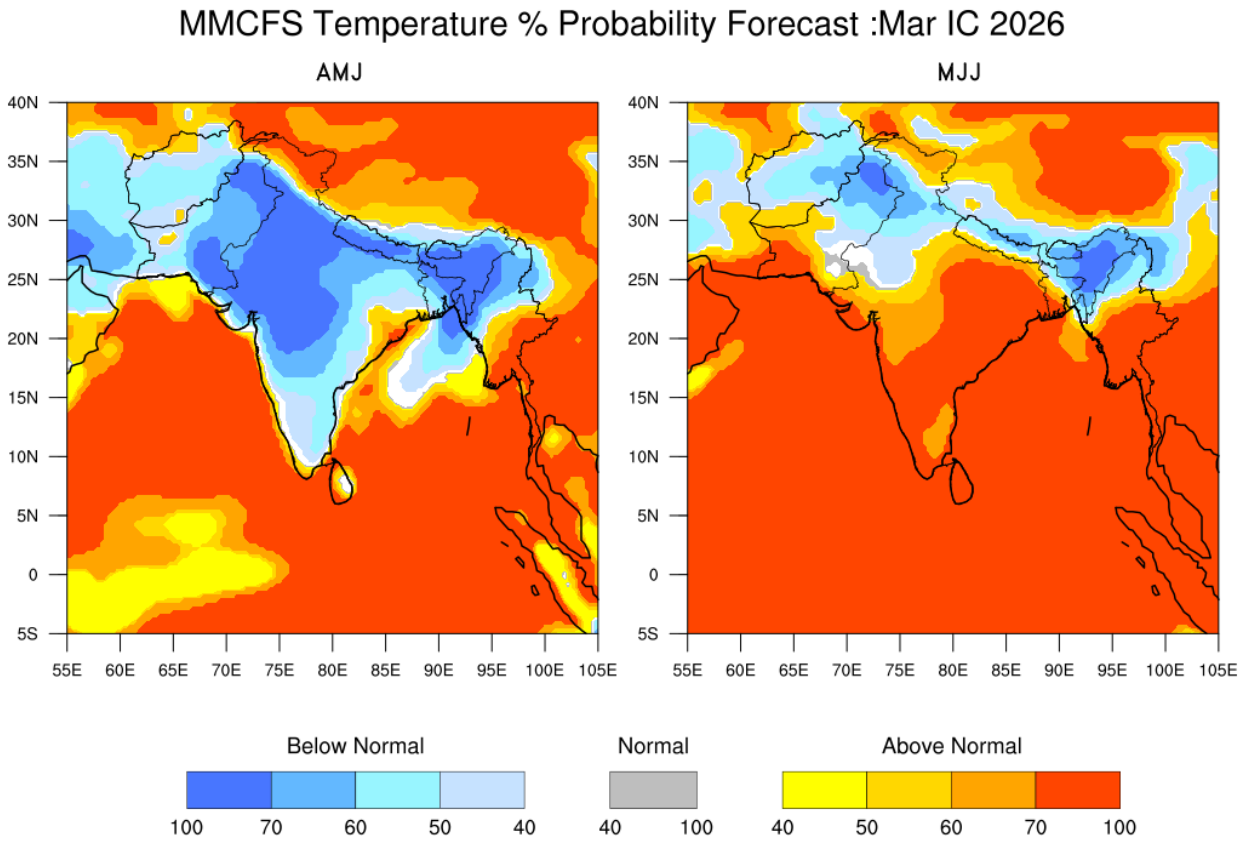

Fig. 8: Probability (%) forecast for the seasonal mean temperature for (a) AMJ 2026 (left) and (b) MJJ 2026 (right) based on initial conditions of March 2026. The white color indicates climatological probability.

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 March to June 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 April, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Maldives where it is likely to be below normal. In May, the country averaged monthly precipitation is likely to be normal to above normal for all countries except Myanmar where it is likely to be below normal. In June, it is likely to be normal to above normal for all countries. In July, it is likely to be normal to above normal for all countries except India, Nepal and Pakistan where it is likely to be below normal.

The country averaged monthly temperatures during April is likely to be normal to below normal for all the countries. In May, it is likely to be below normal to normal for all the countries. except Maldives where it is likely to be above normal. In June and July, it is likely to be normal to above normal for all the countries.

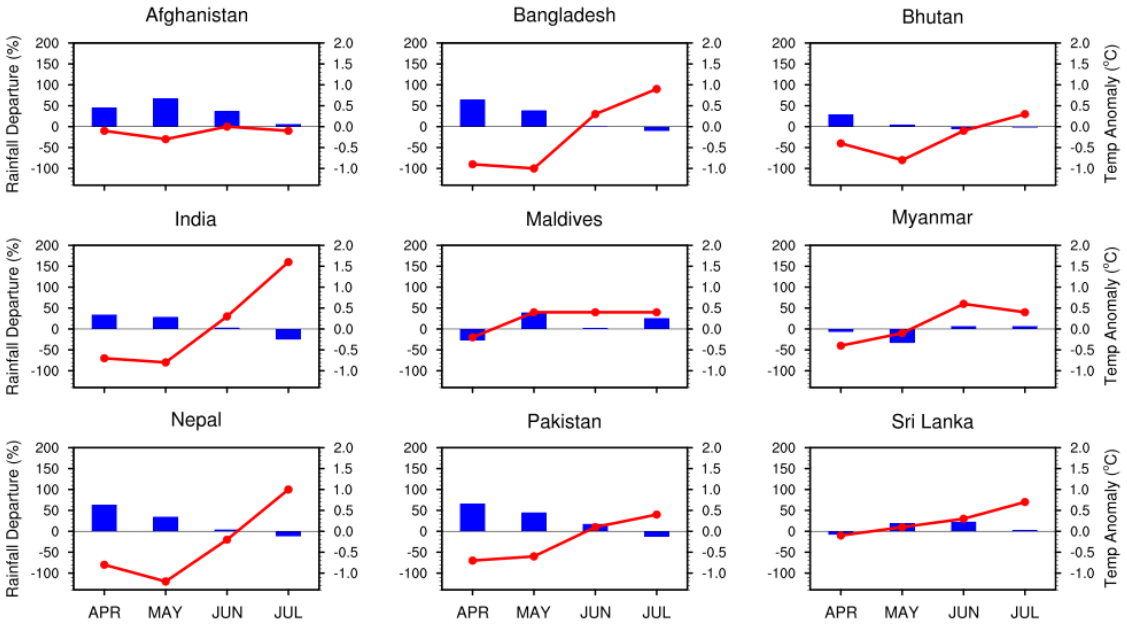

Fig. 9: Monthly country averaged rainfall forecast expressed as percentage departures (%) and monthly country averaged temperature anomaly (°C) forecast during April to July 2026. Here, the normal range for country averaged monthly precipitation is taken as -10% to +10% (Left Vertical Axis Scale for 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 colored lines).