



Earth System Science Organization (ESSO)
Ministry of Earth Sciences (MoES)
India Meteorological Department
WMO Regional Climate Centre
Pune, India

SEASONAL CLIMATE OUTLOOK FOR SOUTH ASIA
(May to August 2026)

Highlights

- Currently, ENSO-neutral conditions in the equatorial Pacific are transitioning toward an El Niño 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. The Monsoon Mission Climate Forecast System (MMCFS) suggests forecast indicates that the weak positive IOD conditions are likely to develop towards end of the southwest monsoon season.
- The precipitation forecasts indicate an enhanced probability of below-normal precipitation over most parts of South Asia during both May – July 2026 and June - August 2026 seasons. However, some regions over the northwest, extreme north, northeast, and southeast parts of South Asia are likely to experience above-normal precipitation.
- In May, the country averaged monthly precipitation is likely to be normal to above normal for all countries. In June and August, the country averaged monthly precipitation is likely to be normal to above normal for all countries except India, Nepal, Pakistan and Sri Lanka where it is likely to be below normal. In July, it is likely to be normal to above normal for all countries except Bangladesh, India Nepal and Pakistan 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 MJJ 2026 and JJA 2026 seasons. However, some regions over the northwest, extreme north and northeast of South Asia are likely to experience below-normal temperature.
- The country averaged monthly temperatures during May is likely to be normal to below normal for all the countries. In June, it is likely to be below normal to normal for all the countries except Myanmar where it is likely to be above normal. In July and August, it 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 April 2026, ENSO-neutral conditions developed, as reflected by near-normal sea surface temperatures (SSTs) over the central and east-central equatorial Pacific Ocean (Fig. 1a). However, positive SST anomalies persisted over the far eastern Pacific and around the Maritime Continent region. Warmer-than-normal SSTs were also observed across the tropical and extra-tropical regions of both the North and South Pacific Oceans (Fig. 1a). Compared to March 2026, equatorial sea surface temperatures (SSTs) during April 2026 were near-normal over the east-central Pacific Ocean, above normal over the region just west of the Date Line and the far eastern Pacific Ocean, and below normal over the far western Pacific Ocean (Fig. 1b). Currently, ENSO-neutral conditions in the equatorial Pacific are transitioning toward an El Niño 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 April 2026, sea surface temperatures (SSTs) were above average in the western parts of Indian Ocean and below average SSTs over eastern Indian Ocean near Maritime continent (Fig. 1a). Above-average SSTs were observed over the Arabian Sea, while warm SSTs prevailed over the Bay of Bengal. Compared to March 2026, predominantly positive SST anomalies were observed across the Indian Ocean, while cooler SSTs prevailed over the northern Arabian Sea. (Fig. 1b). At present, neutral Indian Ocean Dipole (IOD) conditions are present over the Indian Ocean. The Monsoon Mission Climate Forecast System (MMCFS) suggests forecast indicates that the weak positive IOD conditions are likely to develop towards end of the southwest monsoon season (Fig. 3).

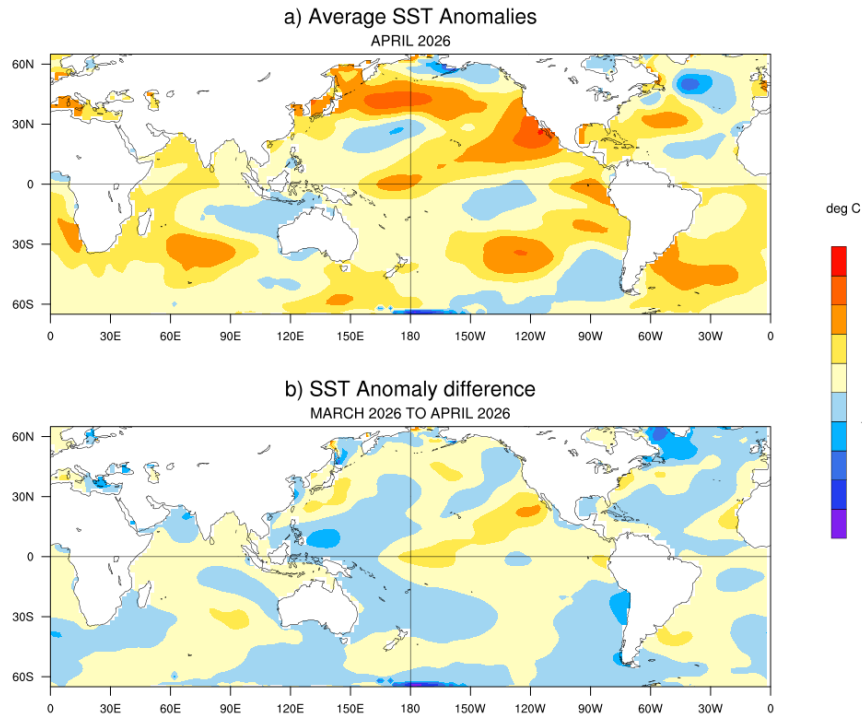


Fig.1: (a) Sea surface temperature (SST) anomalies ($^{\circ}\text{C}$) during April 2026 and (b) changes in the SST anomalies ($^{\circ}\text{C}$) from March to April 2026. SSTs are based on the ERSSTv5, from NOAA, and anomalies are computed with respect to 30-year (1991-2020) long term mean.

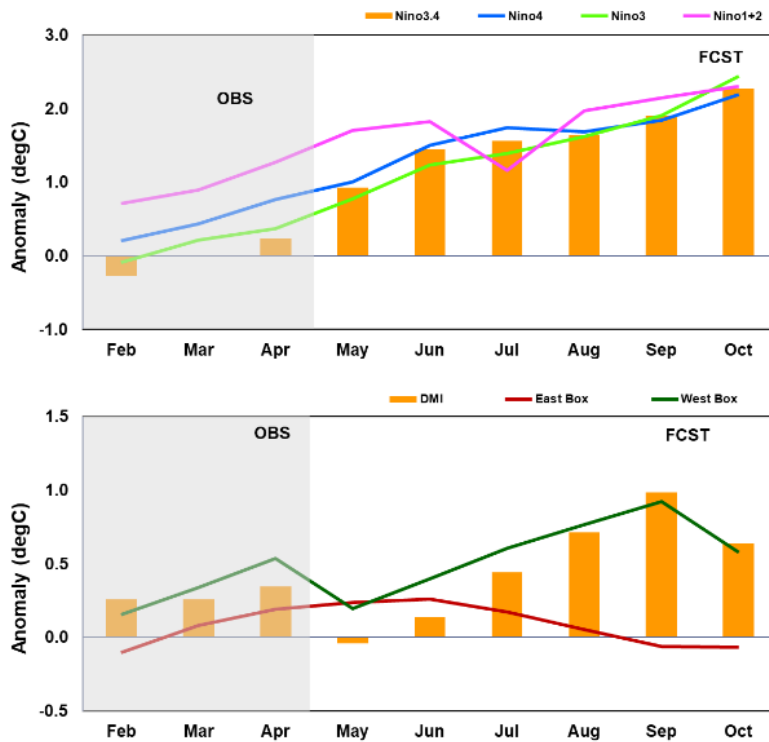


Fig.2: Time series of monthly area-averaged SST anomalies (°C) in the 4 Niño regions. ERSSTv5 observed anomaly for the last 3 months and MMCFS model PDF corrected anomaly forecast for the next 6 months.

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 April 2026 is shown in Fig. 4. Negative OLR anomalies (enhanced convection; blue shading) were observed over the central and eastern tropical Pacific Ocean, the western tropical Atlantic Ocean, western parts of South Asia, Africa, and parts of North America. Positive OLR anomalies (suppressed convection; orange/red shading) were observed over Peninsular India, the Maritime Continent, the Bay of Bengal, the South China Sea, the western tropical Pacific Ocean, and parts of the eastern tropical Pacific Ocean.

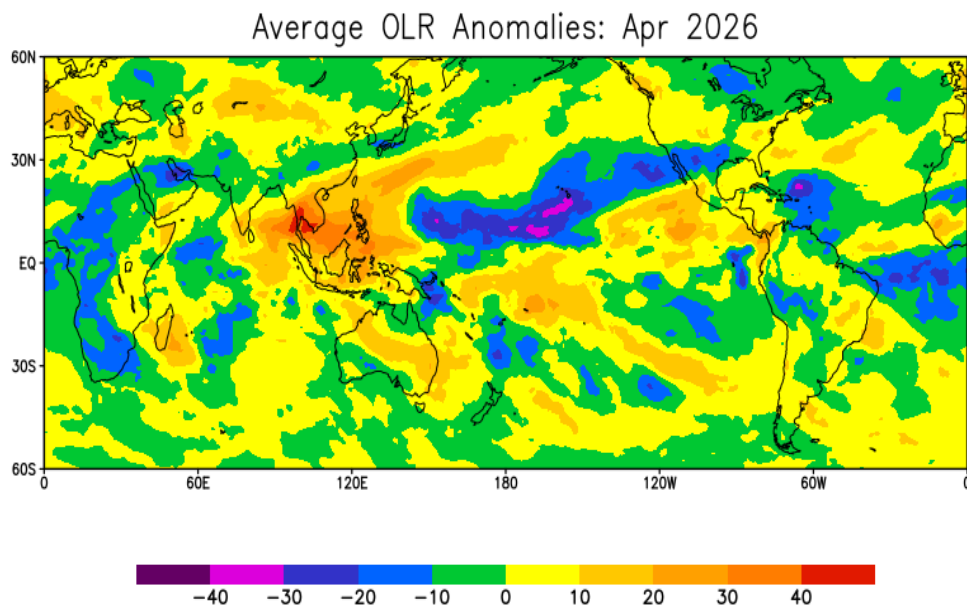


Fig.4: Outgoing Long Wave Radiation (OLR) Anomaly (W/m^2) for April 2026 (Data source: NCEP-NOAA)

1.4 Snow Cover Area over the Northern Hemisphere (NH)

During April 2026, the NH snow cover area (29.113 million Sq. km) was less than the 1991-2020 normal by 0.8 million Sq. km (Fig. 5). Eurasian Snow cover area (15.577 million Sq. km) was 1.18 million Sq. km less than the 1991-2020 normal. North America snow cover area of 13.536 million sq. km was less by 0.37 million Sq. Km with respect to 1991-2020 normal.

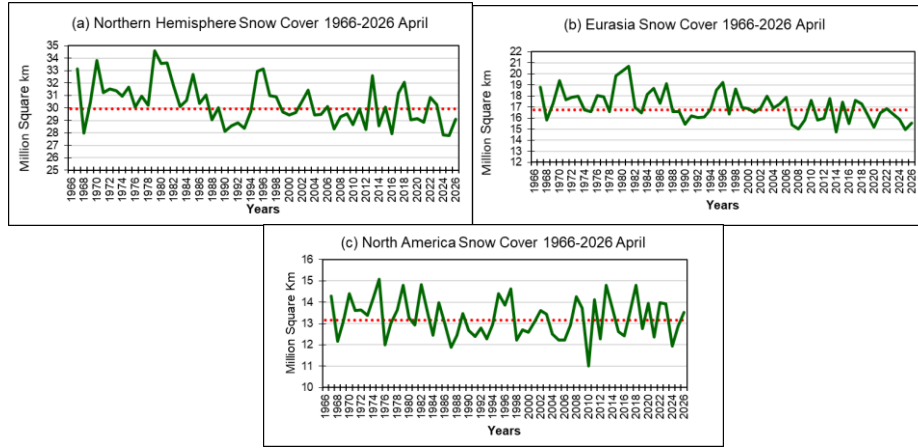


Fig 5: Snow cover area (million Sq. km) for the month of April during the period 1966-2026 (green solid lines) and normal value (1991-2020) (red dotted line) for (a) Northern Hemisphere (b) Eurasia and (c) North America. (Data Source: Rutgers University Snow Lab).

1.5 Madden Julian Oscillation (MJO)

During April 2026, the Madden–Julian Oscillation (MJO) propagated eastward from Phase 1 (Western Hemisphere and Africa) to Phase 5 (Maritime Continent) with an amplitude less than 1 during the first week of the month, indicating weak MJO activity. Subsequently, the MJO shifted toward Phase 2 (Indian Ocean) with amplitude greater than 1 during the remaining period, suggesting relatively enhanced 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.

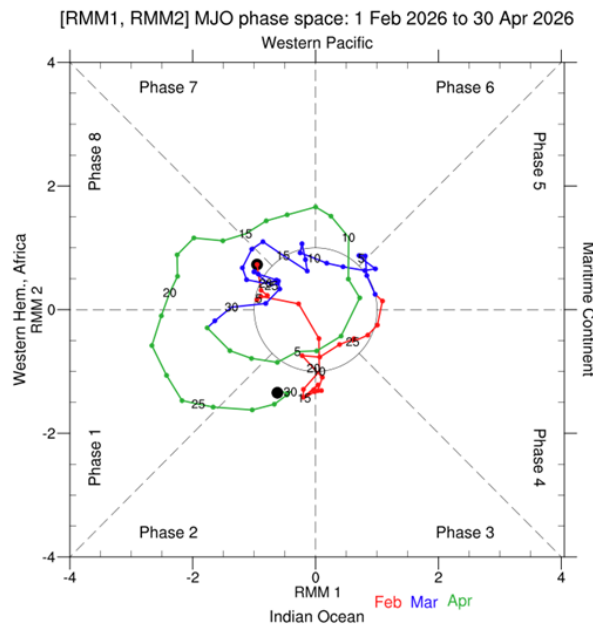


Fig.6. RMM phase diagram for Madden Julian Oscillation (MJO) for the period February to April 2026. (Data Source: <http://www.bom.gov.au/climate/mjo/>).

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 May–July 2026 (MJJ) and June–August 2026 (JJA) seasons are shown in Figures 7a and 7b, respectively. These forecasts were prepared using the April initial conditions. The forecasts indicate an enhanced probability of below-normal precipitation over most parts of South Asia during both MJJ and JJA seasons. However, some regions over the northwest, extreme north, northeast, and southeast parts of South Asia are likely to experience above-normal precipitation.

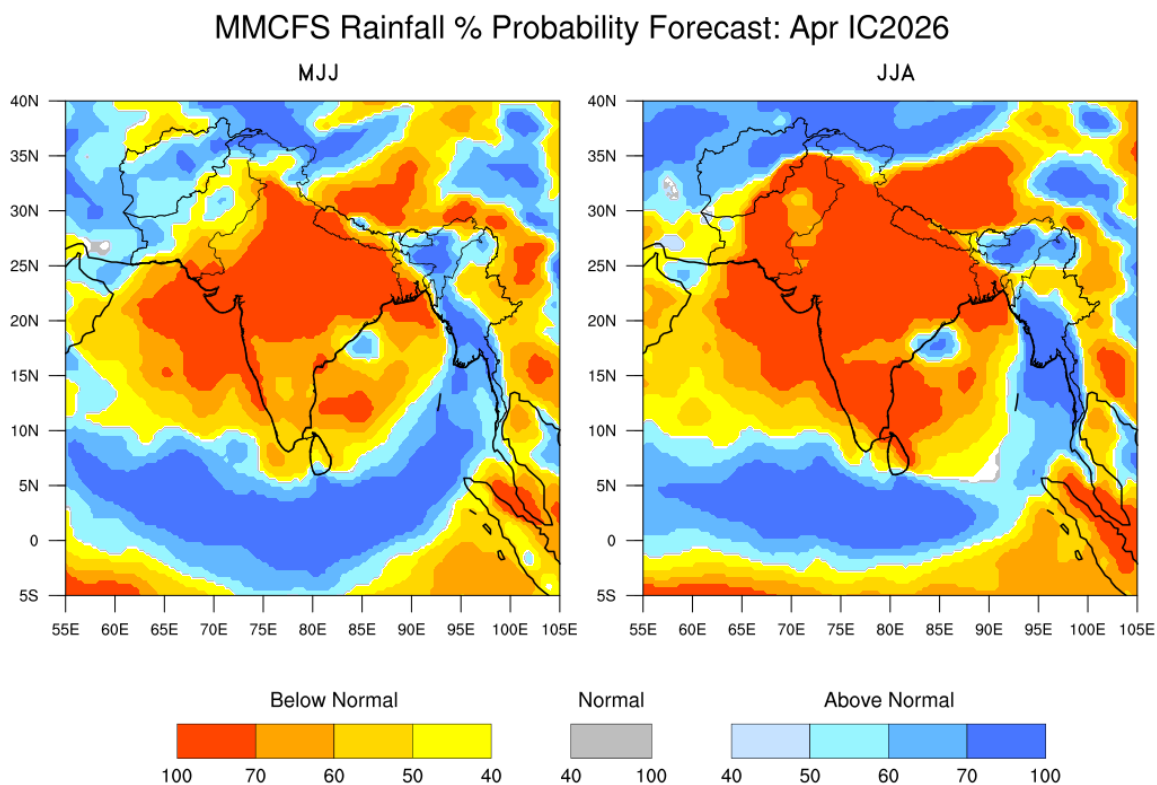


Fig.7: Seasonal probability (%) forecasts of precipitation for (a) MJJ 2026 (left) and (b) JJA 2026 (right) based on initial conditions of April 2026. The white colour indicates climatological probability.

2.2. Temperature Probability Forecast:

The probability forecasts for temperature for May to July 2026 (MJJ) and June to August 2026 (JJA) seasons are shown in the Figures 8a and 8b, respectively. These forecasts were prepared using the April initial conditions. The forecasts indicate an enhanced probability of above-normal temperature over most parts of South Asia during both MJJ and JJA seasons. However, some regions over the northwest, extreme north and northeast of South Asia are likely to experience below-normal temperature.

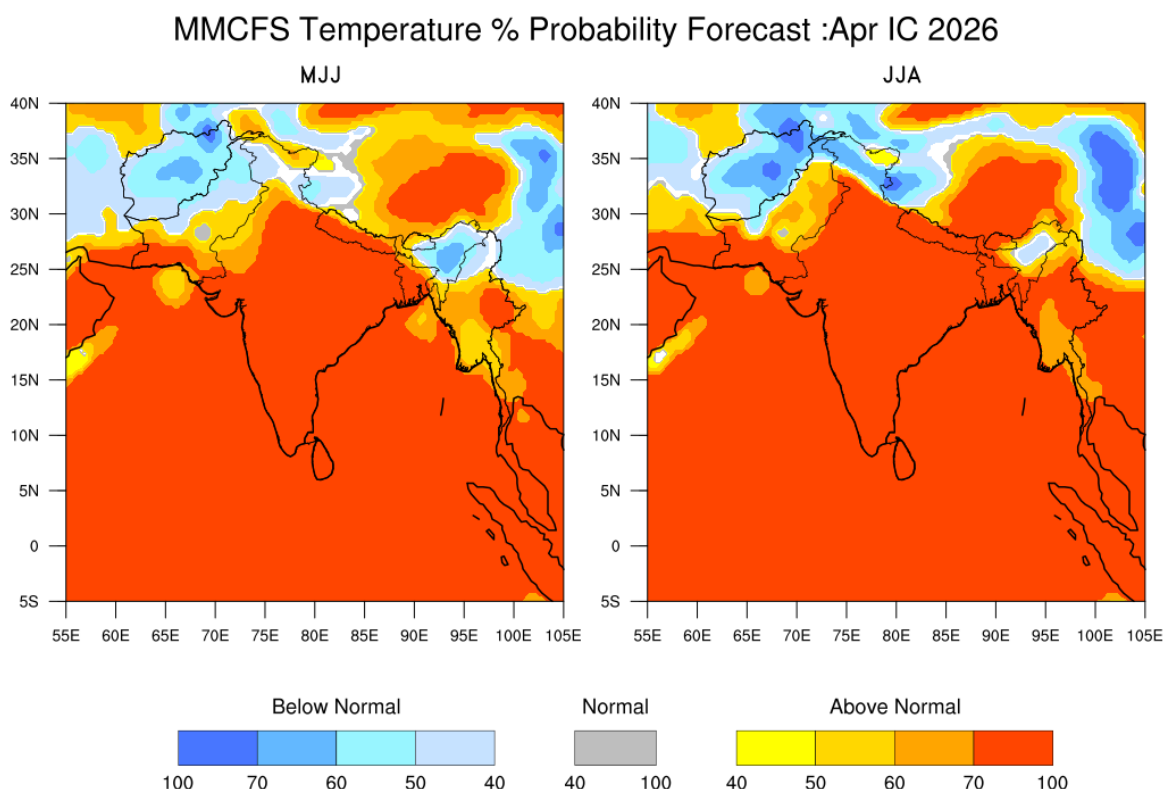


Fig. 8: Probability (%) forecast for the seasonal mean temperature for (a) MJJ 2026 (left) and (b) JJA 2026 (right) based on initial conditions of April 2026. The white color indicates climatological probability.

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 May to August 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 May, the country averaged monthly precipitation is likely to be normal to above normal for all countries. In June and August, the country averaged monthly precipitation is likely to be normal to above normal for all countries except India, Nepal, Pakistan and Sri Lanka where it is likely to be below normal. In July, it is likely to be normal to above normal for all countries except Bangladesh, India Nepal and Pakistan where it is likely to be below normal.

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

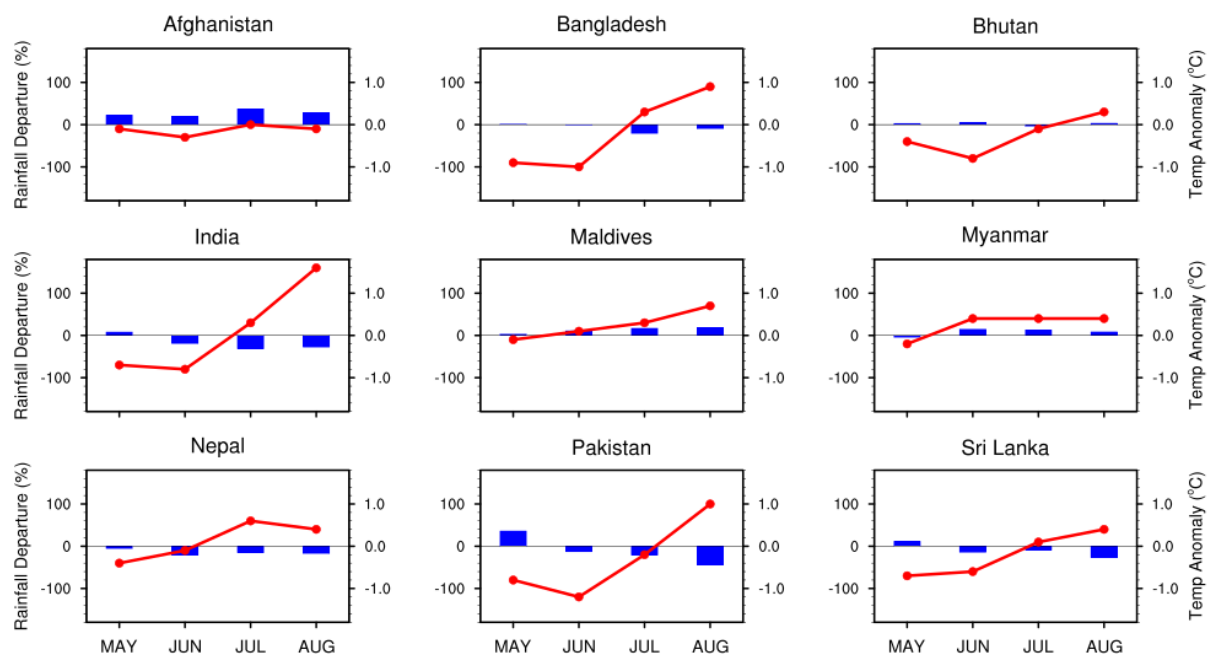


Fig. 9: Monthly country averaged rainfall forecast expressed as percentage departures (%) and monthly country averaged temperature anomaly (°C) forecast during May to August 2026. Here, the normal range for country averaged monthly precipitation is taken as -10% to +10% (Left Vertical Axis Scale for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