WMO Third Pole RCC Network
(In Demonstration Phase)

Seasonal Climate Bulletin in the Third Pole Region
Winter (DJF) 2025/2026

Issued: 23 March 2026

Highlights

- In boreal winter 2025/2026, most areas of the Third Pole (TP) region experienced above-normal surface air temperatures (SAT), with pronounced positive anomalies over the Third Pole Core Region (TPCR[1]). In contrast, slightly below-normal SATs were observed in the southwestern and parts of northeastern TP region.

- Precipitation anomalies over the TP region exhibited a dominant pattern of above-normal in the north and below-normal in the south. The southern edge and parts of the eastern TP region, as well as the Taklamakan Desert, have experienced a severe precipitation deficit of over 80%.

- The snow cover extent (SCE) over the region was far less than the 2005-2020 average, ranking as the lowest since 2004 with a negative anomaly of −17.4%. The spatial distribution pattern remained consistent across the season, with the number of snow cover days (NSCD) being significantly less than normal in some parts of the southeastern and the western TP region.

- In late February, a severe snowstorm hit Mongolia, resulting in transportation disruptions and life-threatening conditions. In February, moderate to severe meteorological drought persisted over the western Southwest China, with exceptional drought dominating northwest Yunnan Province and adjacent areas. In the season, six sand-dust weather events affected Mongolia and northern China, three of which reached sandstorm intensity.

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[1] TPCR refers to the region with elevation above 2000 m within the TPRCC-Network service domain, i.e. the region within black contour in Figures 1-6.

1. Seasonal Overview

1.1 Temperature

In boreal winter 2025/2026, most areas of the TP region experienced above-normal surface air temperatures (SAT) relative to the 1991–2020 climatology. Pronounced positive anomalies were observed over the TPCR, with the SAT exceeding normals by more than 4°C in some areas. In contrast, the SATs in the southwestern and parts of the northeastern TP region were below normal (**Figure 1**).

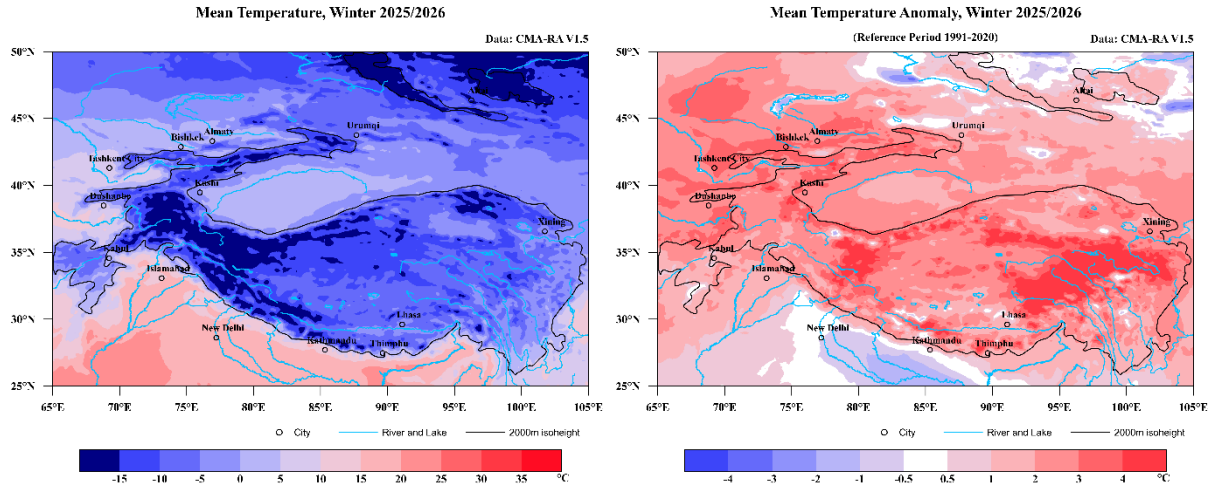


Figure 1 Seasonal mean surface air temperature (left) and anomalies (right, relative to 1991-2020) In winter (DJF) 2025/2026
Data source: CMA-RA V1.5

From the perspective of monthly winter temperature anomalies, persistent warming was observed over the western and eastern TP, as well as the TPCR, with particularly sustained warming exceeding 4 °C in the central-eastern TP. The Western and central TP experienced warming of more than 4°C in February 2026. The southwestern TP was colder than normal in December 2025 and January 2026 but turned warmer in February, whereas widespread cooling occurred over the northern TP in January. Its northeastern part remained colder than normal from December 2025 through February 2026 (Figure 2).

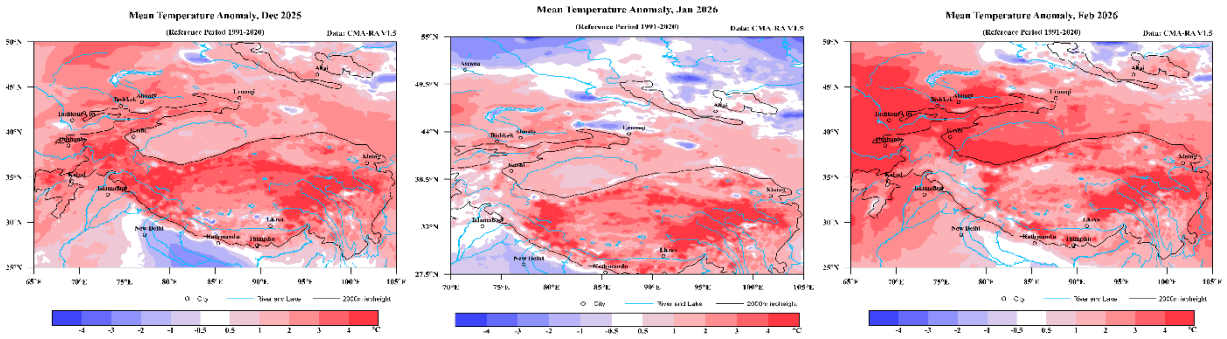


Figure 2 Monthly mean surface air temperature anomalies (relative to 1991-2020) in December of 2025 (left), January (middle) and February (right) of 2026.
Data source: CMA-RA V1.5

1.2 Precipitation

During the boreal winter of 2025/2026, precipitation anomalies over the TP region exhibited a

dominant pattern of above-normal in the north and below-normal in the south. Most of the southern TP region have experienced a precipitation deficit of 20%-50%. Severe precipitation deficits of over 80% were observed in the Taklamakan Desert, and the southern edge and parts of eastern TP region (Figure 3).

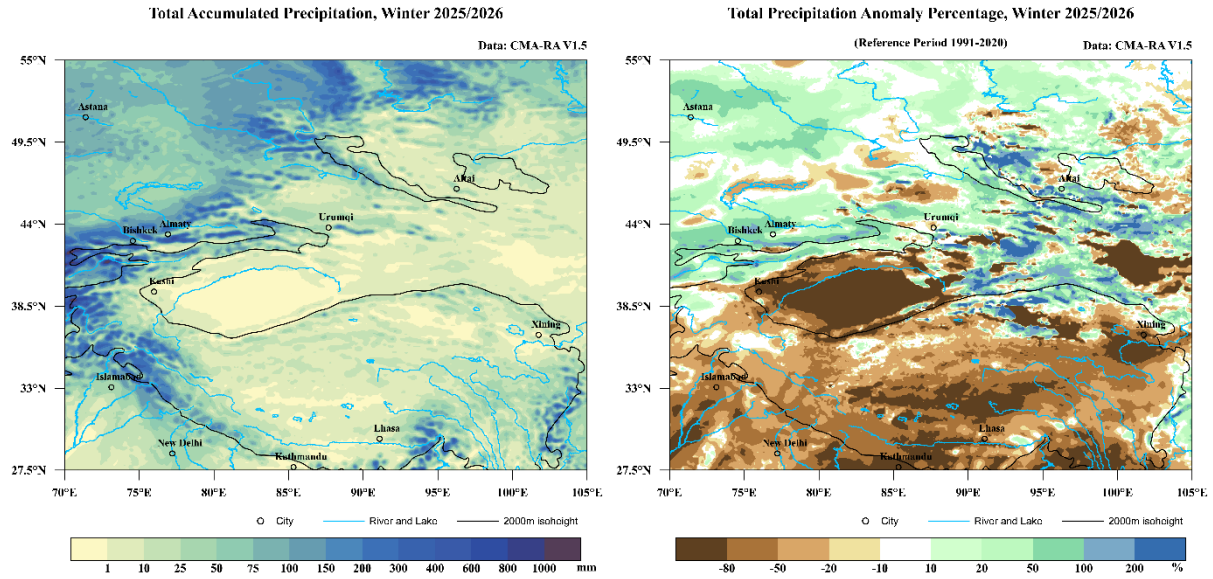


Figure 3 Seasonal precipitation totals (left) and anomalies by percentage (right, relative to 1991-2020) in winter (DJF) 2025/2026.
Data source: CMA-RA V1.5

In terms of monthly precipitation within the season, persistent negative anomalies dominated the southern TP region. In December 2025, precipitation across most parts of the southern TP region was more than 80% lower than normal, including over the Taklamakan Desert. In January 2026, the area with precipitation deficits of over 80% also occurred in the middle of the eastern TP region. While the northern TP region was generally characterised by positive precipitation anomalies across the season, except in January 2026. Significantly above-normal precipitation was recorded in west of Mongolia during December 2025 and January 2026, with local positive anomalies exceeding 200% (Figure 4)

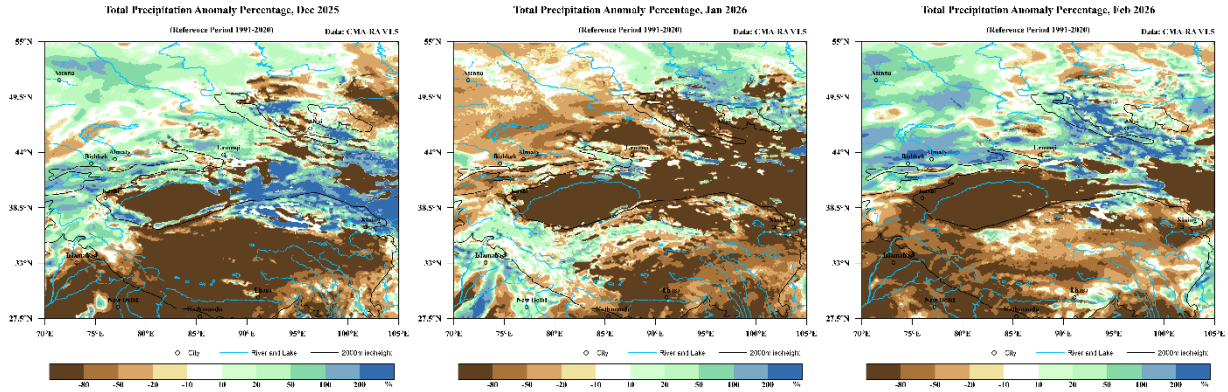


Figure 4 Monthly precipitation anomalies by percentage (relative to 1991-2020) in December of 2025 (left), January (middle) and February (right) of 2026.
Data source: CMA-RA V1.5

1.3 Snow Cover

For the boreal winter of 2025/2026, the snow cover extent (SCE) over the region was approximately

1107.2×10^3 km^2, which was far less than the 2005-2020 average, ranking as the lowest on record with an anomaly of −17.4%. Spatially, the number of snow cover days (NSCD) was less than or close to normal in vast area of the region with the exception of some locations in the northeastern region and along the Nyenchen Tanglha Mountains in the southern part of the Tibetan Plateau. In some parts of the western and the southeastern regions, the NSCD exceeded the multi-year average by more than 20 days (Figure 5).

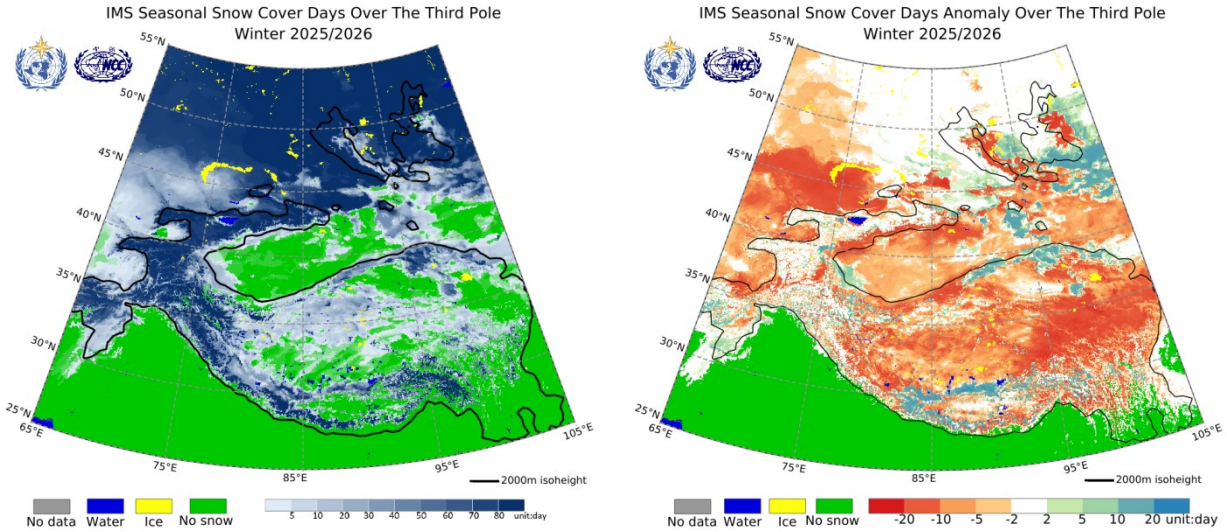
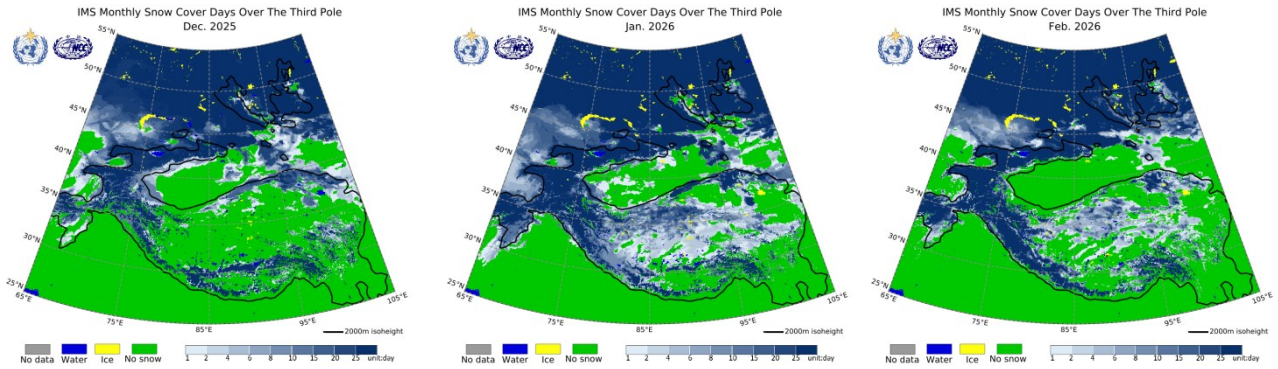


Figure 5 The Number of Snow Cover Days (left) and its anomalies (right, relative to 2005-2020) in winter (DFJ) 2025/2026.
Data source: IMS/NSIDC

From a monthly perspective, the SCEs in December 2025, January 2026, and February of 2026 were 1009.4×10^3 km^2, 1221.0×10^3 km^2 and 1089.4×10^3 km^2, respectively, which were 15.1%, 16.9%, and 22.2% lower than the 2005-2020 averages. These ranked as the second lowest, third lowest and fourth lowest values for their respective months since 2004. Spatially, the anomalous distribution pattern of NSCD in each month was basically similar to that observed during the winter season. The only two areas with positive anomalies gradually shrank throughout the whole season, and there was hardly any area with above-normal NSCD in February 2026 (Figure 6).



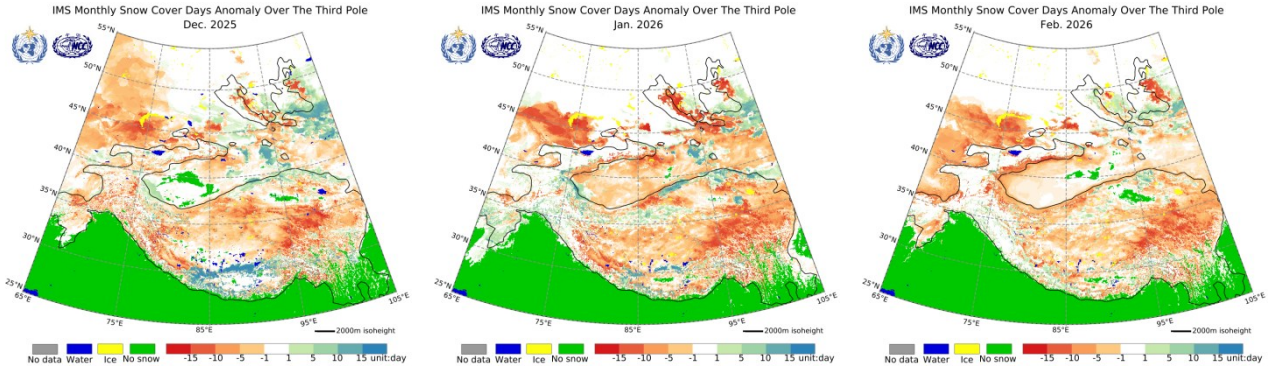


Figure 6 same as Figure 5, but for December 2025 (left), January (middle) and February (right) of 2026
Data source: IMS/NSIDC

2. High-impact Climate Events

Snowstorm

A snowstorm event started on 21 February 2026 across multiple provinces in Mongolia, particularly affecting eastern, northern, and western regions. The storm brought sustained winds of up to 31 m/s, heavy snowfall, drifting snow, and extreme cold reaching –48°C. These conditions resulted in blocked roads and mountain passes, widespread transportation disruptions, and life-threatening exposure risks. By 24 February, a total of 56 people had been injured. During the storm, 89,934 livestock strayed. In addition, confirmed livestock mortality directly attributed to the storm exceeded 4,900 head.

Drought

In February, moderate to severe meteorological drought occurred over the western part of Southwest China, with exceptional severe drought dominating the northwestern part of Yunnan Province and adjacent areas.

Sand-dust storm

During the winter season, six sand-dust weather events affected Mongolia and northern China. Of these, the events during the three episodes (17–19 January, 20–23 February and 24–26 February) reached sandstorm intensity.

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