TPCF-3 Consensus Statement

by TPRCC-Network

5 June 2025, New Delhi, India

CS-3 at a glance

WMO Third Pole RCC Network
(In Demonstration Phase)

Third Pole Climate Forum

3th Third Pole Climate Forum Consensus Statement (TPCF-3)

New Delhi, 3-5 June, 2025

State of the Climate for December 2024 to April 2025 and the Seasonal Outlook for June to September 2025

TPRCC-Network web portal: http://www.rccra2.org/tp-rcc/

Structure of CS-3 at TPCF-3

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- Highlights
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- Annex-I TPRCC-Network Overview
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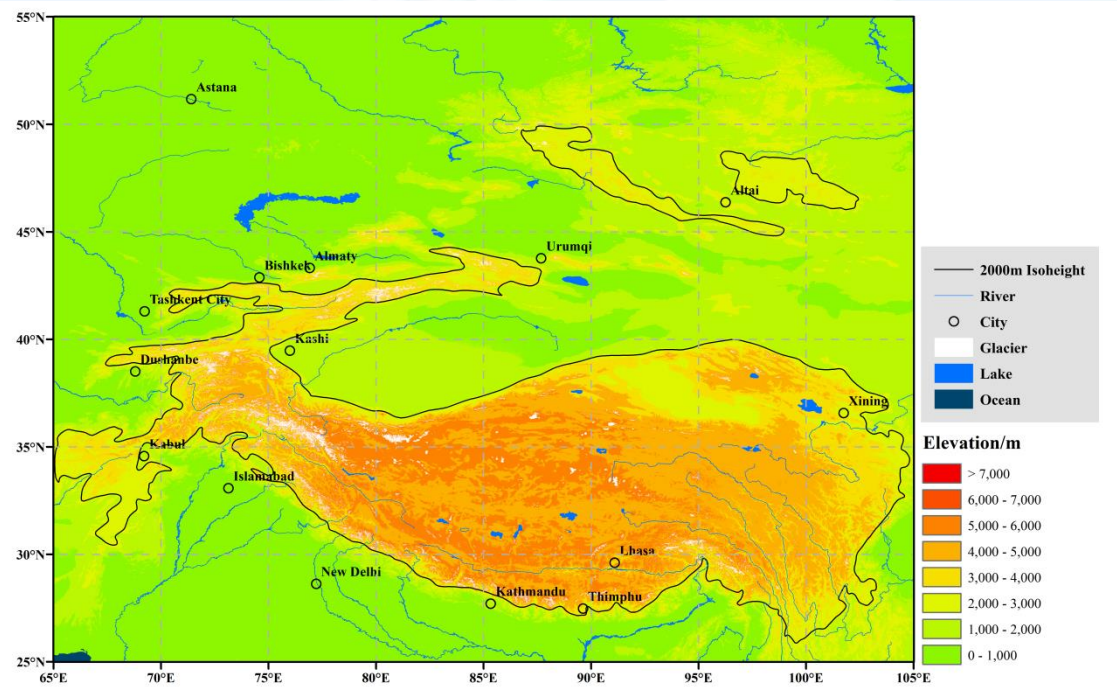
TPRCC-Network domain

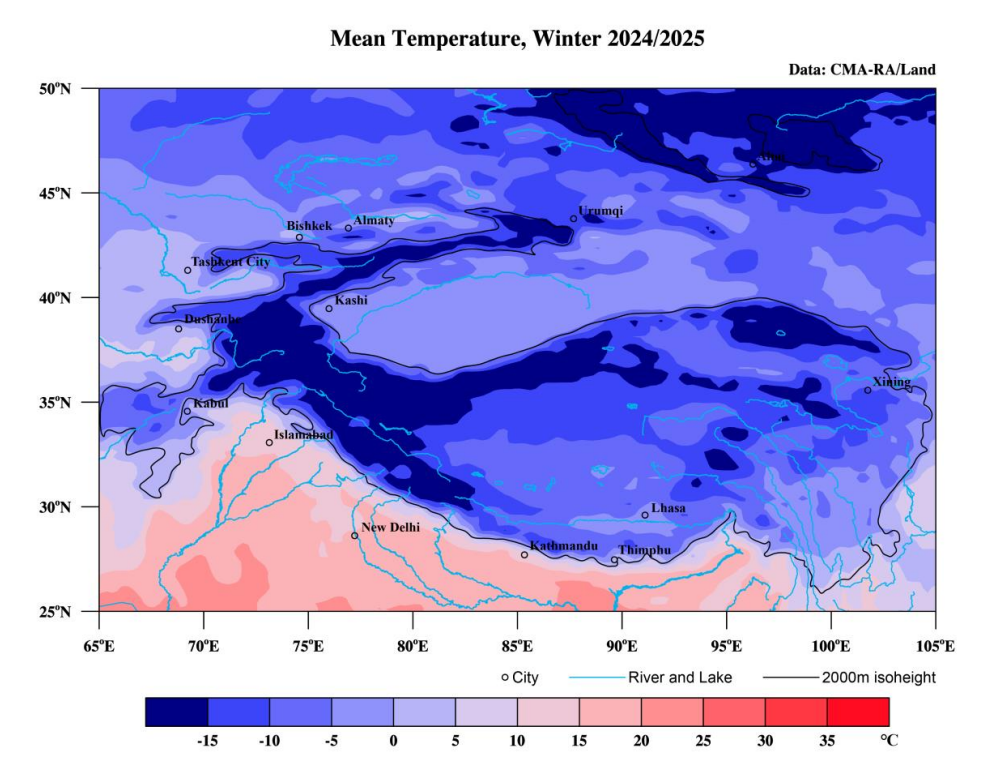


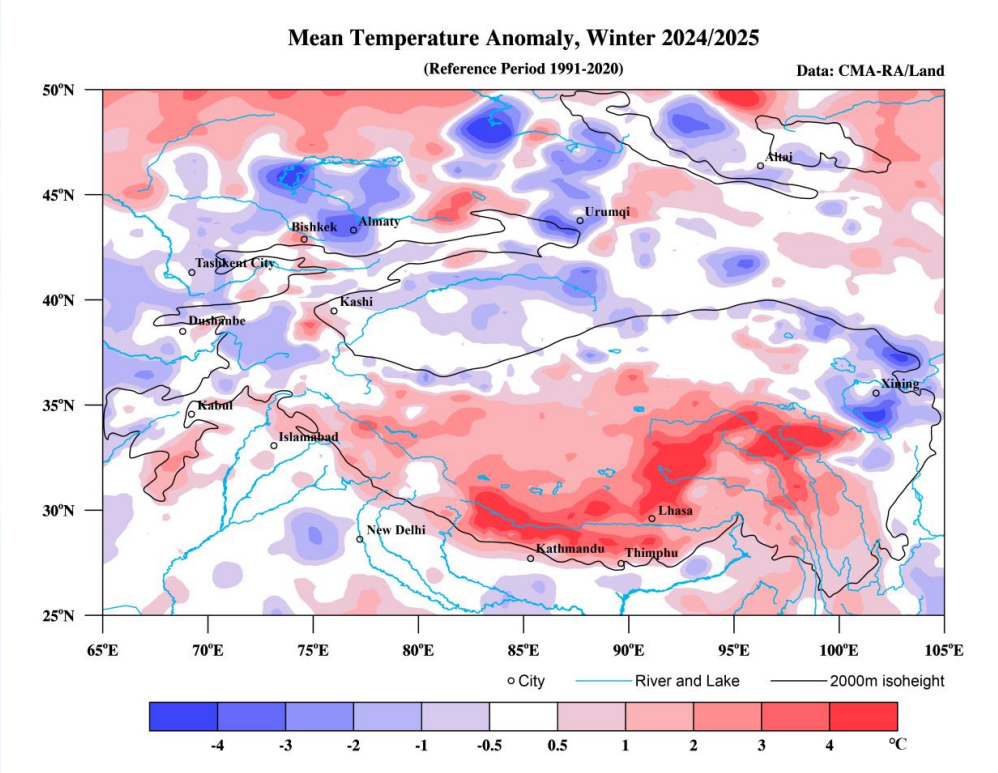
Third Pole Core Region (TPCR)

TPCR refers to the region with altitude above 2000 m within the TPRCC-Network domain, i.e. the region within the black contour.

Surface Air Temperature (SAT) for Dec 2024 – Apr 2025

- SAT anomalies in winter of 2024-2025 exhibited a sandwich-like pattern.
- The northeastern and northwestern parts of the TP region and most TPCR experienced above-normal SAT, with the SAT in some of the central and southern TPCR exceeding normal levels by 3 to 4℃.
- Most areas along 35° N to 45° N or so recorded below-normal SAT, with negative anomalies in some local areas exceeding –3℃.

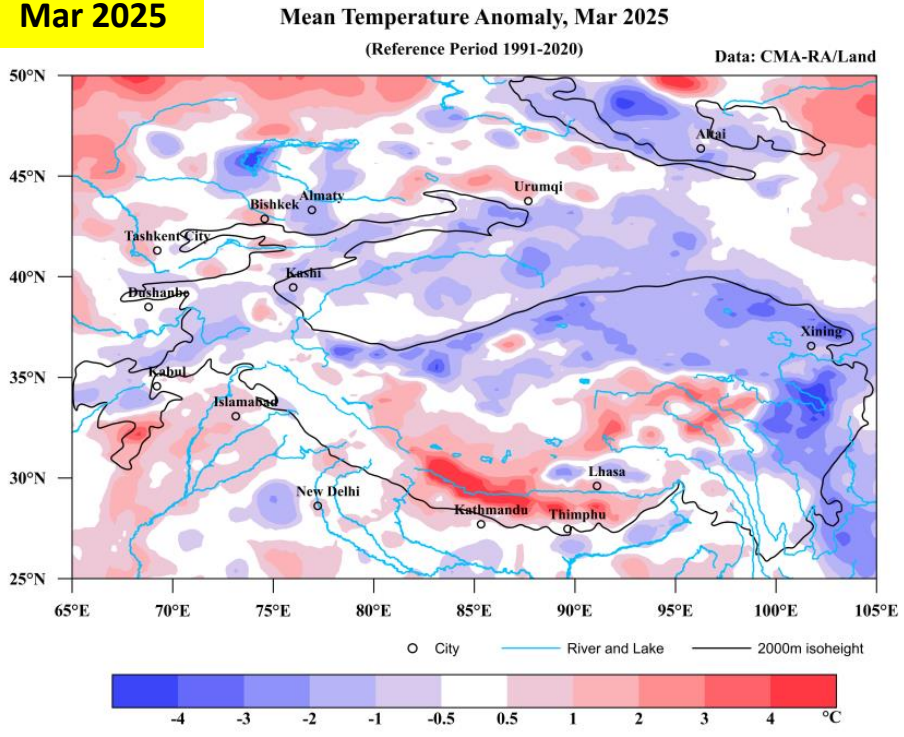




Winter (DJF 2024/2025) SAT and anomalies (relative to 1991-2020)

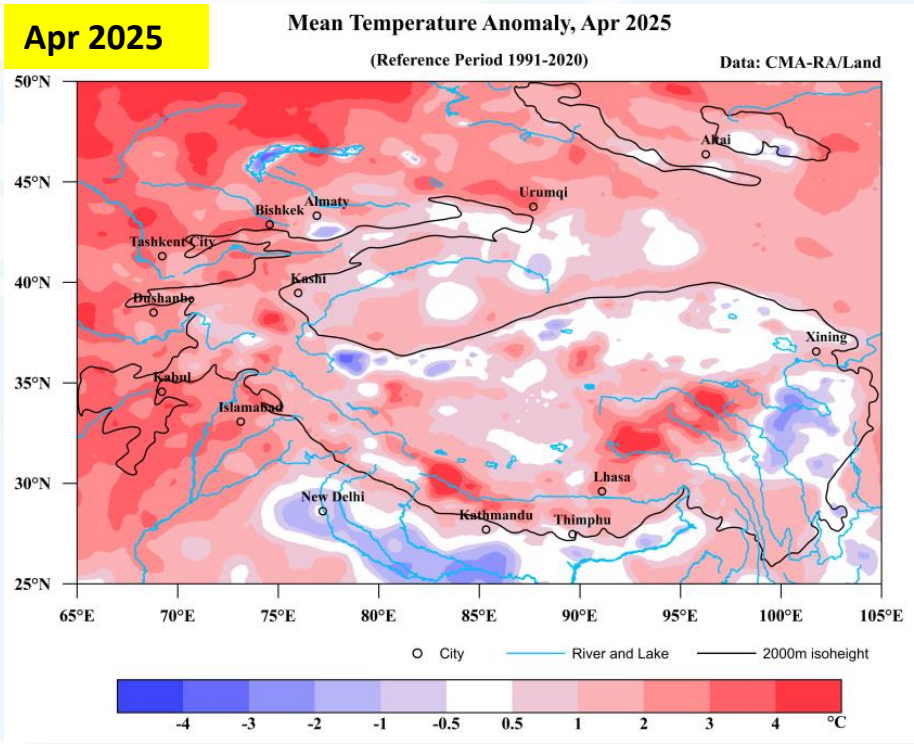
(Data source: CMA-RA/Land)

Mar 2025



- Compared to winter, lower-than-normal SAT expanded eastward in March, covering the central and eastern Third Pole region, with some areas recorded SAT up to 3° C below normal.
- Meanwhile, SATs were above-normal in the northeastern, northwestern and southwestern TP region, as well as in the central and southern TPCR. Notably, the southern TPCR recorded temperature anomalies up to 4° C or greater.

Apr 2025

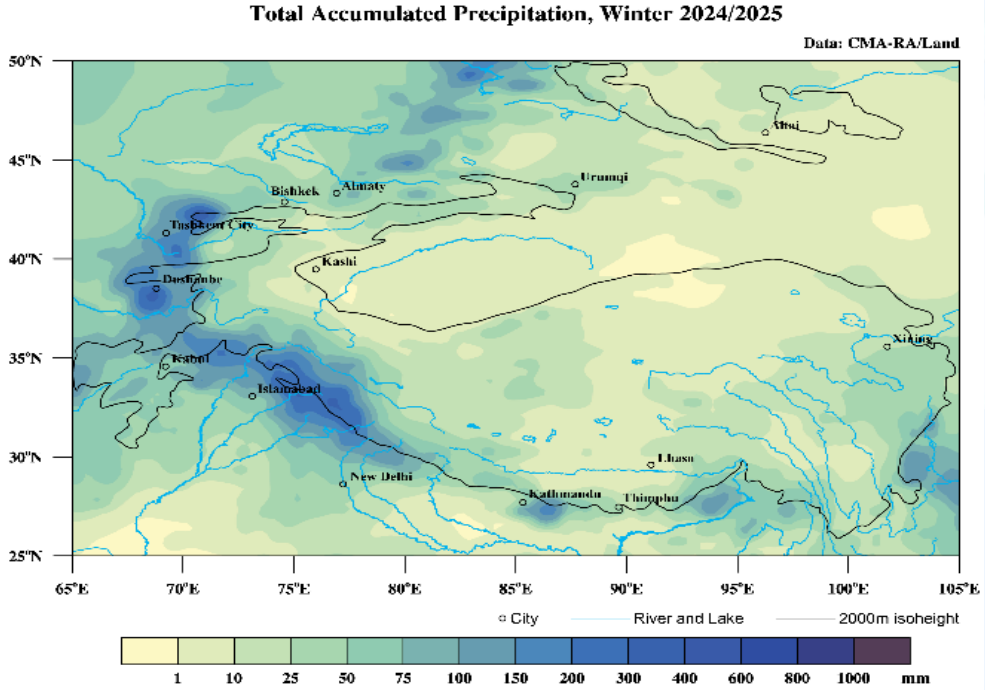


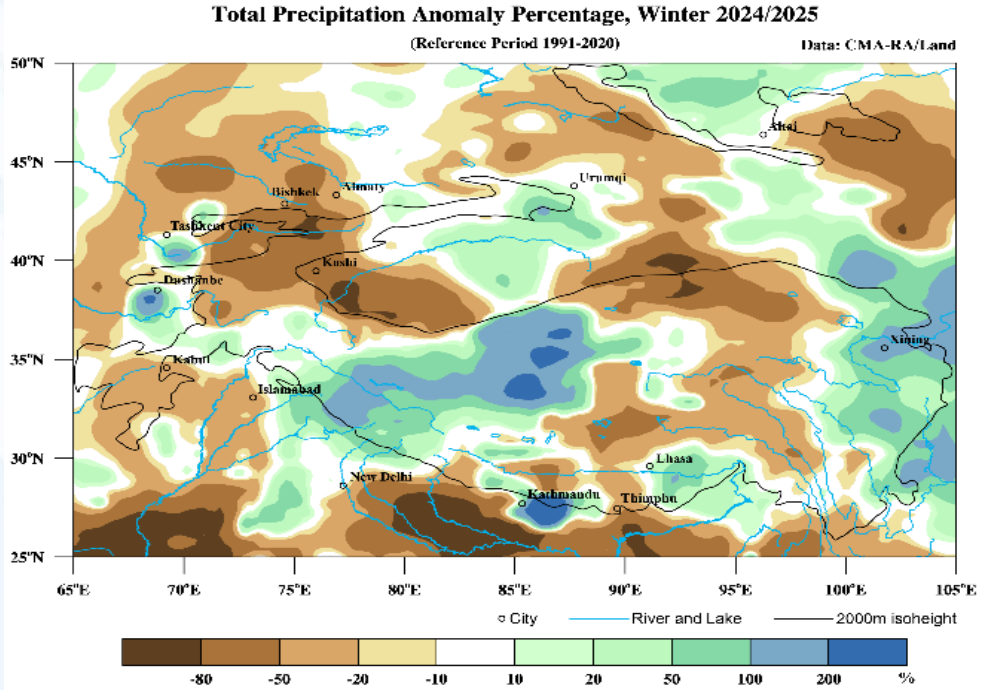
- In April, above-normal SATs had been developed across most of the TP region, compared to that in March, with the central, western, and northern TP region exhibiting especially pronounced positive anomalies – up to +4° C in some places.
- However, certain southern and southeastern sub-regions remained cooler-than-normal condition.

Third Pole Climate Forum

ecipitation for December 2024 – April 2025

- In winter of 2024/2025, precipitation anomalies across the TP region exhibited a **pronounced west–east pattern of alternating dry and wet phases**. This pattern manifested as drier conditions in the western and central sectors, interspersed with localized areas of above-normal precipitation to the east.
- Notably, the southern TP experienced significant precipitation deficits, with reductions ranging from 20% to 80% compared to the 1991-2020 average.



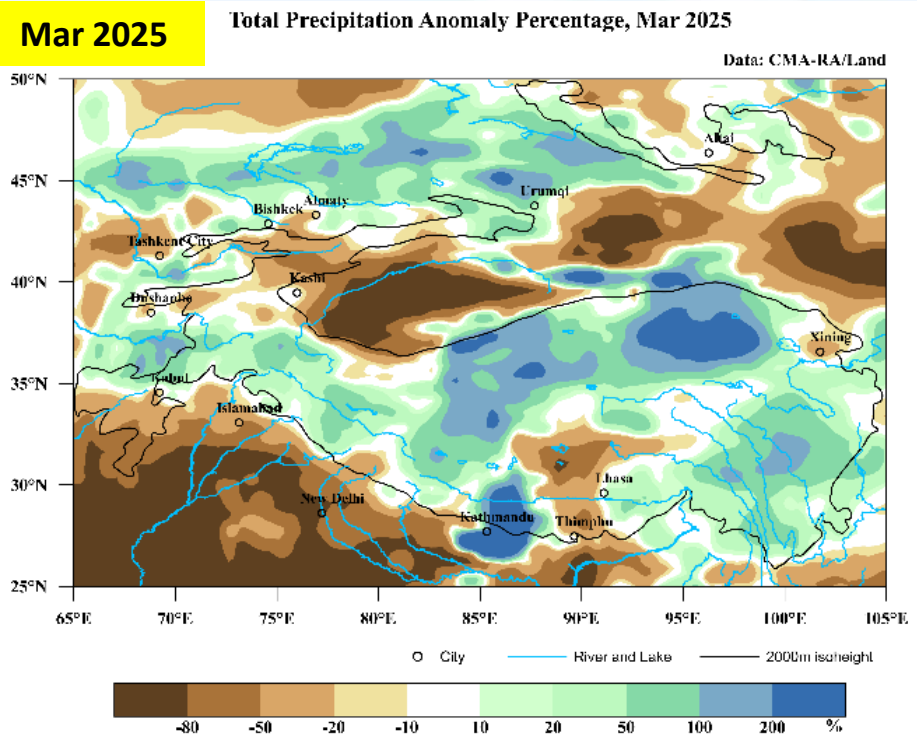


Winter (DJF 2024/2025) Precipitation and anomalies percentage (relative to 1991-2020)

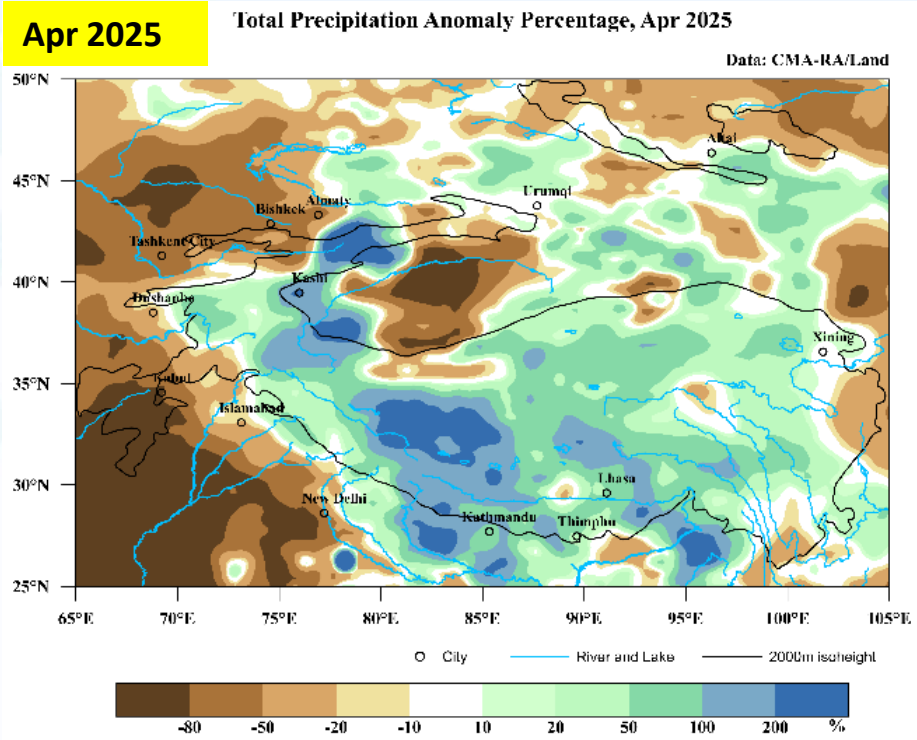
(Data source: CMA-RA/Land)

- **In March and April, spatial contrasts in precipitation persisted.**

Mar 2025



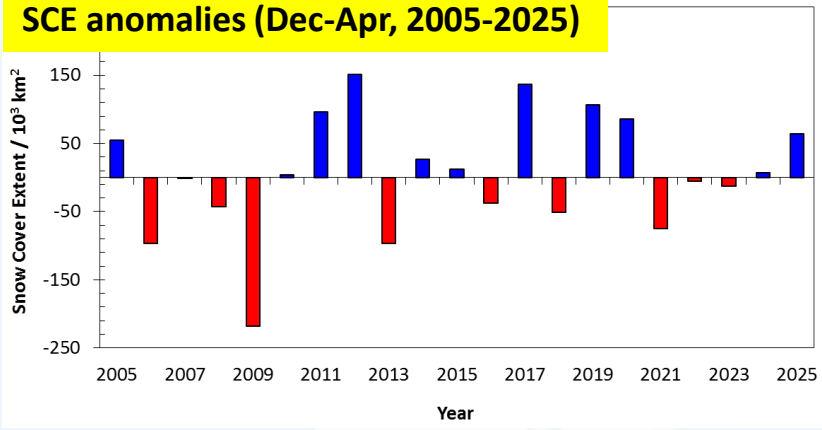
Apr 2025



- The southern, western, northern, and eastern sectors of the TP experienced reduced precipitation, with the southwestern, northeastern, and eastern sub-regions showing particularly pronounced deficits — precipitation in the southwestern TP region has consistently remained 80% lower than normal.
- In contrast, most areas of the TPCR recorded above-normal precipitation during March and April.

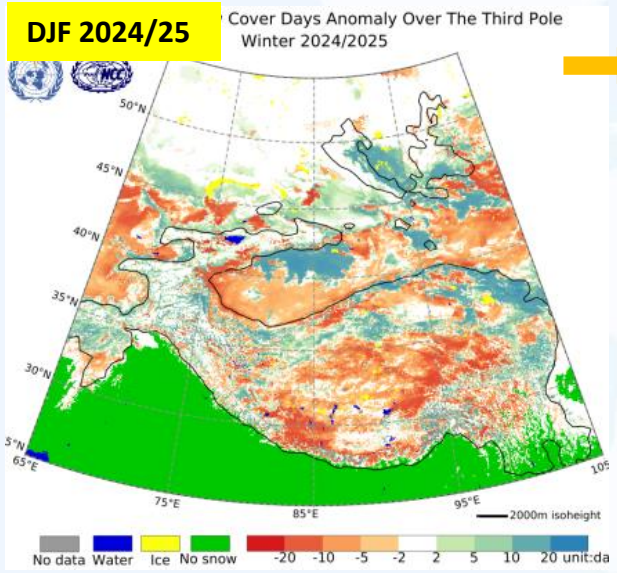
Snow Cover for Dec 2024 – Apr 2025

SCE anomalies (Dec-Apr, 2005-2025)



- SCE in the TP region exhibited obvious inter-annual fluctuation but no significant linear trend for the cold season (Dec to Apr).
- The observed mean SCE for Dec 2024 to Apr 2025 was 1030.7×10^3 km^2, 6.1% higher than the 2005—2020 average.
- In the past winter, SCE was 8.7% higher than normal. While in March and April 2025, they were 19.0% higher and 3.8% lower than normal, respectively. This is consistent with SAT condition in the past season.
- The March SCE ranked as the 4th highest on record.

DJF 2024/25

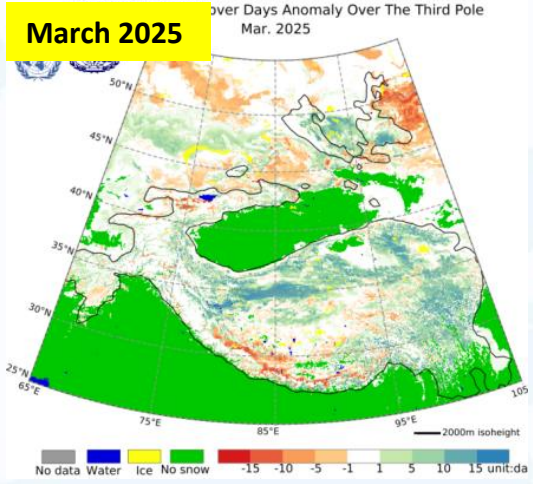


Positive NSCD anomalies dominated the northern, western, and eastern TPCR, reaching more than 20 days in some areas.

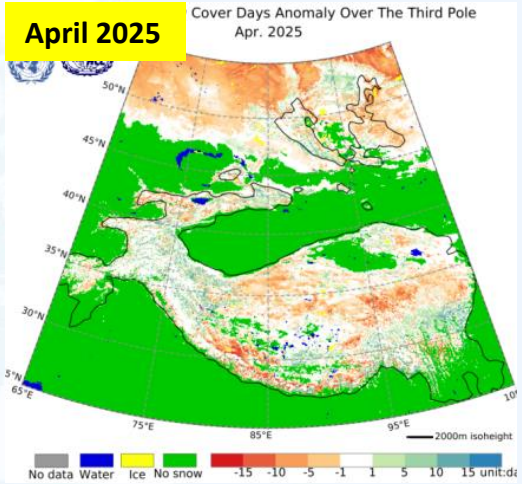
In contrast, the negative anomalies exceeded –10 days in the central and southern part of TPCR, as well as some areas in western TP region.

(Data source: 4 km IMS/NSIDC)

March 2025



April 2025



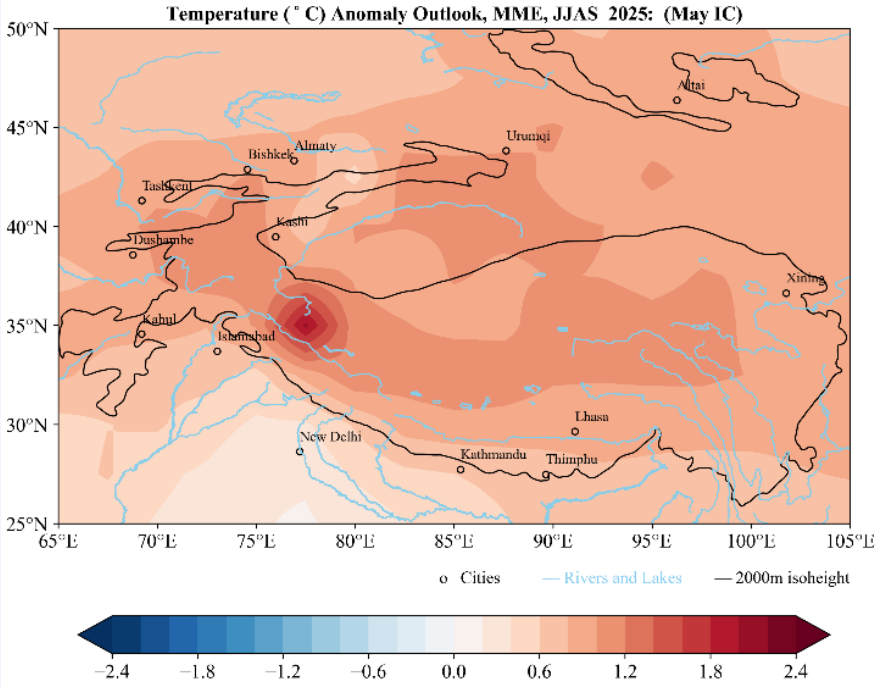
- Compared to winter, NSCD negative anomalies in March shrank in both range and amplitude across the TP region, while the positive anomalies extended to the southeastern TPCR, resulting in an overall higher SCE than normal for the month
- In April, negative anomalies extended northward, dominating the northern TP region and the central part and south edge of TPCR.

High Impact Event (Dec 2024—Apr 2025)

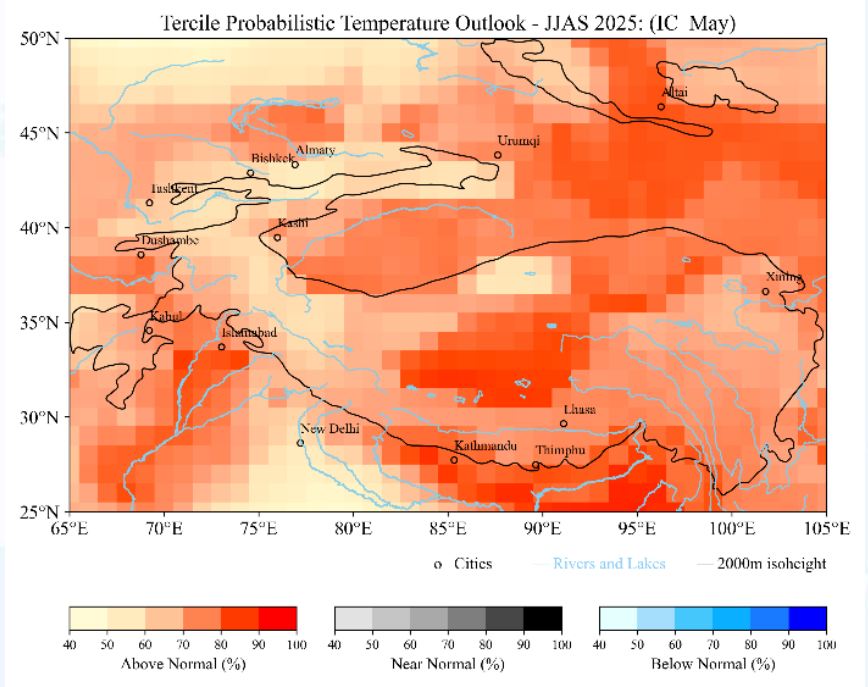
- ❑ Heavy snow and cold air activity
- ❑ Frequent sand-dust weather events
- ❑ Extreme drought
- ❑ Extreme high temperature

Seasonal outlook for JJAS 2025

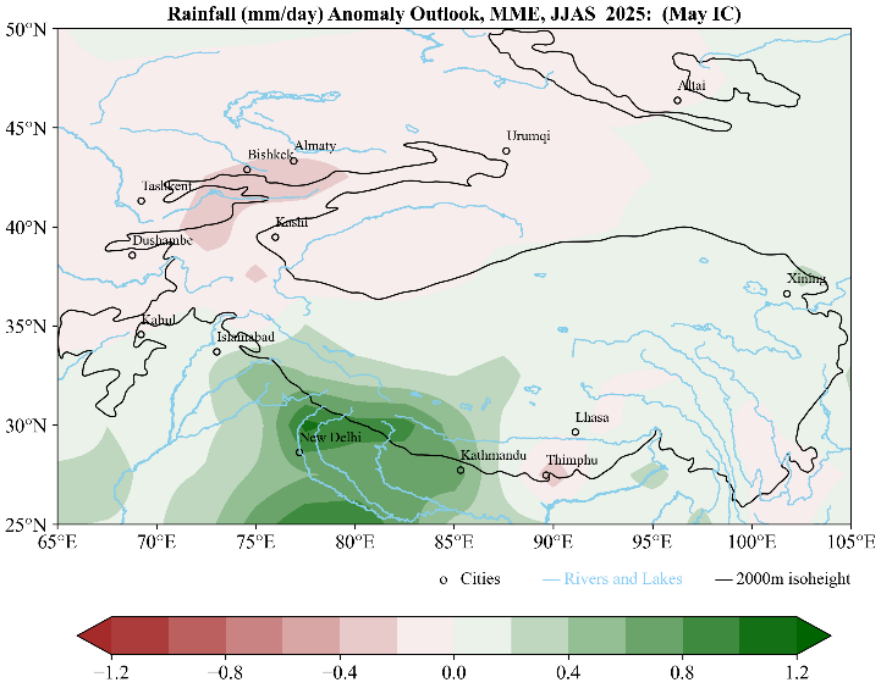
- During JJAS 2025, positive surface air temperature (SAT) anomalies are predicted across most of the TP region. The significant warming is expected over the Karakoram region, with anomalies gradually decreasing eastward along the TPCR.
- Similarly, the highest tercile probabilities are expected over the central and southern TPCR, as well as the southwestern and northeastern TP region.



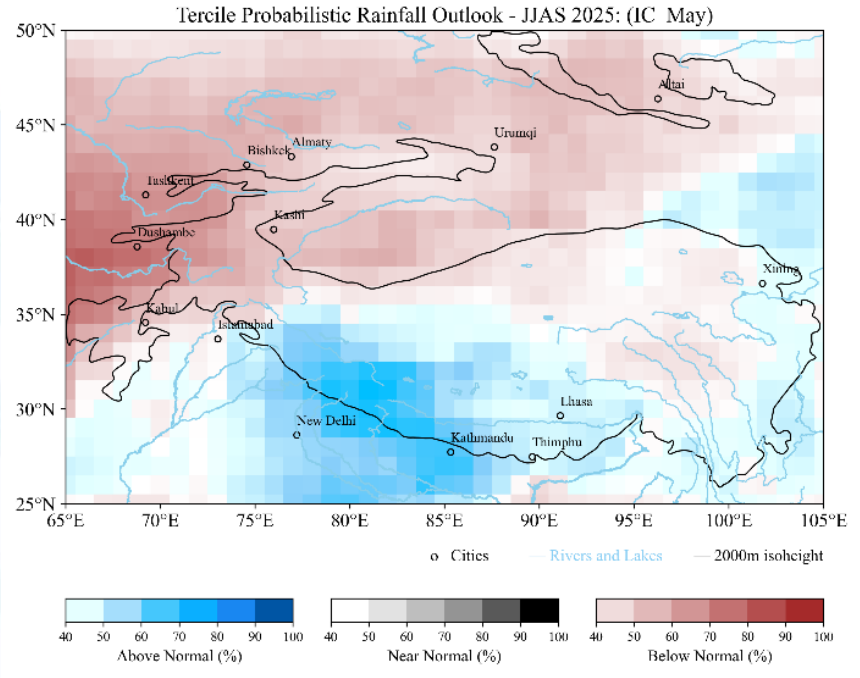
Temperature anomaly outlook, MME, JJAS 2025 for TP region



Temperature Probabilistic outlook, JJAS 2025 for TP region



Precipitation anomaly outlook, MME, JJAS 2025 for TP region



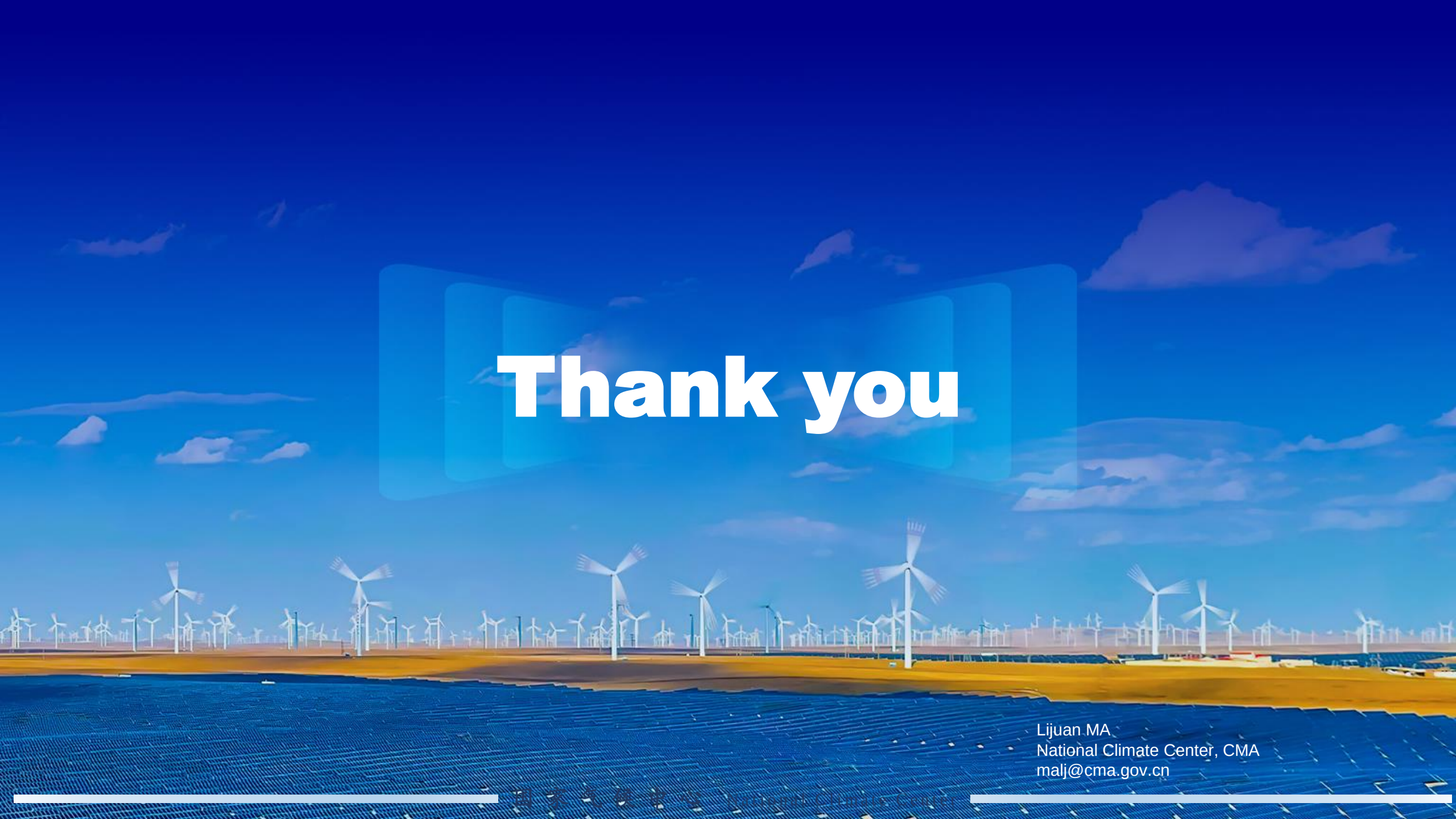
Precipitation Probabilistic outlook, JJAS 2025 for TP region

- The precipitation outlook for JJAS 2025 indicates notable spatial variability across the TP region.
- Above-normal precipitation is predicted over the southwestern TP region, particularly along the Hindu Kush Himalayan (HKH) region. In contrast, below-normal precipitation is predicted over much of the northwestern TP region and some isolated areas of the southeastern region during the forecast season. **These patterns are consistently highlighted in both the deterministic and tercile probabilistic forecasts.**
- Compared to the drier-than-normal condition over the southwestern part of the TP region from December 2024 to April 2025, the JJAS 2025 outlook shows a significant positive precipitation anomaly in these regions.

Highlights

- Monitoring during December 2024 to February 2025
  - The northern TP region and the majority of TPCR experienced notably warmer conditions in winter, with positive surface air temperature anomalies locally exceeding +4°C.
  - The southern TP consistently recorded large precipitation deficits during the winter. This pronounced dryness persisted into March and April, particularly across the southwestern sector.
  - Mean SCE in the TP region was 6.1% higher than the 2005—2020 average, with March SCE ranking as the fourth highest on record.
- HIE during December 2024 to February 2025
  - Persistent higher temperatures and severe rainfall deficits during winter 2024/2025 led to extreme drought across the northwestern India, significantly impacting agricultural production;
  - while the western China experienced heavy snowfalls and cold air outbreaks affecting local transportation severely.
  - In April and May, extreme high temperatures continued to occur in western and southern TPCR, including Pakistan and India.
  - Since March 2025, frequent sand and dust events, including severe sandstorms, have affected Mongolia and the northern China.

- Seasonal outlook JJAS 2025
  - The above-normal SAT are expected across most of the TP region. The significant warming is expected over the Karakoram region, with anomalies gradually decreasing eastward. The **highest probabilities** are expected over the central and southern TPCR, and the southwestern and northeastern TP region.
  - The precipitation outlook for JJAS 2025 indicates notable spatial variability across the TP region. Above-normal precipitation is predicted over the southwestern TP region, particularly along the Hindu Kush Himalayan (HKH) region. **The pattern is consistent in the deterministic and tercile probabilistic forecasts.**



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