4th THIRD POLE CLIMATE FORUM

High-Impact Events (HIE) linked to climate anomalies in the past season

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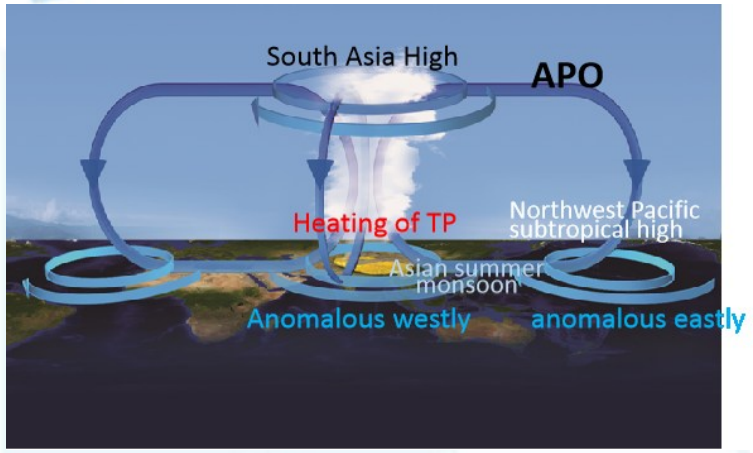
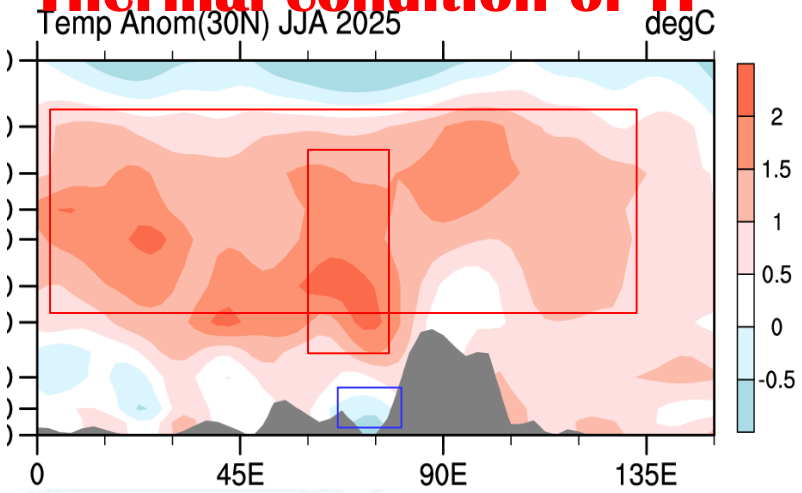
- Climate anomalies in the TPR and its surrounding area in the past season
- HIE in the past season
  - Unusually early and intensive summer monsoon
  - Drought triggered by uneven rainfall distribution
  - Heat waves linked to the warming trend
- Likely HIE in the upcoming season

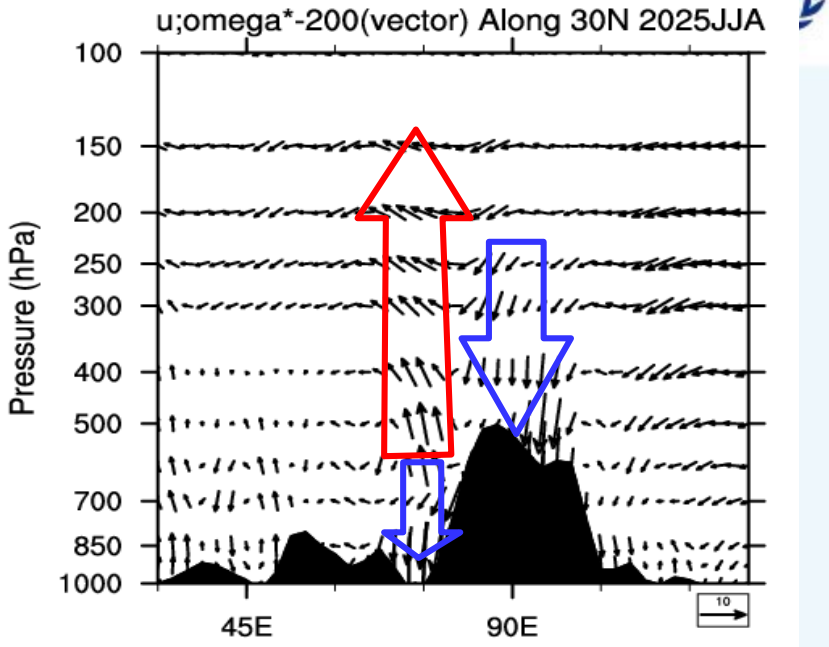
Climate anomalies



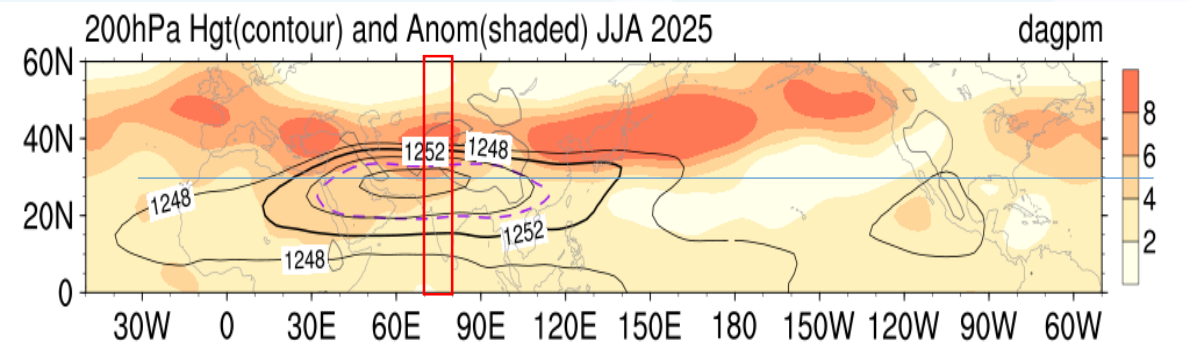
Thermal condition of TP

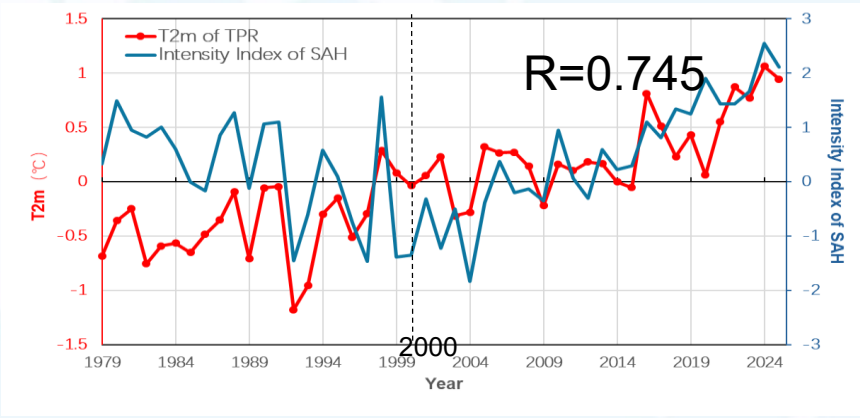


U;Omega along 30N

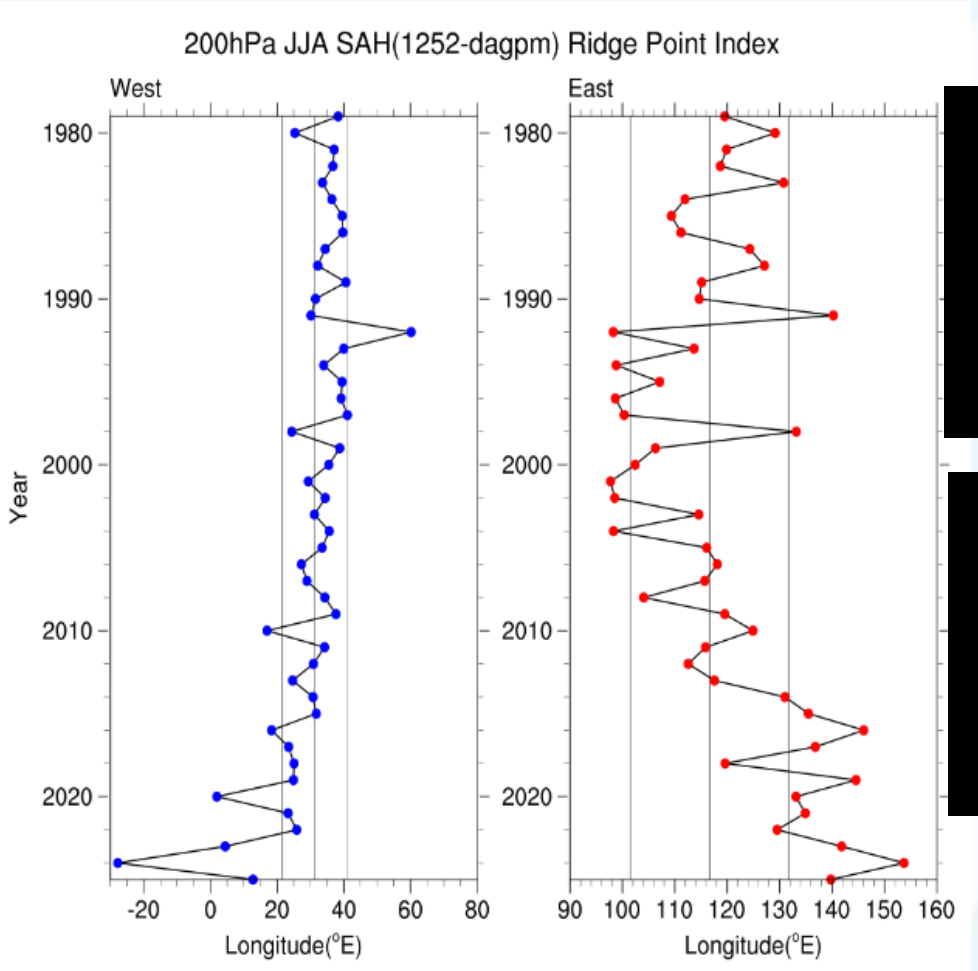


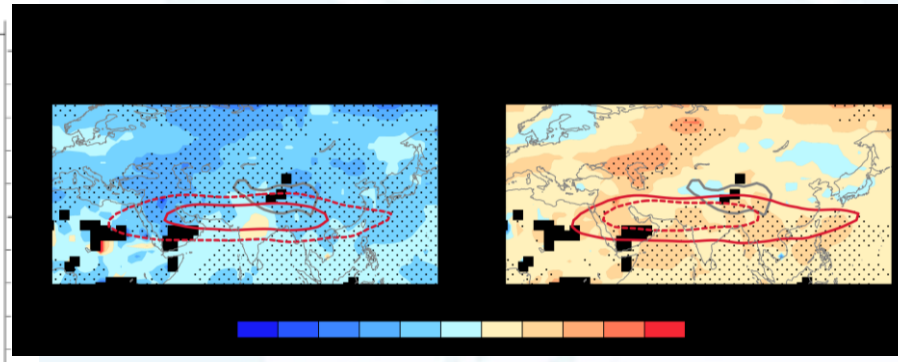
Characteristic of South Asia High (SAH)

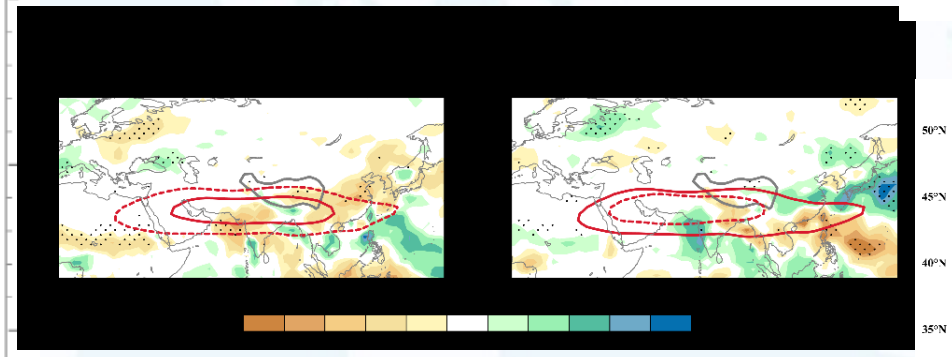


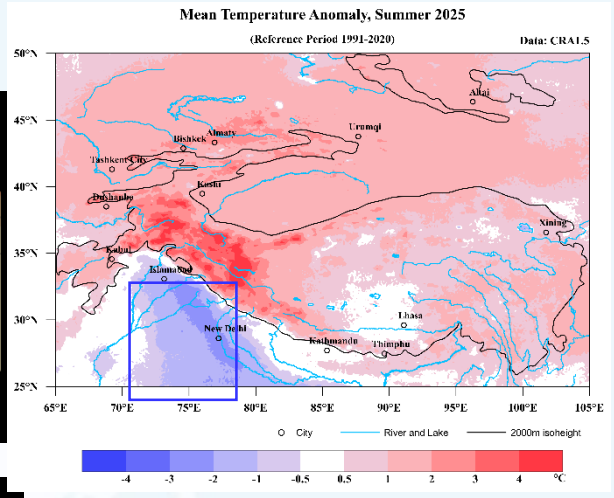


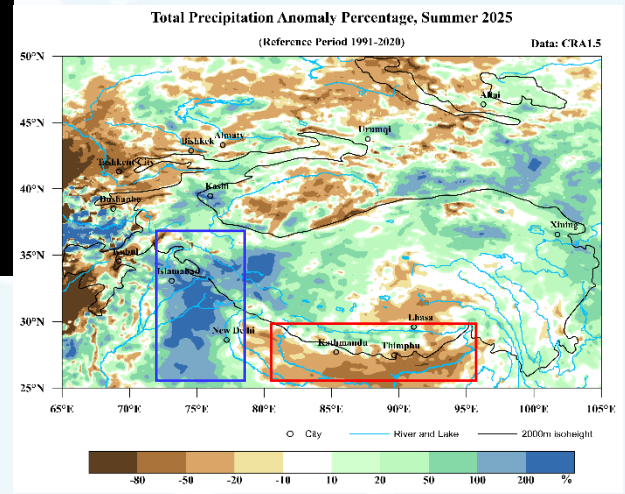
Characteristic of the SAH and their connection to climate factors









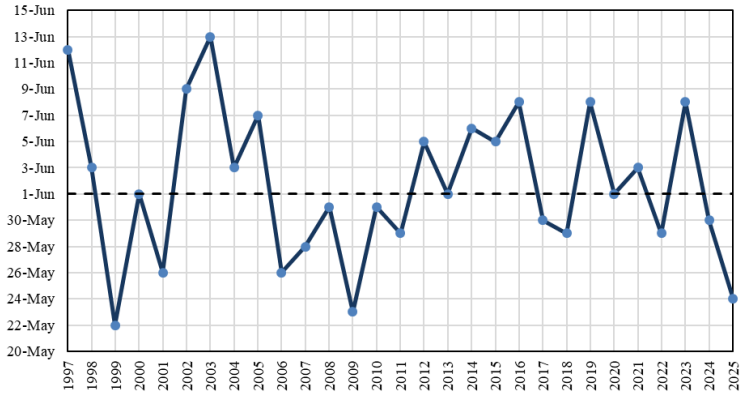


HIEs

associated with activity of South Asia Monsoon

Unusually early onset Southwest Monsoon

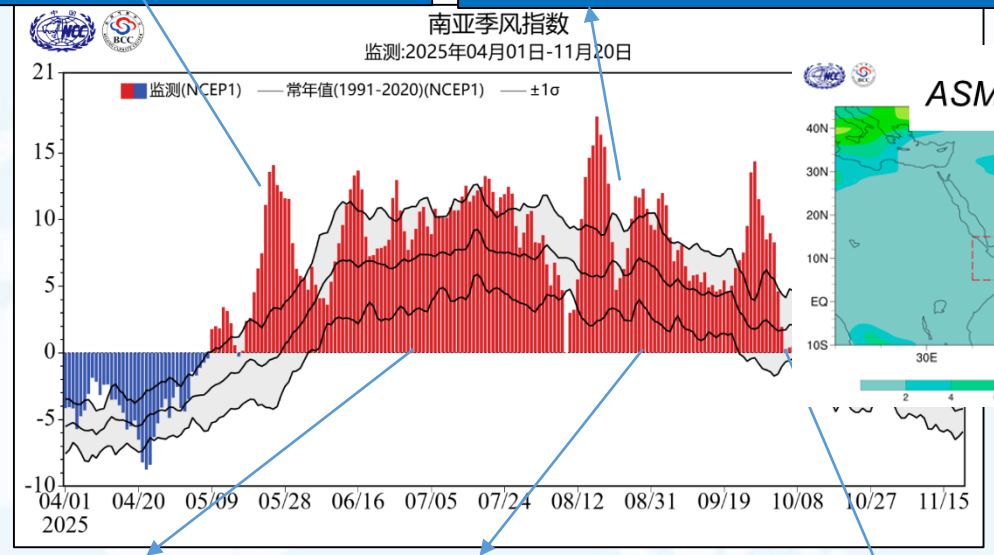
ISM Onset date （Karala rainfall ）

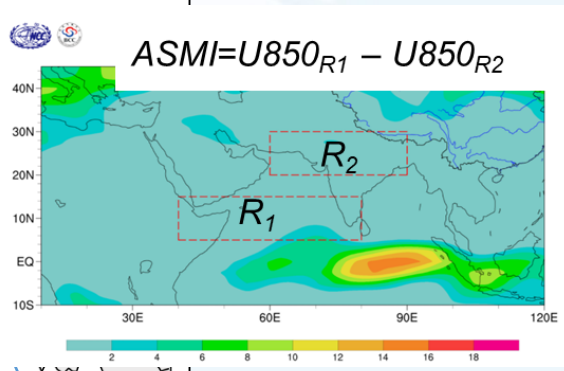


India:

Heavy rainfall from late May continued into early June, causing widespread flooding and landslides in the northeastern and eastern India.

In August, India **continued to be** affected by heavy rain and floods again. On 14 August, violent cloudburst precipitated a rapid rise in the Gishdwal River, triggering flash floods and concomitant mudslides.





Pakistan:

From June to September 2025, Pakistan faced an intense and destructive monsoon season characterized by 23% above-average rainfall and nine major spells of extreme weather, leading to widespread flash floods, riverine inundation, landslides, and glacial lake outbursts across all regions.

Nepal:

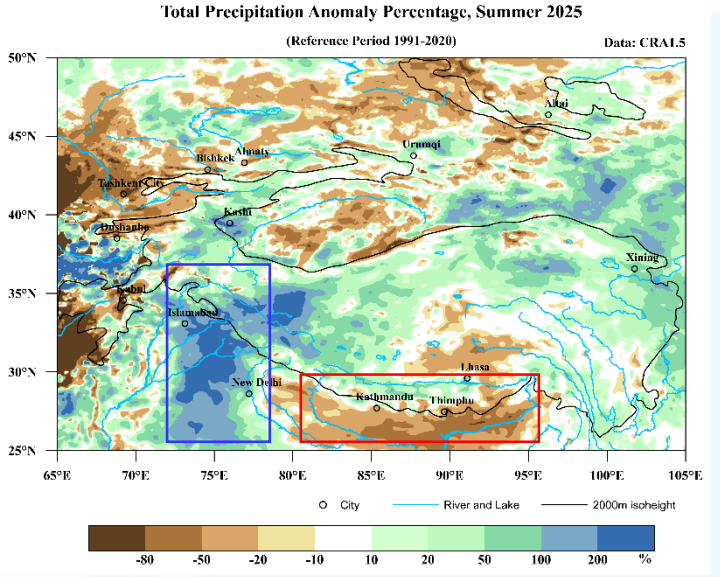
With the retreat of the South Asian monsoon, continuous heavy rainfall occurred across Nepal from 3 to 7 October 2025, triggering flash floods and landslides in several areas, which resulted in 51 fatalities, 47 injuries, and 6 people reported missing.

HIEs triggered by uneven rainfall distribution

Drought and water crisis in Nepal

The monsoon advanced into Nepal on May 29, 2025, which was one of the earliest onsets recorded in the country's history. Despite the early arrival, **the southern plains of Nepal (Madhesh Province) experienced a significant lack of rain for six weeks leading to a severe water crisis and drought conditions.**

By the end of August 2025, the accumulated monsoon precipitation remained below the normal across most parts of the country, particularly in Madhesh Province, where little or no significant rainfall was recorded.

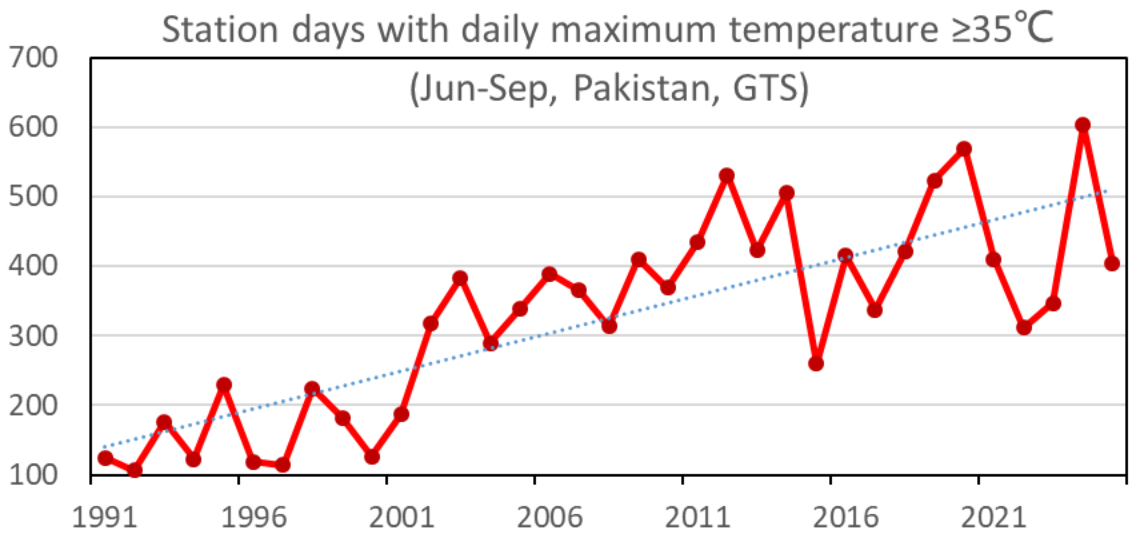


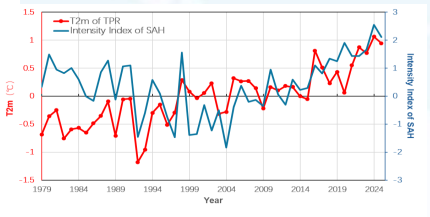
Water sources dried up and the groundwater table was depleted, creating a critical shortage of drinking water and affecting agricultural irrigation.

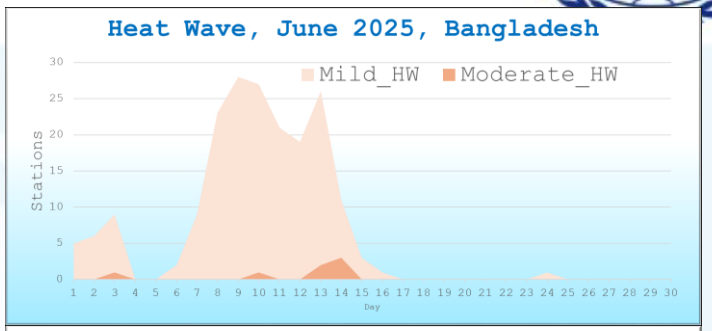
- Farmers were unable to transplant paddy saplings. The drought left seedbeds dry and paddy saplings withered, raising fears of an impending food shortage in Nepal's primary rice-producing region……

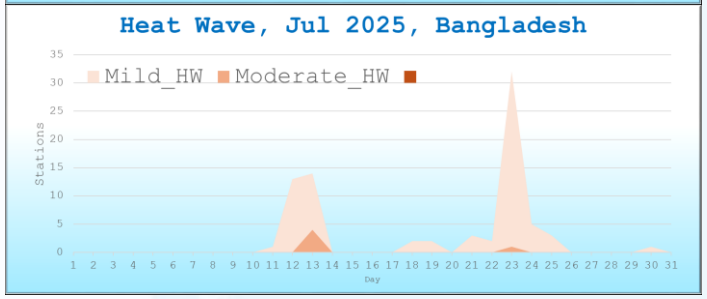
HIEs related to high temperature

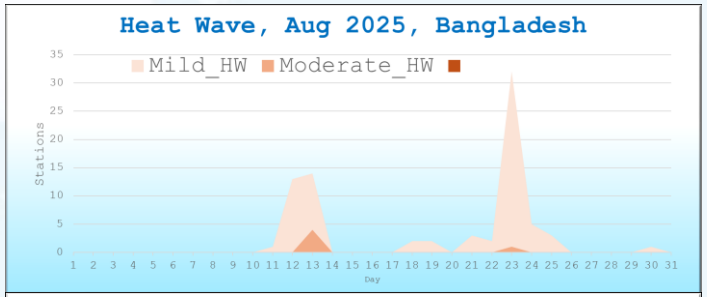
Provided by Md. Nurul Karim

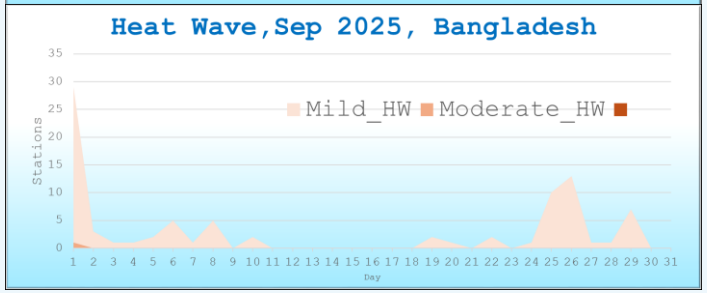












Heat waves

In June, persistent high-temperatures affected eastern and southern Central Asia, as well as northern South Asia. The frequency of days with maximum temperatures at or above 40°C ranged from 10 to 20 days, with some areas recording even more than 25 days. In July, prolonged high-temperature weather was observed across southern Central Asia and northern Pakistan. High temperatures continued through August in southeastern Central Asia and northwestern Pakistan, with daily maximum temperatures frequently exceeding 40°C and locally reaching above 45°C.

HIE of the TPR

Heat wave

The southwestern TPCR influenced by intense heatwaves throughout the summer.

Heavy rainfall

Heavy rainfall from late May continued into early June, causing widespread flooding and landslides in the northeastern and eastern India.
In August, India continued to be affected by heavy rain and floods again. On 14 August, violent cloudburst precipitated a rapid rise in the Gishdwal River, triggering flash floods and concomitant mudslides.

Heavy monsoon rains since 26 June continued to early July triggered flash floods across Pakistan, particularly affecting Balochistan, Khyber Pakhtunkhwa (KP), Punjab, and Sindh provinces.

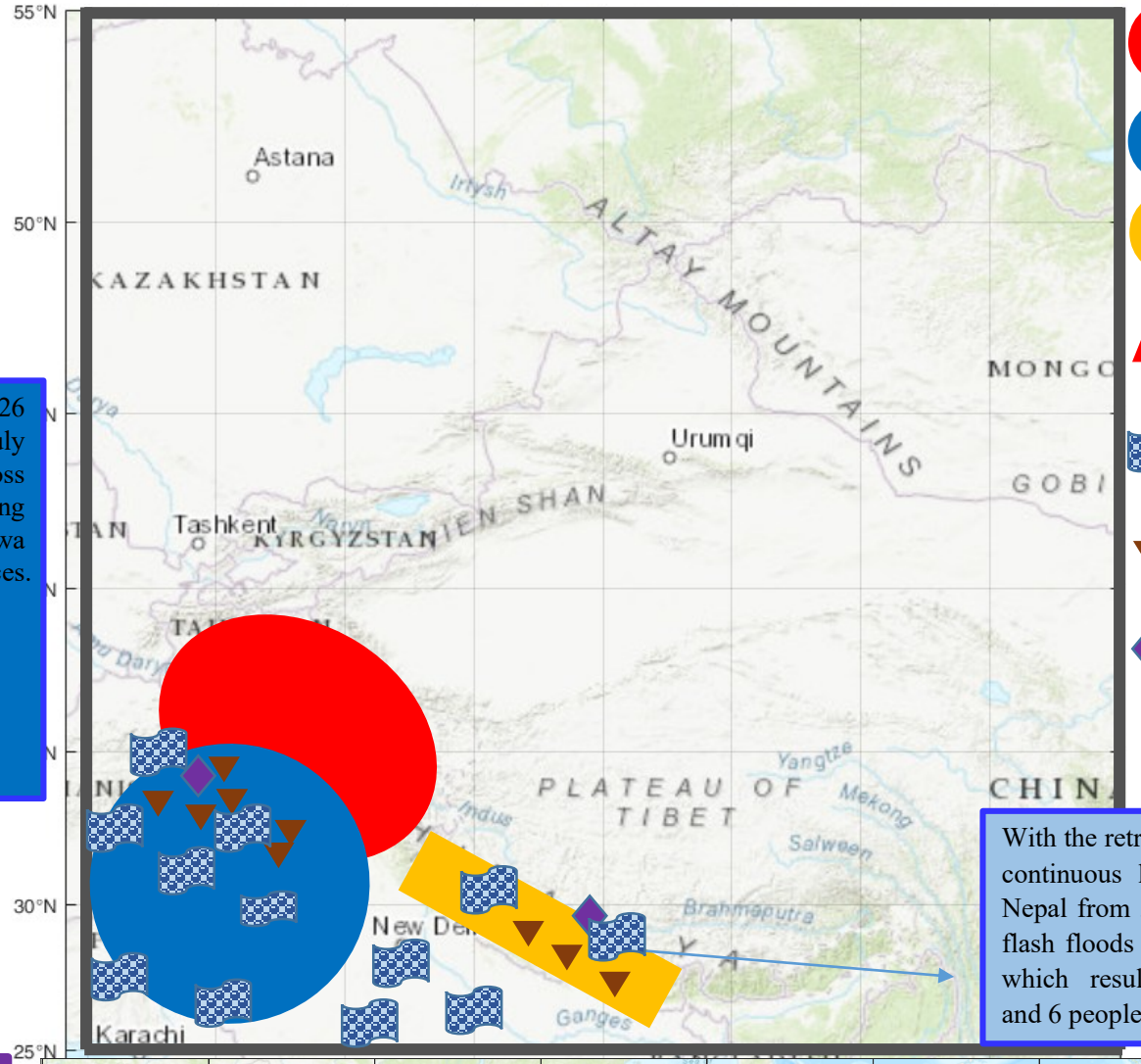
Drought

The lack of rainfall led to a water crisis, and the province faced an unexpected drought despite predictions of above-average rainfall in Nepal.

GLOF

In Gilgit-Baltistan province in Pakistan, a glacial lake outburst flood **(GLOF)** and landslides.

On 8 July, floods suddenly hit Rasuwa County in northern Nepal at dawn due to continuous heavy rainfall.



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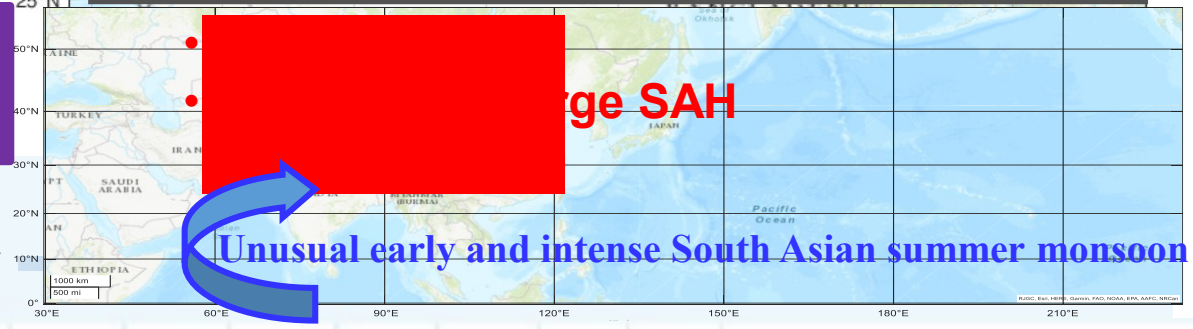
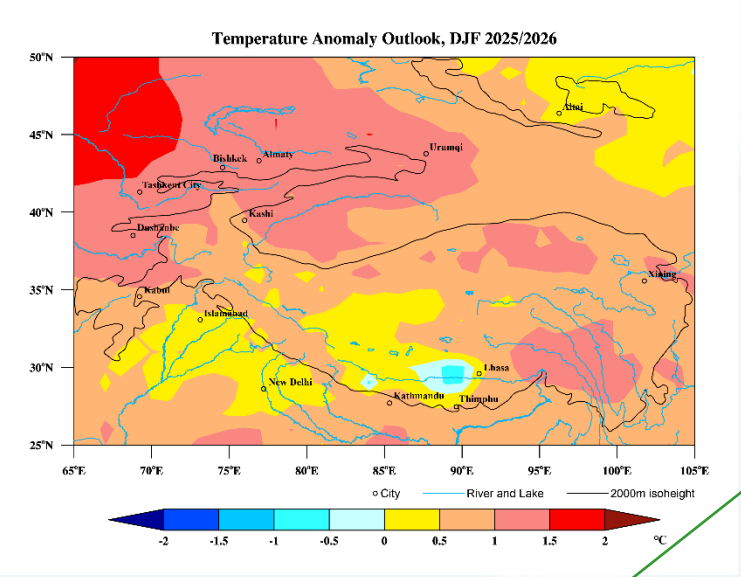
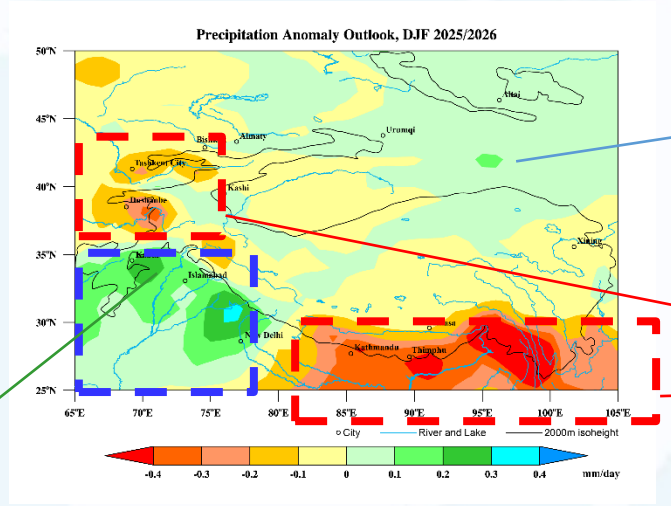


Likely HIEs in DJF, 2025/2026





heavy snow

Warm and dry → drought, water crisis

Heavy rainfall/heavy snow

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

Thank you

WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

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