Pakistan Meteorological Department

Monthly Drought Bulletin
For the Month of October, 2025

Highlights

- Overall, Punjab, southern KP, Gilgit-Baltistan and some parts of Sindh received above-normal rainfall during October, while northern KP, most parts of Sindh, and Balochistan experienced below-normal rainfall.

- During the month, temperatures in most parts of KP, GB, Balochistan, South Punjab and parts of Sindh experienced above normal temperature up to 4°C. This rise in temperature might exacerbate drought conditions in western and southwestern Balochistan.

- For November 2025, overall, a general tendency for below-normal rainfall is anticipated across most parts of the country, with the largest negative departures expected over northern Punjab, upper and central parts of Khyber Pakhtunkhwa, Kashmir, and Gilgit-Baltistan. In contrast,the southern regions are expected to experience rainfall that is closer to normal, with a reduced negative anomaly as per the region's climatological patterns during November 2025.

- Mean temperatures are expected to remain above normal nationwide, with maximum departure over eastern parts of Gilgit-Baltistan during November 2025.

- Keeping in view the weather forecast for the month of November 2025, disaster management authorities are requested to plan DRM activities accordingly in the drought effected areas of Balochistan.

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1. Monthly Rainfall and Temperature Analysis for the Month of October, 2025

During the month, significant rainfall was recorded over Punjab, KPK, Sindh, GB and AJK. However, the Balochistan remained predominantly dry. The spatial distribution of this rainfall is illustrated in Figure 1. The details of major rainfall amounts are presented in Table 1.

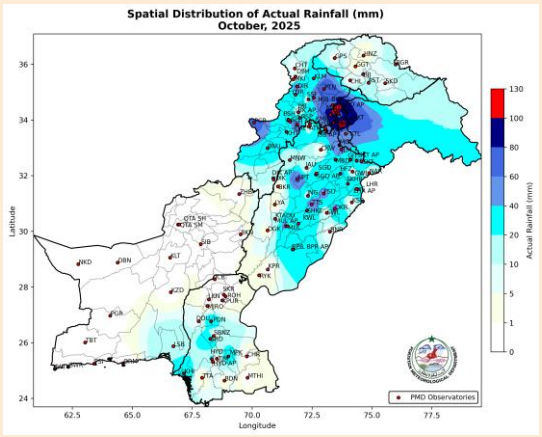

Figure 1: Spatial Distribution of rainfall

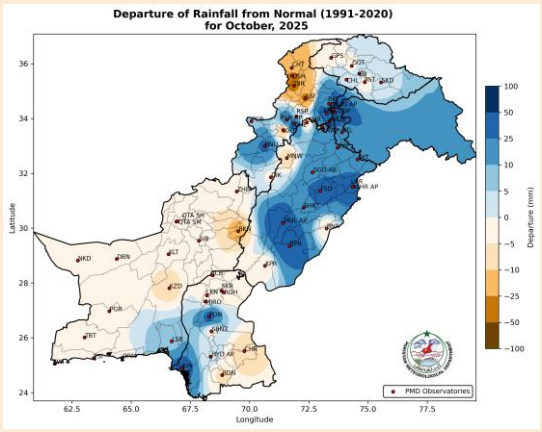

Figure 2: Departure of rainfall from Normal

Figure 2 illustrates the deviation of rainfall from the climatological normal (1991-2020). Overall, Punjab, southern KP, Gilgit-Baltistan and some parts of Sindh received above-normal rainfall during October, while northern KP, some parts of Sindh, and Balochistan experienced below-normal rainfall.

Table-1: Major **amount of rainfall recorded across Pakistan during the month of October, 2025**

S. No	Station	Rainfall (mm)	S. No	Station	Rainfall (mm)
1.	Muzaffarabad AP	129.6	11.	Cherat	58.0
2.	Muzaffarabad City	114.6	12.	Balakot	55.0
3.	Rawalakot	105.0	13.	Mangla	53.5
4.	Murree	95.0	14.	Multan AP	53.4
5.	Kakul	80.0	15.	Malamjabba	50.0
6.	Pattan	80.0	16.	Kotli	48.0
7.	Parachinar	69.0	17.	Dir	46.5
8.	G.Dopatta	67.0	18.	Bahawalpur City	44.0
9.	Noorpur Thal	62.0	19.	Chaklala AB	43.0
10.	T.T. Singh	59.0	20.	Faisalabad AP	42.0

Figure 3 represents the spatial distribution of mean temperatures recorded at PMD observatories during October 2025 indicating variations across the country. Most parts of the country experienced mean temperatures ranging between 11°C and 31°C. Whereas, parts of Balochistan, upper KP and GB recorded relatively lower mean temperatures, ranging from 11°C to 23°C. Higher temperatures were observed in Sindh, Punjab and southern and south western Balochistan where mean temperatures ranged from 23°C to 31°C.

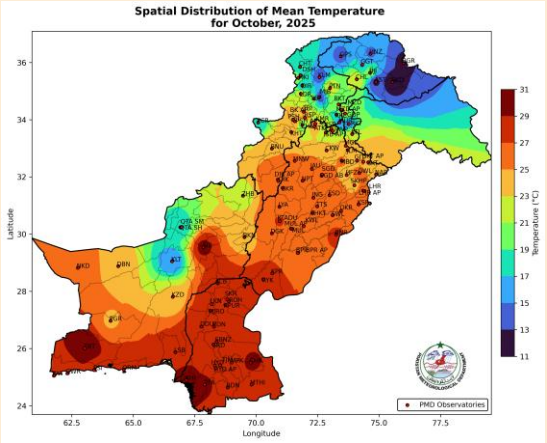

***Figure 3**: Monthly Mean Temperature (°C)*

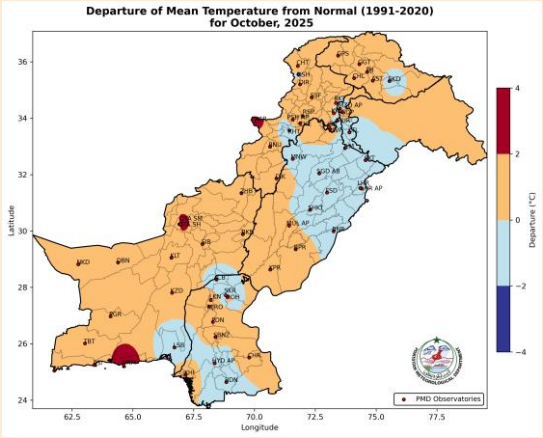

***Figure 4**: Monthly Departure from Normal Temperature*

Figure 4 illustrates the deviation of mean temperatures from the normal (1991-2020), indicating that most of KP, GB, Balochistan, South Punjab and parts of Sindh expericed above normal temperature by as much as 4°C. Figures 5 and 6 display the monthly normal rainfall and mean temperatures for October, based on data from 1991 to 2020.

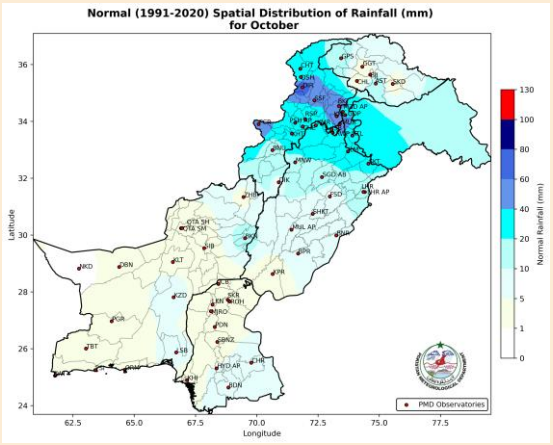

***Figure 5**: Monthly Normal Rainfall (mm)*

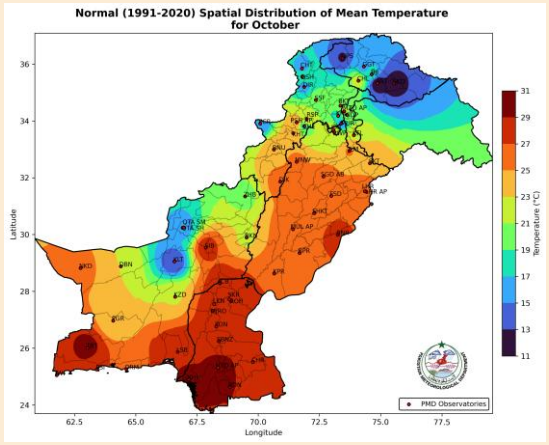

***Figure 6**: Monthly Normal Mean Temperature (°C)*

2. Comparison of Actual to Normal Monthly Rainfall for October, 2025

Figure 7 compares actual rainfall to the historical normal (1991-2020) for October, 2025. This comparison is presented in detail separately for each region: Khyber Pakhtunkhwa 7(a), Sindh 7(b), Punjab 7(c), Balochistan in 7(d), Gilgit Baltistan, and Azad Jammu & Kashmir in Figure 7(e). The graphs indicate that rainfall during the month was overall above normal in all provinces except Balochistan and some parts of Sindh.

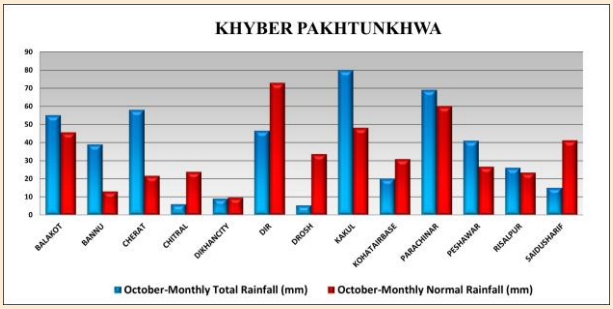

Figure 7a

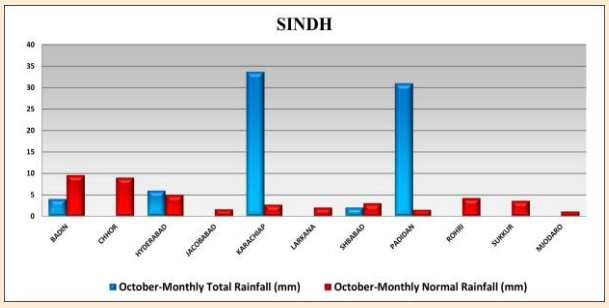

Figure 7b

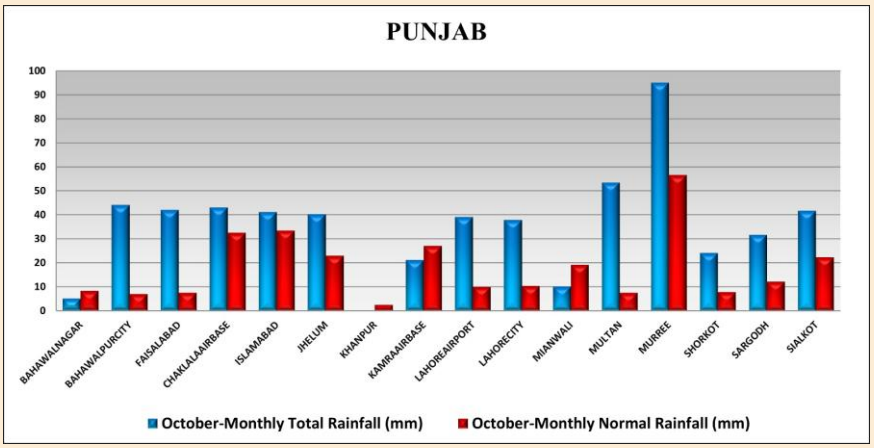

Figure 7c

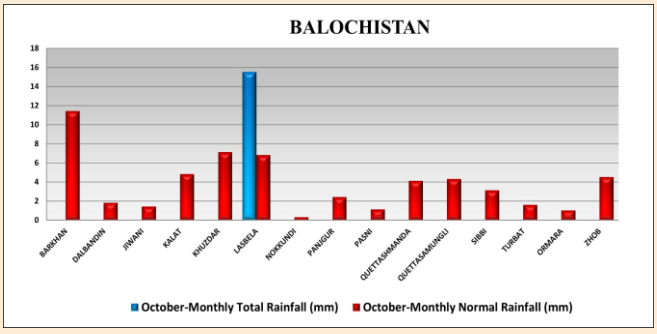

Figure 7d

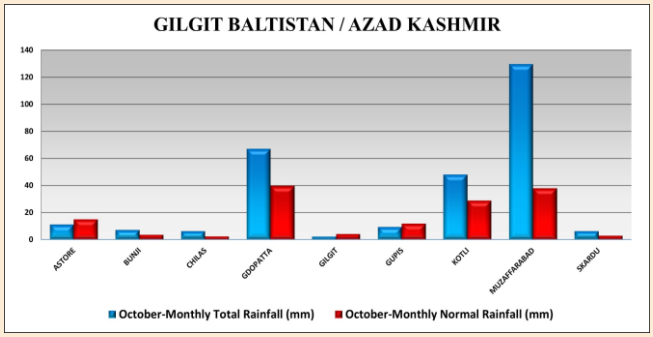

Figure 7e

3. Normalized Difference Vegetation Index (NDVI)

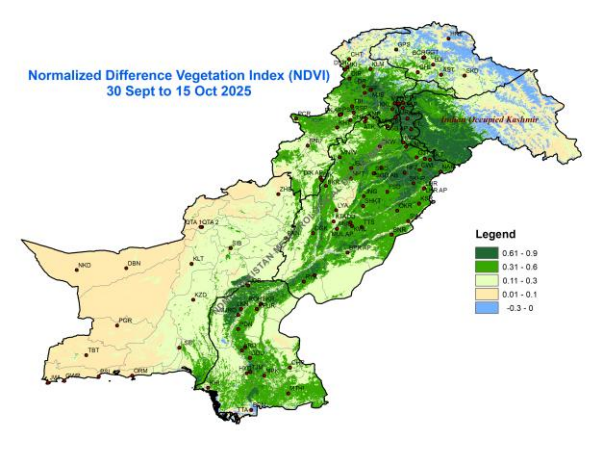

Figure 8: NDVI

Figure 8 presents the Normalized Difference Vegetation Index (NDVI) values from 30 September to 15 October, 2025. High NDVI values are observed in AJK, Punjab, Khyber Pakhtunkhwa, and along the Indus basin, indicating extensive vegetation in these areas. These conditions support the accumulation of chlorophyll in plants, thereby enhancing vegetation cover. Conversely, reduced rainfall has led to low or deficient NDVI values in the regions of Balochistan.

4. Land Surface Temperature (LST)

Figure 9 depicts the Land Surface Temperature (LST) from 30 September to 07 October, 2025. During this period, south Punjab, Sindh, and Balochistan experienced average daytime temperatures ranging from 25-45°C.

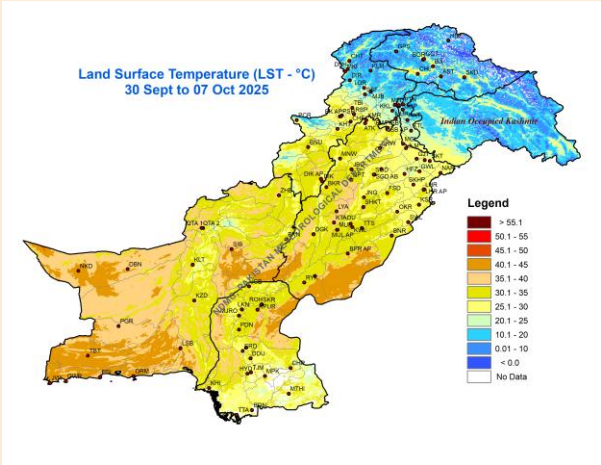

Figure 9: Land Surface Temperature (°C)

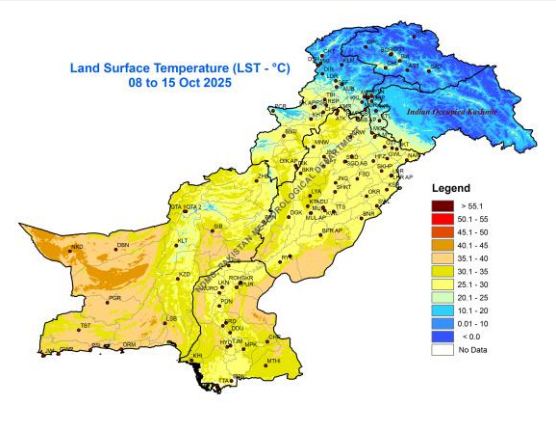

Figure 10: Land Surface Temperature (°C)

Figure 10 illustrates the Land Surface Temperatures from 08 to 15 October 2025. During this period, there was a decrease in temperature compared to the previous week in western Balochistan, parts of Sindh, and southern Punjab.

5. Temperature Vegetation Dryness Index (TVDI)

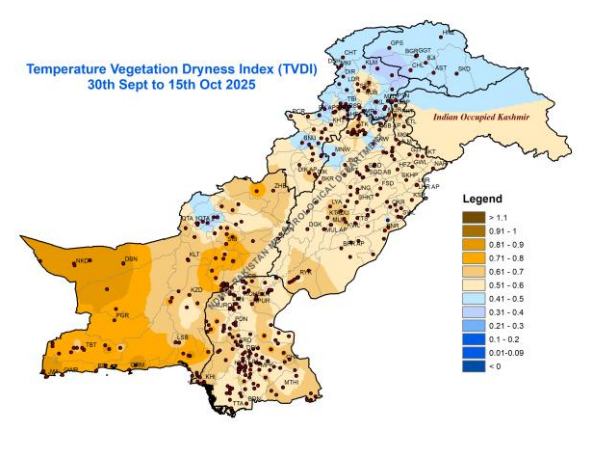

Figure 11: TVDI

Figure 11 illustrates the Temperature Vegetation Dryness Index (TVDI), derived from MODIS datasets MOD13A2 (NDVI) and MOD11A2 (LST). The TVDI Index highlights moderate dry-like conditions in Balochistan especially the western regions. These conditions indicate the onset of dryness and soil moisture deficiency in the region.

6. Length of Consecutive Dry Days up to October 31, 2025

Figure 12 presents the maximum length of consecutive dry days (CDD). The highest number of consecutive dry days were recorded in Jiwani (284) and Dalbandin (245). However, significant precipitation has mitigated the intensity of the consecutive dry days (CDD) in most parts of the country.

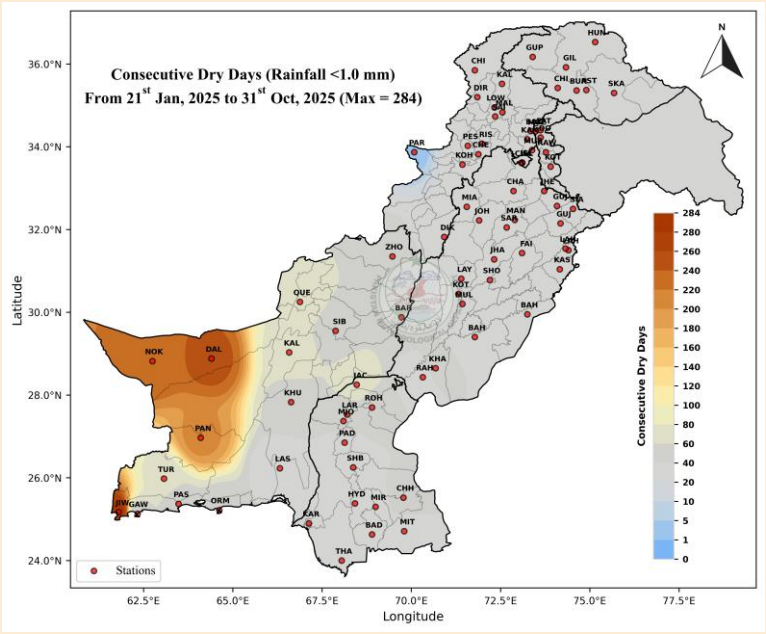

Figure 12: No. of consecutive dry days

7. Drought Monitor for the Month of October, 2025

The spatial drought monitor map is represented in Figure 13 below the spatial variation in drought severity across different regions of the country, derived using multiple drought monitoring indices, the Standardized Precipitation Index (SPI), Consecutive Dry Days (CDD), and the Standardized Precipitation Evapotranspiration Index (SPEI).

The SPI reflects short to long-term precipitation anomalies and helps identify meteorological drought conditions, while the SPEI incorporates both precipitation and temperature to assess the balance between water availability and atmospheric demand. The CDD index, on the other hand, represents the maximum number of consecutive dry days during a period, providing insight into the persistence and intensity of dry spells.

Based on these indices, the spatial drought assessment indicates that moderate drought conditions, depicted in orange color, are prevailing in the Turbat region. Mild drought conditions, shown in pale yellow, are spread across western and southwestern Balochistan, reflecting prolonged dry periods and reduced rainfall. Regions not affected by drought are classified as “Normal”, represented in white color, signifying adequate rainfall and soil moisture conditions

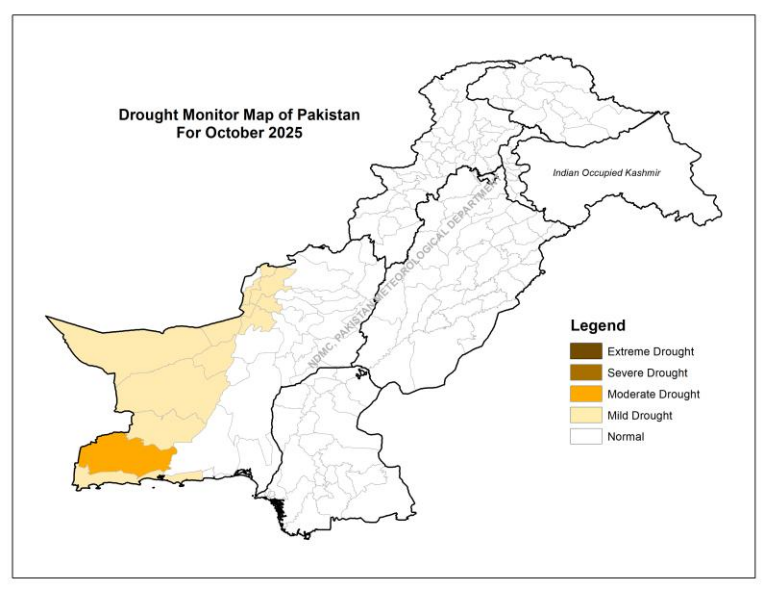

Figure 13: Drought Monitor of Pakistan for the month of October, 2025

8. Water Availability/ Dams Flow Data:

During the month, water inflow, outflow and levels of the Mangla, Tarbela, Khanpur, Rawal, Simly and dams are presented in Figure 14. The above-mentioned resevoirs are adequately filled due to glacial melting (in case of Tarbela and Mangla only) and abundant rainfall during monsoon season. The water levels at the major reservoirs, Tarbela and Mangla, stand at 1,550 feet and 1241 feet respectively.

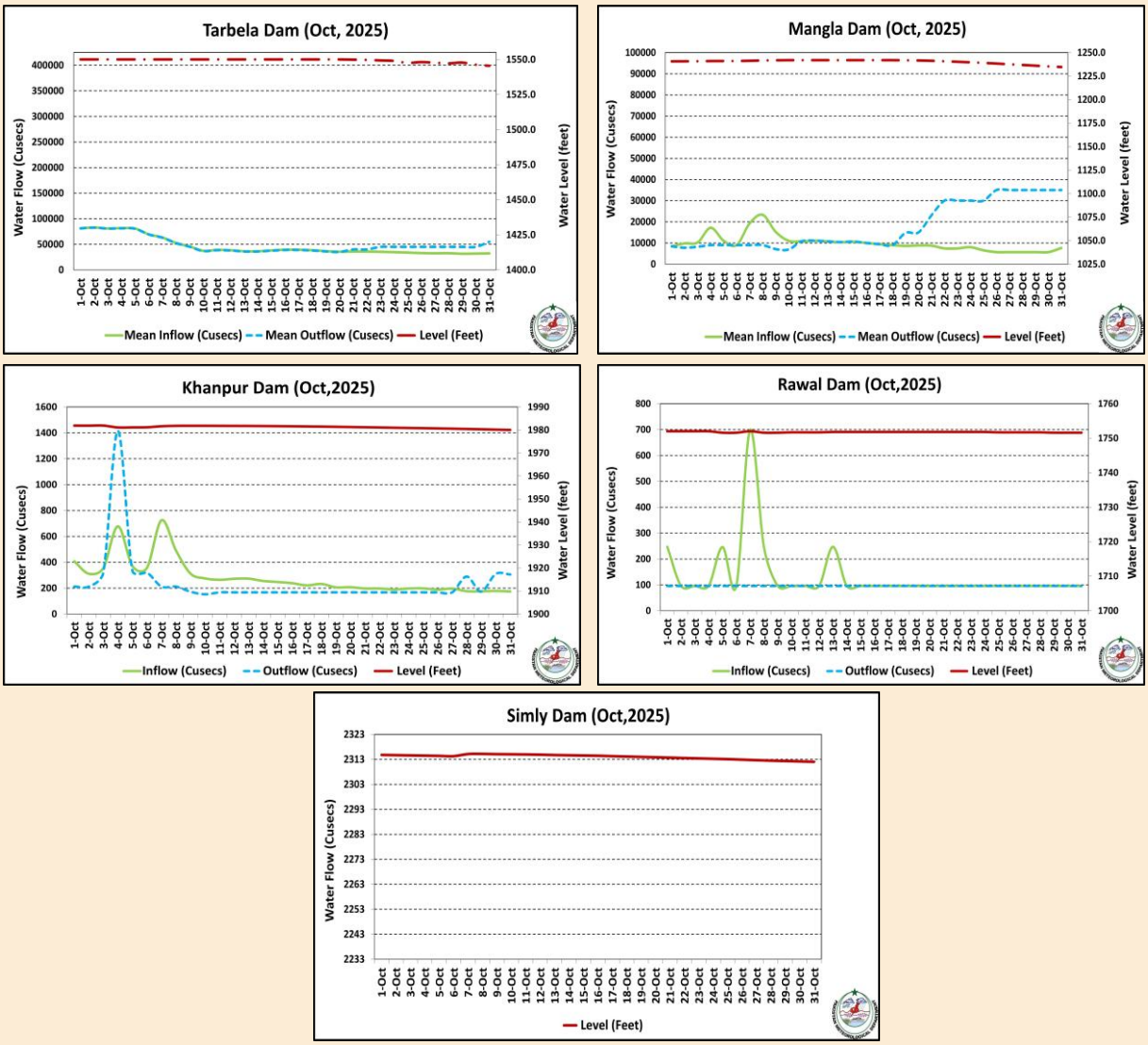

Figure 14: Water inflow, outflow and level of Rawal, Khanpur, Tarbela, Simly and Mangla Dams, October, 2025

9. Weather Outlook for November, 2025

For November 2025, overall, a general tendency for below-normal rainfall is anticipated across most parts of the country, with the largest negative departures expected over northern Punjab, upper and central parts of Khyber Pakhtunkhwa, Kashmir, and Gilgit-Baltistan. In contrast,the southern regions are expected to experience rainfall that is closer to normal, with a reduced negative anomaly as per the region's climatological patterns during November 2025.

10. Drought Outlook for November, 2025

Below-normal rainfall and above-normal temperatures may contribute to the persistence of drought-like conditions in the western and southwestern parts of Balochistan. However, the expected westerly rainfall spells could help alleviate the severity to some extent. The rest of the country received ample rainfall during the monsoon season, and major reservoirs are adequately filled, therefore, overall conditions are expected to remain normal.

People and all concerned departments are advised to make efforts to save water and promote its judicious use to mitigate any adverse impacts of drought

11. Crop Condition & Advice for Farmers

- Recent rainfall spells have slightly improved soil moisture in upper and central Punjab, as well as in parts of northeastern Sindh. However, dry conditions persist in most areas of Balochistan and southern Sindh.
- Harvesting of Kharif crops such as cotton, rice, and sugarcane is in progress across the plains, while land preparation for Rabi crops, particularly wheat, has begun in several regions. Timely rainfall will be beneficial for early sowing activities.
- Farmers are advised to monitor weather forecasts regularly to plan irrigation schedules and harvesting operations efficiently.
- Judicious utilization of available water resources is recommended, especially in areas experiencing below-normal rainfall and declining soil moisture.