Pakistan Meteorological Department

Monthly Drought Bulletin
For the Month of September, 2025

Highlights

- In September 2025, most parts of Sindh, southeastern Balochistan, central and northeastern parts of Punjab received above-normal rainfall, while northern Balochistan, most parts of KPK, northwestern Punjab and western Kashmir remained dry.

- During the month, temperatures in northern and western parts of the country were 1°C to 5°C above the normal range. This rise in temperature is likely to exacerbate drought conditions in western Baluchistan and accelerate glacial melting in GB and Kashmir.

- For October 2025, overall, tendency for near-normal to below normal rainfall is expected in most parts of the country. The northern half of the country is likely to experience below-normal rainfall, with the highest deficits projected over Khyber Pakhtunkhwa, Kashmir, Gilgit-Baltistan, and northern Punjab. In contrast, nearly normal rainfall is expected over the southern half of the country, including most parts of Sindh, Balochistan, and southern Punjab.

- Mean temperatures are expected to remain above normal across the country during October 2025, with maximum departures likely over the western parts of Gilgit-Baltistan.

- The water level at Mangla and Tarbela reserviors have increased due to glacial melt and recent heavy rainfall during the month. Similarly,Khanpur, Rawal, and Simly dams have also recorded increase in storage level due to moonsoon rainfall.

- Keeping in view the weather forecast for the month of October 2025 and the current conditions, continued efforts must be made for judicous use of water and it's conservation in the drought effected areas of Balochistan.

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

During the month, significant precipitation was recorded over Sindh, southeastern Balochistan, central and upper parts of Punjab, northern KPK (including Parachinar district) and Kashmir. The spatial distribution of this rainfall is illustrated in Figure 1, while he major recorded amounts are summarized in Table 1.

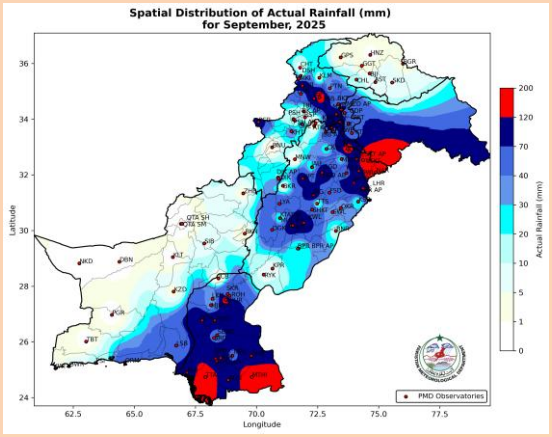


Figure 1: Spatial Distribution of rainfall

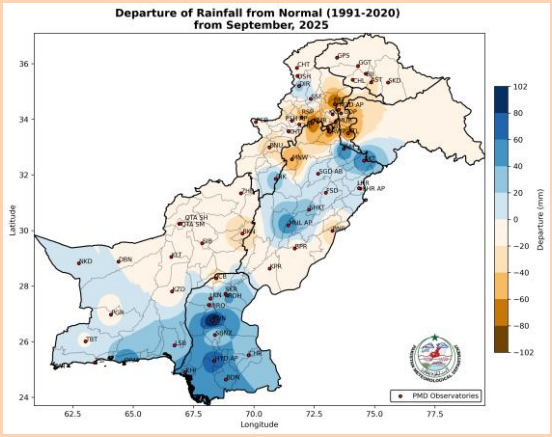


Figure 2: Departure of rainfall from Normal

Figure 2 illustrates the deviation of rainfall from the normal (1991-2020) values. During September, most parts of Sindh, central and northeastern Punjab, and southern Balochistan received above-normal rainfall, while northwestern Punjab, Khyber Pakhtunkhwa, GB, western Kashmir, and northern Balochistan experienced below-normal rainfall.

Table-1: Major rainfall amounts recorded across Pakistan during September, 2025

Sr. No.	Station	Rainfall (mm)	Sr. No.	Station	Rainfall (mm)
1	Thatta	197	11	Mangla	117.11
2	Narowal	194.5	12	Gujranwala	114.8
3	Mithi	178	13	Padidan	114.8
4	Sialkot cantt	157.04	14	Lahore city	111.4
5	Malam jabba	149	15	Dadu	109
6	Sialkot airport	138.92	16	Hyderabad city	106.61
7	Jhelum	136.2	17	Dir	103.5
8	Khairpur	136	18	Sheikhupura	101.4
9	Tandojam	121	19	Kakul	99
10	Islamabad, zeropoint	120.94	20	Murree	97.41

Figure 3 presents the spatial distribution of mean temperatures recorded at PMD stations during September 2025 highlighting variations across the country. Most parts of the country experienced mean temperatures ranging between 26°C and 34°C. Whereas, lower mean temperatures ranging from 18°C to 30°C were observed in upper KP ,GB and parts of central-west Balochistan. Higher mean temperatures ranged between 30°C and 34°C prevailed in upper Sindh, western Balcochistan and central and southern Punjab.

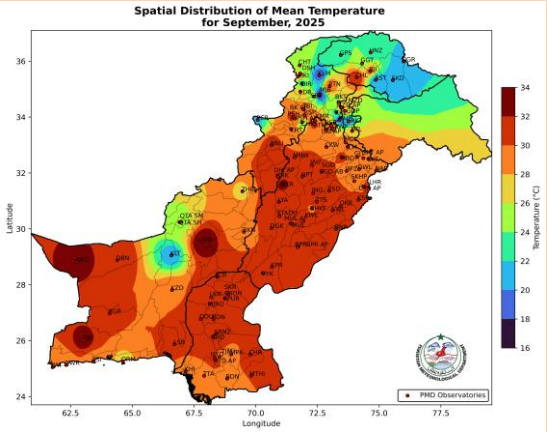


***Figure 3**: Monthly Mean Temperature (°C)*

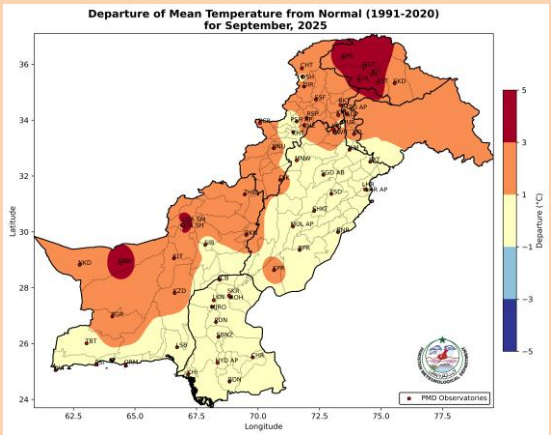


***Figure 4**: Monthly Departure from Normal Temperature*

Figure 4 illustrates the deviation of mean temperatures from the (1991-2020) normal, indicating that most parts of KPK, Gilgit Baltistan, Kashmir and Balochistan expericed above normal temperatures with departures of up to +5°C. Figures 5 and 6 display the monthly normal rainfall and mean temperatures for September, based on the1991 to 2020 climatology.

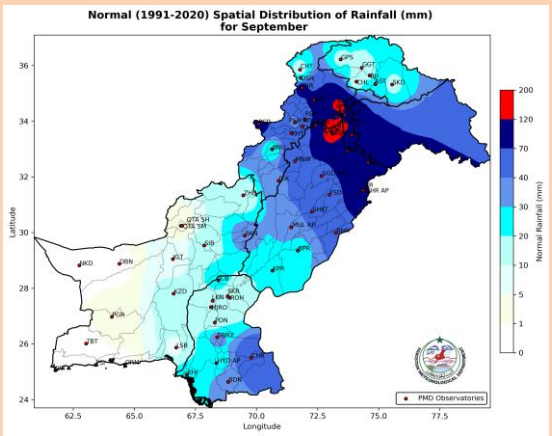


***Figure 5**: Monthly Normal Rainfall (mm)*

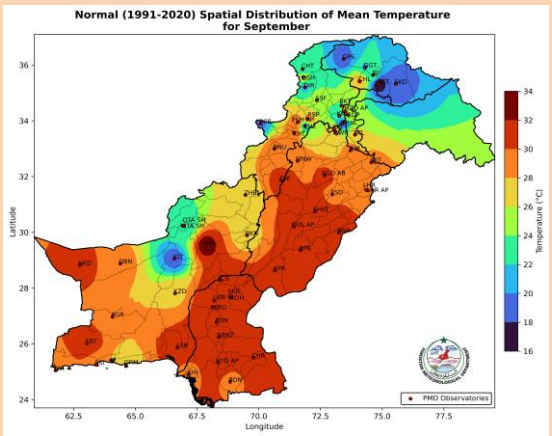


***Figure 6**: Monthly Normal Mean Temperature (°C)*

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

Figure 7 compares actual rainfall with the (1991-2020) normal for September, 2025. This comparison with regional details is shown separately : Khyber Pakhtunkhwa (Figure 7a), Sindh (Figure 7b), Punjab (Figure 7c), Baluchistan (Figure 7d), Gilgit Baltistan, and Azad Jammu & Kashmir (Figure 7e). The graphs indicate that the amount of rainfall during the month was generally above normal across all provinces except in GB and Azad kashmir.

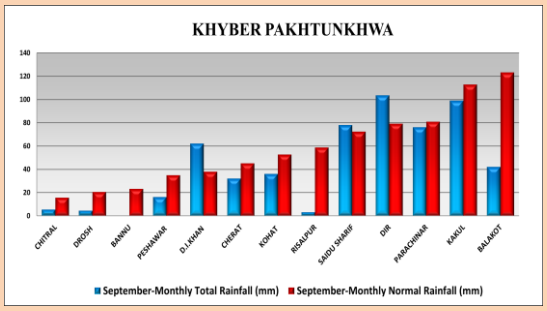


Figure 7a

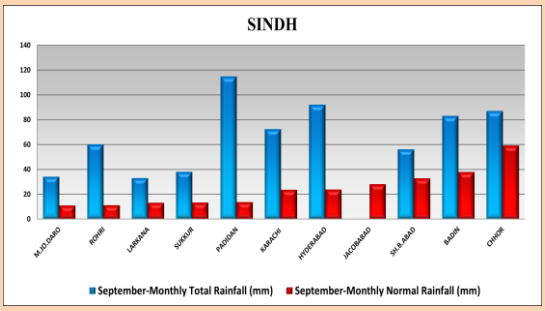


Figure 7b

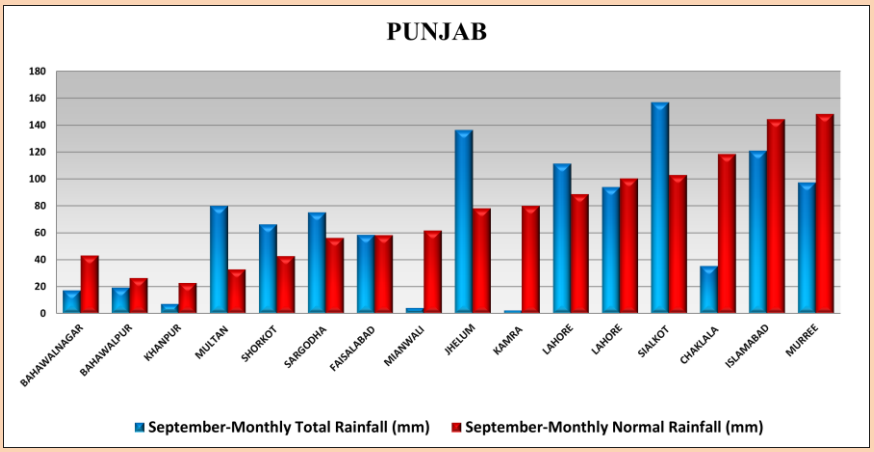


Figure 7c

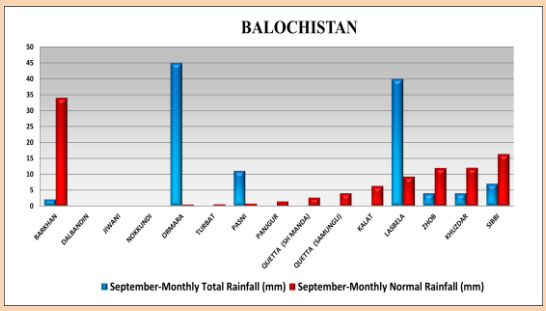


Figure 7d

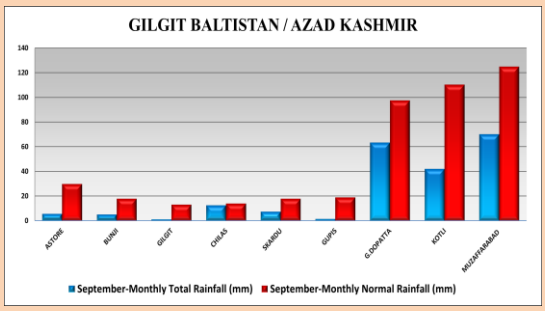


Figure 7e

3. Normalized Difference Vegetation Index (NDVI)

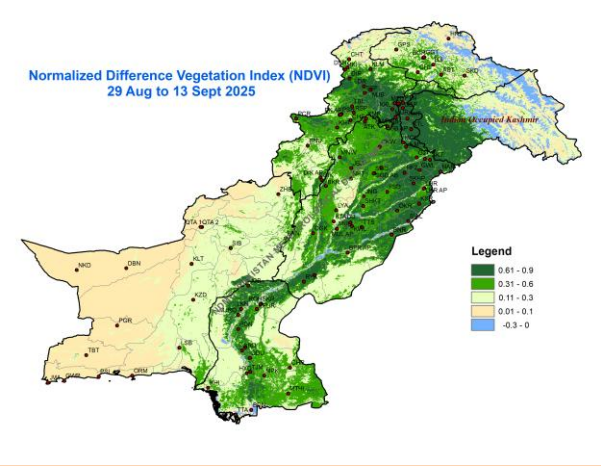


***Figure 8**: NDVI*

Figure 8 presents the Normalized Difference Vegetation Index (NDVI) values from 29 August to 13 September, 2025. High NDVI values were observed in AJK, Punjab, Khyber Pakhtunkhwa, and along the Indus basin, indicating extensive vegetation in these areas.Such conditions favour photosynthetic activity in plants, leading to improved vegetation cover. In contrast, reduced rainfall has resulted in low or deficient NDVI values in the western regions of Baluchistan.

4. Land Surface Temperature (LST)

Figure 9 depicts Land Surface Temperatures (LST) for the period 29 August to 05 September, 2025. During this time, central and south Punjab, Sindh, and Baluchistan experienced average daytime temperatures ranging between 30°C to 55°C.

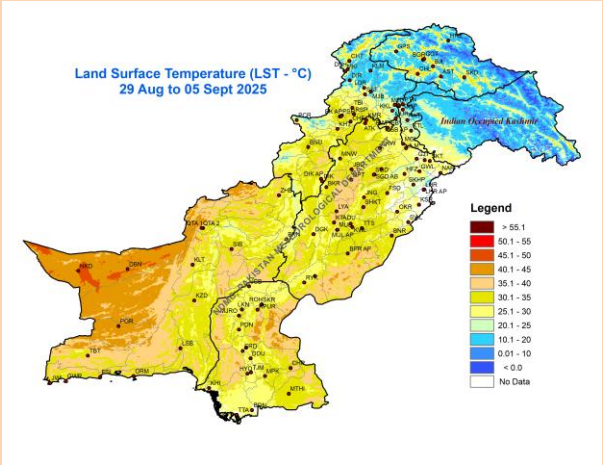


***Figure 9**: Land Surface Temperature (°C)*

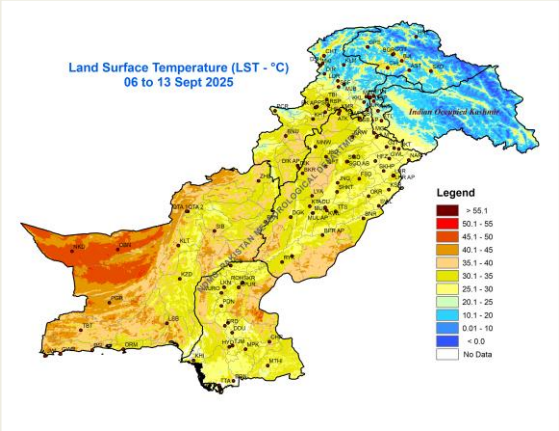


***Figure 10**: Land Surface Temperature (°C)*

Figure 10 illustrates Land Surface Temperatures for the period 06 to 13 September 2025. During this time, temperatures were increased compared to the previous week in western Baluchistan, parts of eastern Sindh, and south Punjab.

5. Temperature Vegetation Dryness Index (TVDI)

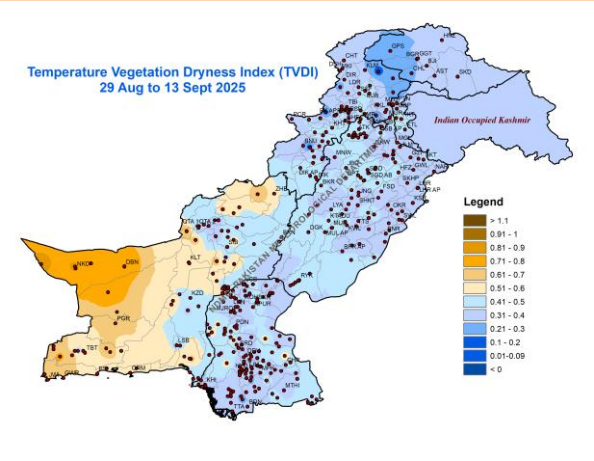


***Figure 11**: TVDI*

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

6. Length of Consecutive Dry Days up to September 30, 2025

Figure 12 presents the maximum length of consecutive dry days (CDD). The highest number of consecutive dry days were recorded in Jiwani (253), Dalbandin (214), Nokkundi (202) and Panjgur (173). However, significant precipitation during the month helped reduce the intensity of cumulative dry day conditions in most parts of the country.

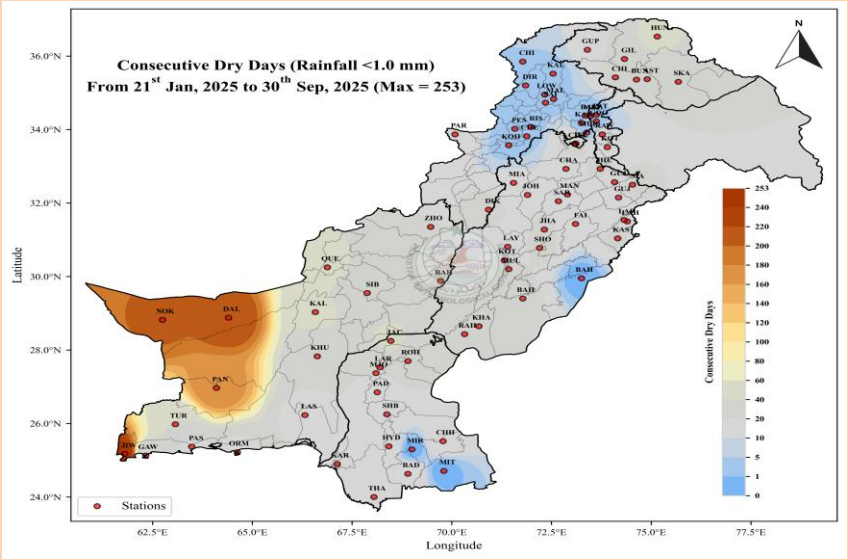


***Figure 12**: No. of consecutive dry days*

7. Drought Monitor for the Month of September, 2025

Based on multiple drought monitoring indices, as described above and ground station observations across the country, the spatial drought monitor map is presented in Figure 13 below.

In the western parts of Balochistan, mild to moderate drought-like conditions are prevailing due to little or no summer monsoon rainfall. In contrast, most other regions of the country have received ample rainfall, resulting in normal conditions with sufficient water availability to meet demands for the next 2 to 3 months.

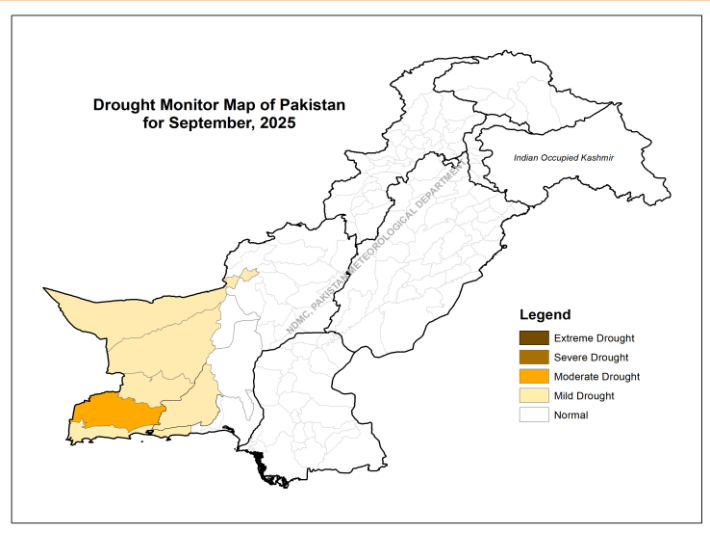
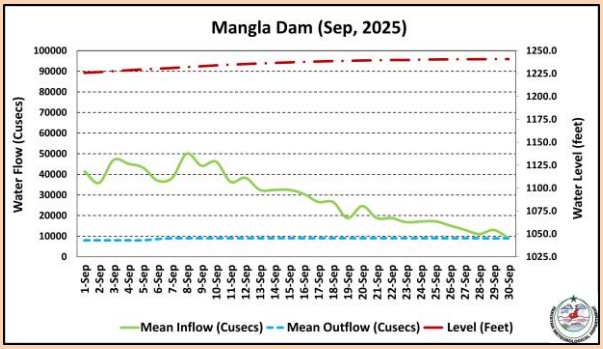
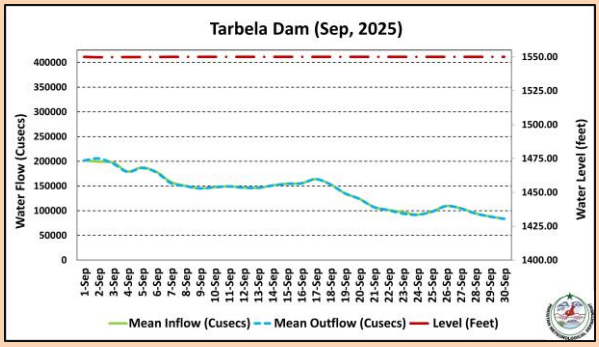


***Figure 13**: Drought Monitor of Pakistan for the month of September, 2025*

8. Water availability and Dams Inflow/Outflow Data:





During the month, water inflow, outflow and storage levels of the Mangla, Tarbela, Khanpur, Rawal, and Simly dams are presented in Figure 14. The water levels at Mangla and Tarbela reserviors have increased due to glacial melt and heavy rainfall during the month. Khanpur, Rawal, and Simly dams have also recorded noteable rises in storage levels due to moonsoon rainfall. The water levels at the major reservoirs, Tarbela and Mangla, stood at 1,550 feet and 1241 feet respectively.

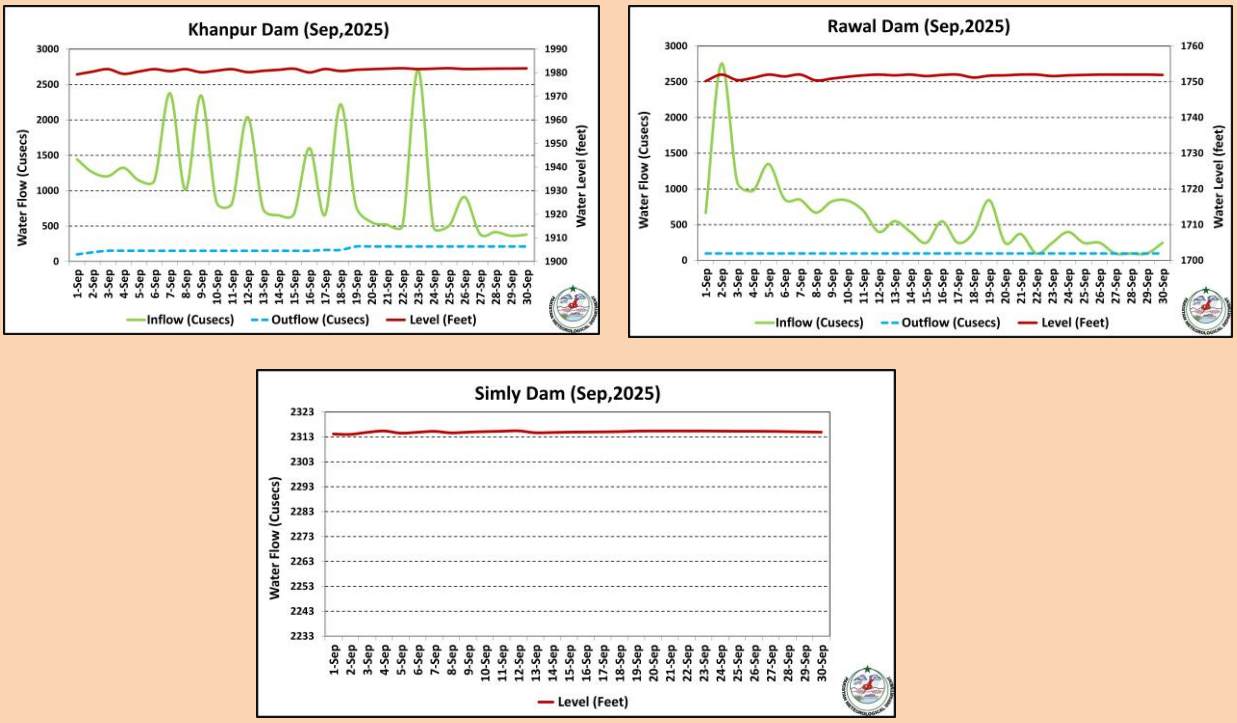


***Figure 14**: Water inflow, outflow and level of Rawal, Khanpur, Tarbela, Simly and Mangla Dams, September, 2025*

9. Weather Outlook for October, 2025

For October 2025, overall, near-normal to below-normal rainfall is expected across most parts of the country. Khyber Pakhtunkhwa, Kashmir, Gilgit-Baltistan, and northern Punjab are likely to experience below-normal rainfall, while nearly normal rainfall is expected over the southern parts including Sindh, Balochistan, and southern Punjab. Mean temperatures are expected to remain above normal across the country, with the highest departures over eastern Gilgit-Baltistan.

10. Drought Outlook for October, 2025

The forecast for October predicts that dry conditions over the northern parts of Pakistan (Khyber Pakhtunkhwa, Kashmir, Gilgit-Baltistan, most parts of Punjab, and northern Balochistan) may intensify drought vulnerability, particularly in rain-fed areas. In contrast, the southern parts (Sindh, central and southern Balochistan, and Sindh) are likely to maintain near-normal conditions due to expected near-normal rainfall. Areas already under water stress in western Balochistan (e.g., Turbat, Pasni, Jiwani, Gwadar, Panjgur, Nokkundi, Dalbandin) are expected to remain vulnerable.

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

- Soil moisture conditions have improved in Punjab and parts of Sindh due to recent rainfall for standing seasonal crops, vegetables and orchards.
- Farmers are advised to regularly follow Weather forecasts for better planning of irrigation and crop protection processes.
- Judicious use of available water resources is recommended in agricultural areas.