FORTNIGHTLY DROUGHT WATCH BULLETIN

(1st to 15th April, 2025)

Pakistan Meteorological Department

National Drought Monitoring Centre

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1. Rainfall Analysis during First Fortnight of April, 2025

During First fortnight of April 2025, light to moderate rainfall was recorded across various regions of Pakistan, including Khyber Pakhtunkhwa (KP), upper Punjab, Kashmir, and Gilgit-Baltistan. The most substantial rainfall occurred in the upper areas of KP and Kashmir, likely influenced by successive western disturbances traversing the region during the period. Figure 1 delineates the spatial distribution of rainfall across the country for this period, while Table 1 shows top ten stations showing quantitative measurements obtained from meteorological observatories.

Rainfall Table					
S. No	**Station**	**Rainfall (mm)**	**S. No**	**Station**	**Rainfall (mm)**
1.	Dir	47.0	6.	Kakul	24.0
2.	Murree	40.0	7.	Gari Dopatta	15.8
3.	Pattan	35.0	8.	Rawalakot	15.2
4.	Kalam	28.0	9.	Chakwal	14.8
5.	Mirkhani	25.3	10.	Malamjabba	14.0

Table 1: Chief amounts of rainfall (mm)

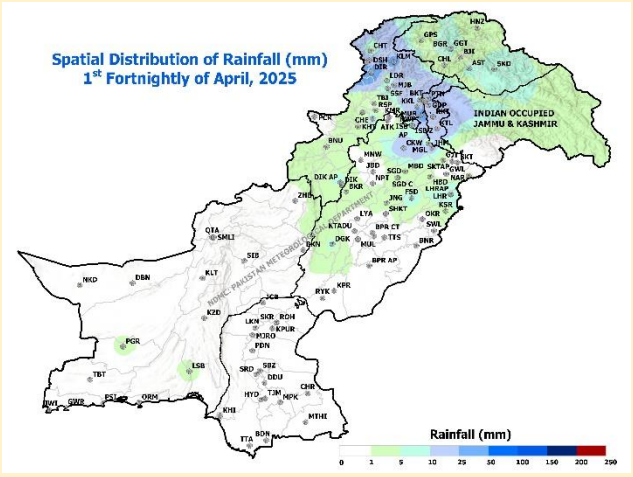

Figure 1: Spatial distribution of rainfall (mm)

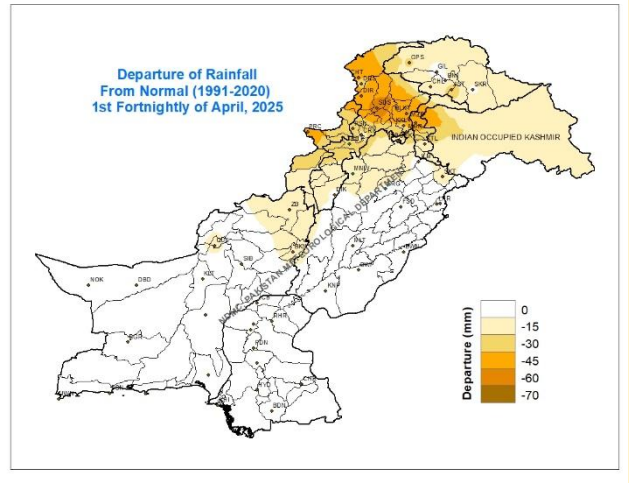

Figure 2: Departure of rainfall (mm)

2. Departure of Rainfall during First Fortnight of April, 2025

Figure 2 illustrates the deviation of observed precipitation from the 30-year climatological average (1991–2020) across Pakistan during the first half of April 2025. Significant negative anomalies were recorded in the Potohar Plateau, Mianwali, Khyber Pakhtunkhwa, Zhob, Quetta, Barkhan, Kashmir, and Gilgit-Baltistan, indicating substantially below-normal rainfall in these regions. The rest of the country exhibited near-normal and dry conditions, consistent with the established climatological patterns for this period.

Figure 3 illustrates the average rainfall distribution (mm) during the first half of April, based on data from 1991 to 2020. In this period, most of the southern regions of the country typically receives 0 to 20 mm of rainfall. However, areas such as Kashmir, Gilgit Baltistan, Khyber Pakhtunkhwa, Potohar region, Mianwali, receives higher average rainfall, ranging from 30 to 100 mm.

Figure 4 shows the fortnightly climatological temperature distribution. The warmest regions are in Sindh province and southern Punjab. Lasbela and Balochistan's coastal areas also exhibit high temperatures. Their mean temperatures range from 23 to 32°C. The rest of the country experiences mild conditions during this period.

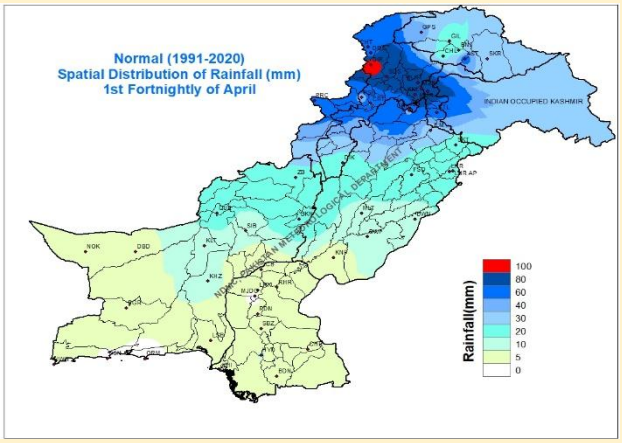

Figure 3: Normal distribution of rainfall (mm)

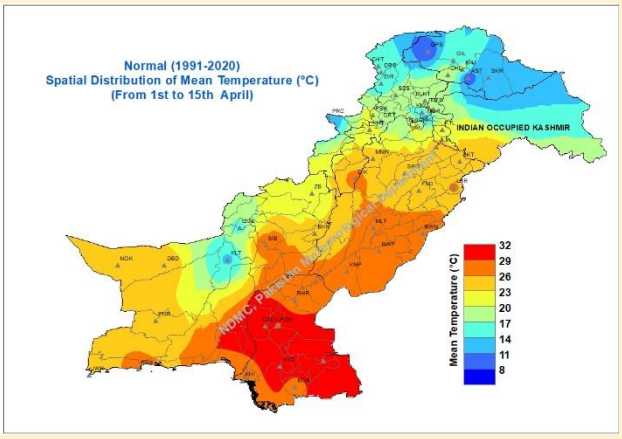

Figure 4: Normal distribution of Temperature (°C)

3. Mean Temperature Analysis during the First Fortnight of April, 2025

Figure 5 presents the spatial distribution of mean surface air temperatures (°C) across Pakistan during the first half of April 2025. The lowest average temperatures were recorded in the northern regions, including upper Khyber Pakhtunkhwa, Kashmir, and Gilgit-Baltistan, where high-altitude topography and residual snow cover contributed to cooler conditions. Central areas of the country experienced moderate temperatures, reflecting transitional climatic zones. Conversely, high temperatures were observed in the southern regions, particularly in western Balochistan, as well as in southern Punjab and Sindh provinces. These areas are characterized by arid to semi-arid climates, which, combined with early seasonal warming, results in higher temperature observations.

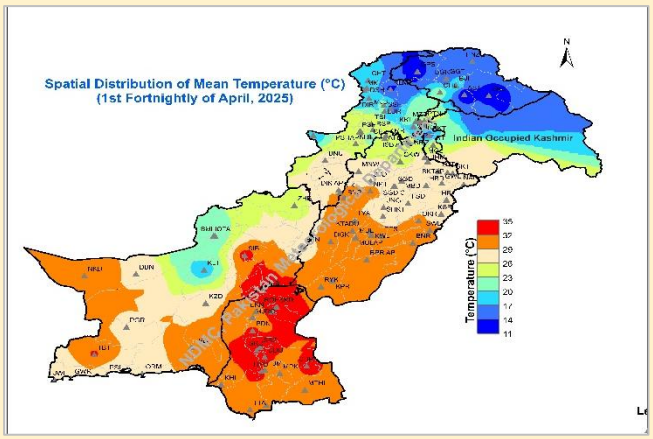

Figure 5: Spatial distribution of the MeanTemperature (°C)

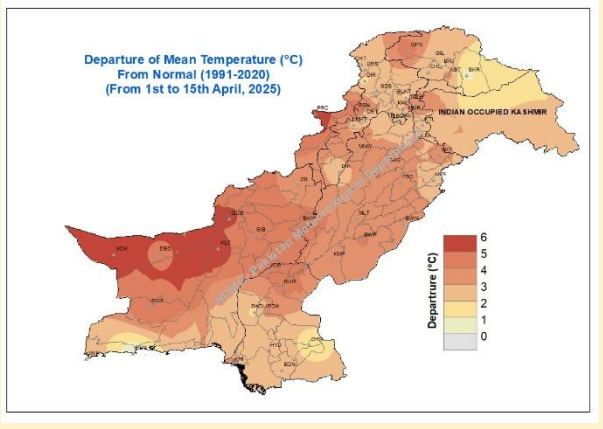

Figure 6: Departure of Mean Temperature (°C) from the Normal (1991-2020)

4. Departure of Temperature during the First Fortnight of April, 2025

Figure 6 explains the spatial distribution of mean temperature anomalies (°C) across Pakistan during the first half of April 2025, relative to the 1991–2020 climatological baseline. The analysis reveals that the country experienced widespread positive temperature anomalies, with average temperatures ranging from 1°C to 6°C above the long-term average. Such anomalies underscore the ongoing impact of global climate change on regional temperature patterns.

5. Maximum Length of Consecutive Dry Days (CCD)

The length of dry spells is measured by Consecutive Dry Days (CDD), defined as periods receiving less than one millimeter of rainfall. Figure 7 illustrates the spatial distribution of CDD across various regions. Turbat recorded the highest number of consecutive dry days as 252, while Sindh experienced between 185 and 245 consecutive dry days, indicating increased water demand in these areas.

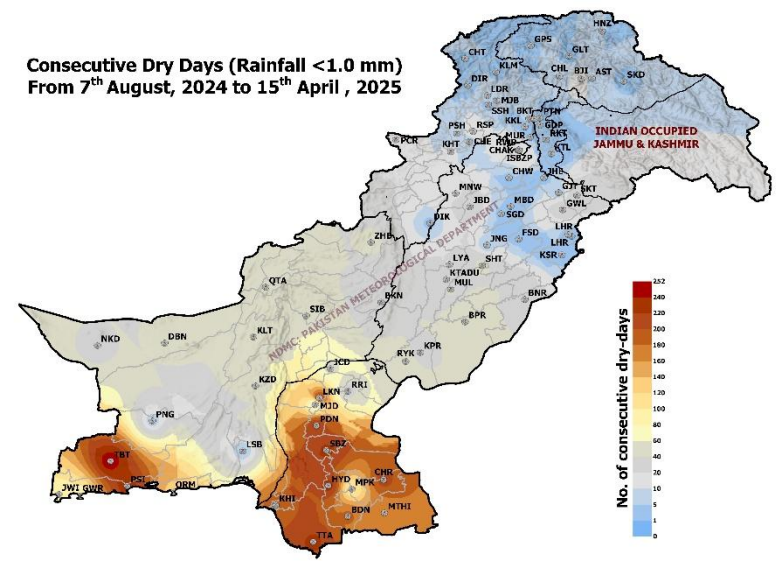

Figure 7: Spatial Distribution of Dry Days Spell

6. Weather Forecast

Forecasts suggest a slight decrease in rainfall from the 1991-2020 average in northern Punjab, Kashmir, and adjacent areas of northern Khyber Pakhtunkhwa.

Conversely, southern regions are anticipated to receive near-normal rainfall, aligning with their typical climatological patterns.

Nationwide, mean temperatures are projected to be above normal, with the most significant deviations expected in Kashmir, Gilgit-Baltistan, and northern Khyber Pakhtunkhwa.

7. Drought Situation Analysis

During April 1-15, 2025, light to moderate precipitation was recorded in Khyber Pakhtunkhwa (KP), upper Punjab, Kashmir and Gilgit-Baltistan. The upper regions of KP and Kashmir received the highest amounts of rainfall, due to the influence of westerly disturbances and orography. Conversely, the rest of the country remained predominantly dry, consistent with the climatological average rainfall for this period.

During the same period, mean surface air temperatures across Pakistan were observed to be 1–6°C above the 1991–2020 climatological average. This anomaly was particularly pronounced in southern regions, including Sindh, southern Punjab, and Balochistan, where temperatures soared 6–8°C above normal due to a persistent upper-atmospheric high-pressure system. These elevated temperatures are expected to exacerbate existing drought conditions in the already affected areas of Sindh and Balochistan, intensifying soil moisture deficits and water stress.

In light of these conditions, anticipatory actions may be planned and executed in drought affected areas of Sindh, Balochistan and Punjab. Residents and businesses are advised to implement water conservation measures, such as repairing leaks, utilizing water-efficient appliances, and scheduling lawn and garden watering during early morning or late evening hours to minimize evaporation.

Furthermore, all relevant stakeholders in the affected regions should remain updated with weather advisories and adjust disaster risk reduction plans accordingly to mitigate the impacts of the prevailing climatic conditions.