FORTNIGHTLY DROUGHT WATCH BULLETIN

(1st to 15th May, 2025)

Pakistan Meteorological Department

National Drought Monitoring & Early Warning Centre

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1. Rainfall Analysis during First Fortnight of May, 2025

During the period from May 1 to 15, 2025, moderate to heavy rainfall was recorded across the country. The most substantial rainfall occurred in the Hazara division, Potohar region and Kashmir, likely influenced by successive western disturbances traversing the region during this timeframe. Figure 1 delineates the spatial distribution of rainfall across the country for this period, while Table 1 provides top ten stations quantitative rainfall (mm) measurements obtained from meteorological observatories.

Rainfall Table					
S. No	**Station**	**Rainfall (mm)**	**S. No**	**Station**	**Rainfall (mm)**
1.	Muzaffarabad Airport	144.3	6.	Chaklala Airbase	58.0
2.	Murree	125.5	7.	Kakul	56.0
3.	Muzffarabad City	107.0	8.	Islamabad, Zeropoint	55.4
4.	Garhi Dopatta	75.9	9.	Chakwal	55.0
5.	Rawalakot	63.6	10.	Joharabad	53.4

Table 1: Chief amounts of rainfall (mm)

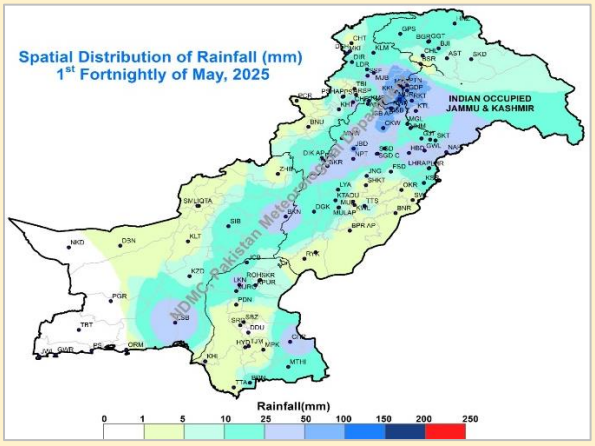

Figure 1: Spatial distribution of rainfall (mm)

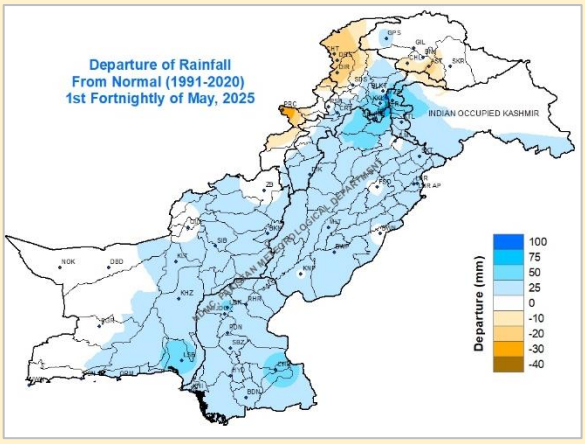

Figure 2: Departure of rainfall (mm)

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

Figure 2 illustrates the deviation of observed precipitation from the 30-year climatological average (1991–2020) across Pakistan during the first half of May 2025. Significant positive anomalies that is above the normal rainfall were recorded in most parts of the country during the first fortnight of May. The northwestern KP and southern part of GB received below normal rainfall. The western Baluchistan exhibited near-normal dry conditions, consistent with the established climatological patterns for this period.

Figure 3 illustrates the climatological average rainfall distribution (in millimeters) during the first half of May, based on data from 1991 to 2020. In this period, most of the southern regions of the country typically receive between 0 to 30 mm of rainfall. However, areas such as Kashmir, upper Khyber Pakhtunkhwa, the Potohar region and Parachinar, receive average rainfall ranging from 31 to 56 mm.

Figure 4 shows the fortnightly normal climatological temperature distribution. The warmest regions are Sindh province, Lasbela (Baluchistan) and southeastern Punjab. Their mean temperatures range from 15 to 36°C. The rest of the country experiences milder conditions during this period.

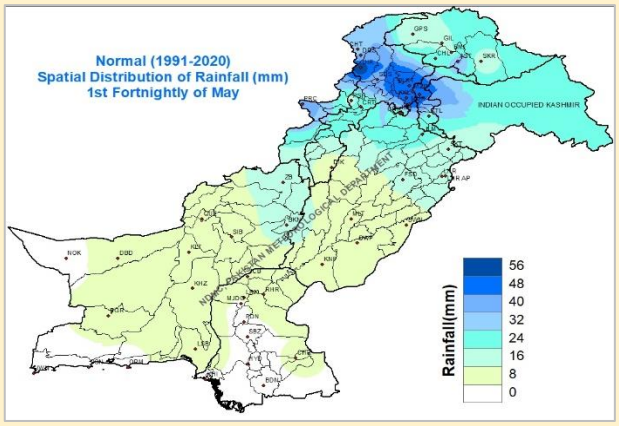

Figure 3: Normal distribution of rainfall (mm)

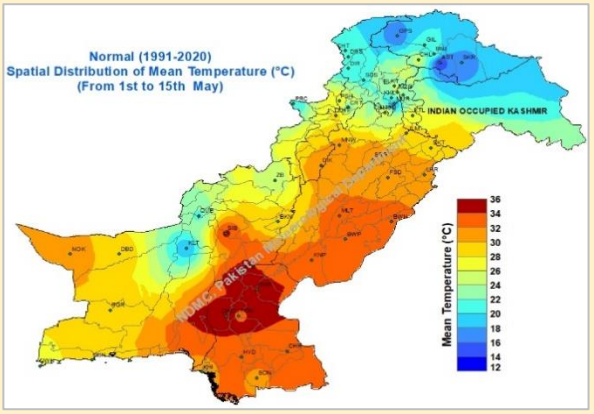

Figure 4: Normal distribution of Temperature (°C)

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

Figure 5 represents the spatial distribution of mean surface air temperatures (°C) across Pakistan during the first half of May 2025. The lowest average temperatures were recorded in the northern regions, including upper Khyber Pakhtunkhwa, Gilgit-Baltistan, Azad Jammu and Kashmir 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, higher temperatures were observed in the southern regions, particularly in Makran and Lasbela divisions of 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, resulted in higher temperature readings.

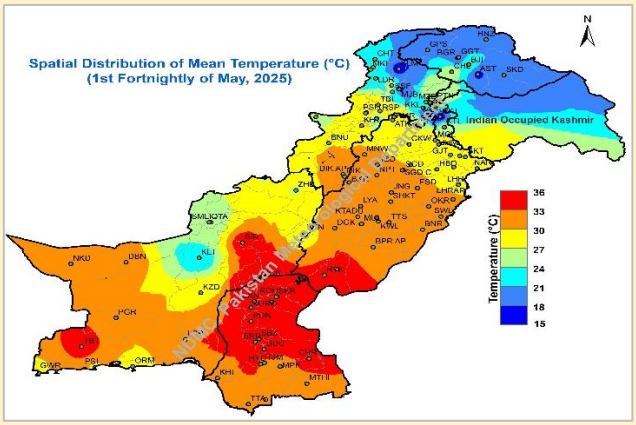

Figure 5: Spatial distribution of the MeanTemperature (°C)

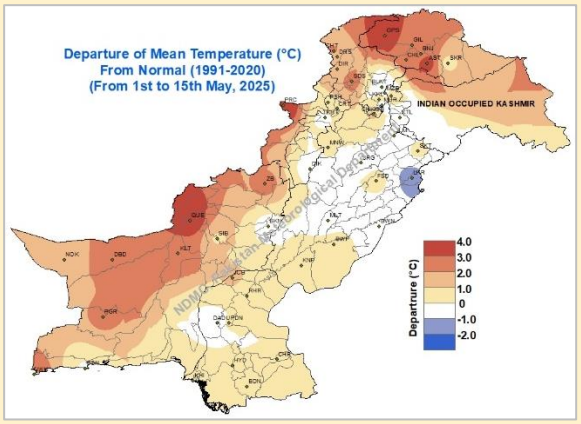

Figure 6: Departure of Mean Temperature (°C) from the Normal (1991-2020)

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

Spatial distribution of mean temperature anomalies (°C) across Pakistan during the first half of May 2025, relative to the 1991–2020 climatological baseline is represented in Figure 6. The analysis reveals that the country experienced widespread positive temperature anomalies, with average temperatures ranging from 1°C to 4°C above the long-term normal, While, Lahore experienced below normal temperature.

5. Maximum Length of Consecutive Dry Days (CCDs)

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 stations. Turbat recorded the highest number of consecutive dry days with 276 CDDs, while few stations in Sindh also experienced between 200 and 260 consecutive dry days, indicating increased water demand in those areas.

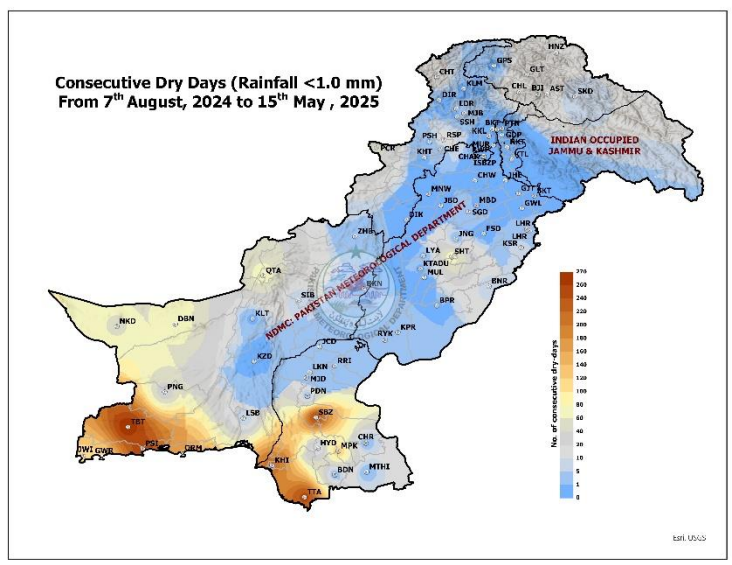

Figure 7: Spatial Distribution of Dry Days Spell

6. Water availability

During the fortnight, the water level at Mangla and Tarbela reservoirs has started to increase due to glacial melt and recent rainfall received during the month. The water levels at the major reservoirs, Tarbela and Mangla, stand at 1465 feet and 1146 feet respectively. These levels have risen due to increased water inflow from glacial melt and rainfall in the upper catchment areas.

Water levels in the small reservoirs Rawal, Khanpur, and Simly dams have declined. This reduction is attributed to increase the water demand driven by above-average temperatures and a deficit in precipitation over recent months.

7. Weather Forecast

Forecasts suggest a slight tendency toward below-normal rainfall is anticipated in northern Punjab, Kashmir, and adjacent areas of northern Khyber Pakhtunkhwa during May 2025.

In contrast, southern regions of the country and the eastern parts of Gilgit-Baltistan are expected to receive near-normal rainfall.

Nationwide, mean temperatures are expected to remain above normal with maximum departure over Kashmir, Gilgit Baltistan and northern Khyber Pakhtunkhwa.

8. Drought Situation Analysis

During the period from May 1 to 15, 2025, moderate to heavy rainfall was recorded across the country except western Baluchistan. The most substantial rainfall occurred in the Hazara division, Potohar region and Kashmir, likely influenced by successive western disturbances traversing the region during this timeframe.

During the same interval, mean surface air temperatures across Pakistan were observed to be 1–4°C above the 1991–2020 climatological average. This anomaly was particularly pronounced in western regions of the country where temperatures soared 3–4°C above normal. 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.

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Forecast predicts near-normal rainfall in the drought-prone southern regions, which is expected to bring relief. Additionally, satisfactory reservoir levels at Mangla and Tarbela will support irrigation in the canal-fed lands of Punjab, Sindh, and Balochistan, further improving the situation.

In light of these conditions, residents and businesses are advised to implement water conservation measures and efficient use of water, repair 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.

For more details on forecast, visit PMD official website:
https://nwfc.pmd.gov.pk/new/press-releases.php

For drought update, visit NDMC official website:
https://ndmc.pmd.gov.pk/new/bulletins.php