Government of Pakistan
Pakistan Meteorological Department
Islamabad

Tel: 051-9250364
Fax: 051-9250368

Issue date: 1st July 2025

Outlook for July-August-September (Monsoon), 2025

1. Current meteorological conditions

Below-normal rainfall was recorded across the country during the April to June (AMJ) season. The first two months generally experienced dry conditions; however, the early onset of the monsoon in the last week of June brought a spell of moderate to heavy rainfall over the northern and eastern regions. This included isolated incidents of intense downpours and flash/urban flooding. The rainfall spell relaxed the heatwave condition prevailing for almost two weeks. Additionally, above-normal temperatures were observed across the country (Table 1).

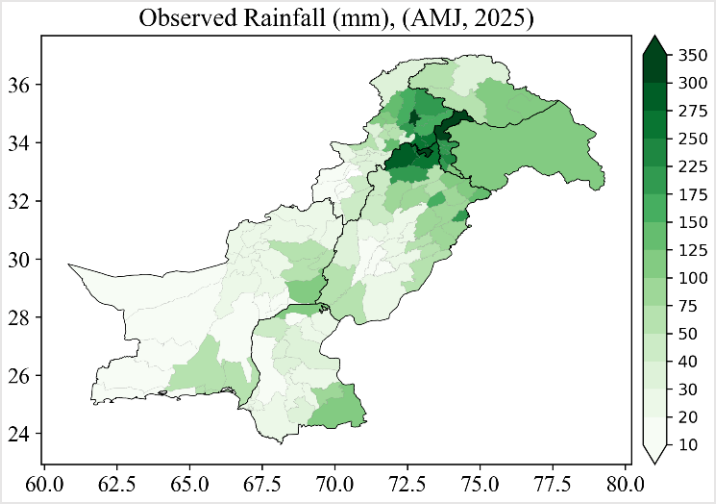

Figure 1: Observed rainfall (mm), AMJ 2025

Table 1: AMJ 2025 Rainfall and Temperature - Observed Averages and Anomalies

Region	Total Rainfall (mm)	Normal Rainfall (mm)	Rainfall Departure (%)	Mean Temp (°C)	Anomaly (°C)
Pakistan	73.9	101.0	-25.7	29.4	+1.7
AJK	250.0	274.1	-8.9	27.3	+1.5
Balochistan	14.4	35.3	-53.6	30.1	+1.9
Gilgit-Baltistan	71.1	89.1	-20.2	21.8	+2.4
Khyber Pakhtunkhwa	77.6	188.4	-56.7	26.8	+2.4
Punjab	119.8	121.7	-1.6	30.9	+1.1
Sindh	37.07	16.5	123.9	34.3	+1.1

2. Seasonal Rainfall Outlook for JAS 2025:

The seasonal outlook is based on the outputs of eight global seasonal prediction models with optimal skill. The models' outputs are combined using the Multi-Model Ensemble (MME) technique to generate operational forecasts for seasonal rainfall and temperature. Currently, the Indian Ocean Dipole (IOD) is in a neutral phase but is expected to transition to a negative phase during the season. Meanwhile, the El Niño Southern Oscillation (ENSO) is projected to remain in a neutral phase throughout the season.

Given these conditions, the forecast indicates a general tendency for **normal*** **to slightly above-normal** rainfall across the central to southern parts of the country, with the highest departures expected in the northeastern parts of Punjab and Kashmir. In contrast, the northern regions, including northern Khyber Pakhtunkhwa, Gilgit-Baltistan and upper parts of Kashmir are likely to experience **normal to slightly below-normal** rainfall during the forecast period (Figure 2, 3).

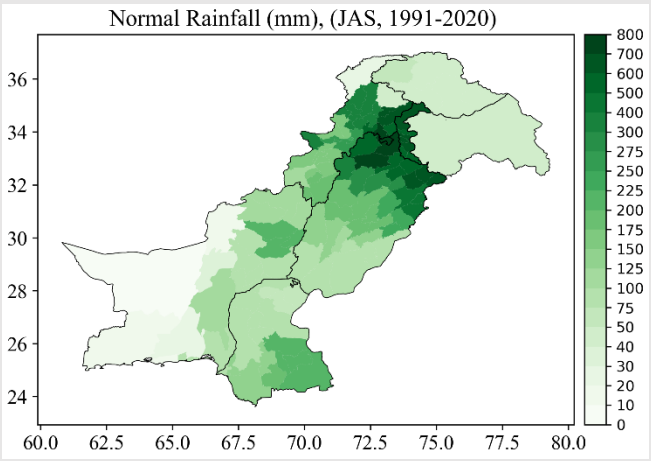

Figure 2: Normal (1991-2020) rainfall (mm) for JAS

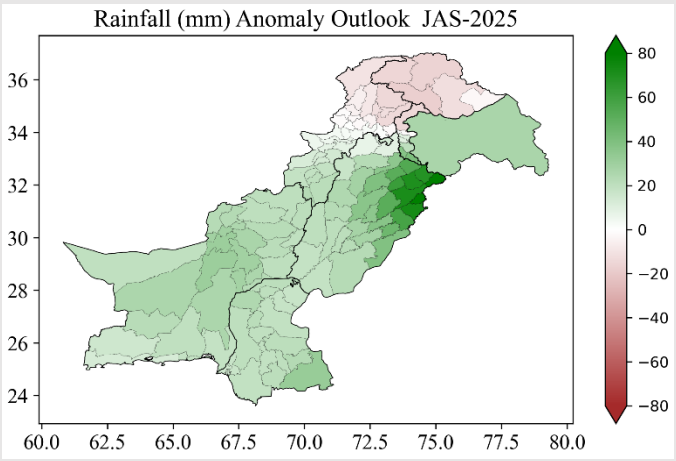

Figure 3: Monthly rainfall (mm) anomaly for JAS 2025

The probabilistic rainfall outlook reflects a consensus among all models used in the ensembles. The tercile probability output (Figure 4) indicates that most ensemble members predict the likelihood of near normal rainfall in most parts of the country including southern Punjab, Sindh, Balochistan and central Khyber Pakhtunkhwa, while Gilgit-Baltistan and northern Khyber Pakhtunkhwa are likely to receive below-normal rainfall during the forecast season. Northeastern Punjab and southern Khyber Pakhtunkhwa are likely to get above normal rainfall during the Monsoon season.

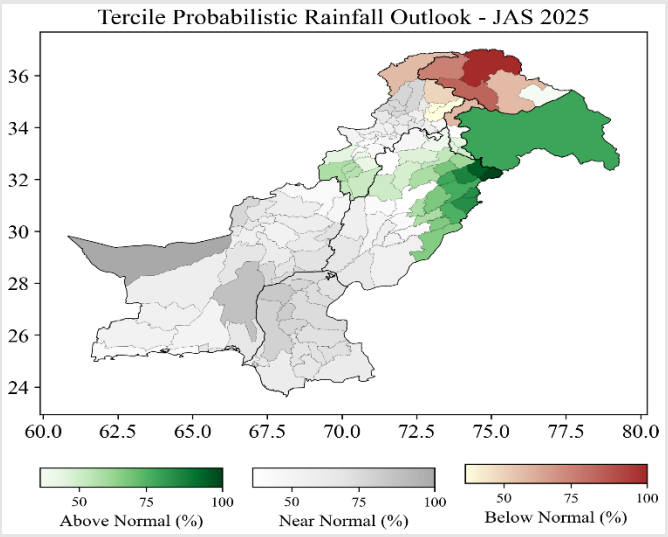

Figure 4: Probabilistic (%) rainfall outlook for JAS 2025

* Normal = 30-years average climatology

3. Seasonal Temperature Outlook:

Mean temperatures are expected to remain **above normal*** throughout the country, with maximum departure over Gilgit Baltistan, upper Kashmir and northern areas of Khyber Pakhtunkhwa (Figure 6).

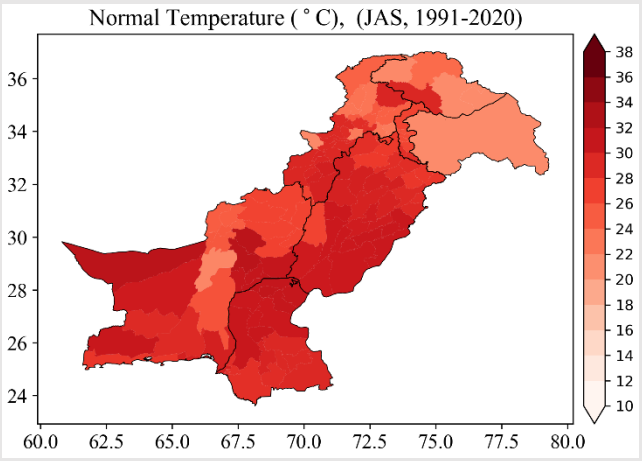

Figure 5: Normal (1991 - 2020) temperature for JAS

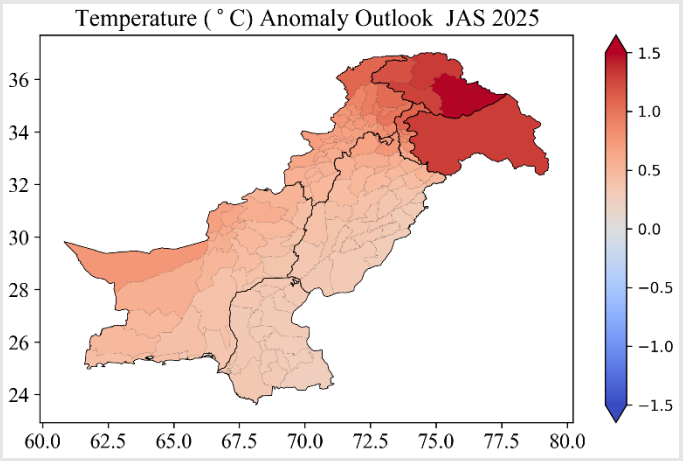

Figure 6: Monthly temperature anomaly outlook for JAS 2025

The tercile probabilistic temperature outlook (Figure 7) indicates that the majority of models predict above-normal temperatures across the country with maximum likelihood over northern and western areas of the country.

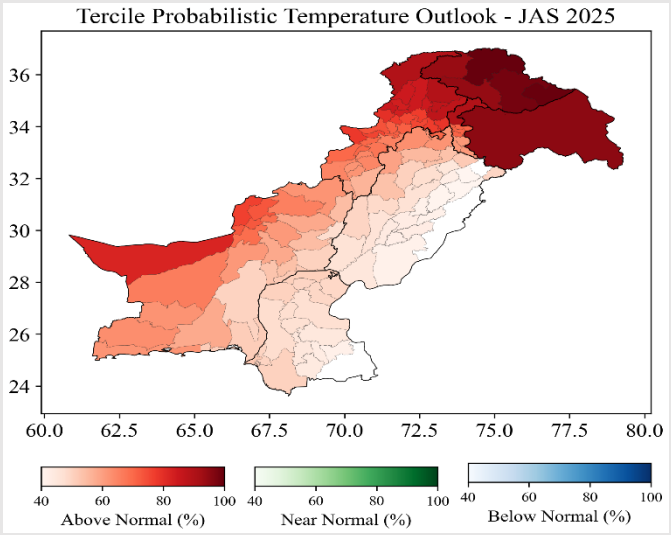

Figure 7: Probabilistic (%) temperature outlook for JAS 2025

4. **Impacts:**

- **Flooding Risk:**
    - Normal to above-normal rainfall in North-Eastern Punjab and AJK may cause flooding (urban & flash flooding).
    - Heavy rainfall events may cause flash or urban flooding in hill torrent areas of Koh-e-Suleman and plains of major cities in Sindh, Punjab, AJK, and KP.
    - Rainfall will also replenish water reservoirs and groundwater resources.
- **Snowmelt and GLOFs:**
    - More than 1°C higher temperatures anomalies predicted over Upper Khyber Pakhtunkhwa, Gilgit-Baltistan, and Kashmir may accelerate snowmelt, resulting in increased river inflow.
    - High temperatures may also lead to Glacial Lake Outburst Floods (GLOFs) in these areas.
- **Agricultural Advisory:**
    - Major Kharif crops (Sugarcane, Rice, Cotton and Maze) are expected to have normal growth.
- **Severe Weather:**
    - Although the general outlook for the rainfall is normal to slightly above normal but the possibility of isolated extreme rainfall events cannot be ruled out.
    - Dry intervals between rainfall spells may lead to heat stress in the plain areas of the country.

5. **Recommendations**:

    - Given the recent increase in windstorm events, it is advisable that billboards in major urban areas be either removed or securely reinstalled with enhanced protection to withstand severe wind conditions. Similarly, proactive measures should be taken to protect solar energy structures to minimize the risk of damage during such events.

Note: The Seasonal Outlook is updated monthly in the first week of the month. The forecast reliability varies with location, time of year, and global ocean/atmospheric conditions. It provides general trends using probabilities rather than precise predictions and compares expected conditions to historical averages. For better decision-making, it should be used alongside short-term forecasts and other climate data.