



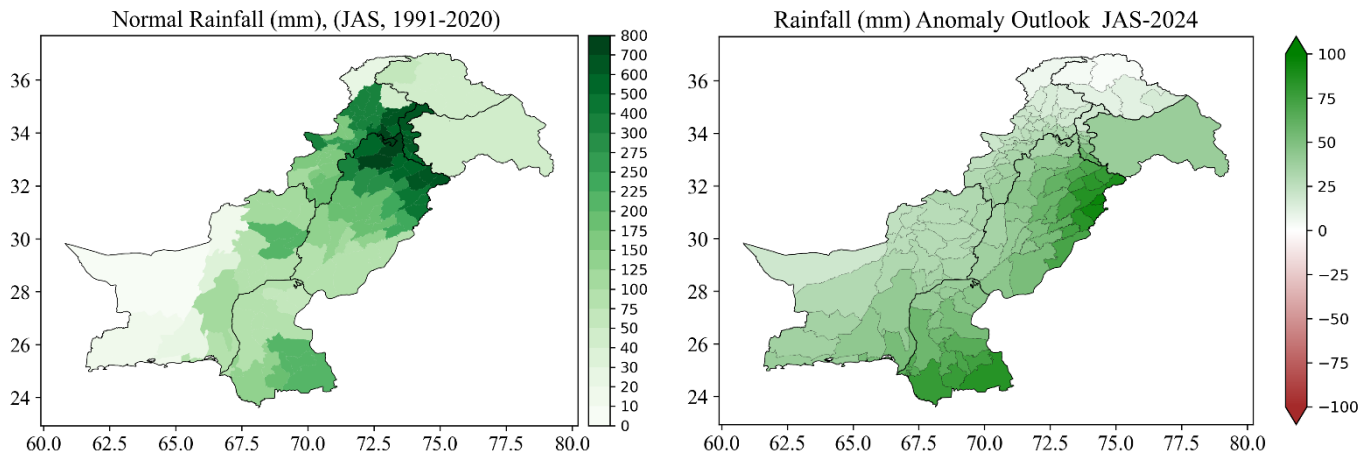
## Outlook for Monsoon (Jul – Aug – Sep), 2024

### 1. Synoptic Situation:

During the monsoon season 2024, it is anticipated that neutral phase of the El Niño Southern Oscillation (ENSO) will persist during the season with a tendency to shift towards the negative phase (La Niña) at the end of the season. Concurrently, the Indian Ocean Dipole (IOD) is forecasted to persist in a neutral phase throughout the season. Given the prevailing atmospheric conditions, the climatic forecast for Pakistan is as follows:

### 2. Seasonal Outlook (Rainfall):

As per seasonal outlook **normal\* to above normal** rainfall is expected in most parts of the country, with maximum departure over upper Punjab and lower Sindh. On the other hand, northern Khyber Pakhtunkhwa and Gilgit Baltistan may get nearly normal rainfall, whereas, most parts of Balochistan may receive slightly above normal rainfall during the season.

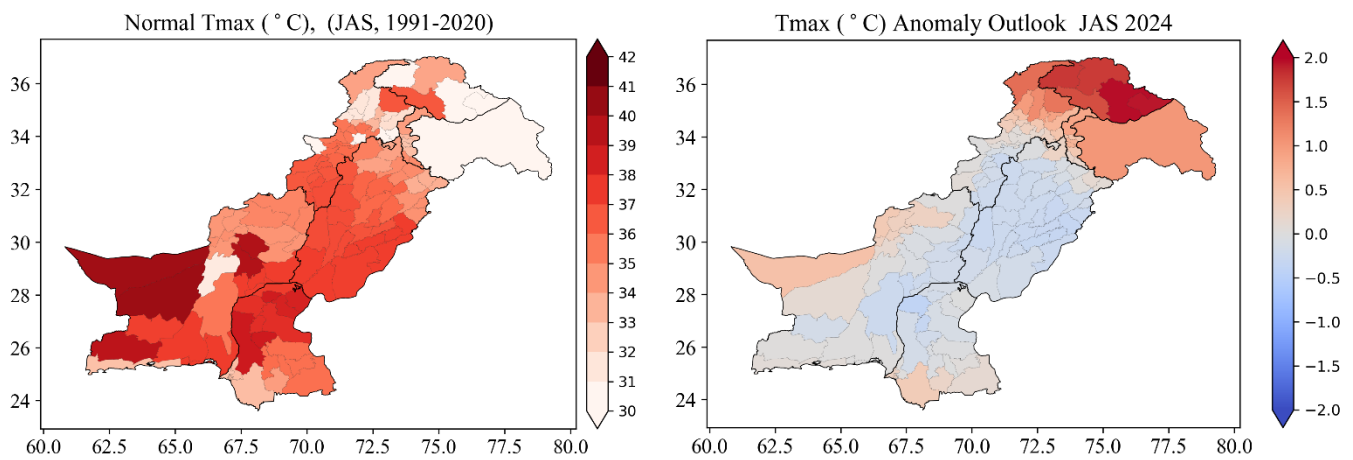


**Figure 1:** Normal (1991-2020) rainfall and monthly anomaly outlook for monsoon 2024.

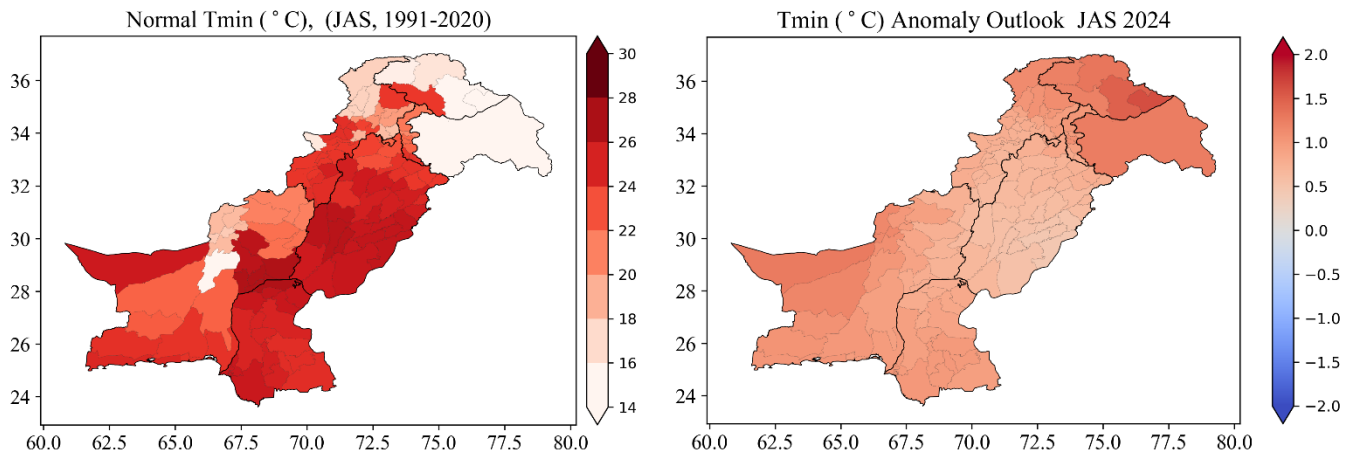
### 3. Seasonal Temperature Outlook:

Nationwide, the daytime maximum temperature is expected to be nearly **normal\*** however, northern Khyber Pakhtunkhwa and Gilgit-Baltistan may experience warmer than normal maximum temperature during the season. Nighttime temperatures are likely to exceed normal levels across most parts of the country, with marked positive deviation anticipated over northern Khyber Pakhtunkhwa, Gilgit-Baltistan and southwestern Balochistan.

\*Normal = 30-years (period) average climatology



**Figure 2:** Normal (1991-2020) maximum temperature and monthly anomaly outlook for monsoon 2024



**Figure 3:** Normal (1991-2020) minimum temperature and monthly anomaly outlook for monsoon 2024

#### 4. Impacts:

- Due to expected normal to slightly above-normal rainfall in Northeast Punjab, AJK and KP, there is a risk of localized flooding (urban & flash flooding) in these areas. This rainfall is also expected to contribute to replenishment of water reservoirs and ground water resources.
- High temperatures in Upper Khyber Pakhtunkhwa, Gilgit-Baltistan, and Kashmir may accelerate snowmelt, increasing river inflow. Moreover, such high temperature may contribute to chances of Glacial Lake Outburst Floods (GLOFs) in those areas.
- Based on recent weather conditions, a considerable amount of soil moisture is currently available in the fields. Therefore, farmers are advised to irrigate as per crop requirements.
- Day time temperatures are likely to remain above normal all over the country during the start of the forecast period but the expected rains and cloudiness towards the end of the season will normalize the high temperatures.
- Strong winds, dust storms, and gusts are highly likely in the season.
- The extreme hydro-meteorological events over catchment areas of the major rivers of the country are likely to generate riverine floods.
- Flash or urban flooding episodes are anticipated in hill torrent areas of Koh-e-Suleman and plains of major cities in Sindh, Punjab, AJK, and KP due to heavy rainfall events during the season.

**Note:** Considering the dynamic nature of the climate system the outlook is updated monthly during the last week of each month.

\*Normal = 30-years (period) average climatology