

JUNE 2022

Highlights

- Although rain during June, 2022 was remained above normal but due to below normal rains reported consecutively in previous months especially in the drought-prone areas of Sindh and Balochistan, some areas remained under moisture stress condition.
- In June 2022, Moderate to Heavy rainfall reported from most of the Khyber Pakhtunkhwa, Punjab, Azad Jammu and Kashmir. The recorded rainfall is shown in Figure 1. The chief amounts of monthly rainfall recorded across Pakistan during June 2022 are shown in Table 1.
- As per prediction of PMD, monsoon rainfalls are expected to be above normal over the central (Punjab) and southern parts (Sindh) of the country whereas slightly above normal rainfall is expected over remaining parts of the country.
- Mild to moderate drought conditions are prevailing over SW areas of Balochistan and south of Sindh. The disaster management authorities should remain vigilant in these areas and plan DRM activities accordingly.

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1. Weather Summary for the month of June, 2022

During the month of June 2022, rainfall received across Pakistan is shown in Figure.1. Moderate to Heavy rainfall was reported from most of the places in Khyber Pakhtunkhwa, Punjan, Azad Jammu and Kashmir. The Chief amounts of monthly rainfall recorded across Pakistan during June 2022 are shown in Table 1.

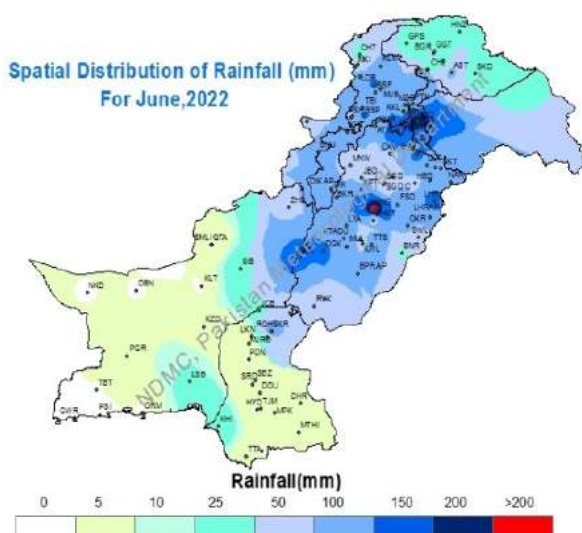


Figure 1: Rainfall distribution for the month of June 2022

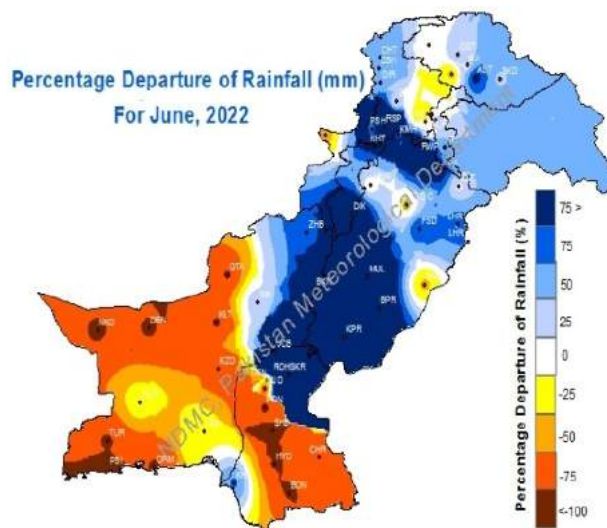


Figure 2: Percentage Departure of Rainfall for the month of June-2022

Fig. 2 depicts the percentage departure of rainfall from the normal. Above normal rainfall was received in most of the areas in Khyber Pakhtunkhwa, Punjan, Azad Jammu and Kashmir, while most of the southern areas of Sindh and Balochistan received below normal rainfall.

S. No.	Stations	Rainfall (mm)	S. No.	Stations	Rainfall (mm)
1	Jhang	230.1	11	Jhelum	128.2
2	Rawalakot	207.5	12	Kotli	126.4
3	Chaklala Airbase	194.6	13	Chakothe	126.3
4	Dhulli	176.0	14	Barkhan	118.0
5	Bandi Abbaspur	167.9	15	Chattar Kalas	116.5
6	Lahore Airport	144.3	16	Dir	116.0
7	Tirah (KP)	141.8	17	Multan	112.8
8	Murree	135.5	18	D.G.Khan	110.0
9	Garhi Dupatta	132.7	19	Bajaur	102.4
10	Risalpur	130.0	20	Bhakkar	102.0

2. Drought Situation Analysis

Spatial drought analysis results using different indices are represented in Fig. 3. In Balochistan, Nokkundi, Taftan, Chagi, and Dalbandin areas are facing Severe drought while Nushki, Mashkhel, Turbat, Panjgur, Jiwani, Pasni, Ormara, Gawadar along with southern districts of Sindh i.e., Tharparker, Badin, Thatta, Sajawal and eastern sindh areas are still facing mild drought conditions.

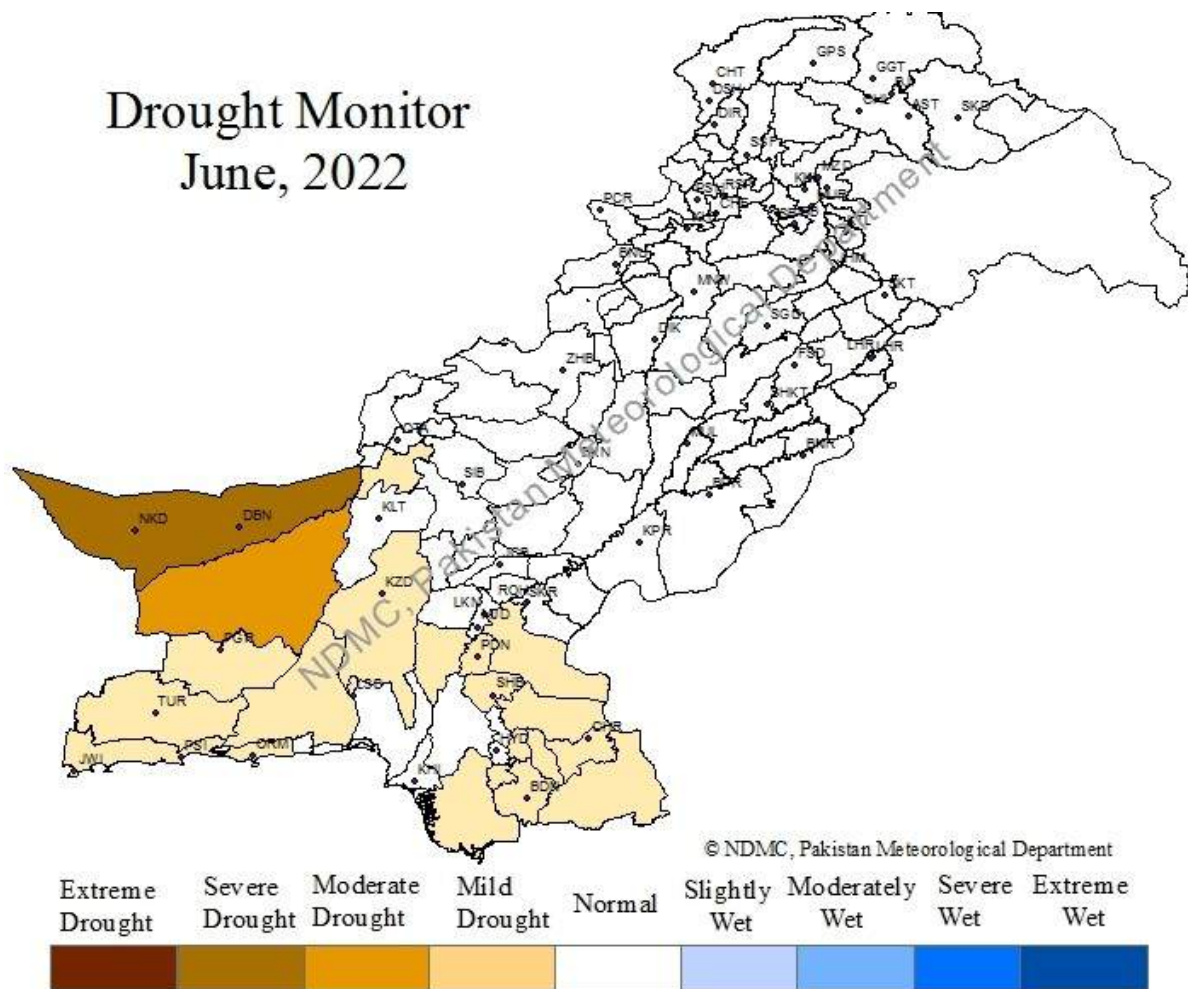
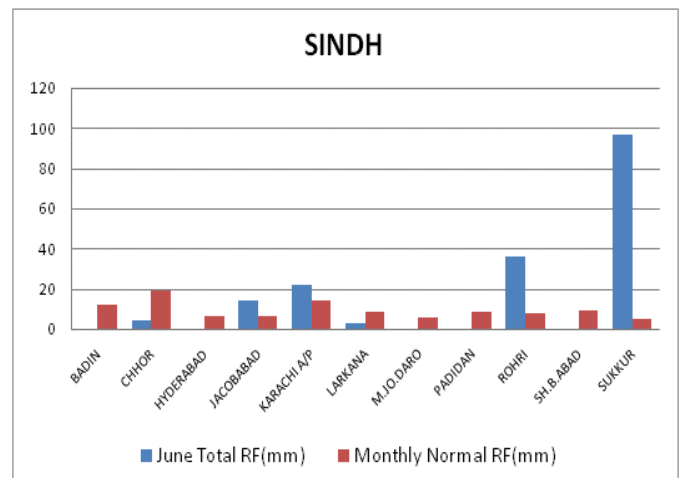
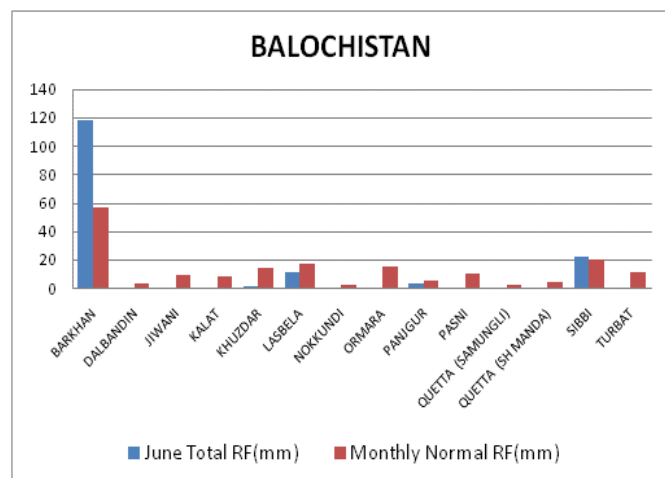
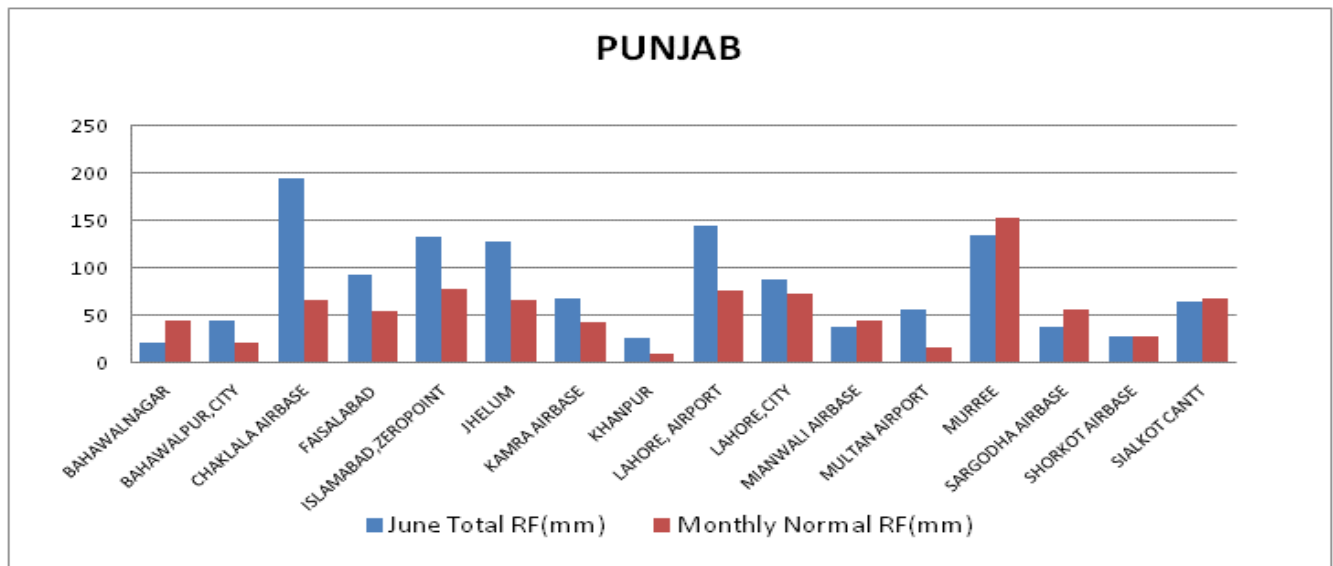
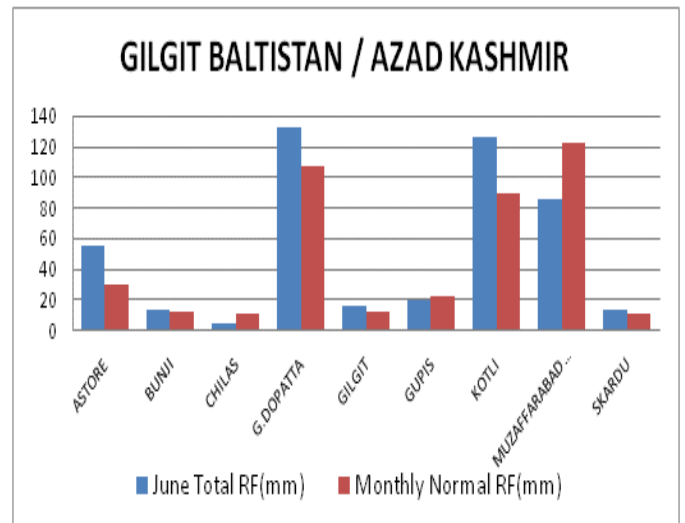
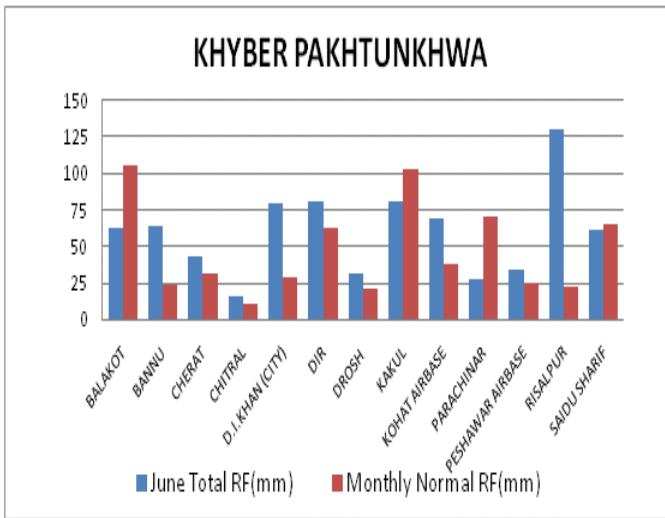


Figure 3: Analysis of Drought conditions in Pakistan

I. Monthly Actual to Normal Rainfall Comparison for June-2022



II. Normalized Difference Vegetation Index (NDVI)

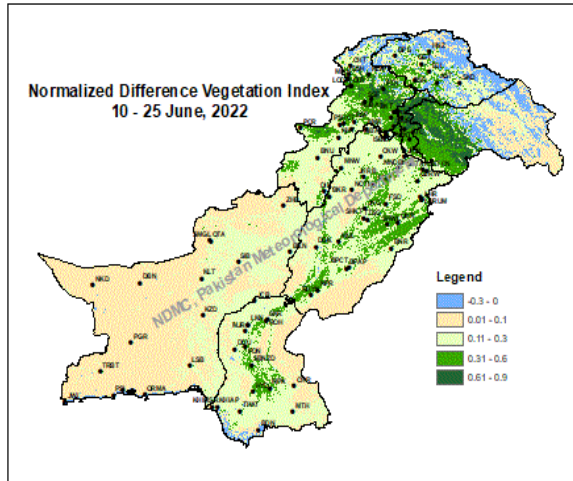


Figure 4: NDVI during 10 – 25 June, 2022

Normalized Difference Vegetation Index values for June 2022 are shown in Fig. 4. NDVI conditions in Khyber Pakhtunkhwa, Punjab and along the Indus belt are good, depicting the impacts of well-distributed rainfall during the month. The vegetation index is minimum over eastern Sindh and almost all of Balochistan as the wheat crop has been harvested.

III. Land Surface Temperature (LST)

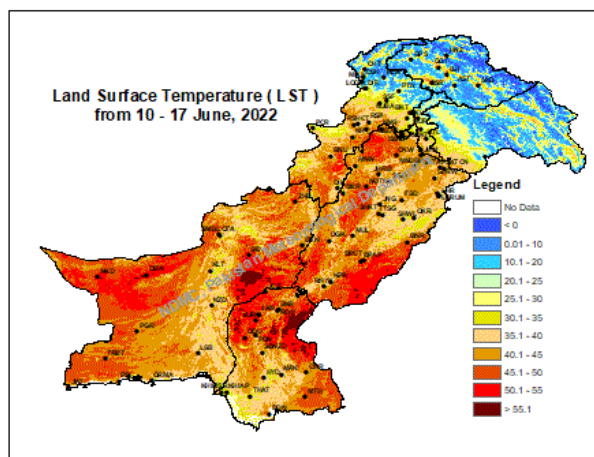


Figure 5: LST (°C) during 10-18 June, 2022

Land Surface Temperatures (LST) for the period 10 – 18 June 2022 are represented in Fig. 5. In the central parts of the country, average daytime temperatures remained between 35°C to 40°C while in lower parts of the country, the temperature reaches above 45°C.

Land Surface Temperatures during the period 18 – 25 June are shown in Fig. 6. Increase in temperatures has been observed in most parts of the country especially in Balochistan as compared to the preceding week.

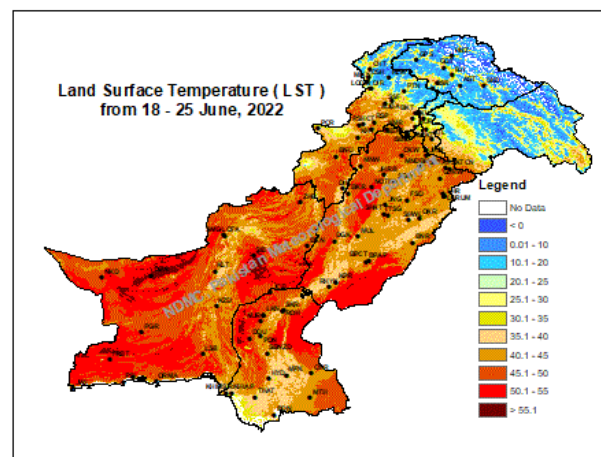
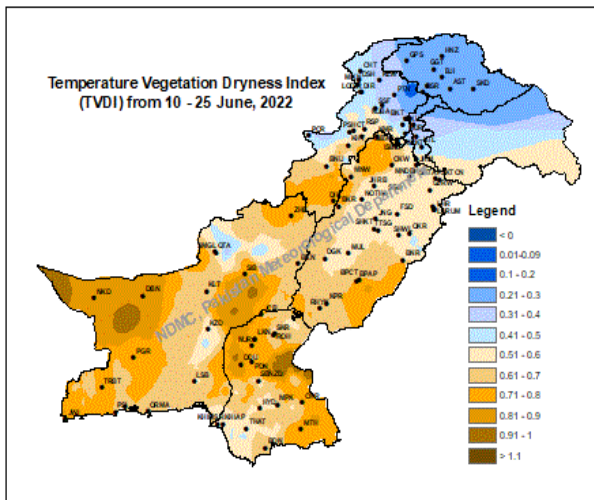


Figure 6: LST (°C) during 18- 25 June, 2022

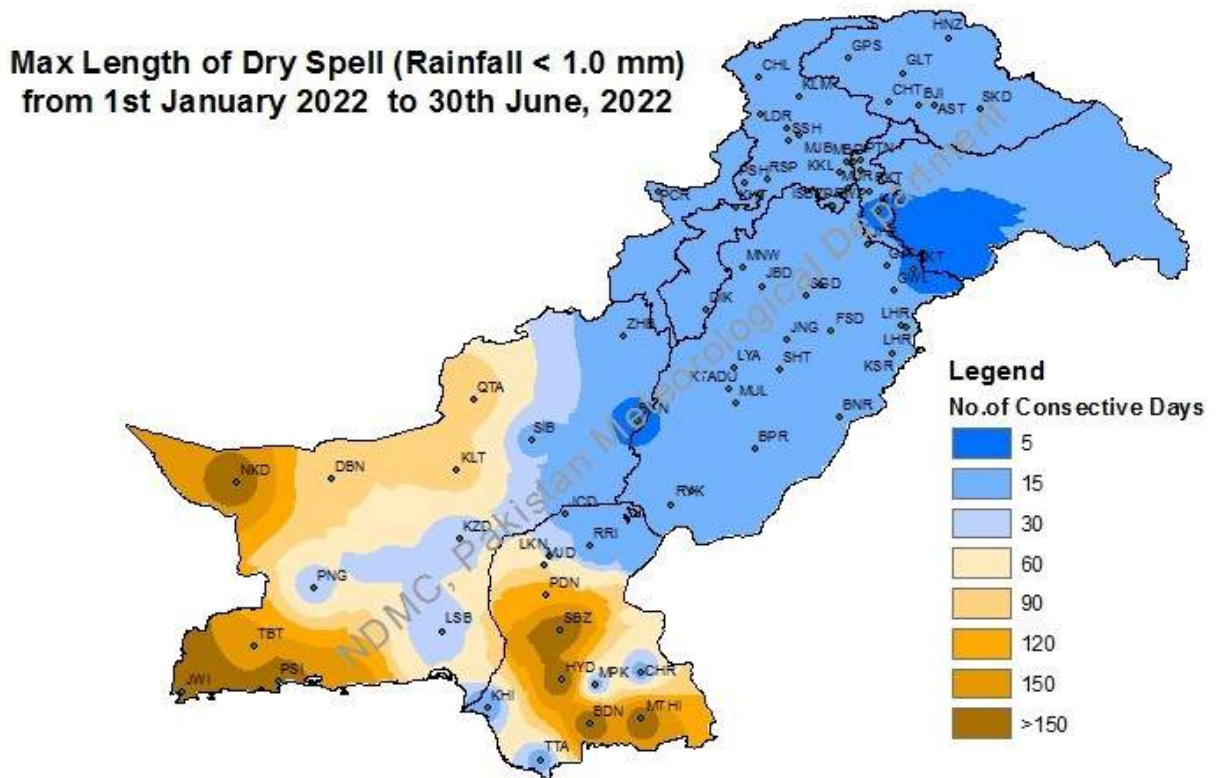
IV. Temperature Vegetation Dryness Index (TVDI)



Temperature Vegetation Dryness Index (TVDI) derived from MODIS product MOD13A2 (NDVI) and MOD11A2 (LST) is shown in Fig. 7, which indicates mild to moderate wet conditions in Gilgit Baltistan and adjoining areas of Khyber Pakhtunkhwa & Kashmir, while southern parts of Punjab, Sindh and Balochistan are under moisture stress conditions..

Figure 7: TVDI during 10 – 26 June 2022

V. Length of Consecutive Dry Days Spell



Source: National Drought Monitoring Center-PMD-Islamabad

3. Water availability/ Dams flow data:

In June 2022, water inflow, outflow and levels of Rawal, Khanpur, Tarbela and Mangla dams are shown in Figs. 8 & 9. Some water Inflow have been recorded in Rawal, Khanpur, Terbella and Mangla reservoir.

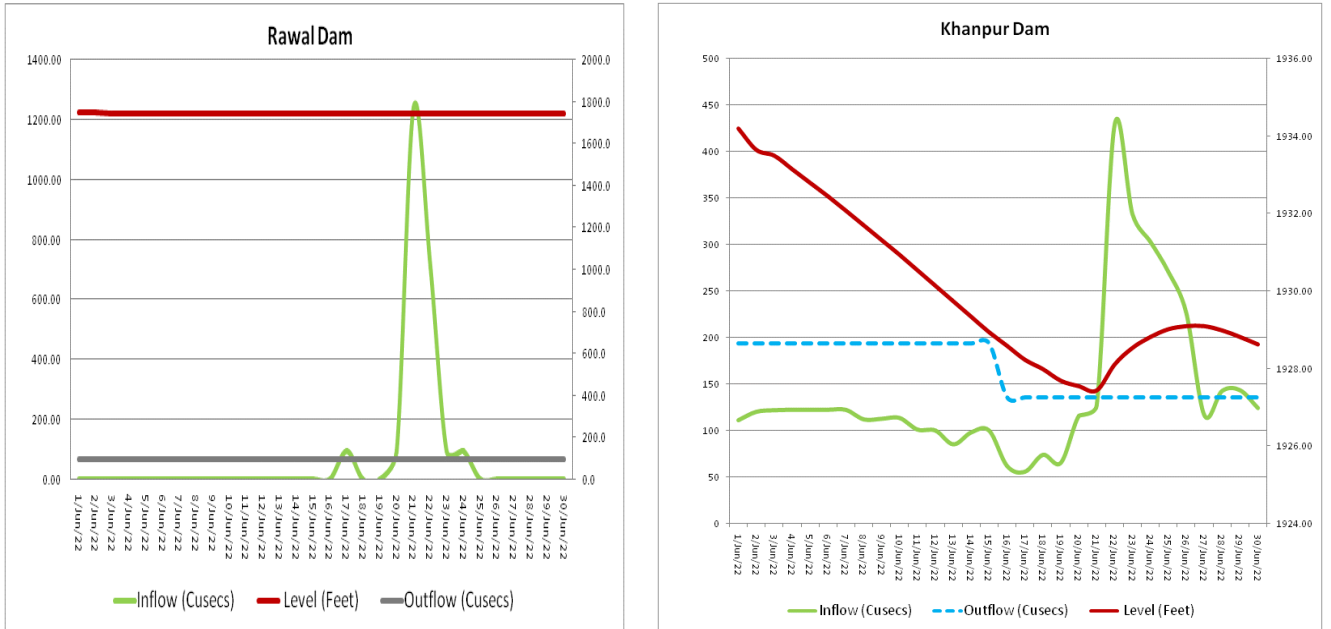


Figure 8: Water inflow, outflow and level of Rawal and Khanpur Dams

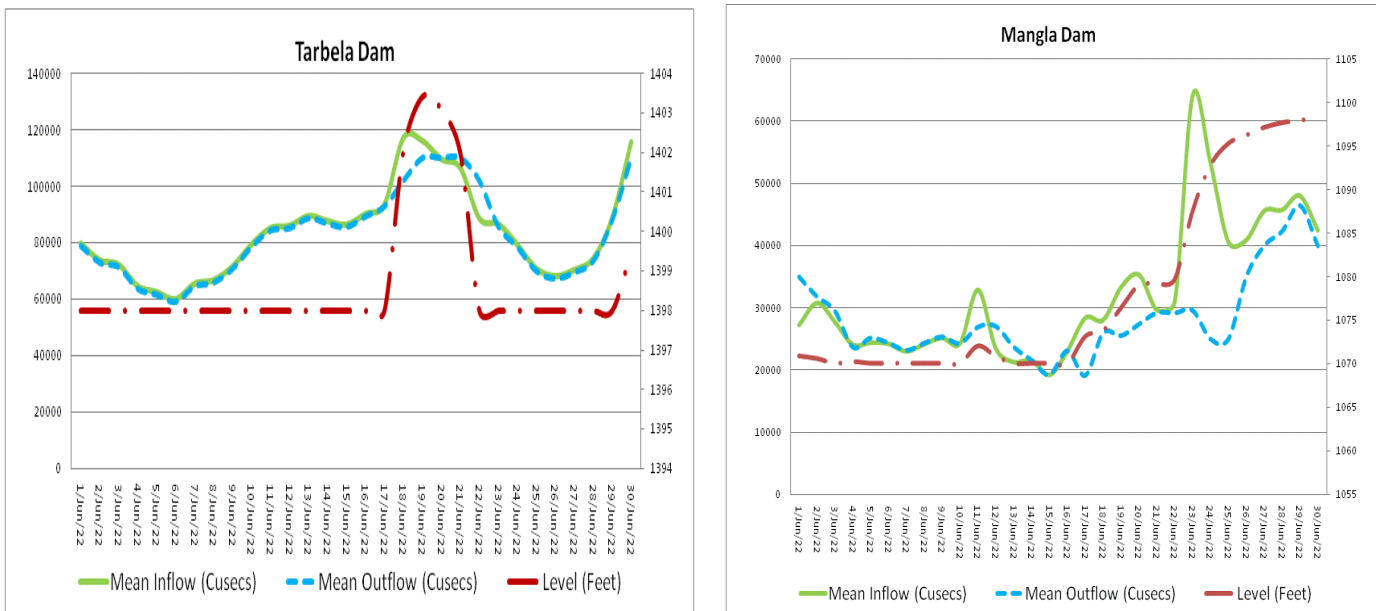


Figure 9: Water inflow, outflow and level of Tarbela and Mangla Dams

4. Weather outlook for July 2022

Monsoon rainfall is expected to be above normal over the central (Punjab) and southern parts (Sindh) of the country whereas slightly above normal rainfall is expected over remaining parts of the country. Day time temperature is likely to remain above normal all over the country during start of the forecast period but the expected rains towards the end of the season will normalize the high temperature.

5. Drought Outlook for July 2022

The month of June was not fair enough for the drought-prone areas of Sindh and Balochistan. *In Balochistan, Nokundi, Taftan, Chagi, and Dalbandin areas are facing Severe drought while Nushki, Mashkhel, Turbat, Panjgur, Jiwani, Pasni, Ormara, Gawadar along with southern districts of Sindh i.e., Sindh Tharparker, Badin, Thatta, Sajawal and eastern sindh areas are still facing mild drought conditions.*

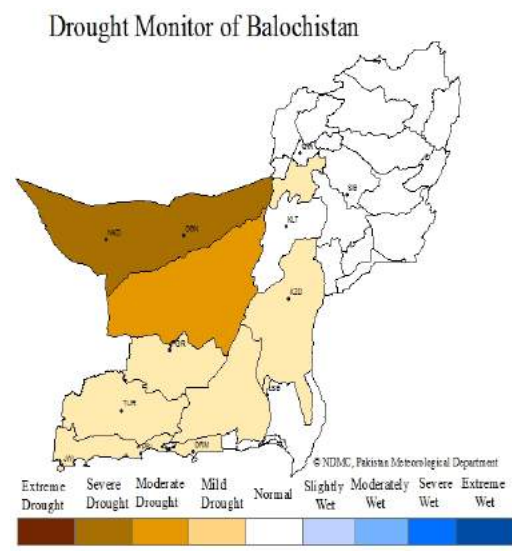


Fig-10: Conditions across Balochistan

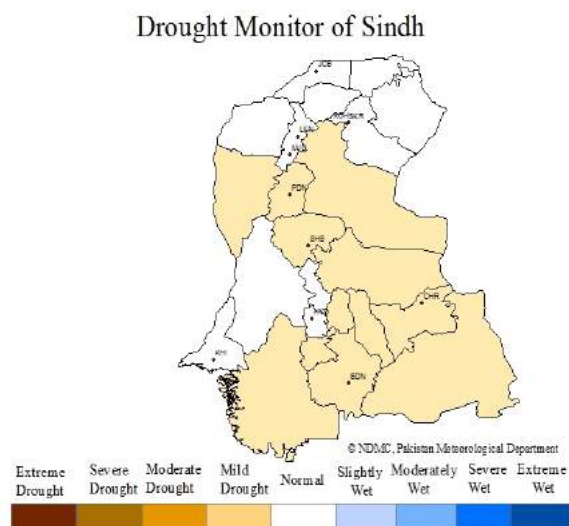


Fig-11 Drought Conditions across Sindh

All stakeholders are requested to make all efforts to watch the water availability situation across rain-fed areas of Balochistan, especially in drought-affected areas and plan DRM activities accordingly.

6. Crop Condition:

The Kharif Crops season varies by region, starting at the earliest June-July. Kharif crops are usually sown at the beginning of the first rains during the advent of the south-west monsoon season, and they are harvested at the end of monsoon season (October). Depending on the region, Sunflower is at the Maturity stage in Sindh. Sugercane is at Tillering stage. Threshing of rape Mustard is completed.

7. Advice for Farmers:

- I. Monsoon rains are expected in different parts of the country during the period. Farmers are advised to take timely precautionary measures to protect their crops, livestock and other property.
- II. Due to mostly dry weather in the lower half of the country during the month, farmers of cotton and sugarcane crops of the lower areas are advised to irrigate the crops as per requirement.
- III. Farmers of the upper half of the country are advised to complete the sowing of Kharif crops in time to utilize fully the present soil moisture, especially growers of maize crop in the rain-fed areas.
- IV. Due to recent rains, farmers should be careful about weeds & pest attacks as the present soil & atmospheric conditions are suitable for rapid weeds growth & pest attacks.