

Drought Bulletin Of Pakistan

MAY 2022

Highlights

- 1. During the month of May 2022, Light to Moderate rainfall was reported from most of the Upper parts of Pakistan including Khyber Pakhtunkhwa, Azad Jammu and Kashmir. The recorded rainfall is shown in Figure 1. The chief amounts of monthly rainfall recorded across Pakistan during April 2022 are shown in Table:1.**
- 2. Precipitation during April 2022 was received below normal especially over most of the drought-prone areas of Sindh and Balochistan thus made some areas under moisture stress.**
- 3. Mild to Moderate Drought Conditions are prevailing over SW areas of Balochistan and Sindh. The disaster management authorities may continue surveillance in these areas and plan DRM activities accordingly.**
- 4. Onset of Monsoon is expected during the last week of June whereas pre-monsoon rains may start from the third week of June. Pre-monsoon and early 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.**

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Table of Contents

| S.No. | Contents | Page # |
|--------------|---|---------------|
| 1 | Weather Summary for the month of May, 2022 | 3 |
| 2 | Drought Situation Analysis | 4 |
| I | Monthly Actual to Normal Rainfall Comparison | 5 |
| II | Normalized Difference Vegetation Index (NDVI) | 6 |
| III | Land Surface Temperature (LST) | 6 |
| IV | Temperature Vegetation Index (TVDI) | 7 |
| V | Length of Consecutive Dry Days Spell | 7 |
| 3 | Water availability/ Dams flow data | 8 |
| 4 | Weather outlook for June, 2022 | 9 |
| 5 | Drought Outlook for June, 2022 | 9 |
| 6 | Crop Condition | 10 |
| 7 | Advice for Farmers | 10 |

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1. Weather Summary for the month of May, 2022

During the month of May 2022, rainfall received across Pakistan is shown in Figure.1. Light to moderate rainfall was reported from most of the places in the north Pakistan including Khyber Pakhtunkhwa, Azad Jammu and Kashmir. The Chief amounts of monthly rainfall recorded across Pakistan during May 2022 are shown in Table:1

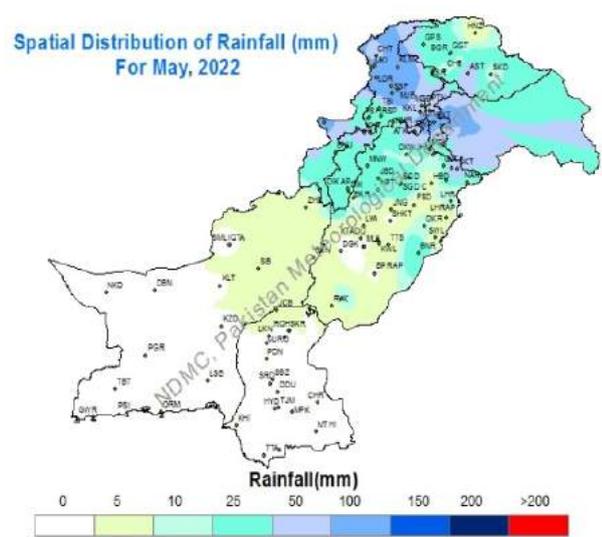


Figure 1: Rainfall distribution for the month of May 2022

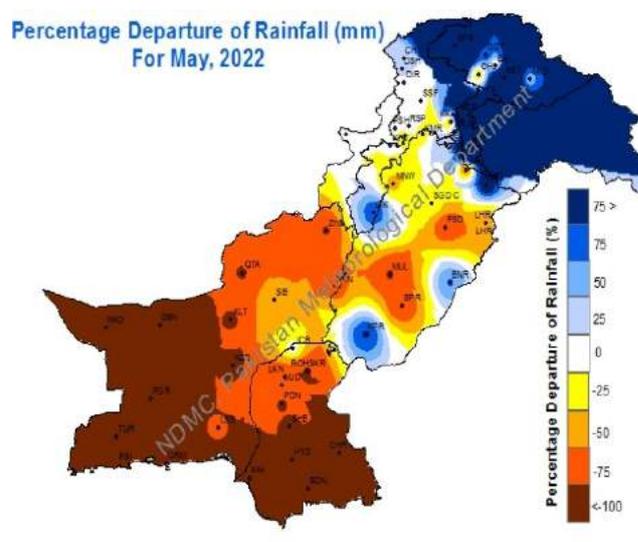


Figure 2: Percentage Departure of Rainfall for the month of May-2022

Fig. 2 depicts the percentage departure of rainfall from the normal. Below normal rainfall was received in most of the areas of the country. while in Northern Areas some stations receive above normal good rainfall as shown in below colour.

Table:1 Chief amounts of monthly rainfall recorded across Pakistan during May, 2022

| S. No. | Stations | Rainfall (mm) | S. No. | Stations | Rainfall (mm) |
|--------|----------------------|---------------|--------|---------------------|---------------|
| 1 | Tirah (KP) | 213.4 | 11 | Islamabad.(Saidpur) | 63.0 |
| 2 | Malam Jabba | 105.1 | 12 | Parachinar | 61.0 |
| 3 | Rawalakot | 99.1 | 13 | Sialkot Cantt | 56.0 |
| 4 | Murree | 86.0 | 14 | Dhulli | 54.5 |
| 5 | Chakothei | 83.2 | 15 | Balakot | 52.0 |
| 6 | Kalam | 82.4 | 16 | Pashat-Bajaur (KP) | 50.2 |
| 7 | Dir | 80.0 | 17 | Saidu Sharif | 49.0 |
| 8 | Bandi Abbaspur (AJK) | 72.4 | 18 | Ghalanai (KP) | 49.0 |
| 9 | Drosh | 65.8 | 19 | Lahore | 46.6 |
| 10 | Hajira (AJK) | 65.2 | 20 | Chitral | 43.3 |

2. Drought Situation Analysis

Spatial drought analysis results using different indices are represented in Fig. 3. In Balochistan province, Nokundi, Taftan and Dalbandin areas are facing moderate to severe drought conditions, while Nushki, Mashkhel, Kharan, Quetta, Zhob, Barkhan, Sibbi along with southern districts of Sindh province i.e., Tharparkar, Badin, Thatta, Sajawal and eastern Sindh areas are facing mild drought conditions. The rainfed areas of Punjab are also under stress due to the effect of Heat wave, while normal conditions are prevailing in the rest of the areas in the country.

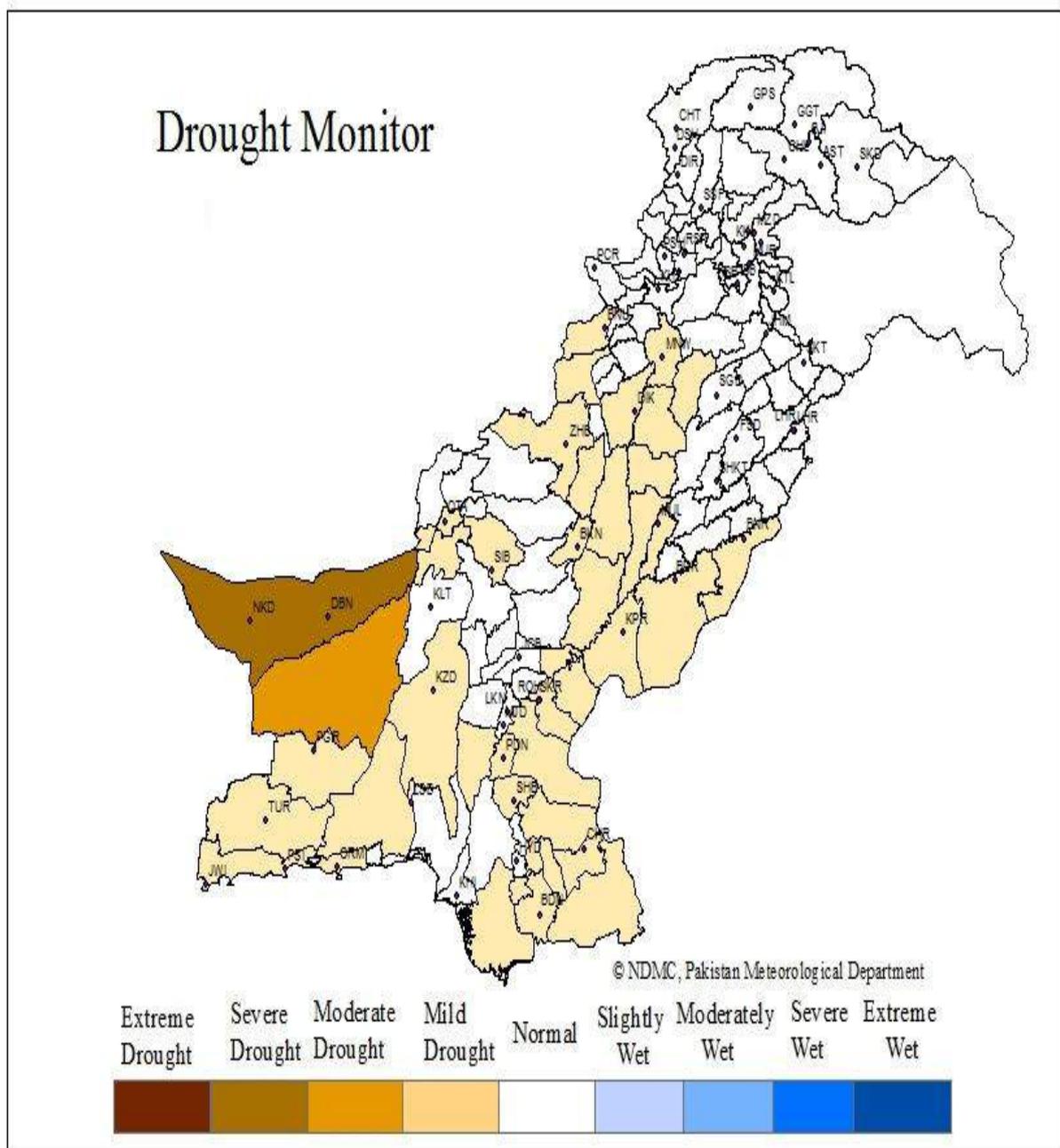
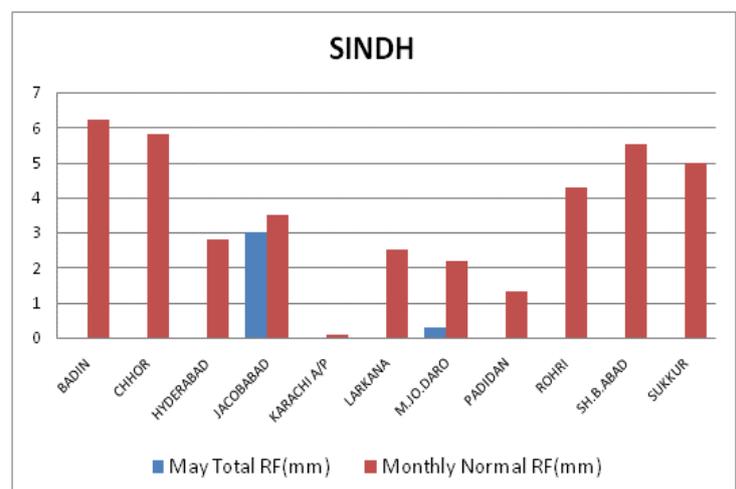
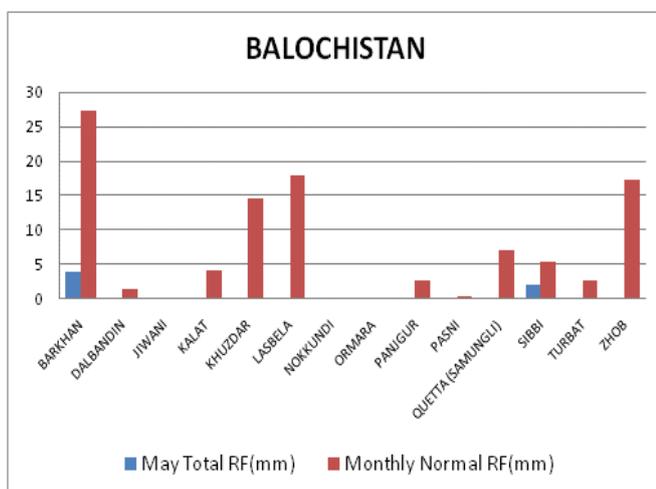
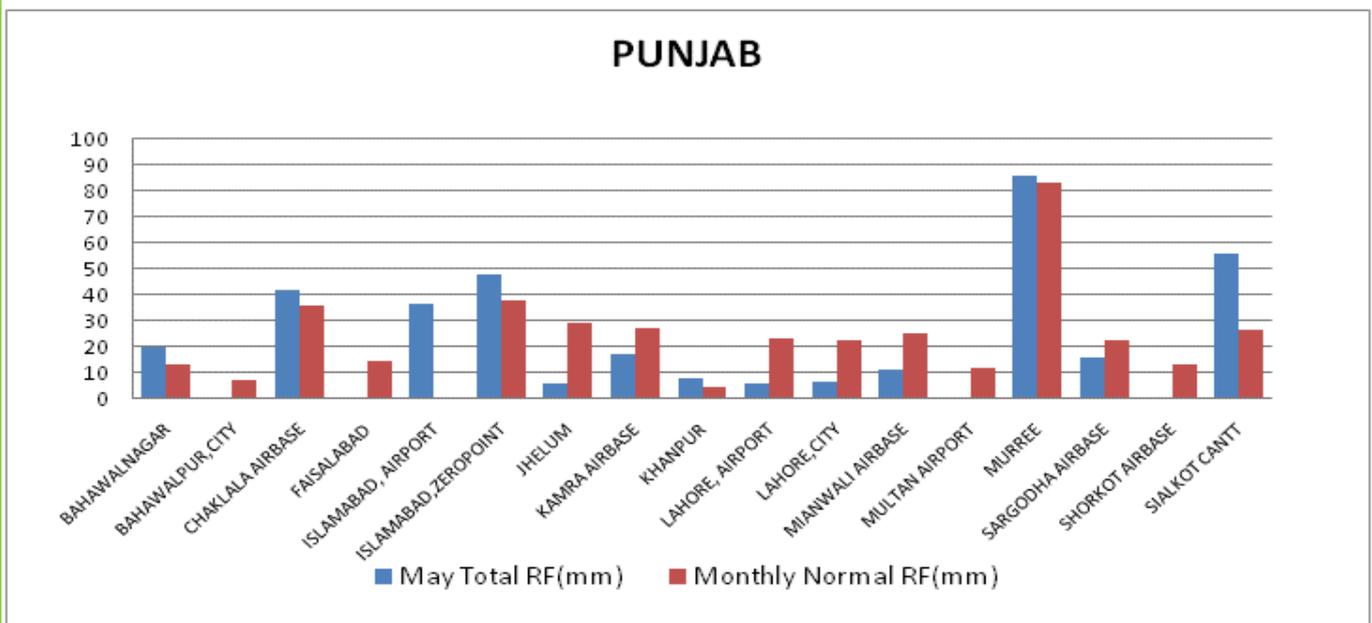
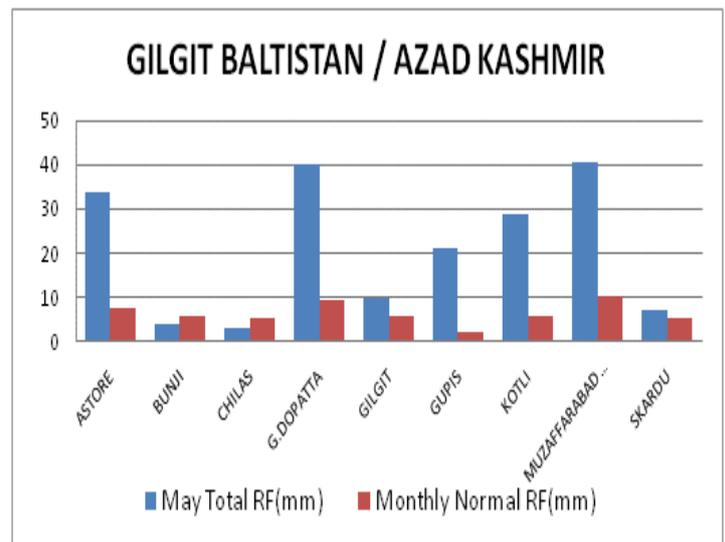
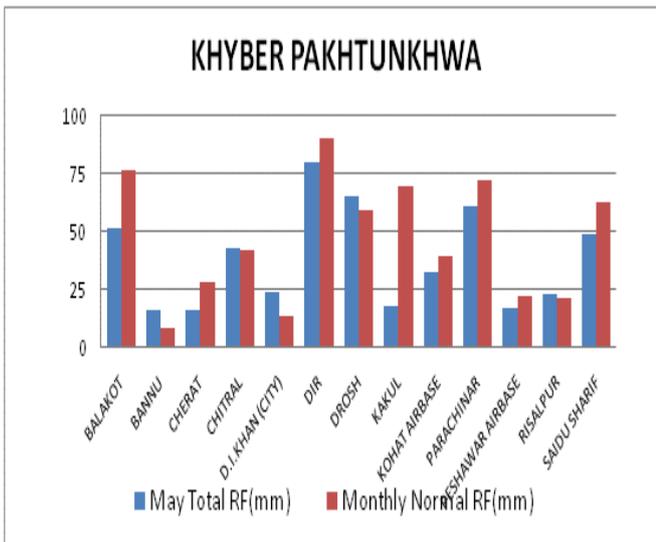


Figure 3: Analysis of Drought conditions in Pakistan

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



II. Normalized Difference Vegetation Index (NDVI)

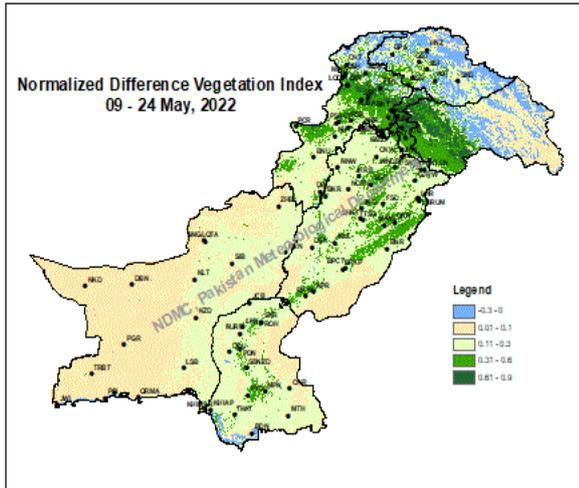


Figure 4: NDVI during 09 – 24 May, 2022

Normalized Difference Vegetation Index values for May 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)

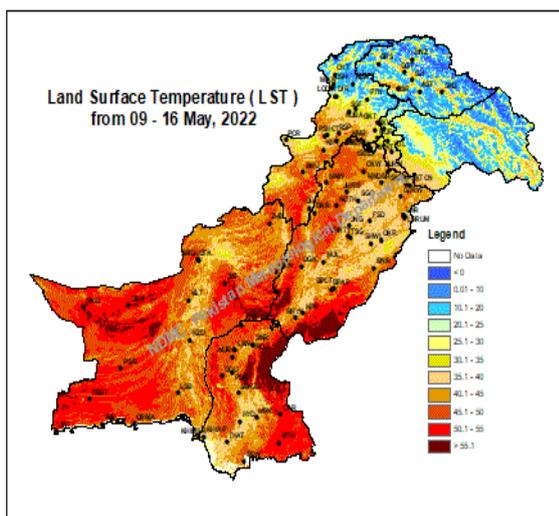


Figure 5: LST ($^{\circ}\text{C}$) during 09-16 May, 2022

Land Surface Temperatures (LST) for the period 09 – 16 May 2022 are represented in Fig. 5. In the central parts of the country, average daytime temperatures remained between 30°C to 35°C while in lower parts of the country, the temperature reaches above 40°C .

Land Surface Temperatures during the period 17 – 24 May 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.

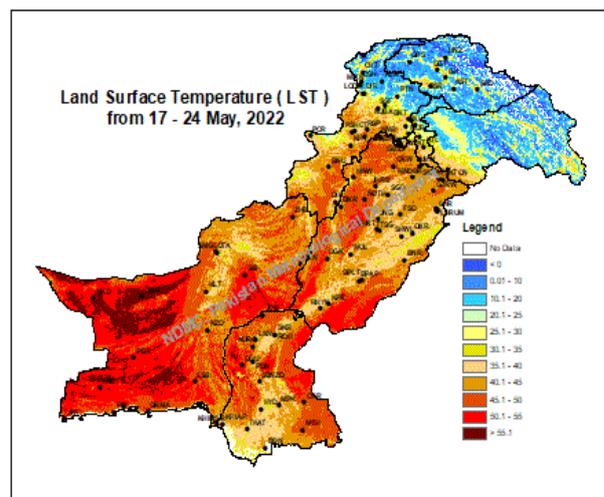
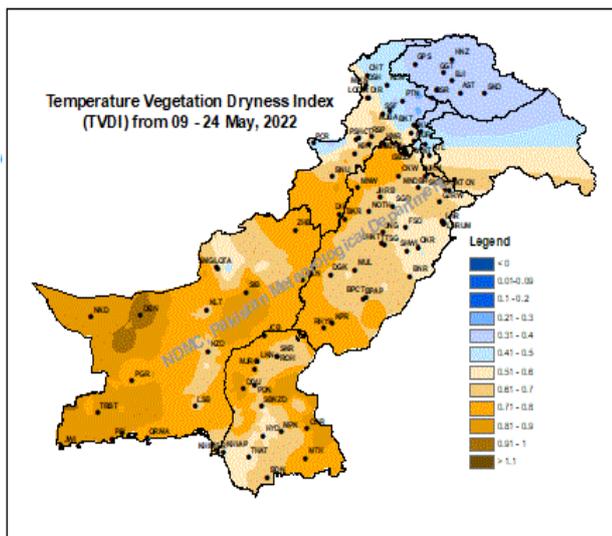


Figure 6: LST ($^{\circ}\text{C}$) during 17- 24 May, 2022

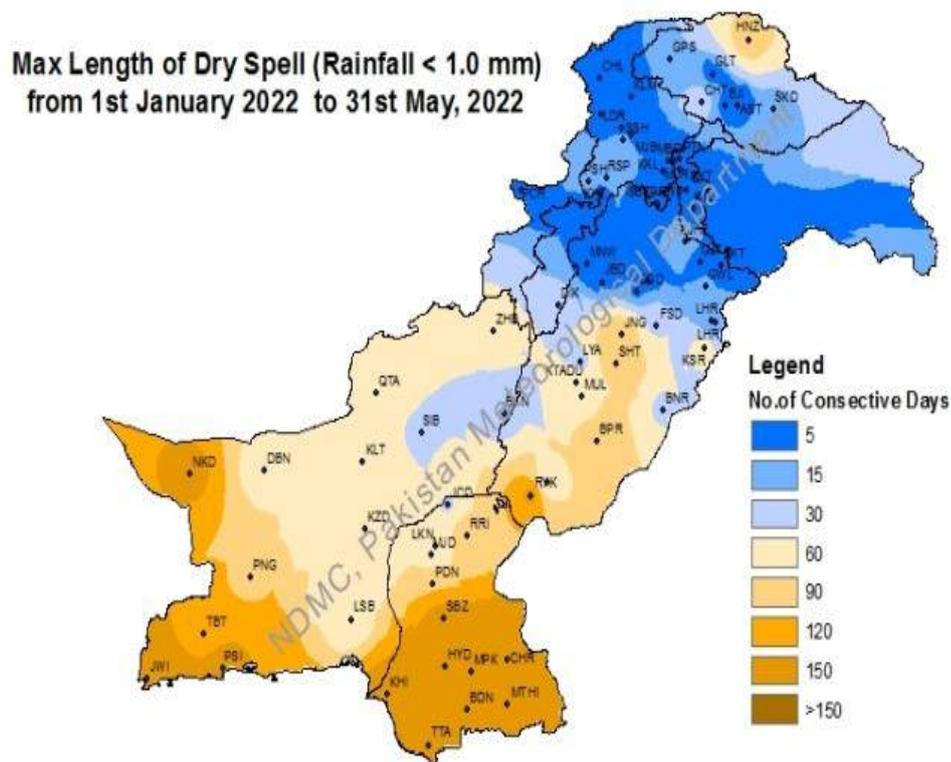
IV. Temperature Vegetation Dryness Index (TVDI)



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 09 – 24 May 2022

V. Length of Consecutive Dry Days Spell



Source: National Drought Monitoring Center-PMD-Islamabad

3. Water availability/ Dams flow data:

In May 2022, water inflow, outflow and levels of Rawal, Khanpur, Tarbela and Mangla dams are shown in Figs. 8 & 9. Decreasing trends are observed in Khanpur, Tarbela and Mangla reservoir levels.

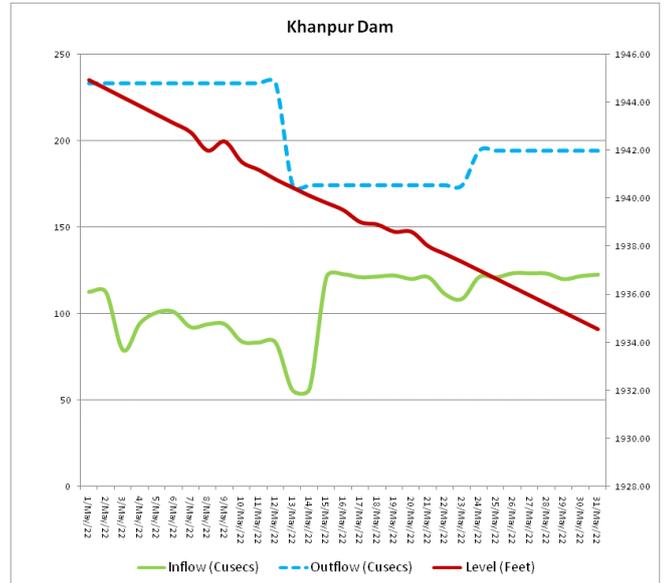
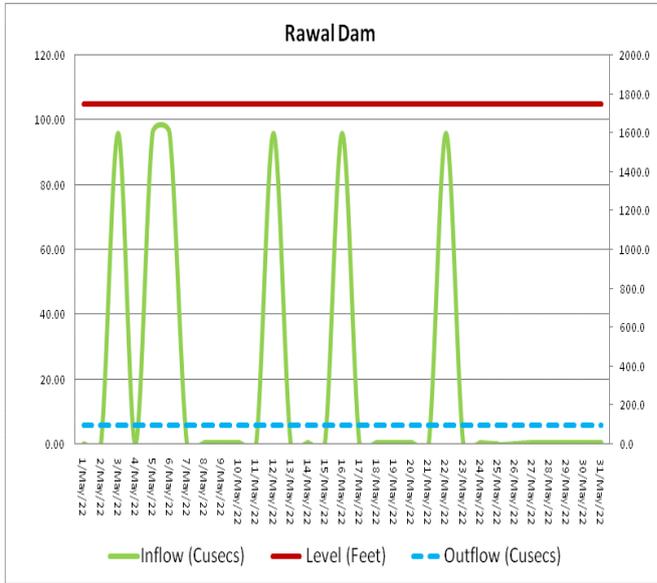


Figure 8: Water inflow, outflow and level of Rawal and Khanpur Dams

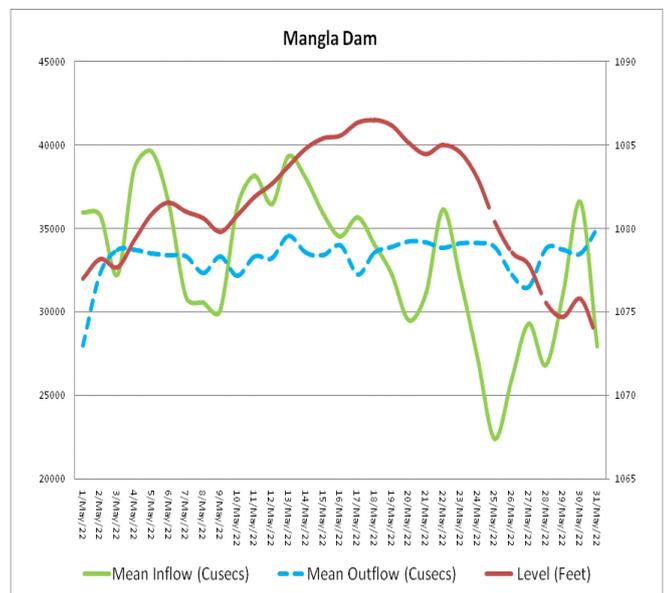
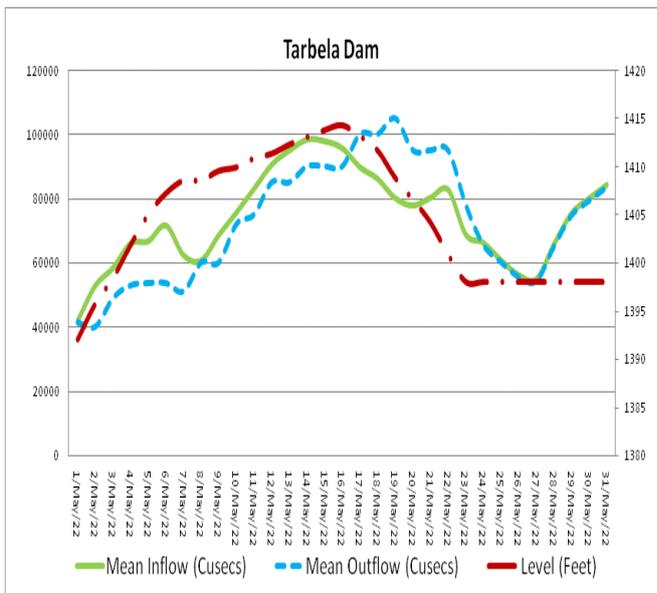


Figure 9: Water inflow, outflow and level of Tarbela and Mangla Dams

4. Weather outlook for June 2022

Generally June is the hottest and driest month except some pre-monsoon showers. Monsoon onset is expected during the last week of June whereas pre-monsoon rains may occur from the third week of June. Pre-monsoon and early monsoon rainfall is expected to be above normal over the Central (Punjab) and Southern parts (Sindh) of the country, while 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 June 2022

The month of May was not fair enough for the drought-prone areas of Sindh and Balochistan. *In Balochistan, Nokundi, Taftan and Dalbandin areas are facing moderate to severe drought conditions, while Nushki, Mashkhel, Kharan, Quetta, Zhob, Barkhan, Sibbi along with southern districts of Sindh i.e., Thatta, Sajawal and Badin areas are facing mild drought conditions. However, normal conditions are prevailing in the rest of the country.*

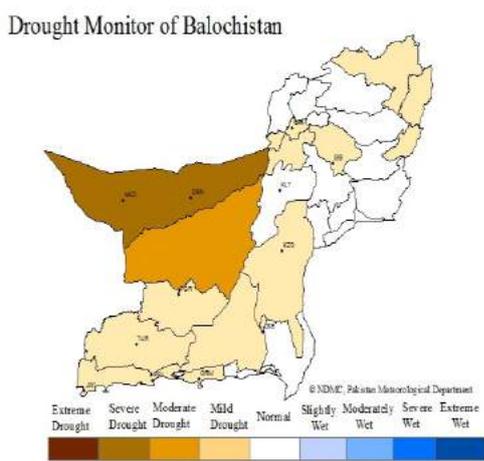


Fig-10: Conditions across Balochistan

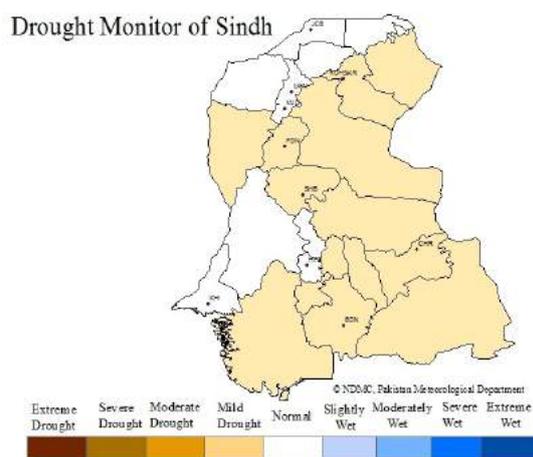


Fig-11 Drought Conditions across Sindh

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 harvesting of rabi crops especially wheat is in full swing. The growth of the oilseed crop is reported satisfactory and the crop is at the flowering/pod stage. No serious pest/insect attack has been reported so far. The sowing of Kharif crops has started in some parts of the country. Harvesting/crushing of sugarcane crop is in full swing.

7. Advice for Farmers:

- i) Farmers of upper & central parts of the country are advised to complete the harvesting process at the earliest possible and save the crop and fodder to avoid any weather-induced loss from rains and strong winds during the month

- ii) Farmers of the lower half of the country are advised to irrigate the fields for the Kharif crops as per the requirement as no significant rains are likely in those areas.

- iii) During the harvesting, farmers are advised to be aware of the weather conditions and keep listening & watching carefully the weather advisories issued through radio and televisions on regular basis.

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