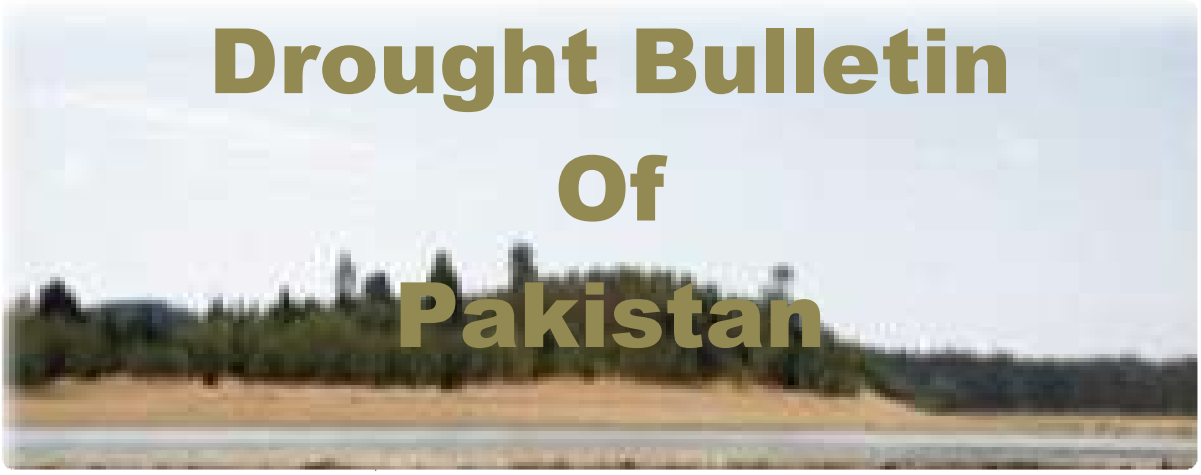

MARCH 2022

Highlights

- During the month of March 2022, Light to Moderate rainfall reported from most of the places in Pakistan including Azad Jammu and Kashmir. The recorded rainfall is shown in Figure 1. The Chief amounts of monthly rainfall recorded across Pakistan during March, 2022 is shown in Table:1

- Precipitation during the month of March 2022 was below normal and not enough for most of the drought prone areas of Sindh while in Balochistan some areas are still under moisture stress.

- In the month of April 2022, normal to below normal rainfall/precipitation is expected over the country. Northern parts of the country including upper KP, Gilgit Baltistan and Azad Jammu & Kashmir may get one or two good rainfall spells.

- Mild to Moderate Drought Conditions are prevailing over SW areas of Balochistan. The disaster management authorities may continue surveillance in these areas and plan DRM activities accordingly.

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This Bulletin is regularly being published on monthly basis under the guidance of Jan Muhammad Khan, Director, Pakistan Meteorological Department.

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1. Weather Summary for the month of March, 2022

During the month of March 2022, rainfall receieved across Pakistan is shown in Fig.1. Light to Moderate rainfall was reported from most of the places in Pakistan including Azad Jammu and Kashmir. The Chief amounts of monthly rainfall recorded across Pakistan during March, 2022 is shown in Table:1

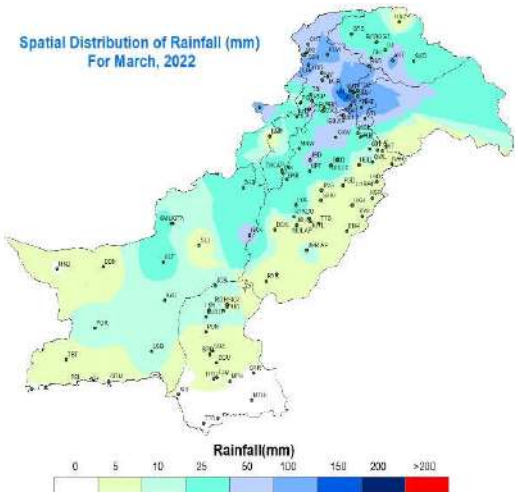


Figure 1: Rainfall distribution for the month of March-2022

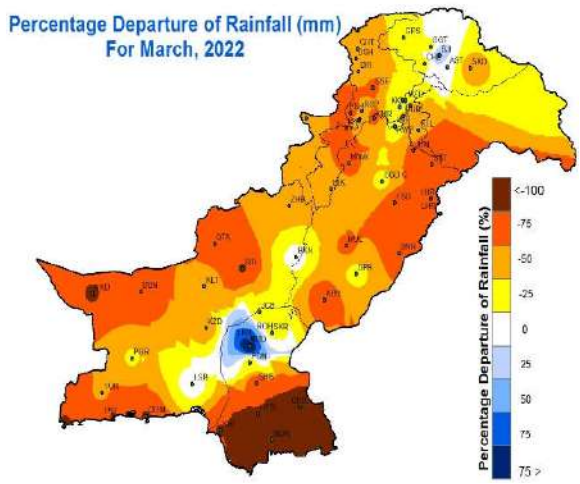


Figure 2: Percentage Departure of Rainfall for the month of March-2022

The Fig. 2 depicts the Percentage Departure of Rainfall from the normal. Below Normal rainfall was received in most of the areas of the country including Khyber Paktunkhwa and Azad Jammu and Kashmir, which although receive moderate rainfall.

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

S. No.	Stations	Rainfall (mm)	S. No.	Stations	Rainfall (mm)
1	Ghalanai (KP)	163.2	11	Kalam	70.0
2	Kakul	125.3	12	Garhi Dupatta	69.4
3	Muzaffarabad City	114.0	13	Murree	68.0
4	Chattar Kalas (AJK)	101.3	14	Deolian (AJK)	63.7
5	Chakothi (AJK)	98.8	15	Babusar	61.6
6	Rawalakot	95.1	16	Chaklala Airbase	59.5
7	Haraman (AJK)	94.8	17	Astore	58.9
8	Dhulli (AJK)	87.6	18	Tirah (KP)	58.0
9	Dir	73.0	19	Bandi Abbaspur (AJK)	53.7
10	Balakot	72.2	20	Parachinar	53.0

2. Drought Situation Analysis

Spatial drought analysis results using different indices are represented in Fig. 3. In Balochistan, Taftan, Dalbandin, Naushki, Mashkhel and Kharan areas are facing Mild to Moderate drought conditions, while rest of the country is showing normal conditions.

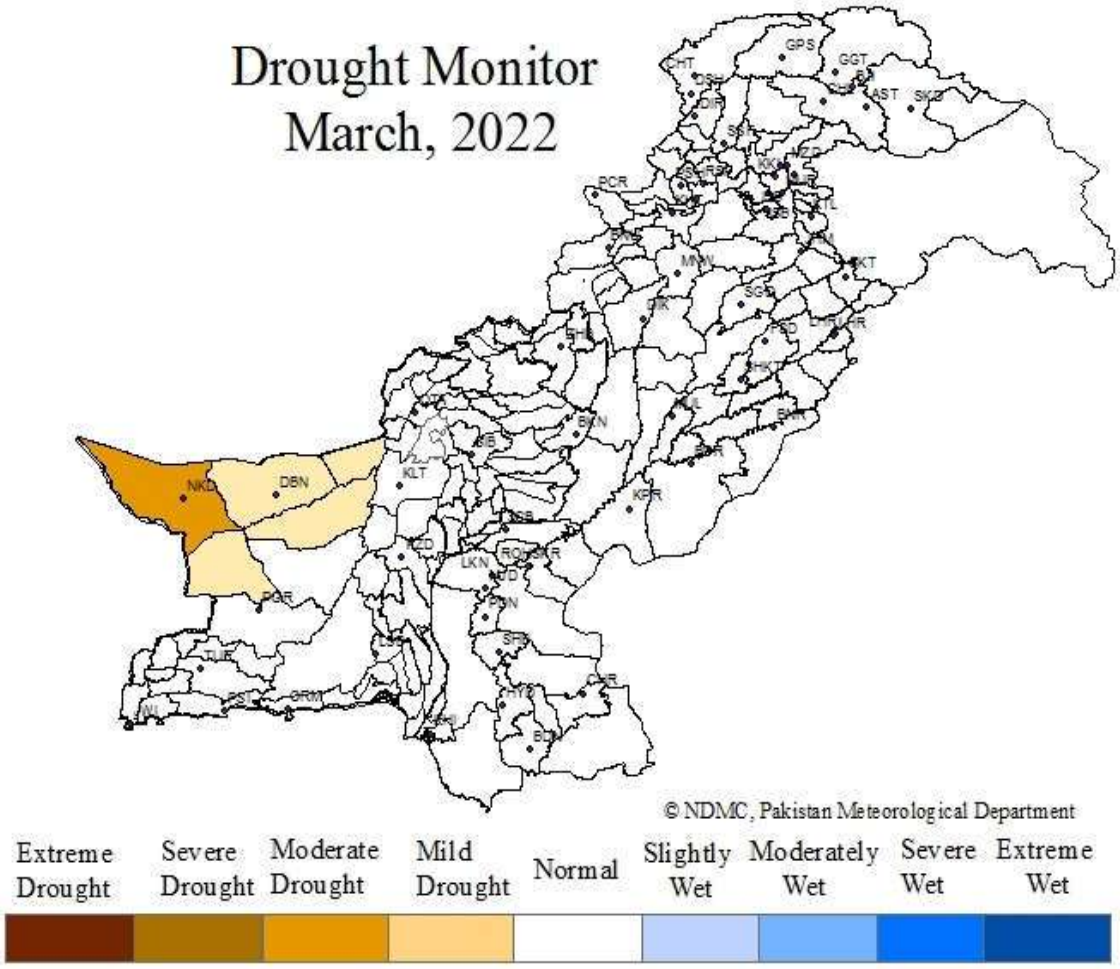
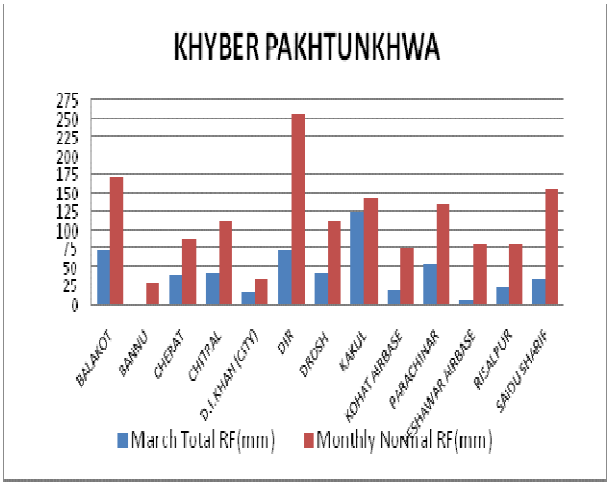
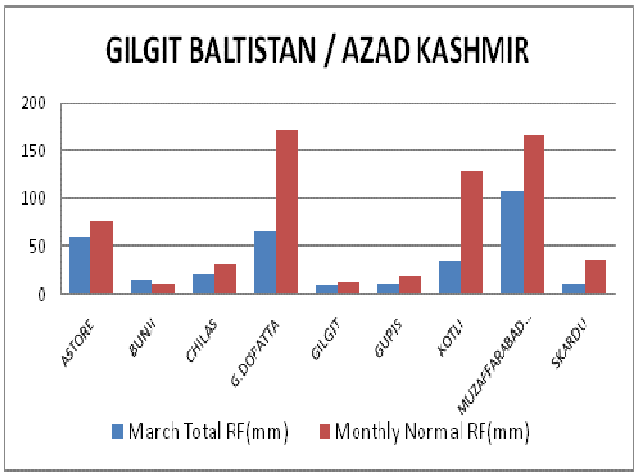
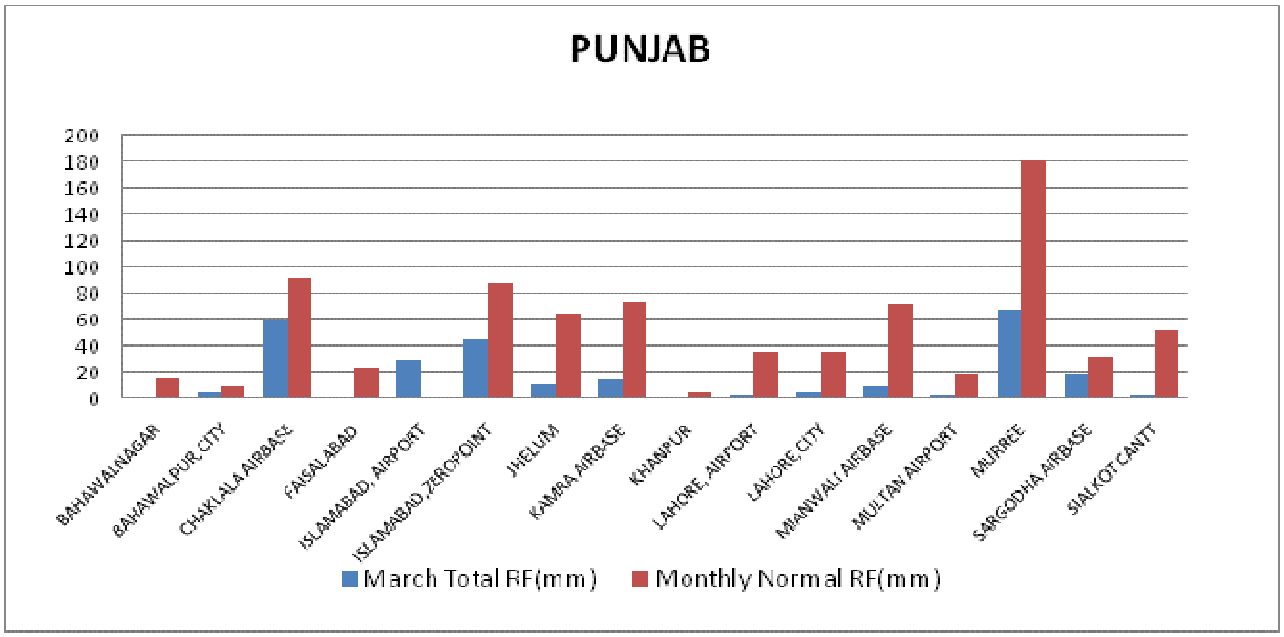


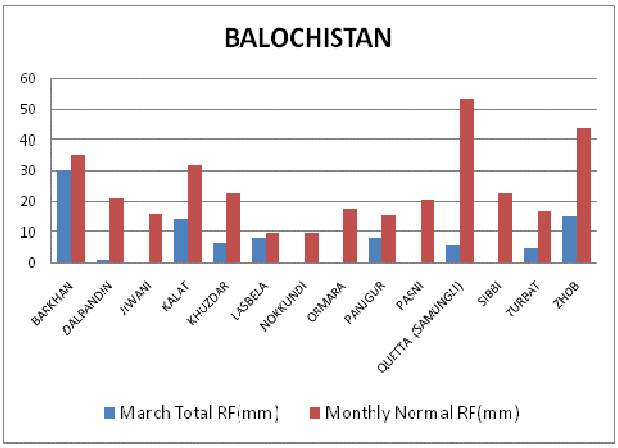
Figure 3: Analysis for Drought conditions of Pakistan

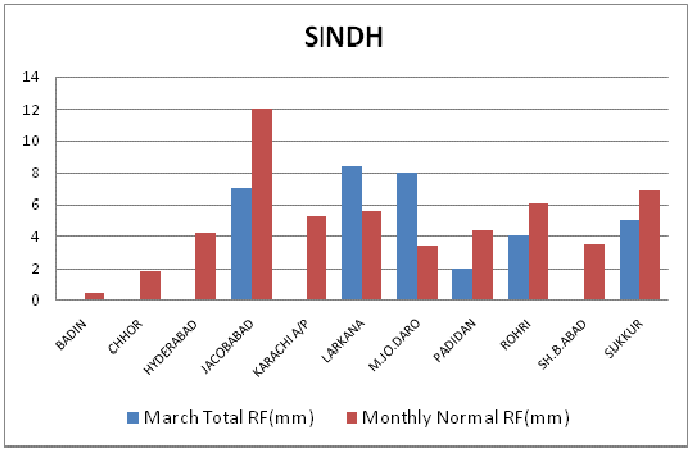
I. Monthly Actual to Normal Rainfall Comparison for March-2022











II. Normalized Difference Vegetation Index (NDVI)

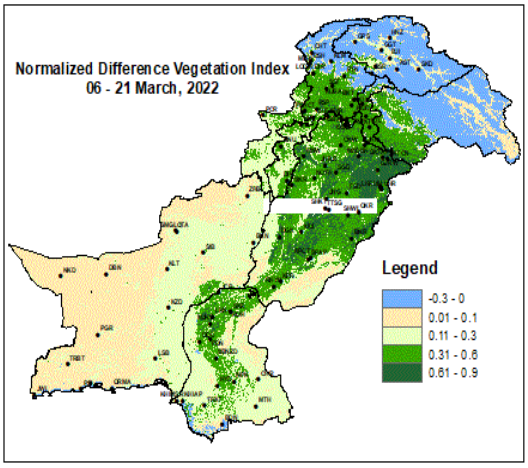


Figure 4: NDVI during 06 – 21 March, 2022

Normalized Difference Vegetation Index values for the month of March 2022 are shown in Fig. 4. NDVI conditions in Khyber Pakhtunkhawa, Punjab and along the Indus belt are good, depicting the impacts of well distributed rainfall during the month. Vegetation index is minimum over eastern Sindh and almost all of Balochistan.

III. Land Surface Temperature (LST)

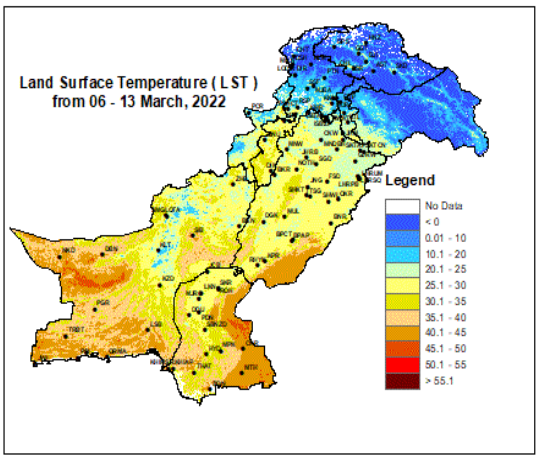


Figure 5: LST (°C) during 06-13 March, 2022

Land Surface Temperatures (LST) for the period 06 – 13 March, 2022 are represented by Fig. 5. In the central parts of the country, average daytime temperatures remained between 20°C to 25°C while at lower parts of the country,the temperature reaches above 25°C.

LandSurface Temperatures during the period 14 – 21 March are shown in Fig. 6. increase in temperatures has been observed in most parts of the country as compared to the preceeding week.

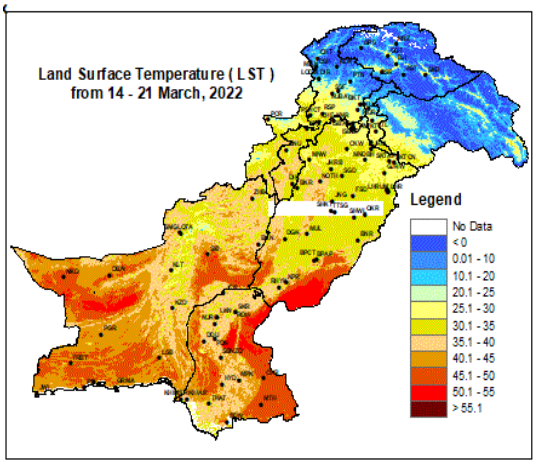


Figure 6: LST (°C) during 14- 21 March, 2022

IV. Temperature Vegetation Dryness Index (TVDI)

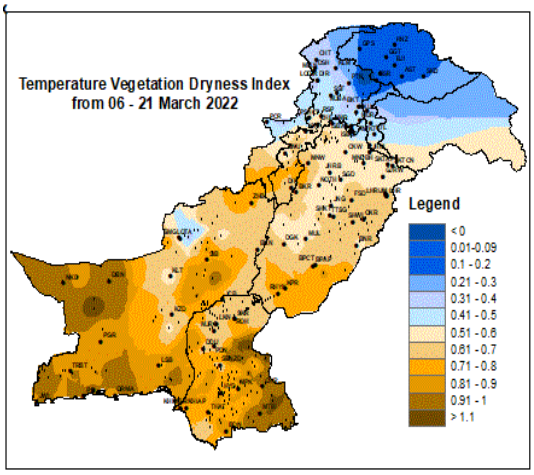
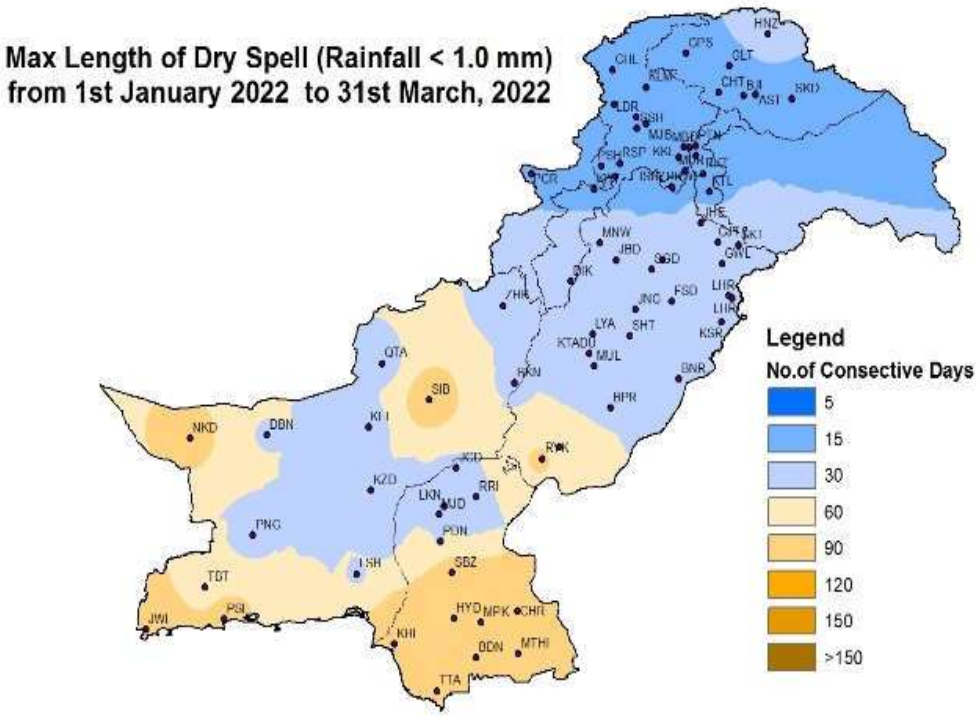


Figure 7: TVDI during 06 – 21 March 2022

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 Pakhtunkhawa & Kashmir, while southern parts of Punjab, Sindh and Balochistan are under moisture stress conditions..

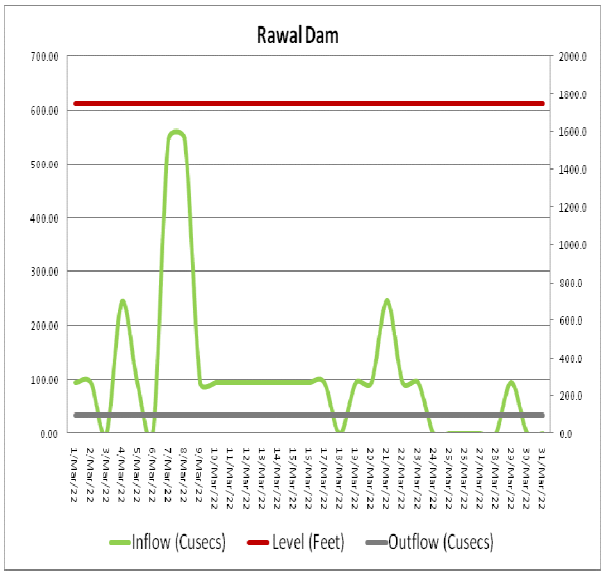
V. Length of Consecutive Dry Days Spell



Source: National Drought Monitoring Center-PMD-Islamabad

3. Water availability/ Dams flow data:

During the month of March 2022, water inflow, outflow and levels of Rawal, Khanpur, Tarbela and Mangla dams are shown in Figs. 8 & 9. Levels in Tarbela and Rawal dams are at the lowest due to the less rains in their catchment.



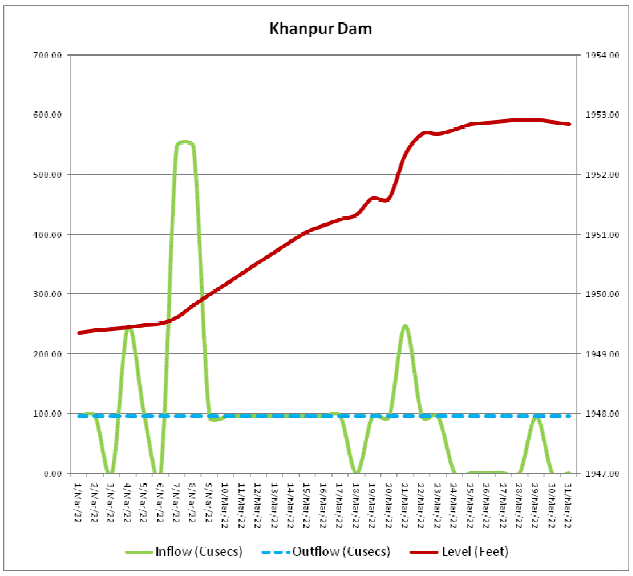
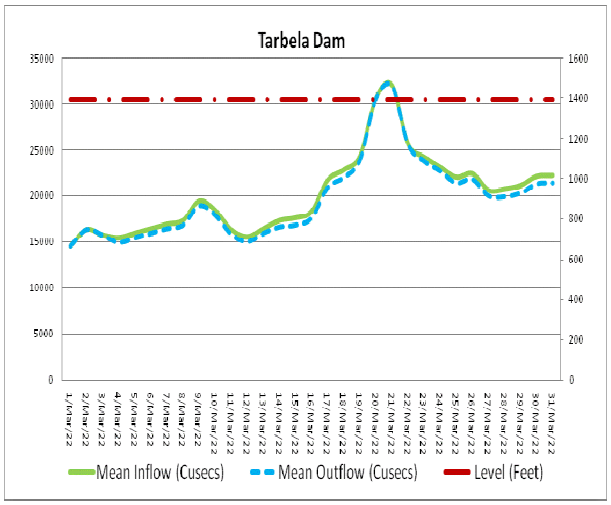


Figure 8: Water inflow, outflow and level of Rawal and Khanpur Dams



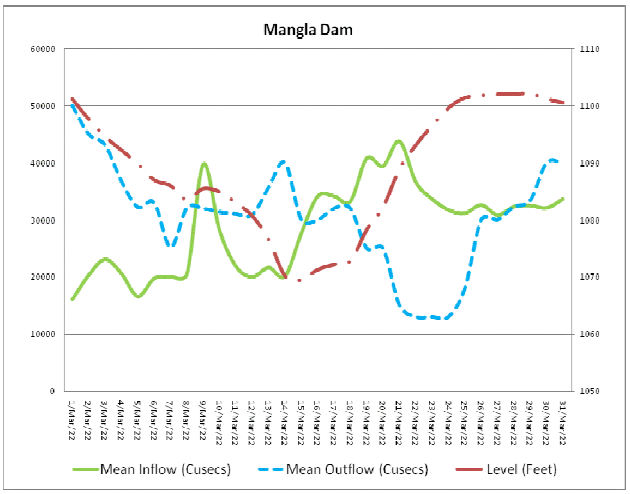


Figure 9: Water inflow, outflow and level of Tarbela and Mangla Dams

4. Weather outlook for April 2022

During April, westerly waves are shifted northwards and frequency of western disturbances becomes less. However, due to increased solar heating, mesoscale convective activity dominates over the plains and mountainous areas. As a result, sometimes heavy downpour associated with hailstorm and thunderstorm occurs with localized characteristics. Therefore farmers are advised to adopt precautionary measures to minimize post harvest losses of rabi crop.

The Rabi crops in the field may be close to maturity in low elevation agricultural plains, therefore, no irrigation is recommended in such areas. At higher elevations, the crops may be around early reproductive stage, where they would require maximum amounts of water.

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5. Drought Outlook for March 2022

The month of March was fair enough for the drought prone areas of Sindh and Balochistan. *In Balochistan,* the Taftan, Dalbandin, Naushki, Mashkhel and Kharan areas *are still facing Mild to Moderate Drought Conditions over there while in Sindh Province, Normal to conditions are observed.*

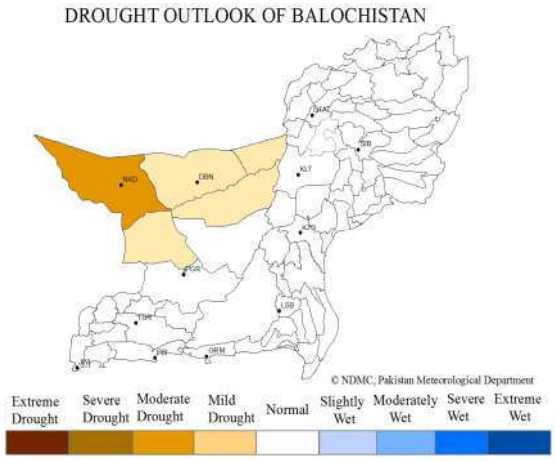

Fig-10: Conditions across Balochistan

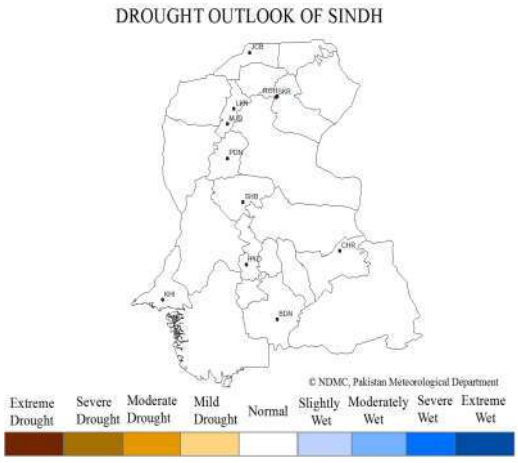

Fig:11 Drought Conditions across Sindh

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

6. Crop Condition:

The sowing of Rabi crops in Pakistan stretches from mid October to end December and harvested in summer. The growth of rabi crops especially wheat is satisfactory. The growth of oilseed crop is reported satisfactory and the crop is at flowering/pod stage. No serious pest/insect attack has been reported so far. Normal growth of the crop has affected due to persistent dry weather but coming rains may improve the growth and development of the crop.

7. Advice for Farmers:

i) Wheat crop is in flowering / development stages in the agriculture plains of the country.

ii) Farmers may schedule the irrigation of crops as per requirement keeping in view the weather forecast of expected rains.

iii) Those farmers who could not sow wheat in their field because of cotton crop, they are advised to go for the alternative e.g sunflower.

iv) Removing weeds from standing crops is very important as weeds utilize moisture and food which may be utilized by the crop. As a result considerable loss in yield occurs every year. However operations against weeds should be started using weedicides or manually when the crop completely covers the field.

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