

Decadal Agromet Bulletin of Pakistan



Highlights...

- ❖ Moderate to heavy precipitation was observed in most parts of KP, Punjab, Sindh, and Kashmir.
- ❖ Light to moderate rainfall has been reported from Gilgit-Baltistan and Baluchistan during the last decade.
- ❖ Highest precipitation recorded as 208.0 mm at Lahore Airport during the last decade.
- ❖ Highest maximum temperature recorded was 45.0°C at Nokkundi during the last decade.
- ❖ During the decade, mainly dry and hot weather is expected all over the country while rain-wind thunderstorm is expected in isolated places of KP, Potohar region, the central and northeastern part of Punjab, Gilgit-Baltistan, and Kashmir.
- ❖ Farmers are advised to plan their activities in accordance with the expected weather conditions.

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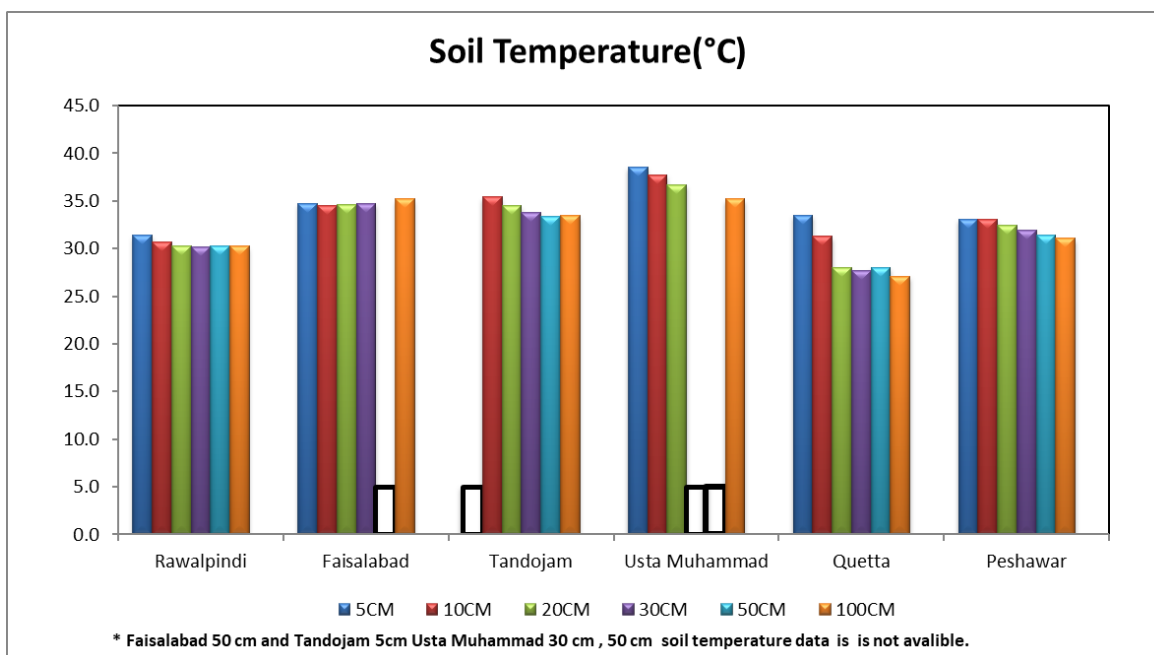
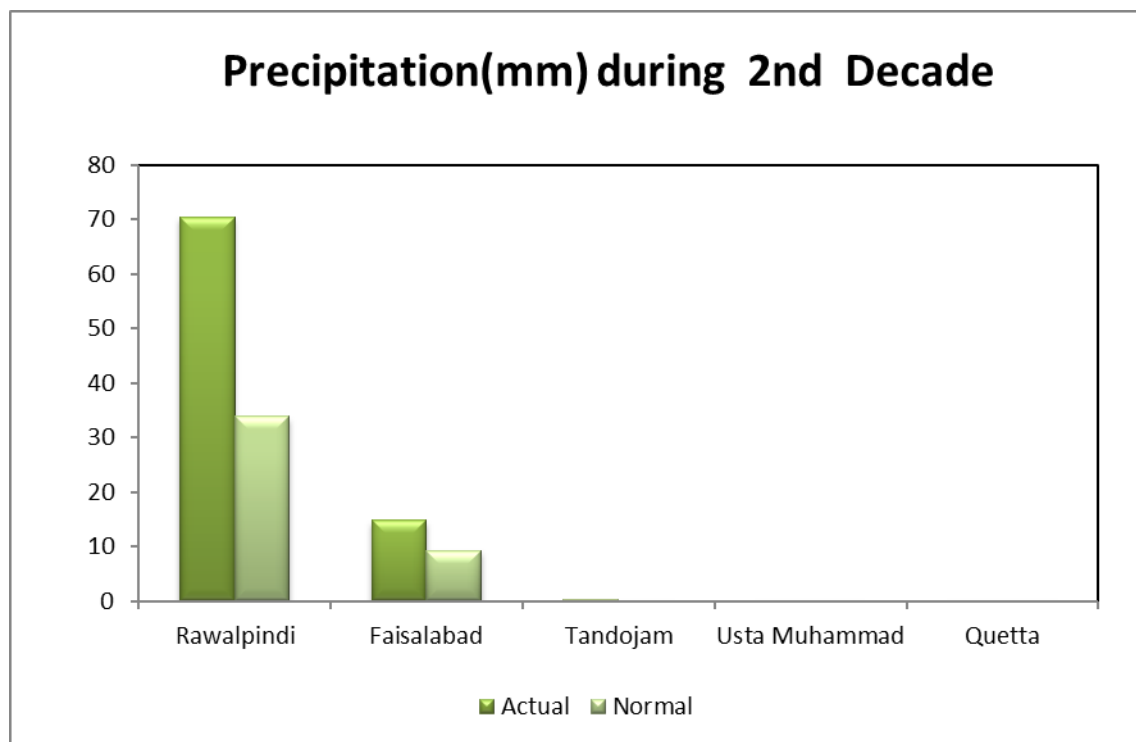
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Meteorological Conditions during 1st Decade of July, 2023

Sr. No.	Station	Precipitation (mm)			Air Temperature (°C)			Soil Temperatures (°C)						R.H (%)	Sunshine Duration(hours)	Wind Speed (km/hr)	ETo (mm/day)
		Normal	Actual	Dep	Tmx Dep	Tmin Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	Rawalpindi	33.8	70.5	36.7	2.2	1.4	29.2	31.4	30.7	30.3	30.2	30.2	30.3	68	76.0	2.3	4.0
2	Faisalabad	9.3	14.8	5.5	0.4	2.9	31.6	34.7	34.5	34.6	34.7	***	35.2	70	62.7	3.4	4.1
3	Jhelum	13.9	44.8	30.9	0.8	2.1	30.8	31.7	31.5	31.2	30.8	31.1	***	72	74.8	3.8	4.3
4	Lahore	13.6	102.2	88.6	-0.6	1.1	30.2	30.4	30.6	30.3	30.4	***	30.6	71	34.5	2.8	3.2
5	Sargodha	18.1	27.2	9.1	0.9	2.0	32.2	35.9	35.7	34.6	34.5	***	33.1	64	77.8	2.3	4.3
6	Multan	3.5	3.0	-0.5	0.9	3.2	33.1	***	***	***	***	***	***	57	75.8	6.4	5.5
7	Khanpur	2.5	0.0	-2.5	2.6	4.0	33.4	***	36.9	36.7	36.7	36.6	35.3	62	84.4	***	5.9
8	Tandojam	0.0	0.0	0.0	0.9	0.9	30.9	***	35.4	34.5	33.8	33.4	33.5	65	85.9	9.6	6.0
9	Sakrand	0.0	24.0	24.0	1.2	2.8	32.2	43.1	***	***	***	***	***	62	89.9	5.1	5.5
11	Rohri	0.2	0.0	-0.2	1.0	3.4	33.3	***	***	***	***	***	***	55	104.1	5.9	6.2
12	D.I Khan	13.5	0.0	-13.5	2.7	3.5	33.3	35.2	34.5	13.1	***	23.0	***	61	80.2	8.4	5.9
13	Peshawar	5.6	15.0	9.4	1.6	2.6	31.5	33.1	33.0	32.4	32.0	31.4	31.1	64	46.7	2.6	3.6
14	Usta M.	0.0	0.0	0.0	0.0	0.0	31.4	38.6	37.8	36.7	***	***	35.2	62	0.0	2.8	4.5
15	Quetta	0.0	0.0	0.0	1.9	4.5	25.8	33.5	31.3	28.0	27.7	28.0	27.1	32	95.5	4.4	5.0
16	Skardu	1.4	0.0	-1.4	2.6	2.1	22.0	***	***	***	***	***	***	35	63.2	0.9	2.9
17	Gilgit	1.8	0.3	-1.5	4.1	4.6	26.4	***	***	***	***	***	***	45	79.0	2.0	3.9

Table-1: Meteorological parameters for selected stations of Pakistan. “Dep” in the table stands for the difference from climatic normal, i.e. actual value minus normal. The climatic normal used in the Bulletin is extracted from the 2007 - 2016 observed data. ‘ETo’ stands for reference crop Evapotranspiration*** stands for data non-availability.

Graph at RAMCs during September, 2023



Past Weather (10th to 20th Sep, 2023)

Moderate to heavy precipitation was observed in most parts of KP, Punjab, Sindh and Kashmir while light to moderate rainfall is reported from Gilgit-Baltistan and Baluchistan during the last decade.

1.1 Punjab

Moderate to heavy precipitation is reported from the agricultural plains of Punjab during the previous decade. The decadal maximum and minimum temperatures rose above normal by 1.0 and 2.4 degree centigrade respectively. Whereas, relative humidity, sunshine hour, wind speed & ETO were recorded as 66%, 69.4 hrs, 3.5 km/hr and 4.5 mm/day respectively.

1.2 Sindh

Moderate to heavy precipitation is reported from almost all over Sindh during the previous decade. The decadal maximum and minimum temperature rose above normal by 1.0 and 2.4 degree centigrade respectively. Besides, relative humidity, sunshine hour, wind speed & ETO were recorded as 61%, 93.3 hrs, 6.9 km/hr and 5.9 mm/day respectively.

1.3 Khyber Pakhtunkhwa

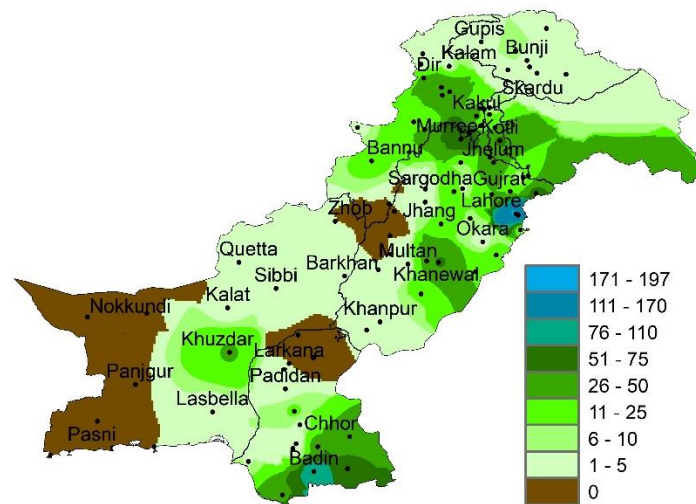
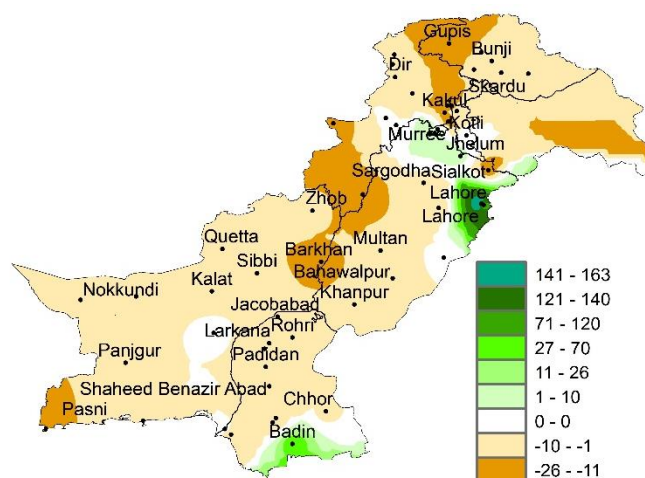
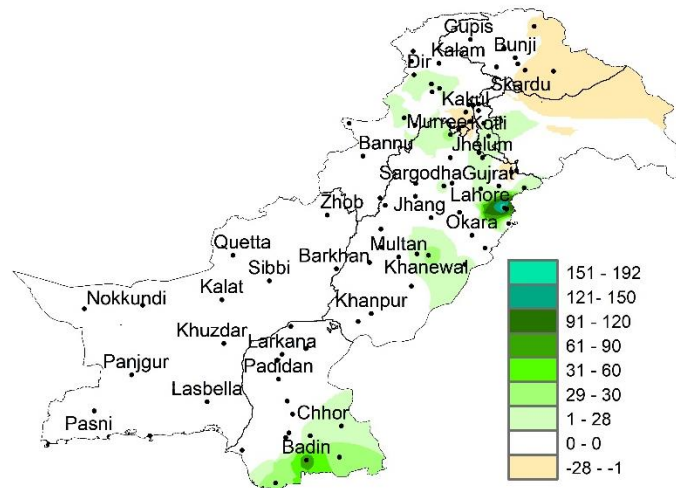
Moderate to heavy precipitation is reported in the province during the previous decade. The decadal maximum and minimum temperatures rose above normal by 2.2 and 3.0 degree centigrade respectively. Besides, relative humidity, sunshine hour, wind speed & ETO were recorded as 63%, 63.5 hrs, 5.5 km/hr and 4.8 mm/day respectively.

1.4 Baluchistan

Light to moderate rainfall is reported from most of the province during the previous decade. Decadal maximum and minimum temperatures rose above normal by 1.0 and 2.3 degree centigrade respectively. Besides, relative humidity, sunshine hour, wind speed & ETO were recorded as 47 %, 47.8 hrs, 3.6 km/hr and 4.8 mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate precipitation was reported from Gilgit-Baltistan, while moderate to heavy rainfall was observed in Azad Jammu & Kashmir during the decade. Decadal maximum and minimum temperatures rose above normal by 3.4 and 3.4 degree centigrade respectively. Whereas, relative humidity, sunshine hour, wind speed & ETO recorded as 40.0%, 71.1 hrs, 1.5 km/hr and 3.4 mm/day respectively.

**I. Actual precipitation****II. Departure of precipitation from Normal****III. Departure of precipitation from the previous Decade****Figure.1: precipitation distribution during the previous decade (mm)**

(a) **Past Weather for Major Agricultural Plains**
(10th to 20th Sep, 2023)

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 70.5 mm during the decade; however, weather remained cloudy for 10 days. Average relative humidity recorded as 68.0% mean day temperature was 35.6°C while night temperature recorded as 22.8°C with 76.0 hours bright sunshine duration. Besides, wind speed recorded as 2.3 km/hr with *variable* mean direction.

No crop is available in the fields at present.

2.2 RAMC, Faisalabad (Central Punjab)

Rain reported as 14.80 mm during the decade; however, weather remained partially cloudy for 8 days. Average relative humidity recorded as 70% mean day temperature was 36.1°C while night temperature recorded as 27.0°C with 62.7 hours bright sunshine duration. Also, wind speed recorded as 3.4 km/hr with *southeasterly* mean direction.

2.3 RAMC, Tandojam (Lower Sindh)

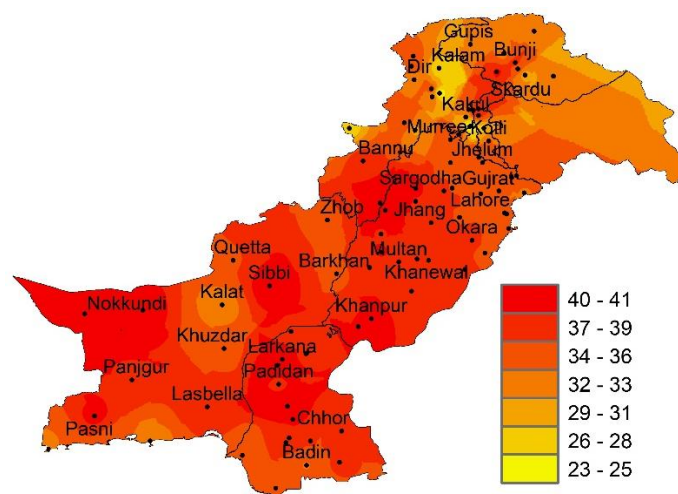
Dry weather reported during the decade; however, weather remained partially cloudy for 7 days. Average relative humidity recorded as 65%, mean day temperature was 36.5°C while night temperature recorded as 25.2°C with 85.9 hours bright sunshine duration. Also, wind speed recorded as 9.6 km/hr with *south westerly* mean direction.

2.4 RAMC, Usta Muhammad (Eastern Baluchistan)

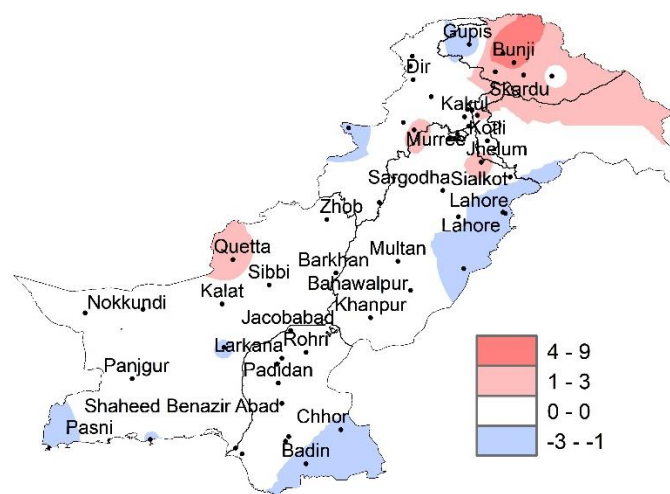
Dry weather reported during the decade; however, weather remained partially cloudy for 4 days during the decade. Average relative humidity recorded as 62.0%, mean day temperature was 37.5 °C while night temperature recorded as 25.2°C. Also, wind speed recorded as 2.8 km/hr with *south easterly* mean direction.

2.5 RAMC, Quetta (Northern Baluchistan)

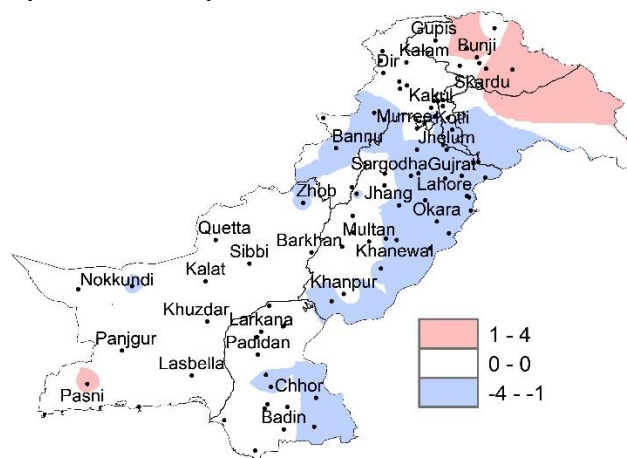
Dry weather reported during the decade; however, weather remained partially cloudy for 6 days during the decade. Average relative humidity recorded as 31.6%, mean day temperature was 34.2°C while night temperature recorded as 17.4°C. Moreover, wind speed recorded as 4.4 km/hr with *northwesterly* mean direction.



I. Actual max-temp



II. Departure of max-temp from Normal



III. Departure of max-temp from the previous Decade

Figure.2: Maximum Temperature distribution during the previous decade (°C)

2(b) Past Weather for Sub-Regional Agricultural Plains (10th to 20th Sep, 2023)

2.6 Jhelum

Rain reported as 44.8 mm during the decade; however, weather remained partially cloudy for 9 days. Average relative humidity recorded as 72%, mean day temperature was 35.6°C while night temperature recorded as 25.9°C with 74.8 hours bright sunshine duration. Wind speed recorded as 3.8 km/hr with *southerly mean* direction.

2.7 Lahore

Rain reported as 102.2 mm during the decade; however, weather remained partially cloudy for 10 days. Average relative humidity recorded as 71%, mean day temperature was 34.1°C while night temperature recorded as 26.3°C with 71.0 hours bright sunshine duration. Wind speed recorded as 2.8 km/hr with *northeasterly* wind direction.

2.8 Sargodha

Rain reported as 27.2 mm during the decade; however, weather remained partially cloudy for 7 days. Average relative humidity recorded as 64%, mean day temperature was 37.0°C while night temperature recorded as 27.3°C with 77.8 hours bright sunshine duration. Wind speed recorded as 2.3 km/hr with *northeasterly* wind direction.

2.9 Multan

Rain reported as 3.0 mm during the decade; however, weather remained partially cloudy for 8 days. Average relative humidity recorded as 57%, mean day temperature was 37.5°C while night temperature recorded as 28.6°C with 75.8 hours bright sunshine duration. Wind speed recorded as 6.4 km/hr with *southerly* mean wind direction.

2.10 Khanpur

Rain reported as 0.01 (trace) during the decade; however, weather remained partially cloudy for 5 days. Average relative humidity recorded as 62%, mean day temperature was 39.2°C while night temperature recorded as 27.5°C with 84.4 hours bright sunshine duration. Mean wind direction recorded as *northeasterly*.

2.11 Sakrand

Rain reported as 24.0 mm during the decade; however, weather remained partially cloudy for 4 days during the decade. Average relative humidity recorded as 62%, mean day temperature was 38.0 °C while night temperature recorded as 26.4°C with 89.9 hours bright sunshine duration. Wind speed recorded as 5.1 km/hr with *southerly* mean direction.

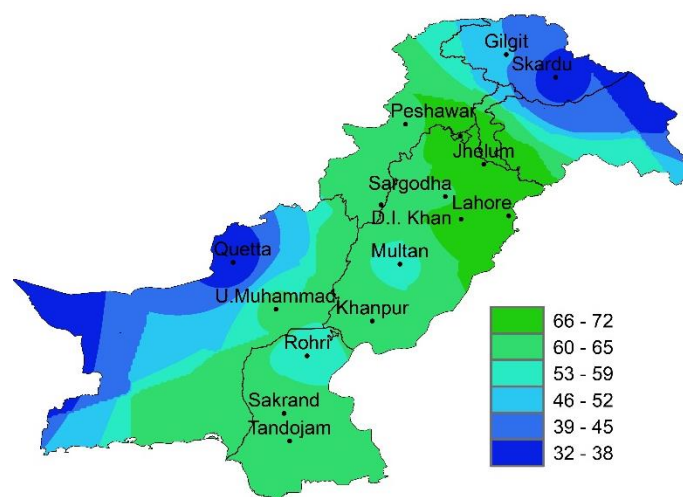


Figure.3: Relative Humidity (%)

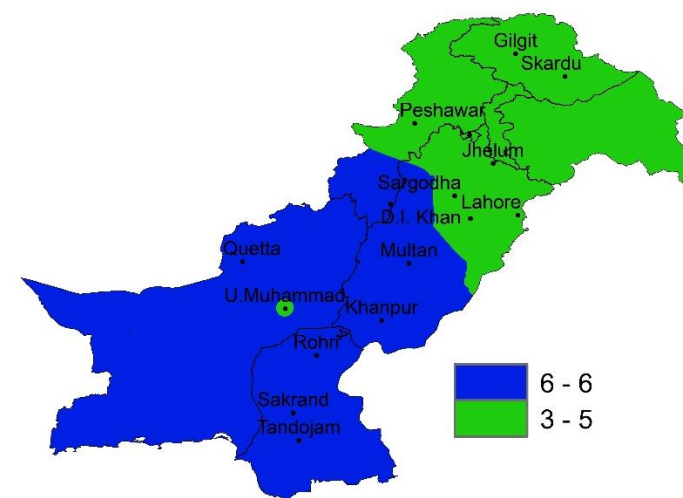


Figure.4: Reference Crop Evapotranspiration ETo (mm/day)

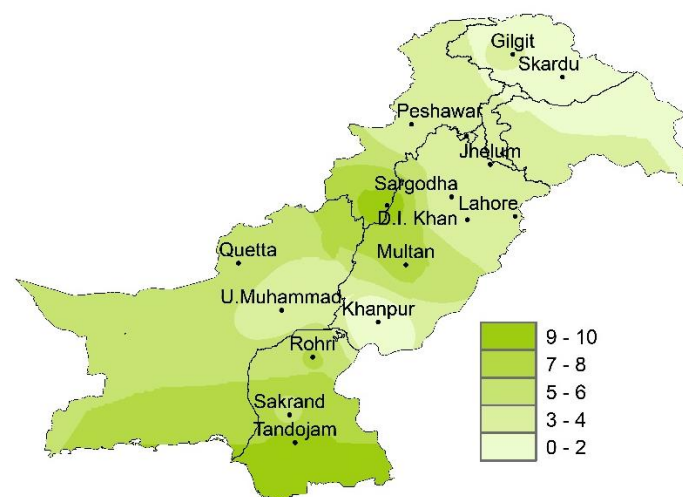


Figure 5: Wind Speed (km/h)

2.12 Rohri

Dry weather reported during the decade; however, weather remained partially cloudy for 4 days. Average relative humidity recorded as 55%, mean day temperature was 38.8°C while night temperature recorded as 27.8°C with 104.1 hours bright sunshine duration. Wind speed recorded as 5.9 km/hr with northeasterly mean direction.

2.13 D.I. Khan

Dry weather reported during the decade; however, weather remained partially cloudy for 4 days. Average relative humidity recorded as 61%, mean day temperature was 39.4°C while night temperature recorded as 27.1°C with 80.2 hours bright sunshine duration. Wind speed recorded as 8.4 km/hr with *southeasterly* mean direction.

2.14 Peshawar

Rain reported as 15.0 mm during the decade; however, weather remained partially cloudy for 6 days. Average relative humidity recorded as 64%, mean day temperature was 37.0°C while night temperature recorded as 25.9°C with 46.7 hours bright sunshine duration. Wind speed recorded as 2.56 km/hr with *northeasterly* mean wind direction.

2.15 Skardu

Dry weather reported during the decade; however, weather remained partially cloudy for 2 days. Average relative humidity recorded as 35%, mean day temperature was 30.9°C while night temperature recorded as 13.1°C with 63.2 hours bright sunshine duration. Wind speed recorded as 0.9 km/hr with *northeasterly* mean wind direction.

2.16 Gilgit

Precipitation reported as 0.3 mm during the decade; however, weather remained cloudy for 10 days. Average relative humidity recorded as 45.2%, mean day temperature was 36.4°C while night temperature recorded as 16.4°C with 79.0 hours bright sunshine duration. Wind speed recorded as 2.0 km/hr with *southeasterly* mean wind direction.

Nine Days Weather Advisory for Farmers **(20th to 30th Sep, 2023)**

3.1 Temperature Forecast

Day and night time temperatures are expected to remain near normal over northern and southern parts whereas below normal over central parts of the country.

3.2 Wind Forecast

Generally, normal wind patterns may prevail in most of the agricultural plains of the country.

3.3 Rain Forecast

- ❖ **Punjab:** Mainly dry weather is expected in most of parts of the province during the decade. However, Rain-wind thunderstorms may occur in the Potohar region, central and northeastern parts at the start days of the decade while Very hot weather is expected in Southern Punjab.
- ❖ **Khyber Pakhtunkhwa:** Mainly hot and dry weather may prevail during the decade. However, rain-wind thunderstorms may occur in isolated parts during the start days of the decade.
- ❖ **Sindh:** Mainly dry and very hot weather is expected in most parts of the province during the decade.
- ❖ **Baluchistan:** Mainly dry weather is expected in most parts of the province during the decade. While rain-thunderstorm may occur in the Northwestern part of the province during the start days.
- ❖ **Gilgit-Baltistan:** Rain-wind thunderstorm is expected in isolated parts during the decade.
- ❖ **Kashmir:** Rain-wind thunderstorm is expected in isolated parts during the decade.

3.4 Advisory for Farmers

- ❖ Farmers are advised to view PMD website for forecast before any field activity.