

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to Moderate rainfall reported in the agricultural plains of K.P, G.B & Kashmir and light rainfall reported in the agricultural plains of the Punjab, Balochistan, while dry weather reported in Sindh during the last decade.
- ❖ Highest amount of rainfall reported as 63.5mm at Parachinar during the last decade.
- ❖ Lowest minimum temperature recorded -12.6°C at Skardu during the last decade.
- ❖ Mainly cold and dry weather is expected in most parts of the country however, partly cloudy weather conditions with light to moderate rain (with light snowfall over the hills) is expected at northern Punjab, hills of K.P, and G.B & Kashmir during first half of the decade.
- ❖ Farmers are advised to cultivate winter vegetables in time so that present soil moisture may fully be utilized.
- ❖ Wheat cultivation has completed in most of the irrigated areas. Farmers of irrigated areas should irrigate the crop as per requirement due to dry weather prevailing in most of the irrigated agricultural plains of the country. Normally first irrigation is given 20-25 days after sowing and 2nd irrigation is given just before heading stage and the 3rd irrigation is given at milk maturity stage.
- ❖ Farmers of barani areas are advised to remove weeds from the fields, so that the present soil moisture may fully be utilized.
- ❖ Farmers of upper areas are advised to protect their crops from the expected frost during clear nights.

## PAKISTAN METEOROLOGICAL DEPARTMENT SECTOR H-8/2, ISLAMABAD

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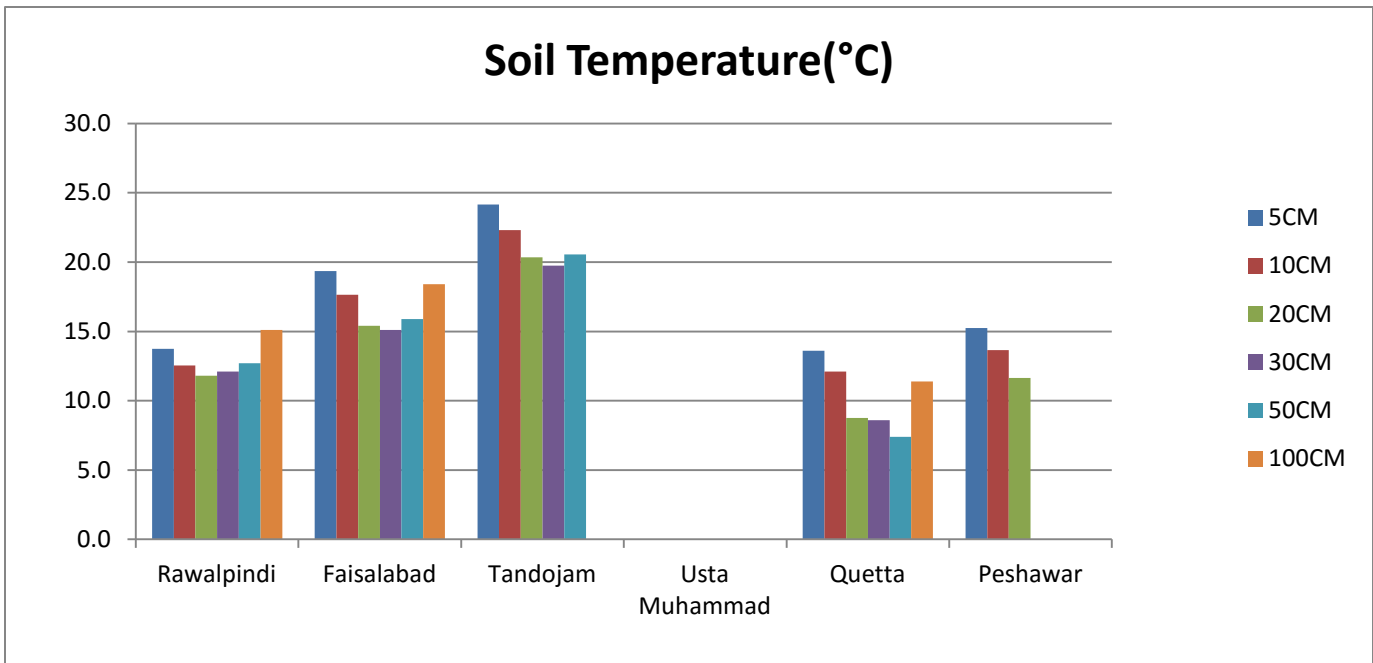
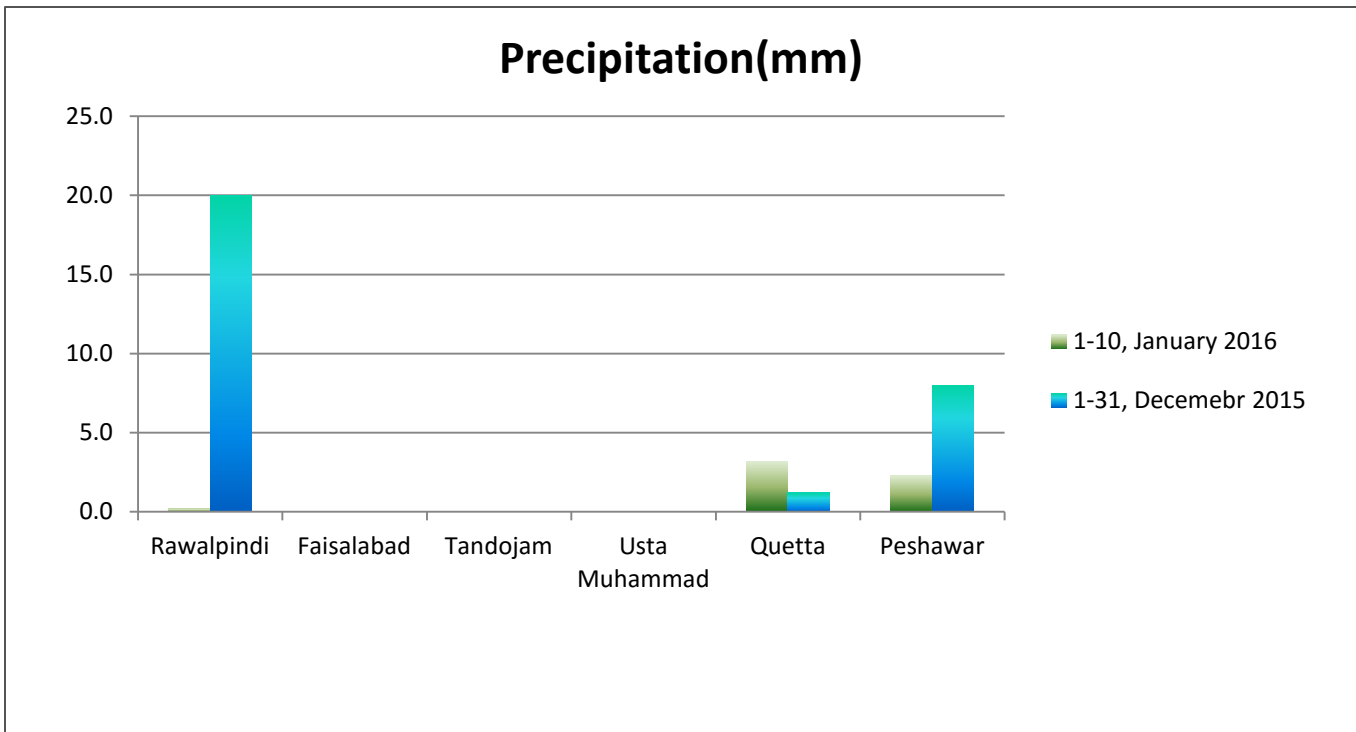
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Meteorological conditions during 1<sup>st</sup> decade of January, 2016

Sr. No.	Station	Precipitation (mm)			Air Temperature (°c)			Soil Temperatures (°c)						R.H (%)	Sunshine Duration(hours)	Wind Speed (km/hr)	ET <sub>o</sub> (mm/day)
		Normal	Actual	Dep	Tmax Dep	Tmin Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	RAWALPINDI	0.5	0.2	-0.3	0.9	2.2	12.8	13.8	12.6	11.8	12.1	12.7	15.1	66	62.1	2.3	1.2
2	FAISALABAD	0.2	0.1	-0.1	2.5	2.4	15.2	19.4	17.7	15.4	15.1	15.9	18.4	60	55.0	1.5	1.3
3	JHELUM	0.4	0.1	-0.3	-1.4	0.1	12.7	13.8	13.1	12.5	12.8	13.9	***	63	61.3	1.2	1.1
4	LAHORE	0.3	0.1	-0.2	2.4	0.3	15.4	16.0	15.6	14.7	14.9	***	18.3	68	46.9	1.4	1.3
5	SARGODHA	0.4	0.1	-0.3	1.5	2.2	15.2	17.3	16.1	15.7	16.0	16.2	18.6	61	40.1	1.1	1.1
6	MULTAN	0.1	0.0	-0.1	1.3	2.7	15.6	***	***	***	***	***	***	59	48.1	1.8	1.5
7	KHANPUR	0.1	0.0	-0.1	2.4	1.9	16.4	***	16.2	16.6	17.0	18.0	19.9	58	60.6	3.1	2.0
8	TANDOJAM	0.4	0.0	-0.4	2.5	2.2	19.1	24.2	22.3	20.4	19.8	20.6	***	59	77.4	3.0	2.4
9	SAKRAND ☆	0.0	0.0	0.0	2.7	-1.1	15.6	25.8	21.4	***	***	***	24.1	63	74.6	3.1	2.2
10	ROHRI	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11	DI KHAN	0.4	0.1	-0.3	1.7	-0.8	14.2	***	***	***	***	***	***	57	67.8	***	2.5
12	PESHAWAR	0.6	2.3	1.7	0.8	0.5	12.9	15.3	13.7	11.7	***	***	***	71	42.6	1.5	1.0
13	USTA MUHAMMAD	0.0	0.0	0.0	2.4	1.9	17.1	***	***	***	***	***	***	61	***	1.2	2.7
14	QUETTA	0.4	3.2	2.8	3.4	4.3	9.2	13.6	12.1	8.8	8.6	7.4	11.4	44	77.4	4.6	2.0
15	SKARDU	0.5	5.3	4.8	-1.5	-1.3	-1.8	***	***	***	***	***	***	79	33.1	0.0	0.8
16	GILGIT	0.4	3.6	3.2	0.0	0.5	4.6	***	***	***	***	***	***	61	27.9	2.0	0.9

Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula;  $\text{Dep} \div \text{Normal} \times 100$ . Tmin & Tmax stands for minimum and maximum temperatures respectively. ET<sub>o</sub> stands for reference crop evapotranspiration. \*\*\* stands for no data and (☆) indicates the station with five years climatic (normal) data for computing departures.

## Graph at RAMC's during January, 2016



**Past Weather (1<sup>st</sup> to 10<sup>th</sup> January, 2016)**

Light to Moderate rainfall reported in the agricultural plains of K.P, G.B & Kashmir and light rainfall reported in the agricultural plains of the Punjab, Balochistan, while dry in Sindh during the last decade.

**1.1 Punjab**

Light rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received at Murree, Islamabad & Sialkot. Decadal maximum and decadal minimum both raised above normal by 1.4°C & 1.7°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 62%, 53.4hrs, 1.8km/hr and 1.4mm/day respectively.

**1.2 Sindh**

Dry weather reported in the agricultural plains of Sindh. Decadal maximum and decadal minimum both raised above normal by 1.7°C & 0.4°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 41%, 50.7hrs, 2.0km/hr and 2.3mm/day respectively.

**1.3 Khyber Pakhtunkhwa (KP)**

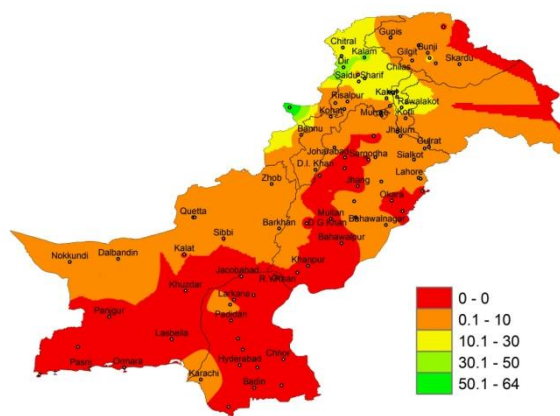
Light to moderate rainfall reported in agricultural plains of KP. Chief amount of rainfall received at Parachinar, Dir & Kalam. Decadal maximum raised above normal by 1.3°C and minimum dropped below normal by 0.2°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 64%, 55.2hrs, 1.5km/hr and 1.8mm/day respectively.

**1.4 Balochistan**

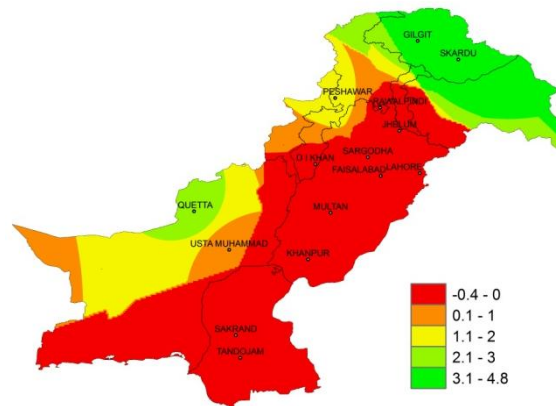
Light rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received at Quetta, Zhob, & Barkhan. Decadal maximum and decadal minimum both raised above normal by 2.9°C & 3.1°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 53%, 77.4hrs, 2.9km/hr and 2.4mm/day respectively.

**1.5 Gilgit-Baltistan and Azad Jammu & Kashmir**

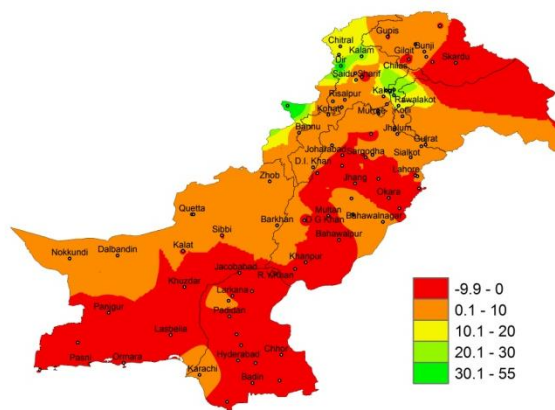
Light to moderate rainfall reported in agricultural plains of GB & Kashmir. Chief amount of rainfall received at Muzaffarabad, GarhiDopatta. & Rawalakot. Decadal maximum & minimum both dropped below normal by 0.8°C & 0.4°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 70%, 30.5hrs, 1.0km/hr and 0.9mm/day respectively.



I. Actual rainfall



II. Departure of rainfall from Normal



III. Departure of rainfall from Previous Decade

Figure.1: Rainfall distribution during previous decade in "mm"

**2(a) Past Weather for Major Agricultural Plains (1<sup>st</sup> to 10<sup>th</sup> January, 2016)**

**2.1 RAMC, Rawalpindi (Potohar region)**

Rainfall reported as 0.2mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 66%. Mean day temperature was 20.1°C while night temperature recorded as 5.5°C with 62.1hours bright sunshine duration. Wind speed recorded as 2.3km/hr with mean wind direction *westerly*.

**Wheat (Chakwal):** Good condition, 3<sup>rd</sup> leaf stage.

**2.2 RAMC, Faisalabad (Central Punjab)**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 60%. Mean day temperature was 23.0°C while night temperature recorded as 7.3°C with 55.0hours bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *north westerly*.

**Wheat:** Good condition, Tillering stage completed.

**2.3 RAMC, Tandojam (Lower Sindh)**

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 59%. Mean day temperature was 26.8°C while night temperature recorded as 11.3°C with 77.4hours bright sunshine duration. Wind speed recorded as 3.0km/hr with mean wind direction *northerly*.

**Wheat (TJ-83):** Good condition, Tillering stage.

**2.4 RAMC, Usta Muhammad (Eastern Balochistan)**

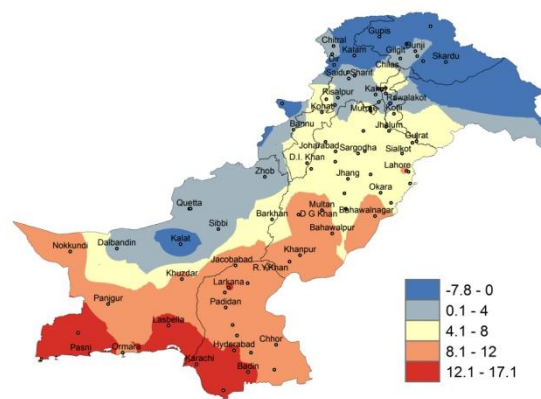
Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded 61%. Mean day temperature was 24.3°C while night temperature recorded as 9.8°C. Wind speed recorded as 1.2km/hr with mean wind direction *northerly*.

**Wheat :** Good condition, Tillering stage .

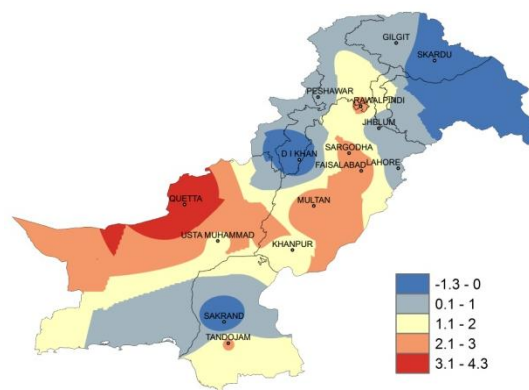
**2.5 RAMC, Quetta (Northern Balochistan)**

Rainfall reported as 3.2mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 44%. Mean day temperature was 16.2°C while night temperature recorded as 2.2°C with 77.4hours bright sunshine duration and wind speed recorded as 4.6km/hr with mean wind direction *southerly*.

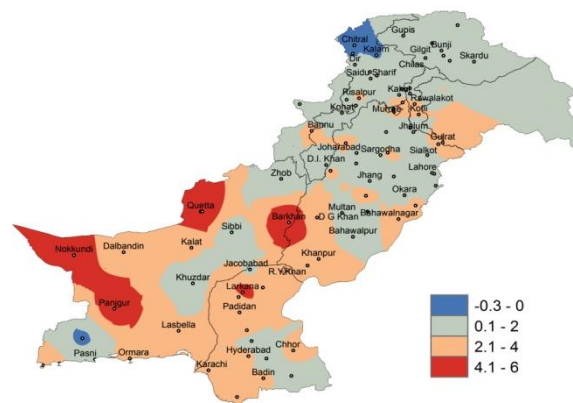
**Wheat):** Good condition, Third leaf stage



I. Actual min-temp



II. Departure of min-temp from Normal



III. Departure of min-temp from Previous Decade

*Figure.2: Minimum Temperature distribution during previous decade in °C*

2(b) **Past Weather for Sub-Regional Agricultural Plains (1<sup>st</sup> to 10<sup>th</sup> January, 2016)**

2.6 **Jhelum**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 63%. Mean day temperature was 19.6°C while night temperature recorded as 5.7°C with 61.3hours bright sunshine duration. Wind speed recorded 1.2km/hr with wind direction *North westerly*.

2.7 **Lahore**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 68%. Mean day temperature was 22.1°C while night temperature recorded as 8.7°C with 46.9hours bright sunshine duration. Wind speed recorded as 1.4km/hr with mean wind direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 61%. Mean day temperature was 22.2°C while night temperature recorded as 8.1°C with 40.1hours bright sunshine duration Wind speed variable with speed of 1.1 km/hr.

2.9 **Multan**

Dry weather reported during the decade however weather remained cloudy for 10ays. Average relative humidity recorded as 59%. Mean day temperature was 22.7°C while night temperature recorded as 8.4°C with 48.1hours bright sunshine duration. Wind speed recorded 1.8km/hr with mean wind direction *north easterly*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 07days during the decade. Average relative humidity recorded as 58%. Mean day temperature was 24.5°C while night temperature recorded as 8.2°C with 60.6hours bright sunshine duration. Wind speed recorded 3.1km/hr with mean wind direction *north easterly*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remains cloudy for 06days. Average relative humidity recorded as 63%. Mean day temperature was 25.1°C while night temperature recorded as 6.1°C with 74.6hours bright sunshine duration. Wind speed recorded 3.1km/hr with wind direction *Variable*.

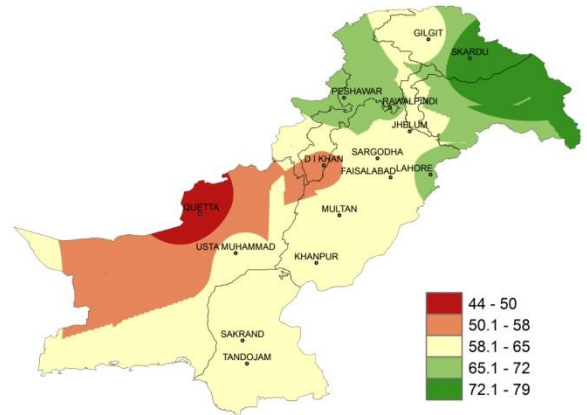


Figure.3: Relative Humidity in percentage (%)

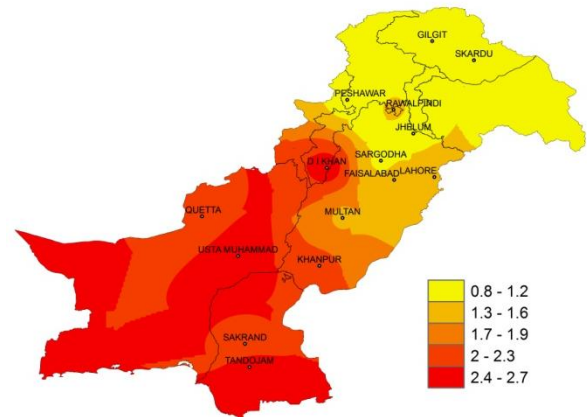


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

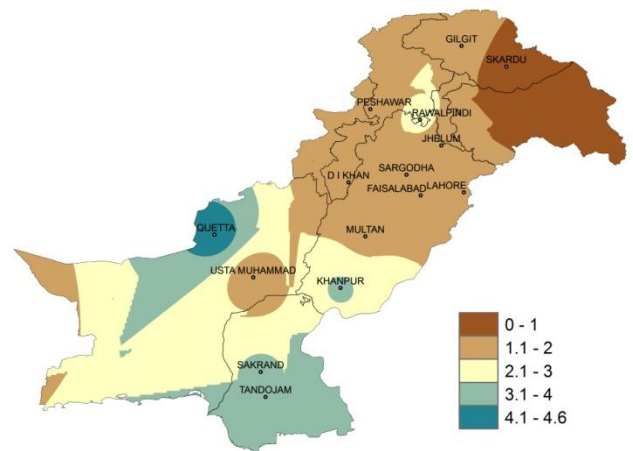


Figure 5: Wind Speed in kilometer per hour (km/h)

**2.12 Rohri**

Data not available from the station.

**2.13 D.I. Khan**

Rainfall reported as Trace (not measureable) during the decade however weather remains cloudy for 05days. Average relative humidity recorded as 57%. Mean day temperature was 23.0°C while night temperature recorded as 5.3°C with 67.8hours bright sunshine duration. Wind direction reported as variable.

**2.14 Peshawar**

Rainfall reported as 2.3mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 71%. Mean day temperature was 20.3°C while night temperature recorded as 5.5°C with 42.6hours bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *south westerly*.

**2.15 Skardu**

Rainfall reported as 5.3mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 79%. Mean day temperature was 4.3°C while night temperature recorded as -7.8°C with 33.1hours bright sunshine duration. Wind remained calm.

**2.16 Gilgit**

Rainfall reported as 3.6mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 61%. Mean day temperature was 11.3°C while night temperature recorded as -2.1°C with 27.9hours bright sunshine duration. Wind speed recorded as 2.0 km/hr with mean wind direction *westerly*.

### **3. Ten Days Weather Advisory for Farmers** **(11<sup>th</sup> to 20<sup>th</sup> January, 2016)**

**3.1 Temperature Forecast**

Night temperatures are expected remain normal in most of the agricultural plains of the country especially in upper parts of the country during the decade.

**3.2 Wind Forecast**

Normal wind pattern may prevail in most of the agricultural plains of the country during the decade.

**3.3 Rain Forecast**

- ❖ **Punjab:** Mostly cold and dry weather is expected during the decade. However light rainfall is expected in upper parts during 1st half of decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly cold and dry weather is expected in the province. However light rainfall (with light snowfall over the hills) is expected in upper hilly areas during 1st half of decade.
- ❖ **Sindh:** Dry weather expected in most of the parts of Sindh during the decade.
- ❖ **Balochistan:** Mainly cold and dry weather is expected in the province. Whereas light to moderate rainfall with snowfall over hills is expected in northwest Balochistan during first half of the decade.
- ❖ **Gilgit Baltistan:** Mainly cold and cloudy weather is expected in most parts of the G.B however light to moderate rain with light snowfall is expected in in 1st half of decade decade.
- ❖ **Kashmir:** Mainly cold and dry weather is expected in most parts of the Kashmir however partly cloudy weather conditions with light to moderate rain (with light snowfall over the hills) is expected in 1st half of decade.

**3.4 Advisory for Farmers**

- ❖ Wheat cultivation has completed in most of the irrigated areas. Farmers of irrigated areas should irrigate the crop as per requirement due to dry weather prevailing in most of the irrigated agricultural plains of the country. Normally first irrigation is given 20-25 days after sowing and 2nd irrigation is given just before heading stage and the 3rd irrigation is given at milk maturity stage.
- ❖ Farmers of barani areas are advised to remove weeds from the fields, so that the present soil moisture may fully be utilized.
- ❖ Removing weeds from the 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 fields.
- ❖ Falling leaves from the trees negatively affect standing Rabi crops like wheat and other Rabi crops. Farmers should collect leaves from the crops as early as possible so that crop normal growth may not be disturbed.
- ❖ Farmers of upper areas are advised to protect their crops from the expected frost during clear nights.