

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported in the agricultural plains of Punjab, K.P, G.B & Kashmir however light rainfall reported in the agricultural plains of the Sindh & Balochistan during the last decade.
- ❖ Highest amount of rainfall reported as 57.0mm at Dir during the last decade.
- ❖ Lowest Minimum temperature recorded -12.2°C at Skardu during the last decade.
- ❖ Light to moderate rainfall (with snowfall over the hills) is expected in different upper parts of country from 6th to 10th of the decade.
- ❖ Wheat crop is in tillering/shooting/heading stages. Farmers are advised to stop irrigation the crops by keeping in view the expected rain in the agricultural plains of the country.
- ❖ The upcoming rain is beneficiary for all rabi crops.
- ❖ Farmers of irrigated/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 trees negatively affect standing Rabi crops like wheat and other crops. Framers should collect leaves from the crops as early as possible so that crop normal growth may not be disturbed.

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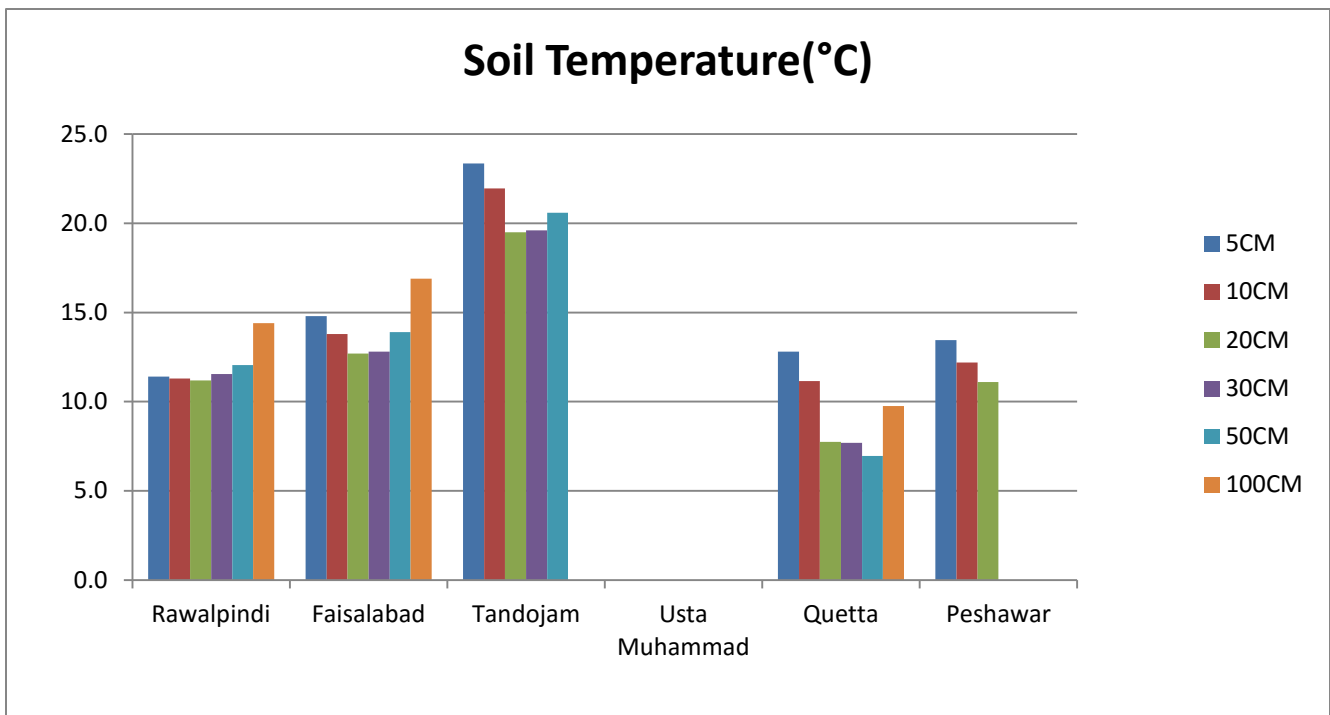
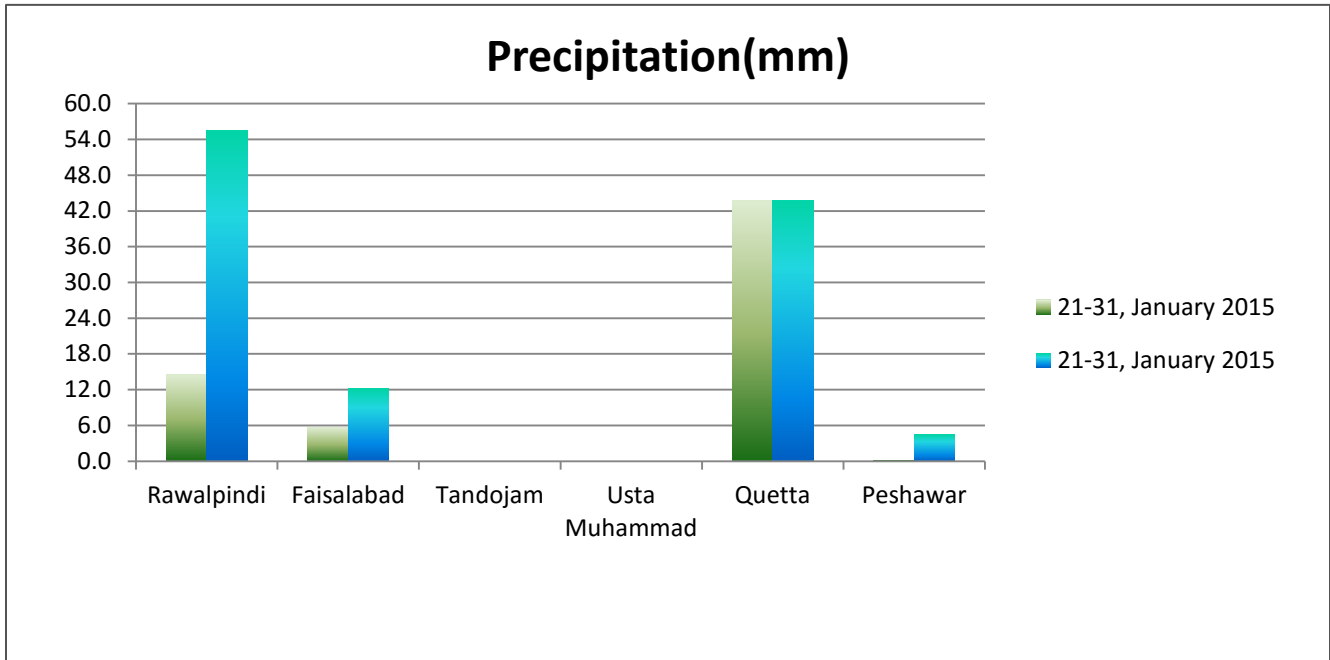
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Meteorological conditions during 3rd decade of January, 2016

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	Tmax Dep	Tmin Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	RAWALPINDI	2.4	14.5	12.1	-2.5	2.1	10.9	11.4	11.3	11.2	11.6	12.1	14.4	76	44.4	1.8	1.2
2	FAISALABAD	0.3	5.7	5.4	-4.5	1.1	10.6	14.8	13.8	12.7	12.8	13.9	16.9	75	22.2	2.0	1.1
3	JHELUM	1.7	4.4	2.7	-3.5	0.5	11.5	12.9	12.4	12.4	12.6	13.6	***	73	43.8	2.9	1.3
4	LAHORE	0.7	18.5	17.8	-4.3	-1.1	11.1	13.7	13.5	13.4	13.6	***	17.4	80	23.7	2.2	1.1
5	SARGODHA	1.0	0.1	-0.9	-4.4	1.9	11.6	15.0	14.5	14.3	14.5	15.1	17.8	81	30.3	1.7	1.1
6	MULTAN	0.2	0.1	-0.1	-4.9	0.5	11.2	***	***	***	***	***	***	73	25.4	2.0	1.2
7	KHANPUR	0.0	0.0	0.0	-4.3	-0.8	11.9	***	14.3	14.8	15.4	16.5	19.3	72	41.1	4.3	1.7
8	TANDOJAM	0.0	0.0	0.0	-0.6	6.3	17.2	23.4	22.0	19.5	19.6	20.6	***	63	86.4	0.8	2.1
9	SAKRAND ☆	0.0	0.0	0.0	3.4	2.6	16.3	26.2	21.5	***	***	***	23.3	66	85.1	5.6	2.7
11	D I KHAN	0.6	1.0	0.4	-3.6	-2.7	9.4	***	***	***	***	***	***	73	25.6	***	1.7
11	PESHAWAR	1.7	0.1	-1.6	-3.7	-0.6	10.0	13.5	12.2	11.1	***	***	***	76	32.5	2.2	1.1
12	USTA MUHAMMAD	0.3	0.0	-0.3	-0.7	-1.3	13.6	***	***	***	***	***	***	68	***	1.6	1.7
13	QUETTA	0.5	43.7	43.2	3.6	0.6	7.1	12.8	11.2	7.8	7.7	7.0	9.8	37	86.4	5.1	2.2
14	SKARDU	0.8	3.9	3.1	-0.2	-0.6	-2.2	***	***	***	***	***	***	74	47.0	0.0	0.7
15	GILGIT	0.2	0.2	0.0	1.6	-1.6	4.4	***	***	***	***	***	***	46	56.0	2.0	1.3

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; Dep divided by Normal multiplied by 100. Tmin & Tmax stands for minimum and maximum temperatures respectively. ETo 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 (21st to 31st January, 2016)

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

1.1 Punjab

Light to moderate rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Murree, Lahore & Islamabad. Decadal maximum dropped below normal by 4.1°C & minimum raised above normal by 0.6°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 74%, 33.0hrs, 2.4km/hr and 1.2mm/day respectively.

1.2 Sindh

Light rainfall reported at one place of Sindh i.e. Larkana. Decadal maximum & minimum temperature both raised above normal by 0.9°C & 3.0°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 43%, 57.2hrs, 2.1km/hr and 2.4mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

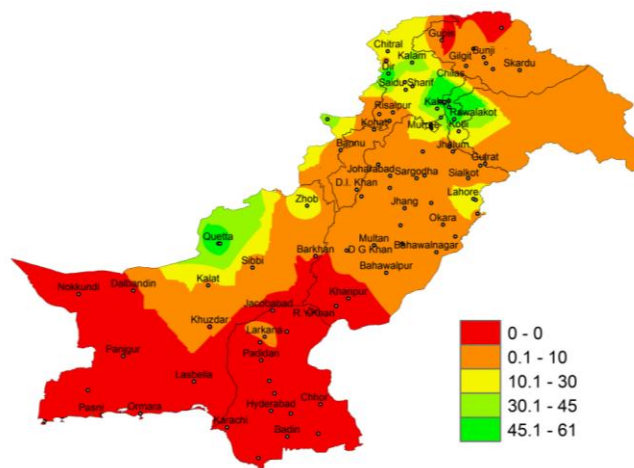
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall received in Dir, Balakot & Pattan. Decadal maximum & minimum temperature both dropped below normal by 3.7°C & 1.7°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 75%, 29.1hrs, 2.2km/hr and 1.4mm/day respectively.

1.4 Balochistan

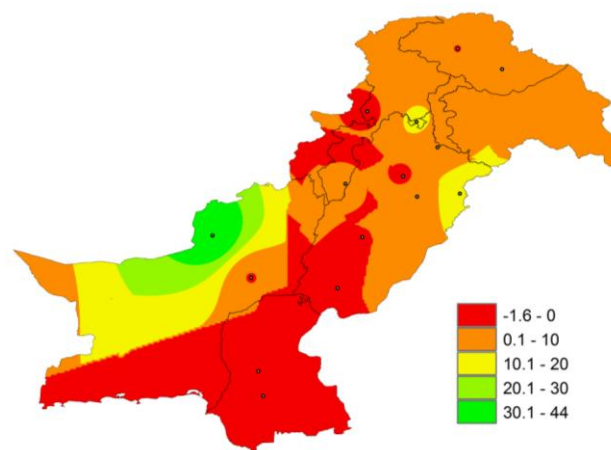
Light rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received in Quetta, Zhob & Kalat. Decadal maximum raised above normal by 1.5°C & minimum temperature dropped below normal by 0.4°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 53%, 86.4hrs, 3.4km/hr and 1.4mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

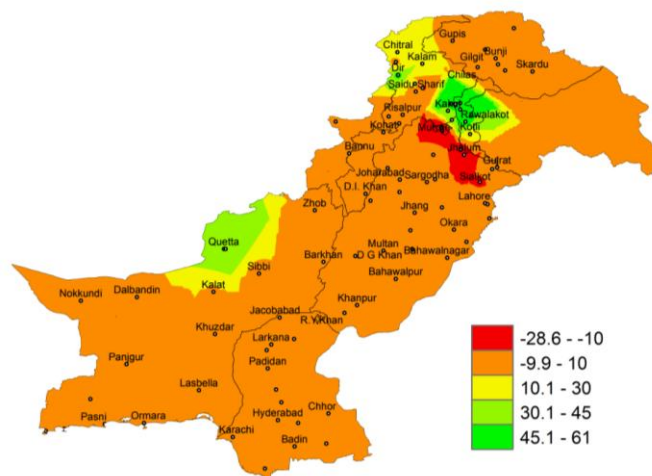
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall received in Rawalakot, Garhi Doppatta & Muzaffarabad. Decadal maximum raised above normal by 0.7°C & minimum dropped below normal by 1.1°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 63%, 51.5hrs, 1.0km/hr and 1.0mm/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**
(21st to 31st January, 2016)

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

Rainfall reported as 14.5mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 76%. Mean day temperature was 16.2°C while night temperature recorded as 5.6°C with 44.4hours bright sunshine duration. Wind speed recorded as 1.8km/hr with mean wind direction *north westerly*.

Wheat (Chakwal-97): Good condition, tillering stage.

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

Rainfall reported as 5.7mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 75%. Mean day temperature was 15.2°C while night temperature recorded as 6.0°C with 22.2hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *south westerly*.

Wheat: Very Good condition, shooting stage.

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

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 63%. Mean day temperature was 24.5°C while night temperature recorded as 9.8°C with 86.4hours bright sunshine duration. Wind speed recorded as 0.8km/hr with mean wind direction *northerly*.

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

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

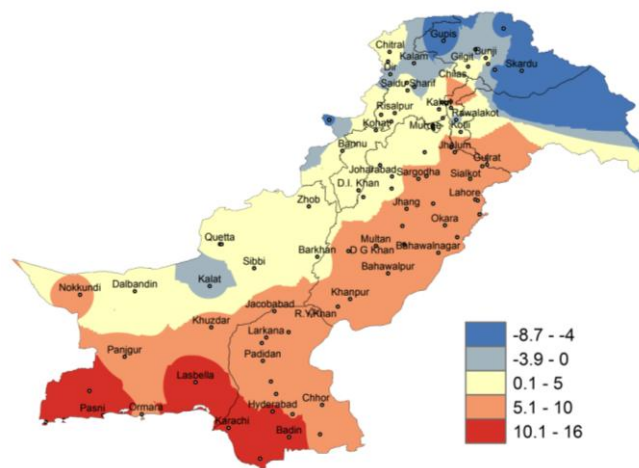
Dry weather reported during the decade however weather remained clear throughout the decade. Average relative humidity recorded as 68%. Mean day temperature was 20.5°C while night temperature recorded as 6.7°C. Wind speed recorded as 1.6km/hr with mean wind direction *south westerly*.

Wheat (Zardana): Good condition, Tillering stage.

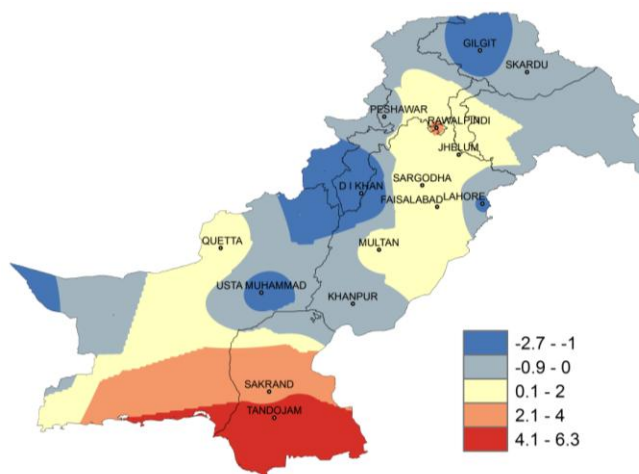
2.5 **RAMC, Quetta (Northern Balochistan)**

Rainfall reported as 43.7mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 37%. Mean day temperature was 14.7°C while night temperature recorded as -0.5°C with 86.4hours bright sunshine duration and wind speed recorded as 5.1km/hr with mean wind direction *north easterly*.

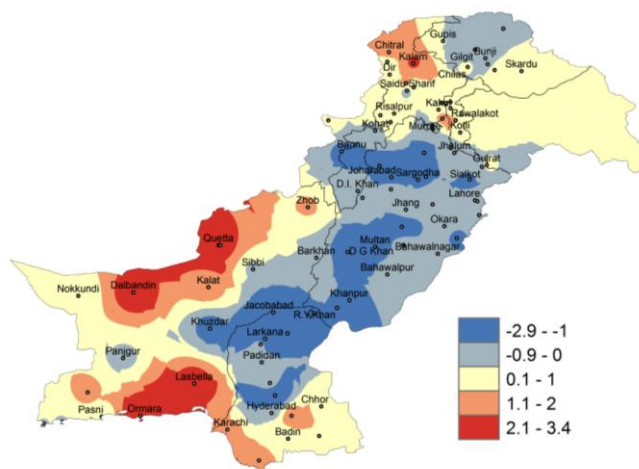
Wheat: Good condition, 3rd leaf stage.



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 (21st to 31st January, 2016)**

2.6 **Jhelum**

Rainfall reported as 4.4mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 73%. Mean day temperature was 16.7°C while night temperature recorded as 6.3°C with 43.8hours bright sunshine duration. Wind speed recorded 2.9km/hr with wind direction *north westerly*.

2.7 **Lahore**

Rainfall reported as 18.5mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 80%. Mean day temperature was 15.0°C while night temperature recorded as 7.2°C with 23.7hours bright sunshine duration. Wind speed recorded as 2.2km/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 81%. Mean day temperature was 15.6°C while night temperature recorded as 7.5°C with 30.3hours bright sunshine duration. Wind speed recorded 1.7km/hr with mean wind direction *north easterly*.

2.9 **Multan**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 73%. Mean day temperature was 16.0°C while night temperature recorded as 6.3°C with 25.4hours bright sunshine duration. Wind speed recorded 2.0km/hr with mean wind direction *north easterly*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 72%. Mean day temperature was 18.2°C while night temperature recorded as 5.6°C with 41.1hours bright sunshine duration. Wind speed recorded 4.3km/hr with mean wind direction *north easterly*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remains cloudy for 02days. Average relative humidity recorded as 66%. Mean day temperature was 23.0°C while night temperature recorded as 9.5°C with 85.1hours bright sunshine duration. Wind speed recorded 5.6km/hr with wind direction *north easterly*.

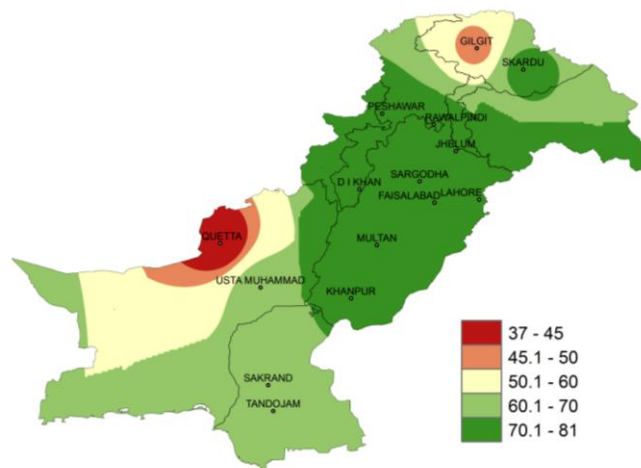


Figure.3: Relative Humidity in percentage (%)

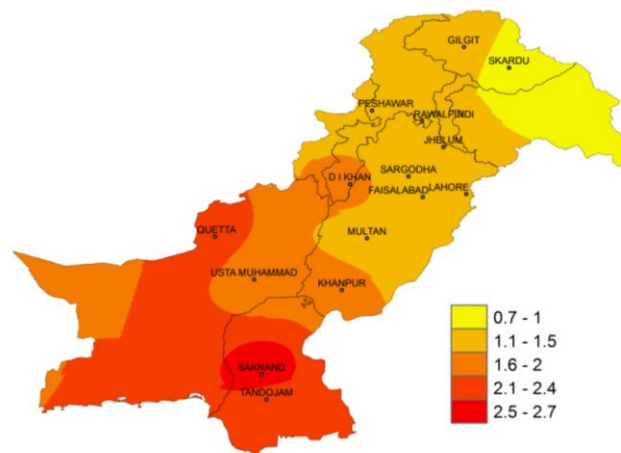


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

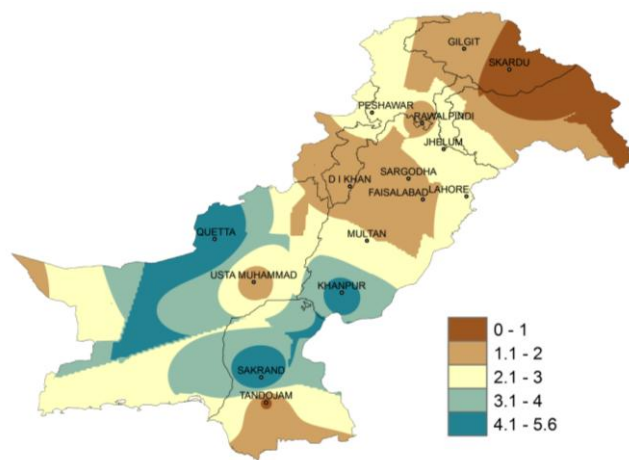


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 D.I. Khan

Rainfall reported as 1.0mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 73%. Mean day temperature was 16.5°C while night temperature recorded as 2.3°C with 25.6hours bright sunshine duration.

2.13 Peshawar

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 76%. Mean day temperature was 15.1°C while night temperature recorded as 4.8°C with 32.5hours bright sunshine duration. Wind speed recorded as 2.2km/hr with mean wind direction *south westerly*.

2.14 Skardu

Rainfall reported as 3.9mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 74%. Mean day temperature was 4.4°C while night temperature recorded as -8.7°C with 47.0hours bright sunshine duration. Wind speed remained calm.

2.15 Gilgit

Rainfall reported as 0.2mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 46%. Mean day temperature was 12.6°C while night temperature recorded as -3.9°C with 56.0hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *westerly*.

**3. Ten Days Weather Advisory for Farmers
(1st to 10th February, 2016)****3.1 Temperature Forecast**

Night temperatures are expected to drop slightly (1-2°C) 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 to moderate rain (with light snowfall over the hills) is expected in most parts of the province including Gujranwala, Rawalpindi, Lahore, Faisalabad divisions from 6th to 10th of the decade.

- ❖ **Khyber Pakhtunkhwa:** Mainly cold and cloudy weather is expected in the province. However light to moderate rainfall (with light snowfall over the hills) is expected in Hazara, Peshawar & Malakand divisions from 6th to 9th of the decade.
- ❖ **Sindh:** Mainly dry weather expected in most of the parts of Sindh.
- ❖ **Balochistan:** Mainly cold and dry weather is expected in most parts of the Balochistan however light to moderate rain (with light snowfall over the hills) is expected in Quetta, Makran, Khuzdar & Kalat from 4th to 5th 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 over the hills) is expected Gilgit, Skardu & Hunza from 6th to 10th of the decade.
- ❖ **Kashmir:** Widespread rain-thunderstorm (with snowfall over the hills) is expected in most parts of the Kashmir including Muzaffarabad, Kotli from 6th to 10th of the decade.

3.4 Advisory for Farmers

- ❖ Wheat crop is in tillering/shooting/heading stages. Farmers are advised to stop irrigation the crops by keeping in view the expected rain in the agricultural plains of the country.
- ❖ The upcoming rain is beneficiary for all rabi crops.
- ❖ Farmers of irrigated/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 trees negatively affect standing Rabi crops like wheat and other crops. Framers should collect leaves from the crops as early as possible so that crop normal growth may not be disturbed.
- ❖ Due to further drop of temperatures, especially farmers of upper areas are advises to protect their crops from the frost.