

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from few agricultural plains of Punjab, KP, Gilgit Baltistan & Kashmir while dry weather reported from Sindh & Balochistan during the last decade.
- ❖ Lowest minimum temperature recorded -06.0°C at Kalam during the last decade.
- ❖ Highest amount of rainfall recorded as 30.0mm at Rawalakot during the last decade.
- ❖ Lower values of relative humidity reported from Gilgit, Skardu, Quetta region and lower Sindh. While higher values reported Central Punjab & KPK during the last decade.
- ❖ Lower values of ETo reported from Gilgit, Skardu, Upper Punjab & KP while higher values reported from Sindh & Balochistan during the last decade.
- ❖ Normal to below normal temperatures are expected in most of the agricultural plains of the country during the current decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the current decade.
- ❖ Mainly cold and cloudy weather is expected in most parts of the country during the of decade.

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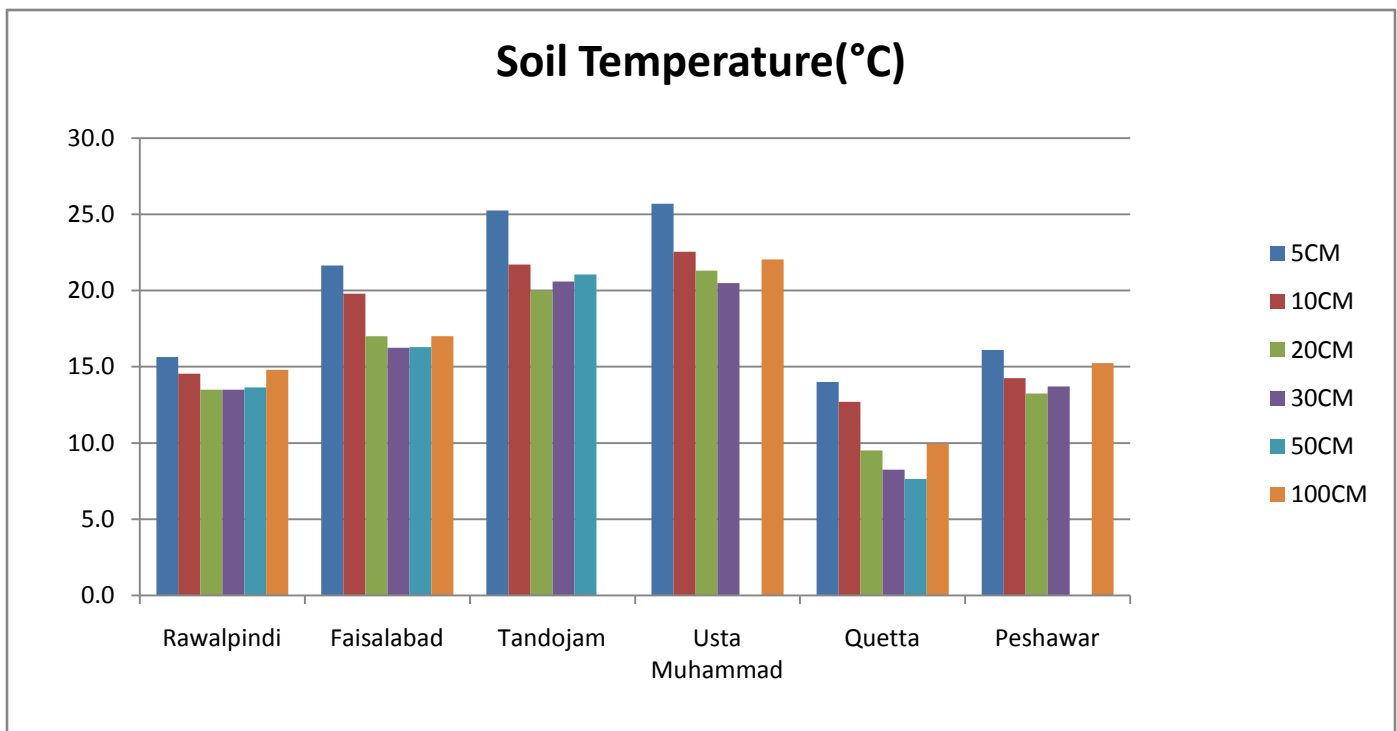
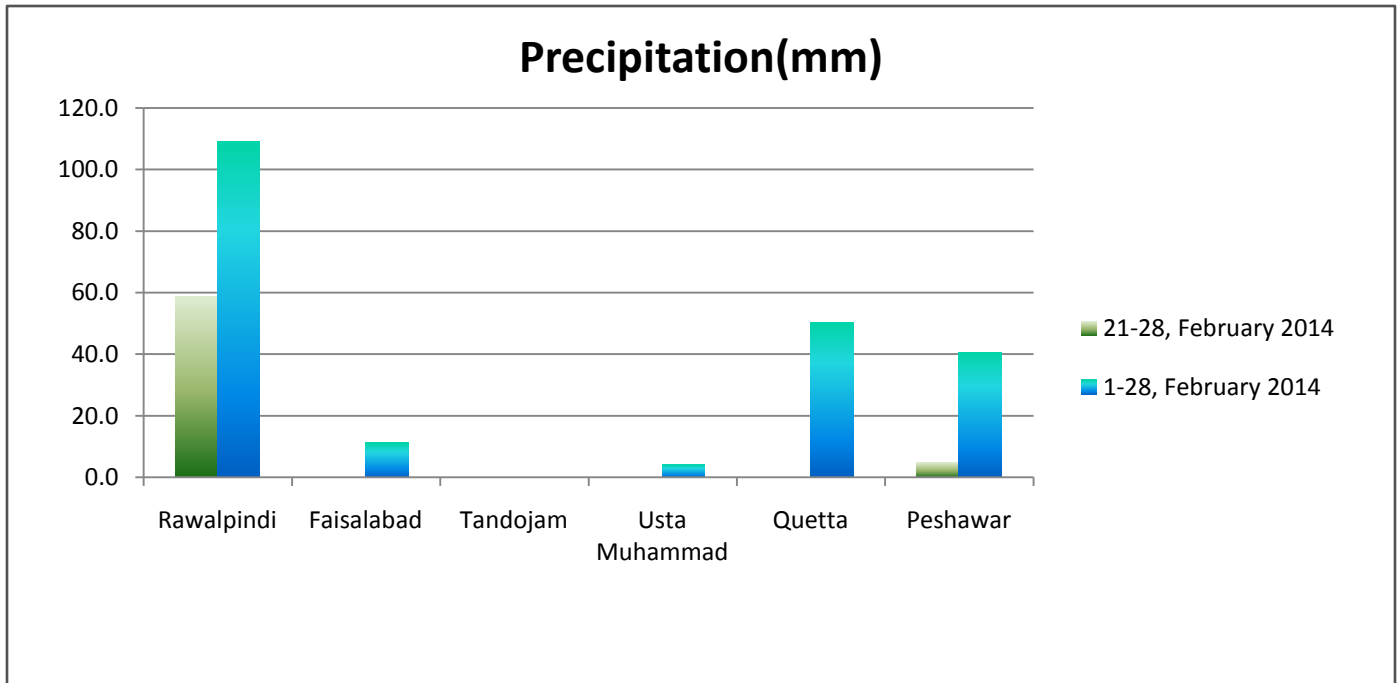
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Meteorological conditions during 3rd Decade of February, 2014

Sr. No.	Station	*Precipitation (mm)			Air Temperature (°c)			Soil Temperatures (°c)						Sunshine Duration (hours)	Wind Speed (km/hr)	R.H (%)	ETo (mm/day)
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	RAWALPINDI	1.4	58.9	57.5	-1.6	-1.4	13.6	15.7	14.6	13.5	13.5	13.7	14.8	38.4	3.2	63	2.0
2	FAISALABAD	0.3	0.1	-0.2	-1.7	-1.9	15.9	21.7	19.8	17.0	16.3	16.3	17.0	62.0	3.6	60	2.5
3	JHELUM	1.0	7.2	6.2	-1.7	-1.5	15.9	18.5	17.3	16.1	15.4	16.3	***	49.5	3.7	60	2.3
4	LAHORE	0.5	4.0	3.5	-4.1	-2.4	15.8	18.7	17.8	16.2	15.8	***	17.0	47.2	2.5	71	2.1
5	SARGODHA	0.3	6.0	5.7	-0.6	-1.9	16.7	20.5	18.2	16.7	16.7	17.3	18.0	58.2	2.2	63	2.2
6	MULTAN	0.5	1.0	0.5	-1.3	-2.7	16.7	***	***	***	***	***	***	57.2	3.4	58	2.5
7	KHANPUR	0.1	4.0	3.9	-3.2	-6.0	15.1	***	18.9	19.2	19.5	20.1	20.9	66.7	4.1	57	2.7
8	TANDOJAM	0.0	0.0	0.0	-2.4	-3.7	19.0	25.3	21.7	20.0	20.6	21.1	***	73.6	2.0	50	2.9
9	SAKRAND ☆	0.0	0.0	0.0	-4.3	-2.4	17.4	29.0	25.6	***	***	21.9	22.5	75.9	2.7	51	2.9
10	ROHRI	0.5	0.0	-0.5	-2.6	-3.3	19.1	27.5	24.6	21.9	22.4	20.6	23.7	78.2	5.7	50	3.6
11	DI KHAN	0.6	1.0	0.4	-2.5	-1.0	15.6	***	***	***	***	***	***	71.3	***	58	3.2
12	PESHAWAR	1.9	5.0	3.1	-1.9	-0.7	14.5	16.1	14.3	13.3	13.7	***	15.3	53.0	3.3	66	2.1
13	USTA MUHAMMAD	0.4	0.0	-0.4	-2.1	-2.7	18.7	25.7	22.6	21.3	20.5	***	22.1	***	***	67	3.6
14	QUETTA	1.2	0.0	-1.2	-2.2	-3.2	7.6	14.0	12.7	9.5	8.3	7.7	10.0	78.1	5.6	38	2.7
15	SKARDU	1.1	0.0	-1.1	0.3	1.6	4.8	***	***	***	***	***	***	41.0	1.8	44	1.5
16	GILGIT	0.3	0.0	-0.3	0.7	3.7	11.4	***	***	***	***	***	***	19.7	1.9	39	1.8

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. ETo stands for reference crop evapotranspiration. *** stands for no data and (☆) indicates the station with five years climatic (normal) data for computing departures. * stands for (rainfall + snowfall)

Graphs of RAMC's during February, 2014



Past Weather (21st to 28th February, 2014)

Light to moderate rainfall reported from few agricultural plains of Punjab, KP, Gilgit Baltistan & Kashmir while dry weather reported from 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 Islamabad, Bahawalnagar & Bhakkar. Decadal minimum & maximum temperature both dropped below normal by 2.0°C & 2.5°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 54.2hrs, 3.2km/hr, 62% and 2.3mm/day respectively.

1.2 Sindh

Dry weather reported in the agricultural plains of Sindh. Decadal minimum & maximum temperature both dropped below normal by 3.1°C & 3.1°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 75.9hrs, 3.5km/hr, 50% and 3.1mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

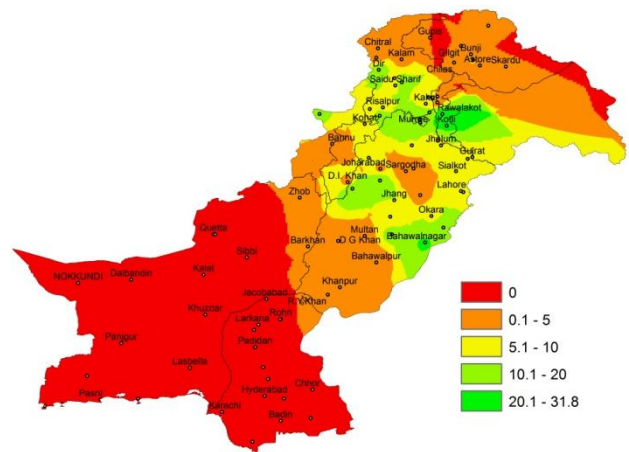
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Dir, Malam Jabba & Cherat. Decadal minimum & maximum temperature both dropped below normal by 2.2°C & 0.9°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 62.2hrs, 3.3km/hr, 62% and 2.7mm/day respectively.

1.4 Balochistan

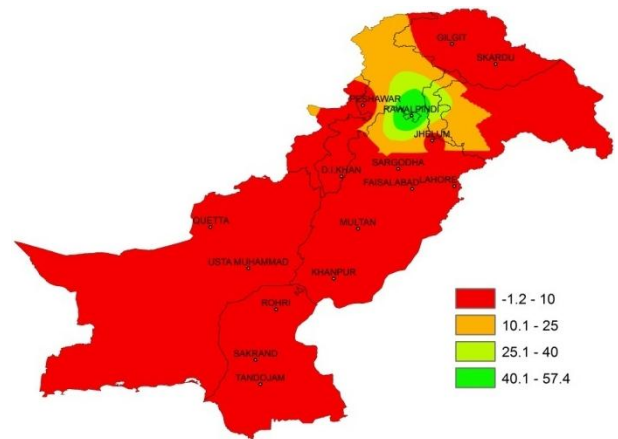
Dry weather reported in the agricultural plains of Balochistan. Decadal minimum & maximum temperature both dropped below normal by 2.2°C & 3.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 78.1hrs, 5.6km/hr, 53% and 3.2mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

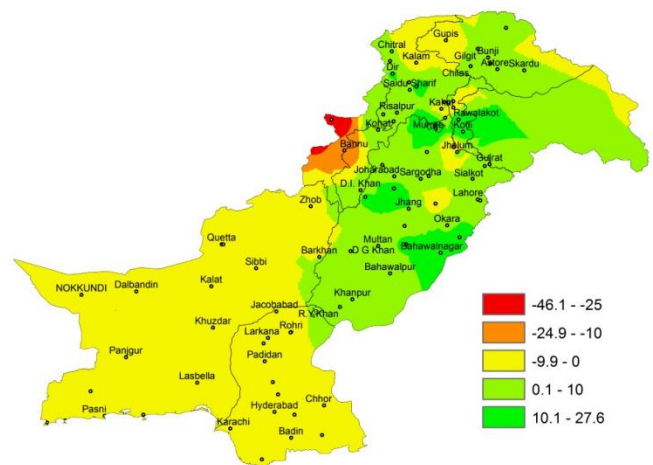
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Rawalakot, Kotli & Muzaffarabad. Decadal minimum & maximum temperature both raised above normal by 0.5°C & 2.7°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 30.4hrs, 1.9km/hr, 41% and 1.7mm/day respectively.



a) Actual rainfall



b) Departure of rainfall from Normal



c) 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 28th February, 2014)

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

Rainfall reported as 58.9mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 63%. Mean night temperature was 6.4°C while day temperature recorded as 20.7°C with 38.4hours bright sunshine duration. Wind speed recorded as 3.2km/h with mean wind direction *westerly*.

Wheat (Chakwal 97): Good condition, Tillering 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 night temperature was 8.6°C while day temperature recorded as 23.1°C with 62.0hours bright sunshine duration. Wind speed recorded as 3.6km/hr with mean wind direction *variable*.

Wheat: Very Good condition, Heading stage.

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

Dry weather reported during the decade however weather remained cloudy for 01day. Average relative humidity recorded as 50%. Mean night temperature was 10.9°C while day temperature recorded as 27.0°C with 73.6hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *north easterly*.

Wheat (TD-1): Good condition, Milk Maturity stage.

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

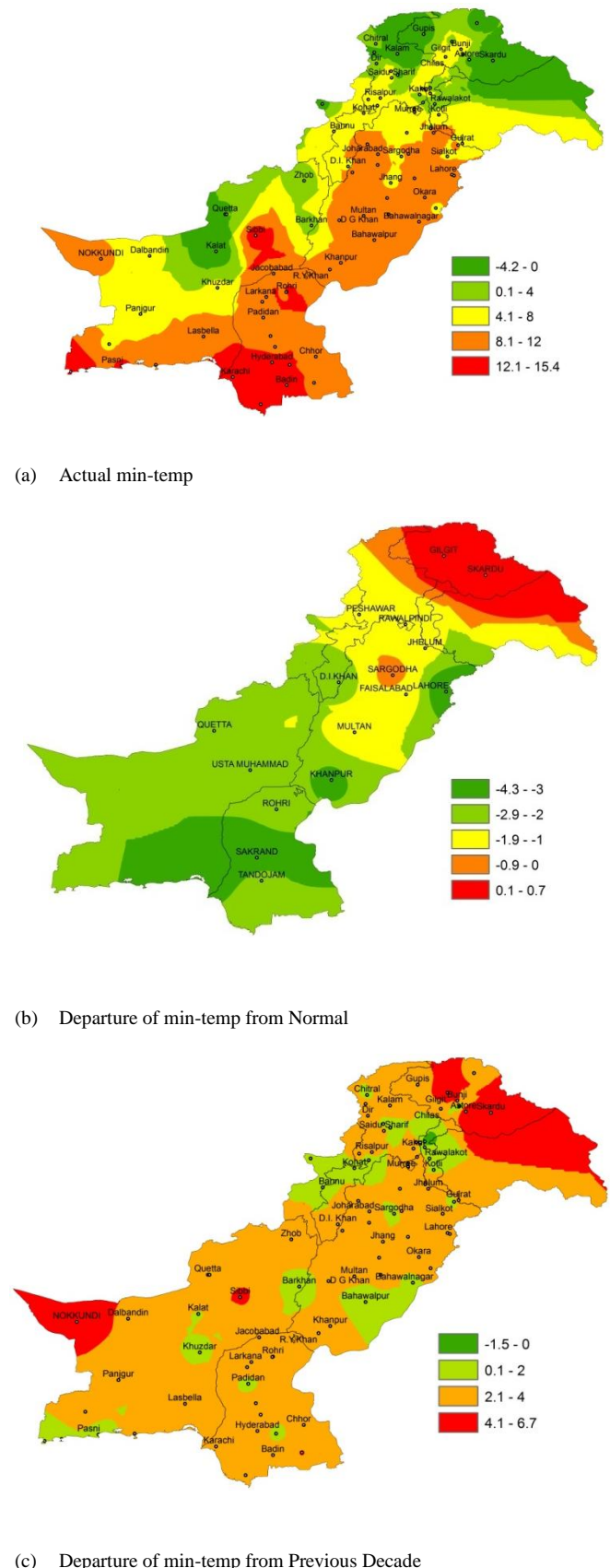
Dry weather reported during the decade however weather remained cloudy for 01day. Average relative humidity recorded as 67%. Mean night temperature was 10.8°C, while day temperature recorded as 26.5°C.

Wheat (Zardana): Good condition, Heading Stage.

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

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 38%. Mean night temperature was 1.4°C while day temperature recorded as 13.8°C with 78.1hours bright sunshine duration and wind speed recorded as 5.6km/hr with mean wind direction *northerly*.

Wheat (Local White): Good condition, Tillering Stage.



(c) 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 28th February, 2014)**

2.6 **Jhelum**

Rainfall reported as 7.2mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 60%. Mean night temperature was 9.0°C while day temperature recorded as 22.7°C with 49.5hours bright sunshine duration. Wind speed recorded 3.7km/hr with mean wind direction *south westerly*.

2.7 **Lahore**

Rainfall reported as 4.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 71%. Mean night temperature was 9.5°C while day temperature recorded as 22.0°C with 47.2hours bright sunshine duration. Wind speed recorded as 2.5km/hr with mean wind direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 6.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 63%. Mean night temperature was 10.3°C while day temperature recorded as 23.1°C with 58.2hours bright sunshine duration. Wind speed recorded as 2.2km/hr with mean wind direction *variable*.

2.9 **Multan**

Rainfall reported as 1.0mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 58%. Mean night temperature was 10.2°C while day temperature recorded as 23.2°C with 57.2hours bright sunshine duration. Wind speed recorded as 3.4km/hr with mean wind direction *north easterly*.

2.10 **Khanpur**

Rainfall reported as 4.0mm during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 57%. Mean night temperature was 8.7°C while day temperature recorded as 21.5°C with 66.7hours bright sunshine duration. Wind speed recorded as 4.1km/hr with mean wind direction *northerly*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 51%. Mean night temperature was 7.9°C while day temperature recorded as 26.8°C with 75.9hours bright sunshine duration. Wind speed recorded 2.7km/hr with mean wind direction *north easterly*.

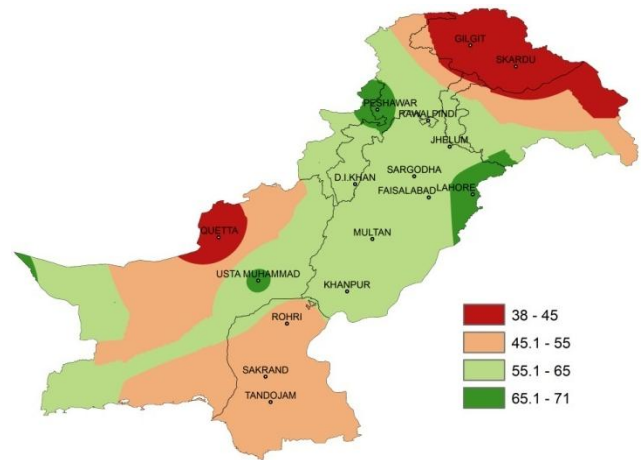


Figure.3: Relative Humidity in percentage (%)

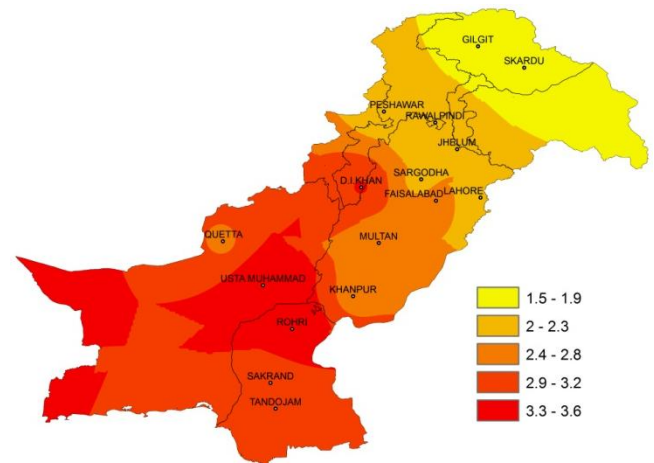


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

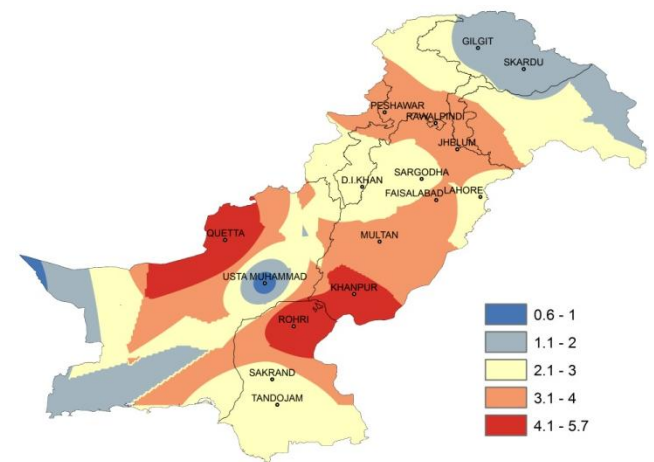


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 50%. Mean night temperature was 12.6°C while day temperature recorded as 25.5°C with 78.2hours bright sunshine duration. Wind speed recorded as 5.7km/hr with mean wind direction *north easterly*.

2.13 D.I Khan

Rainfall reported as 1.0mm during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 58%. Mean night temperature was 7.8°C while day temperature recorded as 23.4°C with 71.3hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 5.0mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 66%. Mean night temperature was 7.8°C while day temperature recorded as 21.1°C with 53.0hours bright sunshine duration. Wind speed recorded as 3.3km/hr with mean wind direction *north westerly*.

2.15 Skardu

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 44%. Mean night temperature was -1.3°C while day temperature recorded as 10.9°C with 41.0hours bright sunshine duration. Wind speed recorded as 1.8km/hr with mean wind direction *north-west westerly*.

2.16 Gilgit

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 39%. Mean night temperature was 3.3°C while day temperature recorded as 19.5°C with 19.7bright sunshine duration. Wind speed recorded as 1.9km/hr with mean wind direction *variable*.

3. Ten Days Weather Advisory for Farmers

(1st to 10th March, 2014)

3.1 Temperature Forecast

Day & night temperatures expected to be slightly above normal in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast

- ❖ **Punjab:** Rainfall with light snowfall over the hills and scattered rain over isolated central parts is expected during the decade.

- ❖ **Khyber Pakhtunkhwa:** Rainfall with light snowfall over hills and scattered rain over central parts is expected during the decade.
- ❖ **Sindh:** Rainfall is expected at isolated places during 1st half of the decade. Whereas, dry weather is expected in most parts of the province during rest of the decade.
- ❖ **Balochistan:** Rainfall expected at North western places during the 1st half of the decade. Whereas dry weather is expected in most parts of the province during rest of the decade..
- ❖ **Gilgit-Baltistan:** Mainly cold & cloudy weather is expected in most parts of GB during the decade. However, light to moderate rainfall (with snow over the hills) expected at isolated places in GB during the decade.
- ❖ **Kashmir:** Cold & cloudy weather is expected in most parts of Kashmir during the decade. However, rainfall (with light snowfall over the hills) expected at isolated places in Kashmir during the decade.

3.3 Wind Forecast

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

3.4 Advisory for Farmers

- ❖ Wheat crop is growing at Heading/Flowering/Milk Maturity stages in most of the agricultural plains of the country. Farmers are advised to stop irrigating the crops in view of the expected rains in agricultural plains of the country.
- ❖ Weeds are expected to shoot in excess after these rains. Farmers should control weeds growth soon after rains.
- ❖ Farmers are advised to control further weeds growth at the present growing stages to stop any negative impact over the crops. Weeds removing practices should be started soon after expected rains in the mentioned areas.
- ❖ Farmers are advised to ensure field sanitation and spray prophylactic fungicidal sprays to prevent spread of diseases on vegetables after coming rains.
- ❖ Wheat crop is growing at very crucial development stages of milk maturity/ wax maturity, in Sindh and southern Punjab. Farmers of these areas are advised to irrigate the crops as per requirement keeping expected rains in mind.
- ❖ Farmers are advised to take up poultry rearing houses to maintain optimum room temperature and take care against the rapid changes in air temperature and relative humidity.