

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from few agricultural plains of the country during the last decade.
- ❖ Lowest minimum temperature recorded -14.5°C at Kalam during the last decade.
- ❖ Highest amount of rainfall recorded as 262 mm at Parachinar during the last decade.
- ❖ Lower values of relative humidity reported from G.B region and higher values reported KPK during the last decade.
- ❖ Higher values of ETo reported from Sindh & Balochistan while lower values reported from Gilgit Baltistan & Kashmir 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 2nd half of decade, partly cloudy to cloudy weather with foggy conditions would prevail over isolated parts of country during 2nd half of the decade and light rain (snowfall over the hills) is expected at isolated places of upper region of the country.

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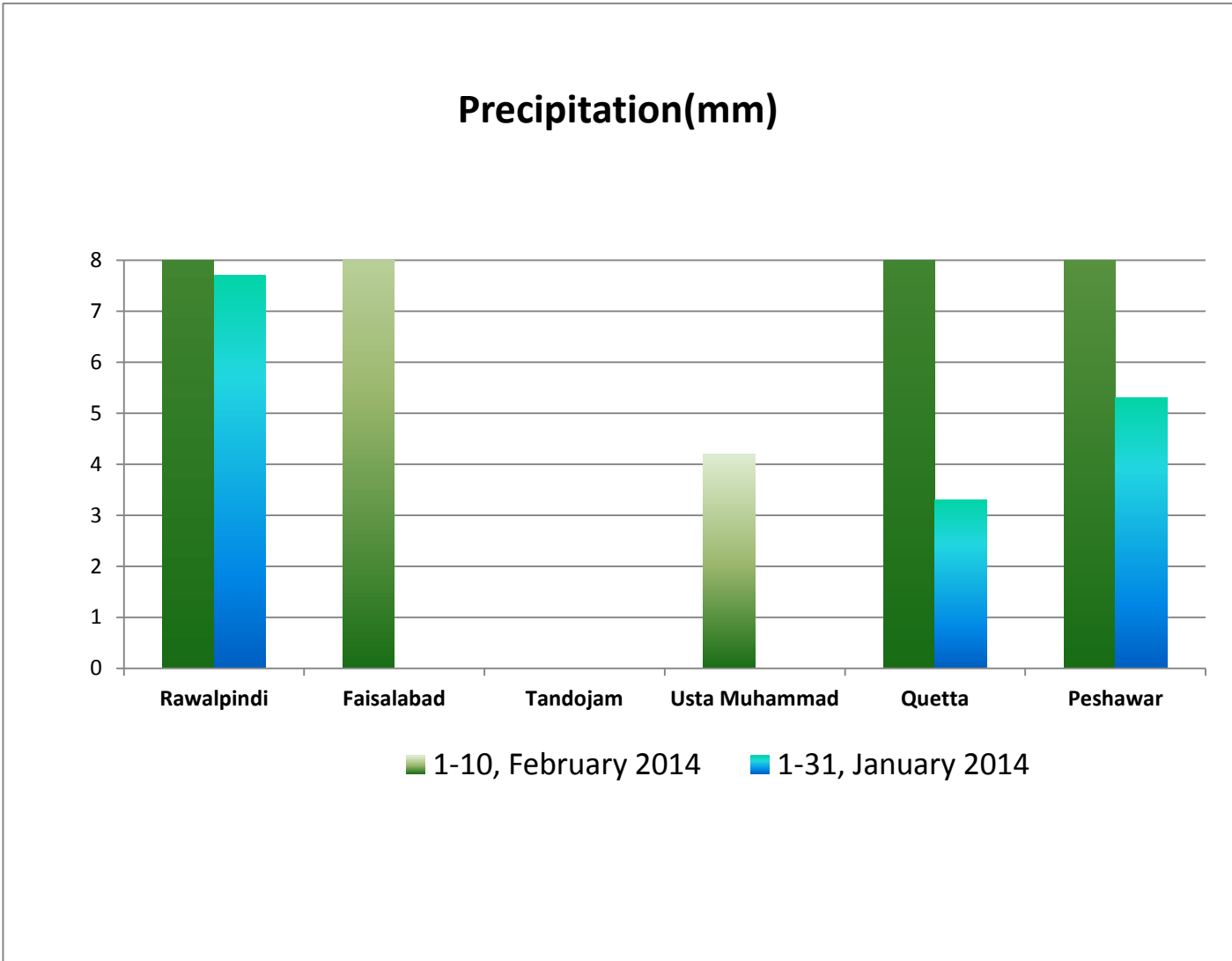
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Meteorological conditions during 1st Decade of February, 2014

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	3.2	50.1	46.9	1.1	-1.4	11.6	18.6	12.8	11.5	12.5	13.0	14.5	34.9	3.2	67	1.5
2	FAISALABAD	0.7	11.2	10.5	3.0	-1.6	14.4	17.7	16.6	15.1	14.8	15.3	16.7	44.0	4.1	67	1.8
3	JHELUM	1.8	17.8	16.0	6.1	-2.3	15.8	15.3	15.1	14.5	14.5	15.6	***	28.7	2.8	70	1.5
4	LAHORE	0.9	14.2	13.3	-1.8	-3.1	13.0	16.2	15.3	14.8	15.0	***	16.9	30.1	2.4	77	1.4
5	SARGODHA	1.0	27.6	26.6	2.0	-2.1	14.0	17.4	16.4	16.0	16.4	17.5	18.6	42.4	1.1	72	1.4
6	MULTAN	0.7	22.9	22.2	1.8	-1.8	14.6	***	***	***	***	***	***	57.3	3.7	64	2.0
7	KHANPUR	0.9	9.7	8.8	0.0	-1.0	15.3	***	18.1	18.2	19.1	19.9	20.5	63.2	3.5	67	2.3
8	TANDOJAM	0.0	0.0	0.0	2.9	0.0	19.1	23.7	21.9	20.0	20.3	20.9	***	79.9	1.6	54	2.4
9	SAKRAND ☆	0.1	0.0	-0.1	0.9	-0.1	16.4	26.3	23.2	***	***	21.2	22.4	77.6	3.5	55	2.7
10	ROHRI	0.4	0.0	-0.4	0.2	-1.6	17.5	24.8	21.9	21.1	21.8	20.1	23.8	65.4	1.5	76	2.0
11	DI KHAN	1.3	24.2	22.9	0.7	-3.3	13.0	***	***	***	***	***	***	54.5	***	63	2.3
12	PESHAWAR	2.5	33.0	30.5	0.1	-0.7	12.4	15.0	13.7	13.3	13.9	***	15.4	39.9	1.3	85	1.2
13	USTA MUHAMMAD	0.2	4.2	4.0	1.5	-1.6	16.6	19.4	19.4	19.6	19.4	***	22.0	***	***	70	2.7
14	QUETTA	1.8	50.3	48.5	-0.3	-5.7	2.9	7.2	6.9	6.2	5.9	6.4	10.1	49.9	5.8	75	1.3
15	SKARDU	0.8	161.1	160.3	2.8	-0.3	1.5	***	***	***	***	***	***	29.3	1.5	60	1.0
16	GILGIT	0.1	0.4	0.3	2.1	-0.2	6.7	***	***	***	***	***	***	23.3	3.0	50	1.2

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 Feb/Jan, 2014



Past Weather (1st to 10th February, 2014)

Light to moderate rainfall reported from many agricultural plains of country during the decade.

1.1 Punjab

Light to moderate rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Islamabad, Murree & Mangla. Decadal minimum raised above normal by 1.7°C & maximum temperature dropped below normal by 1.9°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 42.9hrs, 3.0km/hr, 69% and 1.7mm/day respectively.

1.2 Sindh

Light rainfall reported at few places of Sindh. Chief amount of rainfall reported in Jacobabad & Sukkar. Decadal minimum raised above normal by 1.3°C & maximum temperature dropped below normal by 0.6°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 74.3hrs, 2.2km/hr, 62% and 2.4mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

Moderate to heavy rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Parachinar, Dir & Malam Jabba. Decadal minimum raised above normal by 0.4°C & maximum temperature dropped below normal by 2.0°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 39.9hrs, 1.3km/hr, 85% and 1.8mm/day respectively.

1.4 Balochistan

Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall reported in Khuzdar, Kalat & Quetta. Decadal minimum raised above normal by 0.6°C & maximum temperature dropped below normal by 3.7°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 49.9hrs, 5.8km/hr, 73% and 2.0mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

Moderate to heavy rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Garhi Doppatta, Muzaffarabad & Pattan. Decadal minimum raised above normal by 2.5°C & maximum temperature dropped below normal by 0.3°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 26.3hrs, 2.3km/hr, 55% and 1.1mm/day respectively.

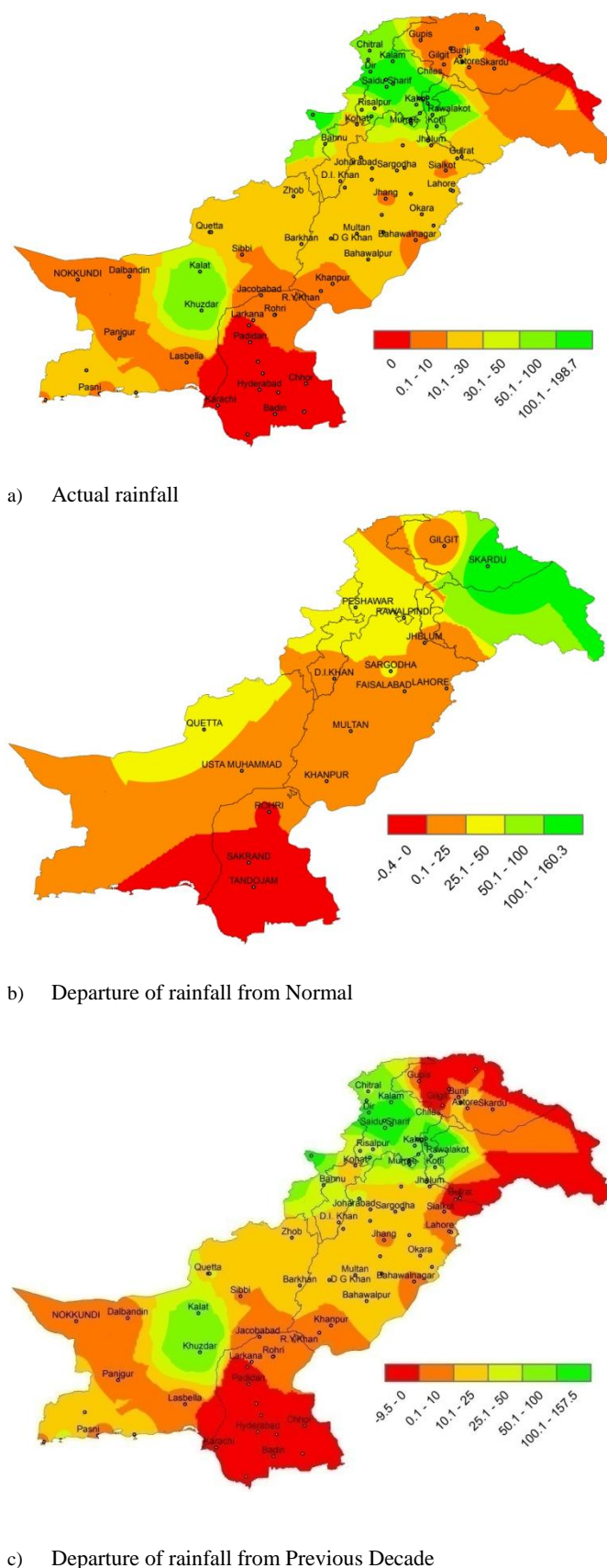


Figure.1: Rainfall distribution during previous decade in “mm”

2(a) **Past Weather for Major Agricultural Plains**
(1st to 10th February, 2014)

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

Rainfall reported as 50.1mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 67%. Mean night temperature was 5.8°C while day temperature recorded as 17.5°C with 34.9hours bright sunshine duration. Wind speed recorded as 3.2km/h with mean wind direction *westerly*.

Wheat (Chakwal 97): Good condition, 3rd Leaf stage.

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

Rainfall reported as 11.2mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 67%. Mean night temperature was 7.0°C while day temperature recorded as 22.5°C with 44.0hours bright sunshine duration. Wind speed recorded as 4.1km/hr with mean wind direction *westerly*.

Wheat: Very Good condition, Shooting 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 54%. Mean night temperature was 11.7°C while day temperature recorded as 26.4°C with 79.9hours bright sunshine duration. Wind speed recorded as 1.6km/hr with mean wind direction *northerly*.

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

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

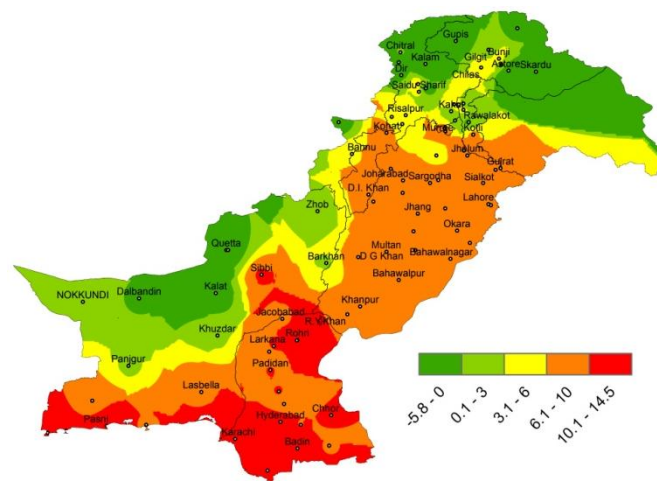
Rainfall reported as 4.2mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 70%. Mean night temperature was 10.0°C while day temperature recorded as 23.2°C.

Wheat (Zardana): Good condition, Tillering Stage.

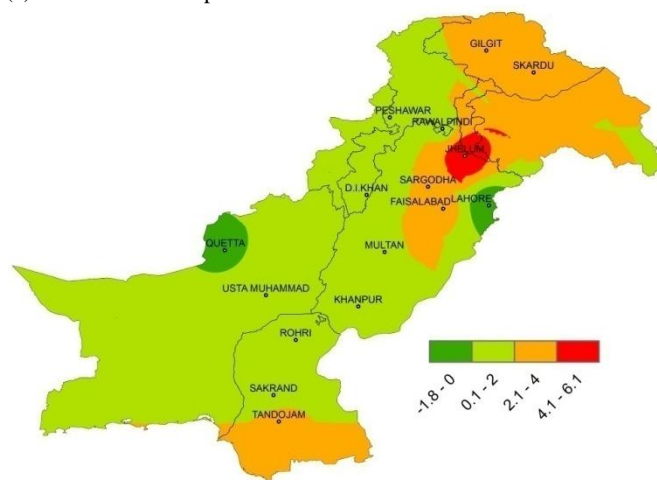
2.5 **RAMC, Quetta (Northern Balochistan)**

Rainfall reported as 50.3mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 75%. Mean night temperature was -0.8°C while day temperature recorded as 6.6°C with 49.9hours bright sunshine duration and wind speed recorded as 5.8km/hr with mean wind direction *northerly*.

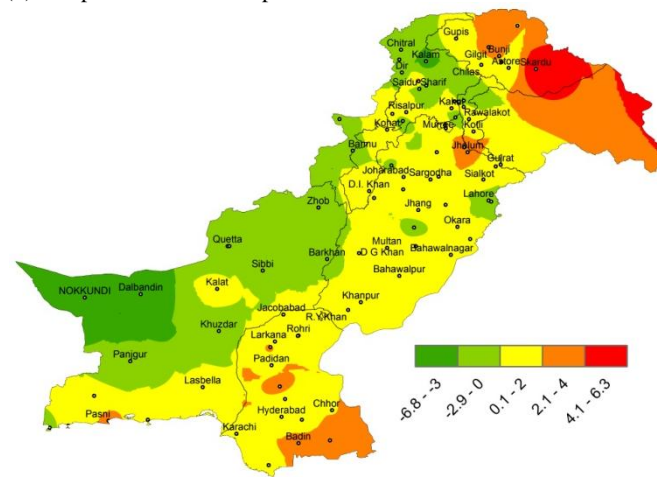
Wheat (Local White): Good condition, 3rd Leaf Stage.



(a) Actual min-temp



(b) Departure of min-temp from Normal



(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 (1st to 10th February, 2014)

2.6 Jhelum

Rainfall reported as 17.8mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 70%. Mean night temperature was 13.2°C while day temperature recorded as 18.4°C with 28.7hours bright sunshine duration. Wind speed recorded 2.8km/hr with mean wind direction *north westerly*.

2.7 Lahore

Rainfall reported as 14.2mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 77%. Mean night temperature was 8.1°C while day temperature recorded as 17.8°C with 30.1hours bright sunshine duration. Wind speed recorded as 2.4km/hr with mean wind direction *north westerly*.

2.8 Sargodha

Rainfall reported as 27.6mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 72%. Mean night temperature was 8.9°C while day temperature recorded as 19.1°C with 42.4hours bright sunshine duration. Wind speed recorded as 1.1km/hr with mean wind direction *easterly*.

2.9 Multan

Rainfall reported as 22.9mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 64%. Mean night temperature was 8.9°C while day temperature recorded as 20.2°C with 57.3hours bright sunshine duration. Wind speed recorded as 3.7km/hr with mean wind direction *northerly*.

2.10 Khanpur

Rainfall reported as 9.7mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 67%. Mean night temperature was 8.2°C while day temperature recorded as 22.4°C with 63.2hours bright sunshine duration. Wind speed recorded as 3.5km/hr with mean wind direction *north easterly*.

2.11 Sakrand

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 55%. Mean night temperature was 8.1°C while day temperature recorded as 24.6°C with 77.6hours bright sunshine duration. Wind speed recorded 3.5km/hr with mean wind direction *northerly*.

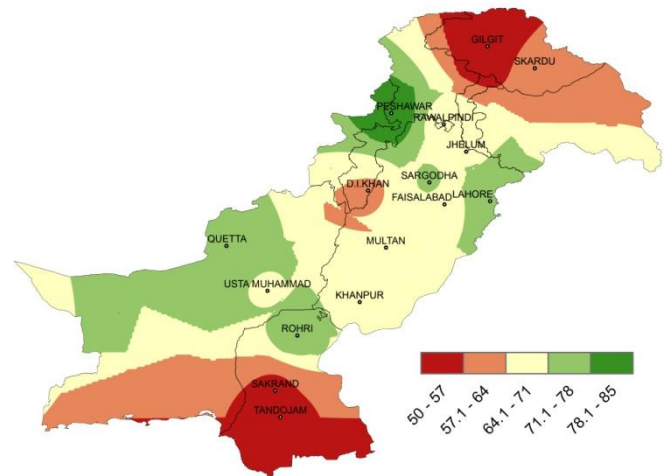


Figure.3: Relative Humidity in percentage (%)

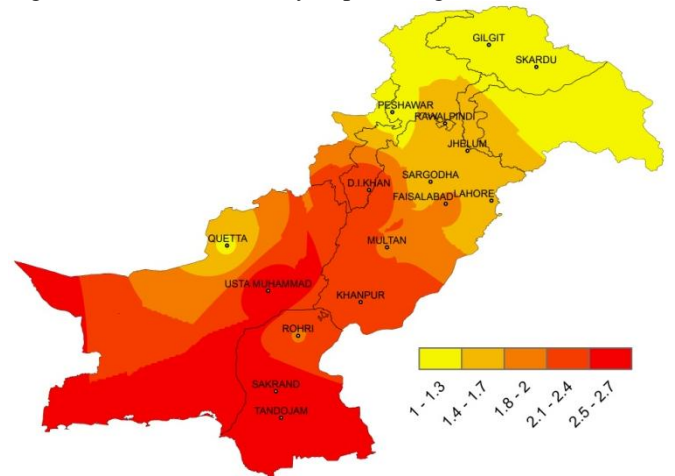


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

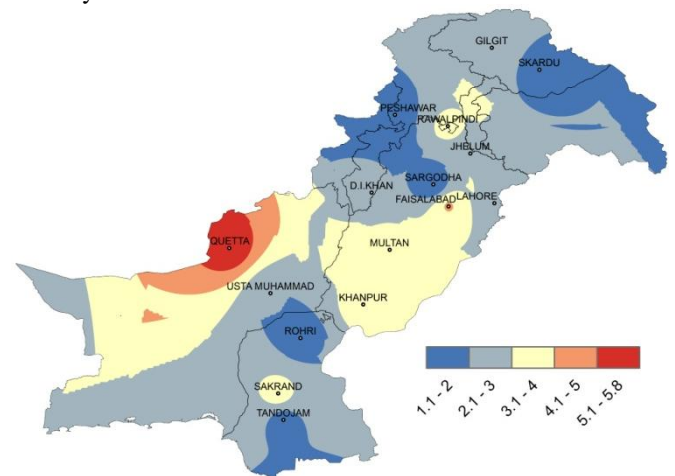


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 76%. Mean night temperature was 11.8°C while day temperature recorded as 23.2°C with 65.4hours bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *north easterly*.

2.13 D.I Khan

Rainfall reported as 24.2mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 63%. Mean night temperature was 7.0°C while day temperature recorded as 18.9°C with 54.5hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 33.0mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 85%. Mean night temperature was 6.6°C while day temperature recorded as 18.2°C with 39.9hours bright sunshine duration. Wind speed recorded as 1.3km/hr with mean wind direction *north westerly*.

2.15 Skardu

Rainfall reported as 161.1mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 60%. Mean night temperature was -3.1°C while day temperature recorded as 6.1°C with 29.3hours bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *north westerly*.

2.16 Gilgit

Rainfall reported as 0.4mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 50%. Mean night temperature was 1.2°C while day temperature recorded as 12.2°C with 23.3bright sunshine duration. Wind speed recorded as 3.0km/hr with mean wind direction *variable*.

3. Ten Days Weather Advisory for Farmers **(11th to 20th February, 2014)**

3.1 Temperature Forecast

Day & night temperatures expected to be normal/slightly below normal (1-2) °C in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast

- ❖ **Punjab:** Mainly cold and dry weather is expected in most parts of province during the decade. However partly cloudy weather conditions with light rain are expected at isolated places in Gujranwala & Rawalpindi division. Mostly cloudy weather conditions with light

rain are expected at isolated places in Islamabad, Gujranwala, Lahore, Rawalpindi, Sargodha & Bahawalpur. Isolated light snowfall is also expected over the hills of Murree & Galliyat. Foggy conditions are expected to prevail over scattered places in plains of Punjab during the decade.

- ❖ **Khyber Pakhtunkhwa:** Mainly cold (very cold in upper parts) and dry weather is expected in most parts of province during the decade. However partly cloudy to cloudy weather with light rain& snow is expected at isolated places in Malakand & Hazara.
- ❖ **Sindh:** Mainly cold and dry weather is expected in most parts of the province during the decade. Mostly cloudy weather is expected in eastern Sindh. Morning foggy conditions are likely to prevail over scattered places in upper Sindh during the decade.
- ❖ **Balochistan:** Mainly cold (very cold in north) and dry weather is expected during the decade. However, light rain & snow is expected at isolated places in Quetta and Zhob divisions on Thursday/Friday.
- ❖ **Gilgit-Baltistan:** Isolated light rain-snowfall is expected in Gilgit-Baltistan from Thursday till Saturday. Very cold and dry weather is expected over most parts of Gilgit-Baltistan during rest days of the decade.
- ❖ **Kashmir:** Isolated light rain-snowfall is expected in Kashmir. Scattered rain with snowfall is expected during Friday & Saturday. Very cold and dry weather is expected in most parts of Kashmir during rest of 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 in Shooting/Flowering development stages in most of the agricultural parts of the country. Farmers are advised to irrigate the crops as per requirement under the present and expected weather conditions during the decade. Above requirements irrigation may affect crop growth and enhance weeds growth.
- ❖ Weeds are expected to shoot in excess after these rains. Farmers should control weeds growth soon after rains.