

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 -11.5°C at Astore during the last decade.
- ❖ Highest amount of rainfall recorded as 58 mm at Parachinar during the last decade.
- ❖ Lower values of relative humidity reported from Balochistan 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 1st half of decade, partly cloudy to cloudy weather 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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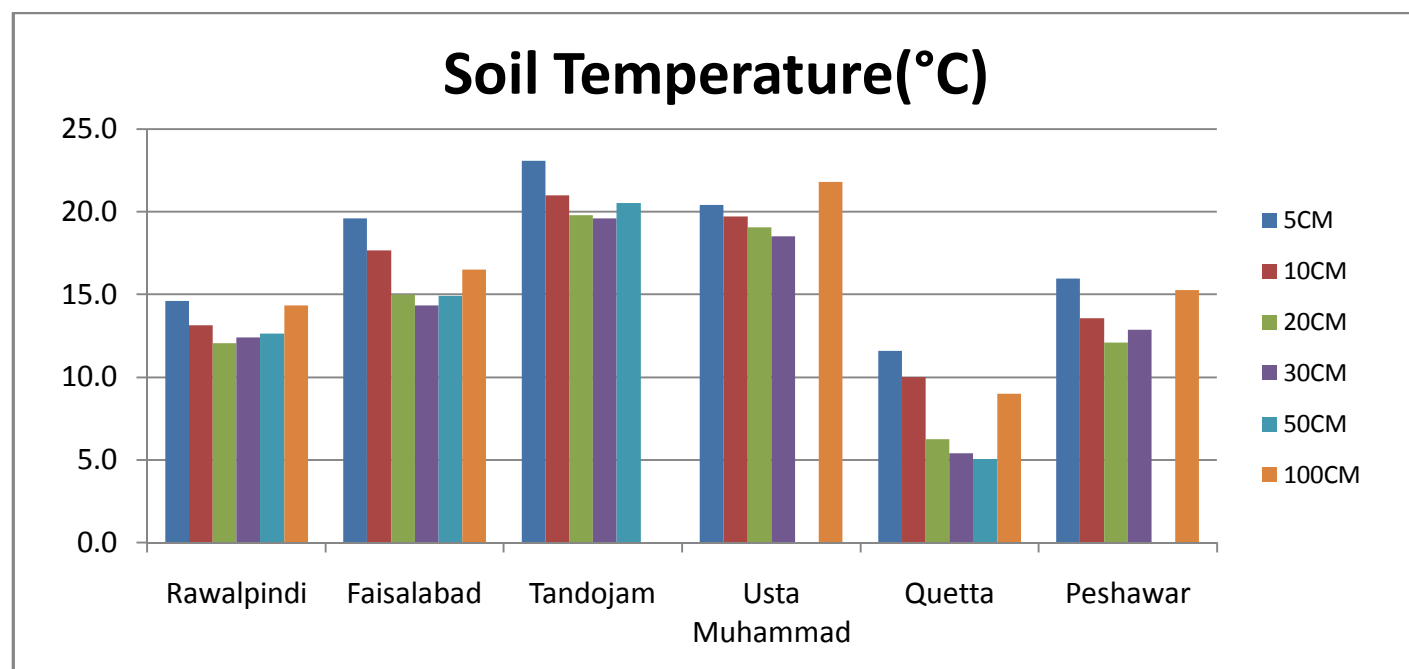
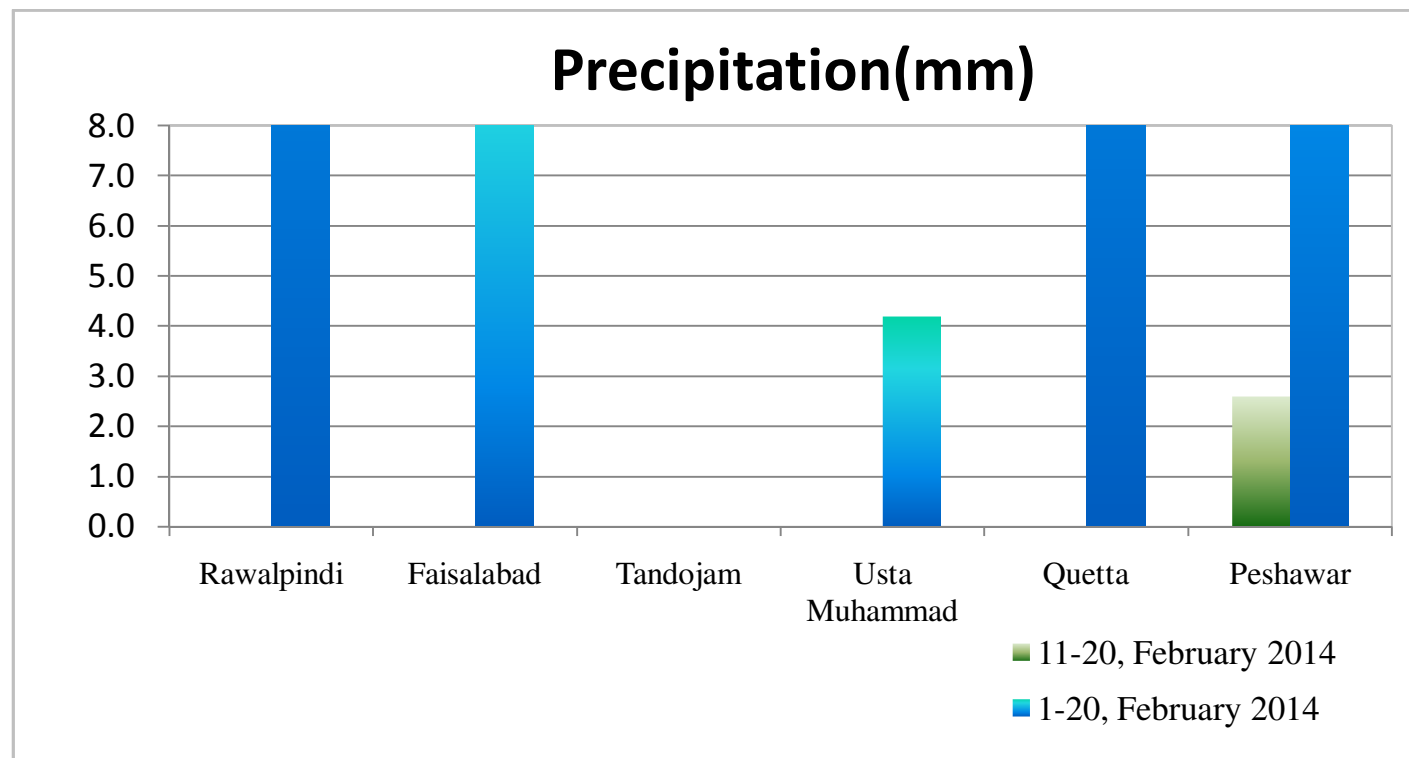
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Meteorological conditions during 2nd Decade of February, 2014

Sr. No.	Station	*Precipitation (mm)			Air Temperature (°C)			Soil Temperatures (°C)						Sunshine Duration (hours)	Wind Speed (km/hr)	R.H (%)	ET _o (mm/day)
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	RAWALPINDI	3.4	0.0	-3.4	-2.4	-0.1	12.3	14.6	13.2	12.1	12.4	12.7	14.4	72.3	3.4	54	2.0
2	FAISALABAD	1.3	0.0	-1.3	-2.8	-1.1	14.0	19.6	17.7	15.0	14.4	14.9	16.5	74.5	4.5	59	2.4
3	JHELMUM	3.3	4.4	1.1	-2.7	-0.8	14.2	17.5	14.8	14.1	13.9	15.0	***	70.5	2.8	57	2.0
4	LAHORE	2.3	4.3	2.0	-4.9	-2.2	13.7	16.5	15.9	14.6	14.4	***	16.7	70.5	3.2	68	2.0
5	SARGODHA	1.6	0.0	-1.6	-1.5	-1.6	14.6	17.4	15.6	14.6	14.9	16.1	17.8	72.2	2.9	65	2.0
6	MULTAN	1.1	0.1	-1.0	-1.3	-0.8	15.3	***	***	***	***	***	***	84.4	3.5	54	2.6
7	KHANPUR	0.1	0.0	-0.1	-3.0	-1.7	14.9	***	17.2	17.2	18.1	19.1	20.5	93.2	4.1	47	2.8
8	TANDOJAM	0.6	0.0	-0.6	-3.1	-2.2	17.0	23.1	21.0	19.8	19.6	20.5	***	85.1	1.7	46	2.6
9	SAKRAND ☆	0.0	0.0	0.0	-3.9	-2.2	15.1	26.3	23.3	***	***	20.8	22.3	102.4	4.9	50	3.2
10	ROHRI	0.0	0.0	0.0	-2.2	-2.0	17.6	25.7	22.8	20.4	21.2	20.1	23.8	101.0	4.5	42	2.4
11	DI KHAN	1.5	2.0	0.5	-2.8	-0.6	13.4	***	***	***	***	***	***	75.9	***	59	2.9
12	PESHAWAR	4.1	2.6	-1.5	-3.9	1.0	12.7	16.0	13.6	12.1	12.9	***	15.3	65.8	2.4	84	1.7
13	USTA MUHAMMAD	0.0	0.0	0.0	-3.2	-1.4	16.2	20.4	19.7	19.1	18.5	***	21.8	***	***	55	3.5
14	QUETTA	1.7	0.0	-1.7	-1.9	-2.7	5.8	11.6	10.0	6.3	5.4	5.1	9.0	98.8	5.0	37	2.3
15	SKARDU	1.0	0.0	-1.0	-2.9	-1.1	0.2	***	***	***	***	***	***	56.5	1.0	51	1.1
16	GILGIT	0.6	0.0	-0.6	-3.9	-0.3	5.6	***	***	***	***	***	***	57.0	1.5	43	1.6

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_o 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 (11th to 20th February, 2014)

Light to moderate rainfall reported from few 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 Mangla, Noorpur Thal & Lahore. Decadal minimum & maximum temperature both dropped below normal by 2.7°C & 1.2°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 76.8hrs, 3.5km/hr, 58% and 2.3mm/day respectively.

1.2 Sindh

Dry weather was reported in the agricultural plains of Sindh. Decadal minimum & maximum temperature both dropped below normal by 3.1°C & 2.1°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 96.2hrs, 3.7km/hr, 46% and 2.7mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

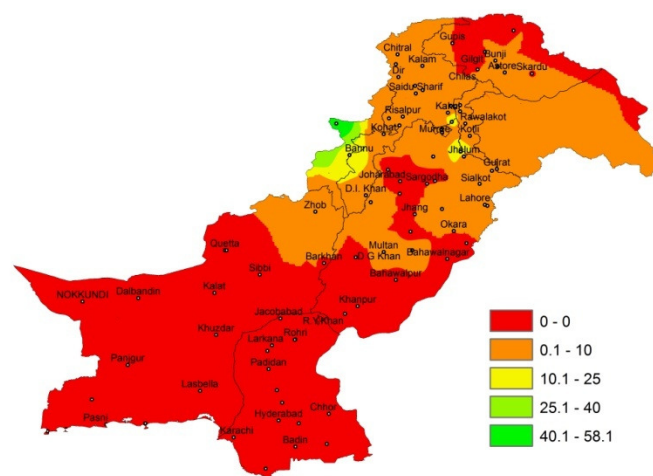
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Parachinar, Kakul & Bannu. Decadal minimum dropped below normal by 3.4°C & maximum temperature raised above normal by 0.2°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 70.9hrs, 2.4km/hr, 72% and 2.3mm/day respectively.

1.4 Balochistan

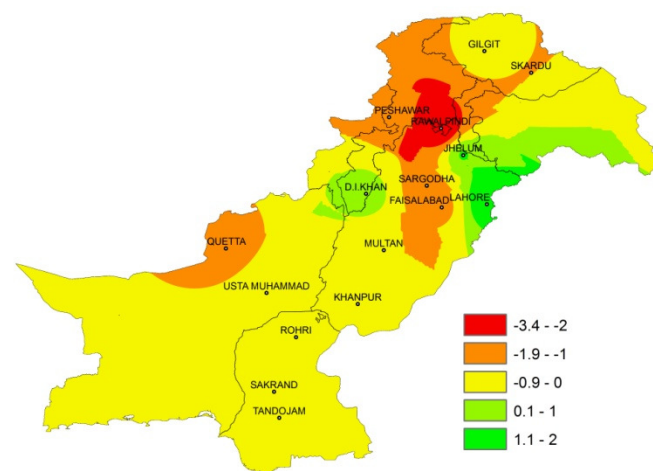
Dry weather was reported in the agricultural plains of Balochistan. Decadal minimum & maximum temperature both dropped below normal by 2.6°C & 2.1°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 98.8hrs, 5.0km/hr, 46% and 2.9mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

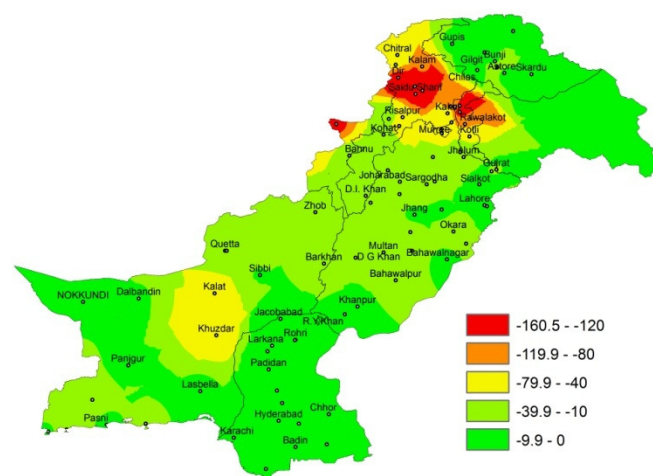
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Garhi Doppatta, Kotli & Rawalakot. Decadal minimum & maximum temperature both dropped below normal by 3.4°C & 0.7°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 56.8hrs, 1.3km/hr, 47% and 1.4mm/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 (11th to 20th February, 2014)**

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

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 54%. Mean night temperature was 4.4°C while day temperature recorded as 20.07°C with 72.3hours bright sunshine duration. Wind speed recorded as 3.43km/h with mean wind direction *westerly*.

Wheat (Chakwal 97): Good condition, Tillering stage.

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

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 59%. Mean night temperature was 6.2°C while day temperature recorded as 21.8°C with 74.5hours bright sunshine duration. Wind speed recorded as 4.5km/hr with mean wind direction *north westerly*.

Wheat: Very Good condition, Heading stage.

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

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 46%. Mean night temperature was 7.7°C while day temperature recorded as 26.3°C with 85.1hours bright sunshine duration. Wind speed recorded as 1.7km/hr with mean wind direction *northerly*.

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

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

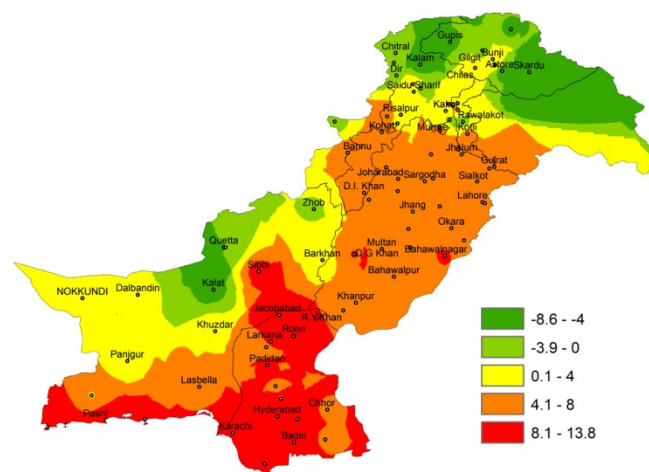
Dry & clear weather was reported during the decade. Average relative humidity recorded as 55%. Mean night temperature was 7.1°C while day temperature recorded as 25.2°C.

Wheat (Zardana): Good condition, Shooting stage.

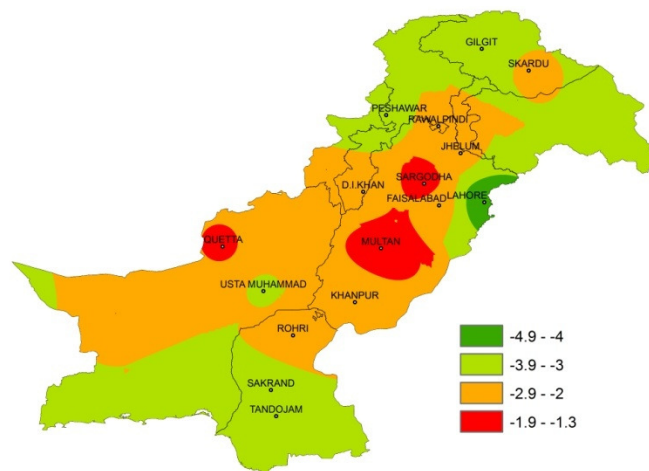
2.5 **RAMC, Quetta (Northern Balochistan)**

Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 37%. Mean night temperature was -1.0°C while day temperature recorded as 12.5°C with 98.8hours bright sunshine duration and wind speed recorded as 5.0km/hr with mean wind direction *westerly*.

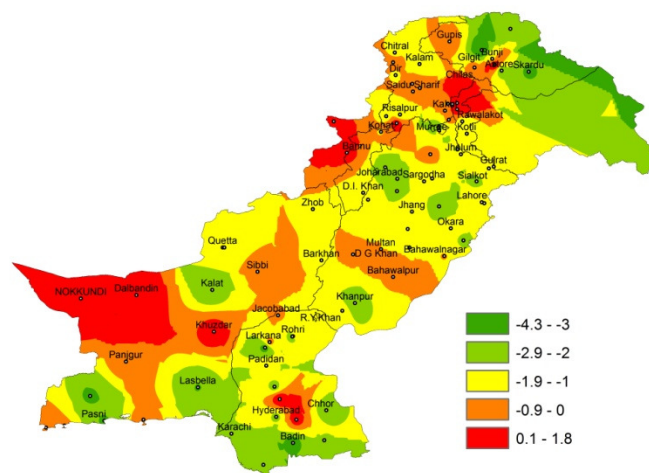
Wheat (Local White): Good condition, Tillering stage.



(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 (11th to 20th February, 2014)

2.6 Jhelum

Rainfall reported as 4.4mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 57%. Mean night temperature was 6.4°C while day temperature recorded as 21.9°C with 70.5hours bright sunshine duration. Wind speed recorded 2.8km/hr with mean wind direction *north easterly*.

2.7 Lahore

Rainfall reported as 4.3mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 68%. Mean night temperature was 6.9°C while day temperature recorded as 20.5°C with 70.5hours bright sunshine duration. Wind speed recorded as 3.2km/hr with mean wind direction *north westerly*.

2.8 Sargodha

Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 65%. Mean night temperature was 7.7°C while day temperature recorded as 21.4°C with 72.2hours bright sunshine duration. Wind speed recorded as 2.9km/hr with mean wind direction *variable*.

2.9 Multan

Rainfall reported as trace (non measureable) during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 54%. Mean night temperature was 7.9°C while day temperature recorded as 22.7°C with 84.4hours bright sunshine duration. Wind speed recorded as 3.5km/hr with mean wind direction *southerly*.

2.10 Khanpur

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 47%. Mean night temperature was 5.9°C while day temperature recorded as 23.9°C with 93.2hours bright sunshine duration. Wind speed recorded as 4.1km/hr with mean wind direction *north easterly*.

2.11 Sakrand

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 50%. Mean night temperature was 5.3°C while day temperature recorded as 24.9°C with 102.4hours bright sunshine duration. Wind speed recorded 4.9km/hr with mean wind direction *northerly*.

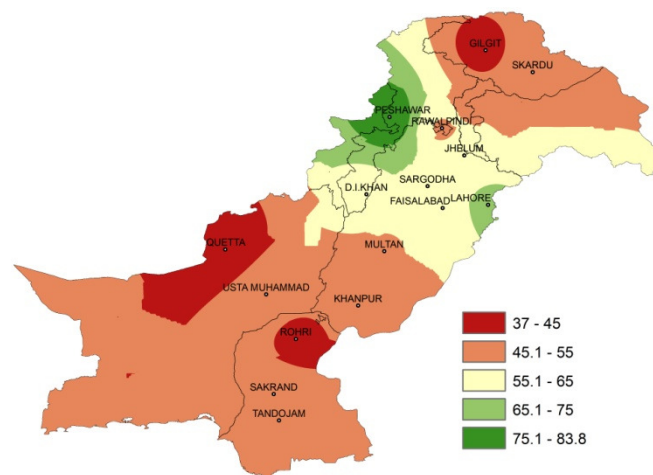


Figure.3: Relative Humidity in percentage (%)

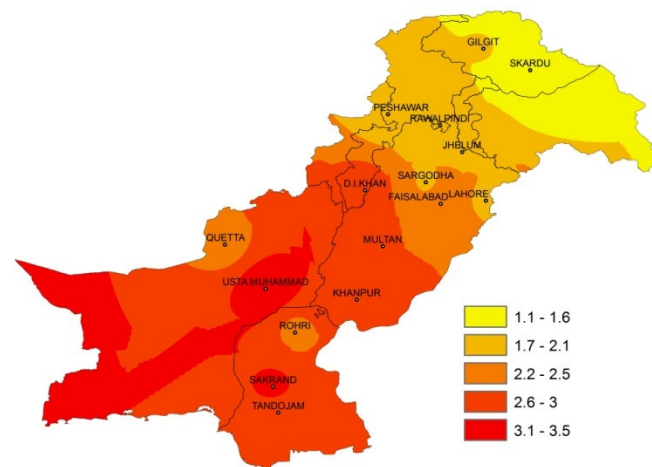


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

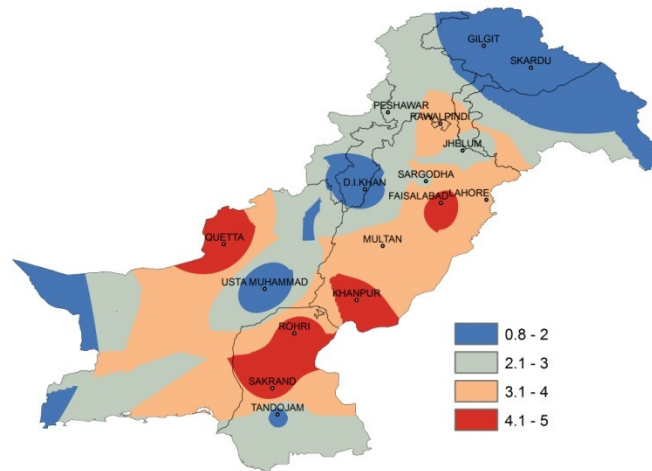


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 42%. Mean night temperature was 10.2°C while day temperature recorded as 24.9°C with 101.0hours bright sunshine duration. Wind speed recorded as 4.5km/hr with mean wind direction *north easterly*.

2.13 D.I Khan

Rainfall reported as 2.0mm during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 59%. Mean night temperature was 5.3°C while day temperature recorded as 21.5°C with 75.9hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 2.6mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 84%. Mean night temperature was 4.4°C while day temperature recorded as 24.6°C with 65.8hours bright sunshine duration. Wind speed recorded as 2.4km/hr with mean wind direction *north westerly*.

2.15 Skardu

Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 51%. Mean night temperature was -6.3°C while day temperature recorded as 6.7°C with 56.5hours bright sunshine duration. Wind speed recorded as 1.0km/hr with mean wind direction *north westerly*.

2.16 Gilgit

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 43%. Mean night temperature was -3.0°C while day temperature recorded as 14.2°C with 57.0bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *variable*.

3. Ten Days Weather Advisory for Farmers (21st to 30th February, 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 Wind Forecast

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

3.3 Rain Forecast

- ❖ **Punjab:** Widespread rain (with snow over the hills) over upper parts and scattered rain over isolated central parts is expected at end of the decade. Whereas, mostly cold & dry weather is expected during the decade.
- ❖ **Khyber Pakhtunkhwa:** Widespread rain (with snow over hills) expected over upper parts and scattered rain over central parts at the end of decade. Whereas, mostly cold & dry weather is expected in the whole decade with light to moderate rainfall expected at isolated places in province.
- ❖ **Sindh:** Mainly dry weather is expected in most parts of the province during the decade.
- ❖ **Balochistan:** Rain with (light snowfall over the hills) is expected at isolated places of North West Balochistan at the end of the decade and dry weather is expected in most parts of the province.
- ❖ **Gilgit-Baltistan:** Mainly very 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:** Mainly very cold & cloudy weather is expected in most parts of GB during the decade. However, widespread rain (with snowfalls over the hills) expected at isolated places in Kashmir during the decade.

3.4 Advisory for Farmers

- ❖ Wheat crop is growing at Heading/Flowering/Milk Maturity development stages in most of the agricultural plains of the country. Farmers are advised to stop irrigation the crops by keeping in view the expected rain 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.
- ❖ Wheat crop is growing at very crucial development stages of flowering/milk maturity, in Sindh and southern Punjab. Farmers of these areas are advised to irrigate the crops as per requirement due to expected dry weather in the area.