

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Heavy rainfall reported from few agricultural plains of Punjab, KP, Gilgit Baltistan & Kashmir & light to moderate rainfall reported from Sindh & Balochistan during the last decade.
- ❖ Lowest minimum temperature recorded -8.0°C at Astore during the last decade.
- ❖ Highest amount of rainfall recorded as 232.2mm at Parachinar during the last decade.
- ❖ Lower values of relative humidity reported from Gilgit, Skardu & Quetta region while higher values reported Punjab, KP & Sindh 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 & cloudy weather is expected in most parts of country during the decade. However, light to moderate rainfall (with snow over the hills) expected at isolated places of the country during the decade.

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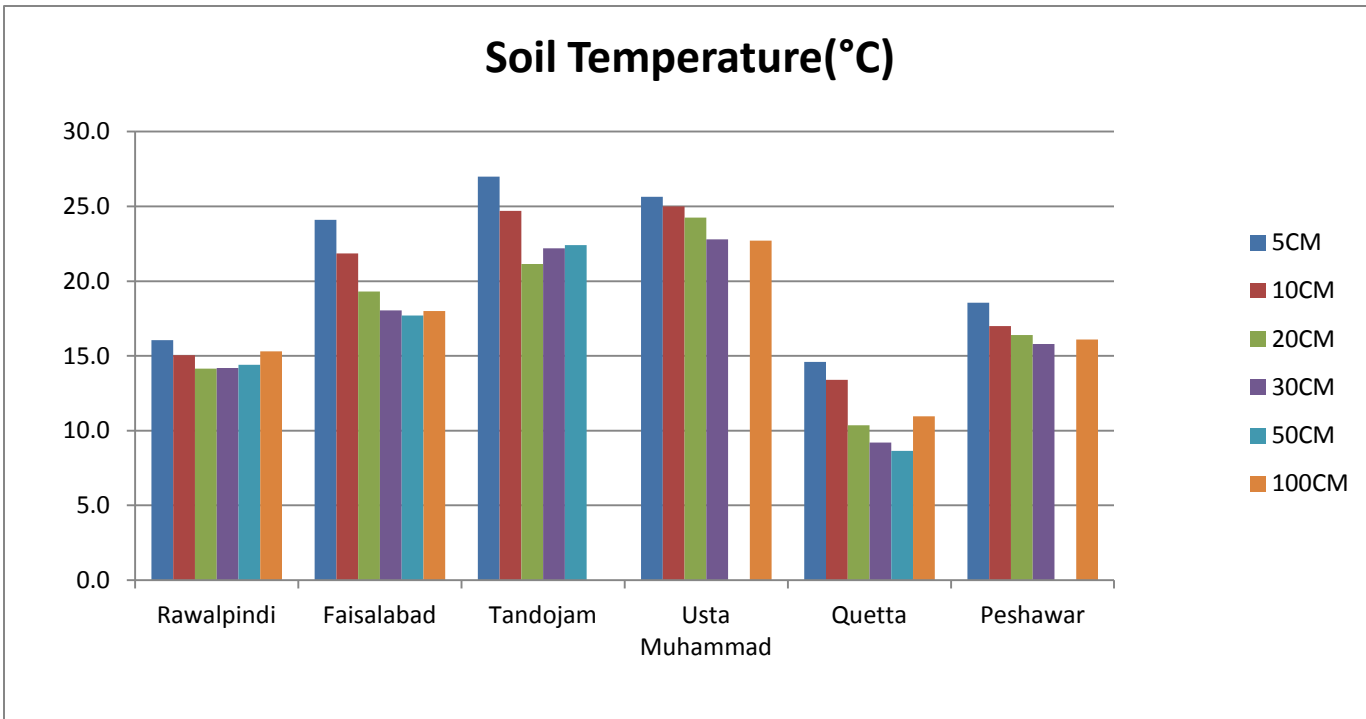
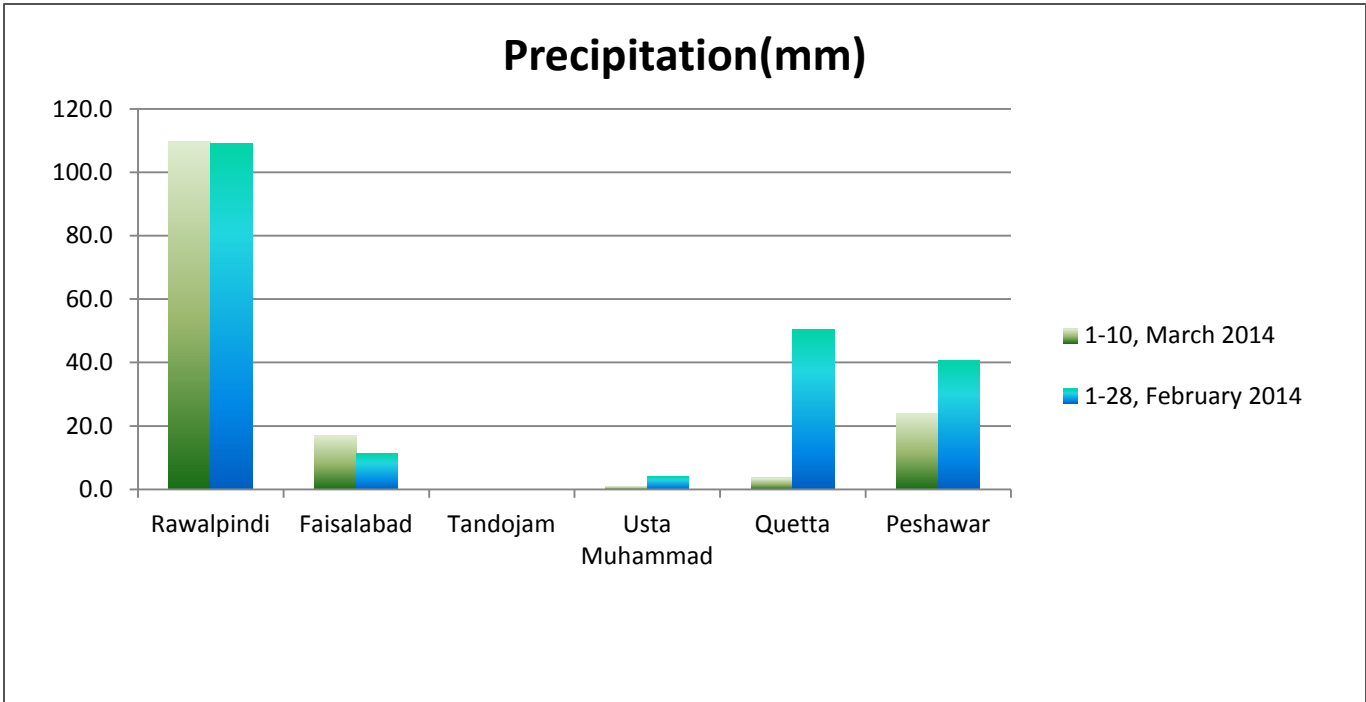
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Meteorological conditions during 1st Decade of March, 2014

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	2.0	109.8	107.8	-1.8	-4.5	13.5	16.1	15.1	14.2	14.2	14.4	15.3	48.1	3.0	67	2.1
2	FAISALABAD	0.8	17.0	16.2	-0.1	-2.4	17.9	24.1	21.9	19.3	18.1	17.7	18.0	67.2	3.1	62	2.8
3	JHELUM	0.9	93.8	92.9	-1.9	-3.0	16.6	19.8	18.7	17.3	16.7	17.3	***	52.2	5.9	60	2.9
4	LAHORE	0.9	3.8	2.9	-3.7	-2.3	17.4	21.9	20.5	18.5	17.6	***	18.0	67.6	3.6	65	2.7
5	SARGODHA	0.5	18.3	17.8	-0.8	-3.9	17.6	21.6	19.6	18.0	18.0	18.4	18.7	57.4	1.9	66	2.3
6	MULTAN	0.6	3.2	2.6	-0.1	-2.8	18.7	***	***	***	***	***	***	69.3	5.0	59	3.2
7	KHANPUR	3.2	0.0	-3.2	0.8	-2.0	20.7	***	21.7	21.1	21.4	22.1	22.4	76.7	4.8	56	3.6
8	TANDOJAM	0.0	0.0	0.0	0.4	-2.4	22.0	27.0	24.7	21.2	22.2	22.4	***	84.6	2.0	57	3.5
9	SAKRAND ☆	0.0	12.0	12.0	-3.2	-3.4	19.1	30.1	27.2	***	***	23.3	23.2	96.4	2.7	60	3.4
10	ROHRI	0.4	3.0	2.6	-0.9	-3.2	21.5	30.3	27.0	23.2	23.5	21.3	24.3	72.5	1.9	54	3.0
11	DI KHAN	0.6	38.9	38.3	-1.6	-4.6	15.8	***	***	***	***	***	***	45.9	***	69	2.7
12	PESHAWAR	1.4	24.0	22.6	-3.2	-2.7	14.9	18.6	17.0	16.4	15.8	***	16.1	54.2	2.0	68	2.1
13	USTA MUHAMMAD	0.0	1.0	1.0	-2.7	-3.7	19.9	25.7	25.0	24.3	22.8	***	22.7	***	***	63	4.0
14	QUETTA	0.6	3.6	3.0	-0.4	-2.3	9.3	14.6	13.4	10.4	9.2	8.7	11.0	68.7	6.2	40	3.0
15	SKARDU	0.7	11.4	10.7	-0.9	-1.4	4.2	***	***	***	***	***	***	45.0	3.4	47	1.8
16	GILGIT	0.3	1.0	0.7	-0.5	-2.2	9.5	***	***	***	***	***	***	25.5	2.2	42	1.9

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; **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. * stands for (rainfall + snowfall)

Graphs of RAMC's during March, 2014



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

Heavy rainfall reported from few agricultural plains of Punjab, KP, Gilgit Baltistan & Kashmir & light to moderate rainfall reported from Sindh & Balochistan during the last decade.

1.1 Punjab

Heavy rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Mangla, Islamabad & Jhelum. Decadal minimum & maximum temperature both dropped below normal by 1.1°C & 3.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 62.6hrs, 3.9km/hr, 62% and 2.8mm/day respectively.

1.2 Sindh

Light to moderate rainfall reported in the agricultural plains of Sindh. Chief amount of rainfall received in Karachi, Padidan & Moen-jo-Daro. Decadal minimum & maximum temperature both dropped below normal by 1.2°C & 3.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 84.5hrs, 2.2km/hr, 57% and 3.3mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

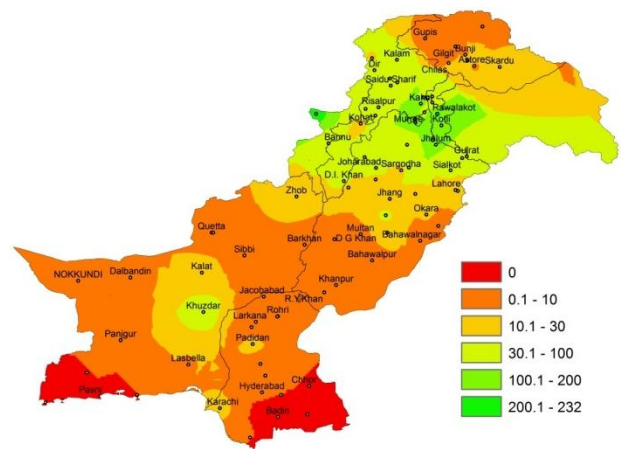
Heavy rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Parachinar, Kakul & Balakot. Decadal minimum & maximum temperature both dropped below normal by 2.4°C & 3.7°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 50.1hrs, 2.0km/hr, 69% and 2.4mm/day respectively.

1.4 Balochistan

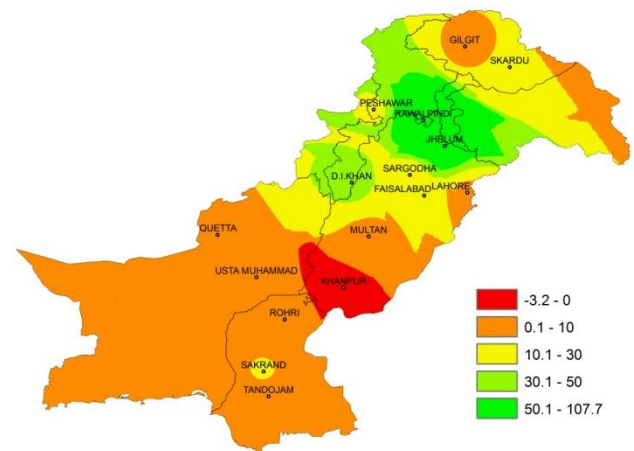
Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received in Khuzdar, Zhob & Kalat. Decadal minimum & maximum temperature both dropped below normal by 1.6°C & 3.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 68.7hrs, 6.2km/hr, 52% and 3.5mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

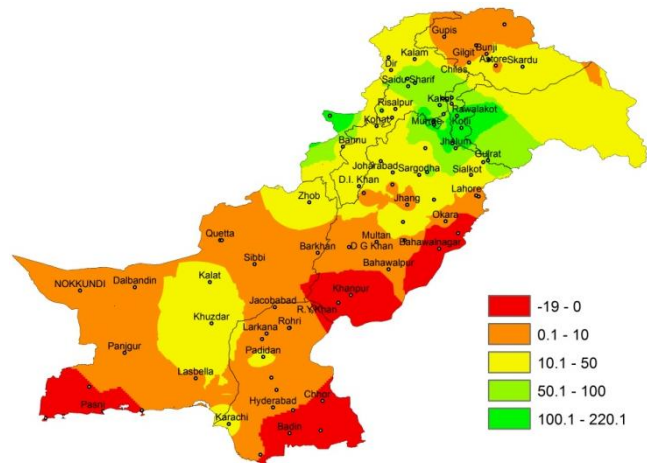
Heavy rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Rawalakot, Kotli & Muzaffarabad. Decadal minimum & maximum temperature both dropped below normal by 0.7°C & 1.8°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 35.3hrs, 2.8km/hr, 45% and 1.9mm/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 (1st to 10th March, 2014)

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 109.8mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 67%. Mean night temperature was 7.1°C while day temperature recorded as 19.9°C with 48.1hours bright sunshine duration. Wind speed recorded as 3.0km/h with mean wind direction *easterly*.

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

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 17.0mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 62%. Mean night temperature was 11.6°C while day temperature recorded as 24.2°C with 67.6hours bright sunshine duration. Wind speed recorded as 3.1km/hr with mean wind direction *south easterly*.

Wheat: Very Good condition, Flowering stage.

2.3 RAMC, Tandojam (Lower Sindh)

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 57%. Mean night temperature was 14.2°C while day temperature recorded as 29.7°C with 84.6hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *northerly*.

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

2.4 RAMC, Usta Muhammad (Eastern Balochistan)

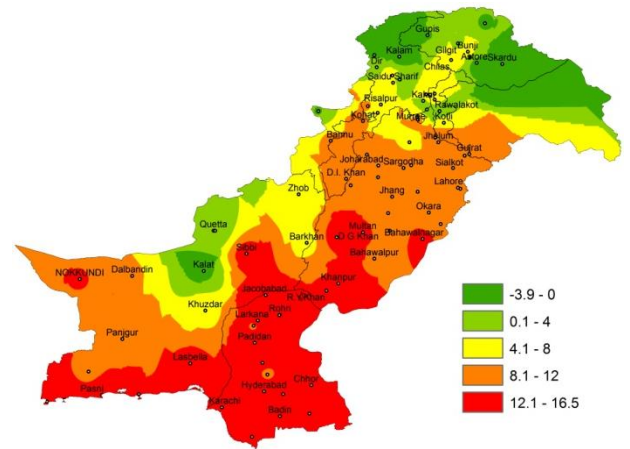
Rainfall reported as 1.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 63%. Mean night temperature was 12.0°C, while day temperature recorded as 27.7°C.

Wheat (Zardana): Good condition, Heading Stage.

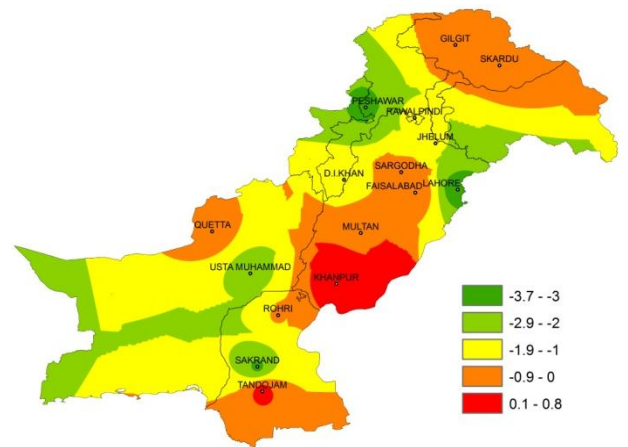
2.5 RAMC, Quetta (Northern Balochistan)

Rainfall reported as 3.6mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 40%. Mean night temperature was 2.9°C while day temperature recorded as 15.7°C with 68.7hours bright sunshine duration and wind speed recorded as 6.2km/hr with mean wind direction *southerly*.

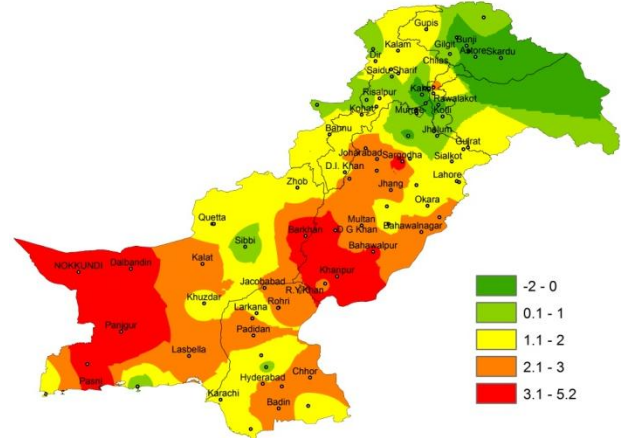
Wheat (Local White): Good condition, Tillering Stage.



(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 (1st to 10th March, 2014)**

2.6 **Jhelum**

Rainfall reported as 93.8mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 60%. Mean night temperature was 9.7°C while day temperature recorded as 23.5°C with 52.2hours bright sunshine duration. Wind speed recorded 5.9km/hr with mean wind direction *variable*.

2.7 **Lahore**

Rainfall reported as 3.8mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 65%. Mean night temperature was 11.2°C while day temperature recorded as 23.6°C with 67.6hours bright sunshine duration. Wind speed recorded as 3.6km/hr with mean wind direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 18.3mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 66%. Mean night temperature was 11.9°C while day temperature recorded as 23.3°C with 57.4hours bright sunshine duration. Wind speed recorded as 1.85km/hr with mean wind direction *variable*.

2.9 **Multan**

Rainfall reported as 3.2mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 59%. Mean night temperature was 12.6°C while day temperature recorded as 24.8°C with 69.3hours bright sunshine duration. Wind speed recorded as 5.0km/hr with mean wind direction *southerly*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 56%. Mean night temperature was 14.2°C while day temperature recorded as 27.2°C with 76.7hours bright sunshine duration. Wind speed recorded as 4.8km/hr with mean wind direction *north easterly*.

2.11 **Sakrand**

Rainfall reported as 12.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 60%. Mean night temperature was 10.2°C while day temperature recorded as 27.9°C with 96.4hours bright sunshine duration. Wind speed recorded 2.7km/hr with mean wind direction *north westerly*.

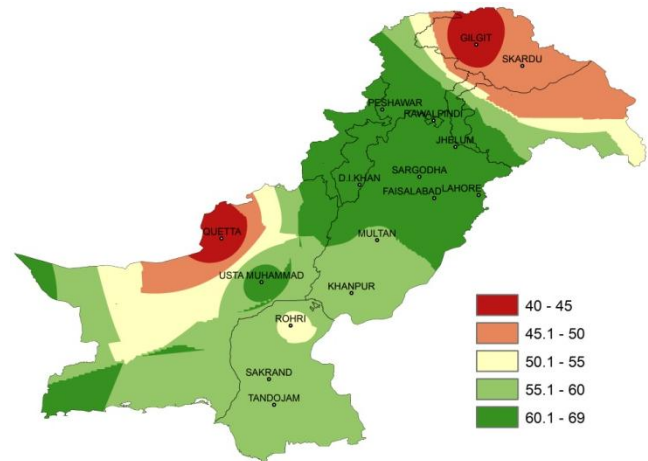


Figure.3: Relative Humidity in percentage (%)

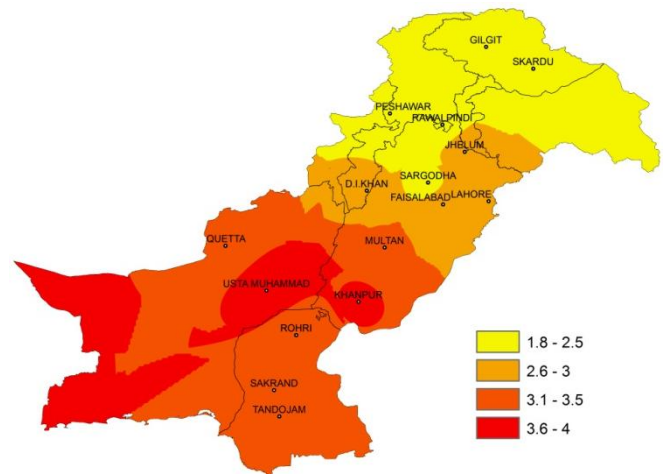


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

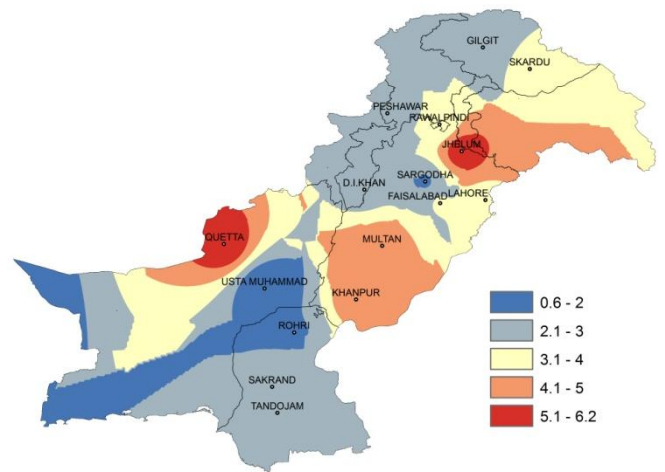


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Rainfall reported as 3.0mm during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 54%. Mean night temperature was 15.5°C while day temperature recorded as 27.5°C with 72.5hours bright sunshine duration. Wind speed recorded as 1.9km/hr with mean wind direction *north easterly*.

2.13 D.I Khan

Rainfall reported as 38.9mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 69%. Mean night temperature was 9.6°C while day temperature recorded as 21.9°C with 45.9hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 24.0mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 68%. Mean night temperature was 8.3°C while day temperature recorded as 21.4°C with 54.2hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *north westerly*.

2.15 Skardu

Rainfall reported as 11.4mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 47%. Mean night temperature was -2.0°C while day temperature recorded as 10.4°C with 45.0hours bright sunshine duration. Wind speed recorded as 3.4km/hr with mean wind direction *north-west westerly*.

2.16 Gilgit

Rainfall reported as 1.0mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 42%. Mean night temperature was 2.9°C while day temperature recorded as 16.0°C with 25.5bright sunshine duration. Wind speed recorded as 2.2km/hr with mean wind direction *variable*.

3. Ten Days Weather Advisory for Farmers**(11th to 20th March, 2014)****3.1 Temperature Forecast**

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

3.2 Rain Forecast

- ❖ **Punjab:** Rainfall/ light snowfall over the hills and over upper & central parts is expected during the decade.

- ❖ **Khyber Pakhtunkhwa:** Rainfall/ light snowfall over the hills and over upper & 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 isolated places during the mid 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 with rainfall/light snowfall over hills is expected in most parts of 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 irrigation the crops by keeping in view of the occurred and 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 after rains.
- ❖ Wheat crop is growing at very crucial development stages of milk maturity/ wax maturity, in Sind and 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 along the rains expected in the decade.