

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Heavy rainfall reported from agricultural plains of Punjab, KP, Gilgit-Baltistan & Kashmir and light to moderate rainfall reported from Balochistan whereas dry weather reported in Sindh during the last decade.
- ❖ Lowest minimum temperature recorded -5.2°C at Astore during the last decade.
- ❖ Highest amount of rainfall recorded as 218.0mm at Dir during the last decade.
- ❖ Lower values of relative humidity reported from Sindh & Balochistan regions while higher values reported from Punjab & KP during the last decade.
- ❖ Lower values of ETo reported from Gilgit-Baltistan & Kashmir regions while higher values reported from Sindh & Balochistan during the last decade.
- ❖ Day & night temperatures are expected to be slightly below normal 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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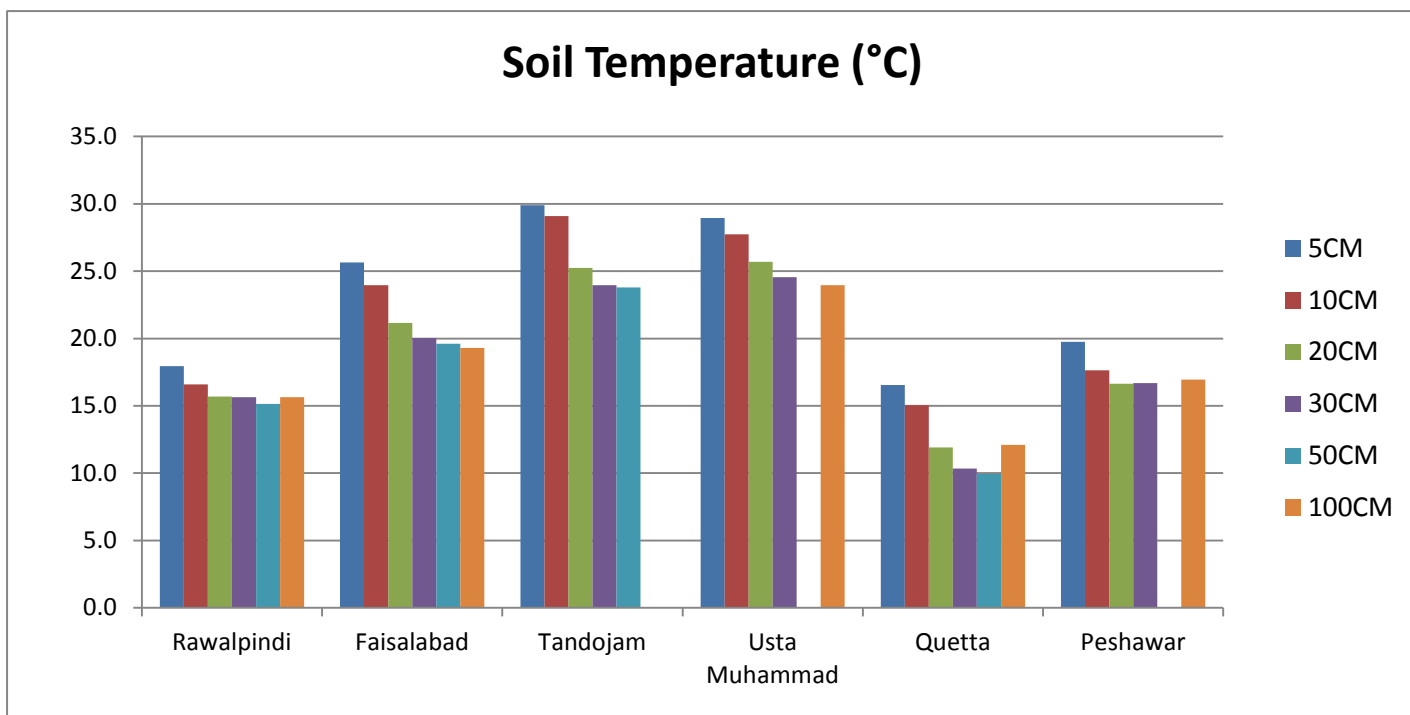
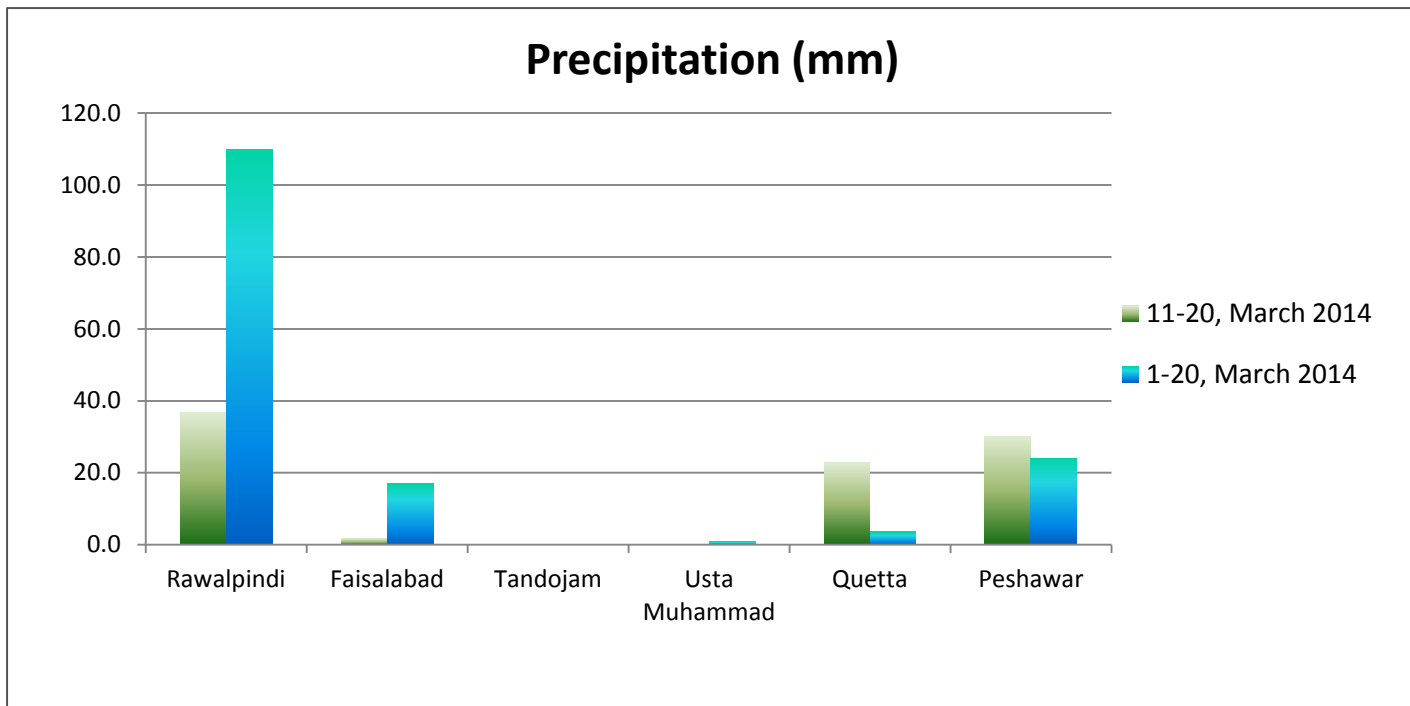
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Meteorological conditions during 2nd Decade of March, 2014

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	36.8	34.8	-2.2	-3.7	16.3	18.0	16.6	15.7	15.7	15.2	15.7	63.1	3.5	62	2.8
2	FAISALABAD	0.6	1.8	1.2	-2.0	-2.0	19.8	25.7	24.0	21.2	20.1	19.6	19.3	79.3	2.4	55	3.3
3	JHELUM	1.5	29.4	27.9	-2.0	-2.8	19.1	21.0	19.8	18.6	17.8	18.3	***	72.7	4.2	57	3.3
4	LAHORE	0.7	17.4	16.7	-5.0	-2.7	19.3	23.4	22.4	20.1	19.1	***	21.1	71.7	3.5	62	3.3
5	SARGODHA	1.1	11.6	10.5	-1.8	-3.5	19.9	24.6	22.2	20.2	19.7	19.9	19.7	68.9	1.1	59	2.8
6	MULTAN	0.4	3.7	3.3	-1.8	-2.6	20.9	***	***	***	***	***	***	74.8	4.2	50	3.7
7	KHANPUR	0.4	TR	-0.3	-2.9	-1.0	21.6	***	24.2	24.0	24.2	24.5	23.8	87.3	3.5	48	4.0
8	TANDOJAM	0.9	0.0	-0.9	-1.8	-2.2	23.5	29.9	29.1	25.3	24.0	23.8	***	97.2	2.0	41	3.9
9	SAKRAND ☆	0.8	0.0	-0.8	-2.6	-1.2	21.4	34.4	27.2	***	***	24.1	24.3	105.9	3.9	47	4.2
10	ROHRI	0.0	0.0	0.0	-1.3	-2.1	24.0	33.6	30.7	25.6	26.7	23.6	25.1	103.0	4.9	39	4.8
11	D I KHAN	1.1	TR	-1.0	-3.3	-2.6	18.5	***	***	***	***	***	***	76.9	***	65	3.9
12	PESHAWAR	2.0	30.2	28.2	-3.6	-4.2	16.5	19.8	17.7	16.7	16.7	***	17.0	57.8	2.7	70	2.6
13	USTA MUHAMMAD	0.7	0.0	-0.7	-1.8	-2.0	21.9	29.0	27.8	25.7	24.6	***	24.0	***	***	47	5.1
14	QUETTA	0.6	22.8	22.2	-1.6	-3.9	11.3	16.6	15.1	11.9	10.4	10.0	12.1	71.0	6.7	40	3.3
15	SKARDU	0.8	10.0	9.2	0.8	-1.7	7.4	***	***	***	***	***	***	45.4	3.1	52	2.2
16	GILGIT	0.4	6.1	5.7	0.7	-3.5	11.8	***	***	***	***	***	***	30.5	3.4	53	2.6

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; **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 (11th to 20th March, 2014)

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

1.1 Punjab

Heavy rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Murree, Islamabad & Mangla. Decadal minimum & maximum temperature both dropped below normal by 2.5°C & 2.6°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 74.0hrs, 3.2km/hr, 56% and 3.3mm/day respectively.

1.2 Sindh

Dry weather was reported in the agricultural plains of Sindh. Decadal minimum & maximum temperature both dropped below normal by 1.9°C & 1.8°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 102.0hrs, 3.6km/hr, 42% and 4.3mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

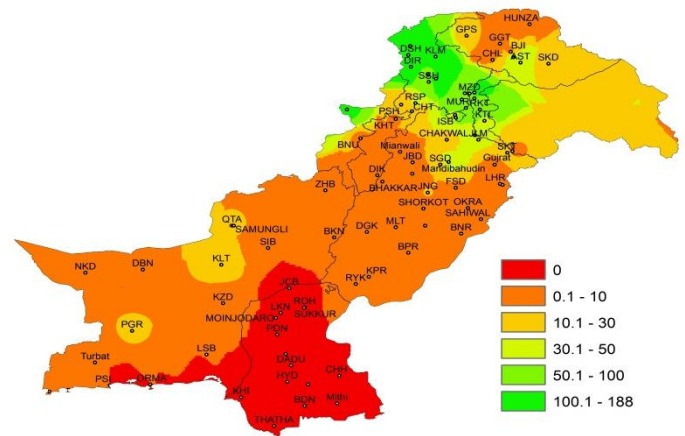
Heavy rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Parachinar, Dir & Malam Jabba. Decadal minimum & maximum temperature both dropped below normal by 3.5°C & 3.4°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 67.4hrs, 2.7km/hr, 68% and 3.3mm/day respectively.

1.4 Balochistan

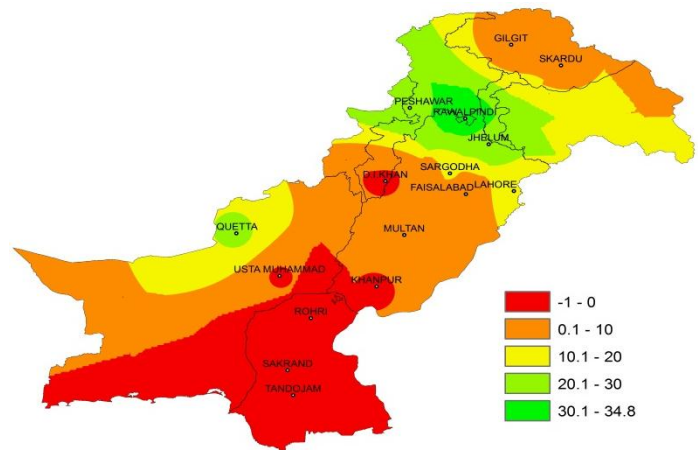
Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received in Panjgor, Quetta & Kalat. Decadal minimum & maximum temperature both dropped below normal by 1.7°C & 3.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 71.0hrs, 6.7km/hr, 44% and 4.2mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

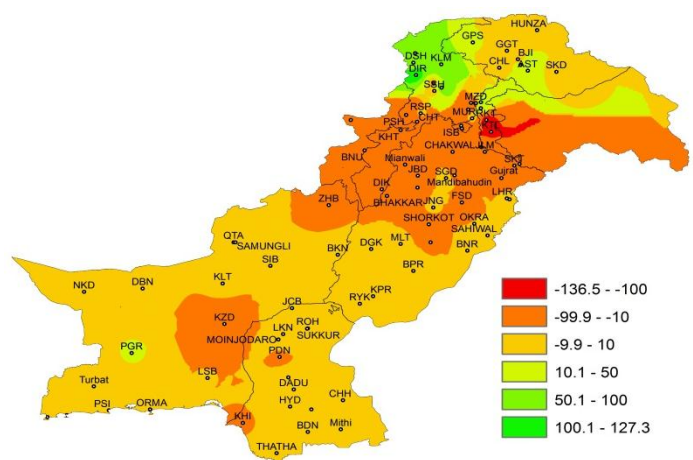
Heavy rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Rawalakot, Pattan & Muzaffarabad. Decadal minimum raised above normal by 0.8°C & maximum temperature dropped below normal by 2.6°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 38.0hrs, 3.3km/hr, 53% and 2.4mm/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 March, 2014)**

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

Rainfall reported as 36.8mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 62%. Mean night temperature was 9.1°C while day temperature recorded as 23.4°C with 63.1hours bright sunshine duration. Wind speed recorded as 3.5km/h with mean wind direction *easterly*.

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

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

Rainfall reported as 1.8mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 55%. Mean night temperature was 12.1°C while day temperature recorded as 27.4°C with 79.3hours bright sunshine duration. Wind speed recorded as 2.4km/hr with mean wind direction *north westerly*.

Wheat: Very Good condition, Milk Maturity stage.

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

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 41%. Mean night temperature was 14.2°C while day temperature recorded as 32.7°C with 97.2hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *northerly*.

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

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

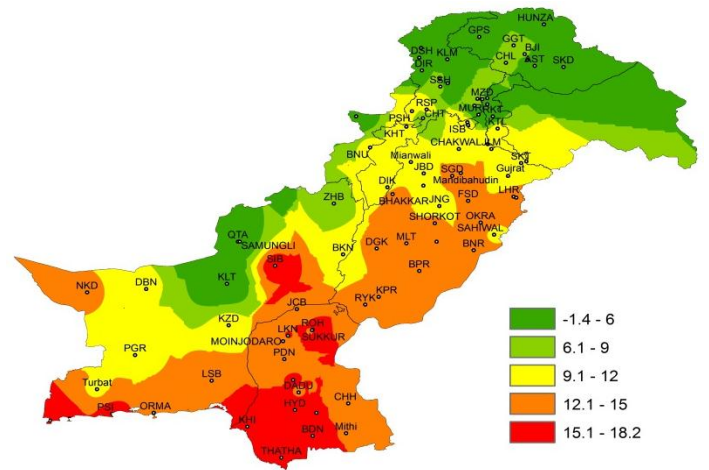
Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 47%. Mean night temperature was 14.0°C, while day temperature recorded as 29.7°C.

Wheat (Zardana): Good condition, Heading Stage completed.

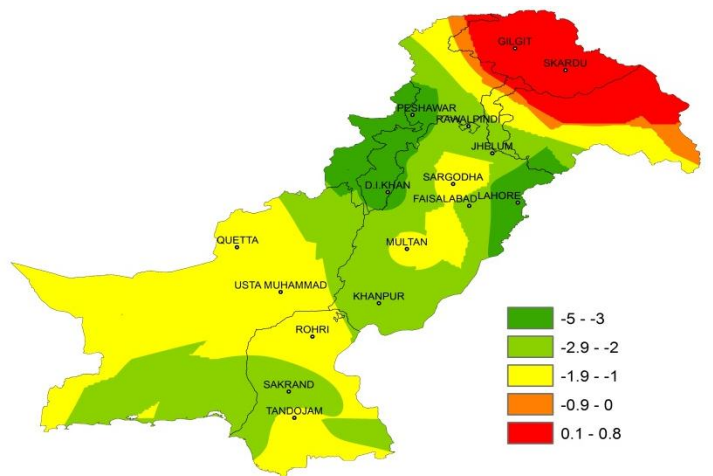
2.5 **RAMC, Quetta (Northern Balochistan)**

Rainfall reported as 22.8mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 40%. Mean night temperature was 4.6°C while day temperature recorded as 17.9°C with 71.0hours bright sunshine duration and wind speed recorded as 6.7km/hr with mean wind direction *southerly*.

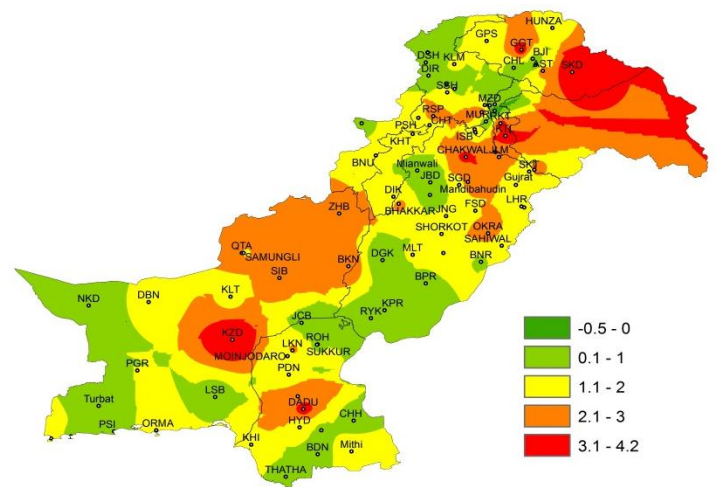
Wheat (Local White): Good condition, Tillering Stage.



(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 (11th to 20th March, 2014)**

2.6 **Jhelum**

Rainfall reported as 29.4mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 57%. Mean night temperature was 12.0°C while day temperature recorded as 26.2°C with 72.7hours bright sunshine duration. Wind speed recorded 4.2km/hr with mean wind direction *north westerly*.

2.7 **Lahore**

Rainfall reported as 17.4mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 62%. Mean night temperature was 12.5°C while day temperature recorded as 26.1°C with 71.7hours bright sunshine duration. Wind speed recorded as 3.5km/hr with mean wind direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 11.6mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 59%. Mean night temperature was 13.3°C while day temperature recorded as 26.5°C with 68.9hours bright sunshine duration. Wind speed recorded as 1.1km/hr with mean wind direction *variable*.

2.9 **Multan**

Rainfall reported as 3.7mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 50%. Mean night temperature was 13.7°C while day temperature recorded as 28.1°C with 74.8hours bright sunshine duration. Wind speed recorded as 4.2km/hr with mean wind direction *southerly*.

2.10 **Khanpur**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 48%. Mean night temperature was 12.6°C while day temperature recorded as 30.5°C with 87.3hours bright sunshine duration. Wind speed recorded as 3.5km/hr with mean wind direction *variable*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 47%. Mean night temperature was 11.4°C while day temperature recorded as 31.4°C with 105.9hours bright sunshine duration. Wind speed recorded 3.9km/hr with mean wind direction *south easterly*.

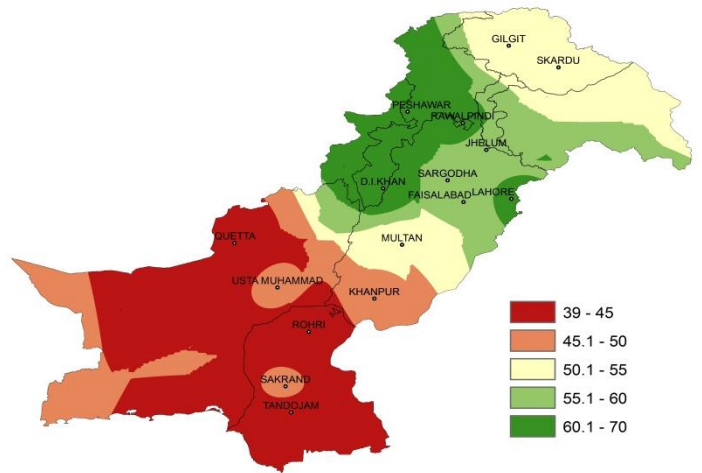


Figure.3: Relative Humidity in percentage (%)

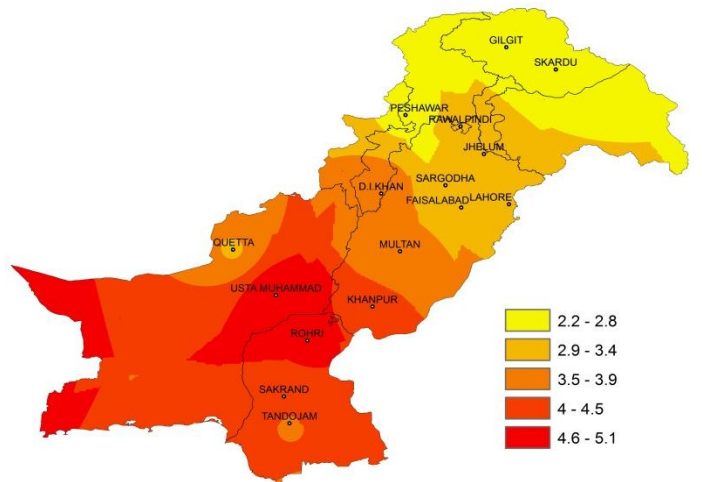


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

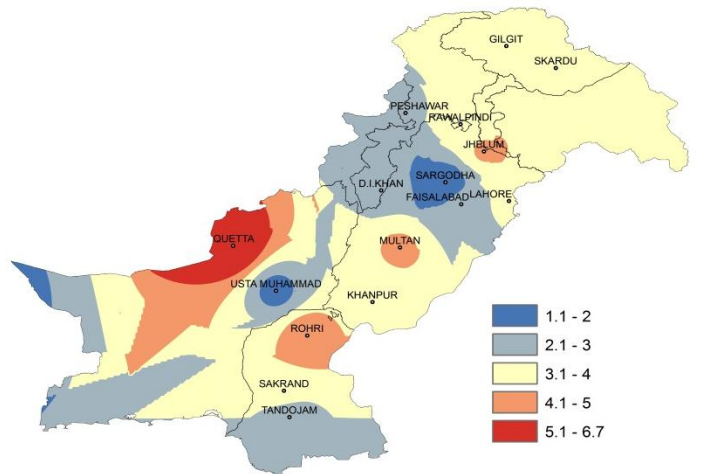


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 39%. Mean night temperature was 17.0°C while day temperature recorded as 30.9°C with 103.0hours bright sunshine duration. Wind speed recorded as 4.9km/hr with mean wind direction *north easterly*.

2.13 D.I. Khan

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 65%. Mean night temperature was 10.9°C while day temperature recorded as 26.1°C with 76.9hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 30.2mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 70%. Mean night temperature was 10.2°C while day temperature recorded as 22.8°C with 57.8hours bright sunshine duration. Wind speed recorded as 2.7km/hr with mean wind direction *north westerly*.

2.15 Skardu

Rainfall reported as 10.0mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 52%. Mean night temperature was 2.0°C while day temperature recorded as 12.8°C with 45.4hours bright sunshine duration. Wind speed recorded as 3.1km/hr with mean wind direction *north, north-westerly*.

2.16 Gilgit

Rainfall reported as 6.1mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 53%. Mean night temperature was 6.5°C while day temperature recorded as 17.0°C with 30.5bright sunshine duration. Wind speed recorded as 3.4km/hr with mean wind direction *variable*.

**3. Ten Days Weather Advisory for Farmers
(21st to 31st 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 Wind Forecast

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

3.3 Rain Forecast

- ❖ **Punjab:** Light to moderate rainfall with isolated heavy rainfall/light snowfall over the hills is expected mostly over upper & central parts are expected especially 21-24th and 27-29th of March during the decade.
- ❖ **Khyber Pakhtunkhwa:** Light to moderate rainfall with isolated heavy rainfall/light snowfall over the hills is expected mostly over upper hilly areas and central parts are expected especially 21-24th and 27-29th of March during the decade.
- ❖ **Sindh:** Dry weather is expected in the province during the decade.
- ❖ **Balochistan:** Light to moderate rainfall is expected in northern Baluchistan during first half of the decade.
- ❖ **Gilgit-Baltistan:** Light to moderate with isolated heavy rainfall and snowfall over hills is expected in most parts of GB during the decade.
- ❖ **Kashmir:** Light to moderate/heavy rainfall and snowfall over hills is expected in most parts of Kashmir during the decade especially 21-24th and 29th of this month.

3.4 Advisory for Farmers

- ❖ Wheat crop is growing at Flowering/Milk /Wax 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 in upper parts of the country.