

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate rainfall reported from agricultural plains of the country during the last decade.
- ❖ Highest amount of rainfall recorded as 146.0mm at Islamabad during the last decade.
- ❖ Highest maximum temperature recorded 46.0°C at Dalbandin during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & Skardu regions while higher values reported from Punjab, K.P & Lower parts of Sindh during the last decade.
- ❖ Lower values of ETo reported from K.P & Gilgit-Baltistan while higher values reported from Sindh & Balochistan during the last decade.
- ❖ Temperature is likely to be normal/slightly above normal in the agricultural plains of the country during the decade.
- ❖ Dust storm/ gusty wind conditions likely to prevail in the country during the decade.
- ❖ Due to expected onset of monsoon rains during the decade farmers are advised to take in time precautionary measures to protect their crops, livestock and other property from any expected heavy rain.
- ❖ Farmers of rainfed areas in upper parts are advised to cultivate maize crop due to recent rains. Farmers obtaining crop water through tube wells are also advised to schedule the irrigation according to the expected weather mentioned during the decade.

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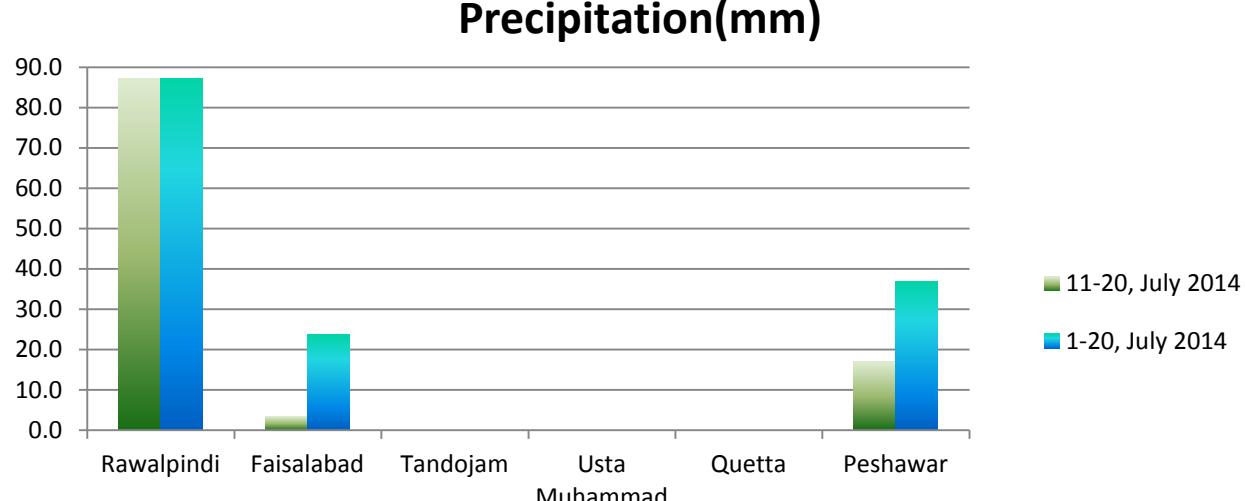
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## Meteorological conditions during 2<sup>nd</sup> Decade of July, 2014

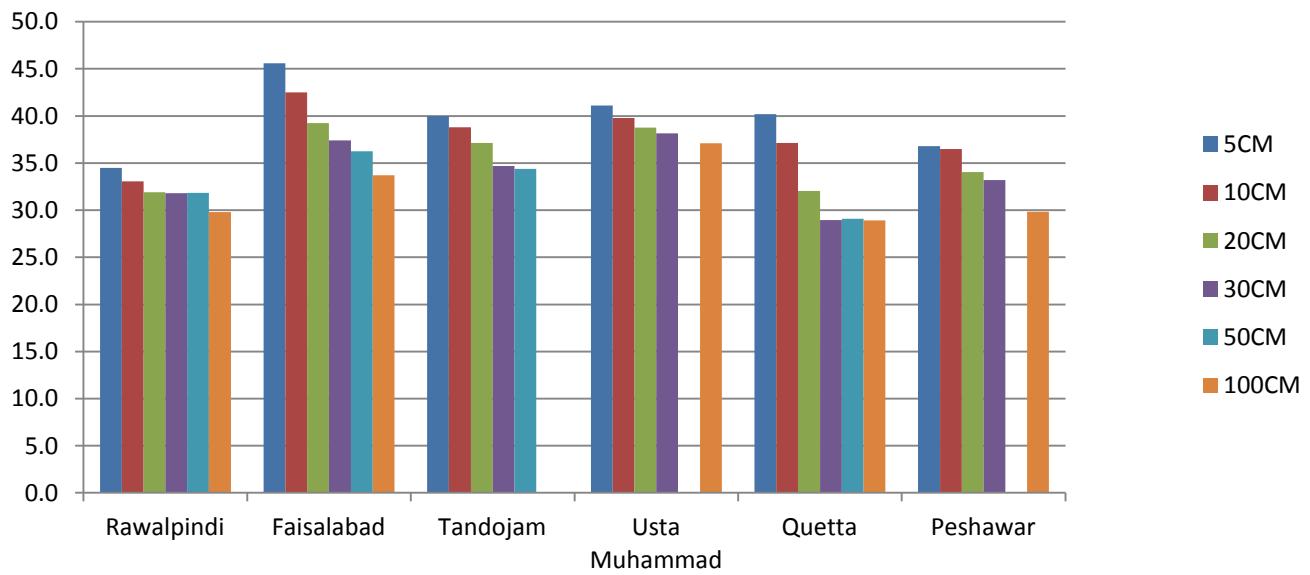
Sr. No.	Station	*Precipitation (mm)			Air Temperature (°c)			Soil Temperatures (°c)					R.H (%)	Sunshine Duration (hours)	Wind Speed (km/hr)	ETo (mm/day)	
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm					
1	RAWALPINDI	7.9	87.2	79.3	0.0	-0.2	29.9	34.5	33.1	31.9	31.8	31.9	29.8	55	79.5	1.5	4.8
2	FAISALABAD	2.9	3.5	0.6	1.9	1.5	34.1	45.6	42.5	39.3	37.4	36.3	33.7	56	92.2	4.9	6.4
3	JHELUM	4.1	39.7	35.6	0.2	0.3	32.2	37.1	35.7	33.9	32.4	32.4	***	61	77.4	3.3	5.3
4	LAHORE	4.4	16.0	11.6	-0.6	4.1	32.3	38.1	36.8	34.2	31.4	***	30.5	61	73.7	4.2	5.5
5	SARGODHA	3.0	2.0	-1.0	1.1	1.4	34.5	39.6	37.5	35.6	34.8	34.6	32.1	67	80.5	3.7	5.7
6	MULTAN	1.5	62.2	60.7	0.1	0.1	34.8	***	***	***	***	***	***	49	84.2	10.1	7.9
7	KHANPUR	0.4	0.0	-0.4	-0.8	-0.1	34.8	***	39.9	39.4	39.2	39.1	36.4	63	93.8	6.5	6.8
8	TANDOJAM	2.0	0.0	-2.0	0.1	-0.1	32.4	40.0	38.8	37.2	34.7	34.4	***	53	100.2	6.6	6.8
9	SAKRAND ☆	0.4	0.0	-0.4	-3.4	-0.1	32.3	46.9	42.4	***	***	***	36.1	53	104.4	14.6	9.1
10	ROHRI	0.0	0.0	0.0	-2.3	0.2	35.3	51.1	47.7	39.7	38.2	36.3	35.4	46	106.0	3.4	6.6
11	DIKHAN	2.7	37.0	34.3	-0.8	0.6	32.7	***	***	***	***	***	***	57	86.5	***	6.7
12	PESHAWAR	1.4	17.0	15.6	-0.2	0.8	33.0	36.8	36.5	34.1	33.2	***	29.9	56	81.5	4.3	5.9
13	USTA MUHAMMAD	0.3	0.0	-0.3	-1.2	-1.2	34.7	41.1	39.8	38.8	38.2	***	37.1	45	***	***	7.5
14	QUETTA	0.3	0.0	-0.3	-0.3	-0.7	28.4	40.2	37.2	32.1	29.0	29.1	28.9	23	88.7	5.5	6.4
15	SKARDU	0.4	0.1	-0.3	-0.3	1.4	23.2	***	***	***	***	***	***	39	51.1	2.7	4.1
16	GILGIT	0.1	8.3	8.2	1.4	-2.0	26.0	***	***	***	***	***	***	54	60.3	2.6	4.6

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:  $\text{Dep divided by Normal multiplied by } 100$ . 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)

## Precipitation at RAMC's during July, 2014



## Soil Temperature(°C)



## Past Weather (11<sup>th</sup> to 20<sup>th</sup> July, 2014)

**Light to moderate rainfall reported from agricultural plains of the country 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, mangla & Sialkot. Decadal minimum & maximum temperature both raised above normal by  $0.3^{\circ}\text{C}$  &  $1.0^{\circ}\text{C}$  respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 83.0hrs, 4.9km/hr, 59% and 6.1mm/day respectively.

## **1.2 Sindh**

Light to moderate rainfall reported at one station i.e Mithi during the decade. Decadal minimum dropped below normal by  $1.9^{\circ}\text{C}$  & maximum temperature remain normal, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 103.5hrs, 8.2km/hr, 51% and 7.5mm/day respectively.

### **1.3 Khyber Pakhtunkhwa (KP)**

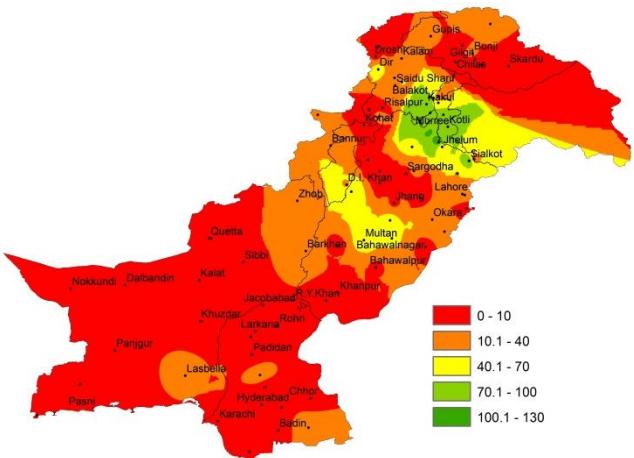
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall received in Kakul, Balakot & Dir. Decadal minimum dropped below normal by  $0.5^{\circ}\text{C}$  & maximum temperature raised above normal by  $0.7^{\circ}\text{C}$  respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 84.0hrs, 4.3km/hr, 57% and 6.3mm/day respectively.

#### **1.4 Balochistan**

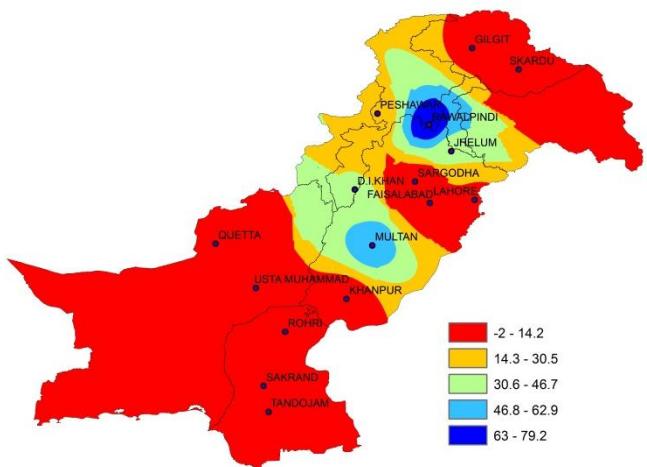
Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received in Barkhan, Lasbella & Zhob. Decadal minimum & maximum temperature both dropped below normal by  $0.8^{\circ}\text{C}$  &  $0.9^{\circ}\text{C}$  respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 88.7hrs, 5.5km/hr, 34% and 7.0mm/day respectively.

## **1.5 Gilgit-Baltistan and Azad Jammu & Kashmir**

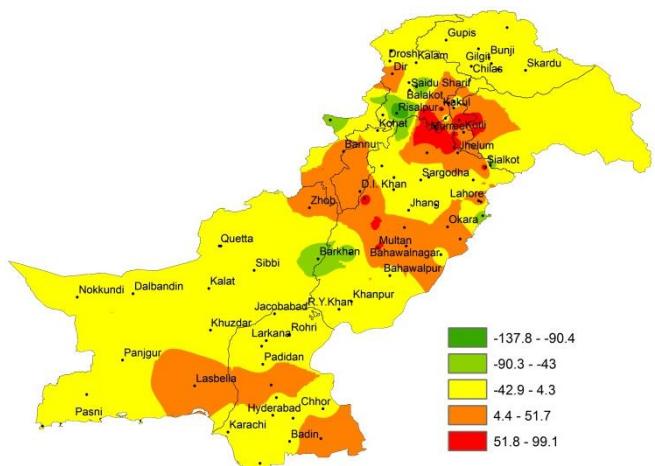
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall received in Rawalakot, Kotli & Muzaffarabad. Decadal minimum raised above normal by  $0.5^{\circ}\text{C}$  & maximum temperature dropped below normal by  $0.3^{\circ}\text{C}$ , in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 55.7hrs, 2.7km/hr, 47% and 4.4mm/day respectively.



## I. Actual rainfall



## **II. Departure of rainfall from Normal**



### III. Departure of rainfall from Previous Decade

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

**2(a) Past Weather for Major Agricultural Plains  
(11<sup>th</sup> to 20<sup>th</sup> July, 2014)**

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

Rainfall reported as 87.2mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 55%. Mean night temperature was 23.6°C while day temperature recorded as 36.2°C with 79.5hours bright sunshine duration. Wind speed recorded as 1.5km/h with mean wind direction *south easterly*.

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

Rainfall reported as 3.5mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 56%. Mean night temperature was 28.9°C while day temperature recorded as 39.3°C with 92.20hours bright sunshine duration. Wind speed recorded as 4.9km/hr with mean wind direction *southerly*.

**Cotton:** Normal condition, flowering stage completed.

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

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 53%. Mean night temperature was 27.1°C while day temperature recorded as 37.7°C with 100.2hours bright sunshine duration. Wind speed recorded as 6.6km/hr with mean wind direction *south westerly*.

**Cotton (BT-3701):** Good condition, flowering stage.

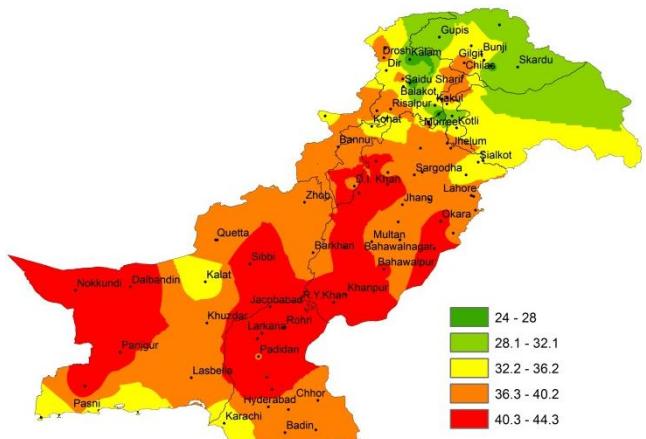
**2.4 RAMC, Usta Muhammad (Eastern Balochistan)**

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 45%. Mean night temperature was 27.8°C, while day temperature recorded as 41.5°C.

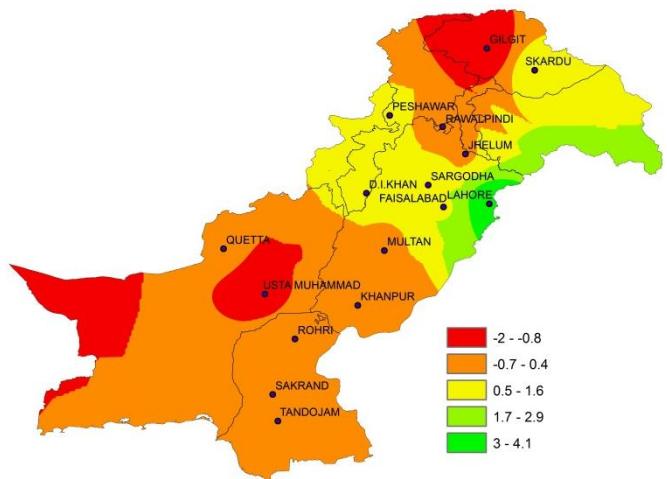
**Rice:** Good condition, 3<sup>rd</sup> Leaf maturity stage.

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

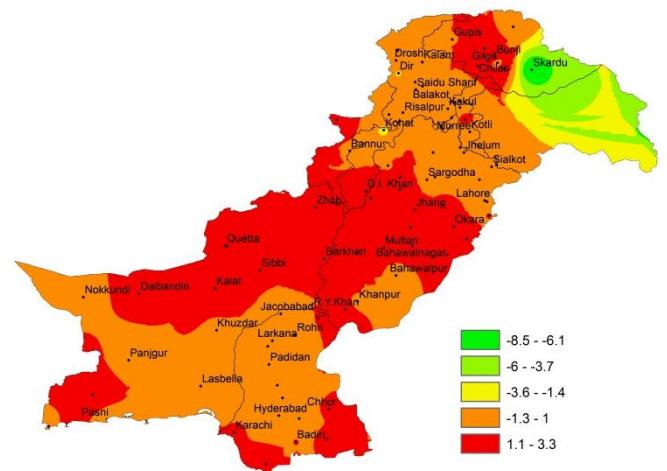
Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 23%. Mean night temperature was 21.2°C while day temperature recorded as 35.6°C with 88.7hours bright sunshine duration and wind speed recorded as 5.5km/hr with mean wind direction *north westerly*.



I. Actual max-temp



II. Departure of max-temp from Normal



III. Departure of max-temp from Previous Decade

**Figure.2: Maximum Temperature distribution during previous decade in "°C"**

**2(b) Past Weather for Sub-Regional Agricultural Plains (11<sup>th</sup> to 20<sup>th</sup> July, 2014)**

### 2.6 Jhelum

Rainfall reported as 39.7mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 61%. Mean night temperature was 26.9°C while day temperature recorded as 37.5°C with 77.4hours bright sunshine duration. Wind speed recorded 3.3km/hr with mean wind direction *south easterly*.

### 2.7 Lahore

Rainfall reported as 16.0mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 61%. Mean night temperature was 27.1°C while day temperature recorded as 37.4°C with 73.7hours bright sunshine duration. Wind speed recorded as 4.2km/hr with mean wind direction *north westerly*.

### 2.8 Sargodha

Rainfall reported as 2.0mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 67%. Mean night temperature was 29.0°C while day temperature recorded as 39.9°C with 80.5hours bright sunshine duration. Wind speed recorded as 3.7km/hr with mean wind direction *variable*.

### 2.9 Multan

Rainfall reported as 62.2mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 49%. Mean night temperature was 29.5°C while day temperature recorded as 40.0°C with 84.2hours bright sunshine duration. Wind speed recorded as 10.1km/hr with mean wind direction *south westerly*.

### 2.10 Khanpur

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 63%. Mean night temperature was 28.8°C while day temperature recorded as 40.7°C with 93.8hours bright sunshine duration. Wind speed recorded 6.5km/hr with mean wind direction *south westerly*.

### 2.11 Sakrand

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 53%. Mean night temperature was 24.2°C while day temperature recorded as 40.4°C with 104.4hours bright sunshine duration. Wind speed recorded 14.6km/hr with mean wind direction *south westerly*.

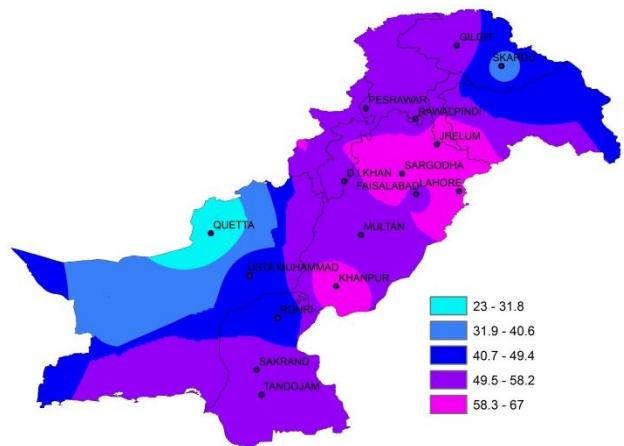


Figure.3: Relative Humidity in percentage (%)

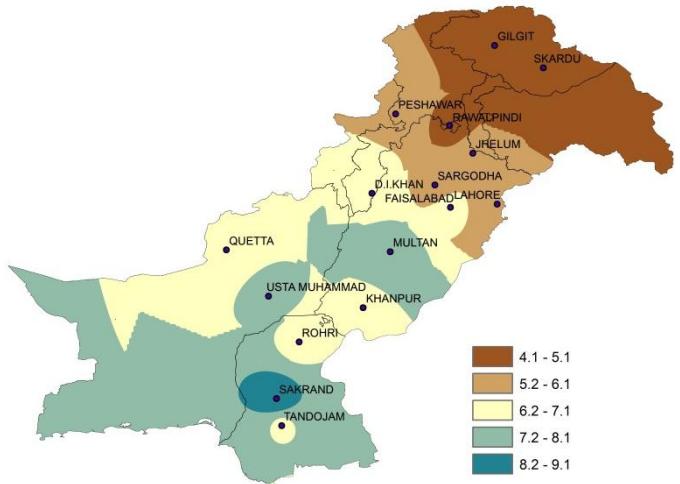


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

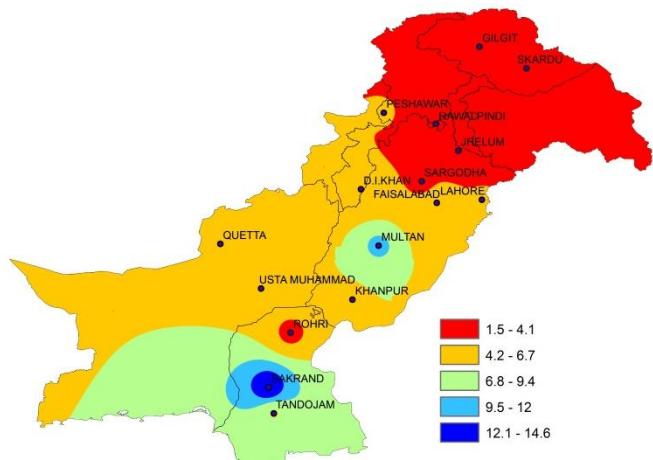


Figure 5: Wind Speed in kilometer per hour (km/h)

## 2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 46%. Mean night temperature was 28.0°C while day temperature recorded as 42.6°C with 106.0hours bright sunshine duration. Wind speed recorded as 3.4km/hr with mean wind direction *south westerly*.

## 2.13 D.I. Khan

Rainfall reported as 37.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 57%. Mean night temperature was 25.7°C while day temperature recorded as 39.7°C with 86.5hours bright sunshine duration.

## 2.14 Peshawar

Rainfall reported as 17.0mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 56%. Mean night temperature was 29.6°C while day temperature recorded as 39.0°C with 81.5hours bright sunshine duration. Wind speed recorded as 4.3km/hr with mean wind direction *north westerly*.

## 2.15 Skardu

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 39%. Mean night temperature was 15.0°C while day temperature recorded as 31.3°C with 51.1hours bright sunshine duration. Wind speed recorded as 2.7km/hr with mean wind direction *southerly*.

## 2.16 Gilgit

Rainfall reported as 8.3mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 54%. Mean night temperature was 18.0°C while day temperature recorded as 34.0°C with 60.3bright sunshine duration. Wind speed recorded as 2.6km/hr with mean wind direction *easterly*.

## 3. Ten Days Weather Advisory for Farmers (21<sup>st</sup> to 31<sup>st</sup> July, 2014)

### 3.1 Temperature Forecast

Temperatures are likely to be normal/above normal in the agricultural plains of the country and heat wave will also envelop northern areas during the decade.

### 3.2 Wind Forecast

Dust storm/ gusty wind conditions likely to prevail in the country during the decade.

### 3.3 Rain Forecast

- ❖ **Punjab:** Light to moderate rainfalls at isolated places is expected over most of the agricultural plains of the province during the end of 1st half of decade.
- ❖ **Khyber Pakhtunkhwa:** Heavy falls at isolated places is expected over most of the agricultural plains of the province during the end of 1st half of decade.
- ❖ **Sindh:** Light rainfall expected at isolated places of Sindh during end of decade.
- ❖ **Balochistan:** Mainly dry weather is expected in the province. However light rainfall expected in North western parts of Balochistan during the 2nd half of decade.
- ❖ **Gilgit Baltistan:** Mostly cloudy weather with light to moderate rainfall over hills is expected in most parts of GB during end of 1st half of decade.
- ❖ **Kashmir:** Mainly cloudy weather with light to moderate rainfall over hills is expected in isolated parts of Kashmir during end of 1st half of decade.

### 3.4 Advisory for Farmers

- ❖ Pest/viral attacks and more weeds growth are expected after expected monsoon rains in sugarcane and other standing crops in upper parts of the country. Farmers are therefore advised to take in time precautionary measures in this regard.
- ❖ Farmers of rainfed areas obtaining water through tube wells and irrigated areas in upper parts are advised to schedule the irrigation according to the expected weather mentioned during the decade. Rainfall/gusty winds after irrigation cause water logging of standing crops like maize, sugarcane and cotton. Farmers should be very careful in this regard.
- ❖ Due to expected monsoon rains during the decade farmers are advised to take in time precautionary measures to protect their crops, livestock and other property from any expected heavy rain.
- ❖ Farmers of upper half of the country are advised to complete sowing of Kharif crops in time to utilize fully the present soil moisture especially growers of maize crop in rainfed areas.