

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate with isolated heavy rainfall reported from upper agricultural plains of the country during the last decade.
- ❖ Above normal rain reported from most of the agricultural plains of the country during the month of August 2013.
- ❖ Highest temperature recorded as 43.5°C at Dalbandin during the last decade.
- ❖ Highest amount of rainfall recorded as 240.0mm at Islamabad during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & Skardu region and higher values reported from Punjab, KP, Sindh & adjoining areas of Balochistan during the last decade.
- ❖ Higher values of ETo reported from the southern agricultural plains of Punjab & Sindh during the last decade.
- ❖ Normal temperatures are expected in most of the agricultural plains of the country during the current decade.
- ❖ Normal to gusty wind pattern may prevail in most of the agricultural plains of the country during the decade.
- ❖ Light to moderate with isolated heavy rainfall is expected in upper parts of the country during the current decade.

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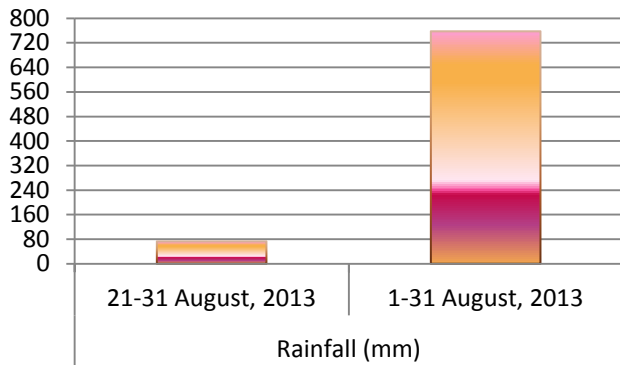
Meteorological conditions during 3<sup>rd</sup> decade of August, 2013

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	TANDOJAM	1.5	0.0	-1.5	-0.1	-0.4	29.9	40.9	39.6	34.8	33.8	33.4	***	120.5	5.5	66.0	5.9
2	SAKRAND ☆	0.7	0.0	-0.7	-1.9	0.3	30.0	44.6	42.1	45.8	***	37.4	35.3	129.9	6.8	64.0	6.2
3	ROHRI	0.7	0.0	-0.7	-0.4	0.1	33.0	45.7	42.3	38.3	36.5	35.1	35.3	123.0	5.4	55.0	6.4
4	USTA MUHAMMAD	0.1	0.0	-0.1	-0.2	-2.1	31.7	***	***	***	***	***	***	***	***	61.0	4.6
5	QUETTA	0.4	0.0	-0.4	0.0	-11.1	20.7	34.9	32.8	29.0	27.3	26.5	27.7	110.8	4.5	30.0	5.2
6	KHANPUR	0.0	0.0	0.0	-0.8	0.9	32.2	37.5	37.2	37.0	37.1	37.1	37.3	116.0	5.1	61.0	6.0
7	MULTAN	0.7	0.0	-0.7	0.8	1.1	33.2	***	***	***	***	***	***	106.0	7.9	57.0	5.5
8	LAHORE	3.7	15.1	11.4	-0.8	0.6	30.9	34.1	33.5	31.8	30.8	***	29.8	80.5	2.6	72.0	4.5
9	FAISALABAD	2.9	30.9	28.0	0.9	0.5	32.0	38.2	37.0	34.8	33.6	33.0	32.2	99.4	5.1	63.0	5.4
10	SARGODHA	2.3	0.8	-1.5	1.9	1.3	33.2	39.2	37.3	34.5	33.3	32.6	31.1	101.1	2.2	64.0	5.2
11	JHELUM	4.4	1.6	-2.8	0.2	0.7	30.8	34.4	33.3	30.2	30.5	30.6	***	98.3	2.8	69.0	4.8
12	RAWALPINDI	5.9	72.8	66.9	0.1	2.0	28.9	35.1	32.2	30.4	29.8	29.8	29.2	85.8	***	67.0	5.1
13	DI KHAN	1.8	0.0	-1.8	0.5	1.9	32.5	***	***	***	***	***	***	108.7	1.5	58.0	5.0
14	PESHAWAR	0.8	0.1	-0.7	1.9	0.7	32.0	35.2	33.1	32.2	31.65	***	29.7	84.3	1.7	64.0	4.4
15	SKARDU	0.4	0.0	-0.4	0.2	3.8	23.1	***	***	***	***	***	***	72.1	5.6	39.0	4.5
16	GILGIT	0.4	15.6	15.2	4.1	2.1	27.9	***	***	***	***	***	***	75.0	1.8	69.0	4.3

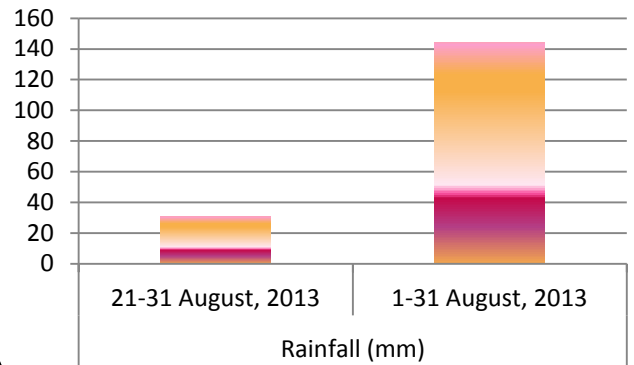
Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula:  $\text{Dep} \div \text{Normal} \times 100$ . Tmin & Tmax stands for minimum and maximum temperatures respectively. ETO stands for reference crop evapotranspiration. \*\*\* stands for no data and ☆ indicates the station with five years climatic (normal) data for computing departures.

**Graphs for Rainfall (mm) during August 2013**

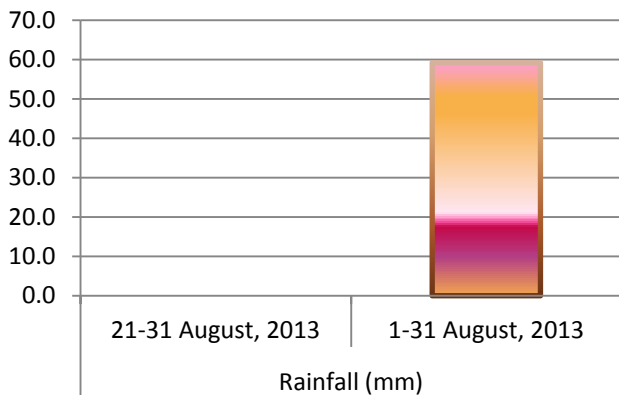
**RAMC RAWALPINDI**



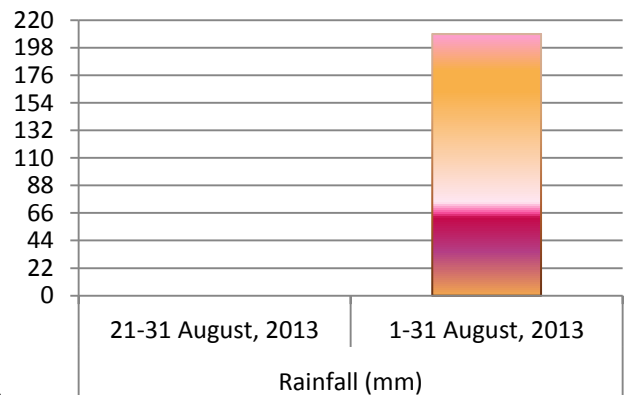
**RAMC FAISALABAD**



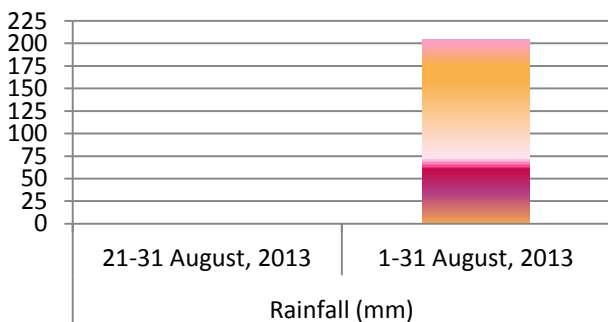
**RAMC QUETTA**



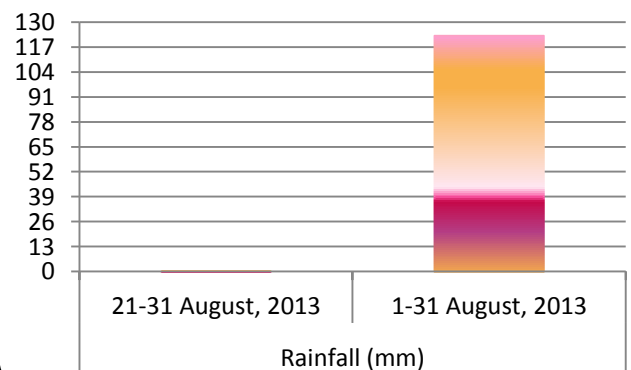
**RAMC TANDOJAM**



**RAMC USTA MUHAMMAD**



**RMC PESHAWAR**



**Past Weather (21<sup>st</sup> to 31<sup>st</sup> August, 2013):**

Light to moderate with isolated heavy rainfall reported from Punjab, Kashmir, GB & KP, while light rainfall reported from few agricultural plains of Balochistan during the period. Dry weather reported from most parts of Sindh.

**1.1 Punjab**

Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of Punjab; chief amount received at Islamabad, Mangla & Lahore etc. Decadal maximum & minimum temperature both raised above normal by 1.0°C & 0.3°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.3 km/hr, 65%, and 5.2 mm/day respectively.

**1.2 Sindh**

Rainfall reported as Trace (not measureable) at one place i.e Karachi. Decadal maximum raised above normal by 0.0°C & minimum temperature dropped below normal by 0.8°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 5.9 km/hr, 62%, and 6.2 mm/day respectively.

**1.3 Khyber Pakhtunkhwa (KP)**

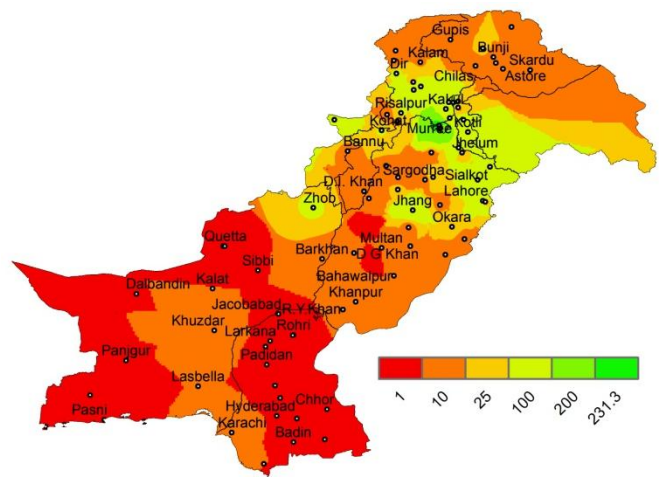
Light to moderate with isolated heavy rainfall reported at a number places in the agricultural plains of KP; chief amount received at Balakot, Parachinar & Kakul etc. In KP region; Decadal maximum & minimum temperature both raised above by 1.3°C & 1.2°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.6 km/hr, 61%, and 4.7 mm/day respectively.

**1.4 Balochistan**

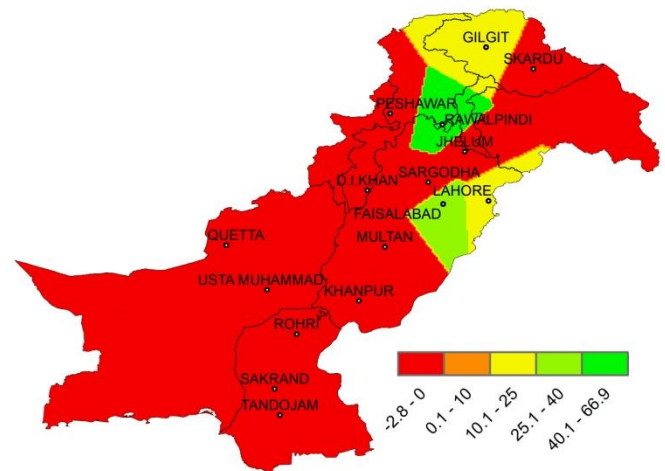
Light to moderate rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Zhob, Khuzdar & Barkhan etc. Decadal maximum temperature & minimum temperature both dropped below normal by 6.6°C & 0.1°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 4.5 km/hr, 46%, and 4.9 mm/day respectively.

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

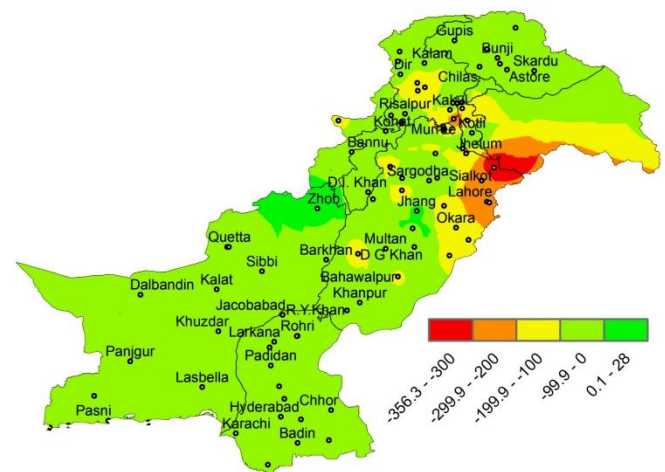
Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Muzafarabad, Rawalakot & Gilgit etc. Decadal maximum & minimum temperature raised above normal by 3.0°C & 4.4°C in the province. Whereas mean values of wind speed, relative humidity and ETo were recorded 3.7 km/hr, 54%, and 4.4 mm/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**  
**Past Weather (21<sup>st</sup> to 31<sup>st</sup> August, 2013):**

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

Rainfall reported as 72.8 mm during the decade, weather remained cloudy for 07 days, average relative humidity recorded as 67%. Mean night temperature was 23.1°C while day temperature recorded as 34.6°C with 85.8 hours bright sunshine duration. Wind speed data not available while mean wind direction *easterly*.

Maize Agati 2002: Good condition, Emergence Stage.

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

Rainfall reported as 30.9mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 63%. Mean night temperature was 27.2°C while day temperature recorded as 36.8°C with 99.4 hours bright sunshine duration. Wind speed recorded as 5.1 km/hr with mean wind direction *south easterly*.

Sugarcane: Very Good condition, Tillering completed.  
 Cotton: Normal condition, Boll opening stage.

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

No rainfall reported during the decade, weather remained cloudy for 03 days during the decade, average relative humidity recorded as 66%. Mean night temperature was 25.0°C while day temperature recorded as 34.7°C with 120.5 hours bright sunshine duration. Wind speed recorded as 5.5 km/hr with mean wind direction *south westerly*.

Cotton: BT 3701 Good condition, Boll opening.

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

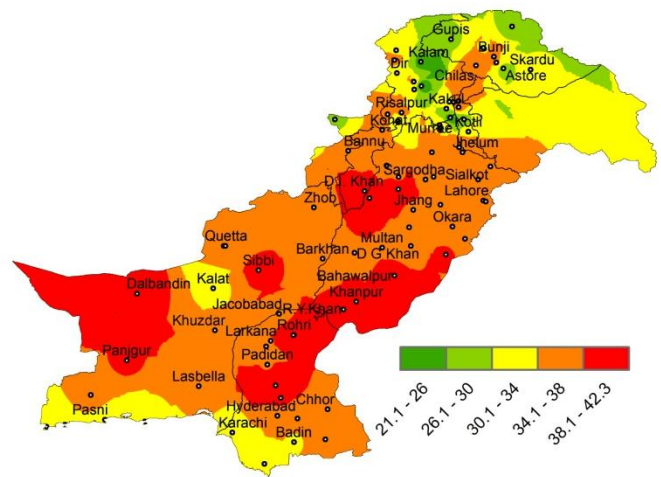
No rainfall reported during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 30%. Mean night temperature was 18.1°C while day temperature recorded as 23.3°C with 110.8 hours bright sunshine duration and wind speed recorded as 4.5 km/hr with mean wind direction *southerly*.

Note: No crop is grown at the station.

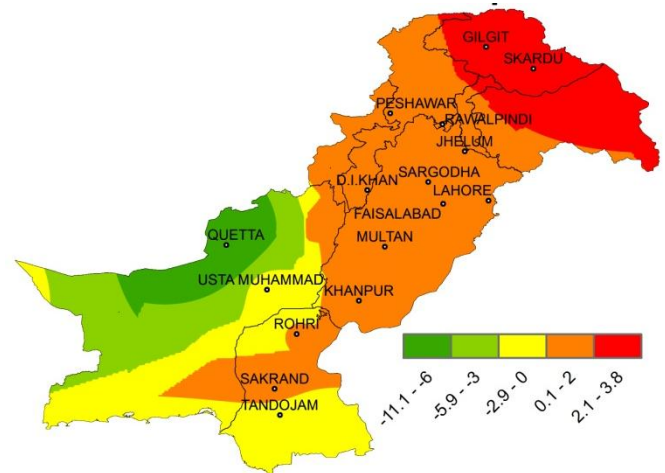
2.5 **RAMC, Usta Muhammad (Eastern Balochistan)**

No rainfall reported during the decade, weather remained cloudy for 02 days, average relative humidity recorded as 61%. Mean night temperature was 26.4°C while day temperature recorded as 37.0°C. The data of bright sunshine hour and wind speed data not available. While mean wind direction *south easterly*.

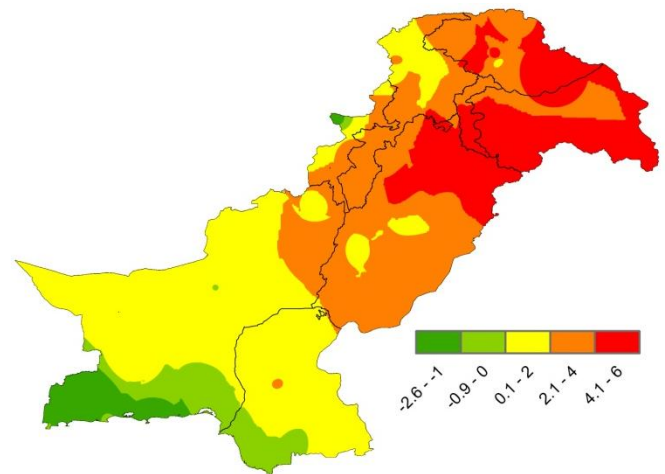
Rice: Good condition, Shotted starting stage.



(a) Actual max-temp



(b) Departure of max-temp from Normal



(c) 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 (21<sup>st</sup> to 31<sup>st</sup> August, 2013):**

2.6 **Jhelum**

Rainfall reported as 1.6 mm during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 69%. Mean night temperature was 25.8°C while day temperature recorded as 35.8°C with 98.3 hours bright sunshine duration. Wind speed recorded 2.8 Km/hr with mean wind direction *south westerly*.

2.7 **Lahore**

Rainfall reported as 15.1 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 72%. Mean night temperature was 26.3°C while day temperature recorded as 35.5°C with 80.5 hours bright sunshine duration. Wind speed recorded as 2.6 Km/hr with mean direction *south westerly*.

2.8 **Sargodha**

Rainfall reported as 0.8 mm during the decade, weather remained cloudy for 11 days during the decade, average relative humidity recorded as 64%. Mean night temperature was 28.6°C while day temperature recorded as 37.8°C with 50.5 hours bright sunshine duration. Wind speed recorded as 2.2 Km/hr with mean wind direction *variable*.

2.9 **Multan**

No rainfall reported during the decade, weather remained cloudy for 07 days, average relative humidity recorded as 57%. Mean night temperature was 28.4°C while day temperature recorded as 38.0°C with 106.0 hours bright sunshine duration. Wind speed recorded as 7.9 Km/hr with mean wind direction *southerly*.

2.10 **Khanpur**

No rainfall reported during the decade, weather remained cloudy for 05 day during the decade, average relative humidity recorded as 61%. Mean night temperature was 26.3°C while day temperature recorded as 38.0°C with 61 hours bright sunshine duration. Wind speed recorded as 5.1 Km/hr with mean wind direction *south westerly*.

2.11 **Rohri**

No rainfall reported during the decade, weather remained cloudy for 02 days, average relative humidity recorded as 55%. Mean night temperature was 27.6°C while day temperature recorded as 38.4°C with 123.0 hours bright sunshine duration. Wind speed recorded as 5.4 Km/hr with mean wind direction *southerly*.

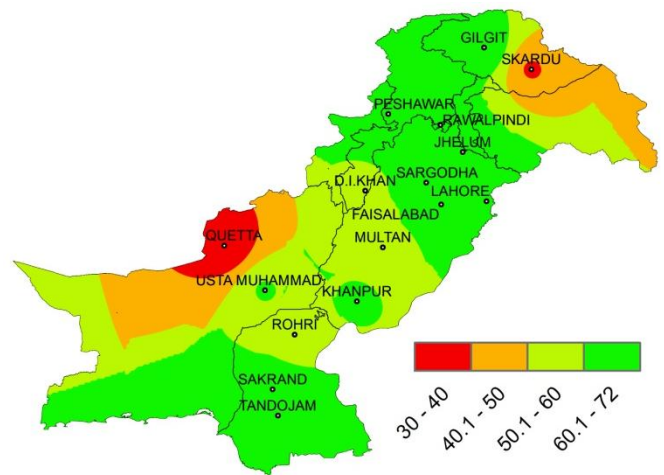


Figure.3: Relative Humidity in percentage

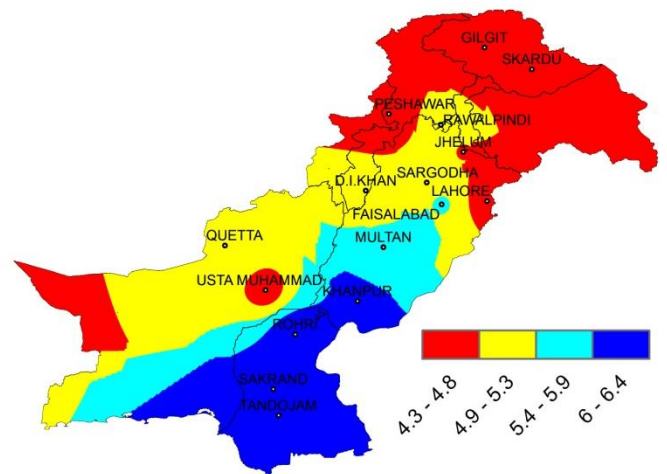


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

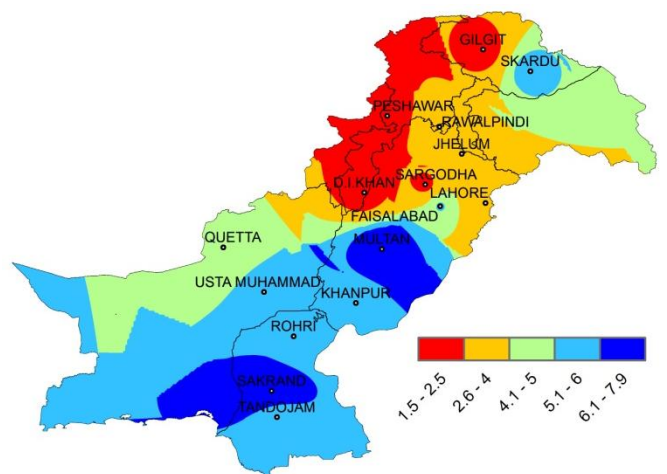


Figure 5: Wind Speed in kilometer per hour

**2.12 Sakrand**

No rainfall reported during the decade, weather remained cloudy for 04 days during the decade, average relative humidity recorded as 64%. Mean night temperature was 23.2°C while day temperature recorded as 36.7°C with 129.9 hours bright sunshine duration. Wind speed recorded as 6.8 Km/hr with mean wind direction *south easterly*.

**2.13 Peshawar**

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 08 days, average relative humidity recorded as 64%. Mean night temperature was 27.7°C while day temperature recorded as 36.2°C with 84.3 hours bright sunshine duration. Wind speed recorded as 1.7 Km/hr with mean wind direction *north easterly*.

**2.14 D.I. Khan**

No rainfall reported during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 58%. Mean night temperature was 26.0°C while day temperature recorded as 38.9°C with 108.7 hours bright sunshine duration. Wind speed recorded as 1.5 Km/hr with mean direction *sourth easterly*.

**2.15 Gilgit**

Rainfall reported as 15.6 mm during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 69 %. Mean night temperature was 19.2°C while day temperature recorded as 36.5 °C with 75.0 hours bright sunshine duration. Wind speed recorded as 1.8 Km/hr with mean wind direction *variable*.

**2.16 Skardu**

No rainfall reported during the decade, weather remained cloudy for 05 days, average relative humidity recorded as 39%. Mean night temperature was 14.7°C while day temperature recorded as 31.5°C with 72.1 hours bright sunshine duration with mean speed 5.6 Km/hr with mean direction *south easterly*.

**3. Ten days Weather advisory for Farmers  
(1<sup>st</sup> to 10<sup>th</sup> September, 2013):****3.1 Temperature Forecast:**

Normal temperatures are expected in most of the agricultural plains of the country during the decade.

**3.2 Rain Forecast:**

- ❖ **Punjab:** Mainly hot and humid weather is expected in most parts of the province, however rain-thundershower is expected at isolated places in upper parts during the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly hot and humid weather is expected in most parts of the province, however rain-thundershower is expected at isolated places in upper parts during the decade.
- ❖ **Sindh:** Mainly humid & windy weather is expected in most part of the province during the decade.
- ❖ **Balochistan:** Mainly hot and humid weather is expected in most parts of the province during the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly dry/partly cloudy weather with isolated rain is expected in Gilgit-Baltistan, while rain-thundershower is expected at isolated places in Kashmir during the decade.

**3.3 Wind Forecast:**

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

**3.4 Advisory for Farmers:**

- ❖ Monsoon rains are expected in upper parts of the country during the decade. Farmers are advised to take in time precautionary measures to protect their crops, livestock and other property.
- ❖ Due to recent rains in upper parts of the country, farmers should be careful about weeds & pest attacks as the present soil & atmospheric conditions are suitable for rapid weeds growth & pest attacks.
- ❖ Due to dry weather in central & southern parts of the country during the decade, farmers of cotton and sugarcane crops are advised to irrigate the crops as per requirement.
- ❖ Farmers of cotton belt are advised to be aware of the adverse affects of stagnant water in the fields. Mechanism for drainage of stagnant water from fields should be evolved on priority basis and necessary requirements in this regard should be taken.