

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate with isolated heavy to very heavy rainfall reported from the most of the agricultural plains of the country during the last decade.
- ❖ Highest maximum temperature recorded as 43.0°C at Dalbandin during the last decade.
- ❖ Highest amount of rainfall recorded as 400.0mm at Sialkot & 330.0mm at Islamabad during the last decade.
- ❖ Lower values of relative humidity reported from Quetta region and higher values reported from Northeastern parts of Punjab & Kashmir during the last decade.
- ❖ Higher values of ETo reported from most parts of Balochistan & upper Sindh and lower values reported from northeastern parts of Punjab 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 parts of the country during the current decade.
- ❖ Mostly dry & humid weather is expected in most parts of the country during the current decade.
- ❖ Light to moderate rain-thundershower is expected at isolated places in upper parts during the current decade.

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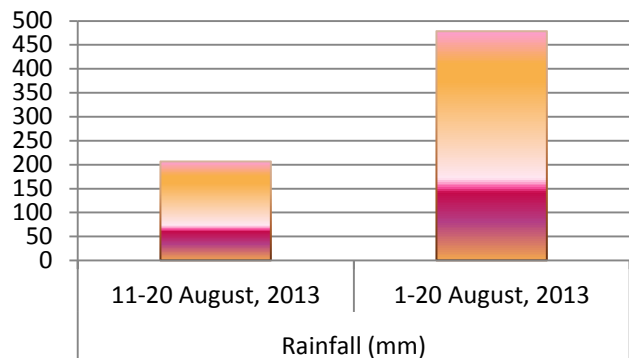
Meteorological conditions during 2nd decade of August, 2013

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	56.0	54.5	0.7	-0.6	30.3	37.1	33.2	33.6	32.4	32.4	***	68.5	4.1	73	4.6
2	SAKRAND ☆	2.0	0.0	-2.0	-1.1	-0.5	30.1	42.5	41.1	43.7	***	37.0	35.2	69.8	5.7	65	4.6
3	ROHRI	0.4	9.0	8.6	0.3	-1.7	32.8	43.3	41.0	37.0	34.0	34.7	35.4	78	4.1	60	5.2
4	USTA MUHAMMAD	1.2	17.0	15.8	-0.7	-3.3	30.7	***	***	***	***	***	***	***	***	65	5.1
5	QUETTA	0.0	19.6	19.6	-0.4	-3.2	25.2	31.9	30.4	33.8	27.4	26.4	28.0	81.4	5.4	31	5.2
6	KHANPUR	1.0	0.1	-0.9	-0.4	-1.5	31.6	37.2	36.8	36.6	36.7	36.8	35.5	71.5	3.7	73	4.8
7	MULTAN	0.8	31.0	30.2	-1.0	-1.6	31.6	***	***	***	***	***	***	33.7	4.5	68.7	3.9
8	LAHORE	4.0	260.0	256.0	-4.4	-4.5	27.1	29.4	29.5	29.3	27.7	***	29.6	15	3.3	90	2.6
9	FAISALABAD	4.1	113.0	108.9	-0.5	-3.3	29.6	34.4	33.7	33.0	32.6	33.0	33.2	58	4.5	77	4.3
10	SARGODHA	4.0	24.6	20.6	-1.0	-4.3	29.5	32.9	32.1	31.3	30.9	31.1	31.1	58.8	2.6	79.3	4
11	JHELMUM	7.3	198.3	191.0	-1.4	-4.5	27.7	30.4	30.0	29.7	29.2	29.9	***	23.2	3.9	84	3.1
12	RAWALPINDI	10.5	206.4	195.9	-1.3	-2.1	26.3	30.0	28.9	28.1	27.9	28.0	28.8	41.5	1.4	82.4	3.3
13	DI KHAN	1.9	0.1	-1.8	-1.5	-1.6	30.3	***	***	***	***	***	***	70.9	2.5	70	4.4
14	PESHAWAR	1.4	56.4	55.0	-1.6	-1.7	29.4	33.6	31.7	30.8	32.1	***	29.9	66.5	2.7	70	4.1
15	SKARDU	0.5	15.9	15.4	-0.4	-5.1	20.3	***	***	***	***	***	***	20.7	2.3	61	4.3
16	GILGIT	0.5	24.7	24.2	1.3	-3.9	23.5	***	***	***	***	***	***	38.5	2.3	68	3.7

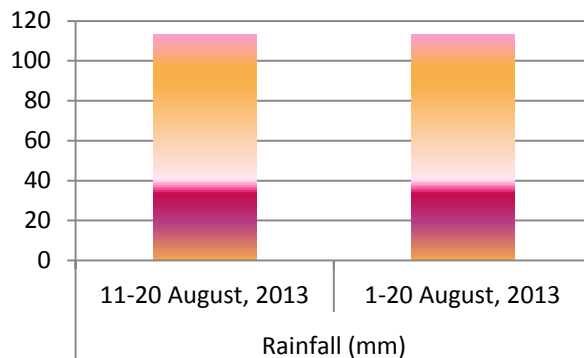
Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula; **Dep divided by Normal multiplied by 100**. Tmin & Tmax stands for minimum and maximum temperatures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

Graphs for Rainfall (mm) during August 2013

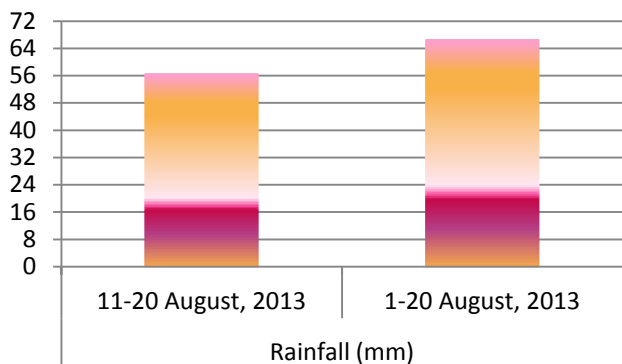
RAMC RAWALPINDI



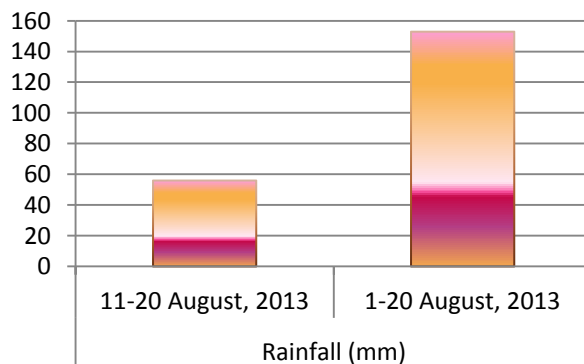
RAMC FAISALABAD



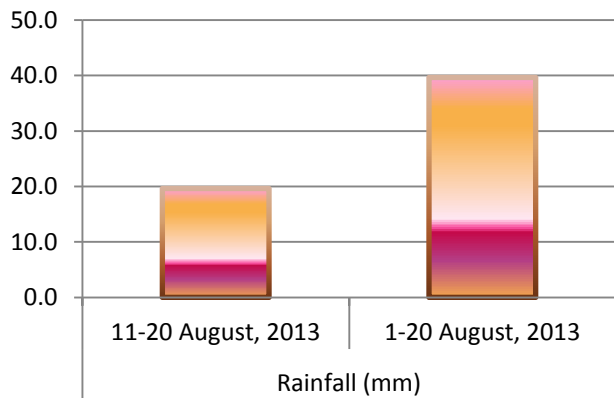
RMC PESHAWAR



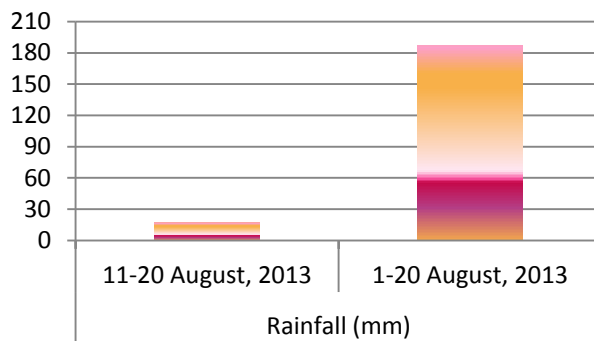
RAMC TANDOJAM



RAMC QUETTA



RAMC USTA MUHAMMAD



Past Weather (11th to 20th August, 2013):

Light to moderate with isolated heavy to very heavy falls reported from most of the agricultural plains of the country during the period.

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 Sialkot, Islamabad & Mangla etc. Decadal maximum & minimum temperature both dropped below normal by 3.1°C & 1.4°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.4 km/hr, 79%, and 3.7 mm/day respectively.

1.2 Sindh

Light to moderate rainfall reported at a few places in the agricultural plains of Sindh; chief amount received at Jaccobabad, Chorr & Moen-jo-daro etc. Decadal maximum dropped below normal by 0.9°C & minimum temperature raised above normal by 0.0°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.6 km/hr, 66%, and 4.8 mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

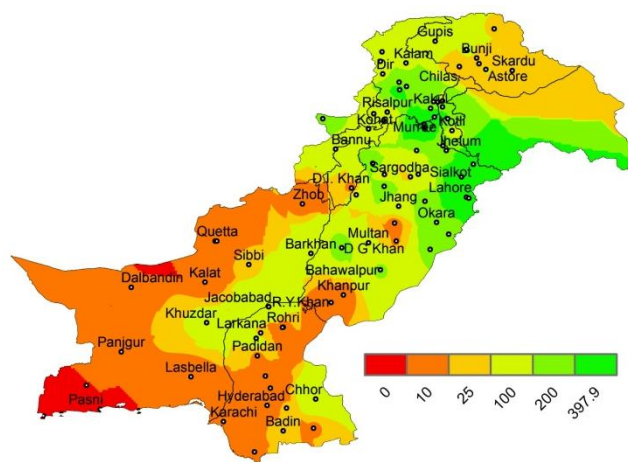
Light to moderate with isolated heavy rainfall reported at a number places in the agricultural plains of KP; chief amount received at Saidu sharif, Kakul & Malam Jabba etc. In KP region; Decadal maximum & minimum temperature both dropped below normal by 1.7°C & 1.6°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.6 km/hr, 70%, and 4.3 mm/day respectively.

1.4 Balochistan

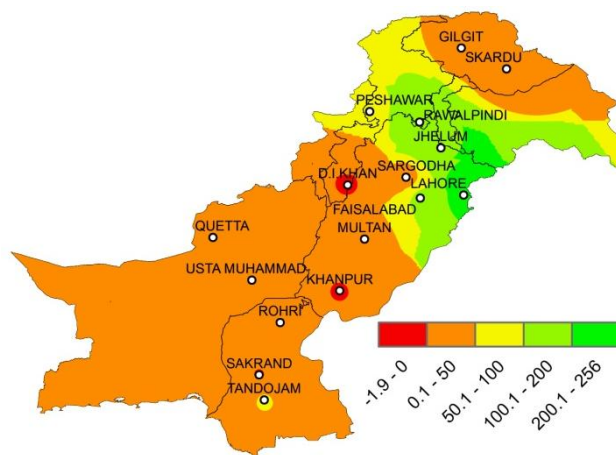
Light to moderate rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Barkhan, Khuzdar & Sibbi etc. Decadal maximum temperature & minimum temperature both dropped below normal by 3.3°C & 0.6°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 5.4 km/hr, 48%, and 5.2 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

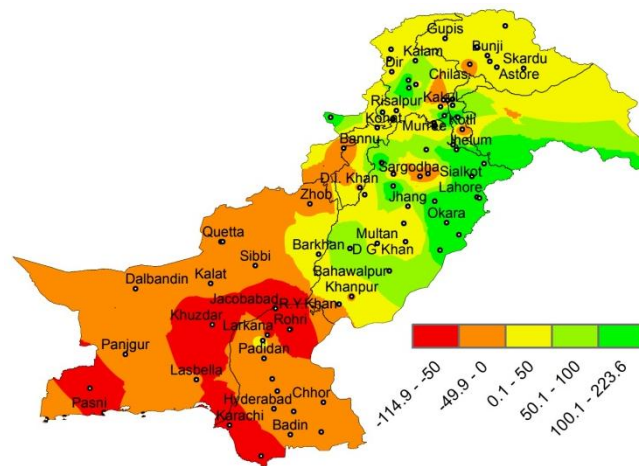
Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Garhi Dupatta, Muzafarabad & Rawalakot, etc. In GB & AJK region; Decadal maximum dropped below normal by 4.5°C & minimum temperature raised above normal by 0.5°C in the province. Whereas mean values of wind speed, relative humidity and ETo were recorded 2.3 km/hr, 65%, and 4.0 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 (11th to 20th August, 2013):

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 206.3 mm during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 82%. Mean night temperature was 22.2°C while day temperature recorded as 30.4°C with 41.5 hours bright sunshine duration. Wind speed recorded as 1.4 km/hr with mean wind direction *easterly*.

Maize Agati 2002: Good condition, Emergence Stage.

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 113.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 77%. Mean night temperature was 25.8°C while day temperature recorded as 33.3°C with 58 hours bright sunshine duration. Wind speed recorded as 4.5 km/hr with mean wind direction *north easterly*.

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

2.3 RAMC, Tandojam (Lower Sindh)

Rainfall reported as 56.0 mm during the decade, weather remained cloudy for 06 days during the decade, average relative humidity recorded as 73%. Mean night temperature was 26.1°C while day temperature recorded as 34.4°C with 68.5 hours bright sunshine duration. Wind speed recorded as 4.1 km/hr with mean wind direction *south westerly*.

Cotton: BT 3701 Good condition, Boll opening stage.

2.4 RAMC, Quetta (Northern Balochistan)

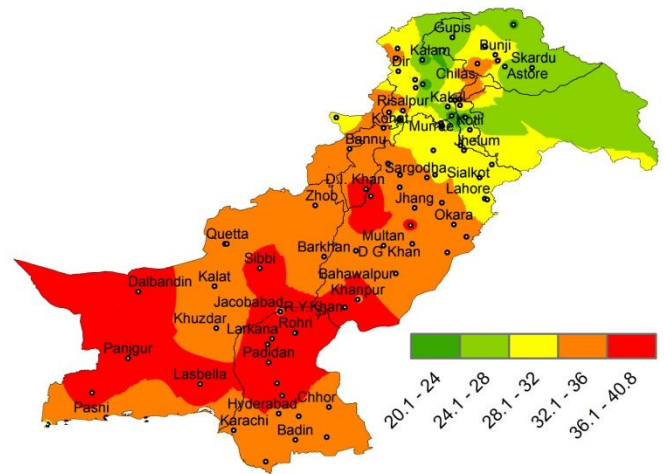
Rainfall reported as 19.6 mm during the decade, weather remained cloudy for 08 days, average relative humidity recorded as 31%. Mean night temperature was 18.7°C while day temperature recorded as 31.6°C with 81.4 hours bright sunshine duration and wind speed recorded as 5.4 km/hr with mean wind direction *southerly*.

Note: Currently, no crop is grown at the station.

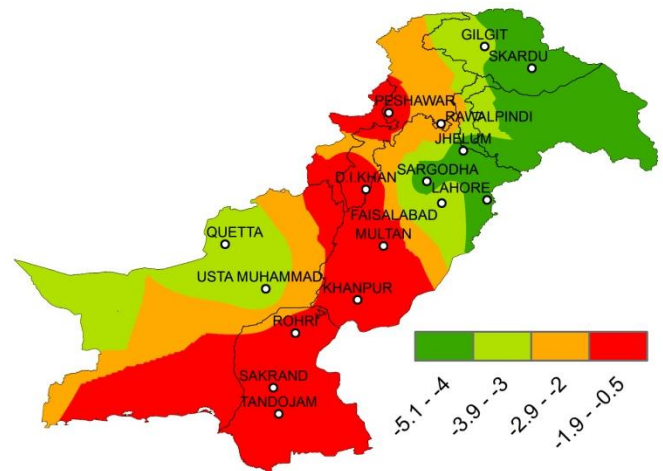
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

Rainfall reported as 17.0 mm reported during the decade, weather remained cloudy for 07 days, average relative humidity recorded as 65%. Mean night temperature was 25.4°C while day temperature recorded as 35.9°C. The data of bright sunshine hour and wind speed data not available. While mean wind direction *southerly*.

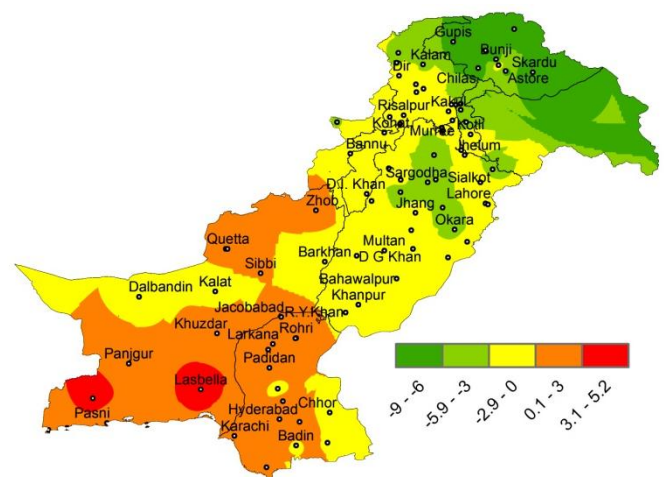
Rice: Good condition, Shotting started.



(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 (11th to 20th August, 2013):**

2.6 **Jhelum**

Rainfall reported as 198.0 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 84%. Mean night temperature was 24.7°C while day temperature recorded as 30.7°C with 23.2 hours bright sunshine duration. Wind speed recorded 3.9 Km/hr with mean wind direction *south easterly*.

2.7 **Lahore**

Rainfall reported as 260.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 90%. Mean night temperature was 23.6°C while day temperature recorded as 30.5°C with 15.0 hours bright sunshine duration. Wind speed recorded as 3.3 Km/hr with mean direction *northly*.

2.8 **Sargodha**

Rainfall reported as 24.6 mm during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 79%. Mean night temperature was 26.1°C while day temperature recorded as 32.8°C with 58.8 hours bright sunshine duration. Wind speed recorded as 5.1 Km/hr with mean wind direction *north easterly*.

2.9 **Multan**

Rainfall reported as 31.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 6p %. Mean night temperature was 27.4°C while day temperature recorded as 35.8°C with 33.7 hours bright sunshine duration. Wind speed recorded as 4.5 Km/hr with mean wind direction *northly*.

2.10 **Khanpur**

Rainfall reported as Trace (not measurable) during the decade, weather remained cloudy for 07 day during the decade, average relative humidity recorded as 73%. Mean night temperature was 27.3°C while day temperature recorded as 35.9°C with 71.5 hours bright sunshine duration. Wind speed recorded as 3.7 Km/hr with mean wind direction *westerly*.

2.11 **Rohri**

Rainfall reported as 9.0 mm during the decade, weather remained cloudy for 07 days, average relative humidity recorded as 60%. Mean night temperature was 28.5°C while day temperature recorded as 37.1°C with 78.0 hours bright sunshine duration. Wind speed recorded as 4.1 Km/hr with mean wind direction *southerly*.

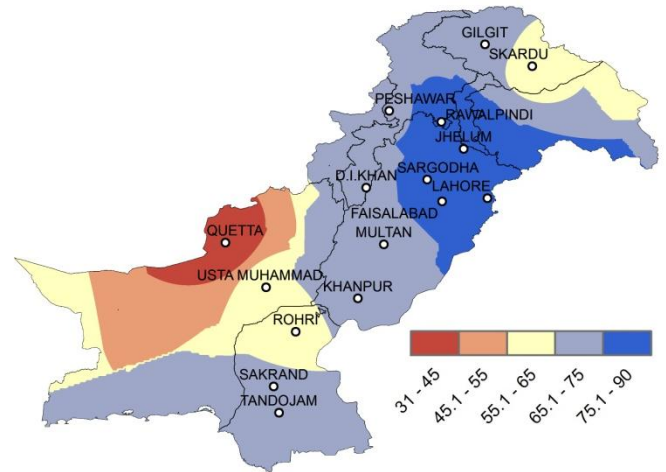


Figure.3: Relative Humidity in percentage

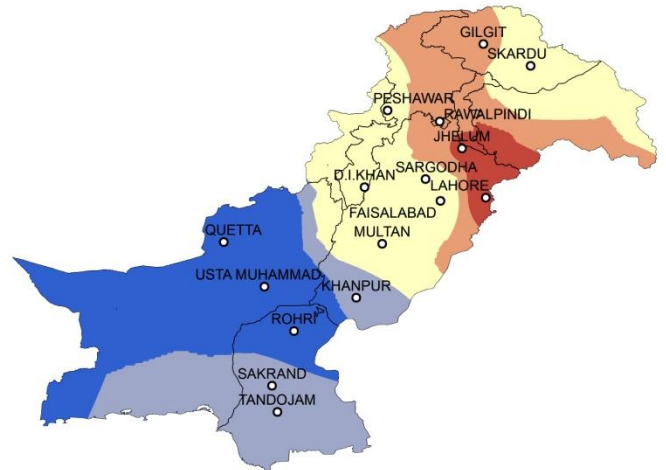


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

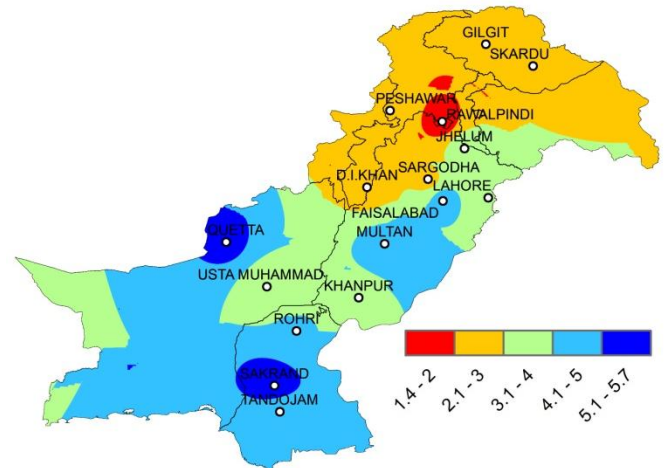


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

No rainfall reported during the decade, weather remained cloudy for 08 days during the decade, average relative humidity recorded as 65%. Mean night temperature was 23.9°C while day temperature recorded as 36.3°C with 69.8 hours bright sunshine duration. Wind speed recorded as 5.7 Km/hr with mean wind direction *southerly*.

2.13 Peshawar

Rainfall reported 56.4 mm during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 70%. Mean night temperature was 24.7°C while day temperature recorded as 34.0°C with 66.5 hours bright sunshine duration. Wind speed recorded as 2.7 Km/hr with mean wind direction *north westerly*.

2.14 D.I. Khan

Rainfall reported as Trace(not measureable) mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 70%. Mean night temperature was 24.5°C while day temperature recorded as 36.0°C with 70.9 hours bright sunshine duration. Wind speed recorded as 2.5 Km/hr with mean direction *north easterly*.

2.15 Gilgit

Rainfall reported as 24.7 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 68%. Mean night temperature was 17.6°C while day temperature recorded as 29.4 °C with 38.5 hours bright sunshine duration. Wind speed recorded as 2.3 Km/hr with mean wind direction *variable*.

2.16 Skardu

Rainfall reported 15.9 mm during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 61%. Mean night temperature was 15.1°C while day temperature recorded as 25.5°C with 20.7 hours bright sunshine duration with mean speed 2.3 Km/hr with mean direction *variable*.

**3. Ten days Weather advisory for Farmers
(21st to 31st August, 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-thundershowers with occasional gaps would continue at isolated places in Islamabad & northeast Punjab (Rawalpindi, Gujranwala and Lahore divisions) during the decade. Rain-thunderstorm may also occur at few places of Southeastern & central parts of Punjab with occasional gaps during the 1st half of the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly hot and humid weather is expected in most parts of the province, however rain-thunderstorm is expected at isolated places in upper KP (Malakand, Hazara & D I Khan divisions) with occasional gaps during the decade.
- ❖ **Sindh:** Mainly humid & windy weather is expected in most part of the province during the decade, however cloudy weather conditions with chances of isolated rain-thundershower is expected in Southeastern & upper Sindh during the decade.
- ❖ **Balochistan:** Mainly hot and humid weather is expected in most parts of the province during the decade, however isolated rain-thundershowers is expected in Kalat division on 21st / 22nd August.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly dry/partly cloudy weather with isolated rain is expected in Gilgit-Baltistan, while scattered rain-thundershowers with isolated heavy falls associated with strong gusty winds are expected with occasional gaps 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 different 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 different 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.
- ❖ 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.
- ❖ Due to dry weather in lower half of the country during the decade, farmers of cotton and sugarcane crops of lower areas are advised to irrigate the crops as per requirement.