

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 46.0°C at Dalbandin during the last decade.
- ❖ Highest amount of rainfall recorded as 323.0mm at Islamabad during the last decade.
- ❖ Lower values of relative humidity reported from Skardu region and higher values reported from Eastern Punjab, KP & Sindh during the last decade.
- ❖ Higher values of ETo reported from the southern agricultural plains of Punjab, upper Sindh & most parts of the Balochistan 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.
- ❖ Light to moderate rainfall with isolated heavy spells is expected during the decade with occasional gaps in Punjab, KP, lower/upper Sindh and northeast Balochistan.
- ❖ Heavy rains are expected in Islamabad, Punjab, KP, NE Balochistan and Kashmir during 1st half of the decade, they may generate Urban & Flash Flooding.

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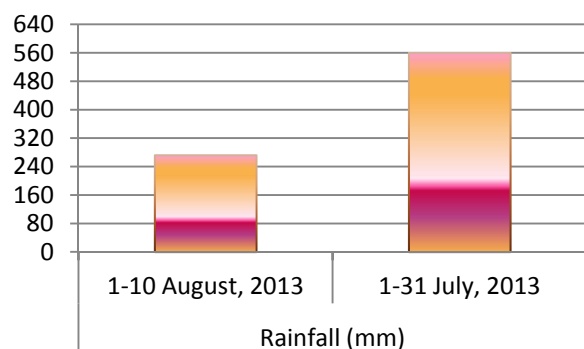
Meteorological conditions during 1st decade of August, 2013

Sr. No.	Station	Precipitation (mm)			Air Temperature (°C)			Soil Temperatures (°C)						Sunshine Duration (hours)	Wind Speed (km/hr)	R.H (%)	ET _o (mm/day)
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	TANDOJAM	2.5	97.0	94.5	0.0	-2.0	29.7	35.8	31.9	33.2	32.3	32.4	***	56.6	3.3	74	1.8
2	SAKRAND ☆	3.9	10.0	6.1	-6.2	0.3	29.9	42.6	40.7	44.2	***	37.1	35.6	77.8	6.8	67	2.6
3	ROHRI	2.8	60.0	57.2	0.1	-0.9	32.4	44.2	41.6	36.7	35.4	34.3	35.4	79.4	3.8	64	2.7
4	USTA MUHAMMAD	0.0	170.0	170.0	1.3	0.3	32.9	39.8	39.9	38.9	39.1	35.4	33.5	***	3.7	56	5.4
5	QUETTA	0.0	20.0	20.0	0.3	-2.9	26.4	34.2	31.8	29.7	28.9	28.3	29.6	65.6	5.5	58	2.6
6	KHANPUR	10.7	1.0	-9.7	0.6	0.4	32.5	37.8	37.5	37.0	37.0	37.1	36.6	88.5	5.4	68	3.1
7	MULTAN	3.8	4.8	1.0	0.2	-0.4	32.9	***	***	***	***	***	***	78.0	7.1	64	3.3
8	LAHORE	5.0	77.2	72.2	-2.9	-1.7	28.7	32.1	32.0	31.3	31.0	***	30.2	35.6	3.2	79	1.2
9	FAISALABAD	5.3	0.1	-5.2	0.9	0.5	32.3	41.7	39.5	39.6	36.2	35.7	34.2	57.0	6.5	62	2.8
10	SARGODHA	1.6	49.6	48.0	1.0	-1.0	32.0	35.2	34.1	32.7	32.4	32.5	31.8	59.0	5.1	71	1.9
11	JHELUM	9.0	26.0	17.0	0.3	-1.4	29.8	33.1	32.3	31.6	31.1	31.4	***	42.1	3.9	79	1.4
12	RAWALPINDI	13.9	272.2	258.3	0.5	-0.1	28.3	32.4	31.3	30.5	30.1	30.0	29.8	43.2	2.4	78	1.3
13	DI KHAN	4.6	5.7	1.1	0.0	0.9	31.9	***	***	***	***	***	***	86.1	3.0	68	2.6
14	PESHAWAR	3.3	10.0	6.7	0.2	0.0	31.0	34.6	33.5	32.5	31.8	***	29.8	43.9	2.5	73	1.4
15	SKARDU	0.4	10.9	10.5	-0.1	2.0	25.6	***	***	***	***	***	***	59.6	3.3	37	2.5
16	GILGIT	0.4	8.1	7.7	3.1	2.6	28.8	***	***	***	***	***	***	64.3	2.0	52	2.1

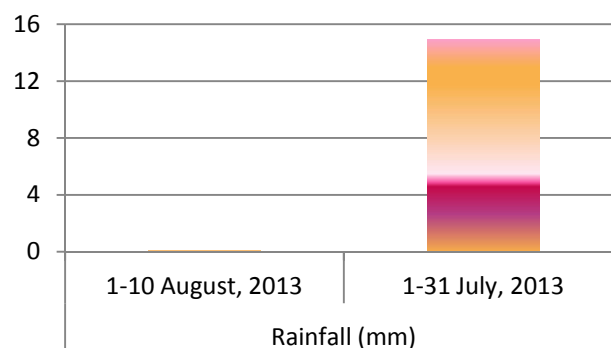
Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula; Dep divided by Normal multiplied by 100. Tmin & Tmax stands for minimum and maximum temperatures respectively. ET_o 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 July/August 2013

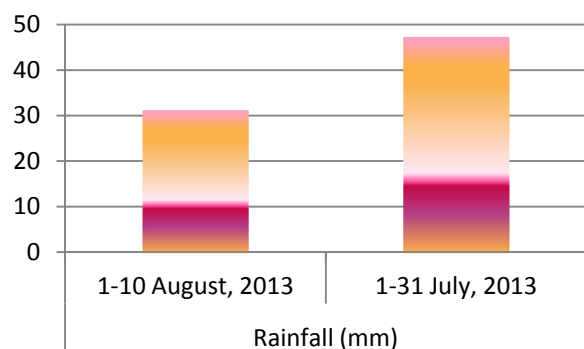
RAMC RAWALPINDI



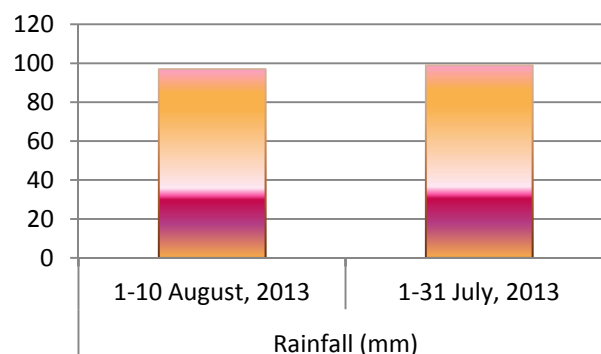
RAMC FAISALABAD



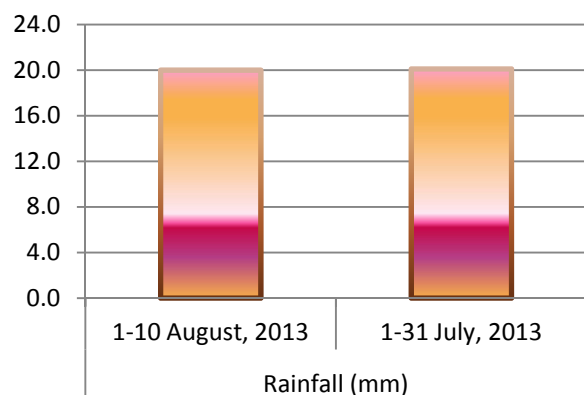
RMC PESHAWAR



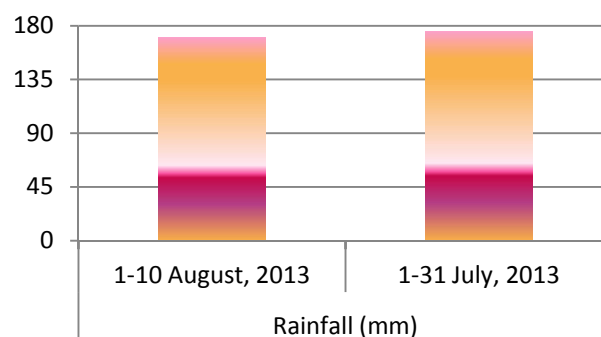
RAMC TANDOJAM



RAMC QUETTA



RAMC USTA MUHAMMAD



Past Weather (1st to 10th 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 Islamabad, Sialkot, Gujrat etc. Decadal maximum dropped below normal by 0.5 & minimum temperature raised above normal by 0.1°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.8 km/hr, 72%, and 2.1 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 Thatta, Larkana, Rohri etc. Decadal maximum & minimum temperature both dropped below normal by 0.9°C & 2.0°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.6 km/hr, 68%, and 2.4 mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

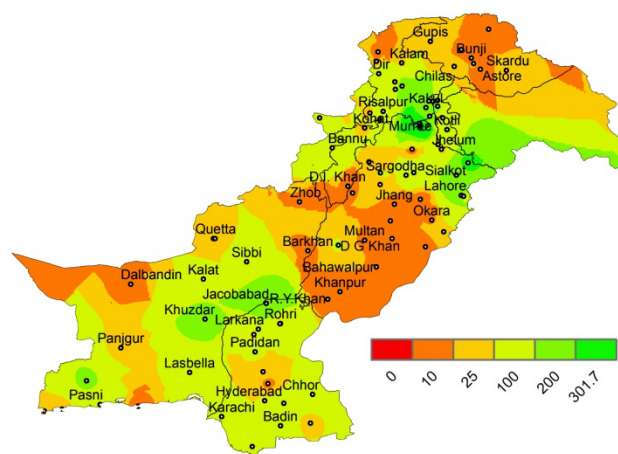
Light to moderate with isolated heavy rainfall reported at a number places in the agricultural plains of KP; chief amount received at Kakul, Balakot, Malam Jabba etc. In KP region; Decadal maximum & minimum temperature both raised above by 0.4°C & 0.1°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.8 km/hr, 71%, and 2.0 mm/day respectively.

1.4 Balochistan

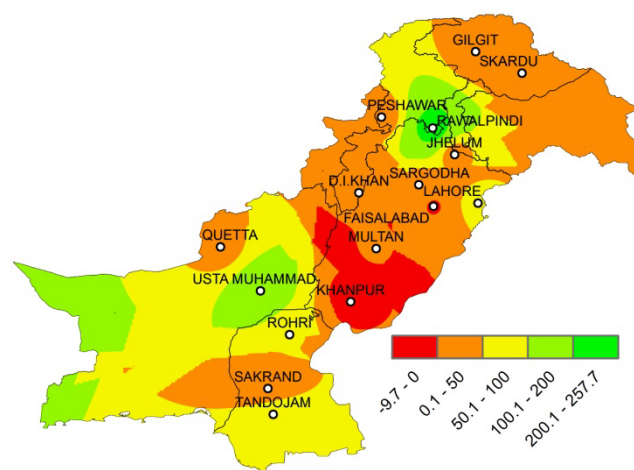
Light to moderate rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Khuzdar, Sibbi & Passni etc. Decadal maximum temperature dropped below normal by 1.3°C and minimum temperature raised above normal by 0.8°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 4.6 km/hr, 57%, and 4.0 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

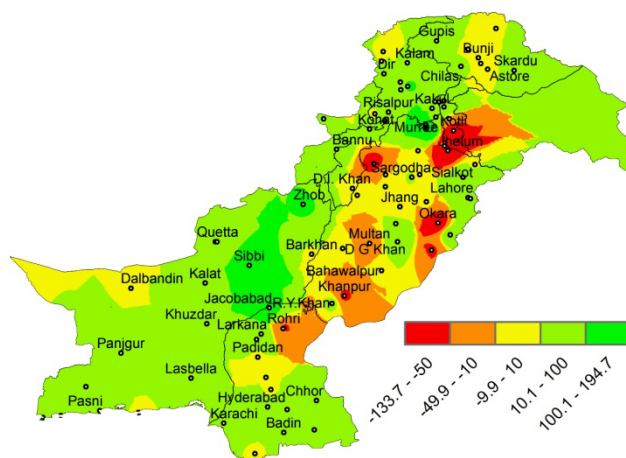
Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Muzafarabad, Garhi Dupatta, Kotli, etc. In GB & AJK region; Decadal maximum & minimum temperature both raised above normal by 2.3°C & 1.5°C in the province. Whereas mean values of wind speed, relative humidity and ETo were recorded 2.7 km/hr, 45%, and 2.3 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 (1st to 10th August, 2013):**

RAMC, Rawalpindi (Potohar region)

Rainfall reported as 272.2 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 78%. Mean night temperature was 24.2°C while day temperature recorded as 32.4°C with 43.2 hours bright sunshine duration. Wind speed recorded as 2.4 km/hr with mean wind direction *westerly*.

Maize Agati 2002: Good condition, Emergence Stage.

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as Trace(not measureable) during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 62%. Mean night temperature was 27.8°C while day temperature recorded as 36.8°C with 57 hours bright sunshine duration. Wind speed recorded as 6.5 km/hr with mean wind direction *south easterly*.

Sugarcane: Very Good condition, Tillering completed.

Cotton: Good condition, Boll opening stage.

2.3 RAMC, Tandojam (Lower Sindh)

Rainfall reported as 97.0mm during the decade, weather remained cloudy for 09 days during the decade, average relative humidity recorded as 74%. Mean night temperature was 25.9°C while day temperature recorded as 33.4°C with 56.6 hours bright sunshine duration. Wind speed recorded as 3.3 km/hr with mean wind direction *south westerly*.

Cotton: BT 3701 Good condition, Boll opening.

2.4 RAMC, Quetta (Northern Balochistan)

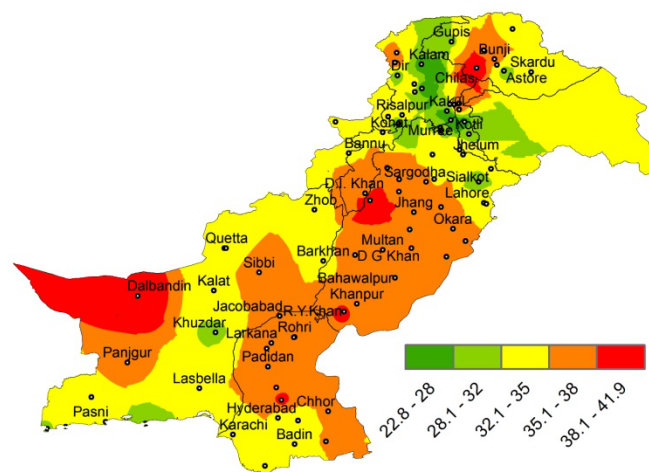
Rainfall reported as 20.0mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 58%. Mean night temperature was 20.8°C while day temperature recorded as 31.9°C with 65.6 hours bright sunshine duration and wind speed recorded as 5.5 km/hr with mean wind direction *southerly*.

Note: No crop is grown at the station.

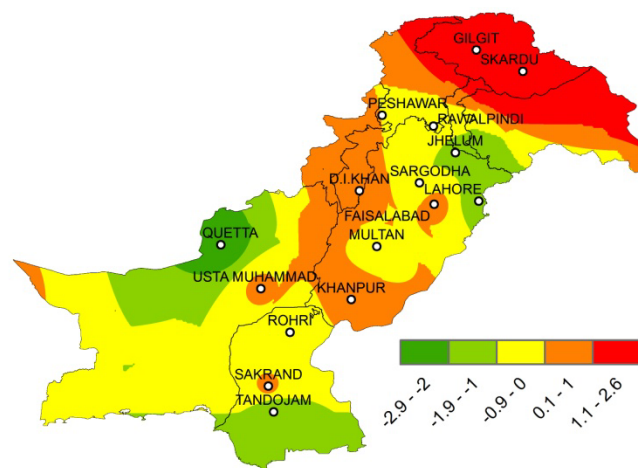
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

Rainfall reported as 170.0 mm reported during the decade, weather remained cloudy for 08 days, average relative humidity recorded as 56%. Mean night temperature was 26.8°C while day temperature recorded as 39.0°C. The data of bright sunshine hour not available. Wind speed recorded as 3.7 km/h with mean wind direction *southerly*.

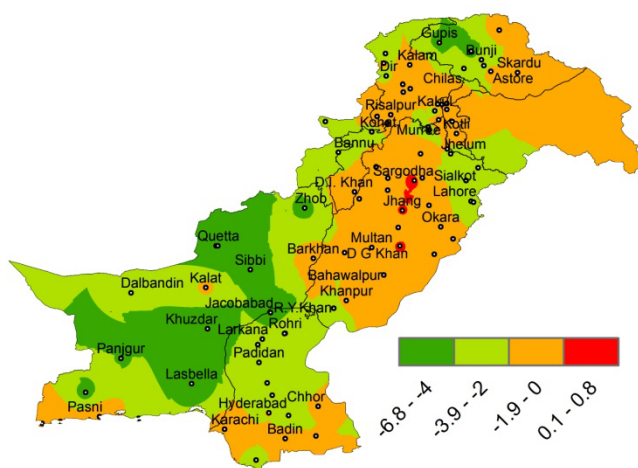
Rice: Good condition, 3rd leaf stage.



(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 (1st to 10th August, 2013):

2.6 Jhelum

Rainfall reported as 26.0 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 79%. Mean night temperature was 26.2°C while day temperature recorded as 33.4°C with 42.1 hours bright sunshine duration. Wind speed recorded 3.9 Km/hr with mean wind direction *south easterly*.

2.7 Lahore

Rainfall reported as 77.2 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 79%. Mean night temperature was 24.5°C while day temperature recorded as 32.9°C with 35.6 hours bright sunshine duration. Wind speed recorded as 3.2 Km/hr with mean direction *south easterly*.

2.8 Sargodha

Rainfall reported as 49.6 mm during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 71%. Mean night temperature was 28.3°C while day temperature recorded as 35.7°C with 59.0 hours bright sunshine duration. Wind speed recorded as 5.1 Km/hr with mean wind direction *variable*.

2.9 Multan

Rainfall reported as 4.8 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 64%. Mean night temperature was 28.6°C while day temperature recorded as 37.2°C with 78.0 hours bright sunshine duration. Wind speed recorded as 7.1 Km/hr with mean wind direction *southerly*.

2.10 Khanpur

Rainfall reported as 1.0 mm during the decade, weather remained cloudy for 09 day during the decade, average relative humidity recorded as 68%. Mean night temperature was 28.1°C while day temperature recorded as 36.8°C with 88.5 hours bright sunshine duration. Wind speed recorded as 5.4 Km/hr with mean wind direction *south westerly*.

2.11 Rohri

Rainfall reported as 60.0mm during the decade, weather remained cloudy for 08 days, average relative humidity recorded as 64%. Mean night temperature was 28.2°C while day temperature recorded as 36.6°C with 79.4 hours bright sunshine duration. Wind speed recorded as 3.8 Km/hr with mean wind direction *south westerly*.

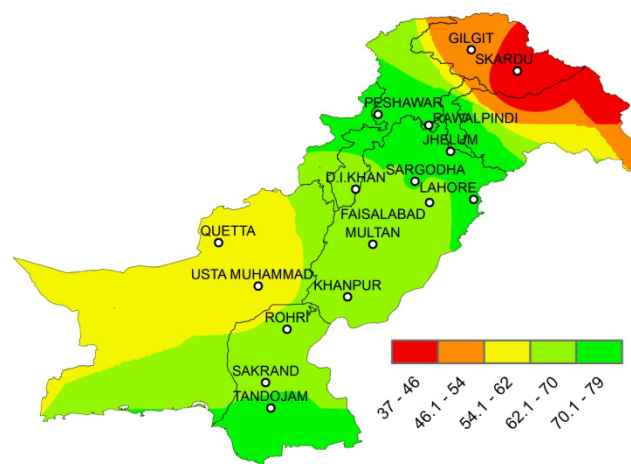


Figure.3: Relative Humidity in percentage

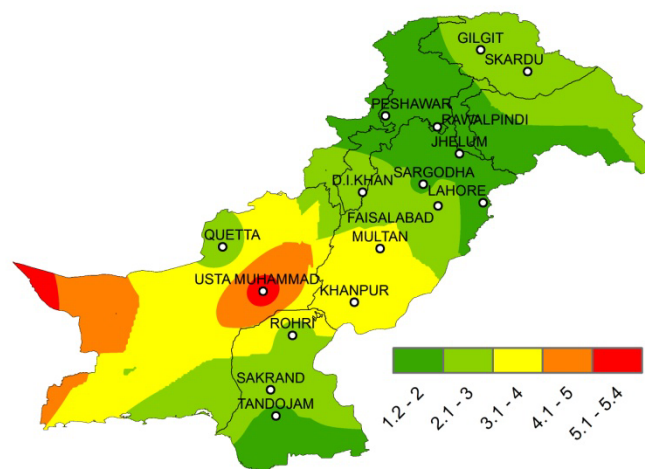


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

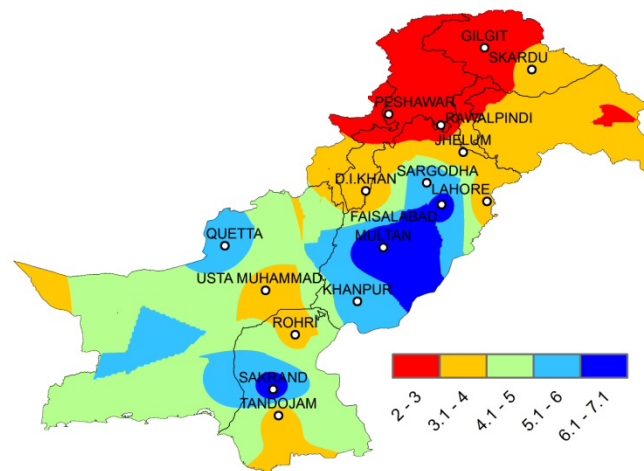


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

Rainfall reported as 10.0mm during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 67%. Mean night temperature was 23.6°C while day temperature recorded as 36.1°C with 77.8 hours bright sunshine duration. Wind speed recorded as 6.8 Km/hr with mean wind direction *south westerly*.

2.13 Peshawar

Rainfall reported 10.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 73%. Mean night temperature was 26.7°C while day temperature recorded as 35.2°C with 43.9 hours bright sunshine duration. Wind speed recorded as 2.5 Km/hr with mean wind direction *north north westerly*.

2.14 D.I. Khan

Rainfall reported 5.7 mm during the decade, weather remained cloudy for 08 days, average relative humidity recorded as 68%. Mean night temperature was 26.2°C while day temperature recorded as 37.6°C with 86.1 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *easterly*.

2.15 Gilgit

Rainfall reported as 8.1 mm during the decade, weather remained cloudy for 09 days and average relative humidity recorded as 52.2 %. Mean night temperature was 20.2°C while day temperature recorded as 37.4 °C with 64.3 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with mean wind direction *variable*.

2.16 Skardu

Rainfall reported 10.9 mm during the decade, weather remained cloudy for 05 days, average relative humidity recorded as 37%. Mean night temperature was 16.6°C while day temperature recorded as 34.5°C with 59.5 hours bright sunshine duration with mean speed 3.3 Km/hr with mean direction *south easterly*.

3. Ten days Weather advisory for Farmers
(11th to 21st 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:** Scattered Rain dust-thundershowers with isolated heavy to very heavy falls associated with gusty winds is expected in upper parts while isolated to scattered rain dust-thundershowers in central/southern parts with occasional gaps during the decade.
- ❖ **Khyber Pakhtunkhwa:** Rain dust-thundershowers with isolated heavy to very heavy falls associated with gusty winds is expected in different parts of the province with occasional gaps during the decade.
- ❖ **Sindh:** Isolated rain dust-thundershowers with gusty winds is expected in Lower Sindh during the decade .
- ❖ **Balochistan:** Isolated to scattered rain dust-thundershowers with heavy falls is expected with occasional gaps in Northeastern parts during the decade.
- ❖ **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.