

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate with isolated heavy rainfall reported from the most of the agricultural plains of the country during the last decade.
- ❖ Highest maximum temperature recorded as 47.0°C at Dalbandin during the last decade.
- ❖ Highest amount of rainfall recorded as 209.0mm at Islamabad Saidpur during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & 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 and upper Sindh during the last decade.
- ❖ Normal temperatures are expected in most of the agricultural plains of the country during the decade.
- ❖ Normal to Gusty wind pattern may prevail in most parts of the country during the decade.
- ❖ Chances of Isolated to Scattered rain-thundershower in upper & central parts of the country during the decade.
- ❖ Average ($\pm 10\%$) rainfall is expected during monsoon season 2013.
- ❖ Intensity and frequency of monsoon will be less during the current month (July).
- ❖ Intensity and frequency of monsoon will increase during next month.

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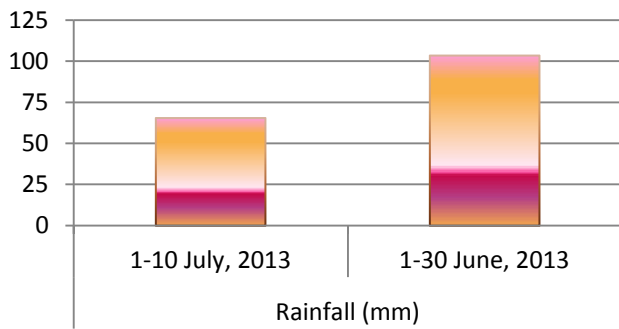
Meteorological conditions during 1st decade of July, 2013

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	2.0	1.0	-1.0	0.5	0.0	32.7	38.8	31.7	36.2	34.5	34.2	31.8	53.0	6.7	59	5.2
2	SAKRAND ☆	0.4	0.0	-0.4	-1.3	-0.2	33.3	46.1	45.0	47.8	37.6	38.4	35.6	103.7	5.9	60	6.1
3	ROHRI	0.0	0.0	0.0	0.6	-0.1	36.6	50.5	45.2	39.9	38.2	36.4	35.3	103.1	4.7	47	6.8
4	USTA MUHAMMAD	0.3	0.0	-0.3	1.7	-0.7	36.4	42.0	39.7	38.1	37.4	30.7	29.1	***	4.8	49	6.1
5	QUETTA	0.3	TR	-0.3	0.0	-1.2	28.3	39.0	35.4	31.3	30.0	28.9	28.9	90.8	7.0	25	6.4
6	KHANPUR	0.4	0.0	-0.4	0.2	-0.3	35.2	40.6	39.9	39.5	39.3	39.2	36.3	40.6	5.9	58	6.7
7	MULTAN	1.5	0.0	-1.5	1.3	0.1	35.4	***	***	***	***	***	***	***	8.0	49	6.9
8	LAHORE	4.4	78.5	74.1	-2.5	2.3	30.4	35.1	35.0	33.1	31.9	***	30.2	35.1	4.8	69	4.6
9	FAISALABAD	2.9	1.4	-1.5	1.0	0.0	32.9	41.7	39.8	37.4	36.0	35.0	32.6	41.7	5.8	59	5.3
10	SARGODHA	3.0	32.0	29.0	0.2	-0.6	33.0	37.5	36.0	34.5	34.0	33.9	31.9	37.5	4.6	62	4.9
11	JHELUM	4.1	47.9	43.8	-0.9	0.0	31.5	37.9	36.3	34.8	33.8	33.9	***	37.9	4.1	60	5.2
12	RAWALPINDI	7.9	132.8	124.9	0.5	-0.2	30.2	37.5	34.4	32.2	30.9	30.9	29.7	37.5	3.4	57	5.3
13	D I KHAN	2.7	14.2	11.5	-0.7	-0.9	32.0	***	***	***	***	***	***	79.9	2.1	59	5.1
14	PESHAWAR	1.4	0.1	-1.3	-1.4	0.8	32.4	39.7	35.1	34.0	33.1	***	28.9	79.0	3.6	53	5.5
15	SKARDU	0.4	0.0	-0.4	0.9	2.3	24.2	***	***	***	***	***	***	74.3	4.3	33	5.0
16	GILGIT	0.1	0.3	0.2	2.0	0.9	27.8	***	***	***	***	***	***	72.8	2.9	39	5.0

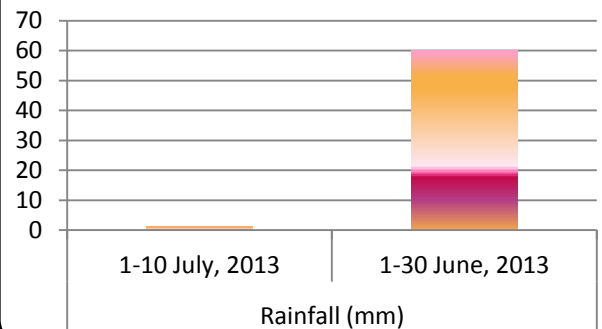
Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula: Dep divided by Normal multiplied by 100. Tmin & Tmax stands for minimum and maximum temperatures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

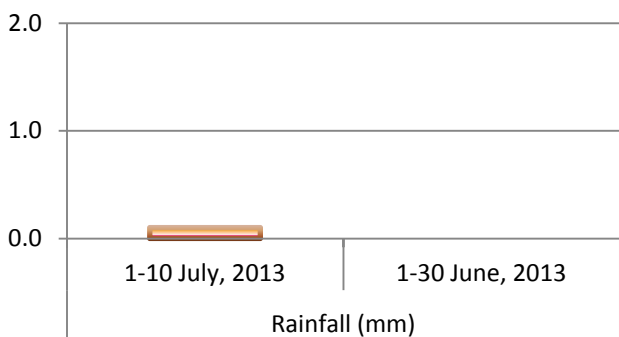
RAMC RAWALPINDI



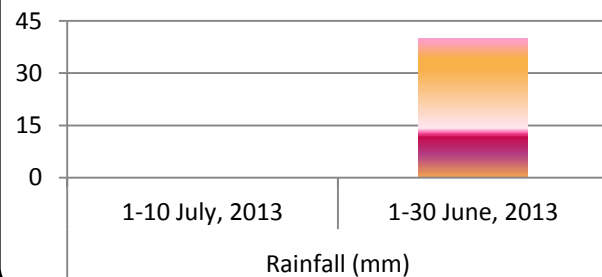
RAMC FAISALABAD



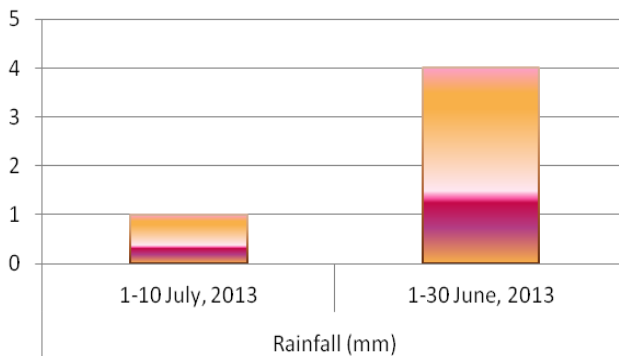
RAMC QUETTA



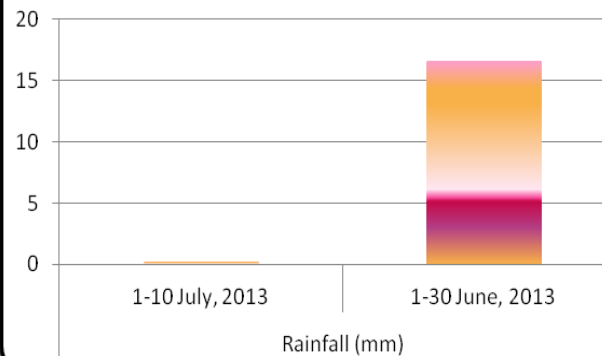
RAMC USTA MUHAMMAD



RAMC TANDOJAM



RMC PESHAWAR



Past Weather (1st to 10th July, 2013):

Light to moderate with isolated 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, Mandibahuddin, Chakwal etc. Decadal maximum & minimum temperature both raised above normal by 0.2°C & 0.0°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 5.2 km/hr, 59%, and 5.6 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 Mirpur Khas, Dadu, Mithi etc. Decadal maximum & minimum temperature both dropped below normal by 0.1 & 0.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 5.8 km/hr, 55%, and 6.0 mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

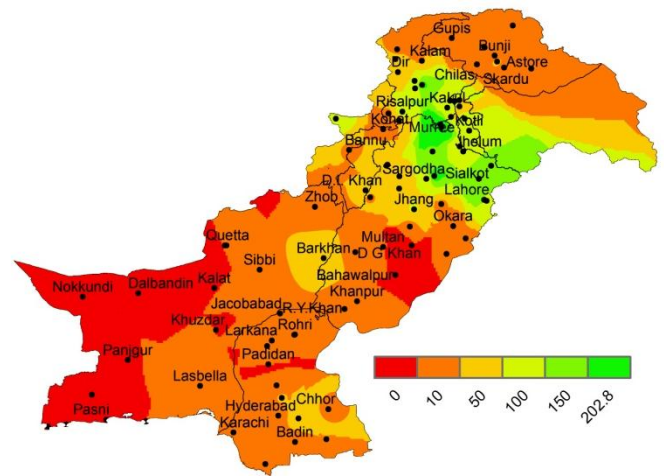
Light to moderate with isolated heavy rainfall reported at a number places in the agricultural plains of KP; chief amount received at Malamjabba, Parachinar, Risalpur etc. In KP region; Decadal maximum and minimum temperature dropped below normal by 0.1 & 1.1°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.9 km/hr, 56%, and 5.3 mm/day respectively.

1.4 Balochistan

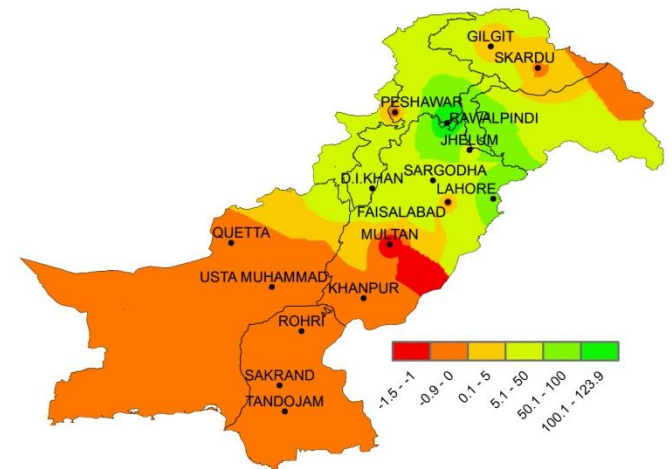
Light to moderate rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Barkhan, Lasbela, Sibbi etc. Decadal maximum temperature dropped below normal by 0.9°C and minimum temperature raised above normal by 0.9°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 5.9 km/hr, 37%, and 5.0 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

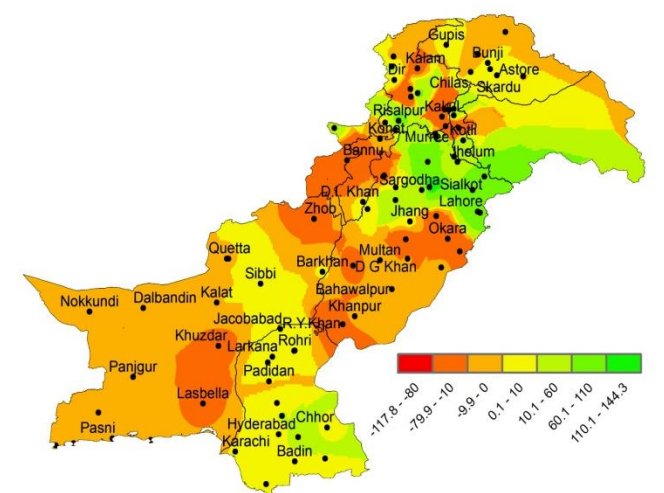
Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Muzzafrabad, Kotli, Rawalakot etc. In GB & AJK region; Decadal maximum & minimum temperature both raised above normal by 1.6°C & 1.5°C in the province. Whereas mean values of wind speed, relative humidity and ETo were recorded 4.4 km/hr, 34%, and 5.1 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 July, 2013)**

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 132.8 mm during the decade, weather remained cloudy for 07 days, average relative humidity recorded as 57%. Mean night temperature was 24.1°C while day temperature recorded as 36.2°C with 87.0 hours bright sunshine duration. Wind speed recorded as 3.4 km/hr with mean direction *easterly*.

Note. No crop is grown at the station

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 1.4 mm during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 59%. Mean night temperature was 28.0°C while day temperature recorded as 37.8°C with 65.8 hours bright sunshine duration. Wind speed recorded as 5.8 km/hr with mean direction *easterly*.

Sugarcane: Very Good condition, Tillering completed.

Cotton: Very Good condition, Flowering completed.

2.3 RAMC, Tandojam (Lower Sindh)

Rainfall reported as 1.0 mm during the decade, weather remained cloudy for 09 days during the decade, average relative humidity recorded as 59%. Mean night temperature was 27.5°C while day temperature recorded as 37.8°C with 53.0 hours bright sunshine duration. Wind speed recorded as 6.7 km/hr with mean direction *south westerly*.

Cotton:BT 3701 Good condition, Flowering stage.

2.4 RAMC, Quetta (Northern Balochistan)

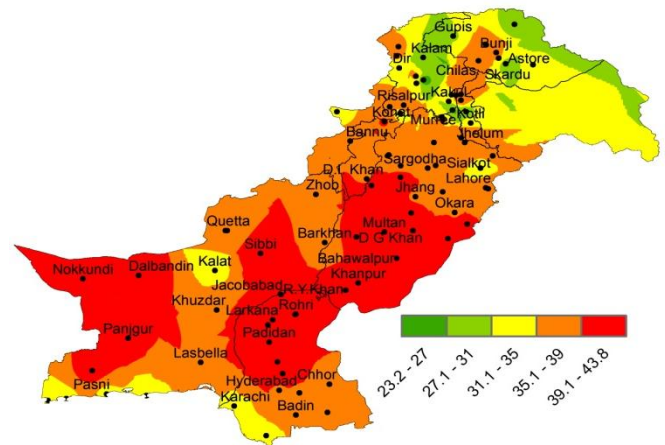
Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 25%. Mean night temperature was 21.5°C while day temperature recorded as 35.1°C with 90.8 hours bright sunshine duration and wind speed recorded as 7.0 km/hr with mean direction *westerly*.

Note. No crop is grown at the station.

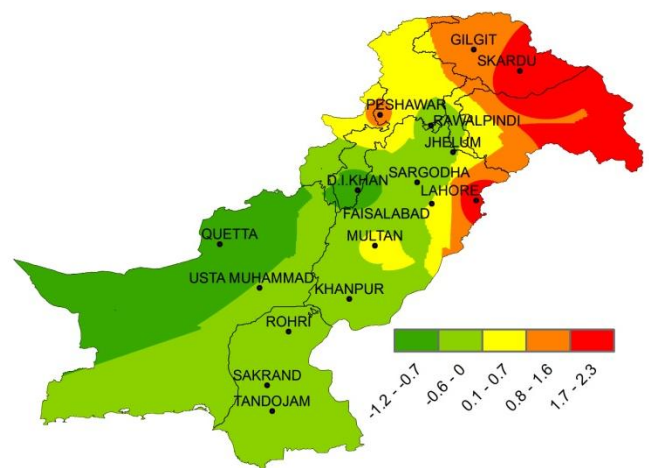
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

No rainfall reported during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 49%. Mean night temperature was 30.7°C while day temperature recorded as 42.0°C with wind speed recorded as 4.8 Km/hr with mean direction *southerly*.

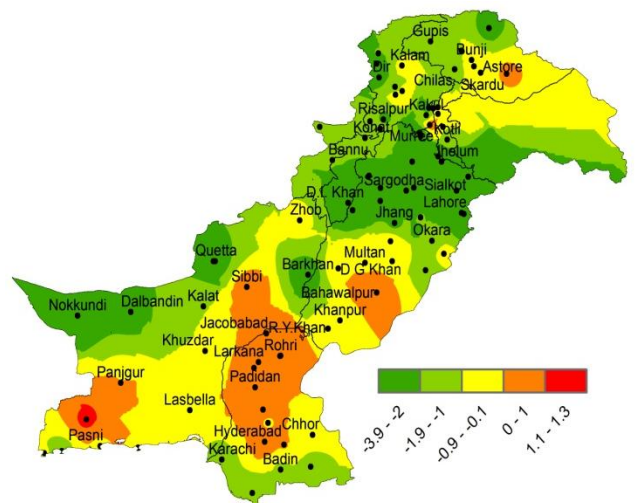
Rice: Good condition, Third leaf stage.



(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 July, 2013):**

2.6 **Jhelum**

Rainfall reported as 47.9 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 60%. Mean night temperature was 25.8°C while day temperature recorded as 37.2°C with 74.4 hours bright sunshine duration. Wind speed recorded 4.1 Km/hr with mean direction *south easterly*.

2.7 **Lahore**

Rainfall reported as 78.5 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 69%. Mean night temperature was 25.2°C while day temperature recorded as 35.6°C with 55.7 hours bright sunshine duration. Wind speed recorded as 4.8 Km/hr with mean direction *north easterly*.

2.8 **Sargodha**

Rainfall reported as 32.0 mm during the decade, weather remained cloudy for 09 days during the decade, average relative humidity recorded as 62%. Mean night temperature was 28.1°C while day temperature recorded as 37.9°C with 84.4 hours bright sunshine duration. Wind speed recorded as 4.6 Km/hr with mean direction *easterly*.

2.9 **Multan**

No rainfall reported during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 49%. Mean night temperature was 30.7°C while day temperature recorded as 40.0°C with 86.5 hours bright sunshine duration. Wind speed recorded as 8.0 Km/hr with wind direction *south easterly*.

2.10 **Khanpur**

No rainfall during the decade, weather remained cloudy for 09 day during the decade, average relative humidity recorded as 58%. Mean night temperature was 29.8°C while day temperature recorded as 40.5°C with 102.0 hours bright sunshine duration. Wind speed recorded as 5.9 Km/hr with mean direction *south westerly*.

2.11 **Rohri**

No rainfall during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 44%. Mean night temperature was 30.9°C while day temperature recorded as 42.3°C with 103.1 hours bright sunshine duration. Wind speed recorded as 4.7 Km/hr with mean direction *southerly*.

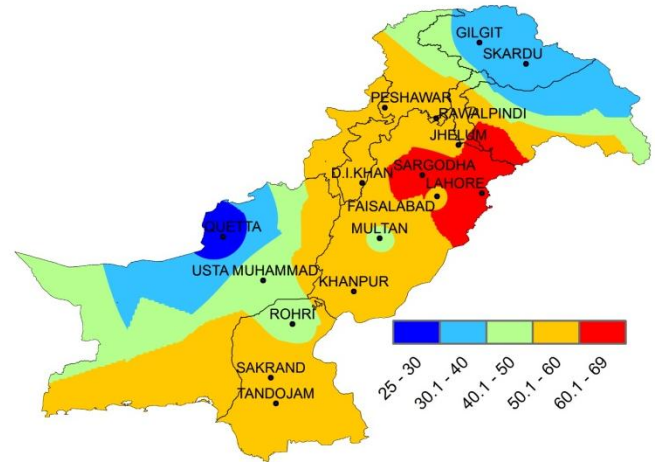


Figure.3: Relative Humidity in percentage

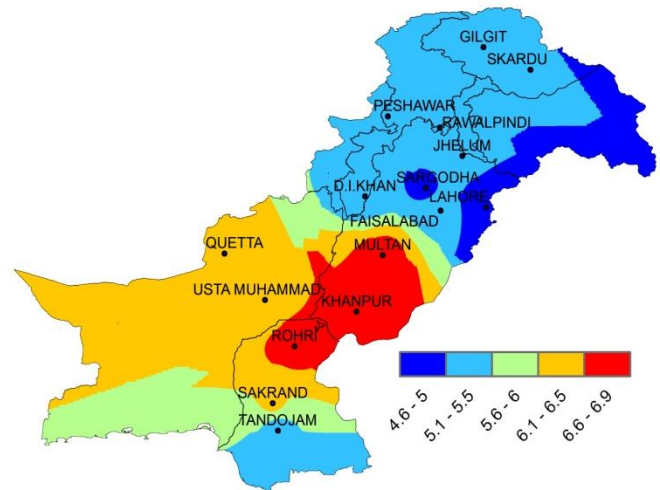


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

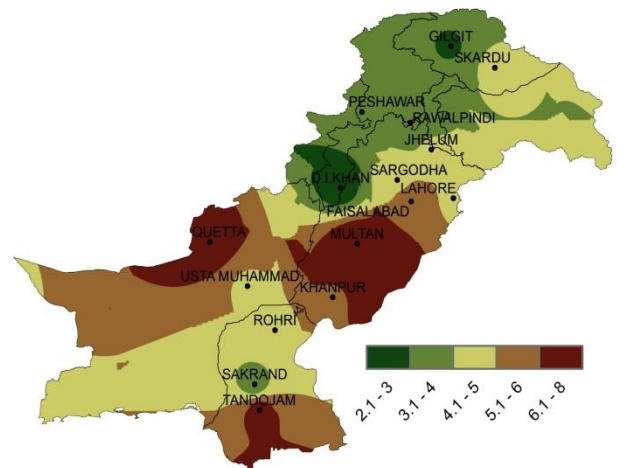


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

No rainfall during the decade, weather remained cloudy for 08 day during the decade, average relative humidity recorded as 60%. Mean night temperature was 26.3°C while day temperature recorded as 40.3°C with 103.7 hours bright sunshine duration. Wind speed recorded as 5.9 Km/hr with mean direction *south westerly*.

2.13 Peshawar

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 53%. Mean night temperature was 25.7°C while day temperature recorded as 39.0°C with 79.0 hours bright sunshine duration. Wind speed recorded as 3.6 Km/hr with mean direction *nort-north westerly*.

2.14 D.I. Khan

Rainfall reported 14.2 mm during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 59%. Mean night temperature was 25.8°C while day temperature recorded as 38.2°C with 79.9 hours bright sunshine duration. Wind speed recorded as 2.1 Km/hr with mean direction *north easterly*.

2.15 Gilgit

Rainfall reported 0.3 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 39%. Mean night temperature was 18.6°C while day temperature recorded as 36.9°C with 72.8 hours bright sunshine. Wind speed recorded as 2.9 Km/hr with *variable* direction.

2.16 Skardu

No rainfall during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 33%. Mean night temperature was 16.2°C while day temperature recorded as 32.2°C with 74.3 hours bright sunshine duration with mean speed 4.3 Km/hr with *variable* direction .

**3. Ten days Weather advisory for Farmers
(11th to 20th July, 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 & humid weather is expected in most of the agricultural plains of the province. Whereas, Isolated to Scattered Rain dust-thundershowers with gusty winds is expected in upper & central parts with occasional gaps during the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly hot & humid weather is expected in most of the agricultural plains of the province. Whereas, Isolated to Scattered Rain dust-thundershowers with gusty winds is expected in upper KP with occasional gaps during the decade.
- ❖ **Sindh:** Isolated rain dust-thundershowers with gusty winds is expected in lower Sindh during 12th to 14th July.
- ❖ **Balochistan:** Isolated rain dust-thundershowers with gusty winds is expected with occasional gaps in northeastern parts during the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Isolated rain is expected in Gilgit-Baltistan, while isolated to scattered rain-thundershowers 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 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.
- ❖ 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.
- ❖ Due to recent rains in upper parts, farmers should be careful about weeds & pest attacks as the present soil & atmospheric conditions are suitable for rapid weeds growth & pest attacks.
- ❖ Farmers of rainfed areas obtaining crop water through tube wells are also advised to schedule the irrigation according to the expected weather mentioned during the decade.