

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 288.0mm 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, 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.
- ❖ Chances of Isolated to Scattered rain-thundershower in upper & central parts of the country during the current decade.
- ❖ Average ($\pm 10\%$) rainfall is expected during monsoon season 2013.
- ❖ Intensity and frequency of monsoon will increase during next month (August).

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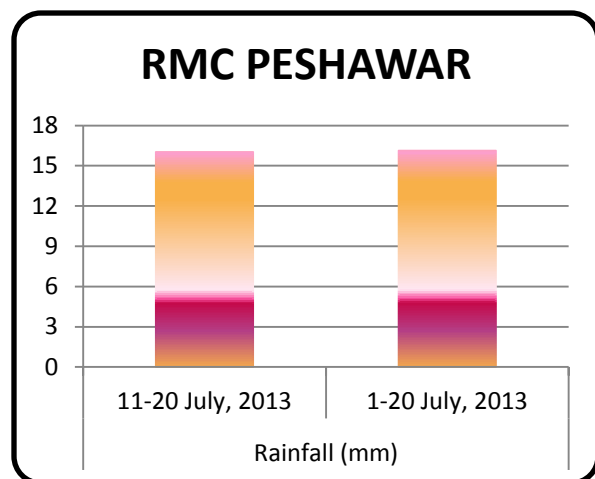
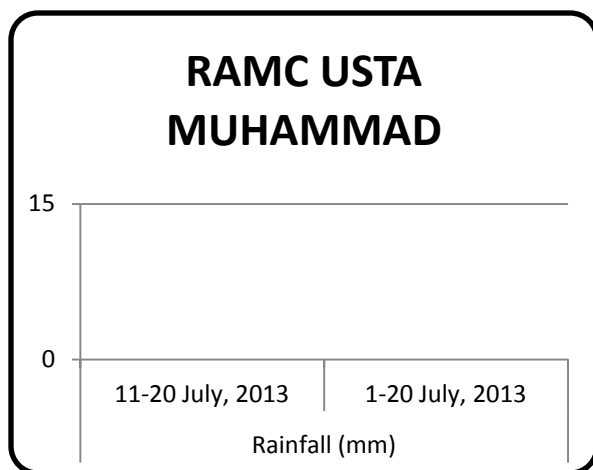
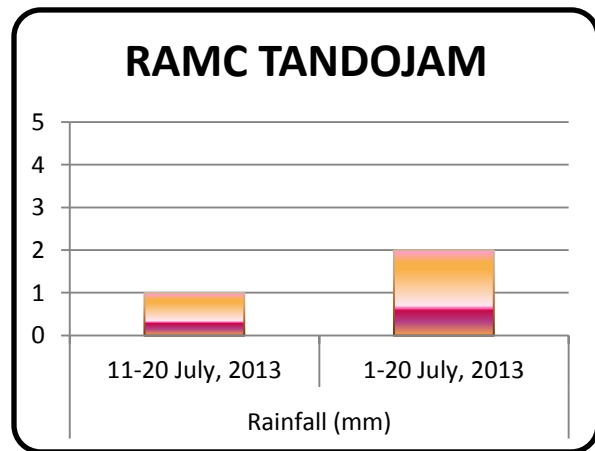
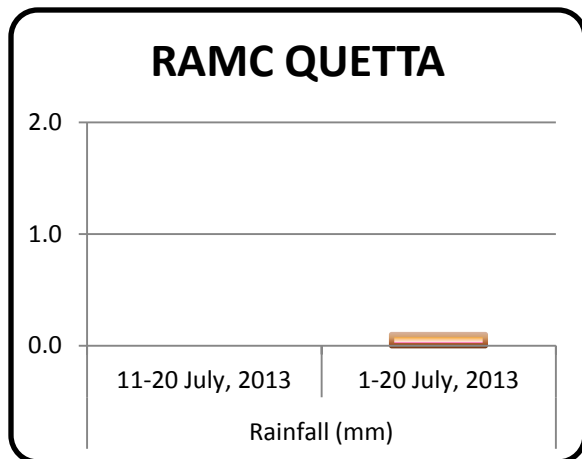
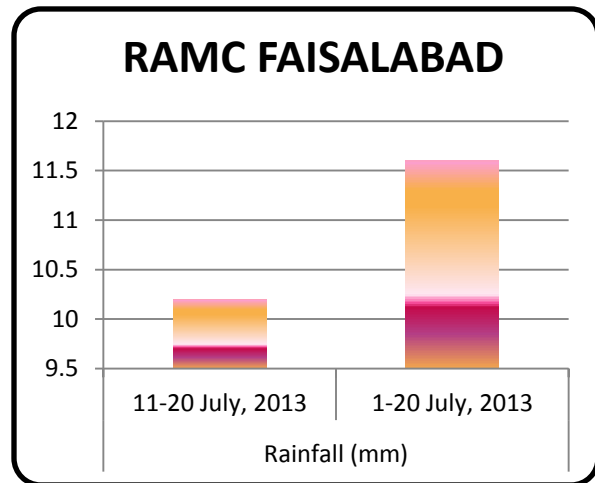
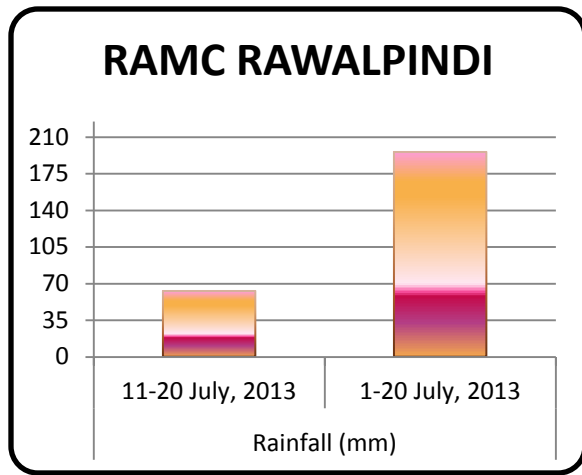
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Meteorological conditions during 2nd decade of July, 2013

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	1.6	1.0	-0.6	0.8	0.1	31.7	38.2	32.5	34.7	34.3	33.8	32.5	83.0	6.4	67	5.7
2	SAKRAND ☆	2.0	0.1	-1.9	-1.6	0.6	32.3	45.5	49.8	47.1	37.3	38.4	35.5	100.2	10.7	60	7.2
3	ROHRI	0.2	0.0	-0.2	0.4	0.1	35.6	49.6	45.0	39.6	38.4	36.8	36.1	105.4	6.5	50	7.1
4	USTA MUHAMMAD	0.0	0.0	0.0	2.1	-0.8	36.2	42.3	40.3	39.3	39.0	29.6	28.8	***	***	49	7.5
5	QUETTA	0.2	0.0	-0.2	0.9	0.0	29.1	39.5	37.0	32.3	30.7	34.4	29.3	97.2	5.7	38	6.1
6	KHANPUR	0.6	0.0	-0.6	0.3	0.4	34.7	40.6	40.0	39.5	39.4	39.4	36.8	93.4	6.5	57	6.6
7	MULTAN	1.4	0.0	-1.4	1.8	1.2	35.6	***	***	***	***	***	***	88.0	9.2	51	7.2
8	LAHORE	7.2	106.7	99.5	-2.8	-0.6	29.6	33.6	33.3	31.7	31.2	***	30.0	61.1	3.4	75	4.4
9	FAISALABAD	4.9	10.2	5.3	1.5	1.3	33.3	42.0	40.1	37.7	36.1	35.2	33.1	82.0	6.0	57	6.0
10	SARGODHA	4.0	14.2	10.2	0.1	-0.9	32.5	36.5	34.8	33.2	32.5	32.3	31.5	84.4	6.3	68	5.8
11	JHELUM	7.3	115.1	107.8	-0.7	-1.1	30.4	34.2	33.2	32.1	31.8	32.2	***	70.1	3.3	72	4.8
12	RAWALPINDI	10.2	62.8	52.6	-0.8	-1.3	28.8	34.2	32.8	31.4	30.8	30.5	29.5	63.7	4.0	69	4.6
13	DI KHAN	1.8	0.2	-1.6	1.2	1.3	33.5	***	***	***	***	***	***	77.6	3.8	62	5.5
14	PESHAWAR	1.4	16.0	14.6	-0.4	0.1	31.9	38.6	35.3	34.1	32.7	***	29.6	72.6	3.4	62	5.1
15	SKARDU	0.3	0.0	-0.3	-0.4	2.0	24.7	***	***	***	***	***	***	74.2	3.4	30	4.8
16	GILGIT	0.3	0.1	-0.2	1.2	2.2	28.1	***	***	***	***	***	***	78.7	1.8	46	5.1

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. 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 July 2013



Past Weather (11th to 20th 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, Sialkot, Lahore etc. Decadal maximum & minimum temperature both dropped below normal by 0.1°C & 0.1°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 5.5 km/hr, 64%, 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 Mithi, Padidin, Chhor etc. Decadal maximum raised above normal by 0.3°C & minimum temperature dropped below normal by 0.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 7.9 km/hr, 59%, and 6.7 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 Risalpur, Dir, Kakul etc. In KP region; Decadal maximum and minimum temperature both raised above normal by 0.7°C & 0.4°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.6 km/hr, 62%, 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 Khuzdar, Sammugli & Lasbela etc. Decadal maximum temperature dropped below normal by 0.4°C and minimum temperature raised above normal by 1.5°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 5.7 km/hr, 44%, and 6.8 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 Rawalakot, Kotli, Garhi Dupatta etc. In GB & AJK region; Decadal maximum & minimum temperature both raised above normal by 2.1°C & 0.4°C in the province. Whereas mean values of wind speed, relative humidity and ETo were recorded 2.9 km/hr, 38%, and 5.0 mm/day respectively.

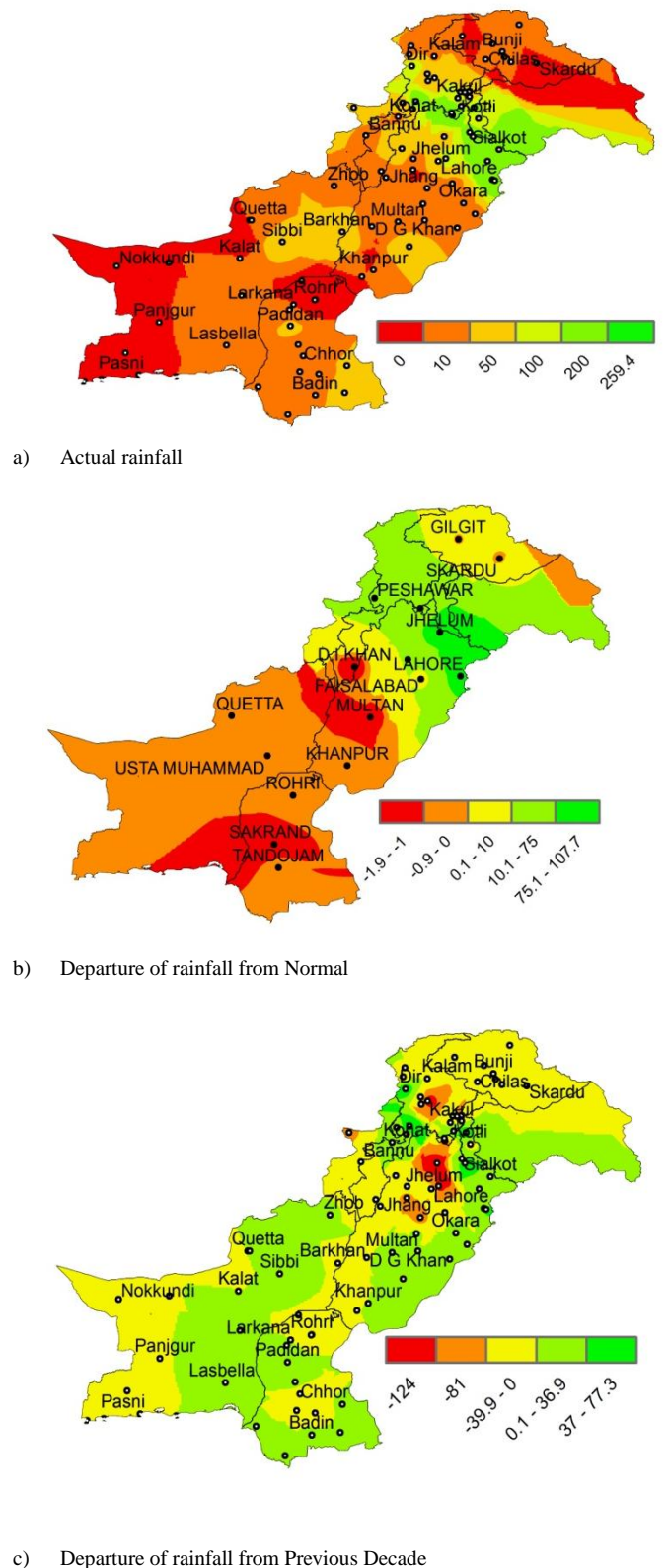


Figure.1: Rainfall distribution during previous decade in “mm”

**2 (a) Past Weather for Major Agricultural Plains
Past Weather (11th to 20th July, 2013)**

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 62.8 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 69%. Mean night temperature was 23.0°C while day temperature recorded as 34.5°C with 63.7 hours bright sunshine duration. Wind speed recorded as 4.0 km/hr with mean wind direction *westerly*.
Note: No crop is grown at the station.

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 10.2 mm during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 57%. Mean night temperature was 28.0°C while day temperature recorded as 38.6°C with 82.0 hours bright sunshine duration. Wind speed recorded as 6.0 km/hr with mean wind direction *south easterly*.
Sugarcane: Very Good condition, Flowering completed.
Cotton: Very Good condition, Flowering completed.

2.3 RAMC, Tandojam (Lower Sindh)

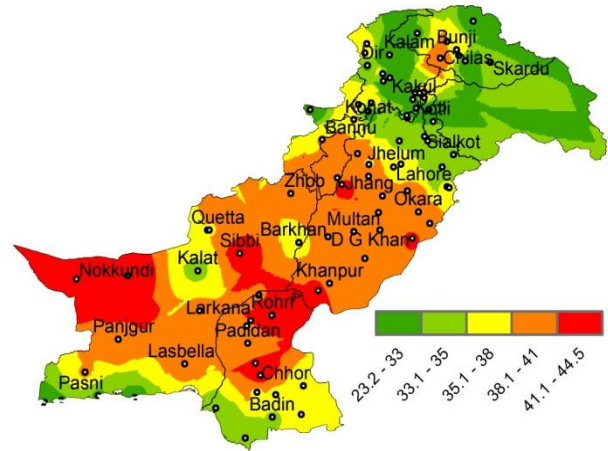
Rainfall reported as 1.0 mm during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 67%. Mean night temperature was 27.2°C while day temperature recorded as 36.2°C with 83.0 hours bright sunshine duration. Wind speed recorded as 6.4 km/hr with mean wind direction *south westerly*.
Cotton: BT 3701 Good condition, Ball opening.

2.4 RAMC, Quetta (Northern Balochistan)

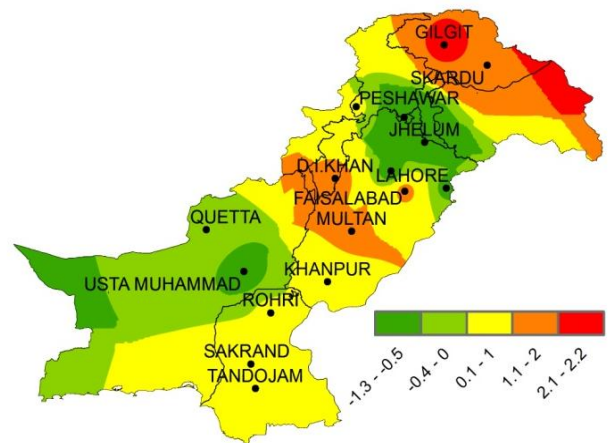
No rainfall reported during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 38%. Mean night temperature was 22.0°C while day temperature recorded as 38.2°C with 97.2 hours bright sunshine duration and wind speed recorded as 5.7 km/hr with mean wind direction *southerly*.
Note: No crop is grown at the station.

2.5 RAMC, Usta Muhammad (Eastern Balochistan)

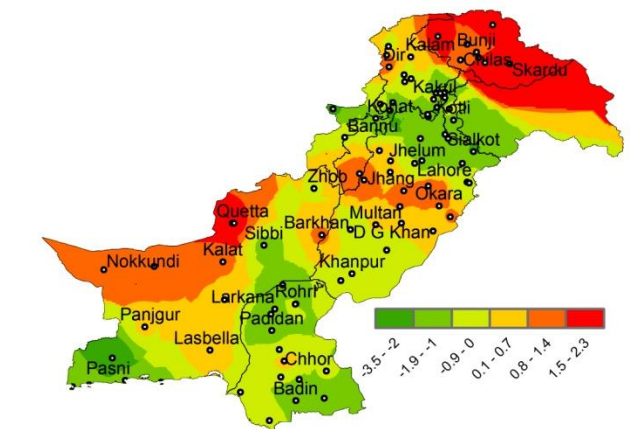
No rainfall reported during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 49%. Mean night temperature was 30.7°C while day temperature recorded as 41.6°C. The data of wind speed not available while mean wind direction *south westerly*.
Note: No crop is grown at the station.



(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 July, 2013):**

2.6 **Jhelum**

Rainfall reported as 115.1 mm during the decade, weather remained cloudy for 09 days and average relative humidity recorded as 72%. Mean night temperature was 25.7°C while day temperature recorded as 35.1°C with 70.1 hours bright sunshine duration. Wind speed recorded 3.3 Km/hr with mean direction *south easterly*.

2.7 **Lahore**

Rainfall reported as 106.7 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 75%. Mean night temperature was 24.2°C while day temperature recorded as 34.9°C with 61.1 hours bright sunshine duration. Wind speed recorded as 3.4 Km/hr with mean direction *south easterly*.

2.8 **Sargodha**

Rainfall reported as 14.2 mm during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 68%. Mean night temperature was 27.9°C while day temperature recorded as 37.0°C with 84.4 hours bright sunshine duration. Wind speed recorded as 6.2 Km/hr with *variable* direction.

2.9 **Multan**

No rainfall reported during the decade, weather remained cloudy for 07 days, average relative humidity recorded as 51%. Mean night temperature was 31.0°C while day temperature recorded as 40.1°C with 88.0 hours bright sunshine duration. Wind speed recorded as 9.2 Km/hr with mean direction *southerly*.

2.10 **Khanpur**

No rainfall during the decade, weather remained cloudy for 06 day during the decade, average relative humidity recorded as 57%. Mean night temperature was 29.3°C while day temperature recorded as 40.0°C with 93.4 hours bright sunshine duration. Wind speed recorded as 6.5 Km/hr with mean direction *south westerly*.

2.11 **Rohri**

No rainfall during the decade, weather remained cloudy for 08 days, average relative humidity recorded as 50%. Mean night temperature was 29.9°C while day temperature recorded as 41.2°C with 105.4 hours bright sunshine duration. Wind speed recorded as 6.5 Km/hr with mean direction *southerly*.

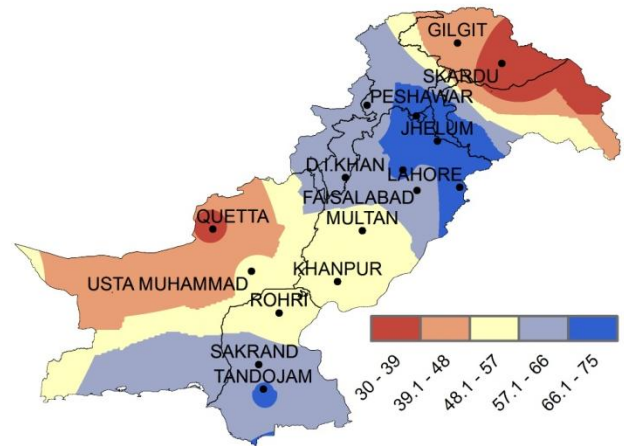


Figure.3: Relative Humidity in percentage

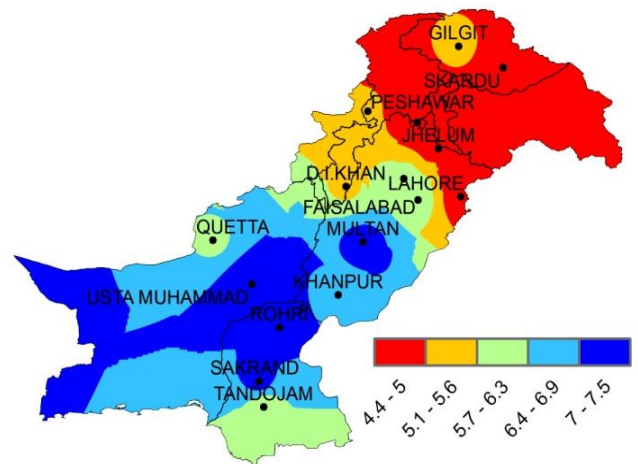


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

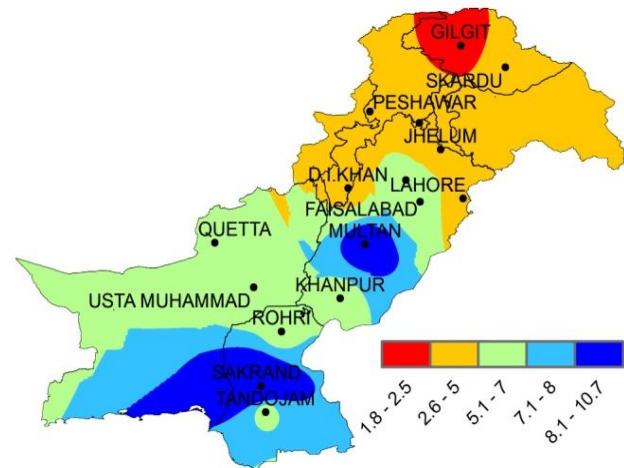


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 09 day during the decade, average relative humidity recorded as 60%. Mean night temperature was 25.1°C while day temperature recorded as 39.5°C with 100.2 hours bright sunshine duration. Wind speed recorded as 10.7 Km/hr with mean direction *southerly*.

2.13 Peshawar

Rainfall reported 16.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 62%. Mean night temperature was 26.5°C while day temperature recorded as 37.3°C with 72.6 hours bright sunshine duration. Wind speed recorded as 3.4 Km/hr with mean direction *nort-north westerly*.

2.14 D.I. Khan

Rainfall reported 0.2 mm during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 62%. Mean night temperature was 27.7°C while day temperature recorded as 39.3°C with 77.6 hours bright sunshine duration. Wind speed recorded as 3.8 Km/hr with mean direction *north easterly*.

2.15 Gilgit

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 46.4%. Mean night temperature was 17.9°C while day temperature recorded as 38.2°C with 78.7 hours bright sunshine. Wind speed recorded as 1.8 Km/hr with *variable* direction.

2.16 Skardu

No rainfall during the decade, weather remained cloudy for 04 days, average relative humidity recorded as 30%. Mean night temperature was 15.6°C while day temperature recorded as 33.8°C with 74.2 hours bright sunshine duration with mean speed 3.4 Km/hr with mean direction *south easrterly*.

**3. Ten days Weather advisory for Farmers
(21st to 31st 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. While, Scattered Rain dust-thundershowers with isolated heavy falls associated 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. While, Scattered Rain dust-thundershowers with isolated heavy falls associated with gusty winds is expected in upper & central parts with occasional gaps during the decade.
- ❖ **Sindh:** Isolated rain dust-thundershowers with gusty winds is expected in Lower Sindh during 1st half and end days of the decade .
- ❖ **Balochistan:** Isolated rain dust-thundershowers with gusty winds is expected with occasional gaps in Northeastern parts during 1st half and during last days of the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly dry weather with 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 & central 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.