

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 47.5°C at Nokkundi during the last decade.
- ❖ Highest amount of rainfall recorded as 210mm at Kotli 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 Sindh and northeast Balochistan.

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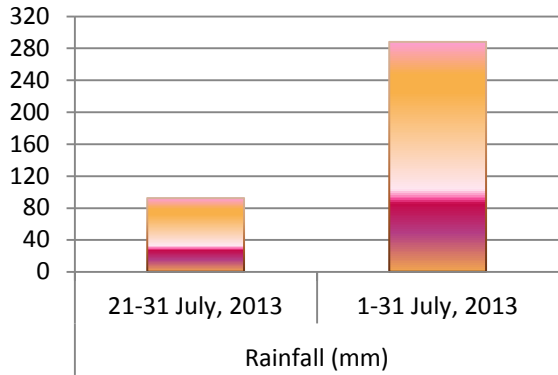
Meteorological conditions during 3rd decade of July, 2013

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	1.8	0.0	-1.8	0.6	0.4	31.3	38.0	36.7	34.5	34.2	34.1	32.0	77.9	5.0	68.0	6.2
2	SAKRAND ☆	4.2	0.0	-4.2	-1.1	1.2	32.2	45.6	43.6	47.4	37.4	38.6	35.9	96.0	13.1	61.0	7.3
3	ROHRI	0.3	0.0	-0.3	0.4	0.5	35.2	48.3	44.5	39.2	37.7	36.2	36.1	106.0	5.7	52.0	6.7
4	USTA MUHAMMAD	3.5	5.0	1.5	1.9	1.2	34.9	40.9	39.8	39.1	38.3	29.2	29.8	***	***	48.8	6.0
5	QUETTA	0.0	0.0	0.0	0.9	-2.5	27.7	40.4	37.5	32.8	31.4	30.3	30.0	102.9	6.1	42.0	6.0
6	KHANPUR	2.0	61.0	59.0	0.0	0.4	33.7	39.1	37.6	38.3	38.5	38.8	36.9	102.8	4.1	63.0	6.2
7	MULTAN	1.4	56.8	55.4	-0.1	0.4	33.6	***	***	***	***	***	***	86.1	6.2	61.0	6.0
8	LAHORE	6.5	57.0	50.5	-1.2	0.5	30.8	34.8	32.4	32.1	31.3	***	30.1	54.3	4.0	64.0	4.5
9	FAISALABAD	2.7	3.2	0.5	1.1	1.2	33.0	42.2	39.9	37.6	36.4	35.8	33.8	62.5	4.2	60.0	5.0
10	SARGODHA	5.4	9.8	4.4	-3.7	0.3	30.5	39.1	37.2	34.9	34.0	33.7	31.9	83.9	4.4	69.0	5.3
11	JHELUM	8.3	149.0	140.7	1.6	0.6	31.8	34.9	33.7	32.2	31.4	31.6	***	95.6	3.7	72.0	5.4
12	RAWALPINDI	13.1	92.2	79.1	1.2	0.8	29.9	34.2	33.0	31.3	30.7	30.4	29.7	58.5	4.2	68.9	4.5
13	DI KHAN	3.0	4.8	1.8	0.1	0.4	32.3	***	***	***	***	***	***	89.6	3.3	64.7	5.5
14	PESHAWAR	4.4	10.0	5.6	-0.5	0.0	31.1	35.9	34.9	33.8	33.1	***	29.9	77.8	2.8	70.0	4.9
15	SKARDU	0.2	0.4	0.2	-0.6	4.2	25.7	***	***	***	***	***	***	84.9	2.1	27.0	3.9
16	GILGIT	0.6	0.0	-0.6	2.5	6.2	30.8	***	***	***	***	***	***	107.6	3.3	38.1	6.1

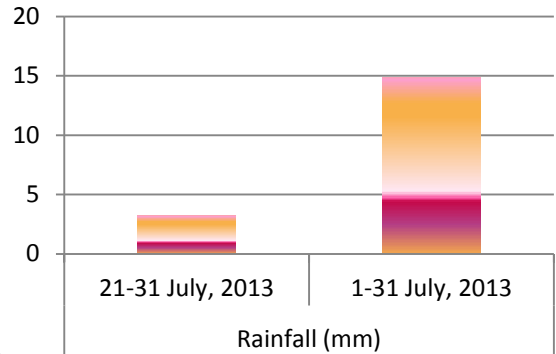
Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula; Dep divided by Normal multiplied by 100. Tmin & Tmax stands for minimum and maximum temperatures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

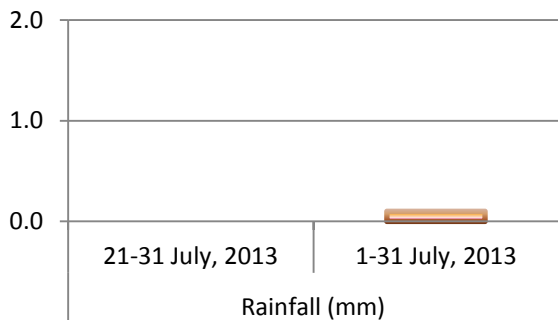
RAMC RAWALPINDI



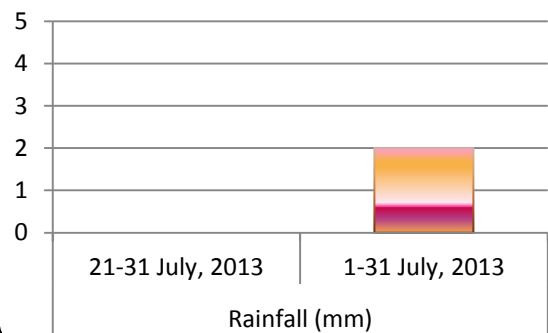
RAMC FAISALABAD



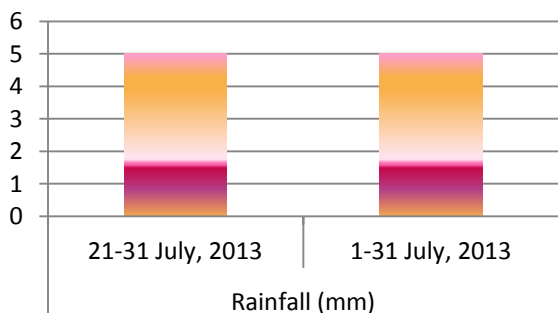
RAMC QUETTA



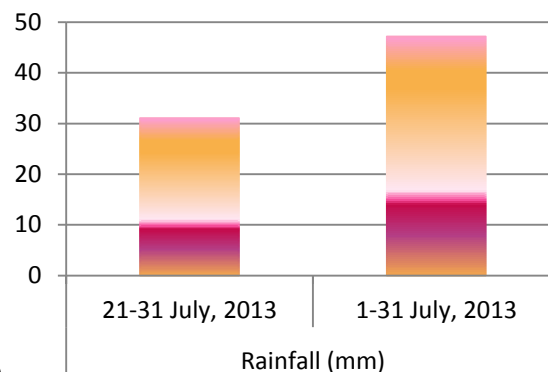
RAMC TANDOJAM



RAMC USTA MUHAMMAD



RMC PESHAWAR



Past Weather (21st to 31st 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, Jhelum, Noorpur Thal etc. Decadal maximum raised above normal by 0.6 & minimum temperature dropped below normal by 0.2°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.4 km/hr, 65%, and 5.3 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 Rohri, Sukkur, Karachi etc. Decadal maximum raised above normal by 0.7°C & minimum temperature remain normal respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 7.9 km/hr, 60%, 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, Balakot, Kakul etc. In KP region; Decadal maximum raised above by 0.2°C and minimum temperature dropped below normal by 0.2°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.1 km/hr, 67%, and 5.2 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 & Lasbela etc. Decadal maximum temperature dropped below normal by 0.6°C and minimum temperature raised above normal by 1.4°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 6.1 km/hr, 45%, and 6.0 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 Kotli, Muzafarabad & Garhi Dupatta etc. In GB & AJK region; Decadal maximum & minimum temperature both raised above normal by 5.2°C & 1.0°C in the province. Whereas mean values of wind speed,

relative humidity and ETo were recorded 2.7 km/hr, 33%, and 5.0 mm/day respectively.

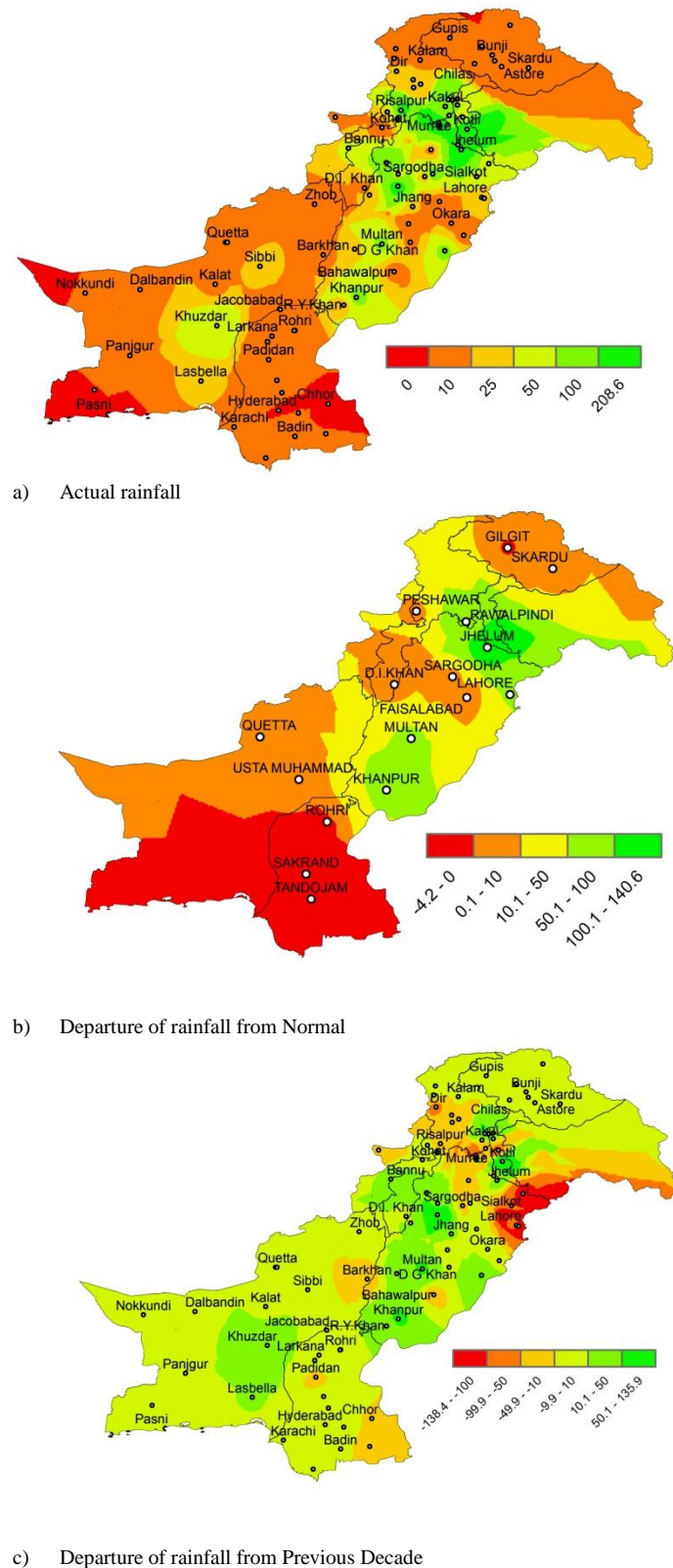


Figure.1: Rainfall distribution during previous decade in “mm”

**2 (a) Past Weather for Major Agricultural Plains
Past Weather (21st to 31st July, 2013):**

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 92.2 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 69%. Mean night temperature was 24.6°C while day temperature recorded as 35.2°C with 58.5 hours bright sunshine duration. Wind speed recorded as 4.2 km/hr with mean wind direction *easterly*.

Note: No crop is grown at the station.

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 3.2 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 60%. Mean night temperature was 28.0°C while day temperature recorded as 38.0°C with 62.5 hours bright sunshine duration. Wind speed recorded as 4.2 km/hr with mean wind direction *south easterly*.

Sugarcane: Very Good condition, Tillering completed.

Cotton: Very Good condition, Boll opening.

2.3 RAMC, Tandojam (Lower Sindh)

No Rainfall reported during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 68%. Mean night temperature was 26.8°C while day temperature recorded as 35.8°C with 77.9 hours bright sunshine duration. Wind speed recorded as 5.0 km/hr with mean wind direction *south westerly*.

Cotton: BT 3701 Good condition, Ball opening.

2.4 RAMC, Quetta (Northern Balochistan)

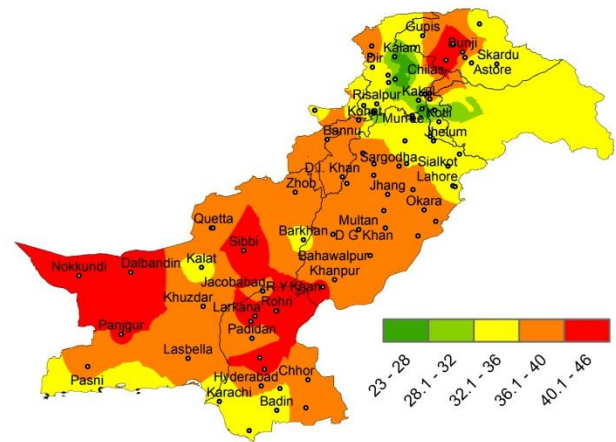
No rainfall reported during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 42%. Mean night temperature was 22.2°C while day temperature recorded as 33.1°C with 102.9 hours bright sunshine duration and wind speed recorded as 6.1 km/hr with mean wind direction *westerly*.

Note: No crop is grown at the station.

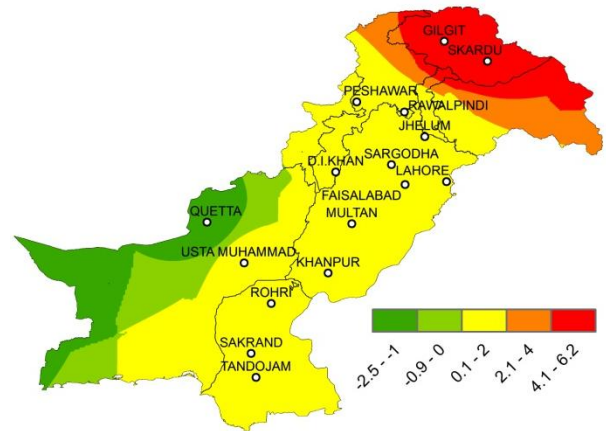
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

Rainfall reported as 5.0 mm reported during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 49%. Mean night temperature was 28.2°C while day temperature recorded as 41.5°C. The data of wind speed not available while mean wind direction *southerly*.

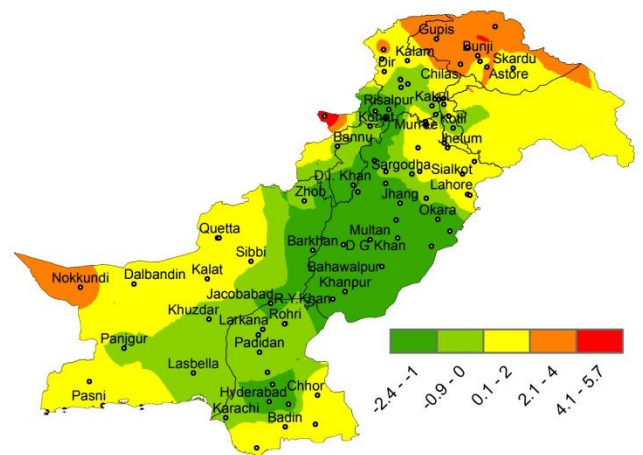
Note: No crop is grown at the station.



(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 (21st to 31st July, 2013):

2.6 Jhelum

Rainfall reported as 144.0 mm during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 72%. Mean night temperature was 27.7°C while day temperature recorded as 35.8°C with 95.6 hours bright sunshine duration. Wind speed recorded 3.7 Km/hr with mean direction *easterly*.

2.7 Lahore

Rainfall reported as 57.0 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 64%. Mean night temperature was 26.0°C while day temperature recorded as 35.5°C with 54.3 hours bright sunshine duration. Wind speed recorded as 4.0 Km/hr with mean direction *north easterly*.

2.8 Sargodha

Rainfall reported as 9.8 mm during the decade, weather remained cloudy for 11 days during the decade, average relative humidity recorded as 69%. Mean night temperature was 23.6°C while day temperature recorded as 37.3°C with 83.9 hours bright sunshine duration. Wind speed recorded as 4.4 Km/hr with mean direction *north easterly*.

2.9 Multan

Rainfall reported as 56.8 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 61%. Mean night temperature was 28.6°C while day temperature recorded as 38.5°C with 86.1 hours bright sunshine duration. Wind speed recorded as 6.2 Km/hr with mean direction *southerly*.

2.10 Khanpur

Rainfall reported as 61.0 mm during the decade, weather remained cloudy for 11 day during the decade, average relative humidity recorded as 63%. Mean night temperature was 28.5°C while day temperature recorded as 38.8°C with 102.8 hours bright sunshine duration. Wind speed recorded as 4.1 Km/hr with mean direction *south westerly*.

2.11 Rohri

No rainfall during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 52%. Mean night temperature was 29.7°C while day temperature recorded as 40.6°C with 106 hours bright sunshine duration. Wind speed recorded as 5.7 Km/hr with mean direction *southerly*.

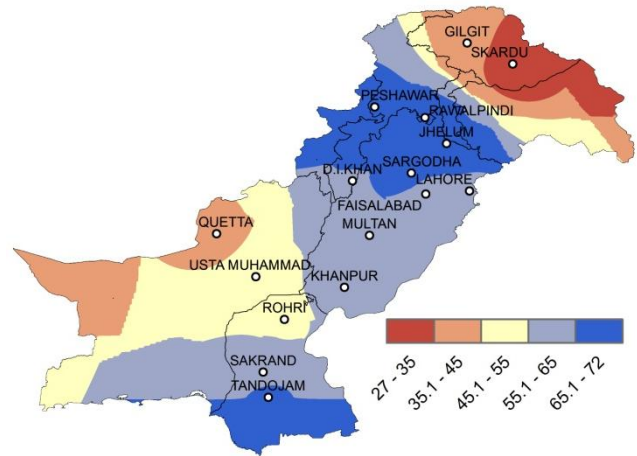


Figure.3: Relative Humidity in percentage

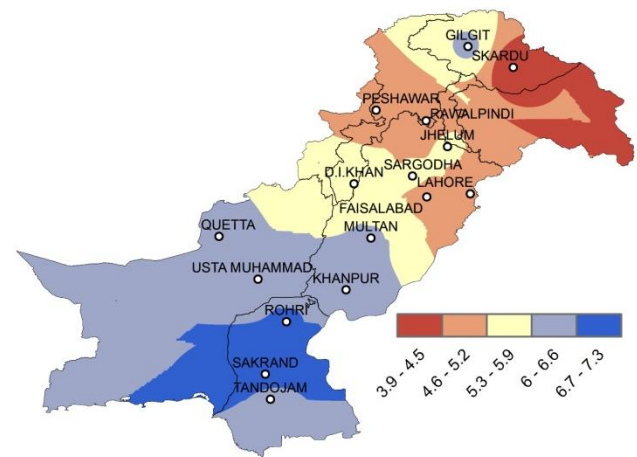


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

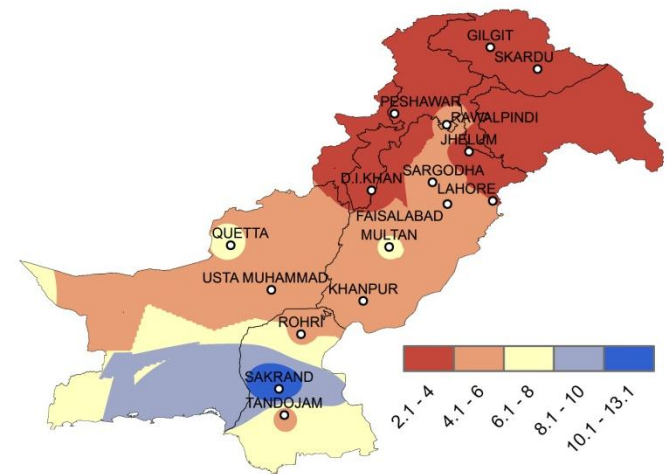


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

No rainfall during the decade, weather remained cloudy for 11 day during the decade, average relative humidity recorded as 61%. Mean night temperature was 25.3°C while day temperature recorded as 39.1°C with 96 hours bright sunshine duration. Wind speed recorded as 13.1 Km/hr with mean direction *southerly*.

2.13 Peshawar

Rainfall reported 10.0 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 70%. Mean night temperature was 26.0°C while day temperature recorded as 36.1°C with 77.8 hours bright sunshine duration. Wind speed recorded as 2.8 Km/hr with mean direction *north westerly*.

2.14 D.I. Khan

Rainfall reported 4.8 mm during the decade, weather remained cloudy for 09 days, average relative humidity recorded as 65%. Mean night temperature was 26.5°C while day temperature recorded as 38.1°C with 89.6 hours bright sunshine duration. Wind speed recorded as 3.3 Km/hr with mean direction *north easterly*.

2.15 Gilgit

No Rainfall reported during the decade, weather remained cloudy for 09 days and average relative humidity recorded as 38.1%. Mean night temperature was 19.7°C while day temperature recorded as 41.9°C with 107.6 hours bright sunshine. Wind speed recorded as 3.3 Km/hr with *variable* direction.

2.16 Skardu

Rainfall reported 0.4 mm during the decade, weather remained cloudy for 04 days, average relative humidity recorded as 27%. Mean night temperature was 15.9°C while day temperature recorded as 35.5°C with 84.9 hours bright sunshine duration with mean speed 2.1 Km/hr with mean direction *south easterly*.

**3. Ten days Weather advisory for Farmers
(1st to 10th 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 falls associated with gusty winds is expected in upper parts while isolated rain dust-thundershowers in central/southern parts with occasional gaps during the decade.
- ❖ **Khyber Pakhtunkhwa** Rain dust-thundershowers with isolated 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 rain dust-thundershowers with gusty winds is expected with occasional gaps in Northeastern parts during the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly dry weather with isolated rain is expected in Gilgit-Baltistan, while 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.
- ❖ Due to expected 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 rainfed areas obtaining crop water through tube wells are also advised to schedule the irrigation according to the expected weather mentioned during the decade.
- ❖ 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.
- ❖ Farmers are advised to start sowing of Jawar, Bajra etc due to sufficient moisture availability in Potohar region.