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Decadal Agromet Bulletin of Pakistan



Highlights....

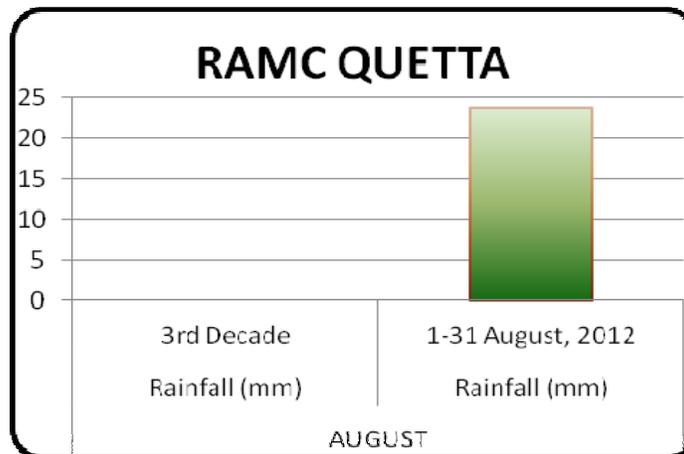
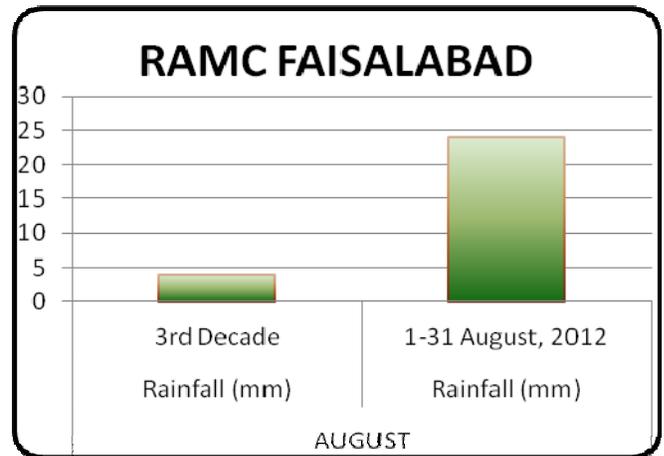
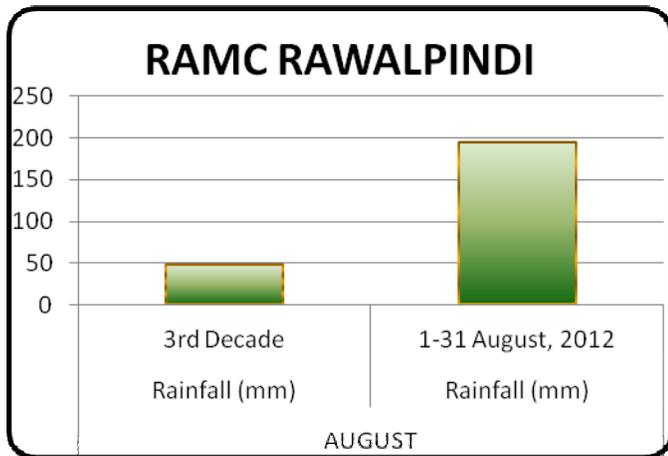
- ❖ Light to moderate rainfall with few heavy showers occurred in the agricultural plains of the country. Highest amount of rainfall recorded at Murree was 291 mm during the last decade.
- ❖ Extreme temperatures (above 40°C) recorded in upper Sindh, southwestern parts of Balochistan & Gilgit Baltistan region.
- ❖ Highest values of the relative humidity (above 60%) recorded at scattered places of Punjab, Upper and Southern KP, Eastern Balochistan and Lower Sindh.
- ❖ Highest values for ETo (above 6.0 mm/day) recorded in upper Sindh.
- ❖ Maximum temperatures are expected to be normal/below normal in most of the agricultural plains of the country during the decade.
- ❖ Gusty winds may prevail occasionally in the monsoon belt and adjoining areas during the decade.
- ❖ Chances of scattered rain/thundershower expected in upper & central parts of the country during 1st half of the decade.
- ❖ Chances of widespread rain/thundershower in most parts of the country including southern parts during 2nd half of the decade.

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Graphs for Rainfall (mm) during August 2012



Note: Dry weather recorded at RAMC Tandojam & Usta Muhammad.

Meteorological conditions during 3rd decade of August, 2012

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	1.5	TR	-1.5	3.6	0.3	32.1	38.7	36.0	34.9	33.7	33.4	31.6	71.4	6.2	69	3.7
2	SAKRAND ☆	0.7	3.6	2.9	-0.7	0.8	30.8	43.6	42.7	43.8	37.0	37.6	35.9	106.2	9.1	61	5.8
3	ROHRI	0.7	0.0	-0.7	0.0	0.4	33.4	45.0	43.7	45.2	37.7	38.1	35.7	98.9	6.3	57	6.2
4	USTA MUHAMMAD	0.1	0.0	-0.1	-0.3	-0.8	32.3	38.9	39.2	37.5	38.5	37.4	36.1	***	5.2	63	5.2
5	QUETTA	0.4	0.0	-0.4	-0.8	-0.5	25.6	36.5	34.0	30.5	23.0	28.3	28.5	103.7	5.6	33	5.5
6	KHANPUR	0.0	0.0	0.0	0.8	-0.5	32.3	37.3	36.6	36.1	36.0	36.2	35.0	93.3	3.5	65	5.3
7	MULTAN	0.7	1.4	0.7	1.0	0.7	33.1	***	***	***	***	***	***	82.4	5.6	65	5.4
8	LAHORE	3.7	14.5	10.8	-1.3	-1.1	29.8	33.1	32.9	31.4	30.8	***	30.1	61.0	3.0	75	4.0
9	FAISALABAD	2.9	4.0	1.1	0.4	-1.9	30.6	38.7	36.9	34.8	33.7	33.0	31.7	69.5	6.4	63	5.0
10	SARGODHA	2.3	TR	-2.3	0.5	-0.4	31.7	37.9	36.4	34.5	33.8	34.0	32.2	71.6	4.4	67	4.4
11	JHELUM	4.4	111.9	107.5	-1.0	-1.8	29.0	30.9	31.3	30.5	30.2	30.5	***	76.5	3.0	79	4.3
12	RAWALPINDI	5.9	48.2	42.3	-0.5	1.1	28.1	32.9	32.2	30.7	30.6	30.1	30.0	81.7	3.6	73	4.5
13	DI KHAN	1.8	68.0	66.2	0.5	-0.6	31.2	***	***	***	***	***	***	96.2	5.3	68	5.4
14	PESHAVAR	0.8	86.0	85.2	-0.7	-1.1	29.8	34.5	32.1	31.4	31.8	30.7	30.2	62.5	2.1	73	4.0
15	SKARDU	0.4	1.0	0.6	1.7	4.9	24.4	***	***	***	***	***	***	63.2	5.4	36	4.6
16	GILGIT	0.4	2.4	2.0	3.8	-9.1	22.1	***	***	***	***	***	***	83.0	4.7	48	4.4

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.

Past Weather (21st to 31st August, 2012):

Light to moderate rainfall with few heavy showers reported from the agricultural plains of Punjab, KP, Balochistan, Sindh and Kashmir/Gilgit Baltistan during the decade.

1.1 Punjab

Light to moderate rainfall with few heavy falls reported from the agricultural plains of Punjab during the decade, chief amount received at Murree, Chaklala and Mandibahuddin (Fig. 1.a). Decadal maximum temperature dropped below normal by 0.6°C and 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 4.2 km/hr, 70 %, and 4.7 mm/day respectively (Fig 3-4).

1.2 Sindh

Light to moderate rainfall reported from the agricultural plains of Sindh during the decade, chief amount received at Thatta, Badin and Chhor etc. Decadal maximum and minimum temperature both raised above normal by 0.5 & 1.0°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 7.2 km/hr, 62%, and 5.2 mm/day respectively.

1.3 Khyber Pakhtoon Khawa (KPK)

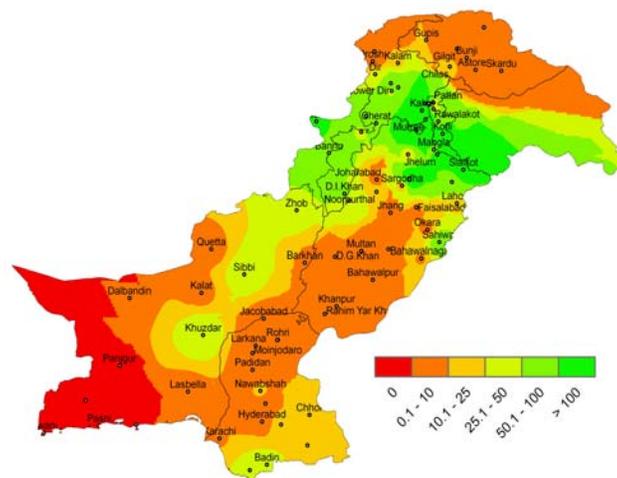
Light to moderate rainfall with few heavy falls reported from the agricultural plains of KPK; chief amount received at Kakul, Balakot and Malamjabba etc. Decadal maximum and minimum temperature both dropped below normal by 0.9 & 0.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.7 km/hr, 71 %, and 4.7 mm/day respectively.

1.4 Balochistan

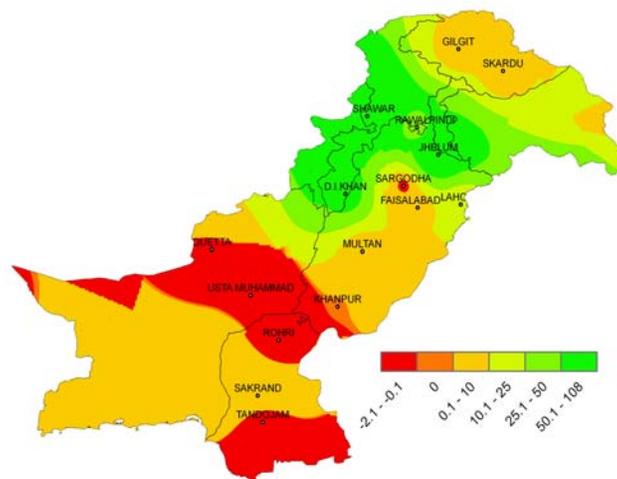
Light to moderate rainfall reported from few agricultural plains of Balochistan; chief amount received at Khuzdar, Sibbi and Zhob etc. In the northern Balochistan, decadal maximum and minimum temperature both dropped below normal by 0.7 & 0.6°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded 5.4 km/hr, 48 %, and 5.4 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

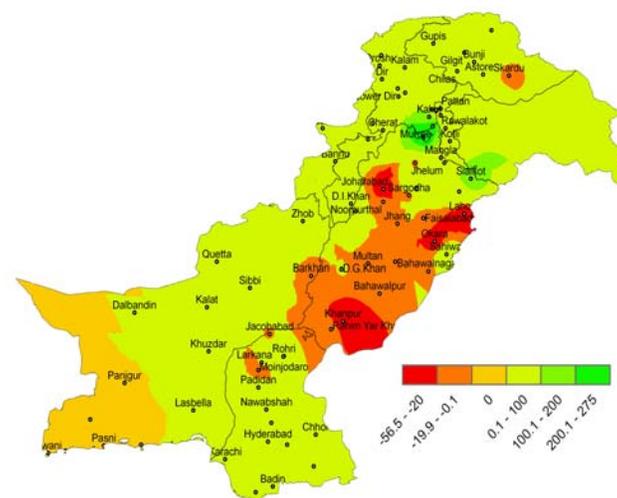
Light to moderate rainfall reported from the agricultural plains of Gilgit Baltistan and light to moderate rainfall with few heavy showers reported from Azad Jammu & Kashmir; chief amount received at Muzaffarabad, Kotli and Rawalakot etc. In GB & AJK region; decadal maximum temperature dropped below normal by 2.1 and minimum temperature raised above normal by 2.8°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded as 5.1 km/hr, 42 %, and 4.5 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 (21st to 31st August, 2012) as per Table-1

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported amounting 48.2 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 73%. Mean night temperature was 22.5°C while day temperature recorded as 33.7°C with 81.7 hours bright sunshine duration. Wind speed recorded as 3.6 Km/hr with mean direction *westerly*. Presently one crop (rainfed conditions) is grown at the station as detailed below:

Maize: Good condition, 9th Leaf stage.

2.2 RAMC, Tandojam (Lower Sindh)

Trace (rainfall amount not measurable) reported during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 69%. Mean night temperature was 28.7°C while day temperature recorded as 35.4°C with 71.4 hours bright sunshine duration. Wind speed recorded as 6.2 Km/hr with mean direction *southerly*. Presently only one crop (irrigated conditions) is grown at the station as detailed below:

Cotton (BT-886): Good condition, Boll opening stage completed.

2.3 RAMC, Faisalabad (Central Punjab)

Rainfall reported amounting 4.0 mm during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 63%. Mean night temperature was 26.7°C while day temperature recorded as 36.4°C with 69.8 hours bright sunshine duration. Wind speed recorded as 6.4 Km/hr with mean direction *south easterly*. Presently one crop (irrigated conditions) is grown at the station as detailed below:

Sugarcane: Very Good condition, Tillering stage completed.
Cotton: Very Good condition, Flowering stage completed.

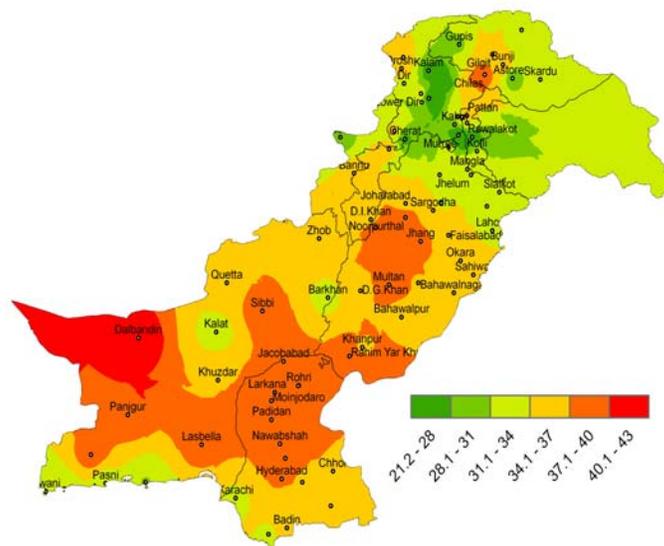
2.4 RAMC, Quetta (Northern Balochistan)

Dry weather reported during the decade, weather remained cloudy for 4 days and average relative humidity recorded as 33%. Mean night temperature was 17.3°C while day temperature recorded as 33.9°C with 103.7 hours bright sunshine duration and wind speed recorded as 5.6 Km/hr with mean direction *north westerly*. Presently no crop is grown at the station.

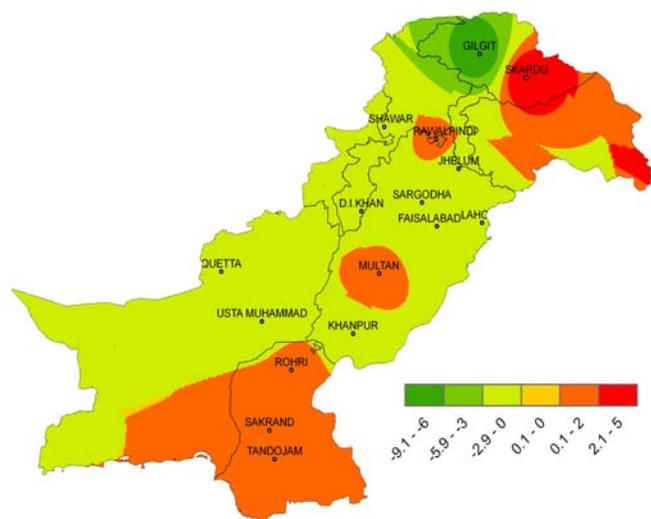
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

Dry weather reported during the decade, weather remained cloudy for 3 days and average relative humidity recorded as 63%. Mean night temperature was 26.3°C while day temperature recorded as 38.3°C. Wind speed recorded as 5.2 Km/hr with mean direction *southerly*. Presently one crop (Irrigated conditions) is grown at the station as detailed below:

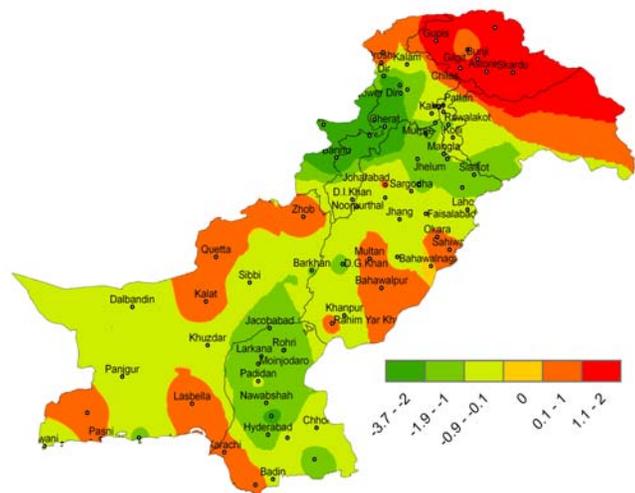
Rice: Good condition, Tillering stage almost completed.



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 August, 2012)

2.6 Rohri

Dry weather reported during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 57%. Mean night temperature was 28.0°C while day temperature recorded as 38.7°C with 98.9 hours bright sunshine duration. Wind speed recorded as 6.3 Km/hr with mean direction *north easterly*.

2.7 Skardu

Rainfall reported amounting 1.0 mm during the decade, weather remained cloudy for 6 days and average relative humidity recorded as 36%. Mean night temperature was 16.2°C while day temperature recorded as 32.6°C with 63.2 hours bright sunshine duration. Wind speed recorded as 5.4 Km/hr with mean direction *north westerly*.

2.8 Multan

Rainfall reported amounting 1.4 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 65%. Mean night temperature was 28.6°C while day temperature recorded as 37.6°C with 82.4 hours bright sunshine duration. Wind speed recorded as 5.6 Km/hr with mean direction *southerly*.

2.9 Lahore

Rainfall reported amounting 14.5 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 75%. Mean night temperature was 25.8°C while day temperature recorded as 33.5°C with 61.0 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *south easterly*.

2.10 Peshawar

Rainfall reported amounting 86.0 mm during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 73%. Mean night temperature was 25.1°C while day temperature recorded as 34.4°C with 62.5 hours bright sunshine duration. Wind speed recorded as 2.1 Km/hr with mean direction *north-north easterly*.

2.11 Khanpur

Dry weather reported during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 65%. Mean night temperature was 27.9°C while day temperature recorded as 36.6°C with 93.3 hours bright sunshine duration. Wind speed recorded as 3.5 Km/hr with mean direction *south westerly*.

2.12 Sargodha

Trace (amount not measurable) was reported during the decade, weather remained cloudy for 11 days and average relative humidity recorded as 67%. Mean night temperature was 27.2°C while day temperature recorded as 36.1°C with 71.6 hours bright sunshine duration. Wind speed recorded as 4.4 Km/hr with mean direction *north easterly*.

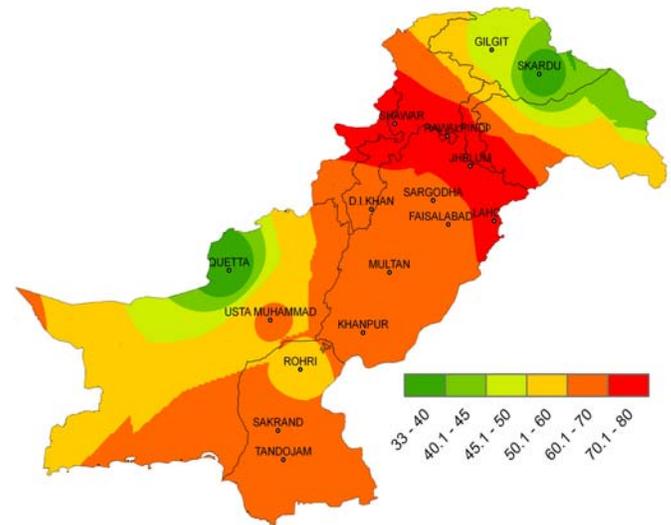


Figure.3: Relative Humidity in percentage

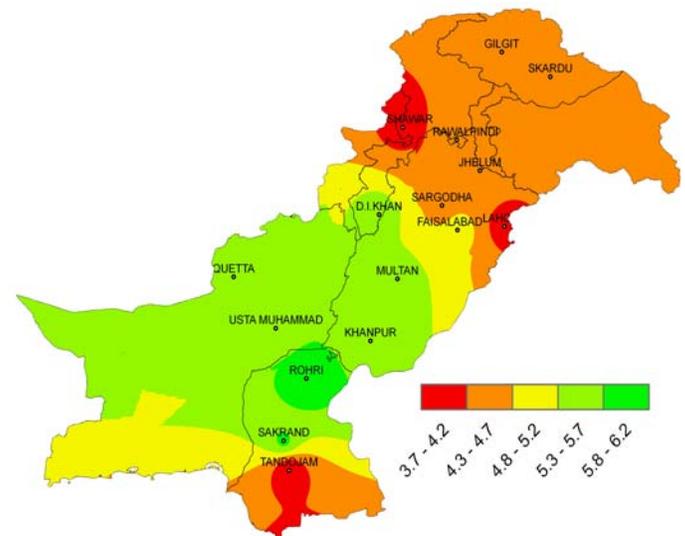


Figure.4: Reference Crop Evapotranspiration “ET₀” in mm/day

2.13 Gilgit.

Rainfall reported amounting 2.4 mm during the decade however weather remained cloudy for 11 days and average relative humidity recorded as 48%. Mean night temperature was 18.9°C while day temperature recorded as 25.3°C with 83.0 hours bright sunshine. Wind speed recorded as 5.4 Km/hr with mean direction *easterly*.

2.14 Jhelum

Rainfall reported amounting 111.9 mm during the decade however weather remained cloudy for 11 days and average relative humidity recorded as 79%. Mean night temperature was 24.6°C while day temperature recorded as 33.3°C with 76.5 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *south easterly*.

2.15 D.I. Khan

Rainfall reported amounting 68.0 mm during the decade, weather remained cloudy for 8 days and average relative humidity recorded as 68%. Mean night temperature was 26.0°C while day temperature recorded as 36.4°C with 96.2 hours bright sunshine duration. Wind speed recorded as 5.3 Km/hr with mean direction *easterly*.

2.16 Sakrand

Rainfall reported amounting 3.6 mm during the decade however weather remained cloudy for 9 days average relative humidity recorded as 61%. Mean night temperature was 24.4°C while day temperature recorded as 37.2°C with 106.2 hours bright sunshine duration. Wind speed recorded as 4.9 Km/hr with mean direction *south easterly*.

3. Ten days Weather advisory for Farmers (1st to 10th September, 2012)

3.1 Temperature Forecast:

Day time temperatures expected to be normal/below normal in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast:

- ❖ **Punjab:** Scattered rain/thundershower with isolated heavy fall is expected over Upper Punjab (Islamabad, Rawalpindi, Lahore, Gujranwala & Sargodha divisions) during 1st half of the decade. While, widespread Rain/Thundershower with isolated heavy to very heavy falls is expected over Punjab including Islamabad during 2nd half of the decade.
- ❖ **Khyber Pakhtoonkhawa:** Scattered rain/thundershower with isolated heavy fall is expected over Upper KP (Malakand, Hazara, Peshawar & Kohat divisions) during 1st half of the decade. While, widespread Rain/Thundershower with isolated heavy falls is expected over KP during 2nd half of the decade.
- ❖ **Sindh:** Mainly hot and humid weather is expected in most parts of the province during 1st half of the decade. While, widespread Rain/Thundershower with isolated heavy falls is expected in Sindh during 2nd half of the decade.
- ❖ **Balochistan:** Mainly hot and dry weather is expected in most parts of the province during 1st half of the decade. While, scattered Rain/Thundershower with isolated heavy falls is likely at Eastern parts of the province during 2nd half of the decade.
- ❖ **Kashmir & Gilgit-Baltistan:** Scattered Rain/TS with isolated heavy falls is expected over Kashmir during 1st half of the decade. While widespread rain/thundershower with isolated heavy to very heavy fall is expected over Kashmir during 2nd half of the decade. Mainly dry weather is expected in Gilgit Baltistan during 1st half of the decade. While, scattered rain/thunderstorm is expected in Gilgit Baltistan region during 2nd half of the decade.

3.3 Wind Forecast:

Gusty winds may prevail occasionally in the monsoon belt and adjoining areas during the decade.

3.4 Advisory for Farmers:

- ❖ Farmers are advised to take in time necessary precautionary measures to protect their crops, livestock and other property to keep in mind with current situation of monsoon.
- ❖ Due to rainy weather expected in cotton belt during the 2nd half of the decade, farmers are advised to irrigate the crop as per requirement. Farmers are also advised to stop irrigation of maize crop in upper half including agricultural plains of Punjab and KP.
- ❖ During the hot & humid weather in monsoon season, farmers of cotton belt are advised to take in time precautionary measures to protect the crop from the pest attacks during the period.
- ❖ Recent rains may accelerate weeds growth in standing crops. Farmers should take in time precautionary measures through manual methods or chemical spraying to control weeds on time.