

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate rainfall (with snow over hills) reported from the most of the agricultural plains of KP, Punjab, Balochistan, Sindh, Gilgit Baltistan & Kashmir during the last decade.
- ❖ Highest amount of rainfall recorded as 93.0 mm at Malamjabba during the last decade.
- ❖ Lowest minimum temperature recorded as  $-10.8^{\circ}\text{C}$  at Skardu during the last decade.
- ❖ Higher values of relative humidity reported from Punjab, KP and Kashmir during the last decade.
- ❖ Higher values of ETo reported from the agricultural plains of Sindh and most parts of Balochistan but lower values reported from Skardu region.
- ❖ Day & night temperatures expected to be dropped  $1-3^{\circ}\text{C}$  &  $3-5^{\circ}\text{C}$  respectively during 1<sup>st</sup> half but day & night temperatures expected to be normal in most of the agricultural plains of the country during the 2<sup>nd</sup> half of the decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the next decade.
- ❖ Chances of light rainfall (with snow over hills) in upper parts of KP, Kashmir, GB and Rawalpindi divisions.
- ❖ Moisture conditions in barani areas enhanced after the good spells of rainfall during the last decade.

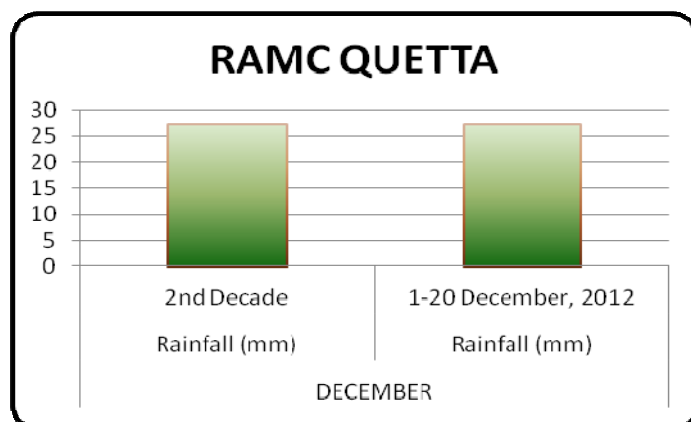
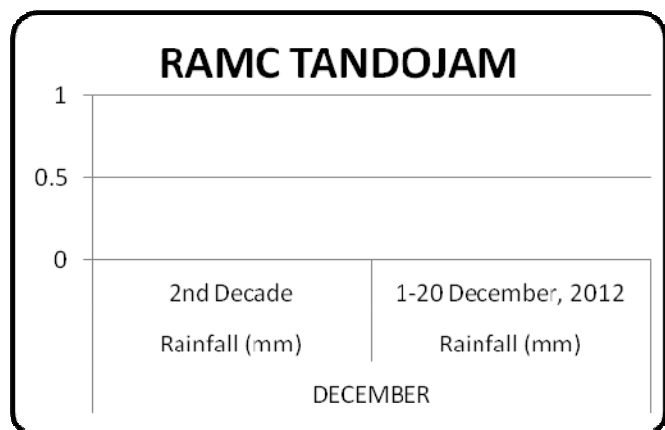
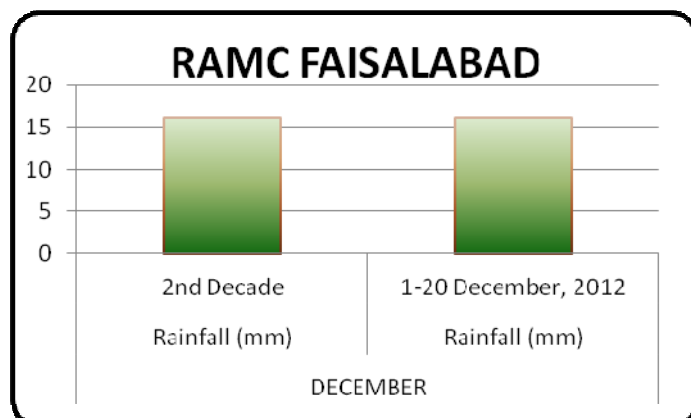
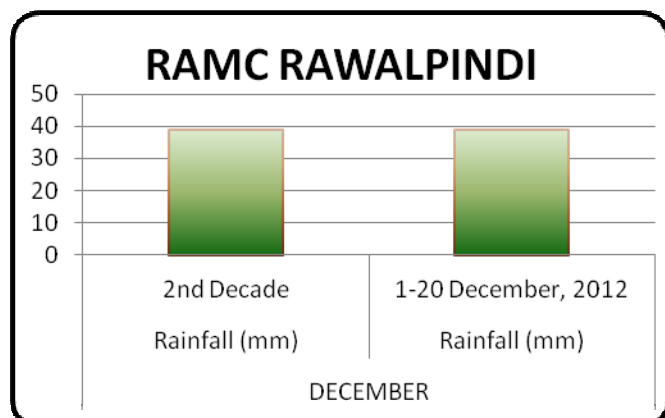
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## Graphs for Rainfall (mm) during December 2012



**Note:** No Rainfall recorded at RAMC Tandojam during the 2<sup>nd</sup> decade of December.

Meteorological conditions during 2<sup>nd</sup> decade of December, 2012.

Sr. No.	Station	Precipitation (mm)			Air Temperature (°C)			Soil Temperatures (°C)						Sunshine Duration (hours)	Wind Speed (km/hr)	R.H (%)	ET <sub>o</sub> (mm/day)
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	TANDOJAM	0.4	0.0	-0.4	1.2	-1.0	17.8	22.0	21.8	***	20.9	22.3	23.9	72.9	1.3	63.0	1.8
2	SAKRAND ☆	1.0	0.0	-1.0	0.7	1.3	16.3	22.3	21.9	***	22.5	23.2	25.8	78.1	1.9	60.0	1.8
3	ROHRI	1.2	0.0	-1.2	1.5	-1.0	17.2	23.4	22.3	21.0	22.3	21.8	26.3	69.7	3.2	59.0	1.8
4	QUETTA	0.2	27.2	27.0	1.8	-4.5	5.5	9.1	8.8	7.5	7.4	7.9	12.6	51.6	5.4	67.0	1.5
5	KHANPUR	1.6	0.0	-1.6	1.3	-1.5	14.9	16.5	16.4	16.9	17.5	17.7	20.9	48.7	1.6	68.0	1.3
6	MULTAN	0.6	30.0	29.4	2.8	-3.0	14.7	***	***	***	***	***	***	50.4	2.8	73.5	1.3
7	LAHORE	0.4	15.6	15.2	-1.2	-2.3	14.2	15.7	15.4	15.3	15.6	***	19.4	56.2	3.5	68.0	1.4
8	FAISALABAD	0.2	16.2	16.0	2.3	-2.2	14.4	16.7	15.9	15.0	15.2	16.5	19.6	47.1	3.6	70.0	1.4
9	SARGODHA	0.6	15.4	14.8	2.0	-2.6	14.6	16.8	15.7	15.8	16.6	18.5	20.6	52.4	1.5	76.0	1.1
10	JHELUM	0.4	22.8	22.4	1.1	-2.7	14.0	15.3	14.9	14.8	15.3	16.7	***	33.7	2.8	68.0	1.1
11	RAWALPINDI	1.5	38.8	37.3	2.3	-2.9	12.1	13.3	12.4	12.6	12.9	13.9	16.2	38.0	1.7	75.0	0.9
12	DI KHAN	0.1	23.4	23.3	1.7	-4.1	12.7	***	***	***	***	***	***	55.7	2.6	69.0	1.2
13	PESHAWAR	0.6	46.1	45.5	0.5	-2.5	12.4	14.2	13.9	13.6	16.0	16.2	18.0	45.4	1.4	70.0	0.9
14	SKARDU	1.2	0.5" (Snow)	***	0.0	-0.1	0.9	***	***	***	***	***	***	25.5	0.3	63.0	0.6
15	GILGIT	0.3	0.2	-0.1	1.7	0.2	6.2	***	***	***	***	***	***	16.7	2.3	56.0	1.0

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. E.T<sub>o</sub> stands for reference crop evapotranspiration. \*\*\* stands for no data and (☆) indicates the station with five years climatic (normal) data for computing departures.

### **Past Weather (11<sup>th</sup> to 20<sup>th</sup> December, 2012):**

Light to moderate rainfall (with snow over hills) reported from the most of the agricultural plains of KP, Punjab, Balochistan, Sindh, Gilgit Baltistan & Kashmir during the decade.

#### **1.1 Punjab**

Light to moderate rainfall reported at a number of places in agricultural plains of Punjab; chief amount received at Murree, Islamabad, Mangla etc. Decadal maximum temperature dropped below normal by 2.5°C and minimum temperature raised above normal by 1.5°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.5 k/hr, 71%, and 1.2 mm/day respectively (Fig 3-4).

#### **1.2 Sindh**

Light to moderate rainfall reported at a few places in agricultural plains of Sindh; chief amount received at Karachi, Jacobabad, Badin etc. Decadal maximum temperature dropped below normal by 0.2°C and minimum temperature raised above normal by 1.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.1 km/hr, 61%, and 1.8 mm/day respectively.

#### **1.3 Khyber Pakhtoonkhawa (KP)**

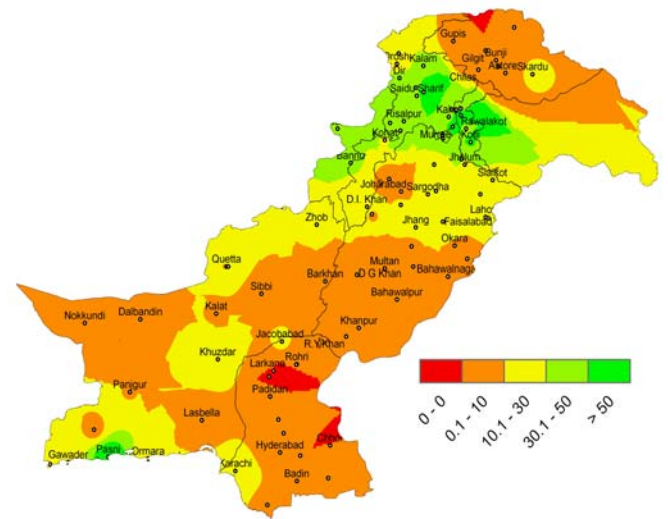
Light to moderate rainfall reported at a number of places in agricultural plains of KP; chief amount received at Malamjabba, Parachinar, Dir etc. In KP region; Decadal maximum temperature dropped below normal by 3.3°C and minimum temperature raised above normal by 1.1°C, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.0 km/hr, 70%, and 1.1 mm/day respectively.

#### **1.4 Balochistan**

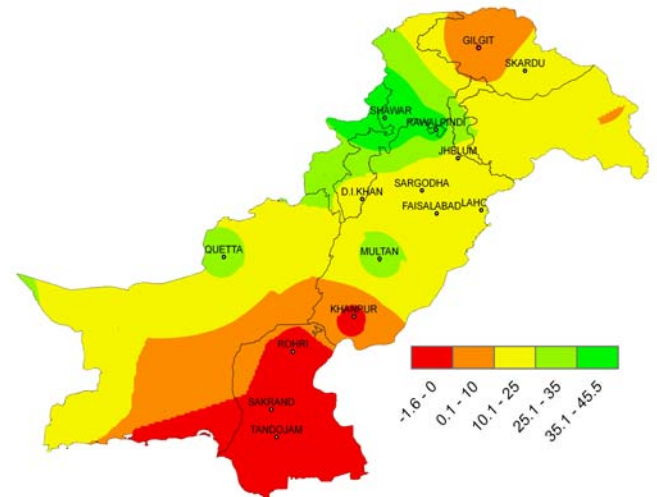
Moderate to heavy rainfall reported at a number of places in agricultural plains of Balochistan; chief amount received at Pasni, Gawdar, Kalat etc. Decadal maximum temperature dropped below normal by 4.5°C and minimum temperature raised above normal by 1.8°C, in the province. Whereas mean values of wind speed, relative humidity and ETo were 5.4 km/hr, 67%, and 1.5 mm/day respectively.

#### **1.5 Gilgit Baltistan and Azad Jammu & Kashmir**

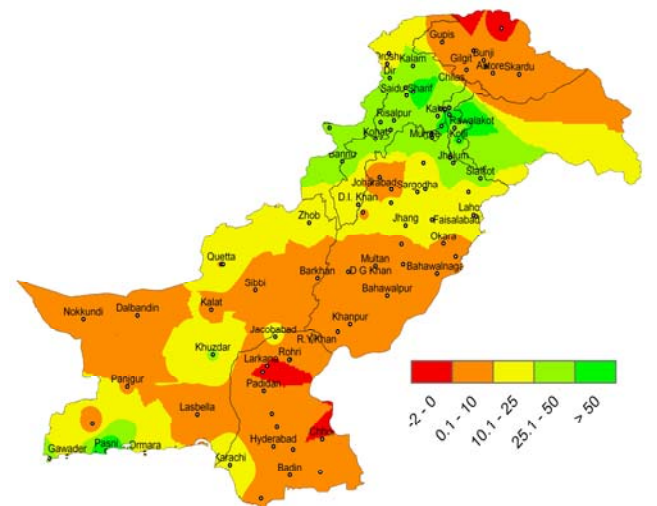
Moderate to heavy rainfall reported at a number of places in agricultural plains of GB & Kashmir; chief amount received at Garhi dopatta, Kotli and Muzaffarabad. In GB & AJK region; decadal maximum and minimum temperature raised above normal by 0.0 & 0.9°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded 1.3 km/hr, 60 %, and 0.8 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 (11<sup>th</sup> to 20<sup>th</sup> December, 2012) as per Table-1**

**2.1 RAMC, Rawalpindi (Potohar region)**

Moderate rainfall reported during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 75%. Mean night temperature was 6.7°C while day temperature recorded as 17.4°C with 38.0 hours bright sunshine duration. Wind speed recorded as 1.7 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

Wheat Chakwal 97: Good condition, Third leaf stage.

**2.2 RAMC, Tandojam (Lower Sindh)**

No rainfall reported during the decade, weather remained cloudy for 4 days during the decade, average relative humidity recorded as 63%. Mean night temperature was 11.1°C while day temperature recorded as 24.5°C with 72.9 hours bright sunshine duration. Wind speed recorded as 1.3 km/hr with mean direction *north westerly*.

Wheat (TJ 83): Good condition, Tillering stage.

**2.3 RAMC, Faisalabad (Central Punjab)**

Moderate rainfall reported during the decade. weather remained cloudy for 6 days, average relative humidity recorded as 70%. Mean night temperature was 8.6°C while day temperature recorded as 20.1°C with 47.1 hours bright sunshine duration. Wind speed recorded as 3.6 Km/hr with mean direction *north westerly*.

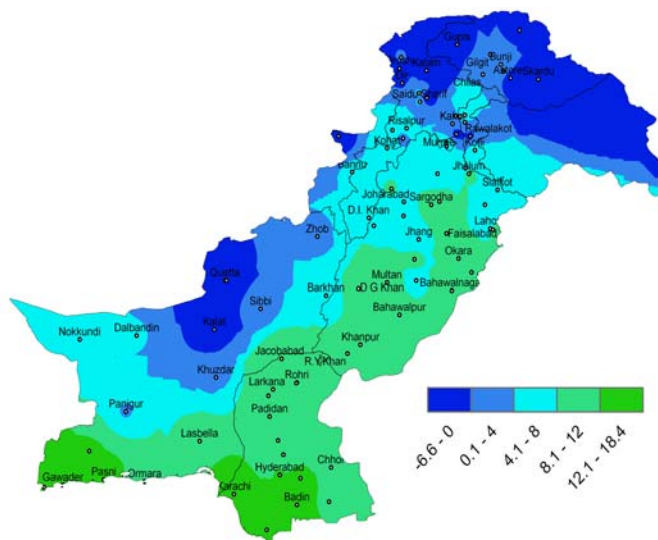
Sugarcane: Very Good condition, Third leaf completed.

Wheat: Very Good condition, Third leaf stage.

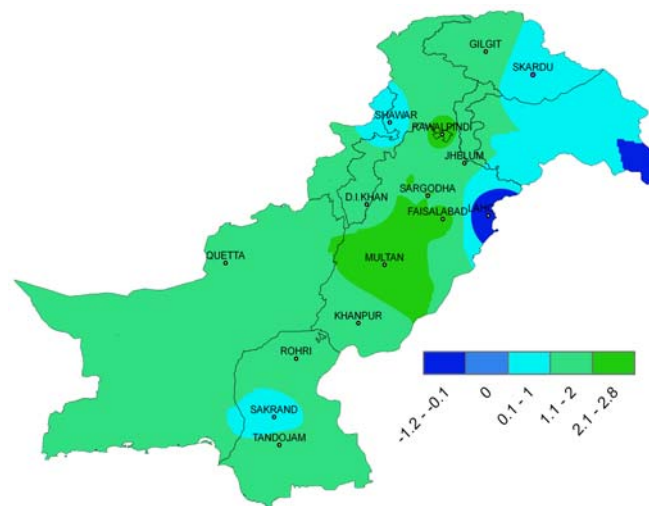
**2.4 RAMC, Quetta (Northern Balochistan)**

Moderate rainfall reported during the decade, weather remained cloudy for 9 days, average relative humidity recorded as 67%. Mean night temperature was 1.0°C while day temperature recorded as 9.9°C with 51.6 hours bright sunshine duration and wind speed recorded as 5.4 Km/hr with mean direction *southerly*.

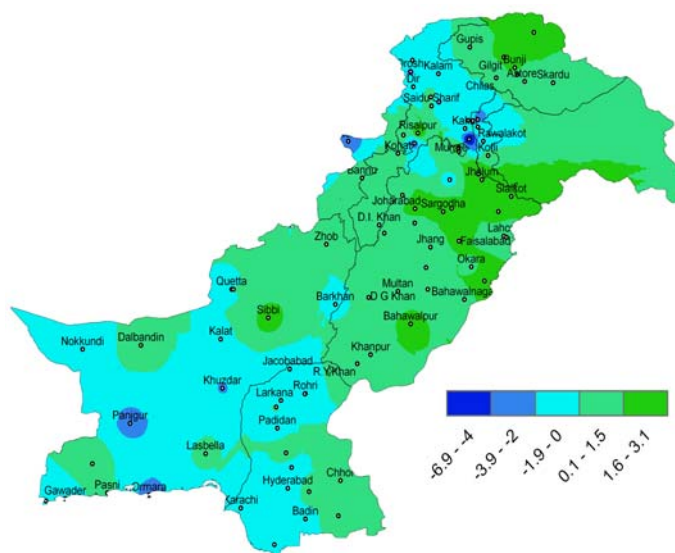
Wheat (Local white): Good condition, Third leaf stage.



(a) Actual min-temp



(b) Departure of min-temp from Normal



(c) Departure of min-temp from Previous Decade

Figure.2: Minimum Temperature distribution during previous decade in “°C”

## 2(b) Past Weather for sub regional Agricultural Plains (11<sup>th</sup> to 20<sup>th</sup> December, 2012)

### 2.5 Rohri

No rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 59%. Mean night temperature was 12.0°C while day temperature recorded as 22.3°C with 69.7 hours bright sunshine duration. Wind speed recorded as 3.2 Km/hr with mean direction *north easterly*.

### 2.6 Skardu

Snowfall reported 0.5 inch during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 63%. Mean night temperature was -4.9°C while day temperature recorded as 6.6°C with 25.5 hours bright sunshine duration with mean speed 0.3 Km/hr and mean direction *north westerly*.

### 2.7 Multan

Light rainfall reported during the decade, weather remained cloudy for 9 days, average relative humidity recorded as 74%. Mean night temperature was 9.2°C while day temperature recorded as 20.2°C with 50.4 hours bright sunshine duration. Wind speed recorded as 2.8 Km/hr with mean direction *northerly*.

### 2.8 Lahore

Moderate rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 68%. Mean night temperature was 8.8°C while day temperature recorded as 19.6°C with 56.2 hours bright sunshine duration. Wind speed recorded as 3.5 Km/hr with mean direction *north westerly*.

### 2.9 Peshawar

Moderate rainfall reported during the decade, weather remained cloudy for 8 day, average relative humidity recorded as 70%. Mean night temperature was 6.7°C while day temperature recorded as 18.1°C with 45.4 hours bright sunshine duration. Wind speed recorded as 1.4 Km/hr with mean direction *north-northwest*.

### 2.10 Khanpur

No rainfall reported during the decade, weather remained cloudy for 9 days during the decade, average relative humidity recorded as 68%. Mean night temperature was 8.2°C while day temperature recorded as 21.5°C with 48.7 hours bright sunshine duration. Wind speed recorded as 1.6 Km/hr with mean direction *north easterly*.

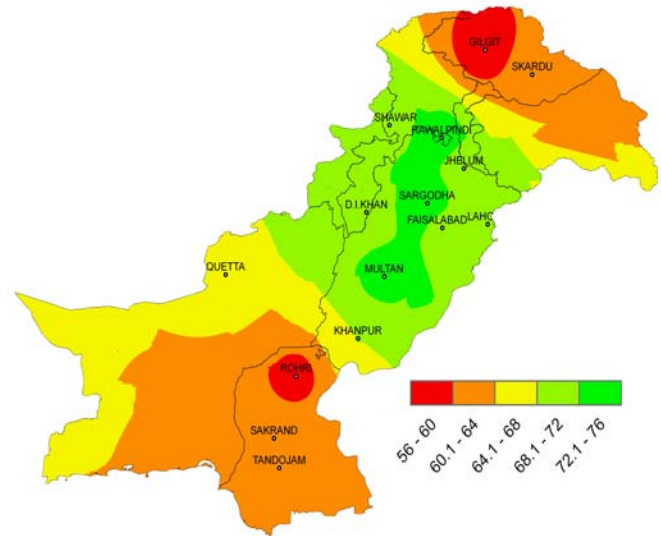


Figure.3: Relative Humidity in percentage

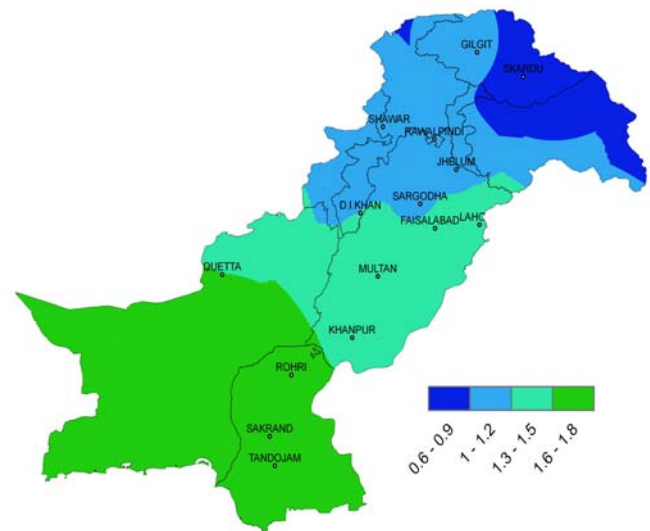


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

### 2.11 Sargodha

Moderate rainfall reported during the decade, weather remained cloudy for 7 days during the decade, average relative humidity recorded as 76%. Mean night temperature was 9.2°C while day temperature recorded as 20.0°C with 52.4 hours bright sunshine duration. Wind speed recorded as 1.5 Km/hr with Variable direction.

### 2.12 Gilgit.

Rainfall reported as 0.2 mm during the decade. weather remained cloudy for 9 days and average relative humidity recorded as 56%. Mean night temperature was 0.1°C while day temperature recorded as 12.2°C with 16.7 hours bright sunshine. Wind speed recorded as 2.3 Km/hr with mean direction *westerly*.

### 2.13 Jhelum

Moderate rainfall reported during the decade. weather remained cloudy for 7 days and average relative humidity recorded as 68%. Mean night temperature was 8.4°C while day temperature recorded as 19.5°C with 33.7 hours bright sunshine duration. Wind speed recorded as 2.8 Km/hr with mean direction *north westerly*.

### 2.14 D.I. Khan

Moderate rainfall reported during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 69%. Mean night temperature was 7.0°C while day temperature recorded as 18.4°C with 55.7 hours bright sunshine duration. Wind speed recorded as 2.6 Km/hr with mean direction *north easterly*.

### 2.15 Sakrand

Trace (not measurable) rainfall reported during the decade, weather remained cloudy for 6 days during the decade and average relative humidity recorded as 60%. Mean night temperature was 8.7°C while day temperature recorded as 23.9°C with 78.1 hours bright sunshine duration. Wind speed recorded as 1.9 Km/hr with mean direction *north easterly*.

### 3. Ten days Weather advisory for Farmers (21<sup>st</sup> to 31<sup>st</sup> December, 2012)

#### 3.1 Temperature Forecast:

Day & night temperatures expected to be dropped 1-3°C & 3-5°C respectively during 1st half but day & night temperatures expected to be normal in most of the agricultural plains of the country during the 2<sup>nd</sup> half of the decade.

#### 3.2 Rain Forecast:

- ❖ **Punjab:** Mainly dry weather is expected in most parts of the province. However isolated chances of light rain in Rawalpindi divisions on 28<sup>th</sup> December.
- ❖ **Khyber Pakhtoonkhawa:** Mainly dry weather is expected in most parts of the province during the decade. However light rain (with snow over hills) may occur at Malakand division on 23<sup>rd</sup> and on upper KP during 27<sup>th</sup> / 28<sup>th</sup> December occasionally.
- ❖ **Sindh:** Mainly dry weather is expected in most parts of the province during the decade.
- ❖ **Balochistan:** Mainly dry weather is expected in most parts of the province.
- Gilgit-Baltistan & Kashmir:** Mainly dry weather is expected in most parts of the province during the decade. However isolated light rain/snow may occur occasionally on 23<sup>rd</sup> and at scattered places during 26<sup>th</sup> to 28<sup>th</sup> December.

#### 3.3 Wind Forecast:

Normal wind pattern may prevail in most of the agricultural plains of the country during the decade.

#### 3.4 Advisory for Farmers:

- ❖ Moisture stress conditions in rainfed areas weakened after the good spells of rainfall during the last decade. Farmers are advised to remove the weeds from standing crops.
- ❖ Removing weeds from standing crops is very important as weeds utilize moisture, which may be utilized by the crop. However weedicides or manually should be used against weeds and removed all type of weeds from the standing crops.
- ❖ Wheat crop is in Third Leaf/Tillering development stages in most of the agricultural plains of the country but in few areas wheat crop is in Emergence stage.
- ❖ Farmers may irrigate the crop as per requirement keeping the coming conditions of weather in most of the agricultural plains of the country.
- ❖ Due to further drop of temperatures, especially farmers of upper areas are advised to protect their crops from the coming season of frost.