

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate rainfall reported from most of the agricultural plains of the country during the last decade.
- ❖ Lowest minimum temperature recorded as  $-5.1^{\circ}\text{C}$  at Skardu during the last decade.
- ❖ Highest amount of rainfall recorded as 88.1mm at Parachinar during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & Skardu region and higher values reported from northwestern parts of the KP & Punjab during the last decade.
- ❖ Higher values of ETo reported from lower agricultural plains of the country and lower values reported from upper parts of the country during the last decade.
- ❖ Higher values of wind speed reported from western parts of Balochistan and lower values reported from west-north west parts of KP during the last decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the current decade.
- ❖ Night temperatures are likely to fall in most of the upper agricultural plains of the country during the current decade.
- ❖ Mainly dry & cold weather is expected in most of the agricultural plains of the country during the current decade.
- ❖ Light rainfall/snowfall is expected in upper parts of the country during the current decade.

## NATIONAL AGROMET CENTRE (NAMC) PAKISTAN METEOROLOGICAL DEPARTMENT SECTOR H-8/2, ISLAMABAD

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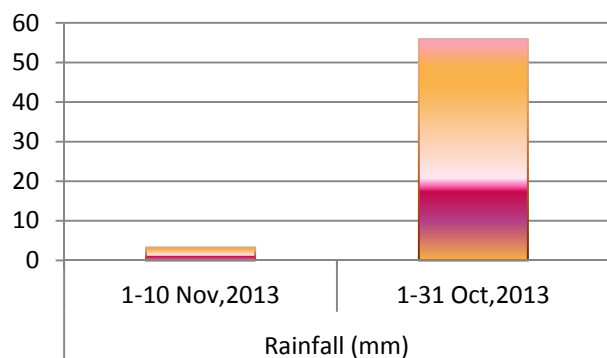
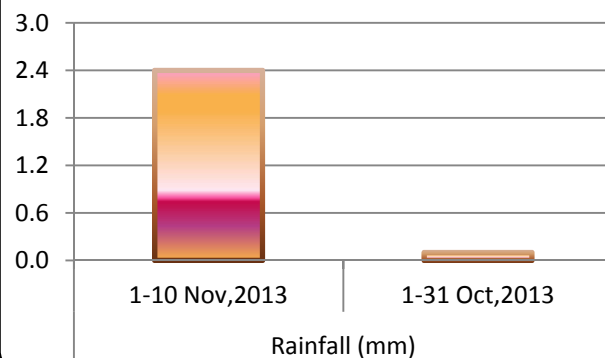
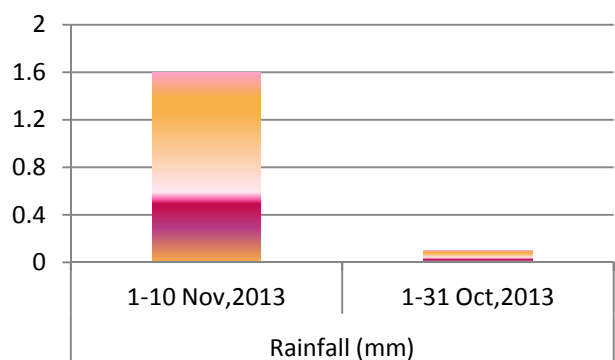
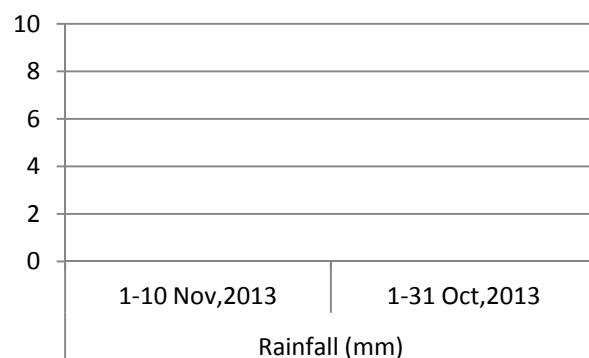
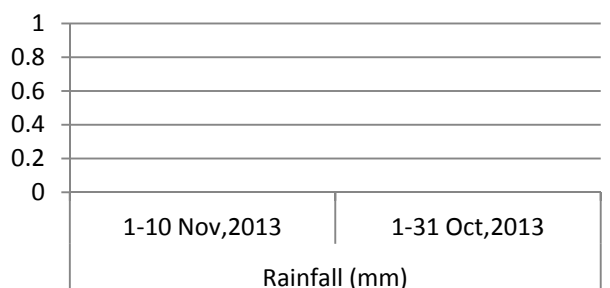
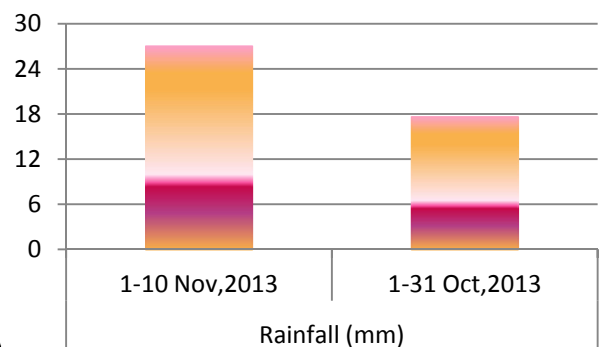
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Meteorological conditions during 1<sup>st</sup> decade of November, 2013

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	0.0	0.0	0.0	-0.4	-3.1	23.5	30.0	30.5	28.2	27.4	28.7	***	86.9	1.7	51	2.9
2	SAKRAND ☆	0.0	0.1	0.1	-4.1	-3.4	20.9	31.5	29.9	33.2	***	30.0	31.7	92.4	1.3	59	2.6
3	ROHRI	0.0	0.1	0.1	-1.2	-4.5	22.9	31.0	29.3	28.8	28.7	28.3	31.7	89.9	2.9	48	2.9
4	USTA MUHAMMAD	0.0	0.0	0.0	-0.8	-3.2	22.9	27.0	26.7	27.1	27.2	***	30.9	***	***	66	3.2
5	QUETTA	0.1	2.4	2.3	-1.6	-5.2	10.1	19.7	18.2	15.3	14.4	15.2	19.7	79.2	3.6	42	2.2
6	KHANPUR	0.0	0.0	0.0	-1.9	-4.1	20.7	***	24.5	25.2	26.0	27.3	28.9	80.6	2.8	59	2.6
7	MULTAN	0.0	1.0	1.0	-0.7	-4.6	20.3	***	***	***	***	***	***	68.9	2.0	58	2.2
8	LAHORE	0.0	4.5	4.5	-3.9	-3.2	19.6	22.8	22.5	21.9	22.2	***	25.8	70.2	2.6	65	2.2
9	FAISALABAD	0.0	1.6	1.6	-0.4	-3.1	19.9	26.7	25.1	23.5	23.4	24.7	27.6	64.8	3.0	58	2.3
10	SARGODHA	0.0	3.3	3.3	-0.9	-3.4	20.0	23.9	22.9	22.7	23.4	25.1	26.5	52.0	0.9	65	1.7
11	JHELUM	0.1	32.6	32.5	-1.9	-4.6	18.4	21.8	21.1	20.8	21.4	22.9	***	54.5	1.4	63	1.7
12	RAWALPINDI	0.3	3.3	3.0	-0.8	-4.6	16.4	19.1	18.7	18.3	19.0	20.5	23.2	52.2	1.6	68	1.6
13	DI KHAN	0.0	7.0	7.0	-1.9	-4.3	18.7	***	***	***	***	***	***	68.4	0.3	61	1.6
14	PESHAWAR	0.4	27.0	-0.4	-2.8	-4.6	16.4	20.1	19.2	18.7	20.9	***	23.6	39.1	0.8	73	1.3
15	SKARDU	0.1	1.0	0.9	-0.3	-3.0	6.7	***	***	***	***	***	***	51.1	1.8	49	1.3
16	GILGIT	0.2	11.7	11.5	1.1	-4.6	10.6	***	***	***	***	***	***	40.8	1.4	60	1.5

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<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.

**Graphs for Rainfall (mm) during Nov/Oct 2013****RAMC RAWALPINDI****RAMC QUETTA****RAMC FAISALABAD****RAMC TANDOJAM****RAMC USTA MUHAMMAD****RMC PESHAWAR**

**Past Weather (1<sup>st</sup> to 10<sup>th</sup> November, 2013):**

Light to moderate rainfall (with light snowfall over hills) reported from the agricultural plains of KP, Punjab, Balochistan, GB & Kashmir, while light/trace rainfall reported from the agricultural plains of Sindh during the period.

**1.1 Punjab**

Light to moderate rainfall reported at few places in the agricultural plains of Punjab; chief amount received at Jhelum, Mangla & Mandibahudin etc. Decadal minimum & maximum temperature both dropped below normal by 1.5°C & 3.9°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 63.3hrs, 2.0km/hr, 62% and 2.0mm/day respectively.

**1.2 Sindh**

Light rainfall reported at few places in the agricultural plains of Sindh; chief amount received at Sukkar & Jacobabad etc. Decadal minimum & maximum temperature both dropped below normal by 1.9°C & 3.7°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 89.7hrs, 2.0km/hr, 53% and 2.8mm/day respectively.

**1.3 Khyber Pakhtunkhwa (KP)**

Light to moderate rainfall reported at number of places in the agricultural plains of KP; chief amount received at Parachinar, Malam Jabba & Lower Dir etc. Decadal minimum & maximum temperature both dropped below normal by 2.4°C & 4.5°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 53.8hrs, 0.6km/hr, 67% and 1.5mm/day respectively.

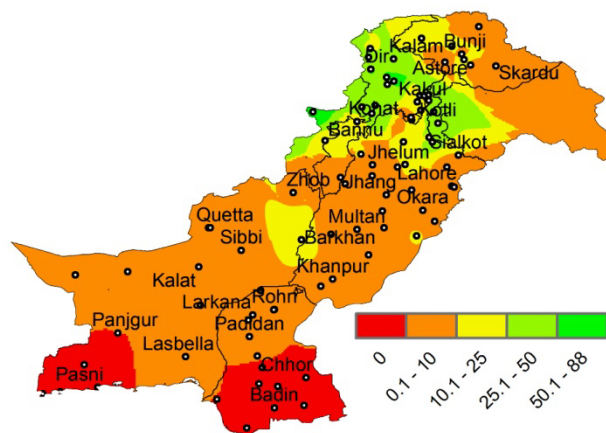
**1.4 Balochistan**

Light rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Barkhan, Zhob & Dalbandin etc. Decadal minimum & maximum temperature both dropped below normal by 1.2°C & 4.2°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were 79.2hrs, 3.6km/hr, 54% and 2.7mm/day respectively.

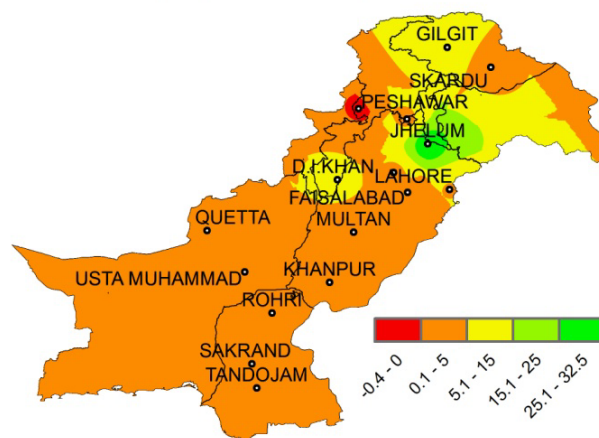
**1.5 Gilgit Baltistan and Azad Jammu & Kashmir**

Light rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Rawalakot, Pattan & Kotli etc. Decadal minimum dropped below normal by 0.4°C & maximum temperature raised above normal by 3.8°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative

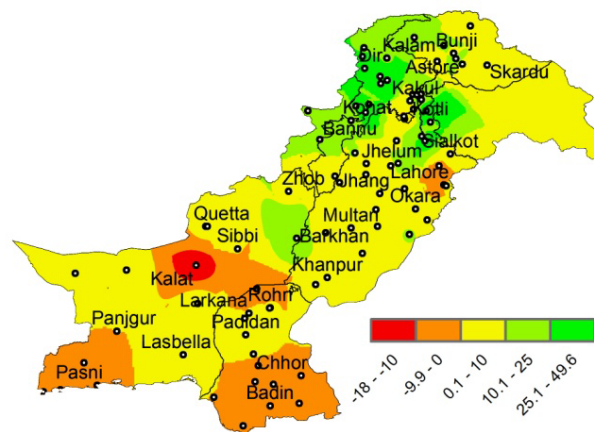
humidity and ETo were recorded 46hrs, 1.6km/hr, 55% and 1.4mm/day respectively.



Actual rainfall



a) 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 (1<sup>st</sup> to 10<sup>th</sup> November, 2013):

### 2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 3.3mm during the decade, weather remained cloudy for 05days, average relative humidity recorded as 68%. Mean night temperature was 9.7°C while day temperature recorded as 23.1°C with 52.2hours bright sunshine duration. Wind speed recorded as 1.6km/h with mean wind direction *westerly*.

**Maize Agati 2002:** Good condition, Full maturity stage.

### 2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 1.6mm during the decade, weather remained cloudy for 07days, average relative humidity recorded as 58%. Mean night temperature was 13.1°C while day temperature recorded as 26.7°C with 64.8hours bright sunshine duration. Wind speed recorded as 3.0km/hr with mean wind direction *westerly*.

**Sugarcane:** Very Good condition, Tillering completed.

**Cotton:** Good condition, Normal picking stage.

### 2.3 RAMC, Tandojam (Lower Sindh)

No rainfall reported during the decade, weather remained cloudy for 01day, average relative humidity recorded as 51%. Mean night temperature was 16.0°C while day temperature recorded as 31.0°C with 86.9hours bright sunshine duration. Wind speed recorded as 1.7km/hr with mean wind direction *northerly*.

**Note:** No crop is grown at the station.

### 2.4 RAMC, Quetta (Northern Balochistan)

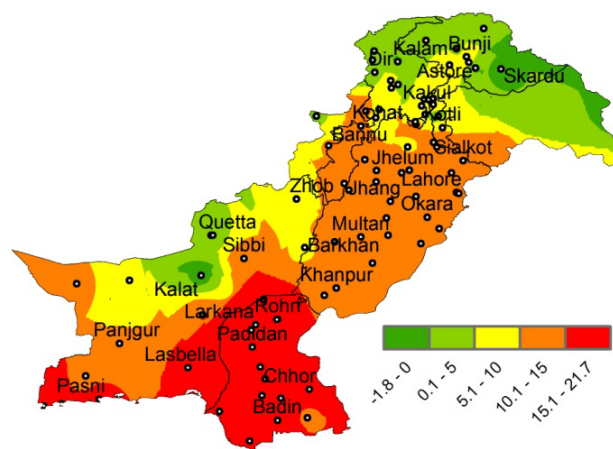
Rainfall reported as 2.4mm during the decade, weather remained cloudy for 07days, average relative humidity recorded as 42%. Mean night temperature was 2.9°C while day temperature recorded as 17.2°C with 79.2hours bright sunshine duration and wind speed recorded as 3.6km/hr with mean wind direction *north westerly*.

**Note:** No crop is grown at the station.

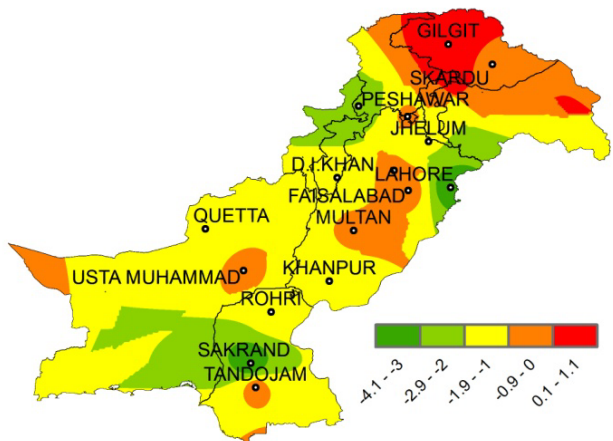
### 2.5 RAMC, Usta Muhammad (Eastern Balochistan)

No rainfall reported during the decade, weather remained cloudy for 06days, average relative humidity recorded as 66%. Mean night temperature was 17.1°C, while day temperature recorded as 28.6°C. The data of bright sunshine hour and wind speed was not available, while mean wind direction was *westerly*.

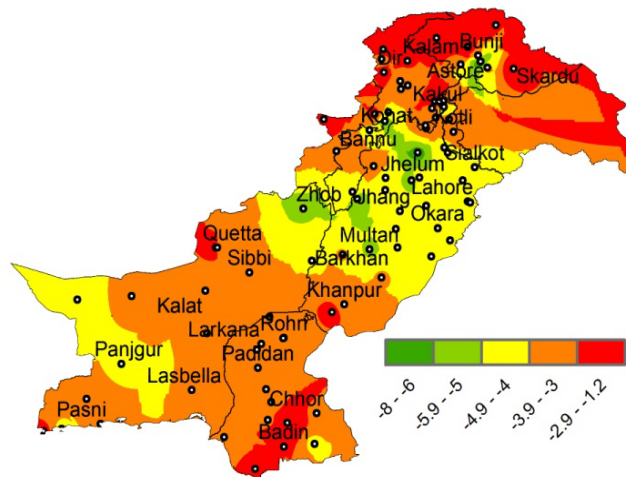
**Rice:** Good condition, harvesting started.



(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 (1<sup>st</sup> to 10<sup>th</sup> November, 2013):**

2.6 **Jhelum**

Rainfall reported as 32.6mm during the decade, weather remained cloudy for 08days and average relative humidity recorded as 63%. Mean night temperature was 11.8°C while day temperature recorded as 25.0°C with 54.5hours bright sunshine duration. Wind speed recorded 1.4km/hr with mean wind direction *north westerly*.

2.7 **Lahore**

Rainfall reported as 4.5mm during the decade, weather remained cloudy for 06days, average relative humidity recorded as 65%. Mean night temperature was 13.0°C while day temperature recorded as 26.1°C with 70.2hours bright sunshine duration. Wind speed recorded as 2.6km/hr with mean direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 3.3mm during the decade, weather remained cloudy for 07days during the decade, average relative humidity recorded as 65%. Mean night temperature was 13.9°C while day temperature recorded as 26.1°C with 52.0hours bright sunshine duration. Wind speed recorded as 0.9km/hr with mean direction *north easterly*.

2.9 **Multan**

Rainfall reported as 1.0mm during the decade, weather remained cloudy for 07days, average relative humidity recorded as 58%. Mean night temperature was 14.2°C while day temperature recorded as 26.3°C with 68.9hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *north easterly*.

2.10 **Khanpur**

No rainfall reported during the decade, weather remained cloudy for 06days, average relative humidity recorded as 59%. Mean night temperature was 13.3°C while day temperature recorded as 28.1°C with 80.6hours bright sunshine duration. Wind speed recorded as 2.8km/hr with mean wind direction *north easterly*.

2.11 **Rohri**

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 04days, average relative humidity recorded as 48%. Mean night temperature was 17.2°C while day temperature recorded as 28.6°C with 89.9hours bright sunshine duration. Wind speed recorded 2.9km/hr with mean wind direction *north easterly*.

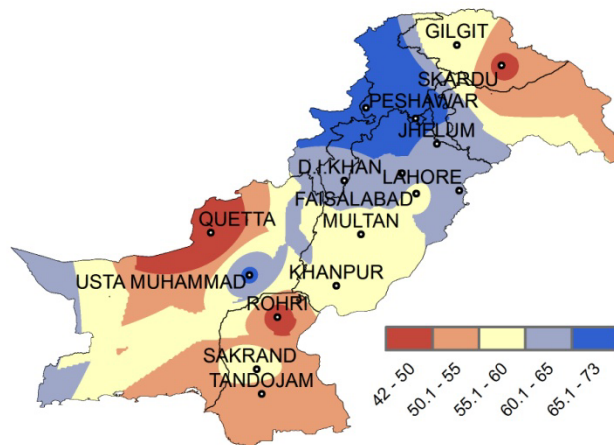


Figure.3: Relative Humidity in percentage

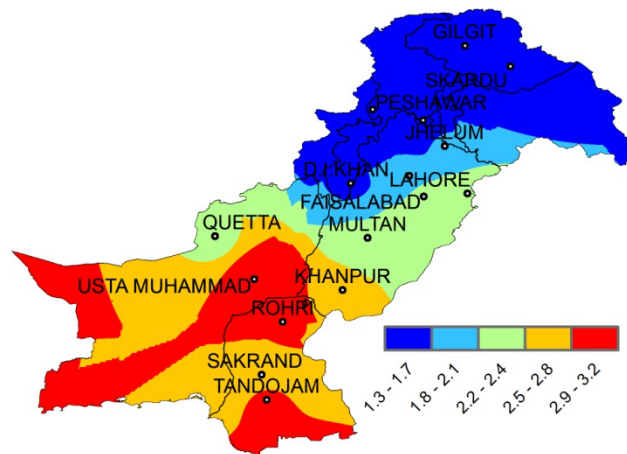


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

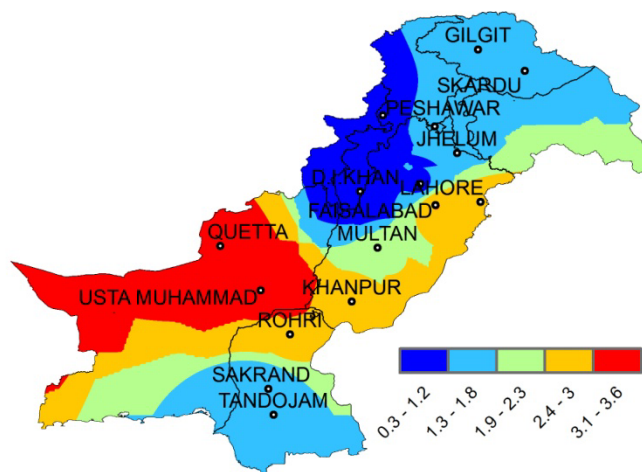


Figure 5: Wind Speed in kilometer per hour

**2.12 Sakrand**

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 03days, average relative humidity recorded as 59%. Mean night temperature was 12.1°C while day temperature recorded as 29.7°C with 92.4hours bright sunshine duration. Wind speed recorded as 1.3km/hr with mean wind direction *northerly*.

**2.13 Peshawar**

Rainfall reported as 27.0mm during the decade, weather remained cloudy for 08days, average relative humidity recorded as 73%. Mean night temperature was 10.4°C while day temperature recorded as 22.3°C with 39.1hours bright sunshine duration. Wind speed recorded as 0.8km/hr with mean wind direction *north westerly*.

**2.14 D.I. Khan**

Rainfall reported as 7.0mm during the decade, weather remained cloudy for 04days, average relative humidity recorded as 61%. Mean night temperature was 11.7°C while day temperature recorded as 25.7°C with 68.4hours bright sunshine duration. Wind speed recorded as 0.3km/hr with mean direction *north easterly*.

**2.15 Gilgit**

Rainfall reported as 11.7mm during the decade, weather remained cloudy for 02days, average relative humidity recorded as 60%. Mean night temperature was 3.1°C while day temperature recorded as 18.0°C with 40.8hours bright sunshine duration. Wind speed recorded as 1.4km/hr with mean wind direction *variable*.

**2.16 Skardu**

Rainfall reported as 1.0mm during the decade, weather remained cloudy for 06days, average relative humidity recorded as 49%. Mean night temperature was -1.0°C while day temperature recorded as 14.3°C with 51.1hours bright sunshine duration with mean speed 1.8km/hr with mean direction *variable*.

**3. Ten days Weather advisory for Farmers  
(11<sup>th</sup> to 20<sup>th</sup> November, 2013):****3.1 Temperature Forecast:**

Day temperatures are expected to be normal but night temperature falls in most of the agricultural plains of the country during the decade.

**3.2 Rain Forecast:**

- ❖ **Punjab:** Mainly dry/cold weather is expected in most parts of the province during the decade; however rainfall is expected at isolated places in upper parts of the province during 12<sup>th</sup> / 13<sup>th</sup> November.
- ❖ **Khyber Pakhtunkhwa:** Mainly dry & cold weather is expected in most parts of the province during the decade; however rainfall is expected at isolated places in upper parts of the province during the 1<sup>st</sup> half of the decade.
- ❖ **Sindh:** Mainly dry weather is expected in most parts of the province during the decade.
- ❖ **Balochistan:** Mainly dry & cold weather is expected in most parts of the province during the decade; however rainfall is expected at isolated places in southwestern parts of the province during the mid of the decade.
- ❖ **Gilgit-Baltistan:** Mainly dry/partly cloudy & cold weather is expected in most parts of the province during the decade; however rainfall is expected at isolated places in GB during the decade.
- ❖ **Kashmir:** Mainly dry/partly cloudy & cold weather is expected in most parts of Kashmir during the decade; however rainfall is expected at isolated places in Kashmir during the decade.

**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:**

- ❖ Farmers of wheat growing areas are advised to sow their crops in time to get the optimum yield. The best suitable time for wheat cultivation is 1<sup>st</sup> November to 20<sup>th</sup> November.
- ❖ Wheat cultivation is in progress in most of the rainfed areas. Farmers of rainfed areas are advised to sow their Rabi crops before 15<sup>th</sup> November to get maximum yield. After this time the yield of wheat crop decreases gradually.
- ❖ Farmers of rainfed areas are advised to sow wheat crop by keeping in mind the above mentioned weather conditions during the current decade.
- ❖ Farmers of irrigated areas are advised to harvest Kharif crops including cotton in time so that timely sowing of Rabi crops especially wheat crop may be possible without any further delay.
- ❖ Farmers of irrigated plains of Punjab, Sindh & KP are advised to complete sowing of wheat crop before 15<sup>th</sup> December to get maximum yield. In case of late sowing in December, the recommended varieties should be cultivated to minimize the loss in yield.