

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from few agricultural plains of the country during the last decade.
- ❖ Lowest minimum temperature recorded as 0.3°C at Skardu during the last decade.
- ❖ Highest amount of rainfall recorded as 68.0mm at Parachinar during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & Skardu region and higher values reported from upper and central parts of the country during the last decade.
- ❖ Higher values of ETo reported from upper agricultural plains of the country and lower values reported from southern parts of the country during the last decade.
- ❖ Normal to below normal temperatures are expected in most of the agricultural plains of the country during the current decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the current decade.
- ❖ Light to moderate rainfall is expected in upper parts of the country during the current decade.
- ❖ Mostly dry weather is expected in most of the central & southern agricultural plains of the country.
- ❖ Night temperatures are likely to decrease in most parts of the country from the end of the decade.

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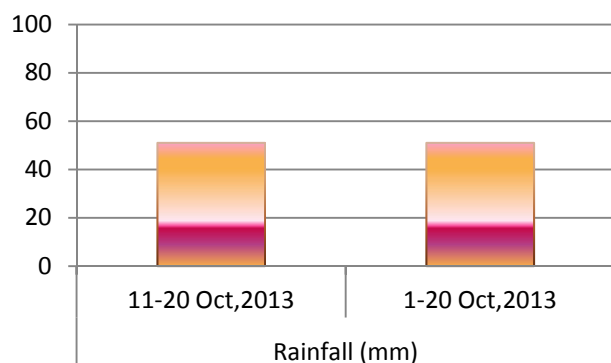
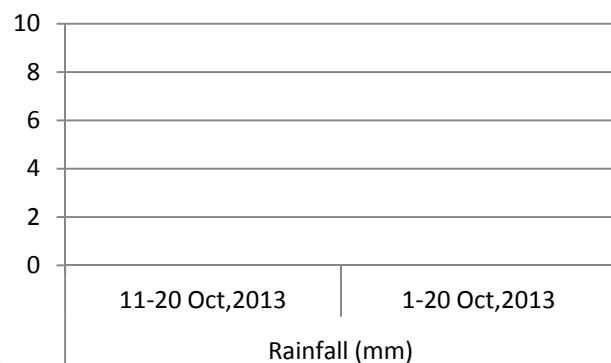
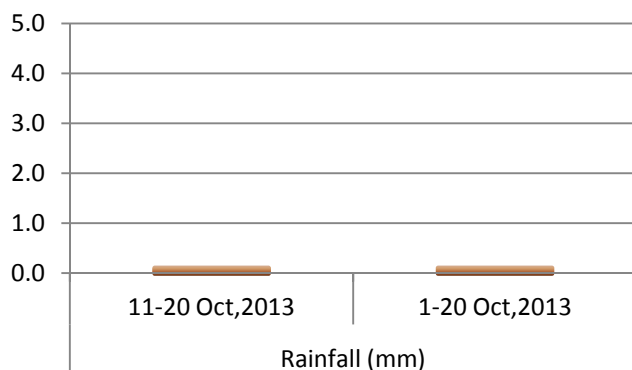
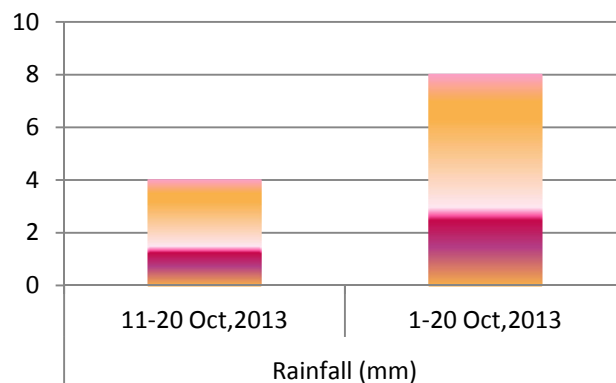
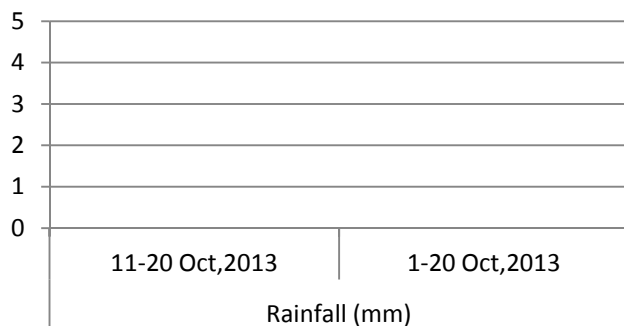
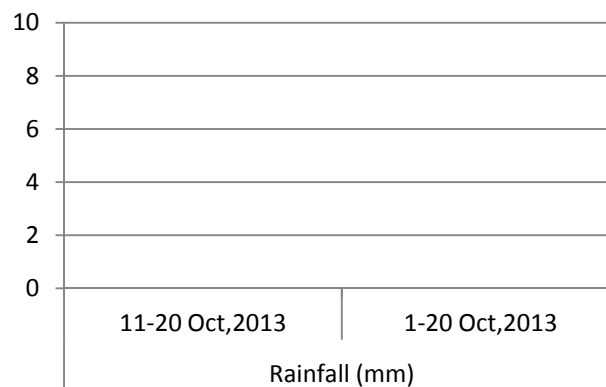
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Meteorological conditions during 2nd decade of October, 2013

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	0.0	0.0	0.0	3.0	0.1	29.7	38.8	38.6	36.1	32.6	32.8	***	94.4	0.7	61	2.2
2	SAKRAND ☆	0.0	0.0	0.0	0.8	0.9	28.5	39.5	37.9	41.8	***	35.2	34.3	106.4	1.7	55	2.7
3	ROHRI	0.0	0.0	0.0	3.0	0.1	30.7	37.0	34.7	32.5	32.6	31.4	32.7	106.0	3.7	50	3.3
4	USTA MUHAMMAD	0.0	0.0	0.0	3.0	2.0	30.8	31.6	31.7	31.4	31.1	***	30.4	***	***	58.0	4.7
5	QUETTA	0.0	0.1	0.1	-3.5	-1.7	15.2	28.5	26.2	22.4	21.2	21.4	24.4	98.5	5.7	28	3.5
6	KHANPUR	0.0	0.0	0.0	2.5	0.4	28.7	***	32.6	32.8	33.2	33.9	33.2	96.5	2.4	63	2.6
7	MULTAN	0.0	4.7	4.7	3.6	-0.2	28.5	***	***	***	***	***	***	81.5	2.4	55	2.5
8	LAHORE	0.6	1.6	1.0	-0.6	0.2	26.4	30.2	29.7	28.5	28.1	***	29.2	86.3	1.9	65	2.1
9	FAISALABAD	0.1	0.0	-0.1	4.1	1.6	28.1	36.3	35.9	33.3	31.2	30.9	31.3	82.9	3.6	56	2.8
10	SARGODHA	0.4	1.0	0.6	2.9	0.1	27.7	32.0	30.1	28.8	28.7	29.3	29.4	71.3	1.3	64	1.9
11	JHELMUM	1.1	1.8	0.7	2.5	0.6	26.5	30.1	29.0	27.5	26.8	27.8	***	83.4	2.3	58	2.2
12	RAWALPINDI	1.9	51.0	49.1	1.9	0.4	24.4	28.2	27.0	25.7	25.7	26.6	27.8	84.0	1.7	58	2.0
13	DI KHAN	0.2	28.5	28.3	1.4	-0.5	26.4	***	***	***	***	***	***	89.7	0.4	60	1.8
14	PESHAWAR	0.5	4.0	3.5	-0.7	1.3	24.3	29.9	27.7	26.9	28.0	***	28.6	52.2	0.7	57	1.4
15	SKARDU	0.2	0.7	0.5	2.3	1.7	13.9	***	***	***	***	***	***	51.1	3.7	31	2.2
16	GILGIT	0.1	1.5	1.4	4.2	2.8	18.2	***	***	***	***	***	***	55.8	2.0	42	1.9

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.

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

Past Weather (11th to 20th October, 2013):

Light to moderate rainfall reported from few agricultural plains of upper Punjab, KP, GB & Kashmir, while dry weather reported from rest parts of the country during the period.

1.1 Punjab

Light to moderate rainfall reported at few places in the agricultural plains of Punjab; chief amount received at Lahore, Islamabad & Bhakkar etc. Decadal minimum & maximum temperature both raised above normal by 2.4°C & 0.4°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 83.7hrs, 2.2km/hr, 60% and 2.3mm/day respectively.

1.2 Sindh

Rainfall reported as 1.0mm at two places in Sindh i.e. Karachi & Mithi etc. Decadal minimum & maximum temperature both raised above normal by 2.3°C & 0.4°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 102.3hrs, 2.0km/hr, 55% and 2.7mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

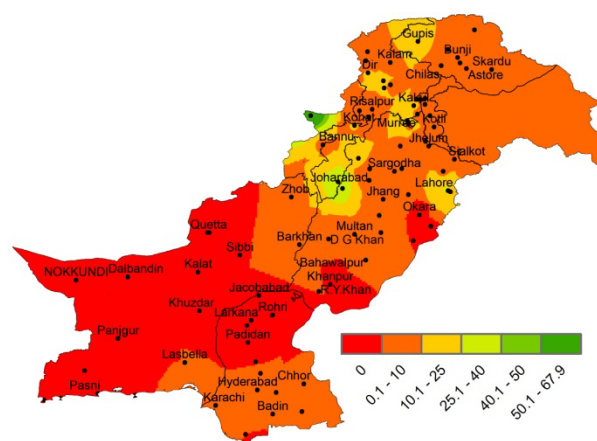
Light to moderate rainfall reported at number of places in the agricultural plains of KP; chief amount received at Parachinar, Dera Ismail Khan & Kakul etc. Decadal minimum & maximum temperature both raised above normal by 0.4°C & 0.4°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 71.0hrs, 0.6km/hr, 58.5% and 1.6mm/day respectively.

1.4 Balochistan

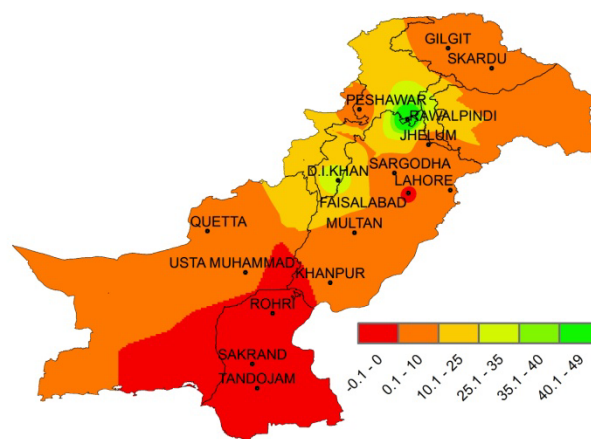
Rainfall reported as 10.0mm at one place in Balochistan; i.e. Barkhan. Decadal minimum dropped below normal by 0.3°C & maximum temperature raised above normal by 0.2°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were 98.5hrs, 5.7km/hr, 43% and 4.1mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

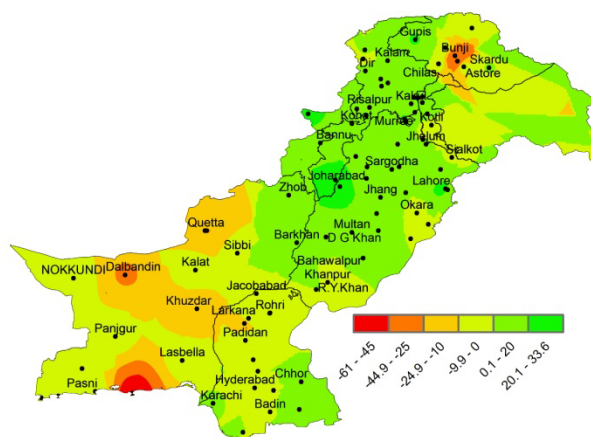
Light rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Muzaffarabad, Kotli & Pattan etc. Decadal minimum & maximum temperature both raised above normal by 3.3°C & 2.3°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 53.5hrs, 2.9km/hr, 36.7% and 2.1mm/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 (11th to 20th October, 2013):

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 51.0mm during the decade, weather remained cloudy for 05days, average relative humidity recorded as 58%. Mean night temperature was 17.8°C while day temperature recorded as 31.0°C with 84.0hours bright sunshine duration. Wind speed recorded as 1.7km/h with mean wind direction *westerly*.

Maize Agati 2002: Good condition, Flowering stage.

2.2 RAMC, Faisalabad (Central Punjab)

No rainfall reported during the decade, weather remained cloudy for 04days, average relative humidity recorded as 56%. Mean night temperature was 21.5°C while day temperature recorded as 34.7°C with 82.91hours bright sunshine duration. Wind speed recorded as 3.6km/hr with mean wind direction *south easterly*.

Sugarcane: Very Good condition, Tillering completed.

Cotton: Good condition, 1st picking stage.

2.3 RAMC, Tandojam (Lower Sindh)

No rainfall & cloudy day reported during the decade, average relative humidity recorded as 61%. Mean night temperature was 22.9°C while day temperature recorded as 36.5°C with 94.4hours bright sunshine duration. Wind speed recorded as 0.7km/hr with mean wind direction *south westerly*.

Cotton: BT 3701, Good condition, Maturity stage.

2.4 RAMC, Quetta (Northern Balochistan)

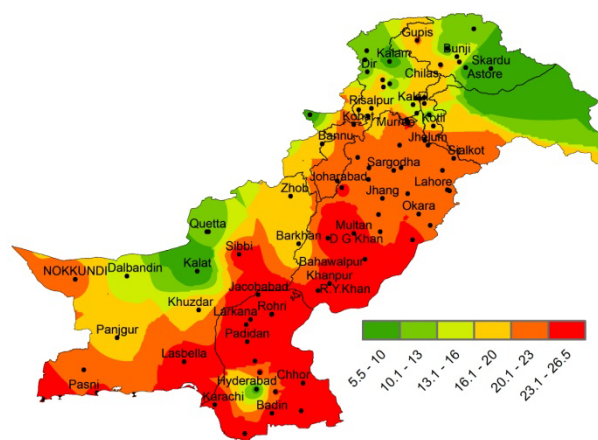
Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 02days, average relative humidity recorded as 28%. Mean night temperature was 4.8°C while day temperature recorded as 25.6°C with 98.5hours bright sunshine duration and wind speed recorded as 5.7km/hr with mean wind direction *north westerly*.

Note: No crop is grown at the station.

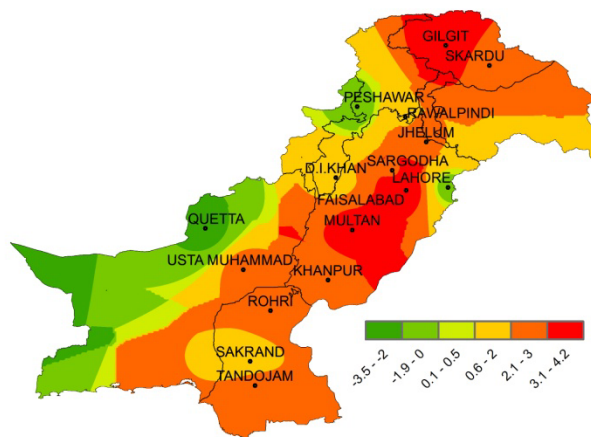
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

No rainfall reported during the decade, weather remained cloudy for 03days, average relative humidity recorded as 58%. Mean night temperature was 24.8°C, while day temperature recorded as 36.7°C. The data of bright sunshine hour and wind speed was not available, while mean wind direction was *south easterly*.

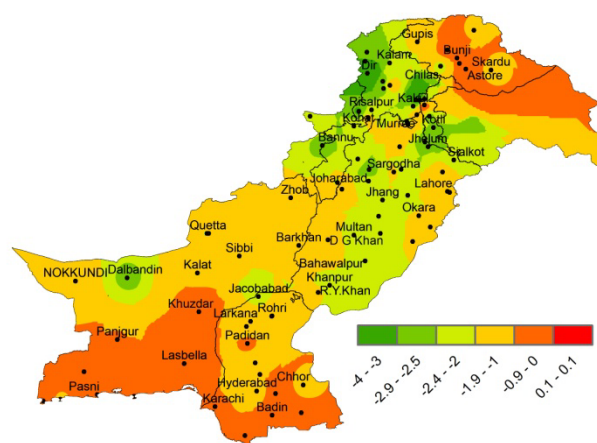
Rice: Good condition, full maturity stage.



(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 (11th to 20th October, 2013):**

2.6 **Jhelum**

Rainfall reported as 1.8mm during the decade, weather remained cloudy for 06days and average relative humidity recorded as 58%. Mean night temperature was 19.8°C while day temperature recorded as 33.2°C with 83.4hours bright sunshine duration. Wind speed recorded 2.3km/hr with mean wind direction *south westerly*.

2.7 **Lahore**

Rainfall reported as 1.6mm during the decade, weather remained cloudy for 03days, average relative humidity recorded as 65%. Mean night temperature was 20.5°C while day temperature recorded as 32.2°C with 86.3hours bright sunshine duration. Wind speed recorded as 1.9km/hr with mean direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 1.0mm during the decade, weather remained cloudy for 03days during the decade, average relative humidity recorded as 64%. Mean night temperature was 22.0°C while day temperature recorded as 33.3°C with 71.3hours bright sunshine duration. Wind speed recorded as 1.3km/hr with mean direction *north easterly*.

2.9 **Multan**

Rainfall reported as 4.7mm during the decade, weather remained cloudy for 03days, average relative humidity recorded as 55%. Mean night temperature was 22.8°C while day temperature recorded as 34.1°C with 81.5hours bright sunshine duration. Wind speed recorded as 2.4km/hr with mean wind direction *north easterly*.

2.10 **Khanpur**

No rainfall reported during the decade, weather remained cloudy for 04days, average relative humidity recorded as 63%. Mean night temperature was 21.8°C while day temperature recorded as 35.6°C with 96.5hours bright sunshine duration. Wind speed recorded as 2.4km/hr with mean wind direction *northerly*.

2.11 **Rohri**

No rainfall reported during the decade, weather remained cloudy for 02days, average relative humidity recorded as 50%. Mean night temperature was 25.1°C while day temperature recorded as 36.2°C with 106.0hours bright sunshine duration. Wind speed recorded 3.7km/hr with mean wind direction *north easterly*.

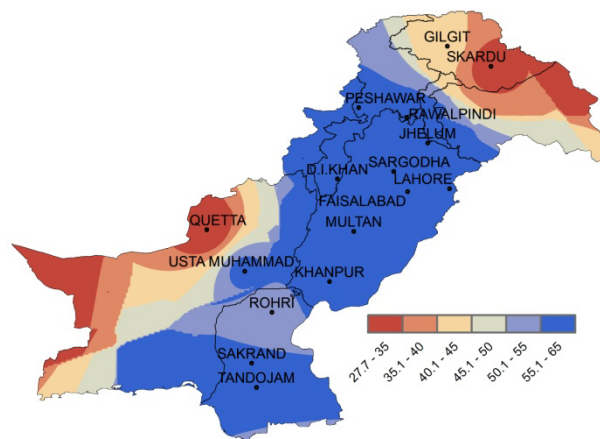


Figure.3: Relative Humidity in percentage

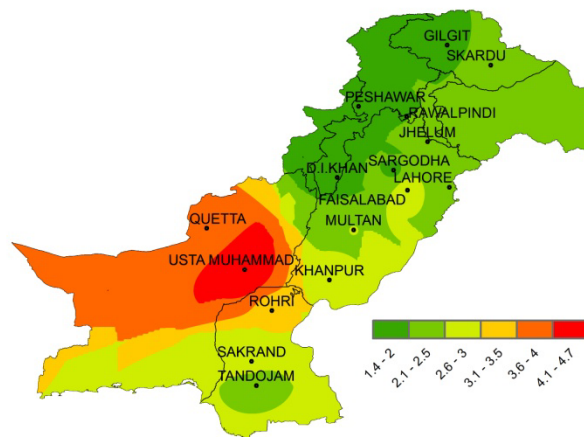


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

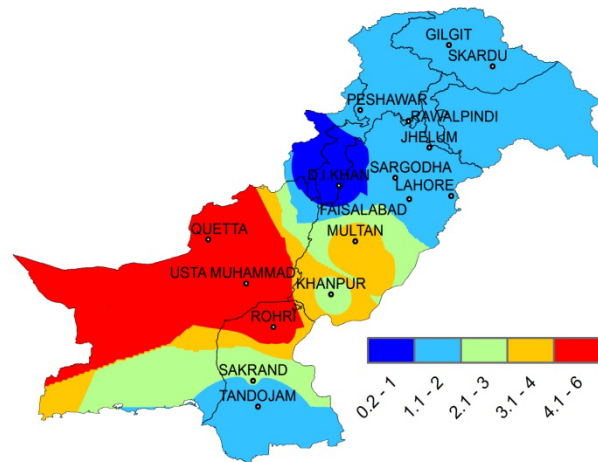


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

No rainfall reported during the decade, weather remained cloudy for 04days and average relative humidity recorded as 55%. Mean night temperature was 20.1°C while day temperature recorded as 36.9°C with 106.4hours bright sunshine duration. Wind speed recorded as 1.7km/hr with mean wind direction *northerly*.

2.13 Peshawar

Rainfall reported as 4.0mm during the decade, weather remained cloudy for 05days, average relative humidity recorded as 57%. Mean night temperature was 16.5°C while day temperature recorded as 32.0°C with 52.2hours bright sunshine duration. Wind speed recorded as 0.7km/hr with mean wind direction *north westerly*.

2.14 D.I. Khan

Rainfall reported as 28.7mm during the decade, weather remained cloudy for 01day, average relative humidity recorded as 60%. Mean night temperature was 19.5°C while day temperature recorded as 33.3°C with 89.7hours bright sunshine duration. Wind speed recorded as 0.4km/hr with mean direction *easterly*.

2.15 Gilgit

Rainfall reported as 1.5mm during the decade, weather remained cloudy for 09days, average relative humidity recorded as 42%. Mean night temperature was 10.0°C while day temperature recorded as 26.3°C with 55.8hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *easterly*.

2.16 Skardu

Rainfall reported as 0.7mm during the decade, weather remained cloudy for 05days, average relative humidity recorded as 31%. Mean night temperature was 5.6°C while day temperature recorded as 22.2°C with 51.1hours bright sunshine duration with mean speed 3.7km/hr with mean direction *variable*.

**3. Ten days Weather advisory for Farmers
(21st to 31st October, 2013):****3.1 Temperature Forecast:**

Normal to below normal temperatures are expected in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast:

- ❖ **Punjab:** Mainly dry weather is expected in most parts of the province during the decade, however, rainfall is expected at isolated places in the upper parts of the province during the end days of the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly dry weather is expected in most parts of the province during the decade, however, rainfall is expected at isolated places in the upper parts of the province during the end days of the decade.
- ❖ **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 during the decade.
- ❖ **Gilgit-Baltistan:** Mainly dry/partly cloudy weather is expected in most parts of the province during the decade, however, rainfall is expected at isolated places in GB during the end days of the decade.
- ❖ **Kashmir:** Mainly dry/partly cloudy weather is expected in most parts of Kashmir during the decade, however, rainfall is expected at isolated places in Kashmir during the end days of 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 1st November to 20th November.
- ❖ Farmers of rainfed areas are advised to sow their Rabi crops during the period 15th October to 15th November. After this time the yield of wheat crop decreases gradually.
- ❖ The recent rains have amplified the soil moisture in barani areas of Punjab including Potohar region and KP, therefore local farmers are advised to complete sowing in the current month to get optimum yield.
- ❖ 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 delay.