

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from few agricultural plains of the country during the last decade.
- ❖ Highest maximum temperature recorded as 43.0°C at Turbat during the last decade.
- ❖ Highest amount of rainfall recorded as 50.0mm at Islamabad during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & Skardu region and higher values reported from Northeastern parts of Punjab & Kashmir during the last decade.
- ❖ Higher values of ETo reported from Sindh, central and southern agricultural plains of Punjab & Balochistan during the last decade.
- ❖ 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 at isolated places in upper parts of the country during the current decade.
- ❖ Mainly dry & humid weather is expected in central and southern agricultural plains of the country.

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

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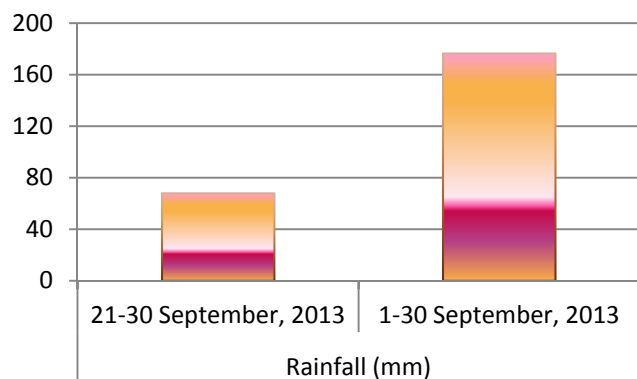
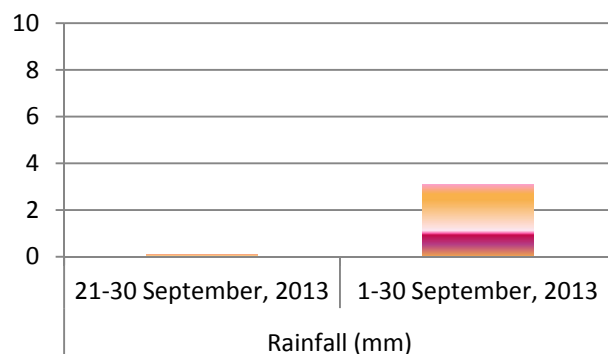
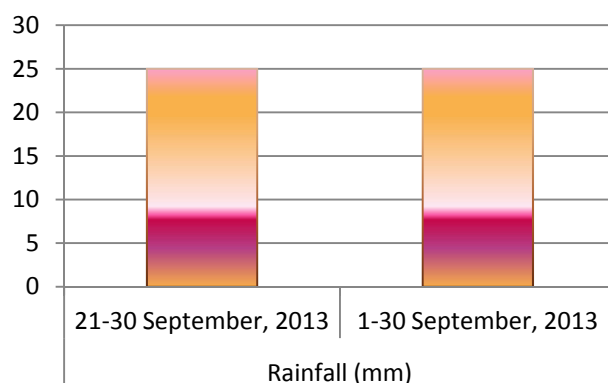
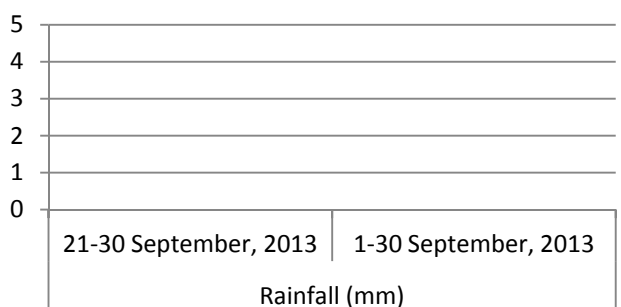
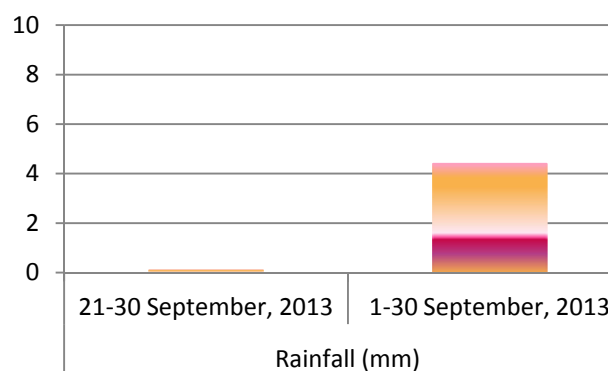
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Meteorological conditions during 3rd decade of September, 2013

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	25.0	25.0	1.6	0.5	30.9	40.2	38.3	35.3	33.3	33.3	***	92.5	0.3	63	5.1
2	SAKRAND ☆	0.0	9.0	9.0	-0.3	0.3	29.8	42.0	39.7	43.5	***	36.1	34.9	103.3	2.4	64	2.8
3	ROHRI	0.0	0.0	0.0	1.9	-1.3	32.0	40.2	37.4	35.9	35.5	34.3	35.0	106.0	2.3	57	5.5
4	USTA MUHAMMAD	0.0	0.0	0.0	-0.4	-3.6	30.5	31.8	31.5	30.9	30.6	***	29.8	***	***	53	3.0
5	QUETTA	0.0	0.0	0.0	0.9	1.7	20.8	33.3	30.7	26.4	24.9	24.4	26.3	101.9	5.9	30	5.4
6	KHANPUR	0.0	0.1	0.1	2.1	0.1	31.0	35.2	34.9	34.8	35.0	35.4	34.2	104.0	3.3	65	5.2
7	MULTAN	0.1	0.0	-0.1	2.7	0.1	31.8	***	***	***	***	***	***	89.3	4.3	55	5.4
8	LAHORE	1.1	11.5	10.4	0.1	0.2	29.7	32.6	32.4	30.8	30.0	***	30.0	54.3	2.2	74	4.2
9	FAISALABAD	2.1	0.1	-2.0	3.1	1.4	31.0	39.8	37.8	35.3	36.6	33.7	32.7	76.8	2.9	56	4.8
10	SARGODHA	0.9	19.2	18.3	4.4	1.1	32.3	35.0	33.6	31.5	30.8	30.8	30.3	75.0	2.0	69	4.5
11	JHELMUM	0.9	9.2	8.3	1.7	0.8	29.7	32.2	31.1	29.7	28.9	29.2	***	79.9	1.1	67	4.0
12	RAWALPINDI	1.9	68.0	66.1	3.3	0.9	28.2	30.5	29.9	28.8	28.2	28.1	27.9	85.5	2.6	64	3.6
13	DI KHAN	0.7	0.0	-0.7	1.4	2.1	30.8	***	***	***	***	***	***	92.8	0.6	58	4.3
14	PESHAWAR	1.1	0.1	-1.0	1.9	1.9	29.4	32.5	31.1	30.1	30.5	***	29.7	73.3	2.0	61	3.6
15	SKARDU	0.1	3.4	3.3	1.6	5.2	19.3	***	***	***	***	***	***	82.2	2.5	36	3.8
16	GILGIT	0.2	0.1	-0.1	2.1	2.6	21.5	***	***	***	***	***	***	68.3	1.9	52	3.8

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 September 2013**RAMC RAWALPINDI****RAMC FAISALABAD****RAMC QUETTA****RAMC TANDOJAM****RAMC USTA MUHAMMAD****RMC PESHAWAR**

Past Weather (21st to 30th September, 2013):

Light to moderate rainfall reported from few agricultural plains of the country during the period.

1.1 Punjab

Light to moderate with isolated heavy rainfall reported at few places in the agricultural plains of Punjab; chief amount received at Islamabad, Lahore & Murree etc. Decadal minimum & maximum temperature both raised above normal by 2.5°C & 0.7°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 80.7hrs, 2.6km/hr, 64% and 4.2mm/day respectively.

1.2 Sindh

Light to moderate with isolated heavy rainfall reported at few places in the agricultural plains of Sindh; i.e. Mirpur Khas, Badin & Mithi etc. Decadal minimum raised above normal by 1.1°C & decadal maximum dropped below normal by 0.2°C in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 100.6hrs, 1.7km/hr, 61% and 4.6mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

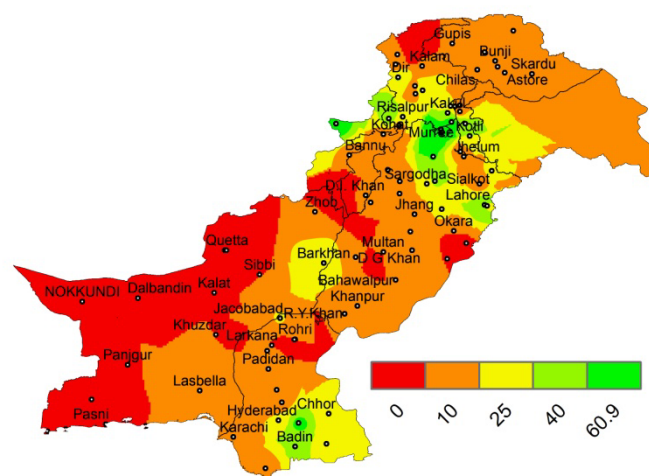
Light to moderate rainfall reported at few places in the agricultural plains of KP; chief amount received at Kakul, Malam Jabba & Risalpur etc. Decadal minimum & maximum temperature both raised above normal by 1.7°C & 2.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 83.1hrs, 1.3km/hr, 60% and 3.8mm/day respectively.

1.4 Balochistan

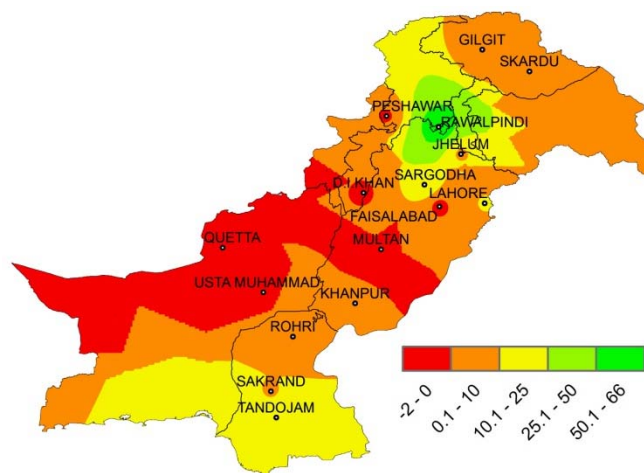
Light rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Barkhan & Lasbella. Decadal minimum raised above normal by 0.3°C & maximum temperature dropped below normal by 1.0°C in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were 101.9hrs, 5.9km/hr, 41.5% and 5.1mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

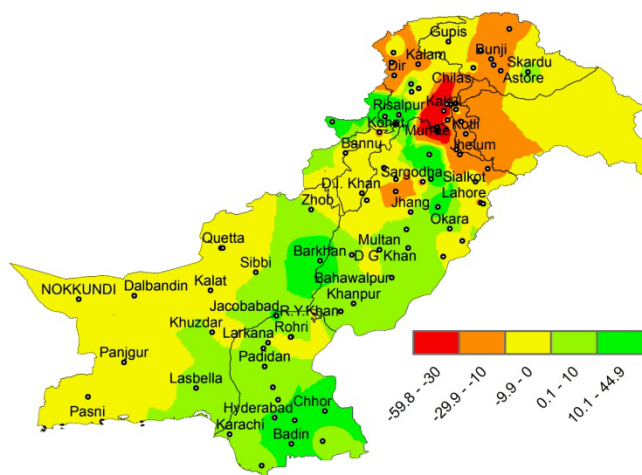
Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Rawalakot, Muzaffarabad & Kotli etc. Decadal minimum & decadal maximum temperature both raised above normal by 1.9°C & 3.9°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 75.3hrs, 2.2km/hr, 44% and 3.3mm/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 30th September, 2013):

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 68.0mm during the decade, weather remained cloudy for 04days, average relative humidity recorded as 64%. Mean night temperature was 22.5°C while day temperature recorded as 33.8°C with 85.5 hours bright sunshine duration. Wind speed recorded as 2.6km/h with mean wind direction *north-north westerly*.

Maize Agati 2002: Good condition, Tasseling stage.

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 10days, average relative humidity recorded as 56%. Mean night temperature was 25.2°C while day temperature recorded as 36.8°C with 76.8 hours bright sunshine duration. Wind speed recorded as 2.9km/hr with mean wind direction *variable*.

Sugarcane: Very Good condition, Tillering completed.

Cotton: Good condition, 1st picking stage.

2.3 RAMC, Tandojam (Lower Sindh)

Rainfall reported as 25.0mm during the decade, weather remained cloudy for 06days, average relative humidity recorded as 63%. Mean night temperature was 24.9°C while day temperature recorded as 36.9°C with 92.5hours bright sunshine duration. Wind speed recorded as 0.3km/hr with mean wind direction *north easterly*.

Cotton: BT 3701, Good condition, Maturity stage.

2.4 RAMC, Quetta (Northern Balochistan)

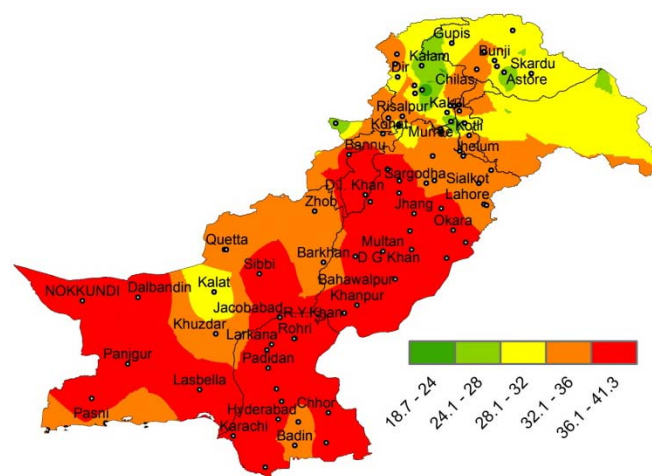
No rainfall reported during the decade, weather remained cloudy for 04 days, average relative humidity recorded as 30%. Mean night temperature was 10.2°C while day temperature recorded as 31.3°C with 101.9hours bright sunshine duration and wind speed recorded as 5.9km/hr with mean wind direction *westerly*.

Note: No crop is grown at the station.

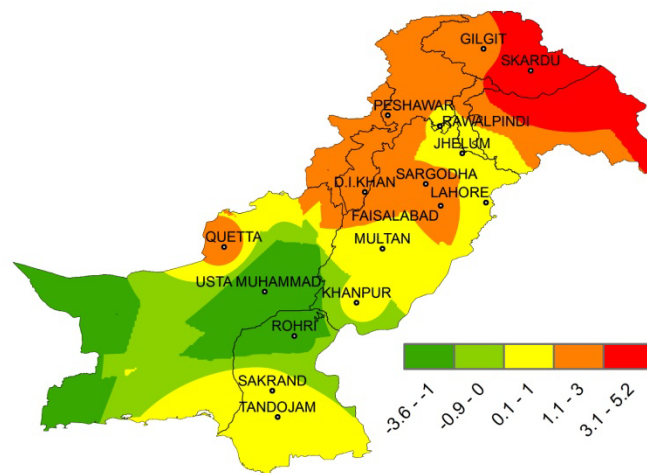
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

No rainfall reported during the decade, weather remained cloudy for 03days, average relative humidity recorded as 53%. Mean night temperature was 25.1°C, while day temperature recorded as 35.8°C. The data of bright sunshine hour and wind speed was not available, while mean wind direction was *southerly*.

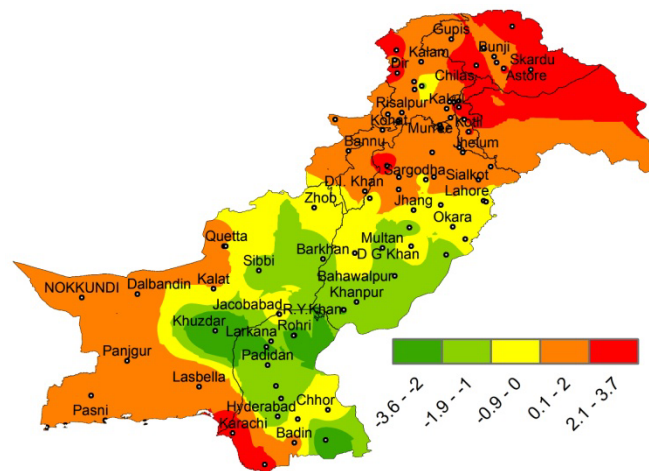
Rice: Good condition, wax maturity stage.



(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 30th September, 2013):**

2.6 Jhelum

Rainfall reported as 9.2mm during the decade, weather remained cloudy for 07days and average relative humidity recorded as 67%. Mean night temperature was 24.0°C while day temperature recorded as 35.4°C with 79.9hours bright sunshine duration. Wind speed recorded 1.1Km/hr with mean wind direction *southerly*.

2.7 Lahore

Rainfall reported as 11.5mm during the decade, weather remained cloudy for 09days, average relative humidity recorded as 74%. Mean night temperature was 24.7°C while day temperature recorded as 34.6°C with 54.3 hours bright sunshine duration. Wind speed recorded as 2.2Km/hr with mean direction *westerly*.

2.8 Sargodha

Rainfall reported as 19.2mm during the decade, weather remained cloudy for 10days during the decade, average relative humidity recorded as 69%. Mean night temperature was 28.0°C while day temperature recorded as 36.6°C with 75.0hours bright sunshine duration. Wind speed recorded as 2.0Km/hr with mean direction *variable*.

2.9 Multan

No rainfall reported during the decade, weather remained cloudy for 09days, average relative humidity recorded as 55%. Mean night temperature was 26.9°C while day temperature recorded as 36.6°C with 89.3hours bright sunshine duration. Wind speed recorded as 4.3Km/hr with mean wind direction *southerly*.

2.10 Khanpur

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 07days, average relative humidity recorded as 65%. Mean night temperature was 25.3°C while day temperature recorded as 36.7°C with 104.0hours bright sunshine duration. Wind speed recorded as 3.3Km/hr with mean wind direction *northerly*.

2.11 Rohri

No rainfall reported during the decade, weather remained cloudy for 02days and average relative humidity recorded as 57%. Mean night temperature was 27.4°C while day temperature recorded as 36.6°C with 106.0hours bright sunshine duration. Wind speed recorded 2.3Km/hr with mean wind direction *north easterly*.

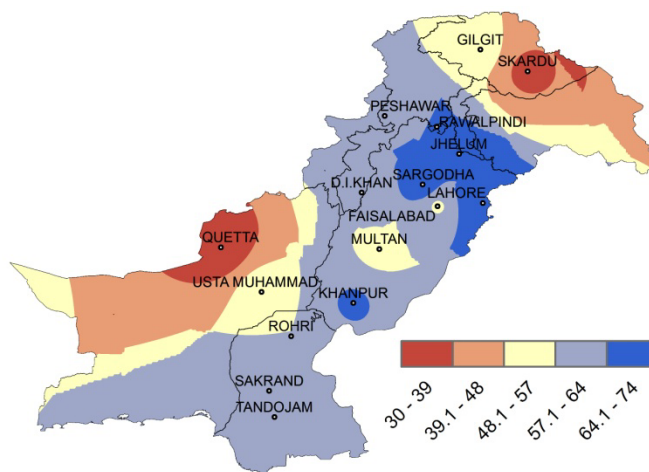


Figure.3: Relative Humidity in percentage

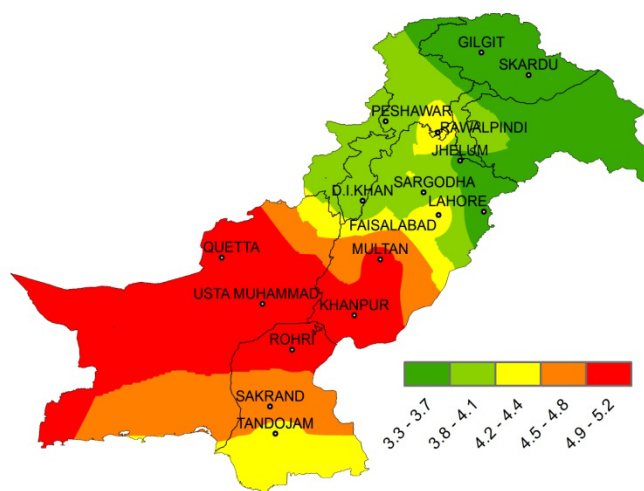


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

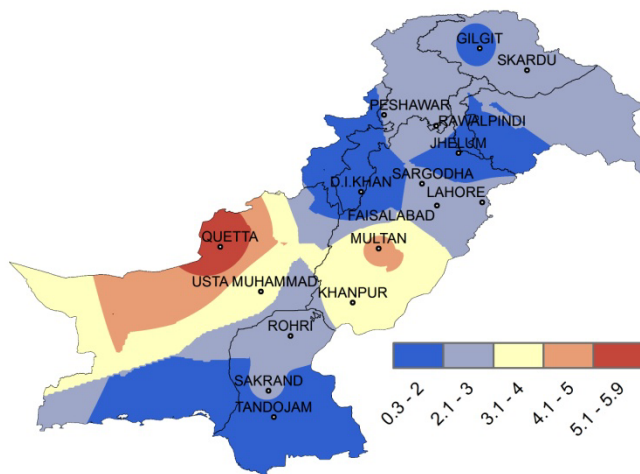


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

Rainfall reported as 9.0mm during the decade, weather remained cloudy for 03days and average relative humidity recorded as 64%. Mean night temperature was 22.2°C while day temperature recorded as 37.3°C with 103.3hours bright sunshine duration. Wind speed recorded as 2.4Km/hr with mean wind direction *northerly*.

2.13 Peshawar

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 05days, average relative humidity recorded as 61%. Mean night temperature was 23.2°C while day temperature recorded as 35.6°C with 73.3hours bright sunshine duration. Wind speed recorded as 2.0Km/hr with mean wind direction *north westerly*.

2.14 D.I. Khan

No rainfall reported during the decade, weather remained cloudy for 01day, average relative humidity recorded as 58%. Mean night temperature was 23.6°C while day temperature recorded as 38.0°C with 92.8hours bright sunshine duration. Wind speed recorded as 0.6Km/hr with mean direction *south easterly*.

2.15 Gilgit

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 09days, average relative humidity recorded as 52%. Mean night temperature was 10.8°C while day temperature recorded as 32.1°C with 68.3hours bright sunshine duration. Wind speed recorded as 1.9Km/hr with mean wind direction *variable*.

2.16 Skardu

Rainfall reported as 3.4mm during the decade, weather remained cloudy for 02days, average relative humidity recorded as 36%. Mean night temperature was 9.6°C while day temperature recorded as 28.9°C with 82.2hours bright sunshine duration with mean speed 2.5Km/hr with mean direction *variable*.

**3. Ten days Weather advisory for Farmers
(1st to 10th October, 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:** Mainly hot and dry weather is expected in most parts of the province during the decade; however, rain-thundershowers are expected at isolated places in Upper parts on 1st / 2nd October and during the 2nd half of the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly dry weather is expected in most parts of the province during the decade; however, rain-thundershowers are expected at isolated places in upper parts on 1st / 2nd October and during the 2nd half of the decade.
- ❖ **Sindh** Mainly hot and dry weather is expected in most parts of the province during the decade; however, rain-thundershower is expected at isolated places in southeastern parts during the 1st half of the decade.
- ❖ **Balochistan:** Mainly hot & dry weather is expected in most parts of the province during the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly dry/partly cloudy weather is expected in most parts of the province during the decade; however, rain-thundershower is expected at isolated places during the decade.

3.3 Wind Forecast:

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

Advisory for Farmers:

- ❖ Due to dry weather in most of the central and southern parts of the country during the decade, farmers of cotton and sugarcane crops are advised to irrigate the crops as per requirement.
- ❖ Farmers of rainfed areas are also advised to remove weeds from the fields and prepare their fields for incoming Rabi crops.
- ❖ Government assistance in terms of free seed and fertilizer for Rabi crops is likely to be launched in flood affected areas. Farmers should avail this opportunity to ensure timely sowing of Rabi crops.
- ❖ Farmers are advised to cultivate winter vegetables in time so that present soil moisture may fully be utilized.
- ❖ 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. After this time the yield of wheat crop decreases gradually.