

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light rainfall reported in the agricultural plains of Punjab, G.B & Kashmir regions light to moderate in KP and dry weather reported from Sindh & Balochistan during the last decade.
- ❖ Highest amount of rainfall recorded as 32mm at Malam Jabba during the last decade.
- ❖ Lowest minimum temperature recorded -13.6°C at Skardu during the last decade.
- ❖ Mainly cold and dry weather is expected in most parts of the country with foggy conditions over plains of Punjab and KPK and upper Sindh. However, partly cloudy weather conditions with light to moderate rain (with light snowfall over the hills) is expected at upper Punjab, hills of K.P, and G.B & Kashmir on 4th and 5th of January.
- ❖ Removing weeds from the standing crops is very important as weeds utilize moisture and food which may be utilized by the crop. As a result considerable loss in yield occurs every year. However operations against weeds should be started using weedicides or manually when the crop completely covers the fields.
- ❖ Falling leaves from the trees negatively affect standing Rabi crops like wheat and other Rabi crops. Farmers should collect leaves from the crops as early as possible so that crop normal growth may not be disturbed.
- ❖ Due to further drop of temperatures, especially farmers of upper areas are advised to protect their crops from the frost. Frost is expected in clear nights with calm/light wind.

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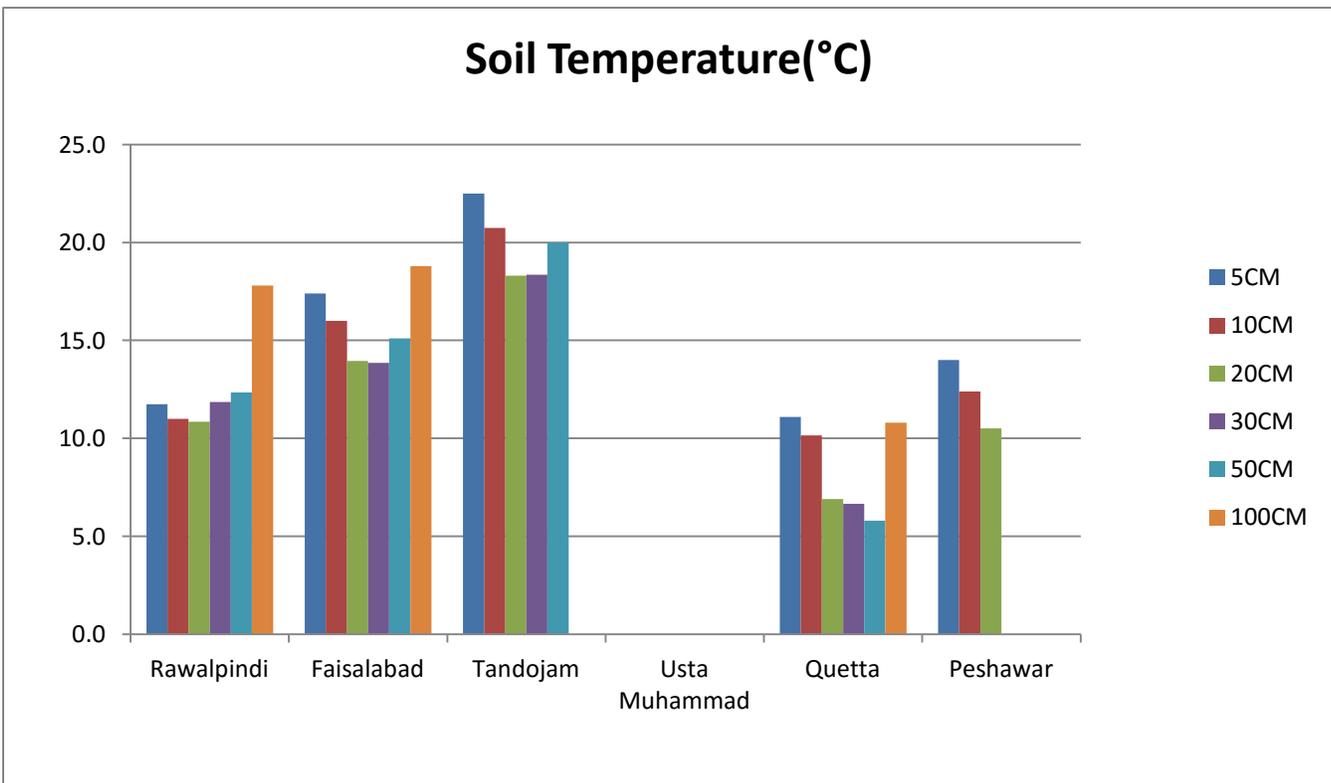
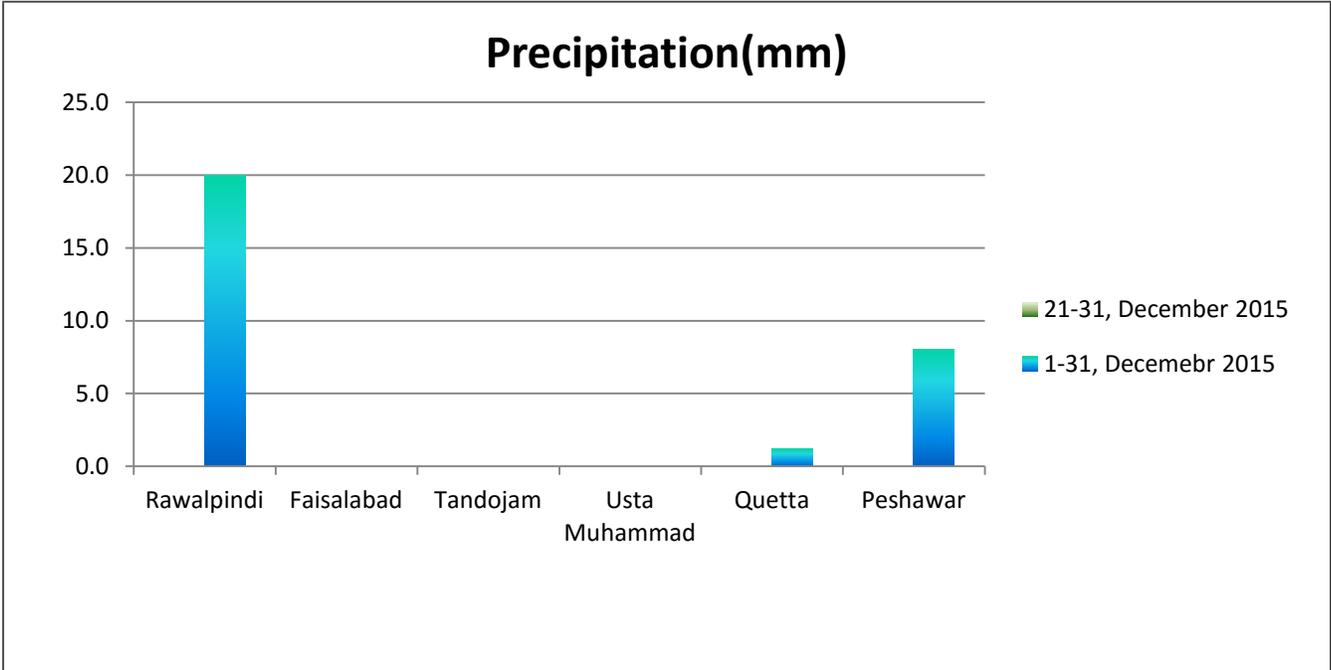
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Graph at RAMC's during December, 2015



Meteorological conditions during 3rd decade of December, 2015

Sr. No.	Station	Precipitation (mm)			Air Temperature (°C)			Soil Temperatures (°C)						R.H (%)	Sunshine Duration(hours)	Wind Speed (km/hr)	ET _o (mm/day)
		Normal	Actual	Dep	Tmax Dep	Tmin Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	RAWALPINDI	0.5	0.0	-0.5	-0.6	0.5	11.2	11.8	11.0	10.9	11.9	12.4	17.8	66	65.7	1.8	1.1
2	FAISALABAD	0.2	0.1	-0.1	1.5	0.1	13.5	17.4	16.0	14.0	13.9	15.1	18.8	56	74.7	1.6	1.3
3	JHELUM	0.4	0.0	-0.4	-0.1	-1.4	12.6	12.6	11.8	11.6	12.2	13.7	***	59	69.2	1.3	1.1
4	LAHORE	0.3	0.0	-0.3	1.5	-1.7	14.0	14.9	13.8	13.9	14.1	***	18.8	59	79.5	1.6	1.3
5	SARGODHA	0.4	0.0	-0.4	1.4	1.2	14.6	15.7	15.2	14.8	15.4	17.1	19.1	67	66.5	1.3	1.2
6	MULTAN	0.1	0.0	-0.1	0.3	1.2	14.3	***	***	***	***	***	***	57	58.2	1.7	1.4
7	KHANPUR	0.1	0.0	-0.1	1.1	-1.0	14.3	***	14.7	15.3	15.8	17.0	19.9	53	74.0	4.2	2.2
8	TANDOJAM	0.4	0.0	-0.4	0.1	-0.8	16.4	22.5	20.8	18.3	18.4	20.0	***	55	94.4	2.2	2.1
9	SAKRAND ☆	0.0	0.0	0.0	0.9	-3.8	13.4	24.2	19.5	***	***	***	24.5	56	86.4	3.7	2.2
10	ROHRI	***	***	***	***	0.0	0.0	***	***	***	***	***	***	***	***	***	***
11	DI KHAN	0.4	0.0	-0.4	1.0	-2.2	13.1	***	***	***	***	***	***	64	82.9	***	2.3
12	PESHAWAR	0.6	0.0	-0.6	0.3	-2.1	11.4	14.0	12.4	10.5	***	***	***	68	59.0	1.0	0.9
13	USTA MUHAMMAD	0.0	0.0	0.0	1.2	-0.5	15.3	***	***	***	***	***	***	58	***	1.6	2.7
14	QUETTA	0.4	TR	-0.3	-0.5	0.3	5.3	11.1	10.2	6.9	6.7	5.8	10.8	45	82.2	4.1	1.6
15	SKARDU	0.5	26.3	25.8	-2.5	-1.7	-2.5	***	***	***	***	***	***	79	25.8	0.0	0.5
16	GILGIT	0.4	TR	-0.3	-0.8	-0.5	3.7	***	***	***	***	***	***	56	40.5	2.2	0.8

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; $\text{Dep} \div \text{Normal} \times 100$. 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 December, 2015)

Light rainfall reported in the agricultural plains Punjab, G.B & Kashmir regions, light to moderate in KP and dry weather reported from Sindh & Balochistan during the last decade.

1.1 Punjab

Light rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Faisalabad. Decadal maximum rased above normal by 0.7°C and minimum dropped below normal by 0.2°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 60%, 69.7hrs, 1.9/hr and 1.4mm/day respectively.

1.2 Sindh

Dry weather reported in the agricultural plains of Sindh. Decadal maximum raised above normal by 0.3°C and minimum dropped below normal by 1.5°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 56%, 90.4hrs, 3.0km/hr and 2.2mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

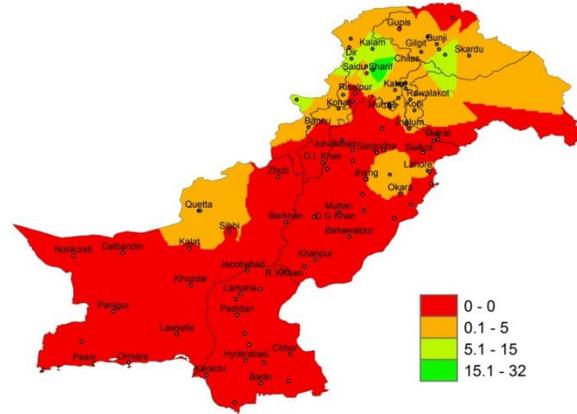
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall received in Malamjabba and Dir. Decadal maximum dropped below normal by 8.6°C and minimum raised above normal by 7.1°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 66%, 71.0hrs, 1.0km/hr and 1.6mm/day respectively.

1.4 Balochistan

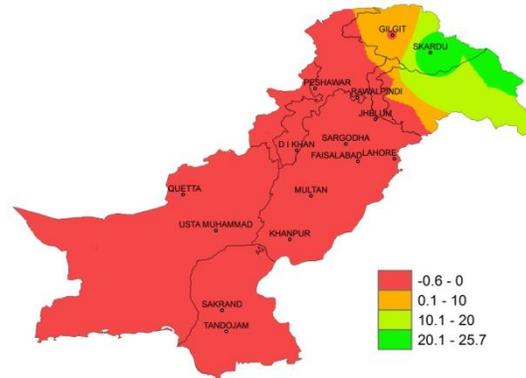
Rainfall reported from a single place (Samungli) in the agricultural plains of Balochistan. Chief amount of rainfall received, Quetta (Samungli). Decadal maximum raised above normal by 0.4°C & Decadal minimum dropped below normal by 0.1°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETO were recorded as 52%, 82.2hrs, 2.9 km/hr and 2.2mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

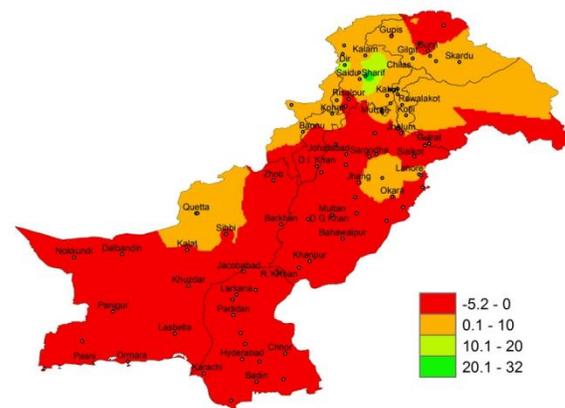
Light rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall received in Astore and Chilas. Decadal maximum and minimum dropped below normal by 1.7°C & 1.1°C, in the province... Whereas mean values of relative humidity, sunshine hour, wind speed & ETo were recorded as 68%, 33.2hrs, 1.1km/hr and 07mm/day respectively.



I. Actual rainfall



II. Departure of rainfall from Normal



III. 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 December, 2015)

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

Dry weather reported during the decade however weather remained cloudy for 07 days. Average relative humidity recorded as 66%. Mean day temperature was 18.6°C while night temperature recorded as 3.8°C with 65.7 hours bright sunshine duration. Wind speed recorded as 1.8 km/hr with mean wind direction *Westerly*.

Wheat (Chakwal 97): Good condition, Emergence stage

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

Rainfall reported as Trace (Non measureable) during the decade however weather remained cloudy for 08 days. Average relative humidity recorded as 56%. Mean day temperature was 22.6°C while night temperature recorded as 5.0°C with 74.7 hours bright sunshine duration. Wind speed recorded as 1.6 km/hr with mean wind direction *north easterly*.

Wheat: Good condition, Tillering stage.

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

Dry weather reported during the decade however weather remained cloudy for 01 day. Average relative humidity recorded as 55%. Mean day temperature was 24.4°C while night temperature recorded as 8.3°C with 94.4 hours bright sunshine duration. Wind speed recorded as 2.2 km/hr with mean wind direction *northerly*.

Wheat (TJ-83): Good condition, 3rd Leaf stage

2.4 **RAMC, Usta Muhammad (Eastern Balochistan)**

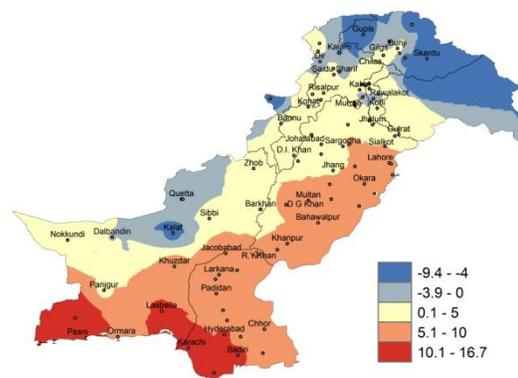
Dry weather reported during the decade however weather remained cloudy for 09 days. Average relative humidity recorded as 58%. Mean day temperature was 23.1°C while night temperature recorded as 7.4°C.

Wheat: Good condition, 3rd Leaf stage .

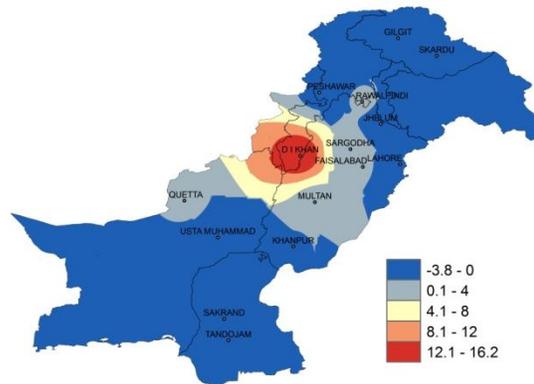
2.5 **RAMC, Quetta (Northern Balochistan)**

Rainfall reported as Trace (Non measureable) during the decade however weather remained cloudy for 10 days. Average relative humidity recorded as 45%. Mean day temperature was 12.3°C while night temperature recorded as -1.8°C with 82.2 hours bright sunshine duration and wind speed recorded as 41 km/hr with mean wind direction *north easterly*.

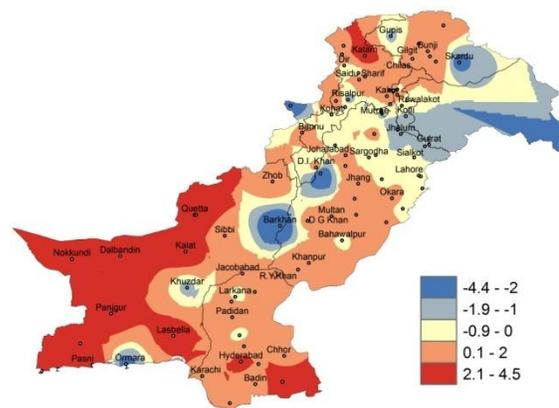
Wheat (Saryab 92): Good condition, Germination stage.



I. Actual min-temp



II. Departure of min-temp from Normal



III. 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 (21st to 31st December, 2015)**

2.6 **Jhelum**

Dry weather reported during the decade however weather remained cloudy for 06 days. Average relative humidity recorded as 59%. Mean day temperature was 20.9°C while night temperature recorded as 4.2°C with 69.2 hours bright sunshine duration. Wind speed recorded 1.3 km/hr with wind direction *north westerly*.

2.7 **Lahore**

Dry weather reported during the decade however weather remained cloudy for 09 days. Average relative humidity recorded as 59%. Mean day temperature was 21.2°C while night temperature recorded as 6.7°C with 79.5 hours bright sunshine duration. Wind speed recorded as 1.6 km/hr with mean wind direction *north westerly*.

2.8 **Sargodha**

Dry weather reported during the decade however weather remained cloudy for 09 days. Average relative humidity recorded as 67%. Mean day temperature was 22.1°C while night temperature recorded as 7.1°C with 66.5 hours bright sunshine duration. Wind speed recorded as 1.3 km/hr with mean wind direction as *Variable*.

2.9 **Multan**

Dry weather reported during the decade however weather remained cloudy for 09 days. Average relative humidity recorded as 57%. Mean day temperature was 21.7°C while night temperature recorded as 6.9°C with 58.2 hours bright sunshine duration. Wind speed recorded 1.7 km/hr with mean wind direction *south westerly*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 09 days. Average relative humidity recorded as 53%. Mean day temperature was 23.2°C while night temperature recorded as 5.3°C with 74.0 hours bright sunshine duration. Wind speed recorded 2.3 km/hr with mean wind direction *Variable*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remained cloudy for 05 days. Average relative humidity recorded as 56%. Mean day temperature was 23.3°C while night temperature recorded as 3.4°C with 86.4 hours bright sunshine duration. Wind speed recorded 3.7 km/hr with wind direction *northerly*.

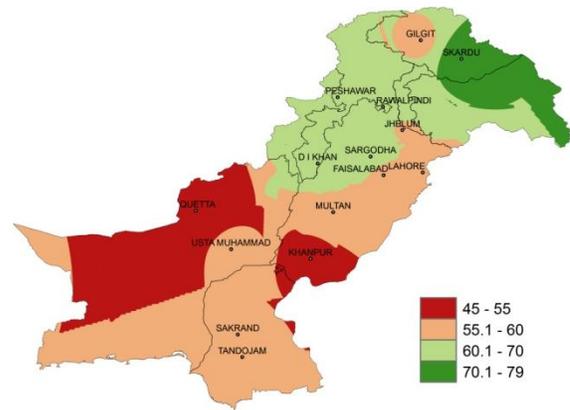


Figure.3: Relative Humidity in percentage (%)

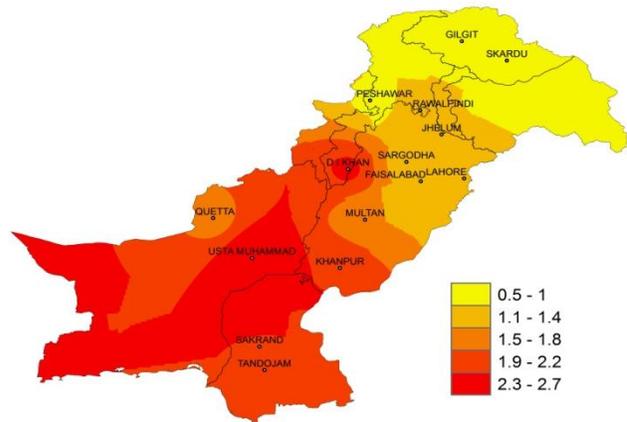


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

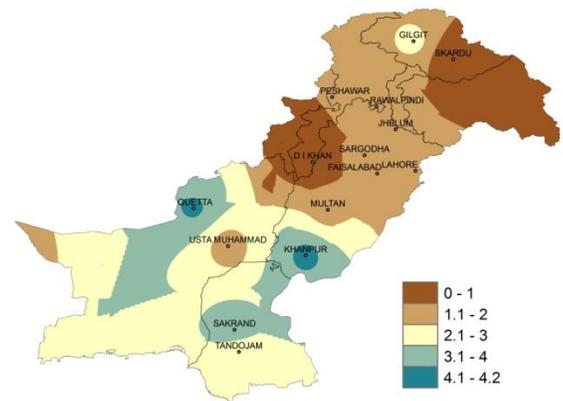


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Meteorological Data not received .

2.13 D.I. Khan

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 64%. Mean day temperature was 22.3°C while night temperature recorded as 3.9°C with 82.9hours bright sunshine duration.

2.14 Peshawar

Dry weather reported during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 68%. Mean day temperature was 19.8°C while night temperature recorded as 2.9°C with 59.0hours bright sunshine duration. Wind speed recorded as 1.0km/hr with mean wind direction *North westerly*.

2.15 Skardu

Rainfall reported as 26.3mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 79%. Mean day temperature was 3.3°C while night temperature recorded as -8.2°C with 25.8hours bright sunshine duration, with mean wind direction *westerly*.

2.16 Gilgit

Rainfall reported as Trace (Non measureable) during the decade however weather remained cloudy for 11days. Average relative humidity recorded as 56%. Mean day temperature was 10.5°C while night temperature recorded as -3.1°C with 40.5 hours bright sunshine duration. Wind speed recorded as 2.2km/hr with mean wind direction *westerly*.

3. Ten Days Weather Advisory for Farmers **(1st to 10th January, 2016)**

3.1 Temperature Forecast

Night temperatures are expected to drop slightly (1-2°C) in most of the agricultural plains of the country especially in upper parts of the country during the decade.

3.2 Wind Forecast

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

3.3 Rain Forecast

❖ **Punjab:** Mainly cold and dry weather is expected during the decade. However light to moderate rainfall with snow

over hills is expected in 1st half of decade on 4th & 5th of January at upper Punjab.

- ❖ **Khyber Pakhtunkhwa:** Mainly cold and dry weather is expected in the province. However light rainfall (with light snowfall over the hills) is expected in 1st half of decade over upper hilly areas of the province.
- ❖ **Sindh:** Dry weather expected in most of the parts of Sindh during the decade.
- ❖ **Balochistan:** Mainly cold and dry weather is expected in the province. However light to moderate rainfall with snowfall over hills is expected on 4th of January during the decade.
- ❖ **Gilgit Baltistan:** Mainly cold and cloudy weather is expected in most parts of the G.B however light to moderate rain (with light snowfall over the hills) is expected first half of the decade.
- ❖ **Kashmir:** Mainly cold and dry weather is expected in most parts of the Kashmir however partly cloudy weather conditions with light to moderate rain (with light snowfall over the hills) is expected in 1st half of decade.

3.4 Advisory for Farmers

- ❖ Removing weeds from the standing crops is very important as weeds utilize moisture and food which may be utilized by the crop. As a result considerable loss in yield occurs every year. However operations against weeds should be started using weedicides or manually when the crop completely covers the fields.
- ❖ Falling leaves from the trees negatively affect standing Rabi crops like wheat and other Rabi crops. Farmers should collect leaves from the crops as early as possible so that crop normal growth may not be disturbed.
- ❖ Due to further drop of temperatures, especially farmers of upper areas are advised to protect their crops from the frost. Frost is expected in clear nights during the decade.