

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Mostly dry and cold weather reported from the most parts of the country, however light to moderate rainfall/snow reported from KP, GB & Kashmir during the last decade.
- ❖ Highest amount of rainfall recorded 12.0 mm at Malamjabba during the last decade.
- ❖ Lowest minimum temperature recorded as -9.5°C in Skardu during the last decade.
- ❖ Lowest values of relative humidity reported from the western and south western parts of Balochistan during the last decade.
- ❖ Highest values of ETo reported from the agricultural plains of Sindh and most parts of Balochistan but lowest values reported from Skardu region.
- ❖ Normal temperatures expected during 1st half but day & night temperatures expected to be dropped $2-3^{\circ}\text{C}$ & $3-5^{\circ}\text{C}$ respectively in most of the agricultural plains of the country during the 2nd half of the decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the next decade.
- ❖ Chances of rainfall (with snow over hills) in most of the agricultural plains of the country during 1st half of the decade and another spell of light rain over upper agricultural plains of the country during 2nd half of the decade.
- ❖ Moisture stress condition in rainfed areas become weaken after the predicted spells of rainfall.

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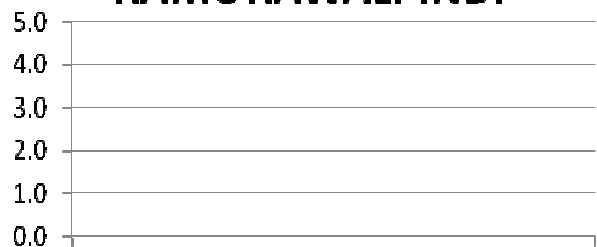
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Graphs for Rainfall (mm) during December 2012

RAMC RAWALPINDI



1st Decade Rainfall (mm)

RAMC FAISALABAD



1st Decade Rainfall (mm)

RAMC QUETTA



1st Decade Rainfall (mm)

RAMC TANDOJAM



1st Decade Rainfall (mm)

Note: No Rainfall recorded at all RAMC's during the 1st decade of December.

Meteorological conditions during 1st decade of December, 2012.

Sr. No.	Station	Precipitation (mm)			Air Temperature (°c)			Soil Temperatures (°c)						Sunshine Duration (hours)	Wind Speed (km/hr)	R.H (%)	ETo (mm/day)
		Normal	Actual	Dep	Tmin Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	TANDOJAM	0.3	0.0	-0.3	1.6	1.7	20.3	23.1	22.6	21.2	21.8	23.1	24.7	84.5	0.4	51	1.8
2	SAKRAND ☆	1.5	0.0	-1.5	-0.4	3.0	17.7	25.0	22.9	26.6	21.9	24.1	27.2	94.9	1.5	52	1.9
3	ROHRI	1.1	0.0	-1.1	0.1	2.6	19.3	25.4	24.0	22.3	23.3	22.8	27.0	84.2	0.9	49	1.6
4	QUETTA	0.8	0.0	-0.8	0.5	1.0	7.8	18.2	17.8	18.3	19.0	20.0	22.2	86.1	1.0	51	1.8
5	KHANPUR	0.1	0.0	-0.1	-1.1	3.2	17.2	***	***	***	***	***	***	77.3	1.4	60	1.5
6	MULTAN	0.5	0.0	-0.5	0.8	1.4	17.0	17.3	16.6	16.0	16.0	***	20.3	79.8	1.2	51	1.5
7	LAHORE	0.1	0.0	-0.1	-2.7	0.8	16.1	20.1	18.5	16.3	15.9	17.4	20.6	77.3	3.4	49	1.3
8	FAISALABAD	0.5	0.0	0.0	-0.7	2.4	16.2	18.5	17.3	16.7	17.4	19.4	21.5	72.9	0.2	55	1.8
9	SARGODHA	0.9	0.0	0.0	-0.1	2.2	16.8	16.6	15.8	15.2	15.7	17.2	***	80.0	1.2	61	1.1
10	JHELUM	1.1	0.0	-1.1	-1.6	2.2	15.9	16.0	13.8	13.9	14.2	15.2	18.6	70.4	0.9	51	1.3
11	RAWALPINDI	1.4	0.0	-1.4	0.0	0.1	13.3	18.2	17.8	18.3	19.0	20.0	22.2	86.1	1.0	51	1.0
12	DIKHAN	0.3	0.0	-0.3	-0.8	3.1	16.1	***	***	***	***	***	***	85.7	1.2	51	1.4
13	PESHAWAR	0.9	0.1	-0.8	-2.1	3.8	15.1	15.2	14.4	13.6	15.9	16.8	18.8	68.2	0.4	49	1.3
14	SKARDU	0.6	0.6	0.0	-2.3	-1.2	0.6	***	***	***	***	***	***	36.0	0.1	60	0.6
15	GILGIT	0.3	0.1	-0.2	-0.5	0.9	6.5	***	***	***	***	***	***	32.9	2.4	50	1.1

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. ETo stands for reference crop evapotranspiration. *** stands for no data and (☆) indicates the station with five years climatic (normal) data for computing departures.

Past Weather (1st to 10th December, 2012):

Light to moderate rainfall (with light snow over hills) reported from the few agricultural plains of KP, Gilgit Baltistan & Kashmir, while mostly dry weather reported from rest of the country during the decade.

1.1 Punjab

Dry and cold weather reported from most parts of province. Maximum temperature raised above normal by 1.8°C and minimum temperature dropped below normal by 0.8°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.3 k/hr, 54%, and 1.4 mm/day respectively (Fig 3-4).

1.2 Sindh

Dry weather reported from all over the province during the decade. Decadal maximum and minimum temperature raised above normal by 2.4 & 0.4°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 0.9 km/hr, 51%, and 1.8 mm/day respectively.

1.3 Khyber Pakhtoonkhawa (KP)

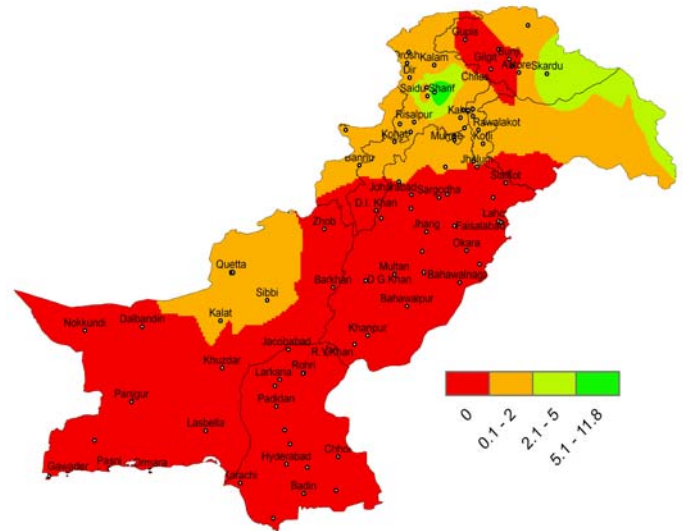
Light to moderate rainfall reported at a few places in agricultural plains of KP; chief amount received at Malamjabba, Dir and Parachinar. In KP region; Decadal maximum temperature raised above normal by 3.5°C and decadal minimum temperature dropped below normal by 1.5°C, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 0.8 km/hr, 50%, and 1.4 mm/day respectively.

1.4 Balochistan

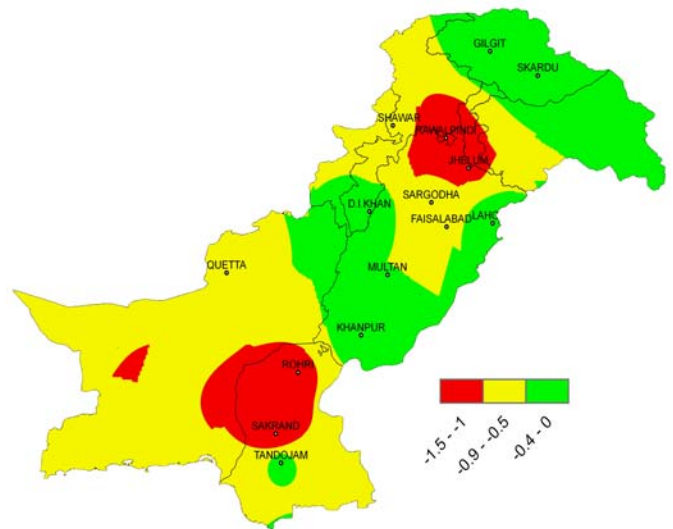
Dry and cold weather reported from most of the places in the province. However Trace rainfall reported at Samungli Quetta. Decadal maximum and minimum temperature raised above normal by 1.0 & 0.5°C respectively, Whereas mean values of wind speed, relative humidity and ETo were 4.5 km/hr, 32%, and 1.8 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

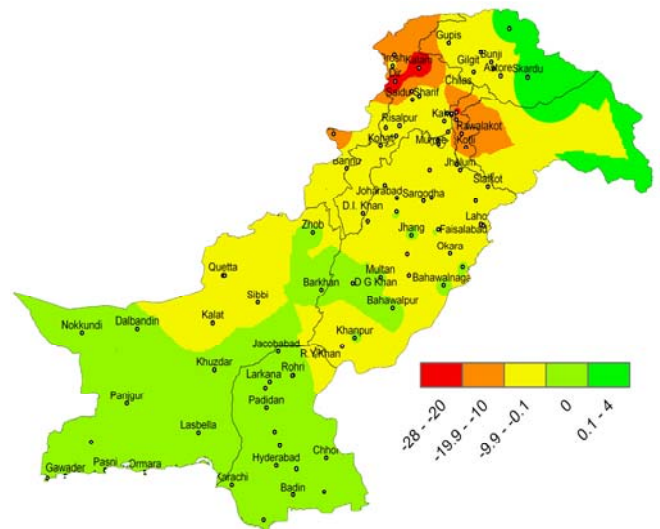
Cold weather with light rainfall reported at a few places in agricultural plains of Kashmir & Gilgit Baltistan region; chief amount received at Skardu, Hunza and Muzaffarabad. In GB & AJK region; decadal maximum and minimum temperature dropped below normal by 0.2 & 1.4°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded 1.3 km/hr, 55 %, and 0.9 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 (1st to 10th December, 2012): as per Table-1

2.1 RAMC, Rawalpindi (Potohar region)

No rainfall reported during the decade, weather remained cloudy for 4 days, average relative humidity recorded as 51%. Mean night temperature was 4.8°C while day temperature recorded as 21.8°C with 70.4 hours bright sunshine duration. Wind speed recorded as 1.9 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 1 day during the decade, average relative humidity recorded as 51%. Mean night temperature was 12.4°C while day temperature recorded as 28.1°C with 84.5 hours bright sunshine duration. Wind speed recorded as 0.4 km/hr with mean direction *north westerly*.

Wheat (TJ 83): Good condition, Third leaf stage.

2.3 RAMC, Faisalabad (Central Punjab)

No rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 49%. Mean night temperature was 6.3°C while day temperature recorded as 26.0°C with 77.4 hours bright sunshine duration. Wind speed recorded as 3.4 Km/hr with mean direction *west-northwest*.

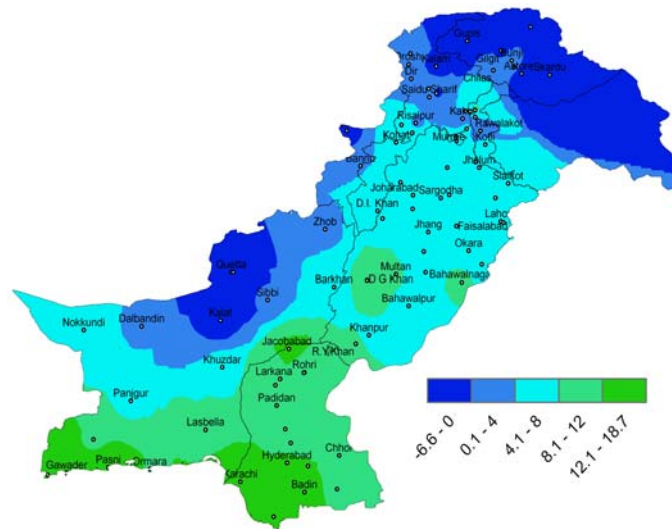
Sugarcane: Very Good condition, Third leaf completed.

Wheat: Very Good condition, Emergence stage.

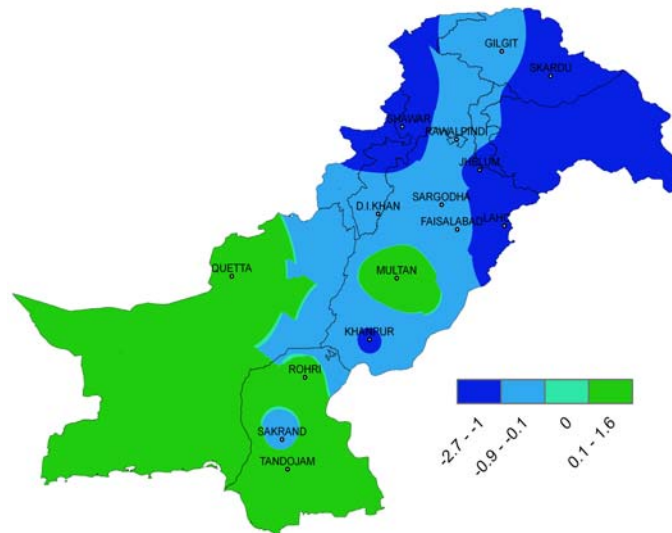
2.4 RAMC, Quetta (Northern Balochistan)

No rainfall reported during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 32%. Mean night temperature was -0.3°C while day temperature recorded as 15.8°C with 79.5 hours bright sunshine duration and wind speed recorded as 4.5 Km/hr with mean direction *northely*.

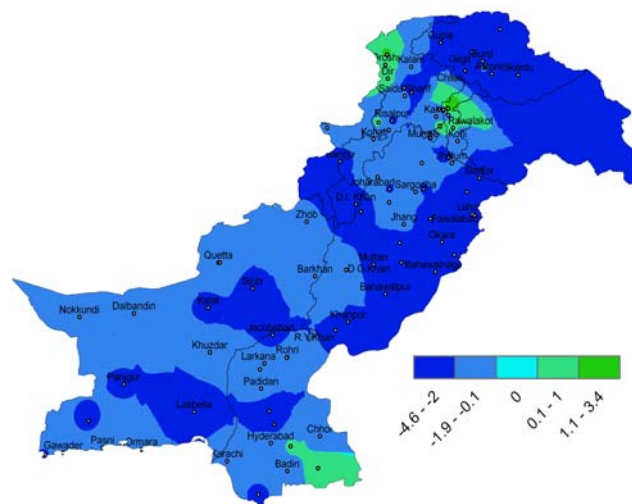
Wheat (Local white): Good condition, Emergence stage.



(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 (1st to 10th December, 2012)

2.5 Rohri

No rainfall reported during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 49%. Mean night temperature was 12.2°C while day temperature recorded as 26.4°C with 84.2 hours bright sunshine duration. Wind speed recorded as 0.9 Km/hr with mean direction *north easterly*.

2.6 Skardu

Rainfall reported 0.6 mm during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 60%. Mean night temperature was -6.6°C while day temperature recorded as 7.8°C with 36.0 hours bright sunshine duration with mean speed 0.1 Km/hr and mean direction *westerly*.

2.7 Multan

No rainfall reported during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 60%. Mean night temperature was 8.3°C while day temperature recorded as 25.7°C with 77.3 hours bright sunshine duration. Wind speed recorded as 1.4 Km/hr with mean direction *southerly*.

2.8 Lahore

No rainfall reported during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 51%. Mean night temperature was 7.9°C while day temperature recorded as 24.3°C with 79.8 hours bright sunshine duration. Wind speed recorded as 1.3 Km/hr with mean direction *north westerly*.

2.9 Peshawar

Trace (not measurable) rainfall reported during the decade, weather remained cloudy for 6 day, average relative humidity recorded as 49%. Mean night temperature was 4.7°C while day temperature recorded as 25.4°C with 68.2 hours bright sunshine duration. Wind speed recorded as 0.4 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 51%. Mean night temperature was 7.4°C while day temperature recorded as 27.0°C with 86.1 hours bright sunshine duration. Wind speed recorded as 1.0 Km/hr with mean direction *south westerly*.

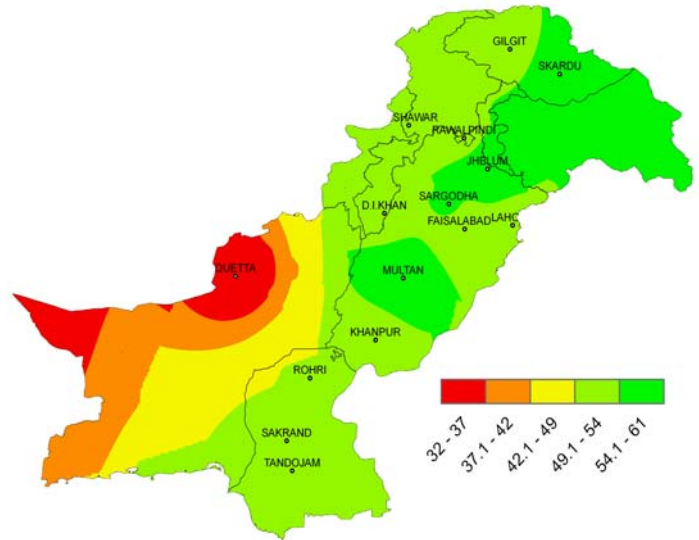


Figure.3: Relative Humidity in percentage

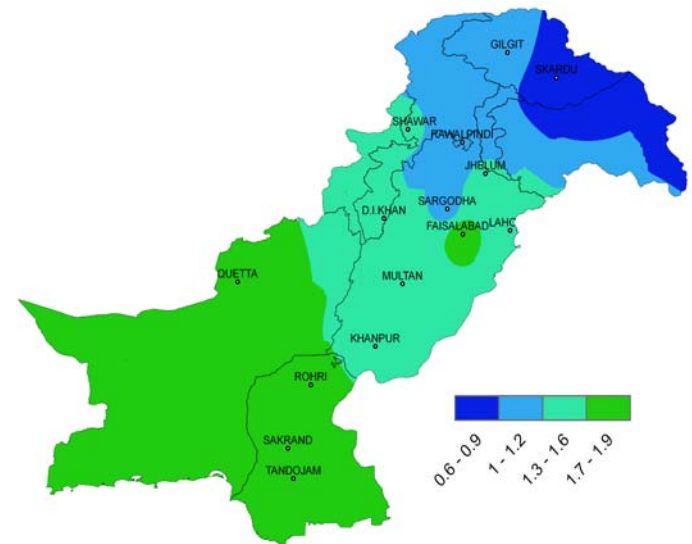


Figure.4: Reference Crop Evapotranspiration “ET₀” in mm/day

2.11 Sargodha

No rainfall reported during the decade, weather remained cloudy for 5 days during the decade, average relative humidity recorded as 55%. Mean night temperature was 7.8°C while day temperature recorded as 25.8°C with 72.9 hours bright sunshine duration. Wind speed recorded as 0.2 Km/hr with Variable direction.

2.12 Gilgit.

Trace (not measurable) rainfall reported during the decade. weather remained cloudy for 8 days and average relative humidity recorded as 50%. Mean night temperature was - 1.8°C while day temperature recorded as 14.7°C with 32.9 hours bright sunshine. Wind speed recorded as 2.4 Km/hr with mean direction *southerly*.

2.13 Jhelum

No rainfall reported during the decade. weather remained cloudy for 7 days and average relative humidity recorded as 61%. Mean night temperature was 5.9°C while day temperature recorded as 25.9°C with 80.0 hours bright sunshine duration. Wind speed recorded as 1.2 Km/hr with mean direction *south easterly*.

2.14 D.I. Khan

No rainfall reported during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 51%. Mean night temperature was 5.8°C while day temperature recorded as 26.3°C with 85.7 hours bright sunshine duration. Wind speed recorded as 1.2 Km/hr with mean direction *north westerly*.

2.15 Sakrand

No rainfall reported during the decade, weather remained cloudy for 2 days during the decade and average relative humidity recorded as 52%. Mean night temperature was 8.5°C while day temperature recorded as 26.8°C with 94.9 hours bright sunshine duration. Wind speed recorded as 0.8 Km/hr with mean direction *north westerly*.

3. Ten days Weather advisory for Farmers (11th to 20th December, 2012)

3.1 Temperature Forecast:

Normal day & night temperature expected during 1st half but day & night temperatures expected to be dropped 2-3°C & 3-5°C respectively in most of the agricultural plains of the country during the 2nd half of the decade.

3.2 Rain Forecast:

- ❖ **Punjab**: Mainly dry weather is expected in most parts of the province. However scattered rain (with snow over hills) may occur at upper Punjab during 12th to 14th and isolated rain/snow at upper parts on 17th / 18th December.
- ❖ **Khyber Pakhtoonkhawa**: Mostly partly cloudy conditions prevailed in most parts of the province. However scattered rain (with snow over hills) may occur at KP during 12th to 14th and at upper KP from 15th to 20th December occasionally.
- ❖ **Sindh**: Mainly dry weather is expected in most parts of the province during the decade. However drizzle may occur at few places of coastal areas on 12th December.
- ❖ **Balochistan**: Mainly dry weather is expected in most parts of the province. However isolated rain may occur at northeastern parts during 12th /13th and 16th / 17th December.
- ❖ **Gilgit-Baltistan & Kashmir**: Mostly partly cloudy/cloudy conditions prevailed in most parts of the province. However isolated to scattered rain/snow may occur occasionally 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:

- ❖ Most of the fields in Barani areas are under moisture stress condition. Farmers of rainfed areas, obtaining crop water through tube wells are advised to schedule the irrigation according to the expected weather mentioned above during the decade.
- ❖ Farmers of irrigated areas are advised to complete sowing before the 15th of December. In case of late sowing, the recommended varieties should be used to minimize the loss in yield.
- ❖ Wheat cultivation is in progress in lower plains of the country. Farmers may irrigate the crop as per requirement due to dry weather in most of the agricultural plains of the country. Normally first irrigation is given 20-25 days after sowing.
- ❖ 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.