

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 -12.5°C at Kalat & Quetta during the last decade.
- ❖ Highest amount of rainfall recorded as 24.0mm at Malam Jabba during the last decade.
- ❖ Lower values of relative humidity reported from Gilgit, Quetta & Sindh and higher values reported from Punjab and Kashmir during the last decade.
- ❖ Higher values of ETo reported from central region of country while lower values reported from Gilgit Baltistan & Quetta 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 rain/snowfall over hills is expected in isolated upper parts of the country on 13th & again on 16th & 17th of this month.
- ❖ Night temperatures are expected to drop ($1-2^{\circ}\text{C}$) in most agricultural plains of the country especially in upper parts during the decade.

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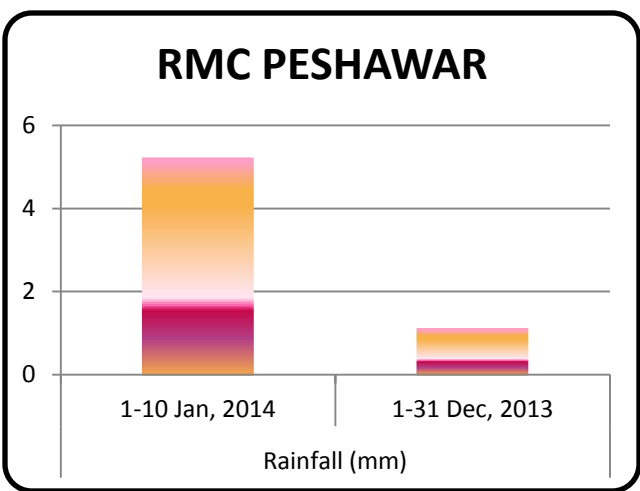
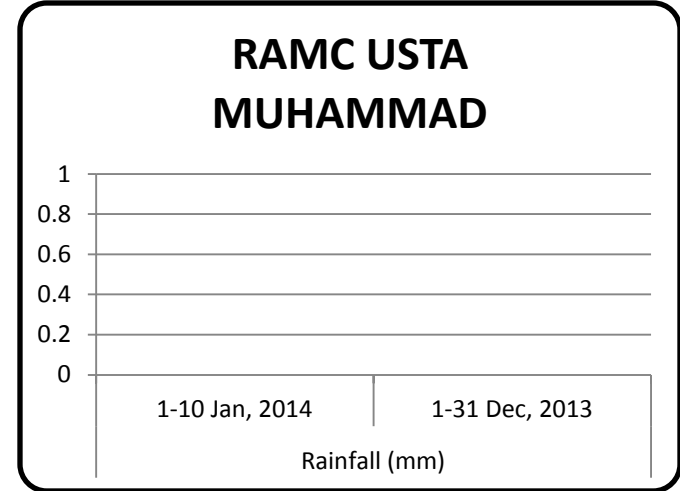
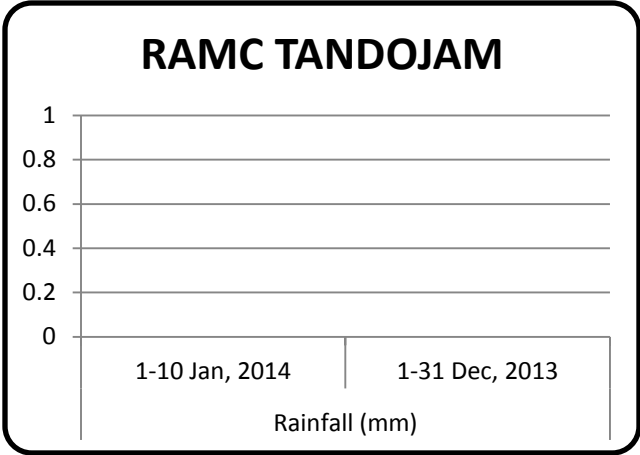
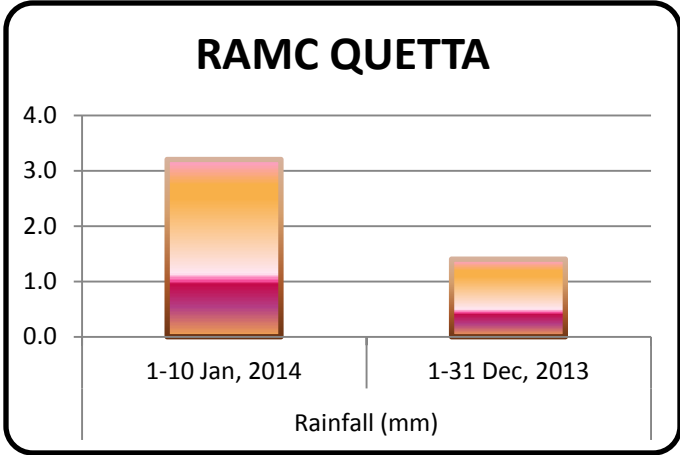
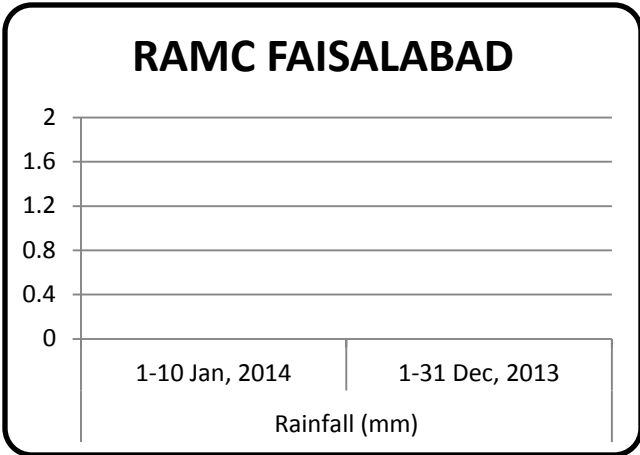
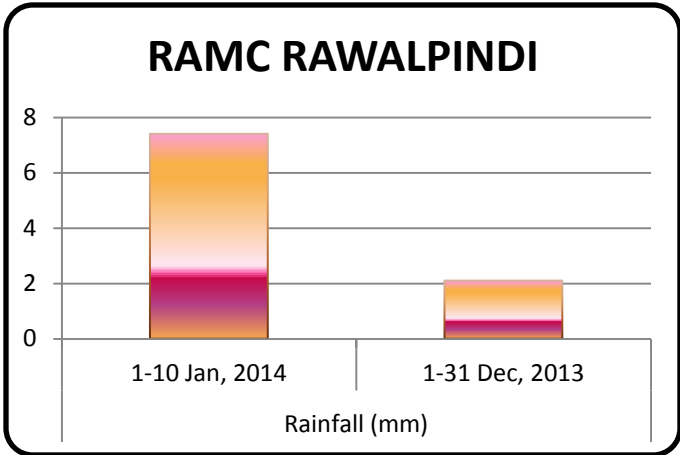
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Meteorological conditions during 1st Decade of January, 2014

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	0.1	0.0	-0.1	-3.2	-1.0	13.3	17.4	17.1	15.6	16.8	18.6	***	89.8	1.8	49	1.9
2	SAKRAND ☆	0.1	0.0	-0.1	-4.0	2.8	10.9	19.3	17.1	***	***	18.5	23.3	88.1	2.6	50	1.9
3	ROHRI	0.1	1.0	0.9	-2.9	-0.8	12.8	18.8	17.4	17.3	19.0	18.3	24.3	81.3	3.7	34	2.2
4	USTA MUHAMMAD	0.1	0.0	-0.1	-2.7	1.9	12.6	16.0	15.7	16.5	16.7	***	22.0	***	***	65	2.4
5	QUETTA	1.6	3.2	1.6	-1.6	-3.5	2.0	6.5	5.3	3.1	2.9	3.3	8.8	64.7	5.7	47	1.5
6	KHANPUR	0.1	0.0	-0.1	-3.6	-0.2	10.5	***	19.2	15.6	13.9	12.9	12.2	66.8	2.2	67	1.5
7	MULTAN	0.4	0.1	-0.3	-2.2	0.8	11.0	***	***	***	***	***	***	66.2	1.6	52	1.3
8	LAHORE	0.7	0.1	-0.6	-4.0	1.1	10.7	12.7	12.1	11.3	11.8	***	16.7	66.7	2.1	65	1.3
9	FAISALABAD	0.7	0.0	-0.7	-2.1	2.1	10.6	13.2	12.0	10.3	10.3	11.8	16.4	68.0	1.4	54	1.2
10	SARGODHA	0.8	0.1	-0.7	-1.4	2.0	11.4	14.3	13.2	13.1	14.1	16.0	18.5	64.9	0.6	62	1.0
11	JHELUM	1.1	1.0	-0.1	-2.5	1.5	10.9	11.4	10.7	10.0	10.5	12.3	***	67.2	3.0	55	1.6
12	RAWALPINDI	1.9	7.4	5.5	-2.5	-0.8	8.3	10.5	9.5	8.5	9.1	10.6	14.3	54.8	2.6	58	1.2
13	DI KHAN	0.8	0.1	-0.7	-3.2	1.6	10.4	***	***	***	***	***	***	72.8	***	45	2.6
14	PESHAWAR	1.2	5.2	4.0	-3.2	1.2	9.7	13.1	10.9	10.0	10.3	***	16.9	54.8	1.2	54	1.0
15	SKARDU	1.0	12.0	11.0	0.2	-2.0	-3.1	***	***	***	***	***	***	29.6	0.4	67	0.5
16	GILGIT	0.2	0.7	0.5	0.0	-1.4	2.6	***	***	***	***	***	***	25.7	1.5	59	0.9

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. ETo 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 Jan, 2014/Dec, 2013



Past Weather (1st to 10th January, 2014)

Light to moderate rainfall reported from few agricultural plains of Punjab, KP, Balochistan, Gilgit Baltistan & Kashmir, while light rainfall reported from the agricultural plains of Sindh during the decade.

1.1 Punjab

Light rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Murree & Islamabad. Decadal minimum dropped below normal by 2.6°C & maximum temperature raised above normal by 0.9°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 64.9hrs, 1.9km/hr, 59% and 1.3mm/day respectively.

1.2 Sindh

Light rainfall reported in the agricultural plains of Sindh. Chief amount of rainfall received in Rohri & Jacobabad. Decadal minimum dropped below normal by 3.4°C & maximum temperature raised above normal by 0.3°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 86.4hrs, 2.7km/hr, 44% and 2.0mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Malam Jabba, Parachinar & Kalam. Decadal minimum dropped below normal by 3.2°C & maximum temperature raised above normal by 1.4°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 63.8hrs, 1.2km/hr, 50% and 1.8mm/day respectively.

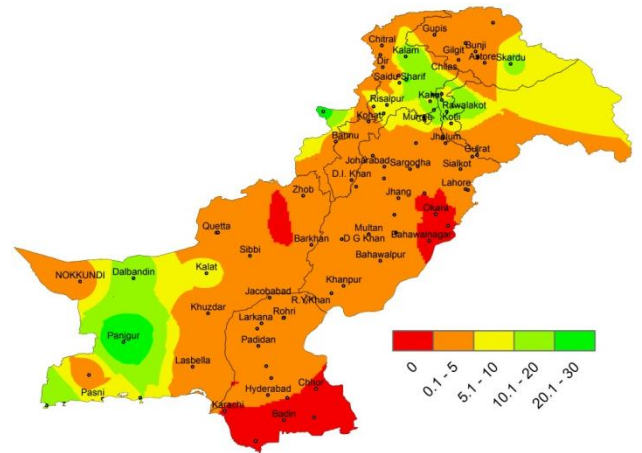
1.4 Balochistan

Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall reported in Jiwani, Gawadar & Dalbandin. Decadal minimum & maximum temperature both dropped below normal by 2.2°C & 0.8°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 64.7hrs, 5.7km/hr, 56% and 2.0mm/day respectively.

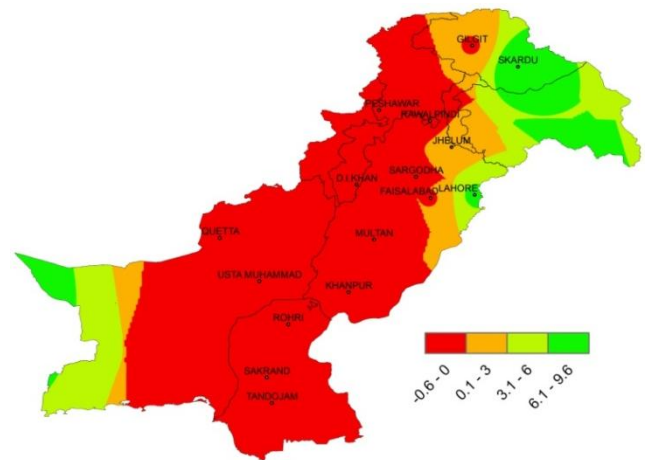
1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Rawalakot, Muzaffarabad & Skardu. Decadal minimum raised above normal by 0.1°C & maximum temperature dropped below normal by 1.7°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity

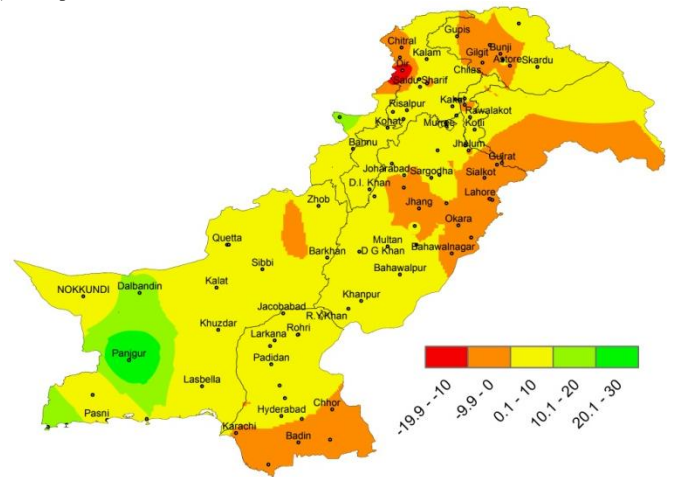
and ETo were recorded 27.7hrs, 1.0km/hr, 63% and 0.7mm/day respectively.



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 January, 2014)

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 7.4mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 58%. Mean night temperature was -0.2°C while day temperature recorded as 16.9°C with 54.8hours bright sunshine duration. Wind speed recorded as 2.6km/h with mean wind direction *westerly*.

Wheat (Chakwal 97): Good condition, 3rd Leaf stage.

2.2 RAMC, Faisalabad (Central Punjab)

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 54%. Mean night temperature was 1.8°C while day temperature recorded as 19.4°C with 68.0hours bright sunshine duration. Wind speed recorded as 1.4km/hr with mean wind direction *north westerly*.

Wheat: Very Good condition, Tillering stage.

2.3 RAMC, Tandojam (Lower Sindh)

Dry weather reported during the decade however weather remained cloudy for 01day. Average relative humidity recorded as 49%. Mean night temperature was 4.5°C while day temperature recorded as 22.1°C with 89.8hours bright sunshine duration. Wind speed recorded as 1.8km/hr with mean wind direction *northerly*.

Wheat (TD-1): Good condition, Tillering stage.

2.4 RAMC, Quetta (Northern Balochistan)

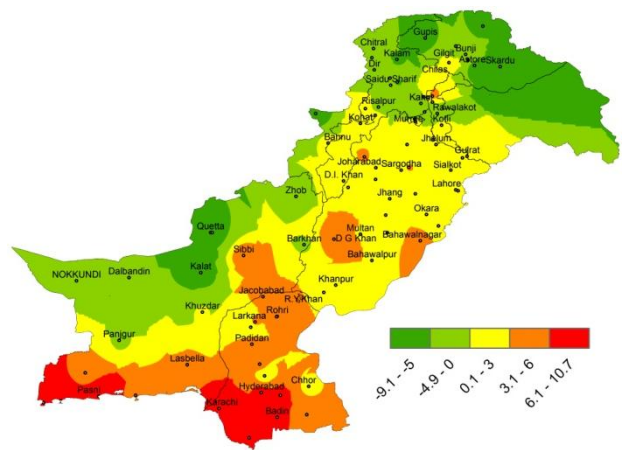
Rainfall reported as 3.2mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 47%. Mean night temperature was -3.9°C while day temperature recorded as 7.8°C with 64.7hours bright sunshine duration and wind speed recorded as 5.7km/hr with mean wind direction *northerly*.

Wheat (Local White): Good condition, 3rd Leaf Stage.

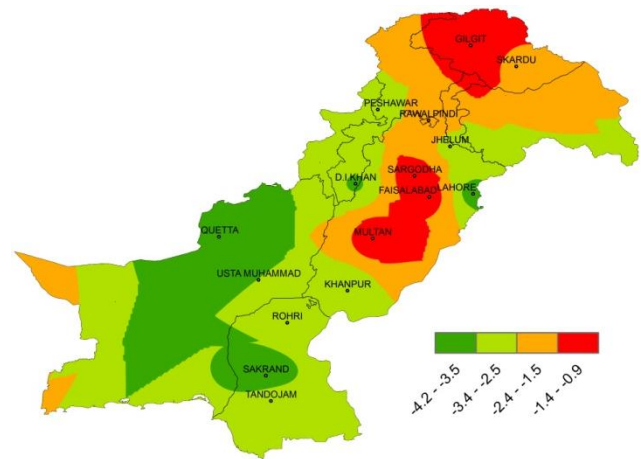
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 28%. Mean night temperature was 3.7°C, while day temperature recorded as 21.4°C.

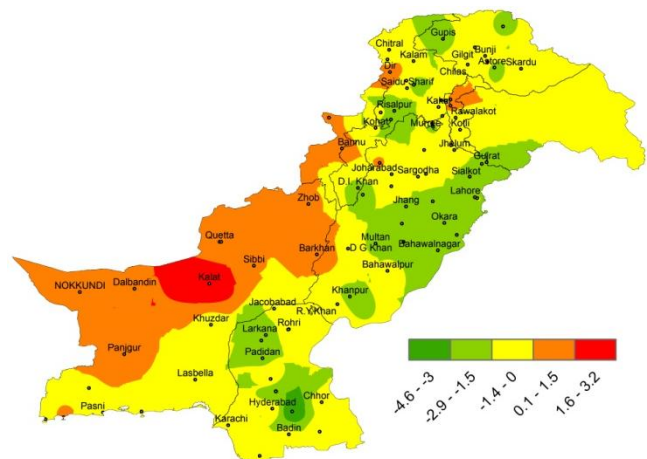
Wheat (Zardana): Good condition, Germination Stage.



(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 January, 2014)

2.6 Jhelum

Rainfall reported as 1.0mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 55%. Mean night temperature was 2.5°C while day temperature recorded as 19.3°C with 67.2hours bright sunshine duration. Wind speed recorded 3.0km/hr with mean wind direction *north westerly*.

2.7 Lahore

Rainfall reported as Trace (not measurable) during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 65%. Mean night temperature was 3.3°C while day temperature recorded as 18.1°C with 66.7hours bright sunshine duration. Wind speed recorded as 2.1km/hr with mean direction *north westerly*.

2.8 Sargodha

Rainfall reported as Trace (not measurable) during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 62%. Mean night temperature was 3.5°C while day temperature recorded as 19.3°C with 64.9hours bright sunshine duration. Wind speed recorded as 0.6km/hr with mean direction *north easterly*.

2.9 Multan

Rainfall reported as Trace (not measurable) during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 52%. Mean night temperature was 2.9°C while day temperature recorded as 19.1°C with 66.2hours bright sunshine duration. Wind speed recorded as 1.6km/hr with mean wind direction *north easterly*.

2.10 Khanpur

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 67%. Mean night temperature was 1.5°C while day temperature recorded as 19.5°C with 66.8hours bright sunshine duration. Wind speed recorded as 2.2km/hr with mean wind direction *north easterly*.

2.11 Rohri

Rainfall reported as 1.0mm during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 34%. Mean night temperature was 5.6°C while day temperature recorded as 20.0°C with 81.3hours bright sunshine duration. Wind speed recorded 3.7km/hr with mean wind direction *north easterly*.

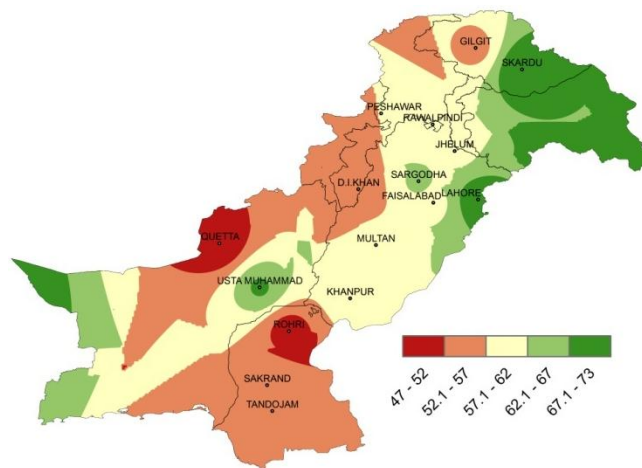


Figure.3: Relative Humidity in percentage (%)

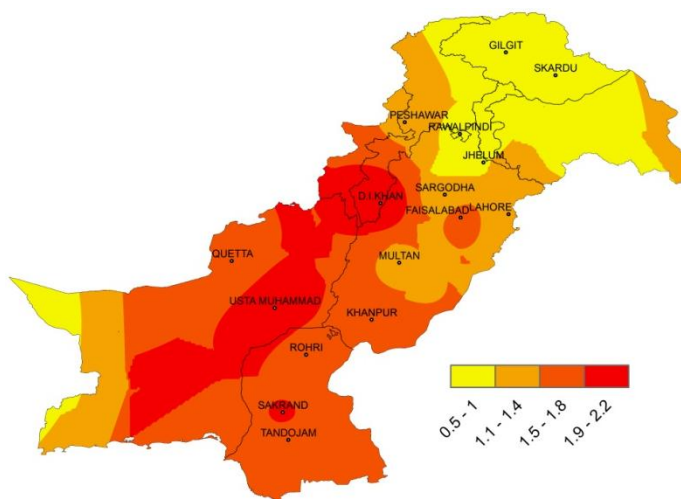


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

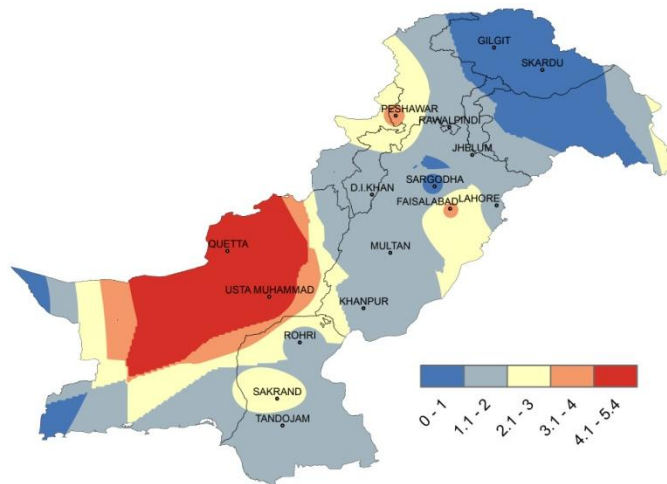


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Sakrand

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 50%. Mean night temperature was 1.6°C while day temperature recorded as 20.2°C with 88.1hours bright sunshine duration. Wind speed recorded as 2.6km/hr with mean wind direction *northerly*.

2.13 D.I Khan

Rainfall reported as Trace (not measurable) during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 45%. Mean night temperature was 1.0°C while day temperature recorded as 19.7°C with 72.8hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 5.2mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 54%. Mean night temperature was 0.8°C while day temperature recorded as 18.6°C with 54.8hours bright sunshine duration. Wind speed recorded as 1.2km/hr with mean wind direction *north westerly*.

2.15 Skardu

Rainfall reported as 12.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 67%. Mean night temperature was - 8.6°C while day temperature recorded as 2.5°C with 29.6hours bright sunshine duration. Wind speed recorded as 0.4km/hr with mean wind direction *westerly*.

2.16 Gilgit

Rainfall reported as 0.7mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 55%. Mean night temperature was - 3.8°C while day temperature recorded as 9.0°C with 25.7bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *easterly*.

**3. Ten Days Weather Advisory for Farmers
(11th to 20th January, 2014)****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 Rain Forecast

- ❖ **Punjab:** Mainly cold and dry weather is expected in most parts of the province during the decade. However, partly cloudy to cloudy weather conditions would prevail over Islamabad and upper/central Punjab on 13th and again on 16th & 17th of this month and there chance of drizzle at few places of (Rawalpindi, Gujranwala, Lahore and Sargodha divisions) during the period. Light snowfall is also expected at few places over the hills of Murree, Galyat and surrounding during the period. Morning misty/foggy conditions would continue to prevail over isolated places in the plain of Punjab during the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly cold (very cold in upper parts) and dry weather is expected in most parts of the province during the decade. However, partly cloudy to cloudy weather conditions would prevail in most parts of province on 13th and again on 16th & 17th of this month and there are chances of light rain (snowfall over the hills) at isolated places of upper KP (Malakand and Hazara divisions) during next 24 hours and again on 16th & 17th. Morning misty/foggy conditions would continue to prevail over isolated places in Peshawar division.
- ❖ **Sindh:** Mainly cold and dry weather is expected in most parts of the province during the decade. Morning misty/foggy conditions would continue to prevail over isolated places in Sukkar division.
- ❖ **Balochistan:** Mainly cold (very cold in North Balochistan) and dry weather is expected in most parts of the province during the decade. However, light rain/drizzle is expected at one or two places of Quetta division on 16th of this month.
- ❖ **Gilgit-Baltistan:** Mostly cloudy weather conditions with chances of, light rain with snowfall over the hills is expected at isolated places of Gilgit-Baltistan on 13th and again on 16th & 17th of this month. Very cold and partly

to cloudy weather conditions are expected in most parts of GB during rest of the days of the decade.

- ❖ **Kashmir:** Mostly cloudy weather conditions with light rains (with light snowfall over the hills) are expected at isolated places of Kashmir on 13th and again on 16th & 17th of this month. Very cold and dry weather is expected in most parts of Kashmir during rest 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

- ❖ Wheat crop is in Tillering/Shooting stage in most of the agricultural parts of the country.
- ❖ Wheat cultivation has completed in most of the irrigated areas. Farmers of irrigated areas should irrigate the crop as per requirement due to dry weather prevailing in most of the irrigated agricultural plains of the country. Normally first irrigation is given after 20-25 days after sowing and 2nd irrigation is given just before heading stage and third irrigation is given at milk maturity stage.
- ❖ 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 types of weeds from the standing crops.
- ❖ Due to continue drop in night time temperatures, especially farmers of upper & central areas are advised to protect their crops from the expected frost.