

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from the agricultural plains of Punjab, Balochistan, Gilgit Baltistan, Kashmir and Sindh and moderate to heavy from agricultural plains of KP during the last decade.
- ❖ Highest amount of rainfall recorded 266 mm at Parachinar during the last decade.
- ❖ Lowest minimum temperature recorded -1.5°C at Astore during the last decade.
- ❖ Lower values of relative humidity reported from GB and higher values of ETO reported from the agricultural plains of Sindh, Southern Punjab.
- ❖ Day & night temperatures expected to rise $2-3^{\circ}\text{C}$ in most of the agricultural plains of the country during the next decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the next decade.
- ❖ Light to moderate rainfall is expected in upper parts of KP, Upper Punjab, Gilgit Baltistan, northwest Balochistan & Kashmir region from 1st to 2nd and 8th to 10th April, whereas isolated chances of light rainfall expected in Sindh and Balochistan on 1st to 2nd and 8th to 10th April during the decade.
- ❖ Farmers are advised to free the standing crops from excess of weeds.
- ❖ No irrigation is required in the upper half agricultural plains including KP and central/northern Punjab. Whereas farmers of lower half including Southern Punjab, Sindh and Balochistan should harvest the early grown wheat crop, so as to prepare land for coming Kharif crop and save soil moisture.

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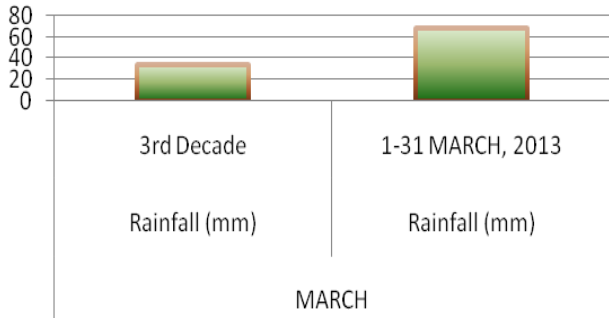
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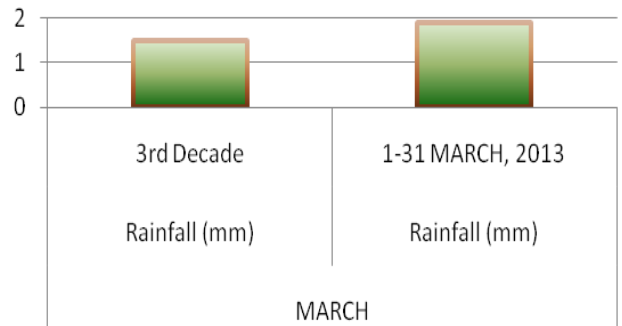
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Graphs for Rainfall (mm) during March 2013

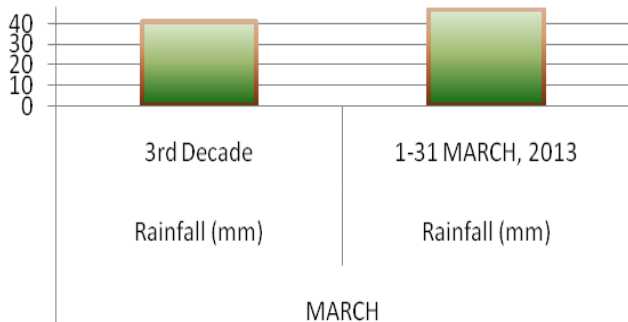
RAMC RAWALPINDI



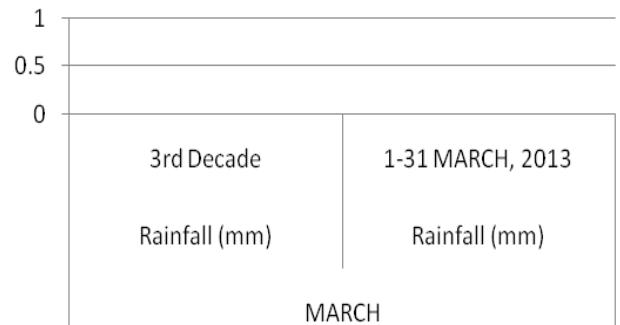
RAMC FAISALABAD



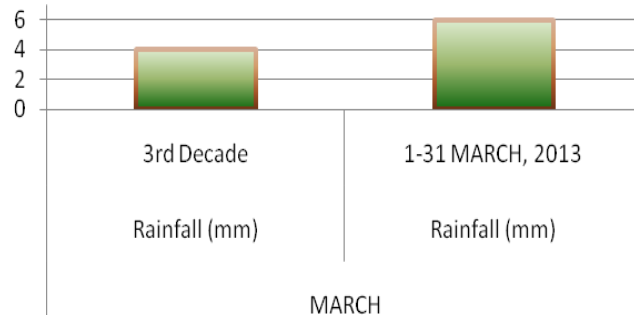
RAMC QUETTA



RAMC TANDOJAM



RAMC USTA MUHAMMAD



Meteorological conditions during 3rddecade of March, 2013

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	0.0	0.0	0.0	0.2	-3.0	25.8	34.0	31.1	28.1	26.4	26.1	24.6	101.3	3.5	47.0	4.0
2	SAKRAND ☆	0.1	0.0	-0.1	-1.5	-1.8	24.6	40.7	35.9	31.4	30.1	28.2	27.1	110.7	3.9	42.0	4.8
3	ROHRI	0.6	TR	-0.6	-1.2	-3.1	25.4	31.9	32.9	28.2	27.4	25.3	26.1	102.0	6.6	44.0	5.2
4	USTA MUHAMMAD	0.5	4.0	3.5	0.7	-5.3	23.5	29.3	31.0	25.9	26.4	23.1	21.7	***	0.6	59.0	3.1
5	QUETTA	0.9	40.9	40.0	-1.5	-4.8	11.6	17.7	16.7	13.9	13.2	12.3	13.8	66.3	5.3	54.0	2.9
6	KHANPUR	0.5	38.0	37.5	-1.1	-2.3	23.6	26.8	26.1	26.0	26.2	26.3	25.6	89.7	3.6	53.0	4.3
7	MULTAN	1.2	13.7	12.5	-0.3	-2.7	23.0	***	***	***	***	***	***	87.6	5.0	55.0	4.1
8	LAHORE	1.7	11.6	9.9	-2.6	-1.0	22.6	27.5	26.1	23.4	22.1	***	21.2	82.6	3.6	53.0	3.8
9	FAISALABAD	0.6	1.5	0.9	0.5	-1.3	22.8	29.5	27.5	24.1	22.5	22.0	20.8	83.0	5.7	53.0	4.1
10	SARGODHA	1.0	18.7	17.7	-0.8	-2.3	22.2	27.0	24.9	22.4	21.6	21.9	21.0	86.1	2.2	60.0	3.5
11	JHELUM	1.6	3.7	2.1	-0.8	-0.2	22.2	26.3	24.8	22.5	21.2	21.4	***	89.3	5.2	60.0	4.1
12	RAWALPINDI	2.7	34.0	31.3	0.2	-3.1	18.9	22.8	21.2	19.5	19.0	18.3	17.8	82.4	2.0	56.0	3.1
13	DI KHAN	0.8	28.9	28.1	-0.8	-2.4	21.2	***	***	***	***	***	***	91.8	4.1	62.0	3.8
14	PESHAWAR	2.4	56.0	53.6	-1.2	-0.5	20.2	23.5	21.0	19.9	19.3	18.9	18.3	68.3	1.7	63.0	2.9
15	SKARDU	0.5	0.0	-0.5	2.5	2.7	12.9	***	***	***	***	***	***	75.4	5.3	28.0	3.3
16	GILGIT	0.2	TR	-0.2	1.8	3.1	17.0	***	***	***	***	***	***	68.2	3.5	33.0	3.4

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 (21st to 31st March, 2013):

Light to moderate rainfall reported from the agricultural plains of Punjab, Balochistan, Gilgit Baltistan & Kashmir, while moderate to heavy rainfall reported from agricultural plains of KP and light rainfall reported from agricultural plain of Sindh.

1.1 Punjab

Light to moderate rainfall reported from most of the agricultural plains of Punjab. Chief amount received at Mianwali, Murree and Rahim yar khan, Decadal maximum temperature and minimum temperature both dropped below normal by 1.8°C & 0.7°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.9 km/hr, 56%, and 3.9 mm/day respectively (Fig 3-4).

1.2 Sindh

Light rainfall reported from few agricultural plains of Sindh; Decadal maximum temperature and decadal minimum both dropped below normal by 2.6°C & 0.8°C, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.7 km/hr, 43%, and 4.7 mm/day respectively.

1.3 Khyber Pakhtunkhawa (KP)

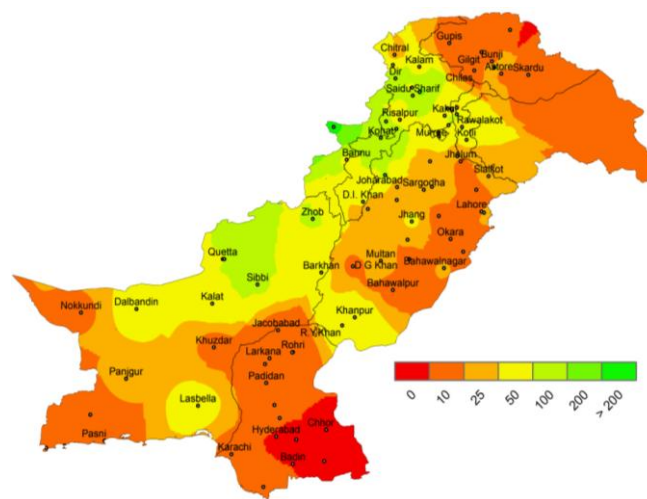
Moderate to heavy rainfall reported most of places in the agricultural plains of KP; chief amount received at Parachinar, Malamjabba, Dir, etc. In KP region; Decadal maximum & minimum temperature both dropped below normal by 1.5°C & 1.0°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.9 km/hr, 63%, and 3.4 mm/day respectively.

1.4 Balochistan

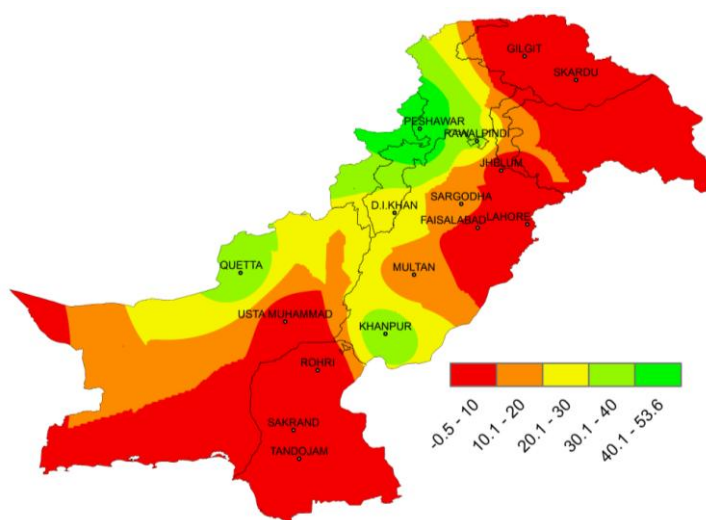
Light to moderate rainfall reported most of places in the agricultural plains of Balochistan;. Decadal maximum & minimum temperature both dropped below temperature by 5.1°C & by 0.4°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 3.0 km/hr, 57%, and 3.0 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

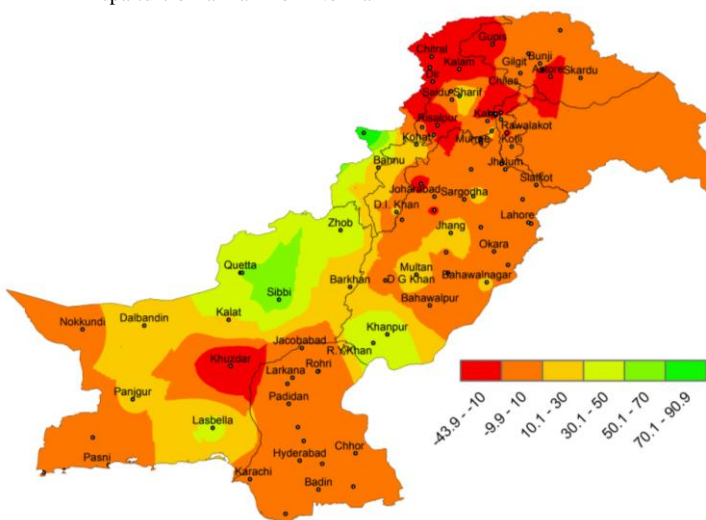
Light to moderate rainfall reported at a number of places in agricultural plains of GB & Kashmir; chief amount received at, Garhi doppta, Muzaffarabad, Kotli etc. In GB & AJK region; Decadal maximum temperature &, Decadal minimum temperature both raised above normal by 2.9°C & 2.2°C in the province Whereas mean values of wind speed, relative humidity and ETo were recorded 4.4 km/hr, 31%, and 3.4 mm/day respectively.



a) Actual rainfall



Departure of rainfall from Normal



b) Departure of rainfall from Previous Decade

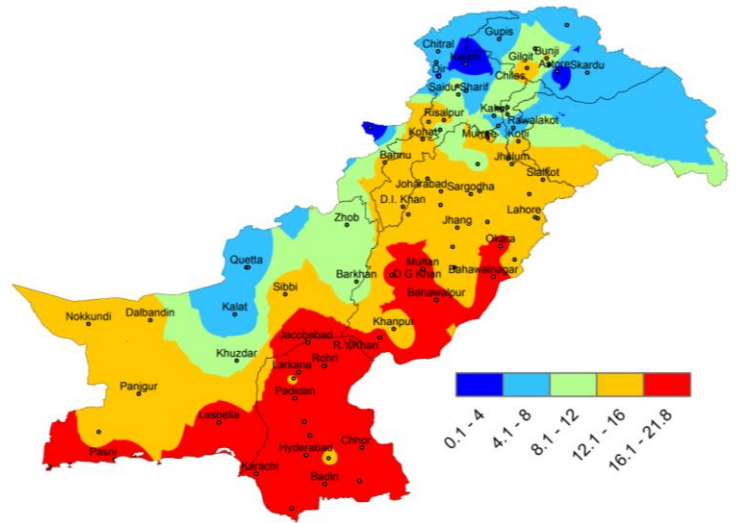
Figure.1: Rainfall distribution during previous decade in “mm”

2 (a) **Past Weather for Major Agricultural Plains (21st to 31st March, 2013): as per Table-1**

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

Rainfall reported as 34.0 mm during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 56%. Mean night temperature was 12.9°C while day temperature recorded as 24.9°C with 82.4 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

Wheat Chakwal 97: Good condition, Shooting stage.

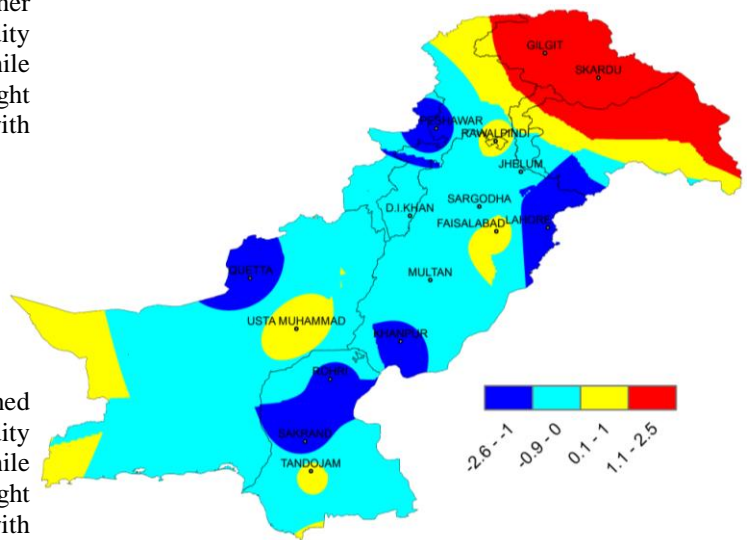


(a) Actual min-temp

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

Rainfall reported as 1.5 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 53%. Mean night temperature was 16.1°C while day temperature recorded as 29.5°C with 83.0 hours bright sunshine duration. Wind speed recorded as 5.7 Km/hr with mean direction *westerly south westerly*.

Sugarcane: Very Good condition, Tillering stage.
Wheat: Very Good condition, Milk maturity stage.



(b) Departure of min-temp from Normal

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

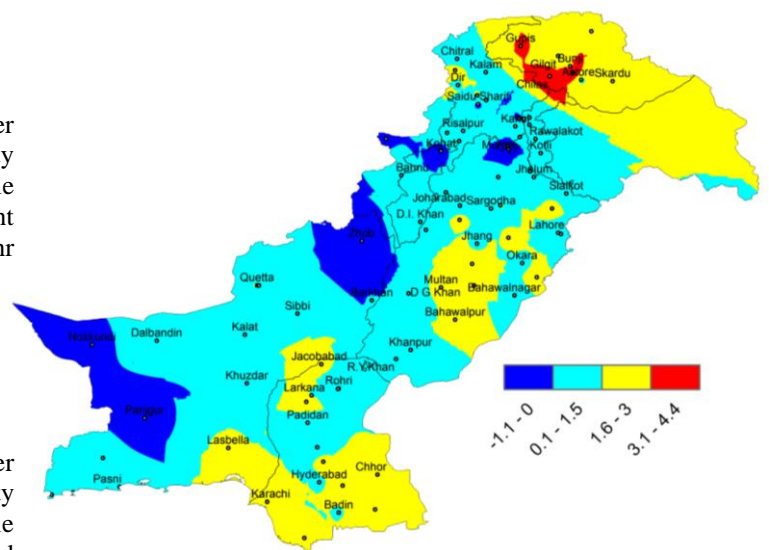
No rainfall reported during the decade, weather remained cloudy for 7 days during the decade, average relative humidity recorded as 47%. Mean night temperature was 17.9°C while day temperature recorded as 33.6°C with 101.3 hours bright sunshine duration. Wind speed recorded as 3.5 km/hr with mean direction *south westerly*.

Wheat (TJ 83): The crop has been harvested already.

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

Rainfall reported as 40.9 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 54%. Mean night temperature was 5.7°C while day temperature recorded as 17.5°C with 66.6 hours bright sunshine duration and wind speed recorded as 5.3 Km/hr with mean direction *southerly*.

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



(c) Departure of min-temp from Previous Decade

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

Rainfall reported as 4.0 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 59%. Mean night temperature was 17.7°C while day temperature recorded as 29.3°C with wind speed recorded as 0.6 Km/hr with mean direction *southerly*.

Wheat: Good condition, Flowering stage started.

Figure.2: Minimum Temperature distribution during previousdecade in “°C”

2(b) Past Weather for sub regional Agricultural Plains (21st to 31st March, 2013):

2.6 Jhelum

Rainfall reported as 3.7 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 60%. Mean night temperature was 14.7°C while day temperature recorded as 29.7°C with 89.3 hours bright sunshine duration. Wind speed recorded as 5.2 Km/hr with mean direction *south westerly*.

2.7 Lahore

Rainfall reported as 11.6 mm during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 53%. Mean night temperature was 16.1°C while day temperature recorded as 29.0°C with 82.6 hours bright sunshine duration. Wind speed recorded as 3.6 Km/hr with mean direction *south westerly*

2.8 Sargodha

Rainfall reported as 18.7 mm during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as 60%. Mean night temperature was 15.7°C while day temperature recorded as 28.7°C with 86.1 hours bright sunshine duration. Wind speed recorded as 2.2 Km/hr with mean direction *south westerly*.

2.9 Multan

Rainfall reported as 13.7 mm during the decade, weather remained cloudy for 11 days, average relative humidity recorded as 55%. Mean night temperature was 16.6°C while day temperature recorded as 29.3°C with 87.6 hours bright sunshine duration. Mean wind direction *northly*.

2.10 Khanpur

Rainfall reported as 38.0 mm during the decade, weather remained cloudy for 8 days during the decade, average relative humidity recorded as 53%. Mean night temperature was 15.7°C while day temperature recorded as 31.5°C with 89.7 hours bright sunshine duration. Wind speed recorded as 3.6 Km/hr with mean direction *westerly*.

2.11 Rohri

Rainfall reported as Trace (non measureable) during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 44%. Mean night temperature was 18.8°C while day temperature recorded as 32.0°C with 102.0 hours bright sunshine duration. Wind speed recorded as 6.6 Km/hr with mean direction *north easterly*.

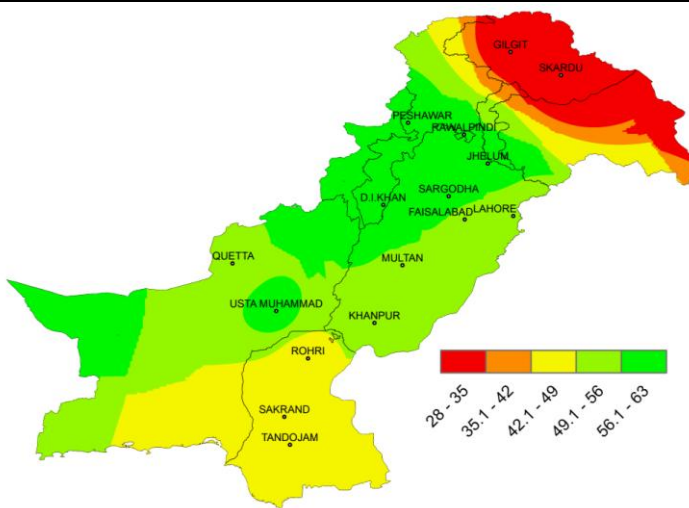


Figure.3: Relative Humidity in percentage

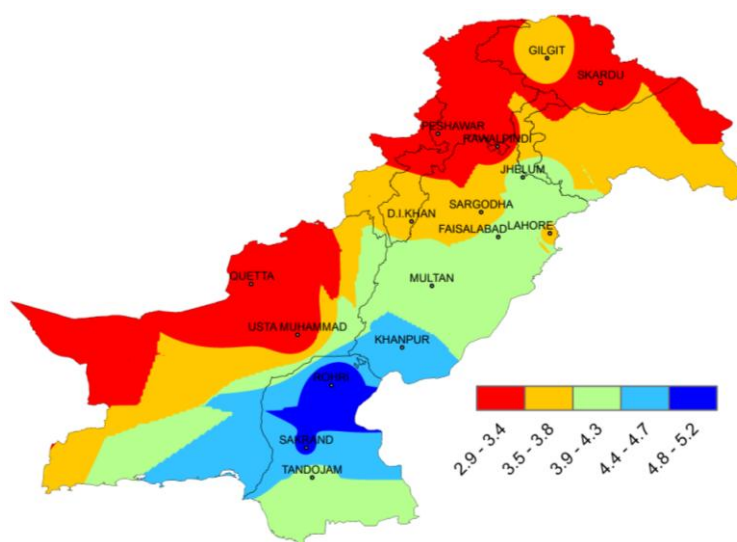


Figure.4: Reference Crop Evapotranspiration “ET₀” in mm/day

2.12 Sakrand

No rainfall reported during the decade, weather remained cloudy for 5 days during the decade, average relative humidity recorded as 42%. Mean night temperature was 15.5°C while day temperature recorded as 33.6°C with 110.7 hours bright sunshine duration. Wind speed recorded as 3.9 Km/hr with mean direction *north westerly*.

2.13 Peshawar

Rainfall reported as 56.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 63%. Mean night temperature was 13.4°C while day temperature recorded as 27.0°C with 68.3 hours bright sunshine duration. Wind speed recorded as 1.7 Km/hr with mean direction *north westerly*.

2.14 D.I. Khan

Rainfall reported as 28.9 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 62%. Mean night temperature was 14.7°C while day temperature recorded as 27.6°C with 91.8 hours bright sunshine duration. Wind speed recorded as 4.1 Km/hr with mean direction *north westerly*.

2.15 Gilgit

Rainfall reported as Trace (non measureable) during the decade. weather remained cloudy for 10 days and average relative humidity recorded as 33%. Mean night temperature was 8.7°C while day temperature recorded as 25.2°C with 68.2 hours bright sunshine. Wind speed recorded as 3.5 Km/hr with variable direction.

2.16 Skardu

No rainfall reported during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 28%. Mean night temperature was 6.2°C while day temperature recorded as 19.6°C with 75.4 hours bright sunshine duration with mean speed 5.3 Km/hr and mean direction *north westerly*.

3. Ten days Weather advisory for Farmers (1st to 10th April, 2013)

3.1 Temperature Forecast:

Day temperatures expected to rise 2-3°C in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast:

❖ **Punjab:**

Rainfall/ Thunderstorm is expected in upper and central parts of the province from 1st to 2nd April and upper parts during 9th to 10th April.

❖ **Khyber Pakhtoonkhawa:**

Rainfall/ Thunderstorm is expected in scattered places of the province during 1st to 2nd April and on upper areas during 8th to 10th April.

❖ **Sindh :**

Mainly dry weather is expected in most parts of the province during the decade. Whereas light rainfall at isolated places is expected from on 9th to 10th April .

Balochistan:

Isolated rainfall is expected in most parts of the province from 1st to 2nd April and 8th to 10th April during the decade..

❖ **Gilgit-Baltistan & Kashmir:**

Rainfall/ Thunderstorm is expected from 1st to 3rd April and 9th to 10th April .

3.3 Wind Forecast:

Normal to slightly windy pattern may prevail in most of the agricultural plains of the country during the decade.

3.4 Advisory for Farmers:

- ❖ Farmers are advised to free the standing crops from excess of weeds.
- ❖ No irrigation is required in the upper half agricultural plains including KP and central/northern Punjab. Whereas farmers of lower half including Southern Punjab, Sindh and Balochistan should early complete harvesting/threshing of full matured crops so that in time cultivation of coming Kharif crops should be done.