

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate rainfall (with snow over hills) reported from the agricultural plains of KP, Punjab, Gilgit Baltistan & Kashmir during the last decade.
- ❖ Highest amount of rainfall recorded as 63.0 mm at Kotli during the last decade.
- ❖ Lowest minimum temperature recorded as  $-14.6^{\circ}\text{C}$  at Skardu during the last decade.
- ❖ Lower values of relative humidity (less than 45%) reported from D.I Khan and Quetta divisions during the last decade.
- ❖ Higher values of ETo reported from the agricultural plains of Sindh, Southern Punjab, Eastern & Southern parts of Balochistan but lower values reported from Skardu region during last decade.
- ❖ Day & night temperatures expected to be normal 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.
- ❖ Mainly cold & dry weather expected in most parts of the country except upper KP, Upper Punjab, Gilgit Baltistan & Kashmir region, where isolated chances of light rainfall (with snow over hills) during the next decade.
- ❖ Due to drop of temperatures, high humidity and cold air, foggy conditions may prevail in the plain areas of the country.
- ❖ Due to further drop of minimum temperatures, frost condition may prevail in some upper areas of the country.

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SECTOR H-8/2, ISLAMABAD**

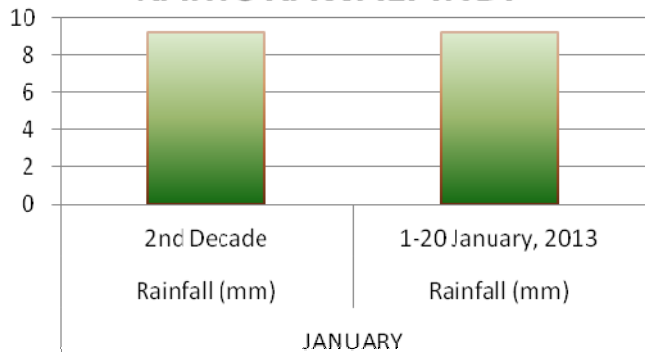
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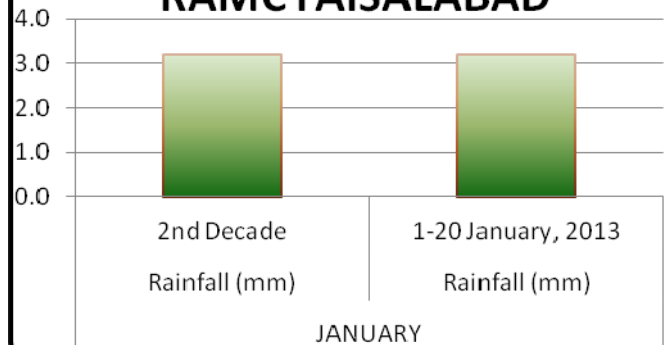
Editor: Zeeshan Javed Hashmi, Assistant Meteorologist, NAMC Islamabad

## Graphs for Rainfall (mm) during January 2013

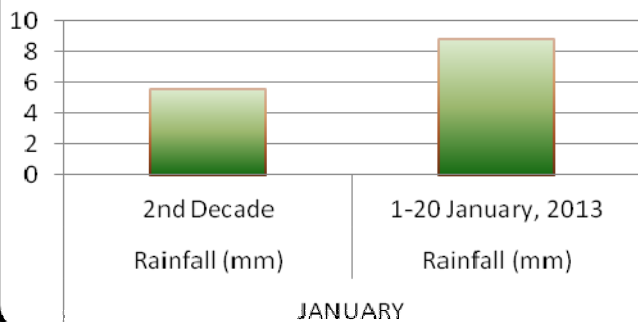
### RAMC RAWALPINDI



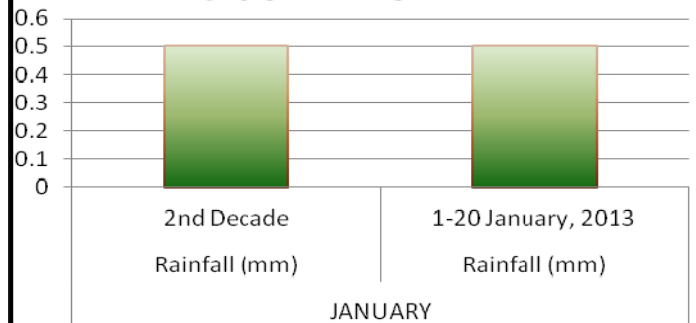
### RAMC FAISALABAD



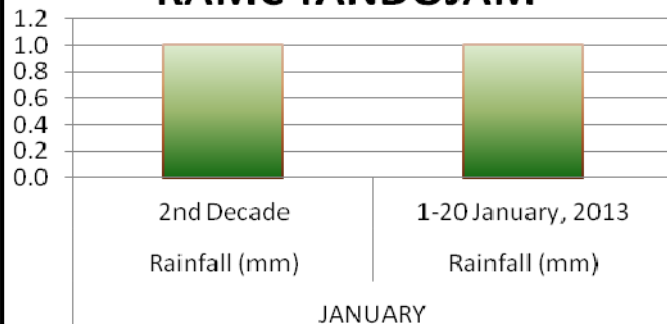
### RAMC QUETTA



### RAMC USTA MUHAMMAD



### RAMC TANDOJAM



Meteorological conditions during 2<sup>nd</sup> decade of January, 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	1.0	1.0	1.6	-0.1	17.3	21.8	20.6	***	19.3	20.2	21.4	76.6	1.9	57	2.0
2	SAKRAND ☆	0.4	TR	-0.3	-0.9	3.8	14.1	21.7	19.0	***	18.7	20.3	22.5	78.6	2.2	61	2.1
3	ROHRI	0.6	2.0	1.4	0.0	0.0	15.5	21.4	19.6	18.0	19.5	18.9	23.5	76.4	6.2	49	2.5
4	USTA MUHAMMAD	0.1	0.5	0.4	-3.3	-0.2	13.3	14.5	15.1	15.4	15.8	17.0	20.3	***	0.7	72	1.5
5	QUETTA	0.9	5.6	4.7	-1.7	-1.6	3.7	7.3	6.9	4.8	4.8	5.0	9.1	89.5	5.2	39	1.6
6	KHANPUR	1.0	1.0	0.0	0.7	2.1	14.3	15.2	14.8	15.2	15.5	16.3	18.2	74.9	3.1	53	1.8
7	MULTAN	0.2	0.0	-0.2	0.3	0.6	13.3	***	***	***	***	***	***	73.3	9.4	67	2.2
8	LAHORE	0.3	13.0	12.7	-1.1	0.1	12.5	14.2	13.7	12.9	13.1	***	16.3	55.8	2.2	67	1.2
9	FAISALABAD	0.3	3.2	2.9	0.8	2.1	13.0	18.5	15.2	13.4	13.2	14.1	16.3	58.3	3.7	57	1.6
10	SARGODHA	0.2	TR	-0.1	0.8	1.5	13.2	16.5	15.4	13.9	14.2	15.6	17.4	54.7	1.5	66	1.2
11	JHELUM	1.4	11.8	10.4	-1.0	0.6	12.2	13.5	12.9	12.4	12.6	14.0	***	57.1	2.8	65	1.3
12	RAWALPINDI	1.1	9.2	8.1	0.2	-1.4	10.3	13.0	11.4	9.5	10.3	10.7	13.4	58.8	2.4	68	1.2
13	D I KHAN	0.1	TR	0.0	0.5	2.3	13.0	***	***	***	***	***	***	75.1	2.4	44	1.5
14	PESHAWAR	1.6	3.0	1.4	-1.5	1.3	11.7	13.6	11.5	10.6	12.4	12.8	14.0	60.3	1.3	55	1.1
15	SKARDU	1.5	36.0	34.5	-2.8	-1.9	-4.0	***	***	***	***	***	***	24.0	0.1	73	0.5
16	GILGIT	0.3	3.1	2.8	-0.7	-0.2	3.8	***	***	***	***	***	***	23.2	2.1	60	1.0

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 (11<sup>th</sup> to 20<sup>th</sup> January, 2013):

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

### 1.1 Punjab

Light to moderate rainfall reported at a number of places in the agricultural plains of Punjab; chief amount received at Sialkot, Murree, Gujranwala etc. Decadal maximum & minimum temperature raised above normal by 0.8 & 0.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.6 km/hr, 63%, and 1.5 mm/day respectively (Fig 3-4).

### 1.2 Sindh

Light rainfall reported at a few places in the agricultural plains of Sindh; chief amount received at Jacobabad, Sukkur, Padidan etc. Decadal maximum & minimum temperature raised above normal by 1.2 & 0.2°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.4 km/hr, 56%, and 2.2 mm/day respectively.

### 1.3 Khyber Pakhtoonkhawa (KP)

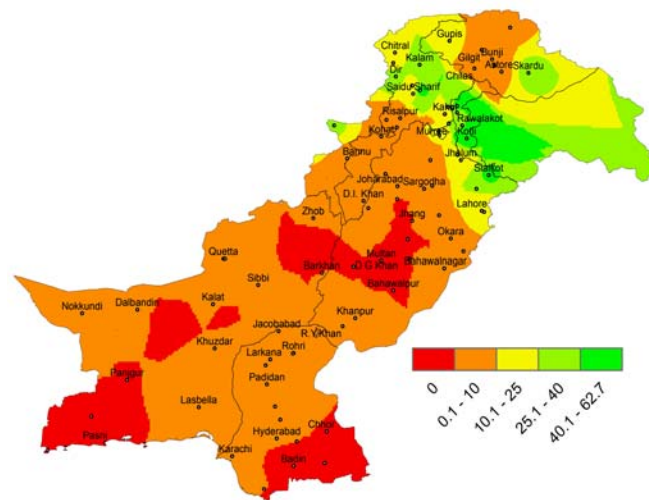
Light to moderate rainfall reported at a number of places in the agricultural plains of KP; chief amount received at Malamjabba, Dir, Kalam etc. In KP region; Decadal maximum temperature raised above normal by 1.8 & decadal minimum temperature dropped below normal by 0.5°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.9 km/hr, 50%, and 1.3 mm/day respectively.

### 1.4 Balochistan

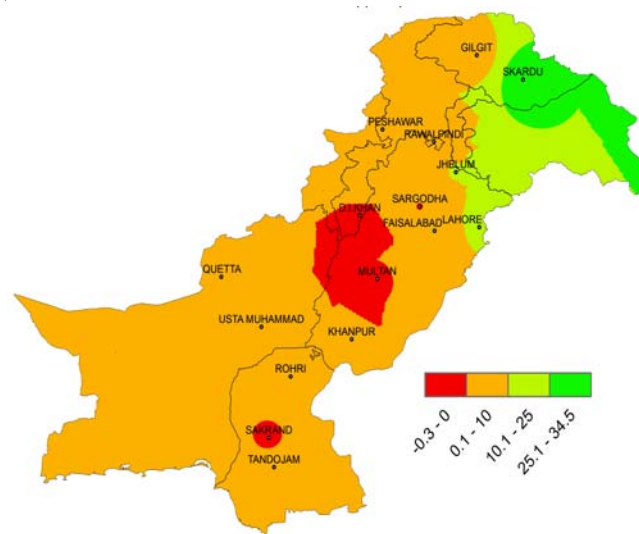
Light rainfall reported at a few of places in agricultural plains of Balochistan; chief amount received at Samungli (Quetta). Decadal maximum & minimum temperature dropped below normal by 0.9 & 2.5°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 3.0 km/hr, 56%, and 1.6 mm/day respectively.

### 1.5 Gilgit Baltistan and Azad Jammu & Kashmir

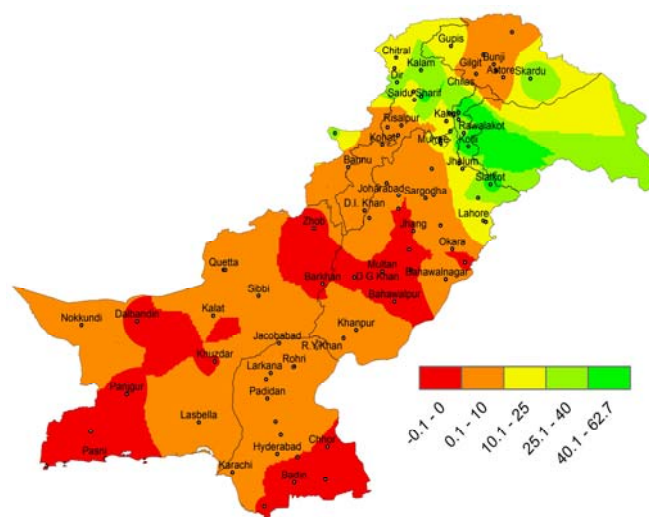
Light to moderate rainfall reported at a number of places in agricultural plains of GB & Kashmir; chief amount received at Kotli, Pattan, Rawalakot etc. In GB & AJK region; decadal maximum and minimum temperature dropped below normal by 1.1 & 1.8°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded 1.1 km/hr, 67%, and 0.8 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 (11<sup>th</sup> to 20<sup>th</sup> January, 2013) as per Table-1**

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

Rainfall reported as 9.2 mm during the decade, weather remained cloudy for 4 days, average relative humidity recorded as 68%. Mean night temperature was 3.2°C while day temperature recorded as 17.4°C with 58.8 hours bright sunshine duration. Wind speed recorded as 2.4 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

Wheat Chakwal 97: Good condition, Tillering stage.

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

Rainfall reported as 1.0 mm during the decade, weather remained cloudy for 1 day during the decade, average relative humidity recorded as 57%. Mean night temperature was 10.1°C while day temperature recorded as 24.4°C with 76.6 hours bright sunshine duration. Wind speed recorded as 1.9 km/hr with mean direction *north westerly*.

Wheat (TJ 83): Good condition, Heading stage.

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

Rainfall reported as 3.2 mm during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 57%. Mean night temperature was 5.5°C while day temperature recorded as 20.5°C with 58.4 hours bright sunshine duration. Wind speed recorded as 3.7 Km/hr with mean direction *westerly*.

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

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

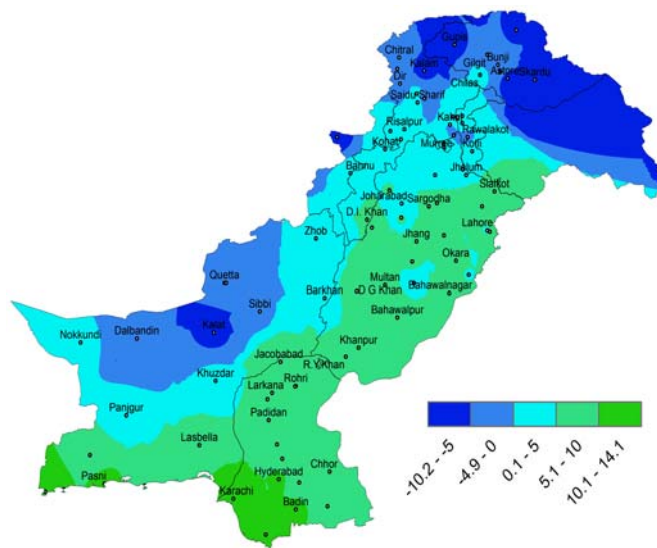
Rainfall reported as 5.6 mm during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 39%. Mean night temperature was -2.9°C while day temperature recorded as 10.3°C with 89.5 hours bright sunshine duration and wind speed recorded as 5.2 Km/hr with mean direction *northerly*.

Wheat (Local white): Good condition, Third leaf stage.

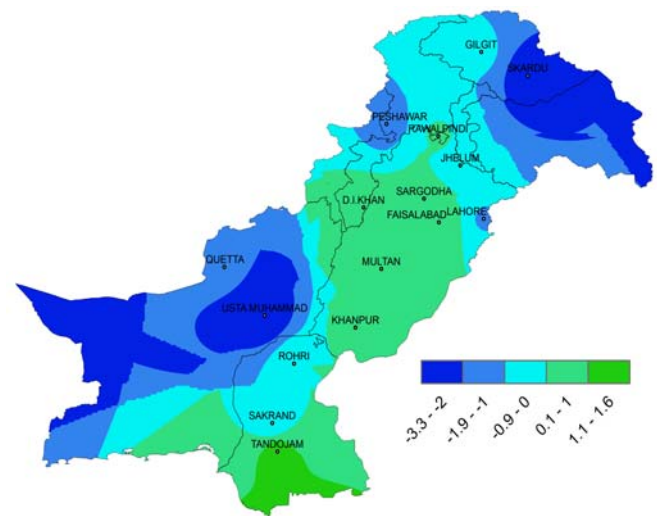
**2.5 RAMC, Usta Muhammad (Eastern Balochistan)**

Rainfall reported as 0.5 mm during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 72%. Mean night temperature was 5.4°C while day temperature recorded as 21.2°C with wind speed recorded as 0.7 Km/hr with mean direction *southerly*.

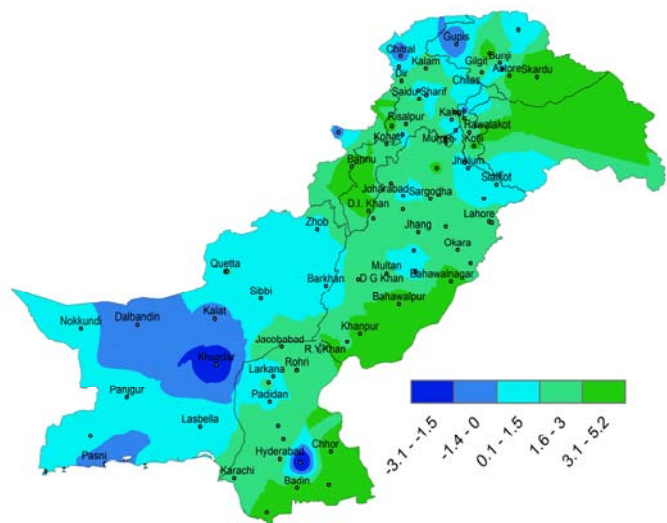
Wheat: Good condition, Third leaf stage.



(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 (11<sup>th</sup> to 20<sup>th</sup> January, 2013)**

**2.6 Rohri**

Rainfall reported as 2.0 mm during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 49%. Mean night temperature was 9.3°C while day temperature recorded as 21.7°C with 76.4 hours bright sunshine duration. Wind speed recorded as 6.2 Km/hr with mean direction *north easterly*.

**2.7 Skardu**

Snowfall reported as 21.0 inch during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 73%. Mean night temperature was -10.2°C while day temperature recorded as 2.2°C with 24.0 hours bright sunshine duration with mean speed 0.1 Km/hr and mean direction *northerly*.

**2.8 Multan**

No rainfall reported during the decade, weather remained cloudy for 4 days, average relative humidity recorded as 67%. Mean night temperature was 6.0°C while day temperature recorded as 20.5°C with 73.3 hours bright sunshine duration. Wind speed recorded as 9.4 Km/hr with mean direction *northerly*.

**2.9 Lahore**

Rainfall reported as 13.0 mm during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 67%. Mean night temperature was 6.6°C while day temperature recorded as 18.3°C with 55.8 hours bright sunshine duration. Wind speed recorded as 2.2 Km/hr with mean direction *north westerly*.

**2.10 Peshawar**

Rainfall reported as 3.0 mm during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 55%. Mean night temperature was 3.3°C while day temperature recorded as 20.0°C with 60.3 hours bright sunshine duration. Wind speed recorded as 1.3 Km/hr with mean direction *north westerly*.

**2.11 Khanpur**

Rainfall reported as 1.0 mm during the decade, weather remained cloudy for 3 days during the decade, average relative humidity recorded as 53%. Mean night temperature was 6.2°C while day temperature recorded as 22.4°C with 74.9 hours bright sunshine duration. Wind speed recorded as 3.1 Km/hr with mean direction *north easterly*.

**2.12 Sargodha**

Trace (not measurable) rainfall reported during the decade, weather remained cloudy for 7 days during the decade, average relative humidity recorded as 66%. Mean night temperature was 6.3°C while day temperature recorded as

20.1°C with 54.7 hours bright sunshine duration. Wind speed recorded as 1.5 Km/hr with Variable direction.

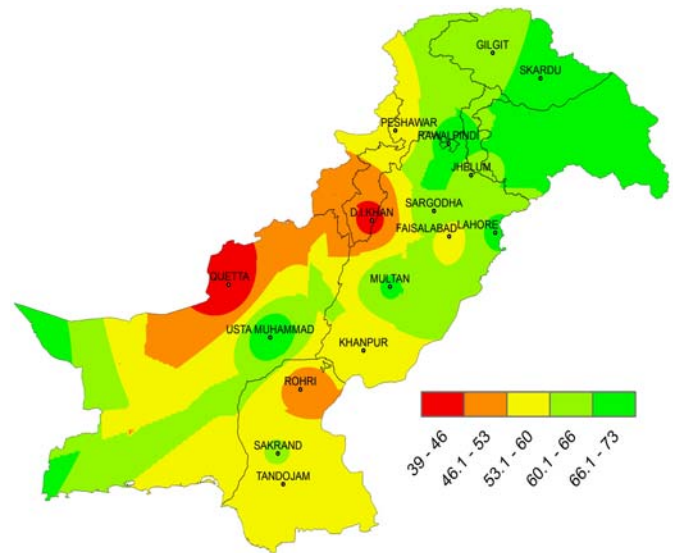


Figure.3: Relative Humidity in percentage

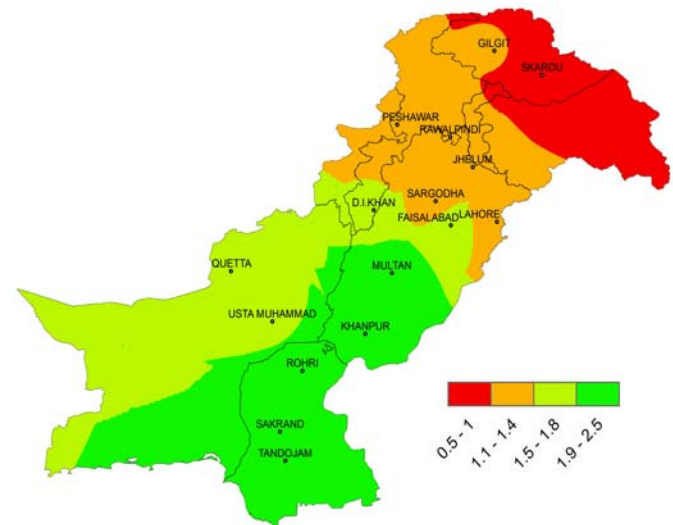


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

**2.13 Gilgit.**

Rainfall reported as 3.1 mm during the decade. weather remained cloudy for 10 days and average relative humidity recorded as 60%. Mean night temperature was -2.9°C while day temperature recorded as 10.4°C with 23.2 hours bright sunshine. Wind speed recorded as 2.1 Km/hr with mean direction *westerly*.

**2.14 Jhelum**

Rainfall reported as 11.8 mm during the decade, weather remained cloudy for 7 days and average relative humidity recorded as 65%. Mean night temperature was 4.9°C while day temperature recorded as 19.4°C with 57.1 hours bright sunshine duration. Wind speed recorded as 2.8 Km/hr with mean direction *north westerly*.

## 2.15 D.I. Khan

Trace (not measurable) rainfall reported during the decade, weather remained cloudy for 4 days, average relative humidity recorded as 44%. Mean night temperature was 5.1°C while day temperature recorded as 20.8°C with 75.1 hours bright sunshine duration. Wind speed recorded as 2.4 Km/hr with mean direction *north easterly*.

## 2.16 Sakrand

Trace (not measurable) rainfall reported during the decade, weather remained cloudy for 2 days during the decade, average relative humidity recorded as 61%. Mean night temperature was 6.0°C while day temperature recorded as 22.2°C with 78.6 hours bright sunshine duration. Wind speed recorded as 4.1 Km/hr with mean direction *notherly*.

## 3. Ten days Weather advisory for Farmers (21<sup>st</sup> to 31<sup>st</sup> January, 2013)

### 3.1 Temperature Forecast:

Day & night temperatures expected to be normal in most of the agricultural plains of the country during the decade.

### 3.2 Rain Forecast:

- ❖ **Punjab:** Mainly cold & dry weather is expected in most parts of the province. However, chances of isolated light rain in the north Punjab on 22<sup>nd</sup> night / 23<sup>rd</sup> January and in upper Punjab on 28<sup>th</sup> / 29<sup>th</sup> January.
- ❖ **Khyber Pakhtoonkhawa:** Mainly cold & dry weather is expected in most parts of the province during the decade. However, chances of isolated light rain/light snow in the upper KP on 22<sup>nd</sup> / 23<sup>rd</sup> January and on 28<sup>th</sup> / 29<sup>th</sup> January.
- ❖ **Sindh :** Mainly cold & dry weather is expected in most parts of the province during the decade.
- ❖ **Balochistan:** Mainly cold & dry weather is expected in most parts of the province during the decade. However, chances of isolated light rain in Northern Balochistan on 27<sup>th</sup> / 28<sup>th</sup> January.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly very cold & dry weather is expected in most parts of the province during the decade. However, chances of isolated light rain/light snow on 22<sup>nd</sup> / 23<sup>rd</sup> January and on 28<sup>th</sup> / 29<sup>th</sup> January.

### 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 Shooting/Heading/Flowering development stages in most of the agricultural plains of the country but in few areas wheat crop is in Tillering/shooting 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 type of weeds from the standing crops.
- ❖ Farmers may irrigate the crop as per requirement by keep in mind the coming conditions of weather in most of the agricultural plains of the country.
- ❖ Due to drop of temperatures, high humidity and cold air, foggy conditions may prevail in the plain areas of the country. Farmers of plain areas are advised to take intime necessary measurements to protect their crops, vegetables, fruits etc.
- ❖ Due to further drop of night temperatures, especially farmers of upper & central areas are advised to protect their crops, vegetables, fruits etc from the frost.