

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Moderate to heavy rainfall (with heavy snowfall over hills) reported from most of the agricultural plains of the country during the last decade.
- ❖ Highest amount of rainfall & snowfall recorded at Malamjabba as 229.0 mm & 10 feet respectively during the last decade.
- ❖ Lowest minimum temperature recorded as  $-11.7^{\circ}\text{C}$  at Skardu during the last decade.
- ❖ Higher values of relative humidity (greater than 70%) reported from Usta Muhammad and Nokkundi regions during the last decade.
- ❖ Higher values of ETo reported from the agricultural plains of Sindh, Southern Punjab & most 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 KP, Punjab, Northern Balochistan, Gilgit Baltistan & Kashmir region, where isolated chances of light to moderate rainfall (with snowfall over hills) during the next decade.
- ❖ Recent rains have positive impact on crops especially on wheat crop in most of the agricultural plains of the country.

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SECTOR H-8/2, ISLAMABAD**

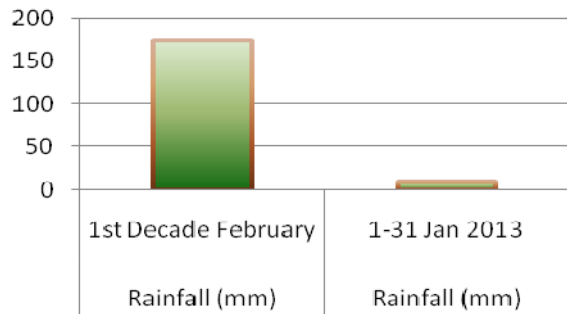
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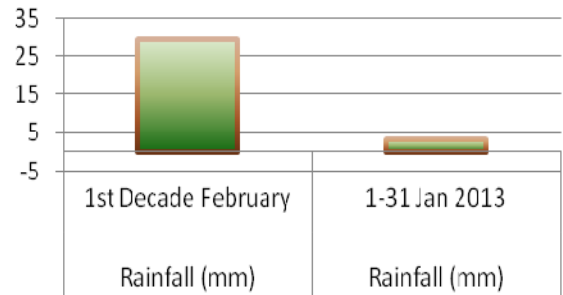
Editor: Zeeshan Javed Hashmi, Assistant Meteorologist, NAMC Islamabad

## Graphs for Rainfall (mm) during January/February 2013

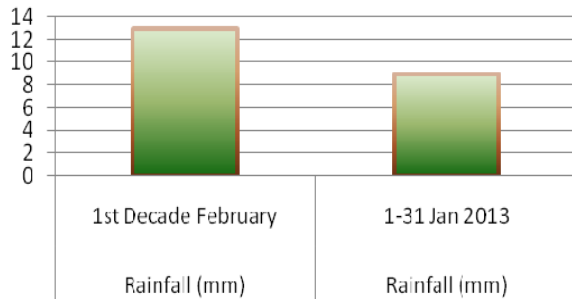
### RAMC RAWALPINDI



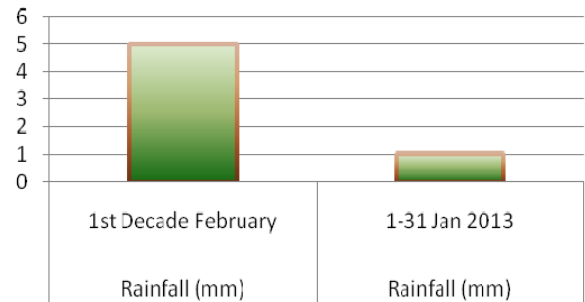
### RAMC FAISALABAD



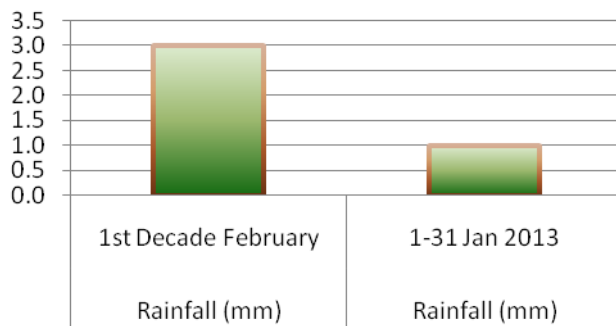
### RAMC QUETTA



### RAMC USTA MUHAMMAD



### RAMC TANDOJAM



Meteorological conditions during 1<sup>st</sup> decade of February, 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	3.0	3.0	1.9	-1.4	17.9	24.4	22.2	20.5	20.0	20.7	21.1	83.9	2.2	52.0	2.7
2	SAKRAND ☆	0.1	6.0	5.9	1.3	-0.4	16.4	24.5	22.7	25.7	19.8	21.2	22.2	82.3	2.9	51.0	2.6
3	ROHRI	0.4	9.0	8.6	-1.0	-2.2	16.6	23.9	22.2	19.8	20.6	19.9	23.3	66.4	2.5	56.0	2.2
4	USTA MUHAMMAD	0.2	5.0	4.8	1.1	-2.1	16.2	17.1	17.4	17.3	17.3	18.6	19.9	***	0.5	78.0	2.0
5	QUETTA	1.8	12.9	11.1	1.6	-0.7	6.4	11.0	10.3	7.6	7.1	6.8	9.9	68.3	5.2	51.0	2.0
6	KHANPUR	0.9	18.7	17.8	0.9	-1.0	15.8	17.3	16.9	17.0	17.5	18.1	19.4	68.0	4.0	63.0	2.4
7	MULTAN	0.7	56.0	55.3	-2.5	-1.0	12.8	***	***	***	***	***	***	63.5	0.1	66.0	1.6
8	LAHORE	0.9	25.9	25.0	-0.8	-0.6	14.7	15.5	15.1	14.4	14.4	***	16.4	62.0	3.9	64.0	2.0
9	FAISALABAD	0.7	29.8	29.1	1.8	-0.8	14.2	16.9	15.8	14.3	13.9	14.4	16.0	50.0	5.2	67.0	2.1
10	SARGODHA	1.0	43.2	42.2	2.2	-1.5	14.4	16.9	15.4	15.1	15.3	16.2	17.6	41.2	3.9	72.0	1.8
11	JHELUM	1.8	74.5	72.7	-0.1	0.1	13.9	15.4	14.7	14.1	13.9	14.8	***	54.4	5.9	68.0	2.1
12	RAWALPINDI	3.2	174.0	170.8	0.9	-1.1	11.7	13.3	11.8	11.2	11.4	11.6	13.1	55.0	3.8	70.0	1.7
13	DI KHAN	1.3	35.2	33.9	-0.6	-1.4	13.8	***	***	***	***	***	***	58.7	3.0	70.0	1.8
14	PESHAWAR	2.5	137.0	134.5	-2.2	-1.9	11.6	14.5	12.5	11.9	12.7	13.2	13.7	44.8	2.0	71.0	1.4
15	SKARDU	0.8	25.2	24.4	-1.1	-1.6	-1.1	***	***	***	***	***	***	34.3	0.3	72.0	0.9
16	GILGIT	0.1	2.8	2.7	1.4	0.1	6.5	***	***	***	***	***	***	33.0	2.6	61.0	1.5

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 (1<sup>st</sup> to 10<sup>th</sup> February, 2013):

Moderate to heavy rainfall (with snowfall over hills) reported from the most of the agricultural plains of Punjab, KP, Kashmir & Gilgit Baltistan region, while light to moderate rainfall (with snowfall over hills) reported from Balochistan and Sindh during the decade.

#### 1.1 Punjab

Moderate to heavy rainfall (with snowfall over hills) reported at a number of places in the agricultural plains of Punjab; chief amount received at Islamaabd, Chakwal Murree etc. Decadal maximum temperature dropped below normal by 0.8 & decadal minimum temperature raised above normal by 0.3°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.8 km/hr, 67%, and 2.0 mm/day respectively.

#### 1.2 Sindh

Light to moderate rainfall reported at a few places in the agricultural plains of Sindh; chief amount received at Karachi, Larkana, Rohri etc. Decadal maximum temperature deopped below normal by 1.3 & decadal minimum temperature raised above normal by 0.7°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.5 km/hr, 53%, and 2.5 mm/day respectively.

#### 1.3 Khyber Pakhtoonkhawa (KP)

Moderate to heavy rainfall (with snowfall over hills) reported at a number of places in the agricultural plains of KP; chief amount received at saidusharif, Malamjabba, Cherat etc. In KP region; Decadal maximum temperature dropped below normal by 1.7°C & decadal minimum temperature raised above normal by 0.5°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.5 km/hr, 71%, and 1.6 mm/day respectively.

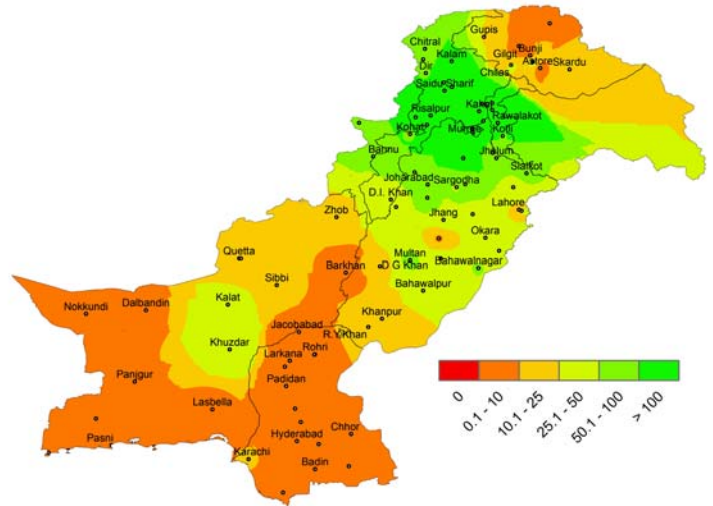
#### 1.4 Balochistan

Light rainfall reported at a number of places in agricultural plains of Balochistan; chief amount received at Khuzdar, Kalat, Sibbi etc. Decadal maximum temperature dropped below normal by 1.4 & decadal minimum temperature raised above normal by 1.4°C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 2.9 km/hr, 65%, and 2.0 mm/day respectively.

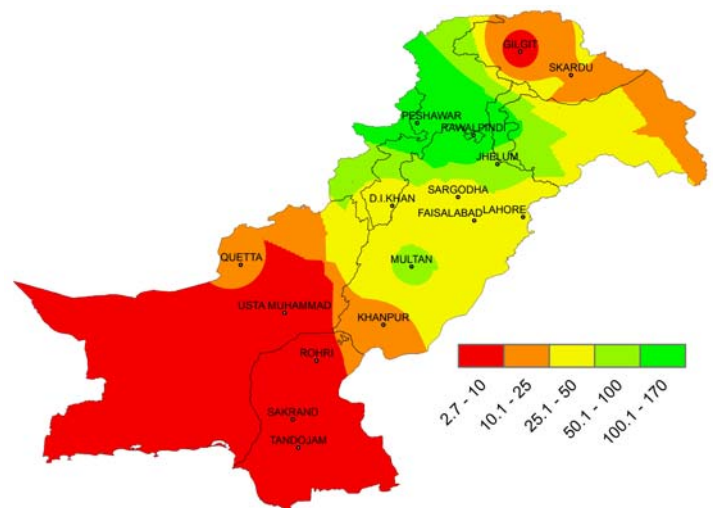
#### 1.5 Gilgit Baltistan and Azad Jammu & Kashmir

Moderate to heavy rainfall and snowfall reported at a number of places in agricultural plains of GB & Kashmir; chief amount received at Garhidopatta, Rawalakot, Pattan etc. In GB & AJK region; Decadal maximum temperature dropped

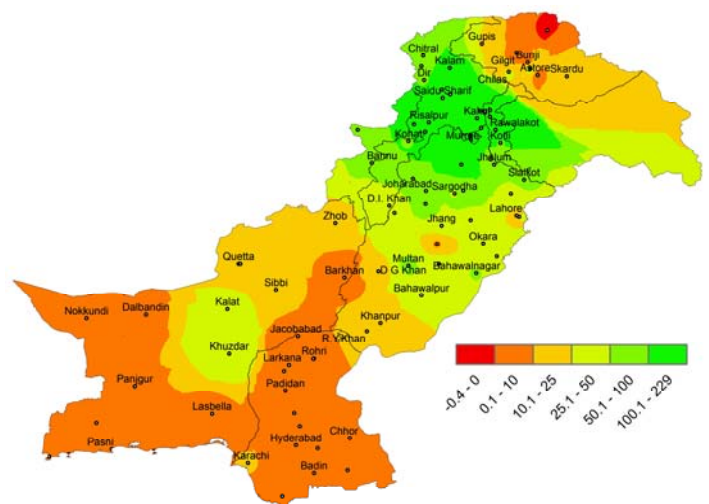
below normal by 0.8 & minimum temperature raised above normal by 0.2°C respectively, in the province Whereas mean values of wind speed, relative humidity and ETo were recorded 1.5 km/hr, 67% and 1.2 mm/day respectively.



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 (1<sup>st</sup> to 10<sup>th</sup> February, 2013) as per Table-1**

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

Rainfall reported amounting to 174.0 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 70%. Mean night temperature was 5.5°C while day temperature recorded as 17.8°C with 55.0 hours bright sunshine duration. Wind speed recorded as 3.8 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

Wheat Chakwal 97: Good condition, Shooting stage.

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

Rainfall reported amounting to 3.0 mm during the decade, weather remained cloudy for 5 day during the decade, average relative humidity recorded as 52%. Mean night temperature was 10.7°C while day temperature recorded as 25.0°C with 83.9 hours bright sunshine duration. Wind speed recorded as 2.2 km/hr with mean direction *northerly*.

Wheat (TJ 83): Good condition, Milk maturity stage.

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

Rainfall reported amounting to 29.8 mm during the decade, weather remained cloudy for 6 days, average relative humidity recorded as 67%. Mean night temperature was 8.0°C while day temperature recorded as 20.3°C with 50.0 hours bright sunshine duration. Wind speed recorded as 5.2 Km/hr with mean direction *westerly*.

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

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

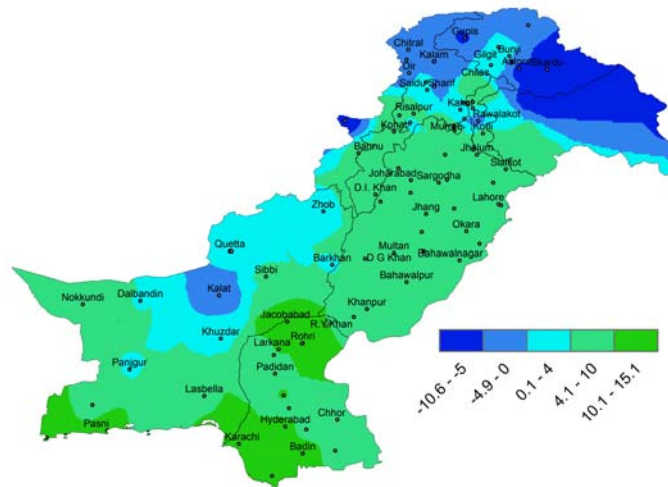
Rainfall reported amounting to 12.9 mm during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 51%. Mean night temperature was -1.1°C while day temperature recorded as 11.6°C with 68.3 hours bright sunshine duration and wind speed recorded as 5.2 Km/hr with mean direction *north westerly*.

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

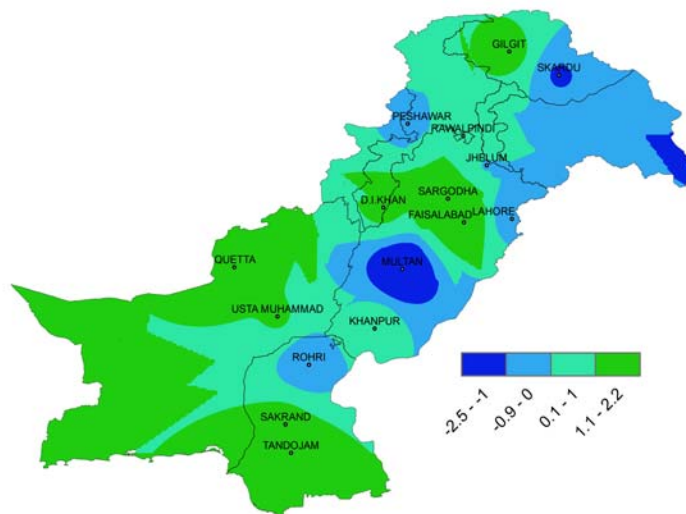
**2.5 RAMC, Usta Muhammad (Eastern Balochistan)**

Rainfall reported amounting to 5.0 mm during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 78%. Mean night temperature was 9.6°C while day temperature recorded as 22.7°C with wind speed recorded as 0.5 Km/hr with mean direction *southerly*.

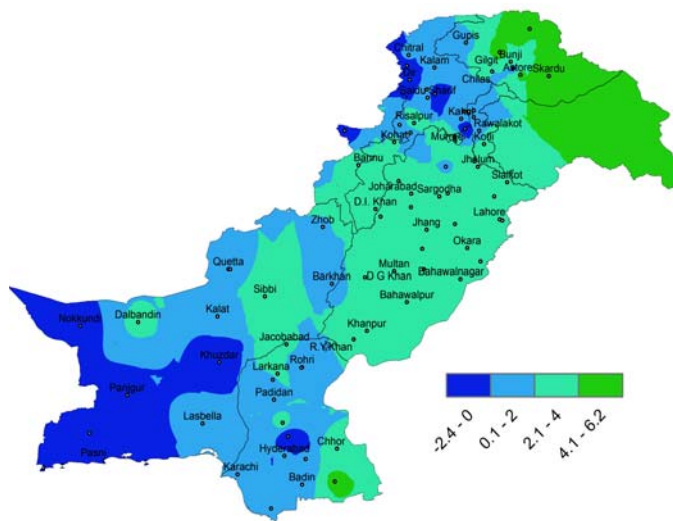
Wheat: Good condition, Tillering stage started.



(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 (1<sup>st</sup> to 10<sup>th</sup> February, 2013)**

**2.6 Rohri**

Rainfall reported amounting to 9.0 mm during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 56%. Mean night temperature was 10.6°C while day temperature recorded as 22.6°C with 66.4 hours bright sunshine duration. Wind speed recorded as 2.5 Km/hr with mean direction *north easterly*.

**2.7 Skardu**

Snowfall reported as 14.5 inches while rainfall reported amounting to 25.2 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 72%. Mean night temperature was -7.0°C while day temperature recorded as 4.8°C with 34.3 hours bright sunshine duration with mean speed 0.3 Km/hr and mean direction *notherly*.

**2.8 Multan**

Rainfall reported amounting to 56.0 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 66%. Mean night temperature was 4.6°C while day temperature recorded as 21.0°C with 63.5 hours bright sunshine duration. Wind speed recorded as 0.1 Km/hr with mean direction *northerly*.

**2.9 Lahore**

Rainfall reported amounting to 25.9 mm during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 64%. Mean night temperature was 9.1°C while day temperature recorded as 20.3°C with 62.0 hours bright sunshine duration. Wind speed recorded as 3.9 Km/hr with mean direction *north westerly*.

**2.10 Peshawar**

Rainfall reported amounting to 137.0 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 71%. Mean night temperature was 6.1°C while day temperature recorded as 17.0°C with 44.8 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with mean direction *north westerly*.

**2.11 Khanpur**

Rainfall reported as 18.7 mm during the decade, weather remained cloudy for 5 days during the decade, average relative humidity recorded as 63%. Mean night temperature was 9.1°C while day temperature recorded as 22.4°C with 68.0 hours bright sunshine duration. Wind speed recorded as 4.0 Km/hr with mean direction *north easterly*.

**2.12 Sargodha**

Rainfall reported 43.2 mm during the decade, weather remained cloudy for 7 days during the decade, average relative humidity recorded as 72%. Mean night temperature was 9.1°C while day temperature recorded as 19.7°C with

41.2 hours bright sunshine duration. Wind speed recorded as 3.9 Km/hr with mean direction *south westerly*.

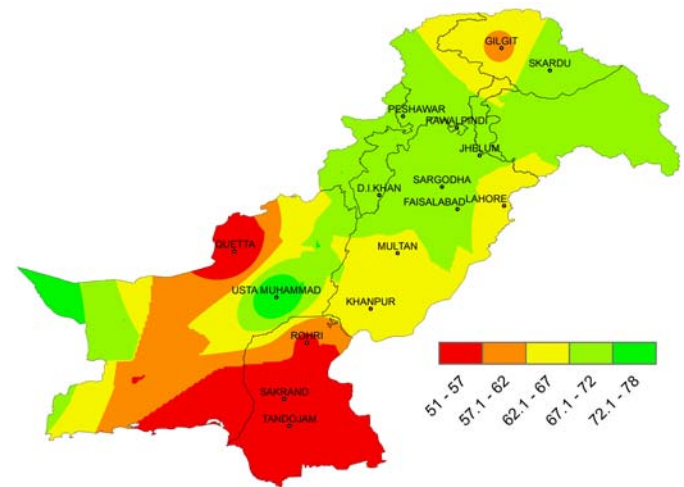


Figure.3: Relative Humidity in percentage

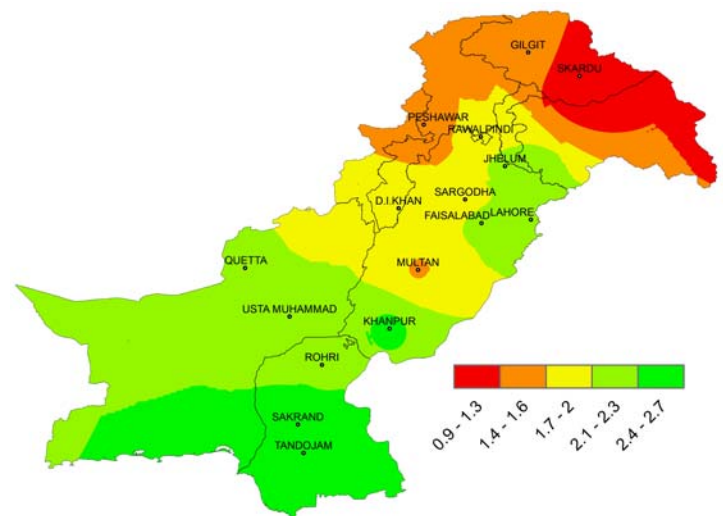


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

**2.13 Gilgit.**

Rainfall reported amounting to 2.8 mm during the decade. weather remained cloudy for 10 days and average relative humidity recorded as 61%. Mean night temperature was 0.5°C while day temperature recorded as 12.5°C with 33.0 hours bright sunshine. Wind speed recorded as 2.6 Km/hr with *variable* direction.

**2.14 Jhelum**

Rainfall reported amounting to 74.5 mm during the decade, weather remained cloudy for 6 days and average relative humidity recorded as 68%. Mean night temperature was 7.0°C while day temperature recorded as 20.8°C with 54.4 hours bright sunshine duration. Wind speed recorded as 5.9 Km/hr with mean direction *south easterly*.

## 2.15 D.I. Khan

Rainfall reported as 35.2 mm during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 70%. Mean night temperature was 7.6°C while day temperature recorded as 19.9°C with 58.7 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *easterly*.

## 2.16 Sakrand

Rainfall reported amounting to 6.0 mm during the decade, weather remained cloudy for 6 days during the decade, average relative humidity recorded as 51%. Mean night temperature was 8.5°C while day temperature recorded as 24.3°C with 82.3 hours bright sunshine duration. Wind speed recorded as 2.9 Km/hr with mean direction *northerly*.

## 3. Ten days Weather advisory for Farmers (11<sup>th</sup> to 20<sup>th</sup> February, 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:** Isolated chances of rain (with snow over the hills) on 15<sup>th</sup> & 16<sup>th</sup> and on 19<sup>th</sup> & 20<sup>th</sup> February. However, dry/cold weather expected during rest of the decade.
- ❖ **Khyber Pakhtoonkhawa:** Isolated chances of rain (with snow over the hills) on 14<sup>th</sup> & 15<sup>th</sup> and on 19<sup>th</sup> & 20<sup>th</sup> February. However, dry/cold weather expected during rest of the decade.
- ❖ **Sindh :** Mainly dry weather is expected in most of the agricultural plains of the province during the decade.
- ❖ **Balochistan:** Isolated chances of rain (with snow over the hills) in northern parts on 14<sup>th</sup> & 15<sup>th</sup> February. However, dry/cold weather expected during rest of the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Isolated chances of rain (with snow over the hills) during 14<sup>th</sup> to 16<sup>th</sup> and 18<sup>th</sup> to 20<sup>th</sup> February. However, dry/cold weather expected during rest 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 Shooting/Heading/Flowering development stages in most of the agricultural plains of the country. Farmers are advised to irrigate the crops by keeping coming conditions of weather in most of the agricultural plains of the country.
- ❖ The recent rains have positive impact on crops especially on wheat crop in most of the agricultural plains of the country. Farmers should apply weeds removing spray & fertilizer doze to standing crops before coming rains from 15<sup>th</sup> of the month.
- ❖ Farmers in the lower half of the country especially those in central regions are advised to take up poultry rearing houses to maintain optimum room temperature and take care against the rapid changes in air temperature and relative humidity.
- ❖ Farmers are advised to ensure field sanitation and spray prophylactic fungicidal sprays to prevent spread of diseases on vegetables.