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# Decadal Agromet Bulletin of Pakistan



## Highlights....

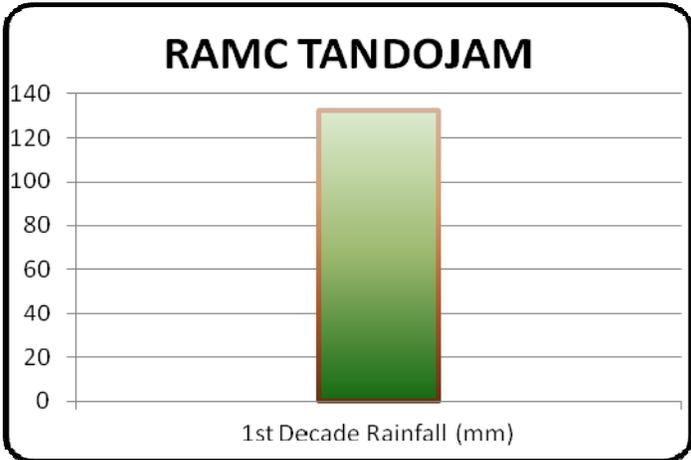
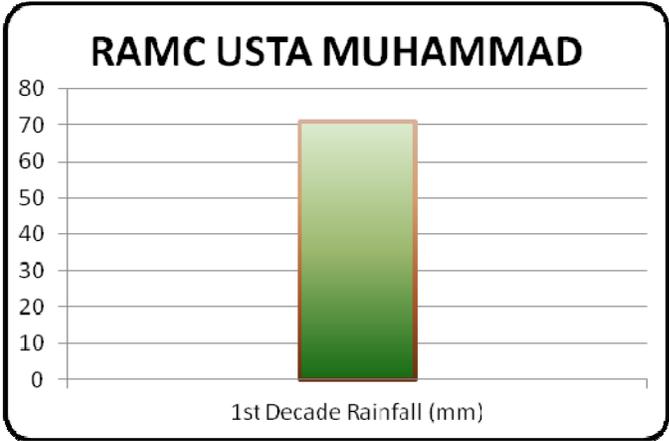
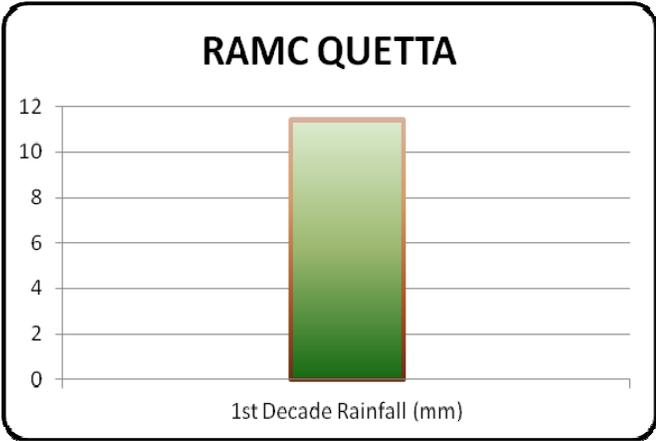
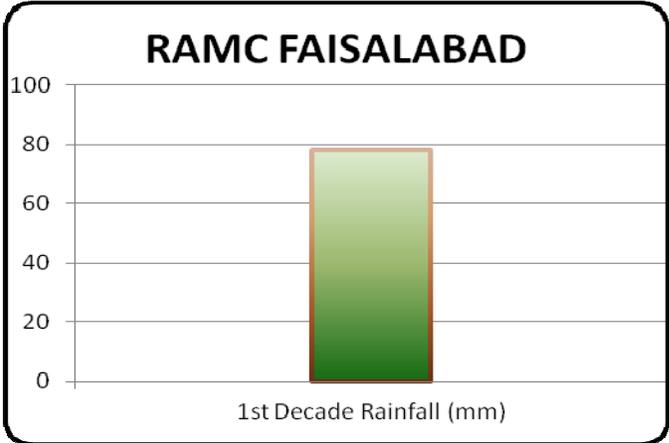
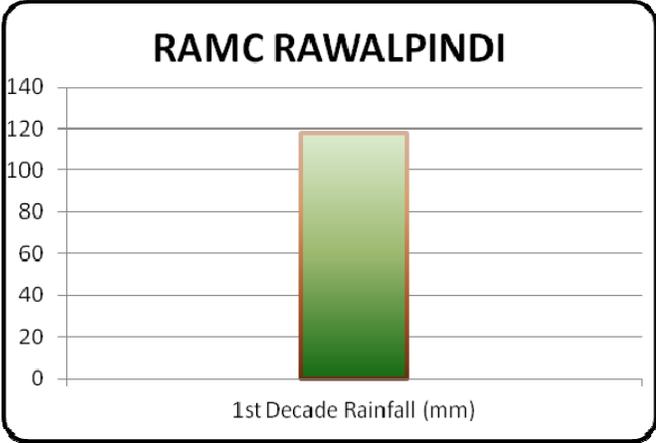
- ❖ Heavy showers occurred in the agricultural plains of Sindh and Southern Punjab. Highest amount of rainfall recorded at Jacobabad was 338 mm during the last decade.
- ❖ Extreme temperatures (above 40°C) recorded in upper Sindh & Southern Punjab region.
- ❖ Highest values of the relative humidity (above 60%) recorded at scattered places of Punjab, KP, Eastern Balochistan and Sindh.
- ❖ Highest values for ETo (above 4.0 mm/day) recorded in upper Sindh.
- ❖ Day time temperatures are expected to be normal in most of the agricultural plains of the country during the decade.
- ❖ Gusty winds may prevail occasionally in the monsoon belt and adjoining areas while normal wind pattern prevail in rest of the country during the decade.
- ❖ Chances of Isolated rain/thundershower expected in upper parts of the country during 1<sup>st</sup> half and chances of scattered rain/thundershower in upper parts during 2<sup>nd</sup> half of the country.
- ❖ Chances of scattered rain/thundershower in lower parts of the country including southern Punjab, Eastern Balochistan and Sindh during 1<sup>st</sup> half of the decade while, dry weather is expected in lower half of the country during 2<sup>nd</sup> half of the decade.

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**Graphs for Rainfall (mm) during September 2012**



**Meteorological conditions during 1<sup>st</sup> decade of September, 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	2.2	132.4	130.2	1.4	-1.3	30.1	34.7	32.5	33.4	32.7	32.9	31.7	53.4	3.5	79	3.7
2	SAKRAND ☆	1.0	91.0	90.0	-1.0	-2.9	28.6	37.7	37.2	38.0	34.7	35.8	35.3	69.3	4.6	72	4.1
3	ROHRI	0.1	205.0	204.9	-0.9	-2.5	31.3	45.3	42.6	37.6	37.1	36.6	36.1	55.7	7.8	64	4.1
4	USTA MUHAMMAD	0.6	71.0	70.4	0.5	-2.7	31.6	38.8	39.1	37.1	38.0	38.0	36.3	***	4.8	66	3.9
5	QUETTA	0.0	11.4	11.4	2.9	-3.0	23.2	32.1	30.5	28.6	21.4	27.3	28.4	65.3	6.0	50	3.7
6	KHANPUR	0.7	293.5	292.8	0.8	-1.8	30.9	35.5	35.2	35.1	35.5	36.0	35.2	67.8	4.1	77	3.9
7	MULTAN	1.1	155.9	154.8	0.9	-1.9	31.0	***	***	***	***	***	***	53.3	1.5	72	3.6
8	LAHORE	3.8	59.1	55.3	-0.3	-1.3	29.3	32.4	32.2	30.7	30.6	***	29.9	48.8	2.9	77	3.4
9	FAISALABAD	1.6	78.2	76.6	1.8	-2.2	29.7	37.6	33.5	32.3	31.5	31.7	31.6	45.5	4.4	76	3.4
10	SARGODHA	1.5	66.8	65.3	0.1	-3.4	29.3	33.4	32.5	31.7	31.7	32.4	31.9	39.4	3.5	78	3.5
11	JHELUM	3.4	34.0	30.6	0.0	-2.1	28.4	30.8	30.4	30.1	29.8	30.2	***	36.2	2.0	81	2.8
12	RAWALPINDI	5.4	118.0	112.6	1.5	-1.9	27.6	30.7	29.7	29.1	29.4	29.7	29.6	30.2	1.2	78	2.7
13	DI KHAN	1.1	86.0	84.9	-0.2	-3.5	28.5	***	***	***	***	***	***	50.2	3.6	77	3.4
14	PESHAWAR	1.1	100.4	99.3	-0.8	-3.3	27.8	31.4	30.4	29.5	30.3	29.9	29.9	42.1	2.2	77	3.0
15	SKARDU	0.8	1.3	0.5	2.0	3.9	20.3	***	***	***	***	***	***	31.2	3.2	52	2.6
16	GILGIT	0.5	32.6	32.1	4.9	-4.1	22.4	***	***	***	***	***	***	30.5	1.4	70	2.9

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.

### **Past Weather (1<sup>st</sup> to 10<sup>th</sup> September, 2012):**

Light to moderate rainfall with few heavy showers reported from the agricultural plains of upper and central Punjab, KP, Balochistan and Kashmir/Gilgit Baltistan but heavy to very heavy rainfall reported from the agricultural plains of southern Punjab and Sindh during the decade.

#### **1.1 Punjab**

Light to moderate rainfall with few heavy falls reported from the agricultural plains of Punjab during the decade, chief amount received at Khanpur, Islamabad and Shorkot (Fig. 1.a). Decadal maximum temperature dropped below normal by 2.1°C and 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 2.8 km/hr, 77 %, and 3.3 mm/day respectively (Fig 3-4).

#### **1.2 Sindh**

Light to moderate rainfall with heavy to very heavy showers reported from the agricultural plains of Sindh during the decade, chief amount received at Jacobabad, Larkana and Chhor etc. Decadal maximum and minimum temperature both dropped below normal by 2.2 & 0.2°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 5.3 km/hr, 72%, and 4.0 mm/day respectively.

#### **1.3 Khyber Pakhtoonkhawa (KP)**

Light to moderate rainfall with few heavy falls reported from the agricultural plains of KPK; chief amount received at Balakot, Malamjabba and Peshawar etc. Decadal maximum and minimum temperature both dropped below normal by 3.4 & 0.5°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 2.9 km/hr, 77 %, and 3.2 mm/day respectively.

#### **1.4 Balochistan**

Light to moderate rainfall with few heavy falls reported from the agricultural plains of Balochistan; chief amount received at Sibbi, Barkhan and Lasbella etc. In the northern Balochistan, decadal maximum temperature dropped below normal by 2.9°C and minimum temperature raised above normal by 1.7°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded 5.4 km/hr, 58 %, and 3.8 mm/day respectively.

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

Light to moderate rainfall reported from the agricultural plains of Gilgit Baltistan and light to moderate rainfall with few heavy showers reported from Azad Jammu & Kashmir; chief amount received at Muzaffarabad, Kotli and Rawalakot etc. In GB & AJK region; decadal maximum temperature dropped below normal by 0.1°C and minimum temperature raised above normal by 3.5°C respectively. Whereas mean values of wind speed, relative humidity and ETo were recorded as 2.3km/hr, 61 %, and 2.8 mm/day respectively.

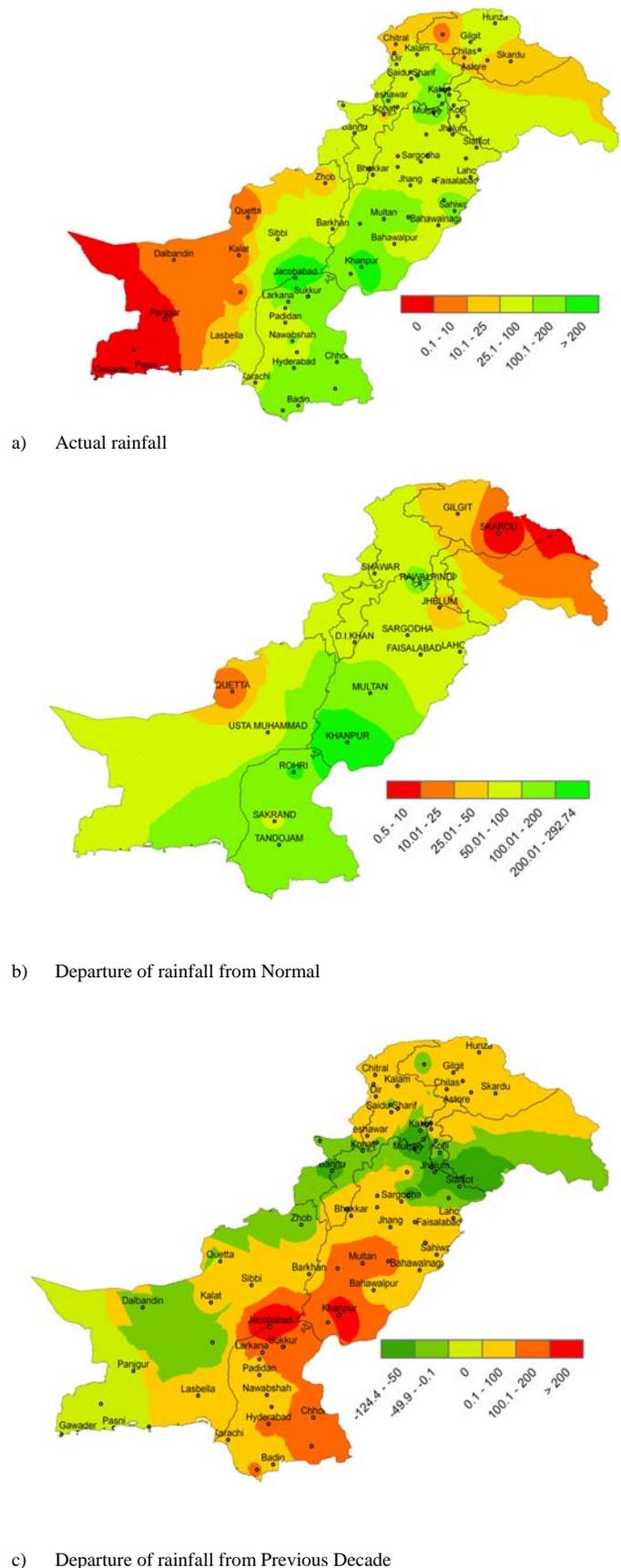


Figure.1: Rainfall distribution during previous decade in “mm”

**2 (a) Past Weather for Major Agricultural Plains (1<sup>st</sup> to 10<sup>th</sup> September, 2012) as per Table-1**

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

Rainfall reported amounting 118.0 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 78%. Mean night temperature was 23.6°C while day temperature recorded as 31.5°C with 30.2 hours bright sunshine duration. Wind speed recorded as 1.2 Km/hr with mean direction *westerly*. Presently one crop (rainfed conditions) is grown at the station as detailed below:

Maize: Good condition, 9<sup>th</sup> Leaf stage.

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

Rainfall reported amounting 132.4 mm during the decade, weather remained cloudy for 8 days and average relative humidity recorded as 79%. Mean night temperature was 26.0°C while day temperature recorded as 34.2°C with 53.4 hours bright sunshine duration. Wind speed recorded as 3.8 Km/hr with mean direction *north westerly*. Presently only one crop (irrigated conditions) is grown at the station as detailed below:

Cotton (BT-886): Good condition, 2<sup>nd</sup> picking stage.

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

Rainfall reported amounting 78.2 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 76%. Mean night temperature was 25.8°C while day temperature recorded as 33.5°C with 45.9 hours bright sunshine duration. Wind speed recorded as 4.4 Km/hr with mean direction *north easterly*. Presently one crop (irrigated conditions) is grown at the station as detailed below:

Sugarcane: Very Good condition, Tillering stage completed.  
Cotton: Very Good condition, Flowering stage completed.

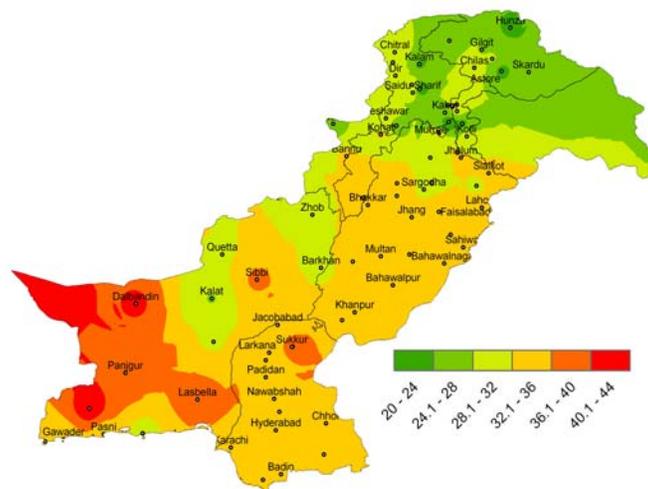
**2.4 RAMC, Quetta (Northern Balochistan)**

Rainfall reported amounting 11.4 mm during the decade, weather remained cloudy for 7 days and average relative humidity recorded as 50%. Mean night temperature was 16.6°C while day temperature recorded as 29.8°C with 65.3 hours bright sunshine duration and wind speed recorded as 6.0 Km/hr with mean direction *southerly*. Presently no crop is grown at the station.

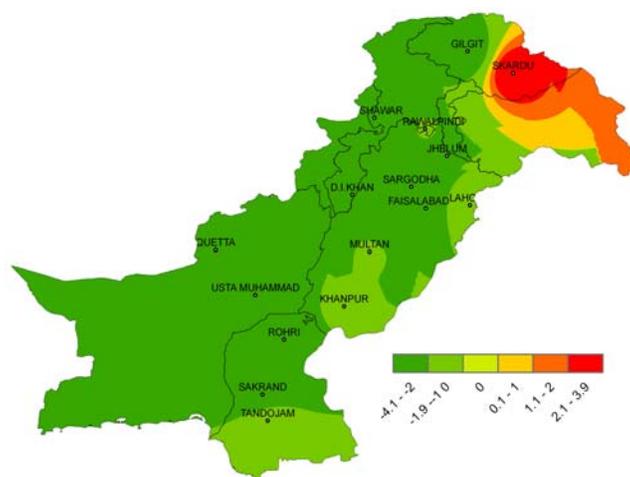
**2.5 RAMC, Usta Muhammad (Eastern Balochistan)**

Rainfall reported amounting 71.0 mm upto 9<sup>th</sup> September, weather remained cloudy for 6 days and average relative humidity recorded as 66%. Mean night temperature was 27.1°C while day temperature recorded as 36.1°C. Wind speed recorded as 4.8 Km/hr with mean direction *southerly*. Presently one crop (Irrigated conditions) is grown at the station as detailed below:

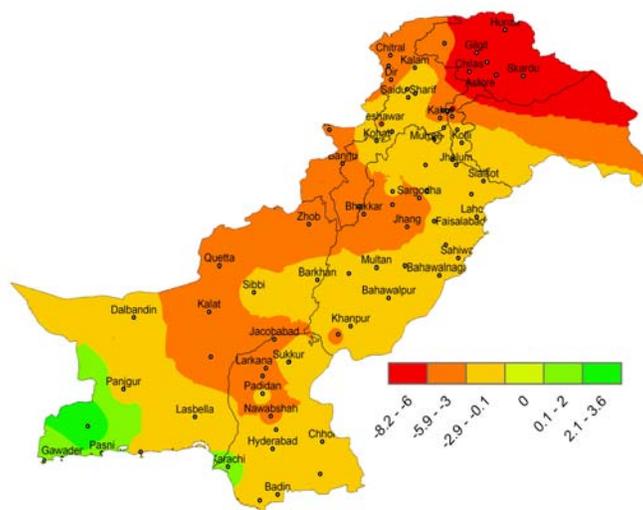
Rice: Poor condition, Shooting stage.



a) Actual max-temp



b) Departure of max-temp from Normal



c) Departure of max-temp from Previous Decade

Figure.2: Maximum 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> September, 2012)**

**2.6 Rohri**

Rainfall reported amounting 205.0 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 64%. Mean night temperature was 27.1°C while day temperature recorded as 35.5°C with 55.7 hours bright sunshine duration. Wind speed recorded as 7.8 Km/hr with mean direction *north easterly*.

**2.7 Skardu**

Rainfall reported amounting 1.3 mm during the decade, weather remained cloudy for 8 days and average relative humidity recorded as 52%. Mean night temperature was 13.9°C while day temperature recorded as 26.6°C with 31.2 hours bright sunshine duration. Wind speed recorded as 3.2 Km/hr with mean direction *north westerly*.

**2.8 Multan**

Rainfall reported amounting 155.9 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 72%. Mean night temperature was 27.2°C while day temperature recorded as 34.7°C with 53.3 hours bright sunshine duration. Wind speed recorded as 1.5 Km/hr with mean direction *northerly*.

**2.9 Lahore**

Rainfall reported amounting 59.1 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 77%. Mean night temperature was 25.7°C while day temperature recorded as 32.9°C with 48.8 hours bright sunshine duration. Wind speed recorded as 2.9 Km/hr with mean direction *south easterly*.

**2.10 Peshawar**

Rainfall reported amounting 100.4 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 77%. Mean night temperature was 23.8°C while day temperature recorded as 31.7°C with 42.1 hours bright sunshine duration. Wind speed recorded as 2.2 Km/hr with mean direction *north easterly*.

**2.11 Khanpur**

Rainfall reported amounting 293.5 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 77%. Mean night temperature was 26.8°C while day temperature recorded as 34.9°C with 67.8 hours bright sunshine duration. Wind speed recorded as 4.1 Km/hr with mean direction *north easterly*.

**2.12 Sargodha**

Rainfall reported amounting 66.8 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 78%. Mean night temperature was 25.8°C while day temperature recorded as 32.7°C with 39.4

hours bright sunshine duration. Wind speed recorded as 3.5 Km/hr with mean direction *north easterly*.

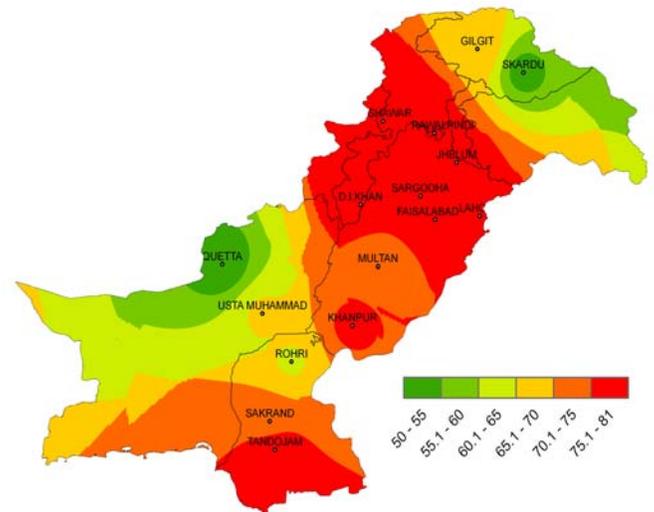


Figure.3: Relative Humidity in percentage

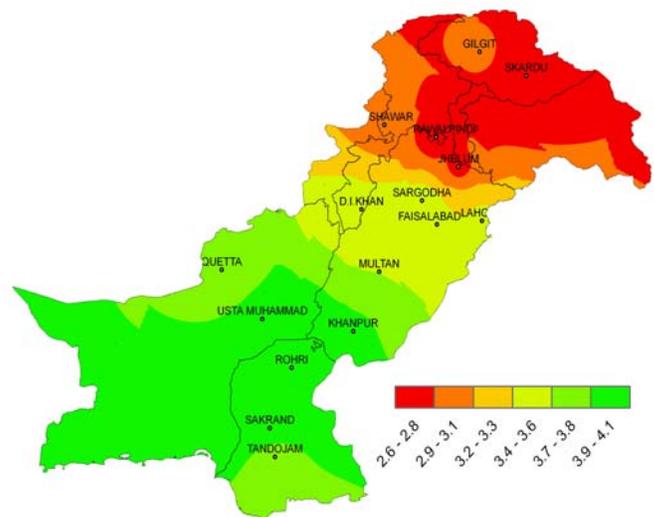


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

**2.13 Gilgit.**

Rainfall reported amounting 32.6 mm during the decade however weather remained cloudy for 10 days and average relative humidity recorded as 70%. Mean night temperature was 16.9°C while day temperature recorded as 27.9°C with 30.5 hours bright sunshine. Wind speed recorded as 1.4 Km/hr with mean direction *easterly*.

**2.14 Jhelum**

Rainfall reported amounting 34.0 mm during the decade however weather remained cloudy for 10 days and average relative humidity recorded as 81%. Mean night temperature was 24.4°C while day temperature recorded as 32.4°C with 36.2 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with variable wind.

## 2.15 D.I. Khan

Rainfall reported amounting 86.0 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 77%. Mean night temperature was 24.0°C while day temperature recorded as 32.9°C with 50.2 hours bright sunshine duration. Wind speed recorded as 3.6 Km/hr with mean direction *north easterly*.

## 2.16 Sakrand

Rainfall reported amounting 91.0 mm during the decade however weather remained cloudy for 7 days average relative humidity recorded as 72%. Mean night temperature was 23.7°C while day temperature recorded as 33.5°C with 69.3 hours bright sunshine duration. Wind speed recorded as 4.6 Km/hr with mean direction *north westerly*.

## 3. Ten days Weather advisory for Farmers (11<sup>th</sup> to 20<sup>th</sup> September, 2012)

### 3.1 Temperature Forecast:

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

### 3.2 Rain Forecast:

- ❖ **Punjab:** Isolated Rain/Thundershower is expected over Punjab during first half of the decade. While, scattered Rain/Thundershower is expected over Upper Punjab during second half of the decade.
- ❖ **Khyber Pakhtoonkhawa:** Isolated Rain/Thundershower is expected over KP during first half of the decade. While, scattered Rain/Thundershower is expected over Upper KP during second half of the decade.
- ❖ **Sindh:** Scattered Rain/Thundershower with isolated heavy falls is likely at lower Sindh while isolated Rain/Thundershower in upper Sindh during first half of the decade. While, dry weather is expected over Sindh during second half of the decade.
- ❖ **Balochistan:** Scattered Rain/Thundershower with isolated heavy falls is likely at Eastern parts of the Balochistan during first half of the decade. While, dry weather is expected over Balochistan during second half of the decade.
- ❖ **Kashmir & Gilgit-Baltistan:** Isolated Rain/TS is expected over Kashmir & GB during first half of the decade. While, scattered Rain/Thundershower is expected over Kashmir & GB during second half of the decade.

### 3.3 Wind Forecast:

Gusty winds may prevail occasionally in the monsoon belt and adjoining areas while normal wind pattern prevail in rest of the country during the decade.

### 3.4 Advisory for Farmers:

- ❖ Farmers are advised to take in time necessary precautionary measures to protect their crops, livestock and other property to keep in mind with current situation of monsoon.
- ❖ Due to rainy weather expected in cotton belt during the 1<sup>st</sup> half of the decade, farmers are advised to irrigate the crop as per requirement. Farmers are also advised to stop irrigation of maize crop in upper half including agricultural plains of Punjab and KP.
- ❖ Recent rains may accelerate weeds growth in standing crops. Farmers should take in time precautionary measures through manual methods or chemical spraying to control weeds on time.