

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate rainfall reported from agricultural plains of the country during the last decade.
- ❖ Highest amount of rainfall recorded as 129.1mm at Sialkot during the last decade.
- ❖ Highest maximum temperature recorded 45.0°C at Dalbandin during the last decade.
- ❖ Lower values of relative humidity reported from Gilgit-Baltistan & Quetta regions while higher values reported from Punjab & Sindh during the last decade.
- ❖ Lower values of ETo reported from Gilgit-Baltistan while higher values reported from Sindh & Punjab during the last decade.
- ❖ Normal temperatures are expected in most of the agricultural plains of the country during the decade.
- ❖ Dust storm/ gusty wind conditions likely to prevail in the country during the decade.
- ❖ Due to expected monsoon rains during the decade farmers are advised to take in time precautionary measures to protect their crops, livestock and other property from any expected rain.
- ❖ Farmers of rainfed areas obtaining water through tube wells and irrigated areas in upper parts are advised to schedule the irrigation according to the expected weather mentioned during the decade. Rainfall/gusty winds after irrigation cause water logging of standing crops like maize, sugarcane and cotton. Farmers should be very careful in this regard.

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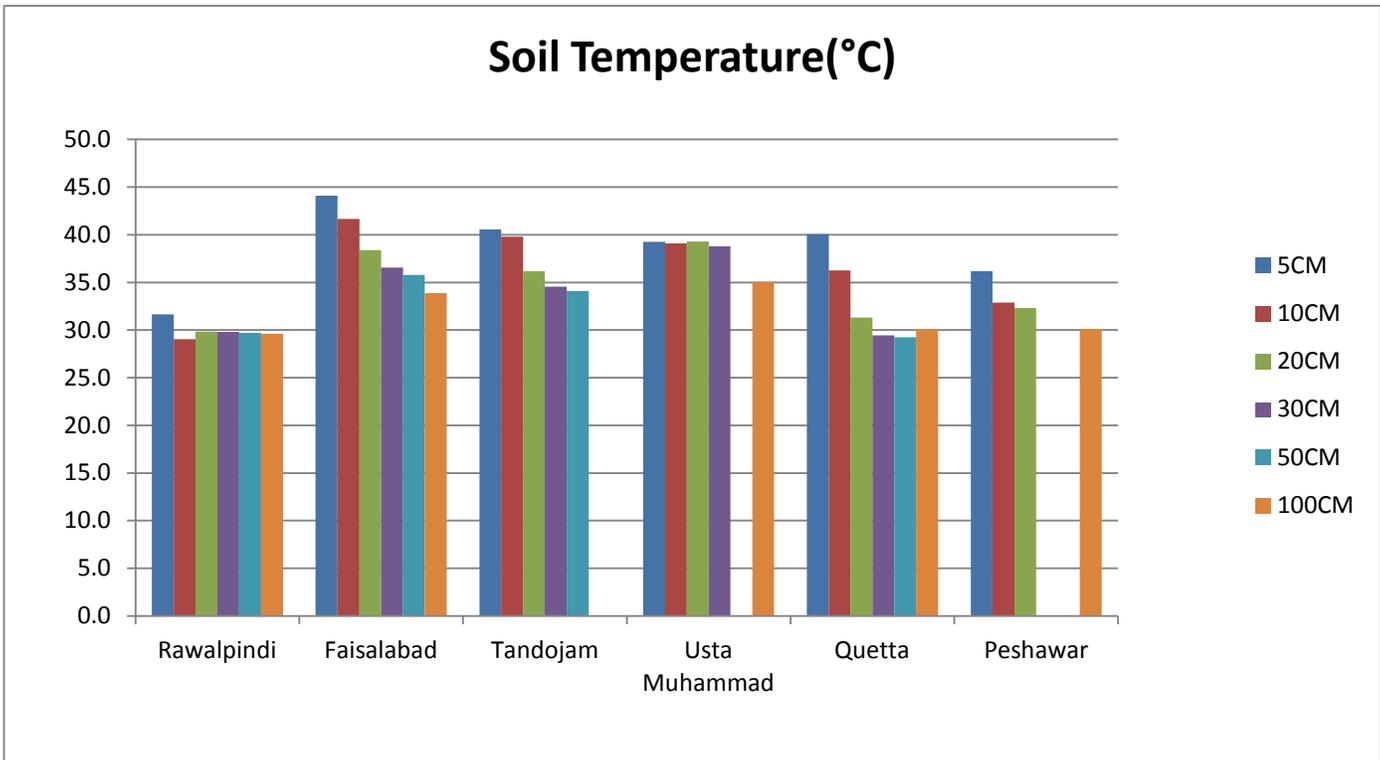
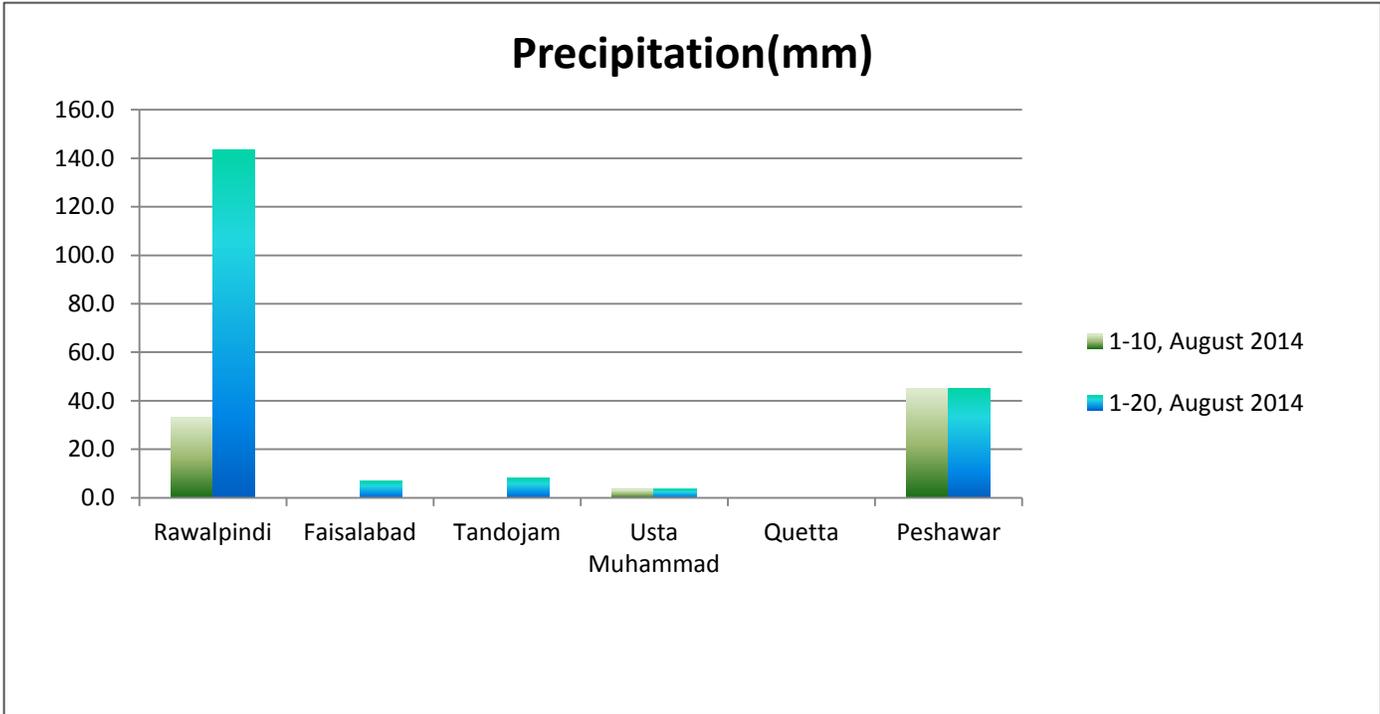
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Meteorological conditions during 2<sup>nd</sup> decade of August, 2014

| Sr. No. | Station       | Precipitation (mm) |        |      | Air Temperature (°C) |          |      | Soil Temperatures (°C) |      |      |      |      |       | R.H (%) | Sunshine Duration (hours) | Wind Speed (km/hr) | ETo (mm/day) |
|---------|---------------|--------------------|--------|------|----------------------|----------|------|------------------------|------|------|------|------|-------|---------|---------------------------|--------------------|--------------|
|         |               | Normal             | Actual | Dep  | Tmin Dep             | Tmax Dep | Mean | 5cm                    | 10cm | 20cm | 30cm | 50cm | 100cm |         |                           |                    |              |
| 1       | RAWALPINDI    | 10.5               | 33.2   | 22.7 | -1.9                 | 1.6      | 27.9 | 31.7                   | 29.1 | 29.9 | 29.8 | 29.7 | 29.6  | 67      | 71.1                      | 0.7                | 6.8          |
| 2       | FAISALABAD    | 4.1                | 0.1    | -4.0 | 0.9                  | 1.2      | 32.5 | 44.1                   | 41.7 | 38.4 | 36.6 | 35.8 | 33.9  | 57      | 89.1                      | 6.9                | 8.8          |
| 3       | JHELUM        | 7.3                | 87.2   | 79.9 | -1.4                 | 0.5      | 30.2 | 33.9                   | 32.7 | 31.3 | 30.4 | 30.7 | ***   | 69      | 76.6                      | 4.0                | 7.1          |
| 4       | LAHORE        | 4.0                | 6.6    | 2.6  | 0.5                  | 0.8      | 32.2 | 36.1                   | 35.4 | 32.8 | 82.0 | ***  | 30.6  | 64      | 68.1                      | 3.8                | 7.5          |
| 5       | SARGODHA      | 4.0                | 82.0   | 78.0 | 0.1                  | -0.5     | 31.9 | 36.2                   | 36.0 | 32.6 | 32.1 | 32.3 | 31.2  | 69      | 80.3                      | 0.9                | 6.3          |
| 6       | MULTAN        | 0.8                | 0.1    | -0.7 | -0.2                 | 0.0      | 32.8 | ***                    | ***  | ***  | ***  | ***  | ***   | 56      | 75.7                      | 11.8               | 6.6          |
| 7       | KHANPUR       | 1.0                | 0.0    | -1.0 | -0.7                 | 0.5      | 32.5 | ***                    | 38.3 | 38.1 | 38.2 | 38.4 | 36.5  | 58      | 83.1                      | 7.9                | 6.9          |
| 8       | TANDOJAM      | 1.5                | 0.0    | -1.5 | 0.5                  | 1.0      | 31.0 | 40.6                   | 39.8 | 36.2 | 34.6 | 34.1 | ***   | 64      | 98.9                      | 6.1                | 6.3          |
| 9       | SAKRAND ☆     | 2.0                | 97.0   | 95.0 | -2.8                 | 0.3      | 29.7 | 43.1                   | 39.7 | ***  | ***  | ***  | 36.0  | 63      | 98.7                      | 10.2               | 6.7          |
| 10      | ROHRI         | 0.4                | 3.0    | 2.6  | 0.6                  | 0.8      | 34.2 | 47.4                   | 43.9 | 38.2 | 37.3 | 36.3 | 36.2  | 52      | 90.5                      | 4.4                | 5.9          |
| 11      | D I KHAN      | 1.9                | 1.7    | -0.2 | -1.1                 | 0.5      | 31.5 | ***                    | ***  | ***  | ***  | ***  | ***   | 62      | ***                       | ***                | 6.7          |
| 12      | PESHAWAR      | 1.4                | 45.0   | 43.6 | -0.3                 | 0.7      | 31.2 | 36.2                   | 32.9 | 32.3 | ***  | ***  | 30.1  | 66      | 74.4                      | 3.1                | 5.5          |
| 13      | USTA MUHAMMAD | 1.2                | 3.5    | 2.3  | 0.8                  | -0.8     | 32.7 | 39.3                   | 39.1 | 39.3 | 38.8 | ***  | 35.1  | 56      | ***                       | ***                | 6.7          |
| 14      | QUETTA        | 0.0                | 0.0    | 0.0  | -2.6                 | -0.8     | 25.3 | 40.1                   | 36.3 | 31.3 | 29.5 | 29.3 | 30.1  | 24      | 93.8                      | 6.4                | 5.5          |
| 15      | SKARDU        | 0.5                | 0.6    | 0.1  | -1.9                 | 0.8      | 22.5 | ***                    | ***  | ***  | ***  | ***  | ***   | 33      | 51.0                      | 2.8                | 5.5          |
| 16      | GILGIT        | 0.5                | 3.4    | 2.9  | -0.3                 | 1.2      | 25.3 | ***                    | ***  | ***  | ***  | ***  | ***   | 46      | 77.5                      | 2.6                | 5.1          |

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.

# Precipitation at RAMC's during August, 2014



**Past Weather (11<sup>th</sup> to 20<sup>th</sup> August, 2014)**

Light to moderate rainfall reported from agricultural plains of the country during the last decade.

**1.1 Punjab**

Light to moderate rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Sialkot, Chakwal & Mianwali. Decadal minimum dropped below normal by 0.4°C & maximum temperature raised above normal by 0.6°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 77.7hrs, 5.1km/hr, 63% and 5.5mm/day respectively.

**1.2 Sindh**

Light rainfall reported in the agricultural plains of Sindh. Chief amount of rainfall received in Sukkur, Larkana & Jacobabad. Decadal minimum dropped below normal by 0.6°C & maximum temperature raised above normal by 0.7°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 96.0hrs, 6.9km/hr, 60% and 6.3mm/day respectively.

**1.3 Khyber Pakhtunkhwa (KP)**

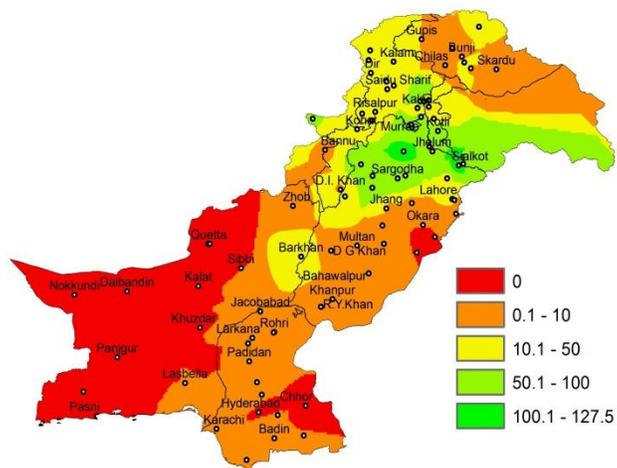
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall received in Balakot, Parachinar & Dir. Decadal minimum dropped below normal by 0.7°C & maximum temperature raised above normal by 0.6°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 37.2hrs, 3.1km/hr, 64% and 4.5mm/day respectively.

**1.4 Balochistan**

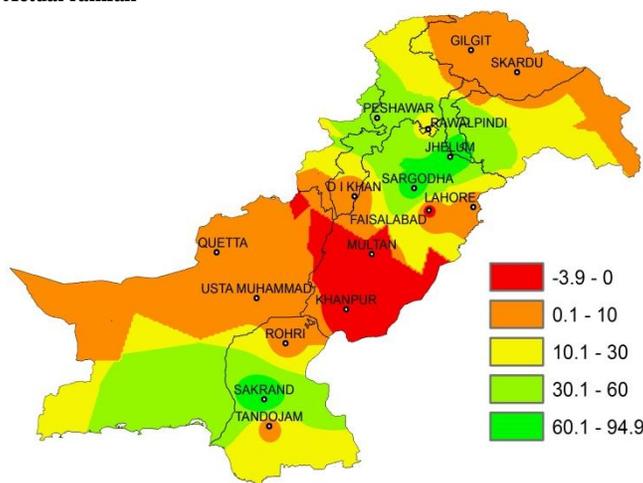
Light to moderate rainfall reported at one place of Balochistan i.e Barkhan. Decadal minimum & maximum temperature both dropped below normal by 0.9°C & 0.8°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 93.8hrs, 6.4km/hr, 40% and 6.3mm/day respectively.

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

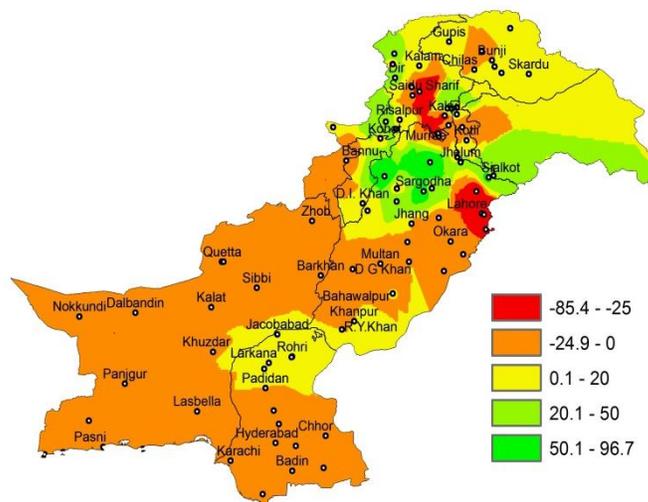
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall received in Muzaffarabad, Kotli & Rawalakot. Decadal minimum dropped below normal by 1.1°C & maximum temperature raised above normal by 1.0°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 64.3hrs, 2.7km/hr, 39% and 4.4mm/day respectively.



I. Actual rainfall



II. Departure of rainfall from Normal



III. 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> August, 2014)**

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

Rainfall reported as 33.2mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 67%. Mean night temperature was 21.6°C while day temperature recorded as 34.1°C with 71.1hours bright sunshine duration. Wind speed recorded as 0.7km/h with mean wind direction *variable*.

**Maize:** Good condition, 9<sup>th</sup> Leaf Stage

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

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 57%. Mean night temperature was 27.2°C while day temperature recorded as 37.8°C with 89.0hours bright sunshine duration. Wind speed recorded as 6.9km/hr with mean wind direction *south westerly*.

**Cotton:** Normal condition, Boll opening stage.

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

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 64%. Mean night temperature was 25.9°C while day temperature recorded as 36.0°C with 98.9hours bright sunshine duration. Wind speed recorded as 6.1km/hr with mean wind direction *south westerly*.

**Cotton (BT-3701):** Good condition, boll opening stage.

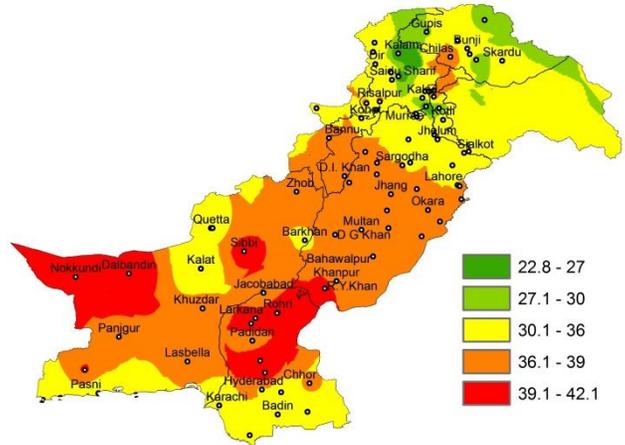
2.4 **RAMC, Usta Muhammad (Eastern Balochistan)**

Rainfall reported as 3.5mm during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 56%. Mean night temperature was 26.9°C, while day temperature recorded as 38.4°C.

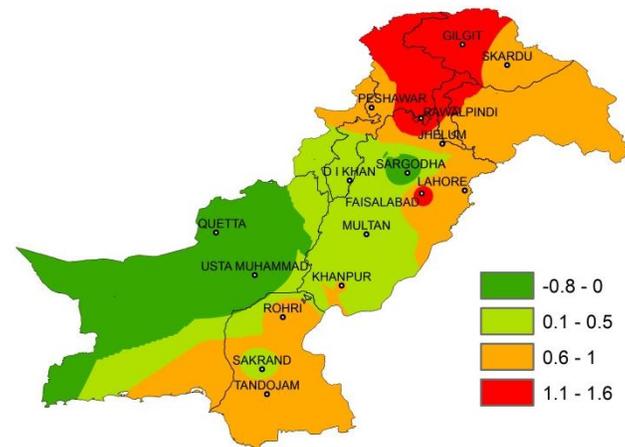
**Rice:** Good condition, Tillering stage.

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

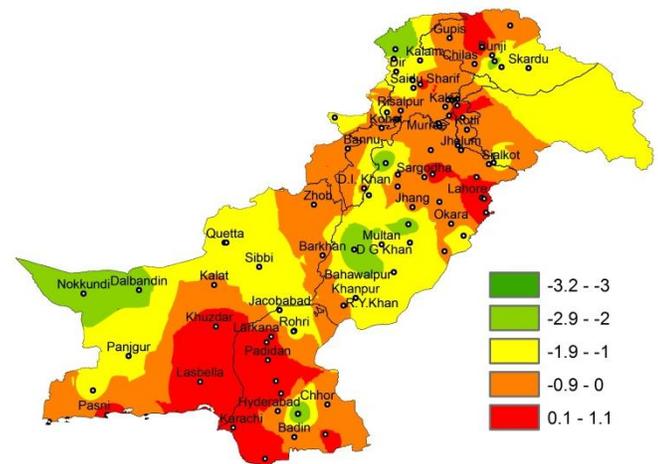
Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 24%. Mean night temperature was 16.5°C while day temperature recorded as 34.1°C with 93.8hours bright sunshine duration and wind speed recorded as 6.4km/hr with mean wind direction *westerly*.



I. Actual max-temp



II. Departure of max-temp from Normal



III. 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 (11<sup>th</sup> to 20<sup>th</sup> August, 2014)**

**2.6 Jhelum**

Rainfall reported as 87.2mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 69%. Mean night temperature was 24.7°C while day temperature recorded as 35.7°C with 76.6hours bright sunshine duration. Wind speed recorded 4.0km/hr with mean wind direction *south easterly*.

**2.7 Lahore**

Rainfall reported as 6.6mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 64%. Mean night temperature was 28.5°C while day temperature recorded as 35.8°C with 68.1hours bright sunshine duration. Wind speed recorded as 3.8km/hr with mean wind direction *south westerly*.

**2.8 Sargodha**

Rainfall reported as 82.0mm during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 69%. Mean night temperature was 27.2°C while day temperature recorded as 36.6°C with 80.3hours bright sunshine duration. Wind speed recorded as 0.92km/hr with mean wind direction *variable*.

**2.9 Multan**

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 56%. Mean night temperature was 28.2°C while day temperature recorded as 37.4°C with 75.7hours bright sunshine duration. Wind speed recorded as 11.8km/hr with mean wind direction *south westerly*.

**2.10 Khanpur**

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 58%. Mean night temperature was 27.0°C while day temperature recorded as 37.9°C with 83.1hours bright sunshine duration. Wind speed recorded 7.9km/hr with mean wind direction *south westerly*.

**2.11 Sakrand**

Rainfall reported as 97.0mm during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 63%. Mean night temperature was 22.2°C while day temperature recorded as 37.1°C with 98.7hours bright sunshine duration. Wind speed recorded 10.17km/hr with mean wind direction *southerly*.

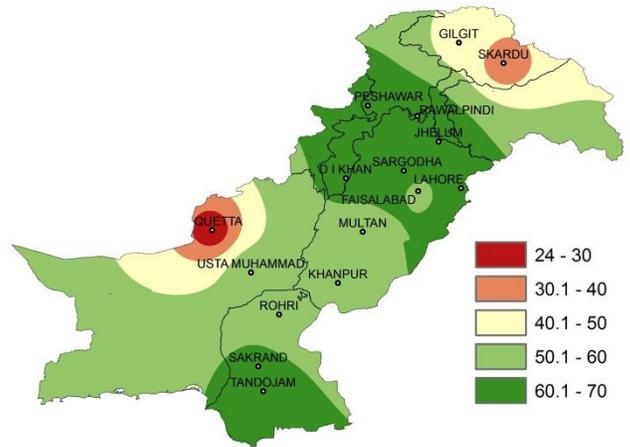


Figure.3: Relative Humidity in percentage (%)

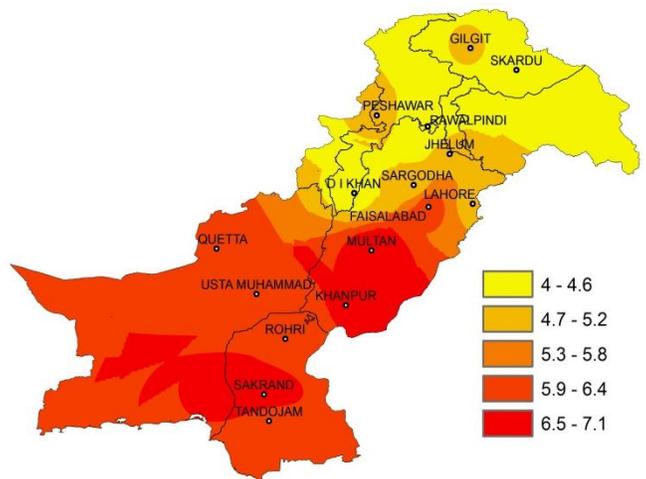


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

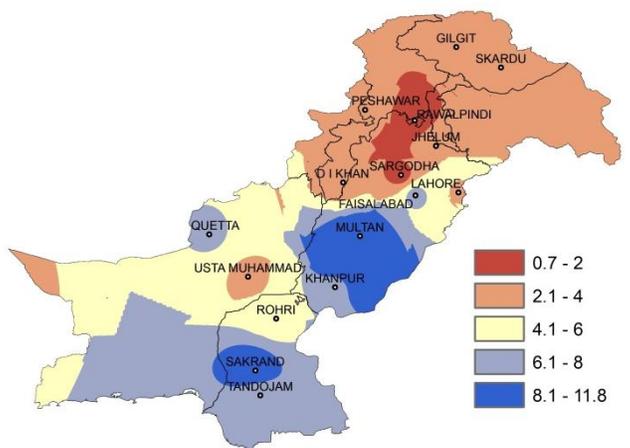


Figure 5: Wind Speed in kilometer per hour (km/h)

**2.12 Rohri**

Rainfall reported as 3.0mm during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 52%. Mean night temperature was 28.8°C while day temperature recorded as 39.6°C with 90.5hours bright sunshine duration. Wind speed recorded as 4.4km/hr with mean wind direction *southerly*.

**2.13 D.I. Khan**

Rainfall reported as 1.7mm during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 62%. Mean night temperature was 24.9°C while day temperature recorded as 38.1°C.

**2.14 Peshawar**

Rainfall reported as 45.0mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 66%. Mean night temperature was 26.0°C while day temperature recorded as 36.4°C with 74.4hours bright sunshine duration. Wind speed recorded as 3.1km/hr with mean wind direction *north westerly*.

**2.15 Skardu**

Rainfall reported as 0.6mm during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 33%. Mean night temperature was 13.6°C while day temperature recorded as 31.4°C with 51.0hours bright sunshine duration. Wind speed recorded as 2.8km/hr with mean wind direction *south-easterly*.

**2.16 Gilgit**

Rainfall reported as 3.4mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 45%. Mean night temperature was 16.0°C while day temperature recorded as 34.5°C with 77.5bright sunshine duration. Wind speed recorded as 2.6km/hr with mean wind direction *easterly*.

### **3. Ten Days Weather Advisory for Farmers (21<sup>st</sup> to 31<sup>st</sup> August, 2014)**

**3.1 Temperature Forecast**

Normal temperatures are expected in most of the agricultural plains of the country during the decade.

**3.2 Wind Forecast**

Dust storm/ gusty wind conditions likely to prevail in the country during the decade.

**3.3 Rain Forecast**

- ❖ **Punjab:** Light to moderate rainfalls at isolated places is expected over most of the agricultural plains of the province during the decade.
- ❖ **Khyber Pakhtunkhwa:** Heavy falls at isolated places is expected over most of the agricultural plains of the province during the decade.
- ❖ **Sindh:** Light rainfall expected at isolated places of lower Sindh during the end of 2nd half of the decade.
- ❖ **Balochistan:** Mainly dry weather is expected in the province. However light rainfall expected in North western parts of Balochistan during the 2nd half of decade.
- ❖ **Gilgit Baltistan:** Mostly cloudy weather with light to moderate rainfall over hills is expected in most parts of GB during the decade.
- ❖ **Kashmir:** Mainly cloudy weather with light to moderate rainfall over hills is expected in isolated parts of Kashmir during the decade.

**3.4 Advisory for Farmers**

- ❖ Pest/viral attacks and more weeds growth are expected after recent monsoon rains in sugarcane and other standing crops in upper parts of the country. Farmers are therefore advised to take in time precautionary measures in this regard.
- ❖ Farmers of rainfed areas obtaining water through tube wells and irrigated areas in upper parts are advised to schedule the irrigation according to the expected weather mentioned during the decade. Rainfall/gusty winds after irrigation cause water logging of standing crops like maize, sugarcane and cotton. Farmers should be very careful in this regard.
- ❖ Due to expected monsoon rains during the decade farmers are advised to take in time precautionary measures to protect their crops, livestock and other property from any expected rain.
- ❖ Farmers of cotton belt are advised to be aware of the adverse effects of stagnant water in the fields during monsoon. Mechanism for drainage of stagnant water from fields should be evolved on priority basis and necessary requirements in this regard should be taken.