

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate rainfall reported from few agricultural plains of the country during the last decade.
- ❖ Lowest minimum temperature recorded  $-13.0^{\circ}\text{C}$  at Astore during the last decade.
- ❖ Highest amount of rainfall recorded as 23.0mm at Jiwani during the last decade.
- ❖ Lower values of relative humidity reported from Quetta, Dera Ismail Khan & Sindh and higher values reported from Gilgit Baltistan & Kashmir during the last decade.
- ❖ Higher values of ETo reported from Balochistan, Sindh & Lower K.P while lower values reported from Gilgit Baltistan & Kashmir during the last decade.
- ❖ Normal to below normal temperatures are expected in most of the agricultural plains of the country during the current decade.
- ❖ Normal wind pattern may prevail in most parts of the country during the current decade.
- ❖ Night temperatures are expected to drop ( $1-2^{\circ}\text{C}$ ) in most agricultural plains of the country especially in upper parts during the decade.
- ❖ Mainly cold and dry weather is expected in most parts of the country during the mid of decade, partly cloudy to cloudy weather conditions would prevail over most parts of country during first half of the decade and light rain (light snowfall over the hills) is expected at isolated places of upper KP.

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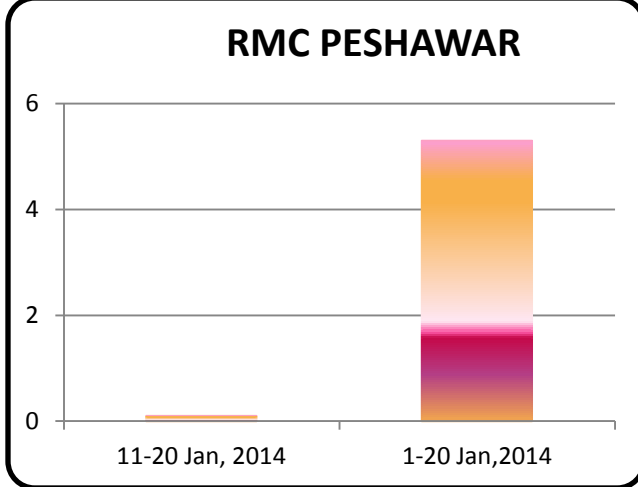
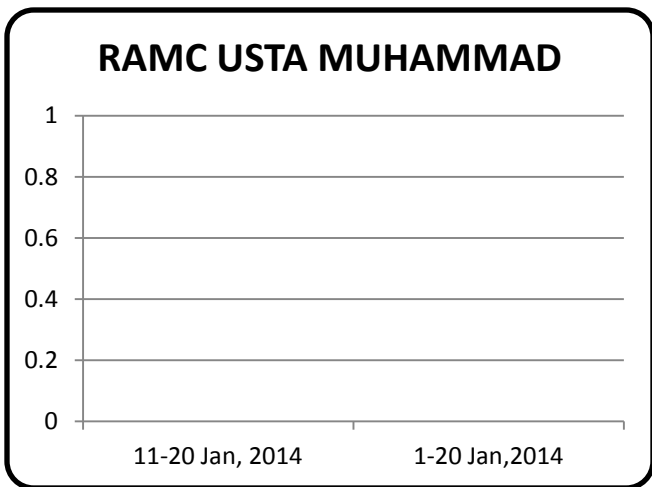
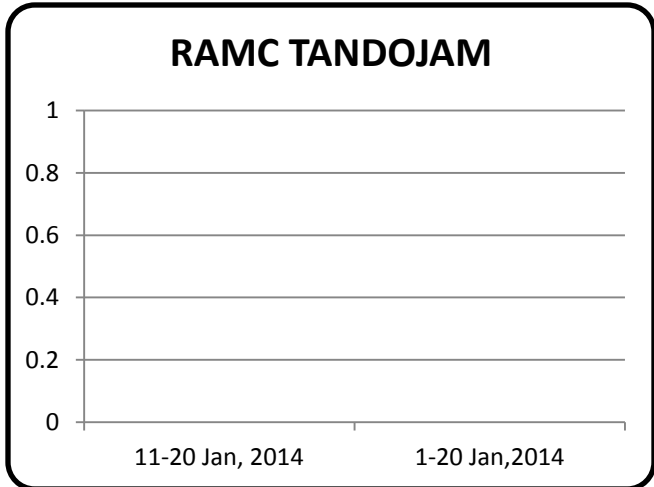
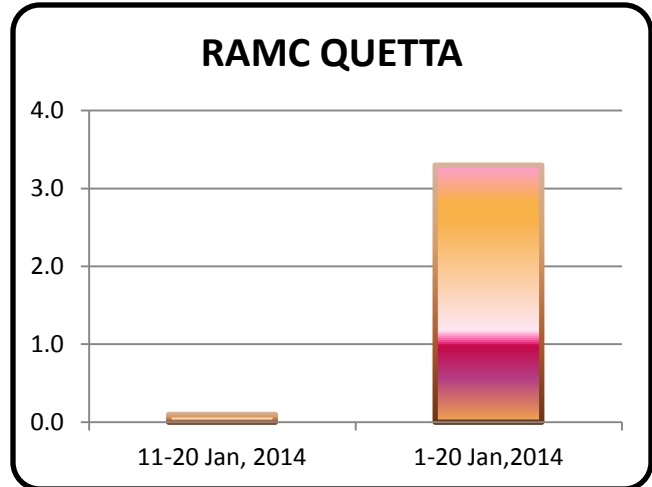
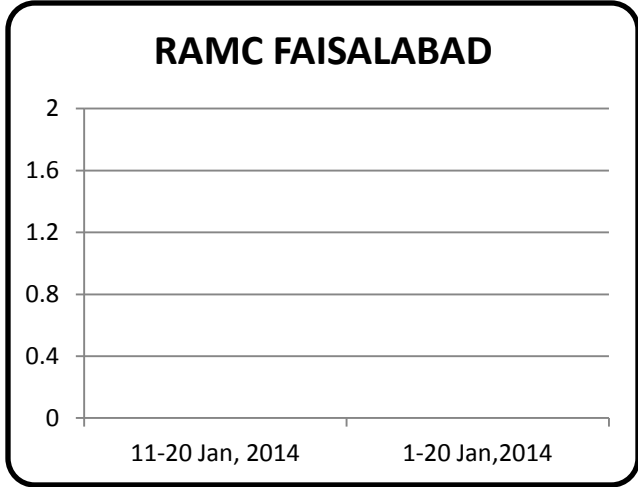
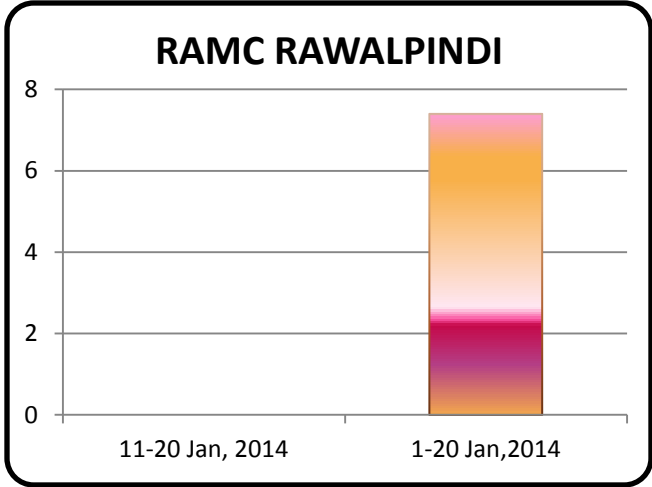
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Meteorological conditions during 2<sup>nd</sup> Decade of January, 2014

| Sr. No. | Station       | Precipitation (mm) |        |      | Air Temperature (°C) |          |      | Soil Temperatures (°C) |      |      |      |      |       | Sunshine Duration (hours) | Wind Speed (km/hr) | R.H (%) | ET <sub>o</sub> (mm/day) |
|---------|---------------|--------------------|--------|------|----------------------|----------|------|------------------------|------|------|------|------|-------|---------------------------|--------------------|---------|--------------------------|
|         |               | Normal             | Actual | Dep  | Tmin Dep             | Tmax Dep | Mean | 5cm                    | 10cm | 20cm | 30cm | 50cm | 100cm |                           |                    |         |                          |
| 1       | RAWALPINDI    | 1.1                | 0.0    | -1.1 | -0.9                 | -0.6     | 10.2 | 11.6                   | 10.4 | 9.6  | 9.9  | 10.9 | 13.6  | 45.0                      | 2.9                | 62      | 1.3                      |
| 2       | FAISALABAD    | 0.3                | 0.0    | -0.3 | 0.8                  | 1.9      | 12.9 | 15.2                   | 14.1 | 12.7 | 11.9 | 12.6 | 15.3  | 49.3                      | 1.6                | 63      | 1.3                      |
| 3       | JHELMUM       | 1.4                | 0.1    | -1.3 | -1.7                 | 2.3      | 12.7 | 14.1                   | 13.1 | 12.1 | 12.2 | 13.5 | ***   | 47.9                      | 1.7                | 51      | 1.3                      |
| 4       | LAHORE        | 0.3                | 1.6    | 1.3  | -1.2                 | 0.4      | 12.6 | 14.8                   | 14.2 | 13.4 | 13.3 | ***  | 16.1  | 48.6                      | 1.9                | 74      | 1.2                      |
| 5       | SARGODHA      | 0.2                | 0.0    | -0.2 | 0.4                  | 1.7      | 13.1 | 15.7                   | 14.5 | 14.0 | 14.6 | 15.8 | 17.8  | 55.6                      | 0.7                | 66      | 1.1                      |
| 6       | MULTAN        | 0.2                | 0.6    | 0.4  | 0.0                  | 0.9      | 13.3 | ***                    | ***  | ***  | ***  | ***  | ***   | 58.4                      | 1.9                | 58      | 1.5                      |
| 7       | KHANPUR       | 1.0                | 0.0    | -1.0 | -1.7                 | 1.1      | 12.6 | ***                    | 18.8 | 16.2 | 15.0 | 14.5 | 13.9  | 60.9                      | 2.2                | 56      | 1.7                      |
| 8       | TANDOJAM      | 0.0                | 0.0    | 0.0  | -1.6                 | -1.6     | 14.9 | 19.3                   | 19.3 | 16.9 | 17.0 | 18.5 | ***   | 86.6                      | 1.6                | 51      | 1.9                      |
| 9       | SAKRAND ☆     | 0.4                | 0.0    | -0.4 | -3.5                 | 3.8      | 12.8 | 21.6                   | 19.0 | ***  | ***  | 18.6 | 22.1  | 90.8                      | 2.8                | 53      | 2.2                      |
| 10      | ROHRI         | 0.6                | 0.0    | -0.6 | -1.2                 | 0.6      | 15.2 | 22.5                   | 20.1 | 18.2 | 19.5 | 18.5 | 23.7  | 85.3                      | 2.3                | 49      | 2.0                      |
| 11      | USTA MUHAMMAD | 0.1                | 0.0    | -0.1 | -1.7                 | 1.6      | 15.0 | 18.4                   | 17.7 | 17.7 | 17.6 | ***  | 21.5  | ***                       | ***                | 65      | 2.6                      |
| 12      | QUETTA        | 0.9                | 0.1    | -0.8 | -0.2                 | 0.3      | 5.4  | 11.9                   | 9.8  | 5.6  | 4.8  | 4.6  | 8.6   | 78.7                      | 5.0                | 40      | 1.9                      |
| 13      | DI KHAN       | 0.1                | 0.0    | -0.1 | -0.7                 | 3.3      | 12.9 | ***                    | ***  | ***  | ***  | ***  | ***   | 64.5                      | ***                | 41      | 2.9                      |
| 14      | PESHAWAR      | 1.6                | 0.1    | -1.5 | -1.6                 | 2.0      | 12.0 | 14.2                   | 11.9 | 11.3 | 11.8 | ***  | 16.1  | 44.0                      | 1.0                | 57      | 1.1                      |
| 15      | SKARDU        | 1.5                | 72.1   | 70.6 | -1.6                 | -0.8     | -2.9 | ***                    | ***  | ***  | ***  | ***  | ***   | 37.3                      | 0.1                | 66      | 0.6                      |
| 16      | GILGIT        | 0.3                | 0.5    | 0.2  | -2.0                 | 0.0      | 3.2  | ***                    | ***  | ***  | ***  | ***  | ***   | 47.2                      | 1.5                | 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:  $\text{Dep} \div \text{Normal} \times 100$ . Tmin & Tmax stands for minimum and maximum temperatures respectively. ET<sub>o</sub> stands for reference crop evapotranspiration. \*\*\* stands for no data and (☆) indicates the station with five years climatic (normal) data for computing departures.

### Graphs for Rainfall (mm) during January, 2014



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

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

**1.1 Punjab**

Light rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Lahore & Multan. Decadal minimum dropped below normal by 0.6°C & maximum temperature raised above normal by 1.1°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 52.2hrs, 1.8km/hr, 61% and 1.3mm/day respectively.

**1.2 Sindh**

Dry weather reported in the agricultural plains of Sindh. Decadal minimum dropped below normal by 2.1°C & maximum temperature raised above normal by 0.9°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 87.6hrs, 2.2km/hr, 51% and 2.0mm/day respectively.

**1.3 Khyber Pakhtunkhwa (KP)**

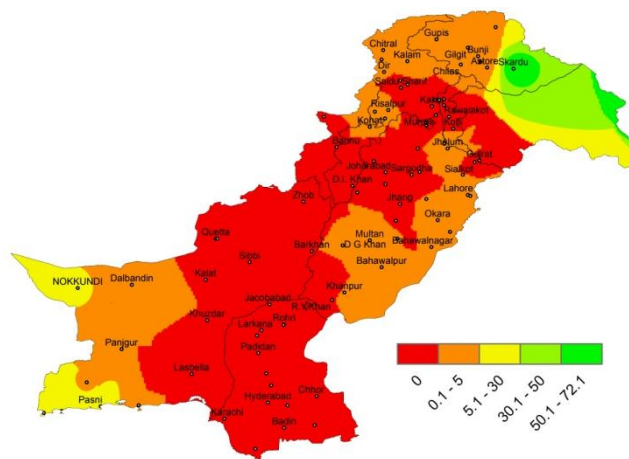
Light rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Kalam, Drosh & Chitral. Decadal minimum dropped below normal by 1.2°C & maximum temperature raised above normal by 2.7°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 54.3hrs, 1.0km/hr, 49% and 2.0mm/day respectively.

**1.4 Balochistan**

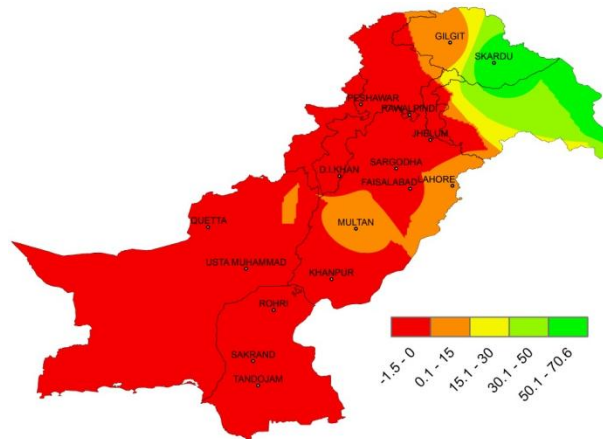
Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall reported in Jiwani, Gawadar & Pasni. Decadal minimum dropped below normal by 1.0°C & maximum temperature raised above normal by 1.0°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 78.7hrs, 5.0km/hr, 53% and 2.3mm/day respectively.

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

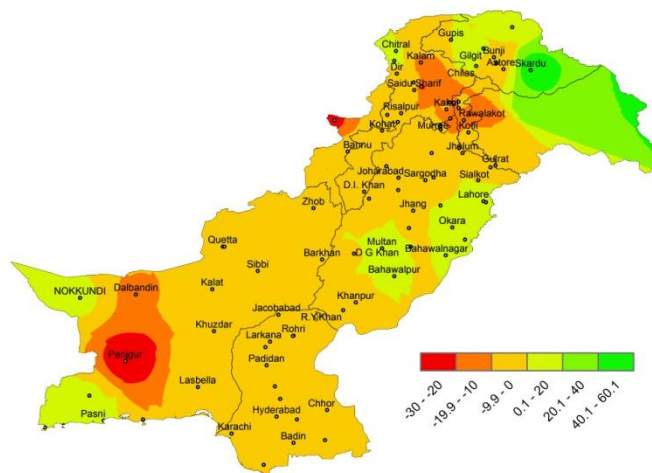
Light rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Hunza, Gilgit & Skardu. Decadal minimum & maximum temperature both dropped below normal by 1.8°C & 0.4°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 42.3hrs, 0.8km/hr, 63% and 0.8mm/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, 2014)**

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

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 62%. Mean night temperature was 2.17°C while day temperature recorded as 18.2°C with 45.0hours bright sunshine duration. Wind speed recorded as 2.9km/h with mean wind direction *westerly*.

*Wheat (Chakwal 97)*: Good condition, 3<sup>rd</sup> Leaf stage.

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

Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 63%. Mean night temperature was 5.5°C while day temperature recorded as 20.3°C with 49.25hours bright sunshine duration. Wind speed recorded as 1.6km/hr with mean wind direction *westerly*.

*Wheat*: Very Good condition, shooting stage.

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

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 51%. Mean night temperature was 6.9°C while day temperature recorded as 22.9°C with 86.6hours bright sunshine duration. Wind speed recorded as 1.6km/hr with mean wind direction *northerly*.

*Wheat (TD-1)*: Good condition, shooting stage.

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

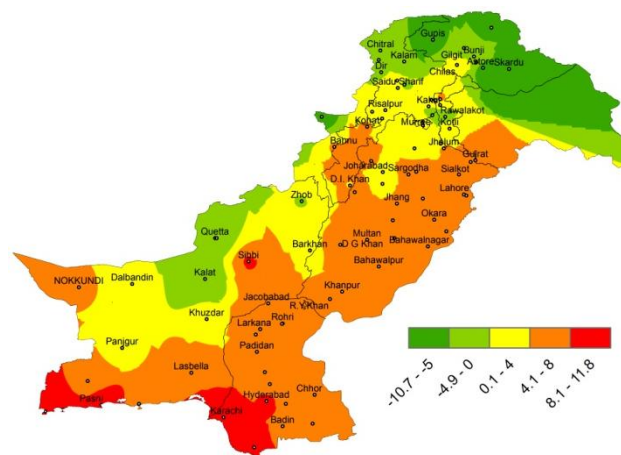
Rainfall reported as trace (not measurable) during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 40%. Mean night temperature was -1.4°C while day temperature recorded as 12.2°C with 78.7hours bright sunshine duration and wind speed recorded as 5.0km/hr with mean wind direction *southerly*.

*Wheat (Local White)*: Good condition, 3<sup>rd</sup> Leaf Stage.

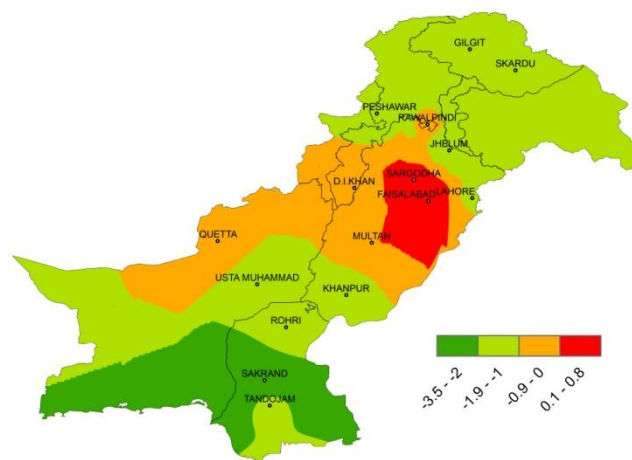
2.5 **RAMC, Usta Muhammad (Eastern Balochistan)**

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 65%. Mean night temperature was 7.0°C, while day temperature recorded as 23.0°C.

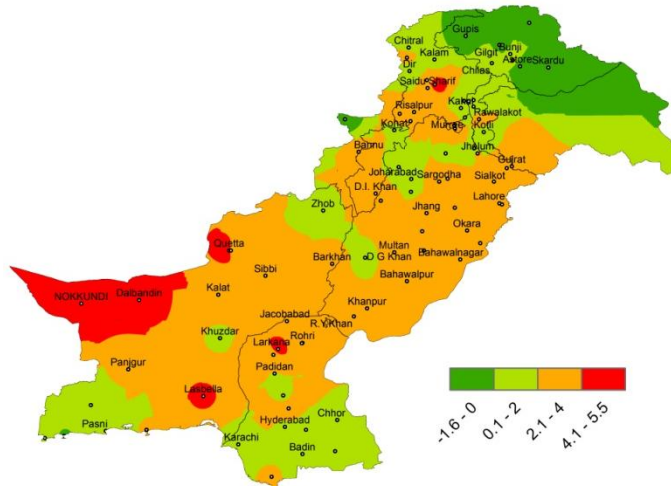
*Wheat (Zardana)*: Good condition, 3<sup>rd</sup> Leaf Stage.



(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, 2014)**

2.6 **Jhelum**

Rainfall reported as trace (not measureable) during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 60%. Mean night temperature was 4.2°C while day temperature recorded as 21.1°C with 47.9hours bright sunshine duration. Wind speed recorded 1.7km/hr with mean wind direction *south westerly*.

2.7 **Lahore**

Rainfall reported as 1.6mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 61%. Mean night temperature was 6.5°C while day temperature recorded as 18.6°C with 48.6hours bright sunshine duration. Wind speed recorded as 1.9km/hr with mean direction *north westerly*.

2.8 **Sargodha**

Dry weather the decade however weather remained cloudy for 06days. Average relative humidity recorded as 66%. Mean night temperature was 5.9°C while day temperature recorded as 20.3°C with 55.6hours bright sunshine duration. Wind speed recorded as 0.74km/hr with mean direction *variable*.

2.9 **Multan**

Rainfall reported as 0.6mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 58%. Mean night temperature was 5.7°C while day temperature recorded as 20.8°C with 58.4hours bright sunshine duration. Wind speed recorded as 1.9km/hr with mean wind direction *variable*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 56%. Mean night temperature was 3.8°C while day temperature recorded as 21.4°C with 60.9hours bright sunshine duration. Wind speed recorded as 2.2km/hr with mean wind direction *north easterly*.

2.11 **Rohri**

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 49%. Mean night temperature was 8.1°C while day temperature recorded as 22.3°C with 85.3hours bright sunshine duration. Wind speed recorded 2.3km/hr with mean wind direction *north easterly*.

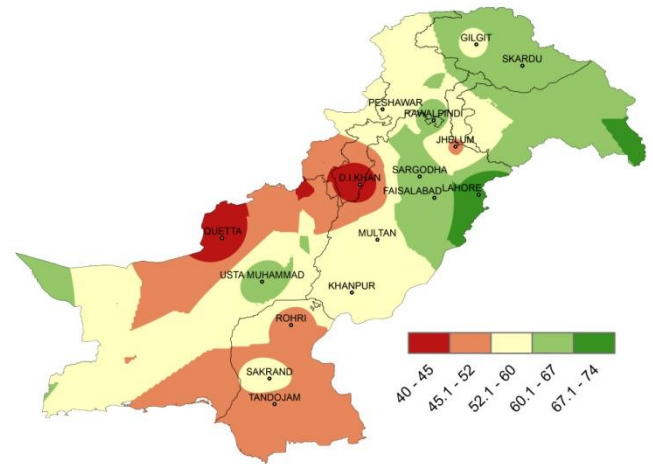


Figure.3: Relative Humidity in percentage (%)

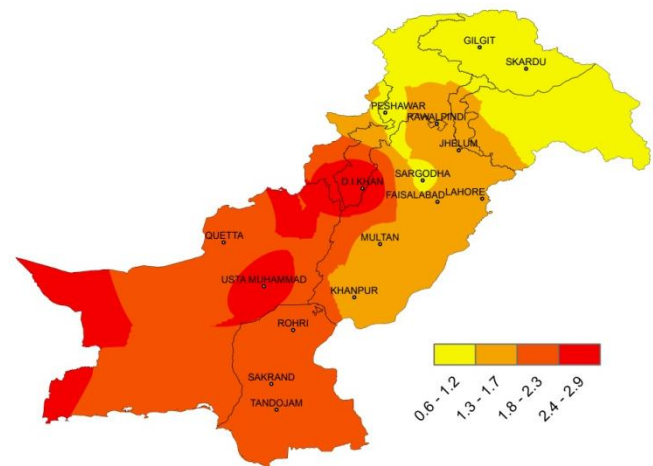


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

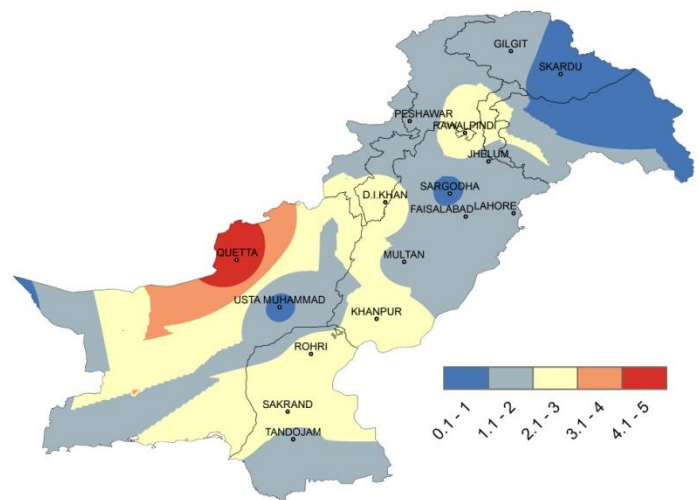


Figure 5: Wind Speed in kilometer per hour (km/h)

**2.12 Sakrand**

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 53%. Mean night temperature was 3.4°C while day temperature recorded as 22.2°C with 90.8hours bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *northerly*.

**2.13 D.I Khan**

Dry weather reported during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 52%. Mean night temperature was 3.9°C while day temperature recorded as 21.8°C with 64.5hours bright sunshine duration.

**2.14 Peshawar**

Rainfall reported as trace (not measureable) during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 57%. Mean night temperature was 3.2°C while day temperature recorded as 20.7°C with 44.0hours bright sunshine duration. Wind speed recorded as 1.0km/hr with mean wind direction *north westerly*.

**2.15 Skardu**

Rainfall reported as 72.1mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 66%. Mean night temperature was -9.0°C while day temperature recorded as 3.3°C with 37.3hours bright sunshine duration. Wind speed recorded as 0.1km/hr with mean wind direction *westerly*.

**2.16 Gilgit**

Rainfall reported as 0.5mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 60%. Mean night temperature was -4.2°C while day temperature recorded as 10.6°C with 47.2bright sunshine duration. Wind speed recorded as 1.5km/hr with mean wind direction *variable*.

**3. Ten Days Weather Advisory for Farmers  
(21<sup>st</sup> to 31<sup>st</sup> January, 2014)****3.1 Temperature Forecast**

Night temperatures are expected to drop slightly (1-2°C) in most of the agricultural plains of the country especially in upper parts of the country during the decade.

**3.2 Rain Forecast**

- ❖ **Punjab:** Mainly cold and dry weather is expected in most parts of the province during the decade. However, partly cloudy to cloudy weather conditions would prevail over Islamabad and upper Punjab during next 2 days and light rain/drizzle is expected at isolated places of (Gujranwala, Lahore, Rawalpindi and Sargodha divisions) during Tuesday (evening/night) / Wednesday. Light snowfall is also expected at few places over the hills of Murree, Gallayat and surrounding during the period.

Foggy conditions are expected to remain subside during next 2 days; however its intensity would increase in plains of Punjab from mid of the decade.

- ❖ **Khyber Pakhtunkhwa:** Mainly cold (very cold in upper parts) and dry weather is expected in most parts of the province during the decade. However, partly cloudy to cloudy weather conditions would prevail in most parts of province during first half of the decade and light rain (light snowfall over the hills) is expected at isolated places of upper KP (Malakand and Hazara divisions) during Tuesday/Wednesday and again during the decade.

- ❖ **Sindh:** Mainly cold and dry weather is expected in most parts of the province during the decade.

**Balochistan:** Light rain with (light snowfall over the hills) is expected at isolated places of Makran, Kalat, Quetta and Zhob divisions during Monday & Tuesday. Mainly cold (very cold in North Balochistan) and dry weather is expected in most parts of the province however partly cloudy condition expected on Tuesday in North Balochistan.

**Gilgit-Baltistan:** Mostly cloudy weather conditions with light rain (light snowfall over the hills) is expected at isolated places of Gilgit-Baltistan during Tuesday & Wednesday and again on Saturday/Sunday.

Very cold and dry/partly cloudy weather is expected in most parts of GB during rest of the decade.

- ❖ **Kashmir:** Mostly cloudy weather conditions with light rain (light snowfall over the hills) is expected at isolated places of Kashmir from Tuesday to Thursday and again on Saturday/Sunday.  
Very cold and dry weather is expected in most parts of Kashmir during rest days 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 Tillering/Shooting stage in most of the agricultural parts of the country.
- ❖ Wheat cultivation has completed in most of the irrigated areas. Farmers of irrigated areas should irrigate the crop as per requirement due to dry weather prevailing in most of the irrigated agricultural plains of the country. Normally first irrigation is given after 20-25 days after sowing and 2nd irrigation is given just before heading stage and third irrigation is given at milk maturity 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 types of weeds from the standing crops.
- ❖ Due to continue drop in night time temperatures, especially farmers of upper & central areas are advised to protect their crops from the expected frost.