

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Heavy rainfall reported from few agricultural plains of Punjab, KP, Gilgit-Baltistan & Kashmir & light to moderate rainfall reported from Balochistan and Sindh during the last decade.
- ❖ Lowest minimum temperature recorded -3.5°C at Kalam during the last decade.
- ❖ Highest amount of rainfall recorded as 149.1mm at Murree during the last decade.
- ❖ Lower values of relative humidity reported from Skardu & Gilgit regions while higher values reported from Punjab & KP during the last decade.
- ❖ Lower values of ETo reported from Potohar, Gilgit-Baltistan & Kashmir regions while higher values reported from Sindh & Balochistan during the last decade.
- ❖ Temperatures are likely to be normal/slightly above normal in most of the agricultural plains of the country during the decade.
- ❖ Wind conditions likely to prevail in most of the agricultural plains of the country in the afternoon with dust raising winds in the lower half of the country during the decade.
- ❖ Mainly dry weather is expected during the decade. However light to moderate rainfall with isolated heavy rainfall/ light snowfall over the hills is expected mostly over upper hilly areas and central parts are expected especially 05th to 06th of April during the decade.

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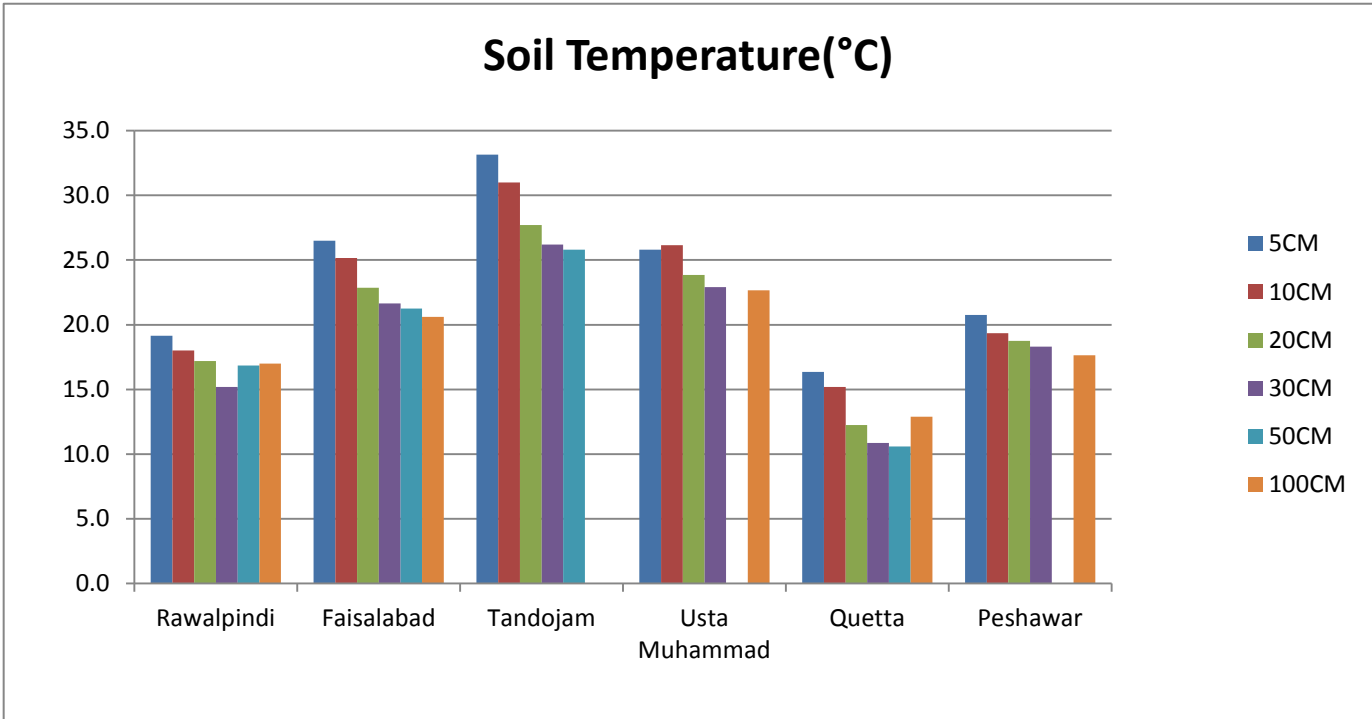
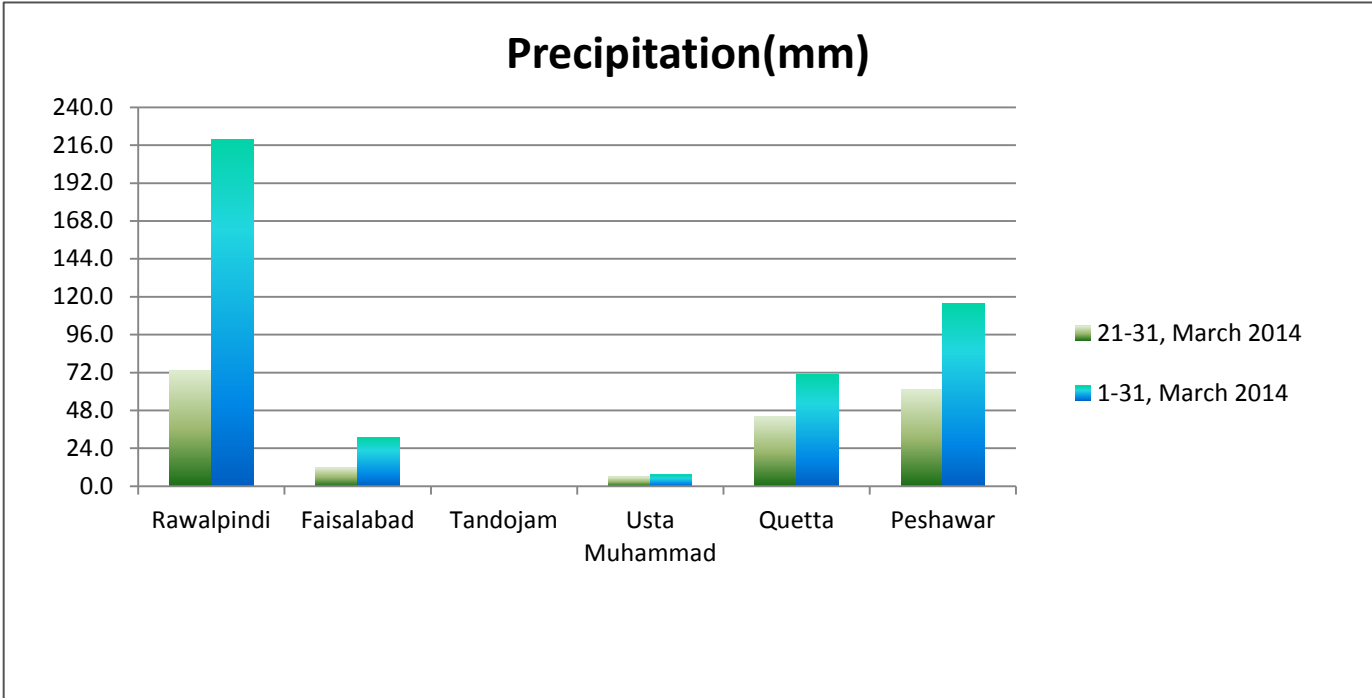
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Meteorological conditions during 3rd Decade of March, 2014

| 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 | RAWALPINDI | 2.7 | 73.1 | 70.4 | -2.1 | -4.7 | 17.0 | 19.2 | 18.0 | 17.2 | 15.2 | 16.9 | 17.0 | 66.0 | 3.0 | 68 | 2.9 |
| 2 | FAISALABAD | 0.6 | 11.8 | 11.2 | -0.1 | -3.0 | 21.7 | 26.5 | 25.2 | 22.9 | 21.7 | 21.3 | 20.6 | 77.3 | 2.8 | 58 | 3.6 |
| 3 | JHELUM | 1.6 | 23.8 | 22.2 | -1.1 | -3.2 | 20.6 | 22.3 | 21.4 | 20.2 | 19.5 | 19.8 | *** | 74.1 | 4.5 | 60 | 3.6 |
| 4 | LAHORE | 1.7 | 11.1 | 9.4 | -3.8 | -3.6 | 20.7 | 24.7 | 23.5 | 21.4 | 20.5 | *** | 20.1 | 75.4 | 4.0 | 63 | 3.5 |
| 5 | SARGODHA | 1.0 | 7.3 | 6.3 | -0.2 | -3.9 | 21.7 | 26.3 | 24.1 | 22.1 | 21.6 | 21.5 | 21.0 | 75.9 | 1.9 | 60 | 3.3 |
| 6 | MULTAN | 1.2 | 25.5 | 24.3 | -0.4 | -3.9 | 22.3 | *** | *** | *** | *** | *** | *** | 76.1 | 5.5 | 58 | 4.1 |
| 7 | KHANPUR | 0.5 | 7.0 | 6.5 | -0.4 | -3.8 | 23.2 | *** | 26.2 | 26.2 | 26.3 | 26.8 | 25.2 | 90.9 | 4.9 | 56 | 4.5 |
| 8 | TANDOJAM | 0.0 | 0.0 | 0.0 | 0.4 | -3.0 | 25.9 | 33.2 | 31.0 | 27.7 | 26.2 | 25.8 | *** | 95.6 | 2.4 | 48 | 4.5 |
| 9 | SAKRAND ☆ | 0.1 | 0.0 | -0.1 | -2.5 | -3.6 | 23.2 | 36.0 | 32.6 | *** | *** | 27.3 | 25.6 | 106.6 | 5.9 | 55 | 5.2 |
| 10 | ROHRI | 0.6 | 9.0 | 8.4 | -0.9 | -4.4 | 24.9 | 33.5 | 32.1 | 27.3 | 26.7 | 24.6 | 25.9 | 105.2 | 5.6 | 49 | 5.2 |
| 11 | D I KHAN | 0.8 | 29.6 | 28.8 | -2.4 | -3.6 | 19.8 | *** | *** | *** | *** | *** | *** | 84.1 | *** | 62 | 4.1 |
| 12 | PESHAWAR | 2.4 | 61.2 | 58.8 | -2.6 | -4.0 | 17.8 | 20.8 | 19.4 | 18.8 | 18.3 | *** | 17.7 | 54.6 | 1.8 | 68 | 2.6 |
| 13 | USTA MUHAMMAD | 0.5 | 6.0 | 5.5 | -1.8 | -4.7 | 22.6 | 25.8 | 26.2 | 23.9 | 22.9 | *** | 22.7 | *** | *** | 46 | 5.1 |
| 14 | QUETTA | 0.9 | 44.2 | 43.3 | -1.1 | -5.6 | 11.4 | 16.4 | 15.2 | 12.3 | 10.9 | 10.6 | 12.9 | 80.6 | 6.5 | 51 | 3.4 |
| 15 | SKARDU | 0.5 | 0.1 | -0.4 | 1.4 | -0.6 | 10.7 | *** | *** | *** | *** | *** | *** | 55.6 | 3.5 | 35 | 2.8 |
| 16 | GILGIT | 0.2 | 1.6 | 1.4 | 1.7 | -1.6 | 14.6 | *** | *** | *** | *** | *** | *** | 40.7 | 4.9 | 39 | 3.2 |

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. * stands for (rainfall + snowfall)

Graphs of RAMC's during March, 2014



Past Weather (21st to 31st March, 2014)

Heavy rainfall reported from few agricultural plains of Punjab, KP, Gilgit-Baltistan & Kashmir & light to moderate rainfall reported from Balochistan and Sindh during the last decade.

1.1 Punjab

Heavy rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Murree, Islamabad & Chakwal. Decadal minimum & maximum temperature both dropped below normal by 1.2°C & 3.7°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 76.5hrs, 3.8km/hr, 60% and 3.6mm/day respectively.

1.2 Sindh

Light to moderate rainfall reported in the agricultural plains of Sindh. Chief amount of rainfall received in Moe-jo-Daro, Dadu & Sukkur. Decadal minimum & maximum temperature both dropped below normal by 1.0°C & 3.7°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 102.5hrs, 4.6km/hr, 51% and 5.0mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

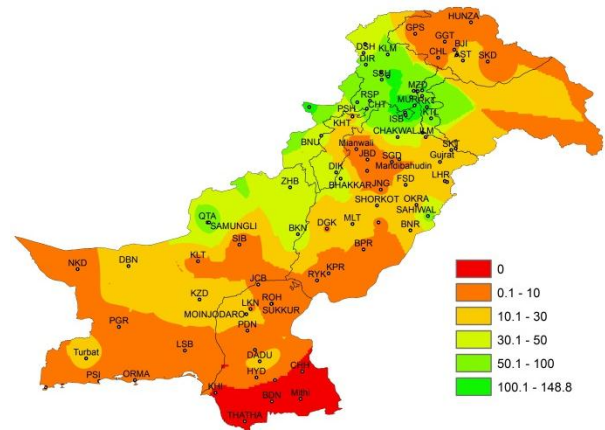
Heavy rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Malam Jabba, Kakul & Parachinar. Decadal minimum & maximum temperature both dropped below normal by 2.5°C & 3.8°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 69.4hrs, 1.8km/hr, 65% and 3.4mm/day respectively.

1.4 Balochistan

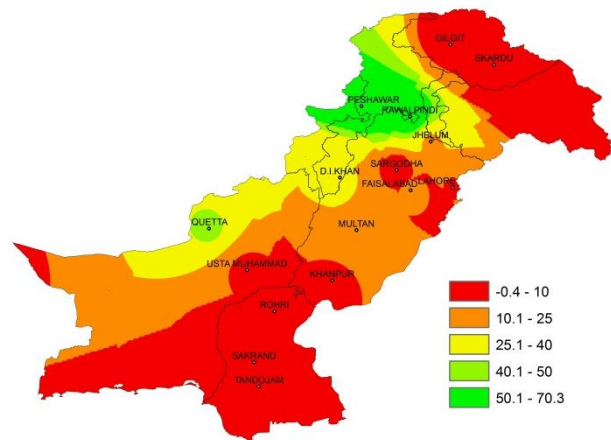
Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received in Quetta, Zhob & Barkhan. Decadal minimum & maximum temperature both dropped below normal by 1.5°C & 5.2°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 80.6hrs, 6.5km/hr, 49% and 4.3mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

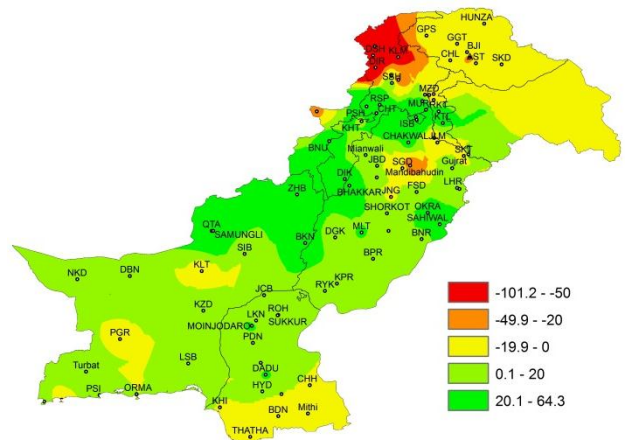
Heavy rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Pattan, Rawalakot & Muzaffarabad. Decadal minimum raised above normal by 1.6°C & maximum temperature dropped below normal by 1.1°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 48.2hrs, 4.2km/hr, 37% and 3.0mm/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
(21st to 31st March, 2014)**

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

Rainfall reported as 73.1mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 68%. Mean night temperature was 10.6°C while day temperature recorded as 23.3°C with 66.0hours bright sunshine duration. Wind speed recorded as 3.0km/h with mean wind direction *westerly*.

Wheat (Chakwal 97): Good condition, shooting stage.

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

Rainfall reported as 11.8mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 58%. Mean night temperature was 15.5°C while day temperature recorded as 27.8°C with 77.3hours bright sunshine duration. Wind speed recorded as 2.8km/hr with mean wind direction *north westerly*.

Wheat: Very Good condition, Wax Maturity stage.

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

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 48%. Mean night temperature was 18.1°C while day temperature recorded as 33.6°C with 95.6hours bright sunshine duration. Wind speed recorded as 2.4km/hr with mean wind direction *northerly*.

Wheat (TD-1): Good condition, Full Maturity stage.

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

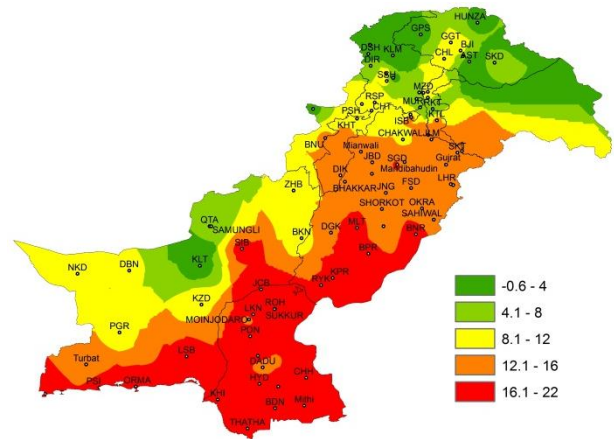
Rainfall reported as 6.0mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 46%. Mean night temperature was 15.2°C, while day temperature recorded as 29.9°C.

Wheat (Zardana): Good condition, Wax Maturity stage.

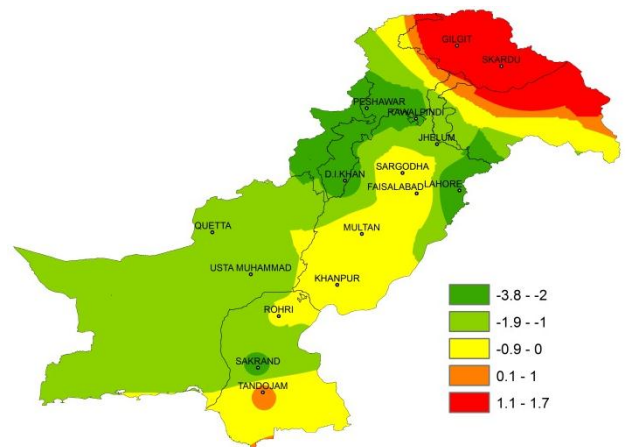
2.5 **RAMC, Quetta (Northern Balochistan)**

Rainfall reported as 44.2mm during the decade however weather remained cloudy for 11days. Average relative humidity recorded as 51%. Mean night temperature was 6.1°C while day temperature recorded as 16.7°C with 80.6hours bright sunshine duration and wind speed recorded as 6.5km/hr with mean wind direction *southerly*.

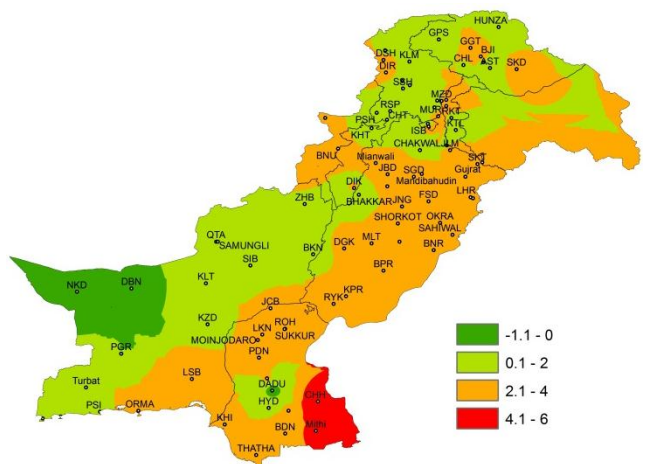
Wheat (Local White): Good condition, Tillering Stage.



(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 (21st to 31st March, 2014)**

2.6 **Jhelum**

Rainfall reported as 23.8mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 60%. Mean night temperature was 14.4°C while day temperature recorded as 26.7°C with 74.1hours bright sunshine duration. Wind speed recorded 4.5km/hr with mean wind direction *north westerly*.

2.7 **Lahore**

Rainfall reported as 11.1mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 63%. Mean night temperature was 14.9°C while day temperature recorded as 26.4°C with 75.4hours bright sunshine duration. Wind speed recorded as 4.0km/hr with mean wind direction *northerly*.

2.8 **Sargodha**

Rainfall reported as 7.3mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 60%. Mean night temperature was 16.3°C while day temperature recorded as 27.1°C with 75.9hours bright sunshine duration. Wind speed recorded as 1.9km/hr with mean wind direction *variable*.

2.9 **Multan**

Rainfall reported as 25.5mm during the decade however weather remained cloudy for 11days. Average relative humidity recorded as 58%. Mean night temperature was 16.5°C while day temperature recorded as 28.1°C with 76.1hours bright sunshine duration. Wind speed recorded as 5.5km/hr with mean wind direction *north easterly*.

2.10 **Khanpur**

Rainfall reported as 7.0mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 56%. Mean night temperature was 16.4°C while day temperature recorded as 30.0°C with 90.9hours bright sunshine duration. Wind speed recorded as 4.9km/hr with mean wind direction *north easterly*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 55%. Mean night temperature was 14.5°C while day temperature recorded as 31.8°C with 106.6hours bright sunshine duration. Wind speed recorded 5.9km/hr with mean wind direction *north westerly*.

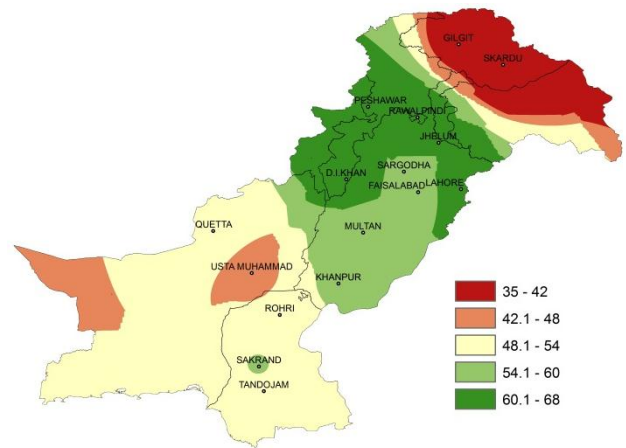


Figure.3: Relative Humidity in percentage (%)

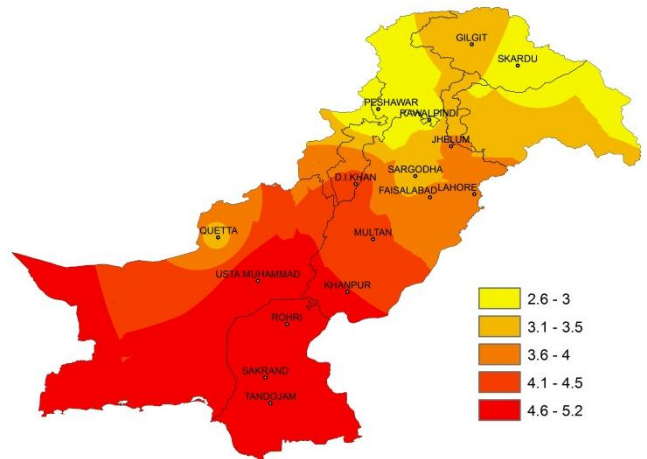


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

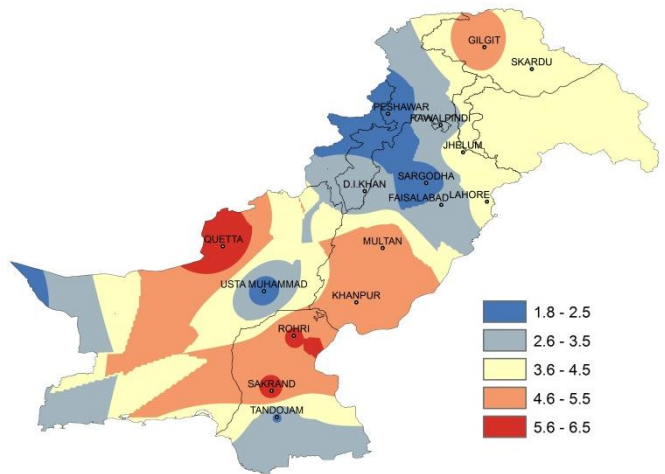


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Rainfall reported as 9.0mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 49%. Mean night temperature was 19.1°C while day temperature recorded as 30.7°C with 105.2hours bright sunshine duration. Wind speed recorded as 5.6km/hr with mean wind direction *north easterly*.

2.13 D.I. Khan

Rainfall reported as 29.6mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 62%. Mean night temperature was 13.1°C while day temperature recorded as 26.4°C with 84.1hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 61.2mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 68%. Mean night temperature was 12.0°C while day temperature recorded as 23.5°C with 68hours bright sunshine duration. Wind speed recorded as 1.8km/hr with mean wind direction *south westerly*.

2.15 Skardu

Rainfall reported as Trace (not measureable) during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 35%. Mean night temperature was 5.1°C while day temperature recorded as 16.3°C with 55.6hours bright sunshine duration. Wind speed recorded as 3.5km/hr with mean wind direction *north westerly*.

2.16 Gilgit

Rainfall reported as 1.6mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 39%. Mean night temperature was 8.6°C while day temperature recorded as 20.5°C with 40.7bright sunshine duration. Wind speed recorded as 4.9km/hr with mean wind direction *variable*.

**3. Ten Days Weather Advisory for Farmers
(1st to 10th April, 2014)****3.1 Temperature Forecast**

Temperatures are likely to be normal/slightly above normal in most of the agricultural plains of the country during the decade.

3.2 Wind Forecast

Wind conditions likely to prevail in most of the agricultural plains of the country in the afternoon with dust raising winds in the lower half of the country during the decade.

3.3 Rain Forecast

- ❖ **Punjab:** Mainly dry weather is expected during the decade. However light to moderate rainfall with isolated heavy rainfall is expected mostly over upper & central parts are expected especially 05th to 06th of April during the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly dry weather is expected during the decade. However light to moderate rainfall with isolated heavy rainfall/ light snowfall over the hills is expected mostly over upper hilly areas and central parts are expected especially 05th to 06th of April during the decade.
- ❖ **Sindh:** Dry weather is expected in the province during the decade.
- ❖ **Balochistan:** Mainly dry weather is expected during the decade. However light to moderate rainfall is expected especially on 05th to 06th of April in northern Baluchistan during the decade.
- ❖ **Gilgit-Baltistan:** Mainly dry weather is expected during the decade. However light to moderate with isolated heavy rainfall and snowfall over hills is expected on 05th to 06th of April in most parts of GB during the decade.
- ❖ **Kashmir:** Mainly dry weather is expected during the decade. However light to moderate/ heavy rainfall and snowfall over hills is expected in most parts of Kashmir during the decade especially 05th to 06th of April.

3.4 Advisory for Farmers

- ❖ Wheat crop is growing at Flowering/Milk /Wax Maturity stages in most of the agricultural plains of the country. Farmers are advised to stop irrigation the crops by keeping in view of the occurred and expected rain in agricultural plains of the country.
- ❖ Weeds are expected to shoot in excess after last heavy rains. Farmers should control weeds growth soon after rains. Weeds removing practices should be started soon after expected rains in the mentioned areas.
- ❖ Farmers are advised to ensure field sanitation and spray prophylactic fungicidal & viral sprays to prevent spread of diseases on standing crops.
- ❖ Wheat crop is growing at very crucial development stages of wax maturity/full maturity stages in Sindh and Punjab. Farmers of these areas are advised to irrigate the crops as per requirement keeping expected rains in mind.
- ❖ Farmers of southern Punjab & Sindh are advised to prepare land for cotton in time so that best grains conditions may be fully utilized during the whole crop life.