

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 -13.6°C at Skardu during the last decade.
- ❖ Highest amount of rainfall recorded as 21.0mm at Garhi Doppatta during the last decade.
- ❖ Lower values of relative humidity reported from Sindh & Potohar region and higher values reported from Central Punjab, Skardu & Usta Muhammad during the last decade.
- ❖ Higher values of ETo reported from Balochistan & Sindh 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.
- ❖ Mainly cold and cloudy weather is expected in most parts of the country during the 1st half of decade, partly cloudy to cloudy weather conditions would prevail over isolated parts of country during 2nd half of the decade and light rain (snowfall over the hills) is expected at isolated places of upper region of the country.

**NATIONAL AGROMET CENTRE (NAMC)
PAKISTAN METEOROLOGICAL DEPARTMENT
SECTOR H-8/2, ISLAMABAD**

Patron-in-Chief: *Arif Mahmood, Director General*

Editor-in-Chief: *Dr. Khalid M. Malik, Director*

Editor: *Khalida Noureen, Meteorologist*

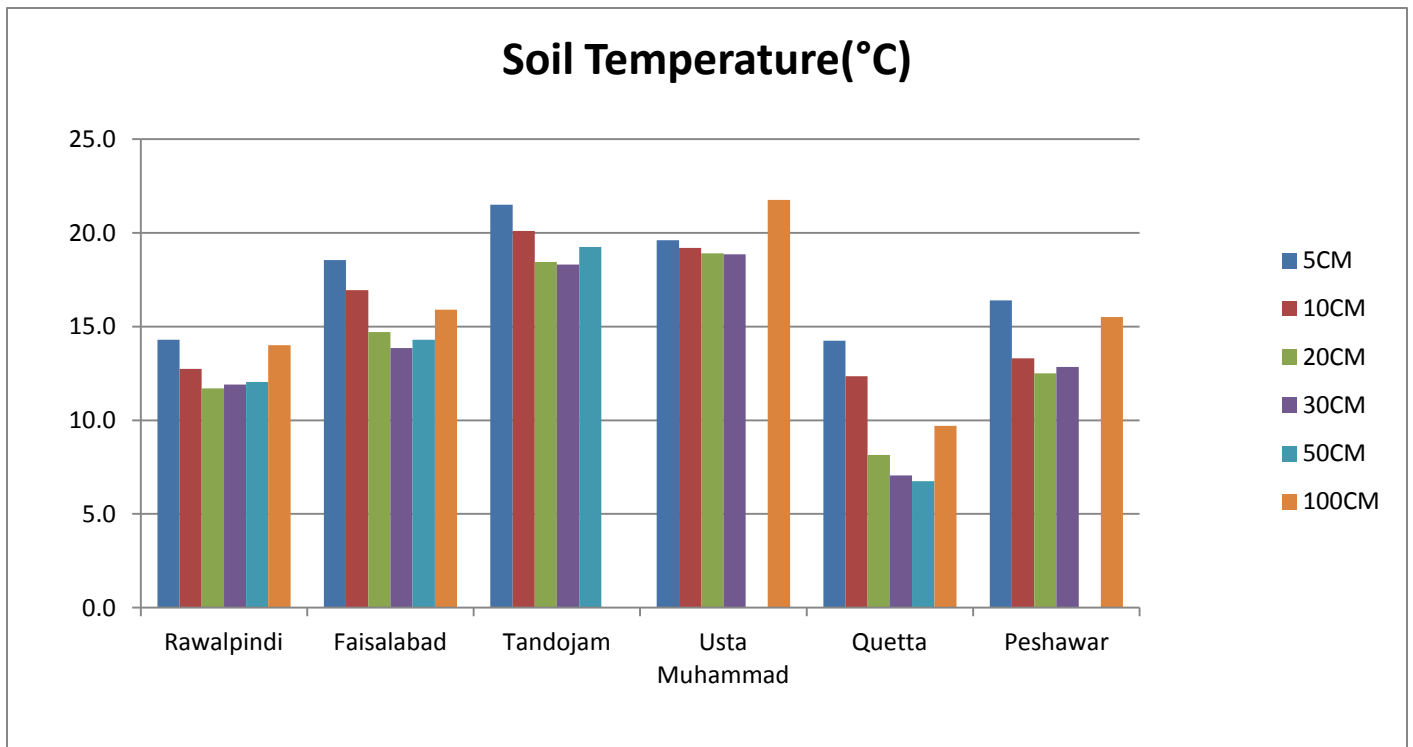
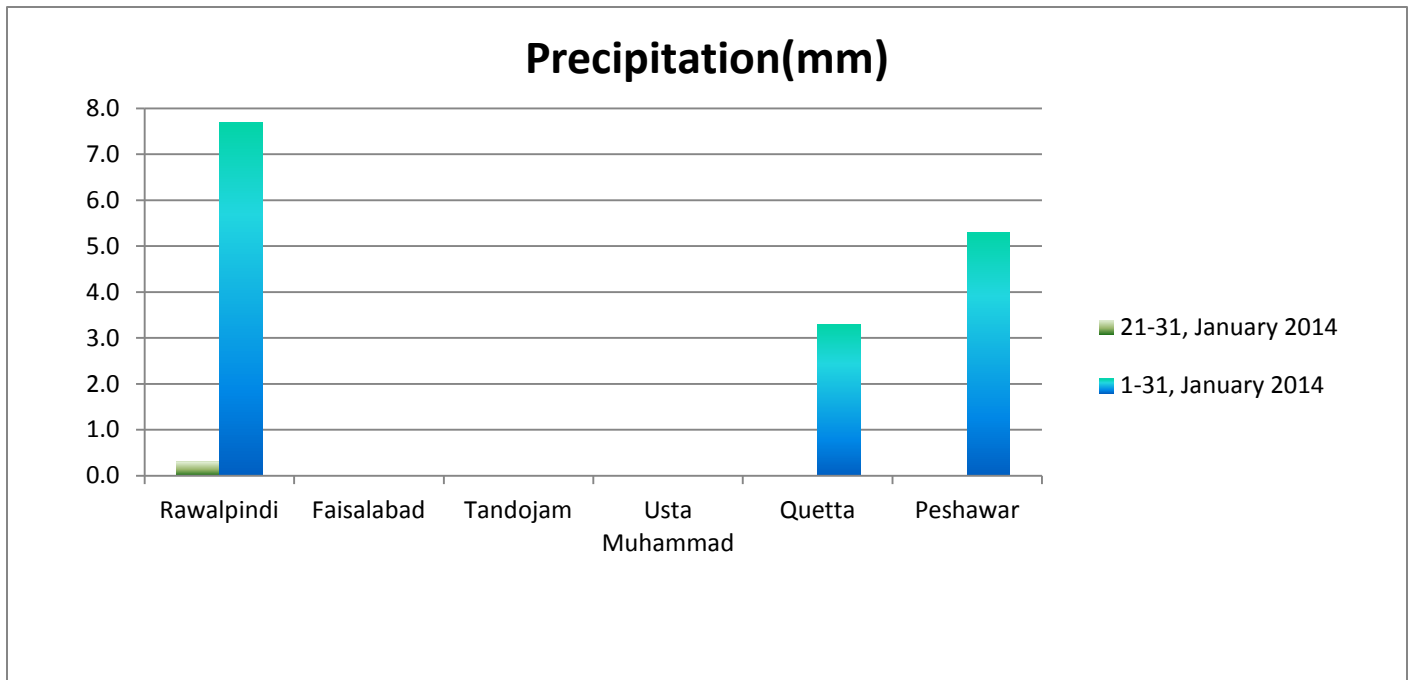
Phone: [+92-51-9250592](tel:+92-51-9250592) Email: dirnamc@yahoo.com

Meteorological conditions during 3rd Decade of January, 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 | 2.4 | 0.3 | -2.1 | 0.8 | 2.7 | 12.9 | 14.3 | 12.8 | 11.7 | 11.9 | 12.1 | 14.0 | 69.6 | 2.5 | 54 | 1.7 |
| 2 | FAISALABAD | 0.3 | 0.0 | -0.3 | 2.6 | 2.5 | 14.9 | 18.6 | 17.0 | 14.7 | 13.9 | 14.3 | 15.9 | 62.1 | 3.8 | 68 | 1.9 |
| 3 | JHELMUM | 1.7 | 0.1 | -1.6 | 0.0 | 2.4 | 14.2 | 16.0 | 15.0 | 13.9 | 13.7 | 14.9 | *** | 75.2 | 2.0 | 60 | 1.7 |
| 4 | LAHORE | 0.7 | 2.4 | 1.7 | 0.1 | 1.9 | 14.8 | 16.9 | 16.1 | 15.0 | 15.0 | *** | 16.8 | 58.4 | 2.3 | 79 | 1.5 |
| 5 | SARGODHA | 1.0 | 0.1 | -0.9 | 3.4 | 2.6 | 15.8 | 18.6 | 16.9 | 15.9 | 16.1 | 17.0 | 18.0 | 66.9 | 1.2 | 67 | 1.5 |
| 6 | MULTAN | 0.2 | 0.0 | -0.2 | 2.0 | 1.6 | 15.2 | *** | *** | *** | *** | *** | *** | 71.1 | 2.6 | 65 | 1.9 |
| 7 | KHANPUR | 0.0 | 0.0 | 0.0 | 0.2 | 1.4 | 15.3 | *** | 15.9 | 16.2 | 16.7 | 17.1 | 19.2 | 74.9 | 3.0 | 69 | 2.1 |
| 8 | TANDOJAM | 0.0 | 0.0 | 0.0 | 5.8 | 0.7 | 17.6 | 21.5 | 20.1 | 18.5 | 18.3 | 19.3 | *** | 96.4 | 1.4 | 56 | 2.3 |
| 9 | SAKRAND ☆ | 0.0 | 0.0 | 0.0 | -0.2 | 4.7 | 15.5 | 24.5 | 21.8 | *** | *** | 19.7 | 22.0 | 93.4 | 1.9 | 59 | 2.2 |
| 10 | ROHRI | 0.0 | 0.0 | 0.0 | 1.6 | 0.6 | 17.8 | 24.6 | 21.2 | 19.8 | 20.4 | 19.3 | 23.5 | 85.3 | 4.2 | 57 | 2.6 |
| 11 | DI KHAN | 0.6 | 0.0 | -0.6 | 1.0 | 3.0 | 14.6 | *** | *** | *** | *** | *** | *** | 78.4 | *** | 60 | 2.7 |
| 12 | PESHAWAR | 1.7 | 0.0 | -1.7 | -1.0 | 3.8 | 13.5 | 16.4 | 13.3 | 12.5 | 12.9 | *** | 15.5 | 59.8 | 0.8 | 58 | 1.2 |
| 13 | USTA MUHAMMAD | 0.3 | 0.0 | -0.3 | 1.3 | 2.7 | 16.6 | 19.6 | 19.2 | 18.9 | 18.9 | *** | 21.8 | *** | *** | 72 | 2.6 |
| 14 | QUETTA | 0.5 | 0.0 | -0.5 | 2.4 | 4.3 | 8.4 | 14.3 | 12.4 | 8.2 | 7.1 | 6.8 | 9.7 | 95.1 | 6.0 | 38 | 2.5 |
| 15 | SKARDU | 0.8 | 237.0 | 236.2 | -1.2 | -0.2 | -2.5 | *** | *** | *** | *** | *** | *** | 45.1 | 0.1 | 66 | 0.7 |
| 16 | GILGIT | 0.2 | 0.6 | 0.4 | 0.6 | 2.0 | 5.7 | *** | *** | *** | *** | *** | *** | 36.9 | 1.6 | 53 | 1.2 |

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; $\text{Dep} \div \text{Normal} \times 100$. 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 January, 2014



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

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

1.1 Punjab

Light to moderate rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Sialkot, Gujrat & Murree. Decadal minimum & maximum temperature both raised above normal by 1.3°C & 2.2°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 68.3hrs, 2.5km/hr, 66% and 1.8mm/day respectively.

1.2 Sindh

Rainfall reported as Trace (not measureable) in one place of Sindh i.e Karachi. Decadal minimum & maximum temperature both raised above normal by 2.4°C & 2.0°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 91.7hrs, 2.5km/hr, 57% and 2.4mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

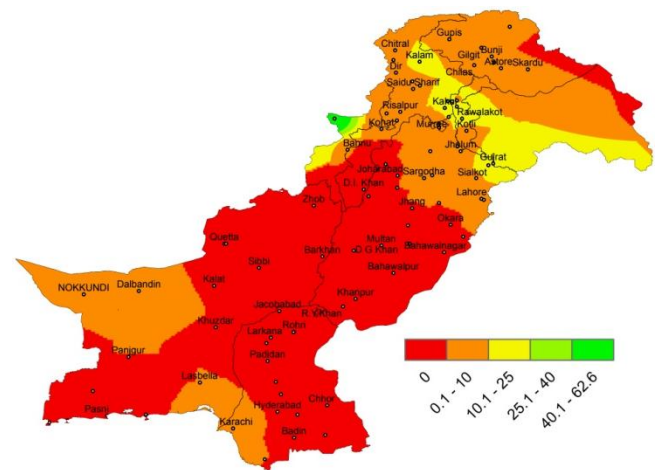
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall reported in Balakot, Kakul & Malam Jabba. Decadal minimum remain normal & maximum temperature raised above normal by 3.4°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 69.1hrs, 0.8km/hr, 59% and 2.0mm/day respectively.

1.4 Balochistan

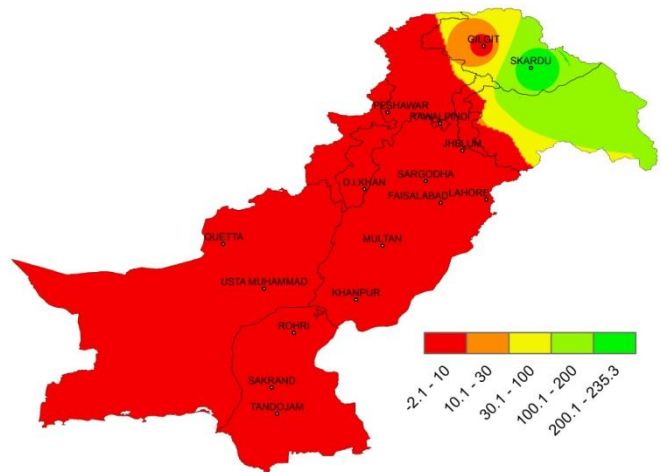
Light rainfall reported in one place of Balochistan i.e Dalbandin. Decadal minimum & maximum temperature both raised above normal by 1.9°C & 3.5°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 95.1hrs, 6.0km/hr, 55% and 2.6mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

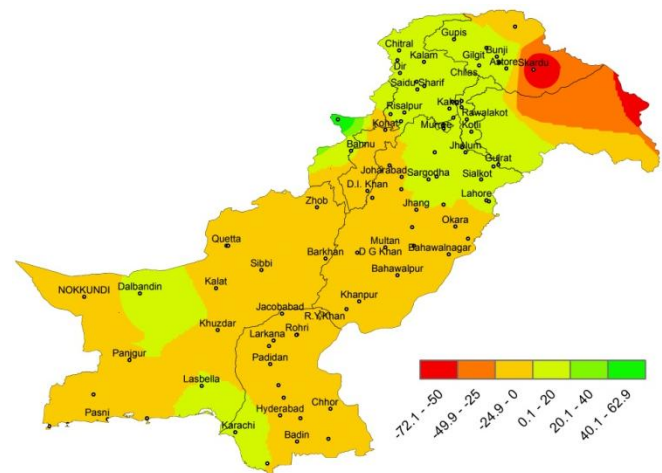
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall reported in Garhi Doppatta, Muzaffarabad & Rawalakot. Decadal minimum dropped below normal by 0.3°C & maximum temperature raised above normal by 0.9°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 41.0hrs, 0.9km/hr, 60% and 1.0mm/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 January, 2014)

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

Rainfall reported as 0.3mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 54%. Mean night temperature was 4.3°C while day temperature recorded as 21.4°C with 69.6hours bright sunshine duration. Wind speed recorded as 2.5km/h with mean wind direction *westerly*.

Wheat (Chakwal 97): Good condition, 3rd Leaf stage.

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

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 68%. Mean night temperature was 7.5°C while day temperature recorded as 22.2°C with 62.1hours bright sunshine duration. Wind speed recorded as 3.8km/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 03days. Average relative humidity recorded as 56%. Mean night temperature was 9.3°C while day temperature recorded as 25.8°C with 96.4hours bright sunshine duration. Wind speed recorded as 1.4km/hr with mean wind direction *north easterly*.

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

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

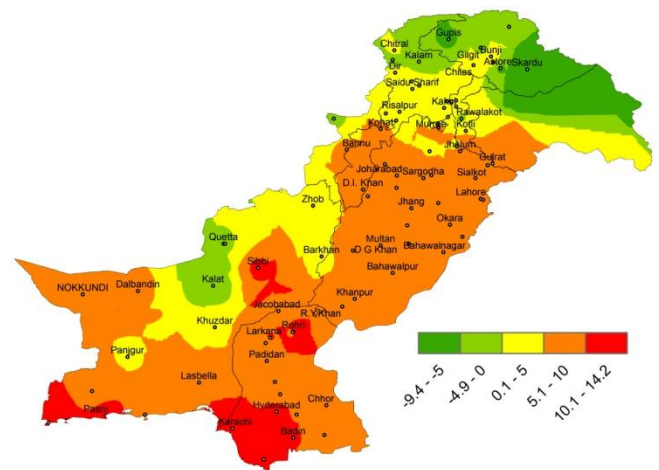
Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 72%. Mean night temperature was 9.3°C, while day temperature recorded as 23.9°C.

Wheat (Zardana): Good condition, tillering Stage.

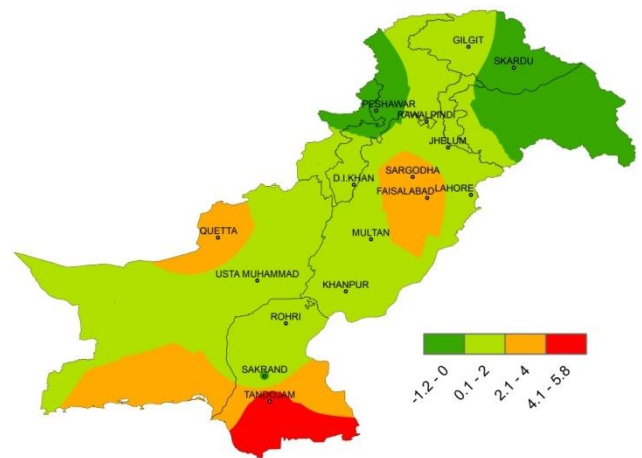
2.5 **RAMC, Quetta (Northern Balochistan)**

Dry weather reported during the decade however weather remained cloudy for 11days. Average relative humidity recorded as 38%. Mean night temperature was 1.3°C while day temperature recorded as 15.4°C with 95.1hours bright sunshine duration and wind speed recorded as 6.0km/hr with mean wind direction *southerly*.

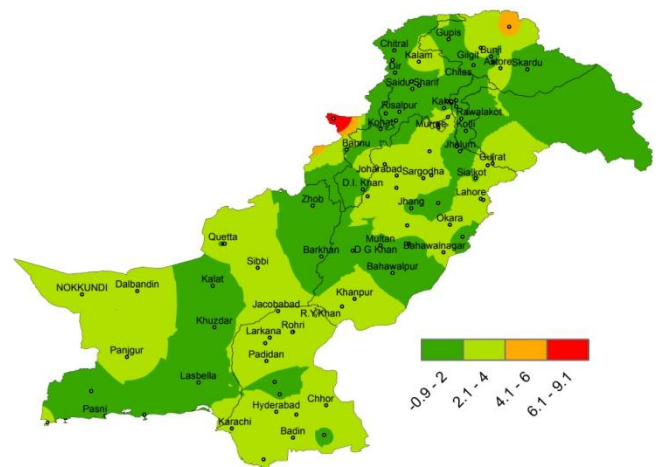
Wheat (Local White): Good condition, 3rd Leaf Stage.



(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 (21st to 31st 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 5.8°C while day temperature recorded as 22.6°C with 75.2hours bright sunshine duration. Wind speed recorded 2.0km/hr with mean wind direction *variable*.

2.7 Lahore

Rainfall reported as 2.4mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 79%. Mean night temperature was 8.4°C while day temperature recorded as 21.2°C with 58.4hours bright sunshine duration. Wind speed recorded as 2.3km/hr with mean wind direction *south westerly*.

2.8 Sargodha

Rainfall reported as trace (not measureable) during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 67%. Mean night temperature was 9.0°C while day temperature recorded as 22.6°C with 66.9hours bright sunshine duration. Wind speed recorded as 1.2km/hr with mean wind direction *westerly*.

2.9 Multan

Dry weather reported during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 65%. Mean night temperature was 7.8°C while day temperature recorded as 22.5°C with 71.1hours bright sunshine duration. Wind speed recorded as 2.6km/hr with mean wind direction *southerly*.

2.10 Khanpur

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 69%. Mean night temperature was 6.6°C while day temperature recorded as 23.9°C with 74.9hours bright sunshine duration. Wind speed recorded as 3.0km/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 59%. Mean night temperature was 6.7°C while day temperature recorded as 24.3°C with 93.4hours bright sunshine duration. Wind speed recorded 1.9km/hr with mean wind direction *northerly*.

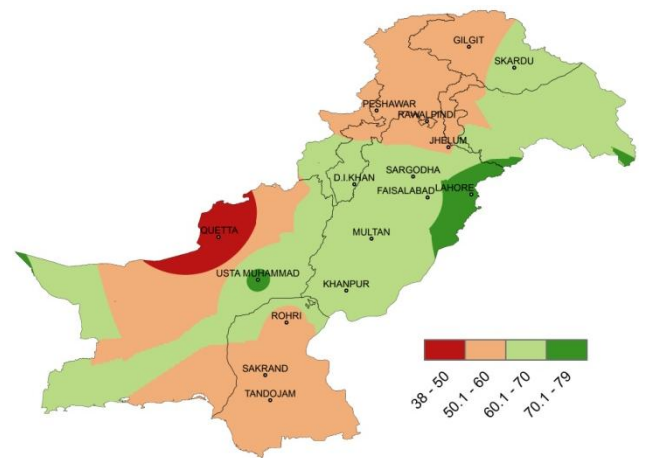


Figure.3: Relative Humidity in percentage (%)

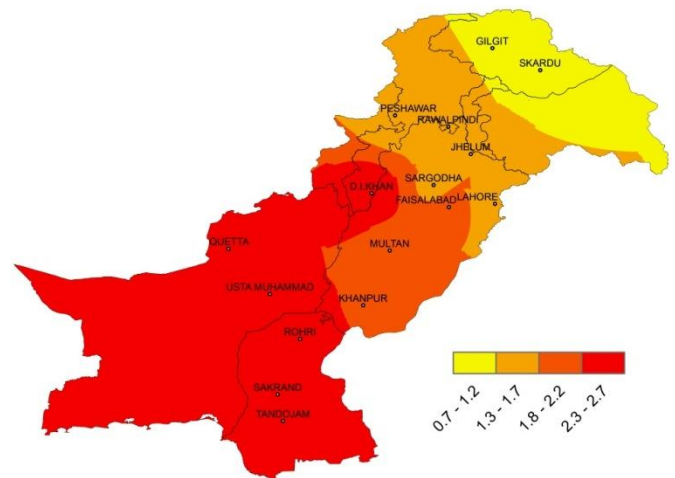


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

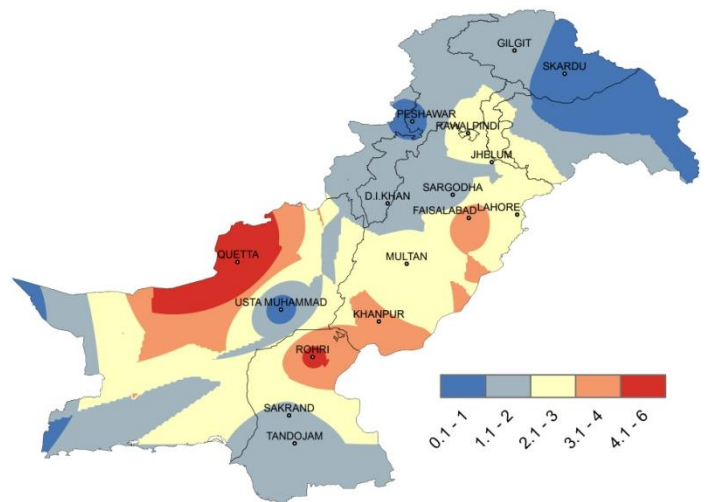


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 03days. Average relative humidity recorded as 57%. Mean night temperature was 11.5°C while day temperature recorded as 24.0°C with 85.3hours bright sunshine duration. Wind speed recorded as 4.2km/hr with mean wind direction *north easterly*.

2.13 D.I Khan

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 60%. Mean night temperature was 6.0°C while day temperature recorded as 23.1°C with 78.4hours bright sunshine duration.

2.14 Peshawar

Dry weather reported during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 58%. Mean night temperature was 4.4°C while day temperature recorded as 22.6°C with 59.8hours bright sunshine duration. Wind speed recorded as 0.8km/hr with mean wind direction *north westerly*.

2.15 Skardu

Rainfall reported as 237.0mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 66%. Mean night temperature was -9.3°C while day temperature recorded as 4.4°C with 45.1hours bright sunshine duration. Wind speed recorded as 0.1km/hr with mean wind direction *northerly*.

2.16 Gilgit

Rainfall reported as 0.6mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 53%. Mean night temperature was -1.7°C while day temperature recorded as 13.0°C with 36.9bright sunshine duration. Wind speed recorded as 1.6km/hr with mean wind direction *variable*.

3. Ten Days Weather Advisory for Farmers (1st to 10th February, 2014)

3.1 Temperature Forecast

Day & night temperatures expected to be slightly above normal in most of the agricultural plains of the country during the decade.

3.2 Rain Forecast

- ❖ **Punjab:** Widespread rain (with snow over the hills) over upper parts and scattered rain over isolated central parts is expected in 1st half of the decade. Whereas, mostly cold & dry weather is expected in 2nd half of the decade with light to moderate rainfall expected at isolated places in North Punjab.
- ❖ **Khyber Pakhtunkhwa:** Widespread rain (with snow over the hills) over upper parts and scattered rain over central parts is expected in 1st half of the decade. Whereas, mostly cold & dry weather is expected in 2nd half of the decade with light to moderate rainfall expected at isolated places in province.
- ❖ **Sindh:** Mainly dry weather is expected in most parts of the province during the decade.
- ❖ **Balochistan:** Rain with (light snowfall over the hills) is expected at isolated places of North West Balochistan in 1st half of the decade and dry weather is expected in most parts of the province.
- ❖ **Gilgit-Baltistan:** Mainly very cold & cloudy weather is expected in most parts of GB during the decade. However, heavy rain (with snow over the hills) is expected in 1st half of the decade.
- ❖ **Kashmir:** Widespread rain (with heavy snowfalls over the hills) in Kashmir during 1st half of the decade while scattered rain and snowfall over the hills in Kashmir in 2nd half 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 parts of the country. Farmers are advised to stop irrigation the crops by keeping in view the expected rain in agricultural plains of the country.
- ❖ The coming rain is beneficiary for all Rabi crops.
- ❖ Due to the expected rainfall, farmers should also stop weeds removing spray, fertilizers intake during the 1st half of the decade.
- ❖ Weeds are expected to shoot in excess after these rains. Farmers should control weeds growth soon after rains.