

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate with isolated heavy rainfall reported at few agricultural plains of the country during the last decade.
- ❖ Highest maximum temperature recorded as 43.5°C at Shaheed Benazirabad during the last decade.
- ❖ Highest amount of rainfall recorded as 96.0mm at Islamabad during the last decade.
- ❖ Lower values of relative humidity reported from Quetta region and higher values reported from most parts of Punjab, KP & Kashmir during the last decade.
- ❖ Higher values of ETo reported from Sindh, southern agricultural plains of Punjab & adjoining areas of the Balochistan during the last decade.
- ❖ 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.
- ❖ Mostly dry & humid weather is expected in central and southern agricultural plains of the country.
- ❖ Light to moderate rainfall/thunderstorm is expected in upper parts of the country during the 2nd half of the current decade.

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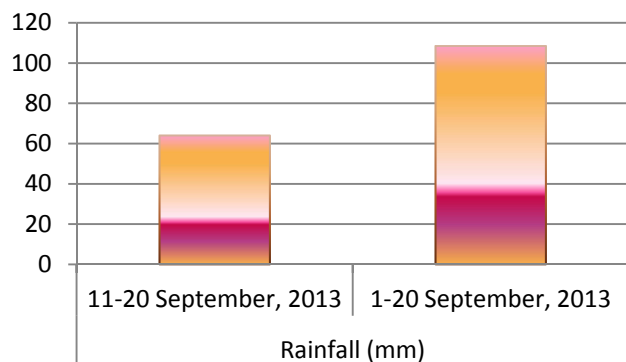
Meteorological conditions during 2nd decade of September, 2013

| Sr. No. | Station | Precipitation (mm) | | | Air Temperature (°C) | | | Soil Temperatures (°C) | | | | | | Sunshine Duration (hours) | Wind Speed (km/hr) | R.H (%) | ET _o (mm/day) |
|---------|---------------|--------------------|--------|------|----------------------|----------|------|------------------------|------|------|------|------|-------|---------------------------|--------------------|---------|--------------------------|
| | | Normal | Actual | Dep | Tmin Dep | Tmax Dep | Mean | 5cm | 10cm | 20cm | 30cm | 50cm | 100cm | | | | |
| 1 | TANDOJAM | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 30.8 | 40.4 | 34.9 | 35.5 | 33.6 | 33.2 | *** | 99.6 | 3.0 | 64 | 5.1 |
| 2 | SAKRAND ☆ | 0.0 | 0.0 | 0.0 | -2.2 | 1.6 | 30.0 | 43.5 | 40.6 | 44.8 | *** | 36.4 | 34.9 | 109.5 | 4.8 | 60 | 2.8 |
| 3 | ROHRI | 0.1 | 0.0 | -0.1 | 0.2 | 0.3 | 32.9 | 44.3 | 40.3 | 36.8 | 35.9 | 34.4 | 35.2 | 104.0 | 3.7 | 52 | 5.5 |
| 4 | USTA MUHAMMAD | 0.0 | 0.0 | 0.0 | -0.8 | -3.0 | 30.1 | 31.9 | 33.2 | 31.0 | 31.0 | *** | 29.8 | *** | *** | 64 | 3.0 |
| 5 | QUETTA | 0.0 | 0.0 | 0.0 | -2.7 | -0.7 | 20.5 | 34.9 | 32.3 | 27.2 | 24.5 | 25.2 | 26.9 | 101.2 | 6.4 | 26 | 5.4 |
| 6 | KHANPUR | 0.0 | 0.0 | 0.0 | -0.1 | 1.3 | 31.5 | 35.3 | 35.1 | 35.1 | 35.3 | 35.7 | 24.4 | 100.9 | 3.2 | 63 | 5.2 |
| 7 | MULTAN | 0.8 | 0.0 | -0.8 | 0.7 | 1.9 | 32.1 | *** | *** | *** | *** | *** | *** | 88.2 | 4.8 | 48 | 5.4 |
| 8 | LAHORE | 1.4 | 6.3 | 4.9 | -1.5 | -2.1 | 27.8 | 34.3 | 31.9 | 31.4 | 30.4 | *** | 30.3 | 82.7 | 3.1 | 66 | 4.2 |
| 9 | FAISALABAD | 1.2 | 3.0 | 1.8 | 0.5 | 1.3 | 30.4 | 39.6 | 37.9 | 35.2 | 33.9 | 33.6 | 32.9 | 90.5 | 3.9 | 64 | 4.8 |
| 10 | SARGODHA | 2.0 | 30.2 | 28.2 | -0.2 | 0.5 | 30.3 | 35.2 | 33.4 | 31.6 | 31.3 | 31.6 | 31.2 | 84.7 | 2.9 | 62 | 4.5 |
| 11 | JHELUM | 1.3 | 24.4 | 23.1 | -1.6 | -0.4 | 28.5 | 29.0 | 29.6 | 28.9 | 28.4 | 29.1 | *** | 82.6 | 3.3 | 66 | 4.0 |
| 12 | RAWALPINDI | 3.4 | 64.0 | 60.6 | -1.1 | -1.6 | 26.1 | 30.0 | 28.3 | 27.2 | 27.0 | 27.2 | 28.1 | 77.5 | 1.5 | 67 | 3.6 |
| 13 | HAN | 2.3 | 0.1 | -2.2 | -0.3 | 1.5 | 30.4 | *** | *** | *** | *** | *** | *** | 94.5 | 1.5 | 53 | 4.3 |
| 14 | PESHAWAR | 1.1 | 2.0 | 0.9 | -1.4 | 0.0 | 28.5 | 33.8 | 31.7 | 30.9 | 31.4 | *** | 29.5 | 66.0 | 1.8 | 60 | 3.6 |
| 15 | SKARDU | 0.2 | 1.7 | 0.1 | -1.1 | -1.0 | 17.6 | *** | *** | *** | *** | *** | *** | 57.1 | 5.5 | 41 | 3.8 |
| 16 | GILGIT | 0.1 | 12.9 | 12.8 | 2.2 | -1.0 | 21.4 | *** | *** | *** | *** | *** | *** | 79.0 | 2.5 | 57 | 3.8 |

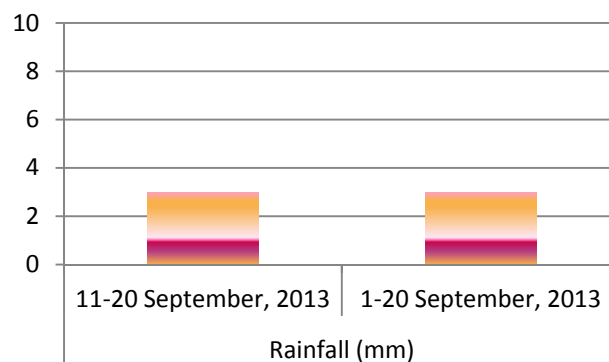
Table-1: Meteorological parameters for selected station of Pakistan. "Dep" in the table stands for difference from climatic normal, i.e. actual value minus normal. And "% Dep" is calculated by the formula; Dep divided by Normal multiplied by 100. Tmin & Tmax stands for minimum and maximum temperatures respectively. ET_o 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 September 2013

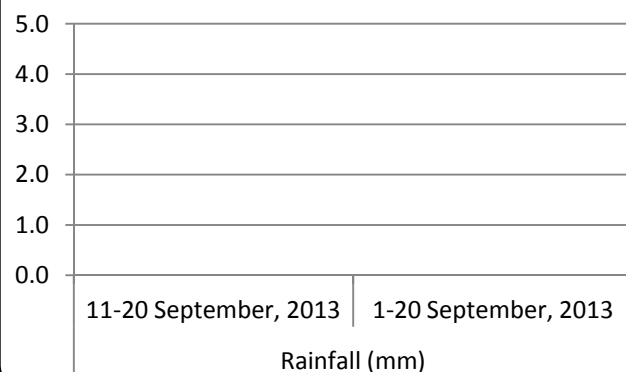
RAMC RAWALPINDI



RAMC FAISALABAD



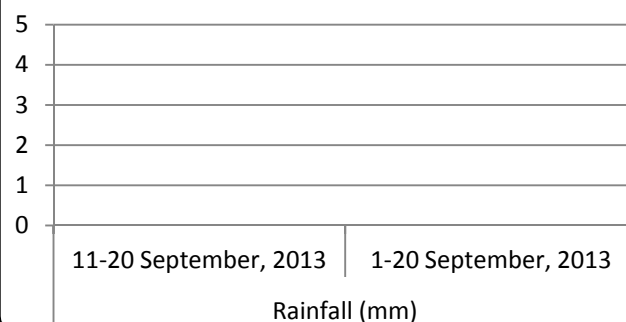
RAMC QUETTA



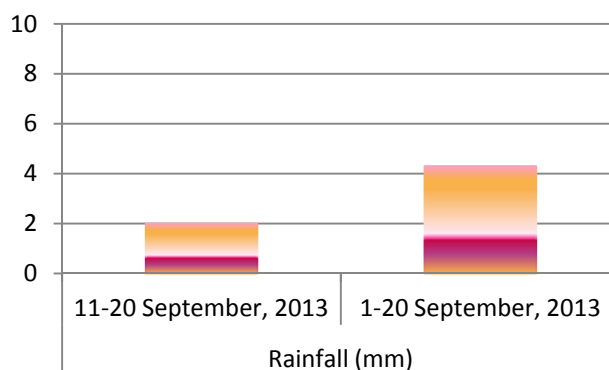
RAMC TANDOJAM



RAMC USTA MUHAMMAD



RMC PESHAWAR



Past Weather (11th to 20th September, 2013):

Light to moderate with isolated heavy rainfall reported at few agricultural plains of the country during the period.

1.1 Punjab

Light to moderate with isolated heavy rainfall reported at few places in the agricultural plains of Punjab; chief amount received at Islamabad, Murree & Lahore etc. Decadal minimum temperature dropped below normal by 0.5°C & maximum temperature raised above normal by 0.1°C in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 86.7hrs, 3.2km/hr, 62% and 4.5mm/day respectively.

1.2 Sindh

Moderate rainfall reported at one place in Sindh; i.e. Mithi. Decadal minimum temperature dropped below normal by 0.7°C & decadal maximum temperature raised above normal by 1.2°C in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 104.4hrs, 3.8km/hr, 59% and 4.5mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

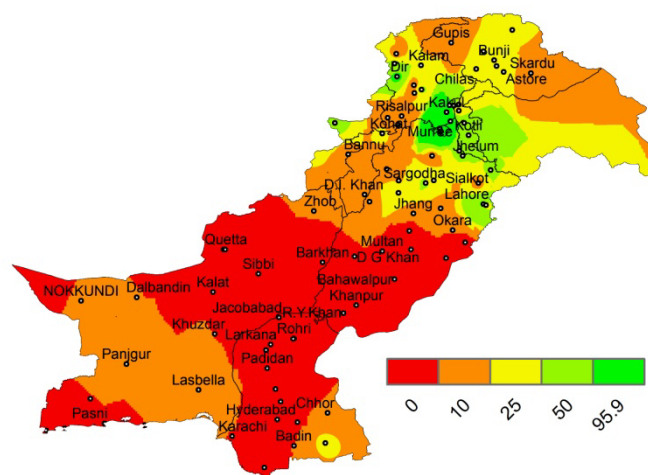
Light to moderate with isolated heavy rainfall reported at few places in the agricultural plains of KP; chief amount received at Kakul, Balakot & Parachinar etc. Decadal minimum temperature dropped below normal by 0.9°C & decadal maximum temperature raised above normal by 0.8°C in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded as 80.3hrs, 1.7km/hr, 57% and 4.0mm/day respectively.

1.4 Balochistan

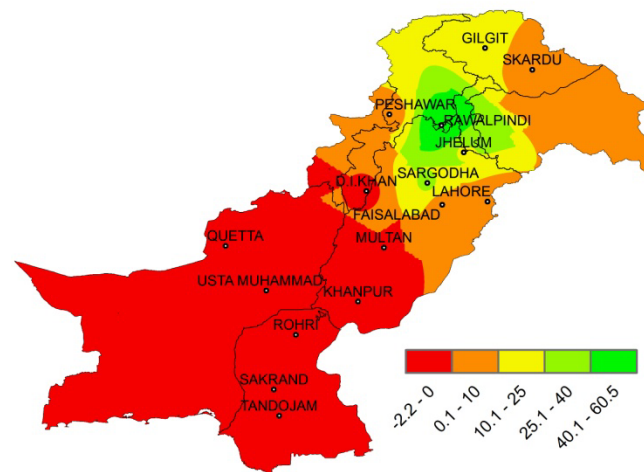
Light rainfall reported at few places in the agricultural plains of Balochistan; chief amount received at Panjgur & Lasbella. Decadal minimum & maximum temperature both dropped below normal by 1.8°C & 1.9°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were 101.2hrs, 6.4km/hr, 44% and 4.2mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

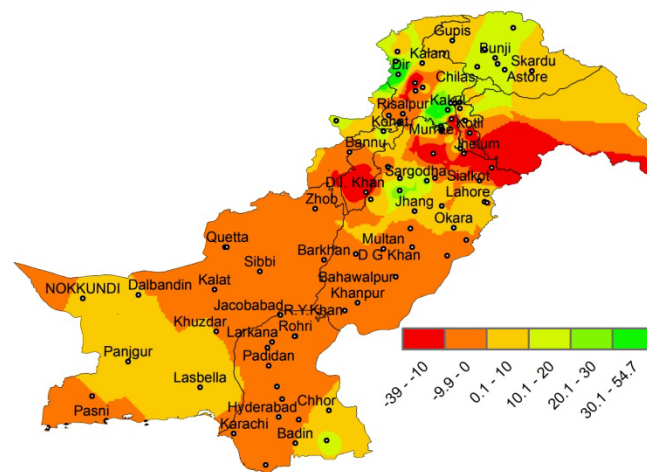
Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of GB & Kashmir; chief amount received at Rawalakot, Kotli & Muzaffarabad etc. Decadal minimum temperature raised above normal by 0.6°C & decadal maximum temperature dropped below normal by 1.0°C in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 68.1hrs, 4.0km/hr, 49% and 3.8mm/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 (11th to 20th September, 2013):

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 64.0mm during the decade, weather remained cloudy for 07days, average relative humidity recorded as 67%. Mean night temperature was 20.3°C while day temperature recorded as 31.8°C with 77.5 hours bright sunshine duration. Wind speed recorded as 1.5km/h with mean wind direction *easterly*.

Maize Agati 2002: Good condition, Ninth Leaf stage.

2.2 RAMC, Faisalabad (Central Punjab)

Rainfall reported as 3.0mm during the decade, weather remained cloudy for 06days, average relative humidity recorded as 64%. Mean night temperature was 24.1°C while day temperature recorded as 36.6°C with 90.5 hours bright sunshine duration. Wind speed recorded as 3.9km/hr with mean wind direction *northerly*.

Sugarcane: Very Good condition, Tillering completed.

Cotton: Good condition, Boll Opening completed.

2.3 RAMC, Tandojam (Lower Sindh)

No rainfall reported during the decade, weather remained cloudy for 02days, average relative humidity recorded as 64%. Mean night temperature was 24.3°C while day temperature recorded as 37.3°C with 99.6hours bright sunshine duration. Wind speed recorded as 3.0km/hr with mean wind direction *south westerly*.

Cotton: BT 3701, Good condition, Maturity stage.

2.4 RAMC, Quetta (Northern Balochistan)

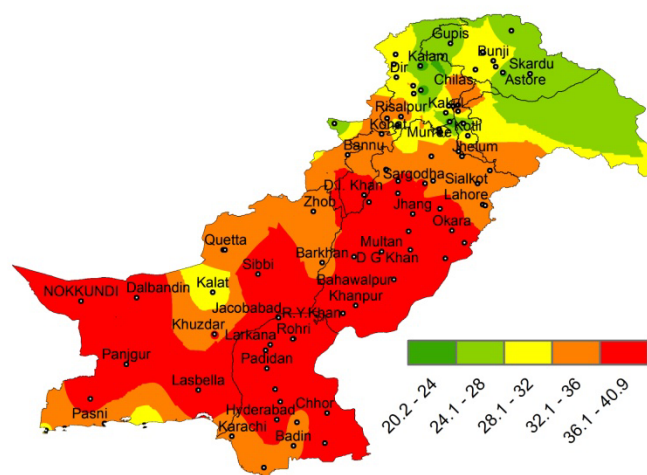
No rainfall reported during the decade, weather remained cloudy for 03 days, average relative humidity recorded as 26%. Mean night temperature was 9.9°C while day temperature recorded as 31.0°C with 101.2hours bright sunshine duration and wind speed recorded as 6.4km/hr with mean wind direction *westerly*.

Note: No crop is grown at the station.

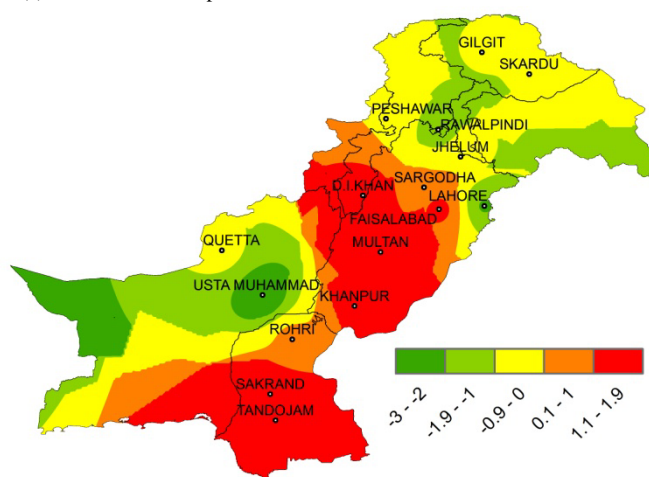
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

No rainfall reported during the decade, weather remained cloudy for 07days, average relative humidity recorded as 62%. Mean night temperature was 24.5°C, while day temperature recorded as 35.6°C. The data of bright sunshine hour and wind speed was not available, while mean wind direction was *southerly*.

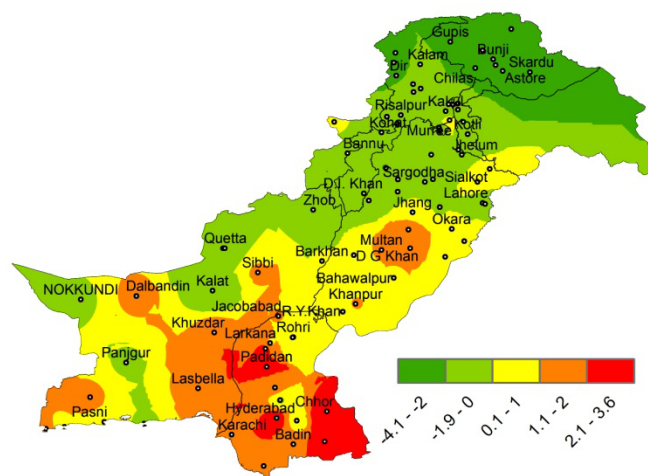
Rice: Good condition, wax maturity stage.



(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 (11th to 20th September, 2013):**

2.6 **Jhelum**

Rainfall reported as 24.4mm during the decade, weather remained cloudy for 06days and average relative humidity recorded as 66%. Mean night temperature was 22.6°C while day temperature recorded as 34.3°C with 82.6hours bright sunshine duration. Wind speed recorded 3.3km/hr with mean wind direction *variable*.

2.7 **Lahore**

Rainfall reported as 6.3mm during the decade, weather remained cloudy for 08days, average relative humidity recorded as 66%. Mean night temperature was 24.0°C while day temperature recorded as 31.6°C with 82.7 hours bright sunshine duration. Wind speed recorded as 3.1km/hr with mean direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 30.2mm during the decade, weather remained cloudy for 06days during the decade, average relative humidity recorded as 62%. Mean night temperature was 24.5°C while day temperature recorded as 36.1°C with 84.7 hours bright sunshine duration. Wind speed recorded as 2.9km/hr with mean direction *variable*.

2.9 **Multan**

No rainfall reported during the decade, weather remained cloudy for 02days, average relative humidity recorded as 48%. Mean night temperature was 26.2°C while day temperature recorded as 37.9°C with 88.2hours bright sunshine duration. Wind speed recorded as 4.8km/hr with mean wind direction *southerly*.

2.10 **Khanpur**

No rainfall & cloudy days reported during the decade, average relative humidity recorded as 63%. Mean night temperature was 24.8°C while day temperature recorded as 38.1°C with 100.9hours bright sunshine duration. Wind speed recorded as 3.2km/hr with mean wind direction *westerly*.

2.11 **Rohri**

No rainfall reported during the decade, weather remained cloudy for 01day, average relative humidity recorded as 52%. Mean night temperature was 27.3°C while day temperature recorded as 38.4°C with 110.4hours bright sunshine duration. Wind speed recorded as 3.7km/hr with mean wind direction *south easterly*.

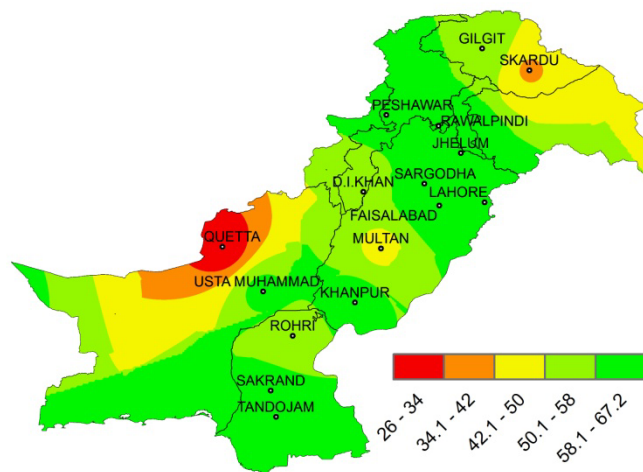


Figure.3: Relative Humidity in percentage

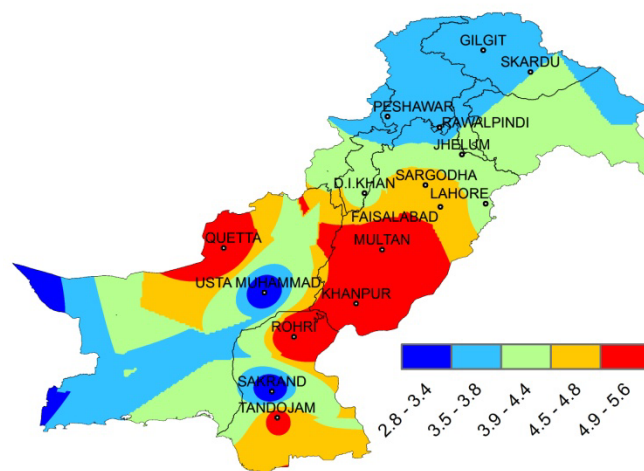


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

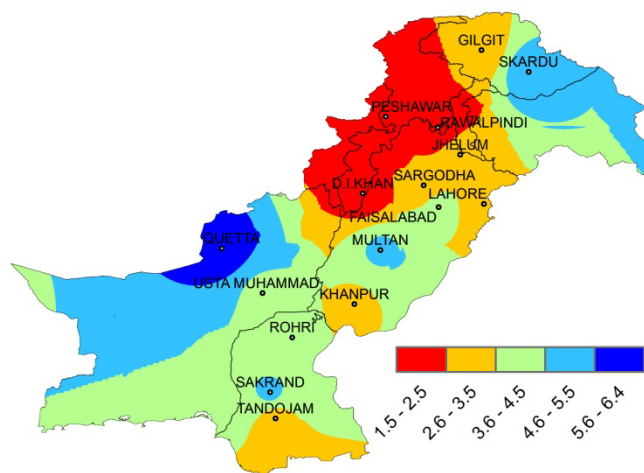


Figure 5: Wind Speed in kilometer per hour

2.12 Sakrand

No rainfall & cloudy day reported during the decade, average relative humidity recorded as 60%. Mean night temperature was 21.4°C while day temperature recorded as 38.5°C with 109.5hours bright sunshine duration. Wind speed recorded as 4.8km/hr with mean wind direction *southerly*.

2.13 Peshawar

Rainfall reported as 2.0mm during the decade, weather remained cloudy for 07days, average relative humidity recorded as 60%. Mean night temperature was 22.4°C while day temperature recorded as 34.6°C with 66.0hours bright sunshine duration. Wind speed recorded as 1.8km/hr with mean wind direction *northerly*.

2.14 D.I. Khan

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 01day, average relative humidity recorded as 53%. Mean night temperature was 23.2°C while day temperature recorded as 37.5°C with 94.5hours bright sunshine duration. Wind speed recorded as 1.5km/hr with mean direction *south easterly*.

2.15 Gilgit

Rainfall reported as 12.9mm during the decade, weather remained cloudy for 10days, average relative humidity recorded as 57%. Mean night temperature was 12.4°C while day temperature recorded as 30.3°C with 79.0hours bright sunshine duration. Wind speed recorded as 2.5km/hr with mean wind direction *easterly*.

2.16 Skardu

Rainfall reported as Trace (not measureable) during the decade, weather remained cloudy for 06days, average relative humidity recorded as 41%. Mean night temperature was 9.3°C while day temperature recorded as 25.8°C with 57.1hours bright sunshine duration with mean speed 5.5km/hr with mean direction *north westerly*.

**3. Ten days Weather advisory for Farmers
(21st to 30th September, 2013):****3.1 Temperature Forecast:**

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

3.2 Rain Forecast:

- ❖ **Punjab:** Mainly dry weather is expected in most parts of the province during the decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly dry weather is expected in most parts of the province during the decade.
- ❖ **Sindh:** Mainly hot & dry weather is expected in most part of the province during the decade.
- ❖ **Balochistan:** Mainly hot & dry weather is expected in most parts of the province during the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Mainly dry/partly cloudy weather is expected in most parts of the province during 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:

- ❖ Due to dry weather in most of the central and southern parts of the country during the decade, farmers of cotton and sugarcane crops are advised to irrigate the crops as per requirement.
- ❖ Due to dry weather in most of the upper parts of the country during the decade, farmers of rainfed areas are advised to harvest Kharif crops intine and prepare their fields for incoming Rabi crops.
- ❖ Government assistance in terms of free seed and fertilizer for Rabi sowing is likely to be launched in flood affected areas. Farmers should avail this opportunity to ensure timely sowing of Rabi crops.