

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported from agricultural plains of the Punjab, K.P, G.B & Kashmir, however light rainfall reported from Balochistan & dry weather reported from Sindh during the last decade.
- ❖ Highest amount of rainfall recorded as 159.1mm at Rawalakot during the last decade.
- ❖ Highest maximum temperature recorded 46.2°C at Dadu during the last decade.
- ❖ Lower values of relative humidity reported from Balochistan regions while higher values reported from Punjab, Lower parts of Sindh during the last decade.
- ❖ Lower values of ETo reported from Gilgit-Baltistan while higher values reported from Sindh & Balochistan during the last decade.
- ❖ Temperature is likely to be normal/slightly above normal in 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 onset of 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 heavy rain.
- ❖ Farmers of rainfed areas in upper parts are advised to cultivate maize crop due to recent rains. Farmers obtaining crop water through tube wells are also advised to schedule the irrigation according to the expected weather mentioned during the decade.

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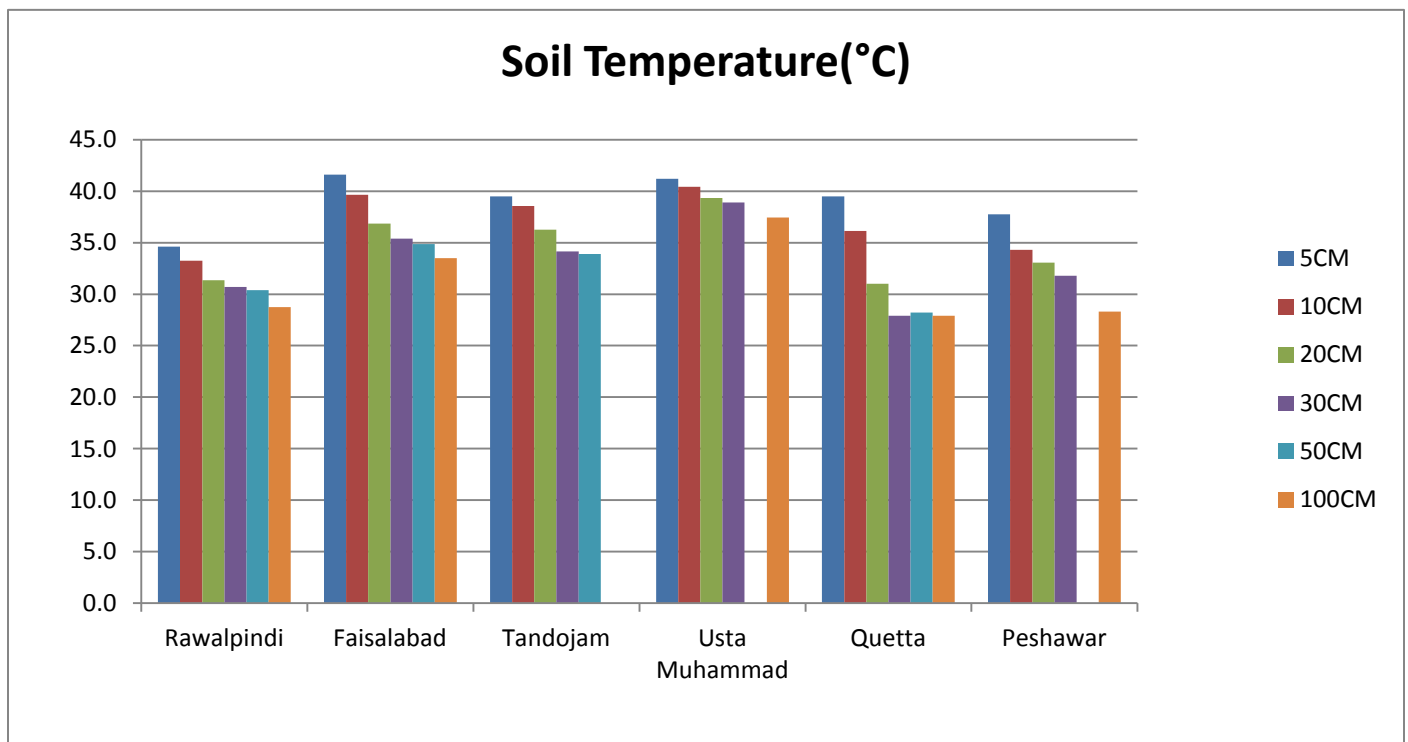
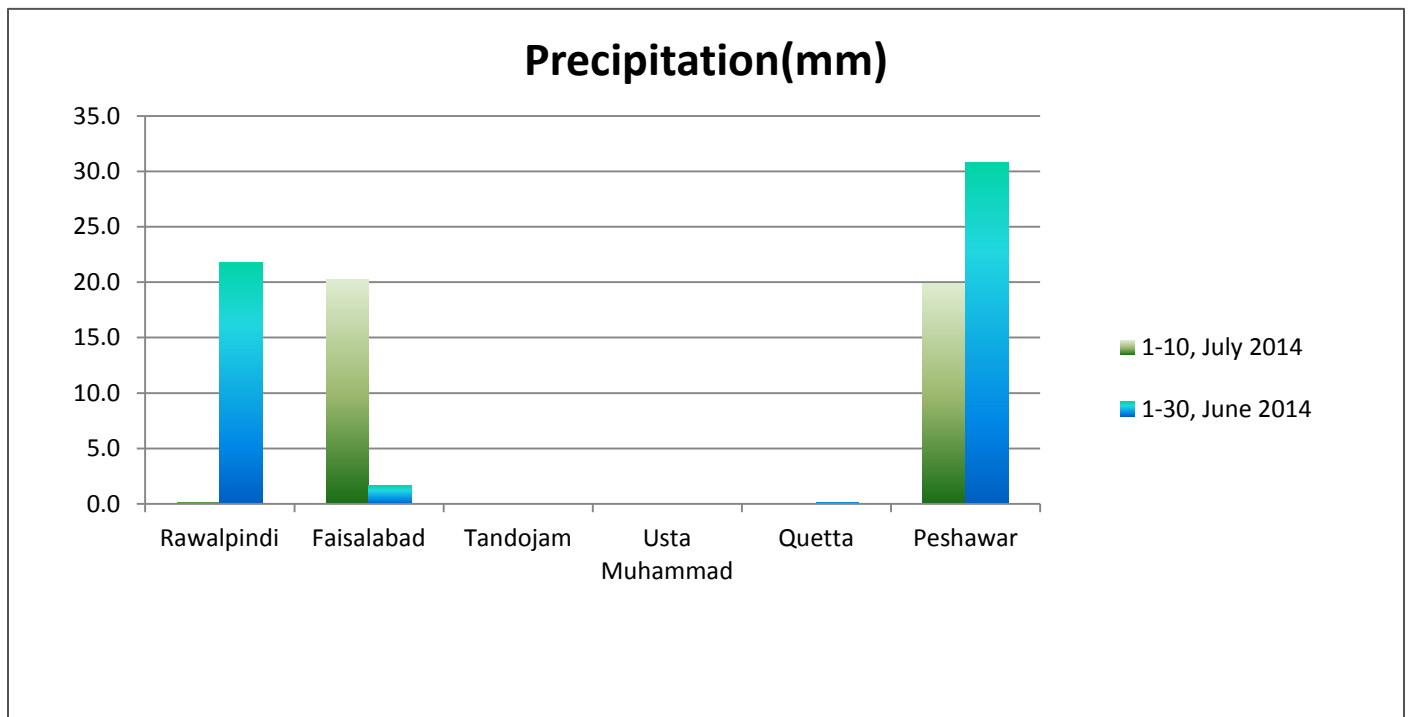
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Meteorological conditions during 1st Decade of July, 2014

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	7.9	0.1	-7.8	0.5	1.6	31.1	34.6	33.3	31.4	30.7	30.4	28.8	49	71.1	0.5	4.3
2	FAISALABAD	2.9	20.2	17.3	-1.2	-0.1	31.8	41.6	39.7	36.9	35.4	34.9	33.5	60	75.4	3.2	5.3
3	JHELUM	4.1	41.2	37.1	-1.0	0.1	31.5	36.5	34.8	32.6	31.4	31.6	***	60	79.4	3.5	5.5
4	LAHORE	4.4	15.5	11.1	-1.8	3.8	31.5	35.7	35.1	32.5	31.3	***	29.6	59	63.9	2.8	4.9
5	SARGODHA	3.0	4.6	1.6	-0.8	-1.1	32.3	35.4	33.8	32.3	31.8	31.9	31.3	63	67.0	0.9	4.6
6	MULTAN	1.5	8.8	7.3	-1.0	-2.1	33.1	***	***	***	***	***	***	54	68.9	8.8	6.6
7	KHANPUR	0.4	0.0	-0.4	-1.4	-0.8	34.1	***	39.5	39.0	39.1	39.0	36.3	55	63.9	6.2	6.1
8	TANDOJAM	2.0	0.0	-2.0	0.0	-0.5	32.2	39.5	38.6	36.3	34.2	33.9	***	61	91.0	8.6	6.8
9	SAKRAND ☆	0.4	0.0	-0.4	-3.3	0.1	32.5	45.4	42.6	***	***	***	35.9	49	91.0	15.4	9.4
10	ROHRI	0.0	0.0	0.0	-1.0	-0.3	35.7	49.0	45.3	39.0	37.9	36.0	35.2	48	80.7	6.0	6.9
11	D I KHAN	2.7	21.0	18.3	-1.4	-0.8	31.7	***	***	***	***	***	***	58	83.6	***	6.5
12	PESHAWAR	1.4	19.9	18.5	-2.2	0.1	31.6	37.8	34.3	33.1	31.8	***	28.3	48	81.2	4.1	5.8
13	USTA MUHAMMAD	0.3	0.0	-0.3	0.3	1.0	36.5	41.2	40.4	39.4	38.9	***	37.5	46	***	***	8.0
14	QUETTA	0.3	0.0	-0.3	-0.3	-1.8	27.9	39.5	36.2	31.0	27.9	28.2	27.9	22	95.2	5.8	6.5
15	SKARDU	0.4	8.0	7.6	-1.5	-0.3	21.7	***	***	***	***	***	***	40	57.6	4.2	4.7
16	GILGIT	0.1	12.8	12.7	0.4	-3.0	25.0	***	***	***	***	***	***	43	66.7	3.5	5.0

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. 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)

Precipitation at RAMC's during July, 2014



Past Weather (1st to 10th July, 2014)

Light to moderate rainfall reported from agricultural plains of the Punjab, K.P, Balochistan, G.B & Kashmir, however light rainfall reported from Sindh during the last decade.

1.1 Punjab

Light to moderate rainfall reported in the agricultural plains of Punjab. Chief amount of rainfall received in Mandi-Bahudin, Gujrat & Murree. Decadal minimum dropped below normal by 1.0°C & maximum temperature raised above normal by 0.2°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 69.9hrs, 3.7km/hr, 57% and 5.3mm/day respectively.

1.2 Sindh

Light rainfall reported at one station i.e Karachi during the decade. Decadal minimum & maximum temperature both dropped below normal by 1.4°C & 0.2°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 87.6hrs, 10.0km/hr, 53% and 7.7mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

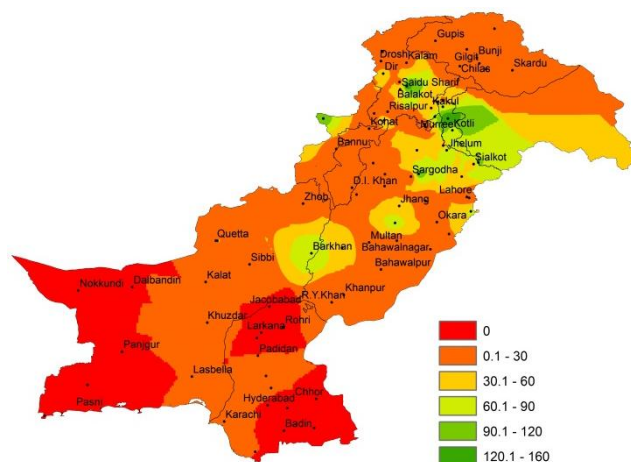
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall received in Malam Jabba, Parachinar & Cherat. Decadal minimum & maximum temperature both dropped below normal by 1.8°C & 0.4°C respectively, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were recorded as 82.4hrs, 4.1km/hr, 53% and 6.2mm/day respectively.

1.4 Balochistan

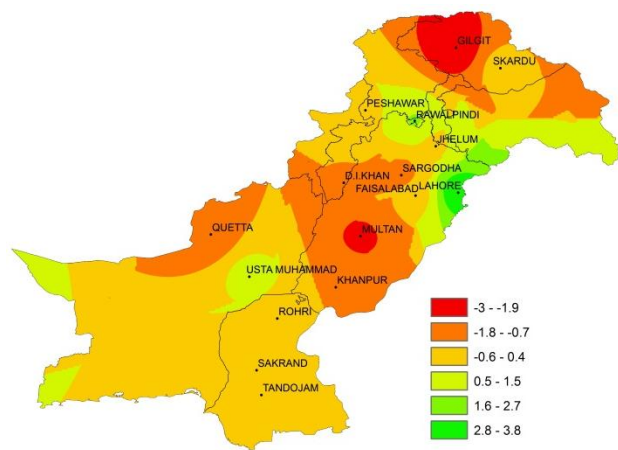
Light to moderate rainfall reported in the agricultural plains of Balochistan. Chief amount of rainfall received in Barkhan, Sibbi & Khuzdar. Decadal minimum remains normal & maximum temperature dropped below normal by 0.4°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity & ETo were 95.2hrs, 5.8km/hr, 34% and 7.3mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

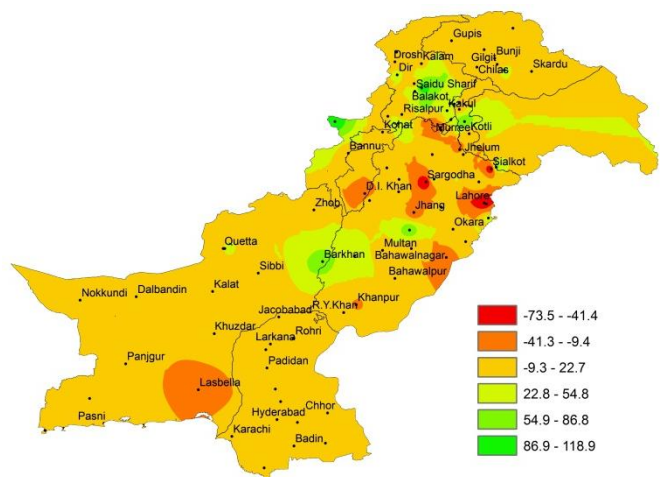
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall received in Rawalakot, Kotli & Garhi Doppata. Decadal minimum raised above normal by 0.6°C & maximum temperature dropped below normal by 1.7°C, in the province. Whereas mean values of sunshine hour, wind speed, relative humidity and ETo were recorded 62.2hrs, 3.9km/hr, 42% and 4.9mm/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**
(1st to 10th July, 2014)

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

Rainfall reported as Trace (not measurable) during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 49%. Mean night temperature was 24.1°C while day temperature recorded as 38.0°C with 71.0hours bright sunshine duration. Wind speed recorded as 0.46km/h with mean wind direction *westerly*.

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

Rainfall reported as 20.2mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 60%. Mean night temperature was 25.8°C while day temperature recorded as 37.7°C with 75.4hours bright sunshine duration. Wind speed recorded as 3.2km/hr with mean wind direction *south westerly*.

Cotton: Normal condition, flowering stage completed.

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

Dry weather reported during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 61%. Mean night temperature was 27.0°C while day temperature recorded as 37.3°C with 91.0hours bright sunshine duration. Wind speed recorded as 8.6km/hr with mean wind direction *south westerly*.

Cotton (BT-3701): Good condition, flowering stage.

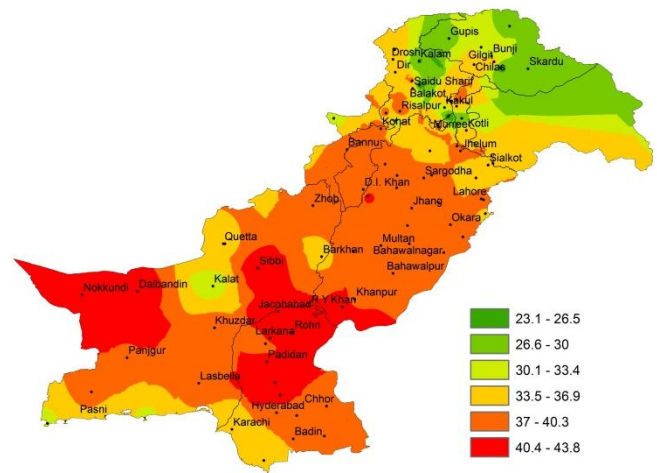
2.4 **RAMC, Usta Muhammad (Eastern Balochistan)**

Dry weather reported during the decade however weather remained cloudy for 02days. Average relative humidity recorded as 46%. Mean night temperature was 29.3°C, while day temperature recorded as 43.7°C.

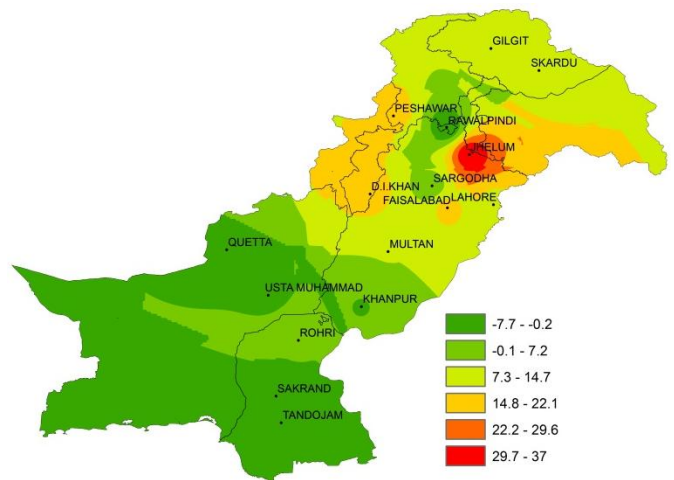
Rice: Good condition, 3rd Leaf maturity stage.

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

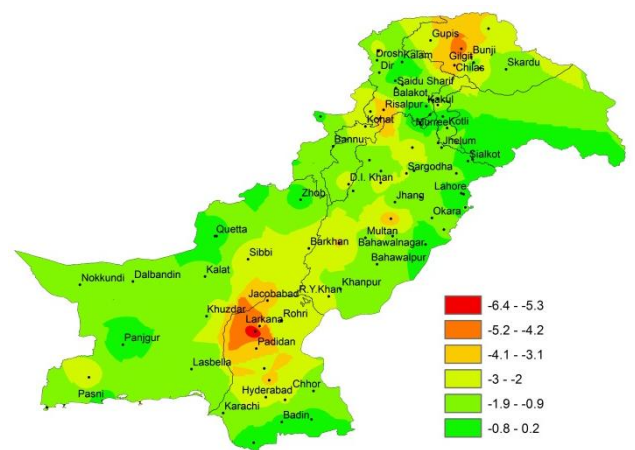
Dry weather reported during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 22%. Mean night temperature was 21.2°C while day temperature recorded as 34.5°C with 95.2hours bright sunshine duration and wind speed recorded as 5.8km/hr with mean wind direction *north 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 (1st to 10th July, 2014)**

2.6 **Jhelum**

Rainfall reported as 41.2mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 60%. Mean night temperature was 25.7°C while day temperature recorded as 37.3°C with 79.4hours bright sunshine duration. Wind speed recorded 3.5km/hr with mean wind direction *variable*.

2.7 **Lahore**

Rainfall reported as 15.5mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 59%. Mean night temperature was 25.9°C while day temperature recorded as 37.1°C with 63.9hours bright sunshine duration. Wind speed recorded as 2.8km/hr with mean wind direction *north westerly*.

2.8 **Sargodha**

Rainfall reported as 4.6mm during the decade however weather remained cloudy for 09days. Average relative humidity recorded as 63%. Mean night temperature was 27.1°C while day temperature recorded as 37.4°C with 67.0hours bright sunshine duration. Wind speed recorded as 0.92km/hr with mean wind direction *variable*.

2.9 **Multan**

Rainfall reported as 8.8mm during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 54%. Mean night temperature was 28.4°C while day temperature recorded as 37.8°C with 68.9hours bright sunshine duration. Wind speed recorded as 8.8km/hr with mean wind direction *south westerly*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 55%. Mean night temperature was 28.2°C while day temperature recorded as 40.0°C with 63.9hours bright sunshine duration. Wind speed recorded as 6.2km/hr with mean wind direction *south south-westerly*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 49%. Mean night temperature was 24.3°C while day temperature recorded as 40.6°C with 91.0hours bright sunshine duration. Wind speed recorded 15.3km/hr with mean wind direction *south westerly*.

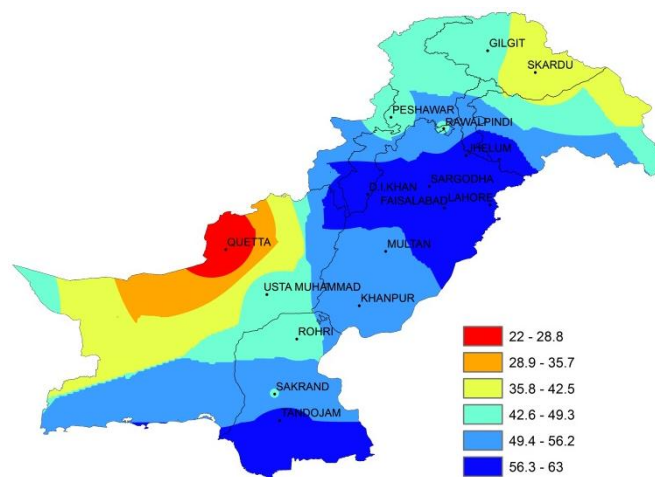


Figure.3: Relative Humidity in percentage (%)

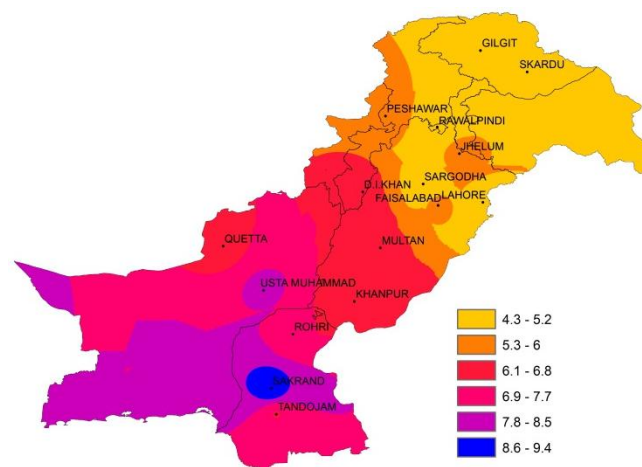


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

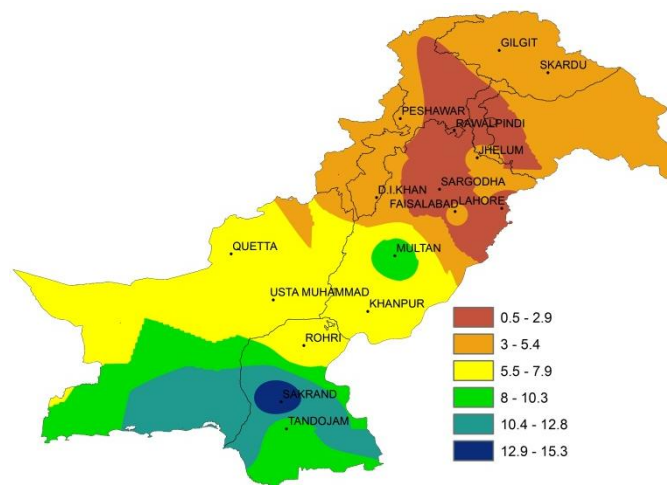


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 Rohri

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 48%. Mean night temperature was 29.3°C while day temperature recorded as 42.1°C with 80.7hours bright sunshine duration. Wind speed recorded as 6.0km/hr with mean wind direction *southerly*.

2.13 D.I. Khan

Rainfall reported as 21.0mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 58%. Mean night temperature was 25.1°C while day temperature recorded as 38.3°C with 83.6hours bright sunshine duration.

2.14 Peshawar

Rainfall reported as 19.9mm during the decade however weather remained cloudy for 01day. Average relative humidity recorded as 48%. Mean night temperature was 24.9°C while day temperature recorded as 38.3°C with 81.2hours bright sunshine duration. Wind speed recorded as 4.1km/hr with mean wind direction *north westerly*.

2.15 Skardu

Rainfall reported as 8.0mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 40%. Mean night temperature was 13.8°C while day temperature recorded as 29.6°C with 57.6hours bright sunshine duration. Wind speed recorded as 4.2km/hr with mean wind direction *south westerly*.

2.16 Gilgit

Rainfall reported as 12.8mm during the decade however weather remained cloudy for 10days. Average relative humidity recorded as 43%. Mean night temperature was 17.0°C while day temperature recorded as 33.0°C with 66.7bright sunshine duration. Wind speed recorded as 3.5km/hr with mean wind direction *easterly*.

3. Ten Days Weather Advisory for Farmers **(11th to 20th July, 2014)**

3.1 Temperature Forecast

Temperatures are likely to be normal/above normal in the agricultural plains of the country and heat wave will also envelop northern areas 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 2nd half of decade.
- ❖ **Khyber Pakhtunkhwa:** Heavy falls at isolated places is expected over most of the agricultural plains of the province during the 2nd half of decade.
- ❖ **Sindh:** Mainly dry weather is expected in the province. However light rainfall expected in Lower Sindh i.e. Karachi, Thatta etc. during end of decade.
- ❖ **Balochistan:** Mainly dry weather is expected in the province.
- ❖ **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 expected 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.
- ❖ 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 heavy rain.