

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to moderate rainfall reported in the agricultural plains of Punjab, K.P, G.B & Kashmir however light rainfall reported in Balochistan and dry weather reported in Sindh during the last decade.
- ❖ Highest amount of rainfall reported as 75.8mm at Rawalakot during the last decade.
- ❖ Lowest Minimum temperature recorded -9.2°C at Skardu during the last decade.
- ❖ Light to moderate rainfall is expected in upper hilly areas of country including Malakand, Gilgit, Skardu, Muzaffarabad & Hazara divisions from 15th to 20th of this decade.
- ❖ Farmers are advised to cultivate winter vegetables in time so that present soil moisture may fully be utilized.
- ❖ Farmers are advised to take in time precautionary measures to protect livestock from expected dry/cold weather during the decade.
- ❖ Farmers of cotton crop areas are advised to prepare their field for incoming rabi crops and complete sowing in time.
- ❖ Farmers are advised to cultivate late varieties in December.
- ❖ Farmers of rainfed areas of K.P & Punjab are advised to complete cultivation of Rabi crops as soon as possible. The status of soil moisture is very suitable after rains during the season.

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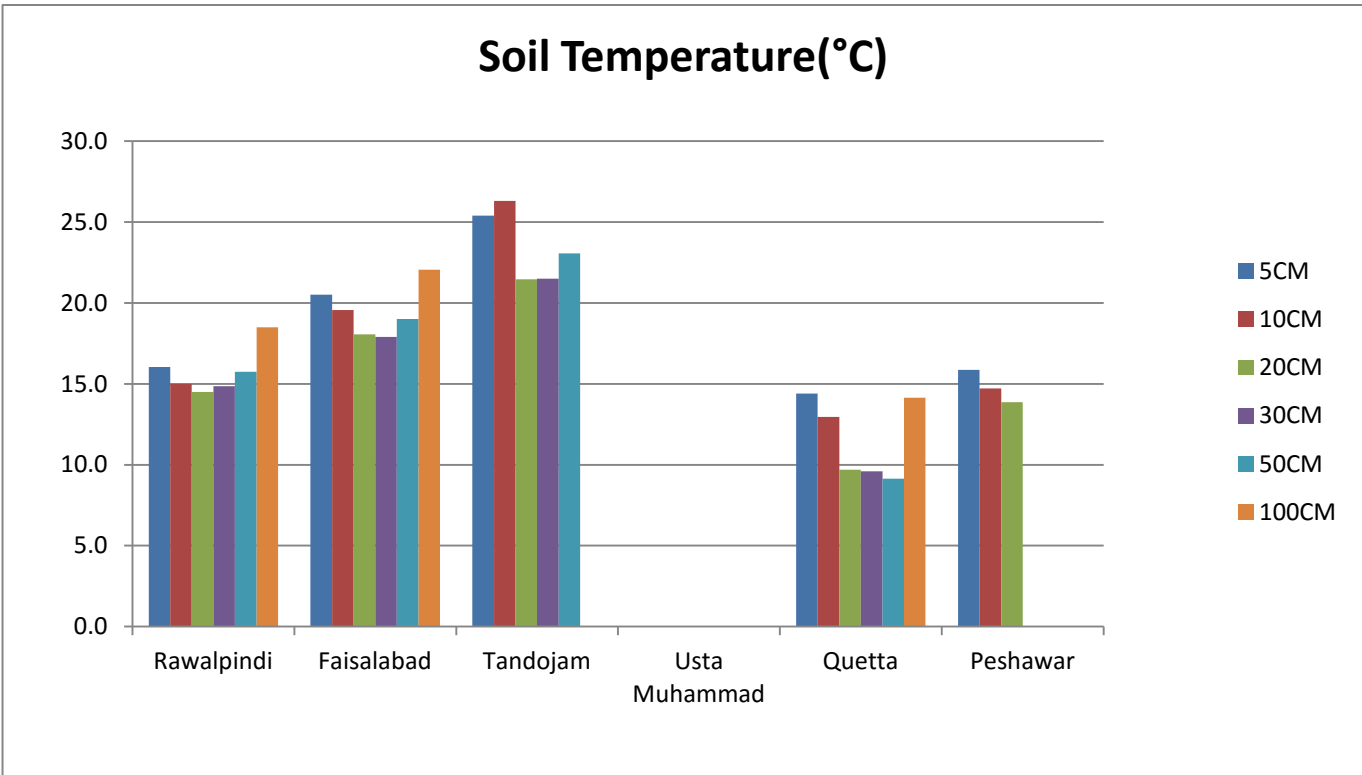
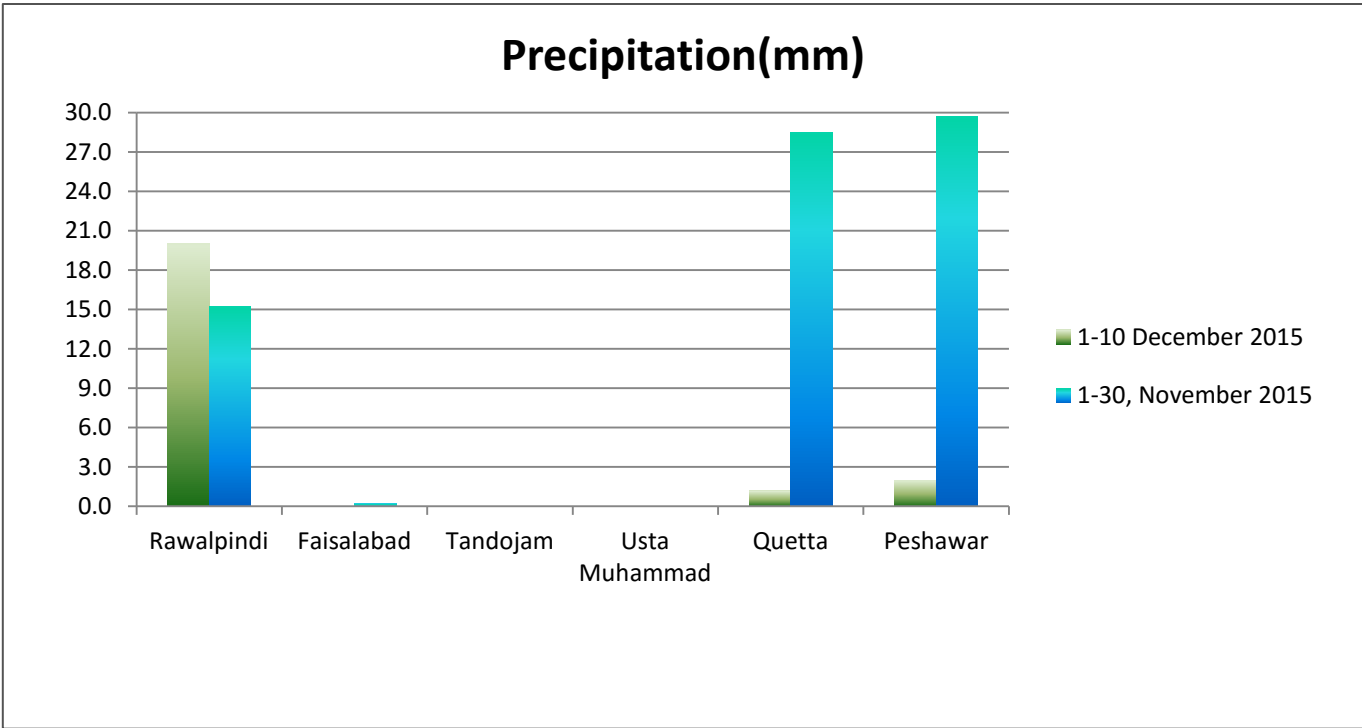
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Meteorological conditions during 1st decade of December, 2015

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	Tmax Dep	Tmin Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	RAWALPINDI	1.4	20.0	18.6	0.0	3.8	15.2	16.1	15.0	14.5	14.9	15.8	18.5	71	50.2	0.6	1.0
2	FAISALABAD	0.5	0.0	-0.5	0.8	2.7	17.1	20.5	19.6	18.1	17.9	19.0	22.1	68	44.0	1.7	1.4
3	JHELUM	1.1	31.3	30.2	0.0	1.6	16.4	16.6	15.9	16.1	16.1	17.4	***	69	45.7	0.6	1.1
4	LAHORE	0.1	0.1	0.0	3.8	2.6	20.3	21.5	21.0	20.6	20.4	***	23.9	58	80.5	2.0	1.8
5	SARGODHA	0.9	0.1	-0.8	-0.6	3.3	17.1	19.4	18.6	18.4	18.9	21.1	21.6	74	42.6	1.3	1.2
6	MULTAN	0.5	0.1	-0.4	0.0	3.4	17.6	***	***	***	***	***	***	65	46.7	2.1	1.6
7	KHANPUR	0.1	0.0	-0.1	2.2	0.2	17.4	***	18.5	18.9	19.7	20.5	22.9	60	57.3	2.5	1.9
8	TANDOJAM	0.3	0.0	-0.3	1.9	-0.4	19.4	25.4	26.3	21.5	21.5	23.1	***	63	83.9	1.9	2.2
9	SAKRAND ☆	1.5	0.0	-1.5	3.5	-2.9	16.7	27.4	23.8	***	***	***	27.6	56	84.4	3.9	2.6
11	D I KHAN	0.3	2.5	2.2	11.4	0.7	21.0	***	***	***	***	***	***	67	53.0	***	1.1
12	PESHAWAR	0.9	2.0	1.1	-1.1	1.2	14.3	15.9	14.7	13.9	***	***	***	79	25.8	8.1	3.4
13	USTA MUHAMMAD	1.2	0.0	-1.2	3.1	1.9	18.5	***	***	***	***	***	***	50	***	***	1.6
14	QUETTA	0.8	1.2	0.4	3.0	3.4	10.2	14.4	13.0	9.7	9.6	9.2	14.2	34	86.0	4.2	3.3
15	SKARDU	0.6	15.0	14.4	1.7	0.4	3.4	***	***	***	***	***	***	69	43.3	0.5	2.1
16	GILGIT	0.3	1.9	1.6	1.4	2.0	8.0	***	***	***	***	***	***	58	44.0	1.8	0.9

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.

Graphs of RAMC's during December, 2015



Past Weather (1st to 10th December, 2015)

Light to moderate rainfall reported in the agricultural plains of Punjab, K.P, G.B & Kashmir however light rainfall reported in Balochistan and dry weather reported in 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 Murree, Jhelum & Islamabad. Decadal maximum and minimum temperature both raised above normal by 0.9°C & 2.5°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETO were recorded as 66%, 52.4hrs, 1.5km/hr and 1.4mm/day respectively.

1.2 Sindh

Dry weather reported in the agricultural plains of Sindh. Decadal maximum raised above normal by 1.8°C & minimum temperature dropped below normal by 1.1°C, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETO were recorded as 40%, 56.1hrs, 1.9km/hr and 2.4mm/day respectively.

1.3 Khyber Pakhtunkhwa (KP)

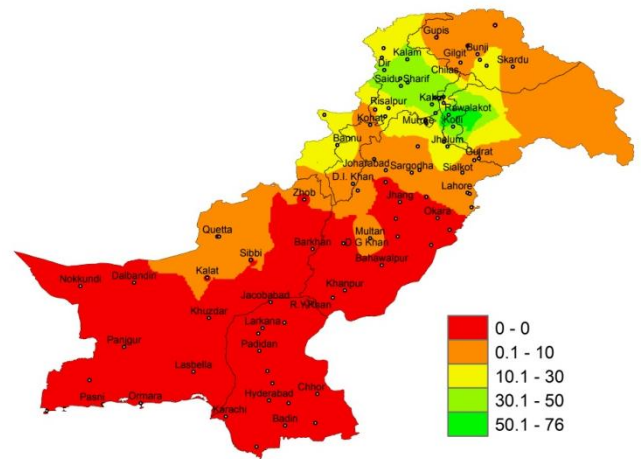
Light to moderate rainfall reported in the agricultural plains of KP. Chief amount of rainfall received in Dir, Balakot & Kakul. Decadal maximum & minimum temperature both raised above normal by 5.2°C & 1.0°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETO were recorded as 73%, 39.4hrs, 8.1km/hr and 2.3mm/day respectively.

1.4 Balochistan

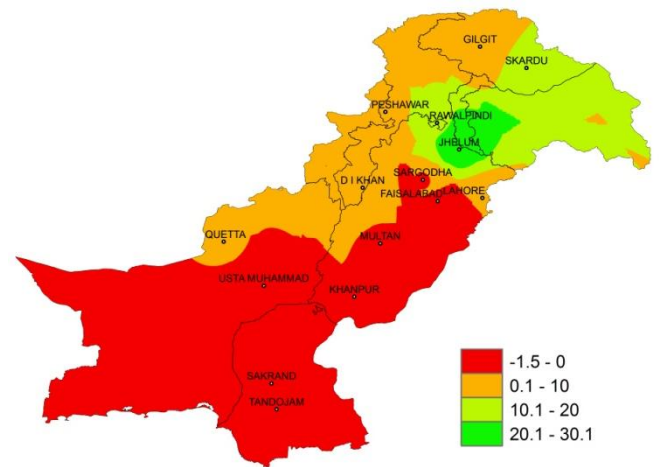
Light rainfall reported at one place of Balochistan i.e Quetta. Decadal maximum & minimum both raised above normal by 3.1°C & 2.7°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETO were recorded as 42%, 86.0hrs, 4.2km/hr and 2.5mm/day respectively.

1.5 Gilgit-Baltistan and Azad Jammu & Kashmir

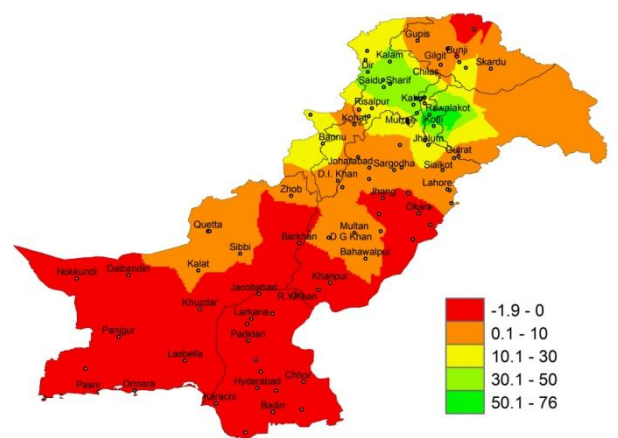
Light to moderate rainfall reported in the agricultural plains of GB & Kashmir. Chief amount of rainfall received in Rawalakot, Muzaffarabad & Kotli. Decadal maximum & minimum temperature both dropped below normal by 1.6°C & 1.2°C respectively, in the province. Whereas mean values of relative humidity, sunshine hour, wind speed & ETO were recorded as 64%, 43.7hrs, 1.2km/hr and 1.5mm/day respectively.



❖ Actual rainfall



❖ Departure of rainfall from Normal



❖ 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 December, 2015)**

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported as 20.0mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 71%. Mean day temperature was 21.7°C while night temperature recorded as 8.6°C with 50.2hours bright sunshine duration. Wind speed recorded as 0.6km/hr with mean wind direction *westerly*.

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 day temperature was 24.4°C while night temperature recorded as 9.7°C with 44.0hours bright sunshine duration. Wind speed recorded as 1.7km/hr with mean wind direction *south easterly*.
Wheat: Very Good, 3rd leaf stage.

2.3 RAMC, Tandojam (Lower Sindh)

Dry weather reported during the decade however weather remained cloudy for 01day. Average relative humidity recorded as 63%. Mean day temperature was 28.2°C while night temperature recorded as 10.4°C with 83.9hours bright sunshine duration. Wind speed recorded as 1.9km/hr with mean wind direction *north westerly*.

Wheat Tj-83: Good, germination Stage.

2.4 RAMC, Usta Muhammad (Eastern Balochistan)

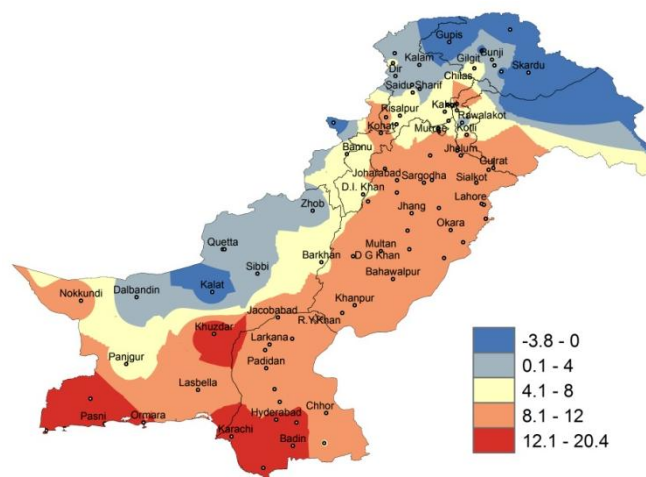
Dry weather reported during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 50%. Mean day temperature was 27.0°C while night temperature recorded as 9.9°C and mean wind direction *northerly*.

Rice: Harvested

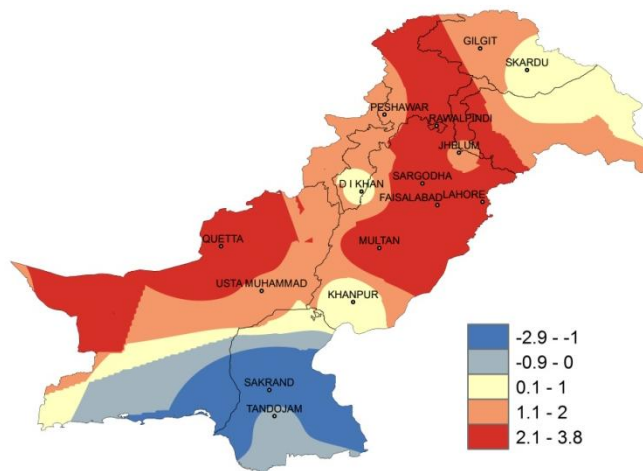
Note: Field preparing for new crop

2.5 RAMC, Quetta (Northern Balochistan)

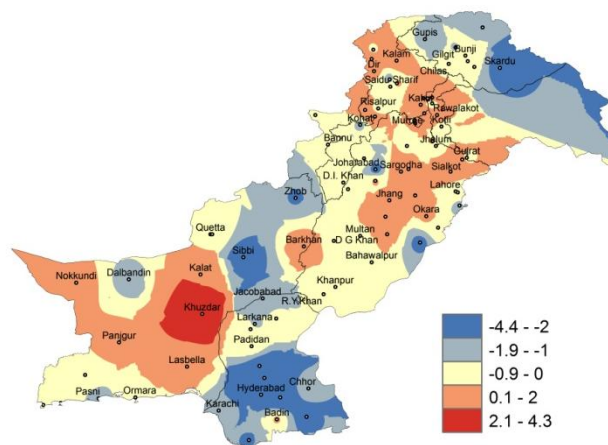
Rainfall reported as 1.2mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 34%. Mean day temperature was 17.8°C while night temperature recorded as 2.6°C with 86.0hours bright sunshine duration and wind speed recorded as 4.2km/hr with mean wind direction *southerly*.



I. Actual min-temp



II. Departure of min-temp from Normal



III. 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 (1st to 10th December, 2015)**

2.6 **Jhelum**

Rainfall reported as 31.3mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 69%. Mean day temperature was 23.7°C while night temperature recorded as 9.1°C with 45.7hours bright sunshine duration and wind speed recorded as 0.6km/hr with mean wind direction *variable*.

2.7 **Lahore**

Rainfall reported as 0.4mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 58%. Mean day temperature was 27.3°C while night temperature recorded as 13.2°C with 80.5hours bright sunshine duration. Wind speed recorded as 2.0km/hr with mean wind direction *westerly*.

2.8 **Sargodha**

Rainfall reported as Trace (Non measurable) during the decade however weather remained cloudy for 06days. Average relative humidity recorded as 74%. Mean day temperature was 23.0°C while night temperature recorded as 11.2°C with 42.6hours bright sunshine duration. Wind speed recorded as 1.3km/h with mean wind direction *north easterly*.

2.9 **Multan**

Rainfall reported as Trace (Non measurable) during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 65%. Mean day temperature was 24.3°C while night temperature recorded as 10.9°C with 46.7hours bright sunshine duration. Wind speed recorded 2.1km/hr with mean wind direction *northerly*.

2.10 **Khanpur**

Dry weather reported during the decade however weather remained cloudy for 04days. Average relative humidity recorded as 60%. Mean day temperature was 26.0°C while night temperature recorded as 8.7°C with 57.3hours bright sunshine duration. Wind speed recorded 2.5km/hr with mean wind direction *westerly*.

2.11 **Sakrand**

Dry weather reported during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 56%. Mean day temperature was 27.3°C while night temperature recorded as 6.0°C with 84.4hours bright sunshine duration. Wind speed recorded 3.9km/hr with mean wind direction *northerly*.

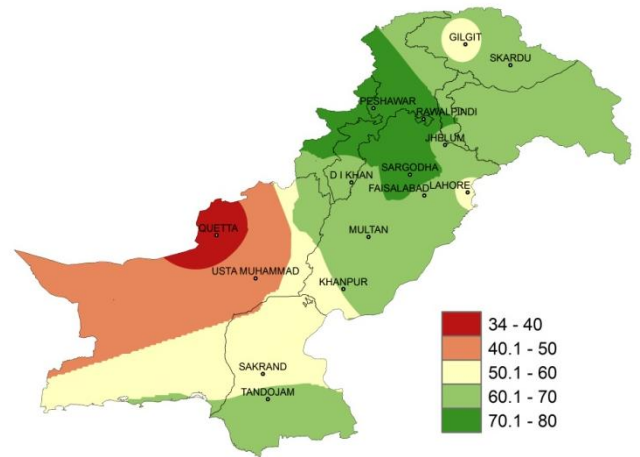


Figure.3: Relative Humidity in percentage (%)

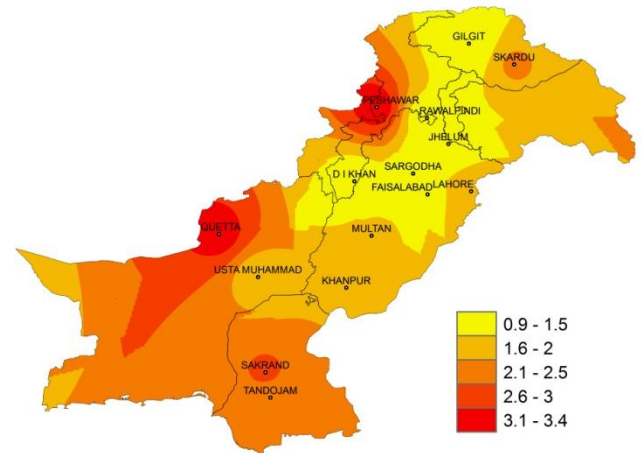


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

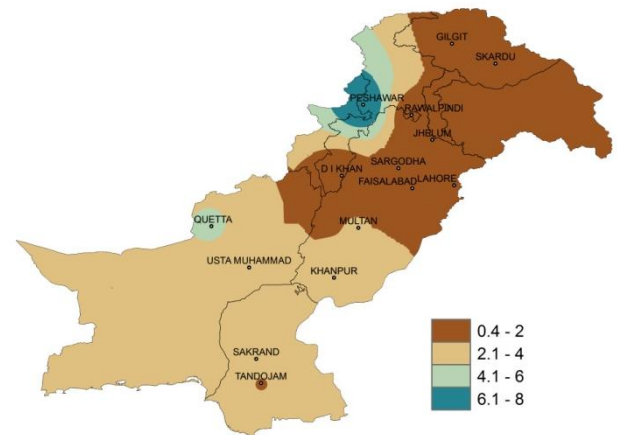


Figure 5: Wind Speed in kilometer per hour (km/h)

2.12 D.I. Khan

Rainfall reported as 2.5mm during the decade; however weather remained cloudy for 05days. Average relative humidity recorded as 67%. Mean day temperature was 34.6°C while night temperature recorded as 7.3°C with 53.0hours bright sunshine duration.

2.13 Peshawar

Rainfall reported as 2.0mm during the decade however weather remained cloudy for 07days. Average relative humidity recorded as 79%. Mean day temperature was 23.5°C while night temperature recorded as 8.0°C with 25.8hours bright sunshine duration. Wind speed recorded as 8.1km/hr with mean wind direction *north westerly*.

2.14 Skardu

Rainfall reported as 15.0mm during the decade however weather remained cloudy for 05days. Average relative humidity recorded as 69%. Mean day temperature was 110.7°C while night temperature recorded as -3.9°C with 43.3hours bright sunshine duration. Wind speed recorded as 0.5km/hr with mean wind direction *easterly*.

2.15 Gilgit

Rainfall reported as 1.9mm during the decade however weather remained cloudy for 08days. Average relative humidity recorded as 58%. Mean day temperature was 15.2°C while night temperature recorded as 0.7°C with 44.0hours bright sunshine duration. Wind speed recorded as 1.8km/hr with mean wind direction *southerly*.

3. Ten Days Weather Advisory for Farmers **(11th to 20th December, 2015)**

3.1 Temperature Forecast

Night temperatures are expected to drop slightly (1-2°C) and day time temperatures are likely to be slightly normal in most of the agricultural plains of the country during the decade.

3.2 Wind Forecast

Normal wind pattern may prevail in most of the agricultural plains of the country during the decade.

3.3 Rain Forecast

- ❖ **Punjab:** Mainly dry weather is expected in the province. However light to moderate rainfall is expected in hilly areas in end of decade.
- ❖ **Khyber Pakhtunkhwa:** Mainly cold and dry weather is expected in the province. However light to moderate rainfall with snowfall is expected in scattered places

including Hazara and Malakand divisions from 15th to 18th of decade.

- ❖ **Sindh:** Dry weather is expected in most parts of the Sindh during this decade.
- ❖ **Balochistan:** Mainly cold and dry weather is expected in most parts of the Balochistan.
- ❖ **Gilgit Baltistan:** Mainly dry and cold weather is expected in most parts of Gilgit Baltistan. However light to moderate rain with snowfall is expected at Gilgit, Skardu from 15th to 20th of decade.
- ❖ **Kashmir:** Cold and dry weather is expected in most of the parts of the Kashmir however light rainfall with snowfall is expected including Rawalakot, Muzaffarabad & Kotli divisions from 18th to 20th of decade.

3.4 Advisory for Farmers

- ❖ Farmers are advised to cultivate winter vegetables in time so that present soil moisture may fully be utilized.
- ❖ Farmers are advised to take in time precautionary measures to protect livestock from expected dry/cold weather during the decade.
- ❖ Farmers of cotton crop areas are advised to prepare their field for incoming rabi crops and complete sowing in time.
- ❖ Farmers are advised to cultivate late varieties in December.
- ❖ Farmers of rainfed areas of K.P & Punjab are advised to complete cultivation of Rabi crops as soon as possible. The status of soil moisture is very suitable after rains during the season.