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Decadal Agromet Bulletin of Pakistan

Highlights….

- Mostly dry weather reported from most of the agricultural plains of the country during the decade.
- Highest amount of rainfall recorded 12 mm at Parachinar during the last decade.
- Lowest minimum temperature was recorded -7.7°C in Skardu during the last decade.
- Lowest values of relative humidity recorded 35% in Quetta Balochistan.
- Highest values of ETo recorded in agricultural plains of southern Punjab and lowest value recorde in Skardu.
- Day time temperatures expected to be droped 1-2°C but night temperatures may drop 2-3°C in most of the agricultural plains of the country during the next decade.
- Normal wind pattern may prevail in most parts of the country during the next decade.
- Generally dry weather with clear skies expected in most parts of the country except hilly areas of KP,Punjab, Kashmir & GB, where light to moderate rain is expected during the next decade.

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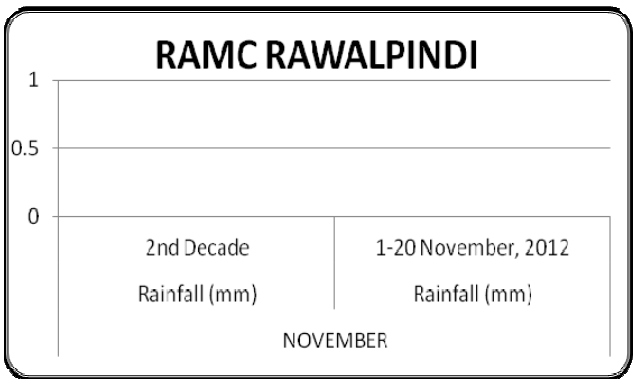
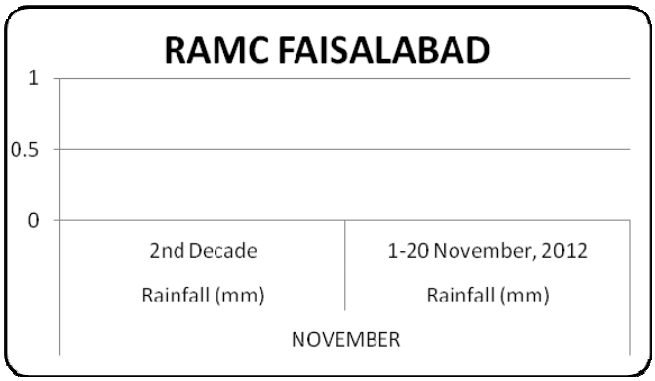
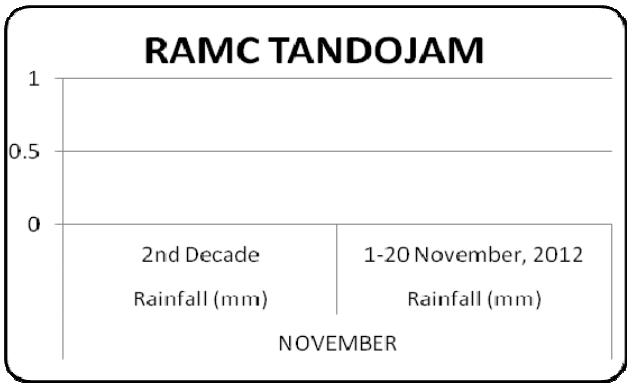
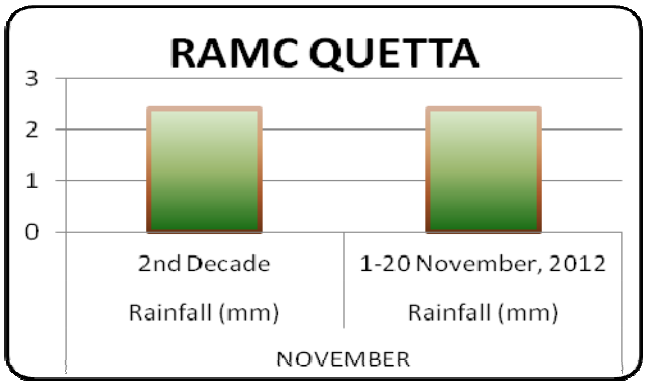
Graphs for Rainfall (mm) during November 2012









Meteorological conditions during 2nd decade of November, 2012.

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	TANDOJAM	0.0	0.0	0.0	-0.8	2.9	23.8	27.8	28.1	27.1	25.5	26.5	26.8	86.3	0.6	57	2.3
2	SAKRAND ☆	0.0	0.0	0.0	-1.6	4.1	22.0	30.5	28.1	32.1	26.3	27.8	29.6	93.4	1.7	55	2.5
3	ROHRI	0.0	0.0	0.0	-1.4	2.3	22.5	28.6	28.6	28.6	28.6	28.6	28.6	88.5	1.9	48	2.3
4	QUETTA	1.8	2.4	0.6	-1.8	3.5	11.1	18.2	16.5	13.2	12.7	13.4	17.6	88.3	4.0	35	2.1
5	KHANPUR	0.0	0.0	0.0	-2.6	2.7	20.3	22.3	22.0	22.2	23.0	21.9	25.3	77.1	2.4	61	3.7
6	MULTAN	0.0	0.0	0.0	-0.4	0.4	20.0	***	***	***	***	***	***	48.1	1.7	65	1.7
7	LAHORE	0.2	0.0	-0.2	-3.4	0.0	19.3	21.1	20.6	19.8	19.9	***	23.2	72.9	1.2	59	1.7
8	FAISALABAD	0.1	0.0	-0.1	-1.9	1.1	18.5	22.6	21.5	19.8	19.7	20.9	23.6	52.5	2.8	60	1.9
9	SARGODHA	0.4	0.0	-0.4	-1.4	1.6	19.5	-13.7	18.7	5.3	14.4	0.8	9.6	68.0	0.5	63	1.5
10	JHELUM	0.5	0.0	-0.5	-2.8	3.1	19.2	-13.1	17.6	4.2	15.3	1.6	***	76.3	1.0	64	1.6
11	RAWALPINDI	0.5	0.0	-0.5	-2.1	0.6	16.0	-13.5	15.7	3.3	13.0	0.3	7.8	74.0	0.8	62	1.4
12	D I KHAN	0.4	0.0	-0.4	-1.7	1.4	18.9	***	***	***	***	***	***	63.7	1.1	70	1.7
13	PESHAWAR	0.4	TR	-0.4	-2.3	2.1	20.0	23.2	21.3	20.5	21.8	22.1	23.2	72.8	1.0	63	2.1
14	SKARDU	0.1	0.0	-0.1	-5.6	2.6	4.2	***	***	***	***	***	***	51.7	0.5	43	0.9
15	GILGIT	0.1	2.2	2.1	-2.1	4.8	11.0	***	***	***	***	***	***	56.1	1.6	53	1.3

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.

Past Weather (11th to 20th November, 2012):

Light to moderate rainfall reported at a few places in agricultural plains of KP, Gilgit Baltistan, Sindh and northern Balochistan region where as dry weather reported from rest of the country during the decade.

1.1 Punjab

Dry weathe reported from most of the places in the province however meager rainfall reported from a single location "Islamabad"(Fig. 1.a). Maximum temperature raised above normal by 1.4°C and minimum temperature dropped below normal by 2.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.5km/hr, 62 %, and 1.9 mm/day respectively (Fig 3-4).

1.2 Sindh

Dry weathe reported from most of the province, however light rain reported only at two locations in the province.Chief amount received at Sukkar and Larkana. Decadal maximum temperature raised above normal by 3.1°C & and decadal minimum temperature dropped below normal by 1.3°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.4 km/hr, 53 %, and 2.4 mm/day respectively.

1.3 Khyber Pakhtoonkhawa (KP)

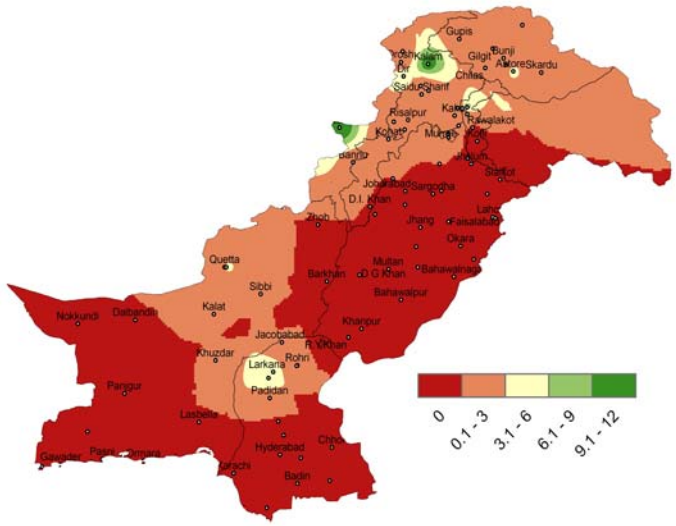
Light to moderate rainfall reported at a few places in agricultural plains of KP; chief amount received at Parachinar, Kalam and Cherat. In KP region; Decadal maximum temperature raised above normal by 1.9°C and decadal minimum temperature dropped below normal by 2.9°C, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.1 km/hr, 65 %, and 1.1 mm/day respectively.

1.4 Balochistan

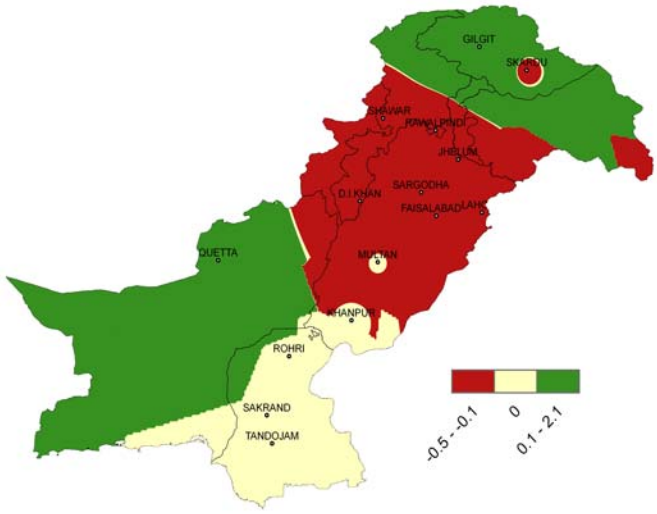
Dry weathe reported from most of the places in the province. However light rain reported at single location "Samungli Quetta". Decadal maximum temperature raised above normal by 3.5°C and decadal minimum temperature dropped below normal by 1.8°C. Mean values of wind speed, relative humidity and ETo were 4.0 km/hr, 35%, and 2.1 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

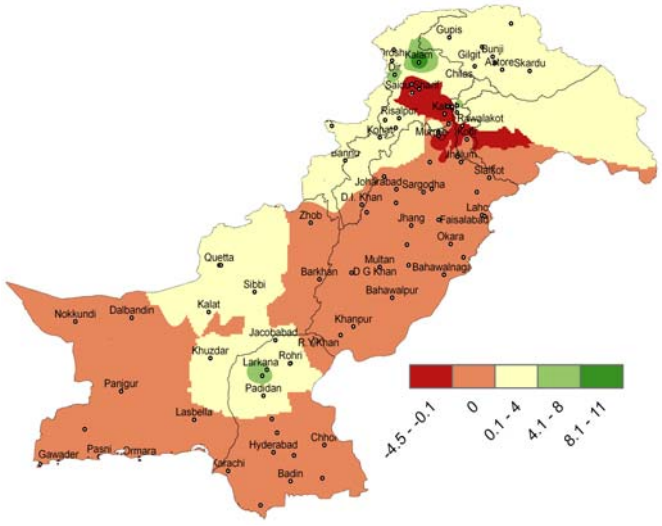
Light to moderate rainfall reported at a few places in agricultural plains plains of Kashmir & Gilgit Baltistan region; chief amount received at Pattan, Astore, and Gilgit. In GB & AJK region; decadal maximum temperature raised above normal by 3.7°C & decadal minimum temperature dropped below normal 3.9°C respectively. Mean values of wind speed, relative humidity and ETo were recorded 1.1 km/hr, 48%, and 1.1 mm/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 November, 2012)as per Table-1

2.1 RAMC, Rawalpindi (Potohar region)

No rainfall reported during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 62%. Mean night temperature was 6.5°C while day temperature recorded as 25.5°C with 74.0 hours bright sunshine duration. Wind speed recorded as 0.8 Km/hr with mean direction *westerly*. Presently no crop is grown at the station.

2.2 RAMC, Tandojam (Lower Sindh)

No rainfall reported during the decade, sky remained clear during the decade, average relative humidity recorded as 57%. Mean night temperature was 13.5°C while day temperature recorded as 34.0°C with 86.3 hours bright sunshine duration. Wind speed recorded as 0.6 km/hr with calm wind.

Cotton: Good condition, Emergence stage.

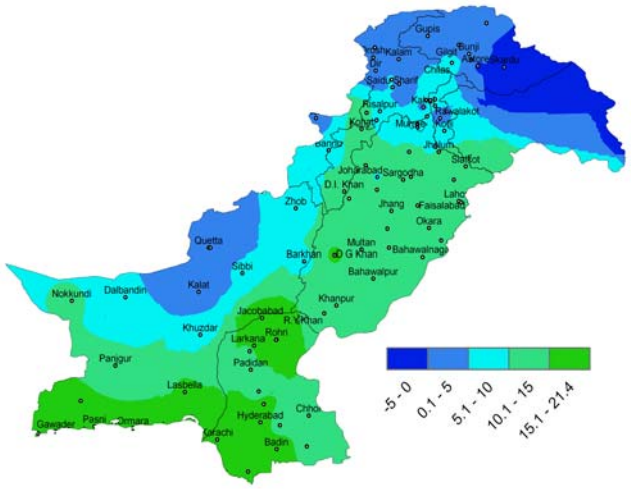
2.3 RAMC, Faisalabad (Central Punjab)

No rainfall reported during the decade, weather remained cloudy for 2 days, average relative humidity recorded as 60%. Mean night temperature was 9.0°C while day temperature recorded as 28.0°C with 86.3 hours bright sunshine duration. Wind speed recorded as 2.8 Km/hr with mean direction *south westerly*.

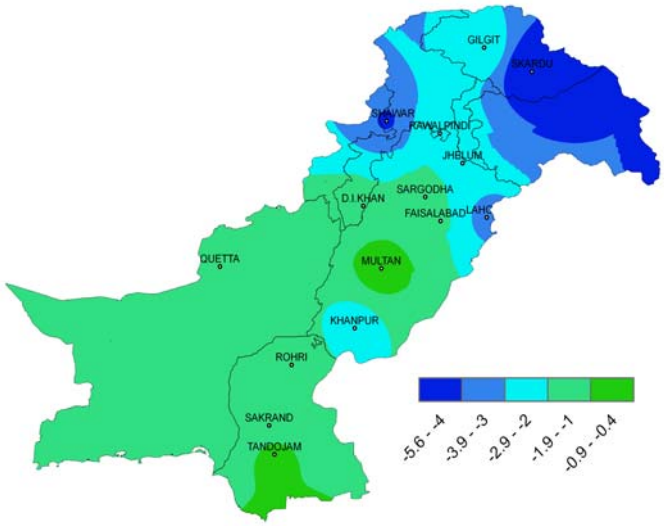
Sugarcane: Very Good condition, Third leaf completed.
Cotton: Very Good condition, Boll opening completed.

2.4 RAMC, Quetta (Northern Balochistan)

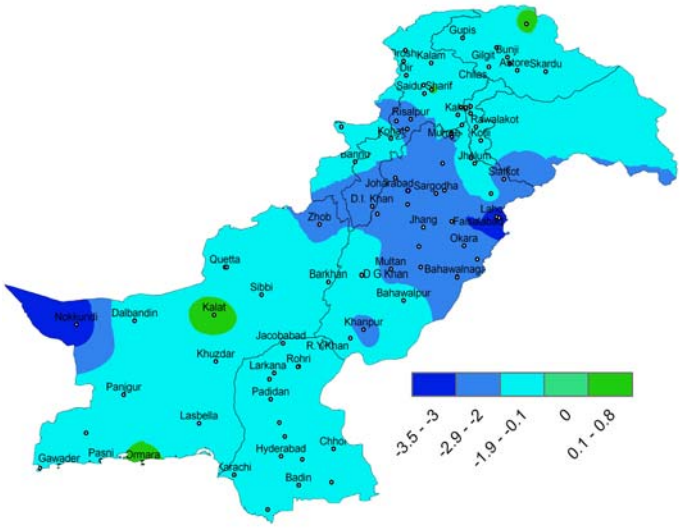
Rainfall reported amounting 2.4 mm during the decade, weather remained cloudy for 7 days during the decade, average relative humidity recorded as 35%. Mean night temperature was 0.1°C while day temperature recorded as 22.1°C with 88.3 hours bright sunshine duration and wind speed recorded as 4.0 Km/hr with mean direction *northly*. Presently no crop is grown at the station.



(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 (11th to 20th November, 2012)

2.6 Rohri

No rainfall reported during the decade, weather remained clear during all the decade. Average relative humidity recorded as 48%. Mean night temperature was 14.0°C while day temperature recorded as 31.0°C with 88.5 hours bright sunshine duration. Wind speed recorded as 1.9 Km/hr with mean direction *north easterly.*

2.7 Skardu

No rainfall reported during the decade, weather remained cloudy for 4 days, average relative humidity recorded as 43%. Mean night temperature was –7.7°C while day temperature recorded as 16.0°C with 51.7 hours bright sunshine duration with mean direction *north westerly*

2.8 Multan

No rainfall reported during the decade, weather remained cloudy for 3 days decade, average relative humidity recorded as 65%. Mean night temperature was 11.8°C while day temperature recorded as 28.2°C with 48.1 hours bright sunshine duration. Wind speed recorded as 1.7 Km/hr with mean direction *northly*..

2.9 Lahore

No rainfall reported during the decade, weather remained cloudy for 1 days decade decade, average relative humidity recorded as 59%. Mean night temperature was 11.5°C while day temperature recorded as 26.1°C with 72.9 hours bright sunshine duration. Wind speed recorded as 1.0 Km/hr with mean direction *north westerly*.

2.10 Peshawar

Rainfall reported amounting to 0.4 mm during the decade, weather remained cloudy for 5 day, average relative humidity recorded as 60%. Mean night temperature was 6.4°C while day temperature recorded as 27.0°C with 62.2 hours bright sunshine duration. Wind speed recorded as 1.0 Km/hr with mean direction *north- north westerly*.

2.11 Khanpur

No rainfall reported during the decade, weather remained cloudy for 1day during the decade, average relative humidity recorded as 61%. Mean night temperature was 9.8°C while day temperature recorded as 30.8°C with 77.1 hours bright sunshine duration. Wind speed recorded as 2.4 Km/hr with mean direction *north.*

2.12 Sargodha

No rainfall reported during the decade, weather remained clear during the decade, average relative humidity recorded as 63%. Mean night temperature was 10.6°C while day temperature recorded as 28.4°C with 68.0 hours bright sunshine duration. Wind speed recorded as 0.5 Km/hr with mean direction *south westerly*.

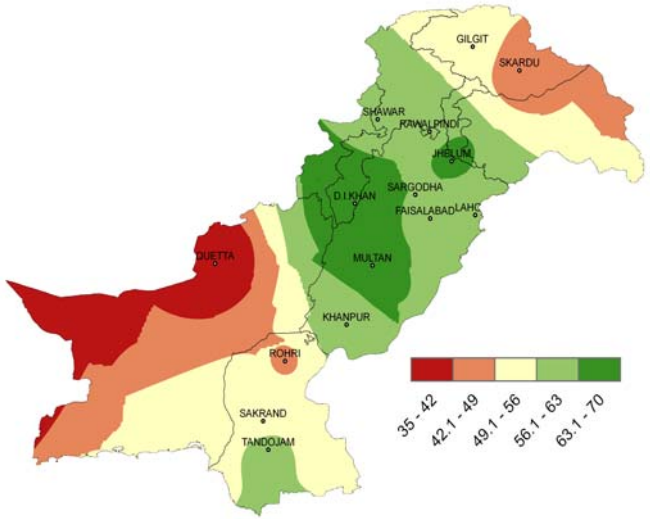


Figure.3: Relative Humidity in percentage

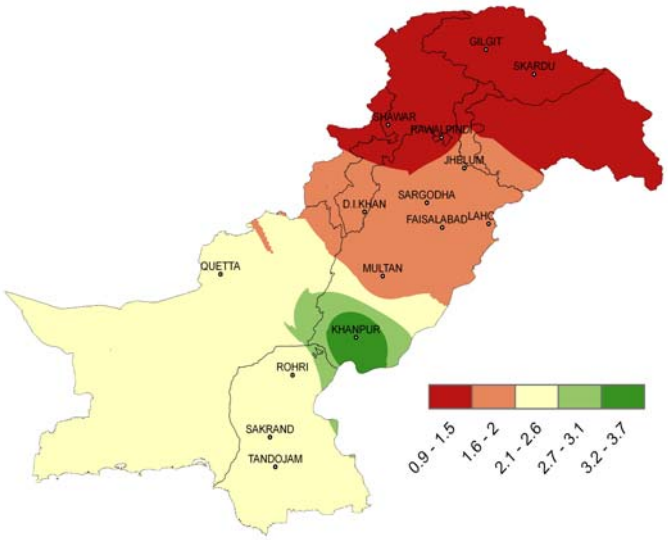


Figure.4: Reference Crop Evapotranspiration "ETo" in mm/day

2.13 Gilgit.

Rainfall reported amounting 2.2 mm during the decade, weather remained cloudy for 08 days and average relative humidity recorded as 53%. Mean night temperature was -1.5°C while day temperature recorded as 23.5°C with 56.1 hours bright sunshine. Wind speed recorded as 1.6 Km/hr with mean direction *westerly.*

2.14 Jhelum

No rainfall reported during the decade, weather remained cloudy for 3 days and average relative humidity recorded as 64%. Mean night temperature was 8.3°C while day temperature recorded as 30.0°C with 76.3 hours bright sunshine duration. Wind speed recorded as 1.0 Km/hr with variable direction.

2.15 D.I. Khan

No rainfall reported during the decade, weather remained cloudy for 3 days, average relative humidity recorded as 70%. Mean night temperature was 9.3°C while day temperature recorded as 28.5°C with 63.7 hours bright sunshine duration. Wind speed recorded as 1.1 Km/hr with mean direction *north easterly.*

2.16 Sakrand

No rainfall reported during the decade, weather remained clear during the decade and average relative humidity recorded as 55%. Mean night temperature was 11.0°C while day temperature recorded as 33.0°C with 93.4 hours bright sunshine duration. Wind speed recorded as 1.7 Km/hr with mean direction *north easterly.*

3. Ten days Weather advisory for Farmers (21st to 30th November, 2012)

3.1 Temperature Forecast:

Day time temperatures expected to be droped 1-2°C but night temperatures may drop 2-3°C 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,However light rain is expected in upper Punjab during the last days of the decade.
- **Khyber Pakhtoonkhawa**: Mainly dry weather is expected in most parts of the province during the decade, However light rain at isolated at places in Malakand and Hazara division during 23rd / 24th November and light to moderate rain is expected in upper KP during the last days of the decade.
- **Sindh:** Mainly dry weather is expected in most parts of the province during the decade.
- **Balochistan:** Mainly dry weather is expected in most parts of the province during the decade.
- **Kashmir &Gilgit-Baltistan**: Mainly dry weather is expected in most parts of the province during the decade. However light rain may occur during 23rd to 25th and light to moderate rain is expected during the last days of November.

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:

- Most of the fields in Barani areas are under moisture stress condition. Farmers of Barani areas are advised to take in time precautionary measures to protect their crops and to keep in mind with current situation of weather.
- Farmers of Barani areas are advised to complete sowing before 30th November to get the maximum yield.
- Farmers of irrigated areas are advised to complete sowing before 15th December to get the maximum yield.
- Wheat cultivation mostly completed in upper plains and in progress in lower plains of the country. Farmers may irrigate the crop as per requirement due to dry weather in most of the agricultural plains of the country. Normally first irrigation is given 20-25 days after sowing.