

# Decadal Agromet Bulletin of Pakistan



## Highlights....

- ❖ Light to moderate with isolated heavy rainfall reported from the most of the agricultural plains of the country except Sindh during the last decade.
- ❖ Highest maximum temperature recorded as 48.0°C at Nokkundi during the last decade.
- ❖ Highest amount of rainfall recorded as 145.0mm at Balakot during the last decade.
- ❖ Lower values of relative humidity reported from Quetta & Skardu region and higher values reported from Punjab, KP & Sindh during the last decade.
- ❖ Higher values of ETo reported from the southern agricultural plains of the country and lower values reported from GB & Skardu region during the last decade.
- ❖ Day temperatures may rise during 1<sup>st</sup> half and normal temperatures are expected during 2<sup>nd</sup> half in most parts of agricultural plains of the country of the decade.
- ❖ Gusty wind pattern may prevail in most parts of the country during the 2<sup>nd</sup> half of the decade.
- ❖ Chances of scattered rain-thundershower in upper & central parts of the country during the decade.
- ❖ Average ( $\pm 10\%$ ) rainfall is expected during monsoon season 2013.
- ❖ Intensity and frequency of monsoon will be less during July. It will increase gradually during August over central parts of the country. However, during last phase of the monsoonal rainfall (September) above normal rainfall is expected.

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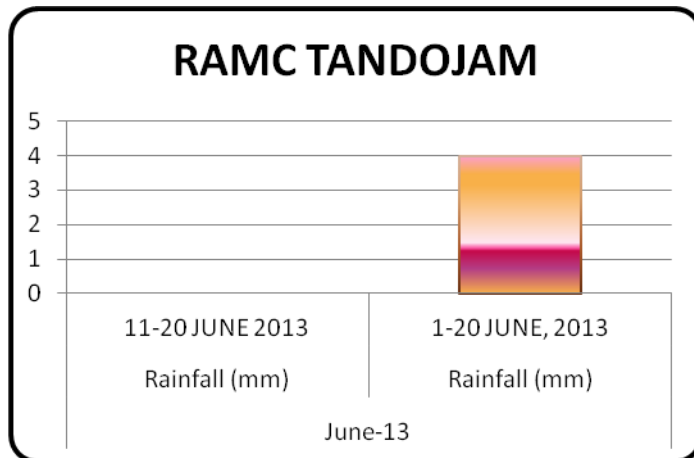
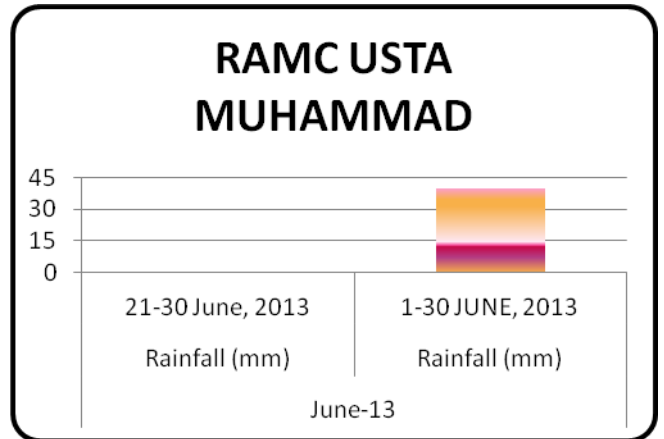
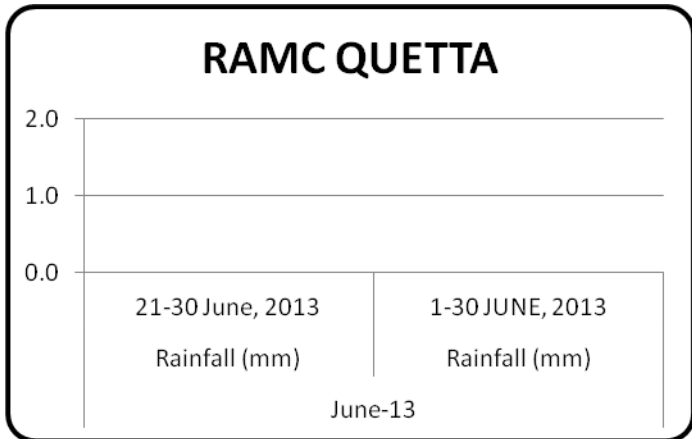
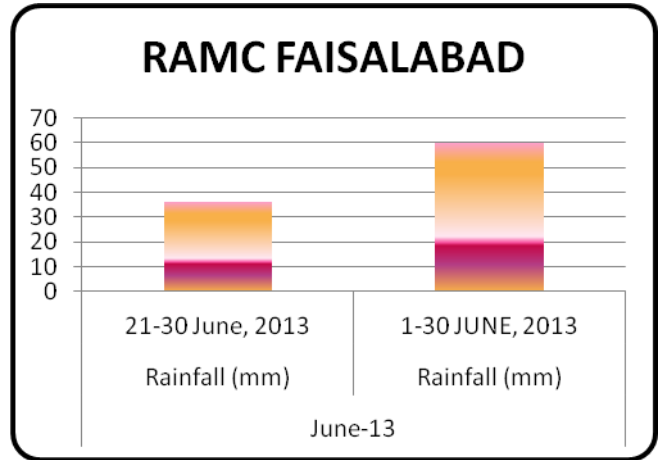
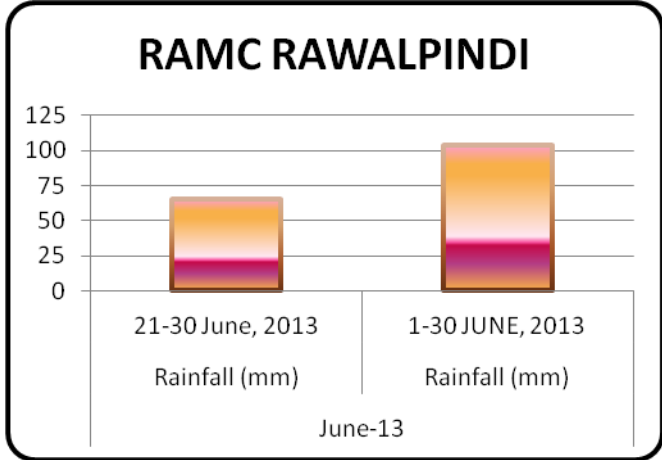
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Meteorological conditions during 3<sup>rd</sup> decade of June, 2013

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	Tmax	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	TANDOJAM	0.7	0.0	-0.7	0.7	-1.0	32.4	39.8	41.3	35.6	34.7	34.3	31.7	108.9	9.1	59	7.1
2	SAKRAND ☆	1.7	0.0	-1.7	-1.4	-0.2	33.0	44.5	43.3	46.8	36.7	37.8	34.3	111.7	17.9	52	7.6
3	ROHRI	0.0	0.0	0.0	-0.1	0.2	35.9	49.9	44.3	39.5	39.2	35.2	32.9	110.0	4.6	47	6.9
4	USTA MUHAMMAD	1.8	0.0	-1.8	-1.2	-0.7	35.1	35.1	32.8	32.1	32.0	30.6	28.8	***	6.5	48	7.0
5	QUETTA	0.0	0.0	0.0	2.0	1.1	29.7	39.3	36.1	31.8	30.1	28.6	28.0	98.5	5.3	27	8.1
6	KHANPUR	0.5	0.0	-0.5	-0.2	-0.4	35.0	39.0	38.4	38.1	38.1	38.1	35.5	99.5	9.7	49	7.7
7	MULTAN	1.0	0.6	-0.4	0.2	-0.6	35.3	***	***	***	***	***	***	97.1	12.2	47	8.1
8	LAHORE	2.2	136.0	133.8	-1.5	0.9	32.6	37.9	37.0	35.9	32.9	***	29.9	88.7	5.5	56	6.0
9	FAISALABAD	1.9	36.0	34.1	1.7	1.0	34.4	43.8	41.0	37.9	35.9	34.5	31.2	100.0	7.4	46	6.7
10	SARGODHA	3.3	9.4	6.1	1.3	0.6	35.1	39.4	37.5	35.0	33.8	33.3	31.2	94.1	5.5	65	6.0
11	JHELUM	4.2	38.6	34.4	0.6	1.4	33.7	40.7	39.0	36.5	35.1	34.8	***	92.1	6.3	49	6.6
12	RAWALPINDI	5.4	65.5	60.1	1.7	2.1	32.7	37.3	35.2	33.2	32.1	30.8	29.1	102.7	2.8	43	5.9
13	D I KHAN	0.8	13.7	12.9	0.4	2.4	34.7	***	***	***	***	***	***	96.4	4.3	55	6.4
14	PESHAWAR	1.3	TR	-1.3	-0.5	-2.2	32.0	40.0	35.5	33.7	32.3	***	28.1	78.9	2.9	53	5.5
15	SKARDU	0.4	TR	-0.4	0.9	1.2	23.5	***	***	***	***	***	***	84.5	2.7	22	4.8
16	GILGIT	0.7	4.8	4.1	0.6	-2.3	24.3	***	***	***	***	***	***	63.6	6.0	45	5.3

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.

**Graphs for Rainfall (mm) during June 2013**



**Past Weather (21<sup>st</sup> to 30<sup>th</sup> June, 2013):**

Light to moderate with isolated heavy falls reported from most of the agricultural plains of the country except Sindh during the period.

**1.1 Punjab**

Light to moderate with isolated heavy rainfall reported at a number of places in the agricultural plains of Punjab; chief amount received at, Murree, Islamabad, Lahore etc. Decadal maximum & minimum temperature both raised above normal by 0.7°C and 0.5°C respectively in the province. Mean values of wind speed, relative humidity and ETo were recorded as 5.5 km/hr, 56%, and 5.3 mm/day respectively.

**1.2 Sindh**

Rainfall reported only from a single station( Karachi) 1 during the decade. Decadal maximum & minimum temperature both dropped below normal by 0.3°C and 0.3°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 10.5 km/hr, 53%, and 7.2 mm/day respectively.

**1.3 Khyber Pakhtunkhwa (KP)**

Light to moderate with isolated heavy rainfall reported from most of the places in the agricultural plains of KP; chief amount received at Balakot, Saidusharif and Kakul etc. In KP region; Decadal maximum raised above normal by 0.1°C and minimum dropped below normal by 0.1°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.6 km/hr, 54%, and 6.0 mm/day respectively.

**1.4 Balochistan**

Light to moderate rainfall reported from few places in the agricultural plains of Balochistan; chief amount received at Barkhan, Zhob and Khuzdar. Decadal maximum and minnum both raised above normal 0.2°C & 0.4 °C respectively, in the province. Whereas mean values of wind speed, relative humidity and ETo were 5.9 km/hr, 38%, and 7.6 mm/day respectively.

**1.5 Gilgit Baltistan and Azad Jammu & Kashmir**

Light to moderate with isolated heavy rainfall from the agricultural plains of GB & Kashmir; chief amount received at Rawalakot, Kotli and Muzzafrabad etc. In GB & AJK region; Decadal maximum dropped below normal by 0.6°C and minimum raised above normal 0.7°C in the province. Whereas mean values of wind speed, relative humidity and ETo were recorded 4.4 km/hr, 34%, and 5.1 mm/day respectively.

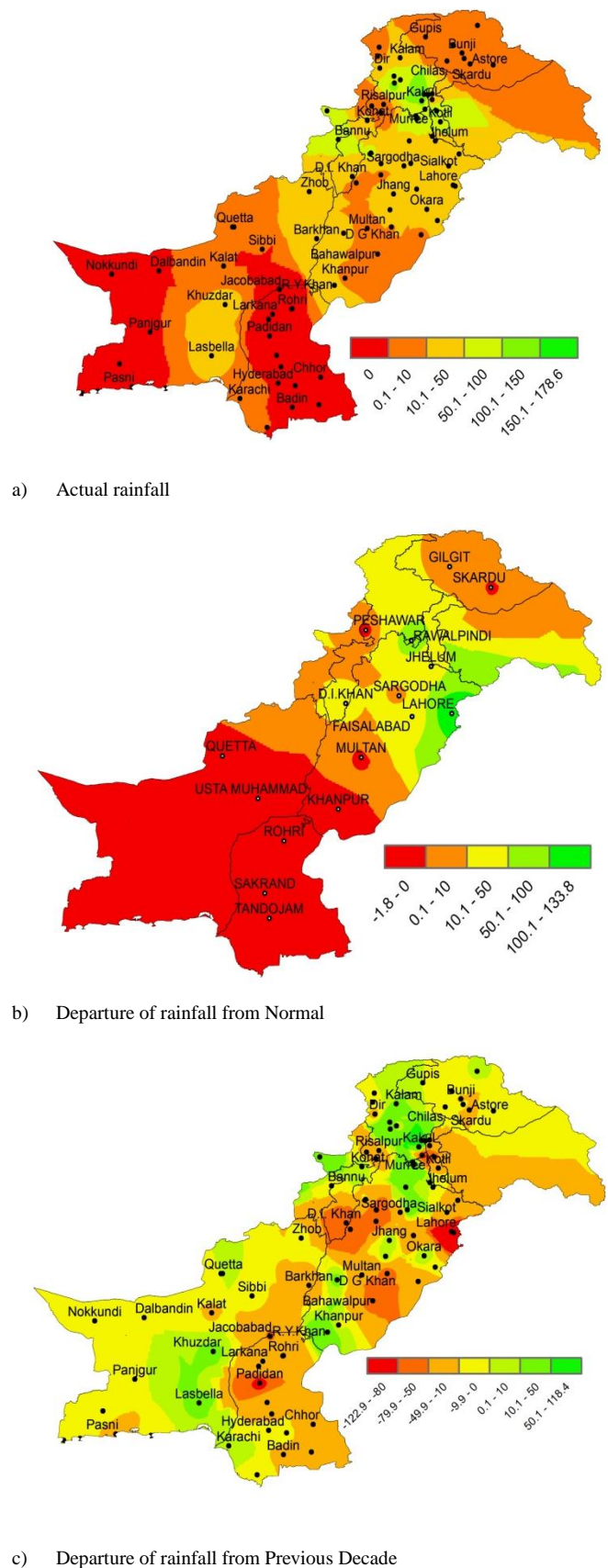


Figure.1: Rainfall distribution during previous decade in “mm”



2 (a) **Past Weather for Major Agricultural Plains**  
**Past Weather (21<sup>st</sup> to 30<sup>th</sup> June, 2013)**

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

Rainfall reported as 65.5 mm during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 43%. Mean night temperature was 25.9°C while day temperature recorded as 39.5°C with 102.7 hours bright sunshine duration. Wind speed recorded as 2.8 Km/hr with mean direction *westerly*.

Note. No crop is grown at the station

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

Rainfall reported as 36.0 mm during the decade, weather remained cloudy for 04 days, average relative humidity recorded as 46%. Mean night temperature was 28.7°C while day temperature recorded as 40.0°C with 100.0 hours bright sunshine duration. Wind speed recorded as 7.4 Km/hr with mean direction *south westerly*.

Sugarcane: Very Good condition, Tillering completed.  
 Cotton: Very Good condition, Flowering completed.

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

No rainfall reported during the decade, weather remained cloudy for 07 days during the decade, average relative humidity recorded as 59%. Mean night temperature was 27.6°C while day temperature recorded as 37.2°C with 108.9 hours bright sunshine duration. Wind speed recorded as 9.1 km/hr with mean direction *south westerly*.

Cotton: BT 3701 Good condition, Flowering stage.

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

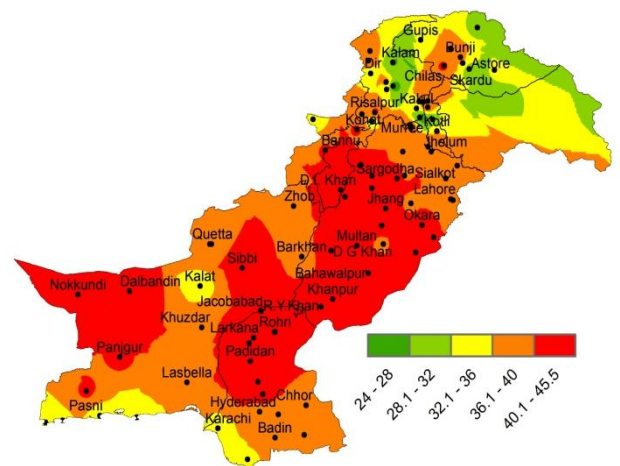
No rainfall reported during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 27%. Mean night temperature was 22.5°C while day temperature recorded as 36.9°C with 98.5 hours bright sunshine duration and wind speed recorded as 5.3 Km/hr with mean direction *north westerly*.

Note. No crop is grown at the station.

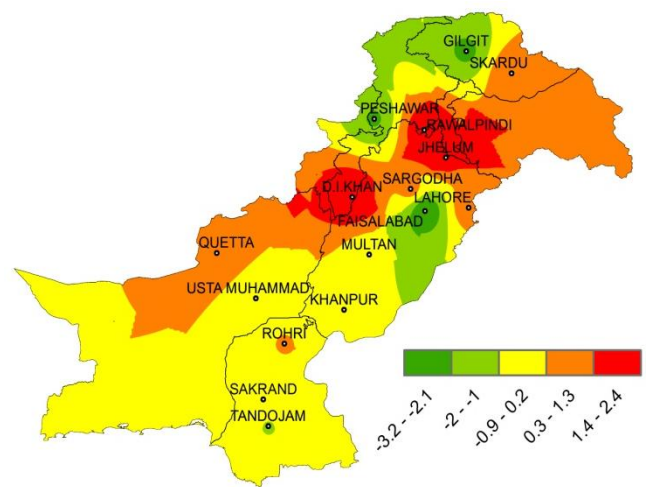
2.5 **RAMC, Usta Muhammad (Eastern Balochistan)**

No rainfall reported during the decade, weather remained cloudy for 03 days, average relative humidity recorded as 48%. Mean night temperature was 27.8°C while day temperature recorded as 42.3°C with wind speed recorded as 6.5 Km/hr with mean direction *southerly*.

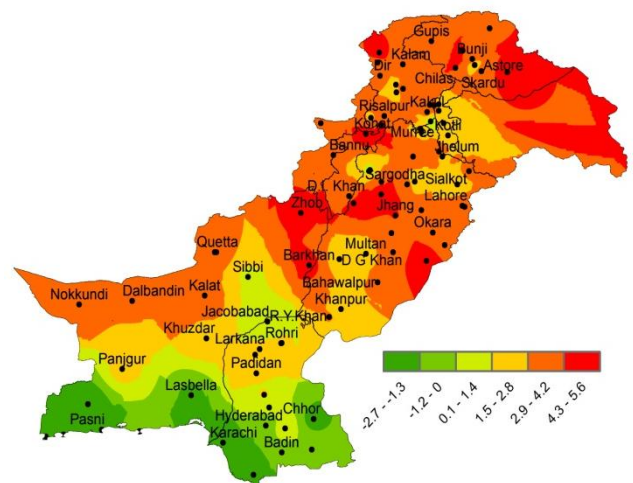
Rice: Good condition, Germination stage.



(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 (21<sup>st</sup> to 30<sup>th</sup> June, 2013):**

2.6 **Jhelum**

Rainfall reported as 38.6 mm during the decade, weather remained cloudy for 08 days and average relative humidity recorded as 49%. Mean night temperature was 27.6°C while day temperature recorded as 39.8°C with 92.1 hours bright sunshine duration. Wind speed recorded 6.3 Km/hr with mean direction *south easterly*.

2.7 **Lahore**

Rainfall reported as 136.0 mm during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 56%. Mean night temperature was 26.9°C while day temperature recorded as 38.2°C with 88.7 hours bright sunshine duration. Wind speed recorded as 5.5 Km/hr with mean direction *north easterly*.

2.8 **Sargodha**

Rainfall reported as 9.4 mm during the decade, weather remained cloudy for 5 days during the decade, average relative humidity recorded as 65%. Mean night temperature was 29.3°C while day temperature recorded as 40.8°C with 94.1 hours bright sunshine duration. Wind speed recorded as 3.0 Km/hr with mean direction *north easterly*.

2.9 **Multan**

Rainfall reported as 0.6 mm during the decade, weather remained cloudy for 04 days, average relative humidity recorded as 47%. Mean night temperature was 30.1°C while day temperature recorded as 40.4°C with 97.1 hours bright sunshine duration. Wind speed recorded as 12.2 Km/hr with wind direction *southerly*.

2.10 **Khanpur**

No rainfall during the decade, weather remained cloudy for 06 day during the decade, average relative humidity recorded as 49%. Mean night temperature was 28.8°C while day temperature recorded as 41.1°C with 99.5 hours bright sunshine duration. Wind speed recorded as 9.7 Km/hr with mean direction *south westerly*.

2.11 **Rohri**

No rainfall during the decade, weather remained cloudy for 04 days, average relative humidity recorded as 47%. Mean night temperature was 29.7°C while day temperature recorded as 42.1°C with 110.0 hours bright sunshine duration. Wind speed recorded as 4.6 Km/hr with mean direction *southerly*.

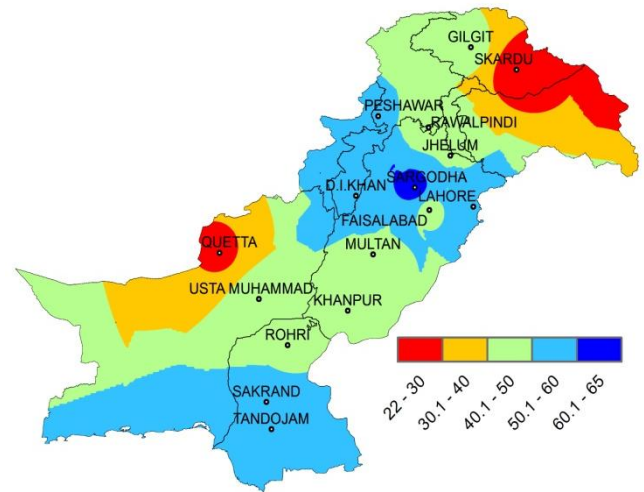


Figure.3: Relative Humidity in percentage

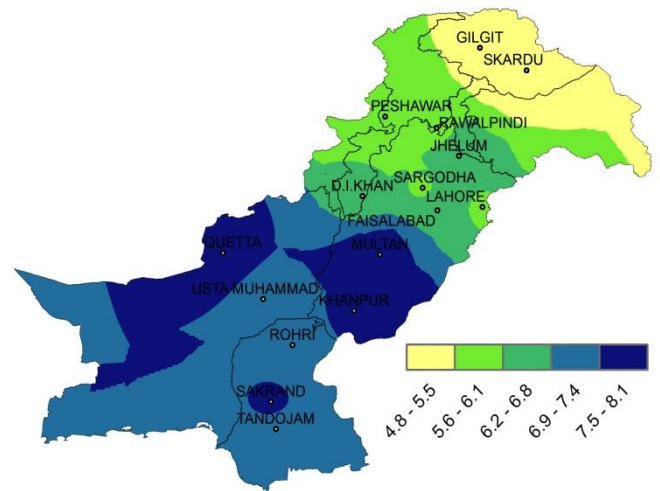


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

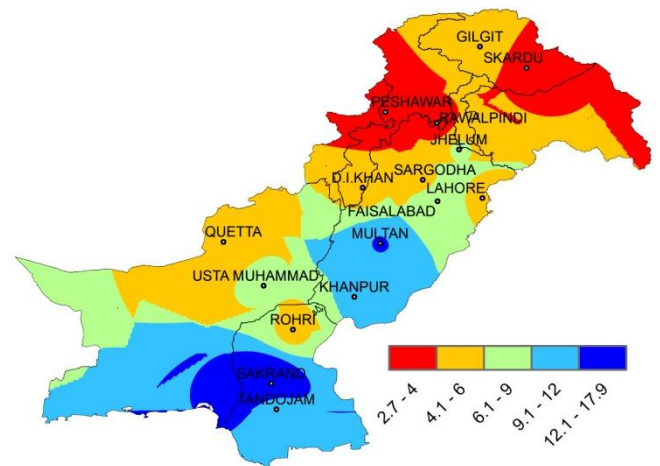


Figure 5: Wind Speed in kilometer per hour

**2.12 Sakrand**

No rainfall during the decade, weather remained cloudy for 02 day during the decade, average relative humidity recorded as 52%. Mean night temperature was 25.8°C while day temperature recorded as 40.2°C with 111.7 hours bright sunshine duration. Wind speed recorded as 17.9 Km/hr with mean direction *south westerly*.

**2.13 Peshawar**

Rainfall reported as Trace (non measureable) during the decade, weather remained cloudy for 06 days, average relative humidity recorded as 53%. Mean night temperature was 26.6°C while day temperature recorded as 37.3°C with 78.9 hours bright sunshine duration. Wind speed recorded as 2.9 Km/hr with mean direction *north westerly*.

**2.14 D.I. Khan**

Rainfall reported 13.7 mm during the decade, weather remained cloudy for 03 days, average relative humidity recorded as 55%. Mean night temperature was 26.5°C while day temperature recorded as 42.8°C with 96.4hours bright sunshine duration. Wind speed recorded as 4.3 Km/hr with mean direction *easterly*.

**2.15 Gilgit**

Rainfall reported 4.8 mm during the decade. weather remained cloudy for 09 days and average relative humidity recorded as 39%. Mean night temperature was 17.7°C while day temperature recorded as 37.9°C with 84.1 hours bright sunshine. Wind speed recorded as 3.4 Km/hr with *variable* direction.

**2.16 Skardu**

Rainfall reported as Trace (non measureable) during the decade, weather remained cloudy for 03 days, average relative humidity recorded as 22%. Mean night temperature was 14.7°C while day temperature recorded as 32.2°C with 2.7 hours bright sunshine duration with mean speed 5.9 Km/hr with *variable* direction .

**3. Ten days Weather advisory for Farmers  
(1<sup>st</sup> to 10<sup>th</sup> July, 2013)****3.1 Temperature Forecast:**

Day temperatures may rise during 1<sup>st</sup> half and normal temperatures are expected during 2<sup>nd</sup> half in most parts of agricultural plains of the country of the decade.

**3.2 Rain Forecast:**

- ❖ **Punjab:** Scattered Rain dust-thundershowers with gusty winds is expected in upper & central Punjab with occasional gaps during 2<sup>nd</sup> half of the decade.
- ❖ **Khyber Pakhtunkhwa:** Scattered rain dust-thundershowers with gusty winds is expected in KP with occasional gaps during 2<sup>nd</sup> half of the decade.
- ❖ **Sindh :** Isolated rain dust-thundershowers with gusty winds is expected in lower Sindh during 2<sup>nd</sup> half of the decade.
- ❖ **Balochistan:** Isolated rain dust-thundershowers with gusty winds is expected with occasional gaps in Northeastern parts during 2<sup>nd</sup> half of the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Isolated rain is expected in Gilgit-Baltistan, while scattered rain-thundershowers with strong gusty winds are expected with occasional gaps in Kashmir during the 2<sup>nd</sup> half of the decade.

**3.3 Wind Forecast:**

Gusty wind pattern may prevail in most of the agricultural plains of the country during 2<sup>nd</sup> half of the decade.

**3.4 Advisory for Farmers:**

- ❖ Monsoon rains are expected in different parts of the country from the 2<sup>nd</sup> half of the decade. Farmers are advised to take in time precautionary measures to protect their crops, livestock and other property.
- ❖ Due to expected weather and start of monsoon rains in different parts of the country, farmers of upper parts should stop irrigate the crops during the 2<sup>nd</sup> half of decade.
- ❖ Due to dry weather in lower half of the country, farmers of cotton and sugarcane crops of lower areas are advised to irrigate the crops as per requirement.
- ❖ Farmers of upper half of the country are advised to prepare the fields for the coming Kharif crops in time and save the moisture from coming monsoonal rains.
- ❖ Farmers of upper half especially rainfed areas of the country are advised to sow maize crop in time to utilize fully the present soil moisture.
- ❖ Farmers of rainfed areas obtaining crop water through tube wells are also advised to schedule the irrigation according to the expected weather mentioned during the decade.