

Decadal Agromet Bulletin of Pakistan



Highlights....

- ❖ Light to Moderate rainfall (with snowfall over hills) reported from the most of the agricultural plains of the country during the last decade.
- ❖ Highest amount of rainfall recorded as 82.0 mm at Khuzdar during the last decade.
- ❖ Lowest minimum temperature recorded as -10.0°C at Parachinar during the last decade.
- ❖ Highest values of relative humidity recorded as 86% at Usta Muhammad (Balochistan) during the last decade.
- ❖ Higher values of ETo reported from the agricultural plains of Sindh, Southern Punjab & Southern parts of Balochistan but lower values reported from Skardu region during last decade.
- ❖ Normal temperatures are expected 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.
- ❖ Widespread rainfall (with snow over hills) is expected in Punjab, KP, Kashmir & GB, while isolated to scattered rainfall (with snow over hills) is expected in Balochistan and Sindh during the next decade.
- ❖ The coming rains are beneficiary for all agricultural plains, especially rainfed areas and all southern agricultural plains of the country.

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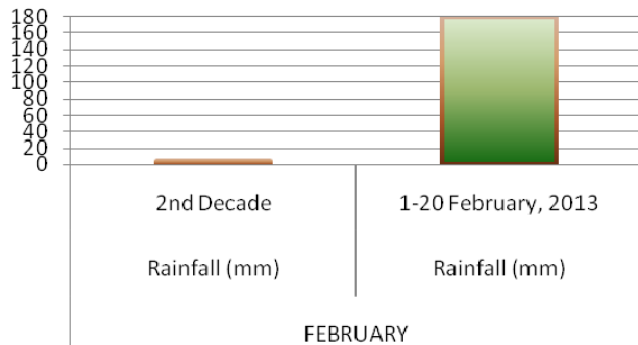
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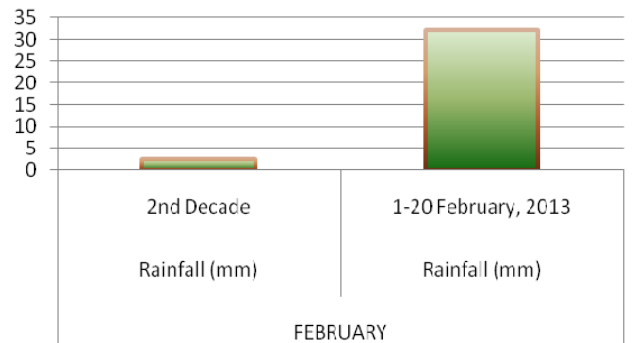
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Graphs for Rainfall (mm) during February 2013

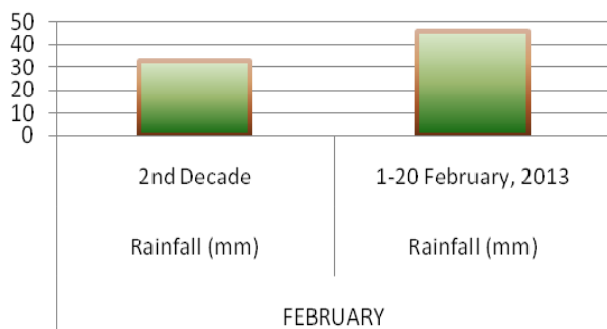
RAMC RAWALPINDI



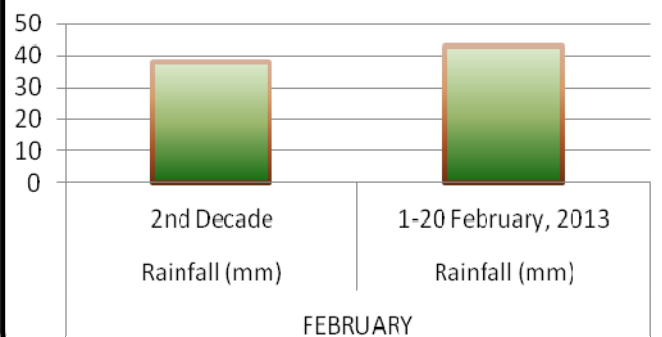
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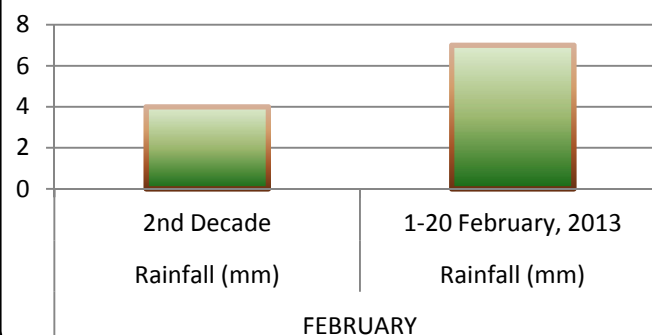
RAMC QUETTA



RAMC USTA MUHAMMAD



RAMC TANDOJAM



Meteorological conditions during 2nd decade of February, 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 Dep	Tmax Dep	Mean	5cm	10cm	20cm	30cm	50cm	100cm				
1	TANDOJAM	0.6	4.0	3.4	1.5	-2.0	19.4	26.2	25.4	20.8	20.6	21.1	21.4	88.7	2.6	56.0	2.9
2	SAKRAND ☆	0.0	12.0	12.0	0.3	-1.6	17.5	26.1	24.4	27.1	20.3	21.5	22.2	97.8	5.4	59.0	2.8
3	ROHRI	0.0	15.0	15.0	1.0	-2.6	18.9	25.2	23.1	20.9	21.3	20.0	23.1	77.4	4.8	60.0	2.7
4	USTA MUHAMMAD	0.0	38.0	38.0	1.7	-4.6	17.0	18.4	18.3	17.9	17.7	18.6	20.1	***	0.8	86.0	1.9
5	QUETTA	1.7	33.0	31.3	2.1	-1.9	8.2	12.3	11.1	8.5	8.0	7.4	10.1	56.8	4.7	58.0	1.9
6	KHANPUR	0.1	11.0	10.9	2.0	-1.3	17.6	18.2	18.2	18.4	18.8	19.9	18.2	73.2	3.8	61.0	2.5
7	MULTAN	1.1	6.0	4.9	2.5	-1.1	17.1	***	***	***	***	***	***	48.2	***	66.0	2.7
8	LAHORE	2.3	21.6	19.3	-1.9	-1.8	15.4	16.4	15.4	15.0	***	16.7	16.4	58.3	2.7	67.0	1.9
9	FAISALABAD	1.3	2.4	1.1	-0.2	-0.4	15.7	17.9	15.5	15.0	15.3	16.4	17.9	63.4	4.1	64.0	2.2
10	SARGODHA	1.6	TR	-1.6	1.2	-0.6	16.4	17.4	16.1	16.0	16.5	17.4	17.4	61.6	3.1	67.0	2.1
11	JHELUM	3.3	5.2	1.9	-0.5	-0.5	15.4	16.0	15.0	14.7	15.4	***	16.0	62.1	2.7	63.0	2.9
12	RAWALPINDI	3.4	5.0	1.6	0.1	0.3	13.7	13.3	11.8	11.2	11.4	11.6	13.1	55.0	3.8	70.0	1.7
13	D I KHAN	1.5	14.7	13.2	1.1	-1.0	15.2	***	***	***	***	***	***	61.4	1.6	72.0	1.8
14	PESHAWAR	4.1	TR	-4.1	-0.8	1.1	14.3	17.3	14.7	13.8	14.0	14.0	14.1	57.4	1.8	61.0	1.7
15	SKARDU	1.0	2.1	1.1	0.0	0.1	2.3	***	***	***	***	***	***	50.4	0.4	55.0	1.1
16	GILGIT	0.6	0.3	-0.3	0.0	0.2	7.8	***	***	***	***	***	***	30.1	2.1	58.0	1.5

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.

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

Light to Moderate rainfall (with snowfall over hills) reported from the most of the agricultural plains of the country during the decade.

1.1 Punjab

Light to moderate rainfall reported at a number of places in the agricultural plains of Punjab; chief amount received at Sahiwal, Mandi-bahu-din, Lahore etc. Decadal maximum temperature dropped below normal by 0.8°C & decadal minimum temperature raised above normal by 0.5°C in the province. Mean values of wind speed, relative humidity and ETo were recorded as 3.1 km/hr, 65%, and 2.3 mm/day respectively (Fig 3-4).

1.2 Sindh

Light to moderate rainfall reported at a number of places in agricultural plains of Sindh; chief amount received at Hyderabad, Sukkur, Rohri etc. Decadal maximum temperature dropped below normal by 2.1 & decadal minimum temperature raised above normal by 0.9°C in the in the province. Mean values of wind speed, relative humidity and ETo were recorded as 4.3 km/hr, 58%, and 2.8 mm/day respectively.

1.3 Khyber Pakhtoonkhawa (KP)

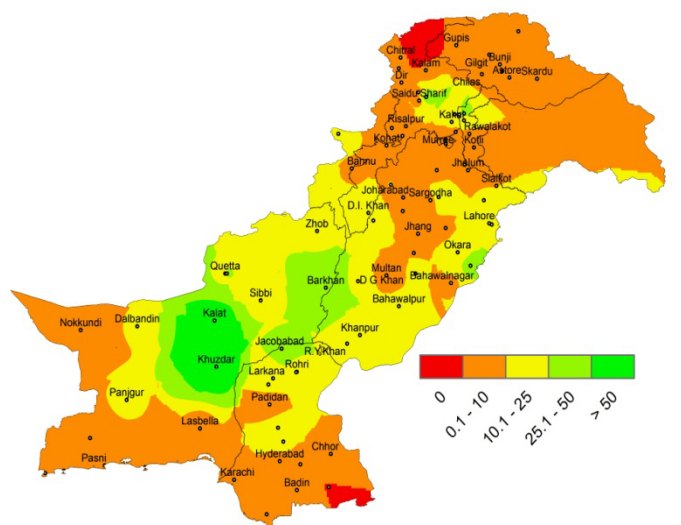
Light to moderate rainfall reported at a number of places in the agricultural plains of KP; chief amount received at Malamjabba, Balakot, D.I.Khan etc. In KP region; Decadal maximum and minimum temperature both raised above normal by 0.1 & 0.1°C respectively, in the province. Mean values of wind speed, relative humidity and ETo were recorded as 1.7 km/hr, 67%, and 1.8 mm/day respectively.

1.4 Balochistan

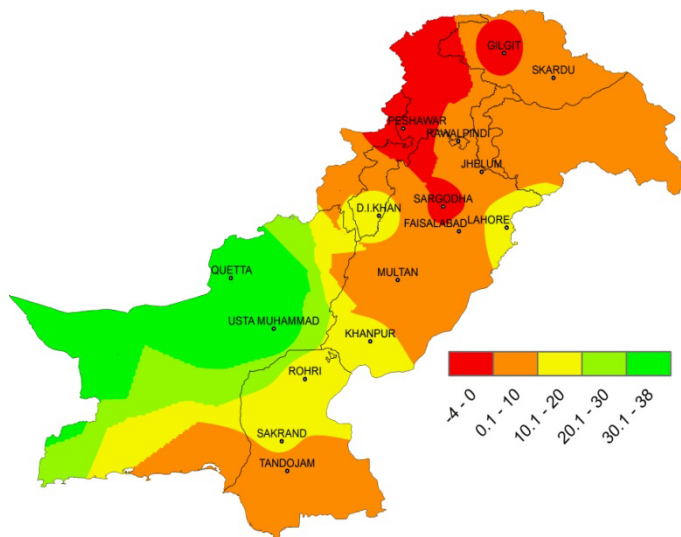
Moderate to Heavy rainfall reported at a few places in agricultural plains of Balochistan; chief amount received at Khuzdar , Kalat, Barkhan . Decadal maximum temperature dropped below normal by 3.3°C & and decadal minimum raised above normal by 1.9°C in the province. Whereas mean values of wind speed, relative humidity and ETo were 2.8 km/hr, 72%, and 1.9 mm/day respectively.

1.5 Gilgit Baltistan and Azad Jammu & Kashmir

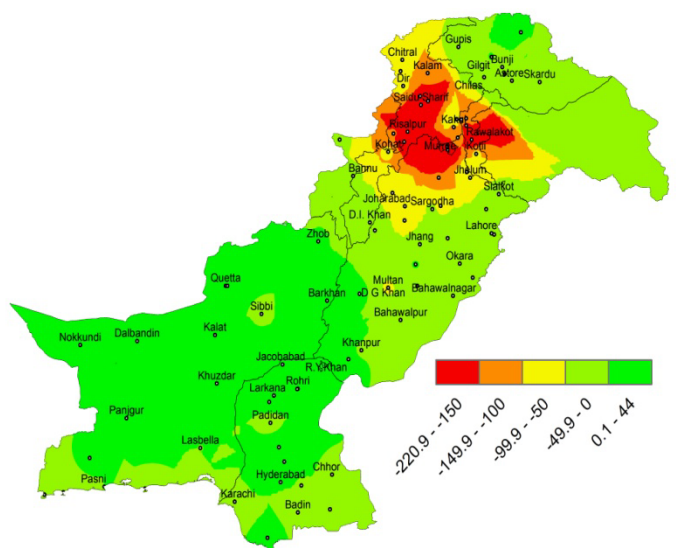
Light to moderate rainfall reported at a number of places in agricultural plains of GB & Kashmir; chief amount received at, Pattan, Muzaffarabad, Garidoptta etc. In GB & AJK region; Decadal maximum & minimum temperature raised above normal by 0.2 & 0.0°C respectively, in the province Whereas mean values of wind speed, relative humidity and ETo were recorded 1.3km/hr, 57%, and 1.3 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 February, 2013) as per Table-1

2.1 RAMC, Rawalpindi (Potohar region)

Rainfall reported amounting to 5.0 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 67%. Mean night temperature was 6.9°C while day temperature recorded as 20.5°C with 63.4 hours bright sunshine duration. Wind speed recorded as 2.0 Km/hr with mean direction *westerly*. Presently one crop is grown at the station.

Wheat Chakwal 97: Good condition, Shooting stage.

2.2 RAMC, Tandojam (Lower Sindh)

Rainfall reported amounting to 4.0 mm during the decade, weather remained cloudy for 5 days during the decade, average relative humidity recorded as 56%. Mean night temperature was 12.3°C while day temperature recorded as 26.5°C with 88.7 hours bright sunshine duration. Wind speed recorded as 2.6 km/hr with mean direction *northly*.

Wheat (TJ 83): Good condition, Wax Maturity stage.

2.3 RAMC, Faisalabad (Central Punjab)

Rainfall reported amounting to 2.4 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 64%. Mean night temperature was 8.8°C while day temperature recorded as 22.5°C with 63.4 hours bright sunshine duration. Wind speed recorded as 4.1 Km/hr with mean direction *southerly*.

Sugarcane: Very Good condition, Tillering stage.

Wheat: Very Good condition, Shooting stage completed.

2.4 RAMC, Quetta (Northern Balochistan)

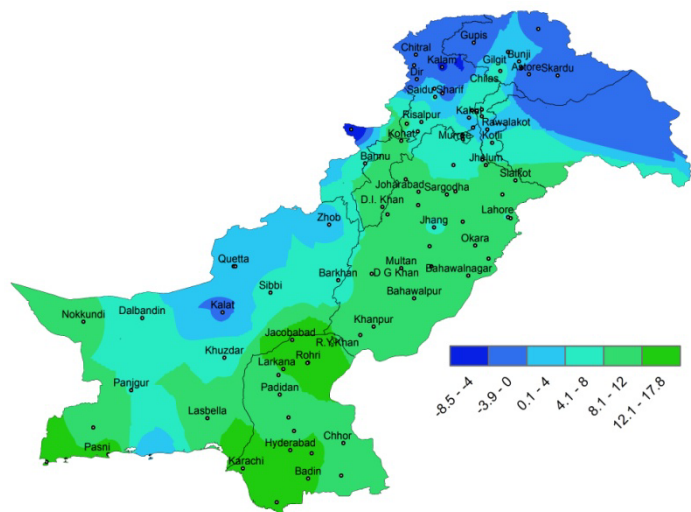
Rainfall reported amounting to 33.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 58%. Mean night temperature was 3.0°C while day temperature recorded as 13.3°C with 56.8 hours bright sunshine duration and wind speed recorded as 4.7 Km/hr with mean direction *southerly*.

Wheat (Local white): Good condition, Tillering stage.

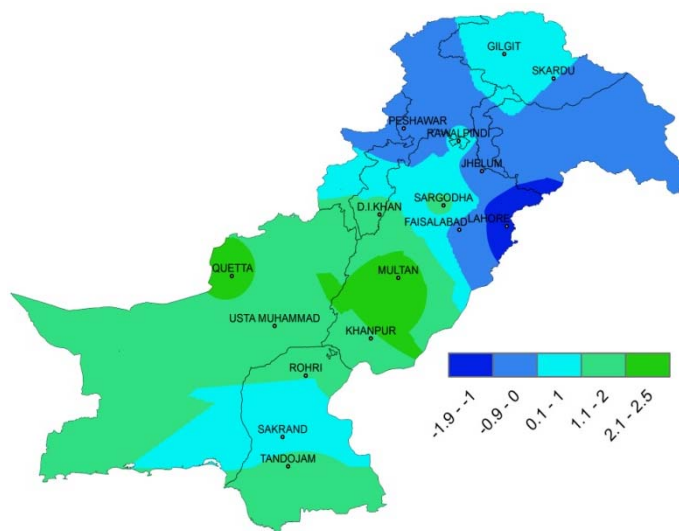
2.5 RAMC, Usta Muhammad (Eastern Balochistan)

Rainfall reported amounting to 38.0 mm during the decade, weather remained cloudy for 5 days, average relative humidity recorded as 86%. Mean night temperature was 12.0°C while day temperature recorded as 22.0°C with wind speed recorded as 0.8 Km/hr with mean direction *southerly*.

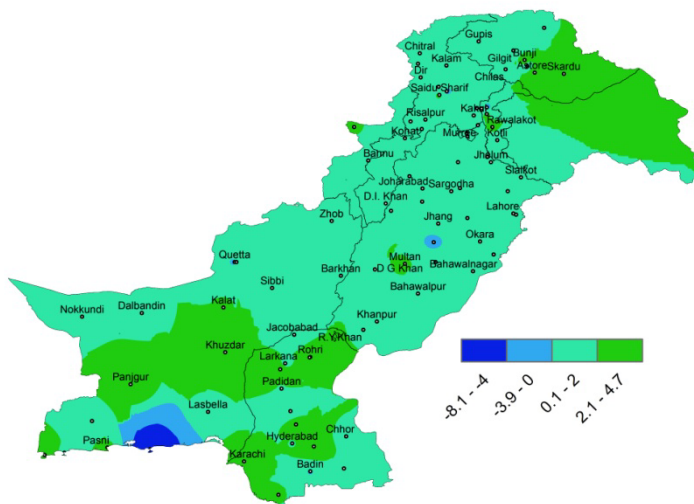
Wheat: Good condition, Tillering almost completed.



(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 February, 2013)

2.6 Rohri

Rainfall reported amounting to 15.0 mm during the decade, weather remained cloudy for 8 days, average relative humidity recorded as 60%. Mean night temperature was 13.4°C while day temperature recorded as 24.3°C with 77.4 hours bright sunshine duration. Wind speed recorded as 4.8 Km/hr with mean direction *north easterly*.

2.7 Skardu

Snowfall reported as 0.6 inches while rainfall reported amounting to 2.1 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 55%. Mean night temperature was -3.4°C while day temperature recorded as 7.9°C with 50.4 hours bright sunshine duration with mean speed 0.4 Km/hr and mean direction *northly*.

2.8 Multan

Rainfall reported amounting to 6.0 mm during the decade, weather remained cloudy for 10 days, average relative humidity recorded as 66%. Mean night temperature was 11.7°C while day temperature recorded as 22.4°C with 48.2 hours bright sunshine duration. Wind speed data not received while mean wind direction *southerly*.

2.9 Lahore

Rainfall reported amounting to 21.6 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 67%. Mean night temperature was 9.9°C while day temperature recorded as 20.9°C with 58.3 hours bright sunshine duration. Wind speed recorded as 2.7 Km/hr with mean direction *north westerly*.

2.10 Peshawar

Rainfall reported amounting to Trace (not measureable) during the decade, weather remained cloudy for 9 days, average relative humidity recorded as 61%. Mean night temperature was 7.5°C while day temperature recorded as 21.1°C with 57.4 hours bright sunshine duration. Wind speed recorded as 1.8 Km/hr with mean direction *north westerly*.

2.11 Khanpur

Rainfall reported amounting to 11.0 mm during the decade, weather remained cloudy for 9 days during the decade, average relative humidity recorded as 61%. Mean night temperature was 10.9°C while day temperature recorded as 24.3°C with 73.2 hours bright sunshine duration. Wind speed recorded as 3.8 Km/hr with mean direction *north easterly*.

2.12 Sargodha

Rainfall reported amounting to Trace (not measureable) during the decade, weather remained cloudy for 10 days during the decade, average relative humidity recorded as

67%. Mean night temperature was 10.4°C while day temperature recorded as 22.4°C with 61.6 hours bright sunshine duration. Wind speed recorded as 3.1 Km/hr with variable direction.

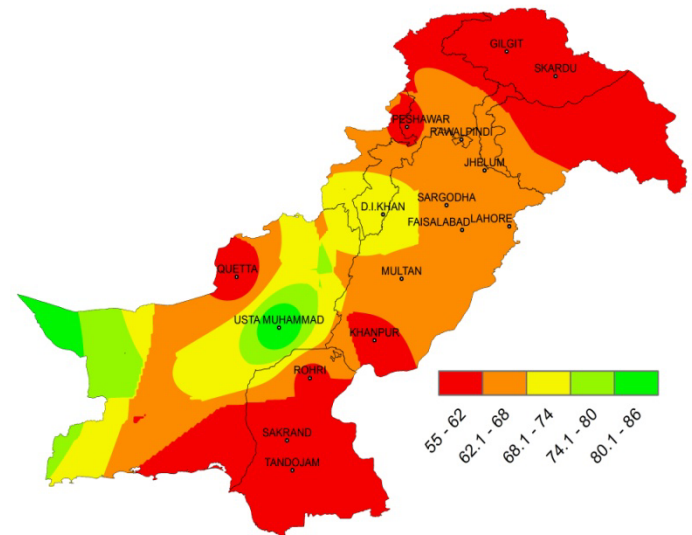


Figure.3: Relative Humidity in percentage

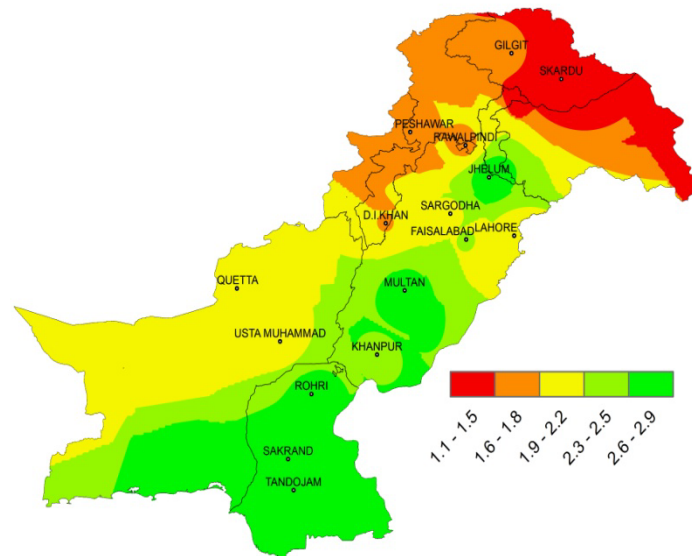


Figure.4: Reference Crop Evapotranspiration “ETo” in mm/day

2.13 Gilgit.

Rainfall reported amounting to 0.3 mm during the decade, weather remained cloudy for 10 days and average relative humidity recorded as 58 %. Mean night temperature was 0.9°C while day temperature recorded as 14.7°C with 30.1 hours bright sunshine. Wind speed recorded as 2.1 Km/hr with variable direction.

2.14 Jhelum

Rainfall reported amounting to 5.2 mm during the decade, weather remained cloudy for 9 days and average relative humidity recorded as 63%. Mean night temperature was 8.6°C while day temperature recorded as 22.2°C with 62.1 hours bright sunshine duration. Wind speed recorded as 2.7 Km/hr with mean direction *north westerly*.

2.15 D.I. Khan

Rainfall reported amounting to 14.7 mm during the decade, weather remained cloudy for 7 days, average relative humidity recorded as 72%. Mean night temperature was 9.2°C while day temperature recorded as 21.1°C with 61.4 hours bright sunshine duration. Wind speed recorded as 1.6 Km/hr with variable direction.

2.16 Sakrand

Rainfall reported amounting to 12.0 mm during the decade, weather remained cloudy for 4 days during the decade, average relative humidity recorded as 59%. Mean night temperature was 9.5°C while day temperature recorded as 25.5°C with 97.8 hours bright sunshine duration. Wind speed recorded as 5.4 Km/hr with mean direction *notherly*.

3. Ten days Weather advisory for Farmers (21st to 28th February, 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:** Widespread rain (with snow over the hills) over upper parts and scattered over central & southern parts from 21st (Night) to 23rd February and isolated chances of rain (with snow over hills) over upper parts on 26th & 27th February. However, dry weather is expected during rest of the decade.
- ❖ **Khyber Pakhtoonkhawa:** Widespread rain (with snow over the hills) is expected in KP from 21st to 23rd February and scattered chances of rain (with snow over hills) on 26th & 27th February. However, dry weather is expected during rest of the decade.
- ❖ **Sindh :** Isolated chances of rain in upper parts on 22nd February. However, dry weather is expected during rest of the decade.
- ❖ **Balochistan:** Scattered rain (with snow over the hills) in northern parts from 20th to 23rd February. However, dry weather is expected during rest of the decade.
- ❖ **Gilgit-Baltistan & Kashmir:** Widespread rain (with snow over the hills) in Kashmir while scattered rain (with snow over the hills) in Gilgit Baltistan during 21st to 23rd February and again chances of scattered rain (with snow over the hills) on 26th & 27th February. However, dry/cold weather is expected during rest of 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:

- ❖ Wheat crop is in Heading/Flowering/Maturity development stages in most of the agricultural plains of the country. Farmers are advised to stop irrigation the crops by keeping in view the expected rains in most of the agricultural plains of the country.
- ❖ Due to expected rains, Farmers should stop weeds removing spray & fertilizer intake during the decade. Weeds are expected to shoot after these rains. Farmers should control weeds growth soon after rains.
- ❖ The coming rains are beneficiary for all agricultural plains, especially northern rainfed and all southern agricultural plains of the country.
- ❖ Farmers in the lower half of the country especially those in central regions are advised to take up poultry rearing houses to maintain optimum room temperature and take care against the rapid changes in air temperature and relative humidity.
- ❖ Farmers are advised to ensure field sanitation and spray prophylactic fungicidal sprays to prevent spread of diseases on vegetables.