

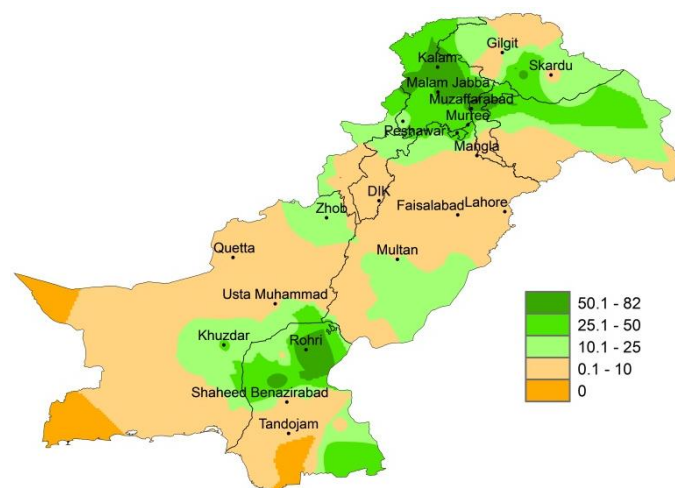
Weekly Weather and Crop Bulletin for Pakistan

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**Rainfall Distribution (mm) during the Previous
Week (11th – 17th November, 2019)**



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Highlights of Past Weather (11th to 17th November, 2019)

Above normal night time temperatures were observed in Sindh, Khyber Pakhtunkhwa, Punjab, Gilgit Baltistan and Kashmir, while mix trend was observed in Balochistan during the last week.

Province wise distribution of rainfall reported as follows during the last week:

1. Light to moderate amount of rainfall observed in all parts of the country.

Patron-in-Chief: Muhammad Riaz (Director General)

Editor-in-Chief: Dr Muhammad Afzaal (Director)

Editor: Khalida Noureen (Meteorologist)

Past Weather of Provinces (11th to 17th November, 2019)**Punjab**

Light to moderate rainfall observed in Punjab during the week. Weekly maximum and minimum temperatures recorded as 24.7°C & 13.3°C respectively. For the recent week on average 100.0 growing degree days were accumulated. Average relative humidity recorded as 67% and wind speed in the morning/evening recorded as 0.9/1.0 Knots. During the previous week the highest precipitation was recorded as 33.01 mm at Murree while minimum temperature was recorded as 4.0°C at Murree.

Baluchistan

Light to moderate rainfall observed in Baluchistan during the week. Weekly maximum and minimum temperatures recorded as 22.7°C & 9.2°C respectively. For the recent week on average 76.3 growing degree days were accumulated. Average relative humidity recorded as 48% and wind speed in the morning/evening recorded as 1.0/4.0 Knots. During the previous week the highest precipitation was recorded as 25.40 mm at Khuzdar while minimum temperature was recorded as -1.5°C at Kalat.

Khyber Pakhtunkhwa

Light to moderate rainfall observed in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 18.7°C & 7.3°C respectively. For the recent week on average 87.6 growing degree days were accumulated. Average relative humidity recorded as 75% and wind speed in the morning/evening recorded as 1.9/1.4 Knots. During the previous week the highest precipitation recorded as 76.80 mm at Kalam while minimum temperature was recorded as -2.5°C at Kalam.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall observed in Gilgit-Baltistan & Kashmir during the week. Weekly

maximum and minimum temperatures recorded as 14.8°C & 5.1°C respectively. For the recent week on average 75.3 growing degree days were accumulated. Average relative humidity recorded as 74% and wind speed in the morning/evening recorded as 0.9/1.6 Knots. During the previous week the highest precipitation recorded as 53.00 mm at Astore while minimum temperature was recorded as -3.5°C at Astore.

Sindh

Light to moderate rainfall observed in Sindh during the week. Weekly maximum and minimum temperatures recorded as 27.7°C & 16.0°C respectively. For the recent week, on average 116.7 growing degree days were accumulated. Average relative humidity recorded as 65% and wind speed in the morning/evening recorded as 2.5/4.2 Knots. During the previous week the highest precipitation was recorded as 82.00 mm at Sukkur while minimum temperature was recorded as 11.5°C at Moinjodaro.

Past Weather for Major Agricultural Plains (11th to 17th November, 2019)

Rawalpindi (Potohar region)

22.30 mm rainfall reported from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 4.4/4.7 Oktas while, average relative humidity observed as 84%. Mean night time temperature recorded 12.4°C & for the recent week 113.9 growing degree days accumulated. Calm wind observed in the morning/evening.

Faisalabad (Central Punjab)

1.00 mm rainfall reported from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 3.9/4.7 Oktas while, average relative humidity observed as 72%. Mean night time temperature recorded as 13.5°C & for the recent week 124.0 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.5/0.5 Knots.

Tandojam (Lower Sindh)

Dry weather reported from Tandojam during the week; however, cloudiness in the morning/evening recorded as 0.9/1.1 Oktas while, average relative humidity observed as 65%. Mean night time temperature recorded as 14.7°C & for the recent week 127.5 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.9/1.1 Knots.

Usta Muhammad (Eastern Baluchistan)

17.00 mm rainfall reported from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded as 3.2/4.8 Oktas while, average relative humidity observed as 67%. Mean night time temperature recorded as 15.2°C & for the recent week 208.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/0.2 Knots.

Quetta (Northern Baluchistan)

4.80 mm rainfall reported from Quetta during the week; however, cloudiness in the morning/evening recorded as 4.1/5.9 Oktas while, average relative humidity observed as 58%. Mean night time temperature recorded as 5.2°C & for the recent week 68.6 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.9/2.1 Knots.

Past Weather for Sub-Regional Agricultural Plains (11th to 17th November, 2019)

Multan

10.00 mm rainfall reported from Multan during the week; however, cloudiness in the morning/evening recorded as 4.0/5.9 Oktas while, average relative humidity observed as 73%. Mean night time temperature recorded as 14.2°C & for the recent week 99.1 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.6/1.4 Knots.

Lahore

1.90 mm rainfall reported from Lahore during the week; however, however, cloudiness in the morning/evening recorded as 4.4/4.4 Oktas while, average relative humidity observed as 69%. Mean night time temperature recorded as 15.5°C & for the recent week 108.6 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

Zhob

15.00 mm rainfall reported from reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 2.3/4.3 Oktas while, average relative humidity observed as 57%. Mean night time temperature recorded as 8.6°C & for the recent week 62.0 growing degree days accumulated. Wind speed recorded in the morning/evening as 2.9/6.1 Knots.

Murree

33.01 mm rainfall was reported from Murree during the week; however, cloudiness in the morning/evening recorded as 5.3/6.0 Oktas while, average relative humidity observed as 59%. Mean night time temperature recorded as 7.3°C & for the recent week 106.4 growing degree days accumulated. Wind speed recorded in the morning/evening as 2.0/1.1 Knots.

D.I. Khan

2.02 mm rainfall reported from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 4.9/4.9 Oktas while, average relative humidity observed as 69%. Mean night time temperature recorded as 11.2°C & for the recent week 95.0 growing degree days accumulated. Wind speed recorded in the morning/evening as 1.7/0.9 Knots.

Peshawar

22.41 mm rainfall reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 5.4/4.4 Oktas while, average relative humidity observed as 76%. Mean night time temperature recorded as 10.5°C & for the recent week 83.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.3/0.3 Knots.

Kalam

76.80 mm rainfall reported from Kalam during the week; however, cloudiness in the morning/evening recorded as 6.0/5.3 Oktas while, average relative humidity observed as 79%. Mean night time temperature recorded as 0.1°C & for the recent 115.8 growing degree days accumulated. Calm wind observed in the morning/evening.

Gilgit

9.71 mm rainfall reported from Gilgit during the week. However, cloudiness in the morning/evening recorded as 6.6/6.7 Oktas while, average relative humidity observed as 79%. Mean night time temperature recorded as 5.2°C & for the recent week 35.8 growing degree days accumulated. Calm wind observed in the morning/evening.

Skardu

5.11 mm rainfall reported from Skardu during the week; however, cloudiness in the morning/evening recorded as 6.6/6.3 Oktas while, average relative humidity observed as 73%. Mean night time temperature recorded as 0.9°C & for the recent week 135.7 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/1.4 Knots.

Crop Situation for Major Agricultural Plains
(Based on data from Regional Agro met Centers)**Potohar Region (Rawalpindi)**

There is presently no crop grown in the fields of RAMC Rawalpindi.

Central Punjab (Faisalabad)

There is presently no crop grown in the fields of RAMC Faisalabad.

Cotton: *Harvested.*

Lower Sindh (Tandojam)

Presently wheat crop is sown in the fields of RAMC Tandojam.

Wheat: *Good, Emergence Stage.*

Northern Baluchistan (Quetta)

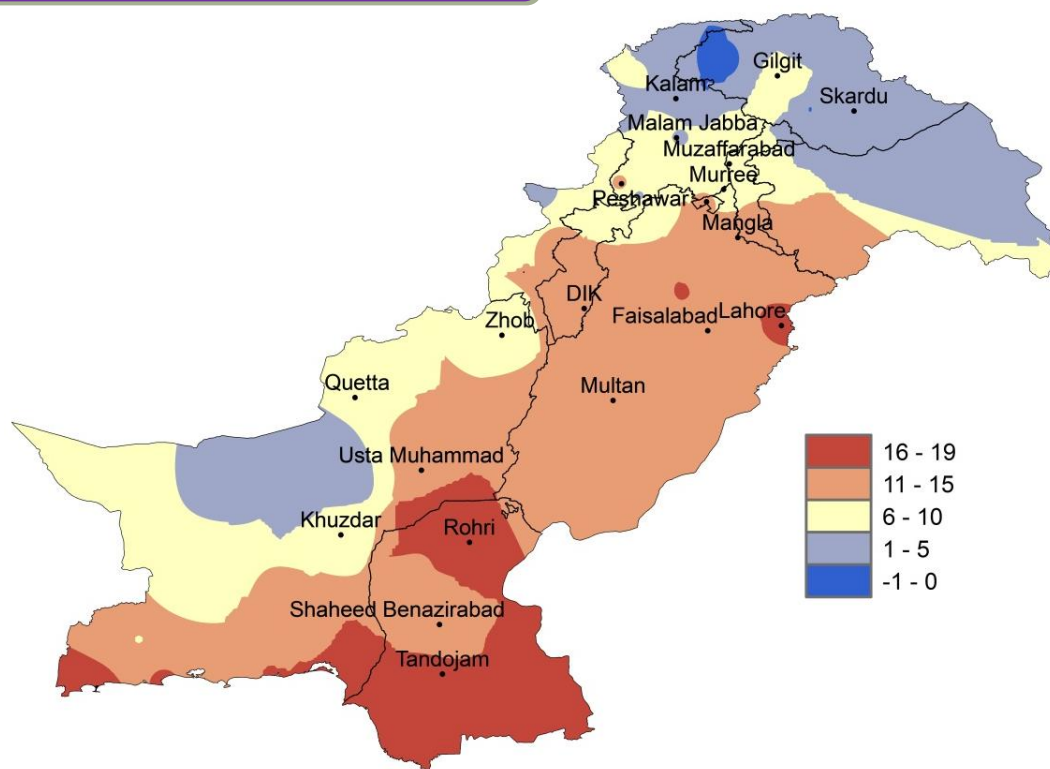
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Baluchistan (Usta Muhammad)

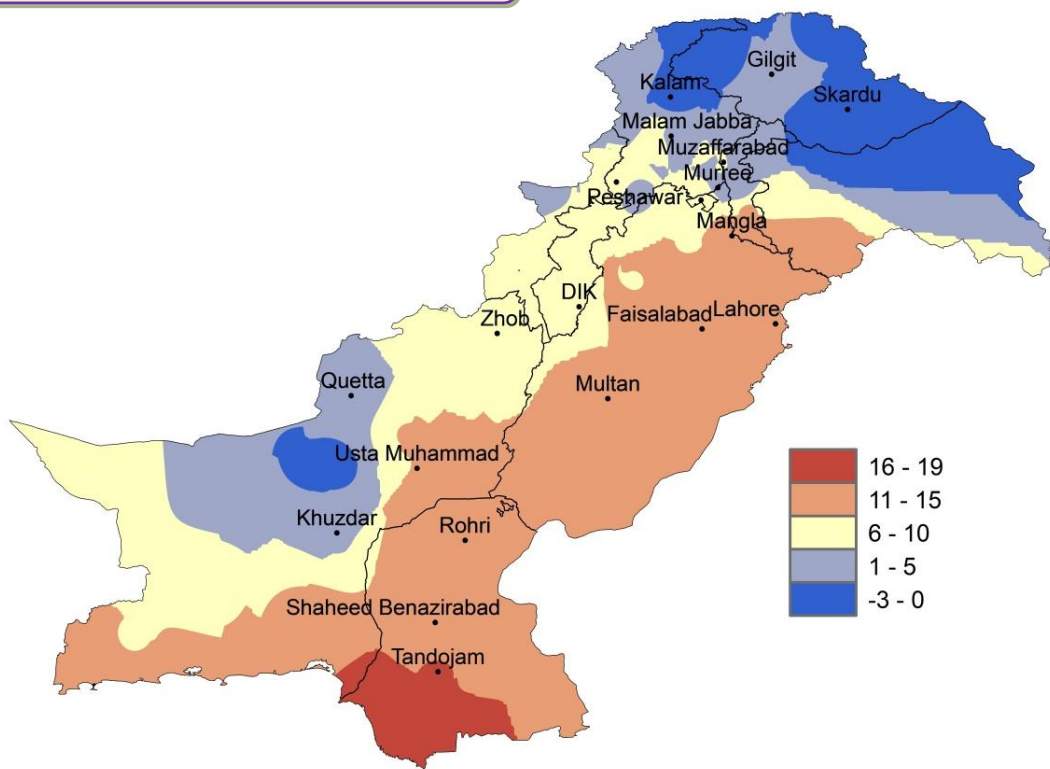
Presently rice crop is sown in the fields of RAMC Usta Muhammad.

Rice: *Good, Wax Maturity Stage.*

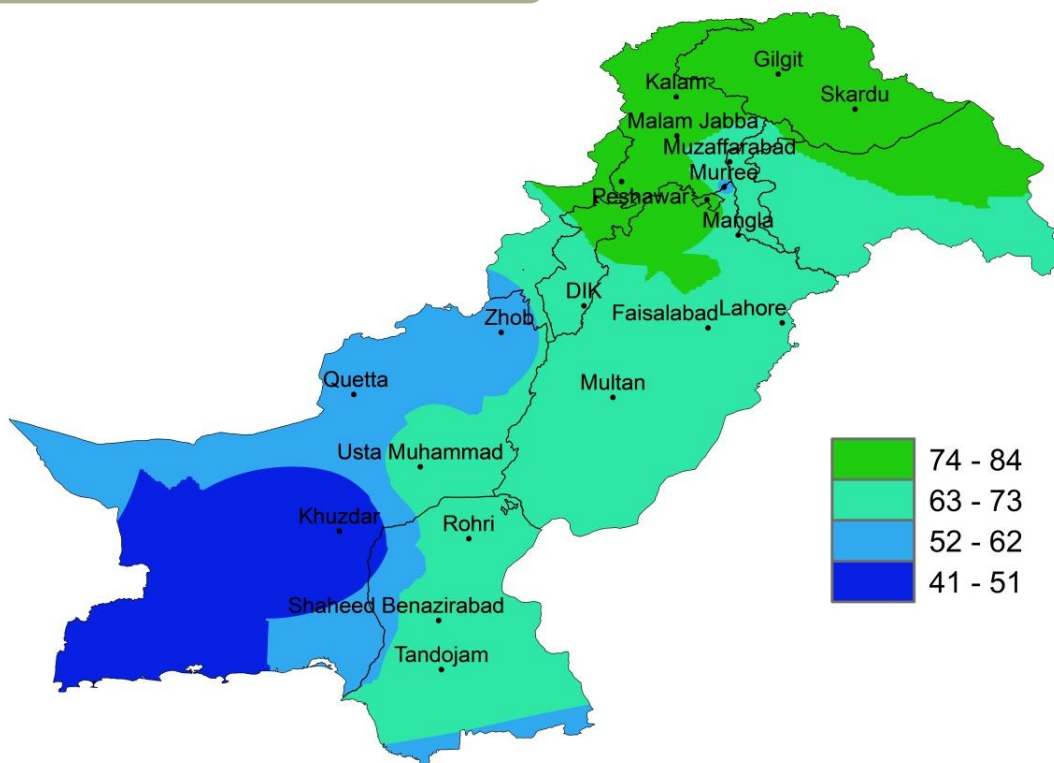
Mean Minimum temperature (°C) during the Previous week (11th – 17th November, 2019)



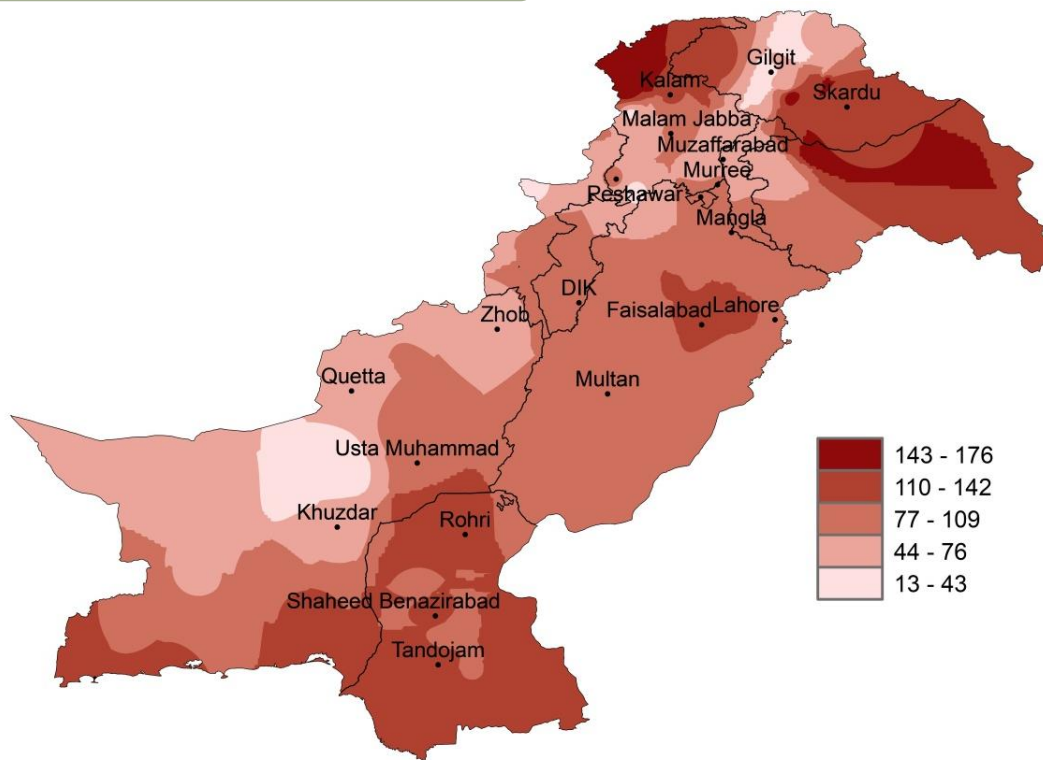
Lowest Minimum Temperature (°C) during the Previous week (11th – 17th November, 2019)



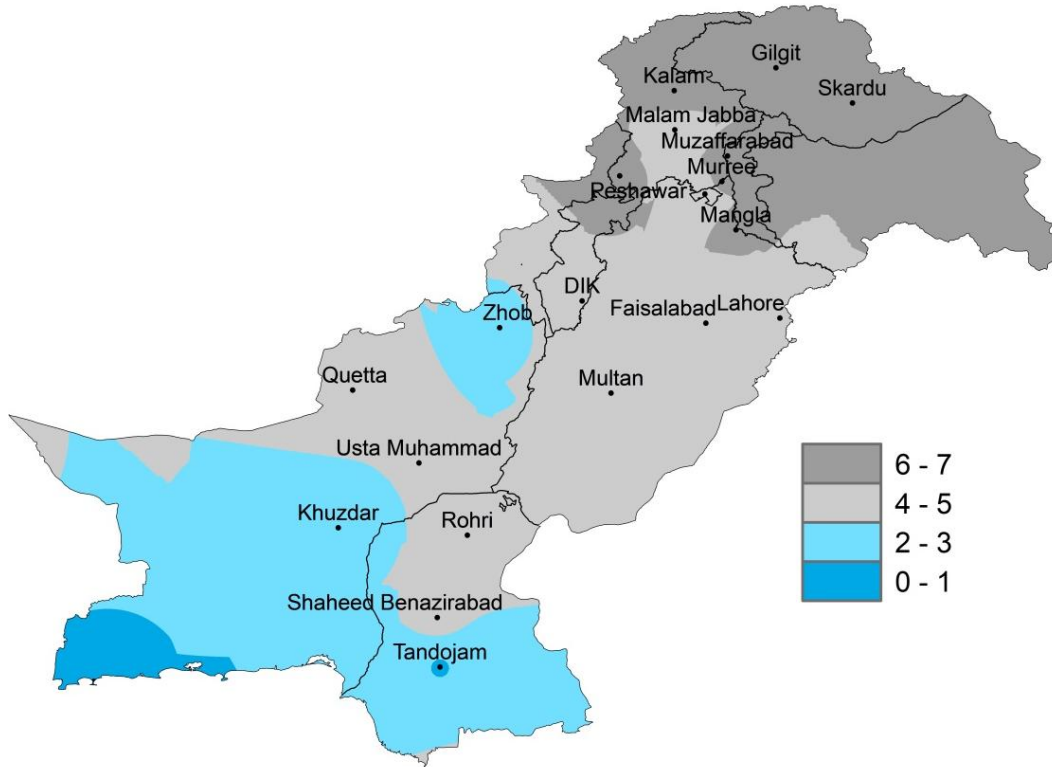
Mean Relative Humidity (%) during the Previous week (11th – 17th November, 2019)



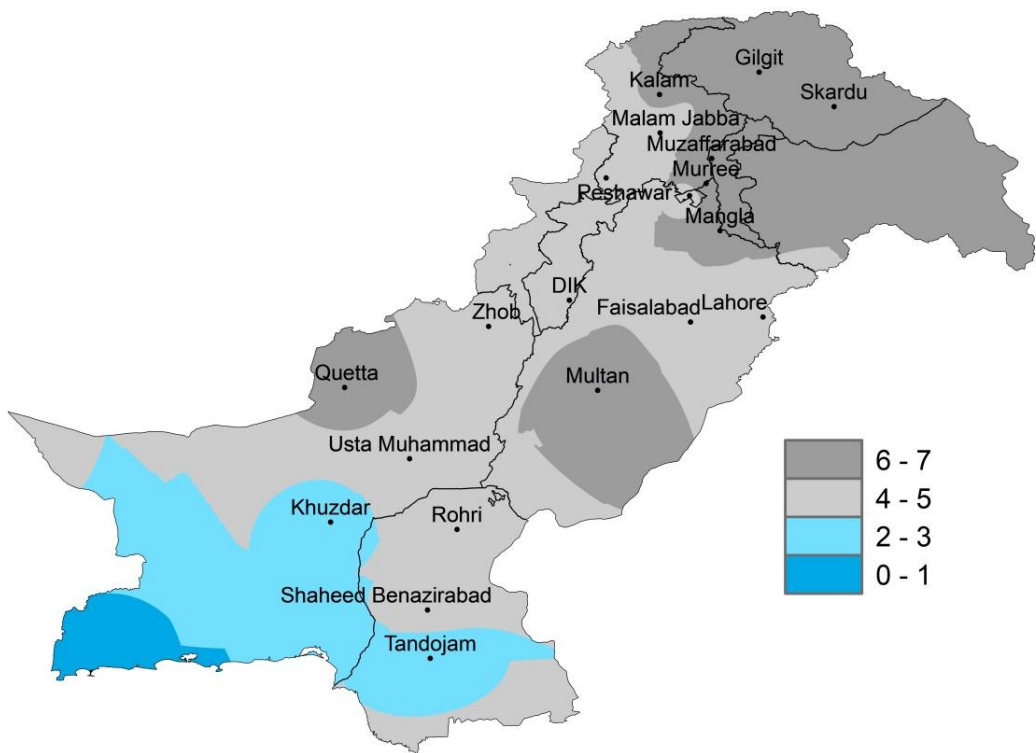
Total Growing Degree Days accumulated during the Previous week (11th – 17th November, 2019)



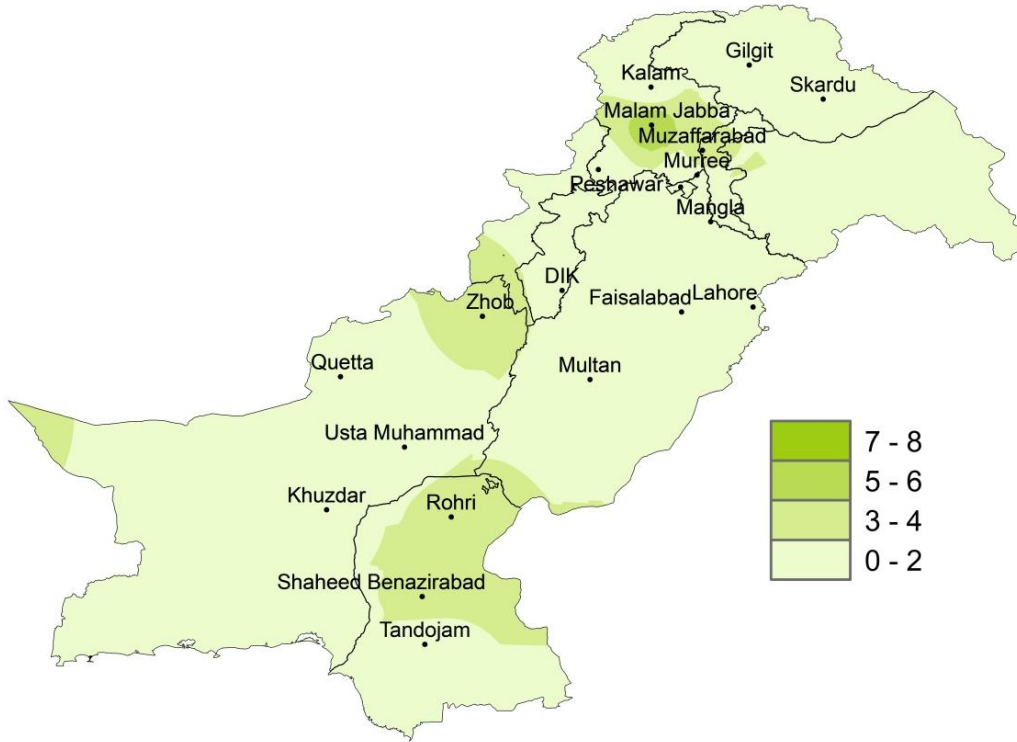
Mean Cloudiness (Oktas) at 0800PST during the Previous week (11th – 17th November, 2019)



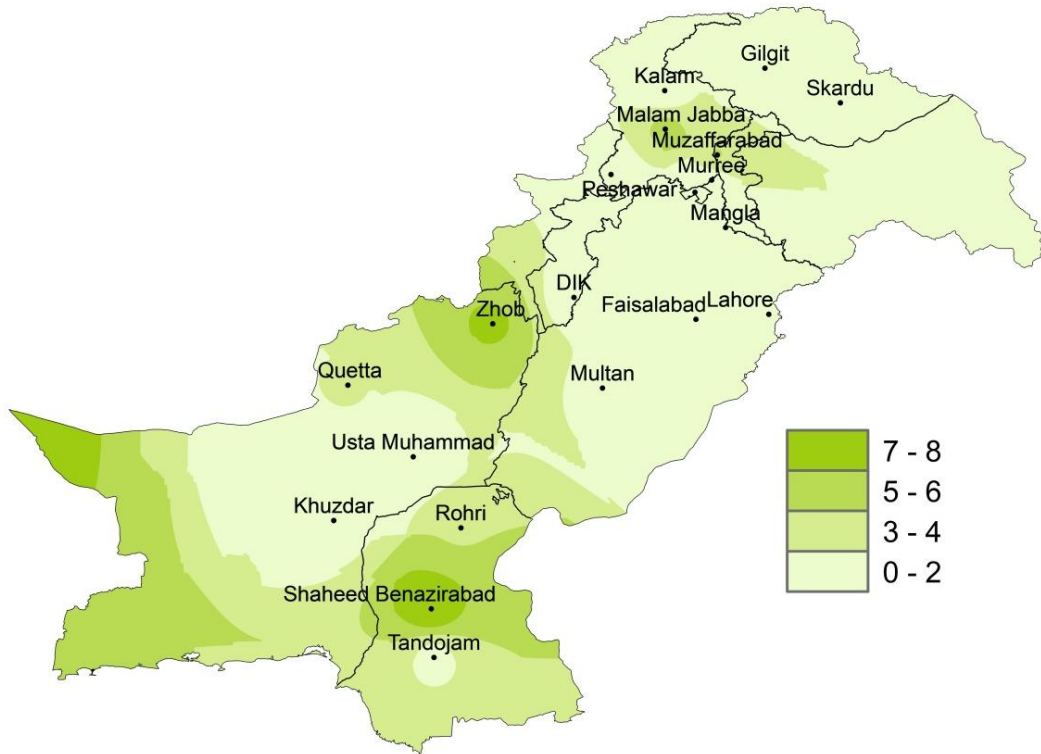
Mean Cloudiness (Oktas) at 1700PST during the Previous week (11th – 17th November, 2019)



Mean Wind Speed (Knots) at 0800PST during the Previous week (11th – 17th November, 2019)



Mean Wind Speed (Knots) at 1700PST during the Previous week (11th – 17th November, 2019)



Weekly Weather Advisory for Farmers**(18th to 24th November, 2019)**

Continental air is prevailing over most parts of the country. A westerly wave is likely to approach Northwest Baluchistan on Wednesday (evening).

MONDAY**18-11-2019**

Mainly dry weather is expected in most parts of the country, while cold in northern parts..

TUESDAY**19-11-2019**

Mainly dry weather is expected in most parts of the country, while cold in northern parts. However, shallow foggy conditions are likely to prevail in Upper Sindh and plain areas of Punjab during morning time.

WEDNESDAY**20-11-2019**

Mostly cloudy weather is expected in different parts of the country. However, rain/wind-thunderstorm is expected at isolated places in districts of Chitral, Malakand, Dir, Swat, Kurram and Gilgit Baltistan.

THURSDAY**21-11-2019**

Cloudy weather is expected in most parts of the country however, rain/wind-thunderstorm (with snowfall over mountains) is expected at scattered places in western Balochistan, Upper Khyber Pakhtunkhwa, Gilgit Baltistan and Kashmir, while at isolated places in districts of upper Punjab and lower Khyber Pakhtunkhwa. Hailstorm is also expected in Upper Khyber Pakhtunkhwa during the period.

FRIDAY**22-11-2019**

Cloudy weather is expected in most parts of the country however, rain/wind-thunderstorm (with snowfall over mountains) is expected at scattered places in Balochistan, Upper Khyber Pakhtunkhwa, Gilgit Baltistan and Kashmir, while at isolated places in districts of upper Punjab and lower Khyber Pakhtunkhwa. Hailstorm is also expected in Upper Khyber Pakhtunkhwa during the period.

SATURDAY**23-11-2019**

Mainly dry weather is expected in most parts of the country, while cold in northern parts.

SUNDAY**24-11-2019**

Mainly dry weather is expected in most parts of the country, while cold in northern parts.

ADVISORY FOR FARMERS

During the last week, Light to moderate amount of rainfall observed in Punjab, Khyber Pakhtunkhwa and Sindh, whereas moderate to heavy amount of rainfall observed in Gilgit Baltistan. Light amount of rainfall observed in Balochistan. Keeping in view the above expected weather conditions following advisories are suggested for farming community.

1. Complete the cultivation of fodder crops on proper time.
2. Apply deep ploughing in the fields, to preserve the soil moisture for the next crops.
3. Use proper precautions during picking of cotton because the cost of good and clean quality cotton is high than that of the filthy one.
4. Use pesticides to avoid the attack from pests on the crops as advised by the agriculture department.

National Weather Data of Selected Cities from (11th – 17th November, 2019)

Stations	Minimum /Night Time Temperature (°C)		Growing Degree Days	Relative Humidity (%)	Rainfall (mm)	Cloudiness (Oktas) 0800 PST	Cloudiness (Oktas) 1700 PST	Wind Speed (Knots) 0800 PST	Wind Speed (Knots) 1700 PST
	Mean	Minimum							
D.I. Khan	11.2	9.0	95.0	69	2.02	4.9	4.9	1.7	0.9
Faisalabad	13.5	12.0	124.0	72	1.00	3.9	4.7	0.5	0.5
Gawadar	16.3	15.0	111.0	45	0.00	0.6	0.3	0.0	5.4
Gilgit	5.2	2.0	35.8	79	9.71	6.6	6.7	0.0	0.0
Kalam	0.1	-2.5	115.8	79	76.80	6.0	5.3	0.0	0.0
Khuzdar	6.3	4.0	54.0	41	25.40	1.7	2.0	0.0	0.3
Lahore	15.5	14.2	108.6	69	1.90	4.1	4.4	0.0	0.3
Malam Jabba	2.8	1.0	95.8	74	60.50	4.1	4.4	5.7	4.6
Mangla	13.7	11.1	102.9	70	2.01	5.3	5.4	1.1	0.9
Multan (PBO)	14.2	12.8	99.1	73	10.00	4.0	5.9	0.6	1.4
Murree	7.3	4.0	106.4	59	33.01	5.3	6.0	2.0	1.1
Muzaffarabad	9.8	7.5	66.7	72	53.00	5.3	5.9	2.6	4.0
Nawabshah	14.1	12.5	112.8	64	0.01	3.7	4.4	2.9	7.7
Peshawar	10.5	8.0	83.8	76	22.41	5.4	4.4	0.3	0.3
Quetta	5.2	2.8	68.6	58	4.80	4.1	5.9	0.9	2.1
Rawalpindi	12.4	10.5	113.9	84	22.30	4.4	4.7	0.0	0.0
Rohri	15.5	14.5	108.5	68	42.00	3.9	4.0	3.7	3.7
Skardu	0.9	-2.6	135.7	73	5.11	6.6	6.3	0.0	1.4
Tandojam	14.7	13.0	127.5	65	0.00	0.9	1.1	0.9	1.1
Usta. M	15.2	13.5	208.8	67	17.00	3.2	4.8	0.0	0.2
Zhob	8.6	7.5	62.0	57	15.00	2.3	4.3	2.9	6.1

*** Shows that data was not available.

Findings of AgMIP Pakistan, University of Agriculture, Faisalabad

1. There would be significant increase in temperature i.e., 2.8°C in day and 2.2°C in the night during mid-century (2040-2069).
2. There would be significant variability in rainfall patterns (about 25% increase in summer & 12% decrease in winter during 2040-2069).
3. Climate Change will affect the crop yields negatively (about 17% for rice and 14 % for wheat).
4. If there will be no adaptation to Climate Change, majority of farmers would be the economic losers.
5. With Adaptation to Climate Change (through technology and management), there would be significant decrease in poverty and improvement in the livelihood of farming community.

(Agricultural Model Inter-comparison and Improvement Project (AgMIP)

Pakistan 2012-2014)

- 1- سال 2040-69 کے دوران درجہ حرارت میں قابل ذکر اضافہ ہو سکتا ہے۔ جو کہ دن کے وقت 2.8°C اور رات کو 2.2°C تک ہوگا۔
- 2- گرمیوں کی بارش میں 25 فیصد اضافہ اور سردیوں کی بارش میں 12 فیصد تک کمی کا امکان ہے۔
- 3- مندرجہ بالا موسمی تغیرات کی وجہ سے دھان کی پیداوار میں 17 فیصد اور گندم کی پیداوار میں 14 فیصد تک کمی ہو سکتی ہے۔
- 4- اگر موسمی تغیرات کا مناسب بندوبست نہ کیا گیا۔ تو کسانوں کی اکثریت کو معاشی نقصان کا سامنا کرنا پڑے گا۔
- 5- موسمی تغیرات کے سدباب (بذریعہ نئی ٹیکنالوجی کا استعمال اور بہتر نظم و نسق) سے غربت میں کمی اور کسانوں کی زندگی میں خوشحالی لائی جاسکتی ہے۔

(ایگمپ پاکستان 2012-2014)