

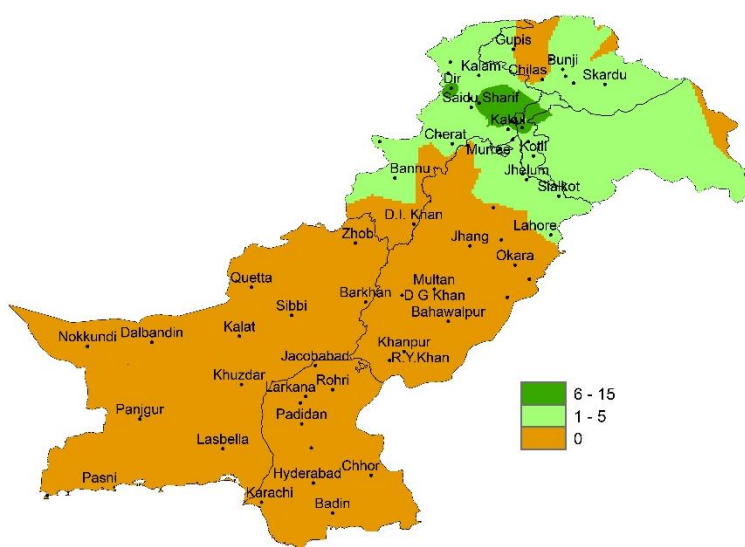
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the Previous
Week (13th – 19th December, 2021)**



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Highlights of Past Weather (13th – 19th December, 2021)

Below normal night time temperatures were observed almost all over the country during the last week.

Rainfall reported as follows during the last week:

1. Light rainfall reported from Upper KPK, Upper parts of Punjab, Kashmir and Gilgit-Baltistan;
2. Dry weather reported from rest of the country.

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

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

Editor: Ruqiya Mehmood (Assistant Meteorologist)

Past Weather of Provinces (13th – 19th December, 2021)**Punjab**

Light rainfall reported from Punjab during the week. Weekly maximum and minimum temperatures recorded as 18.7°C & 4.0°C respectively. For the recent week on average 44.6 growing degree days were accumulated. Average relative humidity recorded as 65% and wind speed in the morning/evening recorded as 1.1/1.2 Knots. During the previous week the highest precipitation was observed as 0.80 mm at Sialkot & the lowest minimum temperature was recorded as -1.5°C at Sialkot.

Baluchistan

Dry weather reported from Baluchistan during the week. Weekly maximum and minimum temperatures recorded as 19.6°C & 3.5°C respectively. For the recent week on average 48.9 growing degree days were accumulated. Average relative humidity recorded as 37% and wind speed in the morning/evening recorded as 1.6/3.6 Knots. During the previous week the lowest minimum temperature was recorded as -12.0°C at Kalat.

Khyber Pakhtunkhwa

Light rainfall reported from Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 14.2°C & 0.0°C respectively. For the recent week on average 18.8 growing degree days were accumulated. Average relative humidity recorded as 70% and wind speed in the morning/evening recorded as 0.7/1.0 Knots. During the previous week the highest precipitation was observed as 10.00 mm at Malam Jabba while the lowest minimum temperature was recorded as -10.0°C at Kalam.

Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 23.9°C & 7.2°C respectively. For the recent week on average 73.7 growing degree days were accumulated. Average relative humidity

recorded as 60% and wind speed in the morning/evening recorded as 1.3/2.4 Knots. During the previous week the lowest minimum temperature was recorded as 1.0°C at Moenjodaro.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light rainfall reported from Gilgit-Baltistan, Azad Jammu & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 10.1°C & -3.0°C respectively. For the recent week on average 8.2 growing degree days were accumulated. Average relative humidity recorded as 63% and wind speed in the morning/evening recorded as 0.0/0.7 Knots. During the previous week the highest precipitation was observed as 15.00 mm at Muzaffarabad while the lowest minimum temperature was recorded as -13.7°C at Skardu.

Past Weather for Major Agricultural Plains
(13th – 19th December, 2021)

Rawalpindi (Potohar region)

Dry weather reported from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 0.4/1.7 Oktas while, average relative humidity observed as 72%. Mean night time temperature recorded as 0.6°C & for the recent week 33.2 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.3/1.2 Knots.

Faisalabad (Central Punjab)

Dry weather reported from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 0.3/0.6 Oktas while, average relative humidity observed as 78%. Mean night time temperature recorded as 4.7°C & for the recent week 48.3 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, clear sky observed in the morning/evening while, average relative humidity observed as 62%. Mean night time temperature recorded as 6.8°C & for the recent week 70.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.6/1.8 Knots.

Usta Muhammad (Eastern Baluchistan)

Dry weather reported from Usta Muhammad during the week; however, clear sky observed in the morning/evening while, average relative humidity observed as 61%. Mean night time temperature recorded as 6.8°C & for the recent week 67.0 growing degree days accumulated. Calm weather reported in the morning/evening.

Quetta (Northern Baluchistan)

Dry weather reported from Quetta during the week; however, cloudiness in the morning/evening recorded as 0.4/1.3 Oktas while, average relative humidity observed as 37%. Mean night time temperature recorded as -3.2°C. Wind speed recorded in the morning/evening as 2.1/2.3 Knots.

Past Weather for Sub-Regional Agricultural Plains (13th – 19th December, 2021)

Multan

Dry weather reported from Multan during the week; however, cloudiness in the morning/evening recorded as 0.3/0.0 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 3.8°C & for the recent week 49.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/2.0 Knots.

Lahore

Dry weather reported from Lahore during the week; however, cloudiness in the morning/evening recorded as 0.3/0.5 Oktas while, average relative humidity observed as 76%. Mean night time temperature recorded as 7.0°C & for the recent week 53.1 growing degree days accumulated. Calm wind reported in the morning/evening.

Zhob

Dry weather reported from Zhob during the week; however, clear sky observed in the morning/evening while, average relative humidity observed as 34%. Mean night time temperature recorded as -2.9°C & for the recent week 4.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 4.7/4.7 Knots.

Murree

Dry weather reported from Murree during the week; however, cloudiness in the morning/evening recorded as 1.6/3.4 Oktas while, average relative humidity observed as 51%. Mean night time temperature recorded 0.6°C. Wind speed recorded in the morning/evening as 3.4/1.7 Knots.

D.I. Khan

Dry weather reported from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 0.0/0.4 Oktas while, average relative humidity observed as 65%. Mean night time temperature recorded as 5.1°C & for the recent week 55.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.6/0.6 Knots.

Peshawar

Dry weather reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 0.7/1.9 Oktas while, average relative humidity observed as 72%. Mean night time temperature recorded as 0.9°C & for the recent week 34.0 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Kalam

Rainfall reported as 4.00 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 2.0/3.9 Oktas while, average relative humidity observed as 46%. Mean night time temperature recorded as -7.3°C & for the recent week 2.3 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

Gilgit

Dry weather reported from Gilgit during the week. However, cloudiness in the morning/evening recorded as 3.4/4.1 Oktas while, average relative humidity observed as 66%. Mean night time temperature recorded as -5.9°C. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

Skardu

Dry weather reported from Skardu during the week; however, cloudiness in the morning/evening recorded as 3.4/2.1 Oktas while, average relative humidity observed as 46%. Mean night time temperature recorded as -9.2°C. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

**Crop Condition for Major Agricultural Plains
(Based on data from Regional Agromet Centers)****Potohar Region (Rawalpindi)**

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

Central Punjab (Faisalabad)

Presently Wheat crop is sown in the fields of RAMC Faisalabad.

Wheat: Very Good, Tillering Stage.

Lower Sindh (Tandojam)

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

Wheat (TD-I): Good, Emergence Stage.

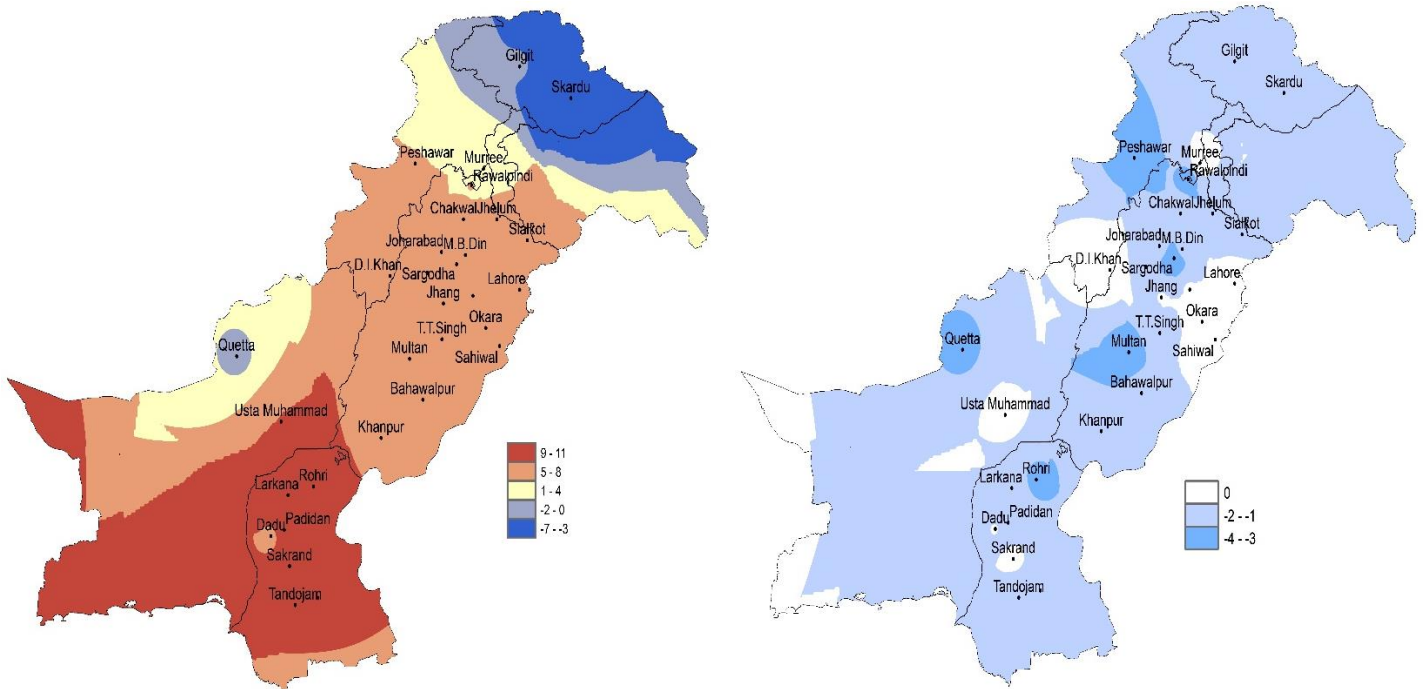
Northern Baluchistan (Quetta)

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

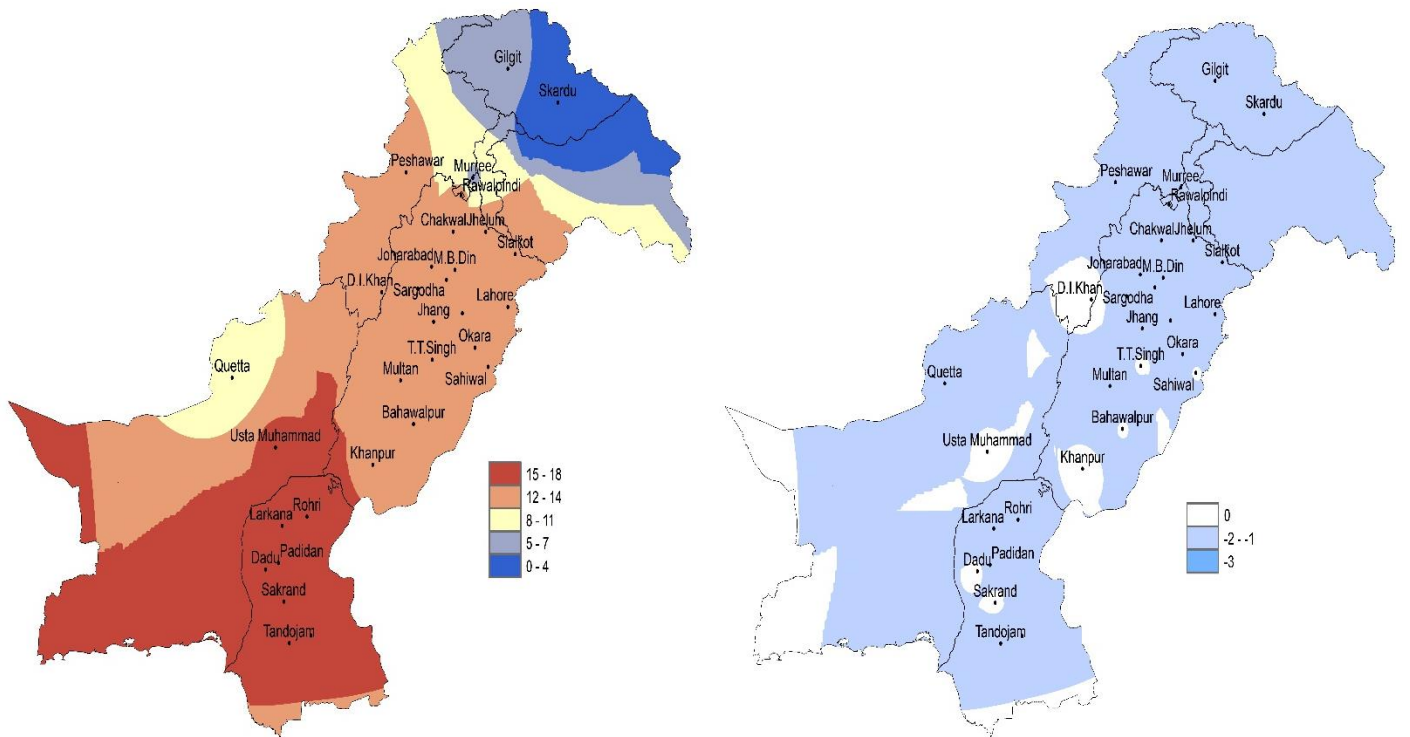
Eastern Baluchistan (Usta Muhammad)

Rice Crop is harvested in the fields of RAMC Usta Muhammad.

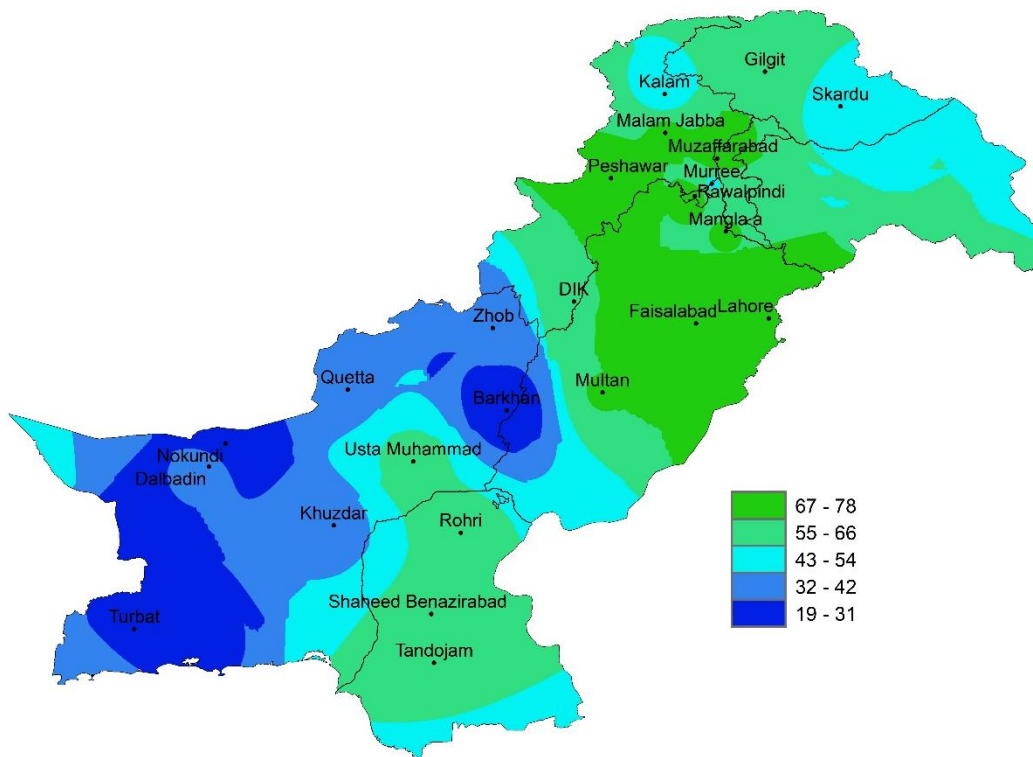
Normal & Departure of Minimum temperature (°C) for the previous week (13th – 19th December, 2021)



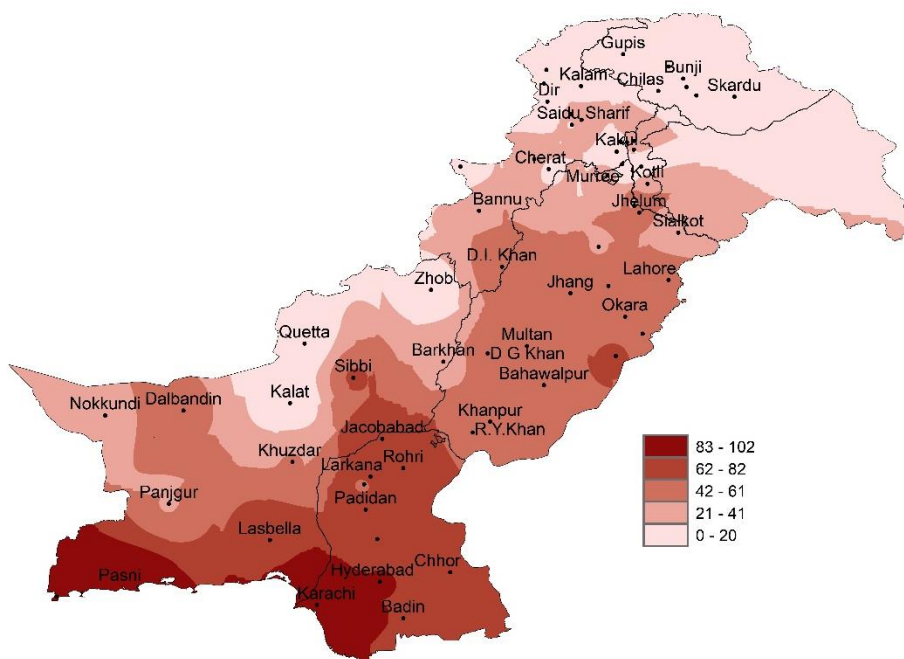
Normal & Departure of Mean temperature (°C) for the previous week (13th – 19th December, 2021)



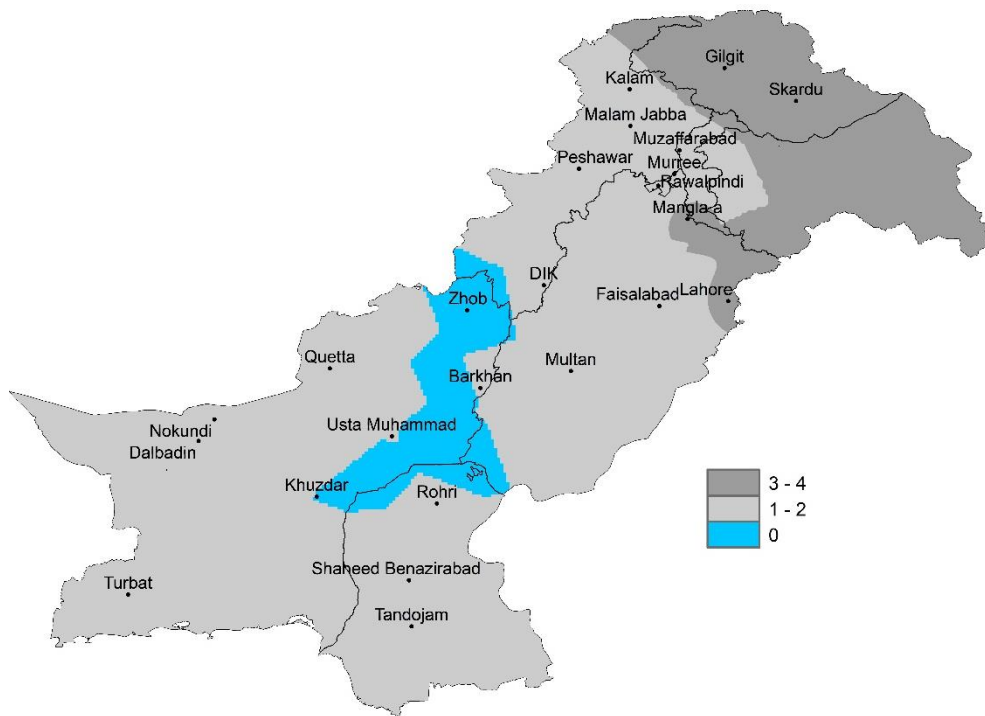
Mean Relative Humidity (%) during the previous week (13th – 19th December, 2021)



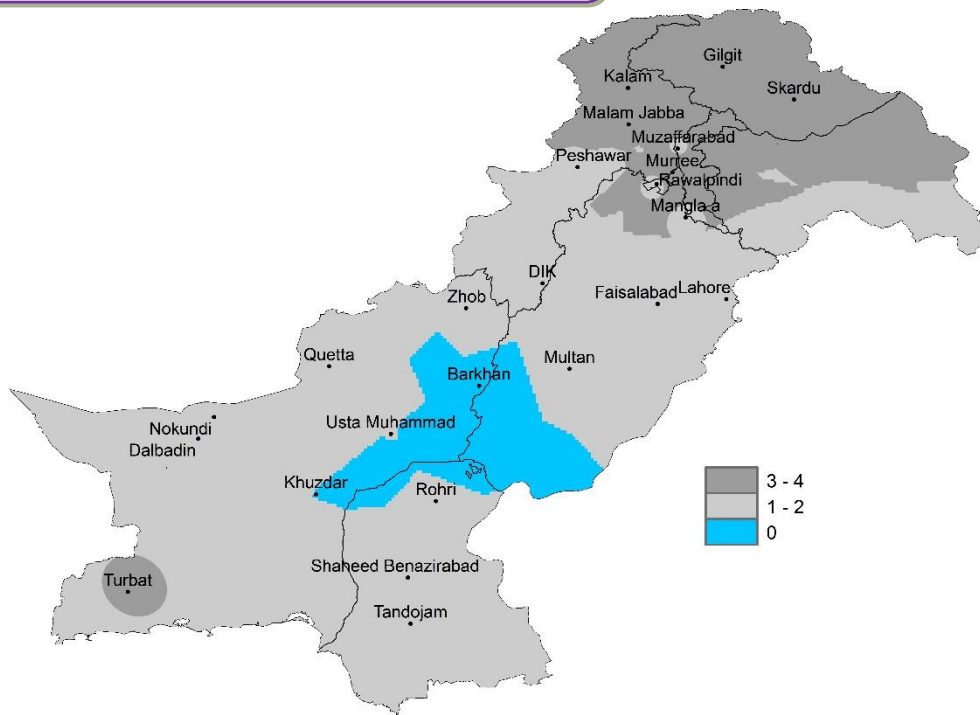
Total Growing Degree Days accumulated during the previous week (13th – 19th December, 2021)



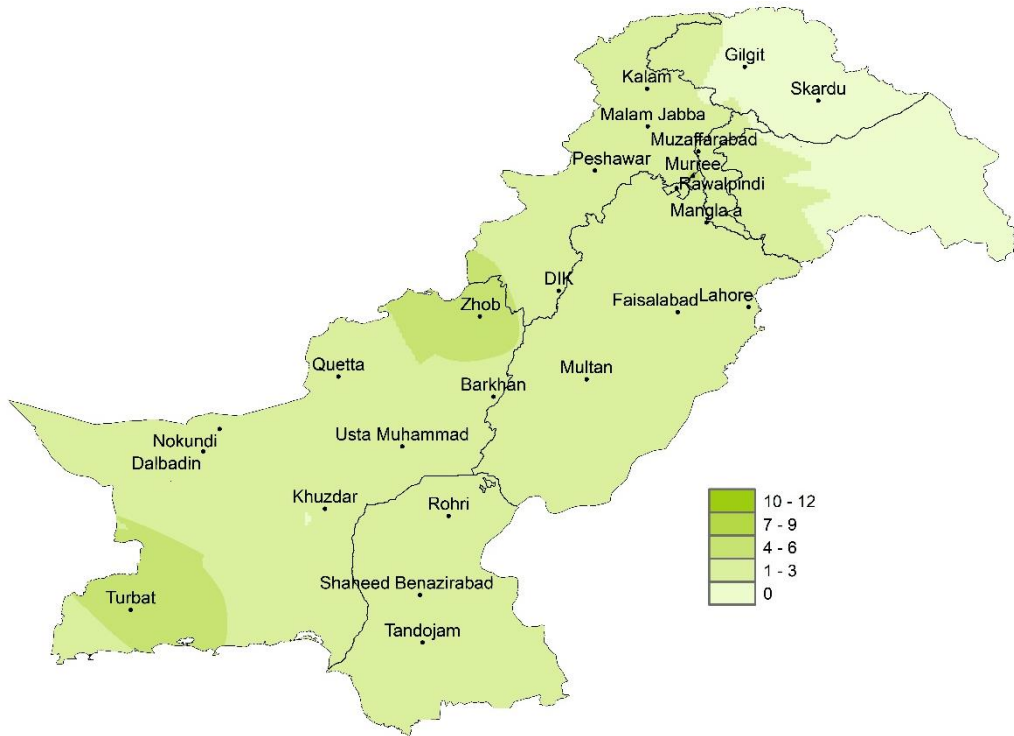
Mean Cloudiness (Oktas) at 0800PST during the previous week (13th – 19th December, 2021)



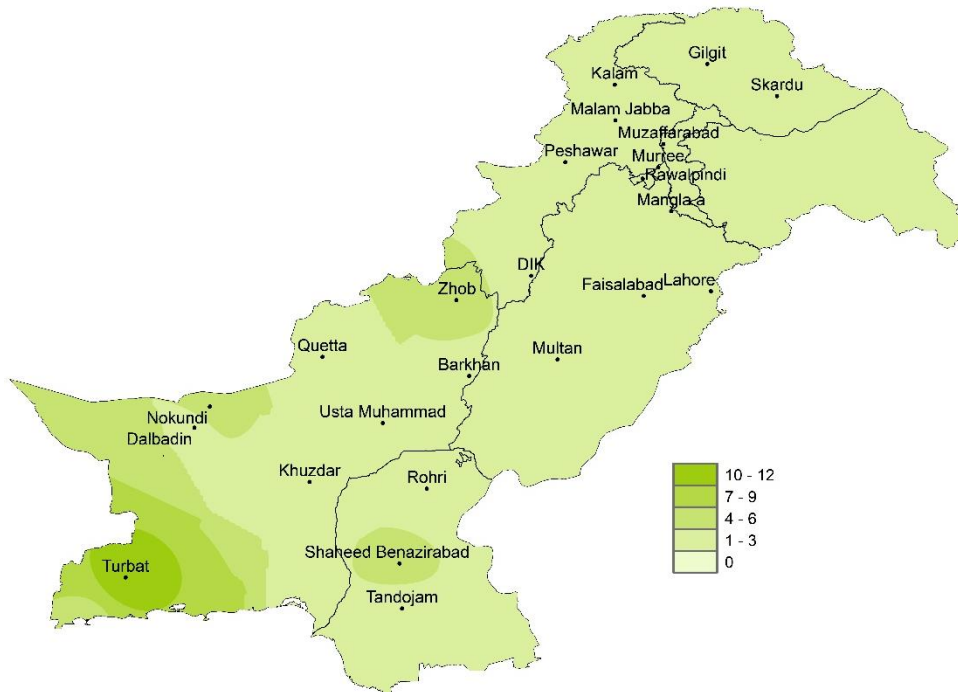
Mean Cloudiness (Oktas) at 1700PST during the previous week (13th – 19th December, 2021)



Mean Wind Speed (Knots) at 0800PST during the previous week (13th – 19th December, 2021)



Mean Wind Speed (Knots) at 1700PST during the previous week (13th – 19th December, 2021)



Weekly Weather Advisory for Farmers**(20th – 26th December, 2021)**

A strong westerly wave is likely to enter western parts of the country on 25th December evening/night.

TUESDAY**21-12-2021**

Mainly cold and dry/Partly cloudy/ cloudy weather is expected in most upper parts of the country. Fog/ smog is likely to prevail in plain areas of Punjab.

WEDNESDAY**22-12-2021**

Mainly cold and dry/Partly cloudy/ cloudy weather is expected in most upper parts of the country. While, rain/snowfall is expected at isolated places in upper Khyber Pakhtunkhwa and Gilgit-Baltistan. Fog/ smog is likely to prevail in plain areas of Punjab.

THURSDAY**23-12-2021**

Cold and dry weather is expected in most parts of the country, while very cold in northern parts. However, rain/snow is expected in upper Khyber Pakhtunkhwa, Gilgit Baltistan, Kashmir and its adjoining hilly areas. Fog is likely in plain areas of Punjab.

FRIDAY**24-12-2021.**

Cold and dry weather is expected in most parts of the country, while very cold in northern parts. However, rain/snow is expected in upper Khyber Pakhtunkhwa, Gilgit Baltistan, Kashmir and its adjoining hilly areas. Fog is likely in plain areas of Punjab.

SATURDAY**25-12-2021**

Cold and dry weather is expected in most parts of the country, while very cold in northern parts. However, cloudy weather with rain/snow is expected in Balochistan.

SUNDAY**26-12-2021**

Cloudy weather with rain/thunderstorm/snowfall over the hills is expected in Balochistan Khyber Pakhtunkhwa, Islamabad, Punjab, upper Sindh, Kashmir and Gilgit Baltistan.

ADVISORY FOR FARMERS

During the last week, dry weather reported from all over the country except few hilly areas where light rainfall was recorded. Keeping in view the expected weather conditions farmers are advised the following advisories.

- ❖ Farmers are advised to irrigate the Crop according to its need.
- ❖ Use pesticides to avoid the attack from pests on the crops as advised by the agriculture department.
- ❖ Farmers are advised to complete the cultivation of wheat till the mid of December to obtain maximum yield.

National Weather Data of Selected Cities from (13th – 19th December, 2021)

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							
Barkhan	2.6	1.5	33.2	19	0.0	0.0	0.0	2.0	1.7
Dalbandin	6.1	5.0	47.0	34	0.0	1.1	0.4	0.0	2.3
D.I.Khan	5.1	2.5	55.8	65	0.0	0.0	0.4	0.6	0.6
Faisalabad	4.7	1.5	48.3	78	0.0	0.3	0.6	0.5	0.5
Gawadar	10.1	9.0	94.5	42	0.0	0.6	1.0	0.0	4.6
Gilgit	-5.9	-9.0	0.0	66	0.0	3.9	4.1	0.0	0.3
Kalam	-7.3	-10.0	2.3	46	4.0	2.0	3.9	0.0	0.3
Khuzdar	4.2	1.5	41.8	36	0.0	0.0	0.0	0.0	1.4
Lahore	7.0	6.0	53.1	76	0.0	2.3	0.5	0.0	0.0
Malam Jabba	-3.1	-4.5	0.0	70	10.0	0.9	2.1	2.3	2.6
Mangla	1.9	0.4	40.2	67	0.0	2.4	1.9	0.0	2.3
Multan	3.8	1.3	49.8	68	0.0	0.3	0.0	0.0	2.0
Murree	0.6	-1.0	0.0	51	0.0	1.6	3.4	3.4	1.7
Muzaffarabad	1.6	0.3	18.1	74	15.0	1.0	1.9	0.0	0.0
Nawabshah	6.8	5.0	72.8	59	0.0	0.7	0.9	2.9	4.0
Nokkundi	2.5	0.0	38.3	23	0.0	0.4	1.3	2.3	4.0
Peshawar	0.9	-0.7	34.0	72	0.0	0.7	1.9	0.0	0.6
Quetta	-3.2	-6.8	0.0	37	0.0	0.4	1.3	2.1	2.3
Rawalpindi	0.6	-1.5	33.2	72	0.0	0.4	1.7	0.3	1.2
Rohri	7.1	5.5	69.8	61	0.0	0.0	0.0	0.6	1.4
Skardu	-9.2	-13.7	0.0	46	0.0	3.4	2.1	0.0	0.3
Tandojam	6.8	5.5	70.8	62	0.0	0.0	0.0	0.6	1.8
Turbat	11.7	10.5	97.0	22	0.0	1.0	2.3	5.7	11.4
Usta Muhammad	6.8	5.0	67.0	61	0.0	0.0	0.0	0.0	0.0
Zhob	-2.9	-5.0	4.8	34	0.0	0.0	0.0	4.7	4.7

*** 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)