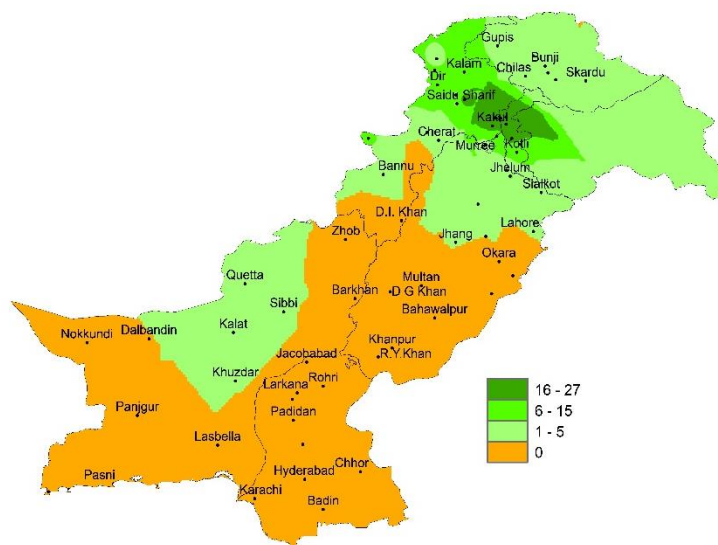


Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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Rainfall Distribution (mm) during the Previous Week (29th November – 5th December, 2021)

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Highlights of Past Weather (29th November – 5th December, 2021)

Normal to above 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 to moderate rainfall reported from upper Khyber Pakhtunkhwa, Kashmir & Gilgit-Baltistan.
2. Light rainfall reported from Potohar region.

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

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

Editor: Ruqiya Mehmood (Assistant Meteorologist)

Past Weather of Provinces (29th November – 5th December, 2021)**Punjab**

Light rainfall reported from Potohar region during the week. Weekly maximum and minimum temperatures recorded as 24.1°C & 8.8°C respectively. For the recent week on average 80.3 growing degree days were accumulated. Average relative humidity recorded as 65% and wind speed in the morning/evening recorded as 0.7/1.2 Knots. During the previous week the highest precipitation was observed as 8.5 mm at Murree while the lowest minimum temperature was recorded as 3.5°C at Murree.

Baluchistan

Rainfall reported as trace (not measurable) from Quetta during the week. Weekly maximum and minimum temperatures recorded as 24.5°C & 8.8°C respectively. For the recent week on average 85.2 growing degree days were accumulated. Average relative humidity recorded as 48% and wind speed in the morning/evening recorded as 0.5/4.6 Knots. During the previous week the lowest minimum temperature was recorded as -2.5°C at Kalat.

Khyber Pakhtunkhwa

Light to moderate rainfall reported from upper Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 19.8°C & 4.1°C respectively. For the recent week on average 48.1 growing degree days were accumulated. Average relative humidity recorded as 64% and wind speed in the morning/evening recorded as 1.0/0.7 Knots. During the previous week the highest precipitation was observed as 22.0 mm at Malamjabba while the lowest minimum temperature was recorded as -3.0°C at Kalam.

Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 27.9°C & 13.0°C respectively. For the

recent week on average 108.1 growing degree days were accumulated. Average relative humidity recorded as 62% and wind speed in the morning/evening recorded as 2.3/2.9 Knots. During the previous week the lowest minimum temperature was recorded as 9.5°C at Moenjodaro.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall reported from Gilgit-Baltistan, Azad Jammu & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 15.3°C & 0.3°C respectively. For the recent week on average 20.6 growing degree days were accumulated. Average relative humidity recorded as 64% and wind speed in the morning/evening recorded as 0.1/0.4 Knots. During the previous week the highest precipitation was observed as 26.0 mm at Garhi Dupatta while the lowest minimum temperature was recorded as -8.5°C at Skardu.

Past Weather for Major Agricultural Plains
(29th November – 5th December, 2021)

Rawalpindi (Potohar region)

Rainfall reported as 0.2 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 1.3/1.1 Oktas while, average relative humidity observed as 76%. Mean night time temperature recorded as 5.6°C & for the recent week 66.3 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.2/0.2 Knots.

Faisalabad (Central Punjab)

Dry weather reported from Faisalabad during the week; however, clear sky observed in the morning/evening while, average relative humidity observed as 74%. Mean night time temperature recorded as 8.8°C & for the recent week 85.5 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 0.0/0.9 Oktas while, average relative humidity observed as 60%. Mean night time temperature recorded as 11.6°C & for the recent week 97.4 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.5/0.5 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 70%. Mean night time temperature recorded as 11.0°C & for the recent week 93.0 growing degree days accumulated. Calm wind reported in the morning/evening.

Quetta (Northern Baluchistan)

Rainfall reported as trace (not measurable) from Quetta during the week; however, cloudiness in the morning/evening recorded as 0.9/3.7 Oktas while, average relative humidity observed as 36%. Mean night time temperature recorded as 2.6°C & for the recent week 34.5 growing degree days accumulated. Wind speed recorded in the morning/evening as 2.8/2.6 Knots.

Past Weather for Sub-Regional Agricultural Plains (29th November – 5th December, 2021)

Multan

Dry weather reported from Multan during the week; however, cloudiness in the morning/evening recorded as 0.0/1.0 Oktas while, average relative humidity observed as 74%. Mean night time temperature recorded as 9.7°C & for the recent week 83.0 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/1.1 Knots.

Lahore

Dry weather reported from Lahore during the week; however, cloudiness in the morning/evening recorded as 2.7/1.4 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 9.5°C & for the recent week 82.2 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Zhob

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 0.0/0.6 Oktas while, average relative humidity observed as 47%. Mean night time temperature recorded as 3.6°C & for the recent week 43.8 growing degree days accumulated. Wind speed recorded in the morning/evening as 1.3/3.9 Knots.

Murree

Rainfall reported as 9.1 mm from Murree during the week; however, cloudiness in the morning/evening recorded as 2.1/1.7 Oktas while, average relative humidity observed as 52%. Mean night time temperature recorded 5.4°C & for the recent week 36.7 growing degree days accumulated. Wind speed recorded in the morning/evening as 2.0/2.0 Knots.

D.I. Khan

Dry weather reported from D.I. Khan during the week; however, clear sky observed in the morning/evening while, average relative humidity observed as 67%. Mean night time temperature recorded as 9.2°C & for the recent week 87.5 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.3/0.3 Knots.

Peshawar

Dry weather reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 0.9/1.6 Oktas while, average relative humidity observed as 70%. Mean night time temperature recorded as 7.4°C & for the recent week 70.2 growing degree days accumulated. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

Kalam

Rainfall reported as 14.0 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 2.6/2.9 Oktas while, average relative humidity observed as 54%. Mean night time temperature recorded as -1.9°C & for the recent week 2.3 growing degree days accumulated. Calm wind reported in the morning/evening.

Gilgit

Dry weather reported from Gilgit during the week. However, cloudiness in the morning/evening recorded as 4.1/3.9 Oktas while, average relative humidity observed as 64%. Mean night time temperature recorded as -2.6°C & for the recent week 12.8 growing degree days accumulated. 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 3.3/3.1 Oktas while, average relative humidity observed as 54%. Mean night time temperature recorded as -6.1°C. Calm wind reported in the morning/evening.

**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, Third Leaf Stage Completed.

Lower Sindh (Tandojam)

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

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

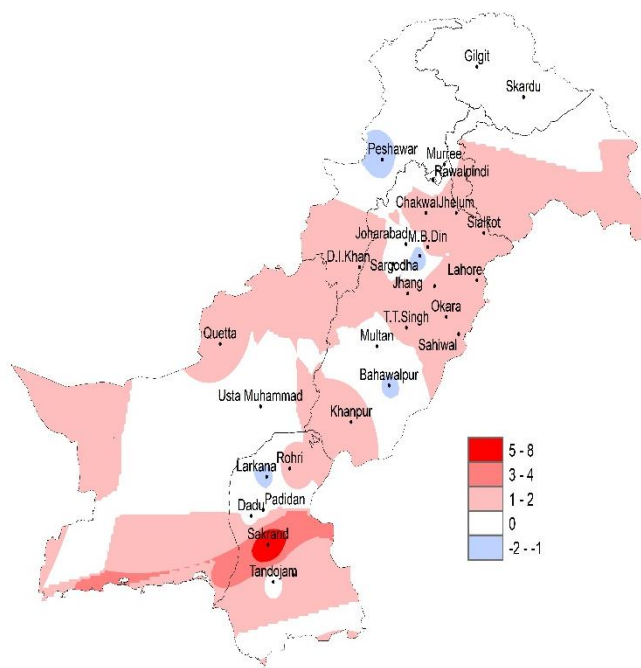
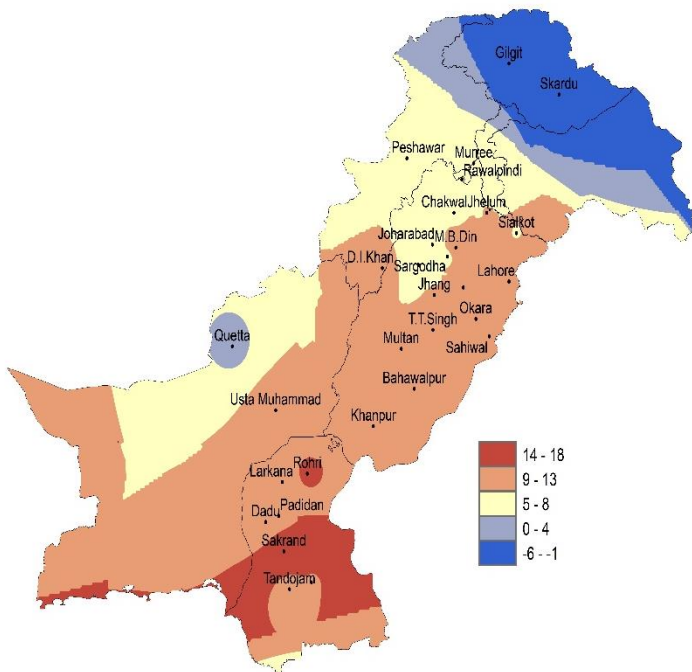
Northern Baluchistan (Quetta)

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

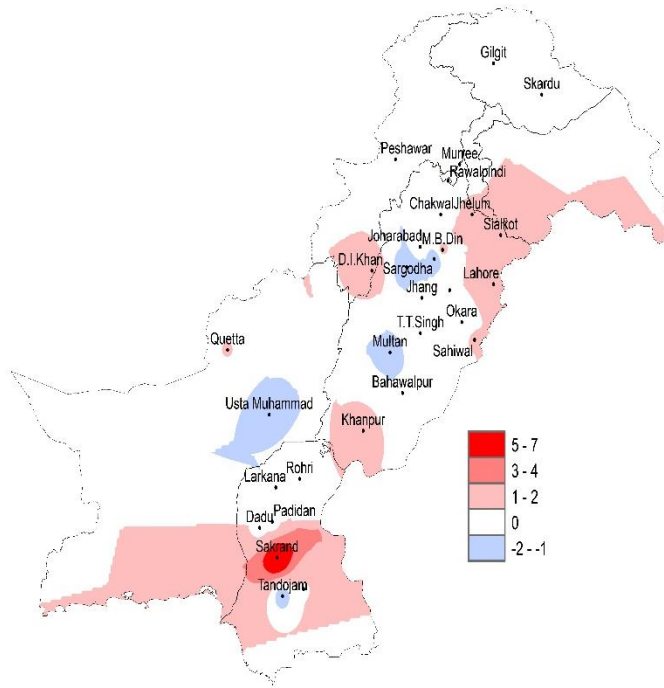
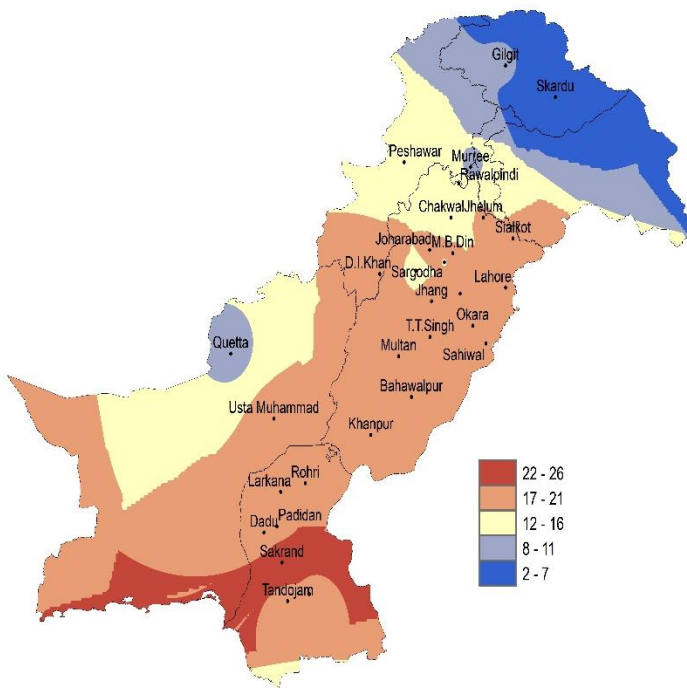
Eastern Baluchistan (Usta Muhammad)

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

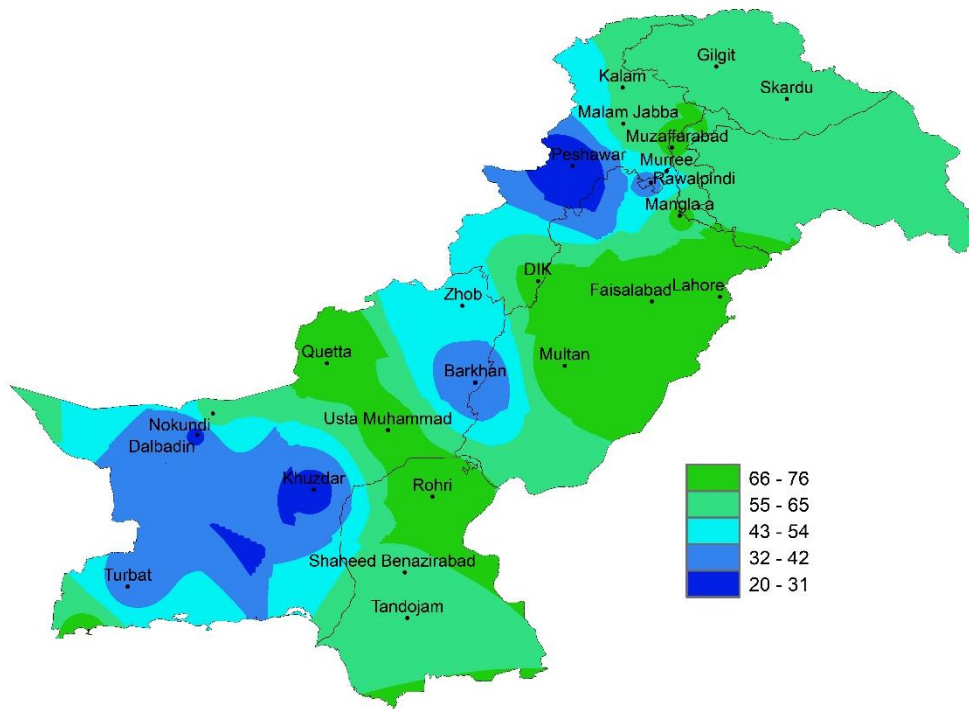
Normal & Departure of Minimum temperature (°C) for the previous week (29th November – 5th December, 2021)



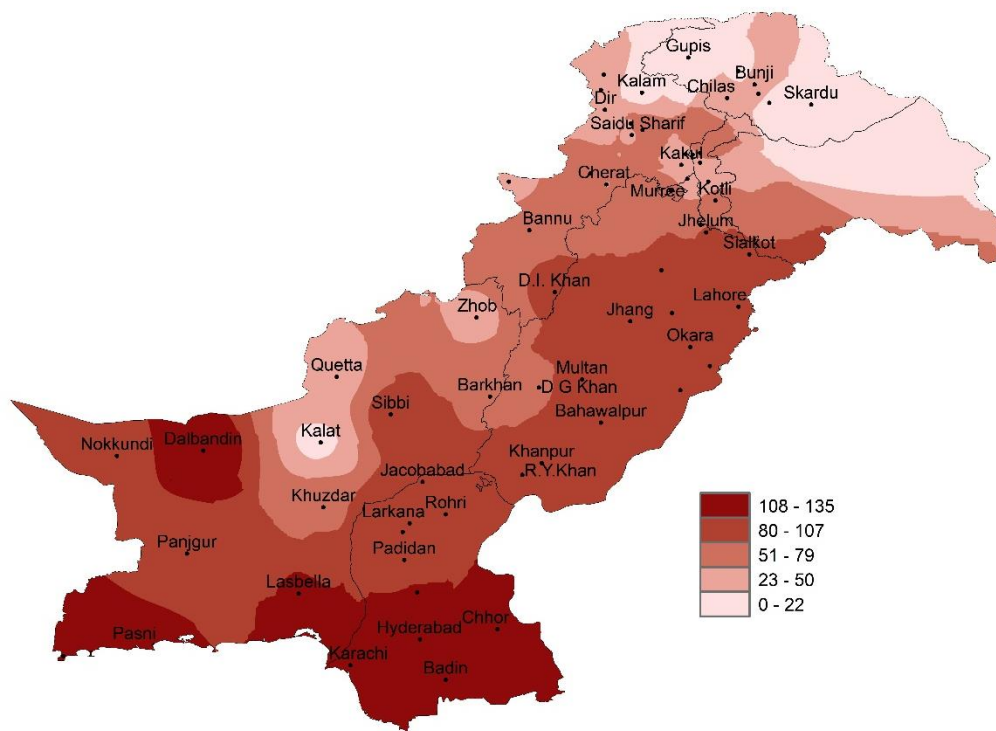
Normal & Departure of Mean Temperature (°C) for the previous week (29th November – 5th December, 2021)



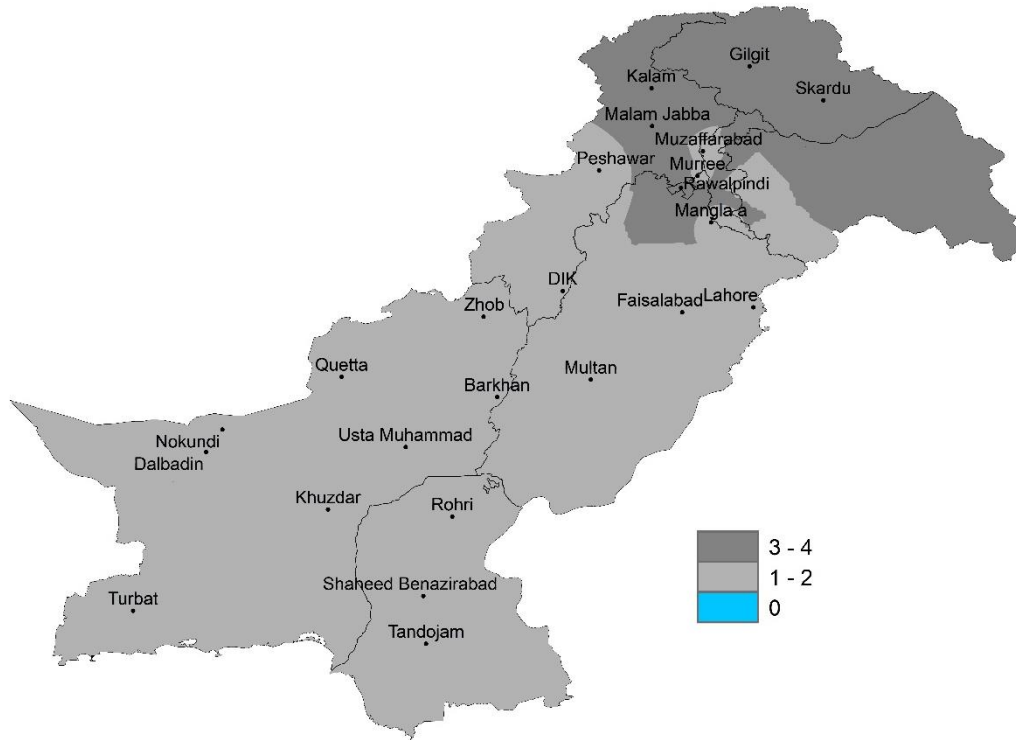
Mean Relative Humidity (%) during the previous week (29th November – 5th December, 2021)



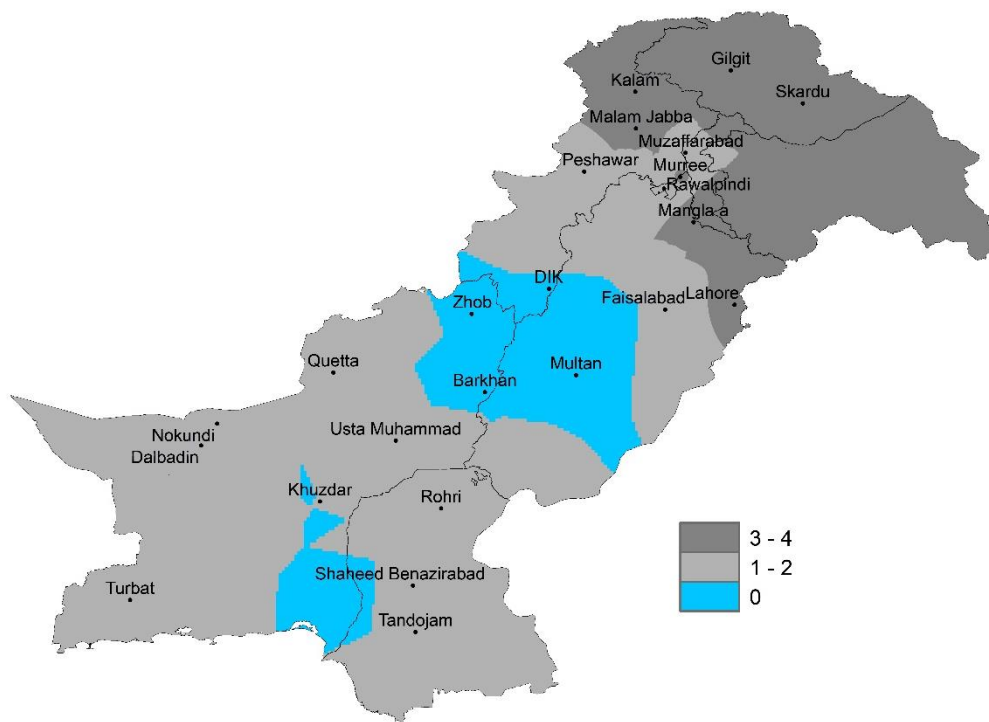
Total Growing Degree Days accumulated during the previous week (29th November – 5th December, 2021)



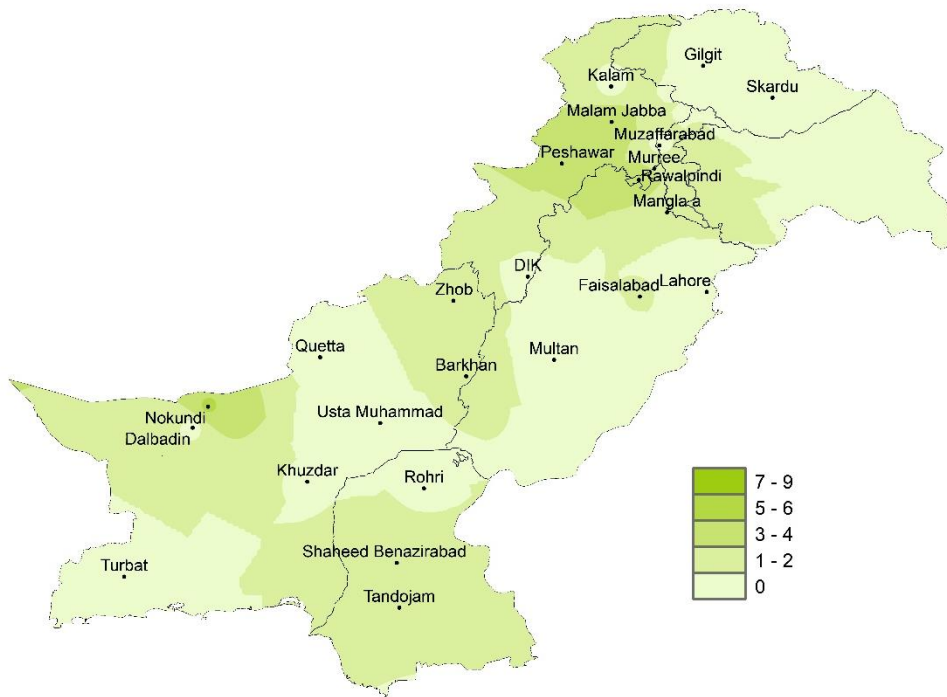
Mean Cloudiness (Oktas) at 0800PST during the previous week (29th November – 5th December, 2021)



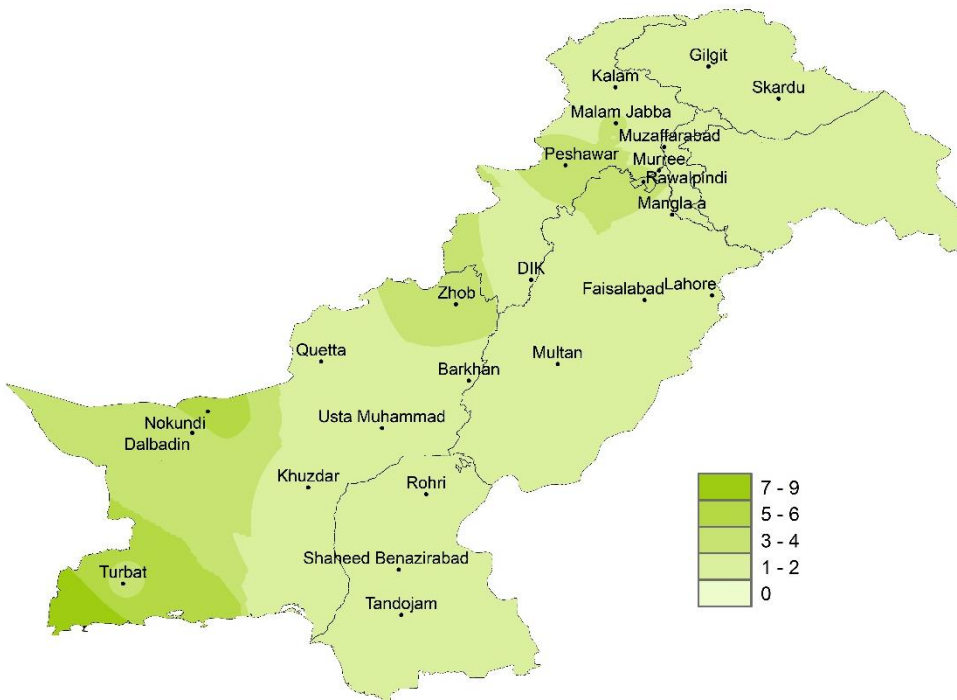
Mean Cloudiness (Oktas) at 1700PST during the previous week (29th November – 5th December, 2021)



Mean Wind Speed (Knots) at 0800PST during the previous week (29th November – 5th December, 2021)



Mean Wind Speed (Knots) at 1700PST during the previous week (29th November – 5th December, 2021)



Weekly Weather Advisory for Farmers**(6th – 12th December, 2021)**

Continental air is prevailing over most parts of the country. A westerly wave is also present over northern parts of the country and likely to move eastwards during next 12 hours.

MONDAY**06-12-2021**

Cold and dry weather is expected in most parts the country. Smog/fog is likely in plain areas of Punjab during night hours. Light rain (light snowfall over hills) is expected in Gilgit-Baltistan, Kashmir and its surrounding hilly areas.

TUESDAY**07-12-2021**

Cold and dry weather is expected in most parts the country. Smog/fog is likely in plain areas of Punjab during morning/night hours.

WEDNESDAY**08-12-2021**

Mainly cold and dry weather is expected in most parts of the country. While, fog is likely to prevail in plain areas of Punjab. However, light rain (light snowfall over the hills) is expected in Gilgit Baltistan.

THURSDAY**09-12-2021**

Mainly cold and dry weather is expected in most parts of the country. However, fog is likely to prevail in plain areas of Punjab. However, light rain (light snowfall over the hills) is expected in Gilgit Baltistan.

FRIDAY**10-12-2021.**

Cold and dry weather is expected in most parts the country. Smog/fog is likely in plain areas of Punjab during morning/night hours.

SATURDAY**11-12-2021**

Mainly cold and dry weather is expected in most parts of the country. While, very cold in hilly areas. However, fog is likely to prevail in plain areas of Punjab.

SUNDAY**12-12-2021**

Mainly cold and dry weather is expected in most parts of the country. While, very cold in hilly areas. However, fog is likely to prevail in plain areas of Punjab.

ADVISORY FOR FARMERS

During the last week, light to moderate rainfall reported from upper Khyber Pakhtunkhwa, Kashmir & Gilgit-Baltistan. Light rainfall reported from Potohar region. 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.

National Weather Data of Selected Cities from (29th November – 5th 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	7.4	6.0	67.8	31	0.0	0.0	0.3	0.9	0.6
Dalbandin	***	***	135.0	28	0.3	0.3	1.0	0.0	2.9
D.I.Khan	9.2	8.0	87.5	67	0.0	0.0	0.0	0.3	0.3
Faisalabad	8.0	7.5	85.5	74	0.0	0.0	0	0.5	0.5
Gawadar	14.6	14.0	121.8	68	0.0	0.0	0.4	0.0	9.4
Gilgit	-2.6	-4.5	12.8	64	0.0	4.1	3.9	0.0	0.3
Kalam	-1.9	-3.0	2.3	54	14.0	2.6	2.9	0.0	0.0
Khuzdar	8.4	6.0	72.0	28	0.0	0.0	0.3	0.3	0.6
Lahore	9.5	8.3	82.2	68	0.0	2.7	1.4	0.0	0.6
Malam Jabba	3.1	1.5	0.0	57	22.0	2.3	3.1	3.7	2.3
Mangla	6.9	5.3	76.5	68	0.9	2.7	1.7	0.6	1.1
Multan	9.7	8.6	83.0	74	0.0	0.0	1.0	0.0	1.1
Murree	5.4	5.0	36.7	52	9.1	2.1	1.7	2.0	2.0
Muzaffarabad	3.4	2.1	39.6	71	23.3	1.7	1.9	0.0	0.0
Nawabshah	12.5	11.0	107.6	62	0.0	0.0	0.4	4.3	5.4
Nokkundi	11.3	9.5	94.0	20	0.0	1.4	0.9	2.1	2.3
Peshawar	7.4	6.0	70.2	70	0.0	0.9	1.6	0.0	0.3
Quetta	2.6	2.0	34.5	36	0.0	0.9	4	2.8	2.6
Rawalpindi	5.6	4.5	66.3	76	0.2	1.3	1	0.2	0.2
Rohri	13.5	12.0	105.8	63	0.0	0.0	0.0	2.0	1.7
Skardu	-6.1	-8.5	-22.1	54	0.0	3.3	3.1	0.0	0.0
Tandojam	11.6	10.0	97.4	60	0.0	0.0	1	0.6	1.5
Turbat	16.3	15.0	129.5	37	0.0	0.3	1.6	0.3	3.6
Usta Muhammad	11.0	10.0	93.0	70	0.0	0.0	0	0.0	0.0
Zhob	3.6	1.5	43.8	47	0.0	0.0	0.6	1.3	3.9

*** 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)