

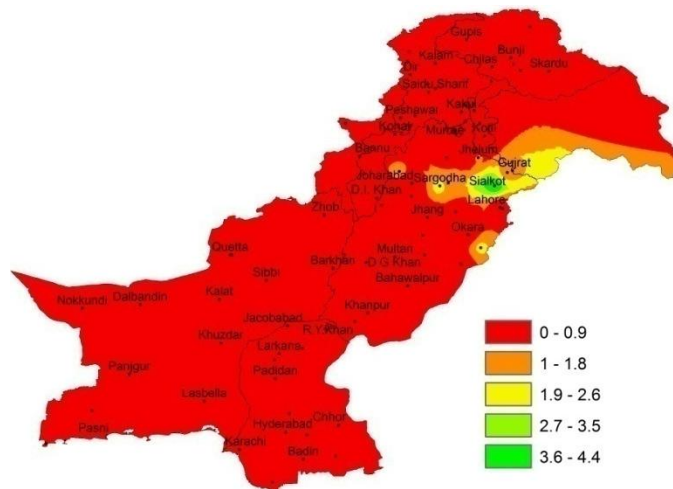
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the
Previous Week (from 7th to 13th November, 2016)**



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Highlights of Past Weather (from 7th to 13th November, 2016)

Slightly above normal day time temperature was reported in most parts of the country during the week.

Province wise distribution of rainfall reported as follows:

- Light rainfall was reported at some in Punjab.
- Light rainfall was reported only at single station (Bannu=0.1mm) in Khyber Pakhtunkhwa.
- Dry weather was reported at the remaining parts of country.

Patron-in-Chief: Dr. Ghulam Rasul (Director General)

Editor-in-Chief: Dr. Azmat Hayat Khan (Director)

Editor: Asma Jawad Hashmi (Deputy Director)

Past Weather of Provinces (from 7th to 13th November, 2016)

Punjab

Light rainfall was reported in Punjab (Gujranwala=4.4mm) during the week. Weekly maximum and minimum temperatures recorded as 28.6°C & 12.1°C respectively. For the present season on average 107.7 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 62% and wind speed in the morning/evening recorded as 1.1/1.3 Knots. During the previous week the lowest minimum temperature was recorded as 16.2°C at Okara.

Sindh

Dry weather reported in Sindh during the week. Weekly maximum and minimum temperatures recorded as 33.8.6°C & 15.7°C respectively. For the present season, on average 137.4 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 55% and wind speed in the morning/evening recorded as 0.7/2.6 Knots. During the previous week the lowest minimum temperature recorded as 9.4°C at Mithi.

Khyber Pakhtunkhwa

Light rainfall reported at (Bannu=0.1) in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 24.3°C & 7.6°C respectively. For the present season on average 77.3 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 51% and wind speed in the morning/evening recorded as 1.1/1.8 Knots. During the previous week the lowest minimum temperature recorded as -1.0°C at Kalam.

Balochistan

Dry weather reported in Balochistan during the week. Weekly maximum and minimum temperatures recorded as 28.1°C & 11.2°C respectively. For the present season on average 106.7 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 39% and wind speed in the morning/evening recorded as 1.6/4.6 Knots. During the previous week the lowest minimum temperature was recorded as -4.0°C at Kalat.

Gilgit-Baltistan and Azad Jammu & Kashmir

Dry weather reported in Gilgit-Baltistan & Kashmir regions during the week. Weekly maximum and minimum temperatures recorded as 22.2°C & 3.7°C respectively. For the present season on average 48.7 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 50% and wind speed in the morning/evening recorded as 0.2/0.8 Knots. During the previous week the lowest minimum temperature recorded as -5.2°C at Skardu.

**Past Weather for Major Agricultural Plains
(from 7th to 13th November, 2016)****Rawalpindi (Potohar region)**

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.7/0.7 Oktas while, average relative humidity observed as 65%. Mean night time temperature recorded as 9.2°C & for the present season 91.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.5/0.6 Knots.

Faisalabad (Central Punjab)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.0/0.0 Oktas while, average relative humidity observed as 64%. Mean night time temperature recorded as 12.5°C & for the present season 110.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.7/0.3 Knots.

Tandojam (Lower Sindh)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.3/0.0 Oktas while, average relative humidity observed as 60%. Mean night time temperature recorded as 14.4°C & for the present season 131.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.8/0.8 Knots.

Quetta (Northern Baluchistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.0/0.4 Oktas while, average relative humidity observed as 29%. Mean night time temperature recorded as 5.5°C & for the present season 51.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/2.9 Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 0.0/0.0 Oktas while, average relative humidity observed as 70%. Mean night time temperature recorded as 13.0°C & for the present season 130.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.4 Knots.

**Past Weather for Sub-Regional Agricultural
Plains (from 7th to 13th November, 2016)****Multan**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.0/0.0 Oktas while, average relative humidity observed as 62%. Mean night time temperature recorded as 13.9°C & for the present season 114.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.3 Knots.

Lahore

Light rainfall 0.2 was reported during the week; cloudiness in the morning/evening recorded as 1.4/0.9 Oktas while, average relative humidity observed as 61%. Mean night time temperature recorded as 13.6°C & for the present season 109.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.1 Knots.

Zhob

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.6/0.4 Oktas while, average relative humidity observed as 23%. Mean night time temperature recorded as 10.0°C & for the present season 81.7 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.1/2.9 Knots.

D.I. Khan

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.4/0.0 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 13.1°C & for the present season 114.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/0.9 Knots.

Peshawar

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.1/1.4 Oktas while, average relative humidity observed as 60%. Mean night time temperature recorded as 10.0°C & for the present season 98.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

Murree

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.4/1.1 Oktas while, average relative humidity observed as 38%. Mean night time temperature recorded as 9.1°C & for the present season 60.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.0/0.6 Knots.

Kalam

Dry weather was reported during the week, cloudiness in the morning/evening recorded as 0.0/0.9 Oktas while, average relative humidity observed as 51%. Mean night time temperature recorded as 0.5°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Gilgit

Dry weather was reported during the week, cloudiness in the morning/evening recorded as 1.6/4.6 Oktas while, average relative humidity observed as 66%. Mean night time temperature recorded as 0.4°C & for the present season 38.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

Skardu

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.6/3.7 Oktas while, average relative humidity observed as 57%. Mean night time temperature recorded as -3.9°C & for the present season 4.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

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

There is presently one crop (irrigated condition) grown in the fields of RAMC Rawalpindi.

Maize: The crop has been harvested.

Central Punjab (Faisalabad)

There is presently one crop (irrigated condition) grown in the fields of RAMC Faisalabad.

Cotton: good condition at *First picking* stage.

Lower Sindh (Tandojam)

There is presently one crop (irrigated condition) grown in the fields of RAMC Tandojam.

Wheat: Good condition at *emergence* stage.

Northern Balochistan (Quetta)

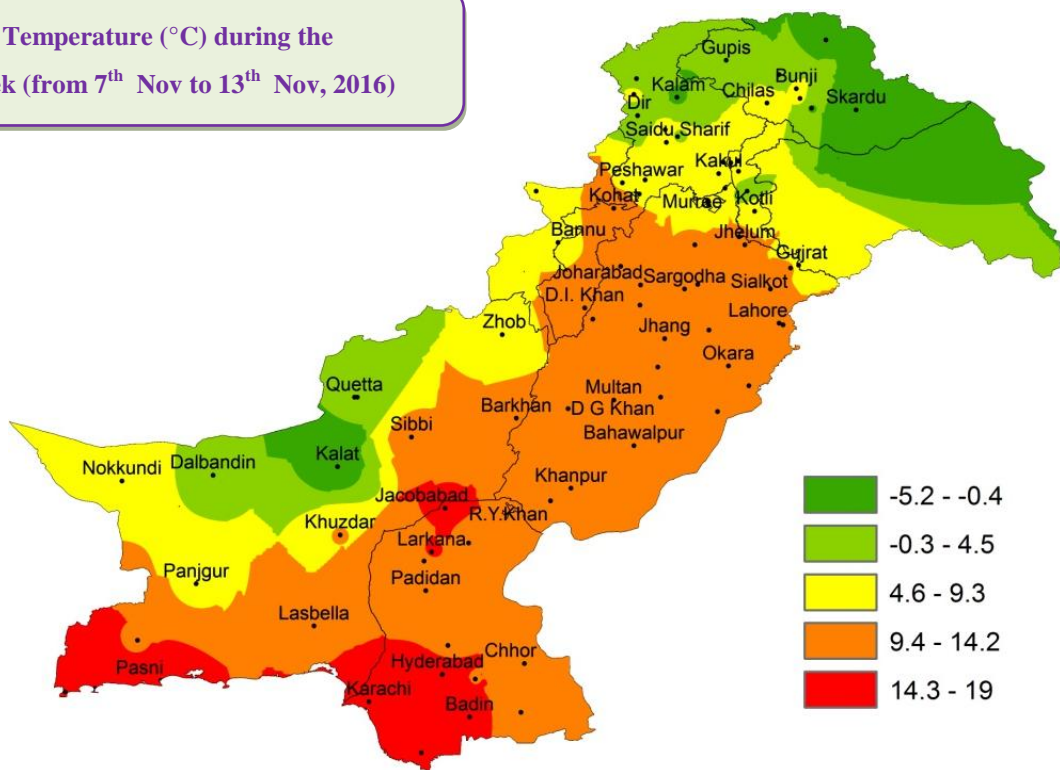
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Balochistan (Usta Muhammad)

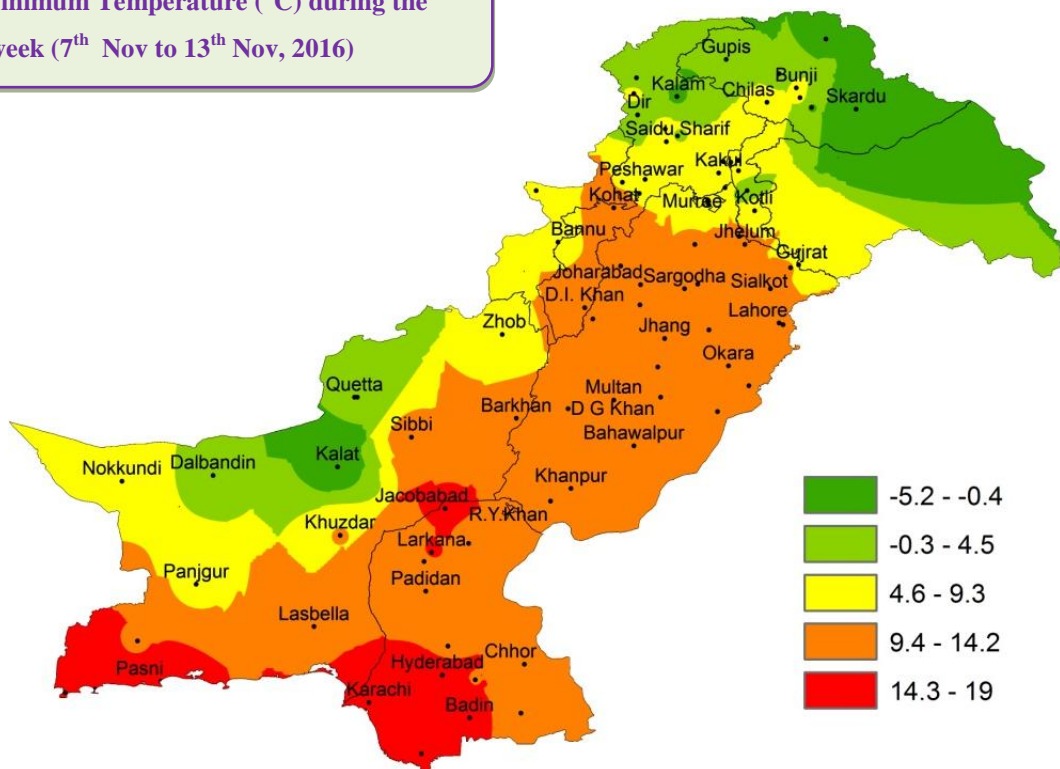
There is presently one crop (irrigated condition) grown in the fields of RAMC Usta Muhammad.

Rice: Good condition at *Harvesting* stage.

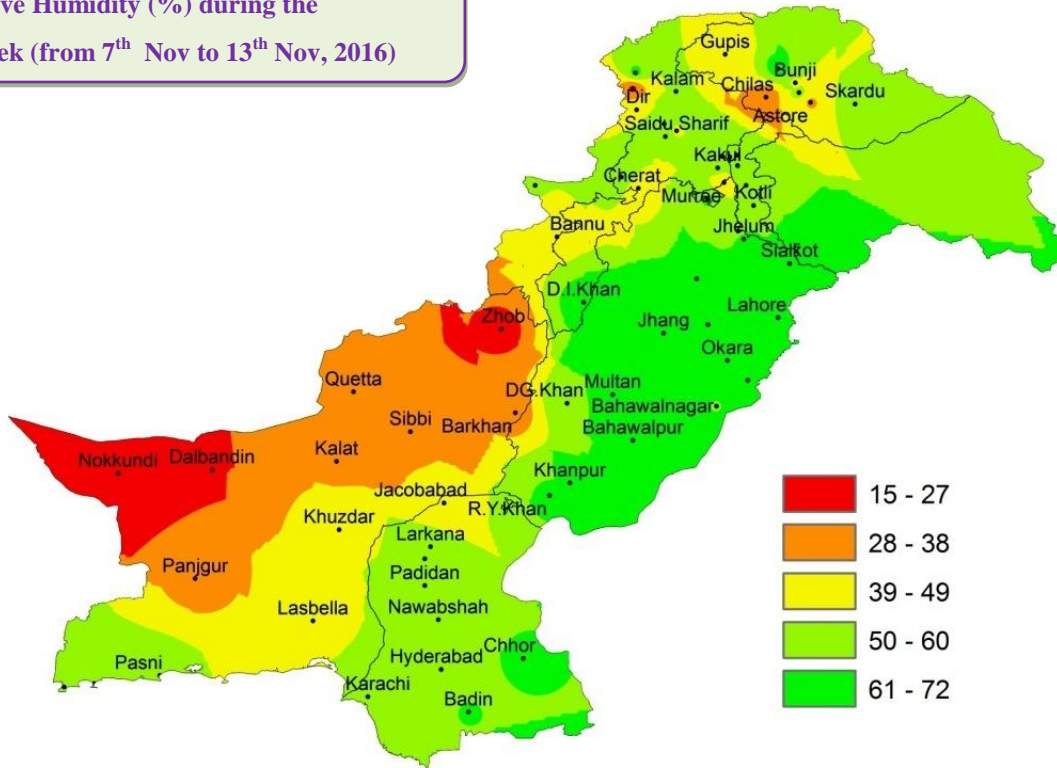
Mean lowest Temperature (°C) during the Previous week (from 7th Nov to 13th Nov, 2016)



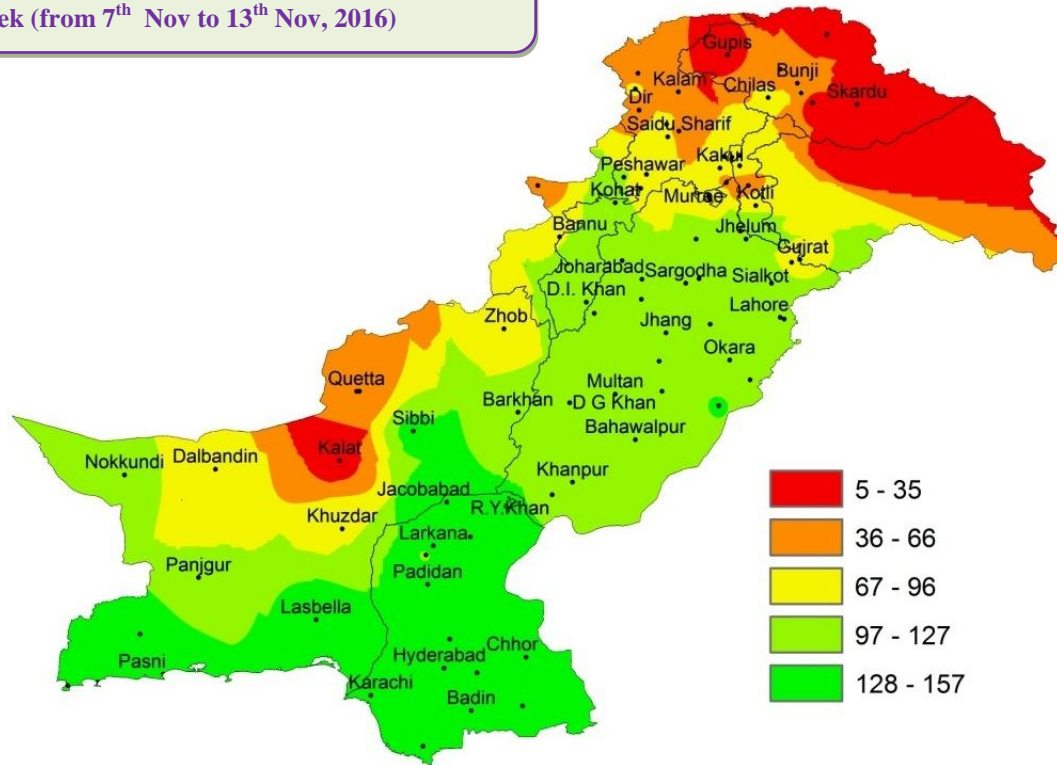
Lowest Minimum Temperature (°C) during the Previous week (7th Nov to 13th Nov, 2016)



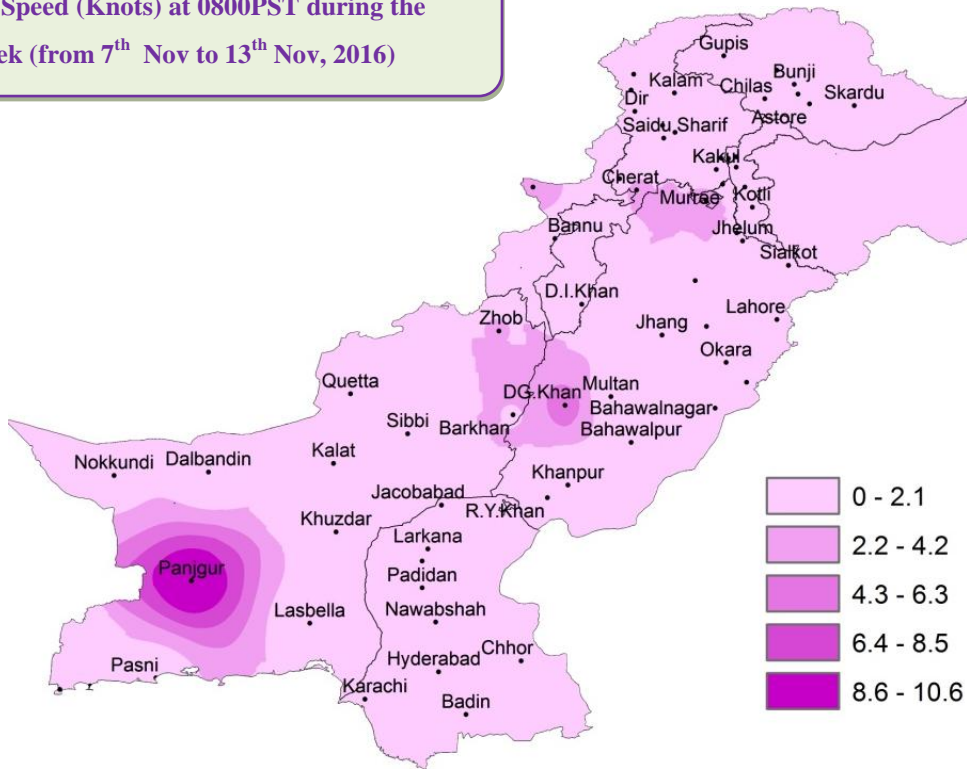
Mean Relative Humidity (%) during the Previous week (from 7th Nov to 13th Nov, 2016)



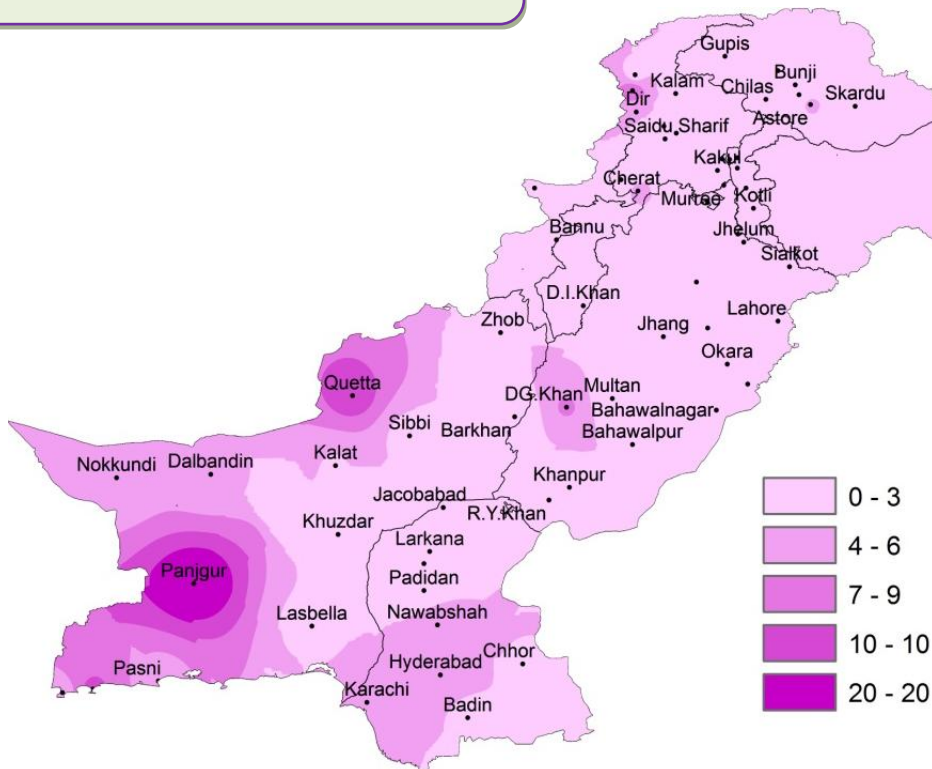
Total Growing Degree Days accumulated during the Previous week (from 7th Nov to 13th Nov, 2016)



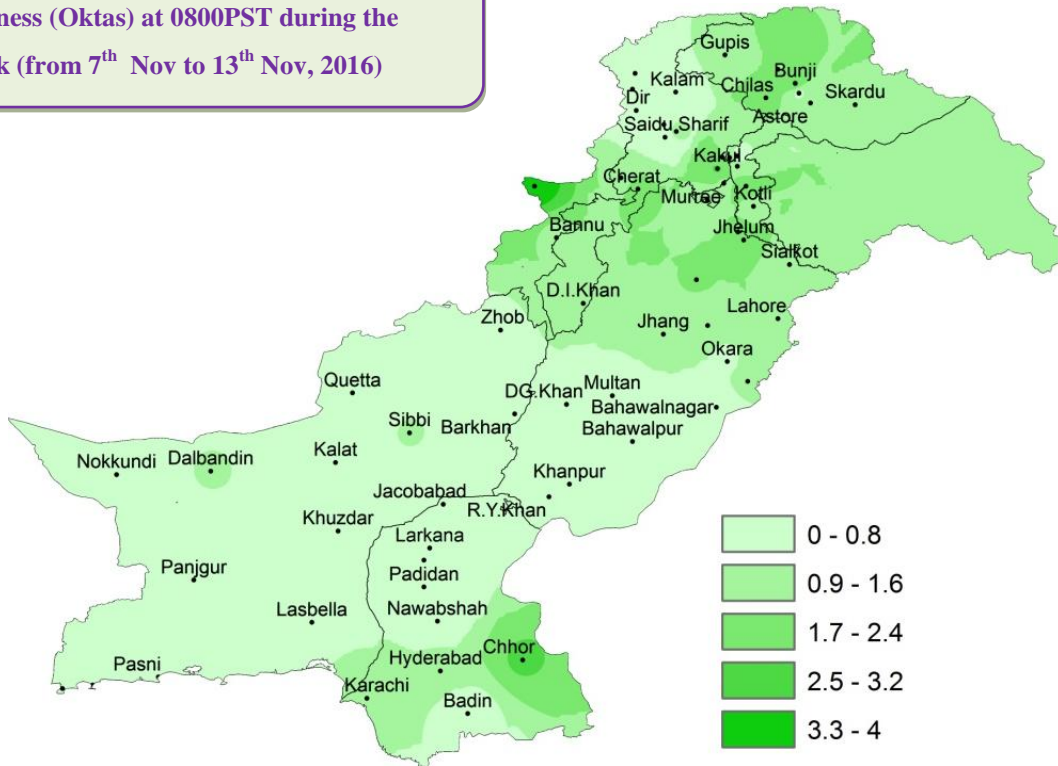
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 7th Nov to 13th Nov, 2016)



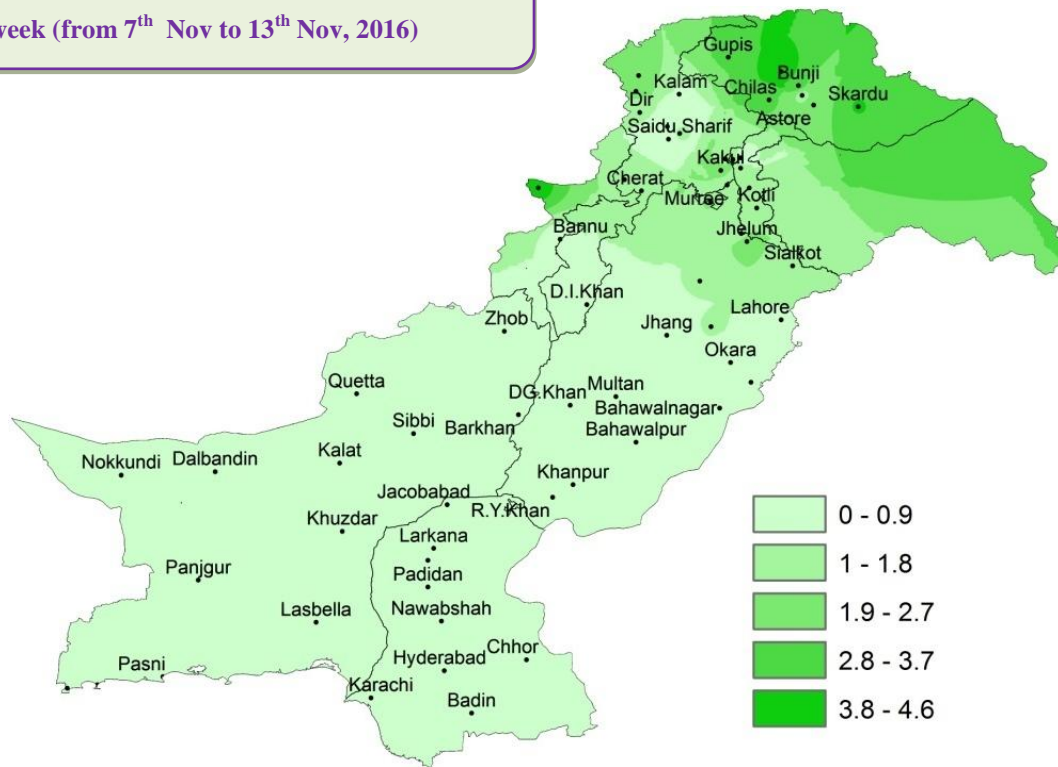
Mean Wind Speed (Knots) at 1200PST during the Previous week (from 7th Nov to 13th Nov, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 7th Nov to 13th Nov, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 7th Nov to 13th Nov, 2016)



Weekly Weather Advisory for Farmers**(From 14th to 20th November, 2016)**

Continental air would prevail over most parts of the country during the current week. However, a shallow westerly wave is likely to approach western and northern areas of the country during the weekend.

**MONDAY
14-11-2016**

Mainly cold and dry weather is expected in most parts of the country. Shallow foggy conditions are expected to prevail over plain areas of Punjab during morning hours.

**TUESDAY
15-11-2016**

Mainly cold and dry weather is expected in most parts of the country. Shallow foggy conditions are expected to prevail over plain areas of Punjab during morning hours.

**WEDNESDAY
16-11-2016**

Mainly cold and dry weather is expected in most parts of the country. Shallow foggy conditions are expected over plain areas of Punjab.

**THURSDAY
17-11-2016**

Mainly cold and dry weather is expected in most parts of the country. Shallow foggy conditions are expected over plain areas of Punjab.

**FRIDAY
18-11-2016**

Mainly cold and dry weather is expected in most parts of the country. Foggy conditions are expected over plain areas of Punjab.

**SATURDAY
19-11-2016**

Mainly cold and dry weather is expected in most parts of the country. Foggy conditions are expected over plain areas of Punjab.

**SUNDAY
20-11-2016**

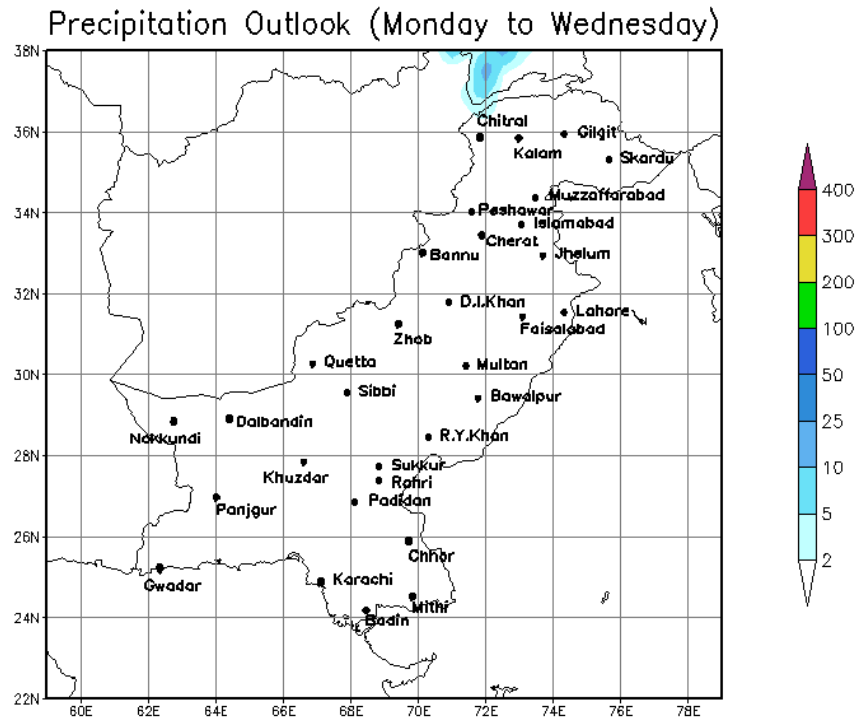
Mainly cold and dry weather is expected in most parts of the country. However, rain-thunderstorm (with snowfall over the high mountains) is expected at isolated places in Malakand division and Gilgit-Baltistan. Foggy conditions are expected over plain areas of Punjab.

ADVISES FOR CROPS

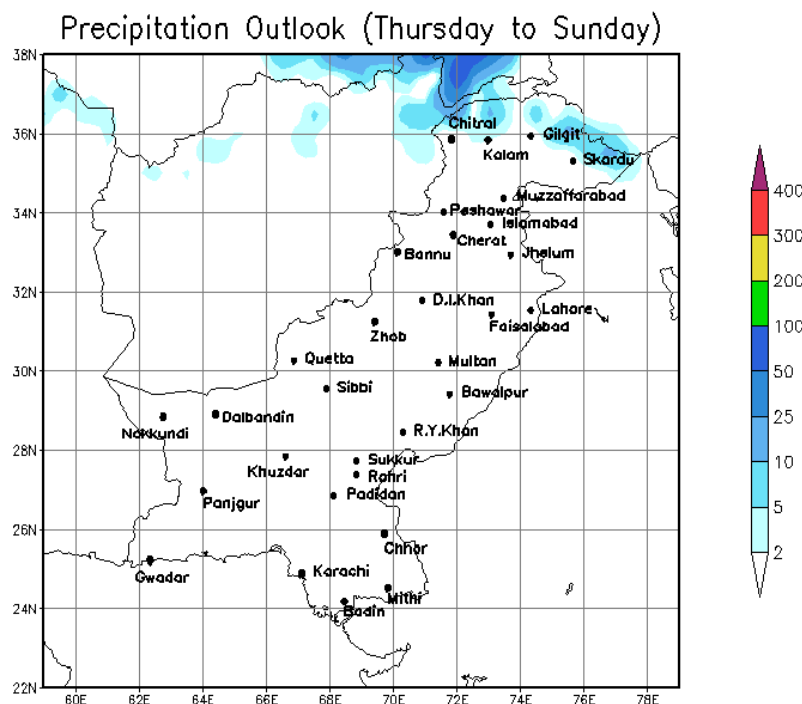
- Farmers of rainfed areas obtaining water through tube wells and irrigated areas in upper parts are advised to schedule the irrigation according to the expected weather mentioned during the week.
- Farmers are advised to cultivate winter vegetables in time so that present soil moisture may fully be utilized.
- Farmers are advised to take in time precautionary measures to protect their crops, livestock and other property from any expected rain.
- Farmers of cotton crop areas are advised to prepare their field for incoming rabi crops and complete sowing in time.
- Farmers of irrigated areas of Punjab, Sindh and KPK are advised to complete sowing of wheat crop in the month of November. Late varieties may be cultivated in December.
- Farmers of rainfed areas of K.P & Punjab are advised to complete cultivation of Rabi crops as soon as possible. The status of soil moisture is very suitable after recent rains in these areas.

Weather Outlook from 14th to 20th November, 2016

The outlook from 14th to 16th November, 2016 shows that dry weather is expected in most parts of the country.



The outlook from 17th to 20th November, 2016 shows that dry weather is expected in most parts of the country. However, rainfall is expected at isolated places in Malakand division and Gilgit-Baltistan.



National Weather Data of Selected Cities
(Weekly Data from 7th to 13th November, 2016)

Stations	Maximum/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	Lowest							
Astore	0.1	-1.0	12.8	36	0.0	1.4	2.7	0.0	3.4
Badin	19.2	17.0	148.3	61	0.0	0.0	0.0	2.0	2.3
Bahawalnagar	14.7	13.5	127.6	60	0.0	0.0	0.3	0.0	1.4
Bahawalpur	14.0	11.9	121.6	62	0.0	0.0	0.6	0.0	2.6
Balakot	6.8	5.3	75.9	57	0.0	1.4	1.3	0.7	0.0
Bannu	8.9	7.8	96.2	42	0.1	1.3	0.4	1.1	2.0
Barkhan	13.0	11.0	104.7	32	0.0	0.0	0.0	2.0	0.0
Bunji	6.5	5.3	58.1	48	0.0	2.6	3.6	0.0	1.4
Cherat	10.9	9.0	74.7	41	0.0	2.0	1.7	2.9	3.7
Chhor	13.2	11.5	131.5	62	0.0	2.6	0.0	1.1	2.7
Chilas	8.9	8.5	73.2	28	0.0	1.9	2.9	0.3	0.0
Chitral	2.2	1.0	50.5	64	0.0	0.4	2.3	2.0	1.1
D.I.Khan	13.1	12.0	114.0	68	0.0	1.4	0.0	0.9	0.9
Dalbandin	5.6	2.0	83.1	27	0.0	0.9	0.4	0.0	3.4
DG.Khan	11.2	10.5	108.4	59	0.0	0.3	0.6	5.1	6.6
Dir	1.5	1.0	47.5	47	0.0	0.4	1.1	0.0	3.1
Drosh	6.9	6.0	71.8	24	0.0	0.0	2.0	0.0	9.0
Faisalabad	12.5	12.0	110.6	64	0.0	1.0	0.0	0.7	0.3
Garidopatta	7.6	7.0	79.2	62	0.0	1.3	1.1	0.0	0.0
Gawader	19.2	18.0	149.9	55	0.0	0.0	0.3	0.0	10.0
Gilgit	0.4	-0.5	38.9	66	0.0	1.6	4.6	0.0	0.0
Gupis	1.3	0.0	27.8	38	0.0	1.3	2.9	1.7	2.6

Hyderabad	18.6	17.0	146.4	52	0.0	1.4	0.0	1.1	5.1
Islamabad	7.6	6.0	86.8	62	0.0	1.0	1.9	2.9	0.9
Jacobabad	15.9	14.5	134.5	41	0.0	0.0	0.3	0.6	2.6
Jhang	12.0	10.0	111.1	72	0.0	1.3	0.0	0.3	0.3
Jhelum	10.6	9.4	104.9	66	1.0	1.9	2.3	1.7	0.6
Jiwani	20.7	19.0	151.8	53	0.0	0.0	0.4	1.7	4.9
Kakul	6.4	5.0	69.8	54	0.0	2.6	2.3	0.0	0.0
Kalam	0.5	-1.0	35.6	51	0.0	0.0	0.9	0.0	0.6
Kalat	-2.6	-4.0	20.2	37	0.0	0.0	0.0	0.0	2.9
Karachi	18.2	17.0	144.4	58	0.0	1.6	0.0	0.3	5.4
Khanpur	13.5	12.0	123.0	60	0.0	0.0	0.4	0.0	1.1
Khuzdar	10.4	9.5	93.4	43	0.0	0.0	0.0	0.3	0.9
Kotli	9.8	9.0	95.7	56	0.0	1.3	1.4	0.6	0.6
Lahore	13.6	12.5	109.9	61	0.2	1.4	0.9	0.3	1.1
Larkana	16.5	15.0	141.5	52	0.0	0.0	0.7	0.9	1.1
Lasbella	15.8	12.3	143.0	42	0.0	0.0	0.3	0.3	1.7
Lower Dir	6.4	5.5	76.8	54	0.0	0.4	0.0	2.0	2.0
M.B Din	12.5	10.5	104.3	65	1.5	1.7	1.0	0.9	0.6
Malam Jabba	5.1	4.0	35.3	48	0.0	1.1	1.3	1.7	0.0
Mangla	10.1	9.4	101.8	52	0.5	1.7	1.4	2.0	1.4
Mir Khani	6.2	5.6	69.1	52	0.0	0.4	1.1	1.6	1.9
Moinjodaro	12.6	11.5	123.9	53	0.0	0.0	0.0	0.0	1.4
Multan	13.9	11.8	114.6	62	0.0	0.0	0.0	0.6	0.3
Murree	9.1	6.8	60.4	38	0.0	1.4	1.1	2.0	0.6
Muzaffarabad	7.9	7.0	81.1	49	0.0	2.0	2.4	0.0	0.3
Nawabshah	18.6	15.4	150.0	55	0.0	0.1	0.3	1.9	5.4

Nokkundi	10.7	8.5	102.3	15	0.0	0.0	0.0	1.1	3.4
Okara	14.4	13.0	118.0	66	0.0	0.7	0.4	0.9	0.0
Padidan	14.0	13.0	135.0	56	0.0	0.0	0.0	0.6	1.1
Panjgur	10.6	8.0	97.0	34	0.0	0.0	0.4	10.6	15.4
Parachinar	6.0	5.3	37.4	50	0.0	4.0	4.0	3.0	3.0
Pasni	19.4	18.0	143.5	55	0.0	0.0	0.4	0.6	4.3
Pattan	10.1	8.0	93.3	49	0.0	0.0	0.0	0.0	0.0
Peshawar	10.0	9.0	98.5	60	0.0	1.1	1.4	0.0	0.3
Quetta	5.5	2.2	51.2	29	0.0	0.0	0.4	1.1	2.9
R.Y.Khan	13.2	12.5	125.8	62	0.0	0.0	0.0	0.3	1.7
Rawalakot	2.3	0.0	47.4	57	0.0	2.1	1.7	0.0	0.6
Rawalpindi	9.2	8.0	91.6	65	0.0	1.7	0.7	0.5	0.6
Sahiwal	13.5	12.2	115.7	68	2.0	1.1	0.4	0.9	0.0
Saidu Sharif	7.5	6.0	83.4	51	0.0	0.0	0.0	0.0	0.0
Sialkot	10.9	10.0	94.2	70	1.1	1.1	1.1	0.0	0.3
Sibbi	15.6	13.0	138.2	32	0.0	0.9	0.3	1.4	1.7
Skardu	-3.9	-5.2	4.9	57	0.0	1.6	3.7	0.0	0.0
Tandojam	14.4	12.5	131.5	60	0.0	0.3	0.0	0.8	0.8
Usta. M	13.0	11.0	130.5	70	0.0	0.0	0.0	0.0	1.4
Zhob	10.0	6.5	81.7	23	0.0	0.6	0.4	2.1	2.9

*** 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)