

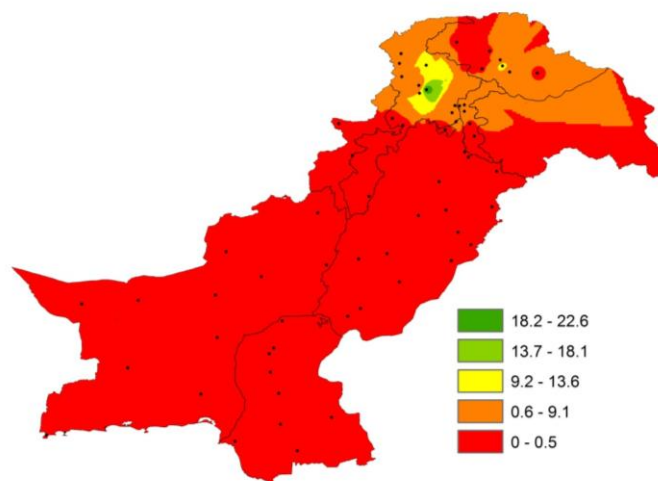
# Weekly Weather and Crop Bulletin for Pakistan

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Rainfall Distribution (mm) during the  
Previous Week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



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## Highlights of Past Weather (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)

Slightly above normal night temperatures reported from most parts of the country.

Province wise distribution of rainfall reported as follows:

- Light rainfall reported from few places of Punjab, Gilgit-Baltistan and Azad Jammu & Kashmir.
- Light to moderate rainfall reported from several places of Khyber Pakhtunkhwa.
- Light rainfall reported from a single place (Quetta=0.1) of Balochistan.
- Dry weather was reported from Sindh.

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

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

**Editor: Khalida Noureen (Meteorologist)**

## Past Weather of Provinces (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)

### Punjab

Light rainfall was reported from few places in Punjab during the week. Weekly maximum and minimum temperatures recorded as 22.4°C & 7.6°C respectively. For the present season on average 70.1 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 57% and wind speed in the morning/evening recorded as 0.7/2.1 Knots. During the previous week the highest amount of rainfall reported as 1.0 mm at Murree & the lowest minimum temperature was recorded as 1.0°C at Murree.

### Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 27.5°C & 11.9°C respectively. For the present season, on average 104.1 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 0.8/1.0 Knots. During the previous week the lowest minimum temperature recorded as 6.2°C at Mithi.

### Khyber Pakhtunkhwa

Light to moderate rainfall reported from several places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 17.9°C & 3.4°C respectively. For the present season on average 40.2 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 59% and wind speed in the morning/evening recorded as 1.3/2.0 Knots. During the previous week the highest amount of rainfall reported as 23.0 mm at Malam Jabba & the lowest minimum temperature recorded as -6.2°C at Kalam.

### Balochistan

Light rainfall reported from a single place of Balochistan during the week. Weekly maximum and minimum temperatures recorded as 23.6°C & 7.9°C respectively. For the present season on average 75.1 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 62% and wind speed in the morning/evening recorded as 0.8/1.5 Knots. During the previous week the highest amount of rainfall reported as 0.1 mm at Quetta & the lowest minimum temperature was recorded as -5.0°C at Quetta.

### Gilgit-Baltistan and Azad Jammu & Kashmir

Light rainfall was reported from few places in Gilgit-Baltistan & Kashmir regions during the week. Weekly maximum and minimum temperatures recorded as 14.3°C & -0.5°C respectively. For the present season on average 13.3 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 57% and wind speed in the morning/evening recorded as 0.8/2.9 Knots. During the previous week the highest amount of rainfall reported as 4.0 mm at Garhi Dopatta & the lowest minimum temperature recorded as -10.2°C at Skardu.

**Past Weather for Major Agricultural Plains  
(from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)**

**Rawalpindi (Potohar region)**

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 0.7/0.4 Oktas while, average relative humidity observed as 71%. Mean night time temperature recorded as 5.1°C & for the present season 62.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.6 Knots.

**Faisalabad (Central Punjab)**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.9/0.6 Oktas while, average relative humidity observed as 75%. Mean night time temperature recorded as 7.9°C & for the present season 75.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.2/0.2 Knots.

**Tandojam (Lower Sindh)**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.9/0.6 Oktas while, average relative humidity observed as 60%. Mean night time temperature recorded as 11.2°C & for the present season 95.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.2/0.8 Knots.

**Quetta (Northern Baluchistan)**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.8/2.1 Oktas while, average relative humidity observed as 47%. Mean night time temperature recorded as 1.8°C & for the present season 30.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.8/2.4 Knots.

**Usta Muhammad (Eastern Balochistan)**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 1.2/1.0 Oktas while, average relative humidity observed as 73%. Mean night time temperature recorded as 8.5°C & for the present season 83.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

**Past Weather for Sub-Regional Agricultural  
Plains (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)**

**Multan**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.3/1.4 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 11.0°C & for the present season 83.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.9 Knots.

**Lahore**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 2.2/0.1 Oktas while, average relative humidity observed as 75%. Mean night time temperature recorded as 8.8°C & for the present season 71.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.6 Knots.

**Zhob**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.9/0.9 Oktas while, average relative humidity observed as 46%. Mean night time temperature recorded as 1.6°C & for the present season 37.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/4.3 Knots.

**D.I. Khan**

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 2.1/1.0 Oktas while, average relative humidity observed as 71%. Mean night time temperature recorded as 8.0°C & for the present season 79 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.9 Knots.

**Peshawar**

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 2.1/2.4 Oktas while, average relative humidity observed as 71%. Mean night time temperature recorded as 5.8°C & for the present season 65.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.1 Knots.

**Murree**

Rainfall was reported 1.0mm during the week; cloudiness in the morning/evening recorded as 2.1/1.4 Oktas while, average relative humidity observed as 50%. Mean night time temperature recorded as 3.2°C & for the present season 26.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.7/10.3 Knots.

**Kalam**

Rainfall was reported 11.0mm during the week; cloudiness in the morning/evening recorded as 1.6/2.9 Oktas while, average relative humidity observed as 78%. Mean night time temperature recorded as -4.2°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

**Gilgit**

Dry weather was reported during the week, cloudiness in the morning/evening recorded as 2.9/4.0 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as -2.5°C & for the present season 6.3 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 1.6/2.6 Oktas while, average relative humidity observed as 64%. Mean night time temperature recorded as -8.1°C 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 no crop grown in the fields of RAMC Rawalpindi.

**Central Punjab (Faisalabad)**

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

**Wheat:** Very good condition at 3<sup>rd</sup> leaf stage.

**Lower Sindh (Tandojam)**

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

**Wheat (Imdad):** Good condition at *tillering* stage.

**Northern Balochistan (Quetta)**

There is presently one crop (irrigated conditions) grown in the fields of RAMC Quetta.

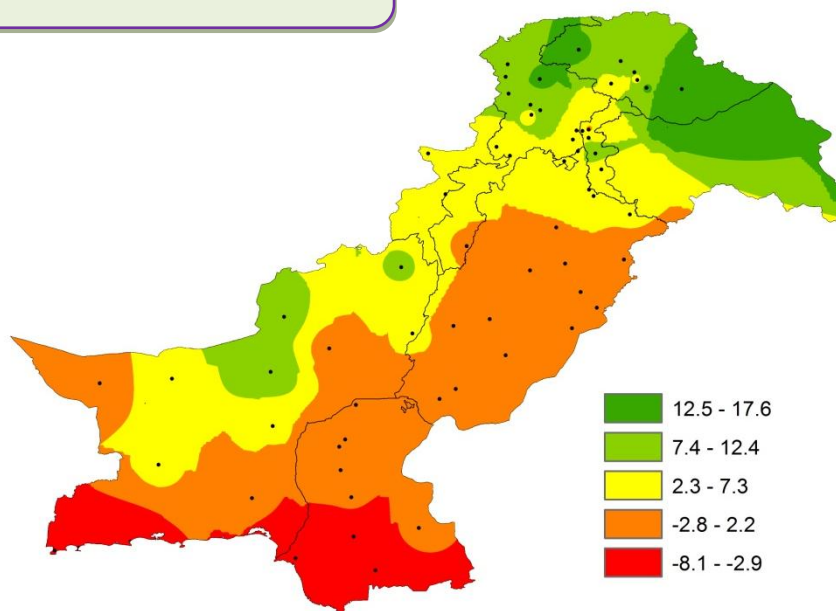
**Wheat (Local white):** Good condition at 3<sup>rd</sup> leaf stage.

**Eastern Balochistan (Usta Muhammad)**

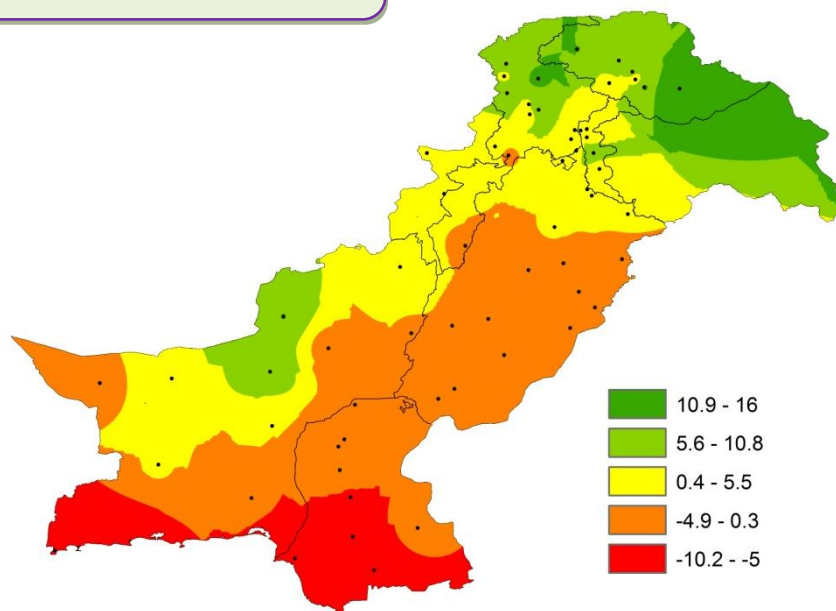
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

**Wheat:** Good condition at 3<sup>rd</sup> leaf stage.

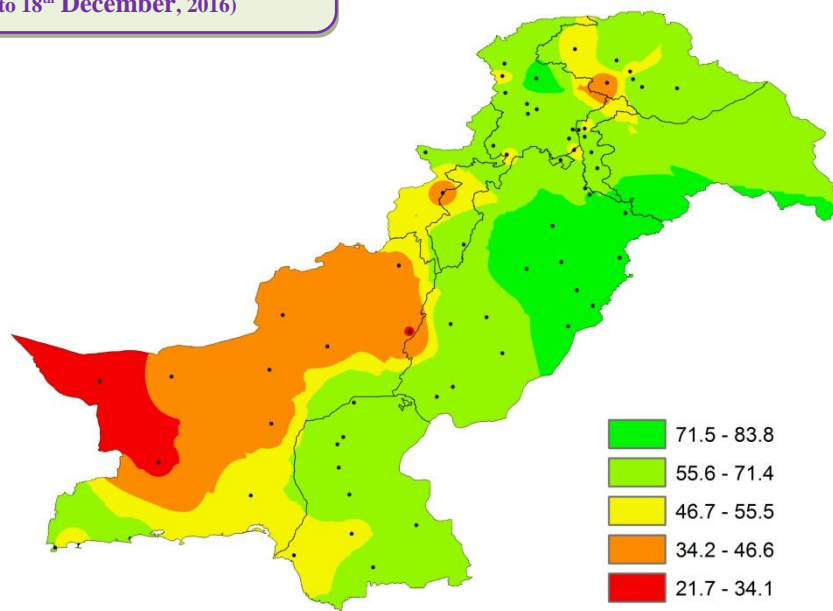
Mean lowest Temperature (°C) during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



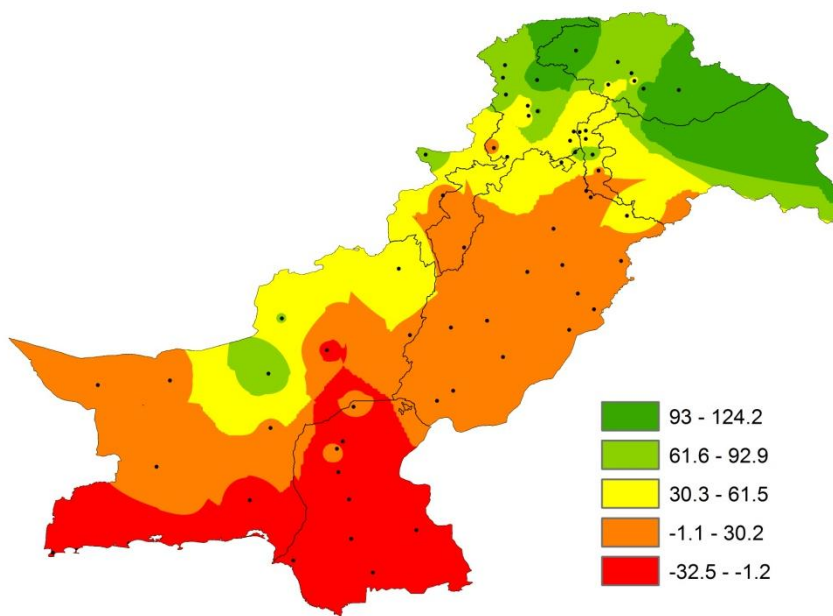
Lowest Minimum Temperature (°C) during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



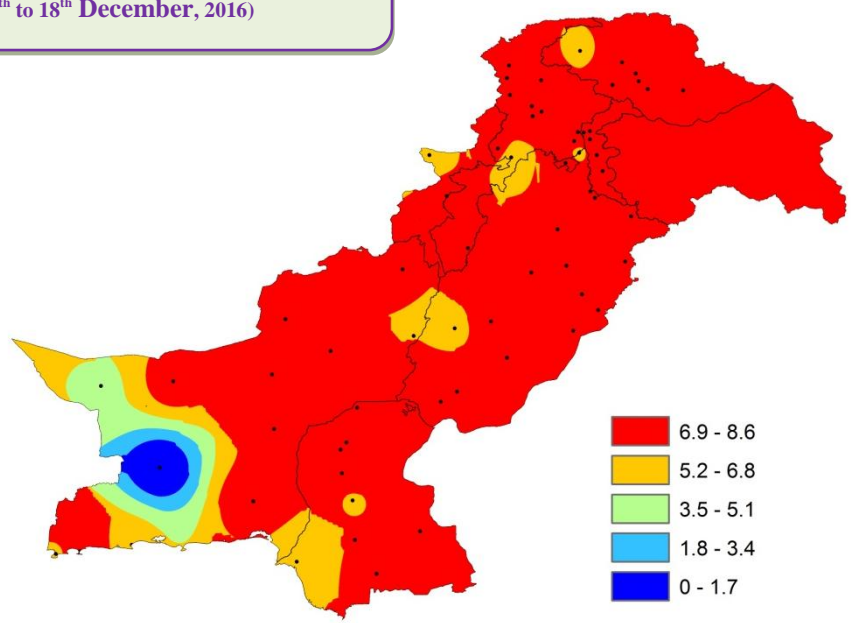
Mean Relative Humidity (%) during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



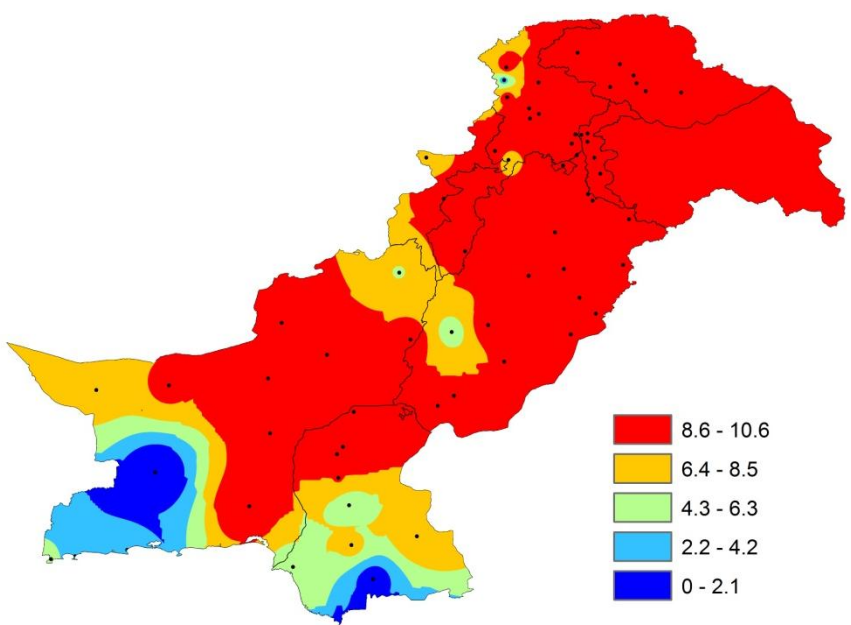
Total Growing Degree Days accumulated during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



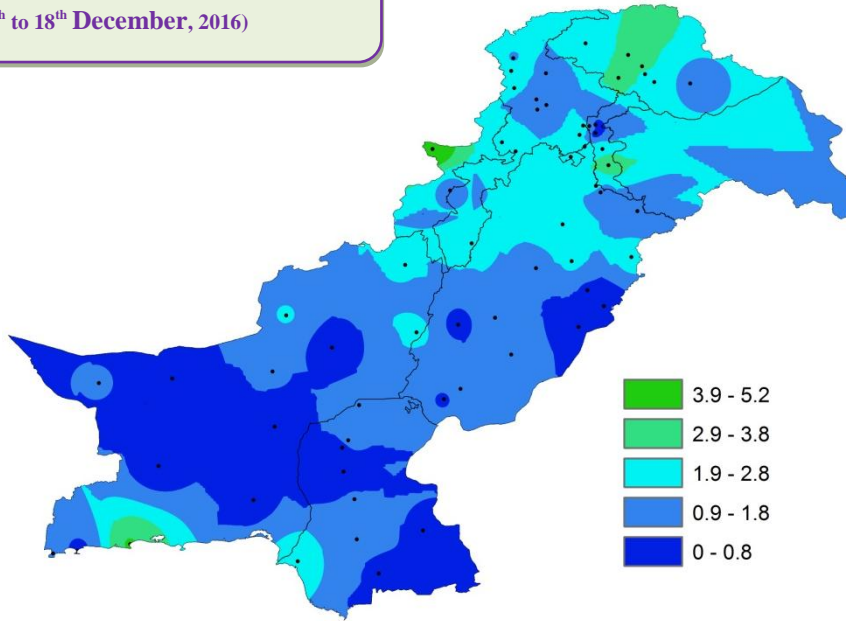
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



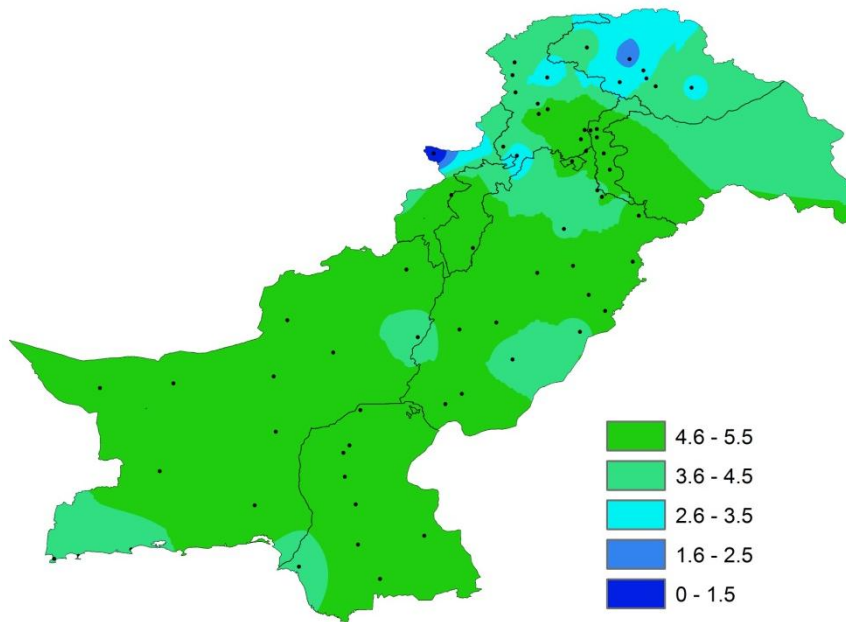
Mean Wind Speed (Knots) at 1200PST during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 12<sup>th</sup> to 18<sup>th</sup> December, 2016)





**Weekly Weather Advisory for Farmers****(From 19<sup>th</sup> to 25<sup>th</sup> December, 2016)**

Continental air would prevail over most parts of the country during the week.

**MONDAY****19-12-2016**

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hours.

**TUESDAY****20-12-2016**

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hours.

**WEDNESDAY****21-12-2016**

Mainly cold and dry weather is expected in most parts of the country. Dense foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hours.

**THURSDAY****22-12-2016**

Mainly cold and dry weather is expected in most parts of the country. Dense foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hours.

**FRIDAY****23-12-2016**

Mainly cold and dry weather is expected in most parts of the country. Dense foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hours.

**SATURDAY****24-12-2016**

Mainly cold and dry weather is expected in most parts of the country. Dense foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hour.

**SUNDAY****25-12-2016**

Mainly cold and dry weather is expected in most parts of the country. Dense foggy conditions are likely to continue over plain areas of Khyber Pakhtunkhwa, Punjab and upper Sindh during night and morning hour.

**ADVISES FOR CROPS**

During the last two months mainly dry weather has been reported for most of the agricultural plains of the country and is likely to prevail by the end of December. Keeping in view the present and expected dry atmospheric soil conditions following advises are suggested for farming community especially for rainfed areas of KP and Punjab.

- Farmers of rainfed areas obtaining water through tube wells are advised to schedule the irrigation as per crop requirement.
- In areas like Potohar region and adjoining areas of KP where rain water storages are available. Farmers are advised to irrigate crops by using available irrigation methods like sprinkler irrigation etc.

**National Weather Data of Selected Cities**  
**(Weekly Data from 12<sup>th</sup> to 18<sup>th</sup> December, 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	-3.9	-5.5	***	56	0.1	2.0	1.7	0.9	0.6
Badin	15.6	14.0	118.3	60	0.0	0.6	0.6	0.6	9.7
Bahawalnagar	10.0	9.0	82.5	75	0.0	0.0	1.6	0.6	0.0
Bahawalpur	10.1	8.4	87.2	70	0.0	1.7	1.7	0.3	2.0
Balakot	3.2	1.7	46.1	66	3.0	2.0	1.1	0.9	0.3
Bannu	5.6	4.0	66.7	44	0.0	1.4	0.0	0.9	1.1
Barkhan	6.8	6.0	62.3	34	0.0	2.0	2.0	1.7	0.9
Bunji	2.1	-0.6	23.0	47	0.0	3.4	2.9	0.6	1.4
Cherat	6.9	6.0	42.8	52	0.0	2.1	2.7	3.4	2.6
Chhor	11.5	9.5	111.1	59	0.0	0.7	0.6	0.0	2.3
Chilas	3.6	2.0	31.0	40	0.0	2.9	2.6	0.6	1.7
Chitral	0.3	-1.3	13.1	68	5.4	1.7	1.7	0.9	0.9
D.G.Khan	7.8	6.2	75.8	64	0.0	0.6	0.9	2.3	5.1
D.I.Khan	8.0	6.5	79.0	71	0.0	2.1	1.0	0.6	0.9
Dalbandin	4.1	3.0	65.8	38	0.0	0.0	0.7	0.3	1.4
Dir	-1.6	-2.5	23.0	66	8.0	1.9	2.4	0.0	1.4
Drosh	1.4	0.9	17.9	47	6.6	2.6	2.4	0.0	7.1
Faisalabad	7.9	6.0	75.2	75	0.0	2.0	1.3	0.2	0.2
Garidopatta	1.5	0.6	35.8	65	4.0	0.6	0.7	0.0	0.0
Gawader	14.1	13.0	112.5	55	0.0	0.5	1.9	0.0	7.7
Gilgit	-2.5	-5.0	6.3	68	0.0	2.9	4.0	0.0	0.0
Gupis	-3.6	-5.0	***	50	0.0	2.3	2.3	2.3	0.6

Hyderabad	14.5	12.5	110.5	53	0.0	1.3	0.6	1.7	3.4
Islamabad	4.2	2.0	58.5	69	0.0	2.4	1.4	0.0	0.3
Jacobabad	10.7	9.0	91.0	69	0.0	1.1	0.0	1.1	0.3
Jhang	7.7	7.0	76.4	74	0.0	1.3	0.6	0.0	0.6
Jhelum	6.3	4.4	64.5	75	0.1	0.7	1.4	0.0	0.3
Jiwani	17.6	16.0	123.8	56	0.0	1.6	2.0	2.0	5.7
Kakul	2.7	2.0	39.2	57	1.0	1.9	1.1	0.0	0.3
Kalam	-4.2	-6.2	***	78	11.0	1.6	2.9	0.0	0.0
Karachi	16.3	14.8	124.3	52	0.0	2.3	2.3	3.4	5.1
Khanpur	9.3	8.0	86.0	71	0.0	1.4	1.1	0.0	1.7
Khuzdar	6.7	5.5	63.3	43	0.0	0.0	0.3	0.9	0.0
Kalat	-2.1	-4.0	12.5	44	0.0	1.0	0.0	0.0	0.0
Kotli	5.4	2.0	65.1	63	0.1	3.4	0.6	0.9	0.3
Lahore	8.8	7.3	71.0	75	0.0	2.2	0.1	0.3	0.6
Larkana	10.1	9.0	108.8	62	0.0	1.2	0.4	0.0	0.3
Lasbella	11.6	10.0	99.5	52	0.0	0.6	0.6	0.0	0.0
Lower Dir	1.3	0.5	37.3	67	0.0	1.3	1.9	0.9	2.0
M.B Din	7.4	5.0	62.9	80	0.0	2.7	1.6	0.0	0.6
Malam Jabba	-1.8	-3.5	***	67	23.0	1.1	1.3	0.0	0.0
Mangla	5.7	3.3	63.7	64	0.0	2.6	1.9	0.0	0.6
Mir Khani	2.9	2.1	38.9	64	14.2	2.6	2.6	0.0	1.1
Moinjodaro	8.8	7.0	86.3	66	0.0	0.4	0.0	0.0	1.7
Multan	10.0	9.4	83.6	68	0.0	1.3	1.4	0.6	0.9
Murree	3.2	1.0	26.2	50	1.0	2.1	1.4	2.7	10.3
Muzaffarabad	4.6	3.8	46.3	63	3.0	1.9	1.6	0.6	0.0
Nawabshah	12.1	11.0	102.8	62	0.0	0.9	0.7	1.9	5.7

Nokkundi	10.1	6.5	86.0	22	0.0	0.9	0.7	3.7	3.3
Okara	9.7	8.5	75.9	78	0.0	0.8	1.5	0.6	0.6
Padidan	11.4	10.0	93.3	67	0.0	0.4	1.4	0.6	2.0
Panjgur	5.9	5.0	68.0	33	0.0	0.3	0.0	8.6	10.6
Parachinar	2.5	1.5	6.7	60	0.0	4.9	5.0	3.0	3.0
Pasni	16.4	15.5	119.0	58	0.0	3.9	2.1	2.6	8.0
Pattan	8.5	6.0	62.3	49	9.0	0.6	1.1	0.3	0.0
Peshawar	5.8	4.0	65.2	71	0.0	2.1	2.4	0.3	1.1
Quetta	1.8	0.5	29.8	47	0.0	1.8	2.1	1.8	2.4
Rahim Yar Khan	10.3	9.4	90.5	71	0.0	0.7	0.4	0.3	1.4
Rawalakot	-0.4	-2.0	22.1	57	0.1	2.6	0.6	0.0	0.0
Rawalpindi	5.1	2.5	62.3	71	0.0	0.7	0.4	0.3	0.6
Sahiwal	8.2	6.5	70.7	77	0.0	0.0	1.2	0.3	0.3
Saidu Sharif	3.8	2.0	40.8	66	9.0	1.6	1.1	0.0	0.0
Sialkot	7.1	4.8	57.6	84	0.0	1.3	1.4	0.0	1.0
Sibbi	10.1	8.5	96.0	42	0.0	0.3	1.0	0.6	0.0
Skardu	-8.1	-10.2	***	64	0.0	1.6	2.6	0.0	0.0
Tandojam	11.2	10	95.8	60	0.0	0.9	0.6	0.2	0.8
Usta Muhammad	8.5	7	83.5	73	0.0	1.2	1.0	0	0
Zhob	1.6	1.0	37.3	46	0.0	1.9	0.9	1.4	4.3

\*\*\* 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 سبب (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 2014-2012)