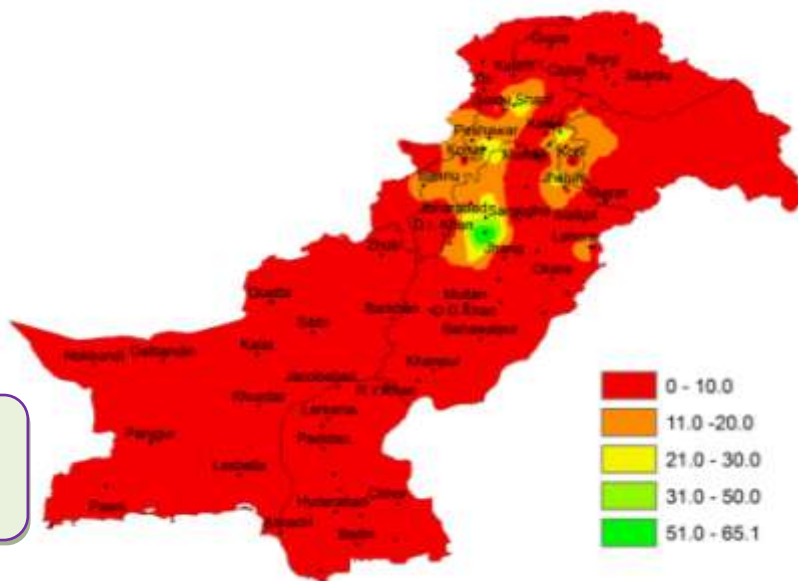


# Weekly Weather and Crop Bulletin for Pakistan

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**Rainfall Distribution (mm) during the  
Previous Week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)**

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## Highlights of Past Weather (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)

Normal day time temperature was reported in Khyber Pakhtunkhwa while slightly below normal in rest of the country during the week.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall was reported at several places in Khyber Pakhtunkhwa, Punjab and Gilgit-Baltistan & Kashmir regions.
- While in Sindh, light to moderate rainfall was reported at isolated places.
- Light to moderate rainfall was reported at a single station (Barkhan=11.0mm) in Balochistan.

**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 15<sup>th</sup> to 21<sup>st</sup> August, 2016)

### Punjab

Light to moderate rainfall reported at most of the places in Punjab during the week. Weekly maximum and minimum temperatures recorded as 36.8°C & 26.0°C respectively. For the present season on average 185.1 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 65% and wind speed in the morning/evening recorded as 1.6/2.8 Knots. During the previous week the highest amount of rainfall was recorded as 67.0mm at Noor Pur Thal & highest maximum temperature was recorded as 42.5°C at Bhakkar.

### Sindh

Light to moderate rainfall reported at isolated places in Sindh during the week. Weekly maximum and minimum temperatures recorded as 37.0°C & 25.8°C respectively. For the present season, on average 183.6 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 65% and wind speed in the morning/evening recorded as 5.1/7.1 Knots. During the previous week the highest amount of rainfall was recorded as 13.0 mm at Chhor & highest maximum temperature recorded as 41.5°C at Sukkur.

### Khyber Pakhtunkhwa

Light to moderate rainfall reported at many places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 33.5°C & 19.7.9°C respectively. For the present season on average 151.2 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 0.6/2.6 Knots. During the previous week the highest amount of rainfall was recorded as 44.0 mm at Malam Jabba & the highest maximum temperature recorded as 39.5°C at Kohat.

### Balochistan

Light to moderate rainfall reported at a single station in Balochistan during the week. Weekly maximum and minimum temperatures recorded as 36.0°C & 23.0°C respectively. For the present season on average 169.4 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 48% and wind speed in the morning/evening recorded as 2.4/6.2 Knots. During the previous week the highest amount of rainfall was recorded as 11.0mm at Barkhan & highest maximum temperature was recorded as 45.0°C at Turbat.

### Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall reported at many places in Gilgit-Baltistan & Kashmir regions during the week. Weekly maximum and minimum temperatures recorded as 30.5°C & 18.0°C respectively. For the present season on average 134.8 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 53% and wind speed in the morning/evening recorded as 0.6/2.5 Knots. During the previous week the highest amount of rainfall was recorded as 47.2 mm at Ghari Dopatta & highest maximum temperature recorded as 39.5 °C at Chilas.

**Past Weather for Major Agricultural Plains  
(from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)****Rawalpindi (Potohar region)**

Rainfall reported as 5.8mm during the week, cloudiness in the morning/evening recorded as 3.0/2.4 Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded as 35.7°C & for the present season 174.7growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/4.0Knots.

**Faisalabad (Central Punjab)**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.4/2.3n Oktas while, average relative humidity observed as 60%. Mean day time temperature recorded as 38.0°C & for the present season 193.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.2/0.9 Knots.

**Tandojam (Lower Sindh)**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.3/1.0 Oktas while, average relative humidity observed as 68%. Mean day time temperature recorded as 36.6°C & for the present season 179.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.9/5.7Knots.

**Quetta (Northern Baluchistan)**

Rainfall reported as 0.1mm during the week, cloudiness in the morning/evening recorded as 0.6/2.3 Oktas while, average relative humidity observed as 26%. Mean day time temperature recorded as 32.7°C & for the present season 144.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.5/3.8Knots.

**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 63%. Mean day time temperature recorded as 36.7°C & for the present season 185.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/1.4 Knots.

**Past Weather for Sub-Regional Agricultural  
Plains (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)****Multan**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.6/2.1 Oktas while, average relative humidity observed as 60%. Mean day time temperature recorded as 37.3°C & for the present season 195.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.3/6.0 Knots.

**Lahore**

Rainfall reported as 5.2mm during the week, cloudiness in the morning/evening recorded as 3.0/4.9 Oktas while, average relative humidity observed as 64%. Mean day time temperature recorded as 36.1°C & for the present season 181.7 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 0.7/2.6 Oktas while, average relative humidity observed as 32%. Mean day time temperature recorded as 35.5°C & for the present season 163.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/5.6 Knots.

**D.I. Khan**

Rainfall reported as 0.1mm during the week, cloudiness in the morning/evening recorded as 0.9/1.0 Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded as 37.7°C & for the present season 186.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.6 Knots.

**Peshawar**

Rainfall reported as 23.0mm during the week, cloudiness in the morning/evening recorded as 1.6/4.6 Oktas while, average relative humidity observed as 64%. Mean day time temperature recorded as 36.5°C & for the present season 179.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/2.0Knots.

**Murree**

Rainfall reported as 25.0mm during the week, cloudiness in the morning/evening recorded as 2.1/4.0 Oktas while, average relative humidity observed as 75%. Mean day time temperature recorded as 24.2°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 0.6/1.4Knots.

**Kalam**

Rainfall reported as 5.0mm during the week, cloudiness in the morning/evening recorded as 1.1/5.1 Oktas while, average relative humidity observed as 55%. Mean day time temperature recorded as 25.9°C & for the present season 92.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6Knots.

**Gilgit**

Rainfall reported as 0.4mm during the week, cloudiness in the morning/evening recorded as 4.6/6.6 Oktas while, average relative humidity observed as 51%. Mean day time temperature recorded as 30.8°C & for the present season 132.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.3/4.9 Knots.

**Skardu**

Rainfall reported as 1.0mm during the week, cloudiness in the morning/evening recorded as 4.6/5.9 Oktas while, average relative humidity observed as 39%. Mean day time temperature recorded as 30.0°C & for the present season 124.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/2.9 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:** Good condition at *9th leaf* stage.

**Central Punjab (Faisalabad)**

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

**Cotton:** Very good condition at *Boll opening* stage.

**Lower Sindh (Tandojam)**

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

**Cotton:** Good condition at *Boll opening* stage.

**Northern Balochistan (Quetta)**

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

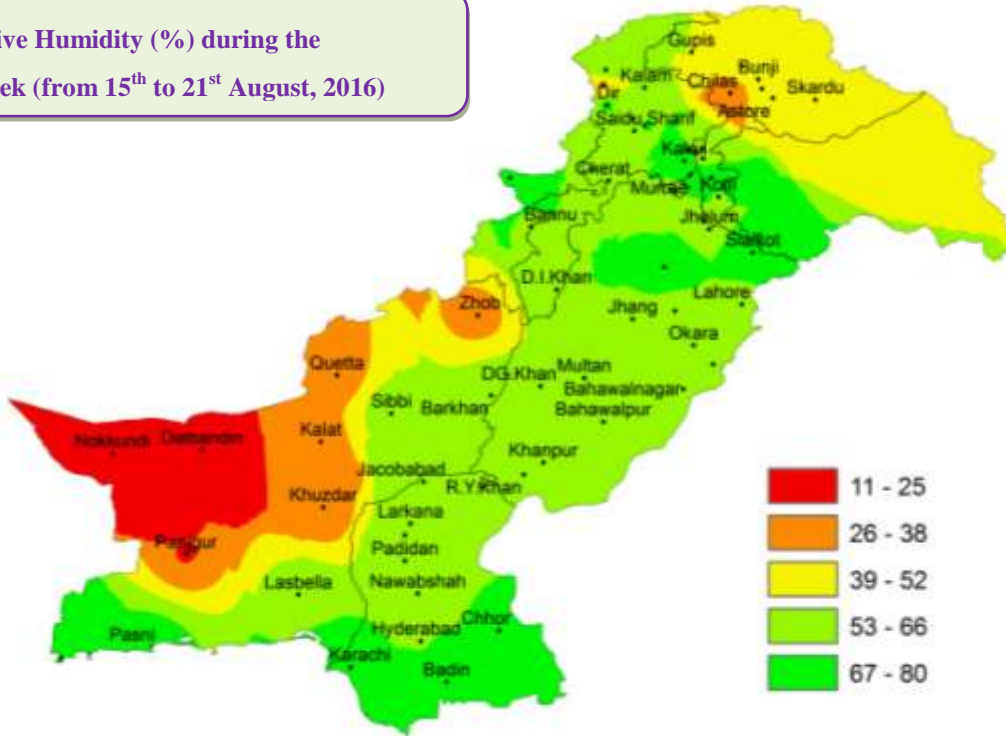
**Eastern Balochistan (Usta Muhammad)**

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

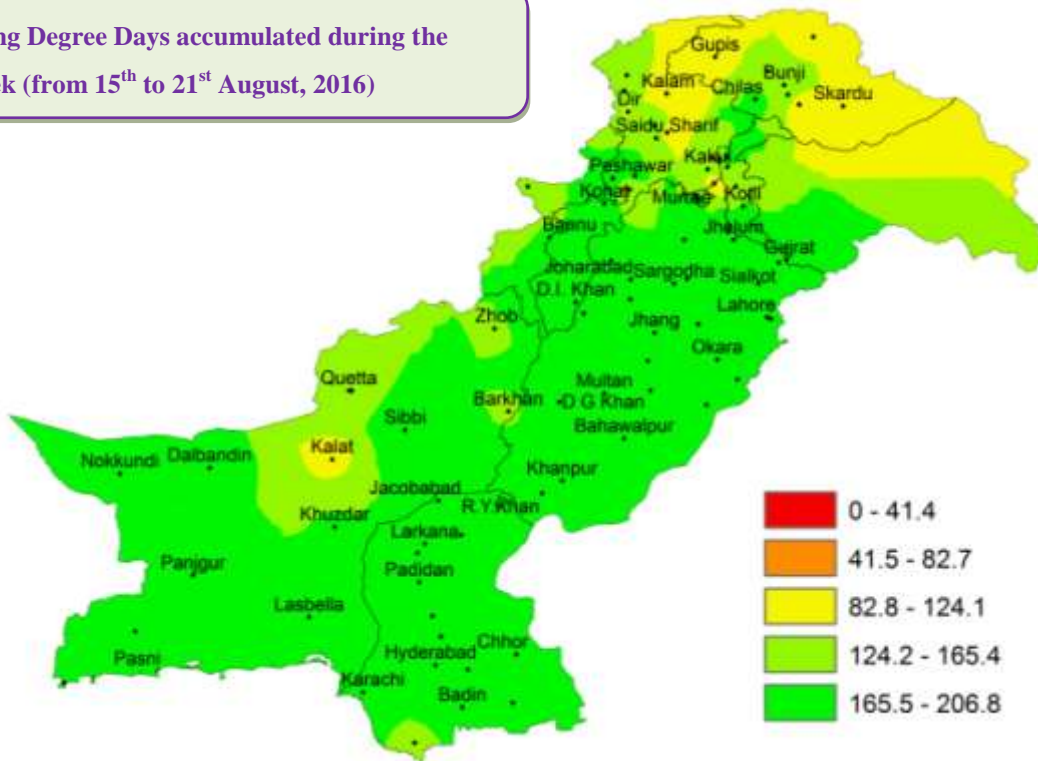
**Rice:** Good condition at *3<sup>rd</sup> leaf* stage.



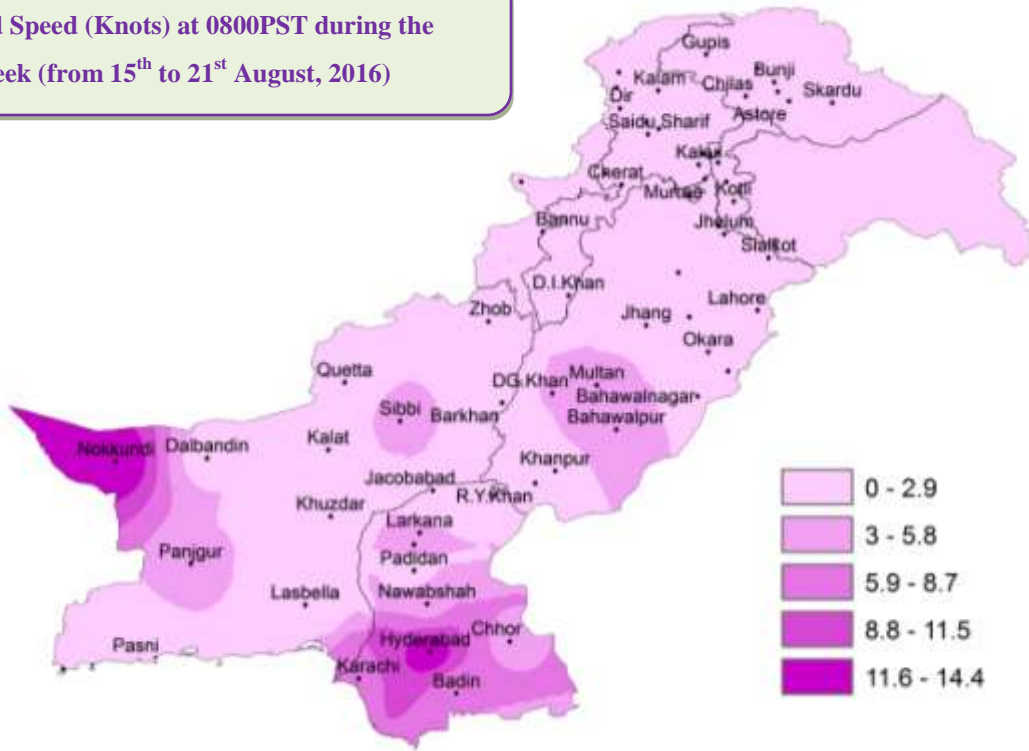
Mean Relative Humidity (%) during the Previous week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)



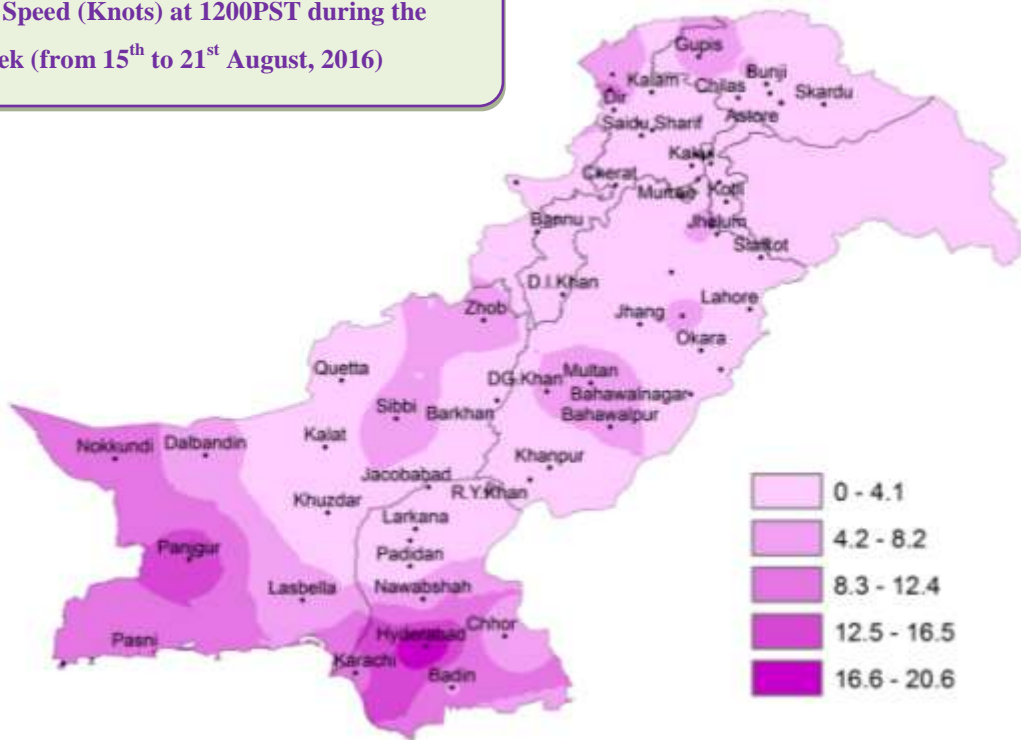
Total Growing Degree Days accumulated during the Previous week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)



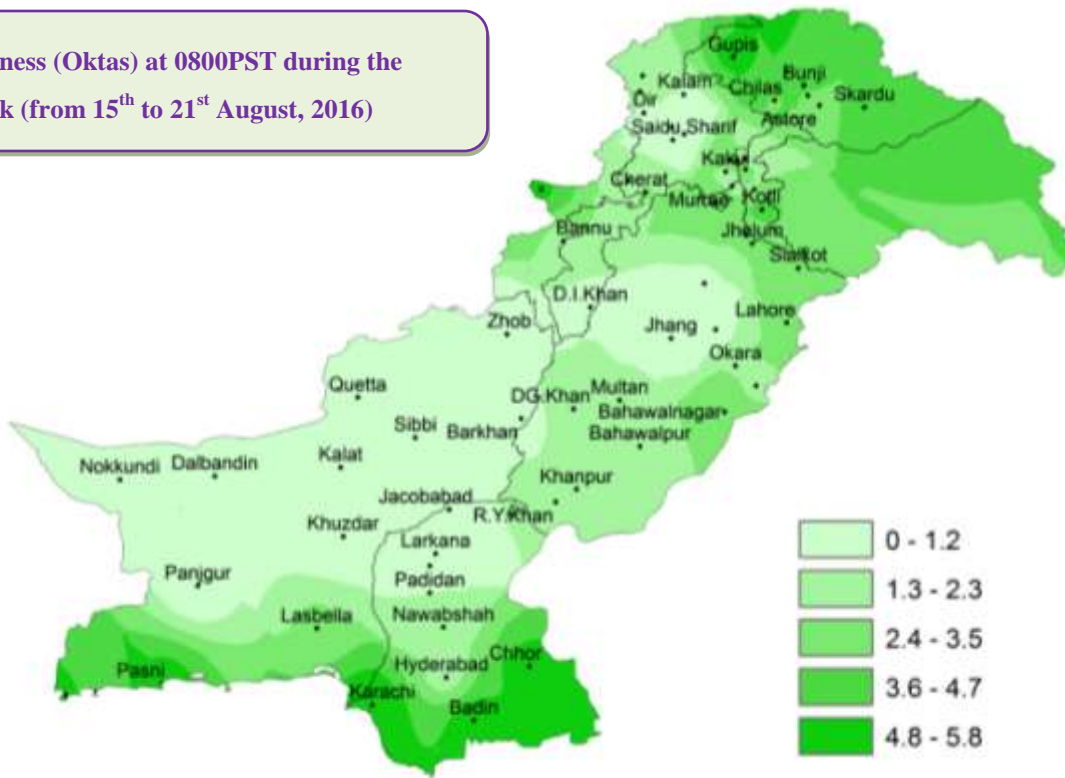
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)



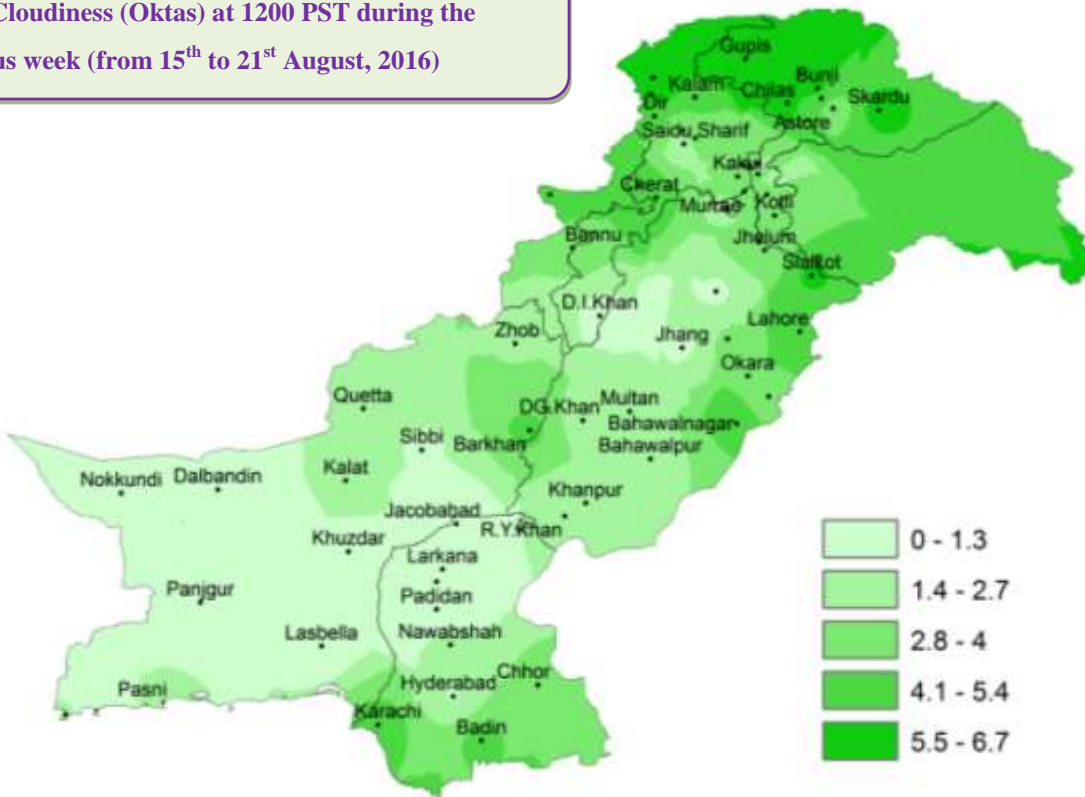
Mean Wind Speed (Knots) at 1200PST during the Previous week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)





**Weekly Weather Advisory for Farmers****(From 22<sup>nd</sup> to 28<sup>th</sup> August, 2016)**

Seasonal low lies over northeast Balochistan. A weak westerly trough is affecting upper parts of the country. Under the influence of these meteorological conditions weather will remain as follows:

**MONDAY****22-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at few places of upper Punjab (Rawalpindi, Gujranwala, Lahore divisions), KP (Malakand, Hazara divisions), Mirpurkhas division, Islamabad, Kashmir, Gilgit-Baltistan and FATA.

**TUESDAY****23-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at isolated places of upper KP (Malakand, Hazara, Peshawar divisions), upper Punjab (Rawalpindi, Gujranwala, Lahore, Sargodha divisions), FATA, Islamabad, Kashmir and Gilgit-Baltistan.

**WEDNESDAY****24-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at isolated places of upper KP (Malakand, Hazara, Peshawar divisions), upper Punjab (Rawalpindi, Gujranwala, Lahore, Sargodha, divisions), Islamabad, Kashmir and Gilgit-Baltistan.

**THURSDAY****25-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at isolated places of upper KP (Malakand, Hazara, Peshawar divisions), upper Punjab (Rawalpindi, Gujranwala, Lahore, Sargodha, divisions), Sindh (Mirpurkhas, Hyderabad divisions), Bahawalpur, Zhob divisions, Kashmir and Gilgit-Baltistan.

**FRIDAY****26-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at isolated places of upper Punjab (Rawalpindi, Gujranwala, Lahore divisions), upper KP (Malakand, Hazara, Kohat divisions), Sindh (Mirpurkhas, Larkana, Hyderabad divisions), Bahawalpur, Bannu, Zhob divisions, Kashmir and Gilgit-Baltistan.

**SATURDAY****27-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at isolated places of KP (Malakand, Hazara, Kohat, Banu divisions), upper Punjab (Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad divisions), Sindh (Hyderabad, Shaheed Benazirabad divisions), FATA, Kashmir and Gilgit-Baltistan.

**SUNDAY****28-08-2016**

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in upper Punjab, upper KP, FATA, Kashmir and Gilgit-Baltistan.

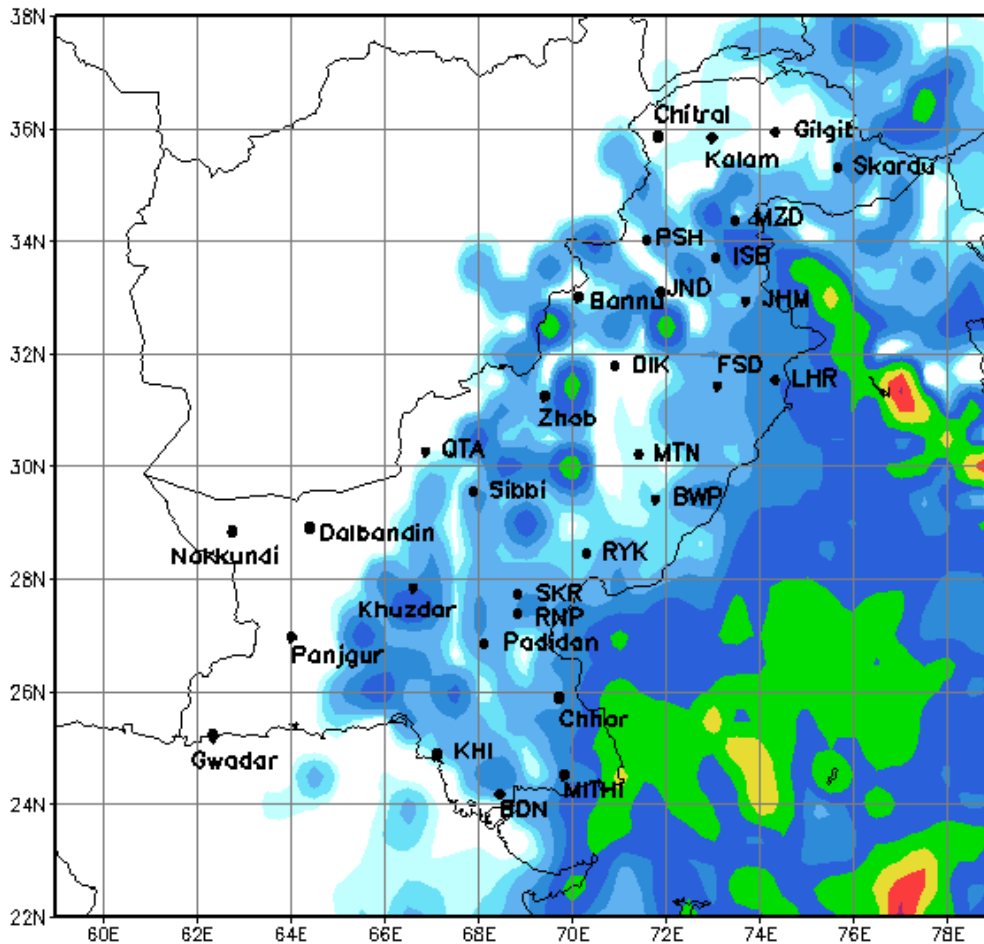
**ADVISES FOR CROPS**

- ❖ Farmers obtaining crop water through tube wells are advised to schedule the irrigation according to the expected weather mentioned during the week.
- ❖ Farmers are advised to control further weeds growth at the present growing stages to stop any negative impact on the crops. Weeds removing practices should be started soon after expected rains in the mentioned.
- ❖ Farmers are advised to take in time precautionary measures to protect their crops, livestock and other property from any expected heavy rains.
- ❖ Pest/viral attacks are expected over cotton and sugarcane crops during hot and humid conditions during monsoon. Farmers should be very careful and take in time precautionary measures in this regard.

## Weather Outlook from 22<sup>nd</sup> to 28<sup>th</sup> August, 2016

The outlook from 22<sup>nd</sup> to 28<sup>th</sup> August, 2016 shows that light to moderate rainfall is expected in all parts of the country.

### Precipitation Outlook for 00Z 22-AUG-2016 to 00Z 30-AUG-2016



**National Weather Data of Selected Cities**  
**(Weekly Data from 15<sup>th</sup> to 21<sup>st</sup> August, 2016)**

Stations	Maximum/Day time Temperature (°C)		Growing Degree Days	Relative Humidity (%)	Rainfall (mm)	Cloudiness (Oktas) 0800PST	Cloudiness (Oktas) 1700PST	Wind Speed (Knots) 0800PST	Wind Speed (Knots) 1700PST
	Mean	Highest							
Astore	24.4	26.5	93.7	46	0.0	2.9	3.1	0.6	4.3
Badin	32.8	33.5	171.1	74	0.0	5.4	4.4	5.7	8.0
Bahawalnagar	38.8	40.0	200.6	58	0.0	3.3	4.4	0.6	2.3
Bahawalpur	38.0	39.1	196.8	64	0.0	1.7	2.1	5.1	4.3
Balakot	33.2	34.0	146.1	68	4.5	3.1	2.6	0.0	0.6
Bannu	36.4	37.5	166.8	65	15.0	2.0	3.3	0.0	2.6
Barkhan	34.3	36.5	162.2	62	11.0	0.4	4.3	0.0	0.3
Bunji	31.7	35.0	146.1	43	0.0	4.9	6.0	0.0	0.9
Cherat	30.3	32.0	138.9	63	32.0	2.4	4.3	2.3	3.7
Chhor	35.1	35.7	174.9	69	13.0	5.1	3.1	4.9	6.3
Chilas	35.8	39.5	174.9	27	5.0	3.4	5.4	1.4	2.3
Chitral	32.6	34.3	134.4	64	2.0	2.0	6.0	0.6	3.7
D.I.Khan	37.7	39.0	186.8	66	0.1	0.9	1.0	0.3	0.6
Dalbandin	40.2	41.5	185.3	15	0.0	0.0	0.0	1.3	4.9
DG.Khan	37.7	38.8	190.0	62	0.0	2.1	2.1	3.1	4.6
Dir	32.0	34.0	120.0	69	5.0	0.9	5.0	0.0	1.9
Drosh	34.8	35.8	150.1	34	0.0	1.9	5.7	0.0	12.3
Faisalabad	38.0	38.5	193.4	60	0.0	0.4	2.3	1.2	0.9
Garidopatta	35.4	37.5	162.6	64	47.2	2.7	2.7	0.0	1.7
Gawader	34.1	35.0	175.3	71	0.0	3.9	0.7	0.0	11.1
Gilgit	30.8	35.0	132.9	51	0.4	4.6	6.6	2.3	4.9

Gupis	25.0	28.5	97.0	52	0.8	5.0	6.7	1.4	5.1
Hyderabad	36.4	38.5	181.5	66	0.0	2.0	1.3	13.7	20.6
Islamabad	35.0	37.2	167.1	61	8.0	3.4	2.1	1.1	1.4
Jacobabad	37.2	39.0	195.1	66	0.0	0.6	0.0	1.1	2.3
Jhang	38.2	39.4	193.4	64	0.0	0.4	1.1	0.9	2.3
Jhelum	37.0	38.0	185.4	66	7.4	2.4	2.6	0.6	2.0
Jiwani	32.3	32.5	170.9	74	0.0	5.0	1.4	2.0	9.4
Kakul	30.8	32.5	136.4	70	4.0	2.1	2.7	0.0	1.7
Kalam	25.9	27.5	92.5	55	5.0	1.1	5.1	0.0	0.6
Kalat	30.5	32.0	113.8	32	0.0	0.0	1.6	0.0	3.4
Karachi	32.7	33.0	174.5	71	0.0	5.8	4.7	8.0	12.0
Khanpur	38.5	39.0	197.3	65	0.0	1.9	2.0	1.7	0.9
Khuzdar	34.9	38.0	170.2	25	0.0	0.0	1.1	0.3	0.3
Kotli	34.6	35.3	171.3	65	10.0	4.1	3.0	1.1	1.6
Lahore	36.1	38.0	181.7	64	5.2	3.0	4.9	0.3	1.1
Larkana	39.1	41.5	195.5	61	0.0	0.6	0.0	3.1	3.4
Lasbella	38.0	39.2	197.3	64	0.0	2.7	0.3	0.0	6.0
Lower Dir	37.5	39.5	175.3	55	13.0	0.6	2.9	2.0	2.0
M.B Din	37.1	38.5	185.0	71	4.0	0.9	1.1	0.0	0.9
Malam Jabba	22.5	23.5	85.8	69	44.0	1.0	3.0	0.6	0.6
Mangla	36.9	38.5	183.5	63	38.8	2.4	4.0	0.0	7.4
Mir Khani	34.6	35.0	155.4	45	0.0	3.0	4.6	0.0	3.6
Moinjodaro	39.3	40.8	198.5	60	0.0	0.8	0.0	3.7	3.4
Multan	37.3	39.5	195.9	60	0.0	1.6	2.1	4.3	6.0
Murree	24.2	26.4	98.5	75	25.0	2.1	4.0	0.6	1.4
Muzaffarabad	34.2	34.8	153.3	66	6.0	2.6	3.4	0.0	0.6

Nawabshah	39.5	41.0	188.8	60	0.0	1.7	1.9	4.7	7.4
Nokkundi	39.3	40.0	194.9	11	0.0	0.0	0.0	14.4	10.9
Okara	38.3	39.2	194.9	65	0.0	2.3	4.0	1.1	2.0
Padidan	39.6	41.0	196.0	65	0.0	1.2	0.3	1.7	2.3
Panjgur	37.0	38.0	171.5	24	0.0	0.0	0.9	4.0	13.7
Parachinar	30.5	31.6	144.4	77	5.0	4.9	5.0	2.9	3.0
Pasni	33.8	34.0	179.1	76	0.0	5.3	1.6	2.0	10.9
Pattan	37.0	38.5	177.3	48	1.0	1.1	2.4	0.0	3.4
Peshawar	36.5	38.2	179.2	64	23.0	1.6	4.6	0.9	2.0
Quetta	32.7	34.0	144.2	26	0.1	0.6	2.3	2.5	3.8
R.Y.Khan	40.1	41.2	201.9	63	0.0	1.7	1.7	2.3	1.4
Rawalakot	28.3	29.0	124.8	80	19.0	2.3	2.7	0.0	0.0
Rawalpindi	35.7	37.0	174.7	66	5.8	3.0	2.4	0.3	4.0
Sahiwal	38.4	39.0	193.8	64	0.0	2.1	3.6	1.7	1.1
Saidu Sharif	34.0	35.5	150.5	62	6.0	0.6	2.3	0.0	0.9
Sialkot	35.3	36.5	181.3	70	4.1	2.4	5.6	0.6	1.4
Sibbi	39.9	43.0	207.2	65	0.0	0.5	1.3	4.3	6.9
Skardu	30.0	32.5	124.0	39	1.0	4.6	5.9	0.0	2.9
Tandojam	36.6	39.0	179.3	68	0.0	1.3	1.0	2.9	5.7
Usta.M	36.7	37.5	185.8	63	0.0	0.0	0.0	1.7	1.4
Zhob	35.5	36.5	163.3	32	0.0	0.7	2.6	1.7	5.6

\*\*\* 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 (بذر یعنی 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)