

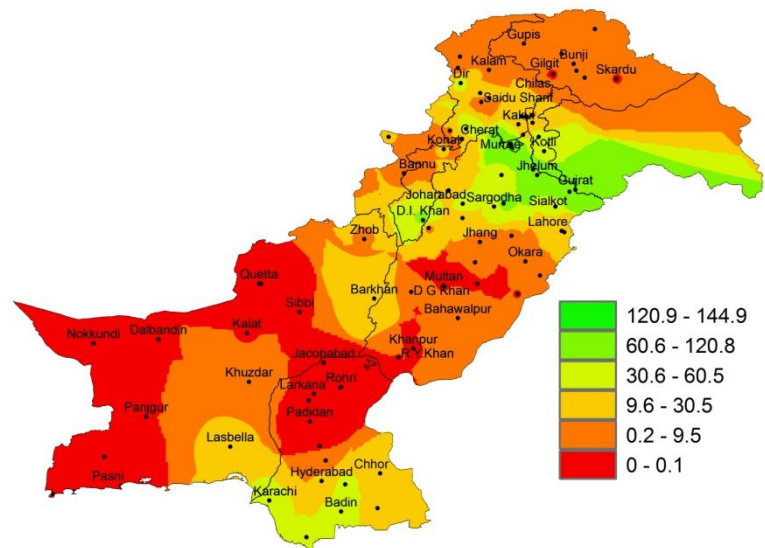
Weekly Weather and Crop Bulletin for Pakistan

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Rainfall Distribution (mm) during the previous
Week (21st August to 27th August, 2017)



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Highlights of Past Weather (21st August to 27th August, 2017)

Above normal day time temperatures reported from most parts of the country.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall reported from most parts of the country during the week.
- Light rainfall reported from scattered places of Baluchistan.

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Editor-in-Chief: Dr. Khalid M. Malik (Director)

Editor: Dr. Dildar H. Kazmi (Meteorologist)

Past Weather of Provinces (21st August to 27th**August, 2017)****Punjab**

Light to moderate rainfall reported from Punjab during the week. Weekly maximum and minimum temperatures recorded as 35.8°C & 25.7°C respectively. For the recent week on average 180.4 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 68% and wind speed in the morning/evening recorded as 2.8/2.4 knots. During the previous week the highest amount of rainfall was recorded as 146.01 mm at Islamabad & highest maximum temperature was recorded as 42.0°C at Bhakkar.

Balochistan

Light rainfall was reported from scattered places of Balochistan province during the week. Weekly maximum and minimum temperatures recorded as 36.6°C & 22.9°C respectively. For the recent week on average 172.3 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 1.0/6.5 knots. During the previous week the highest amount of rainfall was recorded as 29.0 mm at Barkhan & highest maximum temperature was recorded as 45.0°C at Sibbi.

Khyber Pakhtunkhwa

Light to moderate rainfall reported from most part of Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 32.3°C & 20.2°C respectively. For the recent week on average 148.6 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 66% and wind speed in the morning/evening recorded as 0.8/3.8 knots. During the previous week the highest amount of rainfall was recorded as 77.0 mm at D.I. Khan & highest maximum temperature was recorded as 43.0 °C at D.I. Khan.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall reported from most part of Gilgit-Baltistan & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 31.0°C & 18.1°C respectively. For the recent week on average 130.3 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 1.0/2.7 knots. During the previous week the highest amount of rainfall was recorded as 38.02 mm at Rawalakot & highest maximum temperature was recorded as 41.5°C at Chilas.

Sindh

Light to moderate rainfall recorded at many places of Sindh during the week. Weekly maximum and minimum temperatures recorded as 37.6°C & 26.7°C respectively. For the recent week, on average 194.0 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 66% and wind speed in the morning/evening recorded as 3.7/5.4 knots. During the previous week the highest amount of rainfall was recorded as 41.0 mm at Badin & highest maximum temperature was recorded as 43.8°C at Sukkur.

Past Weather for Major Agricultural Plains
(21st August to 27th August, 2017)

Rawalpindi (Potohar region)

Rainfall reported as 151.9 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 4.6/2.9 Oktas while, average relative humidity observed as 71%. Mean day time temperature recorded as 33.6°C & for the recent week 161.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.8/1.0 knots.

Faisalabad (Central Punjab)

Rainfall reported as 6.6 mm from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 0.3/2.4 Oktas while, average relative humidity observed as 65%. Mean day time temperature recorded as 37.6°C & for the recent week 188.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.8 knots.

Tandojam (Lower Sindh)

Rainfall reported as 3.1 mm from Tandojam during the week; however, cloudiness in the morning/evening recorded as 2.0/2.3 Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded as 37.1°C & for the recent week 181.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.2/2.3 knots.

Usta Muhammad (Eastern Balochistan)

Dry weather reported from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded 0.3/0.6 Oktas while, average relative humidity observed as 67%. Mean day time temperature recorded as 37.3°C & for the recent week 192.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/4.3 knots.

Quetta (Northern Baluchistan)

Rainfall reported as 0.6 mm from Quetta during the week; however, cloudiness in the morning/evening recorded as 1.1/1.8 Oktas while, average relative humidity observed as 23.0%. Mean day time temperature recorded as 30.4°C & for the recent

week 131.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.8/3.3 knots.

Past Weather for Sub-Regional Agricultural Plains (21st August to 27th August, 2017)

Multan

Rainfall reported as 0.01 mm from Multan during the week; however, cloudiness in the morning/evening recorded as 1.1/2.4 Oktas while, average relative humidity observed as 60%. Mean day time temperature recorded as 38.3°C & for the recent week 207.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.9/4.6 knots.

Lahore

Rainfall reported as 28.03 mm from Lahore during the week; however, cloudiness in the morning/evening recorded as 3.7/3.6 Oktas while, average relative humidity observed as 71%. Mean day time temperature recorded as 34.4°C & for the recent week 173.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.9/1.1 knots.

Zhob

Rainfall reported as 7.0 mm from Zhob during the week; however, cloudiness in the morning/evening recorded as 0.4/2.6 Oktas while, average relative humidity observed as 36%. Mean day time temperature recorded as 36.1°C & for the recent week 173.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 3.3/4.7 knots.

Murree

Rainfall reported as 27.02 mm from Murree during the week; however, cloudiness in the morning/evening recorded as 3.7/5.7 Oktas while, average relative humidity observed as 85%. Mean day time temperature recorded as 22.3°C & for the recent week 95.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/0.6 knots.

D.I. Khan

Rainfall reported as 77.0 mm from D.I.Khan during the week; however, cloudiness in the morning/evening recorded as 1.9/1.3 Oktas while, average relative humidity observed as 71%. Mean day time temperature recorded as 38.1°C & for the recent week 188.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/2.3 knots.

Peshawar

Rainfall reported as 7.0 mm from Peshawar during the week; however, cloudiness in the morning/evening recorded as 5.4/3.7 Oktas while, average relative humidity observed as 70%. Mean day time temperature recorded as 34.7°C & for the recent week 172.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/2.9 knots.

Kalam

Rainfall reported as 5.80 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 1.4/5.9 Oktas while, average relative humidity observed as 69%. Mean day time temperature recorded as 25.5°C & for the recent week 99.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.4 knots.

Gilgit

Rainfall reported as 1.90 mm from Gilgit during the week; However, cloudiness in the morning/evening recorded as 3.4/5.0 Oktas while, average relative humidity observed as 52%. Mean day time temperature recorded as 32.2°C & for the recent week 135.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/6.9 knots.

Skardu

Rainfall reported as 0.0 mm from Skardu during the week; However, cloudiness in the morning/evening recorded as 3.6/5.6 Oktas while, average relative humidity observed as 47%. Mean day time temperature recorded as 28.7°C & for the recent week 110.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.1 knots.

**Crop Situation 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)

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

Cotton: Good condition, *Flowering* stage completed.

Lower Sindh (Tandojam)

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

Cotton (HH-906): Good condition, *Boll Opening* stage.

Northern Baluchistan (Quetta)

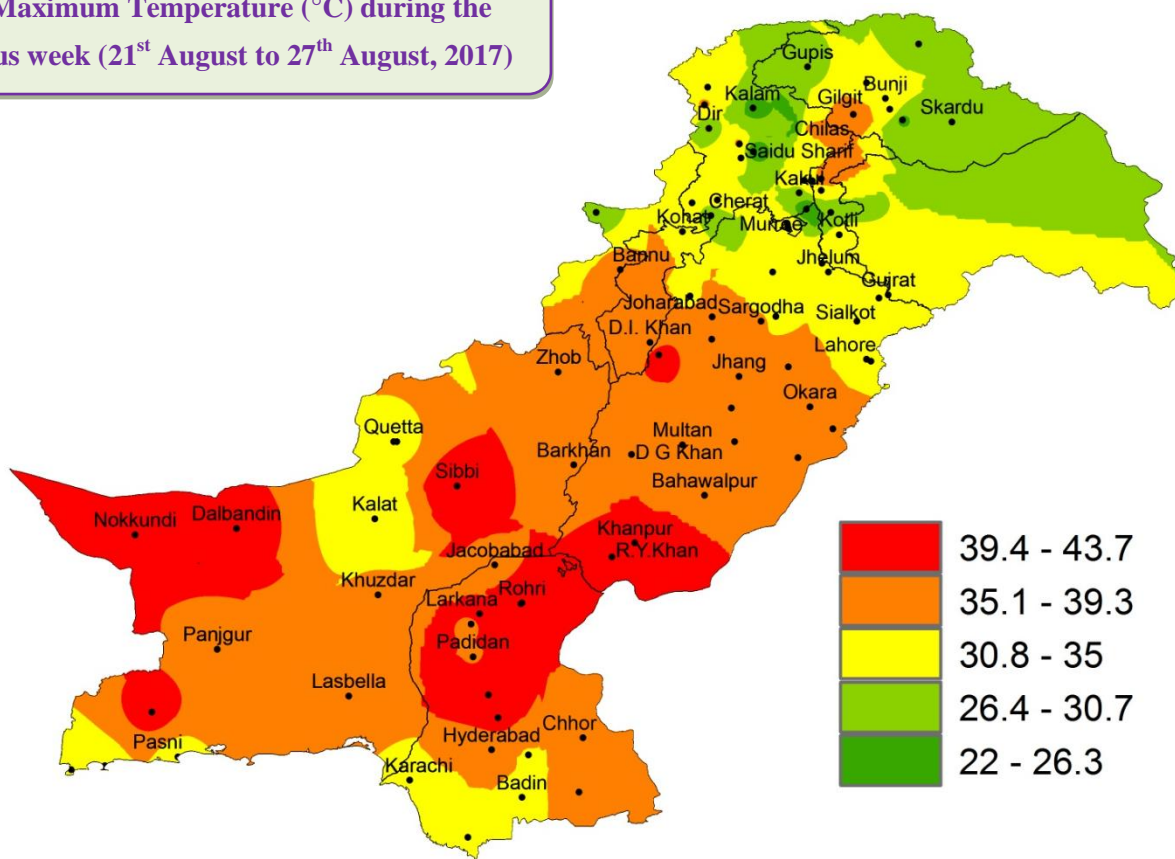
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Baluchistan (Usta Muhammad)

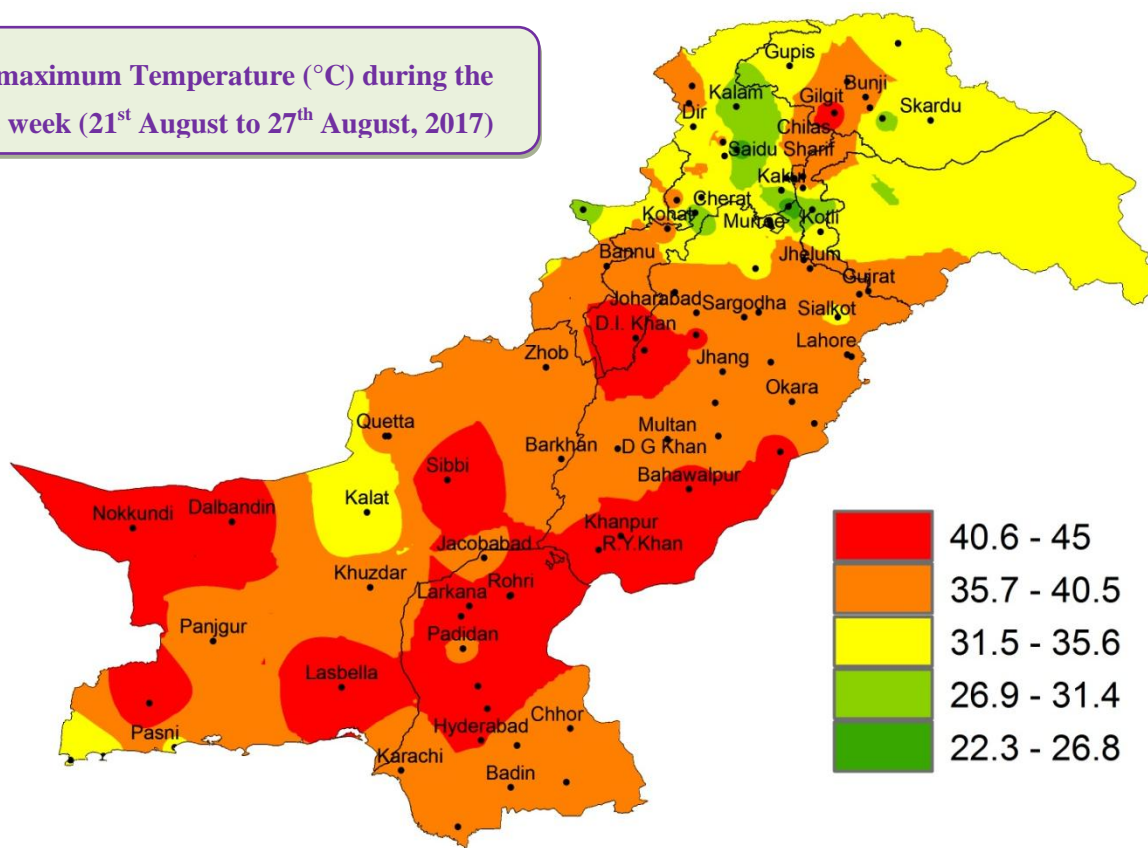
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Rice: Good condition, *Tillering* stage.

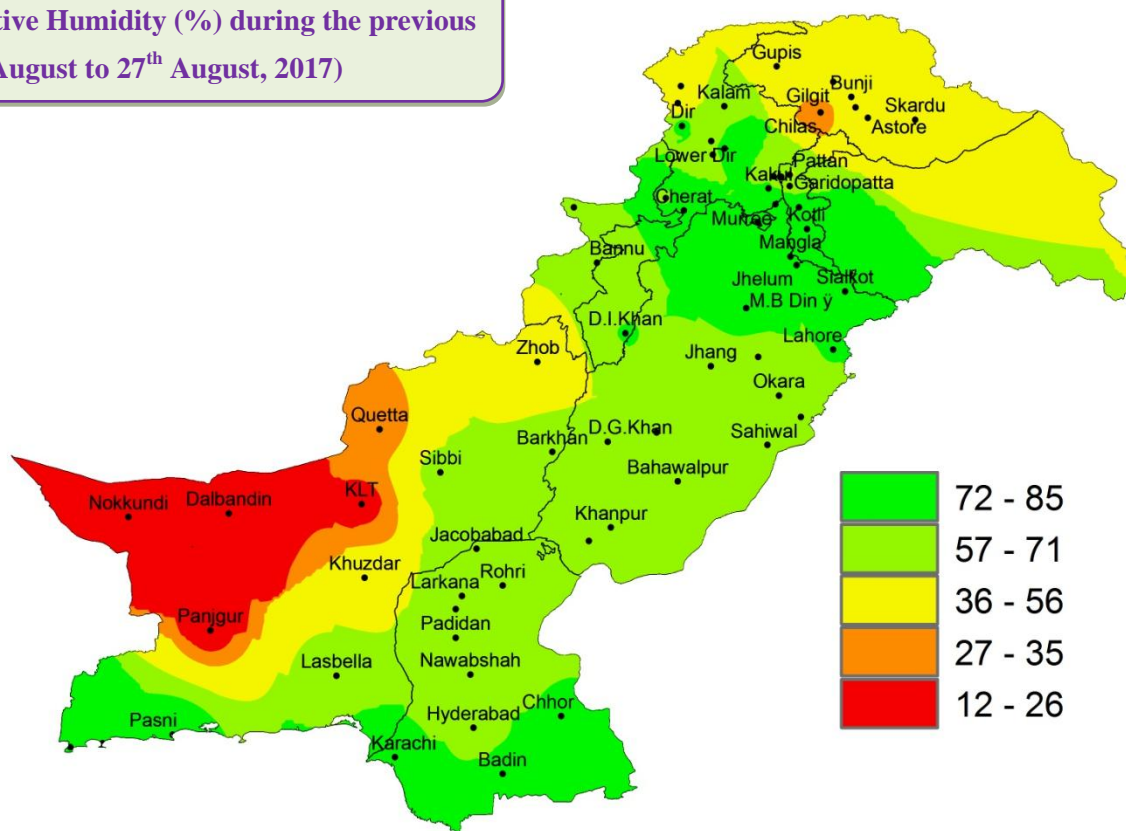
Mean Maximum Temperature (°C) during the Previous week (21st August to 27th August, 2017)



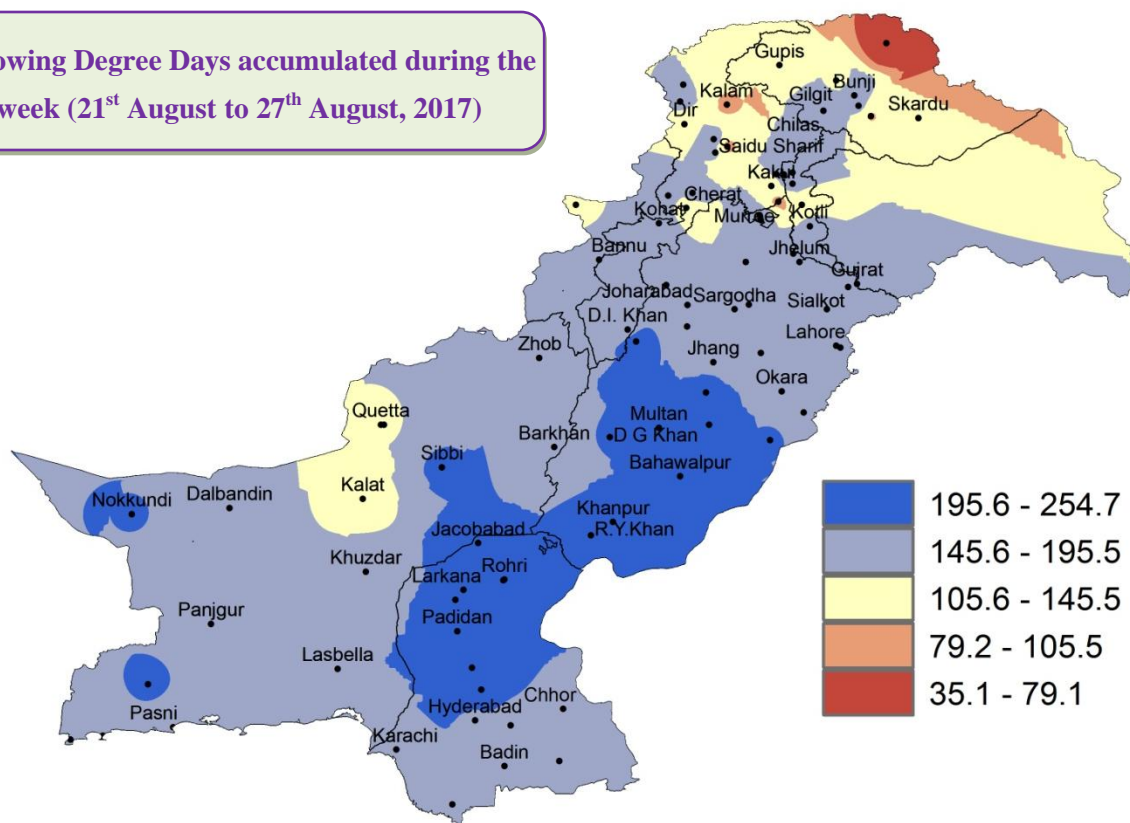
Highest maximum Temperature (°C) during the Previous week (21st August to 27th August, 2017)



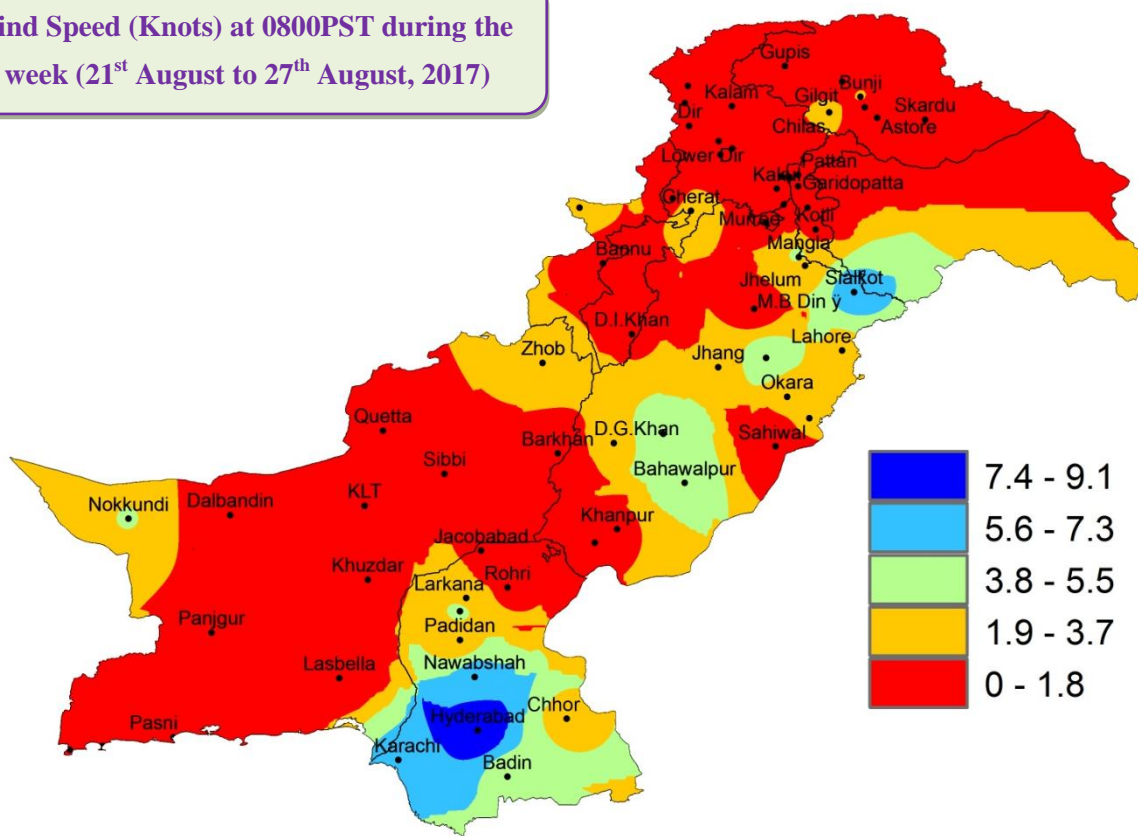
Mean Relative Humidity (%) during the previous week (21st August to 27th August, 2017)



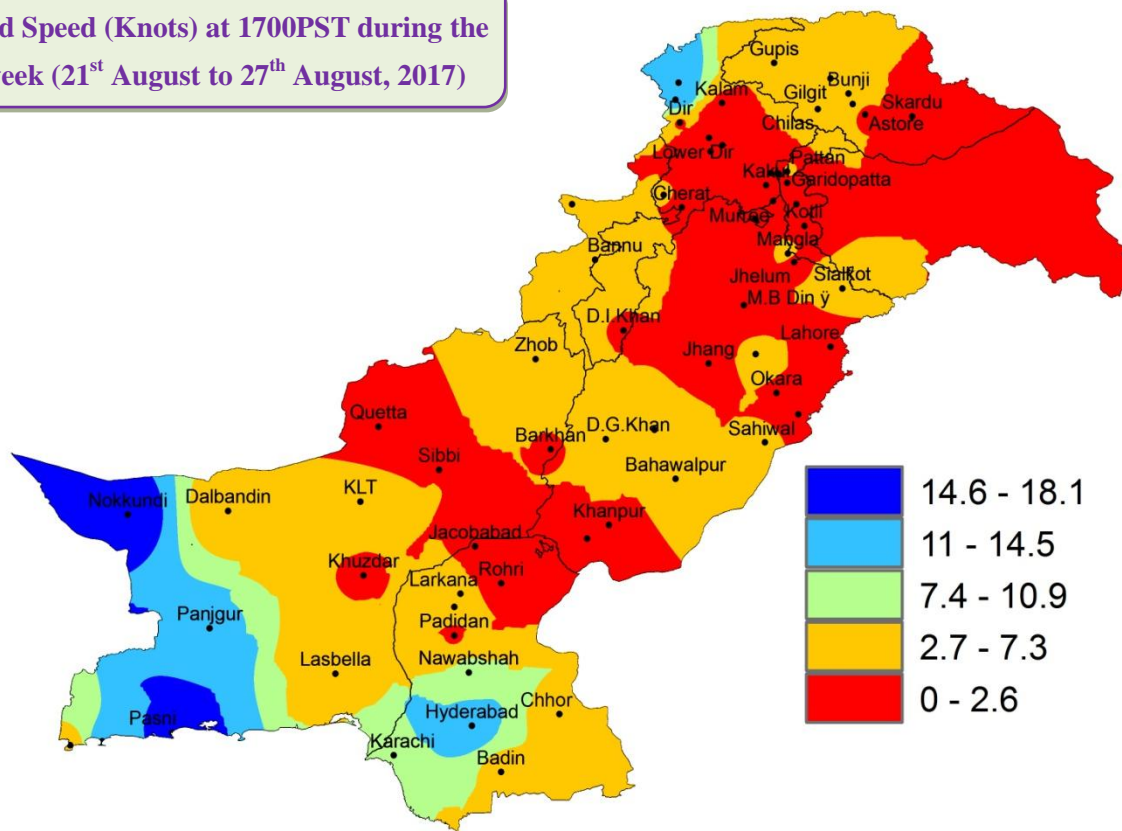
Total Growing Degree Days accumulated during the previous week (21st August to 27th August, 2017)



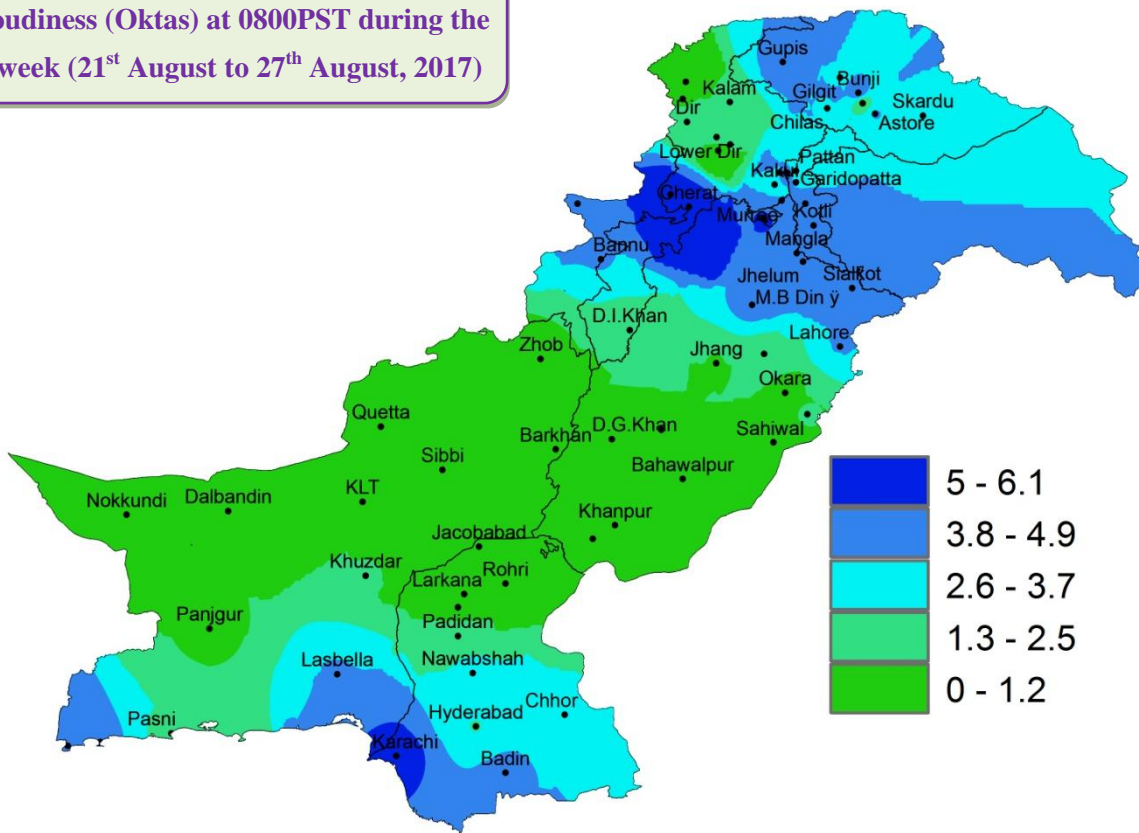
Mean Wind Speed (Knots) at 0800PST during the previous week (21st August to 27th August, 2017)



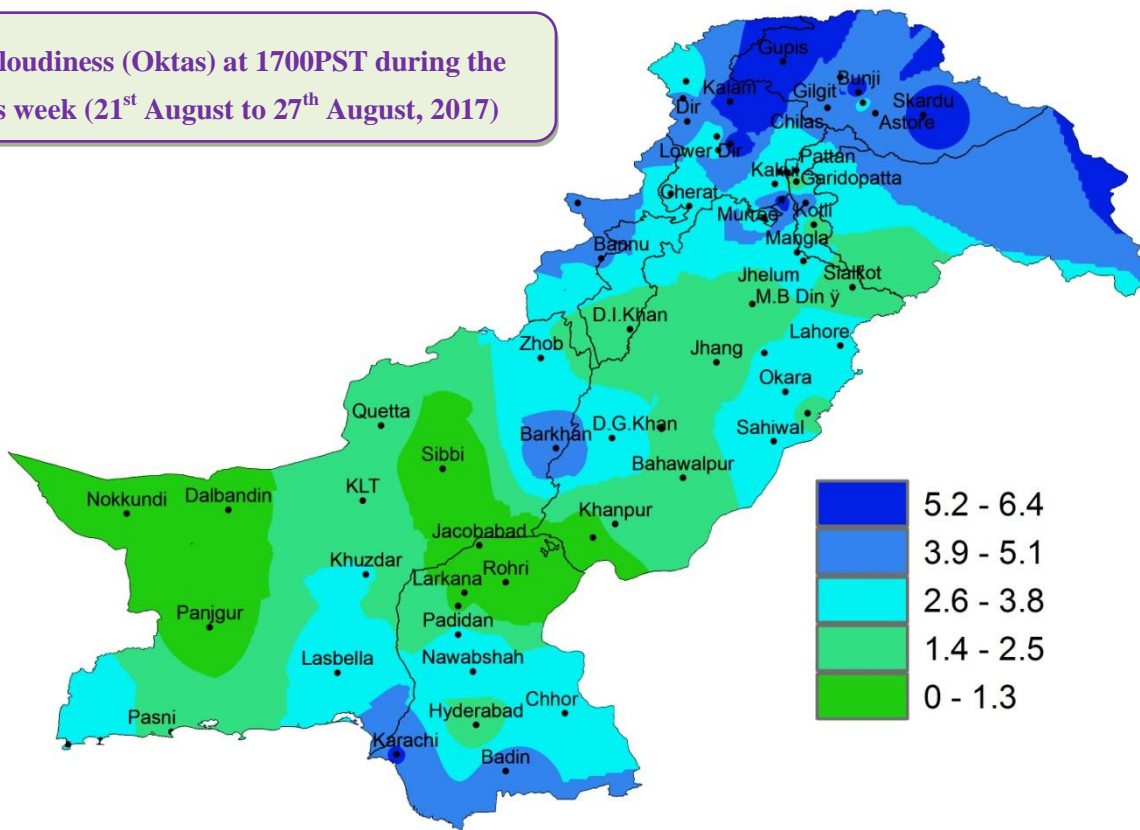
Mean Wind Speed (Knots) at 1700PST during the previous week (21st August to 27th August, 2017)



Mean Cloudiness (Oktas) at 0800PST during the previous week (21st August to 27th August, 2017)



Mean Cloudiness (Oktas) at 1700PST during the previous week (21st August to 27th August, 2017)



Weekly Weather Advisory for Farmers
(28th August to 3rd September, 2017)

Seasonal low lies over north Balochistan. Strong monsoon currents are likely to penetrate in southern parts of the country from Tuesday (night)/Wednesday and likely to continue till Friday; during the mean time moderate currents are also likely to enter upper parts of country.

MONDAY (28-08-2017)

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Mirpurkhas, Sargodha, Malakand, Hazara, Rawalpindi divisions, Islamabad and Gilgit-Baltistan.

TUESDAY (29-08-2017)

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Malakand, Hazara, Rawalpindi, Gujranwala, Lahore, Mirpurkhas, Hyderabad and Karachi divisions.

WEDNESDAY (30-08-2017)

Widespread rain-thunderstorm (with scattered heavy falls) is expected in lower Sindh (Mirpurkhas, Hyderabad, Karachi divisions), while at scattered places in Sukkur, Larkana, Shaheed Benazirabad, Kalat, Zhob, Sibbi, Naseerabad, Bahawalpur, Multan and D.G.Khan divisions. Rain-thunderstorm is also expected at isolated places in Lahore, Gujranwala, Sahiwal, Rawalpindi, Hazara divisions and Kashmir.

THURSDAY (31-08-2017)

Widespread rain-thunderstorm (with scattered heavy falls) is expected in lower Sindh (Mirpurkhas, Hyderabad, Karachi divisions), while at scattered places in Sukkur, Larkana, Shaheed Benazirabad, Kalat, Zhob, Sibbi, Naseerabad, Bahawalpur, Multan and D.G.Khan divisions. Rain-thunderstorm is also expected at isolated

places in Lahore, Gujranwala, Sahiwal, Rawalpindi, Hazara divisions and Kashmir.

FRIDAY (01-09-2017)

Rain-thunderstorm (with isolated heavy falls) is expected at scattered places in Sindh, northeastern Balochistan, Islamabad, Punjab, Kashmir, while at isolated places in KP, Gilgit-Baltistan and FATA.

SATURDAY (02-09-2017)

Rain-thunderstorm (with isolated heavy falls) are expected at scattered places in Islamabad, upper Punjab, KP, FATA, Kashmir, while at isolated places in Gilgit-Baltistan.

SUNDAY (03-09-2017)

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm is expected at few places in Kashmir and its adjoining hilly areas.

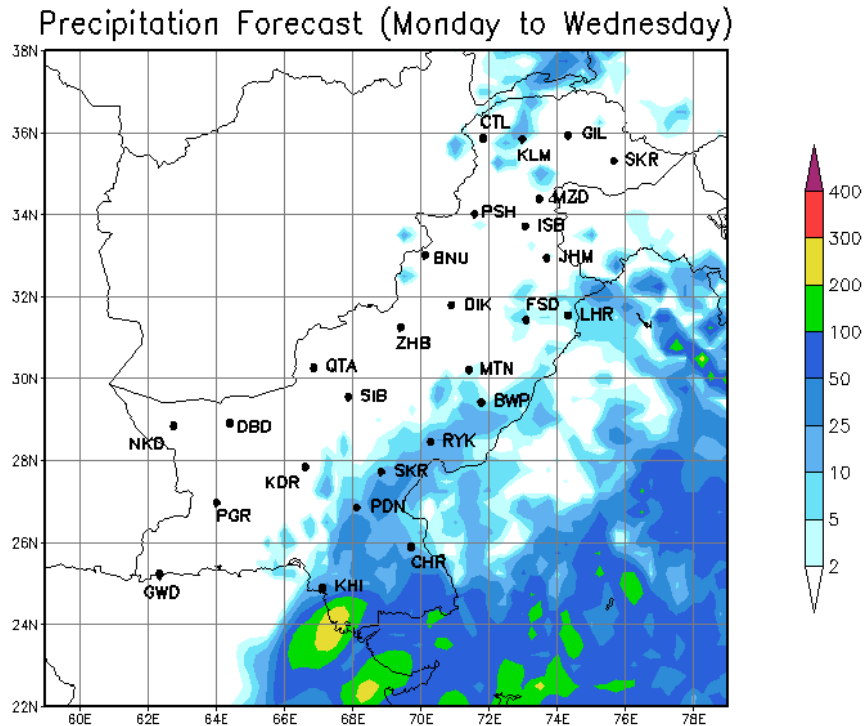
ADVISES FOR FARMERS

During the last week, light to moderate rainfall occurred in most of the agricultural plains of the country. In the coming days, light to moderate rainfall is expected in most of the agricultural plains of the country. Keeping in view the expected weather conditions following advises are suggested for farming community.

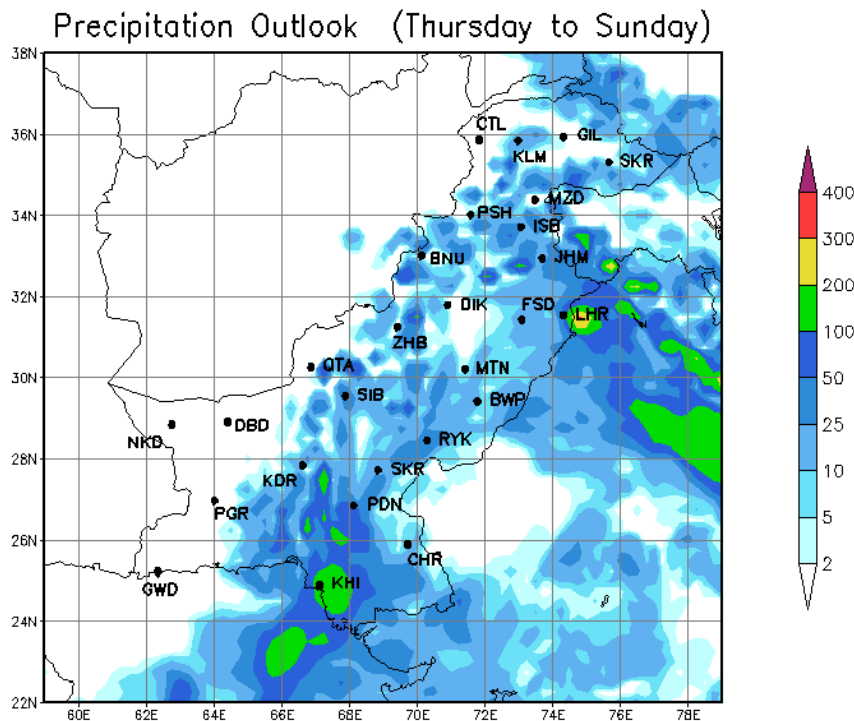
- Pest/viral attacks and more weeds growth are expected in standing crops during this season. Farmers are therefore advised to do regular pest scouting and take in time precautionary measures accordingly.
- Farmers of irrigated areas may irrigate the standing crops as per requirement in accordance with the expected weather and crop conditions.

Weather Outlook from 28th August to 3rd September, 2017

The outlook for the period 28th August to 30th August, 2017 shows that light to moderate rainfall is expected in eastern parts of Punjab and Sindh however light rainfall is expected at isolated places of upper KP. Besides, heavy rainfall may occur on the coastal belt of Sindh.



The outlook for the period 31st August to 3rd September, 2017 shows that light to moderate rainfall is expected at most parts of Pakistan except western Balochistan.



National Weather Data of Selected Cities (14th August to 20th August, 2017)

Stations	Maximum/Nighttime 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	highest							
Astore	25.2	29.5	100.5	49	3.2	3.9	4.7	1.4	1.7
Badin	34.3	37.0	179.1	72	41.0	4.1	4.6	4.3	5.4
Bahawalnagar	39.4	41.0	196.8	60	0.0	0.9	3.6	0.0	3.1
Bahawalpur	39.3	41.3	202.5	63	2.7	0.1	1.9	4.9	3.1
Balakot	32.4	34.0	146.7	71	35.0	3.6	3.7	0.0	0.4
Bannu	36.5	38.6	173.3	61	0.0	3.7	3.9	0.6	6.3
Barkhan	35.1	36.0	167.1	66	29.0	0.3	4.6	0.0	2.3
Bunji	33.8	37.8	161.3	41	0.0	5.1	5.9	2.3	3.1
Cherat	26.8	27.5	114.1	80	7.0	6.1	3.6	2.9	2.0
Chhor	36.1	40.2	184.7	73	11.8	2.6	3.7	2.9	5.4
Chilas	37.1	41.5	183.6	28	0.0	3.6	4.4	2.3	3.4
Chitral	34.0	36.0	145.8	53	0.1	1.0	3.1	0.0	14.3
D.G.Khan	38.2	39.0	198.2	61	0.0	0.7	3.4	2.9	5.1
D.I.Khan	38.1	43.0	188.6	71	77.0	1.9	1.3	1.4	2.3
Dalbandin	41.8	43.0	187.6	13	0.0	1.0	0.9	0.0	2.6
Dir	28.2	32.5	113.9	75	38.0	2.1	4.4	0.6	2.0
Drosh	35.5	36.8	159.1	40	0.3	1.0	4.0	0.0	13.9
Faisalabad	37.6	39.0	188.1	65	6.6	0.3	2.4	0.6	0.8
Garidopatta	34.1	35.2	162.3	68	22.4	3.7	1.4	0.0	2.0
Gawader	33.6	34.5	171.3	76	0.0	4.0	3.4	0.6	12.6
Gilgit	32.2	37.0	135.3	52	1.9	3.4	5.0	0.0	6.9
Gupis	29.1	32.5	115.4	45	4.0	4.6	5.6	1.7	4.9

Hyderabad	36.3	40.5	183.1	68	11.0	2.4	1.7	9.1	14.0
Islamabad	32.3	35.0	157.7	73	62.0	5.1	3.6	0.7	0.6
Jacobabad	38.0	39.5	202.4	65	0.0	0.6	0.9	1.1	2.0
Jhang	38.3	39.5	194.8	64	6.8	1.1	2.0	2.3	1.4
Jhelum	33.6	37.0	166.6	78	71.4	4.7	2.4	2.0	2.0
Jiwani	32.0	32.5	167.8	76	0.0	4.4	3.6	0.0	5.1
Kakul	29.4	30.5	131.0	71	30.0	3.4	2.4	0.3	1.4
Kalam	25.5	27.5	99.1	69	5.8	1.4	5.9	0.0	1.4
Kalat	30.9	32.0	116.8	23	0.0	0.7	2.1	0.0	4.0
Karachi	33.6	37.5	173.2	76	38.2	5.6	5.1	6.0	10.3
Khanpur	39.7	40.7	201.9	64	0.0	1.1	1.9	1.4	2.3
Khuzdar	35.8	37.0	172.6	40	1.7	1.3	2.6	0.0	2.3
Kotli	32.6	33.4	161.1	76	36.6	3.9	2.0	1.1	1.7
Lahore	34.4	36.5	173.8	71	28.3	3.7	3.6	2.9	1.1
Larkana	39.8	40.5	201.2	60	0.0	1.1	1.1	2.6	2.9
Lasbella	38.3	43.0	194.6	68	15.0	3.7	3.1	0.0	4.3
Lower Dir	36.0	37.0	172.3	61	13.0	1.7	3.1	1.7	1.7
M.B Din	34.0	37.5	168.3	79	80.5	4.4	1.9	0.3	0.0
Malam Jabba	21.8	22.0	90.1	82	10.0	1.3	6.4	0.0	0.0
Mangla	33.5	36.5	164.3	73	96.0	4.3	3.6	4.3	3.1
Mir Khani	33.9	36.3	156.9	48	2.0	0.7	3.0	0.0	4.7
Moinjodaro	39.2	42.0	200.6	67	0.0	0.4	1.1	4.3	4.6
Multan(PBO)	38.3	39.4	207.3	60	0.0	1.1	2.4	4.9	4.6
Murree	22.3	23.0	95.6	85	27.0	3.7	5.7	1.7	0.6
Muzaffarabad	34.0	35.5	159.6	66	11.0	4.4	2.7	0.6	1.4
Nawabshah	40.0	41.5	197.6	57	0.0	2.9	3.3	6.9	8.9

Nokkundi	40.6	41.5	196.3	12	0.0	0.0	0.0	3.7	18.1
Okara	37.4	39.0	192.3	64	0.0	1.0	3.3	2.3	2.6
Padidan	39.3	40.0	196.6	67	0.0	2.1	2.9	2.0	2.0
Panjgur	37.6	38.5	173.5	22	0.0	0.9	0.9	1.1	12.6
Parachinar	28.2	30.0	128.2	71	10.0	4.4	4.9	3.0	3.0
Pasni	33.2	35.0	173.8	82	0.0	1.9	1.4	1.4	16.7
Pattan	36.7	38.0	167.6	53	7.0	2.6	3.9	0.0	3.1
Peshawar	34.7	36.7	172.2	70	7.0	5.4	3.7	1.1	2.9
Quetta	30.4	34.0	131.5	23	0.6	1.1	1.8	1.8	3.3
Rahim Yar Khan	41.3	41.7	208.3	61	0.0	0.6	0.3	1.7	2.3
Rawalakot	26.3	28.5	109.0	81	38.0	4.3	4.6	1.4	0.6
Rawalpindi	33.6	35.2	161.3	71	151.9	4.6	2.9	0.8	1.0
Rohri	40.4	41.0	216.5	57	0.0	0.4	0.4	1.1	1.1
Sahiwal	37.8	39.2	189.0	65	5.0	1.3	2.1	2.3	1.1
Saidu Sharif	33.2	35.0	150.8	66	5.0	0.7	3.4	0.0	0.6
Sialkot	33.8	35.8	166.7	74	121.0	4.4	1.7	6.9	3.7
Sibbi	43.7	45.0	205.6	62	0.0	1.0	0.0	0.6	2.6
Skardu	28.7	34.2	110.0	47	0.0	3.6	5.6	0.3	1.1
Tandojam	37.1	39.5	181.5	66	3.1	2.0	2.3	1.2	2.3
Usta.M	37.3	37.5	192.1	67	0.0	0.3	0.6	0.6	4.3
Zhob	36.1	37.0	173.0	36	7.0	0.4	2.6	3.3	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)