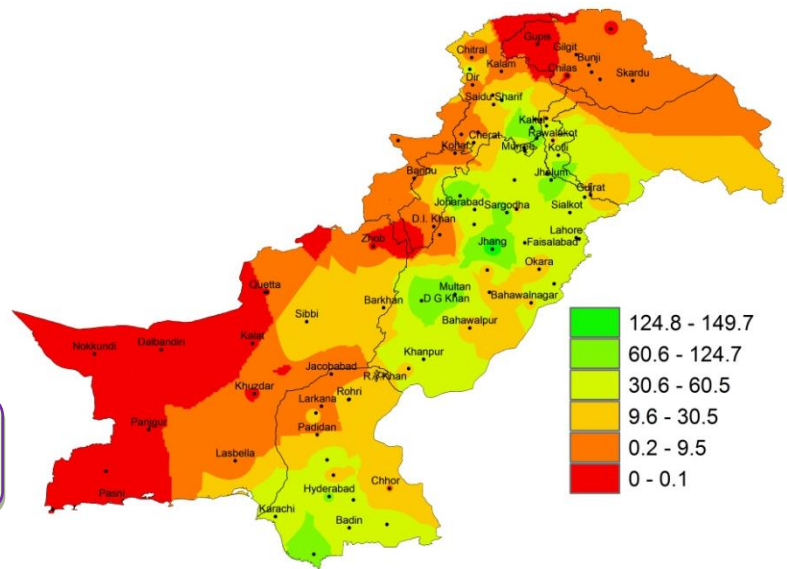


Weekly Weather and Crop Bulletin for Pakistan

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Rainfall Distribution (mm) during the previous Week (28th August to 3rd September, 2017)

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Highlights of Past Weather (28th August to 3rd September, 2017)

Below 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.

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

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

Editor: Dr. Dildar H. Kazmi (Meteorologist)

Past Weather of Provinces (28th August to 3rd September, 2017)

Punjab

Light to moderate rainfall reported from Punjab during the week. Weekly maximum and minimum temperatures recorded as 33.3°C & 24.4°C respectively. For the recent week on average 166.5 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 75% and wind speed in the morning/evening recorded as 2.0/3.9 knots. During the previous week the highest amount of rainfall was recorded as 150.2 mm at Jhang & highest maximum temperature was recorded as 39.6°C at Khanpur.

Balochistan

Light rainfall was reported from scattered places of Balochistan province during the week. Weekly maximum and minimum temperatures recorded as 35.5°C & 22.3°C respectively. For the recent week on average 161.0 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 0.9/5.9 knots. During the previous week the highest amount of rainfall was recorded as 28.0 mm at Sibbi & 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 32.1°C & 18.9°C respectively. For the recent week on average 143.8 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 0.6/3.6 knots. During the previous week the highest amount of rainfall was recorded as 117.5 mm at Kakul & highest maximum temperature was recorded as 38.5 °C at Lower Dir.

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 30.5°C & 17.1°C respectively. For the recent week on average 124.8 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 58% and wind speed in the morning/evening recorded as 0.9/2.6 knots. During the previous week the highest amount of rainfall was recorded as 60.0 mm at Kotli & highest maximum temperature was recorded as 38.5°C at Chilas.

Sindh

Light to moderate rainfall recorded at most parts of Sindh during the week. Weekly maximum and minimum temperatures recorded as 35.7°C & 26.4°C respectively. For the recent week, on average 184.3 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 69% and wind speed in the morning/evening recorded as 3.6/5.4 knots. During the previous week the highest amount of rainfall was recorded as 68.0 mm at Thatta & highest maximum temperature was recorded as 42.5°C at Nawabshah.

Past Weather for Major Agricultural Plains
(28th August to 3rd September, 2017)

Rawalpindi (Potohar region)

Rainfall reported as 40.0 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 2.7/4.7 Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded as 33.8°C & for the recent week 164.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.4/0.4 knots.

Faisalabad (Central Punjab)

Rainfall reported as 18.8 mm from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 4.4/3.9 Oktas while, average relative humidity observed as 73%. Mean day time temperature recorded as 33.8°C & for the recent week 169.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.8 knots.

Tandojam (Lower Sindh)

Rainfall reported as 80 mm from Tandojam during the week; however, cloudiness in the morning/evening recorded as 4.7/4.6 Oktas while, average relative humidity observed as 76%. Mean day time temperature recorded as 34.1°C & for the recent week 171.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.2/1.7 knots.

Usta Muhammad (Eastern Balochistan)

Dry weather reported from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded 0.3/0.0 Oktas while, average relative humidity observed as 65%. Mean day time temperature recorded as 32.3°C & for the recent week 191.0 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)

Dry weather reported from Quetta during the week; however, cloudiness in the morning/evening recorded as 0.6/2.7 Oktas while, average relative humidity observed as 30.0%. Mean day time temperature recorded as 32.8°C & for the recent

week 139.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.1/4.1 knots.

Past Weather for Sub-Regional Agricultural Plains (28th August to 3rd September, 2017)

Multan

Rainfall reported as 68.40 mm from Multan during the week; however, cloudiness in the morning/evening recorded as 5.1/4.4 Oktas while, average relative humidity observed as 74%. Mean day time temperature recorded as 33.7°C & for the recent week 175.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.3/8.0 knots.

Lahore

Rainfall reported as 32.6 mm from Lahore during the week; however, cloudiness in the morning/evening recorded as 4.3/5.7 Oktas while, average relative humidity observed as 78%. Mean day time temperature recorded as 32.6°C & for the recent week 165.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.9 knots.

Zhob

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 1.0/2.9 Oktas while, average relative humidity observed as 49%. Mean day time temperature recorded as 33.4°C & for the recent week 144.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.0/10.6 knots.

Murree

Rainfall reported as 79.4 mm from Murree during the week; however, cloudiness in the morning/evening recorded as 3.0/6.4 Oktas while, average relative humidity observed as 89%. Mean day time temperature recorded as 22.4°C & for the recent week 93.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.6 knots.

D.I. Khan

Dry weather reported from D.I.Khan during the week; however, cloudiness in the morning/evening recorded as 2.3/3.0 Oktas while, average relative humidity observed as 76%. Mean day time temperature recorded as 35.9°C & for the recent week 178.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.1 knots.

Peshawar

Rainfall reported as 5.0 mm from Peshawar during the week; however, cloudiness in the morning/evening recorded as 3.6/3.0 Oktas while, average relative humidity observed as 67%. Mean day time temperature recorded as 35.3°C & for the recent week 174.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/2.0 knots.

Kalam

Dry weather reported from Kalam during the week; however, cloudiness in the morning/evening recorded as 1.9/4.6 Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded as 26.5°C & for the recent week 94.2 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 0.23 mm from Gilgit during the week; However, cloudiness in the morning/evening recorded as 5.1/5.1 Oktas while, average relative humidity observed as 53%. Mean day time temperature recorded as 32.2°C & for the recent week 133.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/5.7 knots.

Skardu

Rainfall reported as 8.41 mm from Skardu during the week; However, cloudiness in the morning/evening recorded as 5.4/6.0 Oktas while, average relative humidity observed as 58%. Mean day time temperature recorded as 27.3°C & for the recent week 104.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.9 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, *Boll opening* 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)

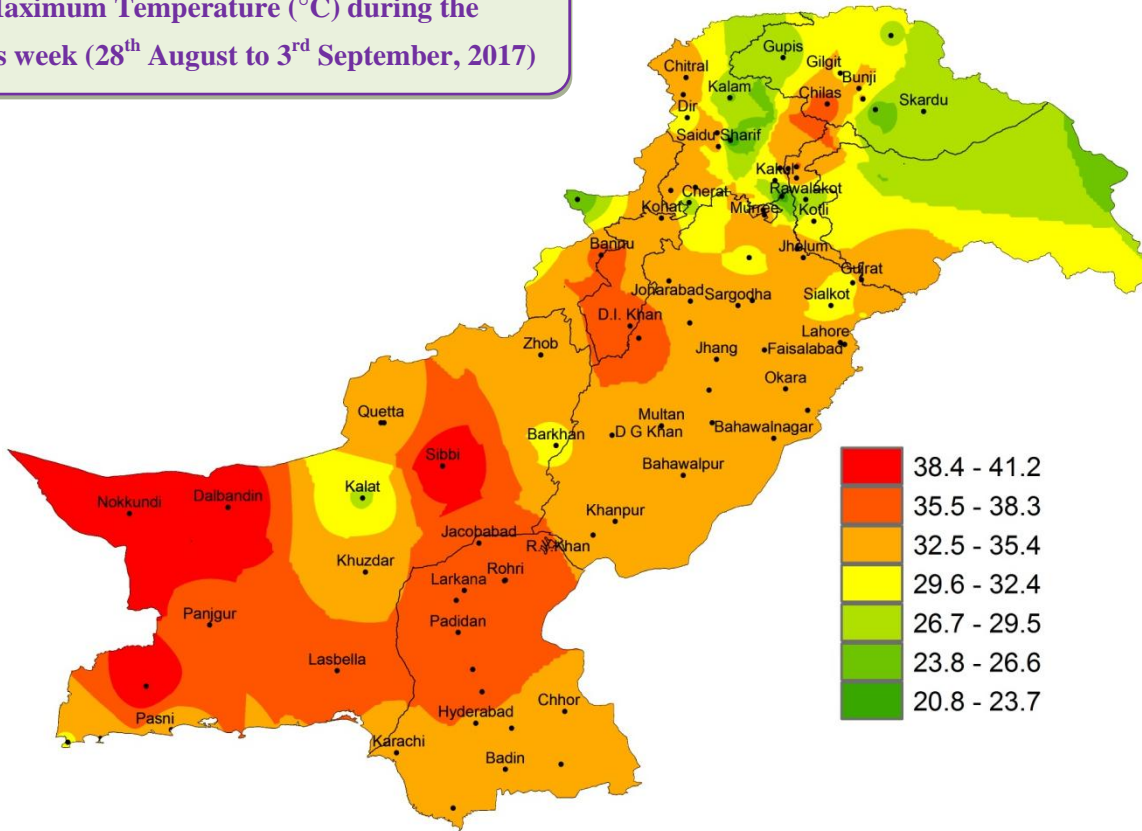
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Baluchistan (Usta Muhammad)

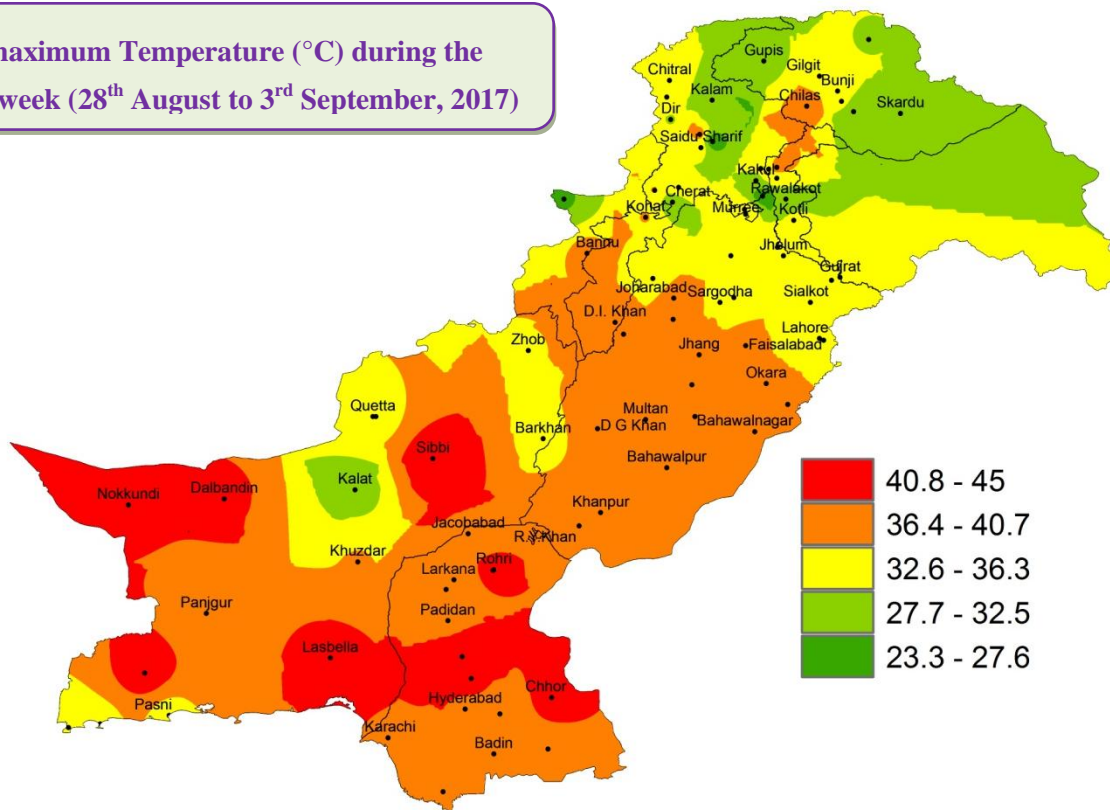
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Rice: Good condition, *Tillering* stage.

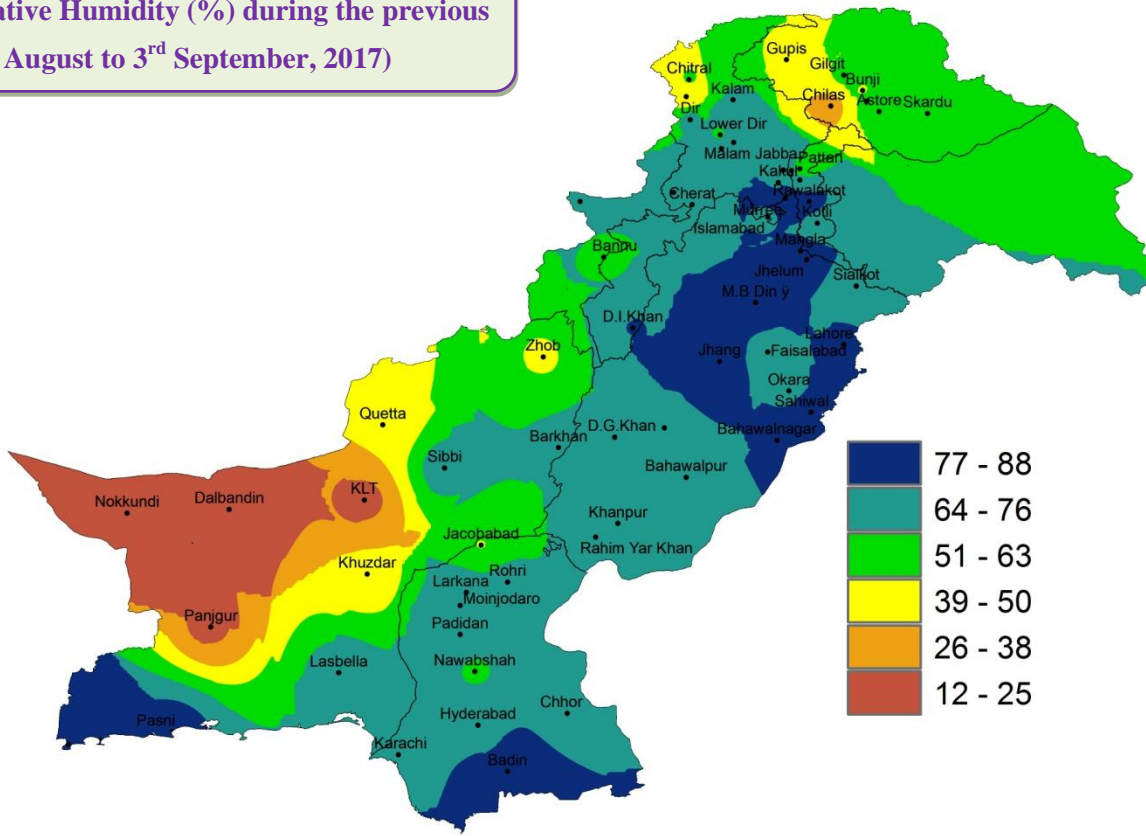
Mean Maximum Temperature (°C) during the Previous week (28th August to 3rd September, 2017)



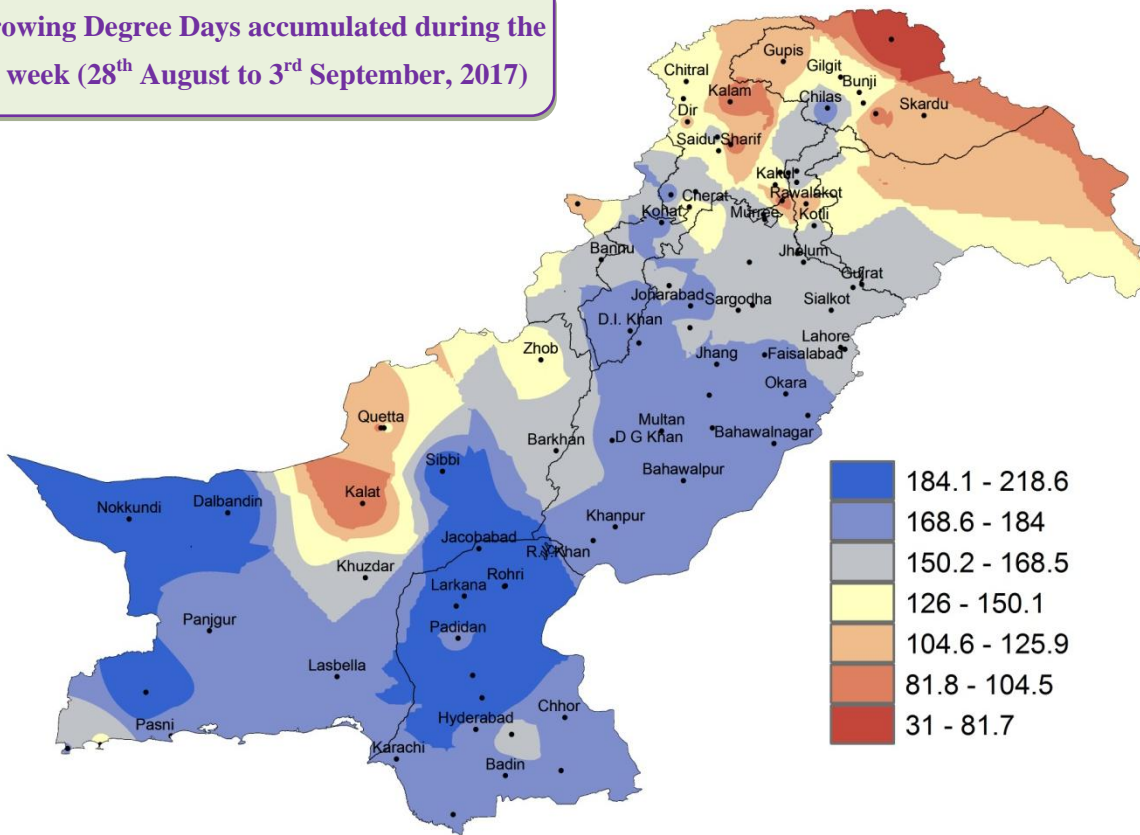
Highest maximum Temperature (°C) during the Previous week (28th August to 3rd September, 2017)



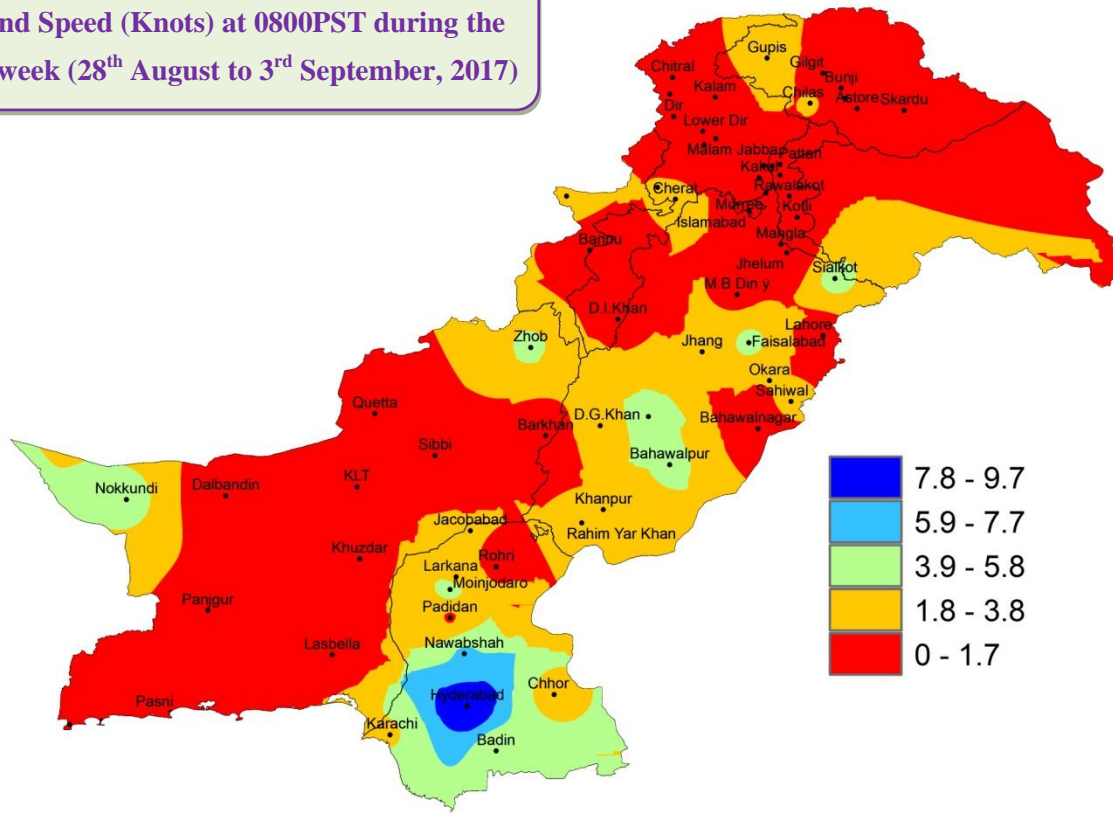
Mean Relative Humidity (%) during the previous week (28th August to 3rd September, 2017)



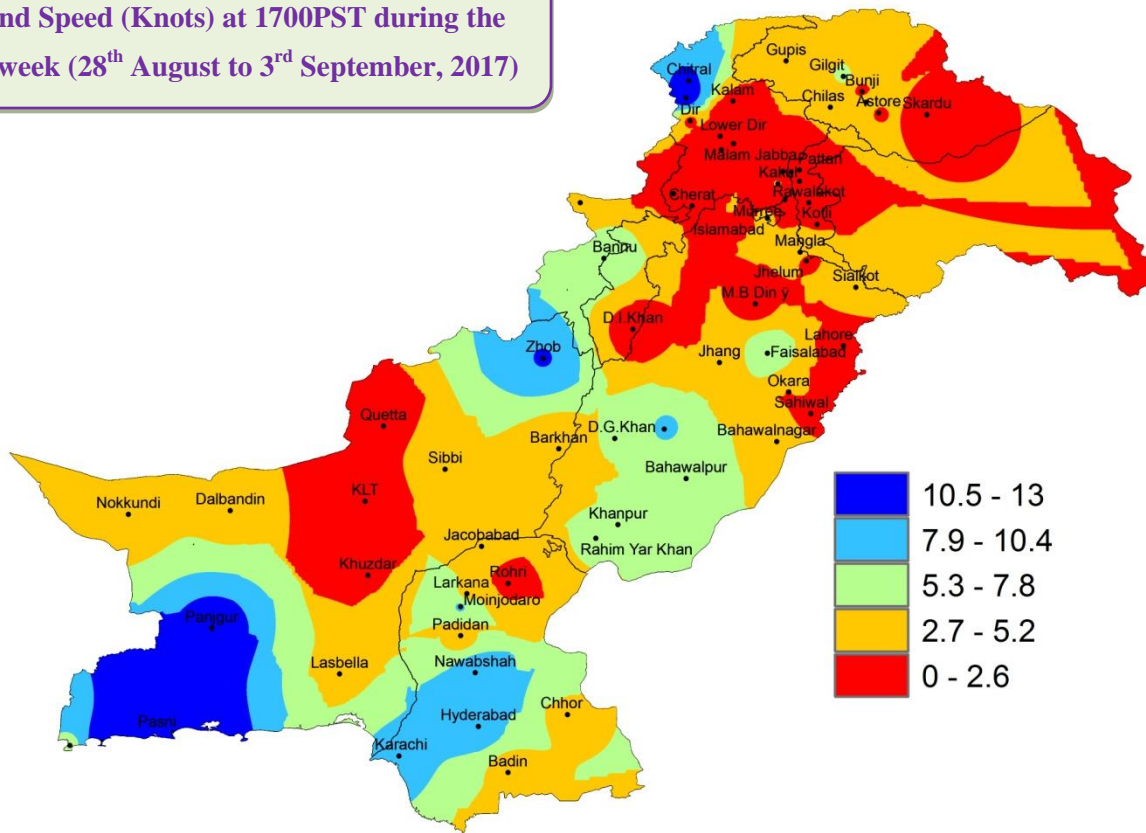
Total Growing Degree Days accumulated during the previous week (28th August to 3rd September, 2017)



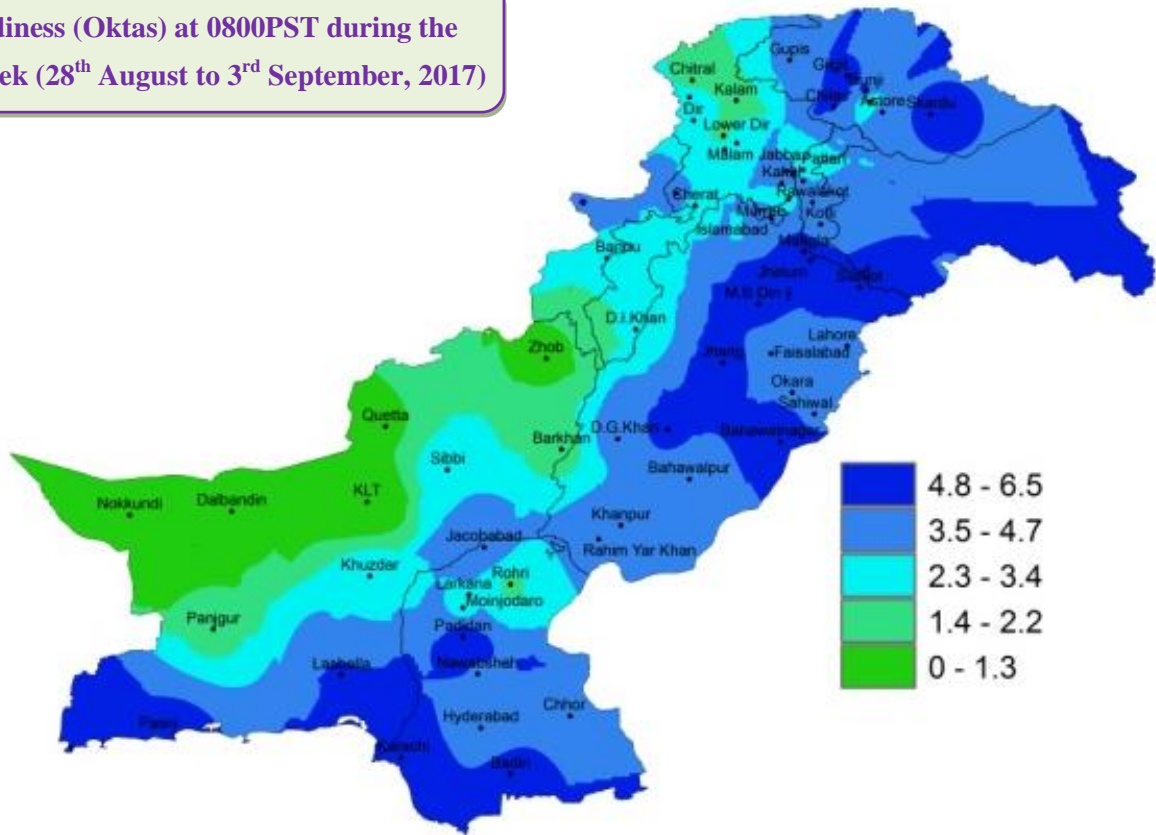
Mean Wind Speed (Knots) at 0800PST during the previous week (28th August to 3rd September, 2017)



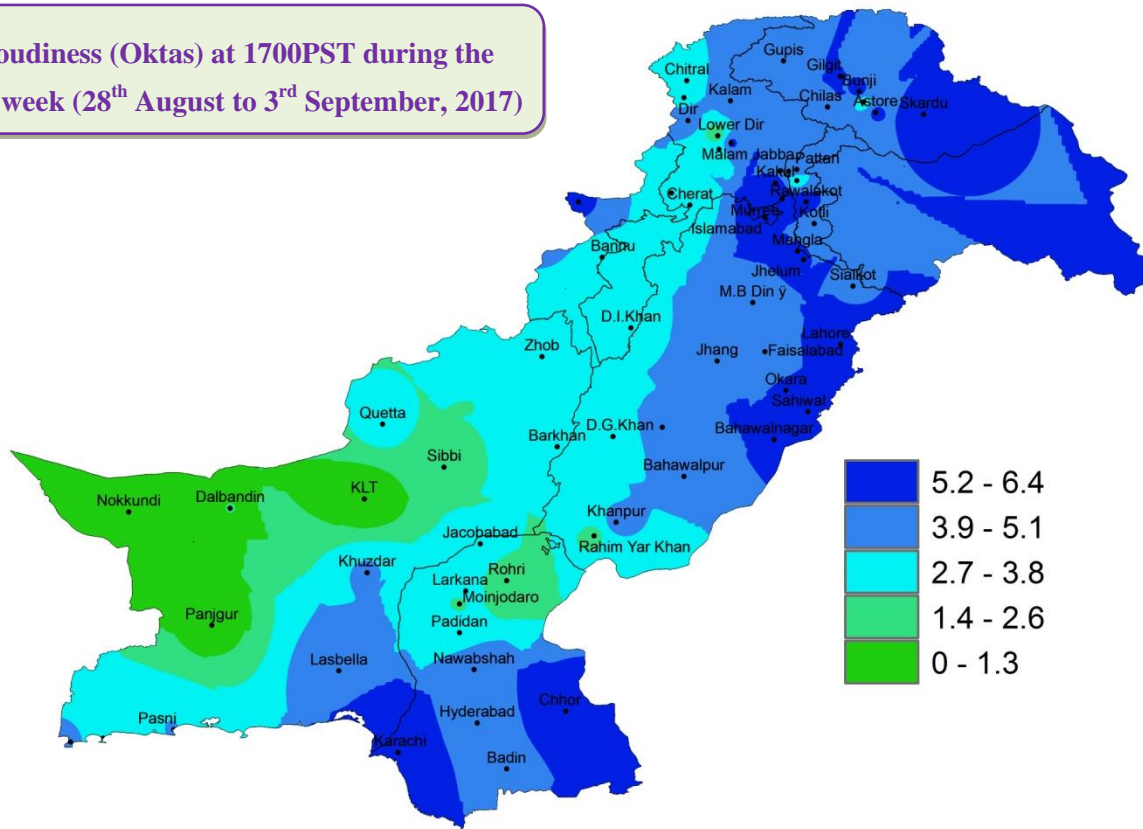
Mean Wind Speed (Knots) at 1700PST during the previous week (28th August to 3rd September, 2017)



Mean Cloudiness (Oktas) at 0800PST during the previous week (28th August to 3rd September, 2017)



Mean Cloudiness (Oktas) at 1700PST during the previous week (28th August to 3rd September, 2017)



Weekly Weather Advisory for Farmers
(4th September to 10th 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.

TUESDAY (05-09-2017)

Rain-thunderstorm with gusty winds is expected at scattered places in Khyber Pakhtunkhwa, Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad divisions, Islamabad, FATA, Gilgit-Baltistan and Kashmir. Hot and humid weather is expected elsewhere in the country.

WEDNESDAY (06-09-2017)

Rain-thunderstorm with gusty winds is expected at scattered places in Khyber Pakhtunkhwa, Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad divisions, Islamabad, FATA, Gilgit-Baltistan and Kashmir. Hot and humid weather is expected elsewhere in the country.

THURSDAY (07-09-2017)

Rain-thunderstorm with gusty winds is expected at scattered places in Khyber Pakhtunkhwa, Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad divisions, Islamabad, FATA, Gilgit-Baltistan and Kashmir, while at isolated places in Zhob, Kalat, Sibbi, Multan, D.G khan, Bahawalpur & Sahiwal divisions. Hot and humid weather is expected elsewhere in the country.

FRIDAY (08-09-2017)

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.

SATURDAY (09-09-2017)

Mainly hot and humid weather is expected in most parts of the country.

SUNDAY (10-09-2017)

Mainly hot and humid weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Malakand, Hazara, Peshawar, Kohat, Rawalpindi, Gujranwala, Sargodha divisions, upper FATA, Kashmir and Gilgit-Baltistan.

MONDAY (11-09-2017)

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 divisions and Kashmir.

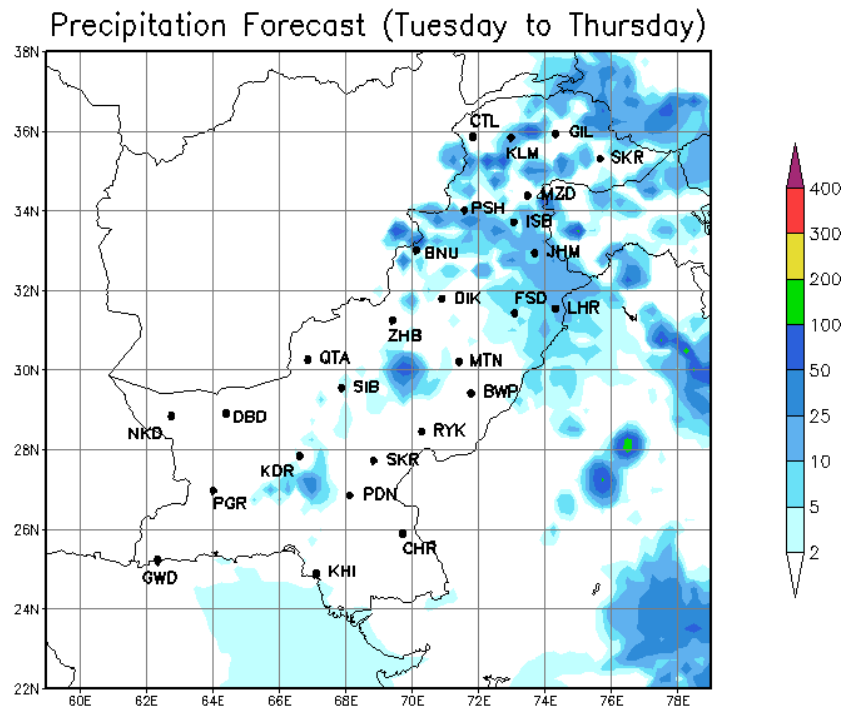
ADVISES FOR FARMERS

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 upper half and southern areas of the country. Keeping in view the expected weather conditions following advises are suggested for farming community.

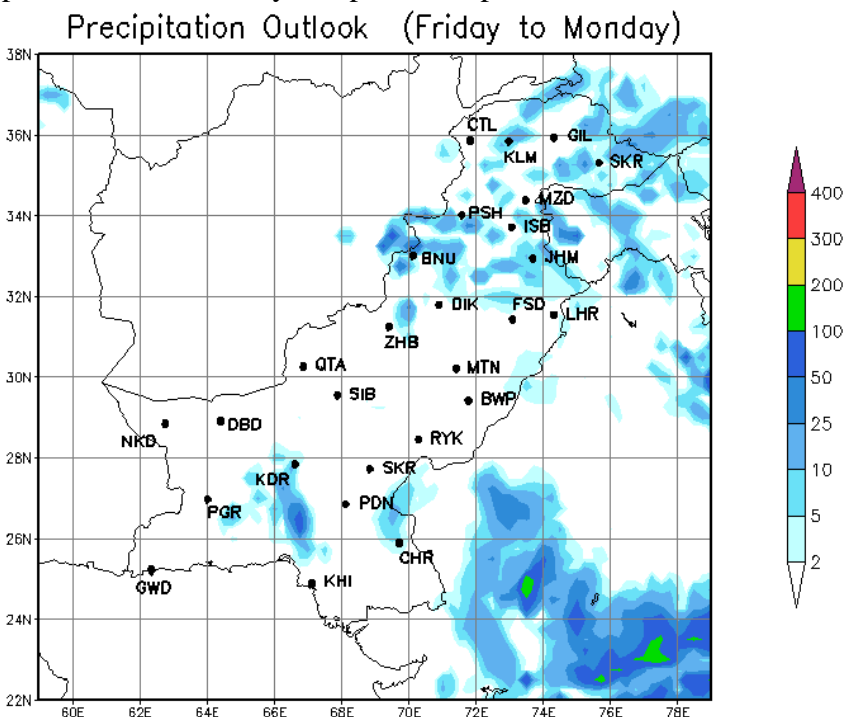
- Pest/viral attacks and more weeds growth are expected in standing crops during this season. Farmers are therefore advised to do regular pest scouting and take in time precautionary measures accordingly.
- Farmers of irrigated areas may irrigate the standing crops as per requirement in accordance with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

Weather Outlook from 5th September to 11th September, 2017

The outlook for the period “5th September to 7th September, 2017” shows that light to moderate rainfall is expected in upper half of the country.



The outlook for the period “8th September to 11th September, 2017” shows that light to moderate rainfall is expected in upper half of the country and particular places in northern Sindh & eastern Baluchistan.



National Weather Data of Selected Cities (28th August to 3rd September, 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	23.9	27.5	92.8	52	9.8	4.6	5.4	1.1	2.3
Badin	34.3	38.5	174.1	80	44.5	5.3	4.9	4.6	4.0
Bahawalnagar	33.3	39.5	170.8	76	30.0	5.4	5.3	0.6	3.4
Bahawalpur	35.1	39.3	179.3	74	25.0	3.7	4.0	4.0	6.6
Balakot	32.4	33.0	143.5	73	40.0	3.7	5.0	0.0	0.6
Bannu	35.9	37.5	164.6	60	6.0	2.4	3.3	0.0	7.4
Barkhan	32.1	35.0	152.3	66	18.0	1.7	3.7	0.0	2.9
Bunji	32.5	35.0	146.7	50	3.6	5.1	5.9	0.6	1.7
Cherat	27.6	29.0	123.0	71	16.0	3.3	3.6	2.0	2.6
Chhor	35.2	41.7	178.9	74	8.9	4.4	6.0	3.1	4.9
Chilas	36.4	38.5	174.4	32	0.0	4.7	4.7	2.0	2.9
Chitral	33.4	34.4	138.5	51	0.0	1.6	3.7	0.0	10.6
D.G.Khan	34.2	38.1	172.3	72	72.0	3.9	3.0	3.1	5.4
D.I.Khan	35.9	37.5	178.8	76	0.0	2.3	3.0	1.1	1.1
Dalbandin	40.7	41.5	194.8	15	0.0	0.7	1.3	0.0	4.3
Dir	31.2	32.2	122.3	68	0.0	3.3	4.7	0.0	2.0
Drosh	34.0	35.6	150.4	38	40.0	2.9	3.4	0.0	12.4
Faisalabad	33.8	36.8	169.9	73	18.8	4.4	3.9	1.1	1.8
Garidopatta	33.8	35.2	161.3	66	45.5	3.7	3.3	0.6	2.6
Gawader	33.8	35.0	146.5	80	0.0	5.0	2.9	0.0	12.0
Gilgit	32.2	34.5	133.0	53	0.2	5.1	5.1	0.0	5.7
Gupis	27.9	30.0	110.3	47	0.0	3.6	4.4	3.7	3.7

Hyderabad	35.0	40.0	177.5	74	64.0	3.4	4.4	9.7	9.4
Islamabad	32.7	35.0	160.2	73	49.0	3.6	5.3	1.4	2.9
Jacobabad	36.7	40.0	193.5	50	0.0	4.4	3.0	1.7	3.7
Jhang	33.5	39.0	170.3	80	150.2	5.3	5.0	1.7	2.9
Jhelum	33.3	36.3	166.6	81	72.2	4.9	5.1	0.0	2.0
Jiwani	32.2	33.5	169.0	77	0.0	6.6	4.1	1.4	7.1
Kakul	29.9	31.0	128.4	73	117.5	3.4	5.6	0.3	2.9
Kalam	26.5	28.0	94.2	66	0.0	1.9	4.6	0.0	1.4
Kalat	29.3	30.0	86.5	21	0.0	0.0	0.0	0.0	0.0
Karachi	34.7	40.5	180.9	74	52.6	6.5	6.3	3.7	8.3
Khanpur	34.9	39.6	176.2	68	51.0	4.3	4.3	1.7	5.4
Khuzdar	34.4	36.5	166.5	40	0.0	2.9	4.0	0.0	2.3
Kotli	31.5	33.7	155.0	69	60.0	3.7	3.9	1.7	2.6
Lahore	32.6	34.0	165.0	78	39.6	4.3	5.7	0.6	0.9
Larkana	36.4	40.0	186.8	70	2.0	3.4	2.9	3.1	4.3
Lasbella	36.2	42.2	183.6	70	5.0	4.7	4.9	0.3	4.9
Lower Dir	35.9	38.5	164.8	61	17.0	1.7	1.7	0.9	2.0
M.B Din	32.8	36.0	164.8	81	23.2	5.0	4.9	1.1	1.4
Malam Jabba	20.5	23.0	79.3	74	45.0	3.1	5.6	0.0	0.0
Mangla	32.7	35.5	161.2	78	55.3	5.7	5.3	0.0	4.0
Mir Khani	32.9	34.2	145.4	52	0.0	1.4	2.7	0.0	5.0
Moinjodaro	36.1	39.0	188.0	69	12.0	2.9	2.4	4.6	8.3
Multan(PBO)	33.7	38.5	175.3	74	68.4	5.1	4.4	4.3	8.0
Murree	22.4	24.1	93.1	89	79.4	3.0	6.4	0.6	0.6
Muzaffarabad	33.6	35.5	156.8	67	25.0	3.7	4.1	0.3	2.6
Nawabshah	37.7	42.5	193.0	62	45.0	4.7	5.0	6.0	10.3

Nokkundi	40.7	41.5	198.0	12	0.0	0.0	0.3	4.3	3.7
Okara	33.9	36.5	171.5	75	23.1	4.6	5.1	1.7	2.6
Padidan	36.6	40.0	182.0	71	9.5	5.5	3.3	1.5	3.3
Panjgur	36.9	38.0	168.8	23	0.0	1.7	0.7	1.1	11.7
Parachinar	24.9	27.0	111.0	71	3.0	4.7	5.4	3.0	3.0
Pasni	33.0	34.5	169.5	83	0.0	5.3	3.9	0.0	13.0
Pattan	35.8	37.5	156.3	58	21.0	2.3	4.3	0.0	1.1
Peshawar	35.3	36.5	174.5	67	5.0	3.6	3.0	1.7	2.0
Quetta	32.8	33.5	139.0	30	0.0	0.6	2.7	2.1	4.1
Rahim Yar Khan	35.0	39.5	177.1	67	28.0	4.0	2.3	2.3	5.6
Rawalakot	26.8	28.5	107.3	82	25.4	4.6	6.0	0.0	1.4
Rawalpindi	33.8	35.0	164.9	66	40.0	2.7	4.7	0.4	0.4
Rohri	36.5	40.5	199.3	67	9.0	2.0	2.1	1.1	1.7
Sahiwal	34.0	37.5	169.8	78	47.0	4.6	5.7	2.0	2.3
Saidu Sharif	33.5	34.6	142.7	67	11.0	2.6	3.1	0.0	1.1
Sialkot	32.0	34.5	164.9	67	39.8	5.3	5.0	4.4	4.0
Sibbi	41.0	45.0	196.0	71	28.0	3.1	2.0	0.6	4.9
Skardu	27.3	31.2	104.9	58	8.4	5.4	6.0	0.0	1.9
Tandojam	34.1	37.5	171.5	76	80.0	4.7	4.6	0.2	1.7
Usta.M	32.3	38.0	191.0	65	0.0	0.3	0.0	0.6	4.3
Zhob	33.2	36.0	144.8	49	0.0	1.0	2.9	4.0	10.6

*** 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 (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)