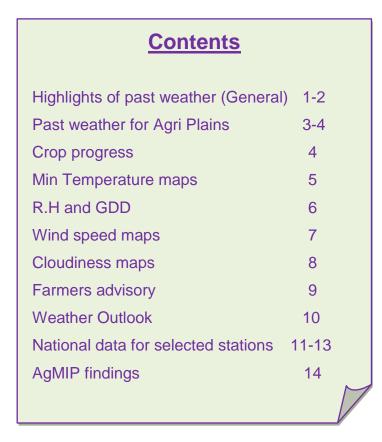
Weekly Weather and Crop Bulletin for Pakistan

NATIONAL AGROMET CENTRE PAKISTAN METEOROLOGICAL **DEPARTMENT SECTOR H-8/2,** ISLAMABAD.

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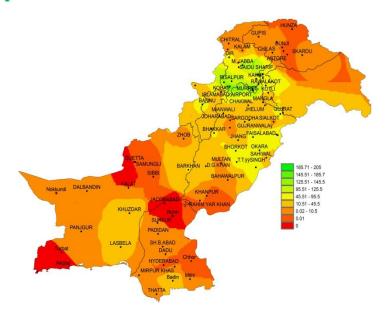
> Rainfall Distribution (mm) during the Previous Week (16th July to 22nd July, 2018)



<u>Patron-in-Chief:</u> Dr. Ghulam Rasul (Director General)

Editor-in-Chief: Asma Jawad Hashmi (Director)

Editor: Saeeda Saleh (Assistant Meteorologist)



Highlights of Past Weather (16th July to 22nd July, 2018)

Above normal day temperature was observed in Gilgit-Baltistan and Azad Jammu & Kashmir however mix trend was observed in rest of the country during the previous week.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall observed in Baluchistan and Sindh during the previous week.
- Moderate to heavy rainfall observed in Punjab and Khyber Pakhtunkhwa, Gilgit-Baltistan and Azad Jammu & Kashmir during the previous week.

Past Weather of Provinces (16th July to 22nd July, 2018)

Punjab

Moderate to heavy rainfall observed in Punjab during the week. Weekly maximum and minimum temperatures recorded as 36.5°C & 27.1°C respectively. For the recent week on average 187.5 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 70% and wind speed in the morning/evening recorded as 2.9/3.3 Knots. During the previous week the highest amount of rainfall was recorded as 153.0 mm at Islamabad & highest maximum temperature was recorded as 42.5°C at RahimYar Khan.

Sindh

Light to moderate rainfall observed in Sindh during the week. Weekly maximum and minimum temperatures recorded as 38.1°C & 27.8°C respectively. For the recent week, on average 194.6 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 3.8/5.5 Knots. During the previous week the highest amount of rainfall was recorded as 32 mm at Badin & highest maximum temperature was recorded as 44.2°C at Dadu.

Khyber Pakhtunkhwa

Moderate to heavy rainfall observed in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 33.5°C & 22.1°C respectively. For the recent week on average 159.4 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 67% 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 153.0 mm at Cherat & highest maximum temperature was recorded as 41.0°C at D.I.Khan.

Baluchistan

Light to moderate rainfall observed in Baluchistan during the week. Weekly maximum and minimum temperatures recorded as 38.0°C & 25.5°C respectively. For the recent week on average 183.1 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 3.8/5.5 Knots. During the previous week the highest amount of rainfall was recorded as 46.0 mm at Barkhan & highest maximum temperature was recorded as 47.0°C at Dalbadin.

Gilgit-Baltistan and Azad Jammu & Kashmir

Moderate to heavy rainfall observed in Gilgit-Baltistan & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 33.9°C & 20.9°C respectively. For the recent week on average 147.9 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 1.0/3.5 Knots. During the previous week the highest amount of rainfall was recorded as 203.0 mm at Muzaffarabad & highest maximum temperature was recorded as 43.5°C at Chilas.

Past Weather for Major Agricultural Plains (16th **July to 22nd July, 2018**)

Rawalpindi (Potohar region)

Rainfall reported as 148.2 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 6.9/5.3 Oktas while, average relative humidity observed as 74%. Mean day time temperature recorded as 35.9°C & for the recent week 175.5 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/1.1 Knots.

Faisalabad (Central Punjab)

Rainfall reported as 108.5 mm from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 2.1/4.7 Oktas while, average relative humidity observed as 51%. Mean day time temperature recorded as 36.1°C & for the week recent 184.7 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.6/1.3 Knots.

Tandojam (Lower Sindh)

Rainfall reported as 5.0 mm from Tandojam during the week; however, cloudiness recorded in the morning/evening as 4.6/4.9 Oktas while, average relative humidity observed as 72%. Mean day time temperature recorded as 36.1°C & for the recent week 179.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 3.4/4.0 Knots.

Usta Muhammad (Eastern Baluchistan)

Dry weather reported from Usta Muhammad during week: however. cloudiness morning/evening recorded as 3.4/2.3 Oktas while, average relative humidity observed as 62%. Mean day time temperature recorded as 41.1°C & for the week recent 211.9 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/3.4 Knots.

Quetta (Northern Baluchistan)

Dry weather reported from Quetta during the week; however, cloudiness in the morning/evening recorded as 1.1/4.4 Oktas while, average relative humidity observed as 36%. Mean day time temperature recorded as 36.1°C & for the recent week 169.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.9/3.6 Knots.

Past Weather for Sub-Regional Agricultural Plains (16th July to 22nd July, 2018)

Multan

Rainfall reported as 0.52 mm from Multan during week: however. cloudiness morning/evening recorded as 2.9/4.1 Oktas while, average relative humidity observed as 60%. Mean day time temperature recorded as 39.2°C & for the week 207.6 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.3/8.0 Knots.

Lahore

Rainfall reported as 52.32 mm from Lahore during week; however, cloudiness morning/evening recorded as 3.1/5.6 Oktas while, average relative humidity observed as 78%. Mean day time temperature recorded as 34.3°C & for the recent week 181.3 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/1.7 Knots.

Zhob

Rainfall reported as 4.00 mm from during the week; however, cloudiness in the morning/evening recorded as 5.7/8.0 Oktas while, average relative humidity observed as 35%. Mean day time temperature recorded as 35.2°C & for the recent week 171.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 5.0/5.6 Knots.

Murree

Rainfall reported as 118.0 mm from Murree during week: however. cloudiness in morning/evening recorded as 7.3/7.0 Oktas while, average relative humidity observed as 87%. Mean day time temperature recorded as 22.7°C & for the recent week 104.1 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/0.0 Knots.

D.I. Khan

Rainfall reported as 15.01 mm from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 6.3/2.9 Oktas while, average relative humidity observed as 68%. Mean day time temperature recorded as 38.4°C & for the recent week 199.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/2.9 Knots.

Peshawar

Rainfall reported as 126.01 mm from Peshawar during the week; however, cloudiness in the morning/evening recorded as 7.4/3.6 Oktas while, average relative humidity observed as 77%. Mean day time temperature recorded as 34.5°C & for the recent week 174.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/1.4 Knots.

Kalam

Rainfall reported as 2.0 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 6.1/6.3 Oktas while, average relative humidity observed as 72%. Mean day time temperature recorded as 27.1°C & for the recent week 114.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.7 Knots.

Gilgit

Rainfall reported as 0.02 mm from Gilgit during the week; However, cloudiness in the morning/evening recorded as 5.1/5.4 Oktas while, average relative humidity observed as 52%. Mean day time temperature recorded as 35.9°C & for the recent week 161.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/9.4 Knots.

Skardu

Rainfall reported as 0.02 mm from Skardu during week: however, cloudiness in the morning/evening recorded as 4.4/6.9 Oktas while, average relative humidity observed as 41%. Mean day time temperature recorded as 32.9°C & for the recent week 139.2 growing degree accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/3.3 Knots.

<u>Crop Situation for Major Agricultural Plains</u> (Based on data from Regional Agro met Centers)

Potohar Region (Rawalpindi)

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

Central Punjab (Faisalabad)

Presently cotton crop is sown in the fields of RAMC Faisalabad.

Cotton; Very Good, Flowering stage.

Lower Sindh (Tandojam)

There is presently one crop in the fields of RAMC Tandojam.

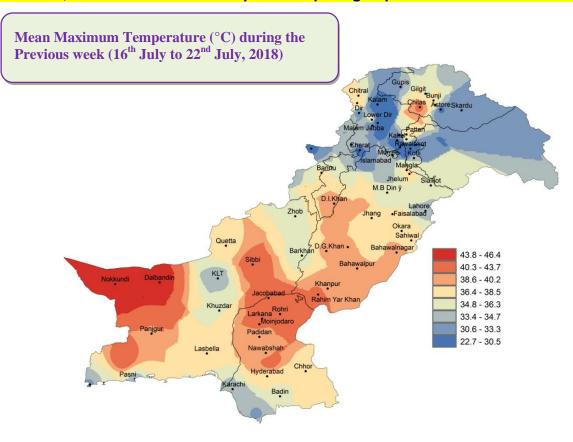
Cotton (CIM 602); Good, Flowering stage.

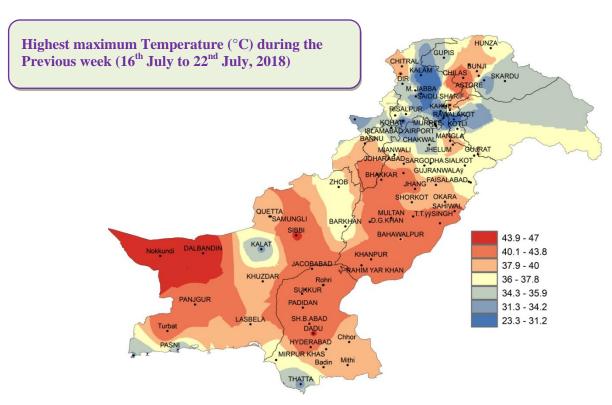
Northern Baluchistan (Quetta)

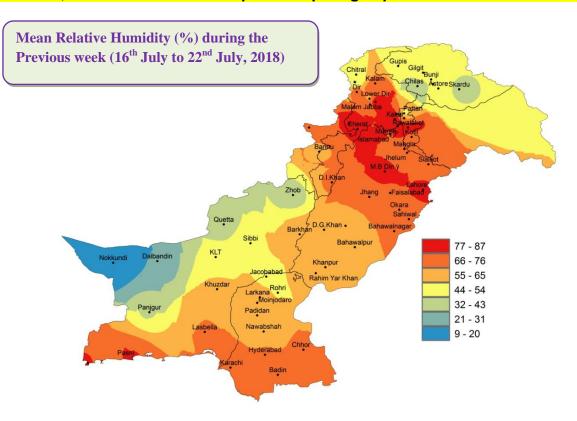
There is presently no crop grown in the fields of RAMC Quetta.

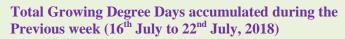
Eastern Baluchistan (Usta Muhammad)

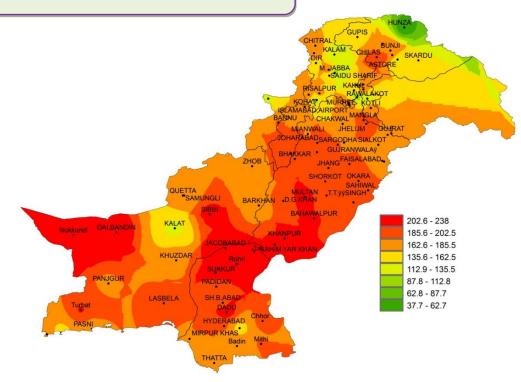
Rice saplings are transferred in the fields of RAMC Usta Muhammad.



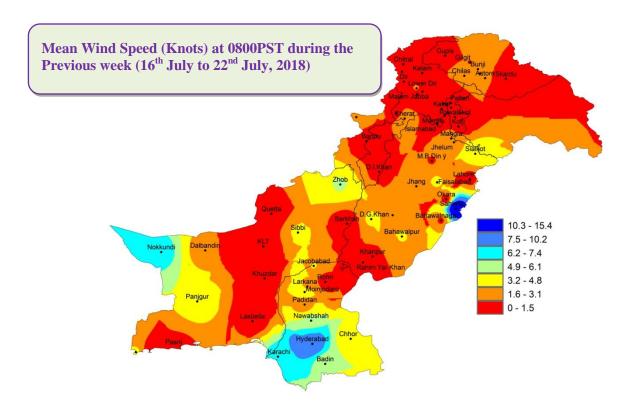


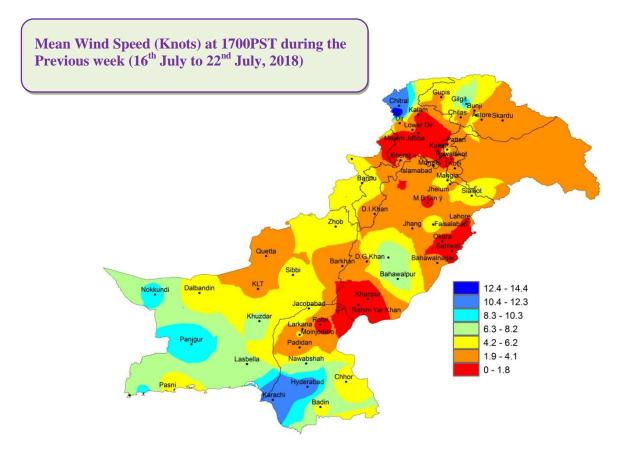




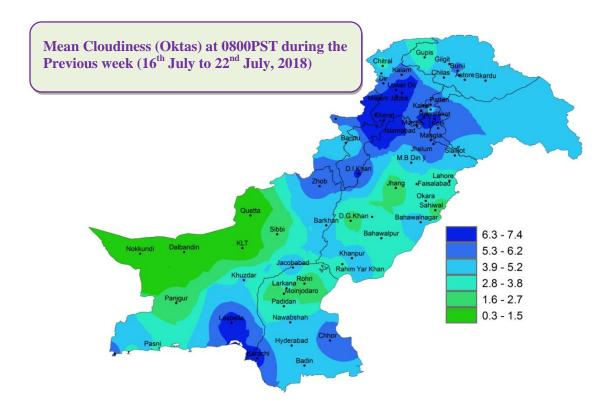


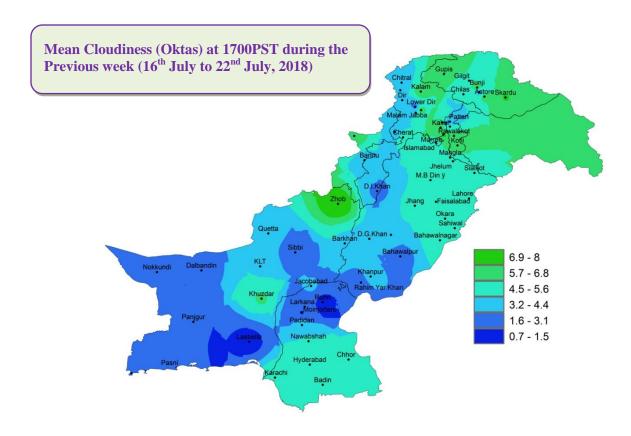
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Weekly Weather Advisory for Farmers (23rd July to 29th July, 2018)

Seasonal Low lies over Northwest Balochistan. Monsoon currents from Arabian Sea and Bay of Bengal are continuously penetrating upper and central parts of the country and likely to continue in coming days.

MONDAY 23-07-2018

Rain-thundershower is expected at scattered places in Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad, Malakand, Hazara, Mardan, Peshawar, Kohat divisions, Islamabad and Kashmir, while at isolated places in Bannu, D.I.khan, Multan, D.G Khan, Bahawalpur, Sahiwal, Zhob divisions and Gilgit-Baltistan. Heavy falls are also expected at isolated places in Malakand, Hazara, Mardan, Peshawar, Rawalpindi, Gujranwala divisions, Islamabad and Kashmir. Hot and humid weather is expected elsewhere in the country.

TUESDAY 24-07-2018

Rain-thundershower is expected at scattered places in Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad, Malakand, Hazara, Mardan, Peshawar, Kohat divisions, Islamabad and Kashmir, while at isolated places in Bannu, D.I.khan, Multan, D.G Khan, Bahawalpur, Sahiwal, Zhob, Kalat divisions and Gilgit-Baltistan. Heavy falls are also expected at isolated places in Gujranwala, Lahore, Sahiwal and Sargodha divisions. Hot and humid weather is expected elsewhere in the country.

WEDNESDAY 25-07-2018

Rain-thundershower with gusty winds is expected at scattered places in Malakand, Hazara, Mardan, Rawalpindi, Gujranwala, Lahore, Sargodha, Faislabad divisions, Islamabad and Kashmir, while at isolated places in Peshawar, Kohat, Sahiwal divisionsand Gilgit-Baltistan. Heavy falls are also expected at isolated places in Rawalpindi, Gujranwala, Lahore, Hazara, divisions and Kashmir. Hot and humid weather is expected elsewhere in the country.

THURSDAY 26-07-2018

Rain-thundershower with gusty winds is expected at scattered places in Malakand, Hazara, Mardan, Rawalpindi, Gujranwala, Lahore, Sargodha, Faisalabad divisions, Islamabad and Kashmir, while at isolated places in Peshawar, Kohat, Sahiwal divisionsand Gilgit-Baltistan. Heavy falls are also expected at isolated places in Rawalpindi, Gujranwala, Lahore, Hazara, divisions and Kashmir. Hot and humid weather is expected elsewhere in the country.

FRIDAY 27-07-2018.

Rain-thundershower with gusty winds is expected at scattered places in Rawalpindi, Gujranwala, Lahore, Hazara divisions, Islamabad and Kashmir, while at isolated places in Malakand, Peshawar, Mardan, Sargodha divisions and Gilgit-Baltistan. Heavy falls are also expected at isolated places in Gujranwala division. Hot and humid weather is expected elsewhere in the country.

SATURDAY

28-07-2018

Rain-thundershower with gusty winds is expected at isolated places in Rawalpindi, Gujranwala, Lahore, Sargodha, Hazara, Malakand, Peshawar, Mardan divisions, Islamabad, Kashmir and Gilgit-Baltistan. Hot and humid weather is expected elsewhere in the country.

SUNDAY 29-07-2018

Rain-thundershower with gusty winds is expected at isolated places in Rawalpindi, Gujranwala, Lahore, Sargodha, Hazara, Malakand, Peshawar, Mardan divisions, Islamabad, Kashmir and Gilgit-Baltistan. Hot and humid weather is expected elsewhere in the country.

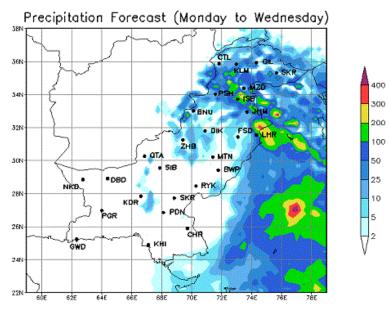
ADVISES FOR FARMERS

During the last week, light to moderate rainfall occurred in upper half of the country while hot and dry weather prevailed in rest parts. This may continue with almost the same pattern in coming days as well. Keeping in view the expected weather conditions following advises are suggested for farming community.

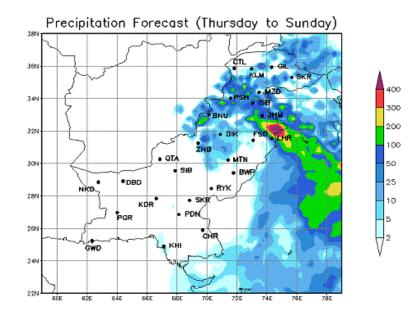
- Farmers of southern Punjab and Sindh are advised to complete the sowing of cotton and other Kharif crops to utilize the maximum soil moisture.
- Farmers of upper regions are advised to complete the cultivation of millet and sorghum in the upper regions because of the moister availability in field.
- Extra water from the fields of Cotton and vegetables should be removed.
- Use pesticides to avoid the attack from pests on the cotton crop as advised by the agriculture department.

Weather Outlook from (23rd July to 29th July, 2018)

The forecast from 23rd July to 25th July, 2018 shows that moderate to heavy rainfall is expected in most of the places of GB & Kashmir, FATA, upper and central Punjab and KP while at isolated places of Balochistan.



The outlook from 26^{th} July to 29^{th} July, 2018 shows that light to moderate rainfall is expected in GB , Kashmir, KP and northeastern Baluchistan and heavy rainfall is expected in few places of north and northwestern KP and central Punjab.



National Weather Data of Selected Cities (Weekly Data from 16th July to 22nd July, 2018)

Stations	Maximum/Night time Temperature (°C)		Growing Degree Days	Relative Humidity (%)	Rainfall (mm)	Cloudiness (Oktas) 0800	Cloudiness (Oktas) 1700	Wind Speed (Knots)	Wind Speed (Knots)
	Mean	highest				PST	PST	0800 PST	1700 PST
Astore	29.2	31.5	125.4	50	0.00	4.7	6.0	1.7	3.1
Badin	35.6	38.0	184.1	67	32.00	4.6	5.6	4.9	5.7
Bahawalnagar	39.4	42.0	198.0	65	61.02	4.6	5.6	1.1	2.3
Bahawalpur	39.1	40.0	202.9	61	0.00	3.1	2.5	3.1	6.6
Balakot	32.4	33.5	152.1	77	89.00	5.1	6.0	0.0	0.3
Bannu	36.5	38.7	186.3	64	51.00	4.3	3.9	0.3	6.0
Barkhan	34.7	36.0	169.8	62	46.00	4.3	4.0	0.0	2.0
Bunji	36.5	40.0	185.6	45	0.01	5.6	6.4	3.1	1.7
Cherat	28.1	30.0	121.5	78	153.00	7.4	4.9	2.6	2.0
Chhor	37.5	38.4	192.0	67	0.00	5.7	5.6	3.1	5.1
Chilas	40.8	43.5	201.5	35	5.20	4.6	4.7	2.0	3.7
Chitral	36.7	38.4	173.8	50	0.01	3.1	3.3	0.0	12.0
D.I.Khan	38.9	41.0	199.3	68	15.01	6.3	2.9	1.1	2.9
Dalbandin	45.4	47.0	220.0	20	1.01	0.3	2.1	1.7	4.6
DG.Khan	39.0	41.0	195.6	64	26.00	2.4	3.1	3.4	4.0
Dir	32.4	34.0	151.8	72	65.00	5.7	4.1	0.0	2.0
Drosh	38.0	40.5	176.7	41	1.40	5.1	3.9	0.0	14.4
Faisalabad	36.1	38.3	184.7	51	108.50	2.1	4.7	1.6	1.3
Garidopatta	35.5	37.5	172.9	68	59.00	4.7	4.9	0.3	5.4
Gawader	34.7	35.5	153.8	71	0.00	3.4	1.9	0.6	8.6
Gilgit	35.9	39.0	161.8	52	0.02	5.1	5.4	1.4	9.4
Gupis	33.1	35.0	149.5	44	0.00	2.9	6.1	1.1	4.0

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Hyderabad	36.7	40.0	186.9	66	0.01	4.0	4.6	9.1	12.0	
Islamabad	34.1	35.5	171.1	75	153.00	5.7	4.9	0.3	2.9	
Jacobabad	40.6	42.0	212.5	51	0.00	4.6	3.4	3.1	5.7	
Jhang	37.9	40.3	196.5	70	11.00	1.9	4.9	2.0	3.4	
Jhelum	36.6	38.0	191.7	71	24.42	6.0	4.3	2.0	3.4	
Jiwani	32.9	34.0	174.0	78	0.00	6.0	2.7	3.4	8.0	
Kakul	29.4	31.0	137.4	82	32.01	5.6	6.0	0.0	1.7	
Kalam	27.1	28.5	114.5	72	2.00	6.1	6.3	0.0	1.7	
Kalat	33.3	34.0	128.0	45	0.00	0.4	4.1	0.3	3.7	
Karachi	34.1	36.0	183.3	71	0.02	6.4	5.6	6.9	11.4	
Khanpur	39.8	41.0	203.2	61	0.01	4.3	3.7	1.4	0.6	
Khuzdar	36.2	39.5	177.0	56	28.00	3.9	5.7	0.0	6.6	
Kotli	34.4	36.4	175.1	71	41.20	5.9	6.3	0.3	2.6	
Lahore	34.3	36.3	181.3	78	52.32	3.1	5.6	0.9	1.7	
Larkana	40.4	42.0	207.3	57	0.00	3.1	3.0	2.6	4.0	
Lasbella	37.3	40.0	191.3	66	17.00	6.6	0.7	0.3	6.3	
Lower Dir	36.3	37.5	185.0	61	22.00	6.4	2.6	2.0	2.9	
M.B Din	35.5	36.7	180.9	81	37.21	4.3	4.7	1.4	1.4	
Malam Jabba	22.6	25.0	97.8	86	146.00	6.6	6.4	0.0	0.0	
Mangla	36.4	38.5	190.5	65	7.82	6.1	5.7	3.1	5.7	
Mir Khani	37.2	38.2	185.0	43	0.00	4.4	3.4	2.0	6.0	
Moinjodaro	40.8	42.0	208.3	57	0.00	1.7	1.3	4.3	4.3	
Multan	39.2	42.0	207.6	60	0.52	2.9	4.1	2.3	8.0	
Murree	22.7	23.2	104.1	87	118.00	7.3	7.0	1.1	0.0	
Muzaffarabad	34.7	36.0	161.4	71	203.00	5.4	4.1	0.6	2.0	
Nawabshah	39.3	42.0	198.8	59	1.70	4.3	4.6	5.7	7.7	

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Nokkundi	46.4	47.0	238.0	9	0.00	0.3	1.6	7.0	8.4
Okara	37.5	39.0	194.0	73	91.00	3.1	5.1	0.3	0.9
Padidan	39.2	41.0	194.8	63	1.60	3.3	4.0	1.7	2.0
Panjgur	40.0	41.5	183.0	42	4.00	1.9	1.7	4.6	9.7
Parachinar	29.7	31.5	130.7	66	35.00	5.3	6.6	3.0	4.1
Pasni	33.7	34.0	179.0	77	0.00	3.7	1.9	1.1	4.6
Pattan	38.4	41.0	174.3	44	14.00	5.7	3.6	0.0	1.4
Peshawar	34.5	37.5	174.0	77	126.01	7.4	3.6	0.9	1.4
Quetta	36.1	36.8	169.3	36	0.00	1.1	4.4	1.9	3.6
R.Y.Khan	40.8	42.5	207.7	61	0.01	3.6	2.4	0.6	0.0
Rawalakot	26.0	27.0	117.5	86	85.30	6.7	6.0	0.0	1.4
Rawalpindi	35.9	37.0	175.5	74	148.20	6.9	5.3	1.4	1.1
Rohri	41.4	43.0	211.3	53	0.00	1.7	0.9	0.7	0.9
Sahiwal	37.6	40.5	192.5	72	15.22	2.1	4.9	15.4	1.4
Saidu Sharif	32.7	34.0	152.0	74	69.00	7.1	4.3	0.0	0.0
Sialkot	34.9	36.9	181.6	71	92.21	4.4	5.3	4.7	5.1
Sibbi	42.5	44.0	210.0	52	0.01	2.3	2.3	3.4	4.9
Skardu	32.9	35.6	139.2	41	0.02	4.4	6.9	0.0	3.3
Tandojam	36.1	38.0	179.8	72	5.00	4.6	4.9	3.4	4.0
Zhob	35.2	37.0	171.8	35	4.00	5.7	8.0	5.0	5.6
Usta.M	41.1	42.5	211.9	62	0.00	3.4	2.3	0.0	3.4

^{***} 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 69-2040 کے دوران درجہ حرارت میں قابل ذکراضافہ ہوسکتا ہے۔ جو کہ دن کے وقت 2.8° دوران درجہ حرارت میں قابل ذکراضافہ ہوسکتا ہے۔ جو کہ دن کے وقت 2.8° دوران درجہ حرارت میں قابل ذکراضافہ ہوسکتا ہے۔ جو کہ دن کے وقت 2.8° دوران درجہ حرارت میں
 - 2۔ گرمیوں کی بارش میں 25 فیصد اضا فہ اور سردیوں کی بارش میں 12 فیصد تک کمی کا امرکان ہے۔
 - 3۔ مندرجہ بالاموتی تغیرات کی وجہ سے دھان کی پیداوار میں 17 فیصد اور گندم کی پیداوار میں 14 فیصد تک کمی ہوسکتی ہے۔
 - 4۔ اگرموسی تغیرات کامناسب بندوبست نہ کیا گیا۔ تو کسانوں کی اکثریت کومعاشی نقصان کا سامنا کرنا پڑے گا۔
- 5۔ موسی تغیرات کے سدّیاب (بذریعہ نئی ٹیکنالوجی کا استعال اور بہترنظم ونسق) ہے غربت میں کمی اور کسانوں کی زندگی میں خوشحالی لائی جاسکتی ہے۔

(ایگمپ یا کتان 2012-2014)