

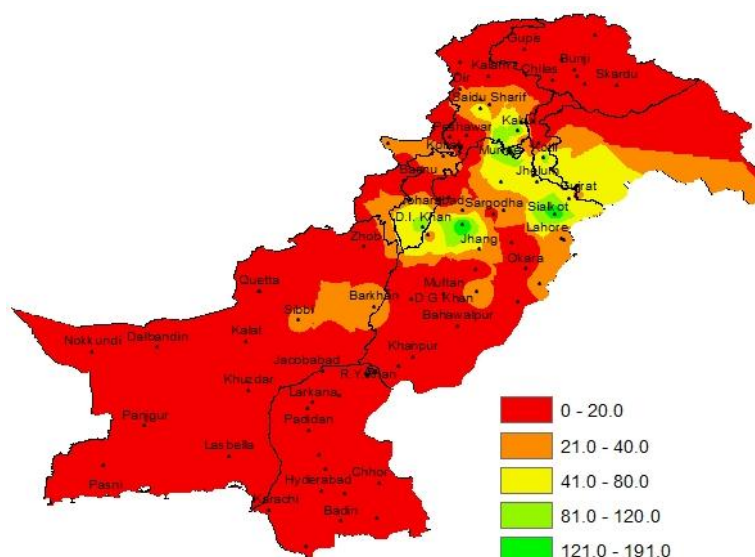
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the
Previous Week (from 11th to 17th July, 2016)**



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Highlights of Past Weather (from 11th to 17th July, 2016)

Slightly above normal day time temperature was reported in different parts of the country during the week.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall was reported at many places in Khyber Pakhtunkhwa, Punjab, and Gilgit-Baltistan & Kashmir regions.
- Light to moderate rainfall was reported at few places in Balochistan.
- Light rainfall was reported at few places in Sindh.

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

Editor: Asma Jawad Hashmi (Deputy Director)

Past Weather of Provinces (from 11th to 17th July, 2016)**Punjab**

Light to moderate rainfall reported at many places in Punjab during the week. Weekly maximum and minimum temperatures recorded 37.4°C & 27.2°C respectively. For the present season average 191.0 growing degree days accumulated by the end of last week. Average relative humidity recorded 67% and wind speed in the morning/evening recorded 2.4/2.5 Knots. During the previous week the highest amount of rainfall was recorded 191.0mm at Noorpurthal & highest maximum temperature recorded 43.3°C at R.Y.Khan.

Sindh

Light rainfall was reported at few places in Sindh during the week. Weekly maximum and minimum temperatures recorded 38.8°C & 27.9°C respectively. For the present season average 199.0 growing degree days accumulated by the end of last week. Average relative humidity recorded 65% and wind speed in the morning/evening recorded 4.9/6.2 Knots. During the previous week the highest amount of rainfall was recorded 2.0mm at Mithi & highest maximum temperature recorded 44.6°C at Dadu.

Khyber Pakhtunkhwa

Light to moderate rainfall reported at many places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded 34.3°C & 22.5°C respectively. For the present season average 163.7 growing degree days accumulated by the end of last week. Average relative humidity recorded 65% and wind speed in the morning/evening recorded 0.8/3.4Knots. During the previous week the highest amount of rainfall was recorded 157.0mm at Kakul & the highest maximum temperature recorded 41.5°C at Kohat.

Balochistan

Light to moderate rainfall was reported at few places in Balochistan during the week. Weekly maximum and minimum temperatures recorded 38.8°C & 25.6°C respectively. For the present season average 192.0 growing degree days accumulated by the end of last week. Average relative humidity recorded 51% and wind speed in the morning/evening recorded 2.5/6.9Knots. During the previous week the highest amount of rainfall was recorded 58.0mm at Barkhan & highest maximum temperature was recorded 46.0°C at Dalbandin.

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 32.5°C & 20.9°C respectively. For the present season average 152.0 growing degree days accumulated by the end of last week. Average relative humidity recorded 58% and wind speed in the morning/evening recorded 0.6/2.9 Knots. During the previous week the highest amount of rainfall was recorded 122.0mm at Kotli & highest maximum temperature recorded 41.0°C at Garhi Dopatta.

Past Weather for Major Agricultural Plains (from 11th to 17th July, 2016)

Rawalpindi (Potohar region)

Rainfall reported as 83.0mm during the week; however cloudiness in the morning/evening recorded 0.6/1.2 Oktas while, average relative humidity observed as 74%. Mean day time temperature recorded 35.2°C & for the present season 174.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/1.2 Knots.

Faisalabad (Central Punjab)

Rainfall reported as 24.8mm during the week; however cloudiness in the morning/evening recorded 3.0/3.0 Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded 37.3°C & for the present season 195.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.5/0.5 Knots.

Tandojam (Lower Sindh)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 4.4/4.0 Oktas while, average relative humidity observed as 68%. Mean day time temperature recorded 36.6°C & for the present season 184.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.0/6.2 Knots.

Quetta (Northern Baluchistan)

Dry weather was reported during the week however cloudiness in the morning/evening recorded 3.4/3.4 Oktas while, average relative humidity observed as 29%. Mean day time temperature recorded 35.7°C & for the present season 170.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.2/3.8 Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 1.5/2.5 Oktas while, average relative humidity observed as 63%. Mean day time temperature recorded 40.3°C & for the present season 203.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/1.4 Knots.

Past Weather for Sub-Regional Agricultural Plains (from 11th to 17th July, 2016)

Multan

Rainfall reported as 5.4mm during the week; however cloudiness in the morning/evening recorded 1.9/2.6 Oktas while, average relative humidity observed as 56%. Mean day time temperature recorded 40.1°C & for the present season 214.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 6.3/4.6 Knots.

Lahore

Rainfall reported as 55.5mm during the week; however cloudiness in the morning/evening recorded 5.1/6.0 Oktas while, average relative humidity observed as 69%. Mean day time temperature recorded 36.0°C & for the present season 183.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/0.6 Knots.

Zhob

Rainfall reported as 12.0mm during the week; however cloudiness in the morning/evening recorded 0.0/4.3 Oktas while, average relative humidity observed as 50%. Mean day time temperature recorded 37.9°C & for the present season 186.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 5.0/13.0 Knots.

D.I. Khan

Rainfall reported as 138.1mm during the week; however cloudiness in the morning/evening recorded 3.9/1.7 Oktas while, average relative humidity observed as 73%. Mean day time temperature recorded 38.5°C & for the present season 191.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/0.6 Knots.

Peshawar

Rainfall reported as 14.1mm during the week; however cloudiness in the morning/evening recorded 3.9/4.4 Oktas while, average relative humidity observed as 70%. Mean day time temperature recorded 37.6°C & for the present season 192.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.3/3.1 Knots.

Murree

Rainfall reported as 37.0mm during the week; however cloudiness in the morning/evening recorded 8.0/7.7 Oktas while, average relative humidity observed as 90%. Mean day time temperature recorded 23.1°C & for the present season 104.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.6 Knots.

Kalam

Rainfall reported as 8.5mm during the week; however cloudiness in the morning/evening recorded 4.1/5.7 Oktas while, average relative humidity observed as 71%. Mean day time temperature recorded 27.0°C & for the present season 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 9.9mm during the week; however cloudiness in the morning/evening recorded 5.6/6.4 Oktas while, average relative humidity observed as 57%. Mean day time temperature recorded 35.8°C & for the present season 162.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/2.6 Knots.

Skardu

Rainfall reported as 1.6mm during the week; however cloudiness in the morning/evening recorded 3.7/6.4 Oktas while, average relative humidity observed as 46%. Mean day time temperature recorded 31.2°C & for the present season 135.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/2.6Knots.

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 condition) grown in the fields of RAMC Faisalabad.

Cotton: V.Good condition *Flowering* stage completed.

Lower Sindh (Tandojam)

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

Cotton: Good condition at *Third leaves* stage.

Northern Balochistan (Quetta)

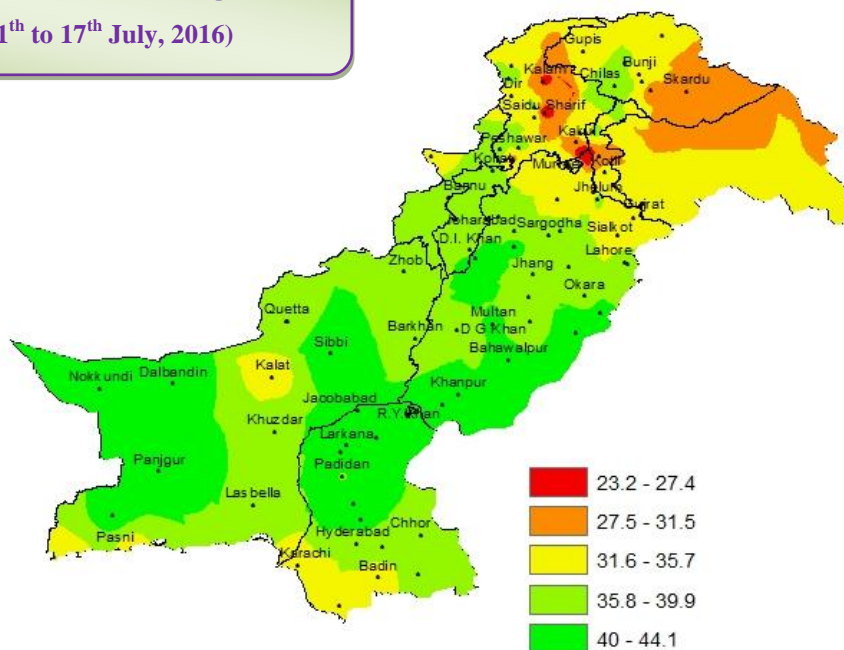
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Balochistan (Usta Muhammad)

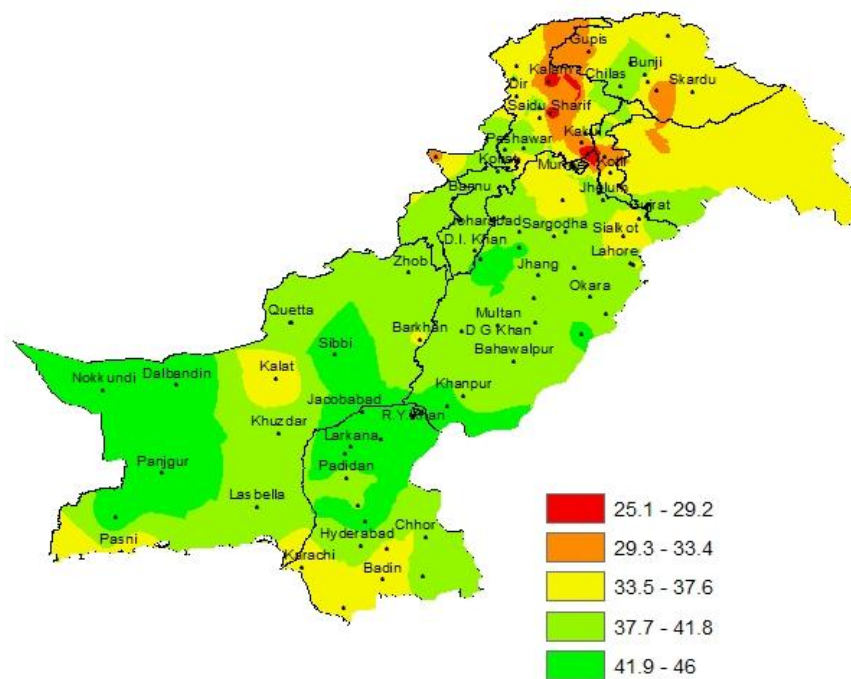
There is presently one crop (irrigated condition) grown in the fields of RAMC Usta Muhammad.

Rice: Good condition at *Flowering* stage.

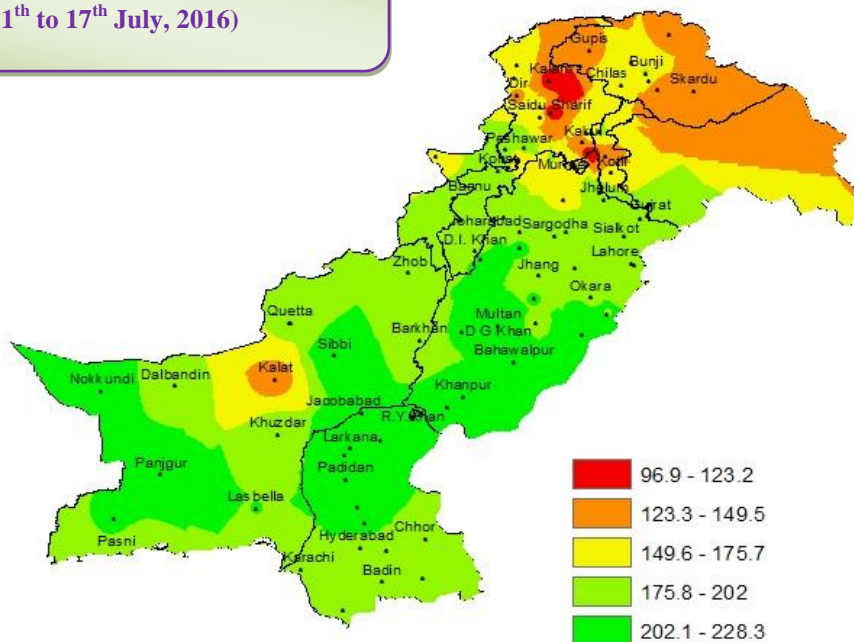
Mean Maximum Temperature (°C) during the Previous week (from 11th to 17th July, 2016)



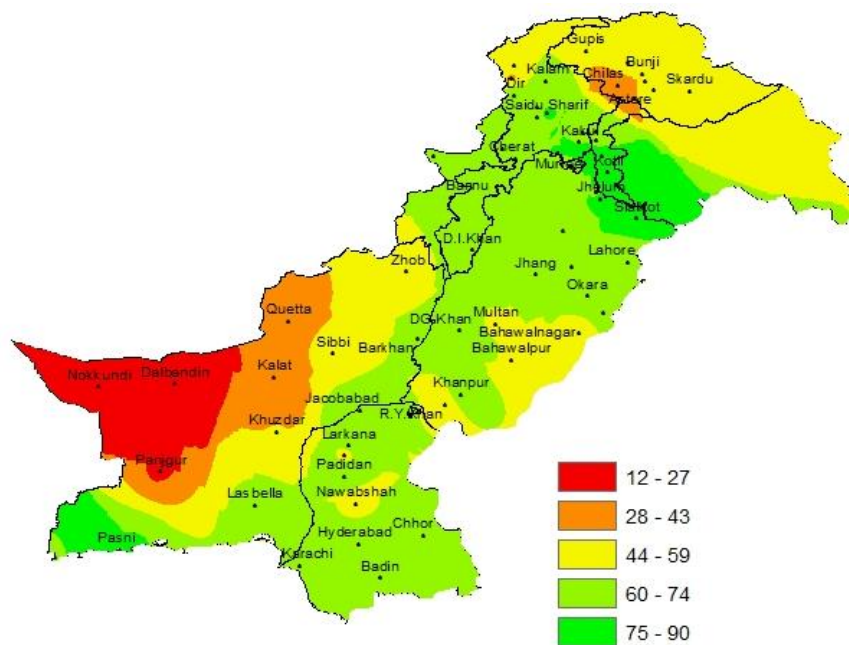
Highest Maximum Temperature (°C) during the Previous week (from 11th to 17th July, 2016)



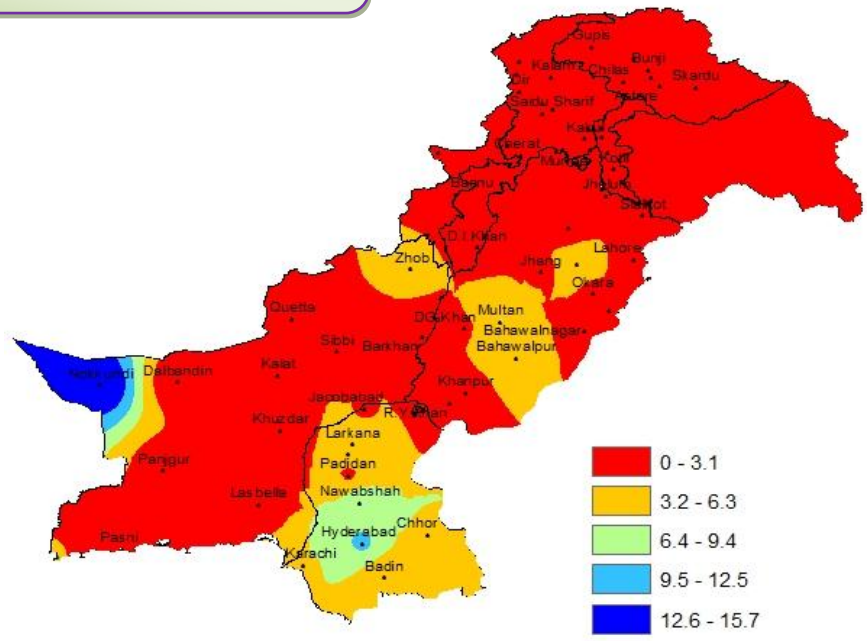
Total Growing Degree Days accumulated during the Previous week (from 11th to 17th July, 2016)



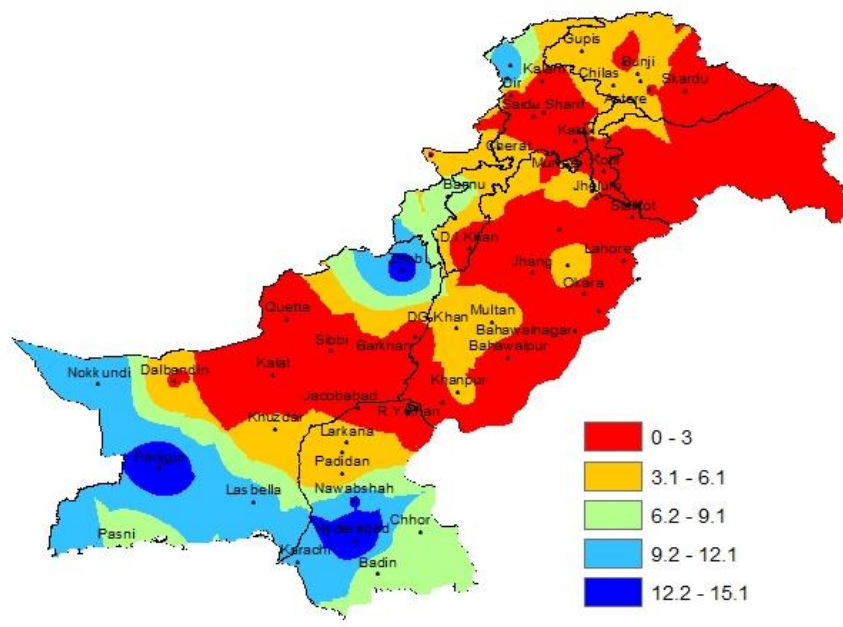
Mean Relative Humidity (%) during the Previous week (from 11th to 17th July, 2016)



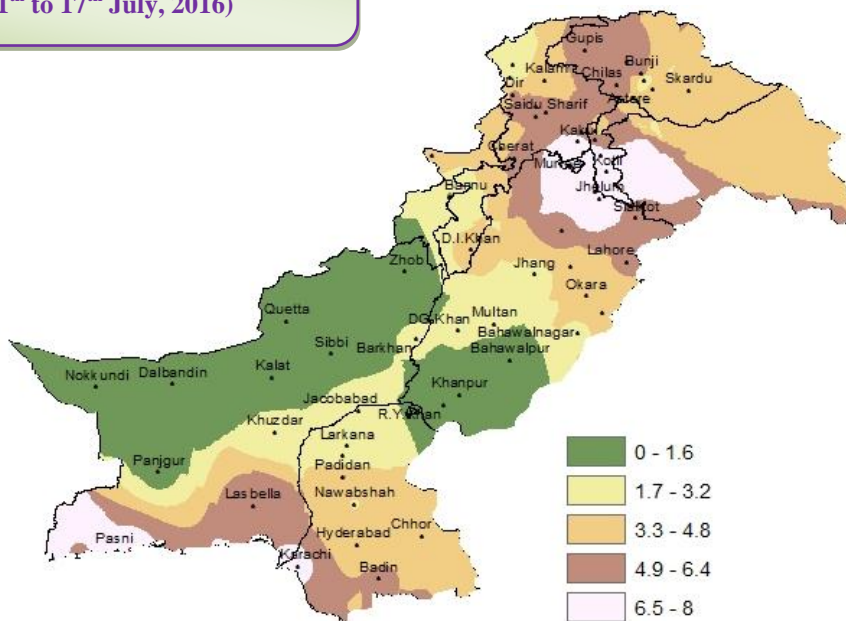
Mean Wind Speed (Knots) at 0300 PST during the Previous week (from 11th to 17th July, 2016)



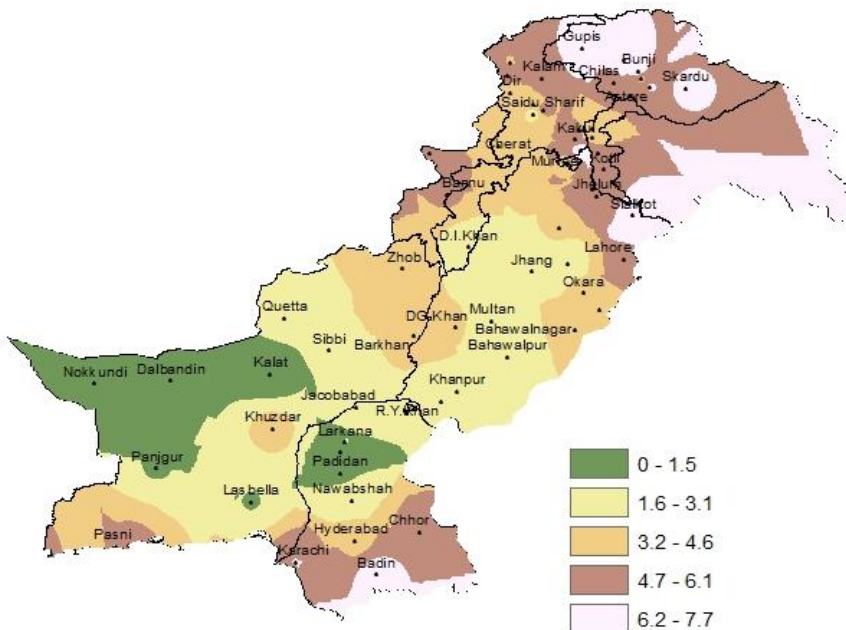
Mean Wind Speed (Knots) at 1200 PST during the Previous week (from 11th to 17th July, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 11th to 17th July, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 11th to 17th July, 2016)



Weekly Weather Advisory for Farmers**(from 18th to 24th July, 2016)**

Seasonal low lies over north Balochistan with its trough extending northeastwards. Monsoon currents are also penetrating upper and central parts of the country. A westerly wave is affecting upper parts of the country and likely to persist till Tuesday. Weak Monsoon currents would penetrate in Kashmir and adjoining northeast Punjab on Tuesday and Wednesday. More monsoon currents are expected to penetrate upper parts of the country Thursday (night) to Sunday.

MONDAY**18-07-2016**

Rain-thunderstorm with isolated heavy falls is expected at scattered places in Kashmir, Islamabad, Punjab (Sargodha, Rawalpindi, Gujranwala, Faisalabad, Sahiwal, Lahore, Multan, D.G.Khan, Bahawalpur, divisions), KP (Malakand, Hazara, Peshawar, Mardan, Kohat, Bannu, D.I.Khan divisions), FATA and Gilgit-Baltistan. Drizzle may occur at isolated places along Sindh coastal areas including Karachi. Heavy downpour may generate Flash/Urban Flooding and landslides in vulnerable areas of KP, GB, Punjab and Kashmir.

TUESDAY**19-07-2016**

Rain-thunderstorm is expected at isolated places in upper KP (Malakand, Hazara, Peshawar, Mardan, Kohat divisions), FATA, Islamabad, upper Punjab (Rawalpindi, Gujranwala, Sargodha, Lahore divisions), GB and Kashmir.

WEDNESDAY**20-07-2016**

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

THURSDAY**21-07-2016**

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

FRIDAY**22-07-2016**

Rain-thunderstorm with isolated heavy falls is expected at scattered places of Malakand, Hazara, Peshawar, Kohat, Mardan, Rawalpindi, Gujranwala, Lahore, Faisalabad, Sargodha divisions, Kashmir. Hot and humid weather elsewhere in the country.

SATURDAY**23-07-2016**

Rain-thunderstorm with isolated heavy falls is expected at scattered places of Malakand, Hazara, Peshawar, Kohat, Mardan, Rawalpindi, Gujranwala, Lahore, Faisalabad, Sargodha divisions, Kashmir, at isolated places in northeast Balochistan and south Punjab. Hot and humid weather elsewhere in the country.

SUNDAY**24-07-2016**

Rain-thunderstorm with isolated heavy falls is expected at scattered places of Malakand, Hazara, Peshawar, Kohat, Mardan, Rawalpindi, Gujranwala, Lahore, Faisalabad, Sargodha divisions, Kashmir, at isolated places in northeast Balochistan and south Punjab. Hot and humid weather elsewhere in the country.

ADVISES FOR CROPS

- ❖ Farmers obtaining crop water through tube wells are advised to schedule the irrigation according to the expected weather mentioned during the decade.
- ❖ Farmers are advised to control further weeds growth at the present growing stages to stop any negative impact over 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.
- ❖ Stagnant water due to heavy monsoon rains is fatal for standing crops like cotton. Farmers should take suitable measures to resolve the issue.

National Weather Data of Selected Cities
(Weekly Data from 11th to 17th July, 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	29.0	30.5	123.8	51	4.0	4.0	6.3	0.3	2.9
Badin	34.9	36.5	181.5	70	1.3	5.0	6.9	3.1	6.3
Bahawalnagar	41.1	42.0	215.8	53	1.0	3.1	3.7	1.1	0.6
Bahawalpur	40.2	41.7	210.8	58	0.0	0.6	2.0	4.6	1.4
Balakot	32.9	35.0	156.8	71	80.0	5.9	4.9	0.0	0.0
Bannu	38.5	39.8	182.0	60	17.0	1.6	4.9	0.3	8.0
Barkhan	36.5	37.5	178.5	59	58.0	1.7	3.8	0.0	2.0
Bunji	35.6	38.3	179.7	46	8.0	6.1	7.4	1.1	3.1
Cherat	30.9	33.0	151.0	67	21.0	5.6	3.7	2.3	3.7
Chhor	36.6	37.7	189.1	68	0.0	4.4	5.7	5.1	6.9
Chilas	39.2	41.0	162.4	31	4.2	6.3	5.7	2.9	4.6
Chitral	35.6	37.4	163.2	51	4.6	2.7	4.6	0.0	9.7
D.I.Khan	38.5	40.0	191.0	73	138.1	3.9	1.7	1.7	0.6
Dalbandin	44.1	46.0	186.8	14	0.0	0.0	0.3	0.6	2.9
DG.Khan	39.2	40.0	206.4	72	0.1	1.7	3.1	2.9	4.6
Dir	32.5	34.0	143.8	72	39.0	5.0	4.3	1.1	1.7
Drosh	36.9	37.8	168.8	41	13.4	2.7	4.9	0.0	11.0
Faisalabad	37.3	39.2	195.3	66	24.8	3.0	3.0	2.5	0.5
Gawader	35.2	36.0	186.8	76	0.0	6.3	3.4	0.0	10.6
Gilgit	35.8	38.0	162.4	57	9.9	5.6	6.4	0.0	2.6
Gupis	32.1	33.0	143.0	44	2.0	5.4	6.7	1.4	5.1
Hyderabad	36.6	38.5	187.5	68	0.0	3.7	4.0	9.7	15.1

Islamabad	35.0	37.0	172.0	68	119.5	7.3	3.7	1.4	3.4
Jacobabad	40.6	42.0	212.8	65	0.0	2.4	2.1	2.9	1.7
Jhang	37.1	40.0	187.9	68	77.0	2.7	2.0	2.3	1.4
Jhelum	35.9	38.0	181.9	76	75.4	7.1	5.4	0.6	1.7
Jiwani	33.6	34.0	180.8	73	0.0	6.7	5.3	4.3	10.0
Kakul	30.0	30.5	140.8	72	157.0	6.9	4.9	0.0	1.4
Kalam	27.0	28.5	114.5	71	8.5	4.1	5.7	0.0	1.7
Kalat	33.7	35.0	136.3	29	0.0	0.0	0.0	0.0	0.0
Karachi	34.2	35.5	183.7	71	1.0	6.7	6.1	6.0	9.7
Khanpur	40.1	41.0	206.7	61	0.0	0.4	2.4	2.9	3.4
Khuzdar	38.3	39.0	190.2	43	4.6	2.3	3.7	0.3	3.4
Kotli	33.3	35.6	164.5	81	122.0	7.6	6.0	0.3	1.1
Lahore	36.0	37.4	183.3	69	55.5	5.1	6.0	1.4	0.6
Larkana	41.9	43.5	211.0	60	0.0	2.9	1.6	5.1	4.0
Lasbella	39.0	40.5	202.3	65	0.0	6.3	1.4	0.7	9.7
Lower Dir	37.3	41.0	173.9	66	50.0	4.9	3.4	0.6	2.0
M.B Din	36.3	39.0	186.3	70	59.0	6.1	3.6	1.1	1.7
Malam Jabba	23.3	25.0	95.4	76	70.0	5.1	5.7	0.0	0.0
Mangla	35.5	38.5	180.9	73	93.3	7.0	5.4	3.4	5.1
Mir Khani	35.2	36.4	155.0	43	20.0	1.4	4.0	0.0	4.0
Moinjodaro	41.3	43.0	214.4	58	0.0	1.7	0.9	3.7	3.7
Multan	40.1	41.3	214.1	56	5.4	1.9	2.6	6.3	4.6
Murree	23.1	25.0	104.8	90	37.0	8.0	7.7	0.3	0.6
Muzaffarabad	33.9	34.8	162.2	70	42.0	6.0	4.3	0.6	2.0
Nawabshah	40.6	41.5	205.0	56	0.0	3.1	2.5	9.1	12.3
Nokkundi	42.5	45.0	215.8	12	0.0	0.0	0.0	15.7	12.0

Okara	39.3	41.5	200.7	67	23.0	3.4	4.1	2.0	2.0
Padidan	39.8	41.0	204.4	62	0.0	4.9	1.3	2.9	3.4
Panjgur	44.2	46.0	217.1	26	0.0	1.0	1.4	1.1	13.7
Parachinar	32.2	33.2	162.5	70	42.0	4.4	5.0	3.0	3.0
Pasni	34.0	34.5	184.8	77	0.0	7.1	5.3	2.3	6.6
Pattan	36.9	40.0	183.0	57	13.0	3.4	3.9	0.0	5.1
Peshawar	37.6	40.2	192.4	70	14.1	3.9	4.4	2.3	3.1
Quetta	35.7	37.0	170.9	29	0.0	3.4	3.4	2.2	3.8
R.Y.Khan	42.9	43.4	217.7	57	0.1	0.9	2.3	1.7	2.3
Rawalakot	28.1	30.0	127.5	86	7.3	6.7	5.1	0.0	0.6
Rawalpindi	35.2	38.0	174.0	74	83.0	6.3	3.9	0.6	1.2
Sahiwal	40.1	41.0	201.9	63	70.0	3.3	3.7	2.3	2.3
Saidu Sharif	34.1	37.0	160.8	75	94.1	4.9	2.3	0.0	0.9
Sialkot	35.2	37.2	181.9	78	103.5	6.0	6.7	0.3	0.9
Sibbi	44.2	45.0	228.3	52	44.0	0.3	2.1	0.9	2.6
Skardu	31.2	35.0	135.3	46	1.6	3.7	6.4	0.0	2.6
Tandojam	36.6	37.5	184.0	68	0.0	4.4	4.0	4.0	6.2
Usta.M	40.3	42.1	203.5	63	0.0	1.5	2.5	1.4	1.4
Zhob	37.9	39.0	186.2	50	12.0	0.0	4.3	5.0	13.0

*** 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 2012-2014)