

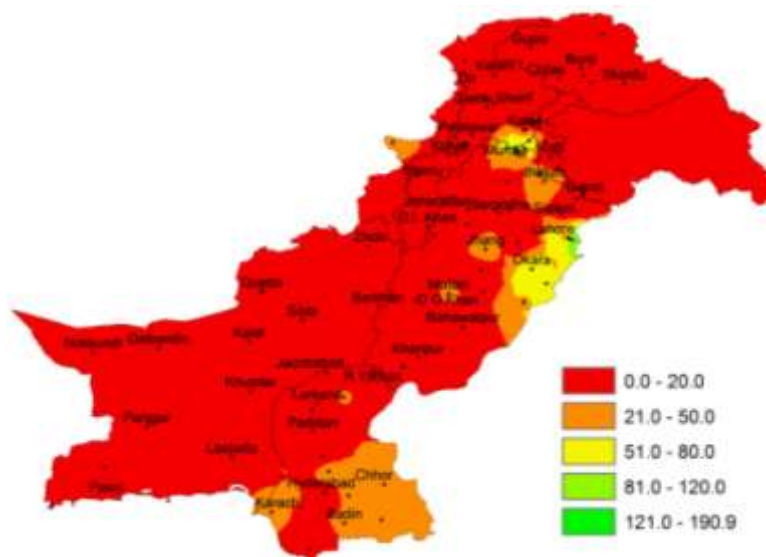
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the
Previous Week (from 22nd to 28th August, 2016)**



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Highlights of Past Weather (from 22nd to 28th August, 2016)

Slightly above normal day time temperature was reported in Khyber Pakhtunkhwa, Sindh and Balochistan while slightly below normal in rest of the country during the week.

Province wise distribution of rainfall reported as follows:

- Moderate to heavy rainfall was reported at many places in Punjab.
- Light to moderate rainfall was reported at many places in Khyber Pakhtunkhwa, Sindh and Gilgit Balochistan.
- Light rainfall was reported at few places 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 22nd to 28th 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 34.9°C & 25.3°C respectively. For the present season on average 175.6 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 72% and wind speed in the morning/evening recorded as 1.1/3.8 Knots. During the previous week the highest amount of rainfall was recorded as 205.4mm at Lahore & highest maximum temperature was recorded as 42.0°C at Bhakkar.

Sindh

Light to moderate rainfall reported at isolated places in Sindh during the week. Weekly maximum and minimum temperatures recorded as 36.6°C & 26.2°C respectively. For the present season, on average 184.1 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 70% and wind speed in the morning/evening recorded as 2.7/3.9 Knots. During the previous week the highest amount of rainfall was recorded as 69.0 mm at Daddu & highest maximum temperature recorded as 41.2°C at Nawabshah.

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 & 20.0°C respectively. For the present season on average 152.0 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 63% and wind speed in the morning/evening recorded as 0.6/3.1 Knots. During the previous week the highest amount of rainfall was recorded as 73.0mm at Parachinar & the highest maximum temperature recorded as 40.0°C at D I Khan.

Balochistan

Light to moderate rainfall reported at a single station in Balochistan during the week. Weekly maximum and minimum temperatures recorded as 36.2°C & 23.7°C respectively. For the present season on average 171.2 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 52% and wind speed in the morning/evening recorded as 1.3/5.5 Knots. During the previous week the highest amount of rainfall was recorded as 6.6mm at Sibbi & highest maximum temperature was recorded as 46.0°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 28.5°C & 18.3°C respectively. For the present season on average 128.7 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 0.9/1.8 Knots. During the previous week the highest amount of rainfall was recorded as 39.3mm at Ghari Dopatta & highest maximum temperature recorded as 39.5 °C at Chilas.

Past Weather for Major Agricultural Plains (from 22nd to 28th August, 2016)**Rawalpindi (Potohar region)**

Rainfall reported as 35.0 mm during the week, cloudiness in the morning/evening recorded as 3.1/2.3Oktas while, average relative humidity observed as 67%. Mean day time temperature recorded as 34.1°C & for the present season 169.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.7Knots.

Faisalabad (Central Punjab)

Rainfall reported as 2.4mm during the week; however cloudiness in the morning/evening recorded as 2.7/4.9Oktas while, average relative humidity observed as 71%. Mean day time temperature recorded as 35.8°C & for the present season 183.3growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.5/0.9 Knots.

Tandojam (Lower Sindh)

Rainfall reported as 50.5mm during the week; however cloudiness in the morning/evening recorded as 4.0/4.8Oktas while, average relative humidity observed as 74.5%. Mean day time temperature recorded as 36.3°C & for the present season 181.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/1.1Knots.

Quetta (Northern Baluchistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.0/1.9Oktas while, average relative humidity observed as 33%. Mean day time temperature recorded as 32.6°C & for the present season 144.7 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.6/3.3Knots.

Usta Muhammad (Eastern Balochistan)

Rainfall reported as 1.0mm during the week; however cloudiness in the morning/evening recorded 1.5/1.3Oktas while, average relative humidity observed as 64.5%. Mean day time temperature recorded as 38.1°C & for the present season 191.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.3/2.8Knots.

Past Weather for Sub-Regional Agricultural Plains (from 22nd to 28th August, 2016)**Multan**

Rainfall reported as 50.5mm during the week; however cloudiness in the morning/evening recorded as 2.9/4.3Oktas while, average relative humidity observed as 68%. Mean day time temperature recorded as 37.0°C & for the present season 191.4growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 3.4/6.7 Knots.

Lahore

Rainfall reported as 142.9mm during the week, cloudiness in the morning/evening recorded as 6.4/6.0Oktas while, average relative humidity observed as 72%. Mean day time temperature recorded as 32.1°C & for the present season 163.0growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/1.4 Knots.

Zhob

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 1.4/3.9Oktas while, average relative humidity observed as 43%. Mean day time temperature recorded as 34.6°C & for the present season 159.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.9/7.1 Knots.

D.I. Khan

Rainfall reported as 17.0mm during the week, cloudiness in the morning/evening recorded as 1.0/1.9Oktas while, average relative humidity observed as 69%. Mean day time temperature recorded as 37.9°C & for the present season 186.7 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.9Knots.

Peshawar

Rainfall reported as 0.2mm during the week, cloudiness in the morning/evening recorded as 1.6/3.3Oktas while, average relative humidity observed as 62%. Mean day time temperature recorded as 36.6°C & for the present season 180.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.7Knots.

Murree

Rainfall reported as 101.9mm during the week, cloudiness in the morning/evening recorded as 3.9/4.7Oktas while, average relative humidity observed as 73%. Mean day time temperature recorded as 22.6°C & for the present season 98.0growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/4.0 Knots.

Kalam

Rainfall reported as 23.0mm during the week, cloudiness in the morning/evening recorded as 3.3/4.0Oktas while, average relative humidity observed as 59%. Mean day time temperature recorded as 26.0°C & for the present season 97.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.4Knots.

Gilgit

Rainfall reported as 2.4mm during the week, cloudiness in the morning/evening recorded as 6.1/7.0Oktas while, average relative humidity observed as 59%. Mean day time temperature recorded as 29.7°C & for the present season 132.0 growing degree days accumulated by the end of last

week. Wind speed recorded in the morning/evening as 2.4/3.7 Knots.

Skardu

Rainfall reported as 4.4mm during the week, cloudiness in the morning/evening recorded as 6.6/7.3Oktas while, average relative humidity observed as 65%. Mean day time temperature recorded as 24.6°C & for the present season 100.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.3Knots.

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 leafstage.

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)

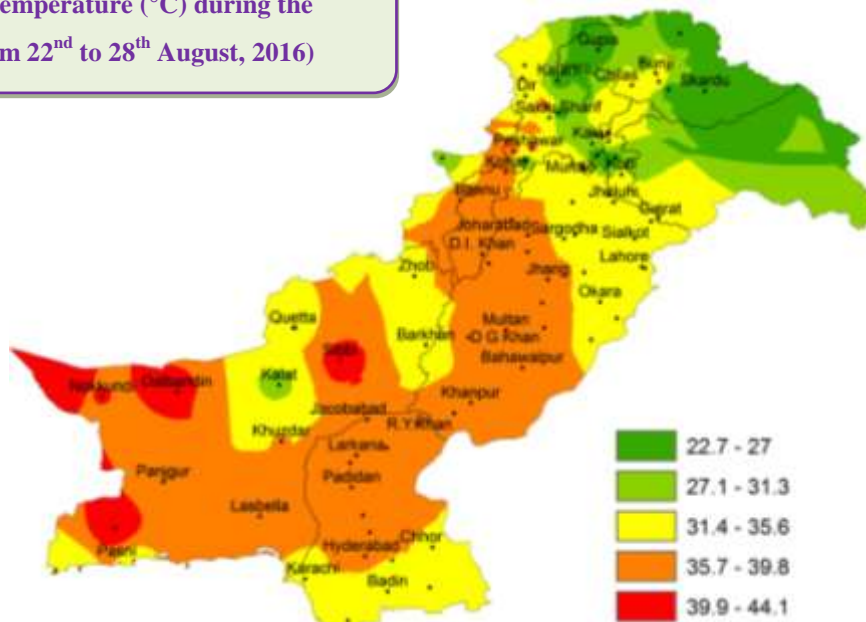
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Balochistan (Usta Muhammad)

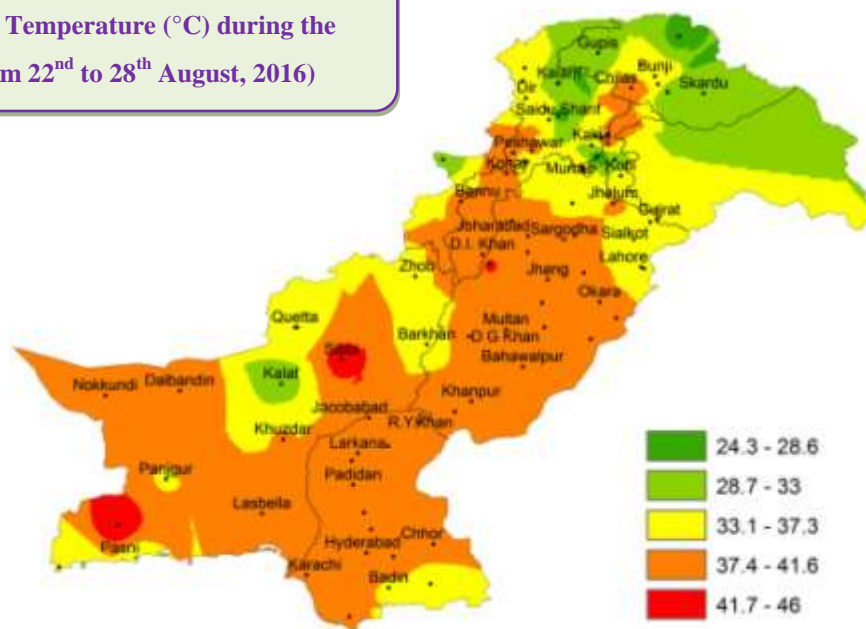
There is presently one crop (irrigated condition) grown in the fields of RAMC Usta Muhammad.

Rice: Good condition at 3rd leafstage.

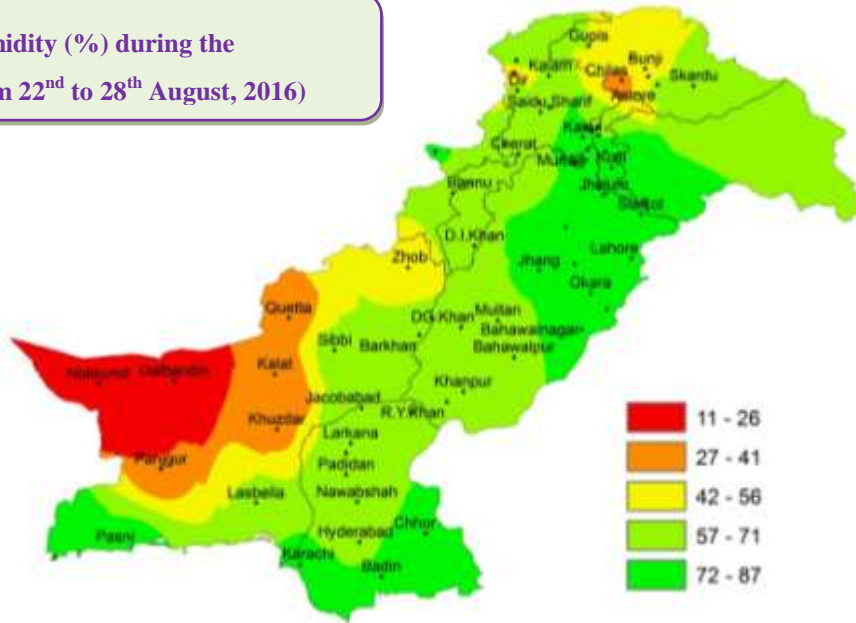
Mean Maximum Temperature (°C) during the Previous week (from 22nd to 28th August, 2016)



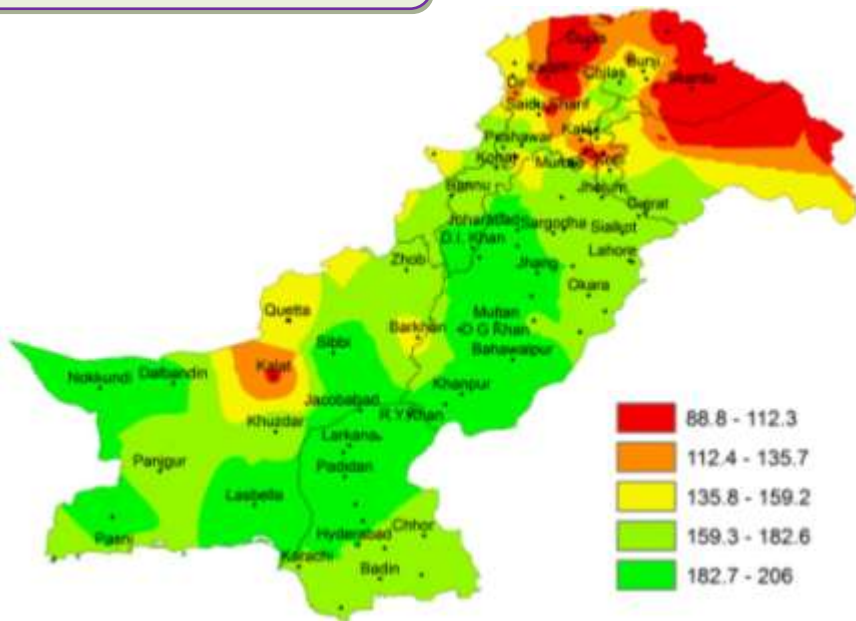
Highest Maximum Temperature (°C) during the Previous week (from 22nd to 28th August, 2016)



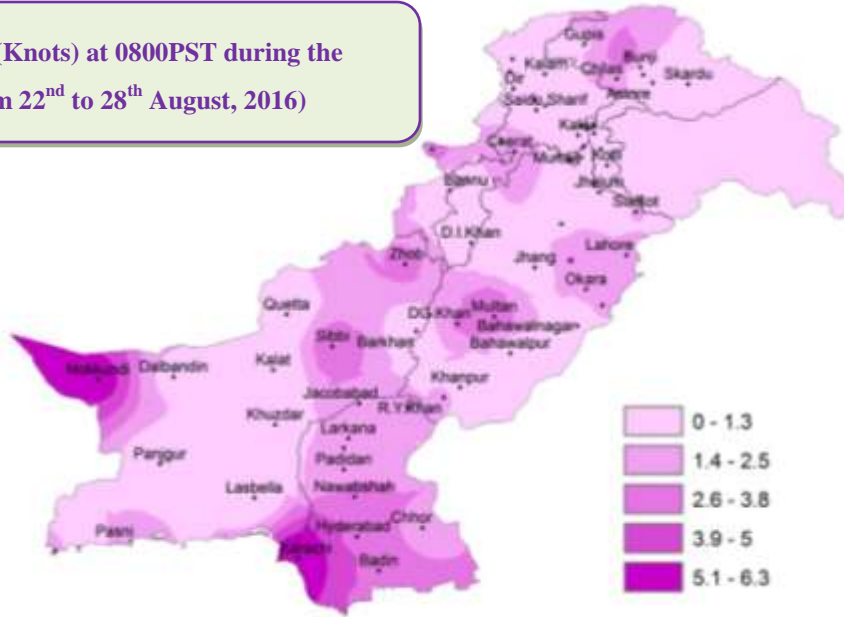
Mean Relative Humidity (%) during the Previous week (from 22nd to 28th August, 2016)



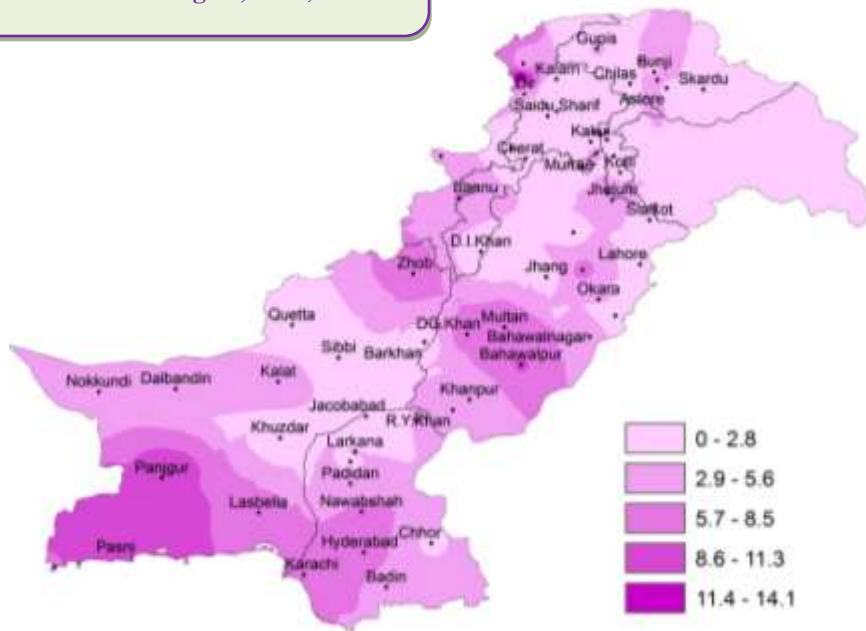
Total Growing Degree Days accumulated during the Previous week (from 22nd to 28th August, 2016)



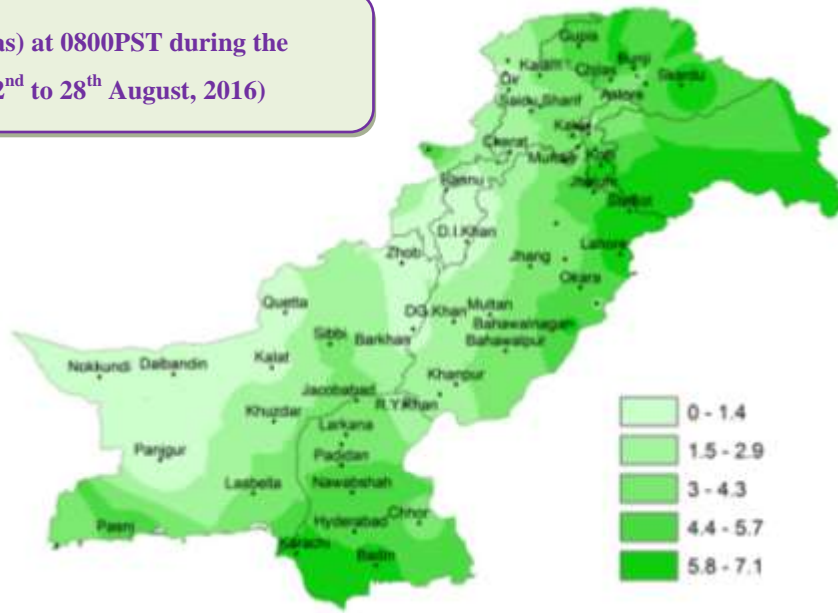
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 22nd to 28th August, 2016)



Mean Wind Speed (Knots) at 1200PST during the Previous week (from 22nd to 28th August, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 22nd to 28th August, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 22nd to 28th August, 2016)



Weekly Weather Advisory for Farmers**(From 29th August to 3rd September,2016)**

Seasonal Low lies over Balochistan and its adjoining areas. Yesterday's monsoon low over south Rajasthan now lies over west Rajasthan and adjoining areas. A westerly wave still persists over upper parts of the country. Under the influence of these meteorological conditions weather will remain as follows:

MONDAY**29-08-2016**

Rain-thundershowers (associated with gusty winds) is expected at a scattered places in Punjab, Islamabad, Sindh and Kashmir, while at isolated places in KP, FATA, Gilgit-Baltistan and eastern Balochistan.

TUESDAY**30-08-2016**

Rain-thunderstorm (associated with gusty winds) is expected at isolated places in Punjab, Islamabad, KP, Sindh, northeast Balochistan, Kashmir, FATA and Gilgit-Baltistan. Hot and humid weather is expected elsewhere in the country.

WEDNESDAY**31-08-2016**

Rain-thunderstorm (associated with gusty winds) with isolated heavyfalls is expected at scattered places in Punjab, Islamabad, KP, northeast Balochistan and Kashmir, while at isolated places in Sindh, FATA and Gilgit-Baltistan.

THURSDAY**01-08-2016**

Rain-thunderstorm is expected at a scattered places in upper Punjab, Islamabad, KP, eastern Balochistan and Kashmir, while at isolated places in FATA, eastern Sindh & Gilgit-Baltistan. Hot and humid weather is expected elsewhere in the country.

FRIDAY**02-09-2016**

Rain-thunderstorm is expected at isolated places in upper Punjab, Islamabad, KP, FATA, Kashmir and Gilgit-Baltistan. Hot and humid weather is expected elsewhere in the country.

SATURDAY**03-09-2016**

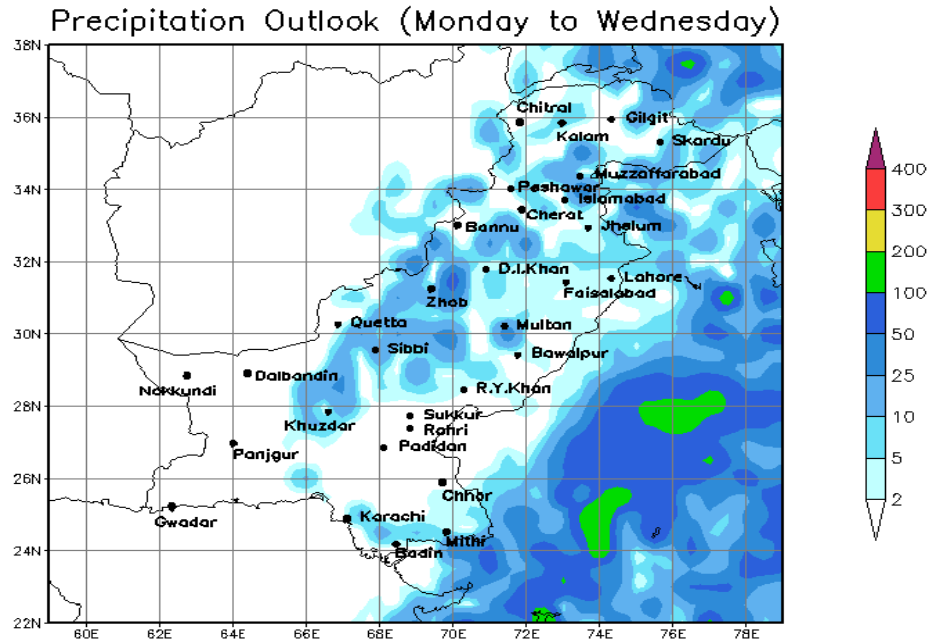
Rain-thunderstorm is expected at isolated places in upper Punjab, Islamabad, KP, FATA, Kashmir and Gilgit-Baltistan. Hot and humid weather is expected elsewhere in the country.

ADVISES FOR CROPS

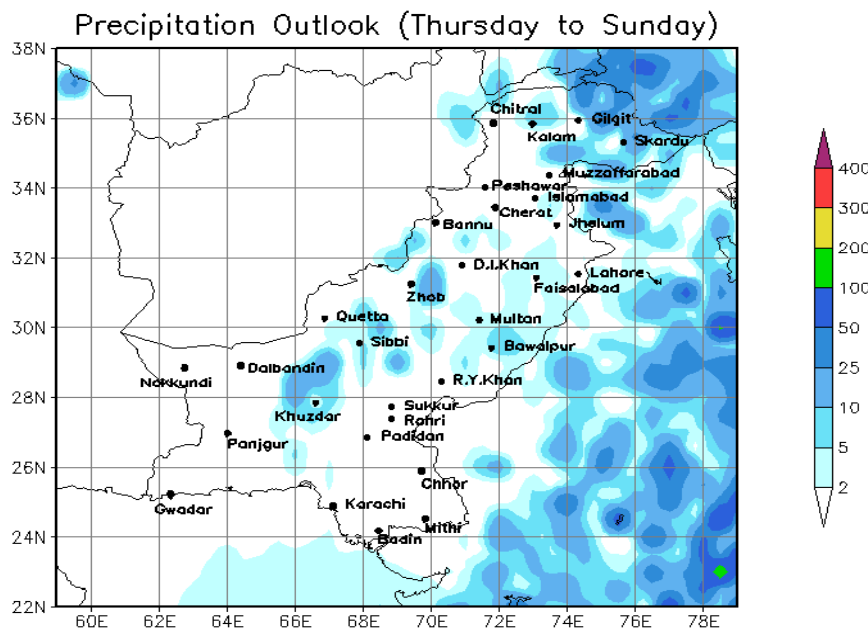
- ❖ Farmers obtaining crop water through tube wells are advised to schedule the irrigation according to the expected weather mentioned during the week.
- ❖ Farmers are advised to control further weeds growth at the present growing stages to stop any negative impact on the crops. Weeds removing practices 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 29th August to 4th September 2016

The outlook from 29th to 31st August, 2016 shows that light to moderate rainfall is expected in all parts of the country.



The outlook from 1st to 4th September, 2016 shows that light to moderate rainfall is expected in all parts of the country



National Weather Data of Selected Cities
(Weekly Data from 22nd to 28th 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	23.3	28.0	93.3	61	10.3	5.6	5.9	0.6	2.0
Badin	33.4	37.0	172.8	75	44.0	6.1	5.4	3.4	4.6
Bahawalnagar	35.0	39.0	181.8	79	75.0	5.9	7.0	0.3	3.4
Bahawalpur	37.2	39.6	189.3	70	1.2	3.6	4.3	0.3	8.6
Balakot	30.9	35.0	143.0	73	33.0	4.0	3.6	0.0	0.3
Bannu	36.8	38.0	170.7	63	5.4	0.6	4.1	0.0	5.7
Barkhan	32.3	35.5	152.5	66	4.6	1.1	4.3	0.0	1.7
Bunji	30.9	35.6	146.3	51	0.3	6.4	6.7	1.1	2.3
Cherat	28.7	32.5	132.5	58	3.0	2.0	2.6	2.3	2.3
Chhor	35.2	38.2	175.4	80	53.6	4.0	6.0	2.0	2.6
Chilas	34.3	39.5	174.0	34	0.4	4.3	6.0	1.7	2.0
Chitral	33.7	35.0	141.6	73	0.0	1.9	5.4	0.0	3.4
D.I.Khan	37.9	40.0	186.7	69	17.0	1.0	1.9	0.3	0.9
Dalbandin	40.4	41.5	185.0	16	0.0	0.0	0.0	0.9	2.9
DG.Khan	37.4	38.5	191.3	61	4.0	1.7	1.7	2.6	6.6
Dir	33.3	34.0	127.5	63	7.0	1.7	4.7	0.3	2.4
Drosh	35.7	37.0	154.9	35	1.0	1.0	5.9	0.0	14.1
Faisalabad	35.8	39.0	183.3	71	2.4	2.7	4.9	0.5	0.9
Garidopatta	32.0	38.0	148.0	74	39.3	4.6	5.0	0.0	0.6
Gawader	33.9	34.0	171.0	78	0.0	3.9	0.4	0.0	11.1
Gilgit	29.7	35.0	132.0	56	2.4	6.1	7.0	3.7	2.9
Gupis	24.9	29.0	101.0	56	5.7	4.7	5.3	1.1	2.9

Hyderabad	36.1	39.5	182.9	68	16.2	5.6	4.7	3.7	7.1
Islamabad	33.5	36.3	161.2	72	156.0	3.1	3.7	0.3	0.9
Jacobabad	37.5	39.5	198.8	63	0.1	2.9	1.3	2.3	1.4
Jhang	36.9	39.4	185.7	74	74.0	2.9	3.6	0.0	2.0
Jhelum	34.7	38.0	175.9	74	65.1	5.0	4.3	0.3	3.1
Jiwani	32.2	33.5	170.0	76	0.0	4.1	1.9	1.7	7.7
Kakul	28.8	33.0	129.6	76	33.2	4.4	4.7	0.0	1.4
Kalam	26.0	28.5	97.0	59	23.0	3.3	4.0	0.0	1.4
Kalat	30.4	31.0	110.5	28	0.0	1.1	2.7	0.0	4.0
Karachi	34.2	37.6	182.0	76	53.7	6.0	5.0	6.3	7.5
Khanpur	37.4	40.0	191.4	67	4.5	2.9	4.0	0.3	3.1
Khuzdar	35.6	37.5	173.8	36	6.6	2.7	3.1	0.3	1.7
Kotli	31.9	35.0	160.5	73	19.3	6.1	6.1	0.7	2.3
Lahore	32.1	36.0	163.0	72	142.9	6.4	6.0	1.4	1.4
Larkana	38.0	41.0	191.4	64	4.0	3.0	2.4	1.4	2.9
Lasbella	39.5	41.0	200.6	62	0.2	2.9	3.9	0.0	6.6
Lower Dir	37.3	38.0	171.8	54	0.0	1.4	1.7	1.7	2.9
M.B Din	34.4	38.5	173.8	78	29.0	3.7	4.9	1.0	2.0
Malam Jabba	22.5	24.0	87.3	74	40.0	3.4	4.3	0.3	1.4
Mangla	33.8	36.5	170.9	71	52.0	6.0	5.9	0.0	5.1
Mir Khani	36.5	37.3	157.1	49	1.0	1.6	3.9	0.0	4.9
Moinjodaro	38.3	41.0	195.5	62	3.8	3.4	1.9	1.7	2.7
Multan	37.0	39.0	191.4	68	43.1	2.9	4.3	3.4	6.7
Murree	22.6	25.0	98.0	73	101.9	3.9	4.7	1.4	4.0
Muzaffarabad	31.4	36.0	147.6	76	37.1	4.0	5.7	0.6	2.4
Nawabshah	39.3	41.2	192.0	60	0.2	5.0	5.0	3.4	6.6

Nokkundi	39.9	41.0	194.0	11	0.0	0.0	0.0	5.7	4.3
Okara	34.2	38.0	176.0	78	104.2	5.1	5.0	1.4	2.9
Padidan	38.5	41.0	195.0	71	0.1	4.4	2.4	1.4	3.1
Panjgur	36.7	37.0	167.3	26	0.0	0.0	0.3	0.0	10.3
Parachinar	28.9	29.5	135.7	74	73.0	5.1	5.4	3.0	3.0
Pasni	33.3	34.5	175.3	82	0.0	5.3	3.0	2.0	10.9
Pattan	36.1	39.5	172.3	53	24.0	1.7	3.6	0.0	2.0
Peshawar	36.6	38.0	180.0	62	0.2	1.6	3.3	1.1	1.7
Quetta	32.6	33.8	144.7	33	0.0	1.0	1.9	2.6	3.3
R.Y.Khan	37.4	40.5	189.5	69	16.6	2.6	3.1	1.6	4.0
Rawalakot	25.7	30.2	109.9	87	29.4	4.4	5.7	0.0	0.0
Rawalpindi	34.1	36.3	169.2	67	35.0	3.1	2.3	0.3	1.7
Sahiwal	35.0	38.3	173.1	77	76.5	4.1	6.0	1.4	2.0
Saidu Sharif	35.2	36.5	159.3	61	4.0	3.0	2.1	0.0	0.0
Sialkot	32.1	36.0	165.7	76	10.2	7.1	6.0	1.3	1.1
Sibbi	41.6	43.0	206.5	66	6.6	3.1	0.6	3.4	2.0
Skardu	24.6	29.8	100.3	65	4.4	6.6	7.3	0.0	0.3
Tandojam	36.3	40.0	181.0	75	40.5	4.0	4.8	0.9	1.1
Usta.M	38.1	39.0	191.8	65	1.0	1.5	1.3	2.3	2.8
Zhob	34.6	36.5	159.8	43	0.0	1.4	3.9	2.9	7.1

*** 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 2012-2014)