

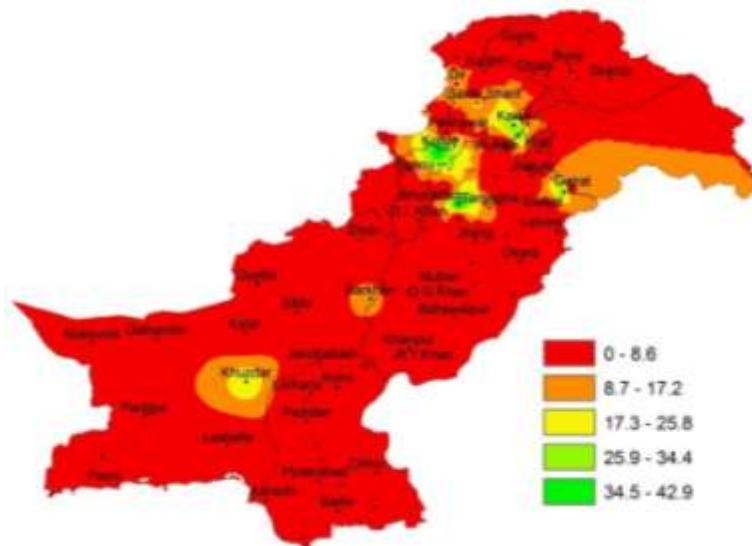
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the
Previous Week (from 12th to 18th September, 2016)**



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Highlights of Past Weather (from 12th to 18th September, 2016)

Slightly above normal day time temperature was reported in Punjab, Khyber Pakhtunkhwa, Sindh and Balochistan during the week, Whereas, mix trend in terms of day temperatures observed in Gilgit Baltistan during the week.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall was reported at many places in Punjab, Khyber Pakhtunkhwa and Gilgit Baltistan.
- Light to moderate rainfall was reported at few places in Balochistan.
- Rainfall was reported only at single station (Karachi =0.1mm) in Sindh.

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 12th to 18th September, 2016)

Punjab

Light to moderate rainfall reported at many places in Punjab during the week. Weekly maximum and minimum temperatures recorded as 36.6°C & 24.3°C respectively. For the present season on average 178.3 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 63% and wind speed in the morning/evening recorded as 1.6/2.4Knots. During the previous week the highest amount of rainfall was recorded as 43.0mm at Joharabad & highest maximum temperature was recorded as 42.2°C at R.Y. Khan.

Sindh

Rainfall was reported only at single station (Karachi =0.1mm) in Sindh during the week. Weekly maximum and minimum temperatures recorded as 37.7°C & 24.9°C respectively. For the present season, on average 183.9 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 3.8/5.1 Knots. During the previous week the highest maximum temperature recorded as 44.2°C at Nawab Shah.

Khyber Pakhtunkhwa

Light to moderate rainfall reported at many places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 32.9°C & 17.9°C respectively. For the present season on average 142.7 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 61% and wind speed in the morning/evening recorded as 0.6/2.8 Knots. During the previous week the highest amount of rainfall was recorded as 40.0mm at Kohat & the highest maximum temperature recorded as 39.0°C at D.I.Khan.

Balochistan

Light to moderate rainfall was reported at few places in Balochistan during the week. Weekly maximum and minimum temperatures recorded as 35.5°C & 21.7°C respectively. For the present season on average 165.0 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 1.2/6.7 Knots. During the previous week the highest amount of rainfall was recorded as 21.0mm at Khuzdar & highest maximum temperature was recorded as 43.5°C at Nokkundi.

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 29.6°C & 15.5°C respectively. For the present season on average 125.8 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 56% and wind speed in the morning/evening recorded as 0.5/1.4 Knots. During the previous week the highest amount of rainfall was recorded as 18.0mm at Garhi Dopatta & highest maximum temperature recorded as 38.2 °C at Chilas.

**Past Weather for Major Agricultural Plains
(from 12th to 18th September, 2016)****Rawalpindi (Potohar region)**

Rainfall reported as 0.8mm during the week, cloudiness in the morning/evening recorded as 0.0/1.0 Oktas while, average relative humidity observed as 63%. Mean day time temperature recorded as 35.4°C & for the present season 166.7 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.4 Knots.

Faisalabad (Central Punjab)

Rainfall reported as 2.0mm during the week; however cloudiness in the morning/evening recorded as 0.7/0.9 Oktas while, average relative humidity observed as 58.5%. Mean day time temperature recorded as 37.7°C & for the present season 183.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/1.1 Knots.

Tandojam (Lower Sindh)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.6/0.0 Oktas while, average relative humidity observed as 70.5%. Mean day time temperature recorded as 37.8°C & for the present season 177.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.2/2.8 Knots.

Quetta (Northern Baluchistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.0/0.6 Oktas while, average relative humidity observed as 33%. Mean day time temperature recorded as 31.8°C & for the present season 138.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.9/3.6 Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 0.0/0.0 Oktas while, average relative humidity observed as 78%. Mean day time temperature recorded as 36.9°C & for the present season 188.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.0/1.7 Knots.

**Past Weather for Sub-Regional Agricultural
Plains (from 12th to 18th September, 2016)****Multan**

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.0/0.7 Oktas while, average relative humidity observed as 55%. Mean day time temperature recorded as 37.3°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 4.0/4.9 Knots.

Lahore

Rainfall reported as 0.1mm during the week; cloudiness in the morning/evening recorded as 1.9/2.7 Oktas while, average relative humidity observed as 62%. Mean day time temperature recorded as 35.9°C & for the present season 180.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.9/2.9 Knots.

Zhob

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.0/1.9 Oktas while, average relative humidity observed as 37%. Mean day time temperature recorded as 34.0°C & for the present season 152.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.3/6.6 Knots.

D.I. Khan

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.7/0.0Oktas while, average relative humidity observed as 66%. Mean day time temperature recorded as 37.5°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 1.1/0.0Knots.

Peshawar

Rainfall reported as 1.0mm during the week; cloudiness in the morning/evening recorded as 0.3/3.3Oktas while, average relative humidity observed as 61%. Mean day time temperature recorded as 36.0°C & for the present season 171.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/3.1Knots.

Murree

Rainfall reported as 33.0mm during the week, cloudiness in the morning/evening recorded as 1.0/2.1Oktas while, average relative humidity observed as 70%. Mean day time temperature recorded as 23.2°C & for the present season 90.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.1Knots.

Kalam

Rainfall reported as 6.0mm during the week, cloudiness in the morning/evening recorded as 1.0/5.3Oktas while, average relative humidity observed as 65%. Mean day time temperature recorded as 25.8°C & for the present season 85.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.9Knots.

Gilgit

Rainfall reported as 1.2mm during the week, cloudiness in the morning/evening recorded as 3.3/6.3Oktas while, average relative humidity observed as 63%. Mean day time temperature recorded as 30.4°C & for the present season 119.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/3.7 Knots.

Skardu

Rainfall reported as 4.3mm during the week, cloudiness in the morning/evening recorded as 3.9/5.6Oktas while, average relative humidity observed as 50%. Mean day time temperature recorded as 24.2°C & for the present season 87.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.9Knots.

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 *Flowering* stage.

Central Punjab (Faisalabad)

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

Cotton: Very good condition at *Maturity* 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)

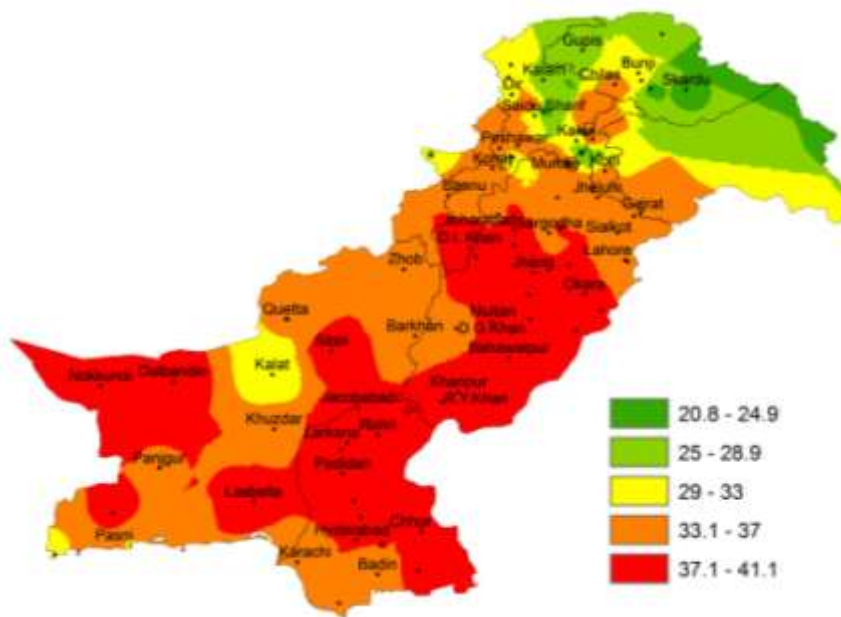
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Balochistan (Usta Muhammad)

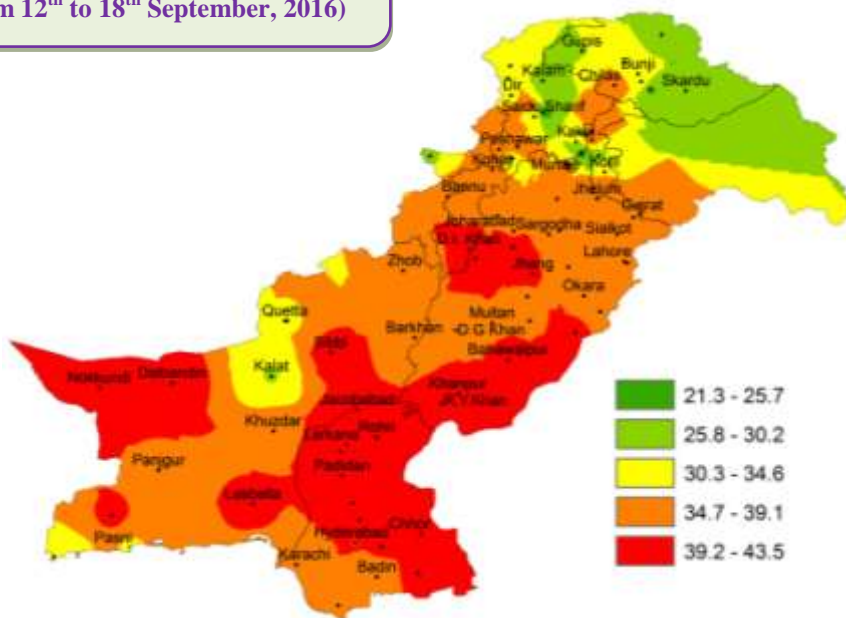
There is presently one crop (irrigated condition) grown in the fields of RAMC Usta Muhammad.

Rice: Good condition at *Tillering* stage.

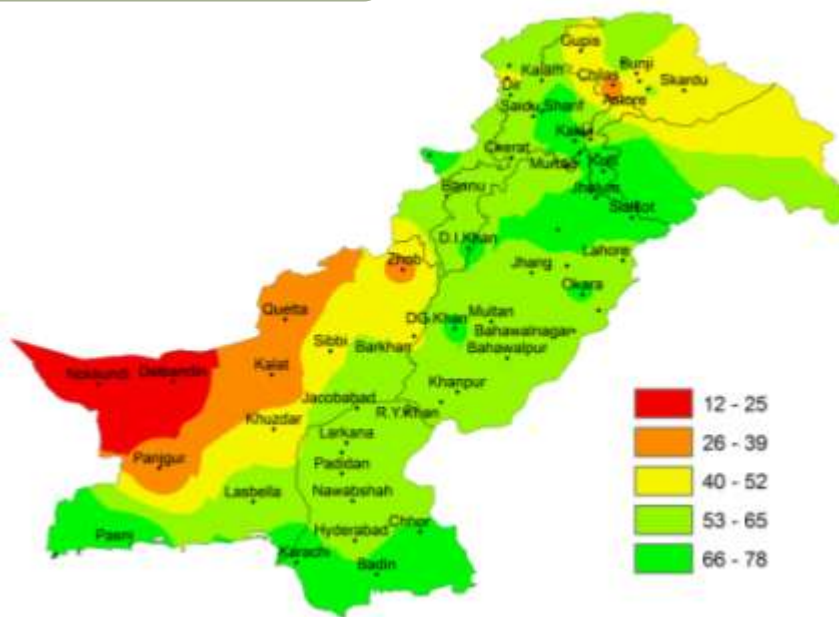
Mean Maximum Temperature (°C) during the Previous week (from 12th to 18th September, 2016)



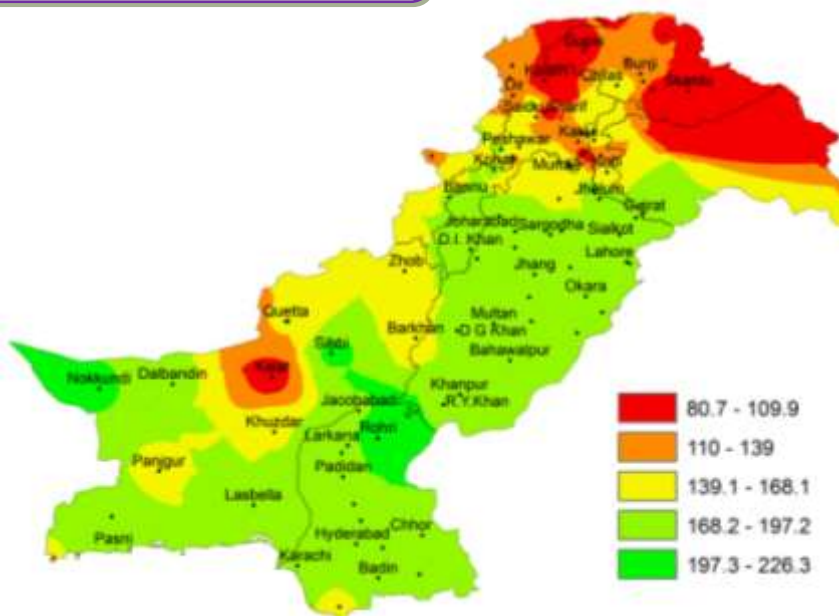
Highest Maximum Temperature (°C) during the Previous week (from 12th to 18th September, 2016)



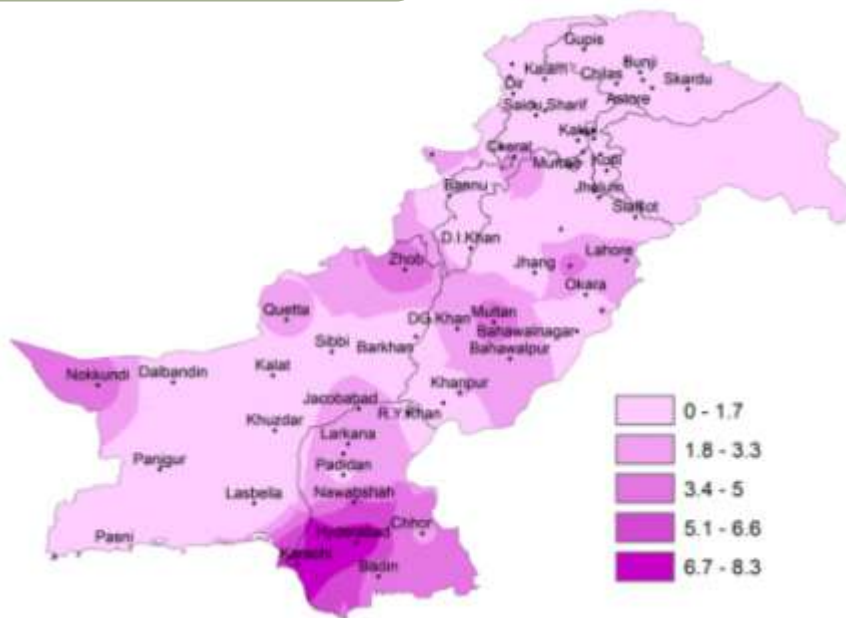
Mean Relative Humidity (%) during the Previous week (from 12th to 18th September, 2016)



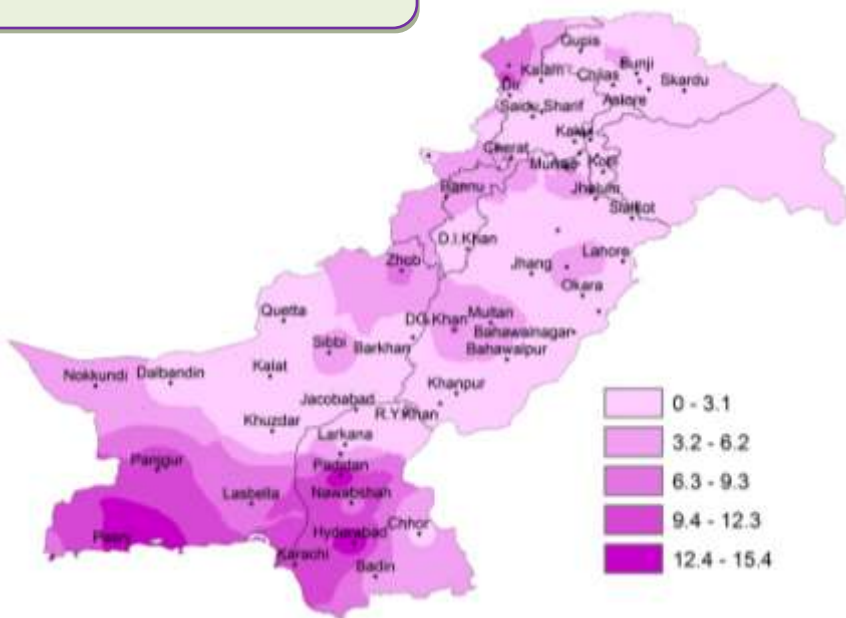
Total Growing Degree Days accumulated during the Previous week (from 12th to 18th September, 2016)



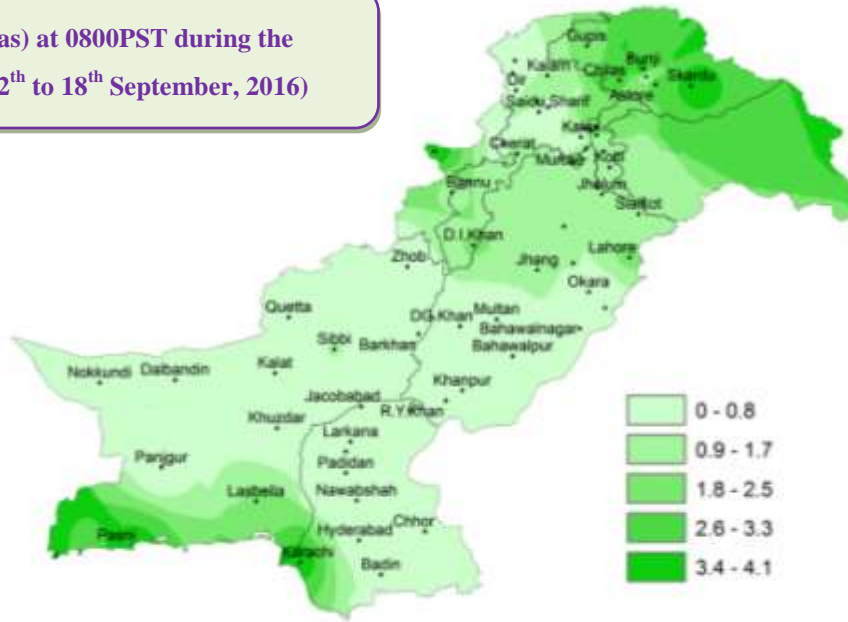
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 12th to 18th September, 2016)



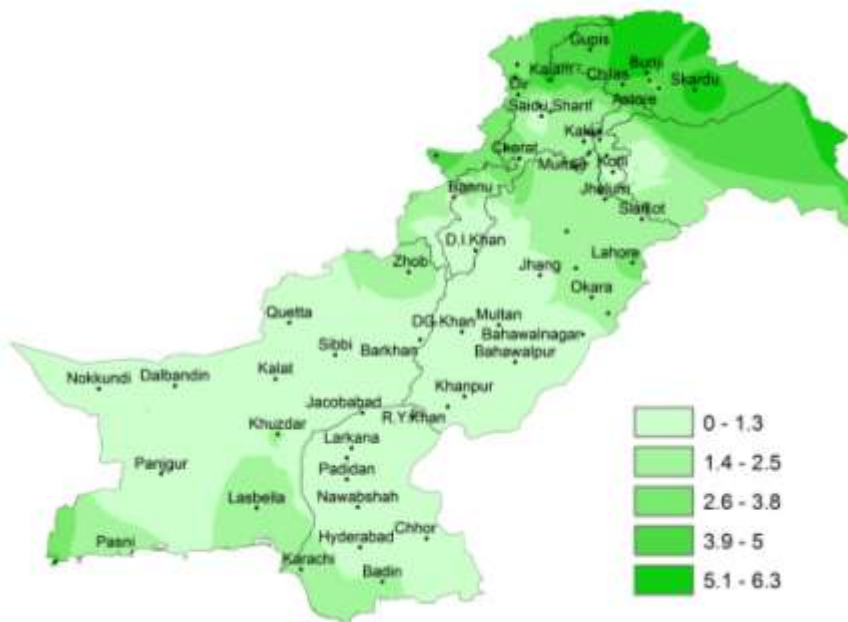
Mean Wind Speed (Knots) at 1200PST during the Previous week (from 12th to 18th September, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 12th to 18th September, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 12th to 18th September, 2016)



Weekly Weather Advisory for Farmers**(From 19th to 25th September, 2016)**

Continental air is prevailing over most parts of the country. However, a shallow westerly wave is likely to approach upper parts of the country on Tuesday and likely to persist during next 2-3 days.

MONDAY**19-09-2016**

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

TUESDAY**20-09-2016**

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

WEDNESDAY**21-09-2016**

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

THURSDAY**22-09-2016**

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

FRIDAY**23-09-2016**

Mainly hot and dry 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**24-09-2016**

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

SUNDAY**25-09-2016**

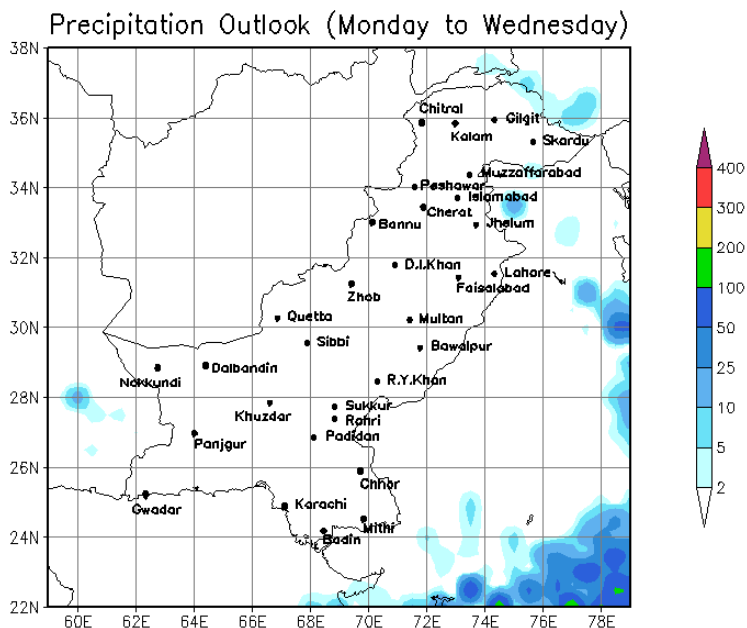
Mainly hot and dry weather is expected in most parts of the country.

ADVISES FOR CROPS

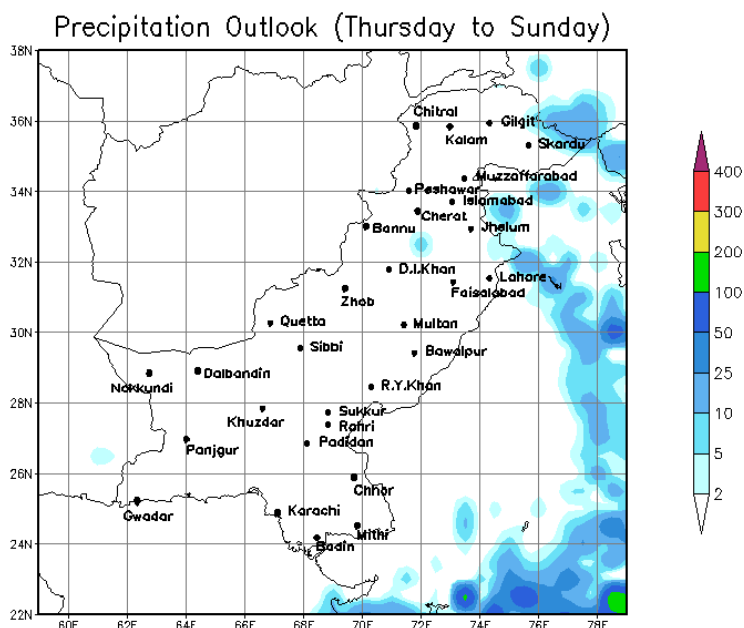
- ❖ Farmers obtaining crop water through tube wells are advised to schedule the irrigation according to the expected weather mentioned during the week.
- ❖ Farmers are advised to control further weeds growth at the present growing stages to stop any negative impact on the crops. Weeds removing practices should be started soon after expected rains in the mentioned.
- ❖ 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 19th to 25th September 2016

The outlook from 19th to 21st September, 2016 shows that dry weather is expected in most parts of the country



The outlook from 19th to 21st September, 2016 shows that dry weather is expected in most parts of the country



National Weather Data of Selected Cities
(Weekly Data from 12th to 18th September, 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	22.3	24.5	80.0	53	5.1	3.0	3.7	0.9	1.7
Badin	34.9	36.0	175.8	68	0.0	0.4	1.4	4.3	5.1
Bahawalnagar	38.7	40.0	191.5	56	0.0	0.0	0.0	0.0	0.6
Bahawalpur	38.5	40.0	190.3	58	0.0	0.4	0.3	2.9	2.6
Balakot	33.1	33.5	135.0	68	24.0	1.1	1.7	0.0	0.0
Bannu	36.8	38.5	169.7	57	3.0	1.4	1.1	0.3	4.4
Barkhan	33.4	35.0	154.5	50	11.0	0.0	0.0	0.0	1.0
Bunji	29.9	32.2	131.3	46	3.0	4.1	5.8	1.7	0.8
Cherat	29.0	31.5	131.8	53	22.0	1.6	2.4	2.3	3.1
Chhor	37.9	40.5	179.7	65	0.0	0.6	0.4	3.1	2.6
Chilas	34.7	36.5	164.1	34	4.2	2.6	4.6	0.3	2.0
Chitral	31.5	34.5	120.5	61	1.0	0.3	3.0	0.0	8.3
D.I.Khan	37.5	39.0	180.0	66	0.0	1.7	0.0	1.1	0.0
Dalbandin	41.1	43.0	177.8	20	0.0	0.0	0.0	0.3	2.0
DG.Khan	36.4	37.4	180.9	68	0.0	0.3	0.7	2.6	6.3
Dir	32.2	34.0	117.7	62	13.0	0.7	3.4	0.0	1.4
Drosh	33.0	34.1	137.6	39	10.2	0.0	4.0	0.0	10.7
Faisalabad	37.7	39.0	183.2	59	2.0	0.7	0.9	0.9	1.1
Garidopatta	35.5	36.0	157.7	58	18.0	1.3	1.1	0.0	1.1
Gawader	33.3	33.5	170.5	70	0.0	2.7	1.9	0.0	10.3
Gilgit	30.4	34.0	119.5	63	1.2	3.3	6.3	0.0	3.7
Gupis	26.0	30.0	98.0	47	4.0	2.0	4.3	1.1	2.9

Hyderabad	37.0	39.0	178.8	63	0.0	0.3	0.9	8.3	13.7
Islamabad	34.9	35.5	160.5	60	0.1	0.9	1.9	1.4	3.7
Jacobabad	37.5	40.0	190.5	63	0.0	0.0	0.0	1.7	1.4
Jhang	38.2	39.2	187.9	60	0.0	1.1	0.7	0.9	0.9
Jhelum	35.8	37.0	171.9	72	5.4	0.7	1.4	0.3	1.4
Jiwani	31.6	33.0	165.3	73	0.0	4.1	4.0	0.9	8.0
Kakul	30.0	30.5	126.3	70	30.0	0.6	1.3	0.0	1.4
Kalam	25.8	27.5	85.0	65	6.0	1.0	5.3	0.0	0.9
Kalat	28.9	30.0	95.0	31	0.0	0.0	0.0	0.0	0.0
Karachi	33.8	35.0	175.3	72	0.1	3.7	1.7	6.9	10.6
Khanpur	38.4	40.0	186.4	62	0.0	0.0	0.0	1.7	0.6
Khuzdar	35.4	37.0	164.5	41	21.0	0.0	1.3	0.0	2.0
Kotli	34.0	34.7	161.9	70	0.0	1.3	0.9	1.6	0.7
Lahore	35.9	37.0	180.4	62	0.1	1.9	2.7	2.9	2.9
Larkana	38.4	41.0	190.0	64	0.0	0.0	0.6	2.6	1.7
Lasbella	38.1	40.0	191.0	61	0.0	1.7	1.7	0.0	8.9
Lower Dir	37.0	38.0	170.0	51	0.0	2.0	1.3	1.1	2.0
M.B Din	37.4	38.0	185.6	72	0.1	1.3	2.0	1.1	1.1
Malam Jabba	20.5	21.0	80.5	79	16.0	0.3	1.4	0.0	0.0
Mangla	35.0	36.0	169.3	67	2.5	1.6	2.1	0.0	4.3
Mir Khani	33.6	34.5	138.1	48	7.4	0.4	3.4	0.0	2.9
Multan	37.3	38.5	191.8	55	0.0	0.0	0.7	4.0	4.9
Murree	23.2	23.8	90.3	70	33.0	1.0	2.1	1.1	1.1
Muzaffarabad	33.8	34.2	149.1	64	9.0	2.4	3.1	0.0	0.9
Nawabshah	40.4	42.0	195.1	55	0.0	0.0	0.9	5.1	8.0
Nokkundi	40.8	43.5	201.8	12	0.0	0.0	0.0	4.0	4.9

Okara	37.6	38.5	188.7	66	0.0	0.0	1.9	1.4	1.7
Padidan	38.6	40.5	191.5	62	0.0	0.3	0.4	1.1	15.4
Panjgur	36.4	37.0	161.0	29	0.0	0.0	0.0	0.0	10.6
Parachinar	28.8	29.5	131.5	72	7.0	3.9	5.0	3.0	3.0
Pasni	32.8	34.0	170.0	77	0.0	3.7	1.4	1.4	15.4
Pattan	35.2	37.0	157.0	58	0.0	2.3	1.1	0.0	0.0
Peshawar	36.0	37.5	171.8	61	1.0	0.3	3.3	1.1	3.1
Quetta	31.8	33.0	138.0	33	0.0	0.0	0.6	2.9	3.6
R.Y.Khan	39.7	41.2	193.0	60	0.0	0.0	0.0	0.9	2.0
Rawalakot	27.7	28.2	109.1	74	6.4	1.6	1.6	0.0	0.3
Rawalpindi	35.4	37.0	166.7	63	0.8	0.0	1.0	0.3	1.4
Sahiwal	37.1	37.3	178.1	62	0.0	0.3	1.9	1.7	1.4
Saidu Sharif	33.0	34.5	144.0	63	20.0	0.0	1.1	0.0	0.3
Sialkot	35.1	35.7	169.0	67	37.0	1.1	1.4	0.6	0.0
Sibbi	40.0	41.5	203.0	51	0.0	0.9	0.9	1.4	4.0
Skardu	24.2	26.4	87.4	50	4.3	3.9	5.6	0.0	1.9
Tandojam	37.8	40.0	177.0	71	0.0	0.6	0.0	2.2	2.6
Usta.M	36.9	39.0	188.0	78	0.0	0.0	0.0	2.0	1.7
Zhob	34.0	35.0	152.3	37	0.0	0.0	1.9	4.3	6.6

*** 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 (بذر ایجنسی 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)