

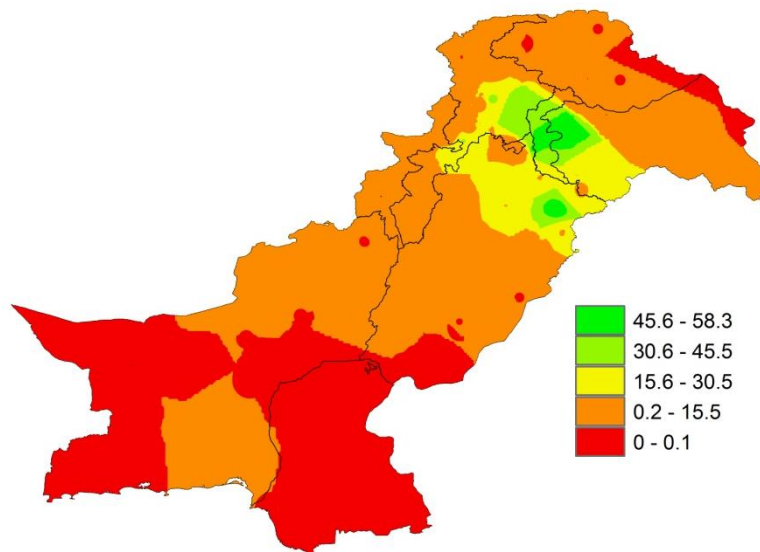
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the
Previous Week (from 6th to 12th March, 2017)**



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Highlights of Past Weather (from 6th to 12th March, 2017)

Slightly below normal night temperatures reported from most parts of the country.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall reported from several places of Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB), Kashmir and Punjab.
- Light rainfall reported from few places of Sindh and Balochistan.

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

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

Editor: Dr Dildar Hussain Kazmi (Meteorologist)

Past Weather of Provinces (from 6th to 12th March, 2017)

Punjab

Light to moderate rainfall reported from several places of Punjab during the week. Weekly maximum and minimum temperatures recorded as 22.4°C & 9.8°C respectively. For the recent week on average 80.5 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 64% and wind speed in the morning/evening recorded as 1.9/3.8 Knots. During the previous week the highest amount of rainfall was recorded as 58.4 mm at Gujranwala & the lowest minimum temperature was recorded as -2.8°C at Murree.

Sindh

Rainfall reported as trace (not measureable) from Sindh during the week. Weekly maximum and minimum temperatures recorded as 30.5°C & 14.8°C respectively. For the recent week, on average 124.9 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 1.7/5.0 Knots. During the previous week the lowest minimum temperature was recorded as 4.5°C at Mithi.

Khyber Pakhtunkhwa

Light to moderate rainfall reported from several places of Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 16.0°C & 4.5°C respectively. For the recent week on average 43.3 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 1.3/3.1 Knots. During the previous week the highest amount of rainfall was recorded as 44.0 mm at Kakul & the lowest minimum temperature was recorded as -7.5°C at Kalam.

Balochistan

Light rainfall reported from few places of Balochistan during the week. Weekly maximum and minimum temperatures recorded as 23.1°C & 10.1°C respectively. For the recent week on average 82.3 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 47% and wind speed in the morning/evening recorded as 1.9/4.6 Knots. During the previous week the highest amount of rainfall was recorded as 6.0 mm at Barkhan & the lowest minimum temperature was recorded as -3.0°C at Kalat.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall reported from several places of Gilgit-Baltistan & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 11.5°C & 2.5°C respectively. For the recent week on average 32.0 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 0.9/2.5 Knots. During the previous week the highest amount of rainfall was recorded as 58.6 mm at Rawalakot & the lowest minimum temperature was recorded as -5.0°C at Rawalakot.

**Past Weather for Major Agricultural Plains
(from 6th to 12th March, 2017)****Rawalpindi (Potohar region)**

Rainfall reported as 5.6 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 3.0/5.7 Oktas while, average relative humidity observed as 65%. Mean night time temperature recorded as 7.5°C & for the recent week 60.7 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/3.4 Knots.

Faisalabad (Central Punjab)

Rainfall reported as 16.1 mm from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 3.6/3.9 Oktas while, average relative humidity observed as 65%. Mean night time temperature recorded as 11.0°C & for the recent week 82.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/2.1 Knots.

Tandojam (Lower Sindh)

Rainfall reported as trace (not measureable) from Tandojam during the week; however, cloudiness in the morning/evening recorded as 0.0/0.7 Oktas while, average relative humidity observed as 53%. Mean night time temperature recorded as 12.0°C & for the recent week 113.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.7 Knots.

Usta Muhammad (Eastern Balochistan)

Rainfall reported as 0.1 mm from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded 1.4/2.0 Oktas while, average relative humidity observed as 65%. Mean night time temperature recorded as 14.0°C & for the recent week 113.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.8/2.0 Knots.

Quetta (Northern Baluchistan)

Rainfall reported as 1.8 mm from Quetta during the week; however, cloudiness in the morning/evening recorded as 2.3/3.1 Oktas while, average relative humidity observed as 37%. Mean night time temperature recorded as 3.2°C at the end of last week. Wind speed recorded in the morning/evening as 3.0/4.5 Knots.

**Past Weather for Sub-Regional Agricultural
Plains (from 6th to 12th March, 2017)****Multan**

Rainfall reported as 0.9 mm from Multan during the week; however, cloudiness in the morning/evening recorded as 2.3/2.9 Oktas while, average relative humidity observed as 59%. Mean night time temperature recorded as 13.0°C & for the recent week 95.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/6.0 Knots.

Lahore

Rainfall reported as 27.8 mm from Lahore during the week; however, cloudiness in the morning/evening recorded as 4.0/5.6 Oktas while, average relative humidity observed as 66%. Mean night time temperature recorded as 11.5°C & for the recent week 84.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/3.3 Knots.

Zhob

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 0.0/2.3 Oktas while, average relative humidity observed as 35%. Mean night time temperature recorded as 6.1°C & for the recent week 48.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.1/9.0 Knots.

Murree

Rainfall reported as 35.7 mm from Murree during the week; however, cloudiness in the morning/evening recorded as 6.1/6.7 Oktas while, average relative humidity observed as 75%. Mean night time temperature recorded as 0.5°C by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.7 Knots.

D.I. Khan

Rainfall reported as 6.0 mm from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 3.0/2.6 Oktas while, average relative humidity observed as 66%. Mean night time temperature recorded as 11.4°C & for the recent week 88.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/3.4 Knots.

Peshawar

Dry weather reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 2.7/6.0 Oktas while, average relative humidity observed as 59%. Mean night time temperature recorded as 8.2°C & for the recent week 71.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/4.9 Knots.

Kalam

Rainfall reported as 6.0 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 4.9/6.4 Oktas while, average relative humidity observed as 73%. Mean night time temperature recorded as -3.9°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.9 Knots.

Gilgit

Rainfall reported as 1.7 mm from Gilgit during the week; However, cloudiness in the morning/evening recorded as 6.3/6.4 Oktas while, average relative humidity observed as 49%. Mean night time temperature recorded as 3.4°C & for the recent week 25.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/8.3 Knots.

Skardu

Dry weather reported from Skardu during the week; however, cloudiness in the morning/evening recorded as 5.9/7.0 Oktas while, average relative humidity observed as 59%. Mean night time temperature recorded as -1.5°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/2.0 Knots.

**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 conditions) grown in the fields of RAMC Faisalabad.

Wheat: Very good condition at *Flowering* stage.

Lower Sindh (Tandojam)

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

Wheat (Imdad): Good condition at *Maturity* stage.

Northern Balochistan (Quetta)

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

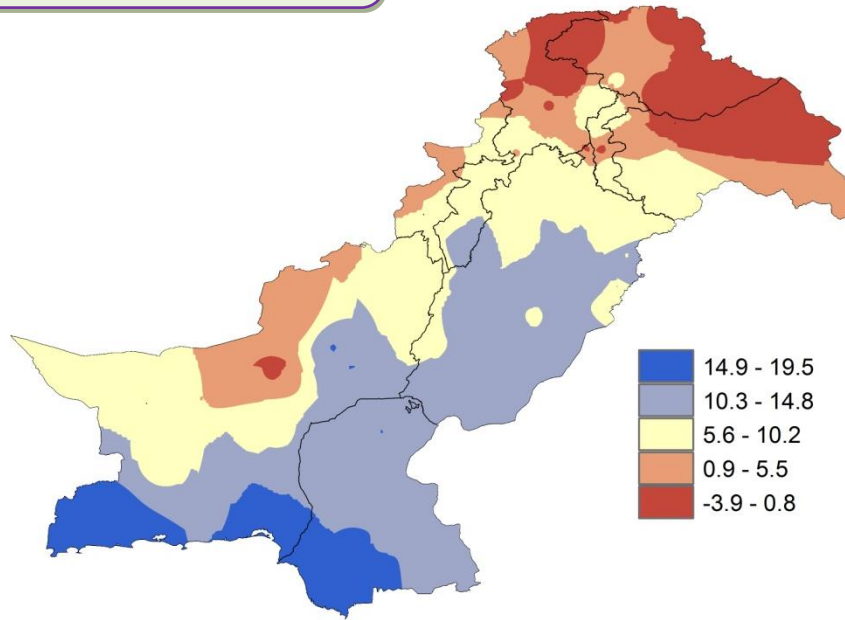
Wheat (Local white): Good condition at *Tillering* stage.

Eastern Balochistan (Usta Muhammad)

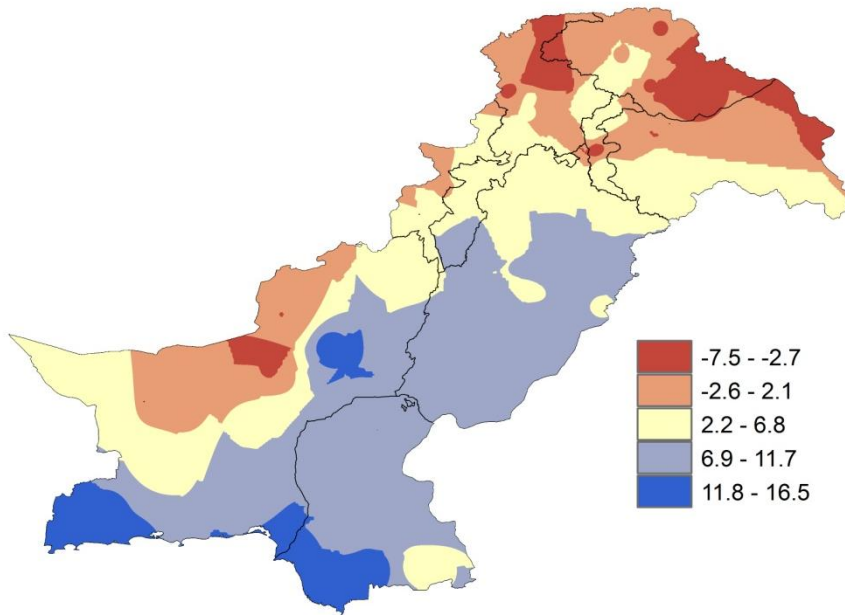
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Wheat: Good condition at *Milk Maturity* stage.

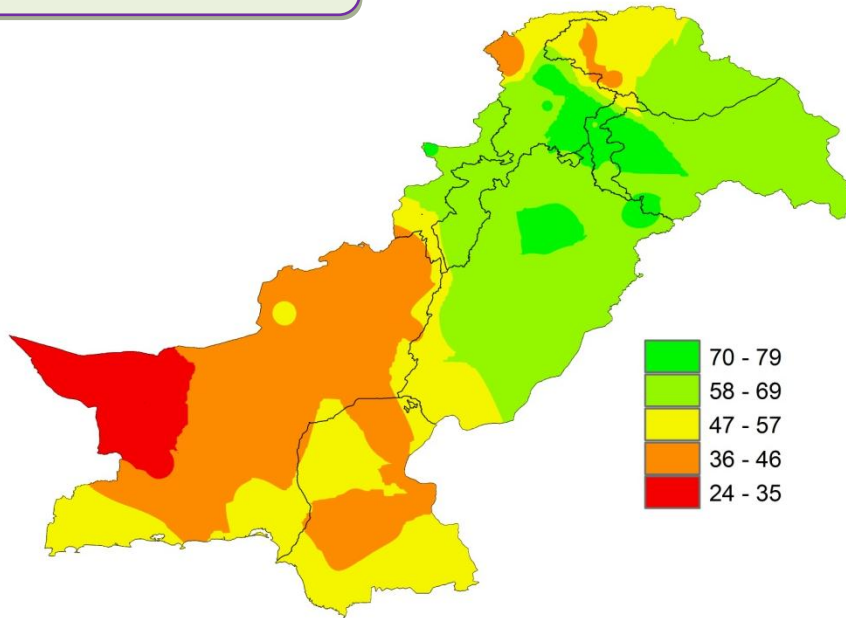
Mean Minimum Temperature (°C) during the Previous week (from 6th to 12th March, 2017)



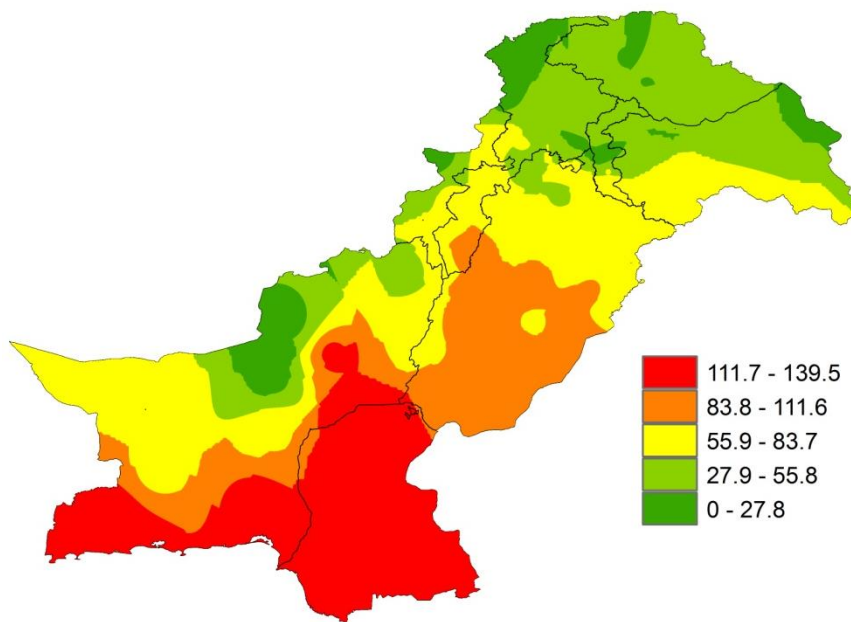
Lowest Minimum Temperature (°C) during the Previous week (from 6th to 12th March, 2017)



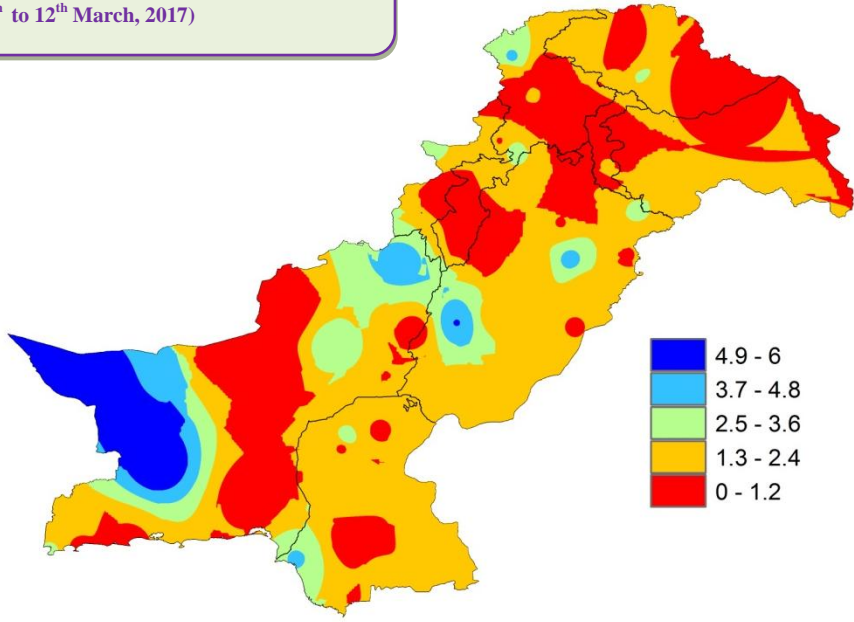
Mean Relative Humidity (%) during the Previous week (from 6th to 12th March, 2017)



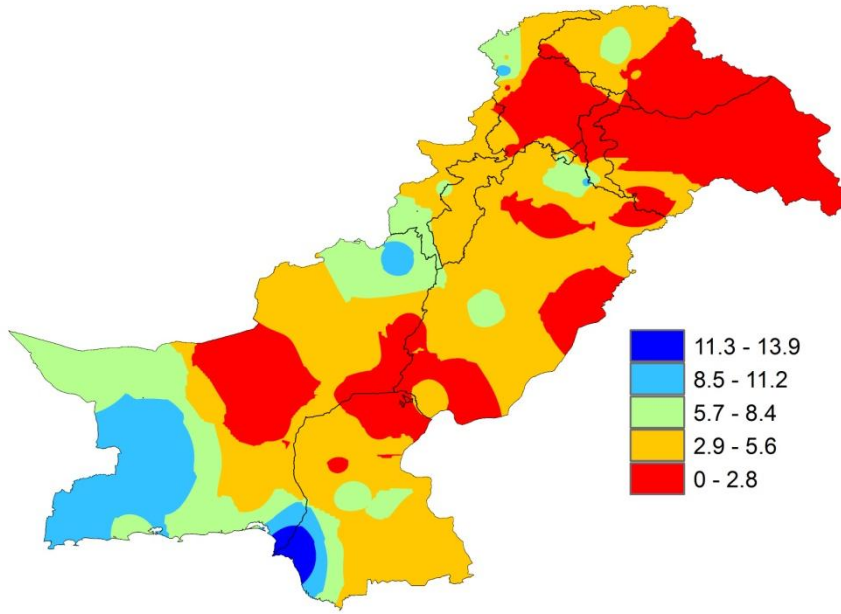
Total Growing Degree Days accumulated during the Previous week (from 6th to 12th March, 2017)



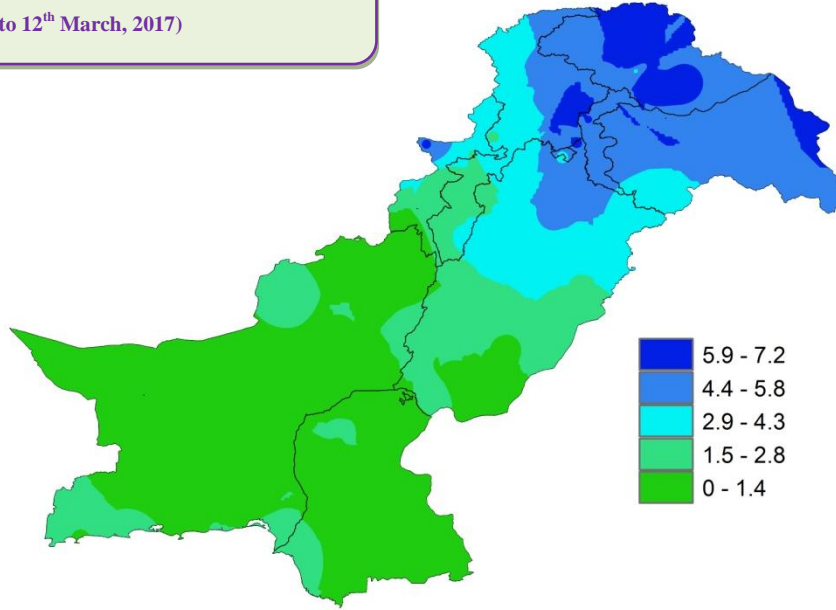
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 6th to 12th March, 2017)



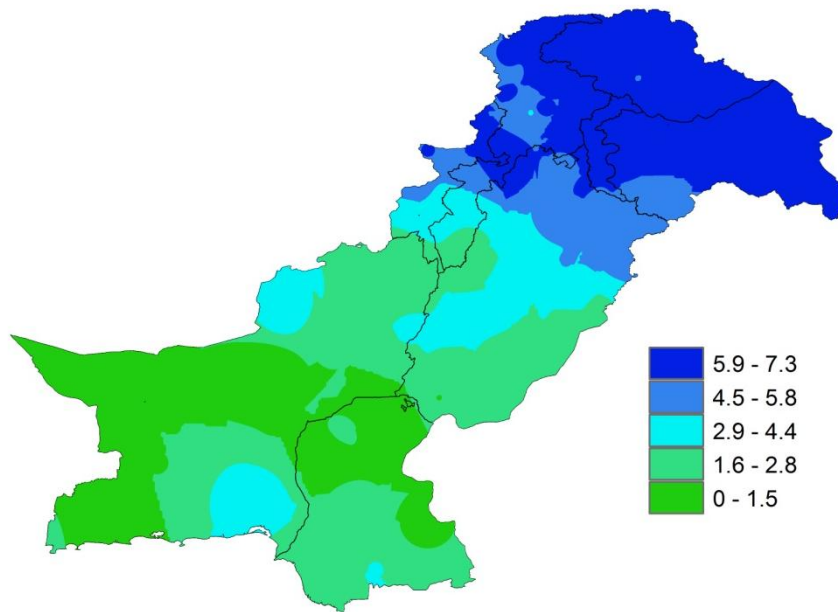
Mean Wind Speed (Knots) at 1700PST during the Previous week (from 6th to 12th March, 2017)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 6th to 12th March, 2017)



Mean Cloudiness (Oktas) at 1700PST during the Previous week (from 6th to 12th March, 2017)



Weekly Weather Advisory for Farmers**(from 13th to 19th March, 2017)**

Dry continental air/ winds are prevailing over most parts of the country. A westerly wave is likely to approach northeast Balochistan on Tuesday and likely to persist during 03 to 04 days.

MONDAY**13-03-2017**

Mainly cold & dry weather is expected in most parts of the country.

TUESDAY**14-03-2017**

Mainly dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Quetta, Zhob, Kalat, Malakand divisions, FATA and Gilgit-Baltistan.

WEDNESDAY**15-03-2017**

Mainly dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Malakand, Quetta, Zhob, Kalat divisions, FATA, Kashmir & Gilgit-Baltistan.

THURSDAY**16-03-2017**

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

FRIDAY**17-03-2017**

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

SATURDAY**18-03-2017**

Mainly dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at few places in Quetta, Zhob, Malakand divisions, upper FATA, Kashmir and Gilgit-Baltistan.

SUNDAY**19-03-2017**

Mainly dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at few places in Quetta, Malakand, Hazara, Mardan, Rawalpindi, Gujranwala, Sargodha, Kohat, D.I Khan, Peshawar divisions, FATA, Kashmir and Gilgit-Baltistan.

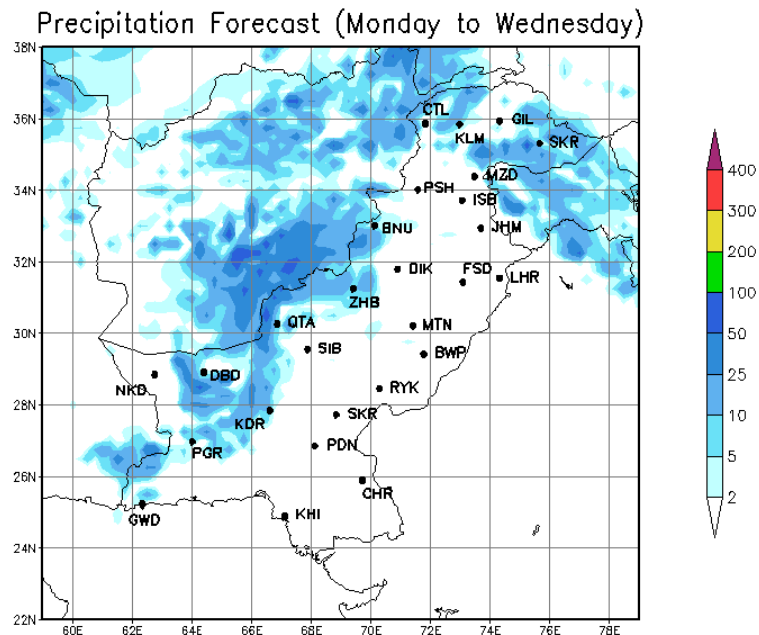
ADVISES FOR FARMERS

During the last week, light to moderate rainfall reported from most parts of the country. This may continue in the same manner in coming days in northern and western parts of the country. Keeping in view the expected weather conditions following advises are suggested for farming community.

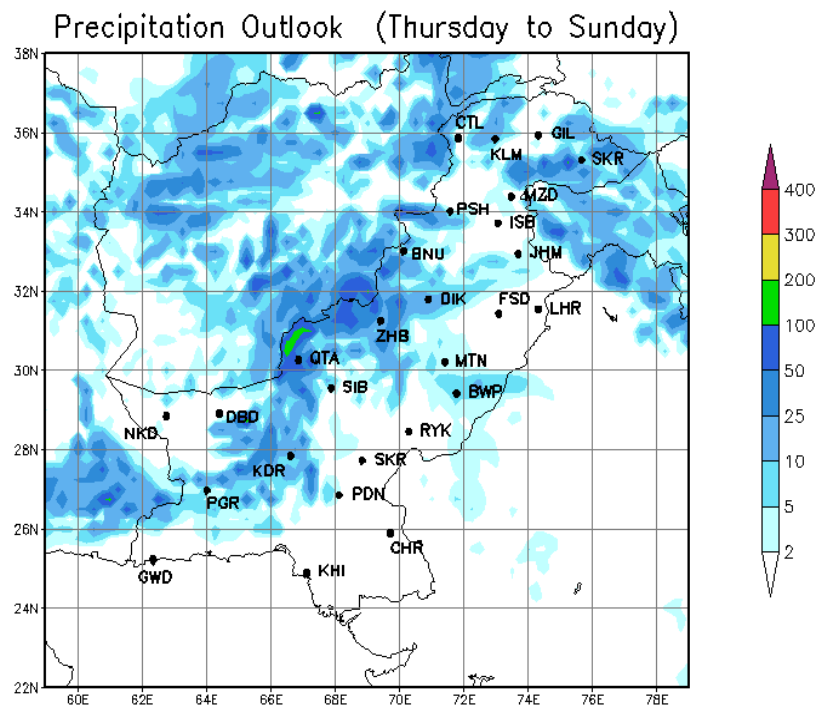
- Farmers of irrigated areas may irrigate the crops as per requirement in accordance with the expected weather conditions.
- Removing weeds from the standing crops is very important as weeds utilize moisture and food which may be utilized by the crop. As a result considerable loss in yield occurs every year. However operations against weeds should be started using weedicides or manually when the crop completely covers the fields.

Weather Outlook from 13th to 19th March, 2017

The forecast from 13th to 15th March, 2017 shows that light to moderate rainfall is expected at few places in upper KP, north & western Balochistan, GB and Kashmir. However, dry weather may prevail in rest of the country.



The outlook from 16th to 19th March, 2017 shows that moderate to heavy rainfall is expected at scattered places in KP, GB, Kashmir and north-western Balochistan.



National Weather Data of Selected Cities
(Weekly Data from 6th to 12th March, 2017)

Stations	Maximum/Night time 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	Lowest							
Astore	-2.7	-4.5	***	64	0.0	6.7	6.5	1.7	1.7
Badin	17.9	14.0	139.5	52	0.0	1.0	2.9	1.4	2.9
Bahawalnagar	12.4	9.0	99.5	59	0.0	2.1	2.4	1.1	2.6
Bahawalpur	11.9	8.7	99.0	62	0.0	1.3	2.7	2.3	4.0
Balakot	6.7	1.7	41.9	72	41.5	7.3	6.7	0.7	0.9
Bannu	5.6	2.0	59.5	58	7.0	1.7	4.3	0.6	5.7
Barkhan	8.2	7.5	62.4	45	6.0	1.6	2.9	0.6	2.0
Bunji	5.5	4.4	32.6	54	4.0	7.1	7.1	1.4	1.4
Cherat	5.2	2.0	27.4	65	32.0	3.6	6.4	2.9	2.6
Chhor	14.5	7.8	134.1	46	0.0	0.3	1.1	1.7	5.4
Chilas	5.7	4.3	39.6	44	0.4	5.1	5.9	1.4	3.1
Chitral	2.5	-0.2	25.2	40	0.0	3.7	6.1	4.0	5.4
D.G.Khan	10.6	8.0	89.7	62	5.8	2.0	2.9	4.9	5.4
D.I.Khan	11.4	8.5	88.1	66	6.0	3.0	2.6	0.6	3.4
Dalbandin	5.9	-1.5	66.1	34	0.0	0.6	3.1	2.3	5.1
Dir	-0.6	-4.0	15.8	66	11.0	3.1	6.3	0.0	2.6
Drosh	1.7	0.8	22.4	43	1.0	3.9	4.9	1.7	10.0
Faisalabad	11.0	8.3	82.1	65	16.1	3.6	3.9	1.4	2.1
Garidopatta	5.5	3.5	35.5	74	44.3	5.1	6.3	0.0	1.1
Gawader	17.1	15.0	136.8	51	0.0	1.3	1.1	1.0	10.0
Gilgit	3.4	1.5	25.0	49	1.7	6.3	6.4	0.0	8.3
Gupis	-1.6	-2.0	***	45	0.0	5.1	6.3	2.3	3.4

Hyderabad	16.5	11.0	129.4	39	0.0	0.7	2.1	0.0	5.1
Islamabad	6.6	3.5	54.2	63	8.4	4.1	5.0	1.0	6.3
Jacobabad	14.4	10.5	114.1	44	0.0	1.0	1.3	1.4	2.0
Jhang	10.8	7.2	85.6	69	8.8	3.6	3.0	1.4	4.0
Jhelum	9.7	6.7	76.5	64	13.8	4.6	5.3	1.4	2.9
Jiwani	17.9	16.0	129.3	48	0.0	2.3	1.7	2.6	9.4
Kakul	2.5	0.5	13.3	77	44.0	5.1	7.3	0.3	1.4
Kalam	-3.9	-7.5	***	73	6.0	4.9	6.4	0.0	0.9
Karachi	19.5	13.5	138.2	48	0.0	2.0	2.4	3.7	14.0
Khanpur	12.3	9.5	105.6	55	0.0	1.3	2.6	1.7	1.4
Khuzdar	9.1	6.5	76.3	35	0.0	0.0	1.4	1.1	2.3
Kalat	0.5	-3.0	14.0	41	0.0	0.0	0.0	0.0	0.0
Kotli	8.5	5.5	57.2	67	43.6	4.9	6.3	1.4	3.4
Lahore	11.5	8.5	84.8	66	27.8	4.0	5.6	1.1	3.3
Larkana	14.5	10.0	118.9	50	0.0	1.6	2.1	3.1	4.3
Lasbella	15.1	11.0	126.3	47	2.0	1.3	3.7	0.0	4.9
Lower Dir	5.4	3.5	51.5	61	15.0	4.1	4.7	2.0	2.3
M.B Din	10.0	7.5	77.4	71	15.2	4.6	4.7	1.1	1.4
Malam Jabba	-0.8	-2.0	***	71	37.0	5.3	6.9	0.0	0.3
Mangla	8.5	6.7	67.7	66	26.6	5.0	6.4	0.6	9.7
Mir Khani	3.0	2.4	26.3	57	5.2	4.0	5.6	3.1	3.4
Moinjodaro	13.0	9.0	119.5	52	0.0	1.4	0.6	0.9	4.9
Multan(PBO)	13.0	10.2	95.0	59	0.9	2.3	2.9	1.7	6.0
Murree	0.5	-2.8	***	75	35.7	6.1	6.7	1.1	1.7
Muzaffarabad	5.3	1.8	30.2	77	30.5	4.9	6.7	1.1	1.4
Nawabshah	14.0	11.0	125.1	44	0.0	0.6	1.9	2.3	6.6

Nokkundi	9.7	5.0	81.8	24	0.0	0.3	0.9	5.0	7.9
Okara	11.8	9.5	87.7	64	3.0	2.7	3.7	1.4	2.0
Padidan	13.8	11.0	116.6	51	0.0	1.3	1.1	1.7	2.0
Panjgur	8.4	3.0	70.3	34	0.0	0.9	1.4	6.0	10.7
Parachinar	1.3	0.5	6.6	69	13.0	5.9	5.9	2.9	3.0
Pasni	17.9	13.0	133.3	50	0.0	1.6	1.4	0.9	7.9
Pattan	8.5	6.5	52.5	67	42.4	6.1	6.0	0.9	1.4
Peshawar	8.2	6.0	71.2	59	0.0	2.7	6.0	1.1	4.9
Quetta	3.2	-3.2	21.0	37	1.8	2.3	3.1	3.0	4.5
Rahim Yar Khan	12.5	7.3	108.9	54	0.0	1.6	1.4	2.3	3.4
Rawalakot	0.2	-5.0	3.8	79	58.6	4.9	6.9	0.0	0.0
Rawalpindi	7.5	5.5	60.7	65	5.6	3.0	5.7	0.3	3.4
Rohri	16.0	13.5	121.9	41	0.0	1.2	0.4	1.0	2.3
Sahiwal	8.6	6.0	75.8	64	1.0	2.7	2.4	1.7	2.3
Saidu Sharif	5.2	3.0	40.0	63	9.0	3.3	4.1	0.0	0.0
Sialkot	9.4	6.8	70.0	70	25.1	3.9	5.7	2.6	2.6
Sibbi	14.9	14.0	120.5	37	0.0	1.3	1.7	3.3	5.1
Skardu	-1.5	-3.4	***	59	0.0	5.9	7.0	0.0	2.0
Tandojam	12.0	6.5	113.5	53	0.1	0.0	0.7	0.0	1.1
Usta.M	14.0	13.4	113.8	65	0.1	1.4	2.0	0.8	2.0
Zhob	6.1	4.0	48.3	35	0.0	0.0	2.3	4.1	9.0

*** 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)