

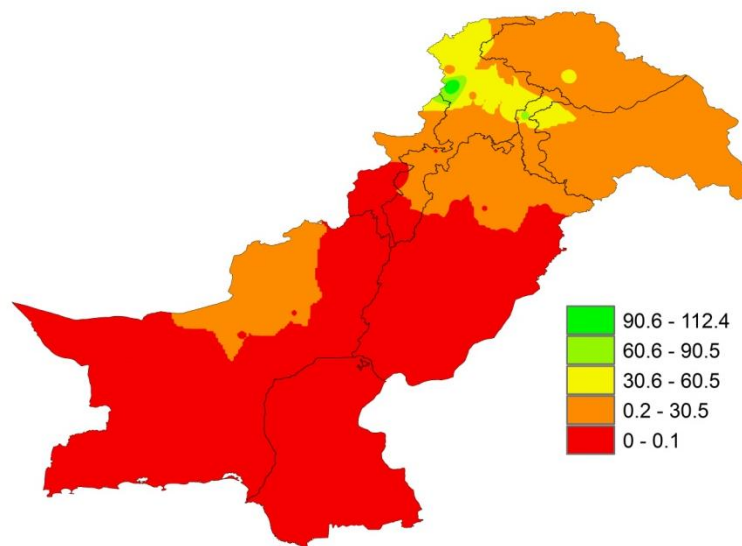
Weekly Weather and Crop Bulletin for Pakistan

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PAKISTAN METEOROLOGICAL
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Rainfall Distribution (mm) during the
Previous Week (from 13th to 19th February, 2017)



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Highlights of Past Weather (from 13th to 19th February, 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 was recorded at most of the places in Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB) and Punjab.
- Light to moderate rainfall was recorded at few places in Balochistan.
- Dry weather reported from Sindh.

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

Editor-in-Chief: Dr. Azmat Hayat Khan (Director)

Editor: Khalida Noreen (Meteorologist)

Past Weather of Provinces (from 13th to 19th February, 2017)

Punjab

Light to moderate rainfall recorded at most of the places in Punjab during the week. Weekly maximum and minimum temperatures recorded as 25.8°C & 10.9°C respectively. For the present season on average 94.1 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 62% and wind speed in the morning/evening recorded as 1.7/2.8 Knots. During the previous week the highest amount of rainfall was recorded as 9.0 mm at Murree & the lowest minimum temperature was recorded as 3.0°C at Murree.

Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 30.4°C & 12.8°C respectively. For the present season, on average 117.5 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 51% and wind speed in the morning/evening recorded as 1.4/3.8 Knots. During the previous week the lowest minimum temperature was recorded as 7.0°C at Paddidan.

Khyber Pakhtunkhwa

Light to moderate rainfall recorded at most of the places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 16.6°C & 5.3°C respectively. For the present season on average 53.4 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 68% and wind speed in the morning/evening recorded as 0.8/1.8 Knots. During the previous week the highest amount of rainfall was recorded as 113.0 mm at Dir & the lowest minimum temperature was recorded as -6.5°C at Parachinar.

Balochistan

Light to moderate rainfall recorded at few places in Balochistan during the week. Weekly maximum and minimum temperatures recorded as 24.3°C & 10.6°C respectively. For the present season on average 88.1 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 53% and wind speed in the morning/evening recorded as 1.0/3.8 Knots. During the previous week the highest amount of rainfall was recorded as 17.3 mm at Quetta & the lowest minimum temperature was recorded as -3.0°C at Kalat.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall recorded at most of the places in Gilgit-Baltistan & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 13.6°C & 2.7°C respectively. For the present season on average 50.7 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 64% and wind speed in the morning/evening recorded as 0.8/1.0 Knots. During the previous week the highest amount of rainfall was recorded as 22.0 mm at Garhi Dopatta & the lowest minimum temperature was recorded as -14.2°C at Skardu.

**Past Weather for Major Agricultural Plains
(from 13th to 19th February, 2017)****Rawalpindi (Potohar region)**

Rainfall was reported 1.2 mm during the week; however, cloudiness in the morning/evening recorded as 3.6/4.8 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 9.8°C & for the present season 80.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.4/1.1 Knots.

Faisalabad (Central Punjab)

Dry weather reported from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 3.1/3.7 Oktas while, average relative humidity observed as 63%. Mean night time temperature recorded as 11.6°C & for the present season 99.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.8/1.1 Knots.

Tandojam (Lower Sindh)

Dry weather reported from Tandojam during the week; however, cloudiness in the morning/evening recorded as 0.3/0.0 Oktas while, average relative humidity observed as 56%. Mean night time temperature recorded as 11.1°C & for the present season 108 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.2/1.6 Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather reported from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded 1.5/0.8 Oktas while, average relative humidity observed as 59%. Mean night time temperature recorded as 10.1°C & for the present season 95.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

Quetta (Northern Baluchistan)

Rainfall was reported 13.4 mm during the week; however, cloudiness in the morning/evening recorded as 5.9/5.9 Oktas while, average relative humidity observed as 49%. Mean night time temperature recorded as 8.0°C at the end of last week. Wind speed recorded in the morning/evening as 2.2/3.3 Knots.

**Past Weather for Sub-Regional Agricultural
Plains (from 13th to 19th February, 2017)****Multan**

Dry weather reported from Multan during the week; however, cloudiness in the morning/evening recorded as 5.4/4.0 Oktas while, average relative humidity observed as 58%. Mean night time temperature recorded as 12.0°C & for the present season 101.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/4.9 Knots.

Lahore

Dry weather reported from Lahore during the week; however, cloudiness in the morning/evening recorded as 4.4/2.9 Oktas while, average relative humidity observed as 56%. Mean night time temperature recorded as 13.2°C & for the present season 105 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/2.9 Knots.

Zhob

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 4.6/5.7 Oktas. Mean night time temperature recorded as 4.6°C by the end of last week. Wind speed recorded in the morning/evening as 1.4/7.3 Knots.

Murree

Rainfall was reported 9.0 mm during the week; however, cloudiness in the morning/evening recorded as 5.4/6.1 Oktas while, average relative humidity observed as 52%. Mean night time temperature recorded as 4.3°C by the end of last week. Wind speed recorded in the morning/evening as 2.6/1.4 Knots.

D.I. Khan

Dry weather reported from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 4.4/5.1 Oktas while, average relative humidity observed as 61%. Mean night time temperature recorded as 12.0°C & for the present season 98.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.4 Knots.

Peshawar

Rainfall was reported 3.0 mm during the week; however, cloudiness in the morning/evening recorded as 5.7/7.0 Oktas while, average relative humidity observed as 69%. Mean night time temperature recorded as 10.7°C & for the present season 83.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.4 Knots.

Kalam

Rainfall was reported 89.0 mm during the week; however, cloudiness in the morning/evening recorded as 6.6/7.1 Oktas while, average relative humidity observed as 90%. Mean night time temperature recorded as -1.5°C by the end of last week. Wind speed recorded in the morning/evening as 6.6/7.1 Knots.

Gilgit

Rainfall was reported 1.2 mm during the week; However, cloudiness in the morning/evening recorded as 6.6/7.0 Oktas while, average relative humidity observed as 67%. Mean night time temperature recorded as -3.0°C & for the present season 21.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Skardu

Rainfall was reported 1.2 mm during the week; however, cloudiness in the morning/evening recorded as 5.7/6.7 Oktas while, average relative humidity observed as 77%. Mean night time temperature recorded as -7.8°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 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, *Shooting stage* completed.

Lower Sindh (Tandojam)

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

Wheat (Imdad): Good condition at *Wax maturity stage*.

Northern Balochistan (Quetta)

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

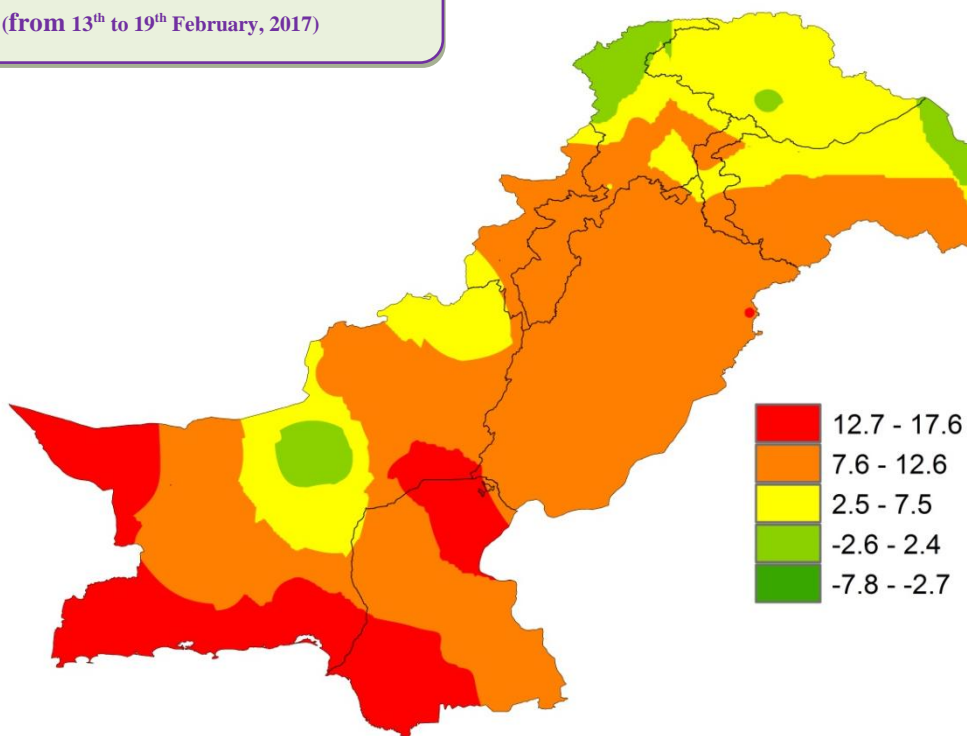
Wheat (Local white): Good condition at *Tillering stage*.

Eastern Balochistan (Usta Muhammad)

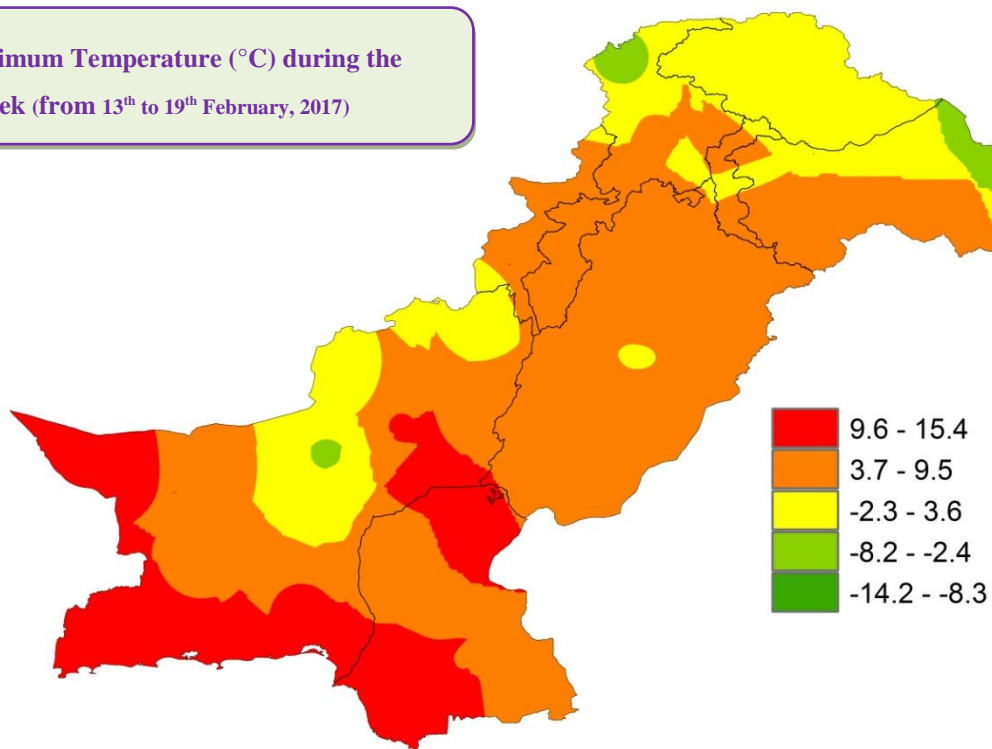
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Wheat: Good condition at *Shooting stage*.

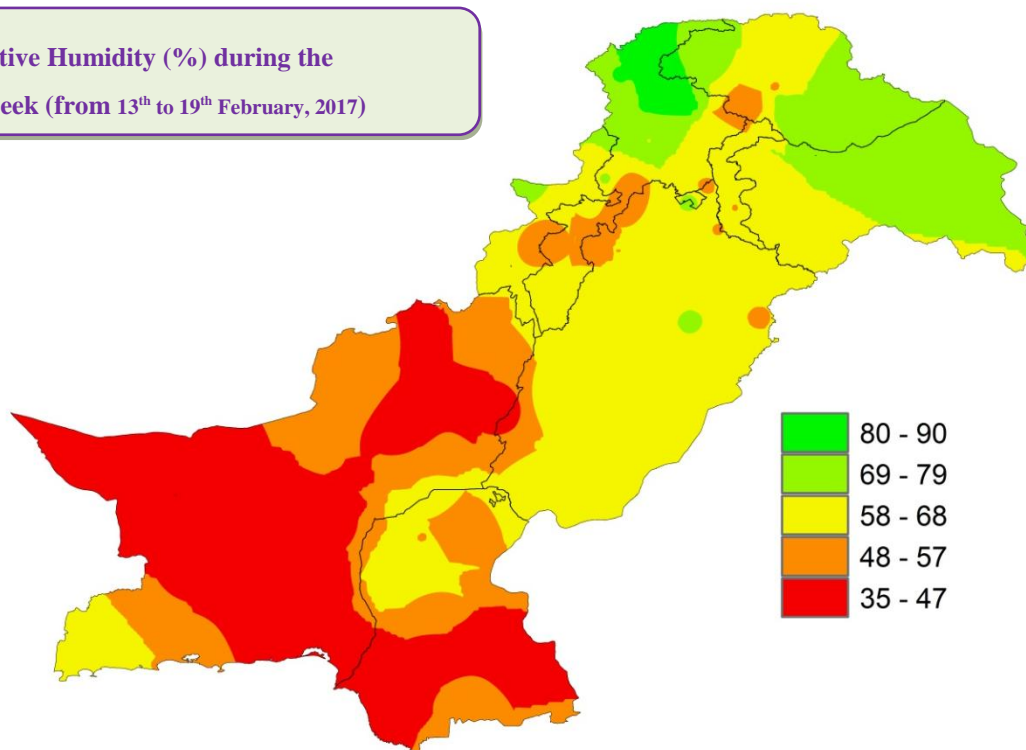
Mean lowest Temperature (°C) during the
Previous week (from 13th to 19th February, 2017)



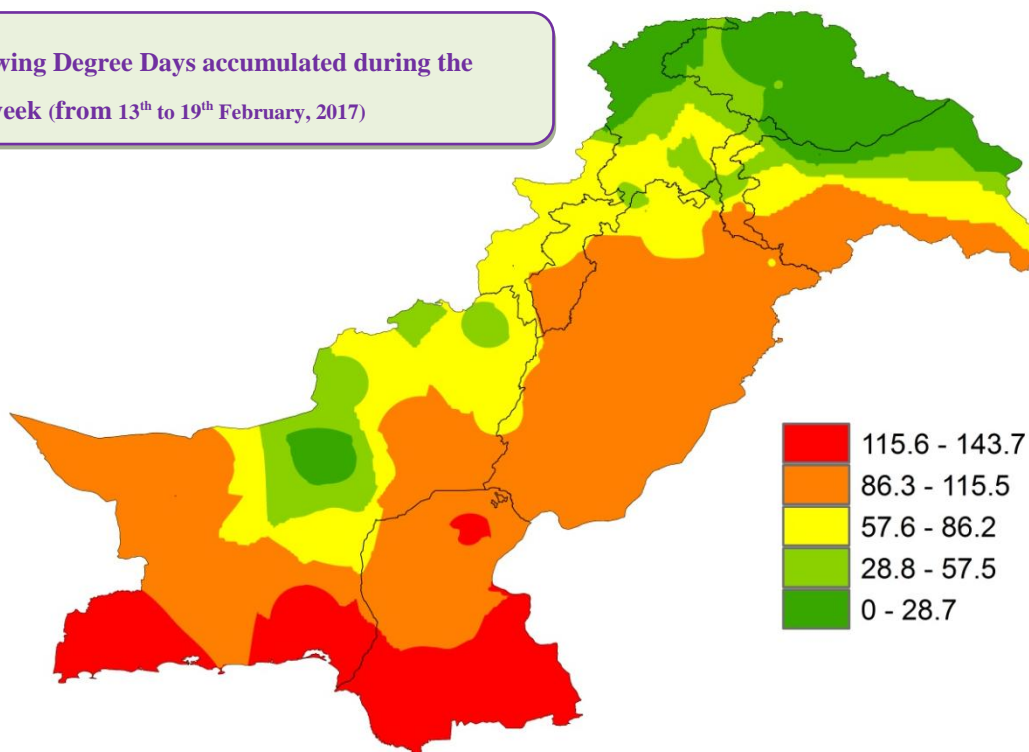
Lowest Minimum Temperature (°C) during the
Previous week (from 13th to 19th February, 2017)



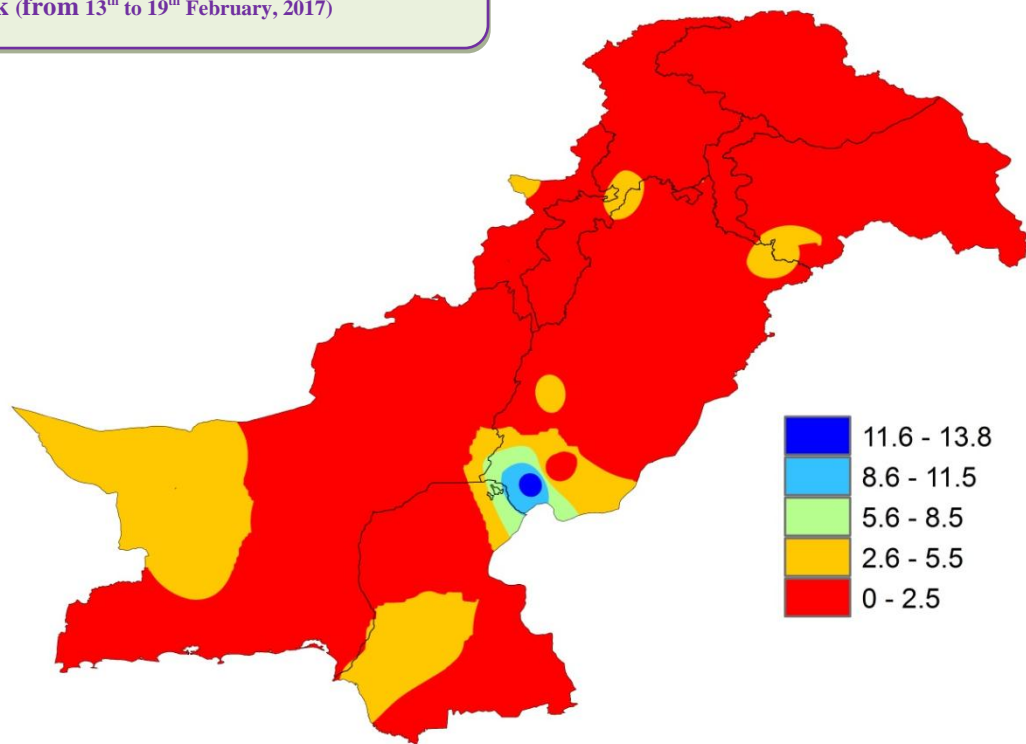
Mean Relative Humidity (%) during the
Previous week (from 13th to 19th February, 2017)



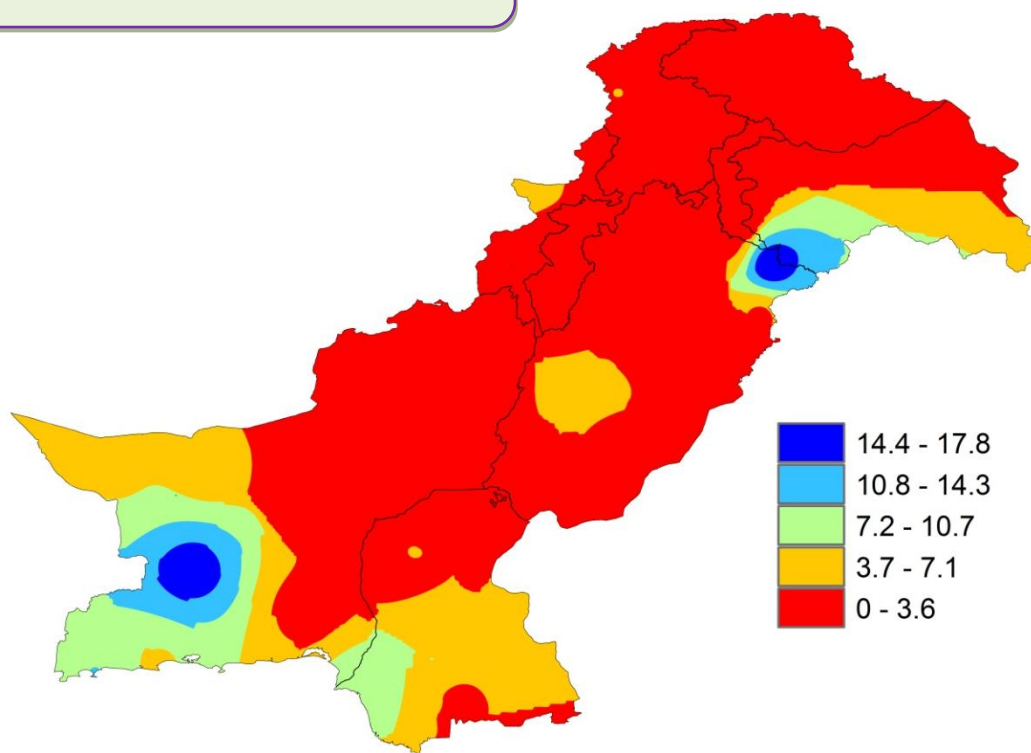
Total Growing Degree Days accumulated during the
Previous week (from 13th to 19th February, 2017)



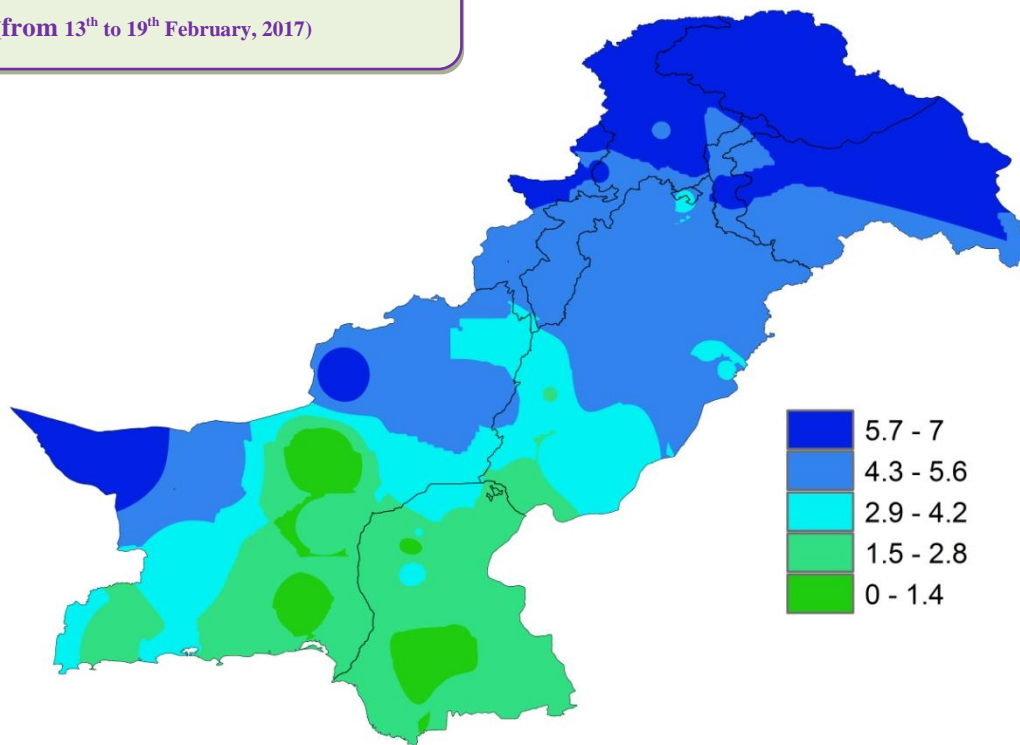
Mean Wind Speed (Knots) at 0800PST during the
Previous week (from 13th to 19th February, 2017)



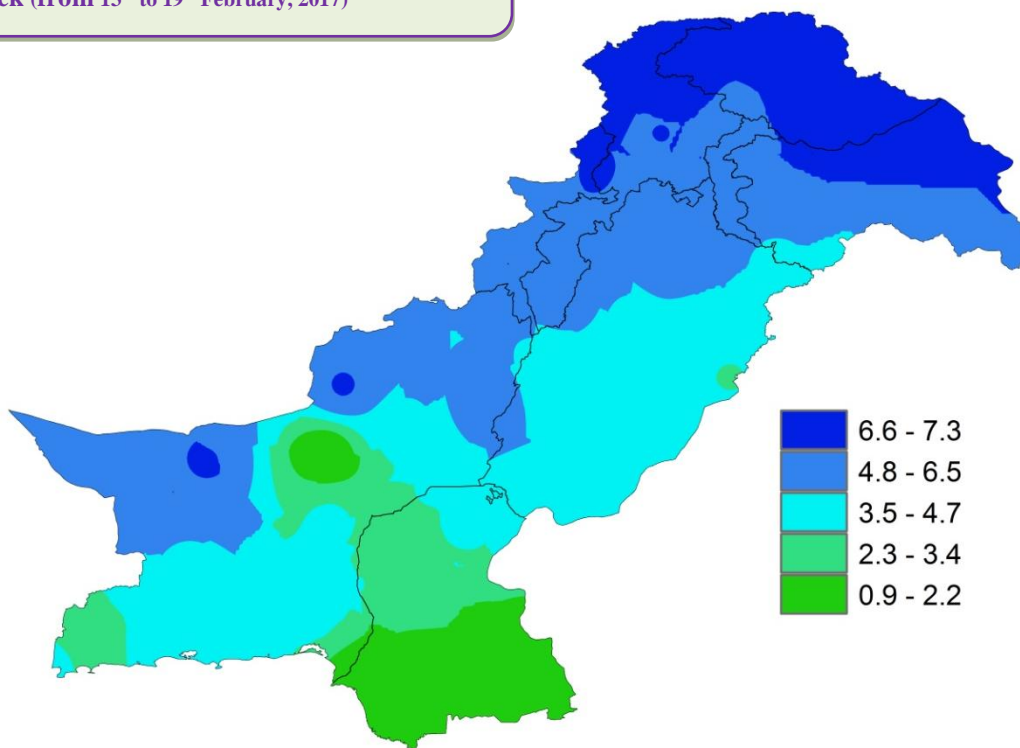
Mean Wind Speed (Knots) at 1700PST during the
Previous week (from 13th to 19th February, 2017)



Mean Cloudiness (Oktas) at 0800PST during the
Previous week (from 13th to 19th February, 2017)



Mean Cloudiness (Oktas) at 1700PST during the
Previous week (from 13th to 19th February, 2017)



Weekly Weather Advisory for Farmers**(From 20th to 26th February, 2017)**

Continental air/winds are prevailing over most parts of the country. A shallow westerly wave is still affecting Kashmir and its adjoining areas.

MONDAY**20-02-2017**

Mainly dry weather is expected in most parts of the country. However, rain (with light snow over the hills) is expected at isolated places in Gilgit-Baltistan, Kashmir and its adjoining hilly areas.

TUESDAY**21-02-2017**

Mainly dry weather is expected in most parts of the country. However, rain (with light snow over the hills) is expected at a few places in Kashmir and its adjoining hilly areas.

WEDNESDAY**22-02-2017**

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

THURSDAY**23-02-2017**

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

FRIDAY**24-02-2017**

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

SATURDAY**25-02-2017**

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

SUNDAY**26-02-2017**

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

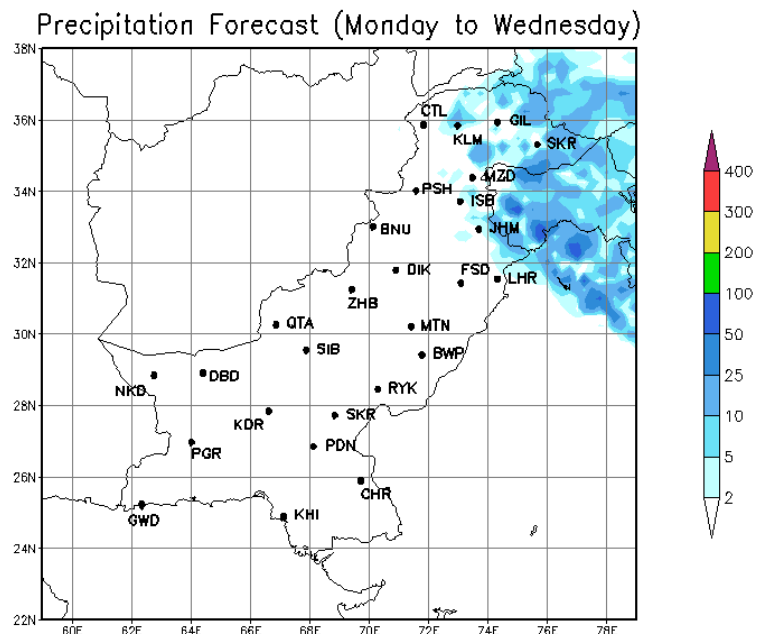
ADVISES FOR FARMERS

During the last week, weather remained cold and dry in most of the agricultural plains in lower half of the country while light rainfall recorded in rest of the country. This may continue in the same manner in coming days as well. Keeping in view the expected weather conditions following advises are suggested for farming community.

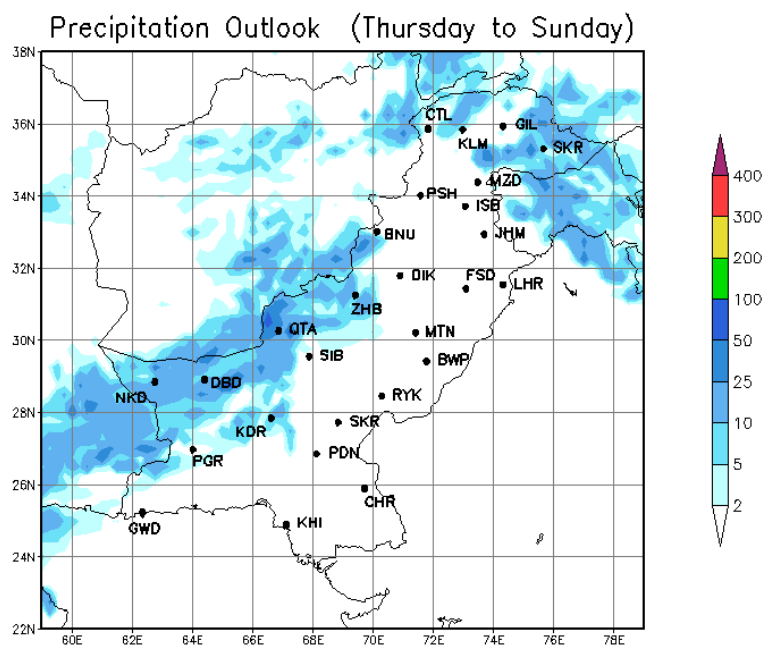
- Farmers of irrigated areas should irrigate the crop as per requirement keeping expected weather in mind.
- Removing weeds from the standing crops is very important as weeds utilize moisture and food which may be utilized by the crop. As a result considerable loss in yield occurs every year. However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

Weather Outlook from 20th to 26th February, 2017

The forecast from 20th to 22th February, 2017 shows that dry weather may prevail in most parts of the country. However, light to moderate rainfall is expected at isolated places in Gilgit-Baltistan and Kashmir.



The outlook from 23th to 26th February, 2017 shows that light to moderate rainfall is expected in upper KP, GB, Kashmir and northwestern Balochistan. However, dry weather may prevail in rest of the country.



National Weather Data of Selected Cities
(Weekly Data from 13th to 19th February, 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	-2.9	-7.5	**	71	7.4	6.7	6.7	1.1	0.9
Badin	15.1	11.5	130.3	50	0.0	1.7	1.7	0.9	2.9
Bahawalnagar	12.0	7.0	102.8	63	0.0	5.0	3.7	0.0	0.6
Bahawalpur	11.6	7.8	101.6	67	0.0	3.3	4.0	0.3	2.6
Balakot	7.2	3.3	58.4	65	45.5	6.3	6.6	0.7	0.9
Bannu	7.7	4.2	73.7	53	0.0	4.6	5.6	0.3	0.9
Barkhan	10.2	6.5	80.3	42	0.0	4.7	5.6	0.6	2.0
Bunji	5.7	2.2	33.3	54	0.0	6.9	7.0	1.7	2.0
Cherat	7.4	7.0	42.0	47	4.0	4.7	5.6	3.7	3.1
Chhor	12.2	9.0	126.0	45	0.0	1.9	1.6	1.4	4.0
Chilas	4.8	2.0	37.8	48	2.0	5.9	5.9	1.1	3.1
Chitral	1.2	-3.2	5.1	80	40.5	7.0	6.9	0.3	3.1
D.G.Khan	10.6	8.7	105.1	63	0.0	2.7	3.6	3.0	4.0
D.I.Khan	12.0	7.5	98.3	61	0.0	4.4	5.1	0.0	1.4
Dalbandin	10.4	7.0	91.8	44	0.0	5.4	6.6	3.4	4.9
Dir	1.6	-2.0	25.8	75	113.0	6.1	6.9	0.0	1.7
Drosh	1.3	-1.1	6.1	71	19.4	6.6	7.0	0.6	3.7
Faisalabad	11.6	7.5	99.0	63	0.0	3.1	3.7	0.8	1.1
Garidopatta	8.2	4.5	69.3	65	22.0	5.4	5.9	0.0	0.0
Gawader	15.9	14.0	128.9	59	0.0	1.8	2.4	0.0	10.9
Gilgit	3.0	-1.0	21.0	67	1.2	6.6	7.0	0.0	0.6
Gupis	-3.0	-5.5	**	74	7.0	6.6	7.3	0.9	0.7

Hyderabad	16.4	14.0	129.1	39	0.0	0.0	1.3	4.0	7.1
Islamabad	8.9	5.0	76.7	70	0.0	3.9	5.6	0.0	1.4
Jacobabad	13.9	11.0	108.2	59	0.0	4.0	3.6	0.3	0.0
Jhang	11.0	6.8	99.8	65	0.0	4.3	4.1	0.3	0.6
Jhelum	10.5	6.7	91.8	62	0.2	4.3	5.9	0.6	1.7
Jiwani	17.4	15.0	123.5	64	0.0	4.1	3.9	1.4	7.4
Kakul	5.1	2.0	46.1	61	16.0	6.0	6.1	0.0	0.9
Kalam	-1.5	-6.0	**	90	89.0	6.6	7.1	0.0	0.0
Karachi	17.6	15.5	143.7	35	0.0	2.6	1.4	2.6	9.7
Khanpur	11.1	7.0	103.4	60	0.0	3.3	4.7	0.0	2.6
Khuzdar	3.6	2.5	61.5	43	0.0	1.7	3.7	0.3	2.3
KLT	-1.3	-3.0	7.8	47	0.0	0.0	0.9	0.0	0.0
Kotli	10.6	7.9	90.6	56	1.0	5.7	5.7	2.3	2.6
Lahore	13.2	9.0	104.6	56	0.0	4.4	4.1	0.6	2.9
Larkana	10.4	8.5	101.4	56	0.0	3.0	2.2	2.0	2.4
Lasbella	13.4	10.5	126.5	36	0.0	1.1	4.3	0.0	1.7
Lower Dir	7.8	4.0	56.4	75	28.0	6.0	6.3	1.4	1.4
M.B Din	11.2	7.0	96.5	64	1.0	5.1	5.6	0.3	1.1
Malam Jabba	-2.7	-4.0	**	71	97.0	5.3	6.6	0.3	0.6
Mangla	11.1	6.1	93.1	55	1.7	4.7	6.0	1.1	0.6
Mir Khani	0.5	-1.5	3.9	70	46.1	6.3	6.6	0.6	1.4
Moinjodaro	9.4	8.0	94.0	61	0.0	0.4	3.0	0.0	4.0
Multan(PBO)	12.0	7.0	100.8	58	0.0	5.4	4.0	0.9	4.9
Murree	4.3	3.0	31.1	52	9.0	5.4	6.1	2.6	1.4
Muzaffarabad	7.9	5.2	65.0	64	21.2	5.9	5.6	0.3	0.3
Nawabshah	11.2	8.5	111.0	51	0.0	2.4	2.6	2.9	6.0

Nokkundi	15.4	11.5	101.0	35	0.0	6.3	6.4	4.4	6.6
Okara	12.0	8.5	102.9	63	0.0	4.1	4.1	0.0	1.1
Padidan	11.2	7.0	101.6	65	0.0	3.3	3.3	1.4	1.4
Panjgur	9.8	7.5	87.8	44	0.0	3.1	4.4	3.4	16.0
Parachinar	-5.4	-6.5	**	71	65.5	6.9	5.3	3.0	6.9
Pasni	16.4	15.5	120.4	56	0.0	2.9	4.0	0.3	6.6
Pattan	9.1	7.5	57.3	63	83.0	4.6	5.7	1.0	1.3
Peshawar	10.7	8.0	82.8	69	3.0	5.7	7.0	1.1	1.4
Quetta	8.0	4.4	49.0	49	13.4	5.9	5.9	2.2	3.3
Rahim Yar Khan	11.5	9.1	106.7	61	0.0	2.0	4.0	13.9	1.4
Rawalakot	3.3	-1.5	37.9	63	12.1	5.7	6.1	0.0	0.0
Rawalpindi	9.8	6.0	81.0	68	1.2	3.6	4.8	0.4	1.1
Rohri	14.1	12.5	122.0	53	0.0	2.4	3.9	0.9	1.7
Sahiwal	10.8	7.5	101.8	65	0.0	4.1	3.3	0.3	1.1
Saidu Sharif	8.2	5.0	58.8	67	30.1	6.1	6.4	0.0	0.0
Sialkot	12.0	8.2	85.0	66	0.6	4.4	4.3	3.3	17.9
Sibbi	11.7	10.0	102.1	43	0.0	4.3	4.3	0.0	2.0
Skardu	-7.8	-14.2	**	77	12.0	5.7	6.7	0.0	0.0
Tandojam	11.1	8.0	108.0	56	0.0	0.3	0.0	0.2	1.6
Usta .M	10.0	8.0	95.0	59	0.0	1.5	0.8	0.0	0.0
Zhob	4.6	1.0	52.3	**	0.0	4.6	5.7	1.4	7.3

*** 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 2014-2012)