

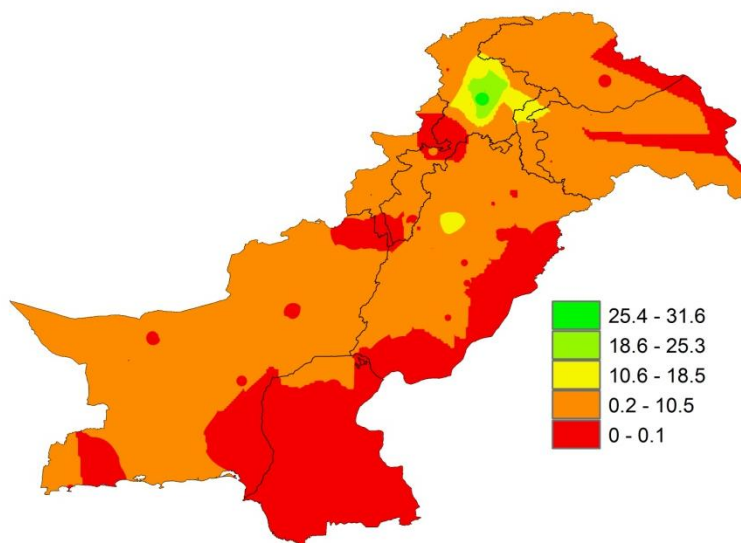
Weekly Weather and Crop Bulletin for Pakistan

**NATIONAL AGROMET CENTRE
PAKISTAN METEOROLOGICAL
DEPARTMENT SECTOR H-8/2,
ISLAMABAD.**

Phone: +92-51-9250299

Email: dirnamc@yahoo.com

Rainfall Distribution (mm) during the
Previous Week (from 27th February to 5th March, 2017)



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Highlights of Past Weather (from 27th February to 5th 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 Balochistan, Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB), Kashmir and Punjab.
- Light rainfall was recorded at a single station in Sindh.

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

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

Editor: Khalida Noureen (Meteorologist)

Past Weather of Provinces (from 27th February to 5th March, 2017)**Punjab**

Light to moderate rainfall reported from several places of Punjab during the week. Weekly maximum and minimum temperatures recorded as 26.4°C & 10.4°C respectively. For the present season on average 94.2 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 56% and wind speed in the morning/evening recorded as 0.9/2.2 Knots. During the previous week the highest amount of rainfall was recorded as 17.0 mm at Noorpurthal & the lowest minimum temperature was recorded as 1.0°C at Murree.

Sindh

Light rainfall was recorded at a single station in Sindh during the week. Weekly maximum and minimum temperatures recorded as 31.9°C & 14.3°C respectively. For the present season, on average 127.5 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 1.0/3.0 Knots. During the previous week the highest amount of rainfall was recorded as 3.0 mm at Jacobabad & the lowest minimum temperature was recorded as 8.0°C at Moin-jo-Daro.

Khyber Pakhtunkhwa

Light to moderate rainfall reported from several places of Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 18.8°C & 5.1°C respectively. For the present season on average 60.3 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 1.4/2.8 Knots. During the previous week the highest amount of rainfall was recorded as 32.0 mm at Malam Jabba &

the lowest minimum temperature was recorded as -7.0°C at Kalam.

Balochistan

Light to moderate rainfall reported from several places of Balochistan during the week. Weekly maximum and minimum temperatures recorded as 25.0°C & 10.2°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 47% and wind speed in the morning/evening recorded as 1.5/3.8 Knots. During the previous week the highest amount of rainfall was recorded as 8.0 mm at Kalat & 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 15.0°C & 3.2°C respectively. For the present season on average 51.1 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 1.2/2.2 Knots. During the previous week the highest amount of rainfall was recorded as 13.0 mm at Muzaffarabad & the lowest minimum temperature was recorded as -5.5°C at Astore.

**Past Weather for Major Agricultural Plains
(from 27th February to 5th March, 2017)****Rawalpindi (Potohar region)**

Rainfall reported 8.2 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 1.8/2.3 Oktas while, average relative humidity observed as 61%. Mean night time temperature recorded as 9.8°C & for the present season 86.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/3.1 Knots.

Faisalabad (Central Punjab)

Rainfall reported Trace (not measureable) from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 2.0/1.6 Oktas while, average relative humidity observed as 56%. Mean night time temperature recorded as 11.0°C & for the present season 101.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.6 Knots.

Tandojam (Lower Sindh)

Dry weather reported from Tandojam during the week; however, cloudiness in the morning/evening recorded as 0.0/0.0 Oktas while, average relative humidity observed as 54%. Mean night time temperature recorded as 11.9°C & for the present season 112.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Usta Muhammad (Eastern Balochistan)

Rainfall reported Trace (not measureable) from Faisalabad during the week; however, cloudiness in the morning/evening recorded 1.0/1.1 Oktas while, average relative humidity observed as 80%. Mean night time temperature recorded as 12.5°C & for the present season 105.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/2.5 Knots.

Quetta (Northern Baluchistan)

Rainfall reported from 2.2 mm during the week; however, cloudiness in the morning/evening recorded as 1.6/1.3 Oktas while, average relative humidity observed as 39%. Mean night time temperature recorded as 1.8°C at the end of last week. Wind speed recorded in the morning/evening as 2.4/3.1 Knots.

Past Weather for Sub-Regional Agricultural Plains (from 27th February to 5th March, 2017)**Multan**

Rainfall reported 9.0 mm from Multan during the week; however, cloudiness in the morning/evening recorded as 2.0/2.4 Oktas while, average relative humidity observed as 57%. Mean night time temperature recorded as 12.9°C & for the present season 103.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/4.9 Knots.

Lahore

Dry weather reported from Lahore during the week; however, cloudiness in the morning/evening recorded as 2.6/1.7 Oktas while, average relative humidity observed as 49%. Mean night time temperature recorded as 13.2°C & for the present season 104.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/3.6 Knots.

Zhob

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 1.4/3.6 Oktas while, average relative humidity observed as 38%. Mean night time temperature recorded as 6.6°C & for the present season 56 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 3.6/8.4 Knots.

Murree

Rainfall reported 10.0mm from Murree during the week; however, cloudiness in the morning/evening recorded as 1.9/5.4 Oktas while, average relative humidity observed as 52%. Mean night time temperature recorded as 3.0°C & for the present season 19.9 growing degree days accumulated by

the end of last week. Wind speed recorded in the morning/evening as 1.9/2.0 Knots.

D.I. Khan

Dry weather reported from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 1.0/1.9 Oktas while, average relative humidity observed as 63%. Mean night time temperature recorded as 11.0°C & for the present season 100 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/1.1 Knots.

Peshawar

Dry weather reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 2.9/4.9 Oktas while, average relative humidity observed as 49%. Mean night time temperature recorded as 9.1°C & for the present season 83 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.0/3.7 Knots.

Kalam

Rainfall reported 17.0 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 3.9/5.4 Oktas while, average relative humidity observed as 49%. Mean night time temperature recorded as -3.8°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Gilgit

Rainfall reported 2.2 mm from Gilgit during the week; However, cloudiness in the morning/evening recorded as 5.1/5.7 Oktas while, average relative humidity observed as 41%. Mean night time temperature recorded as 3.9°C & for the present season 35.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.6/6.7 Knots.

Skardu

Dry weather reported from Skardu during the week; however, cloudiness in the morning/evening recorded as 4.6/5.7 Oktas while, average relative humidity observed as 62%. Mean night time temperature recorded as -0.5°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 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 *50% Wax Maturity stage*.

Northern Balochistan (Quetta)

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

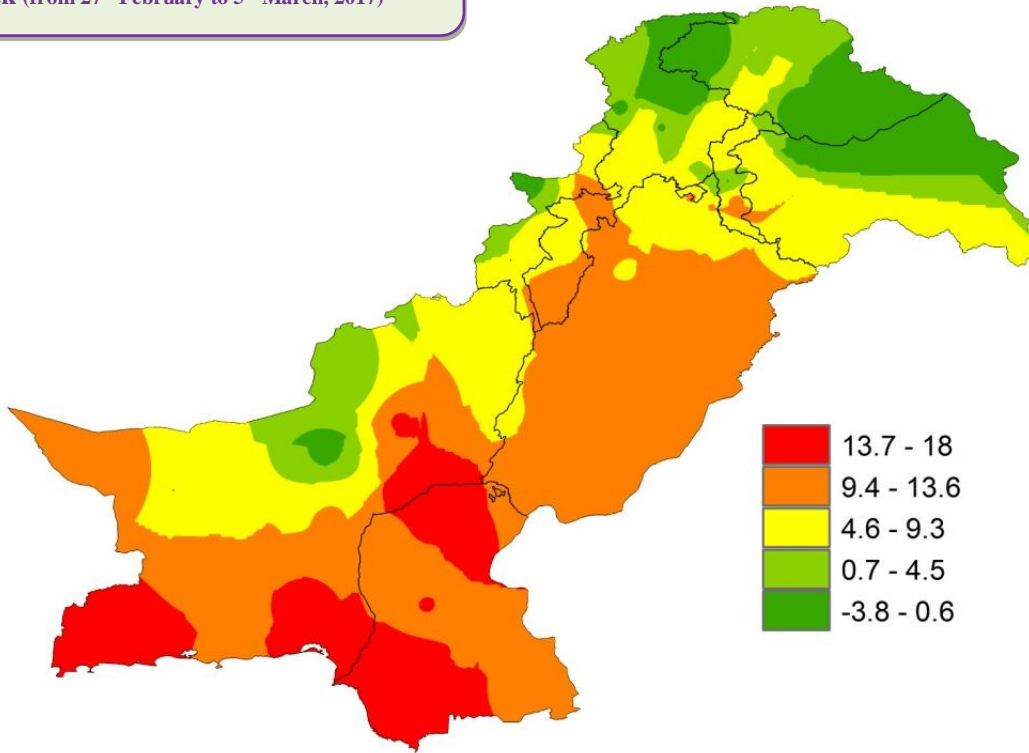
Wheat (Local white): Good condition at *Tillering stage*.

Eastern Balochistan (Usta Muhammad)

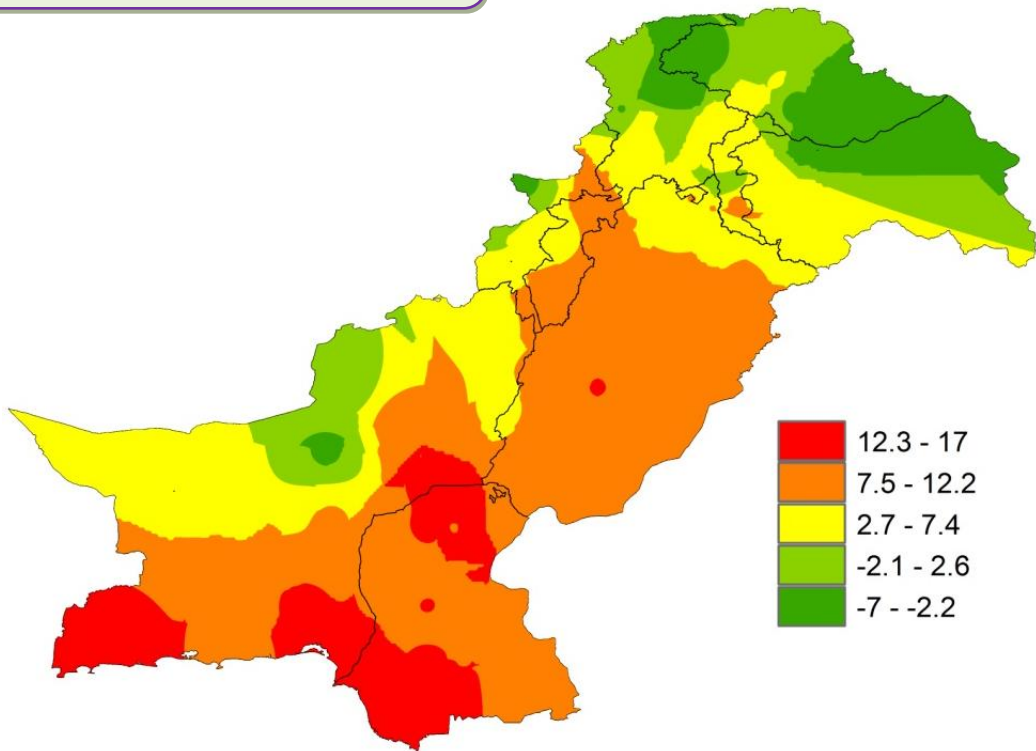
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Wheat: Good condition at *Flowering stage*.

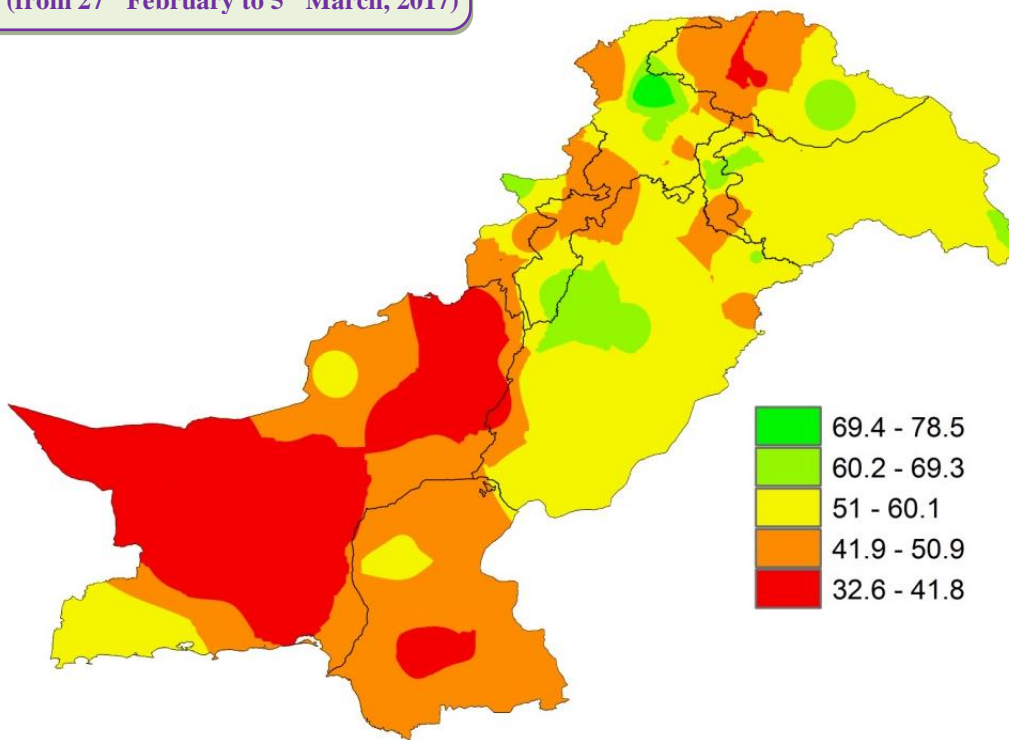
Mean Minimum Temperature (°C) during the Previous week (from 27th February to 5th March, 2017)



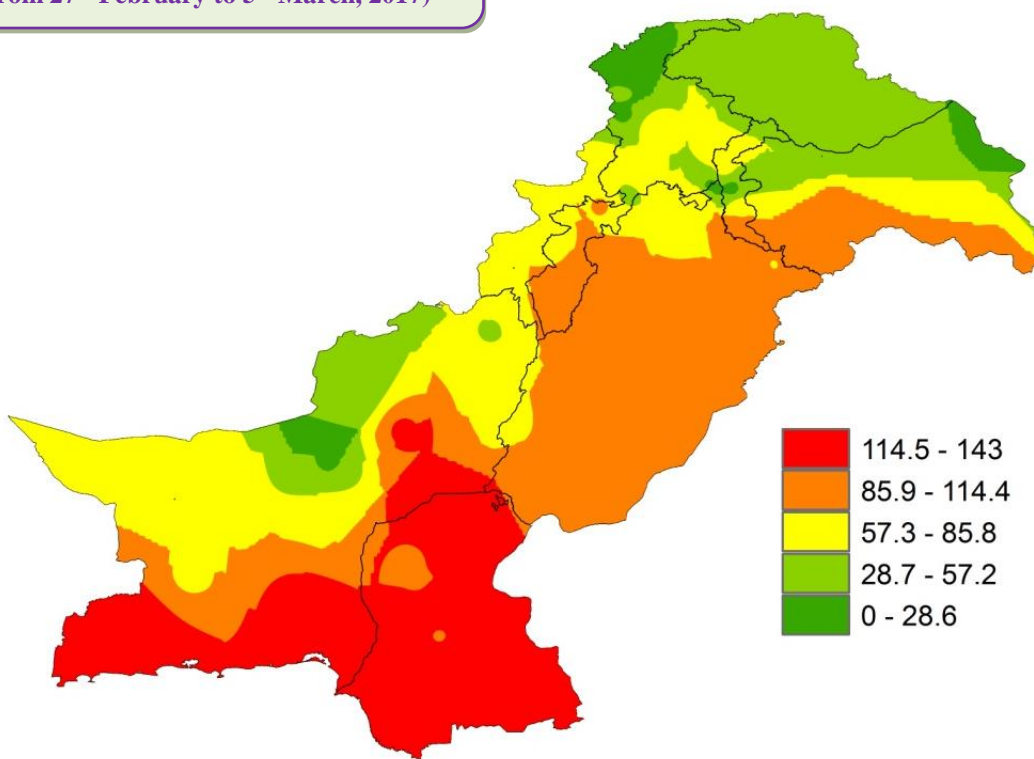
Lowest Minimum Temperature (°C) during the Previous week (from 27th February to 5th March, 2017)



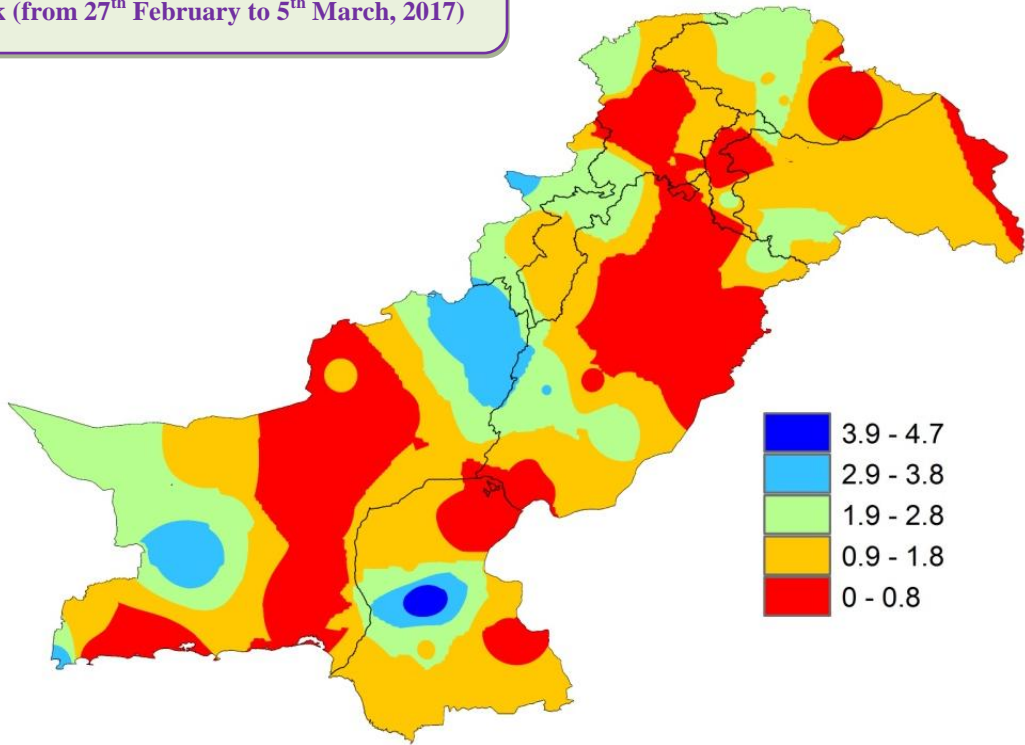
Mean Relative Humidity (%) during the Previous week (from 27th February to 5th March, 2017)



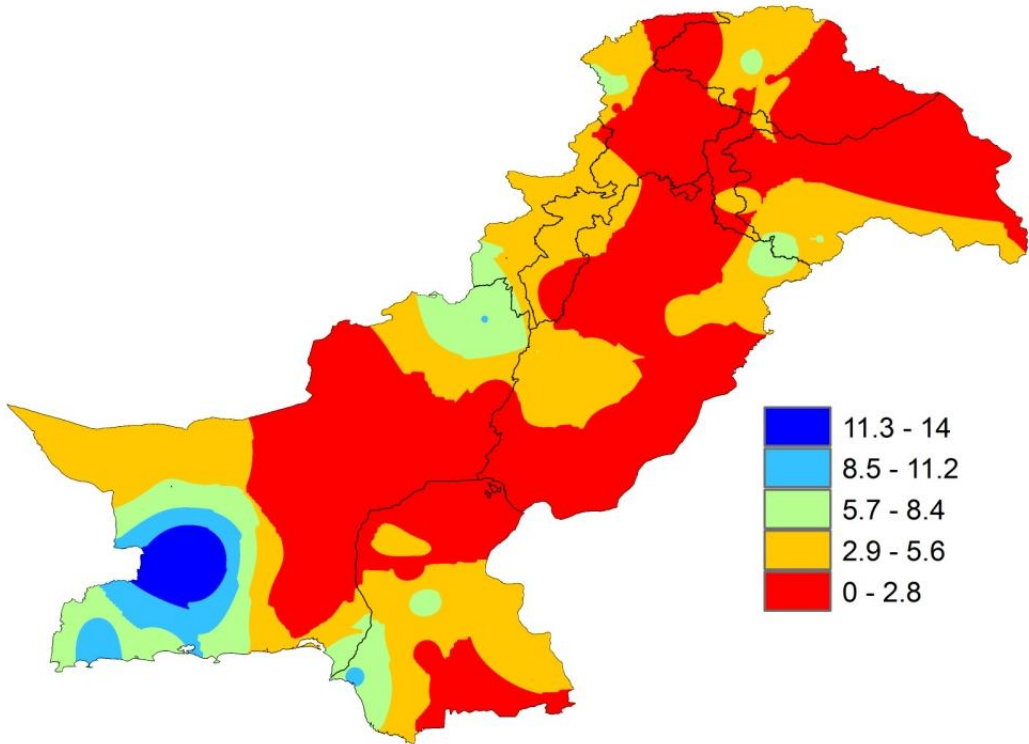
Total Growing Degree Days accumulated during the Previous week (from 27th February to 5th March, 2017)



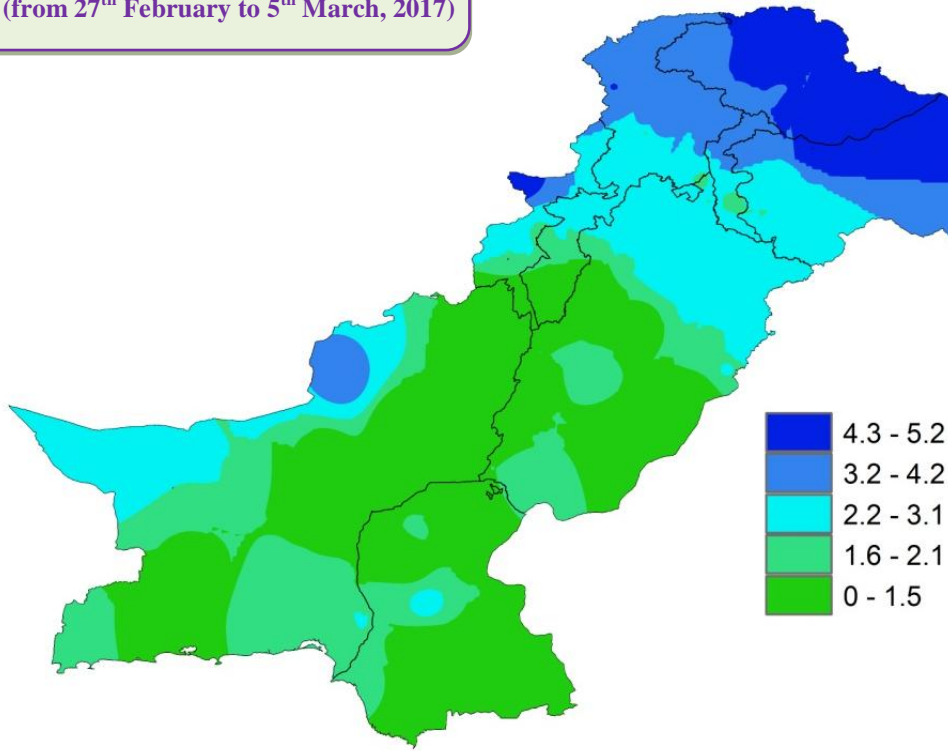
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 27th February to 5th March, 2017)



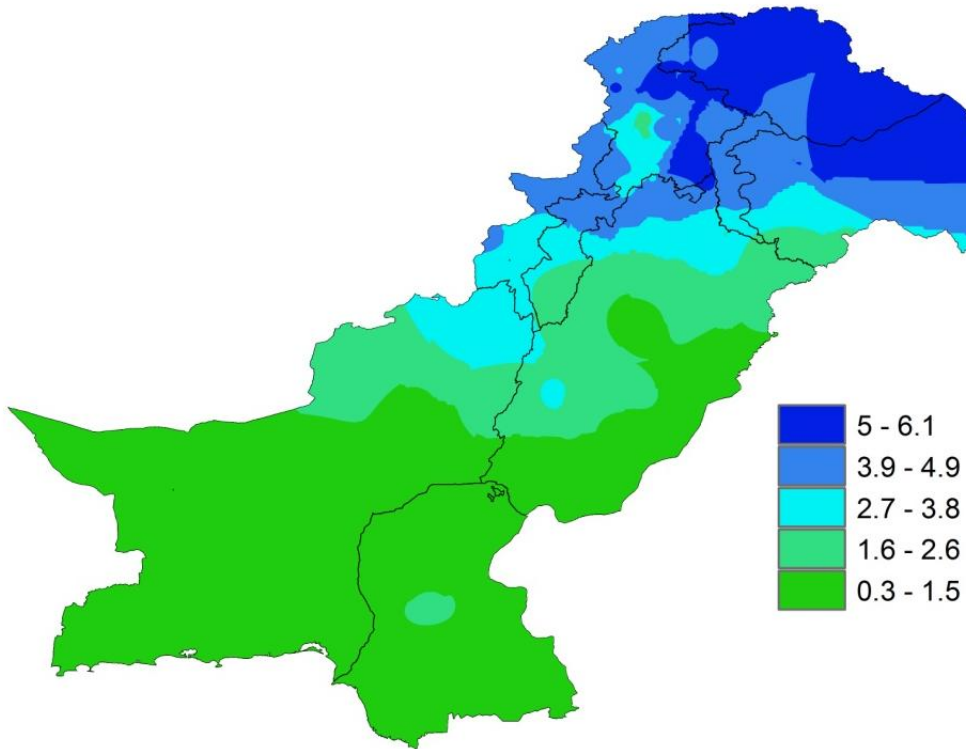
Mean Wind Speed (Knots) at 1700PST during the Previous week (from 27th February to 5th March, 2017)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 27th February to 5th March, 2017)



Mean Cloudiness (Oktas) at 1700PST during the Previous week (from 27th February to 5th March, 2017)



Weekly Weather Advisory for Farmers**(From 6th to 12th March, 2017)**

A westerly wave is persisting over Iran and its trough is extending up to western Pakistan (Balochistan), this westerly wave is likely to affect upper parts of the country in following days.

MONDAY**06-03-2017**

Partly cloudy weather conditions and mainly dry weather is expected in most parts of the country. However, light rain-thunderstorm is expected at isolated places in Quetta, Zhob, Kalat, Makran, D.I.Khan divisions and FATA.

TUESDAY**07-03-2017**

Rain-thunderstorm is expected at isolated places in Quetta, Zhob, Sibbi, Kalat, Malakand, D.I Khan, D.G. Khan, Multan divisions, FATA, Kashmir and Gilgit-Baltistan. Dry weather is expected elsewhere in the country.

WEDNESDAY**08-03-2017**

Cloudy weather conditions are expected in most parts of the country. However, rain-thunderstorm is expected at scattered places of upper KP, upper Punjab (Rawalpindi, Sargodha, Gujranwala divisions), Islamabad, FATA, Gilgit-Baltistan and Kashmir.

THURSDAY**09-03-2017**

Cloudy weather conditions are expected in most parts of the country. However, rain-thunderstorm is expected at scattered places of upper KP, upper Punjab (Rawalpindi, Sargodha, Gujranwala, Lahore, Faisalabad divisions), Islamabad, FATA, Gilgit-Baltistan and Kashmir.

FRIDAY**10-03-2017**

Cloudy weather conditions are expected in most parts of the country. However, rain-thunderstorm is expected at scattered places of upper Punjab (Rawalpindi, Sargodha, Gujranwala, Lahore, Faisalabad divisions), Islamabad, Gilgit-Baltistan, Kashmir, while at isolated places in FATA and upper KP.

SATURDAY**11-03-2017**

Cloudy weather conditions are expected in upper parts of the country. Rain-thunderstorm is expected at scattered places of upper Punjab (Rawalpindi, Sargodha, Gujranwala, Lahore divisions), Islamabad, FATA, Gilgit-Baltistan and Kashmir.

SUNDAY**12-03-2017**

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

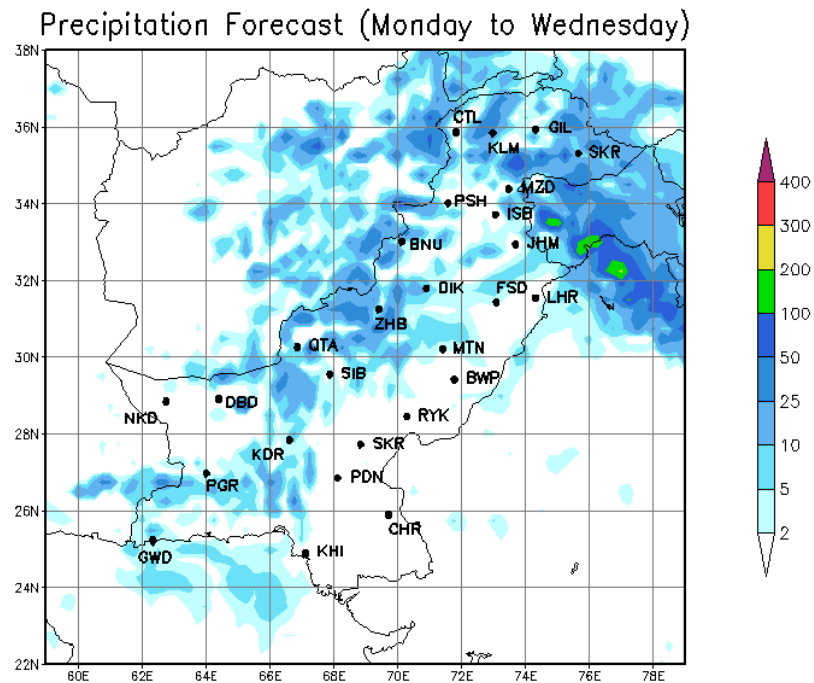
ADVISES FOR FARMERS

During the last week, light rainfall recorded at most parts of the country. This may continue in the same manner in coming days at most of the agricultural plains except Sindh province. Keeping in view the expected weather conditions following advises are suggested for farming community.

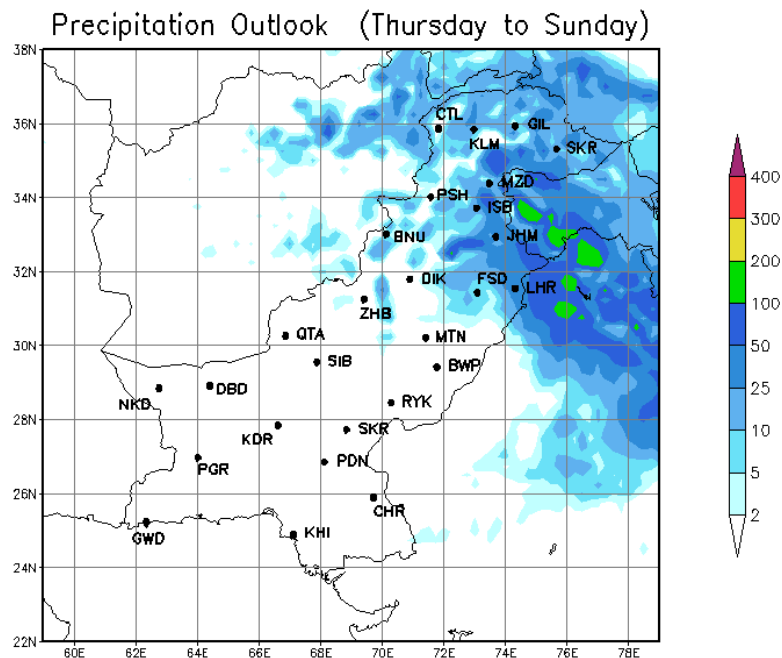
- Farmers of irrigated areas should irrigate the crop as per phonological requirement keeping in mind the expected weather in mind.
- Removing weeds from the standing crops is very important as weeds utilize moisture and food which may be utilized by the crop. As a result considerable loss in yield occurs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

Weather Outlook from 6th to 12th March, 2017

The forecast from 6th to 8th March, 2017 shows that light to moderate rainfall is expected at scattered places in KP, Punjab, Balochistan, GB and Kashmir.



The outlook from 9th to 12th March, 2017 shows that moderate to heavy rainfall is expected in KP, GB, Kashmir and upper Punjab.



National Weather Data of Selected Cities
(Weekly Data from 27th February to 5th 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	-3.0	-5.5	***	53	0.1	4.4	4.9	1.7	2.3
Badin	17.8	15.2	141.7	43	0.0	0.3	0.7	1.4	2.3
Bahawalnagar	12.9	11.5	107.1	57	0.0	0.6	1.3	0.6	1.4
Bahawalpur	11.9	10.5	106.1	59	0.0	0.3	1.1	2.3	1.1
Balakot	8.1	5.6	66.8	44	8.0	3.4	5.4	1.6	1.4
Bannu	5.5	4.0	77.7	48	1.0	2.0	3.6	1.4	5.4
Barkhan	8.0	6.5	70.1	35	1.0	0.0	1.9	2.9	1.7
Bunji	6.7	3.9	45.8	37	2.2	5.3	6.1	1.4	2.3
Cherat	7.0	6.5	43.9	47	0.0	2.6	3.6	2.6	3.1
Chhor	13.3	10.5	129.2	42	0.0	0.7	0.9	0.6	3.1
Chilas	5.9	4.5	47.8	44	6.1	3.6	5.1	1.1	2.6
Chitral	2.4	0.3	26.1	46	0.4	3.1	3.7	2.6	5.1
D.G.Khan	11.4	10.0	98.2	60	2.0	1.4	2.7	2.9	5.4
D.I.Khan	11.0	10.0	100.0	63	0.0	1.0	1.9	1.1	1.1
Dalbandin	7.1	5.5	70.9	38	0.0	2.1	0.5	1.4	4.7
Dir	-0.1	-2.5	25.0	57	5.0	3.3	4.1	0.0	2.6
Drosh	3.1	2.0	30.4	42	0.0	4.3	5.1	2.6	7.4
Faisalabad	11.0	8.7	101.6	56	0.1	2.0	1.6	0.3	1.6
Garidopatta	6.9	5.3	62.4	61	9.0	3.0	4.7	0.0	1.1
Gawader	17.1	15.5	133.1	56	0.0	1.6	1.1	0.0	10.3
Gilgit	3.9	-0.5	35.4	41	2.2	5.1	5.7	2.6	6.7
Gupis	-2.1	-4.0	***	48	2.0	3.6	4.9	1.7	1.4

Hyderabad	15.9	13.0	131.8	39	0.0	0.4	1.1	1.7	2.6
Islamabad	7.8	5.0	74.9	60	8.0	2.3	4.1	0.0	0.6
Jacobabad	14.8	12.5	117.3	50	3.0	1.0	0.9	1.1	0.6
Jhang	10.8	10.2	99.2	63	3.5	1.0	0.9	0.0	1.7
Jhelum	8.4	5.6	89.8	50	0.1	2.1	2.6	0.3	1.1
Jiwani	18.0	17.0	126.4	56	3.0	1.7	1.3	3.7	6.0
Kakul	3.8	2.5	41.2	55	9.5	2.6	5.4	0.0	1.7
Kalam	-3.8	-7.0	***	79	17.0	3.9	5.4	0.0	0.6
Karachi	17.6	16.0	139.8	49	0.0	2.0	1.4	0.9	8.6
Khanpur	11.8	9.5	110.5	54	0.0	1.6	1.0	0.9	0.0
Khuzdar	9.7	8.0	83.8	33	0.0	1.3	1.4	0.6	0.3
Kalat	-0.3	-3.0	26.0	41	8.0	1.1	0.9	0.0	0.0
Kotli	10.3	8.8	84.9	46	0.1	1.8	4.0	2.3	4.3
Lahore	13.2	11.5	104.1	49	0.0	2.6	1.7	0.3	3.6
Larkana	15.6	14.5	127.7	47	0.0	1.9	0.9	1.7	1.4
Lasbella	14.6	12.8	137.7	38	0.0	2.0	1.0	0.3	1.4
Lower Dir	7.3	5.0	68.3	58	18.0	3.4	2.1	0.3	1.7
M.B Din	10.9	8.5	99.9	54	0.0	2.9	2.6	0.6	0.9
Malam Jabba	-0.6	-2.0	***	62	32.0	3.6	5.0	0.0	0.0
Mangla	9.0	6.7	88.9	49	0.1	2.7	3.6	0.0	1.1
Mir Khani	2.5	1.9	33.5	57	4.0	3.4	3.9	2.7	3.7
Moinjodaro	10.9	8.0	107.1	52	0.0	1.0	0.4	1.1	4.6
Multan (PBO)	12.9	12.4	103.2	57	9.0	2.0	2.4	0.6	4.9
Murree	3.0	1.0	19.9	52	10.0	1.9	5.4	1.9	2.0
Muzaffarabad	6.4	4.8	59.9	58	13.0	2.9	4.9	1.1	1.7
Nawabshah	14.0	12.5	128.1	47	0.0	2.4	1.7	4.7	6.6

Nokkundi	10.1	6.5	84.0	33	6.0	2.6	0.3	2.0	3.3
Okara	12.5	11.5	104.8	56	0.0	2.0	0.9	0.3	1.4
Padidan	12.3	11.0	113.5	52	0.0	1.3	1.0	1.7	1.7
Panjgur	9.4	7.5	80.0	36	1.0	1.3	0.9	3.4	14.0
Parachinar	-2.1	-3.7	**	65	10.0	5.0	4.4	3.3	3.6
Pasni	16.7	13.5	130.4	60	0.0	1.3	0.9	0.0	7.3
Pattan	9.1	7.5	64.4	58	12.0	4.1	4.1	0.7	1.1
Peshawar	9.1	7.5	83.0	49	0.0	2.9	4.9	2.0	3.7
Quetta	4.4	3.0	31.5	43	6.4	3.7	2.7	2.1	3.3
Rahim Yar Khan	10.5	8.2	109.4	54	0.0	2.0	0.7	0.6	1.1
Rawalakot	0.4	-1.5	21.4	65	6.0	3.0	4.4	0.0	1.1
Rawalpindi	9.8	6.5	86.2	61	8.2	1.8	2.3	0.6	3.1
Rohri	15.1	13.0	125.3	42	0.0	0.0	1.1	0.3	1.7
Sahiwal	11.1	9.0	97.1	59	0.0	2.1	0.7	0.3	1.1
Saidu Sharif	7.1	6.0	57.5	57	10.0	2.0	2.4	0.0	0.0
Sialkot	8.9	6.1	85.0	61	1.4	2.4	2.1	2.3	6.9
Sibbi	14.1	12.0	121.0	39	0.0	0.6	1.1	0.6	2.3
Skardu	-0.5	-2.8	**	62	0.0	4.6	5.7	0.0	0.0
Tandojam	11.9	9.5	112.8	54	0.0	0.0	0.0	0.0	0.6
Usta.M	12.5	10.8	105.0	80	0.1	1.0	1.1	1.1	2.5
Zhob	6.6	6.0	56.0	38	0.0	1.4	3.6	3.6	8.4

*** 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)