

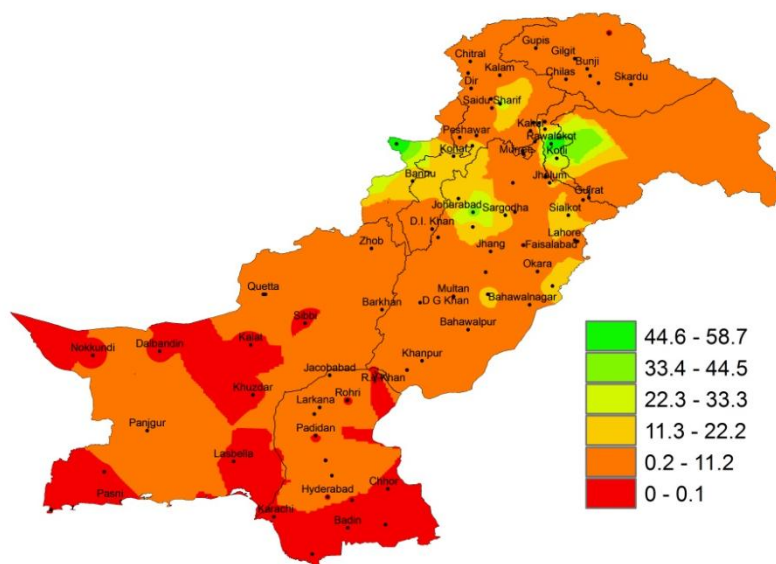
Weekly Weather and Crop Bulletin for Pakistan

**NATIONAL AGROMET CENTRE
PAKISTAN METEOROLOGICAL
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**Rainfall Distribution (mm) during the
Previous Week (from 15th May to 21st May, 2017)**



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Highlights of Past Weather (from 15th May to 21st May, 2017)

Slightly above normal day temperatures reported from most parts of the country however in Punjab below normal trend observed.

Province wise distribution of rainfall reported as follows:

- Light to moderate rainfall reported from most places of Punjab, Khyber Pakhtunkhwa (KP), Gilgit Baltistan and Azad Kashmir
- Light to moderate rainfall reported from isolated places of Sindh and Balochistan.

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

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

Editor: Dr. Dildar Kazmi (Meteorologist)

Past Weather of Provinces (from 15th May to 21st May, 2017)**Punjab**

Light to moderate rainfall reported from most places of Punjab during the week. Weekly maximum and minimum temperatures recorded as 37.9°C & 24.5°C respectively. For the recent week on average 183.5 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 42% and wind speed in the morning/evening recorded as 2.5/3.3 Knots. During the previous week the highest amount of rainfall was recorded as 37.2 mm at Joharabad & highest maximum temperature was recorded as 45.5°C at Rahim Yar Khan.

Balochistan

Light rainfall reported from isolated places of Balochistan during the week. Weekly maximum and minimum temperatures recorded as 37.3°C & 22.7°C respectively. For the recent week on average 173.4 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 41% and wind speed in the morning/evening recorded as 1.3/7.0 Knots. During the previous week the highest amount of rainfall was recorded as 6.0 mm at Zhob & highest maximum temperature was recorded as 48.0°C at Sibbi.

Khyber Pakhtunkhwa

Light to moderate rainfall reported from most of the places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 32.3°C & 18.0°C respectively. For the recent week on average 141.0 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 54% and wind speed in the morning/evening recorded as 0.9/3.5 Knots. During the previous week the highest amount of rainfall was recorded as 50.0 mm at Parachinar & highest maximum temperature was recorded as 43.5°C at D.I. Khan.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall reported from few places of Gilgit-Baltistan & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 28.4°C & 15.0°C respectively. For the recent week on average 116.6 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 1.0/2.3 Knots. During the previous week the highest amount of rainfall was recorded as 59.41 mm at Rawalakot & highest maximum temperature was recorded as 38.3°C at Kotli.

Sindh

Light to moderate rainfall reported from isolated places of Sindh during the week. Weekly maximum and minimum temperatures recorded as 42.1°C & 26.9°C respectively. For the recent week, on average 207.2 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 4.4/8.1 Knots. During the previous week the highest amount of rainfall was recorded as 10.01 mm only at Jacobabad, highest maximum temperature was recorded as 49.0°C at Dadu.

**Past Weather for Major Agricultural Plains
(from 15th May to 21st May, 2017)****Rawalpindi (Potohar region)**

Rainfall reported as 1.20 mm from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 4.6/5.3 Oktas while, average relative humidity observed as 48%. Mean day time temperature recorded as 36.1°C & for the recent week 174.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.1/3.1 Knots.

Faisalabad (Central Punjab)

Rainfall reported as trace (not measureable) from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 4.0/1.4 Oktas while, average relative humidity observed as 44%. Mean day time temperature recorded as 38.7°C & for the recent week 189.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.8/1.7 Knots.

Tandojam (Lower Sindh)

Dry weather reported from Tandojam during the week; however, cloudiness in the morning/evening recorded as 0.0/1.4 Oktas while, average relative humidity observed as 55%. Mean day time temperature recorded as 40.8°C & for the recent week 192.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/4.8 Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather reported from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded 0.6/1.1 Oktas while, average relative humidity observed as 34%. Mean day time temperature recorded as 45.3°C & for the recent week 223.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.6/1.8 Knots.

Quetta (Northern Baluchistan)

Rainfall reported as trace from Quetta during the week; however, cloudiness in the morning/evening recorded as 0.4/3.5 Oktas while, average relative humidity observed as 23%. Mean day time temperature recorded as 31.3°C & for the recent

week 132.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.4/3.3 Knots.

**Past Weather for Sub-Regional Agricultural
Plains (from 15th May to 21st May, 2017)****Multan**

Dry weather reported from Multan during the week; however, cloudiness in the morning/evening recorded as 3.3/3.6 Oktas while, average relative humidity observed as 31%. Mean day time temperature recorded as 40.6°C & for the recent week 205.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 5.7/5.4 Knots.

Lahore

Rainfall reported as 9.81 mm from Lahore during the week; however, cloudiness in the morning/evening recorded as 3.7/3.0 Oktas while, average relative humidity observed as 43%. Mean day time temperature recorded as 36.5°C & for the recent week 182.4 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.7/2.0 Knots.

Zhob

Rainfall reported as 6.0 mm from Zhob during the week; however, cloudiness in the morning/evening recorded as 0.5/3.4 Oktas while, average relative humidity observed as 33%. Mean day time temperature recorded as 33.6°C & for the recent week 154.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/9.3 Knots.

Murree

Rainfall reported as 2.01 mm from Murree during the week; however, cloudiness in the morning/evening recorded as 2.5/6.0 Oktas while, average relative humidity observed as 54%. Mean day time temperature recorded as 23.0°C & for the recent week 98.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.0/2.6 Knots.

D.I. Khan

Rainfall reported as 0.02 mm from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 1.0/5.1 Oktas while, average relative humidity observed as 47%. Mean day time temperature recorded as 41.1°C & for the recent week 196.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.7/2.3 Knots.

Peshawar

Rainfall reported as 1.01 mm from Peshawar during the week; however, cloudiness in the morning/evening recorded as 4.2/6.3 Oktas while, average relative humidity observed as 55%. Mean day time temperature recorded as 36.8°C & for the recent week 179.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.7/2.6 Knots.

Kalam

Rainfall reported as 6.0 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 3.3/5.9 Oktas while, average relative humidity observed as 59%. Mean day time temperature recorded as 23.4°C & for the recent week 81.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/2.3 Knots.

Gilgit

Rainfall reported as 10.01 mm from Gilgit during the week; However, cloudiness in the morning/evening recorded as 5.0/6.4 Oktas while, average relative humidity observed as 56%. Mean day time temperature recorded as 29.6°C & for the recent week 119.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.7 Knots.

Skardu

Rainfall reported as 22.1 mm from Skardu during the week; however, cloudiness in the morning/evening recorded as 5.3/6.7 Oktas while, average relative humidity observed as 40%. Mean day time temperature recorded as 27.2°C & for the recent week 102.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/6.3 Knots.

**Crop Situation for Major Agricultural Plains
(Based on data from Regional Agromet Centers)****Potohar Region (Rawalpindi)**

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

Central Punjab (Faisalabad)

Land has been prepared for new crop.

Lower Sindh (Tandojam)

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

Cotton (HH-906): Good condition, 3rd leaf stage.

Northern Balochistan (Quetta)

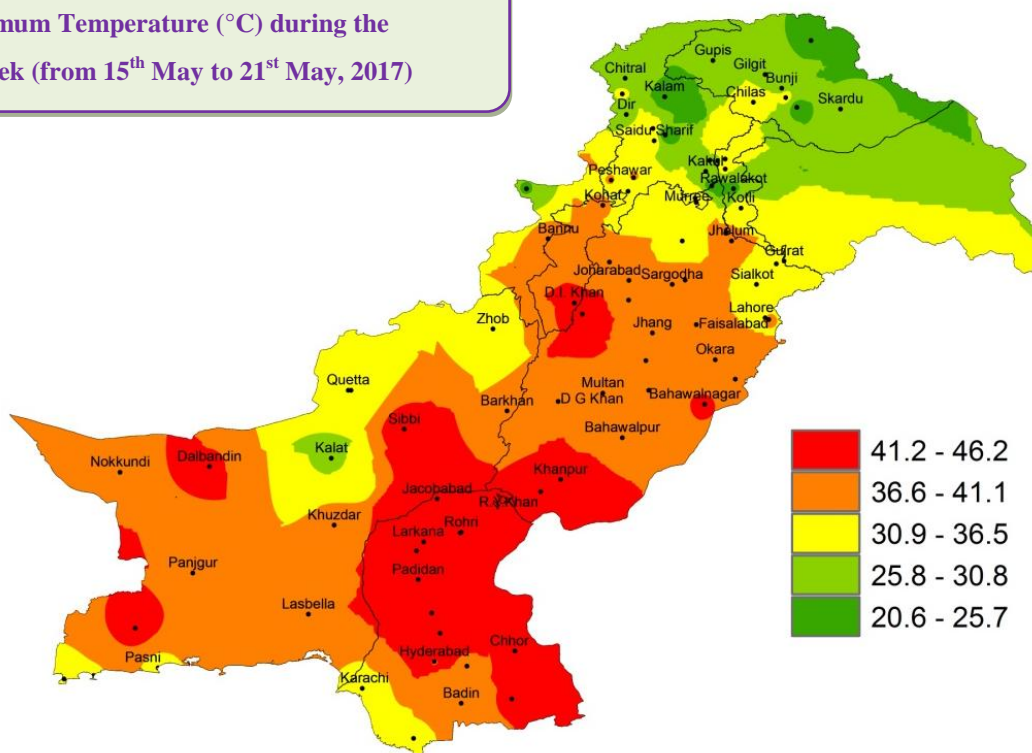
There is presently one crop (irrigated conditions) grown in the fields of RAMC Quetta.

Wheat (Local white): Good condition, *Full Maturity* stage.

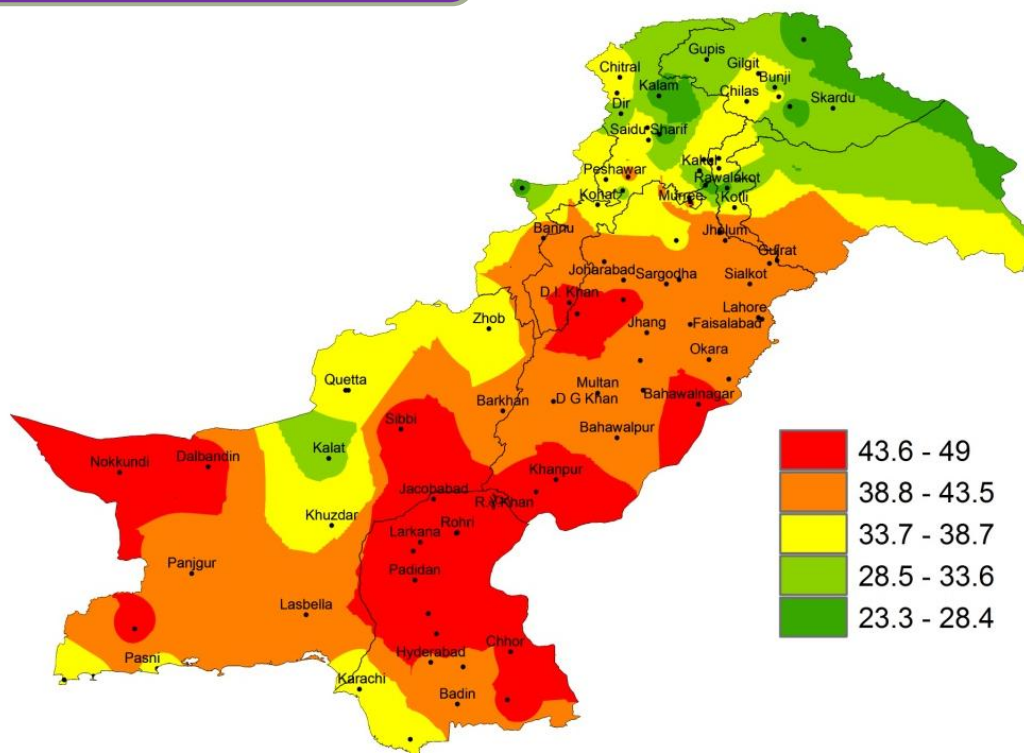
Eastern Balochistan (Usta Muhammad)

Land has been prepared for new crop.

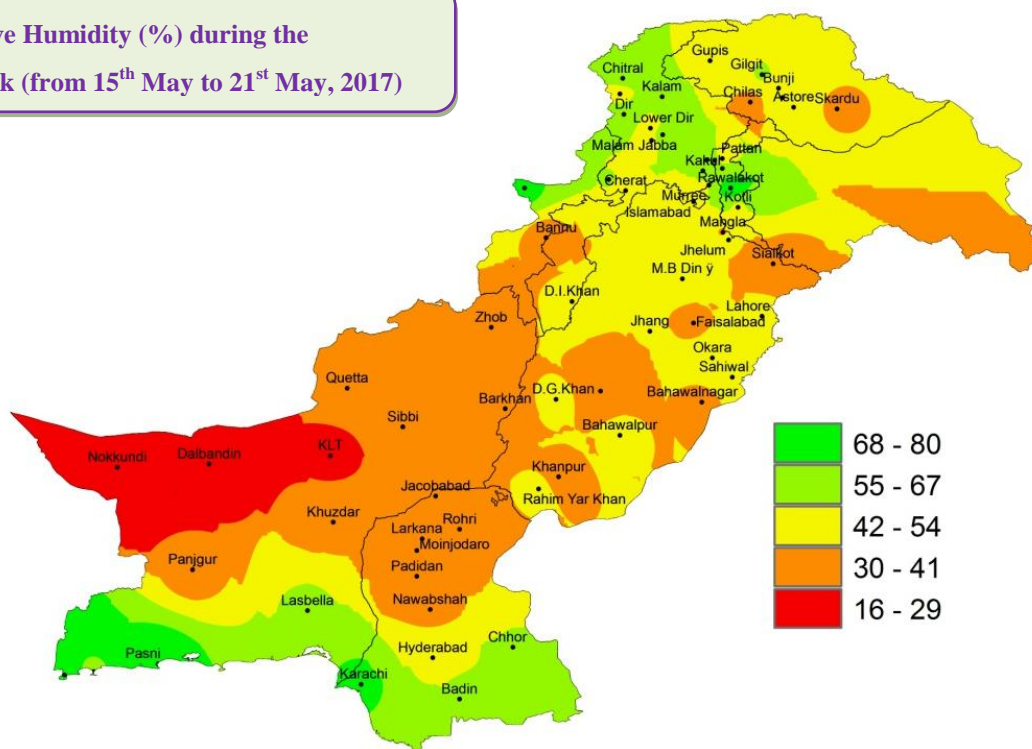
**Mean Maximum Temperature (°C) during the
Previous week (from 15th May to 21st May, 2017)**



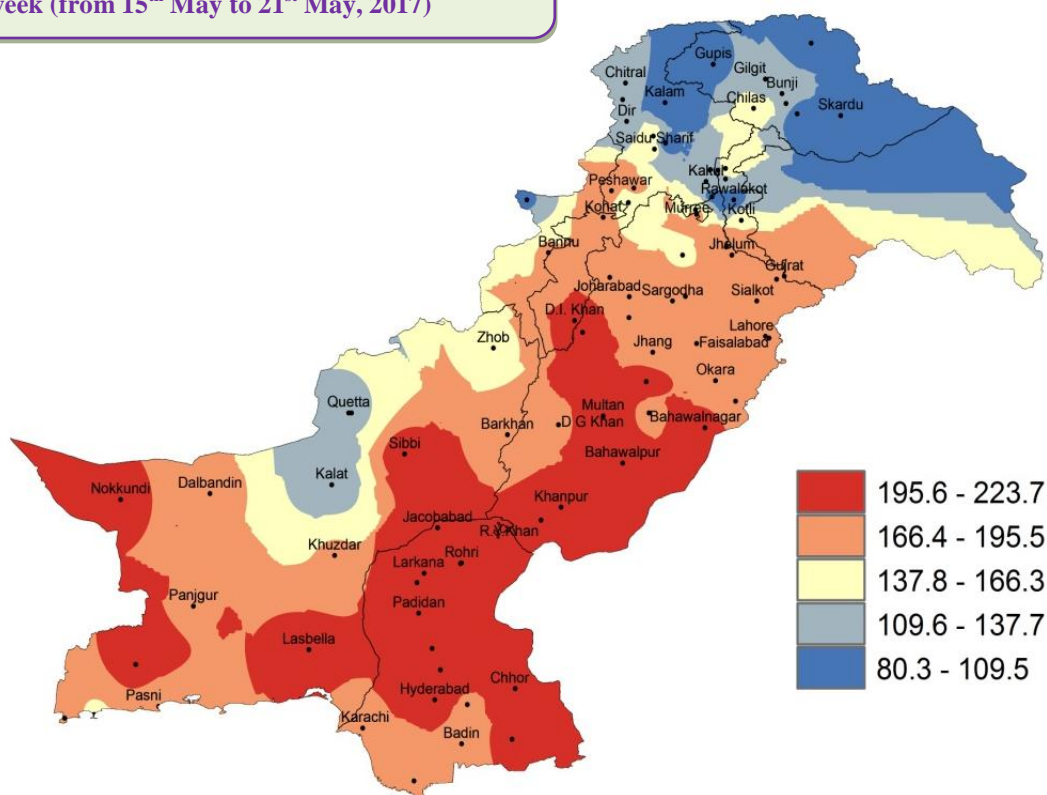
Highest maximum Temperature (°C) during the Previous week (from 15th May to 21st May, 2017)



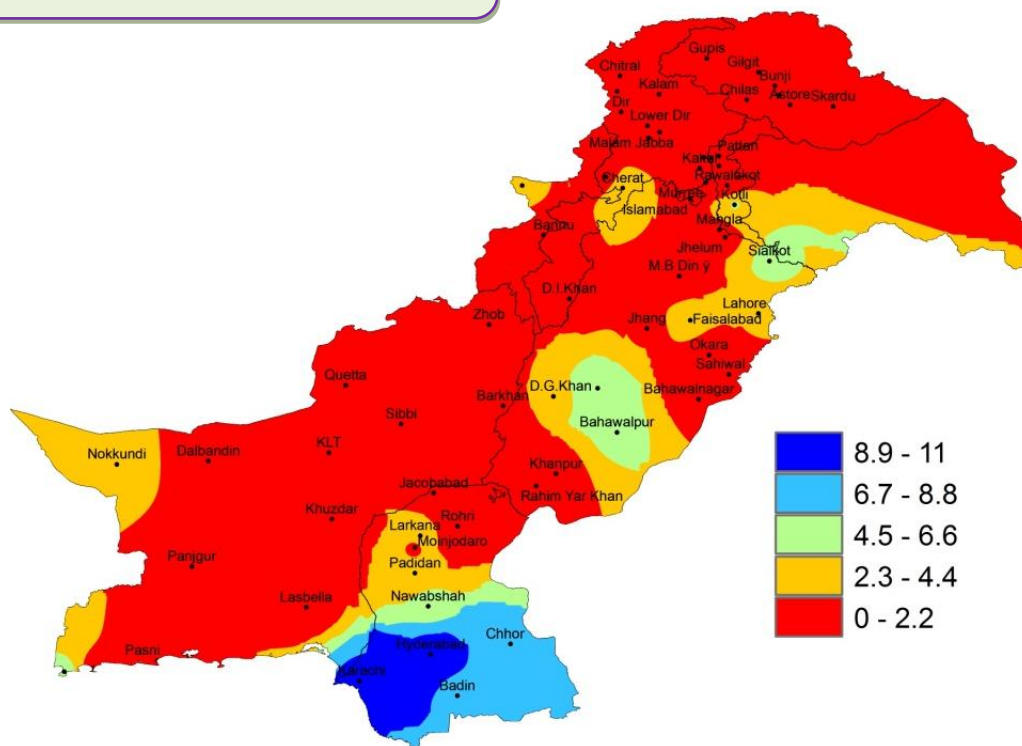
Mean Relative Humidity (%) during the
Previous week (from 15th May to 21st May, 2017)



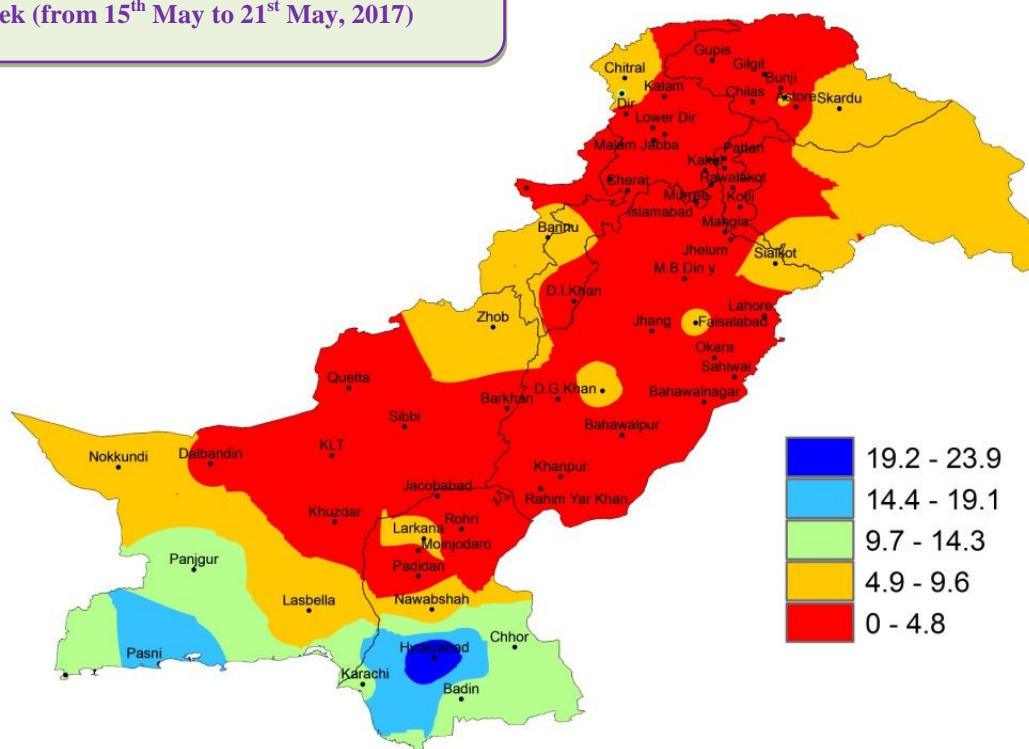
Total Growing Degree Days accumulated during the
Previous week (from 15th May to 21st May, 2017)



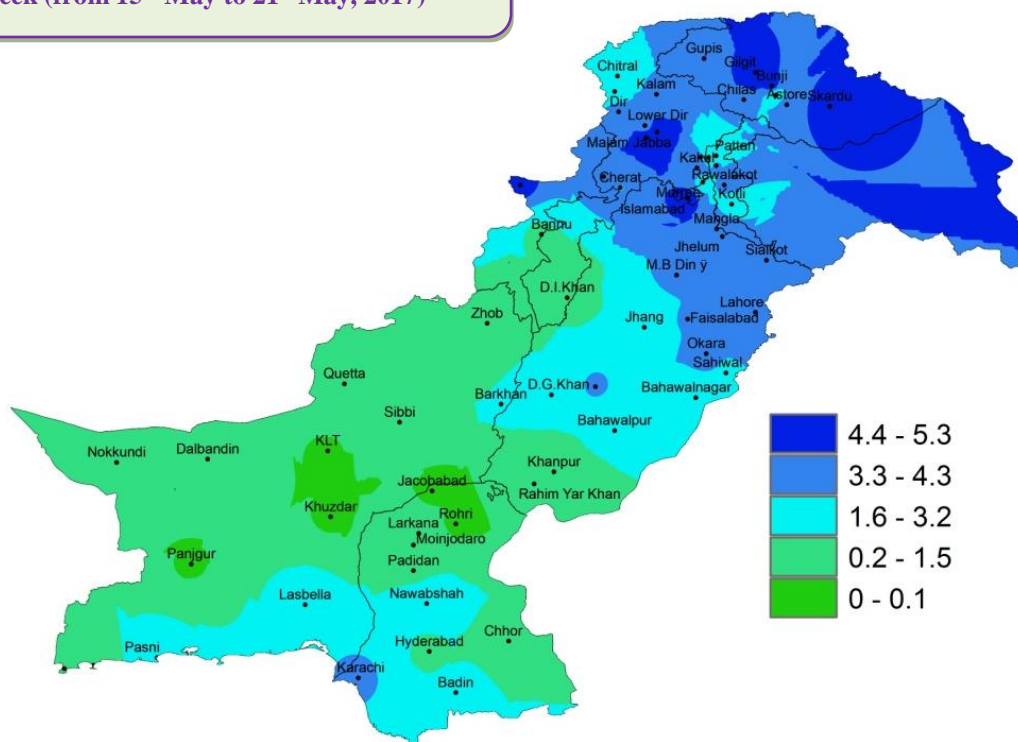
Mean Wind Speed (Knots) at 0800PST during the
Previous week (from 15th May to 21st May, 2017)



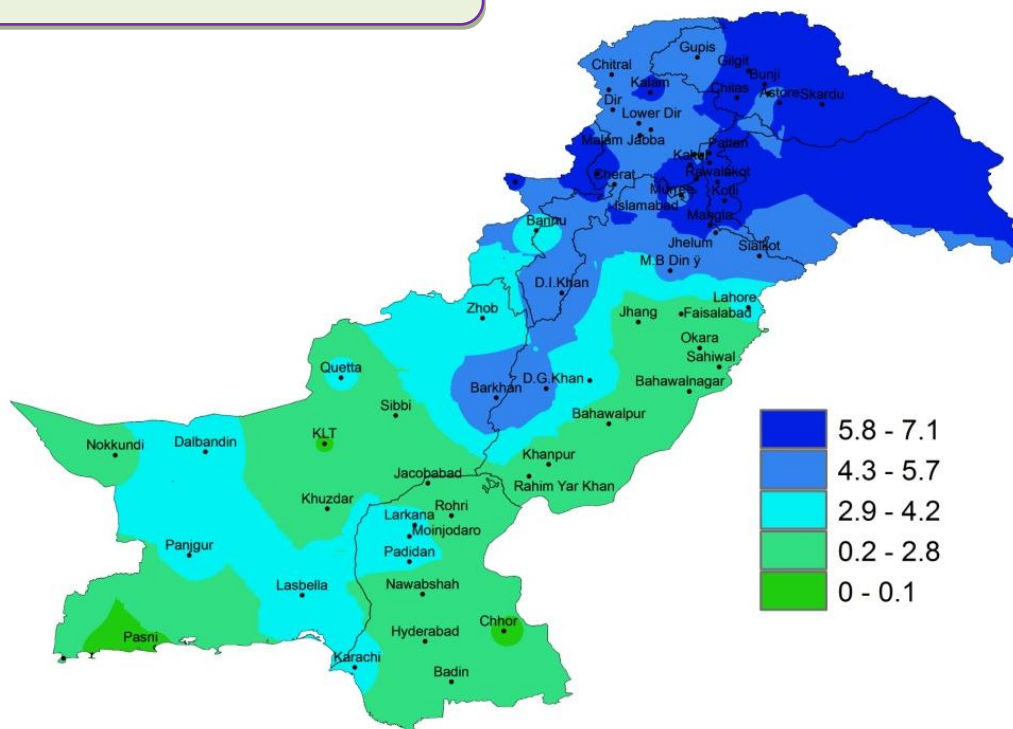
Mean Wind Speed (Knots) at 1700PST during the
Previous week (from 15th May to 21st May, 2017)



Mean Cloudiness (Oktas) at 0800PST during the
Previous week (from 15th May to 21st May, 2017)



Mean Cloudiness (Oktas) at 1700PST during the
Previous week (from 15th May to 21st May, 2017)



Weekly Weather Advisory for Farmers**(from 22nd May to 28th May, 2017)**

A westerly wave is affecting upper and central parts of the country.

MONDAY**22-05-2017**

Mainly hot and dry weather is expected in most parts of the country. However, light rain-thunderstorm with gusty winds is expected at a few places in Quetta, Zhob, Kalat, Larkana, Bahawalpur, D.G.Khan, Rawalpindi, Gujranwala, Malakand, Hazara divisions, Islamabad, FATA, Gilgit-Baltistan and Kashmir during evening/night.

TUESDAY**23-05-2017**

Mainly hot and dry weather is expected in most parts of the country. However, rain-thunderstorm with gusty winds is expected at isolated places in Quetta, Zhob, Kalat, Larkana, Sukkur, Bahawalpur, D.G.Khan, Rawalpindi, Gujranwala, Sargodha, Malakand, Hazara divisions, Islamabad, FATA, Gilgit-Baltistan and Kashmir.

WEDNESDAY**24-05-2017**

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

THURSDAY**25-05-2017**

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

FRIDAY**26-05-2017**

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

SATURDAY**27-05-2017**

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

SUNDAY**28-05-2017**

Mainly hot and dry weather is expected in most parts of the country. However, light rain-thunderstorm is expected at few places in Kashmir.

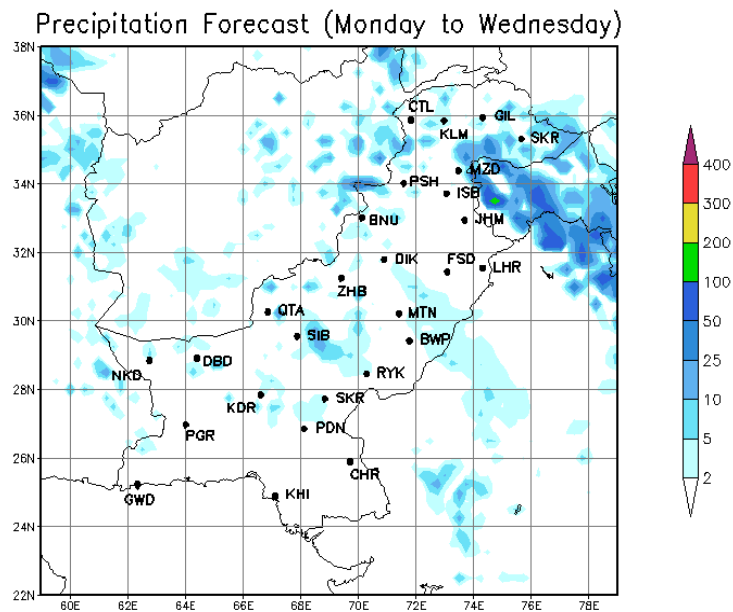
ADVISES FOR FARMERS

During the last week, light to moderate rainfall occurred in upper half of the country and light rainfall was recorded at particular places in Balochistan and Sindh. This may continue with almost the same pattern over northern parts of the country in coming days as well. Keeping in view the expected weather conditions following advises are suggested for farming community.

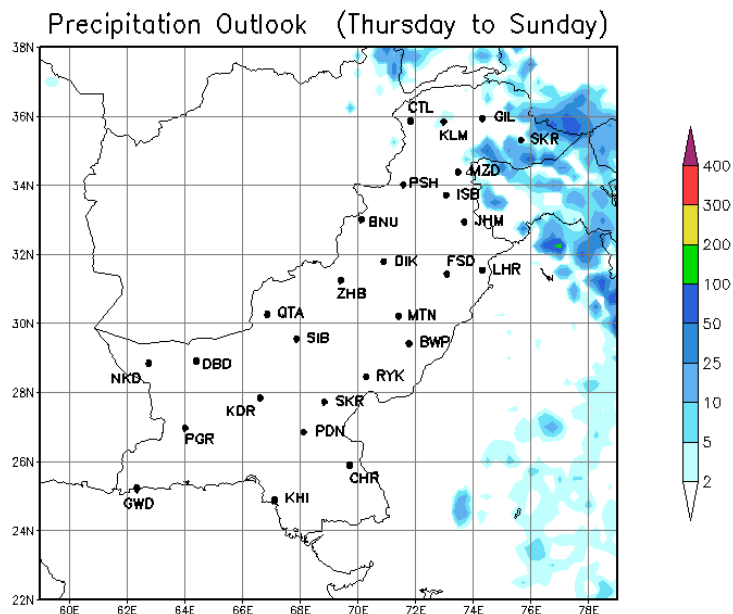
- Farmers of irrigated areas may irrigate the standing crops as per requirement in accordance with the expected weather conditions.
- Farmers of upper Sindh and southern Punjab are advised to complete the sowing of cotton crop.
- Farmers of peanut growing areas may sow this crop if the appropriate moisture is available in the fields.

Weather Outlook from 22nd May to 28th May, 2017

The forecast from 22nd to 24th May, 2017 shows that light rainfall is expected at scattered places in KP, southern Punjab, northeastern Balochistan, GB and Kashmir.



The outlook from 25th to 28th May, 2017 shows that dry weather is expected in most parts of the country. However, light rainfall is expected at scattered places in GB and Kashmir.



National Weather Data of Selected Cities
(Weekly Data from 15th May to 21st May, 2017)

Stations	Maximum/Nighttime 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	highest							
Astore	22.9	25.5	82.3	45	1.41	4.3	5.9	1.3	3.7
Badin	39.0	40.0	190.0	56	0.00	2.0	0.3	8.0	12.0
Bahawalnagar	41.6	45.5	202.5	38	3.01	2.0	1.7	1.3	2.0
Bahawalpur	40.4	43.0	197.0	45	5.70	2.0	1.3	5.0	2.0
Balakot	30.9	35.5	132.5	57	9.60	3.3	5.7	0.0	1.3
Bannu	38.6	40.6	169.4	33	16.00	1.2	3.9	1.0	6.6
Barkhan	36.6	39.0	172.5	35	2.01	1.5	5.5	0.0	2.0
Bunji	29.9	32.8	134.7	50	4.70	5.2	7.1	1.0	0.9
Cherat	30.6	32.0	135.0	51	17.00	3.2	5.4	4.3	4.3
Chhor	41.7	43.8	206.8	55	0.00	1.0	0.0	6.7	12.3
Chilas	32.9	35.5	150.3	37	3.00	3.7	6.0	1.7	2.3
Chitral	30.0	34.6	116.4	61	1.40	3.0	4.9	0.0	6.3
D.G.Khan	40.2	42.3	193.6	45	5.01	2.3	4.3	3.7	4.6
D.I.Khan	41.1	43.5	196.0	47	0.02	1.0	5.1	0.7	2.3
Dalbandin	41.4	44.0	176.3	20	0.00	0.8	3.6	0.7	4.0
Dir	29.2	31.2	109.4	66	6.00	3.3	5.6	0.0	1.6
Drosh	31.2	35.0	128.2	46	1.00	3.0	5.4	0.0	10.3
Faisalabad	38.7	42.5	189.4	44	0.01	4.0	1.4	1.8	1.7
Garidopatta	31.0	36.0	135.0	63	22.91	3.3	6.4	0.0	1.7
Gawader	36.3	38.0	159.8	66	0.00	0.7	0.0	1.3	13.1
Gilgit	29.6	34.0	119.5	56	10.01	5.0	6.4	0.3	1.7
Gupis	26.6	29.5	98.8	47	3.00	3.7	4.9	1.7	3.4

Hyderabad	41.0	42.5	202.2	50	0.00	1.2	2.4	11.0	24.0
Islamabad	34.7	38.2	160.3	45	1.00	4.8	5.6	0.7	2.6
Jacobabad	44.1	46.5	217.0	40	10.01	0.0	1.3	1.3	1.4
Jhang	39.3	42.2	192.5	42	4.20	1.7	2.1	1.7	2.3
Jhelum	37.5	41.0	180.9	42	12.02	3.3	5.4	1.7	3.7
Jiwani	34.9	37.0	184.0	68	0.00	1.3	0.4	5.3	10.3
Kakul	29.3	32.0	122.4	54	4.00	4.3	5.9	0.0	1.1
Kalam	23.4	26.5	81.0	59	6.00	3.3	5.9	0.0	2.3
Kalat	30.0	32.0	112.5	25	0.00	0.0	0.0	0.0	0.0
Karachi	35.3	36.2	185.4	70	0.00	3.5	3.1	9.7	14.0
Khanpur	41.5	43.5	204.1	38	6.80	0.3	2.4	1.3	3.4
Khuzdar	37.6	38.5	169.5	37	0.00	0.0	2.7	0.0	3.1
Kotli	34.3	38.3	162.7	52	30.72	2.8	5.7	4.7	2.9
Lahore	36.5	42.2	182.4	43	9.81	3.7	3.0	2.7	2.0
Larkana	45.4	48.5	223.8	34	7.02	0.7	3.3	3.0	7.7
Lasbella	40.6	42.2	204.4	58	0.00	2.3	3.0	0.0	8.3
Lower Dir	36.0	38.0	157.5	48	3.00	3.8	5.0	2.0	2.3
M.B Din	37.2	41.5	178.9	46	3.82	3.5	4.6	0.7	1.1
Malam Jabba	20.3	23.0	78.8	63	32.00	4.8	4.6	0.0	0.3
Mangla	36.6	40.7	175.2	41	3.40	3.8	6.0	1.7	3.7
Mir Khani	33.0	35.4	135.4	45	6.00	1.5	4.4	1.2	6.3
Moinjodaro	44.3	47.5	214.9	39	2.01	0.3	3.3	2.0	3.4
Multan(PBO)	40.6	43.0	205.4	31	0.00	3.3	3.6	5.7	5.4
Murree	23.0	26.2	98.1	54	2.01	2.5	6.0	2.0	2.6
Muzaffarabad	30.1	34.6	128.2	63	15.40	2.5	5.0	0.0	1.1
Nawabshah	45.2	47.5	214.3	39	0.00	2.5	2.3	5.8	7.7

Nokkundi	41.0	44.0	201.5	16	0.00	0.5	2.7	3.7	8.9
Okara	38.4	42.5	189.5	49	7.00	3.8	1.9	0.7	1.4
Padidan	43.7	46.5	215.0	39	0.00	1.3	2.9	2.3	3.4
Panjgur	39.9	42.5	192.8	33	4.00	0.0	3.1	1.0	12.0
Parachinar	25.5	28.0	106.1	73	50.00	4.7	5.7	3.0	3.9
Pasni	35.2	37.5	179.5	80	0.00	2.5	0.0	0.5	18.4
Pattan	32.6	36.5	150.0	43	0.00	3.0	5.9	0.3	0.0
Peshawar	36.8	38.0	179.3	55	1.01	4.2	6.3	0.7	2.6
Quetta	31.3	33.2	132.6	23	0.01	0.4	3.5	2.4	3.3
Rahim Yar Khan	43.5	45.5	208.2	44	0.00	0.5	2.6	1.3	2.0
Rawalakot	24.6	27.5	88.8	78	59.41	3.5	6.4	0.0	1.1
Rawalpindi	36.1	40.0	174.3	48	1.20	4.6	5.3	1.1	3.1
Rohri	43.5	46.0	222.8	35	0.00	0.0	0.9	1.0	0.6
Sahiwal	38.0	42.5	183.8	47	16.21	3.0	1.6	1.7	2.0
Saidu Sharif	33.7	35.9	149.8	51	2.00	4.7	4.9	0.0	1.4
Sialkot	35.4	41.0	173.6	37	10.50	3.5	5.0	5.3	7.1
Sibbi	44.4	48.0	218.5	33	0.00	0.7	2.6	1.0	4.0
Skardu	27.2	29.0	102.2	40	2.21	5.3	6.7	0.0	6.3
Tandojam	40.8	42.5	192.8	55	0.00	0.0	1.4	1.7	4.8
Usta.M	45.3	47.0	223.5	34	0.00	0.6	1.1	1.6	1.8
Zhob	33.6	36.0	154.3	33	6.00	0.5	3.4	1.7	9.3

*** 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 باب (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)