

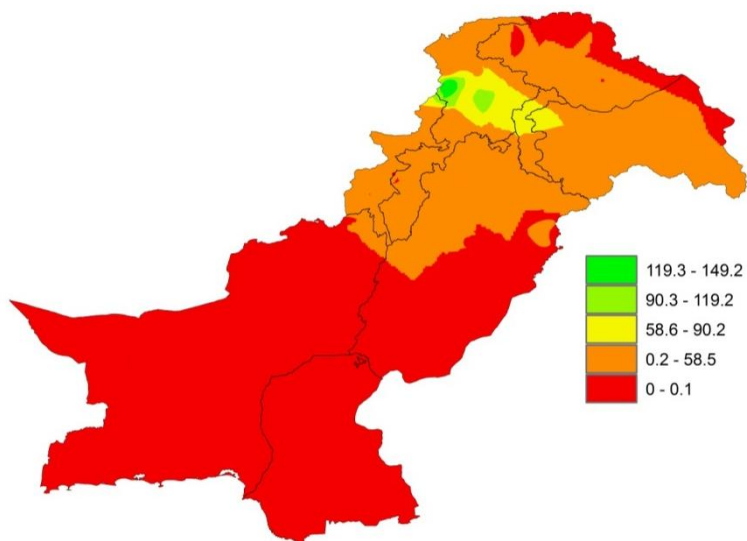
Weekly Weather and Crop Bulletin for Pakistan

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Rainfall Distribution (mm) during the
Previous Week (from 2nd to 8th January, 2017)



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Highlights of Past Weather (from 2nd to 8th January, 2017)

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

Province wise distribution of rainfall reported as follows:

- Moderate to heavy rainfall was reported from many places in Khyber Pakhtunkhwa.
- Light to moderate rainfall was reported from most of the places in Punjab and Gilgit-Baltistan & Kashmir.
- Light rainfall was reported from a single station (Larkana=0.01mm) in Sindh and (Quetta=0.01mm) in Balochistan.

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

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

Editor: Khalida Noureen (Meteorologist)

Past Weather of Provinces(from 2nd to 8th January, 2017)**Punjab**

Light to moderate rainfall was reported from most of the places in Punjab during the week. Weekly maximum and minimum temperatures recorded as 17.9°C & 8.6°C respectively. For the present season on average 57.8 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 74% and wind speed in the morning/evening recorded as 0.9/1.5 Knots. During the previous week the highest amount of rainfall was recorded as 56.3mm at Murree & the lowest minimum temperature was recorded as -3.7°C at Murree.

Sindh

Light rainfall was reported from a single station in Sindh during the week. Weekly maximum and minimum temperatures recorded as 21.8°C & 9.8°C respectively. For the present season, on average 75.5 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 72% and wind speed in the morning/evening recorded as 0.8/2.0 Knots. During the previous week the highest amount of rainfall was recorded as 0.01mm at Larkana & the lowest minimum temperature was recorded as 1.7°C at Mithi.

Khyber Pakhtunkhwa

Moderate to heavy rainfall was reported from most of the places in Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 11.2°C & 2.8°C respectively. For the present season on average 14.1 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 73% and wind speed in the morning/evening recorded as 1.0/2.4 Knots. During the previous week the highest amount of rainfall was

recorded as 150.0mm at Dir & the lowest minimum temperature was recorded as -8.0°C at Kalam.

Balochistan

Light rainfall was reported from a single station in Balochistan during the week. Weekly maximum and minimum temperatures recorded as 21.8°C & 7.2°C respectively. For the present season on average 65.7 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 2.2/3.1 Knots. During the previous week the highest amount of rainfall was recorded as 0.01mm at Quetta & the lowest minimum temperature was recorded as -9.5°C at Quetta.

Gilgit-Baltistan and Azad Jammu & Kashmir

Light to moderate rainfall was reported from most of the places in Gilgit-Baltistan & Kashmir regions during the week. Weekly maximum and minimum temperatures recorded as 8.6°C & 0.2°C respectively. Average relative humidity recorded as 64% and wind speed in the morning/evening recorded as 1.2/2.4 Knots. During the previous week the highest amount of rainfall was recorded as 73.2mm at Garhi Dopatta & the lowest minimum temperature was recorded as -11.8°C at Skardu.

**Past Weather for Major Agricultural Plains
(from 2nd to 8th January, 2017)**

Rawalpindi (Potohar region)

Rainfall was reported as 40.2mm during the week; cloudiness in the morning/evening recorded as 4.8/6.4Oktas while, average relative humidity observed as 80.7%. Mean night time temperature recorded as 7.5°C & for the present season 49.6growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.9Knots.

Faisalabad (Central Punjab)

Rainfall was reported as 0.1mm during the week; however cloudiness in the morning/evening recorded as 2.7/3.7Oktas while, average relative humidity observed as 85.5%. Mean night time temperature recorded as 10.2°C & for the present season 63.4growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.5/0.5Knots.

Tandojam (Lower Sindh)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.6/1.3 Oktas while, average relative humidity observed as 75.5%. Mean night time temperature recorded as 9.0°C & for the present season 68.8growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.5/1.1Knots.

Quetta (Northern Baluchistan)

Rainfall was reported as 0.1mm during the week; however cloudiness in the morning/evening recorded as 1.1/2.8Oktas while, average relative humidity observed as 37%. Mean night time temperature recorded as 0.2°C & for the present season 16.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.2/3.6Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 0.0/3.0Oktas while, average relative humidity observed as 86%. Mean night time temperature recorded as 9.1°C & for the present season 64.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/2.0Knots.

**Past Weather for Sub-Regional
Agricultural Plains (from 2nd to 8th January,
2017)**

Multan

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.5/1.0Oktas while, average relative humidity observed as 81%. Mean night time temperature recorded as 10.5°C & for the present season 66.0growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/3.1 Knots.

Lahore

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 2.8/2.3Oktas while, average relative humidity observed as 77%. Mean night time temperature recorded as 11.2°C & for the present season 72.5growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.6 Knots.

Zhob

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 2.3/3.7Oktas while, average relative humidity observed as 44%. Mean night time temperature recorded as 1.2°C & for the present season 29.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 5.0/5.0 Knots.

D.I. Khan

Rainfall was reported as 1.0mm during the week; cloudiness in the morning/evening recorded as 0.6/2.3 Oktas while, average relative humidity observed as 80%. Mean night time temperature recorded as 7.6°C & for the present season 60.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.0/2.7 Knots.

Peshawar

Rainfall was reported as 12.4mm during the week; cloudiness in the morning/evening recorded as 1.1/1.7 Oktas while, average relative humidity observed as 76%. Mean night time temperature recorded as 7.6°C & for the present season 45.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 5.9/5.6 Knots.

Murree

Rainfall was reported as 56.3mm during the week; cloudiness in the morning/evening recorded as 5.7/6.4 Oktas while, average relative humidity observed as 81%. Mean night time temperature recorded as -1.0°C by the end of last week. Wind speed recorded in the morning/evening as 2.6/1.7 Knots.

Kalam

Rainfall was reported as 55.0mm during the week; cloudiness in the morning/evening recorded as 6.3/6.9 Oktas while, average relative humidity observed as 90%. Mean night time temperature recorded as -3.4°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

Gilgit

Rainfall was reported as 0.1mm during the week; cloudiness in the morning/evening recorded as 6.1/7.0 Oktas while, average relative humidity observed as 69%. Mean night time temperature recorded as -0.9°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.3 Knots.

Skardu

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 6.1/6.0 Oktas while, average relative humidity observed as 73%. Mean night time temperature recorded as -8.8°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: Good condition at *Tillering* stage.

Lower Sindh (Tandojam)

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

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

Northern Balochistan (Quetta)

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

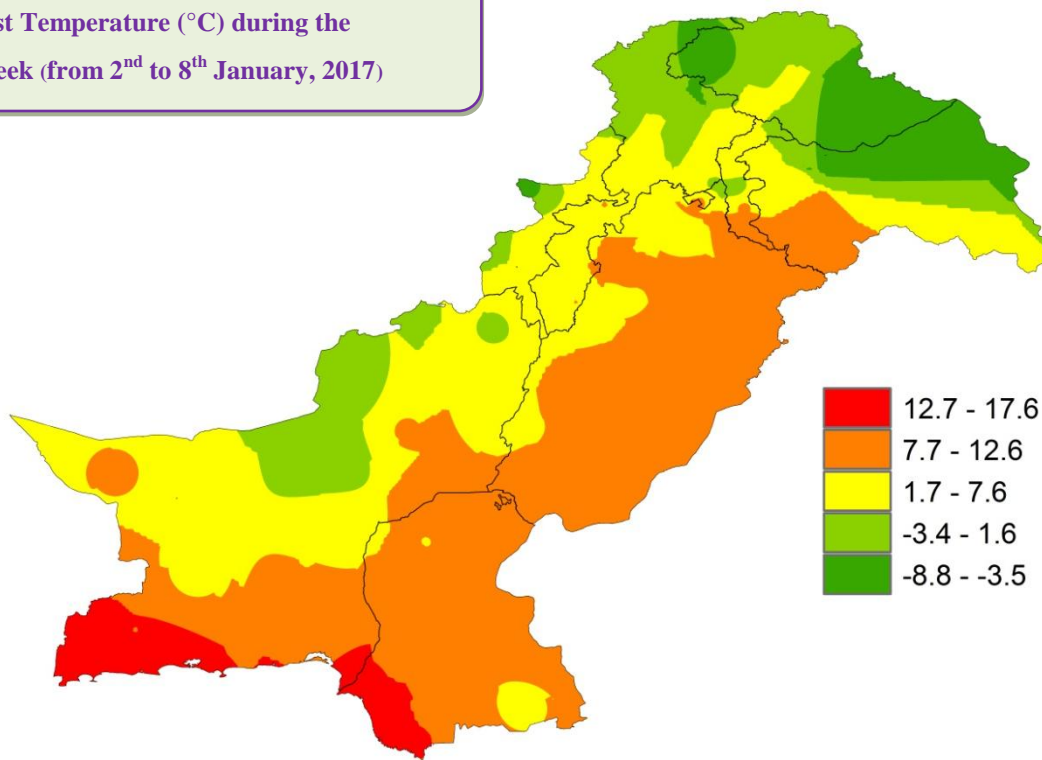
Wheat (Local white): Good condition at *Tillering* stage.

Eastern Balochistan (Usta Muhammad)

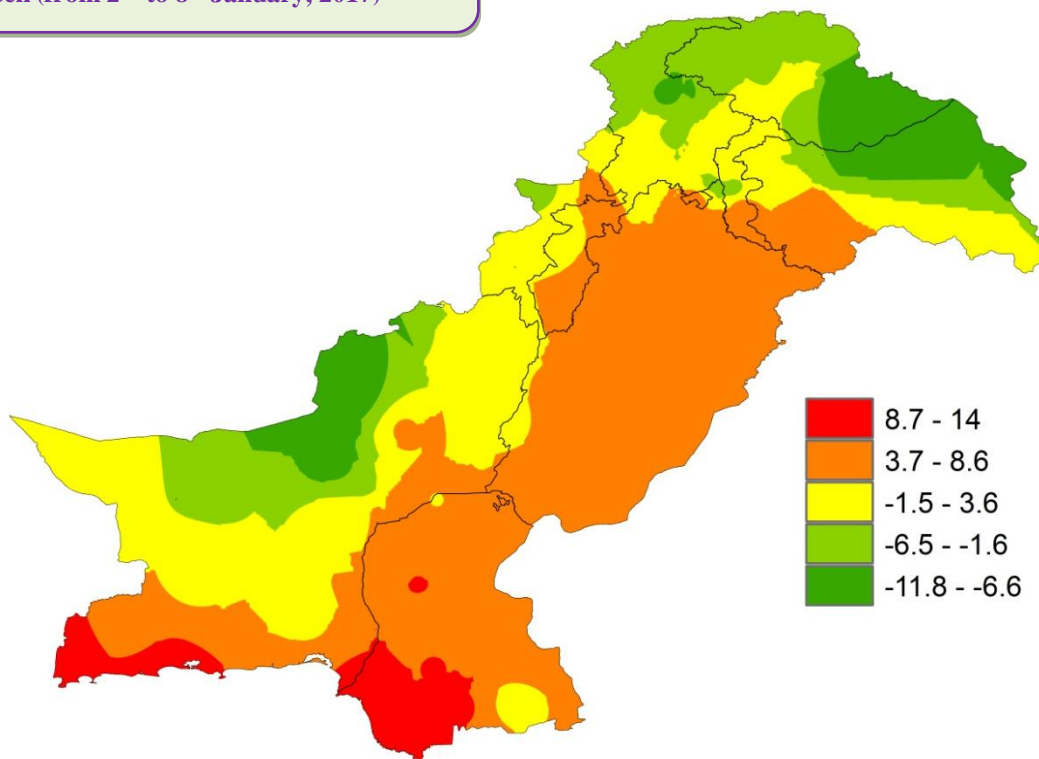
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Wheat: Good condition at *Tillering* stage.

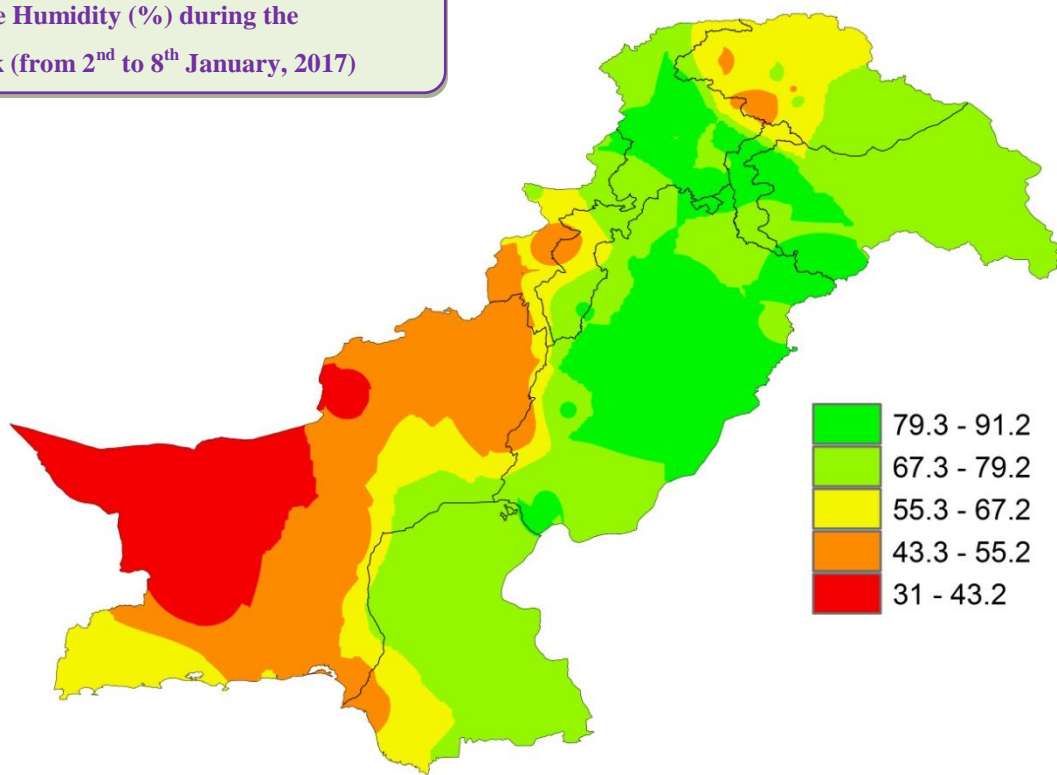
Mean lowest Temperature (°C) during the Previous week (from 2nd to 8th January, 2017)



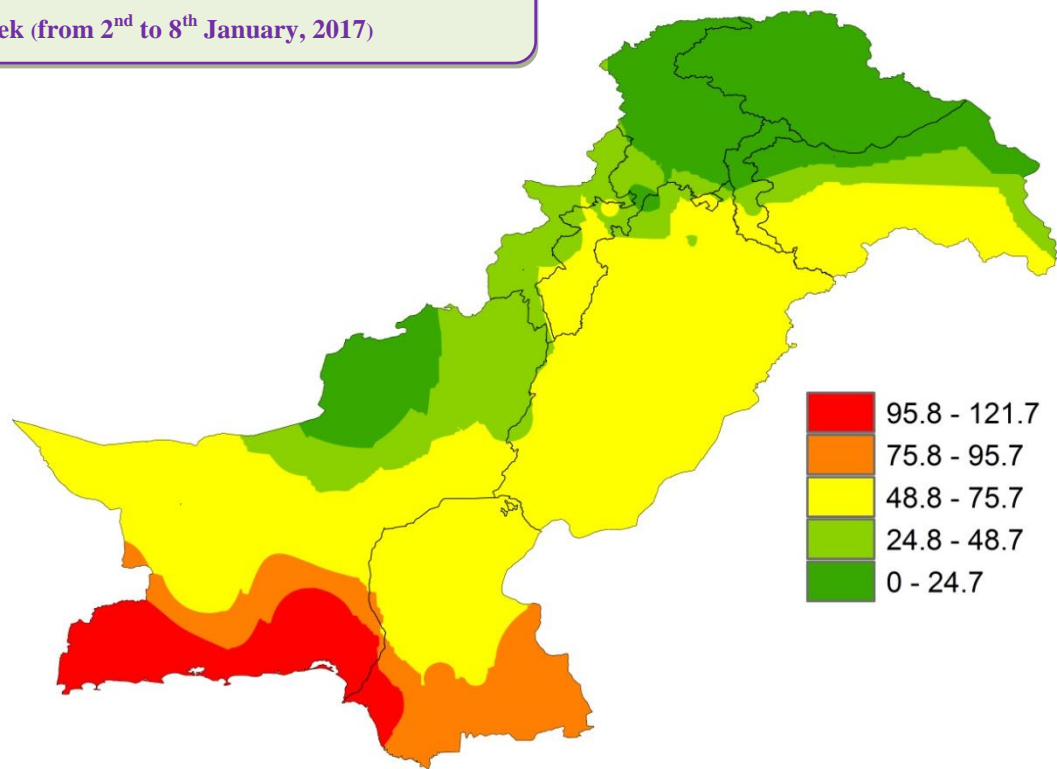
Lowest Minimum Temperature (°C) during the Previous week (from 2nd to 8th January, 2017)



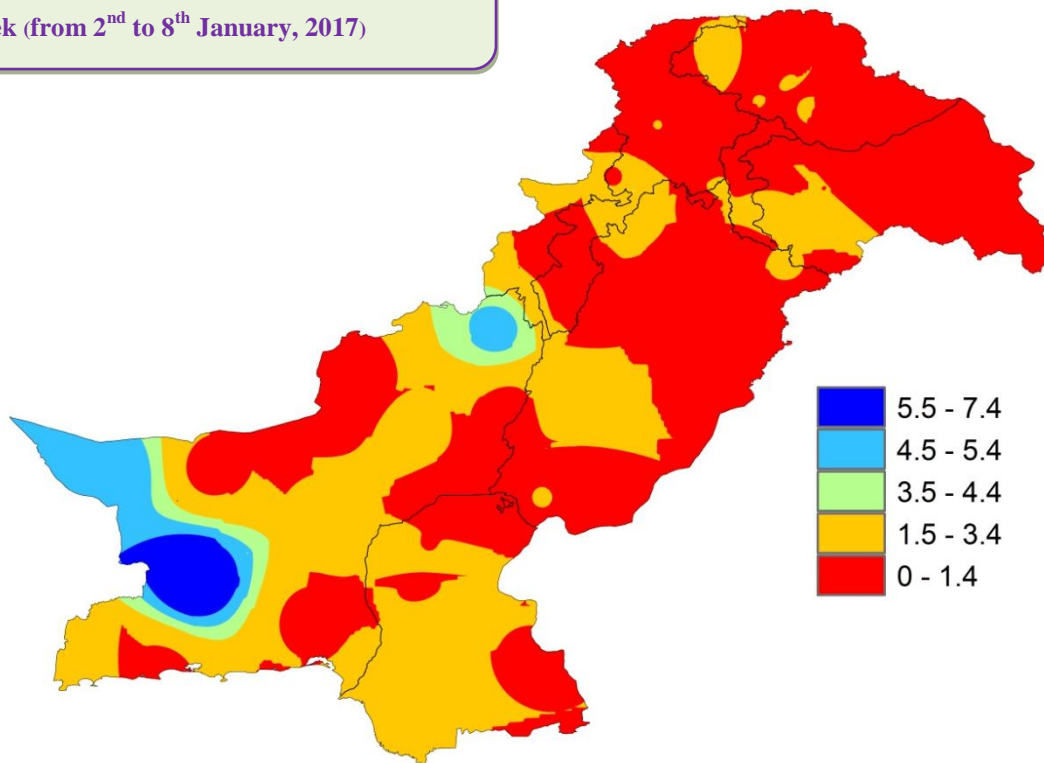
Mean Relative Humidity (%) during the Previous week (from 2nd to 8th January, 2017)



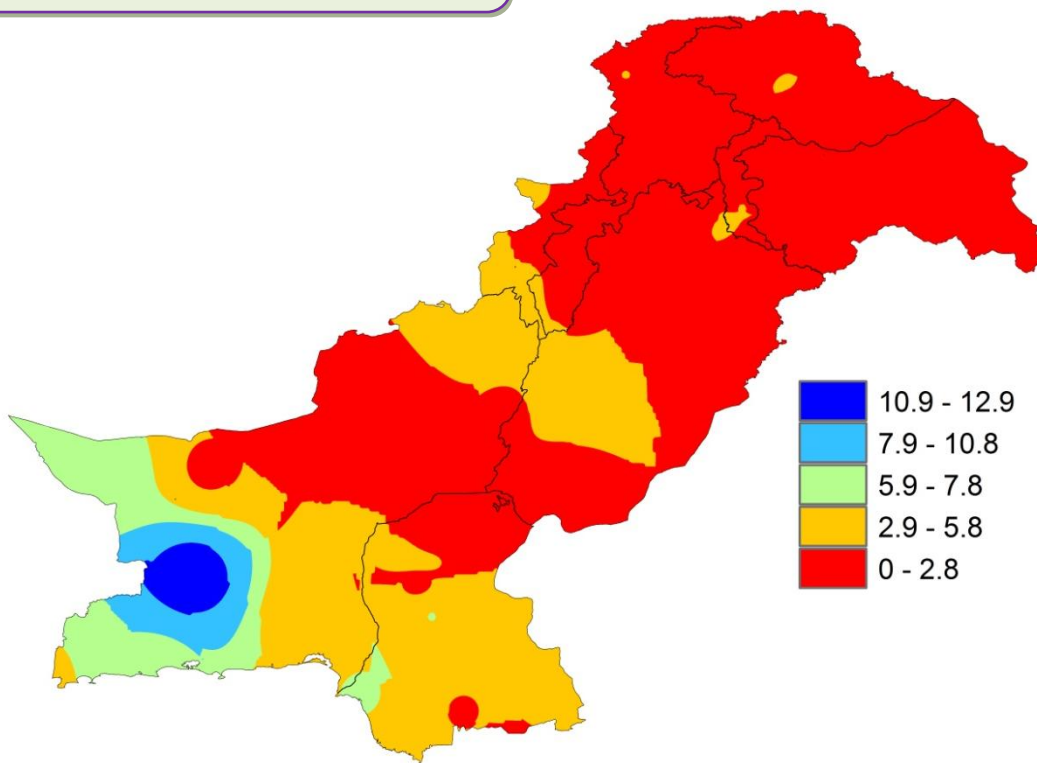
Total Growing Degree Days accumulated during the Previous week (from 2nd to 8th January, 2017)



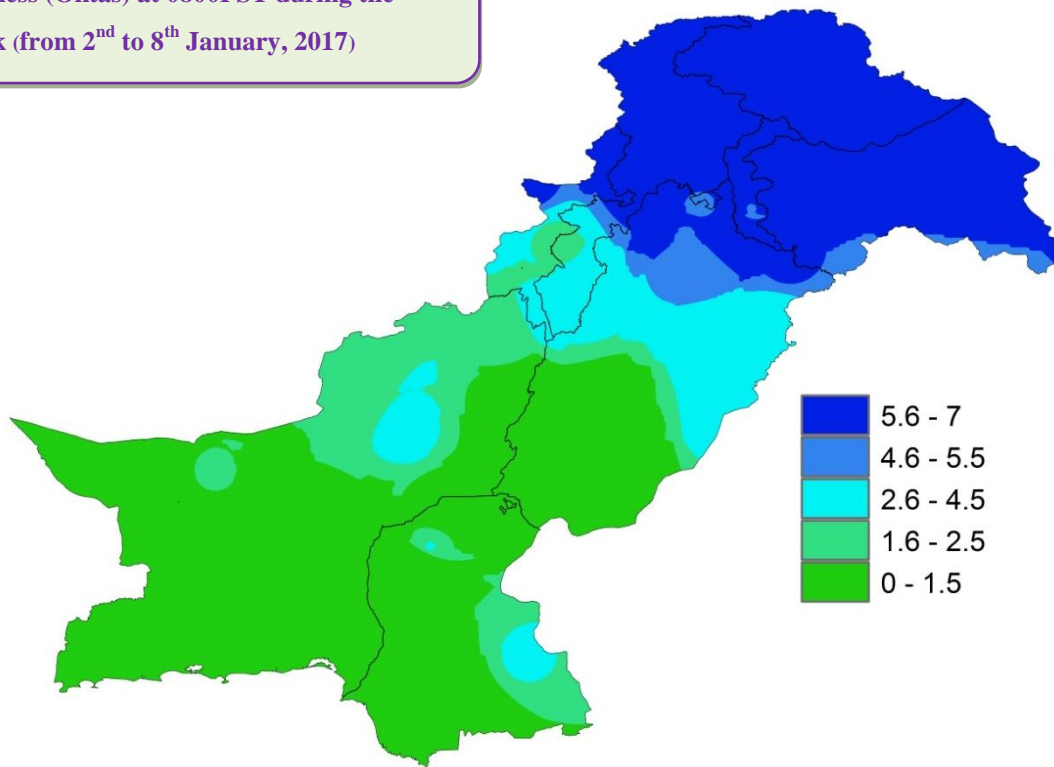
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 2nd to 8th January, 2017)



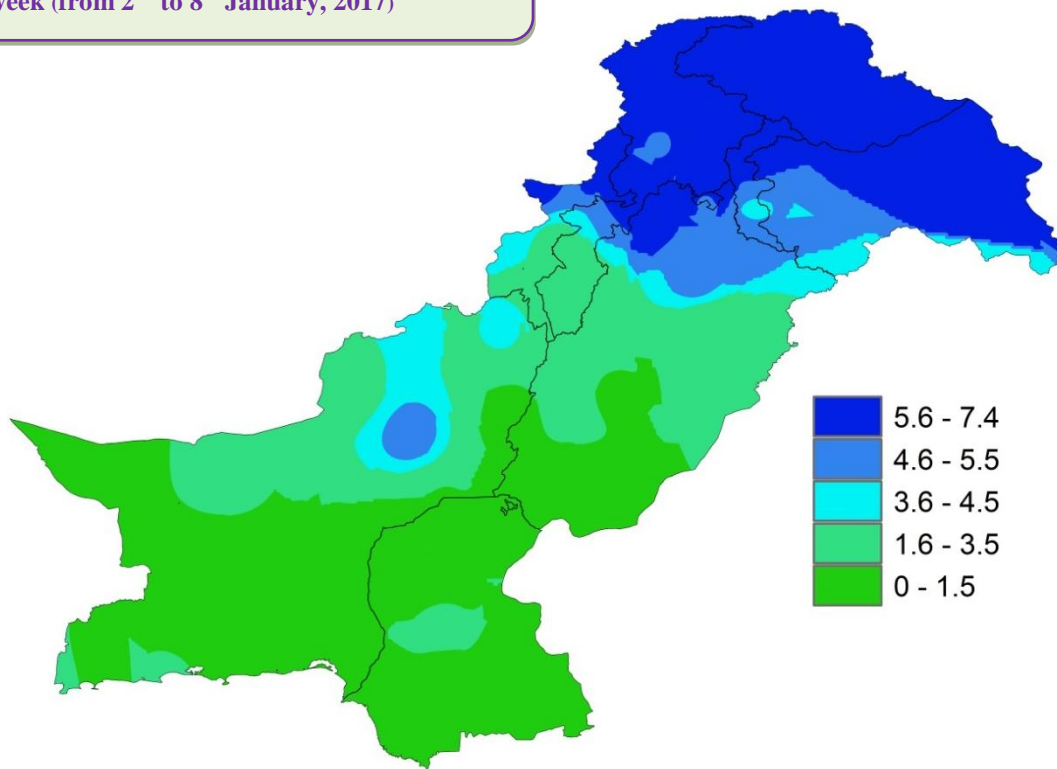
Mean Wind Speed (Knots) at 1700PST during the Previous week (from 2nd to 8th January, 2017)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 2nd to 8th January, 2017)



Mean Cloudiness (Oktas) at 1700 PST during the Previous week (from 2nd to 8th January, 2017)



Weekly Weather Advisory for Farmers**(From 9th to 15th January, 2017)**

Continental air is prevailing over most parts of the country. A shallow westerly wave is still affecting Kashmir and its adjoining hilly areas. A fresh westerly wave is likely to enter western parts of the country on Friday (night).

MONDAY**09-01-2017**

Mainly cold and dry weather is expected in most parts of the country. However, rain-thunderstorm with snowfall over the hills is expected at isolated places in Kashmir and its adjoining hilly areas. Foggy conditions are likely to continue over plain areas of KP, Punjab and Sindh during night and morning hours.

TUESDAY**10-01-2017**

Mainly cold and dry weather is expected in most parts of the country. Foggy conditions are likely to continue over plain areas of KP, Punjab and Sindh during night and morning hours.

WEDNESDAY**11-01-2017**

Mainly cold and dry weather is expected in most parts of the country. Foggy conditions are likely to continue over plain areas of Punjab, KP and Sindh during night and morning hours.

THURSDAY**12-01-2017**

Mainly cold and dry weather is expected in most parts of the country. Foggy conditions are likely to continue over plain areas of Punjab, KP and Sindh during night and morning hours.

FRIDAY**13-01-2017**

Mainly cold and dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Malakand division & Gilgit-Baltistan. Foggy conditions are likely to continue over plain areas of Punjab, KP and Sindh during night and morning hours.

SATURDAY**14-01-2017**

Mainly cold and dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Quetta, Zhob, Kalat divisions, Sindh Makran coast & Gilgit-Baltistan. Foggy conditions are likely to continue over plain areas of Punjab, KP and Sindh during night and morning hours.

SUNDAY**15-01-2017**

Mainly cold and dry weather is expected in most parts of the country. However, rain-thunderstorm is expected at isolated places in Quetta, Zhob, Kalat divisions, Sindh Makran coast & Gilgit-Baltistan. Foggy conditions are likely to continue over plain areas of Punjab, KP and Sindh during night and morning hours.

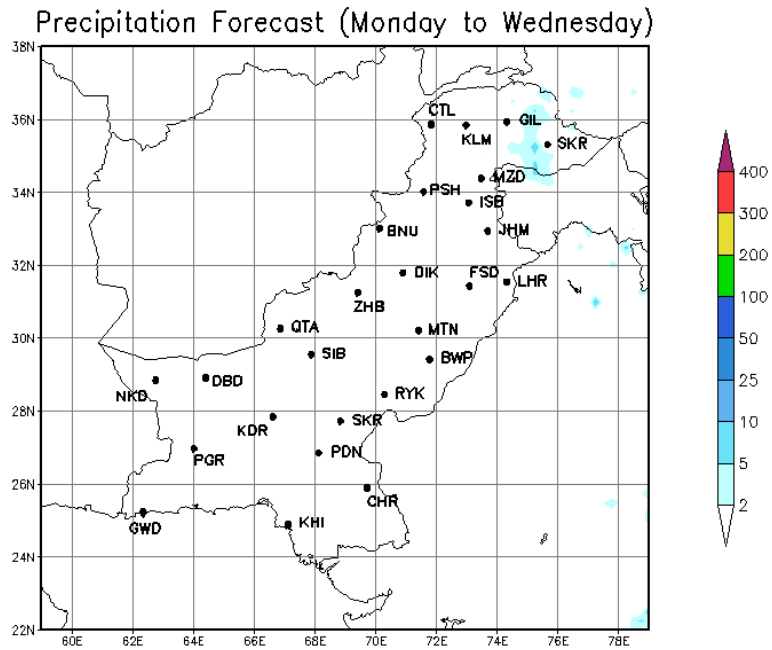
ADVISES FOR CROPS

In the last week, light to moderate rain (with snowfall over the mountains) occurred over most of places in the northern half of the country. Accordingly, soil moisture conditions may get better in particular areas. However, night temperatures are getting low day by day in the northern half of the country and northwestern Baluchistan, which may increase the chances of frost. Keeping in view the expected weather conditions following advises are suggested for farming community especially for rainfed areas of KP and Punjab.

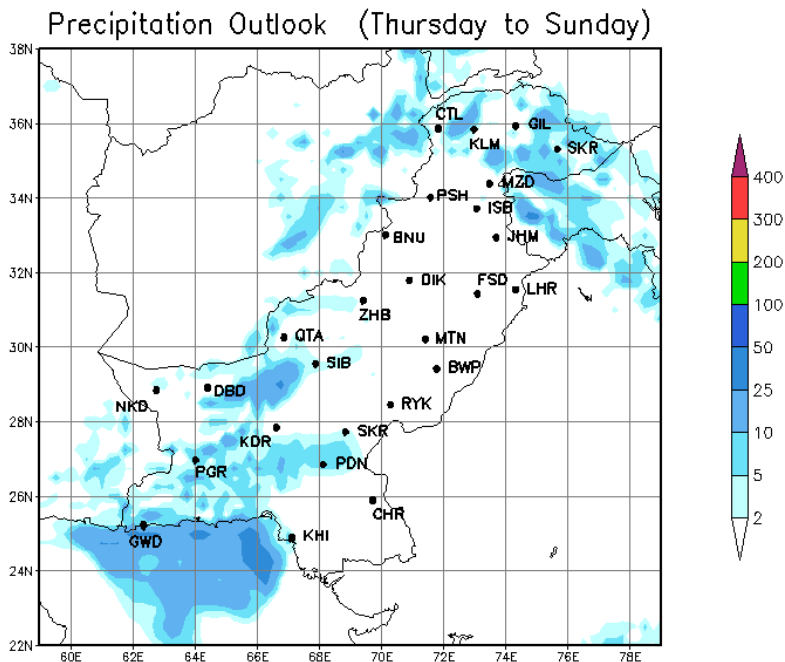
- Farmers of rainfed areas obtaining water through tube wells are advised to schedule the irrigation in accordance with the prevailing weather conditions and crop requirement.
- Precautionary measures should be taken to preserve the standing crops from the harmful effects of frost in particular areas.
- In areas like Potohar region and adjoining areas of KP where rain water storages are available, farmers are advised to irrigate crops by using available irrigation methods like sprinkler irrigation etc.

Weather Outlook From 9th to 15th January, 2017

The outlook from 9th to 11th January, 2017 shows that dry weather is expected in most parts of the country. However, light rainfall is expected at isolated places in GB & Kashmir.



The outlook from 12th to 15th January, 2017 shows that light to moderate rainfall is expected at particular places in Sindh, central and west Balochistan, upper KP, Gilgit-Baltistan and Kashmir.



National Weather Data of Selected Cities
(Weekly Data from 2nd to 8th January, 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	-2.6	-5.0	***	64	0.0	6.7	6.4	1.7	1.4
Badin	12.0	9.5	88.3	67	0.0	0.0	0.7	1.4	2.6
Bahawalnagar	10.7	8.5	56.1	96	0.0	***	4.5	0.0	0.0
Bahawalpur	9.0	5.3	61.8	86	0.0	***	0.8	0.6	2.0
Balakot	3.7	1.0	16.2	78	64.2	7.0	6.0	0.0	0.3
Bannu	4.0	1.0	44.7	50	0.0	1.6	3.0	0.3	2.6
Barkhan	6.0	1.5	43.8	43	0.0	0.0	0.3	0.3	2.0
Bunji	3.8	1.1	15.9	53	0.0	6.7	7.0	2.3	4.3
Cherat	4.1	3.0	10.1	77	22.0	6.4	6.3	3.4	2.6
Chhor	9.6	6.0	83.0	68	0.0	3.0	1.0	1.1	3.1
Chilas	2.6	1.5	14.5	49	0.8	6.6	5.7	1.4	2.0
Chitral	0.3	-2.1	***	77	28.1	6.6	7.4	0.0	2.9
D.I.Khan	7.6	5.5	60.3	80	1.0	4.0	2.7	0.6	2.3
Dalbandin	2.8	-5.5	54.4	35	0.0	1.6	2.1	0.6	2.0
D.G.Khan	8.1	6.6	65.2	80	0.0	1.0	3.1	2.9	4.6
Dir	-1.8	-2.5	***	86	150.0	6.9	7.1	0.0	1.1
Drosh	-0.2	-2.0	***	69	22.8	6.7	6.4	0.0	2.3
Faisalabad	10.2	8.0	63.4	86	0.1	2.7	3.7	0.5	0.5
Garidopatta	4.3	3.2	17.1	83	73.2	6.0	6.7	0.3	0.3
Gwadar	14.8	9.0	107.5	61	0.0	0.0	1.0	1.4	7.6
Gilgit	-0.9	-4.5	***	69	0.1	6.1	7.0	0.0	0.3
Gupis	-5.4	-6.0	***	55	0.0	6.0	5.7	2.0	2.0

Hyderabad	11.8	9.0	79.8	68	0.0	0.0	1.3	2.3	5.4
Islamabad	7.4	4.0	48.9	80	47.0	5.4	5.3	0.3	0.6
Jacobabad	9.3	3.5	69.5	75	0.0	0.0	1.2	0.6	0.3
Jhelum	8.1	6.1	60.7	78	14.9	5.6	5.4	0.6	1.1
Jiwani	17.5	14.0	121.8	56	0.0	0.9	1.9	2.9	4.6
Kakul	3.1	-1.5	11.1	81	59.0	5.6	7.1	0.0	0.6
Kalam	-3.4	-8.0	***	90	55.0	6.3	6.9	0.0	0.0
Karachi	13.7	10.5	106.3	52	0.0	0.4	0.9	2.3	6.0
Khanpur	9.0	6.0	64.4	76	0.0	0.0	0.0	0.3	1.4
Khuzdar	5.3	2.5	59.9	45	0.0	0.3	1.1	2.3	2.9
Kotli	8.2	6.0	47.0	71	48.0	5.4	4.0	2.6	2.9
Lahore	11.2	8.0	72.5	77	0.0	2.8	2.3	0.6	0.6
Larkana	7.4	4.5	59.4	74	0.0	2.8	1.5	1.1	1.7
Lasbella	11.2	3.0	110.4	54	0.0	0.0	0.3	0.7	3.4
Lower Dir	4.2	0.5	21.5	84	76.0	6.1	5.7	1.7	1.4
M.B Din	9.9	7.5	63.9	82	15.0	5.1	5.1	0.3	0.9
Malam Jabba	-2.1	-4.0	***	79	109.0	6.4	7.1	0.0	0.0
Mangla	8.1	5.6	60.5	72	22.0	5.7	5.4	1.4	4.0
Mir Khani	2.5	1.2	17.2	72	34.2	6.0	5.7	0.0	1.3
Moinjodaro	8.7	5.5	63.9	76	0.0	0.0	0.0	2.6	4.3
Multan(PBO)	10.5	6.4	66.0	81	0.0	0.5	1.0	1.4	3.1
Murree	-0.1	-3.7	***	81	56.3	5.7	6.4	2.6	1.7
Muzaffarabad	3.3	0.8	12.6	77	72.4	6.0	6.1	1.1	0.9
Nawabshah	9.2	7.5	72.1	76	0.0	1.4	2.0	2.7	5.9
Nokkundi	7.9	1.1	70.9	31	0.0	0.6	0.9	5.3	6.7
Okara	9.6	8.0	59.9	90	0.0	***	2.8	1.1	0.3

Padidan	10.4	9.0	68.8	78	0.0	1.4	1.0	0.6	2.0
Panjgur	6.3	1.5	61.3	35	0.0	0.9	0.0	7.4	12.9
Parachinar	-4.2	-5.0	***	68	24.0	6.4	6.1	3.0	3.0
Pasni	17.6	13.5	119.8	65	0.0	1.3	1.7	0.6	6.3
Pattan	3.6	3.0	9.8	85	76.0	5.7	6.6	0.0	0.0
Peshawar	7.6	3.6	45.8	76	12.4	5.9	5.6	1.1	1.7
Quetta	0.2	-8.0	16.3	37	0.1	1.1	2.8	2.2	3.6
Rahim Yar Khan	9.1	5.8	65.7	81	0.0	0.7	0.0	1.6	2.0
Rawalpindi	7.5	3.5	49.6	81	40.2	4.8	6.4	0.0	0.9
Rawalakot	-0.4	-3.5	***	90	55.8	6.7	5.1	0.6	0.6
Sahiwal	9.0	8.0	54.2	91	0.0	4.0	3.0	0.6	0.9
Saidu Sharif	3.1	1.0	14.9	81	74.0	5.7	4.7	0.0	0.0
Sialkot	9.4	7.1	63.0	84	21.6	6.1	4.4	1.6	1.4
Sibbi	8.1	4.5	***	56	0.0	3.3	5.3	2.3	1.1
Skardu	-8.8	-11.8	***	73	0.0	6.1	6.0	0.0	0.0
Tandojam	9.0	5.5	68.8	76	0.0	0.6	1.3	0.5	1.1
Usta.M	9.1	8.2	64.2	86	0.0	0.0	3.0	1.7	2.0
Zhob	1.2	-1.0	29.0	44	0.0	2.3	3.7	5.0	5.0

*** 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 سدباب (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)