

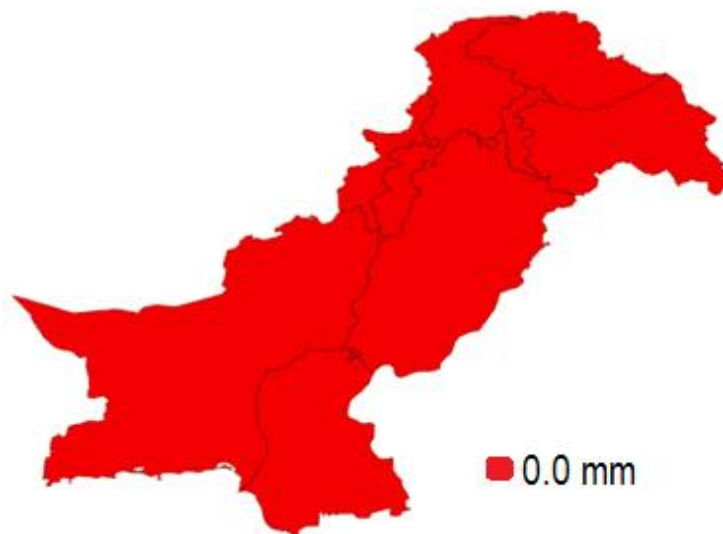
Weekly Weather and Crop Bulletin for Pakistan

**NATIONAL AGROMET CENTRE
PAKISTAN METEOROLOGICAL
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Rainfall Distribution (mm) during the
Previous Week (from 19th to 25th December, 2016)



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Highlights of Past Weather (from 19th to 25th December, 2016)

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

Dry weather was reported from all parts of the country.

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 19th to 25th December, 2016)

Punjab

Dry weather was reported from Punjab during the week. Weekly maximum and minimum temperatures recorded as 24.1°C & 6.9°C respectively. For the present season on average 73.7 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 54% and wind speed in the morning/evening recorded as 0.7/1.7 Knots. During the previous week the lowest minimum temperature was recorded as 2.0°C at Islamabad.

Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 28.6°C & 10.9°C respectively. For the present season, on average 104.9 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 60% and wind speed in the morning/evening recorded as 1.1/2.4 Knots. During the previous week the lowest minimum temperature recorded as 5.0°C at Mithi.

Khyber Pakhtunkhwa

Dry weather was reported from Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 18.4°C & 2.3°C respectively. For the present season on average 37.3 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 0.8/1.6 Knots. During the previous week the lowest minimum temperature recorded as -4.2°C at Kalam.

Balochistan

Dry weather was reported from Balochistan during the week. Weekly maximum and minimum temperatures recorded as 24.2°C & 7.5°C respectively. For the present season on average 75.9 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 45% and wind speed in the morning/evening recorded as 2.1/4.1 Knots. During the previous week the lowest minimum temperature was recorded as -6.0°C at Kalat.

Gilgit-Baltistan and Azad Jammu & Kashmir

Dry weather was reported from Gilgit-Baltistan & Kashmir regions during the week. Weekly maximum and minimum temperatures recorded as 14.7°C & -1.2°C respectively. For the present season on average 12.5 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 0.6/0.7 Knots. During the previous week the lowest minimum temperature recorded as -10.2°C at Skardu.

**Past Weather for Major Agricultural Plains
(from 19th to 25th December, 2016)**

Rawalpindi (Potohar region)

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.3/2.0 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 3.9°C & for the present season 59.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.8 Knots.

Faisalabad (Central Punjab)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.6/0.3 Oktas while, average relative humidity observed as 71%. Mean night time temperature recorded as 6.9°C & for the present season 77.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.2/0.6 Knots.

Tandojam (Lower Sindh)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.0/0.0 Oktas while, average relative humidity observed as 56%. Mean night time temperature recorded as 10.4°C & for the present season 92.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.6/0.9 Knots.

Quetta (Northern Baluchistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.4/0.4 Oktas while, average relative humidity observed as 34%. Mean night time temperature recorded as -0.6°C & for the present season 22.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.0/2.9 Knots.

Usta Muhammad (Eastern Balochistan)

Dry weather was reported during the week; however cloudiness in the morning/evening recorded 0.7/0.4 Oktas while, average relative humidity observed as 61%. Mean night time temperature recorded as 8.4°C & for the present season 87.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.2/2.0 Knots.

**Past Weather for Sub-Regional Agricultural
Plains (from 19th to 25th December, 2016)**

Multan

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.3/1.1 Oktas while, average relative humidity observed as 69%. Mean night time temperature recorded as 9.2°C & for the present season 86.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6 Knots.

Lahore

Dry weather was reported during the week; however cloudiness in the morning/evening recorded as 0.7/1.3 Oktas while, average relative humidity observed as 66%. Mean night time temperature recorded as 8.6°C & for the present season 77.2 growing 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 0.0/0.6 Oktas while, average relative humidity observed as 42%. Mean night time temperature recorded as 2.3°C & for the present season 44.8 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

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 0.3/0.4 Oktas while, average relative humidity observed as 68%. Mean night time temperature recorded as 6.9°C & for the present season 79.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/0.6 Knots.

Peshawar

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 2.0/2.9 Oktas while, average relative humidity observed as 64%. Mean night time temperature recorded as 3.7°C & for the present season 56.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.9 Knots.

Murree

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.4/2.7 Oktas while, average relative humidity observed as 31%. Mean night time temperature recorded as 4.3°C & for the present season 38.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.4/0.3 Knots.

Kalam

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 1.4/3.3 Oktas while, average relative humidity observed as 60%. Mean night time temperature recorded as -3.5°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

Gilgit

Dry weather was reported during the week, cloudiness in the morning/evening recorded as 3.1/4.0 Oktas while, average relative humidity observed as 66.2%. Mean night time temperature recorded as -4.5°C by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 Knots.

Skardu

Dry weather was reported during the week; cloudiness in the morning/evening recorded as 4.7/4.3 Oktas while, average relative humidity observed as 62%. Mean night time temperature recorded as -8.0°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 3rd leaf stage.

Lower Sindh (Tandojam)

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

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

Northern Balochistan (Quetta)

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

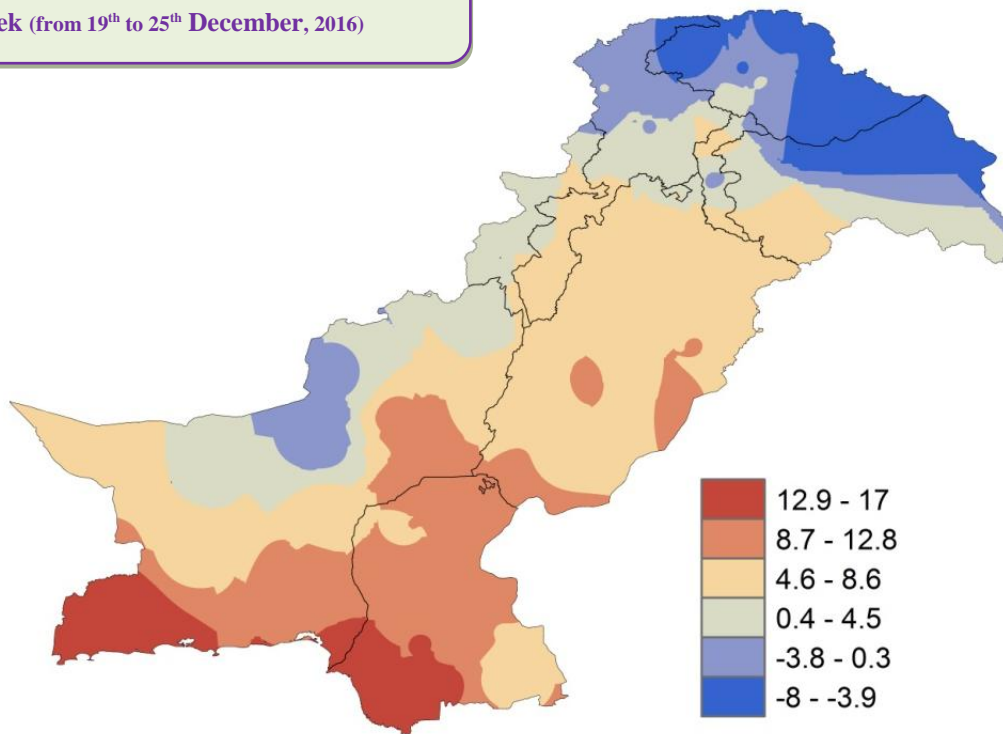
Wheat (Local white): Good condition at 3rd leaf stage.

Eastern Balochistan (Usta Muhammad)

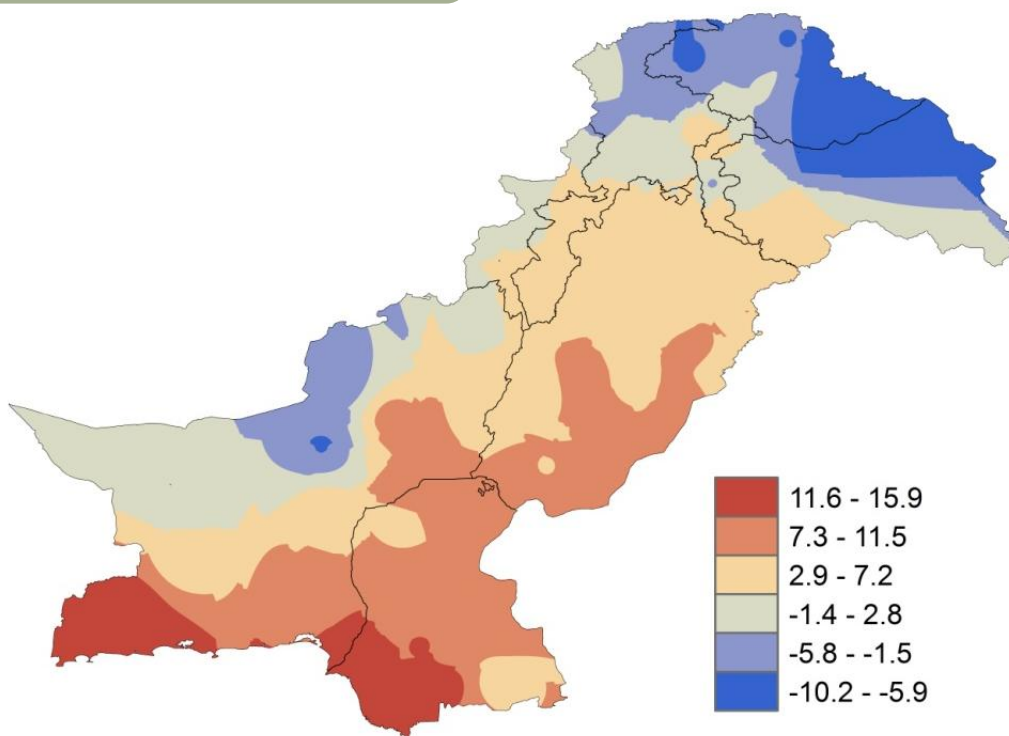
There is presently one crop (irrigated conditions) grown in the fields of RAMC Usta Muhammad.

Wheat: Good condition at 3rd leaf stage.

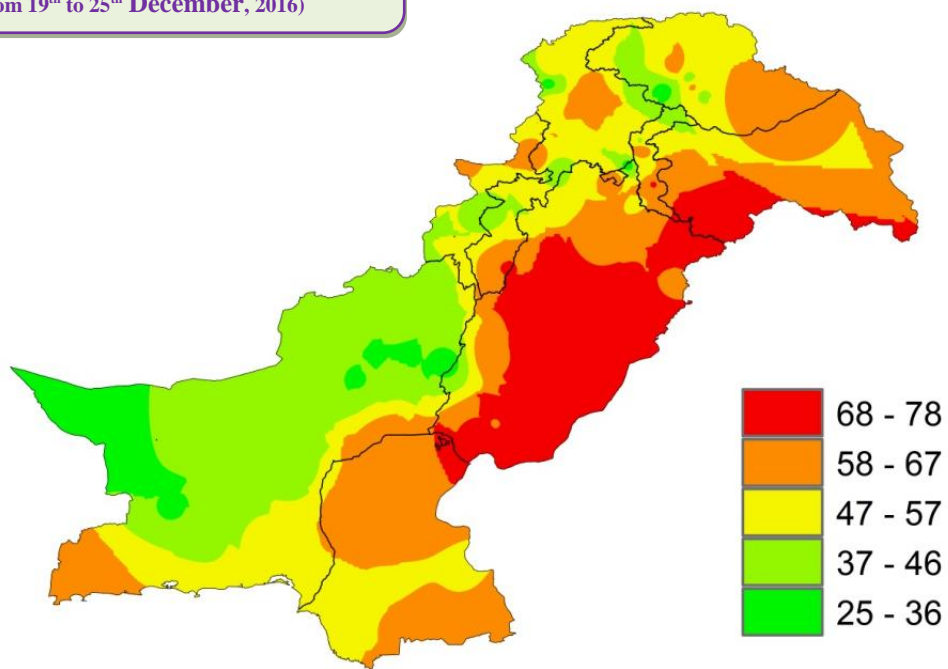
Mean lowest Temperature (°C) during the Previous week (from 19th to 25th December, 2016)



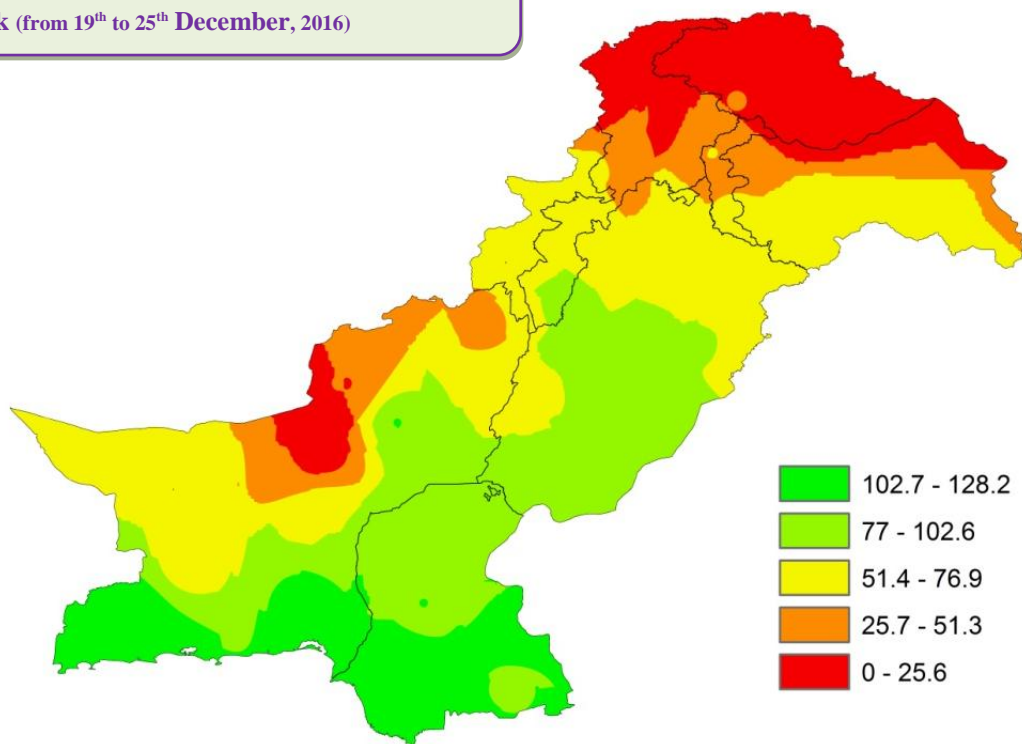
Lowest Minimum Temperature (°C) during the Previous week (from 19th to 25th December, 2016)



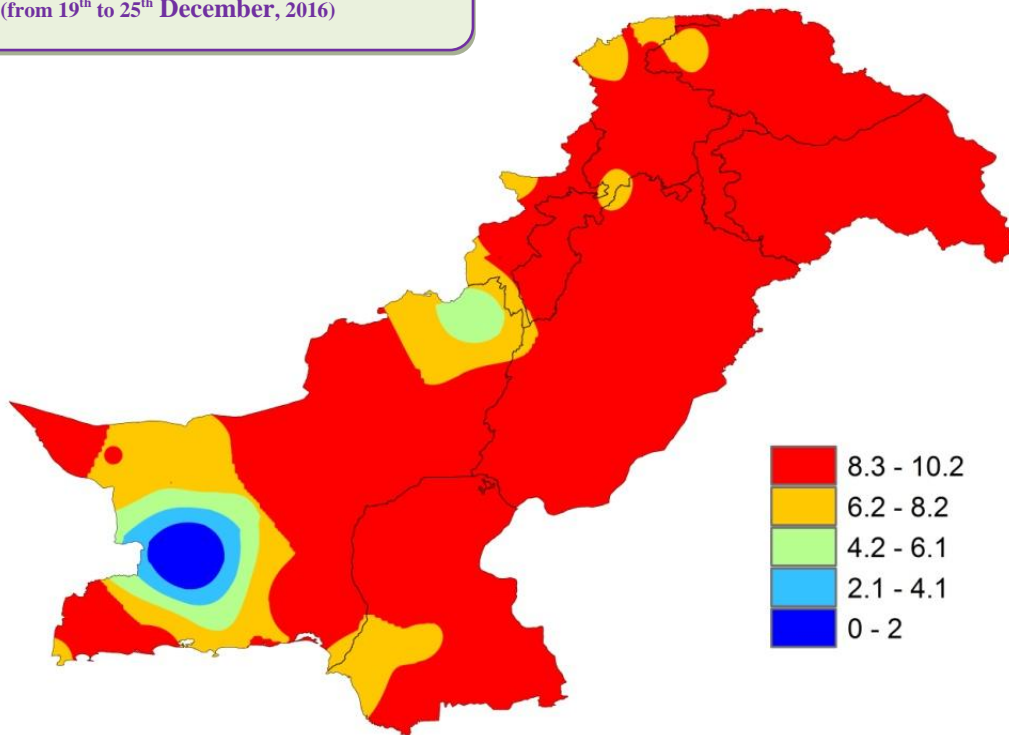
Mean Relative Humidity (%) during the Previous week (from 19th to 25th December, 2016)



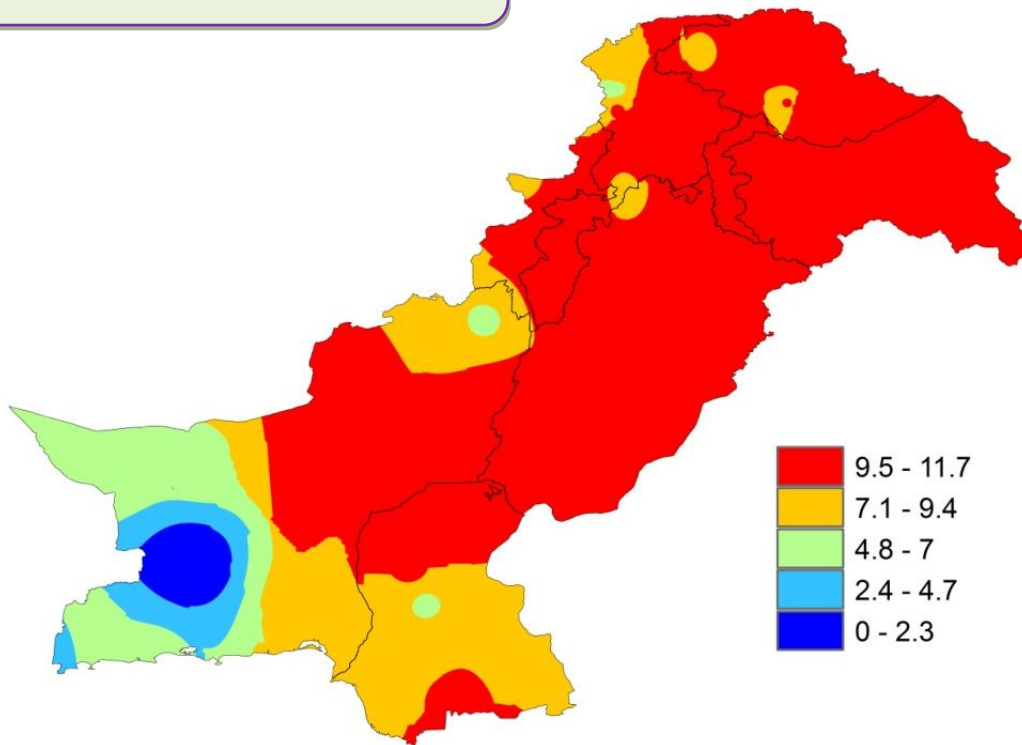
Total Growing Degree Days accumulated during the Previous week (from 19th to 25th December, 2016)



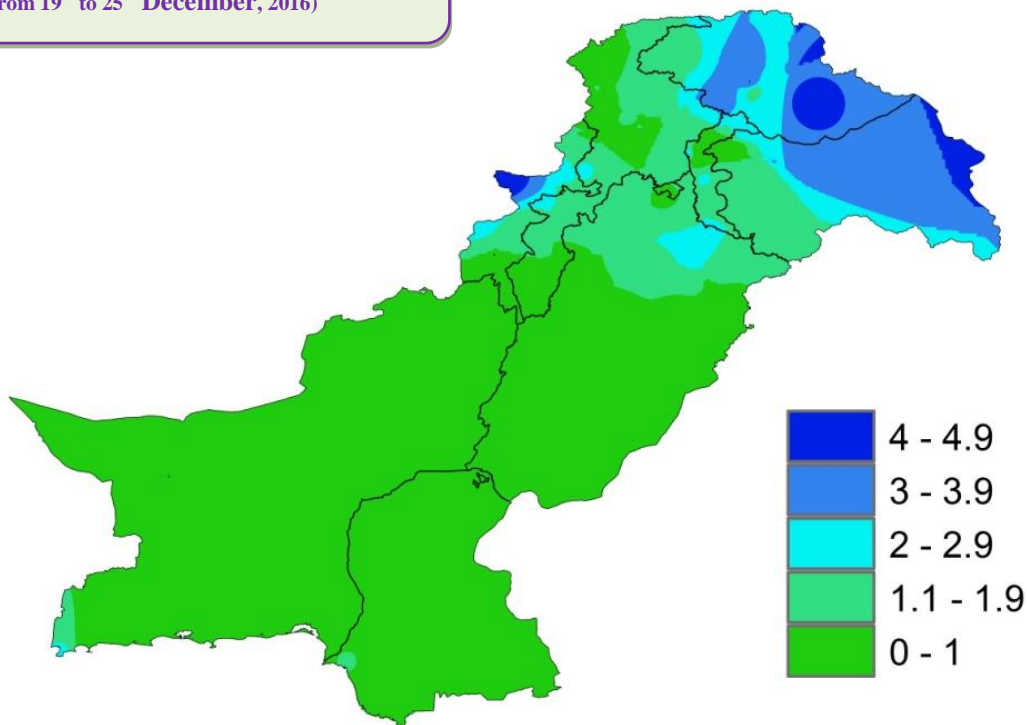
Mean Wind Speed (Knots) at 0800PST during the Previous week (from 19th to 25th December, 2016)



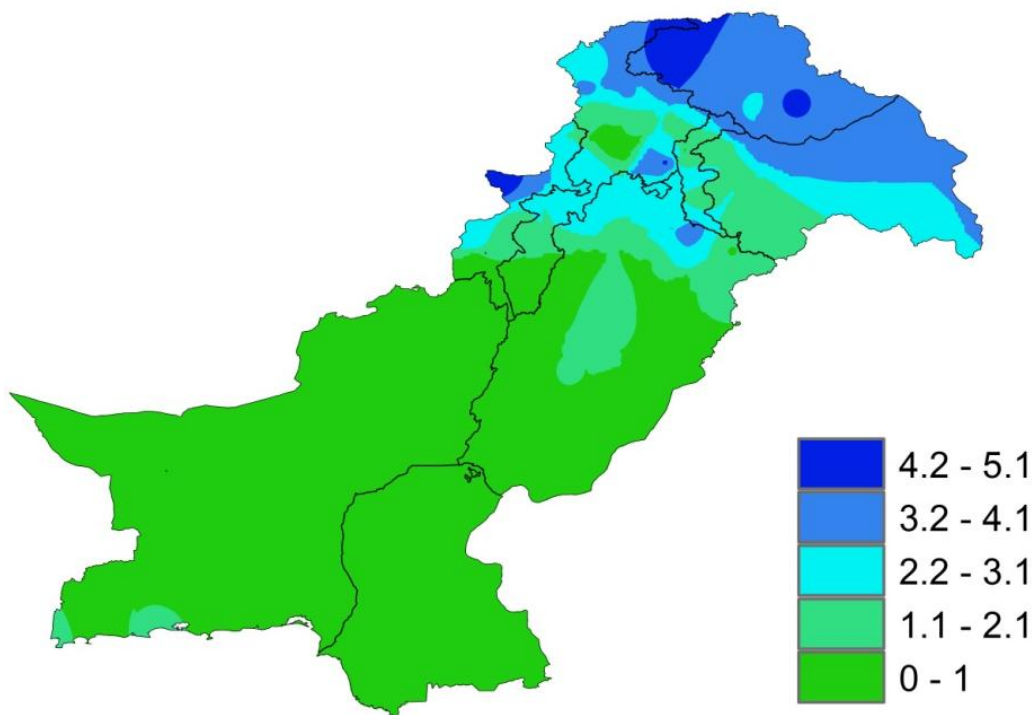
Mean Wind Speed (Knots) at 1200PST during the Previous week (from 19th to 25th December, 2016)



Mean Cloudiness (Oktas) at 0800PST during the Previous week (from 19th to 25th December, 2016)



Mean Cloudiness (Oktas) at 1200 PST during the Previous week (from 19th to 25th December, 2016)



Weekly Weather Advisory for Farmers
(From 26th December, 2016 to 1st January, 2017)

Continental air would prevail over most parts of the country during the week.

MONDAY
26-12-2016

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning and night hours.

TUESDAY
27-12-2016

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning hours.

WEDNESDAY
28-12-2016

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning hours.

THURSDAY
29-12-2016

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning hours.

FRIDAY
30-12-2016

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning hours.

SATURDAY
31-12-2016

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning hours.

SUNDAY
01-01-2017

Mainly cold and dry weather is expected in most parts of the country. While foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during morning hours.

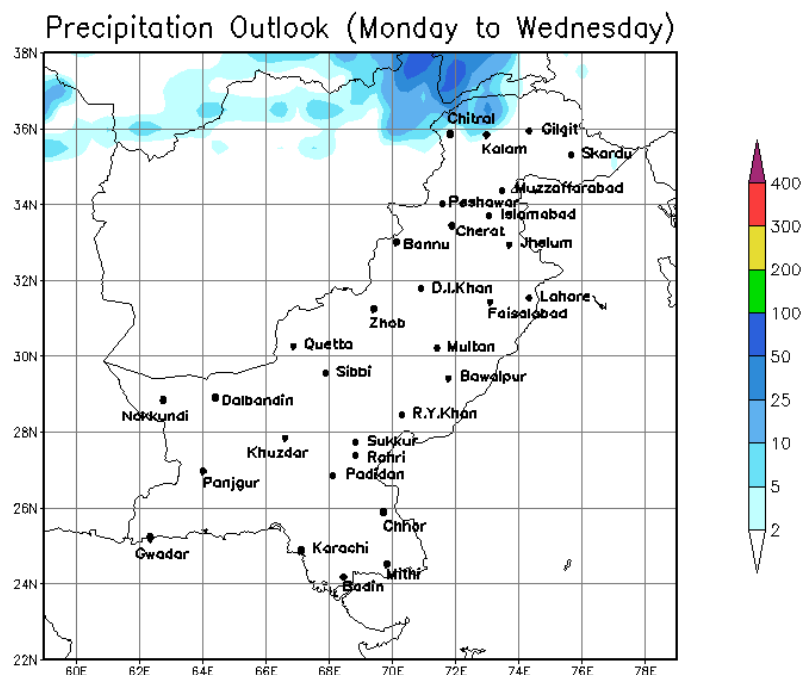
ADVISES FOR CROPS

During the last two months mainly dry weather has been reported for most of the agricultural plains of the country and is likely to prevail by the end of December. Keeping in view the present and expected dry atmospheric soil conditions following advises are suggested for farming community especially for rainfed areas of KP and Punjab.

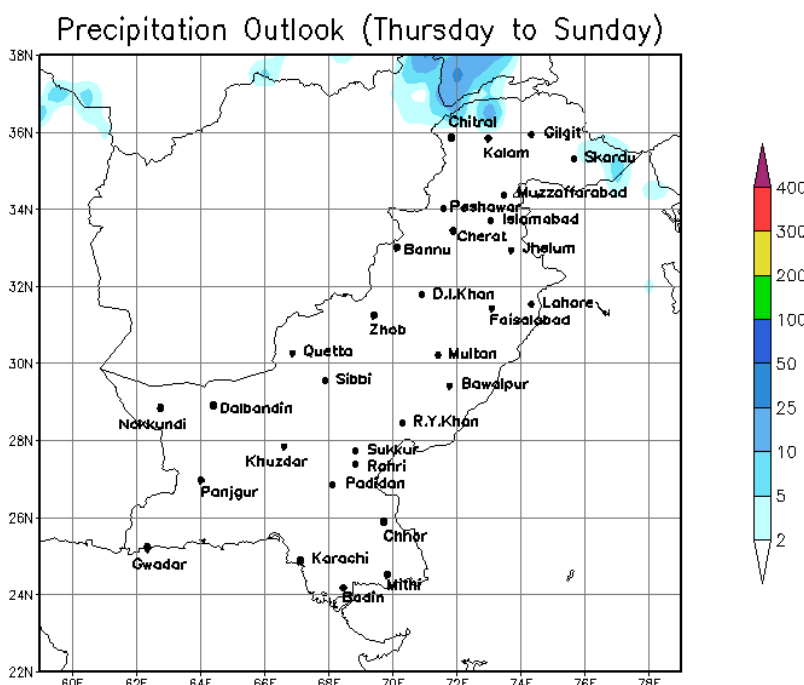
- Farmers of rainfed areas obtaining water through tube wells are advised to schedule the irrigation as per crop requirement.
- In areas like Potohar region and adjoining areas of KP where rain water storages are available. Farmers are advised to irrigate crops by using available irrigation methods like sprinkler irrigation etc.

Weather Outlook From 26th December, 2016 to 1st January, 2017

The outlook from 26th to 28th December, 2016 shows that dry weather is expected in most parts of the country. However, light rainfall may occur at isolated places in upper KP.



The outlook from 29th December, 2016 to 1st January, 2017 shows that dry weather may prevail in most parts of the country. However, light rainfall is expected at isolated places in upper KP, Gilgit-Baltistan and Kashmir.



National Weather Data of Selected Cities
(Weekly Data from 19th to 25th December, 2016)

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	-3.3	-5.0	***	44	0.0	2.4	2.9	0.6	2.3
Badin	14.4	13.5	114.5	60	0.0	0.0	0.0	1.1	1.4
Bahawalnagar	9.6	8.0	85.0	70	0.0	0.0	0.6	0.0	1.1
Bahawalpur	8.5	7.8	81.8	74	0.0	0.0	0.6	0.9	0.0
Balakot	2.6	1.4	45.8	54	0.0	1.6	2.1	0.0	0.0
Bannu	3.4	2.5	61.0	40	0.0	1.1	1.6	0.0	0.3
Barkhan	6.6	4.5	69.5	32	0.0	0.3	0.0	0.9	0.3
Bunji	0.9	-0.8	14.3	41	0.0	4.0	3.7	0.0	0.3
Cherat	7.1	5.5	43.8	39	0.0	1.9	2.4	3.1	3.1
Chhor	8.6	8.3	103.8	57	0.0	0.2	0.0	0.3	3.7
Chilas	2.4	1.5	26.8	32	0.0	3.4	3.6	0.3	0.0
Chitral	-1.0	-1.3	11.9	52	0.0	0.6	2.9	3.7	2.6
D.I.Khan	6.9	6.5	79.0	68	0.0	0.3	0.4	0.9	0.6
Dalbandin	2.6	0.0	57.4	43	0.0	0.6	1.0	2.3	5.0
D.G.Khan	6.6	6.0	73.4	65	0.0	0.3	0.4	1.4	1.1
Dir	-2.4	-3.5	23.2	52	0.0	0.4	1.7	0.0	2.0
Drosh	0.6	0.0	17.6	31	0.0	1.0	3.4	0.6	6.6
Faisalabad	6.9	6.0	77.1	71	0.0	0.6	0.3	0.2	0.6
Garidopatta	2.7	1.0	44.5	66	0.0	0.4	1.7	0.0	0.9
Gawader	13.5	12.5	113.8	60	0.0	0.0	0.4	0.6	5.7
Gilgit	-4.5	-5.0	***	62	0.0	3.1	4.0	0.3	0.0
Gupis	-5.5	-6.5	***	44	0.0	1.4	4.7	2.6	2.9

Hyderabad	13.4	12.0	113.0	54	0.0	0.0	0.0	2.3	3.7
Islamabad	2.3	2.0	54.7	65	0.0	0.7	2.4	0.0	2.0
Jacobabad	10.7	9.0	95.5	63	0.0	0.3	0.0	2.0	1.1
Jhang	7.0	5.7	81.1	73	0.0	0.6	1.4	0.0	1.1
Jhelum	5.2	4.2	67.5	64	0.0	2.5	3.6	0.0	0.6
Jiwani	17.1	16.0	122.1	65	0.0	2.1	1.4	2.6	8.3
Kakul	1.9	1.5	46.9	47	0.0	1.9	4.3	0.0	0.0
Kalam	-3.5	-4.2	***	60	0.0	1.4	3.3	0.0	0.0
Kalat	-3.0	-6.0	9.0	44	0.0	0.0	0.6	0.0	0.0
Karachi	14.7	13.6	124.5	49	0.0	1.0	0.6	2.3	4.6
Khanpur	8.0	7.0	87.0	67	0.0	0.0	0.4	0.0	0.6
Khuzdar	7.4	6.0	74.3	41	0.0	0.0	0.6	1.4	2.3
Kotli	4.1	3.4	66.5	68	0.0	1.1	0.8	0.9	1.1
Lahore	8.6	7.4	77.2	66	0.0	0.7	1.3	0.6	0.6
Larkana	8.8	7.0	92.2	59	0.0	0.0	0.0	0.3	0.0
Lasbella	11.4	10.0	112.5	49	0.0	0.0	0.7	1.1	3.0
Lower Dir	0.2	-1.5	32.0	64	0.0	1.3	1.4	0.9	1.4
M.B Din	7.4	5.5	73.1	64	0.0	1.9	1.0	0.0	0.9
Malam Jabba	-0.4	-1.0	3.8	59	0.0	1.0	1.3	0.0	0.0
Mangla	5.6	4.4	70.9	50	0.0	1.7	2.9	0.6	1.1
Mir Khani	0.1	0.0	24.3	60	0.0	1.0	3.3	0.0	3.9
Moinjodaro	7.6	6.0	100.5	65	0.0	0.0	0.5	0.6	2.3
Multan	9.2	9.0	86.1	69	0.0	0.3	1.1	0.0	0.6
Murree	4.3	3.5	38.2	31	0.0	1.4	2.7	1.4	0.3
Muzaffarabad	5.0	4.2	51.1	55	0.0	2.4	2.9	1.1	0.4
Nawabshah	11.4	11.0	103.0	60	0.0	0.3	0.0	1.9	5.1

Nokkundi	7.2	2.7	71.1	25	0.0	0.9	0.6	2.0	5.1
Okara	8.9	8.5	79.5	75	0.0	0.3	0.4	0.3	1.4
Padidan	11.4	10.0	99.3	65	0.0	0.7	0.4	0.6	1.7
Panjgur	5.4	3.0	59.5	35	0.0	0.0	0.9	10.3	11.7
Parachinar	1.4	1.0	***	59	0.0	4.9	5.1	3.0	3.0
Pasni	15.5	14.5	121.5	57	0.0	0.6	1.1	1.4	6.3
Pattan	5.9	4.0	52.8	43	0.0	0.0	0.9	0.9	0.0
Peshawar	3.7	2.0	56.8	64	0.0	2.0	2.9	0.3	0.9
Quetta	-0.6	-5.0	22.1	34	0.0	0.4	0.4	2.0	2.9
Rahim Yar Khan	9.8	8.8	94.3	70	0.0	0.1	0.1	0.0	0.0
Rawalpindi	3.9	3.0	59.9	68	0.0	1.3	2.0	0.0	0.8
Rawalakot	-1.3	-2.0	28.3	52	0.0	2.1	2.9	0.0	0.0
Sahiwal	6.3	5.5	70.1	71	0.0	0.0	0.3	1.1	0.9
Saidu Sharif	3.6	1.0	41.3	48	0.0	0.0	0.0	0.0	0.0
Sialkot	6.0	4.5	64.8	78	0.0	1.3	1.0	0.0	1.4
Sibbi	10.6	9.5	103.3	35	0.0	0.4	0.6	1.7	2.0
Skardu	-8.0	-10.2	***	62	0.0	4.7	4.3	0.0	0.0
Tandojam	10.4	9.0	92.8	56	0.0	0.0	0.0	0.6	0.9
Usta.M	8.4	7.0	87.3	61	0.0	0.7	0.4	0.2	2.0
Zhob	2.3	1.5	44.8	42	0.0	0.0	0.6	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 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)