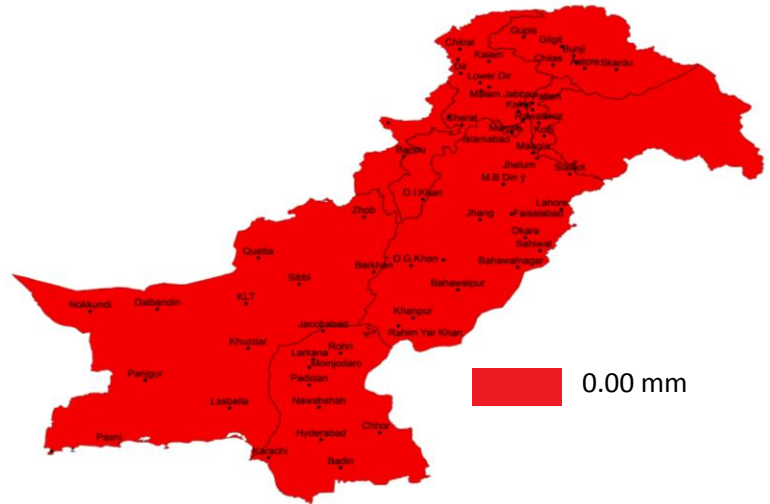


Weekly Weather and Crop Bulletin for Pakistan

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Rainfall Distribution (mm) during the previous
Week (25th to 31th December, 2017)

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Highlights of Past Weather (25th to 31th December, 2017)

Above normal night time temperatures were observed in Sindh, Gilgit-Baltistan and Kashmir while below normal night time temperature were observed in KP. Mix trend of night time temperatures recorded in rest parts of the country.

Rainfall reported as follows:

- Cold and dry weather (no rainfall) reported from most parts of the county during previous week.

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

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

Editor: Dr. Dildar H. Kazmi (Meteorologist)

**Past Weather of Provinces (25th to 31th
December, 2017)**

Punjab

Dry weather reported from Punjab during the week. Weekly maximum and minimum temperatures recorded as 22.6°C & 5.8°C respectively. For the recent week on average 64.6 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 64% and wind speed in the morning/evening recorded as 0.6/0.7 knots. During the previous week lowest minimum temperature was recorded as 1.5°C at Bhakkar.

Balochistan

Dry weather reported from Balochistan during the week. Weekly maximum and minimum temperatures recorded as 22.9°C & 5.8°C respectively. For the recent week on average 72.9 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 2.0/3.1 knots. During the previous week lowest minimum temperature was recorded as -8.0°C at Kalat.

Khyber Pakhtunkhwa

Dry weather reported from Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 18.2°C & 2.5°C respectively. For the recent week on average 42.5 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 50% and wind speed in the morning/evening recorded as 1.4/2.7 knots. During the previous week lowest minimum temperature was recorded as -5.5°C at Kalam.

Gilgit-Baltistan and Azad Jammu & Kashmir

Dry weather reported from Kashmir and Gilgit-Baltistan during the week. Weekly maximum and minimum temperatures recorded as 13.2°C & -0.1°C respectively. For the recent week on average

35.8 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 1.7/2.3 knots. During the previous week lowest minimum temperature was recorded as -9.0°C at Skardu.

Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 26.8°C & 9.7°C respectively. For the recent week, on average 95.1 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 1.0/4.2 knots. During the previous week minimum temperature was recorded as 4.5°C at Mithi.

**Past Weather for Major Agricultural Plains
(25th to 31th December, 2017)**

Rawalpindi (Potohar region)

Dry weather reported from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 0.6/1.1 Oktas while average relative humidity observed as 75%. Mean night time temperature recorded as 4.4°C & for the recent week 58.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.5 knots.

Faisalabad (Central Punjab)

Dry weather reported from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 1.7/1.0 Oktas while average relative humidity observed as 71%. Mean night time temperature recorded as 4.6°C & for the recent week 63.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.2 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 57%. Mean night time temperature recorded as 6.9°C & for the recent week 79.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/1.6 knots.

Usta Muhammad (Eastern Balochistan)

Dry weather reported from Usta Muhammad during the week; however, cloudiness in the morning/evening recorded 0.0/0.0 Oktas while average relative humidity observed as 67%. Mean night time temperature recorded as 9.9°C & for the recent week 85.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.3 knots.

Quetta (Northern Baluchistan)

Dry weather reported from Quetta during the week; however, cloudiness in the morning/evening recorded as 2.4/2.4 Oktas while average relative humidity observed as 29%. Mean night time temperature recorded as 0.1°C & for the recent

week 19.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.9/2.2 knots.

Past Weather for Sub-Regional Agricultural Plains (25th to 31th December, 2017)

Multan

Dry weather reported from Multan during the week; however, cloudiness in the morning/evening recorded as 1.1/2.3 Oktas while average relative humidity observed as 55%. Mean night time temperature recorded as 7.3°C & for the recent week 69.3 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 knots.

Lahore

Dry weather reported from Lahore during the week; however, cloudiness in the morning/evening recorded as 1.3/2.0 Oktas while average relative humidity observed as 67%. Mean night time temperature recorded as 8.8°C & for the recent week 76 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.3 knots.

Zhob

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 1.0/1.2 Oktas while average relative humidity observed as 38%. Mean night time temperature recorded as 2.5°C & for the recent week 50.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 3.3/5.0 knots.

Murree

Dry weather reported from Murree during the week; however, cloudiness in the morning/evening recorded as 1.4/1.8 Oktas while average relative humidity observed as 44%. Mean night time temperature recorded as 2.9°C & for the recent week 23.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.1/0.7 knots.

D.I. Khan

Dry weather reported from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 1.4/1.7 Oktas while average relative

humidity observed as 61%. Mean night time temperature recorded as 5.5°C & for the recent week 69.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.0 knots.

Peshawar

Dry weather reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 1.1/2.7 Oktas while average relative humidity observed as 62%. Mean night time temperature recorded as 3.8°C & for the recent week 59.2 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/3.3 knots.

Kalam

Dry weather reported from Kalam during the week; however, cloudiness in the morning/evening recorded as 2.9/3.3 Oktas while average relative humidity observed as 63%. Mean night time temperature recorded as -3.8°C. Wind speed recorded in the morning/evening as 0.0/0.0 knots.

Gilgit

Dry weather reported from Gilgit during the week; However, cloudiness in the morning/evening recorded as 3.9/4.5 Oktas while average relative humidity observed as 49%. Mean night time temperature recorded as -2.1°C & for the recent week 6.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 1.7/1.0 knots.

Skardu

Dry weather reported from Skardu during the week; However, cloudiness in the morning/evening recorded as 5.9/5.7 Oktas while average relative humidity observed as 72%. Mean night time temperature recorded as -4.2°C. Wind speed recorded in the morning/evening as 0.0/0.0 knots.

Crop Situation for Major Agricultural Plains (Based on data from Regional Agro met Centers)

Potohar Region (Rawalpindi)

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

Central Punjab (Faisalabad)

There is presently one crop in the fields of RAMC Faisalabad.

Wheat (*Galaxy*); 3rd leaf completed (*Irrigated Conditions*)

Lower Sindh (Tandojam)

There is presently one crop in the fields of RAMC Tandojam.

Wheat (*Sindh*); *Tillering stage*

Northern Baluchistan (Quetta)

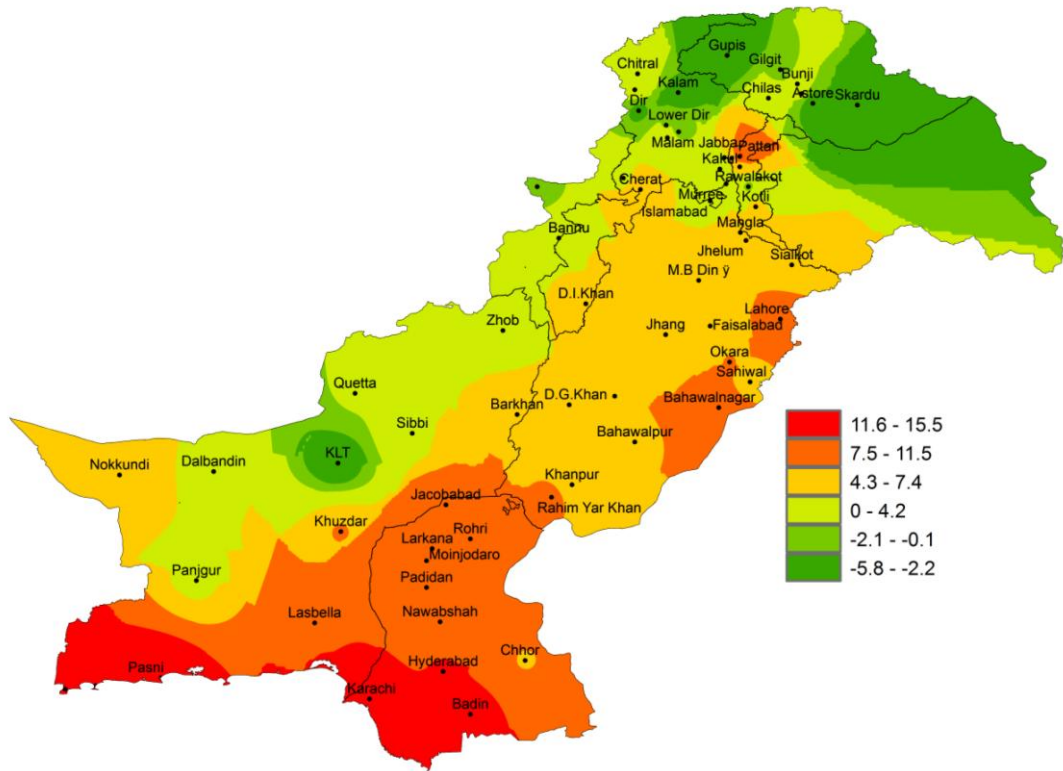
There is presently no crop grown in the fields of RAMC Quetta.

Eastern Baluchistan (Usta Muhammad)

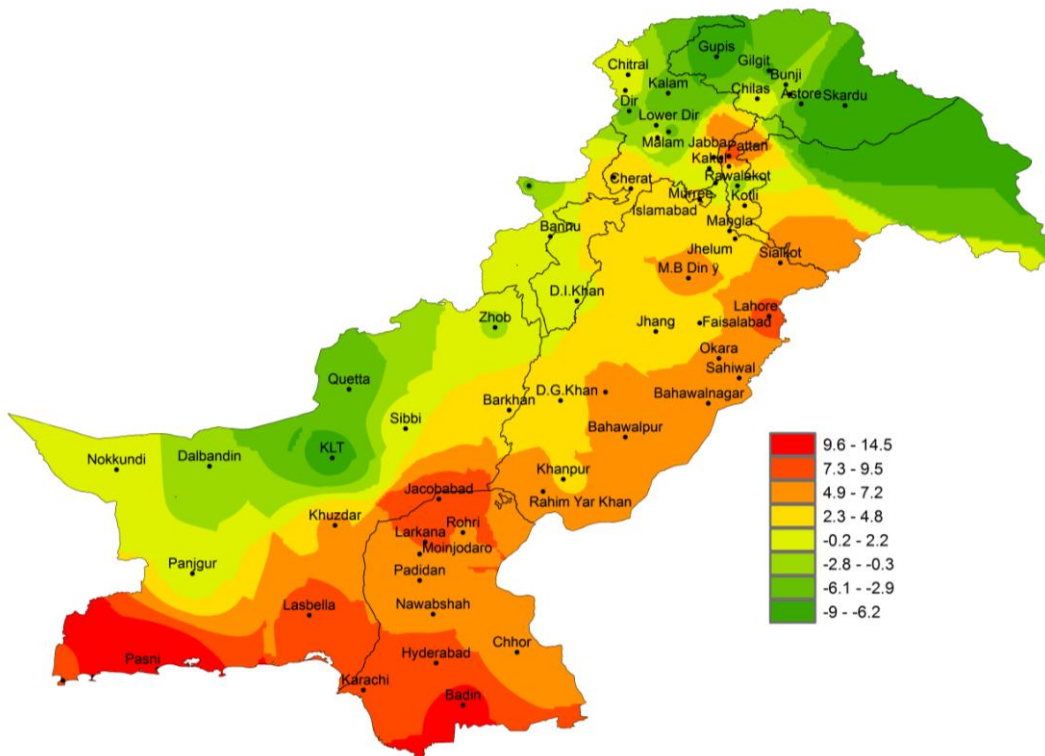
There is presently one crop grown in the fields of RAMC Usta Muhammad.

Wheat (*Galaxy*); 3rd leaf stage

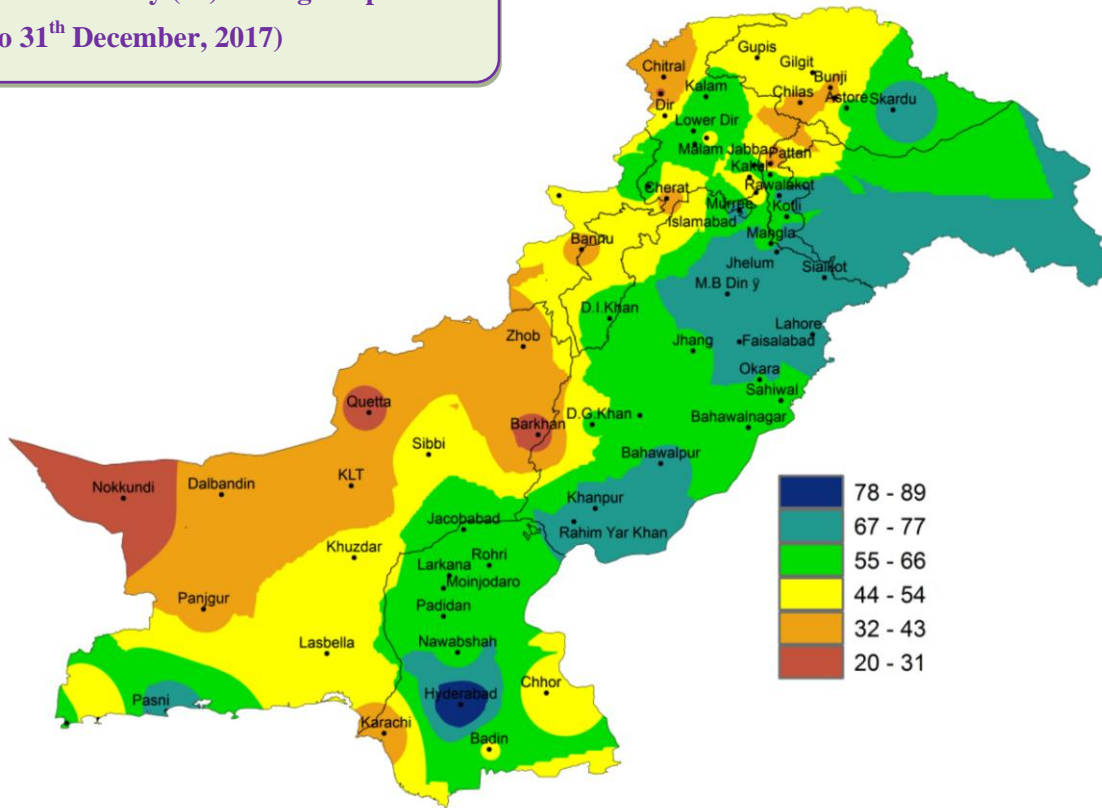
Mean Minimum Temperature (°C) during the Previous week (25th to 31th December, 2017)



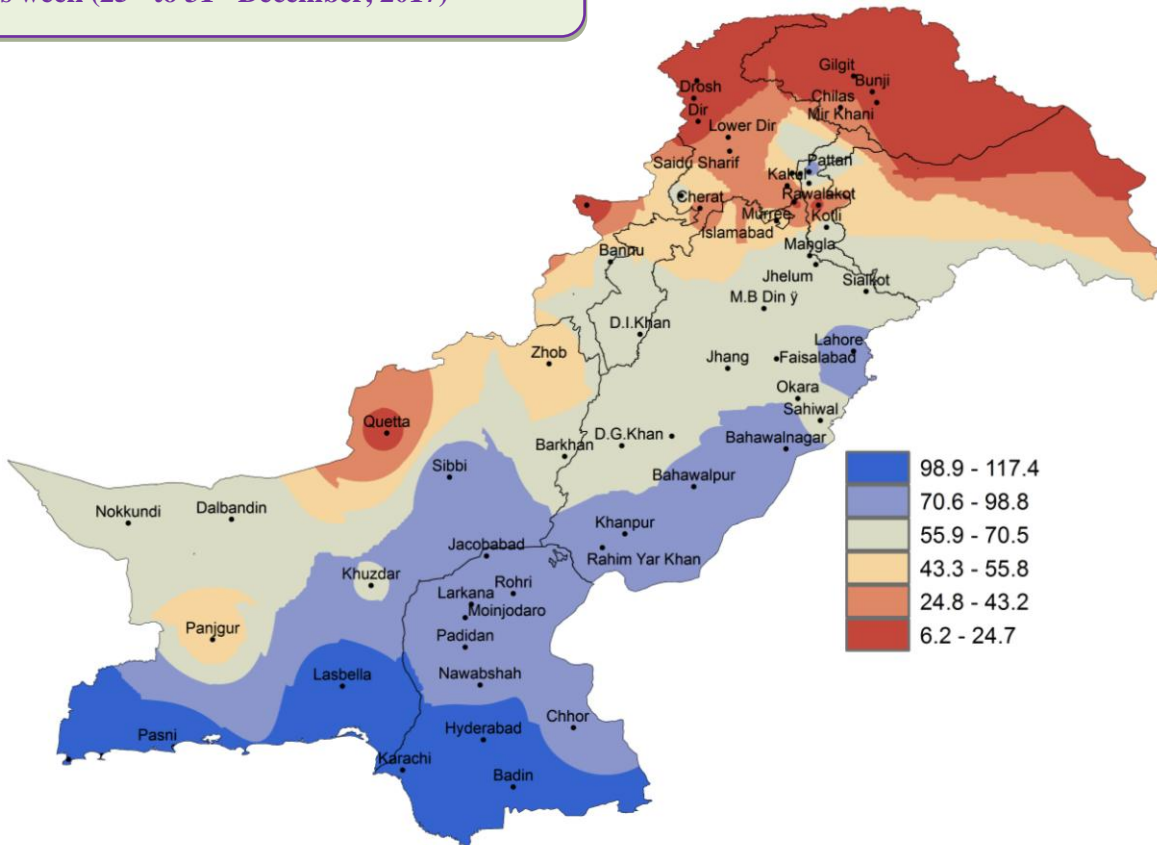
Lowest Minimum Temperature (°C) during the Previous week (25th to 31th December, 2017)



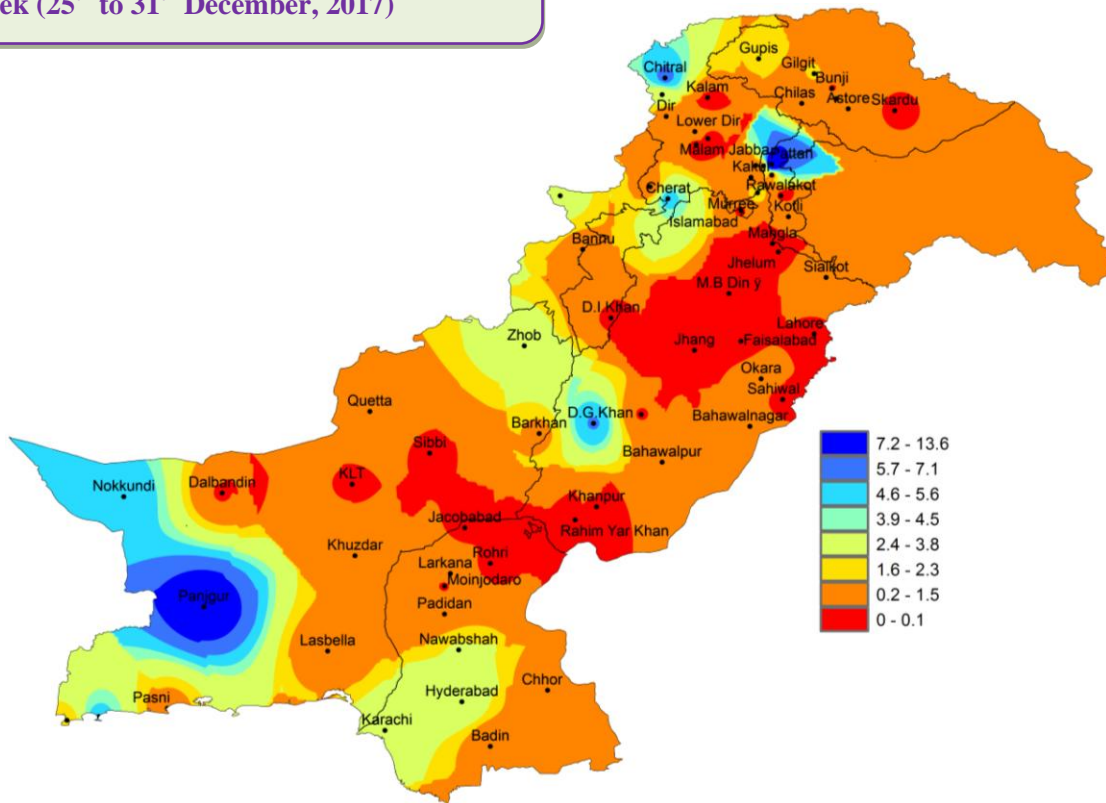
Mean Relative Humidity (%) during the previous week (25th to 31th December, 2017)



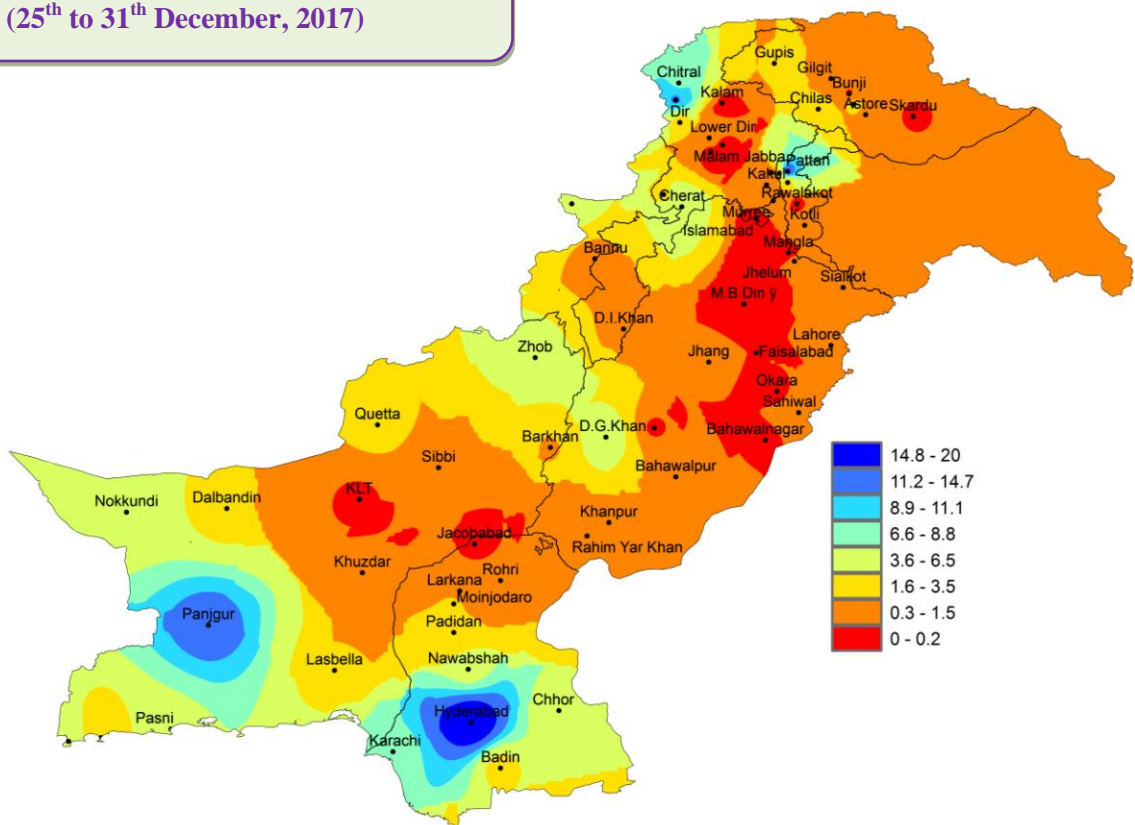
Total Growing Degree Days accumulated during the previous week (25th to 31th December, 2017)



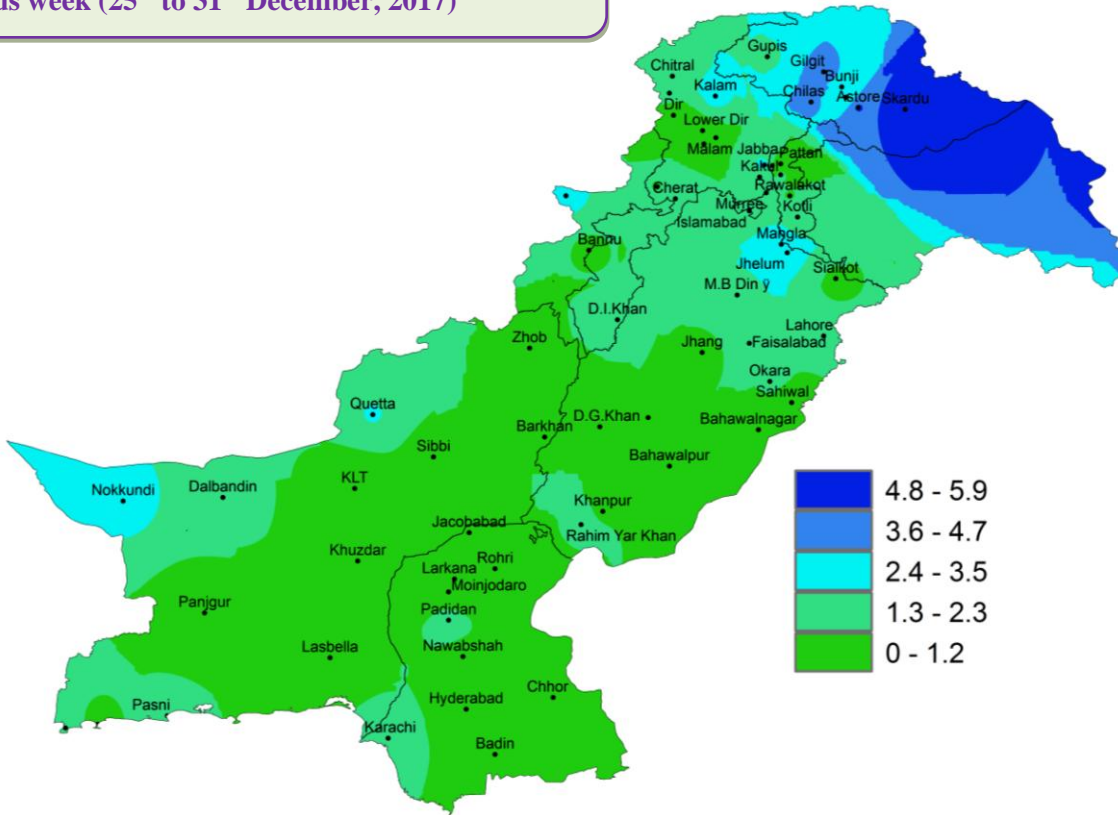
Mean Wind Speed (Knots) at 0800PST during the previous week (25th to 31th December, 2017)



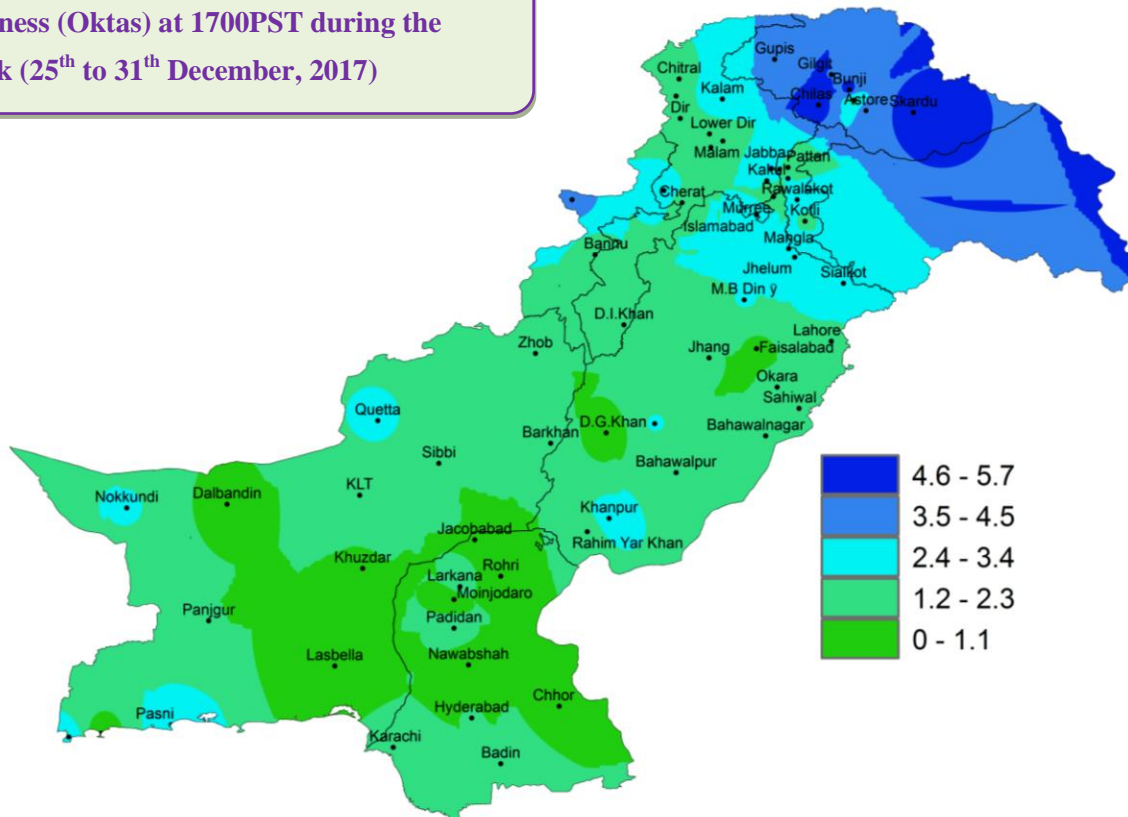
Mean Wind Speed (Knots) at 1700PST during the previous week (25th to 31th December, 2017)



Mean Cloudiness (Oktas) at 0800PST during the previous week (25th to 31th December, 2017)



Mean Cloudiness (Oktas) at 1700PST during the previous week (25th to 31th December, 2017)



Weekly Weather Advisory for Farmers
(1st to 7th January, 2018)

Continental air is prevailing over most parts of the country.

MONDAY

01-01-2018

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

TUESDAY

02-01-2018

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

WEDNESDAY

03-01-2018

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

THURSDAY

04-01-2018

Mainly cold and dry weather is expected in most parts of the country. Rain / thunderstorm with snowfall over hills is expected at isolated places in Malakand, Hazara, Mardan, Rawalpindi, Zhob divisions, Islamabad, FATA, Gilgit-Baltistan and Kashmir. Dense Foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during night and morning hours.

FRIDAY

05-01-2018

Mainly cold and dry weather is expected in most parts of the country. Rain / thunderstorm with snowfall over hills is expected at isolated places in Malakand, Hazara divisions, FATA, Gilgit-Baltistan and Kashmir. Dense Foggy conditions are likely to prevail over plain areas of Punjab and upper Sindh during night and morning hours.

SATURDAY

06-01-2018

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

SUNDAY

07-01-2018

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

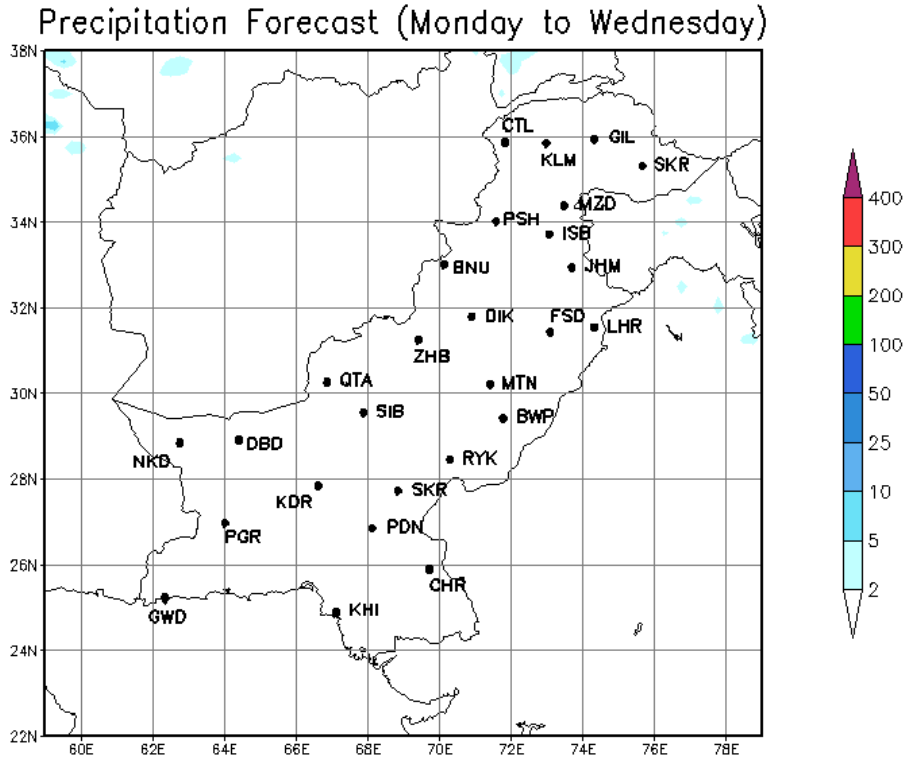
ADVISES FOR FARMERS

During the last week, no rainfall occurred in most parts of the country. In next week light rainfall is expected at upper parts of the country. Accordingly, following advises are suggested for the farming community.

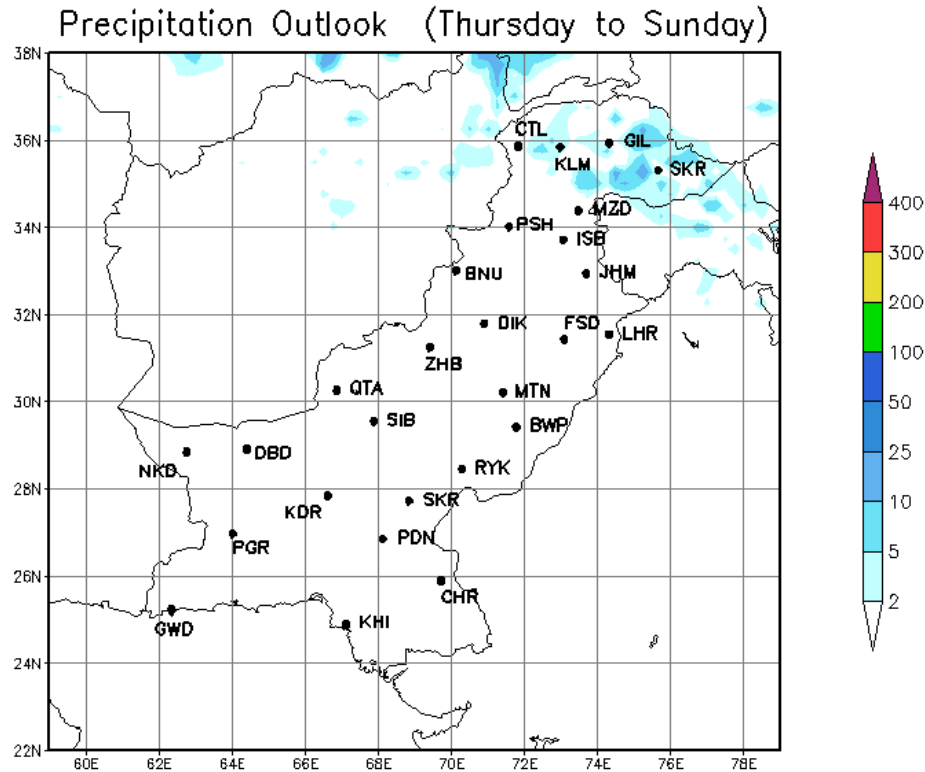
- Necessary precautionary measures may be taken to protect crops/nurseries from effects of extreme weather.
- Removal of weeds from the fields may be ensured.

Weather Outlook from 1st to 7th January, 2018

The outlook for the period 1st to 3rd January, 2018 shows that dry weather may prevail in most parts of the country.



The outlook for the period 4th to 7th January, 2018 shows that dry weather is expected to prevail in most parts of the country however light rainfall is expected at a few places in upper KP, Gilgit-Baltistan and Kashmir.



National Weather Data of Selected Cities (25th to 31th December, 2017)

Stations	Minimum 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	-5.6	-8.5	***	0.0	62	4.9	4.0	0.6	1.3
Badin	12.9	10.5	105.6	0.0	53	0.4	1.3	0.3	2.0
Bahawalnagar	8.8	7.0	80.0	0.0	60	0.6	1.3	0.3	0.0
Bahawalpur	7.2	5.7	75.5	0.0	69	0.9	1.7	0.6	0.7
Balakot	2.9	2.1	47.1	0.0	58	3.0	3.7	0.3	0.0
Bannu	3.3	2.0	58.8	0.0	41	1.0	1.8	1.1	0.7
Barkhan	5.9	4.0	57.5	0.0	27	1.1	1.8	1.1	1.3
Bunji	2.3	-0.8	17.9	0.0	42	3.6	5.2	0.0	0.0
Cherat	5.4	4.5	37.4	0.0	37	1.9	2.0	5.1	5.0
Chhor	7.3	5.0	95.3	0.0	48	0.4	1.0	0.3	3.7
Chilas	3.5	1.5	32.6	0.0	42	3.7	5.0	0.3	2.3
Chitral	2.2	0.4	22.6	0.0	33	1.9	2.0	6.3	8.3
D.G.Khan	4.9	3.5	61.1	0.0	56	0.6	0.5	5.7	5.3
D.I.Khan	5.5	2.0	69.5	0.0	61	1.4	1.7	0.0	1.0
Dalbandin	3.5	-2.5	64.1	0.0	38	2.0	0.8	0.0	1.6
Dir	-3.0	-4.0	18.2	0.0	54	0.4	1.7	0.3	2.2
Drosh	1.4	1.0	16.1	0.0	30	1.6	2.0	2.9	11.7
Faisalabad	4.6	3.5	63.0	0.0	71	1.7	1.0	0.0	0.2
Gari dopatta	4.6	3.7	54.6	0.0	64	1.3	2.3	0.3	1.7
Gawader	12.5	10.0	103.4	0.0	45	0.8	0.5	5.0	1.5
Gilgit	-2.1	-7.0	6.1	0.0	49	3.9	4.5	1.7	1.0
Gupis	-5.8	-8.0	***	0.0	51	2.1	3.5	1.7	1.7

Hyderabad	11.8	8.0	103.6	0.0	89	0.3	1.2	3.7	20.0
Islamabad	3.7	2.5	52.5	0.0	69	1.7	2.7	0.0	0.0
Jacobabad	9.9	8.5	86.4	0.0	63	0.4	1.0	0.0	0.0
Jhang	5.2	3.6	68.2	0.0	63	0.9	1.2	0.0	0.3
Jhelum	5.1	4.7	65.3	0.0	72	2.4	2.5	0.0	0.3
Jiwani	14.1	8.5	108.9	0.0	57	1.9	2.8	1.7	5.3
Kakul	2.2	1.5	33.3	0.0	52	1.3	2.2	0.6	0.7
Kalam	-3.8	-5.5	***	0.0	63	2.9	3.3	0.0	0.0
Kalat	-4.4	-8.0	***	0.0	35	0.0	2.0	0.0	0.0
Karachi	13.3	9.0	114.1	0.0	35	2.0	1.7	3.0	7.0
Khanpur	6.2	4.3	74.0	0.0	67	1.1	2.7	0.0	1.0
Khuzdar	7.6	5.5	68.7	0.0	45	0.0	1.0	0.9	0.3
Kotli	5.0	4.4	64.0	0.0	66	1.6	2.2	0.3	0.7
Lahore	8.8	7.8	76.0	0.0	67	1.3	2.0	0.0	0.3
Larkana	9.3	9.0	93.0	0.0	60	0.7	2.0	0.7	1.0
Lasbella	11.2	8.0	117.4	0.0	48	0.0	0.0	0.3	1.7
Lower Dir	-0.4	-2.0	25.5	0.0	65	0.4	1.7	0.6	1.0
M.B Din	6.4	5.5	64.0	0.0	76	2.0	2.3	0.0	0.0
Malam Jabba	-1.0	-4.0	***	0.0	51	1.1	1.7	0.0	0.0
Mangla	4.4	3.8	62.2	0.0	62	3.1	2.7	0.0	0.0
Mir Khani	0.6	-1.0	24.3	0.0	39	2.1	1.7	0.6	2.0
Moinjodaro	7.6	5.0	87.0	0.0	58	0.0	0.0	0.0	1.7
Multan(PBO)	7.3	5.5	69.3	0.0	55	1.1	2.3	0.0	0.0
Murree	2.9	1.8	23.1	0.0	44	1.4	1.8	2.1	0.7
Muzaffarabad	5.4	5.0	54.3	0.0	59	1.0	2.2	0.0	1.0
Nawabshah	8.7	7.0	97.6	0.0	62	1.0	0.3	2.4	5.0

Nokkundi	5.9	1.5	65.1	0.0	20	2.7	2.3	5.3	5.0
Okara	7.5	6.0	70.3	0.0	66	1.3	1.2	0.3	0.0
Padidan	9.3	6.5	94.9	0.0	66	1.7	2.0	1.0	1.7
Panjgur	3.4	0.5	49.0	0.0	40	0.0	1.2	8.9	13.0
Parachinar	-2.1	-3.0	13.8	0.0	51	2.7	3.8	3.3	5.0
Pasni	15.5	14.5	114.4	0.0	72	1.7	3.0	0.8	5.7
Pattan	12.6	9.5	80.8	0.0	24	0.6	1.8	14.3	15.7
Peshawar	3.8	2.5	59.2	0.0	62	1.1	2.7	0.3	3.3
Quetta	0.1	-4.2	19.9	0.0	29	2.4	2.4	0.9	2.2
Rahim Yar Khan	8.0	6.2	80.9	0.0	68	1.3	1.8	0.0	0.3
Rawalakot	-0.6	-1.7	20.9	0.0	68	1.1	2.7	0.0	0.0
Rawalpindi	4.4	3.3	58.2	0.0	75	0.6	1.1	0.0	0.5
Rohri	7.9	7.0	71.9	0.0	59	0.0	0.0	0.0	0.3
Sahiwal	6.9	5.2	67.1	0.0	65	1.0	1.7	0.0	1.0
Saidu Sharif	2.6	1.7	40.5	0.0	59	0.7	1.3	0.0	0.0
Sialkot	6.4	5.4	60.6	0.0	71	1.0	3.2	0.7	1.0
Sibbi	3.5	2.0	85.0	0.0	53	0.7	1.3	0.0	0.7
Skardu	-4.2	-9.0	***	0.0	72	5.9	5.7	0.0	0.0
Tandojam	6.9	6.0	79.5	0.0	57	0.0	0.0	0.3	1.6
Usta. M	9.9	9.5	85.3	0.0	67	0.0	0.0	0.0	0.3
Zhob	2.5	-0.5	50.8	0.0	38	1.0	1.2	3.3	5.0

*** Shows that data was not available.

*Trace shows not-measurable data

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)