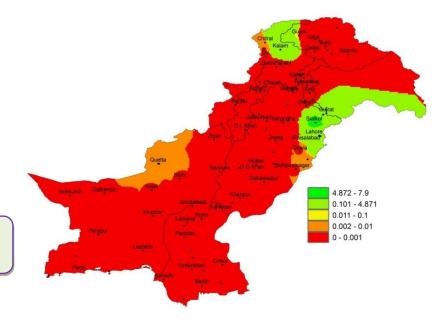
Weekly Weather and Crop Bulletin for Pakistan

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

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Rainfall Distribution (mm) during the previous Week (22nd to 28th January, 2018)

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Highlights of Past Weather (22nd to 28th January, 2018)

Below normal night time temperatures were observed in most parts of Gilgit-Baltistan and Kashmir, while above in Baluchistan and Sindh. Mix trend was observed in KP and Punjab during the previous week.

Province wise rainfall distribution reported as follows:

- Light rainfall observed at few places in Punjab during the previous week.
- Light rainfall observed at only a single place from KP and Baluchistan.
- Dry weather reported from GB and Sindh during the previous week.

Past Weather of Provinces (22nd to 28th January, 2018)

Punjab

Light rainfall observed at few places in Punjab during the previous week. Weekly maximum and minimum temperatures recorded as 17.9°C & 5.0°C respectively. For the recent week on average 45.2 growing degree days were accumulated by the end of the last week. Average relative humidity recorded as 68% and wind speed in the morning/evening recorded as 0.9/1.8 knots. During the previous week highest amount of rainfall was reported as 7.9 mm at Sialkot, lowest minimum temperature was recorded as -1.8°C at Murree.

Balochistan

Light rainfall observed at only a single place from Balochistan during the week. Weekly maximum and minimum temperatures recorded as 22.0°C & 4.8°C respectively. For the recent week on average 63.5 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 44% and wind speed in the morning/evening recorded as 1.5/3.8 knots. During the previous week highest amount of rainfall was reported as 0.01 mm at Quetta, lowest minimum temperature was recorded as -9.0°C at Kalat.

Khyber Pakhtunkhwa

Light rainfall observed at only a single place from Khyber Pakhtunkhwa during the week. Weekly maximum and minimum temperatures recorded as 16.5°C & 0.7°C respectively. For the recent week on average 29.5 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 55% and wind speed in the morning/evening recorded as 0.4/2.6 knots. During the previous week highest amount of rainfall was reported as 3.0 mm at Kalam & lowest minimum temperature was recorded as -6.5°C at Kalam.

Gilgit-Baltistan and Azad Jammu & Kashmir

Dry weather reported from Gilgit-Baltistan and Azad Jammu & Kashmir during the week. Weekly maximum and minimum temperatures recorded as 13.0°C & -1.9°C respectively. For the recent week on average 27.1 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 1.1/0.7 knots. During the previous week lowest minimum temperature was recorded as -10.0°C at Skardu.

Sindh

Dry weather reported from Sindh during the week. Weekly maximum and minimum temperatures recorded as 26.4°C & 9.2°C respectively. For the recent week, on average 89.5 growing degree days were accumulated by the end of last week. Average relative humidity recorded as 59% and wind speed in the morning/evening recorded as 0.7/4.1 knots. During the previous week lowest minimum temperature was recorded as 3.5°C at Moin-jo-Daro.

http://namc.pmd.gov.pk January, 2018

Past Weather for Major Agricultural Plains $(22^{nd} \text{ to } 28^{th} \text{ January, } 2018)$

Rawalpindi (Potohar region)

Dry weather reported from Rawalpindi during the week; however, cloudiness in the morning/evening recorded as 0.0/0.3 Oktas while average relative humidity observed as 75.5%. Mean night time temperature recorded as 2.6°C & for the recent week 44.1 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.3/0.8 knots.

Faisalabad (Central Punjab)

Dry weather reported from Faisalabad during the week; however, cloudiness in the morning/evening recorded as 1.0/0.6 Oktas while average relative humidity observed as 77.5%. Mean night time temperature recorded as 4.4°C & for the recent week 42.9 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.5/1.3 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 58%. Mean night time temperature recorded as 9.1°C & for the recent week 93.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.5 knots.

Usta Muhammad (Eastern Balochistan)

Dry weather reported from Usta Muhammad during week: however, cloudiness in the the morning/evening recorded 0.0/0.0 Oktas while average relative humidity observed as 72.5%. Mean night time temperature recorded as 7.1 °C & for the recent week 76.5 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.0 knots.

Quetta (Northern Baluchistan)

Rainfall reported as 0.2 mm from Quetta during the week; however, cloudiness in the morning/evening recorded as 2.3/3.4 Oktas while average relative humidity observed as 36.5%. Mean night time temperature recorded as 0.1°C & for the recent week 12.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 2.6/3.6 knots.

Past Weather for Sub-Regional Agricultural Plains (22nd to 28th January, 2018)

Multan

Dry weather reported from Multan during the week: however, cloudiness in the morning/evening recorded as 0.0/2.6 Oktas while average relative humidity observed as 71%. Mean night time temperature recorded as 6.7°C & for the recent week 46.0 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/2.6 knots.

Lahore

Rainfall reported as 2.01 mm from Lahore during the week: however. cloudiness in the morning/evening recorded as 0.3/1.6 Oktas while average relative humidity observed as 77%. Mean night time temperature recorded as 6.0°C & for the recent week 49.6 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.0/2.0 knots.

Zhoh

Dry weather reported from Zhob during the week; however, cloudiness in the morning/evening recorded as 0.0/0.0 Oktas while average relative humidity observed as 33%. Mean night time temperature recorded as 1.1°C & for the recent week 27.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 4.0/5.4 knots.

Murree

Dry weather reported from Murree during the week; however, cloudiness in the morning/evening recorded as 0.4/1.4 Oktas while average relative humidity observed as 60%. Mean night time temperature recorded as -0.5°C. Wind speed recorded in the morning/evening as 2.9/2.0 knots.

D.I. Khan

Dry weather reported from D.I. Khan during the week; however, cloudiness in the morning/evening recorded as 0.8/0.0 Oktas while average relative humidity observed as 76%. Mean night time temperature recorded as 4.4°C & for the recent week 43.8 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/1.1 knots.

Peshawar

Dry weather reported from Peshawar during the week; however, cloudiness in the morning/evening recorded as 0.0/0.8 Oktas while average relative humidity observed as 72%. Mean night time temperature recorded as 5.4°C & for the recent week 46 growing degree days accumulated by the end of last week. Wind speed recorded in the morning/evening as 0.0/0.6 knots.

Kalam

Rainfall reported as 3.0 mm from Kalam during the week; however, cloudiness in the morning/evening recorded as 1.2/3.7 Oktas while average relative humidity observed as 64%. Mean night time temperature recorded as -5.8°C. Wind speed recorded in the morning/evening as 0.0/2.6 knots.

Gilgit

Dry weather reported from Gilgit during the week; However, cloudiness in the morning/evening recorded as 0.0/1.0 Oktas while average relative humidity observed as 59%. Mean night time temperature recorded as -4.6°C. Wind speed recorded in the morning/evening as 1.0/5.4 knots.

Skardu

Dry weather reported from Skardu during the week; However, cloudiness in the morning/evening recorded as 1.4/5.3 Oktas while average relative humidity observed as 63%. Mean night time temperature recorded as -8.8°C. Wind speed recorded in the morning/evening as 0.0/0.0 knots.

<u>Crop Situation for Major Agricultural Plains</u> (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*); Very Good, Tillering completed in irrigated Conditions.

Lower Sindh (Tandojam)

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

Wheat (Sindhu); Good, at Heading stage in irrigated Conditions

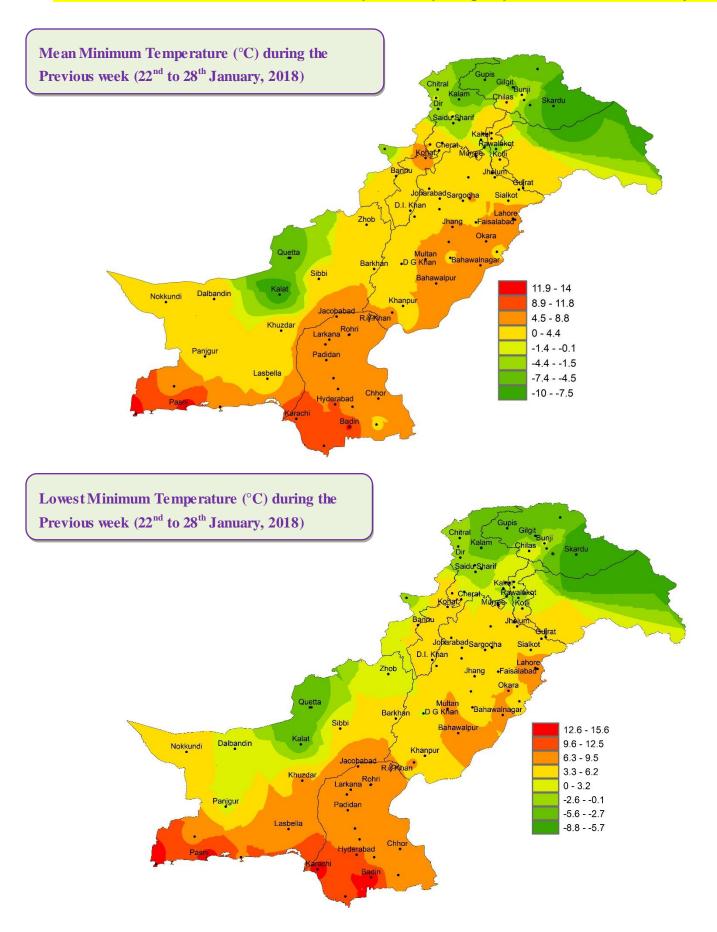
Northern Baluchistan (Quetta)

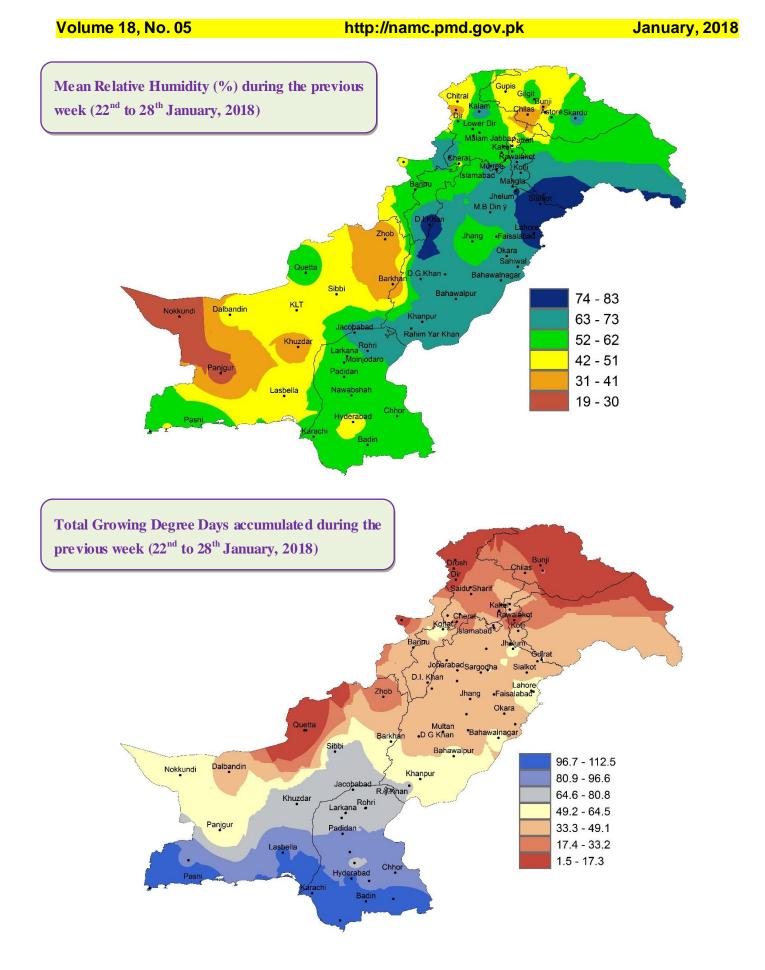
There is presently no crop grown in the fields of RAMC Quetta.

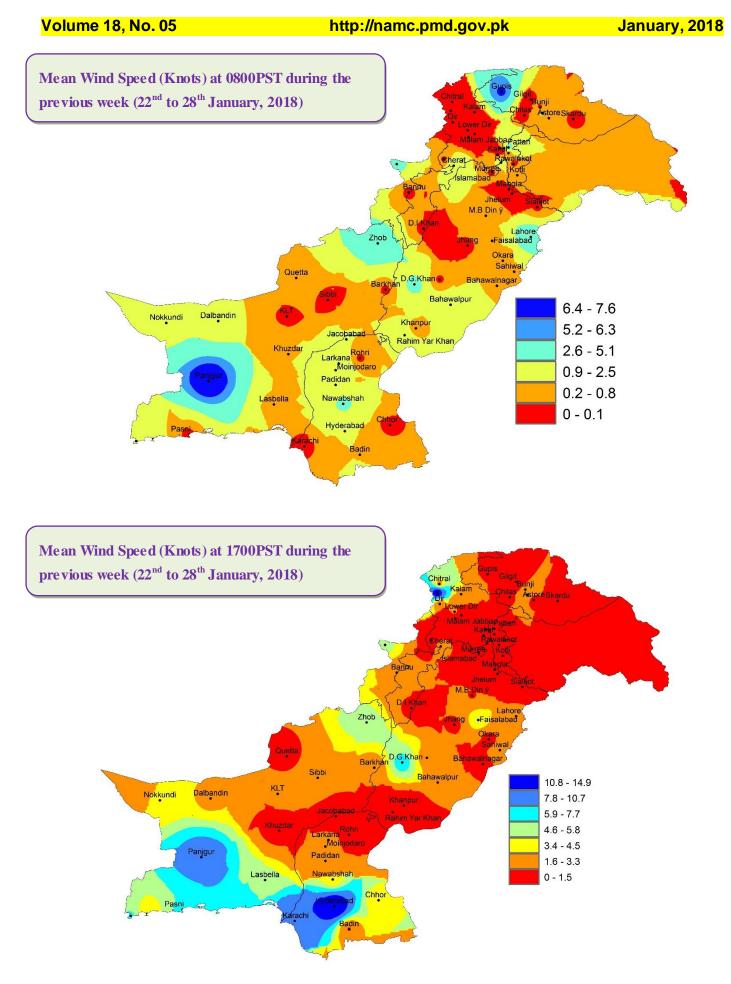
Eastern Baluchistan (Usta Muhammad)

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

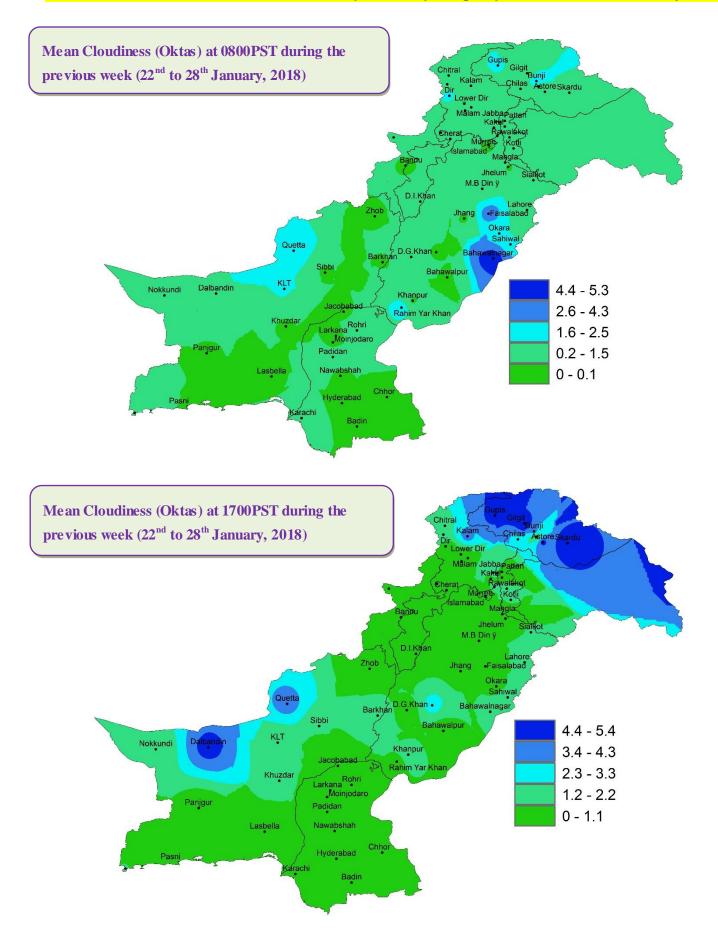
Wheat (*Galaxy*); *Good*, at *Tillering stage* in irrigated Conditions.







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Weekly Weather Advisory for Farmers (29th January to 4th February, 2018)

A westerly wave is affecting upper/western parts of the country and may persist till Wednesday.

MONDAY (29-01-2018)

Cloudy weather may persist in upper parts of the country including Quetta division. However, rainthunderstorm (with snowfall over the hills) is expected at scattered places in Malakand, Hazara, Quetta, Zhob divisions, FATA, Kashmir and Gilgit-Baltistan, while at isolated places in Bannu, Peshawar, Kohat divisions, Dense fog is likely to occur in plain areas of Punjab and upper Sindh.

TUESDAY (30-01-2018)

Partly cloudy weather may persist in upper parts of the country. However, light rain (with snowfall over the hills) is expected at isolated places in Malakand division, Kashmir and Gilgit-Baltistan. Dense fog is likely to occur in plain areas of Punjab and upper Sindh during morning and night hours.

WEDNESDAY (31-01-2018)

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 Malakand, Hazara divisions, Kashmir and Gilgit-Baltistan. Dense fog is likely to occur in plain areas of Punjab and upper Sindh during morning and night hours.

THURSDAY (01-02-2018)

Mainly cold and dry weather is expected in most parts of the country. Rain-thunderstorm (with snowfall over the hills) is expected at few places in Malakand division and Gilgit-Baltistan.

FRIDAY (02-02-2018)

Mainly cold and dry weather is expected in most parts of the country. Fog is likely to develop over plain areas of Punjab during morning and night hours.

SATURDAY (03-02-2018)

Mainly cold and dry weather is expected in most parts of the country. Fog is likely to develop over plain areas of Punjab during morning and night hours.

SUNDAY (04-02-2018)

Mainly cold and dry weather is expected in most parts of the country. Fog is likely to develop over plain areas of Punjab during morning and night hours.

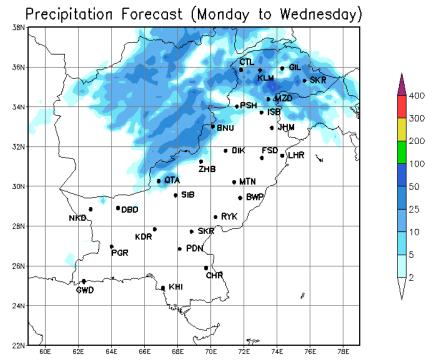
ADVISES FOR FARMERS

During the last week, dry weather was observed in most of the agricultural plains of the country. In the next week, light rainfall is expected in the northern parts of the country however, dry weather is likely to prevail in rest of the country. Accordingly, following advises are suggested for the farming community.

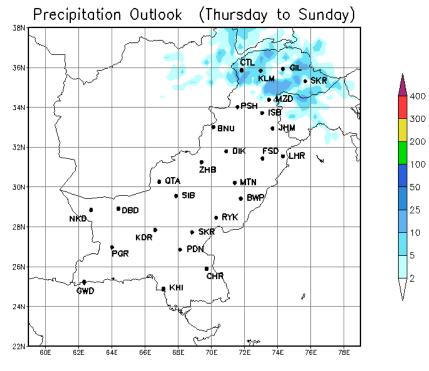
- Necessary precautionary measures may be taken to protect crops/nurseries from effects of extreme weather conditions.
- Removal of weeds from the fields may be ensured.

Weather Outlook from 29th January to 4th February, 2018

The outlook for the period 29th to 31st January, 2018 shows that dry weather may prevail in most parts of the country, however light to moderate rainfall is expected in KP, GB & Azad Kashmir and northern Baluchistan.



The outlook for the period 1st to 4th February, 2018 shows that dry weather is expected to prevail in most parts of the country, however light rainfall is expected at scattered places in Gilgit-Baltistan and Azad Kashmir.



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National Weather Data of Selected Cities (22nd to 28th January, 2018)

Stations	Minimum Night time Temperature (°C)		Growing Degree Days	Relative Humi dity (%)	Rainfall (mm)	Cloudiness (Oktas) 0800	Cloudiness (Oktas) 1700	Wind Speed (Knots)	Wind Speed (Knots)
	Mean	Lowest	Days	(70)		PST	PST	0800 PST	1700 PST
Astore	-6.3	-7.5	***	55	0.0	1.4	4.7	0.4	0.9
Badin	13.8	12.0	112.0	53	0.0	0.0	0.6	0.8	1.4
Bahawalnagar	6.6	6.0	51.0	67	0.0	5.3	1.1	0.8	1.1
Bahawalpur	7.3	5.8	51.2	69	0.0	0.0	0.4	1.6	2.3
Balakot	0.9	0.0	32.2	54	0.0	1.2	2.4	0.0	0.7
Bannu	3.6	1.5	45.4	54	0.0	0.0	0.0	0.0	2.3
Barkhan	5.1	4.0	50.8	30	0.0	0.0	2.2	0.0	2.0
Bunji	0.5	-0.6	11.7	37	0.0	2.0	3.9	0.0	1.7
Cherat	3.5	2.0	27.0	50	0.0	0.4	0.0	2.0	2.0
Chhor	7.3	5.5	90.5	58	0.0	0.0	0.4	0.0	3.4
Chilas	0.9	0.5	21.3	33	0.0	0.4	2.9	0.0	1.1
Chitral	-2.4	-4.0	14.1	52	0.0	0.8	2.0	0.0	2.6
D.G.Khan	3.0	2.0	42.3	73	0.0	1.3	0.3	3.0	6.6
D.I.Khan	4.4	2.5	43.8	76	0.0	0.8	0.0	0.0	1.1
Dalbandin	1.6	1.0	47.0	42	0.0	1.4	4.7	1.2	2.9
Dir	-2.6	-3.0	13.2	54	0.0	1.8	0.9	0.0	1.4
Drosh	-0.4	-1.1	16.6	29	0.0	1.0	1.6	0.0	13.7
Faisalabad	4.4	2.5	42.9	77	0.0	1.0	0.6	0.5	1.3
Garidopatta	2.4	1.8	43.0	61	0.0	1.2	0.9	0.0	0.9
Gawader	11.1	9.5	100.8	50	0.0	0.6	0.3	0.8	3.3
Gilgit	-4.6	-5.5	***	59	0.0	1.0	5.4	0.0	0.0
Gupis	-5.6	-7.0	***	47	0.0	1.6	4.6	6.6	1.4
Hyderabad	11.6	9.5	101.3	50	0.0	0.0	0.9	0.8	14.9

http://namc.pmd.gov.pk January, 2018 Volume 18, No. 05 Islamabad 2.5 2.0 66 0.0 0.0 0.0 0.0 0.4 39.1 Jacobabad 8.8 7.5 75.7 63 0.0 0.0 0.0 0.8 0.3 5.3 4.8 45.1 53 0.0 0.0 0.6 0.0 1.1 Jhang Jhelum 4.3 3.3 49.8 75 0.0 0.0 0.6 0.0 0.6 Jiwani 15.6 14.0 112.5 55 0.0 0.8 1.1 2.4 6.0 Kakul -0.6 18.5 52 0.0 0.6 0.6 0.0 1.4 -1.5 *** Kalam -5.8 -6.5 64 3.0 1.2 3.7 0.0 2.6 *** Kalat -3.7 -9.0 0.0 1.7 46 1.6 1.1 0.0 Karachi 12.6 11.0 106.1 53 0.0 0.4 0.4 0.0 9.1 Khanpur 4.6 4.0 55.8 64 0.0 0.0 1.4 0.4 0.6 Khuzdar 6.8 3.5 66.8 37 0.0 0.0 1.7 0.8 0.9 3.0 45.2 0.9 Kotli 3.4 63 0.0 0.4 1.1 0.8 Lahore 6.0 5.0 49.6 77 2.0 0.3 1.6 4.0 2.0 9.1 7.5 81.3 59 0.0 0.0 0.0 2.5 1.7 Larkana Lasbella 8.5 3.0 48 0.0 0.0 0.0 0.5 97.0 5.1 Lower Dir -0.4 -1.0 25.0 61 0.0 0.0 0.3 0.0 2.0 M.B Din 5.9 5.0 50.1 69 0.0 0.8 0.9 0.4 1.4 *** Malam Jabba -1.7 -3.0 55 0.0 0.6 1.1 0.0 0.0 Mangla 3.7 3.0 48.8 65 0.0 0.5 0.7 0.0 1.4 Mir Khani 0.0 -0.7 -1.3 18.0 42 1.2 0.6 1.0 3.0 Moinjodaro 6.5 5.0 73.2 54 0.0 0.0 0.0 1.0 1.7 Multan(PBO) 6.7 5.5 46.0 71 0.0 0.0 2.6 0.0 2.6 *** 60 0.0 Murree -0.5 -1.8 0.4 1.4 1.6 0.9 Muzaffarabad 3.0 0.0 0.6 3.3 39.8 57 1.0 0.9 0.0 Nawabshah 8.2 7.5 90.5 58 0.0 0.0 0.0 2.8 3.4 Nokkundi 5.6 3.0 56.8 19 0.0 0.6 1.2 3.3 1.6

Volume 18, No. 05			http://nam	January, 2018					
Okara	6.3	5.5	47.0	69	0.0	1.5	0.9	0.4	0.9
Padidan	7.4	7.0	84.3	61	0.0	0.6	0.7	1.2	2.0
Panjgur	2.8	0.5	50.5	27	0.0	0.0	0.3	7.6	9.7
Parachinar	-2.1	-3.5	12.0	51	0.0	0.6	0.7	3.0	5.0
Pasni	13.6	13.0	107.8	62	0.0	0.0	0.6	0.0	6.1
Pattan	2.5	0.5	41.5	43	0.0	1.4	0.9	3.8	0.7
Peshawar	5.4	4.5	46.0	72	0.0	0.8	0.0	0.0	0.6
Quetta	0.1	-3.0	12.0	37	0.2	2.3	3.4	2.6	3.6
Rahim Yar Khan	6.4	4.5	65.9	70	0.0	2.0	0.9	1.6	0.0
Rawalakot	-2.4	-3.5	1.7	66	0.0	1.2	1.1	0.0	0.0
Rawalpindi	2.6	1.8	44.1	76	0.0	0.0	0.3	0.3	0.8
Rohri	7.8	6.0	77.0	63	0.0	0.6	0.0	0.0	1.1
Sahiwal	5.7	4.0	42.1	63	0.0	1.5	1.6	0.8	2.6
Saidu Sharif	-0.6	-2.0	22.8	57	0.0	0.8	0.0	0.0	0.0
Sialkot	4.8	2.8	37.8	83	5.6	0.3	1.1	0.0	0.9
Sibbi	4.4	2.0	73.0	47	0.0	0.0	1.1	0.0	2.9
Skardu	-8.8	-10.0	***	63	0.0	1.4	5.3	0.0	0.0
Tandojam	9.1	7.5	93.8	58	0.0	0.0	0.0	0.0	0.5
Usta.M	7.1	6.0	76.5	73	0.0	0.0	0.2	0.0	0.0
Zhob	1.1	0.5	27.8	33	0.0	0.0	0.0	4.0	5.4

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*** 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).
- There would be significant variability in rainfall patterns (about 25% increase in summer & 12% decrease in winter during 2040-2069).
- 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)

۲۰ سال 69-2040 کے دوران درجہ حرارت میں قابل ذکر اضافہ ہوسکتا ہے۔ جو کہ دن کے دقت c 2.8° دار رات کو c 2.2° تک ہوگا۔
۲۰ گرمیوں کی بارش میں 25 فیصد اضافہ اور سردیوں کی بارش میں 12 فیصد تک کمی کا امکان ہے۔
۲۰ مند رجہ بالا موتی تغیر ات کی دجہ سے دھان کی پید اوار میں 17 فیصد اور گند م کی پید اوار میں 14 فیصد تک کمی ہو سکتی ہے۔
۲۰ مند رجہ بالا موتی تغیر ات کی دجہ سے دھان کی پید اوار میں 17 فیصد اور گند م کی پید اوار میں 14 فیصد تک کمی ہو سکتی ہے۔
۲۰ مند رجہ بالا موتی تغیر ات کی دجہ سے دھان کی پید اوار میں 17 فیصد اور گند م کی پید اوار میں 14 فیصد تک کمی ہو سکتی ہے۔
۲۰ مند رجہ بالا موتی تغیر ات کی دجہ سے دھان کی پید اوار میں 17 فیصد تک کمی ہو سکتی ہے۔
۲۰ موتی تغیر ات کی موجہ سے دھان کی پید اوار میں 17 فیصد اور گند م کی پید اوار میں 14 فیصد تک کمی ہو سکتی ہے۔
۲۰ مند رجہ بالا موتی تغیر ات کی دجہ سے دھان کی پید اوار میں 17 فیصد اور گند م کی پید اوار میں 14 فیصد تک کمی ہو سکتی ہے۔
۲۰ مرحومی تغیر ات کی موجہ سے درجہ ان کی پید اوار میں 17 فیصد اور گند م کی پید اوار میں 14 فیصد تک کمی ہو سکتی ہے۔
۲۰ مرحومی تغیر ات کی میں خوب سے دھان کی پید اور کی اکثر ہے کہ موتی کی موجہ ہے۔
۲۰ موتی تغیر ات کی میں خوشی کی لو جی کی استعمال اور بہتر نظم ونسی) سے غربت میں کی اور کی ان دی گی میں خوشی لی لو کی جاسکتی ہے۔

(ايكمب ياكتان 2012-2014)