

WEATHER IN PAKISTAN - HOT WEATHER SEASON (APRIL-JUNE 2005)

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Introduction:

In April 2005, a very strong western disturbance affected the country during last week of the month whereas two relatively weak systems affected northern and central parts of the country during other weeks of the month. In May 2005 a number of westerly low pressure waves affected the country but associated rainfall amount was mostly insignificant except the six observing stations which received rainfall amount 30 mm or more during the whole month. In June 2005, a few western disturbances affected extreme northern parts of the country on a number of days and on a few days elsewhere in the country during the month. A number of dust storms hit the plain areas of Punjab and Sindh during May and June 2005. The sever dust storm recorded on 01 June in various cities of Punjab and the associated maximum wind speed of 195 km/hr was recorded in Multan.

Seasonal rainfall (April-June):

Seasonal rainfall out of 56 meteorological observing stations in the whole country was in large excess in 8, moderate excess in 8, slight excess in 4, normal in 2, slight deficit in 5, moderate deficit in 12 and in large deficit in 17.

Rainfall was in large excess in Gupis, Gilgit, Skardu, Khuzdar, Moenjodaro, Rohri, Nawabshah and Padidan), moderate excess in Bunji, Chitral, Dir, Faisalabad, Bahawalnagar, Quetta, Zhob and Hyderabad, slight excess in Chilas, Astor, Parachinar and Drosh, normal in Peshawar and Kalat, slight deficit in Saidu Sharif, Kohat, Shorekot, Multan and Barkhan, moderate deficit in Muzaffarabad, Garhi Dupatta, Kakul, Balakot, Risalpur, Murree, Mianwali, Sargodha, Lahore (PBO), Lahore (A/P) Dalbandin and Jacobabad and was in large deficit in Kotli, Cherat, D.I.Khan, Chaklala (Rawalpindi), Jhelum, Sialkot, Bahawalnagar, Khanpur, Nokkundi, Sibbi, Panjgur, Pasni, Jiwani, Badin, Chhor, Karachi(A/P) and Karachi(Masroor). The principal amounts of rainfall during the month of April, May and June 2005 are given in Table-1. Seasonal station wise percentage rainfall departures are given in Fig-1 and percentage departure in Table-2 whereas province wise graphic representation of rainfall is given in Fig-2.

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Monthly Features:

April

Weather and associated synoptic features: -

Details of weather systems formed during the month are given in Table-3.

Rain/thunderstorms with a few duststorms in plains occurred almost at the all the places on 8-9 days in Malakand and Hazara regions, on 3-4 days in FATA and Zhob regions, on 1-2 days in Bannu, Kohat, Peshawar, D.I.Khan, Rawalpindi, Gujranwala, Sargodha, Faisalabad, Lahore, Multan, D.G.Khan and Kalat regions. Rain/thunderstorms with a few duststroms in plains also occurred at a few places or at isolated places on 4-7 days in FATA, Malakand, Hazara, Rawalpindi and Hyderabad regions, on 1-3 days in Peshawar, D.I.Khan, Gujranwala, Sargodha, Faisalabad, Lahore, Bahawalpur, Quetta, Zhob, Kalat, Larkana, Sukkur and Mirpurkhas regions.

Rainfall distribution:

The rainfall was in large excess in 7 meteorological observing stations (Gupis, Gilgit, Skardu, Bunji, Shorekot, Khuzdar and Moenjodaro); moderate excess in 1 meteorological observing station (Dir); slight excess in 2 meteorological observing stations (Chilas and Drosh); normal in 4 meteorological observing stations (Astor, Chitral, Padidan and Chhor); slight deficit in 1 meteorological

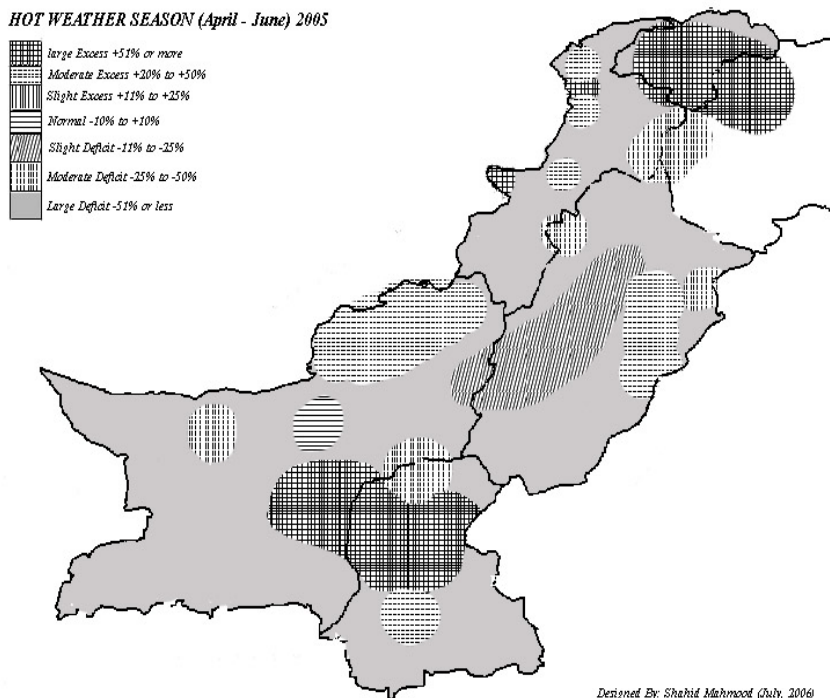


Figure 1

observing station (Dalbandin); moderate deficit in 12 meteorological observing stations (Muzaffarabad, Saidu Sharif, Kakul, Balakot, Peshawar, D.I.Khan, Mianwali, Sargodha, Lahore(PBO), Lahore(A/P), Zhob and Hyderabad) and in large deficit in 29 meteorological observing stations (Garhi Dupatta, Kotli, Parachinar, Kohat, Risalpur, Cherat, Chaklala, Murree, Jhelum, Sialkot, Faisalabad, Multan, Bahawalpur, Bahawalnagar, Khanpur, Quetta, Nokkundi, Barkhan, Sibbi, Kalat, Panjgur, Pasni, Jiwani, Jacobabad, Rohri, Nawabshah, Badin, Karachi(A/P) and Karachi(Masroor).

Table 1: Principal Amount of Rainfall (30 Mm And Above)

Date	APRIL	MAY	JUNE
(1)	(2)	(3)	(4)
1	Nil	Nil	Nil
2	Nil	Zhob 31	Nil
3	Nil	Dadu 35	Nil
4	Nil	Nil	Nil
5	Nil	Nil	Nil
6	Kalam 55 Dir 39	Nil	Nil
7	Kalam 30	Parachinar 62	Nil
8	Bunji 36	Nil	Nil
9	Nil	Nil	Nil
10	Nil	Nil	Nil
11	Nil	Nil	Nil
12	Nil	Nil	Nil
13	Nil	Nil	Nil
14	Kalam 40	Nil	Nil
15	Nil	Hyderabad 30	Nil
16	Nil	Nil	Nil
17	Nil	Nil	Nil
18	Nil	Nil	Nil
19	Nil	Nil	Nil
20	Nil	Nil	Nil
21	Nil	Nil	Nil
22	Nil	Nil	Nil
23	Nil	Kalam 38	Nil

Date	APRIL	MAY	JUNE
(1)	(2)	(3)	(4)
24	Nil	Nil	Nil
25	Dir 33	Nil	Nil
26	Dir 87, Malam Jabba 60, Balakot 46, Drosh 38, Rawalakot 37, Saidusharif 37, Kalam 36, Garhi Dupatta 36 Muzaffarabad 33 & Kamra 30.	Gupis 35	Nil
27	Nil	Nil	Rawalakot 55
28	Nil	Nil	Nil
29	Nil	Nil	Faisalabad 54, Mandibahauddin 53.
30	Nil	Nil	Garhi Dupatta 60, Murree 35 & Balakot 33.
31	—	Nil	—

Table 2: Station wise rainfall (mm) for each month and season as a whole (April – June 2005)

S.No	Stations	April			May			June			Season		
		Actual (mm)	Normal (mm)	Dep % (mm)	Actual (mm)	Normal (mm)	Dep% (mm)	Actual (mm)	Normal (mm)	Dep% (mm)	Actual (mm)	Normal (mm)	Dep% (mm)
1	Gupis	345	20	1625	66	24	175	15	8	87	426	52	719
2	Gilgit	59	23	157	33	25	32	3	6	-50	95	54	76
3	Skardu	59	26	127	43	26	65	3	9	-67	105	61	72
4	Bunji	51	29	76	33	29	14	3	7	-57	87	65	34
5	Chilas	37	32	16	41	28	46	4	8	-50	82	68	21
6	Astor	87	87	0	106	71	49	5	20	-75	198	178	11
7	Muzaffar- abad	62	111	-44	64	79	-19	41	103	-60	167	293	-43
8	Garhi Dupatta	57	141	-59	39	96	-59	83	114	-27	179	351	-49
9	Kotli	14	81	-83	57	54	5	20	82	-76	91	217	-58
10	Parachinar	36	92	-61	171	63	171	38	41	-7	245	196	25
11	Chitral	87	89	-2	100	45	122	10	5	100	197	139	42

S.No	Stations	April			May			June			Season		
		Actual (mm)	Normal (mm)	Dep % (mm)	Actual (mm)	Normal (mm)	Dep% (mm)	Actual (mm)	Normal (mm)	Dep% (mm)	Actual (mm)	Normal (mm)	Dep% (mm)
12	Dir	229	168	36	148	88	68	33	51	-35	410	307	34
13	Drosh	134	116	15	76	68	12	10	14	-29	220	198	11
14	Saidu Sharif	71	100	-29	68	65	5	26	41	-37	165	206	-20
15	Kakul	65	112	-42	68	82	-17	45	85	-47	178	279	-36
16	Balakot	97	134	-28	62	77	-19	53	98	-46	212	309	-31
17	Kohat	15	56	-73	65	35	86	13	20	-35	93	111	-16
18	Peshawar	27	49	-45	51	27	89	0	8	-100	78	84	-7
19	Risalpur	4	47	-91	49	26	88	10	18	-44	63	91	-31
20	Cherat	5	71	-93	41	35	17	5	18	-72	51	124	-59
21	D.I.Khan	11	22	-50	5	17	-71	3	14	-79	19	53	-64
22	Chaklala	13	62	-79	33	39	-15	16	62	-74	62	163	-62
23	Murree	32	133	-76	62	92	-33	98	130	-25	192	355	-46
24	Jhelum	7	37	-81	29	32	-9	12	52	-77	48	121	-60
25	Sialkot	13	31	-58	9	28	-68	11	70	-84	33	129	-74
26	Mianwali	18	30	-40	30	22	36	0	25	-100	48	77	-38
27	Sargodha	20	29	-31	20	21	-5	7	23	-69	47	73	-36
28	Faisalabad	6	17	-65	24	16	50	58	28	107	88	61	44
29	Shorekot	23	9	155	4	11	-64	8	23	-65	35	43	-19
30	Lahore (P.B.O)	11	20	-45	2	22	-91	32	36	-11	45	78	-42
31	Lahore (A/P)	13	19	-31	7	24	-71	29	33	-12	49	76	-36
32	Multan	5	13	-61	22	10	120	0	12	-100	27	35	-23
33	Bahawalpur	1	7	-86	4	6	-33	0	17	-100	5	30	-83
34	BahawalNagar	1	9	-89	14	4	250	21	15	40	36	28	29
35	Khanpur	1	3	-67	2	5	-60	0	3	-100	3	11	-73
36	Quetta	6	28	-79	38	6	533	5	1	400	49	35	40
37	Dalbandin	6	8	-25	0	2	-100	0	1	-100	6	11	-45
38	Nokkundi	0	3	-100	0	0	0	0	0	0	0	3	-100
39	Zhob	22	30	-27	40	15	167	9	11	-18	71	56	27
40	Barkhan	6	29	-79	38	17	123	20	31	-35	64	77	-17
41	Sibbi	0	15	-100	4	2	100	0	6	-100	4	23	-83
42	Kalat	0	7	-100	8	2	300	3	1	200	11	10	10

S.No	Stations	April			May			June			Season		
		Actual (mm)	Normal (mm)	Dep % (mm)	Actual (mm)	Normal (mm)	Dep% (mm)	Actual (mm)	Normal (mm)	Dep% (mm)	Actual (mm)	Normal (mm)	Dep% (mm)
43	Khuzdar	18	11	64	62	14	343	4	12	-67	84	37	127
44	Panjugur	0	7	-1--	0	3	-100	0	3	-100	0	13	-100
45	Pasni	0	4	-100	0	0	0	0	0	0	0	4	-100
46	Jiwani	0	6	-100	0	0	0	0	1	-100	0	7	-100
47	Moenjo-daro	3	1	200	1	0	100	0	0	0	4	1	300
48	Jacobabad	0	2	-100	6	2	200	0	5	-100	6	9	-33
49	Rohri	0	1	-100	22	4	450	17	4	325	39	9	333
50	Nawabshah	0	3	-100	7	1	600	26	8	225	33	12	175
51	Padidan	2	2	0	14	1	1300	11	3	267	27	6	350
52	Hyderabad	3	6	-50	30	3	900	0	14	-100	33	23	43
53	Badin	0	3	-100	0	1	-100	0	11	-100	0	15	-100
54	Chhor	3	3	0	0	3	-100	5	20	-75	8	26	-69
55	Karachi (A/P)	0	4	-100	0	0	0	0	5	-100	0	9	-100
56	Karachi (Masroor)	0	5	-100	0	0	0	0	4	-100	0	9	-100

Temperature distribution:

Hot day conditions prevailed on 4 days in Quetta region and on 1 day each in Mekran, Sukkur and Mirpurkhas regions. Day temperatures were considerably above normal on 1-3 days in Malakand, Zhob, Quetta, Kalat and Mekran regions. They were appreciably to markedly above normal on 6-9 days in Malakand FATA, Hazara, Bahawalpur, Quetta, Zhob, Mekran, Larkana, Sukkur and Karachi regions, on 1-4 days in Faisalabad, Peshawar, D.I.Khan, Rawalpindi, Lahore, Multan, Sibbi, Kalat, Mirpurkhas, Hyderabad and Sukkur regions. They were appreciably to markedly below normal on 7-9 days in Rawalpindi, Faisalabad, Lahore, Multan, Bahawalpur, Sukkur and Larkana regions, on 4-6 days in FATA, Hazara, Gujranwala, Zhob, Sibbi, and Hyderabad regions, on 1-3 days in D.I.Khan, Malakand, Peshawar, Sargodha, Quetta, Mirpurkhas, Kalat and Mekran regions; They were considerably below normal on 1-3 days in FATA, Malakand, Peshawar, Rawalpindi, D.I.Khan, Lahore, Faisalabad, Bahawalpur, Multan, Quetta, Sibbi, Kalat and Mekran regions. During the month the highest maximum temperature in plains of the country was 44.0° C recorded at Padidan (Sukkur region) on 4 April 2005.

Night temperatures were considerably below normal on 5 days in Peshawar region, on 1-2 days in D.I.Khan, Hazara, Lahore, Quetta, Larkana, Mirpurkhas and Sukkur regions. They were appreciably to markedly below normal on 11-17 days in Hazara, Peshawar and Sukkur regions, on 5-8 days in FATA, Faisalabad, Gujranwala, Bahawalpur, Quetta, Sibbi, Kalat, Zhob, Mirpurkhas and Karachi regions, on 1-4 days in Malakand, D.I.Khan, Multan, Rawalpindi, Mekran, Larkana and Hyderabad regions. They were appreciably to markedly above normal on 8-14 days in Lahore, Quetta and Mekran regions, on 4-6 days in Malakand, Rawalpindi, Sargodha, Bahawalpur and Sukkur regions, on 1-3 days in FATA, D.I.Khan, Hazara, Peshawar, Gujranwala, Multan, Zhob, Kalat, Larkana, Mirpurkhas and Karachi regions. They were considerably above normal on 1-2 days in FATA, Rawalpindi, Quetta and Mekran regions. During the month, the lowest minimum temperature in plains of the country was 7.5° C recorded at Nokkundi (Quetta region) on 9 & 10 April 2005.

Table 3: Detail of weather systems during April 2005

S/ No	System	Period	Place of first Location	Direction of Movement	Place of final Location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A) Low Pressure area						
1)	Low Pressure area	13-14	South Punjab and adj. Sindh	Stationary	South Punjab and adjoining Sindh	Became less marked on 15.
B) Western disturbance /eastward moving system						
1)	Low pressure area extended up to mid-tropospheric level	4-9	Balochistan and adjoining areas	North-eastwards	Kashmir and adj. areas	Moved away Northeastwards on 10.
2)	Do	13-15	Upper NWFP and adj. areas	Eastwards	Do	Moved away eastwards on 16.
3)	Low pressure area	20-21	Do	Do	Do	Moved away eastwards on 22.
4)	Low pressure area extended upto mid-tropospheric level	23-28	Do	Do	Do	Moved away eastwards on 29.

Disastrous weather events and associated damages:

No such major report appeared in national press during this month.

MAY**Weather and associated synoptic features:-**

Detail of weather systems formed during the month is given in Table 4.

Rain/thundershowers with a few duststorms in plains occurred almost at all the places or at a number of places on 9-12 days in FATA, Malakand and Hazara regions, on 4-6 days in Kohat, Peshawar, Rawalpindi, Sargodha and Zhob regions, on 1-3 days in Bannu, D.I.Khan, Gujranwala, Faisalabad, Lahore, Multan, D.G.Khan, Sibbi and Kalat regions. Rain/thunderstorms with a few duststorms in plains also occurred at a few places or at isolated places on 11-14 days in Malakand, Rawalpindi and Kalat regions, on 4-6 days in FATA, Hazara, Bannu, Kohat, Peshawar, Gujranwala, Bahawalpur, Quetta, Sukkur and Hyderabad regions, on 1-3 days in D.I.Khan, Sargodha, Faisalabad, Lahore, Multan, D.G.Khan, Mekran, Larkana and Mirpurkhas regions.

Rainfall distribution:-

The rainfall was in large excess in 22 meteorological observing stations, (Gupis, Skardu, Parachinar, Chitral, Dir, Kohat, Peshawar, Risalpur, Multan, Bahawalnagar, Quetta, Zhob, Barkhan, Sibbi, Kalat, Khuzdar, Moenjodaro, Jacobabad, Rohri, Nawabshah, Padidan and Hyderabad); moderate excess in 5 meteorological observing stations (Gilgit, Chilas, Astor, Mianwali and Faisalabad); slight excess in 3 meteorological observing stations (Bunji, Drosh, and Cherat); normal in 9 meteorological observing stations (Kotli, Saidu Sharif, Jhelum, Sargodha, Nokkundi, Pasni, Jiwani, Karachi(A/P) and Karachi(Masroor)); slight deficit in 4 meteorological observing stations (Muzaffarabad, Kakul, Balakot and Chaklala); moderate deficit in 2 meteorological observing stations (Murree and Bahawalpur) and in large deficit in 11 meteorological observing stations (Garhi Dupatta, D.I.Khan, Sialkot, Shorekot, Lahore(PBO), Lahore(A/P), Khanpur, Dalbandin, Panjgur, Badin and Chhor.

Temperature distribution:-

Appreciable to moderate heat wave conditions prevailed on 6 days in Sukkur region, on 1 day each in Hyderabad and Mirpurkhas regions. They were considerably above normal on 1 day in Mekran region. They were appreciably to markedly above normal on 1-4 days in Karachi, Mekran and Mirpurkhas regions. They were appreciably to markedly below normal on 9-13 days in FATA, Rawalpindi, Faisalabad, Zhob, Sukkur, Gujranwala, D.I.Khan and Multan regions, on 6-8 days in Bahawalpur, Larkana, Hazara, Lahore, Malakand, Kalat, Sibbi, Quetta and Peshawar regions, on 1-4 days in Hyderabad, Mirpurkhas, Mekran and Sargodha regions. They were considerably below normal on 4-6 days in Malakand, Sibbi and Zhob regions,

on 1-3 days in FATA, D.I.Khan, Lahore, Multan, Bahawalpur, Sukkur, Hazara, Rawalpindi, Faisalabad, Peshawar and Kalat regions. During the month, the highest maximum temperature in plains of the country was 49.5° C recorded at Padidan (Sukkur region) on 16 May 2005.

Disastrous weather events and associated damages:-

According to press report a heavy duststorm coupled with torrential rain lashed upper districts of Sindh on 1 May, paralyzing life in the area. Several trees, electric poles and hoardings were uprooted and roofs of katcha houses were blown off.

Table 4: Detail of weather systems during May 2005.

S/ No	System	Period	Place of first Location	Direction of Movement	Place of final Location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A) Low pressure area						
1)	Low pressure area	2-3	Eastern Sindh and adj. Rajasthan	Stationary	Eastern Sindh and adjoining areas	Became Less-marked on 4.
2)	Do	16-21	South Punjab and adjoining areas	Do	South Punjab and adjoining areas	Became less-marked on 22.
B) Western disturbance/eastward moving system.						
1)	Low pressure area extended upto mid tropospheric level.	1-8	Northeast Afghanistan and adjoining areas.	Eastwards	Kashmir and adjoining areas	Moved away eastward on 9.
2)	Low pressure area	12-14	Northeast of Afghanistan	Eastsoutheastwards	Do	Moved away Eastwards on 15.
3)	Low pressure area extended upto mid-tropospheric level	18-20	Upper NWFP and adjoining areas	Eastwards	Do	Moved away Eastwards on 21.
4)	Do	22-26	North of Afghanistan	Southeastwards	Do	Moved away northeastwards on 27.
5)	Do	28-31	Upper NWFP and adjoining areas	Eastwards	Do	Moved away eastwards on 1 of next month.

June

weather and associated synoptic features:-

Details of weather systems formed during the month are given in table 5.

Rain/thundershowers with a few duststorms in plains occurred almost at all the places or at a number of places on 4-7 days in FATA and Hazara regions, on 1-3 days in Malakand, D.I.Khan, Rawalpindi, Gujranwala, Sargodha, Faisalabad, Lahore, Zhob, Sukkur and Mirpurkhas regions. Rain/thunderstorms with a few duststorms in plains occurred at few places or at isolated places on 8-10 days in Malakand and Rawalpindi regions, on 4-7 days in Hazara, Kalat and Hyderabad regions, on 1-3 days in FATA, Bannu, Peshawar, Gujranwala, Sargodha, Faisalabad, Lahore, D.I.Khan, Bahawalpur, Quetta, Zhob, Mekran, Larkana, Sukkur and Mirpurkhas regions.

Rainfall distribution

The rainfall was in large excess in 8 meteorological observing stations (Gupis, Chitral, Faisalabad, Quetta, Kalat, Rohri, Nawabshah and Padidan); moderate excess in 1 meteorological observing station (Bahawalnagar); normal in 4 meteorological observing stations (Parachinar, Nokkundi, Pasni, and Moenjodaro); slight deficit in 4 meteorological observing stations (Murree, Lahore (PBO), Lahore (A/P) and Zhob); moderate deficit in 11 meteorological observing stations (Gilgit, Chilas, Garhi Dupatta, Dir, Drosh, Saidu Sharif, Kakul, Balakot, Kohat, Risalpur and Barkhan) and in large deficit in 28 meteorological observing stations (Skardu, Bunji, Astor, Muzaffarabad, Kotli, Peshawar, Cherat, D.I.Khan, Chaklala, Jhelum, Sialkot, Mianwali, Sargodha, Shorekot, Multan, Bahawalpur, Khanpur, Dalbandin, Sibbi, Khuzdar, Panjgur, Jiwani, Jacobabad, Hyderabad, Badin, Chhor, Karachi (A/P) and Karachi (Masroor).

Table 5: Detail of weather systems during June 2005

S/No	System	Period	Place of first location	Direction of movement	Place of final location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A) Low pressure Area.						
1)	Trough of low	11-13	Sindh and adjoining areas	Stationary	Sindh and adjoining areas	Became less-marked on 14
2)	Well-marked low and extends upto mid-tropospheric level	20-23	Northeast Arabian Sea off Mumbai coast	Northwest wards and then westwards	North Arabian Sea.	Moved away westwards on 24.

B) Western disturbance/ eastward moving system						
1)	Trough of low	1-3	Northeast Afghanistan and adjoining areas	Eastwards	Kashmir and adj. areas	Moved away northeastwards on 4.
2)	Low pressure area extended upto mid-tropospheric level	6-8	Upper NWFP and adjoining areas	Do	Do	Moved away northeastwards on 9.
3)	Do	10-14	NWFP and adj. Areas	Do	Do	Moved away northeastwards on 15.
4)	Low pressure area	17-19	Upper NWFP and adjoining areas	Do	Do	Moved away northeastwards on 20.
5)	Do	22-23	North of Afghanistan	Do	North of Kashmir	Moved away northeastwards on 24
6)	Low pressure area extended upto mid-tropospheric level.	26-30	NWFP and adjoining areas	Do	Kashmir and adjoining areas	Moved away northeastwards on 1 of next month

Temperature distribution

Severe heat wave conditions prevailed on 1 day each in Quetta and Malakand regions.

Appreciable to moderate heat wave conditions prevailed on 5-8 days in Sukkur, Rawalpindi, Quetta, Sargodha, Kalat and Malakand regions, on 1-3 days in Bahawalpur, Larkana, Peshawar, D.I.Khan, Multan and Zhob regions. They were considerably above normal on 1 day in Mirpurkhas region. They were appreciably to markedly above normal on 4 –6 days in FATA, Mekran and Karachi regions, on 1-3 days in Mirpurkhas and Gujranwala regions. They were appreciably to markedly below normal on 4-7 days in FATA Malakand, Quetta, Lahore and Zhob regions, on 1-3 days in Karachi, D.I.Khan, Rawalpindi, Sargodha, Bahawalpur, Kalat, Mekran, Hazara, Sibbi, Sukkur, Larkana and Faisalabad regions. They were considerably below normal on 1 day each in Malakand, Hazara, Lahore, Multan, Quetta and Kalat regions. During the

month, the highest maximum temperature in plains of the country was 50.5° C recorded at Nawabshah (Sukkur region) on 4 & 5 June 2005.

Disastrous weather events and associated damages:-

According to press report duststorm disrupted life in the entire Punjab and also claimed seven lives including six in Bahawalnagar district alone and two dozen people were injured on 9 June. The velocity of the storm in South Punjab clocked at 195 km/hour. The powerful storm uprooted many trees and hoardings in various cities of Punjab.

At least two people were killed and many others injured when heavy duststorm followed by rain lashed the district of upper Sindh on June 11. Many trees were uprooted, several electric poles fell on roads and many Katcha houses were collapsed in different areas of upper Sindh.

According to another press report, a searing heat wave across Pakistan claimed at least 196 lives during June 2005.

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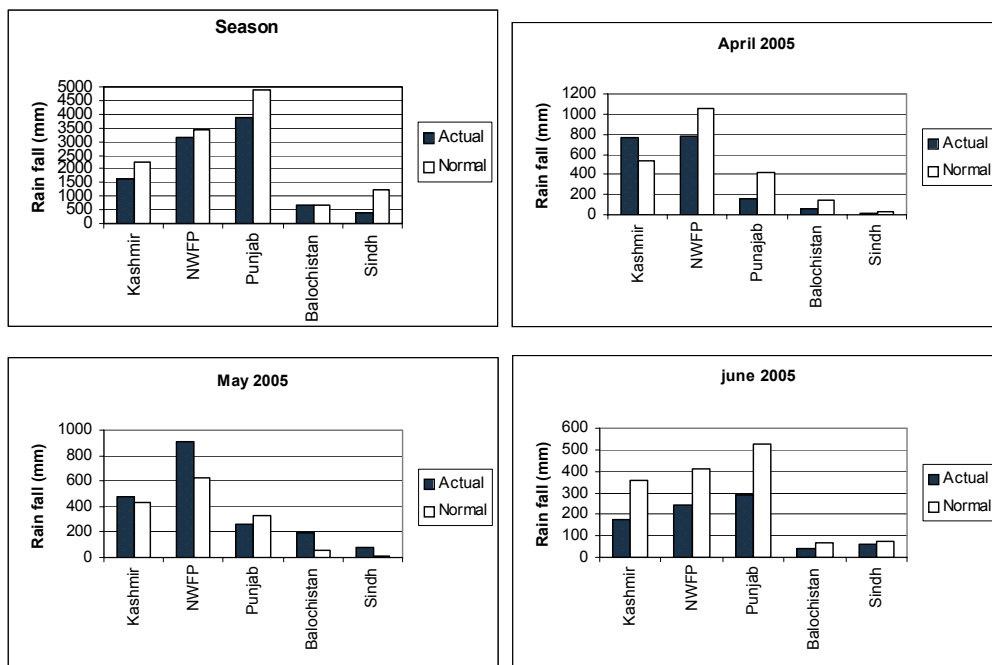


Figure-2

Appendix

Definition of the terms

Rainfall		Temperature	
<i>Large excess</i>	percentage departure from normal rainfall is + 51% or more.	<i>Severe Heat wave</i>	Departure of maximum temperature from normal is + 8° C or more for the regions where normal max temp. is more than 40° C. Declared only when the max. temp. of a station reaches at least 40° C for plains and at least 35° C for Hilly regions.
<i>Moderate excess</i>	percentage departure from normal rainfall is + 26% to + 50%.	<i>Heat wave</i>	Departure of max. temp. from Conditions normal is between + 4° C to + 7° C (appreciable + where the normal max. temp. is moderate) more than 40° C.
<i>Slight excess</i>	percentage departure from normal rainfall is + 11% to + 25%.	<i>Hot day conditions</i>	Whenever the max. temp remains 40° C or more and minimum remains 5° C or more above normal, provided, it is not satisfying the heat wave criteria.
<i>Normal</i>	percentage departure from normal rainfall is - 10% to + 10%.	<i>Markedly above</i>	Departure of max. temperature from normal is between + 6° C to + 7° C.
<i>Slight deficit</i>	percentage departure from normal rainfall is - 11% to - 25%.	<i>Appreciably</i>	Departure of max. temperature from above normal is between + 4° C to + 5° C.
<i>Moderate deficit</i>	percentage departure from normal rainfall is - 26% to - 50%.	<i>Appreciably</i>	Departure of max. temperature from below normal is between - 4° C to - 5° C.
<i>Large deficit</i>	percentage departure from normal rainfall is - 51% or less.	<i>Markedly below</i>	Departure of max. temperature normal from normal is between - 6° C to 7° C.
<i>Almost at all</i>	66 % or more stations of a places meteorological division reporting at least 2.5 mm rainfall.	<i>Considerably</i>	Departure of max temperature below normal from normal is - 8° C or less.
<i>At a number of</i>	33 % to 66 % stations of a places meteorological division reporting at least 2.5 mm rainfall.		
<i>At a few places</i>	33 % or less stations of a meteorological division reporting at least 2.5 mm rainfall.		
<i>Isolated places</i>	One or two stations of a meteorological division.		
<i>Heavy rain</i>	rainfall amount is from 44.5 mm to 88.9 mm in 24 hour		
<i>Very heavy</i>	rainfall amount is 89.0 mm		
<i>Rainfall</i>	rainfall or more in 24 hours.		