

WEATHER IN PAKISTAN - MONSOON SEASON (JULY-SEPTEMBER 2005)

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Introduction:

Monsoon rain commenced over the country on its normal date i.e 1st July. Rather heavy to very heavy rain occurred on a number of days in northern parts of the country and on a few days in southern parts of the country during the monsoon season. Western disturbances also affected northern parts of the country as well as monsoon currents penetrated into eastern parts of the country on a number of days in July and August and on a few days in September. Heavy rains in July caused floods in different areas of the NWFP and Punjab (resulting loss of lives and damages of properties as given in monthly features). A number of duststorms hit the plain areas of Punjab and Sindh during the quarter. A severe duststorm with associated maximum wind speed of 166 km/hr was recorded at Islamabad Airport on 26 August.

Seasonal rainfall (July-September):

Seasonal rainfall out of 56 meteorological Observing stations in the whole country, was in large excess in 3, moderate excess in 1, slight excess in 5, normal in 8, slight deficit in 7, moderate deficit in 11 and in large deficit in 21.

Rainfall was in large excess in Gupis, Risalpur and D.I.Khan, moderate excess in Barkhan, slight excess in Mianwali, Sargodha, Multan, Zhob and Sibbi, normal in Skardu, Saidu Sharif, Kohat, Faislabad, Lahore (PBO), Lahore (A/P), Bahawalpur and Khuzdar, slight deficit in Chilas, Muzaffarabad, Parachinar, Peshawar, Cherat, Khanpur and Rohri, moderate deficit in Garhi Dupatta, Kotli, Dir, Kakul, Balakot, Chaklala, Murree, Jhelum, Sialkot, Shorekot and Moenjodaro and in large deficit in Gilgit, Bunji, Astor, Chitral, Drosh, Bahawalnagar, Quetta, Dalbandin, Nokkundi, Kalat, Panjgur, Pasni, Jiwani, Jacobabad, Nawabshah, Padidan, Hyderabad, Badin, Chhor, Karachi (A/P) and Karachi (Masroor). The principal amount of rainfall during the month of July, August and September 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 in given in Fig-2.

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Monthly Features:

July

Weather and associated synoptic features:

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

Rain/thundershowers with a few duststorms in plains occurred almost at all the places or at a number of places on 11– 16 days in Hazara, Rawalpindi, Gujranwala, Sargodha and Zhob regions, on 5-9 days in Malakand, Bunji, Faisalabad and Lahore regions, on 1- 4 days in FATA, Kohat, Peshawar, D.I.Khan, Multan, D.G.Khan, Bahawalpur, Sibbi, Larkana, Sukkur and Hyderabad regions. Rain/thunderstorms with a few duststorms in plains occurred at a few places or at isolated places on 14-17 days in Malakand and Rawalpindi regions, on 7-10 days in Peshawar, Faisalabad and Kalat regions, on 4-6 days in Hazara, Kohat, Gujranwala, Lahore, Zhob and Hyderabad regions, on 1-3 days in FATA, Bannu, D.I.Khan, Sargodha, Multan, Bahawalpur, Sibbi, Mekran, Larkana, Sukkur and Karachi regions.

Rainfall distribution:

The rainfall was in large excess in 9 meteorological observing stations (Sukkur,

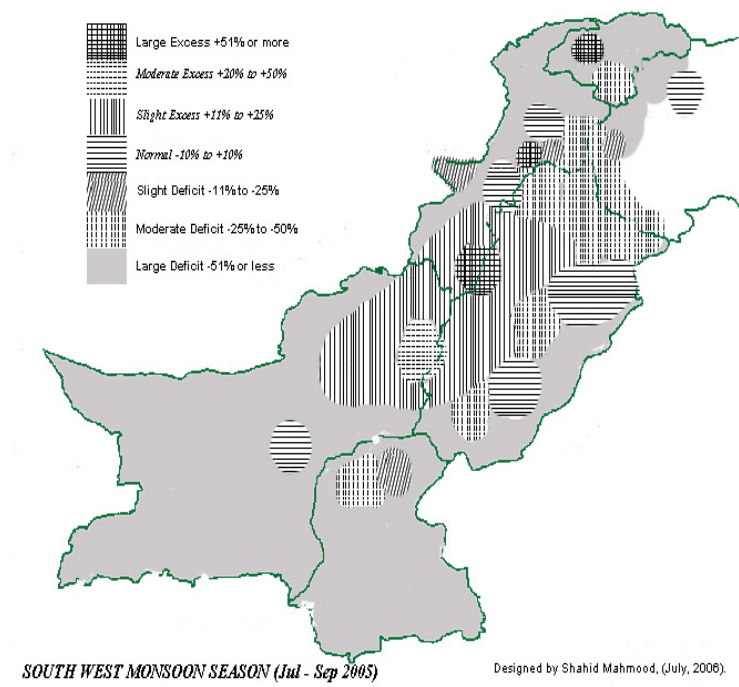


Figure 1

Risalpur, D.I.Khan, Mianwali, Sargodha, Multan, Zhob, Barkhan and Rohri); normal in 6 meteorological observing stations (Gupis, Chilas, Kotli, Dir, Cherat and Lahore (PBO)); slight deficit in 12 meteorological observing stations (Astor, Garhi Dupatta, Parachinar, Saidu Sharif, Kakul, Jhelum, Faisalabad,

Lahore (A/P), Bahawalpur, Khuzdar, Moenjodaro and Padidan); moderate deficit in 10 meteorological observing stations (Gilgit, Bunji, Muzaffarabad, Balakot, Kohat, Peshawar, Chaklala, Murree, Sialkot and Shorekot) and in large deficit in 19 meteorological observing stations (Chitral, Drosh, Bahawalnagar, Khanpur, Quetta, Dalbandin, Nokkundi, Sibbi, Kalat, Panjgur, Pasni, Jiwani, Jacobabad, Nawabshah, Hyderabad, Badin, Chhor, Karachi (A/P) and Karachi (Masroor).

Table 1: Principle Amount of Rainfall (30 mm and above)

Date (1)	JULY (2)	AUGUST (3)	SEPTEMBER (4)
1	Lahore (PBO) 96, Murree 68 Muzaffarabad 66, Islamabad 51, Sialkot 45, Jhelum 39, Kotli 36 & Garhi Dupatta 34.	Nil	Nil
2	Lahore (PBO) 137, Lahore Airport 86, Sargodha 70, Parachinar 58, Kotli 44 & Islamabad 42.	Nil	Nil
3	D.I.Khan 60, Shorekot 42 Kotli 36, Lahore Airport 35 Jhang 31 & Lahore (PBO) 30.	Nil	Nil
4	Multan 70, Bannu 36 & Barkhan 30.	Balakot 43 & Lahore (PBO) 39.	Nil
5	Sialkot 39.	Kakul 58 & Sialkot 37.	Nil
6	Bahawalpur 42, Larkana 42 Moenjodaro 39, Padidan 36 Mianwali 35 & Rohri 30.	Risalpur 58, D.I.Khan 44, Jhelum 41 Mianwali 40 & Malam Jabba 37.	Mangla 33.
7	Sialkot 37.	Risalpur 80, Kamra 66, Muzaffarabad 50, Saidusharif 37, Dir 33, Garhi Dupatta 32 & Lahore Airport 30.	Balakot 98, Islamabad 40 & Rawalpindi 33.
8	Nil	Barkhan 99, Jhang 70, Lahore Airport 45, Risalpur 57, Malam Jabba 37, Garhi Dupatta 36, Lahore (PBO) 34 & Jhelum 30.	Kohat 64, Bannu 56, Kamra 53 & Risalpur 46.
9	Nil	Sibbi 30.	Bahawalpur 52, Jhang 50, Saidu Sharif 49 & Khanpur 35.
10	Nil	Nil	Faisalabad 33, Kohat 32 & Muzaffarabad 30.
11	Murree 31.	Khuzdar 31.	Muzaffarabad 59, Saidu Sharif 37, Dadu 33 & Mitthi

Date	JULY	AUGUST	SEPTEMBER
(1)	(2)	(3)	(4)
			32
12	Islamabad 98, Dir 64 Rawalpindi 50, Jhelum 47 Sargodha 43, Kakul 37 & Balakot 30.	Nil	D.I.Khan 48, Karachi Airport 32 & Gupis 30.
13	Mangla 62, Balakot 56 Murree 43, Malam Jabba 43 & Faisalabad 34.	Risalpur 46.	Nil
14	Saidu Sharif 56.	Nil	Nil
15	Malam Jabba 50 & Kamra 32.	Nil	Chhor 32.
16	Kamra 75, Risalpur 47, Kotli 47, Jhang 43, Ghari Dupatta 43 & Kakul 34.	Kakul 35, Murree 34, Balakot 32 Kohat 32 & Muzaffarabad 32.	Mitthi 37.
17	Risalpur 71, Jhang 57, Kamra 55 & Islamabad 31.	Nil	Nil
18	Mangla 46 & Risalpur 40.	Mandibahauddin 118.	Murree 71, Islamabad 53, Sargodha 43 & Kotli 37.
19	Nil	Nil	Nil
20	Nil	Nil	Nil
21	Mianwali 65.	Nil	Nil
22	Nil	Nil	Nil
23	Nil	Nil	Faisalabad 73 & Lahore Airport 34.
24	D.I.Khan 48, Sargodha 38 & Malam Jabba 35.	Nil	Risalpur 70.
25	Nil	Parachinar 37 & Garhi Dupatta 33.	Nil
26	Nil	Nil	Nil
27	Kamra 62.	Islamabad 43, Rawalpindi 39 & Kotli 36.	Nil
28	Mangla 93 & Malam Jabba 42.	Barkhan 39, Bannu 32 & Lahore Airport 31.	Nil
29	Nil	Lahore Airport 45.	Nil
30	Kamra 55, Barkhan 52 & Zhob 34	Nil	Nil
31	Nil	Nil	Nil

Table 2: Station wise Rainfall (mm) for each month and season as a whole (July - Sep 2005)

	July			August			September			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	10	11	-9	28	16	75	31	9	244	69	36	92
2 Gilgit	9	16	-44	2	15	-87	2	7	-71	13	38	-66
3 Skardu	23	9	155	1	11	-91	3	7	-57	27	27	0
4 Bunji	11	15	-27	4	18	-78	4	9	-55	19	42	-55
5 Chilas	12	12	0	3	12	-75	7	3	-133	22	27	-19
6 Astor	17	21	-19	2	23	-91	4	19	-79	23	63	-63
7 Muzaffarabad	197	328	-40	226	249	-9	143	108	32	566	685	-17
8 Garhi Dupatta	211	276	-23	151	253	-40	78	111	-30	440	640	-31
9 Kotli	271	283	-4	116	291	-60	71	95	-25	458	669	-31
10 Parachinar	83	105	-21	102	98	4	35	51	-31	220	254	-13
11 Chitral	0	6	-100	3	7	-57	0	8	-100	3	21	-86
12 Dir	132	146	-9	119	160	-26	23	82	-72	274	388	-29
13 Drosh	5	22	-77	2	22	-91	1	22	-95	8	66	-88
14 Saidu Sharif	126	146	-14	94	143	-34	99	57	74	319	346	-8
15 Kakul	198	258	-23	146	261	-44	41	97	-58	385	616	-37
16 Balakot	199	359	-45	214	293	-27	122	101	21	535	753	-29
17 Kohat	42	70	-40	44	111	-60	119	40	197	205	221	-7

	July			August			September			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)
18 Peshawar	21	42	-50	25	68	-63	67	18	272	113	128	-12
19 Risalpur	185	113	64	260	126	106	136	40	240	581	279	108
20 Cherat	83	91	-9	50	97	-48	40	35	14	173	223	-22
21 D.I.Khan	153	61	151	81	57	42	79	18	339	313	136	130
22 Chaklala	181	267	-32	211	310	-32	86	98	-12	478	675	-29
23 Murree	244	340	-28	165	326	-49	116	147	-21	526	813	-35
24 Jhelum	210	237	-11	149	221	-33	20	78	-74	379	536	-29
25 Sialkot	210	293	-28	83	259	-68	56	104	-46	349	656	-47
26 Mianwali	173	99	75	99	105	-6	39	48	-19	311	252	23
27 Sargodha	216	108	100	33	129	-74	59	26	127	308	263	17
28 Faisalabad	89	115	-23	30	90	-67	130	29	348	249	234	6
29 Shorekot	68	103	-34	2	58	-97	52	25	108	122	186	-34
30 Lahore (PBO)	223	202	10	129	164	-21	70	61	15	422	427	-1
31 Lahore (AP)	169	218	-22	171	173	-1	86	66	30	426	457	-7
32 Multan	108	61	77	0	33	-100	16	11	45	124	105	18
33 Bahawalpur	43	53	-19	0	43	-100	72	12	500	115	108	6
34 BahawalNagar	25	81	-69	0	34	-100	18	9	100	43	124	-65
35 Khanpur	13	27	-52	0	23	-100	37	15	147	50	65	-23

	July			August			September			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)
36 Quetta	0	13	-100	0	12	-100	0	0	0	0	25	-100
37 Dalbandin	0	4	-100	0	1	-100	0	0	0	0	5	-100
38 Nokkundi	0	1	-100	0	1	-100	0	0	0	0	2	-100
39 Zhob	118	49	141	23	59	-61	3	11	-73	144	119	21
40 Barkhan	173	100	73	167	88	90	5	46	-89	346	234	48
41 Sibbi	11	36	-69	50	30	67	26	8	225	87	74	17
42 Kalat	0	12	-100	0	10	-100	0	2	-100	0	24	-100
43 Khuzdar	38	45	-15	35	57	-39	44	6	633	117	108	8
44 Panjgur	0	25	-100	0	9	-100	0	1	-100	0	35	-100
45 Pasni	0	6	-100	0	12	-100	0	1	-100	0	19	-100
46 Jiwani	0	8	-100	0	4	-100	0	0	0	0	12	-100
47 Moenjodaro	39	48	-19	0	25	-100	0	4	-100	39	77	-49
48 Jacobabad	15	37	-59	3	26	-88	10	11	-9	28	74	-62
49 Rohri	46	26	77	0	20	-100	0	10	-100	46	56	-18
50 Nawabshah	20	52	-61	0	45	-100	3	10	-70	23	107	-79
51 Padidan	36	42	-14	0	31	-100	5	12	-58	41	85	-52
52 Hyderabad	11	57	-81	15	61	-75	3	21	-86	29	139	-79
53 Badin	13	71	-82	35	90	-61	7	34	-79	55	195	-72

	July			August			September			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)	
54	Chhor	5	79	-94	27	75	-64	47	23	104	79	177	-55
55	Karachi(A/P)	1	85	-99	0	67	-100	55	20	175	56	172	-67
56	Karachi(Masroor)	0	66	-100	0	45	-100	22	23	-4	22	134	-83

Table 3: Detail of weather systems during July 2005.

S.No	System	Period	Place of the 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	5-9	South Punjab & adjoining areas	Stationary	South Punjab and adjoining areas.	Became less-marked on 10.
2)	Do	13-15	Do	Do	Do	Became less-marked on 16.
3)	Low pressure area extended upto mid-tropospheric level.	25-30	Northwest Bay of Bengal and adjoining areas	Initially northwards then northwards and then northwards.	Do	Became less –marked on 31.
B) Western disturbance/eastward moving system.						
1)	Low pressure area upto	1-8	Upper NWFP and	Eastwards	Kashmir and	Moved away

	mid-tropospheric level		adjoining areas		adjoining areas	eastwards on 9.
2)	Do	11-15	Do	Do	Do	Moved away northeastwards on 16.
3)	Low pressure area	17-18	Do	Do	Do	Moved away northeastwards on 19.
4)	Low pressure area extended upto mid-tropospheric level	21-24	Do	Do	Do	Moved away northeastwards on 25.
5)	Do	27-30	Do	Do	Do	Moved away northeastwards on 31.

Temperature distribution:

Appreciable to moderate heat wave conditions prevailed on 10 days each in Sukkur and Quetta regions, on 1 day each on Zhob, Mekran and Malakand regions. Hot day conditions prevailed on 1 day in Bahawalpur region. They were appreciably to markedly above normal on 1-4 days in FATA Mirpurkhas and Bahawalpur regions. They were appreciably to markedly below normal on 4-7 days in FATA, Peshawar, Rawalpindi, Gujranwala, Sargodha, D.I.Khan, Lahore and Zhob regions, on 1-3 days in Sukkur, Bahawalpur, Hyderabad, Hazara, Faisalabad, Multan, Sibbi, Mekran, Larkana, Malakand and Karachi regions. They were considerably below normal on 1-3 days in D.I.Khan, Lahore, Gujranwala, Faisalabad, Multan, Bahawalpur and Sargodha regions. During the month, the highest maximum temperature in plains of the country was 47.0 C° recorded at Nokkundi (Quetta region) on 15 July 2005.

Disastrous weather events and associated damages:

According to press reports, the first heavy rain of monsoon season lashed the Lahore city on July 1, resulting in the death of at least eight people and twenty were reported seriously injured in separate incidents of roof collapsing and by electrocution.

During first week of July, flash flood in river Kabul inundated the suburbs of Nowshera city engulfed 200 houses of a village in the neighboring Mardan district. In Nowshera district flash flood claimed two lives and affected 11 villages damaged 2877 houses and inundated 52,100 acres of land. The flood and hill torrents damaged 424 homes in three districts of northern areas.

Two people were electrocuted while six got injured when a roof of a house collapsed in rain-related incidents in Sahiwal (Punjab) on July 3.

Around 240,000 people were affected while standing crops nearly on 95000 acres had been destroyed causing a loss of around Rs. 1 billion in flood-hit areas of district Layyah (Punjab).

According to a press report of July 9, over 100 villages were flooded in Sindh when a medium flood affected these areas.

Heavy rain claimed two lives; nine people got injured and 99 mud houses were damaged in Bannu district on July 17.

Three peoples were killed and six injured as a windstorm lashed Sahiwal city (Punjab) on July 24.

August

Weather and associated synoptic features:

Details of weather systems formed during the month are 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 8 –12 days in FATA Hazara, Rawalpindi, Gujranwala Sargodha and Lahore regions, on 4-6 days in Bannu, D.I.Khan and Zhob regions, on 1-3 days in Malakand, Kohat, Peshawar, Faisalabad, Sibbi,

Hyderabad and Mirpurkhas regions. Rain/thunderstorms with a few duststorms in plains occurred at a few places or at isolated places on 16 days in Malakand region, on 5-8 days in FATA, Peshawar, Rawalpindi and Faisalabad regions, on 1- 4 days in Hazara, Kohat, Gujranwala, Lahore, Zhob, Kalat, Mekran, Larkana, Hyderabad, Mirpurkhas and Karachi regions.

The rainfall was in large excess in 4 meteorological observing stations (Gupis, Risalpur, Barkhan and Sibbi); moderate excess in 1 meteorological observing station (D.I.Khan); normal in 4 meteorological observing stations (Muzaffarabad, Parachinar, Mianwali and Lahore (A/P)); in slight deficit in 1 meteorological observing station (Lahore (PBO)); in moderate deficit in 10 meteorological observing stations (Garhi Dupatta, Dir, Saidu Sharif, Kakul, Balakot, Cherat, Chaklala, Murree, Jhelum and Khuzdar) and in large deficit in 36 meteorological observing stations (Gilgit, Skardu, Bunji, Chilas, Astor, Kotli, Chitral, Drosh, Kohat, Peshawar, Sialkot, Sargodha, Faisalabad, Shorekot, Multan, Bahawalpur, Bahawalnagar, Khanpur, Quetta, Dalbandin, Nokkundi, Zhob, Kalat, Panjgur, Pasni, Jiwani, Moenjodaro, Jacobabad, Rohri, Nawabshah, Padidan, Hyderabad, Badin, Chhor, Karachi (A/P) and Karachi (Masroor).

Table 4: Detail of weather systems during August 2005

S.No	System	Period	Place of the 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 extended up to mid-tropospheric level	2-3	East Rajasthan (India) and adjoining areas.	Westwards	Eastern Sindh and adjoining area	Became less-marked on 4.
B)	Western Disturbance /eastward moving system.					
1)	Low pressure area	1-2	Upper and adjoining areas	NWFP Eastwards	Kashmir and adjoining areas	Moved away northeastwards on 3.
2)	Low pressure area extended up to mid-trop. level	4-9	Do	Do	Do	Moved away eastwards on 10.
3)	Do	11-13	Do	Do	Do	Moved away northeastwards on 14.
4)	Do	16-18	Do	Do	Do	Moved away east -wards on

S.No	System	Period	Place of the First location	Direction of Movement	Place of final Location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
						19.
5)	Trough of Low.	20-21	Do	Do	Do	Moved away eastwards on 22.
6)	Low pressure area extended upto mid-trop. Level	25-29	Do	Do	Do	Moved away eastwards on 30.

Temperature distribution:

Appreciable to moderate heat wave conditions prevailed on 1- 4 days in Sibbi, Quetta, Zhob and Malakand regions. Hot day conditions prevailed on 1 day in Larkana region. They were appreciably to markedly above normal on 1-3 days in Bahawalpur, Karachi, Sukkur, D.I.Khan, Rawalpindi, Faisalabad and Sargodha regions. They were appreciably to markedly below normal on 3-5 days in Sukkur, Lahore, FATA and Sibbi regions, on 1-2 days in Hyderabad, Gujranwala, Rawalpindi, Sargodha, Malakand, Hazara, Peshawar, Multan, Bahawalpur, Zhob, Kalat, Larkana and D.I.Khan regions. They were considerably below normal on 1 day each in Gujranwala, D.I.Khan and Mekran regions. During the month the highest maximum temperature in plains of the country was 45.5° C recorded at Turbat (Mekran region) on 2 & 15 August 2005.

Disastrous weather events and Associated damages:

According to the press report a man was killed while five others sustained serious injuries when over a dozen publicity boards uprooted in different parts of Faisalabad during a thunderstorm on 21 August 2005.

September

Weather and associated synoptic features:

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

Rain/thundershowers occurred almost at all the places or at a number of places on 4-7 days in Hazara, Kohat, Gujranwala and Lahore regions, on 1-3 days in FATA, Malakand, Bannu, Peshawar, D.I.Khan, Rawalpindi, Sargodha, Faisalabad, Multan, Bahawalpur, Zhob, Sibbi, Mirpurkhas and Karachi regions. Rain/thunderstorms also occurred at a few places or at isolated places on 5-9 days in Malakand, Hazara, Rawalpindi, Faisalabad and Mirpurkhas regions, on 1- 4 days in FATA, Bannu, Peshawar, D.I.Khan, Gujranwala, Sargodha, Lahore,

Multan, D.G.Khan, Bahawalpur, Sibbi, Kalat, Larkana, Sukkur, Hyderabad and Karachi regions.

Rainfall distribution:

The rainfall was in large excess in 16 meteorological observing stations (Gupis, Saidu Sharif, Kohat, Peshawar, Risalpur, D.I.Khan, Sargodha, Faisalabad, Shorekot, Bahawalpur, Bahawalnagar, Khanpur, Sibbi, Khuzdar, Chhor and Karachi (A/P)); moderate excess in 3 meteorological observing stations (Muzaffarabad, Lahore (A/P) and Multan); slight excess in 3 meteorological observing stations (Balakot, Cherat and Lahore (PBO)); normal in 6 meteorological observing stations (Quetta, Dalbandin, Nokkundi, Jiwani, Jacobabad and Karachi (Masroor)); slight deficit in 4 meteorological observing stations (Kotli, Chaklala Murree and Mianwali); moderate deficit in 3 meteorological observing stations (Garhi Dupatta, Parachinar and Sialkot) and in large deficit in 21 meteorological observing stations (Gilgit, Skardu, Bunji, Chilas, Astor, Chitral, Dir, Drosh, Kakul, Jhelum, Zhob, Barkhan, Kalat, Panjgur, Pasni, Moenjodaro, Rohri, Nawabshah, Padidan, Hyderabad and Badin).

Table 5: Details of weather system during September 2006.

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	6 - 8	South Punjab and adjoining Rajasthan (India)	Stationary	South Punjab and adjoining areas	Became less - marked on 9.
2)	Low pressure area extended upto mid-tropospheric level	9-12	Eastern Sindh and adjoining area	Do	Eastern Sindh and adj. Area	Became less marked on 13.
3)	Well marked low extended upto mid-tropospheric level	14-18	Northeast Arabian sea and adj. Saurashtra and Kutch	Initially north-northwestwards and then northeast-wards	Southeast Sindh and adj. Rajasthan (India)	The well marked low which formed over northeast Arabian Sea and adj. Saurashtra & Kutch moved north-northwestwards and concentrated into a

S.No	System	Period	Place of first Location	Direction of Movement	Place of final Location	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
						depression over northeast Arabian Sea on 15 and then moved northeastwards and weakened into a low over Gujrat on 17 and moved northnortheastwards and became less-marked over Southeast Sindh and adj. areas on 19.
4)	Low pressure area	23- 24	West Rajasthan (India) and eastern Sindh	Northeastwards	Uttar Pradesh (India) and adj. Areas.	Became less marked on 25.
B) Western disturbance/eastward moving system						
1)	Low pressure area	4 - 5	Upper NWFP and adj.adjoining areas	Eastwards	Kashmir and adjoining areas	Moved away northeastwards on 6.
2)	Low pressure area extended upto mid-tropospheric level	10- 13	Do	Do	Do	Moved away northeastwards on 14.
3)	Do	17- 18	Do	Do	Do	Moved away eastwards on 19.
4)	Do	22- 24	Do	Do	Do	Moved away northeastwards on 25

Temperature distribution:

Hot day conditions prevailed on 9 days in Quetta region, on 1 day in Sukkur region. They were considerably above normal on 1 day each in Mirpurkhas and Karachi regions. They were appreciably to markedly above normal on 12-14 days in Quetta and Karachi regions, on 4-6 days in Malakand, Mirpurkhas and Mekran regions, on 1-3 days in Rawalpindi, Zhob, Hyderabad and Sibbi regions. They were appreciably to markedly below normal on 6-8 days in Sukkur and Bahawalpur regions, on 4-6 days in Peshawar, Faisalabad, Lahore and D.I.Khan regions, on 1-3 days in Rawalpindi, Hyderabad, Multan, Sibbi, FATA, Malakand, Sargodha, Gujranwala, Larkana and Quetta regions. They were considerably below normal on 1-2 days in Peshawar, D.I.Khan, Lahore, Sargodha, Bahawalpur and Multan regions. During the month the highest maximum temperature in plains of the country was 44.6° C recorded at Sibbi (Sibbi region) on 7 September 2005.

Disastrous weather events and damages:

According to the press report two persons drowned and another one electrocuted as torrential rains lashed most parts of Karachi on the morning of 10 September 2005. A man was electrocuted and several katcha houses collapsed and a number of villages along the coastal belt were submerged when rains lashed several districts of Sindh on 11 September 2005.

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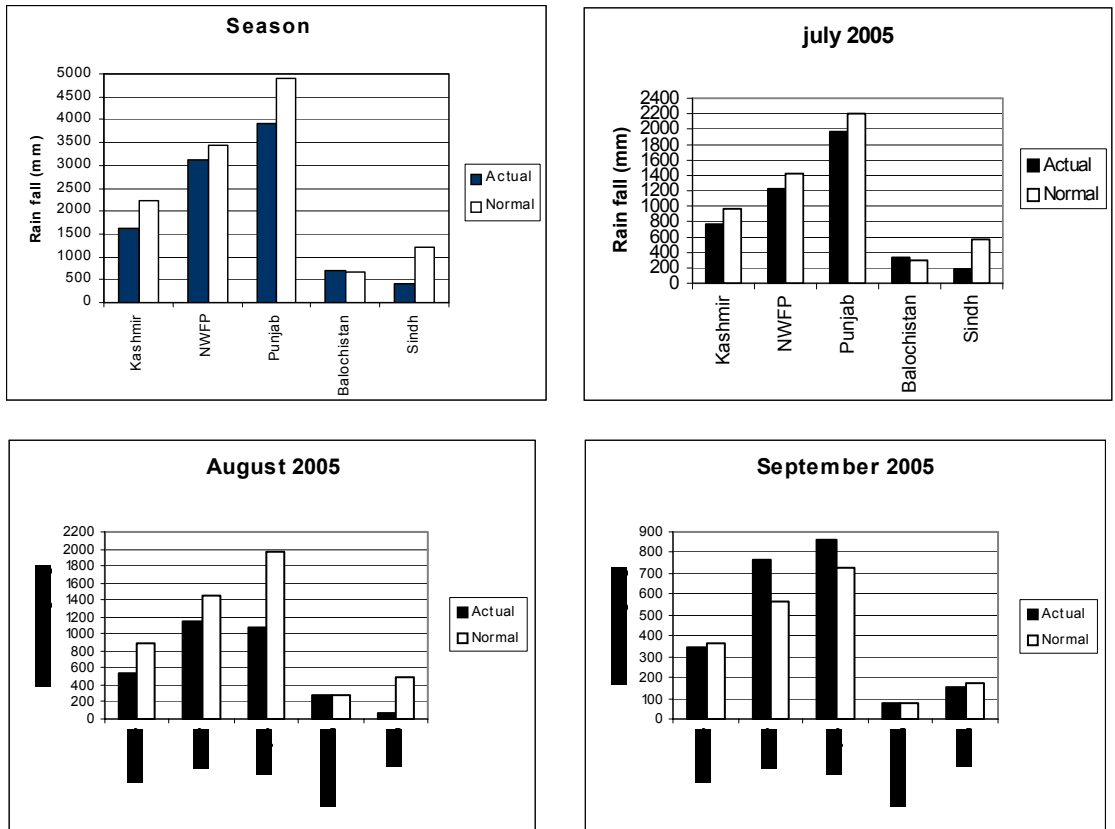


Figure 1