



Government of Pakistan
Pakistan Meteorological Department
Pakistan Monthly Climate Summary
July 2024

In brief

- National area-weighted rainfall, 57.5 mm, of July 2024 was **near to average (-9%)**.
- The heaviest one-day rainfall of 113.8 mm occurred at Sialkot Airport (Punjab) on 23rd July. The same has been the wettest place with monthly total rainfall of 468.2 mm.
- The national mean monthly temperature of 32.62 °C for Pakistan (with **+1.26 °C** anomaly) was **warmer** than country-average of 31.36 °C and stands 2nd warmest mean temperature during past 64 years (record is 32.63 °C in 1969).
- The daytime (maximum) temperature at the country-level was 38.58 °C (with **+1.39°C** anomaly) also **warmer** than the country-average of 37.19 °C and stands 3rd warmest mean maximum temperature during past 64 years (record is 38.68 °C in 1969).
- The nighttime (minimum) temperature at country level was 26.63 °C (with **+1.36°C** anomaly) also **warmer** than the countrywide average of 25.27 °C and stands **warmest ever** mean minimum temperature during past 64 years (record was 26.12 °C in 1979).
- The **hottest** day of the month was observed at Dalbandin & Nokkundi (Balochistan) on 4th and Turbat (Balochistan) on 7th when they recorded a maximum temperature of 49.0 °C. Whereas, Dalbandin and Nokkundi found to be the **warmest** places with a mean monthly maximum temperature of 45.1 °C.
- The **coldest** night temperature (8.5 °C) of the month was recorded at Bagrote (GB) on 8th. Whereas, Rawalakot happened to be the **coolest** place with mean monthly minimum temperature of 14.8 °C.
- The El Niño–Southern Oscillation (ENSO) has slightly shifted from neutral to La Niña with sea surface temperatures (SSTs) being around -0.4 °C over the central equatorial Pacific Ocean and likely to drop further.
- The Indian Ocean Dipole (IOD) is in neutral phase.

Table-1: National Weather Extremes during July 2024

Hottest day	49	Dalbandin & Nokkundi on 4 th and Turbat on 7 th from Balochistan
Coldest day	18	Kalam (KP) on 15 th
Coldest night	8.5	Bagrote (GB) on 8 th
Warmest night	35	Dalbandin (Balochistan) on 29 th
Wettest day	113.8	at Sialkot Airport (Punjab) on the 23 rd
Wettest month	468.2	at Sialkot Airport (Punjab)

Synoptic Summary

Monsoon began in the country just at the end of last month with moist currents from the Arabian Sea & Bay of Bengal started penetrating in Upper and Central parts of the country, which ultimately strengthened to spread over Southern and eastern parts of the country during the month. Meanwhile, westerly wave continued to prevail over Northern parts of the country and crossed over Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB), Kashmir and Punjab. While, the Seasonal Low-pressure area (monthly average value of 991 hPa) remained oriented over Northwest-West Balochistan during most of the month. Another trough of low prevailed over Southeast/Eastern Sindh during 9 -12, 15 -17, 19 -24, and 29 -31 July with moisture fed from the

Arabian Sea, which resulted in widespread heavy to very heavy rainfall (isolated extremely heavy) over KP, GB, Kashmir, Punjab and few light to moderate intensity rains in Balochistan and Sindh during the month.

Table-2: New Weather Records Set in July 2024

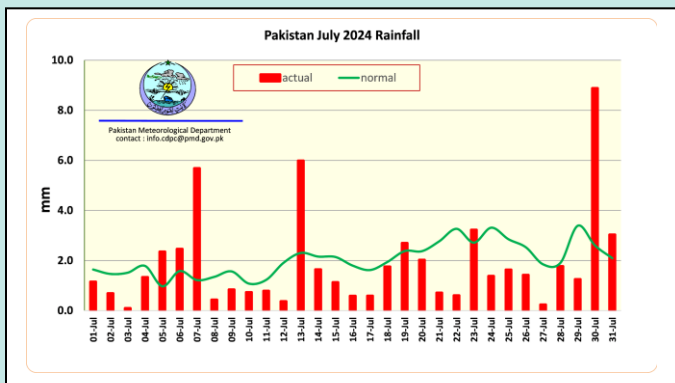
S No	Stations	Weather Parameters	New Record		Old Record		No of years examined.
			Value	Date	Value	Date	
1	RAWALPINDI	Coldest night Temperature (°C)	17.7	12/Jul/2024	17.8	05/Jul/1966	73
2	GWADAR	Hottest day Temperature (°C)	42.5	02/Jul/2024	40.0	19/Jul/2020	23
3	QUETTA. (SH MANDA	Hottest day Temperature (°C)	41.5	04/Jul/2024	41.5	2days/Jul/2022	28
4	BADIN	Hottest night Temperature (°C)	30.0	21&22/Jul/2024	30.0	01/Jul/2016	64
5	BARKHAN	Hottest night Temperature (°C)	28.5	01/Jul/2024	28.5	2days/Jul/2019	60
6	CHHOR	Hottest night Temperature (°C)	31.0	21/Jul/2024	30.8	08/Jul/2020	64
7	DALBANDIN	Hottest night Temperature (°C)	35.0	29/Jul/2024	33.6	18/Jul/1988	64
8	JACOBABAD	Hottest night Temperature (°C)	32.0	4 days/Jul/2024	32.0	09/Jul/2021	64
9	KARACHI AIRPORT	Hottest night Temperature (°C)	32.0	3 days/Jul/2024	31.0	14/Jul/2021	64
10	MIRPUR KHAS	Hottest night Temperature (°C)	29.5	22/Jul/2024	29.5	2days/Jul/2017	21
11	MULTAN AIRPORT	Hottest night Temperature (°C)	34.0	04/Jul/2024	33.7	03/Jul/2006	64
12	QUETTA. (SAMUNGLI	Hottest night Temperature (°C)	26.5	28&29/Jul/2024	26.5	08/Jul/2010	64
13	QUETTA. (SH MANDA	Hottest night Temperature (°C)	26.5	28/Jul/2024	25.5	27/Jul/2021	28
14	SAKRAND	Hottest night Temperature (°C)	31.0	24/Jul/2024	30.5	04/Jul/2020	12
15	SARGODHA AIRBASE	Hottest night Temperature (°C)	33.5	03/Jul/2024	33.0	08/Jul/2006	64
16	SHORKOT	Hottest night Temperature (°C)	32.5	04/Jul/2024	32.5	05/Jul/2003	52
17	THATTA	Hottest night Temperature (°C)	30.5	18&19/Jul/2024	30.5	08/Jul/2020	21

Table-3: Significant Winds

Date	Station	Max Wind Knots	Date	Station	Max Wind Knots	Date	Station	Max Wind Knots	Date	Station	Max Wind Knots
15/2024	Peshawar AP	30	11/2024	Islamabad ZP	35	03/2024	Lahore AP	40	11/2024	Multan AP	35
23/2024	Peshawar AP	30	14/2024	Islamabad ZP	30	06/2024	Lahore AP	60	12/2024	Multan AP	35
03/2024	Islamabad AP	40	12/2024	Jhelum	35	10/2024	Lahore AP	65	18/2024	Multan AP	30
10/2024	Mangla	30	12/2024	Sialkot AP	35	11/2024	Lahore AP	36	19/2024	Multan AP	30
28/2024	Lahore AP	30	10/2024	Faisalabad	35	12/2024	Lahore AP	32	23/2024	Bahawalnagar	30
12/2024	Bahawalpur, City	34	12/2024	Faisalabad	35	18/2024	Lahore AP	40	02/2024	Kasur	45
31/2024	Panigur	60	22/2024	Faisalabad	30	22/2024	Lahore AP	30	06/2024	Kasur	35
18/2024	Hyderabad	35	29/2024	Faisalabad	30	25/2024	Lahore AP	50	12/2024	Bahawalpur, City	42
05/2024	Islamabad AP	32	05/2024	T.T. Singh	32	28/2024	Lahore AP	40	31/2024	Panigur	60
11/2024	Islamabad AP	44	12/2024	T.T. Singh	40	30/2024	Lahore AP	30	18/2024	Hyderabad	35
12/2024	Islamabad AP	47	01/2024	Lahore City	30	05/2024	Okara	35			
12/2024	Islamabad AP	30	05/2024	Lahore City	36	11/2024	Multan City	30			
17/2024	Islamabad AP	30	01/2024	Lahore AP	45	06/2024	Multan AP	35			

Rainfall: Near average in the country.

Climatologically, the July considered as the wettest month of the year with rainfall contribution to the annual national total and the Monsoon (JAS) is 21.3% and 44.9%, respectively. During the month, Pakistan experienced 3 light to moderate rain spells. The daily area-averaged rainfall is shown in Fig-1. July 2024 rainfall was near average with 57.5mm (-9%) for Pakistan as a whole. However, situation varied on regional scale with four of the provinces/regions recorded below-average rainfall while two of the provinces recorded above-normal rainfall, i.e. for



AJ&K with 94.7 (-46%) it ranked as 3rd driest July during past 64 years, the GB with only 4.6mm (-65%) and Sindh with 33.8 mm (-44%) observed excessively below average rainfall. The KP with 84.0mm (-21%) also observed below average rainfall. Punjab with 112.4 mm (+8%) and Balochistan with 34.3mm (+16%) were the only regions to have observed a slightly above average rainfall (Table-4). The wettest day of the month in the country was 23rd July when 113.8mm rainfall was recorded at Sialkot (Punjab) and incidentally the same station found being the wettest place with a monthly total rainfall of 468.2mm (Table-1).

Table-4: July 2024 Area-Weighted Rainfall

Region	Rank (of 64y)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	35	63.3	57.5	-9	---
Azad Jammu & Kashmir	03	173.9	94.7	-46	3rd driest (record 78.8 mm in 2020)
Balochistan	44	29.7	34.3	16	---
Gilgit Baltistan	11	13.3	4.6	-65	11th driest (record 0.7 mm in 1969)
Khyber Pakhtunkhwa	20	106.7	84.0	-21	---
Punjab	40	104.1	112.4	8	---
Sindh	30	60.1	33.8	-44	---

[RANK RANGES FROM 1 (LOWEST) TO 64 (HIGHEST) IN TERMS OF YEARS FROM 1961]

The other significant rainfalls recorded in the month were Rawalpindi 385.0 mm, Sialkot Cantt 326.3 mm, Gujrat 306.0 mm, Mandibahauddin 304.5 mm, Lahore Airport 302.0 mm, Islamabad Zeropoint 289.7 mm, Lahore City 282.0 mm, Mangla 275.8 mm, Murree 271.5 mm, Gujranwala 270.0 mm, Balakot 228.0 mm and Jhelum 221.8 mm. The stations; Hunza, Dalbandin, Gawadar, Jiwani, Nokkundi, Pasni and Turbat remained absolutely dry with no rain during the month. Whilst, Rohri, Sukkur, Khairpur, Quetta and Ormara recorded only traces of rainfall during the month.

July 2024 Rainfall maps

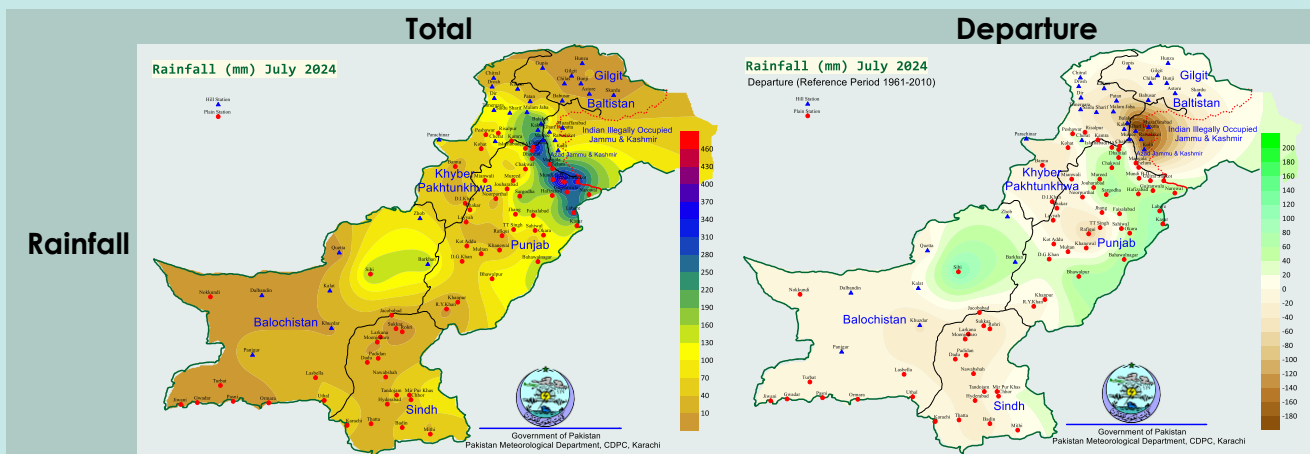


Fig. 2. July-2024 spatial rainfall distribution and departure from normal

Table 5: Significantly above average Temperatures observed in the country.

Area Averaged Temperatures (°C) in July 2024 and anomalies from normal 1961-1990						
Regions	Maximum Temperature		Minimum Temperature		Mean Temperature	
	Actual	Anomaly	Actual	Anomaly	Actual	Anomaly
Pakistan	38.58	+1.39	26.63	+1.36	32.62	+1.26
Azad Jammu & Kashmir	33.34	+1.98	20.96	+1.13	27.16	+1.55
Balochistan	39.95	+1.69	26.77	+1.43	33.38	+1.52
Gilgit-Baltistan	33.98	+0.20	19.12	-0.26	26.57	-0.04
Khyber Pakhtunkhwa	35.93	+0.68	24.20	+0.79	30.08	+0.76
Punjab	39.02	+1.10	28.63	+1.57	33.84	+1.10
Sindh	39.25	+1.68	29.25	+1.88	34.27	+1.65

The July 2024 national mean temperature of 32.62 °C was +1.26 °C warmer than the country-average of 31.36 °C and ranked 2nd warmest mean temperature in July during past 64 years (the record being 32.63 °C in 1969). A similar trend prevailed at regional scale too: The AJ&K with 27.16 °C (+1.55 °C) and Balochistan with 33.38 °C (+1.52 °C) exhibited ever warmest mean temperatures in the month (record were 26.98 °C in 1976 & 33.35 °C in 1969 respectively). Sindh with 34.27 °C (+1.65 °C) observed 2nd warmest mean temperature in July (record is 34.33 °C in 2020). The KP with 30.08 °C (+0.76 °C) and Punjab with 33.84 °C (+1.10 °C) also placed amongst first ten highest mean temperature ranges during the 64 years period. The GB with 26.57 °C (-0.04 °C) was the only region having near average anomaly.

July 2024 mean-maximum (daytime) temperature of 38.58 °C recorded at country-level with a positive anomaly of +1.39 °C than the country average of 37.19 °C and ranked 3rd highest mean maximum temperature (the record is 38.68 °C in 1969). The AJK with 33.34 °C (+1.98 °C) recorded the ever-highest average maximum temperature in July (record was 33.18°C in 2012). All other regions except GB also remained amongst first ten warmest range during the past 64 years (Table-5, Fig. 3 upper panel). The Mean maximum temperature anomalies were ranged -1.1 to +4.8 °C in the country with those being considerably higher over AJ&K.

The night (minimum) temperature of 26.63 °C (with +1.36 °C anomaly) was also warmer than average of 24.27 °C during the month and stands as warmest-ever night July during the past 64 years (the record was 26.12 °C in 1979). The province of Sindh with 29.25°C (+1.88 °C), Punjab with 28.63 °C (+1.57 °C) and Balochistan with 26.77°C (+1.43 °C) all exhibited ever highest minimum temperature in July (record were 28.85 °C in 2020, 28.25° in 1991 & 26.5°C in 1979 respectively). All other regions except GB also remained in the first ten warmest range (Table-5, Fig-3, middle panel). The hottest day of the month was 49.0 °C recorded at Dalbandin & Nokkundi on 4th and Turbat on 7th July, all from Balochistan. Whereas, Dalbandin & Nokkundi happened to be the warmest place

with 45.1 °C average maximum temperature during the month. The lowest night minimum temperature of the month was 8.5 °C recorded at Bagrote (GB) on 8th. Whereas, Rawalakot was the **coolest** place with 14.8 °C average minimum temperature.

July 2024 Temperature maps

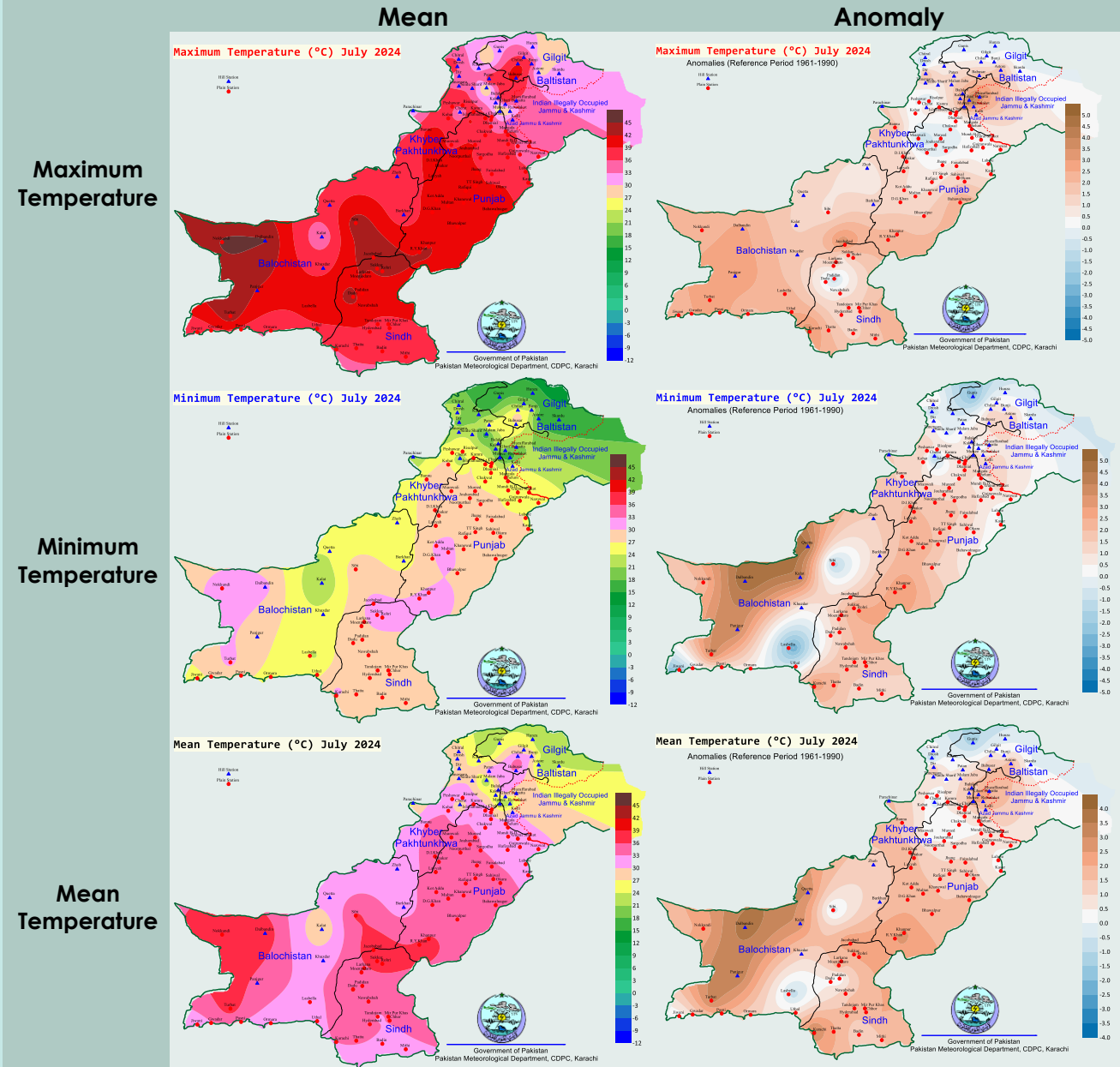


Fig. 3. July-2024 Temperatures (Maximum, Minimum & Mean) and their anomalies.

Table 6: July 2024 Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	843.8	1398.9	28.7	35.7	21.7	15.0	24.4	9
	844.3	1404.2	30.1	36.9	23.3	14.9	22.1	5.4
Peshawar	960.6	996.2	32.2	38.8	25.6	32.5	56.3	4
	956.5	995.3	32.1	37.7	26.5	27.9	46.1	6.9
Parachinar	820.5	1414.8	26.2	31.3	21.0	17.9	82.0	2
	821.2	1424.4	24.0	29.8	18.2	17.6	99.4	11.9
Rawalpindi	942.3	997.1	30.4	35.4	25.5	26.7	385.0	11
	941.9	996.9	28.8	34.8	24.2	27.3	305.3	15.6
Sargodha	975.4	995.3	33.8	39.1	28.5	35.1	176.8	5
	976.7	996.7	32.5	37.9	27.2	30.3	113.6	9.5
Jhelum	970.4	995.9	31.4	36.2	26.6	34.6	221.8	11
	971.1	996.8	30.7	35.6	25.9	30.1	263.2	15.3
Sialkot	968.5	996.4	30.9	35.4	26.3	34.4	326.3	13
	969.4	997.4	29.8	34.4	25.2	30.6	304.1	15.1
Zhob	847.3	1375.9	30.7	36.7	24.7	21.4	81.0	9
	848.3	1395.1	29.5	35.9	23.1	17.5	61.1	5.1
D.I.Khan	976.0	994.7	34.5	40.0	29.0	36.2	52.4	3
	976.7	995.5	32.5	38.4	26.6	30.6	60.5	5.9
Lahore	972.9	996.4	31.9	36.5	27.1	33.9	282.0	12
	973.2	996.6	31.3	35.7	26.8	30.7	212.1	13.1
Quetta	833.6	1414.4	30.9	37.3	24.5	13.7	0.0	0
	832.6	1408.0	28.0	36.1	20.3	14.3	16.3	1.9
Multan	981.5	994.9	35.7	40.2	31.1	33.7	62.7	3
	982.3	995.7	33.8	39.0	28.7	30.4	60.3	4.4
Barkhan	879.8	1402.8	31.0	36.6	25.2	24.9	149.0	11
	880.7	1410.9	29.7	35.5	23.8	22.2	109.3	7.7
Nokkundi	919.6	989.7	37.9	45.1	30.7	9.2	0.0	0
	921.5	992.2	35.1	43.1	28.6	13.4	2.0	0.2
Dalbandin	903.9	1407.0	38.0	45.1	30.9	10.9	0.0	0
	904.7	1397.2	34.3	42.1	24.9	10.4	7.2	0.2
Jacobabad	988.2	994.3	37.4	44.1	30.6	33.2	15.0	1
	989.2	995.2	34.6	40.2	29.1	31.4	42.8	2.1
Khanpur	985.1	994.8	36.2	42.1	30.3	36.1	23.6	2
	985.9	995.7	33.3	39.6	27.0	29.9	25.8	2.6
Panjgur	891.1	1405.5	35.2	41.8	28.5	22.4	17.7	3
	893.6	1419.9	31.8	38.9	24.8	10.7	21.2	1.7
Khuzdar	867.1	1408.2	31.5	38.0	24.8	6.8	7.6	2
	863.3	1394.2	30.3	36.5	24.1	8.9	60.5	5
Sh. Benazirabad	991.8	995.0	35.4	41.3	29.4	36.3	30.6	5
	992.6	996.3	34.0	40.5	27.4	33.0	50.9	1.3
Jiwani	990.4	996.7	29.8	34.8	24.7	34.5	0.0	0
	991.9	998.2	29.5	32.4	26.8	31.1	8.6	0.2
Pasni	995.6	996.1	31.8	36.5	27.1	37.3	0.0	0
	997.1	997.7	29.2	33.3	27.2	31.0	5.0	0.5
Hyderabad	990.9	995.6	34.2	38.5	29.8	35.2	28.8	2
	993.3	996.8	32.5	37.3	27.7	30.2	45.5	2
Chhor	995.5	996.2	33.5	38.4	28.5	37.6	101.6	6
	996.8	997.4	31.4	36.4	26.4	31.1	79.3	3.3
Karachi	994.0	996.6	33.3	36.3	30.3	36.5	67.1	5
	996.2	998.9	30.3	33.1	27.5	31.3	66.3	3.4

Note: The first row against each station contains the actual values while second row for normal values

Table 7: July 2024 extreme values

STATION	Mean Temperature (°C)				Temperature (°C)				Highest (mm & knots)			
	Highest	Date	Lowest	Date	Highest	Date	Lowest	Date	Rain	Date	Wind Speed	Date
Drosh	32.3	04	22.0	15	39.6	4	15.8	16	5.6	30	14	29
Peshawar	36.0	03	26.8	07	44.0	3	19.5	7	28.0	18	22	15
Parachinar	30.9	03	22.5	19	37.0	3	17.0	19	63.0	19	12	7
Rawalpindi	35.5	03	25.2	23	40.5	3	17.7	12	81.0	30	28	5
Sargodha	39.8	03	27.5	06	45.1	3	22.7	13	58.0	13	14	5
Jhelum	36.0	03	26.9	06	40.5	3	19.8	13	54.4	6	20	18
Sialkot	33.5	03	27.0	06	38.5	16	23.2	7*	69.0	23	8	12
Zhob	34.3	03	27.3	06	42.0	3	22.0	9*	20.0	15	13	29
D.I.Khan	38.0	03	29.0	07	44.5	3	24.0	7	28.4	7	12	23
Lahore	35.0	17	24.4	06	39.5	11	20.3	6	69.3	13	10	12*
Quetta	33.5	04	27.8	30	41.0	4	22.5	7	0.0	0	24	13
Multan	37.8*	02	29.4	07	42.2	2*	25.5	7	48.4	7	18	2
Barkhan	34.0	03	26.3	13	41.0	3	19.5	13*	43.0	13	4	4*
Nokkundi	40.5*	04	35.8	24	49.0	4	25.5	24	0.0	0	18	6*
Dalbandin	40.5*	05	35.5	14	49.0	4	28.5	14	0.0	0	10	5*
Jacobabad	39.5	10	33.5	30	47.0	10	26.0	30	15.0	30	8	3*
Khanpur	37.7	10	31.4	07	44.4	11	26.2	13	18.4	30	8	5*
Panjgur	38.0*	03	29.5	30	45.0	3*	24.0	30	15.7	30	60	31
Khuzdar	33.8	04	27.8	31	42.0	3*	23.0	12*	5.2	30	6	4
Sh.Benazirabad	37.0*	01	33.0	31	44.0	1	26.5	18	17.0	31	22	20
Jiwani	31.5	07	27.8	12	36.5	1*	22.5	12	0.0	0	16	1*
Pasni	33.8*	17	30.5	12	40.0	22	26.0	1*	0.0	0	20	12
Hyderabad	36.8	16	31.0	19	42.5	16	24.5	19	24.0	19	26	1*
Chhor	36.3	21	30.1	30	41.5	1*	24.7	16	58.0	30	16	2*
Karachi	36.3	17	30.8	31	40.5	17*	27.0	10	38.3	10	16	1*

* means value occurred multiple times

Note

Monthly Climate Summary is produced by Pakistan Meteorological Department, Climate Data Processing Centre, Karachi to provide the main features of weather events occurred in the country during the month. The summary contains detailed data information of 25 climate stations of Pakistan. The extremes & analysis is based on 110 numbers of stations. The information in the summary is based on real time data and/or electronic reports, therefore, the above results can be considered only preliminary. Climate Summaries are usually published in the first week of each month. Long term average for rainfall is for 1961-2010 (50 years) while normal period for temperature is 1961-1990 (30 years).

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