



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

In brief

- November 2024 has become the **warmest ever November** in Pakistan with a marked deviation of **+2.89 °C** than the country-average with temperatures in all three indices falling in the first-fifth range across Pakistan.
- The national mean monthly temperature of 20.75 °C for Pakistan was significantly **warmer by +2.89 °C** than the country-average of 17.87 °C and ranks as **the highest mean temperature** in November (previous record was 19.87 °C in 2011) during the past 64 years.
- The daytime (maximum) temperature at country-level was 28.05 °C also **warmer by +2.13°C** than the country-average of 25.92 °C and stands as the **2nd warmest mean maximum temperature** during past 64 years (the record is 28.09 °C in 2007).
- The country-level nighttime (minimum) temperature of 13.40 °C was **warmer** with even higher magnitude of **+4.07°C** than the countrywide average of 9.33 °C and ranks as **the highest mean minimum temperature** during past 64 years (the record was 12.22°C in 2011).
- The **hottest** day of the month was observed at Turbat (Balochistan) on 3rd November when it recorded a maximum temperature of **41.0 °C**. Whereas the station, Mithi (Sindh) found to be the **warmest** place with a mean monthly maximum temperature of 35.5 °C.
- The **coldest** night temperature of -6.6 °C of the month was recorded at Skardu (GB) on 28th. Coincidentally, the same station happened to be the **coolest** place with mean monthly minimum temperature of -0.9 °C.
- National area-weighted rainfall, 5.6mm, of November 2024 was near average with a positive anomaly of **+8%**.
- The heaviest one-day rainfall of 54.3 mm occurred at Khuzdar (Balochistan) on 30th November. Whereas, the station Dir (KP) has been the wettest place with monthly total 110.0 mm.
- The El Niño–Southern Oscillation (ENSO) has shifted a bit more to La Niña with sea surface temperatures (SSTs) being around -0.6 °C over the central equatorial Pacific Ocean and likely fall further.
- The Indian Ocean Dipole (IOD) too is inclined to negative phase.

Table-1: National Weather Extremes during November 2024

Hottest day	41.0 °C	at Turbat (Balochistan) on 3rd
Coldest day	3.0 °C	at Kalam (KP) on 15th
Coldest night	-6.6 °C	at Skardu (GB) on 28th
Warmest night	25.2 °C	at Thatta (Sindh) on 1st
Wettest day	54.3 mm	at Khuzdar (Balochistan) on 30th
Wettest month	110.0 mm	at Dir (KP)

Synoptic Summary

November is the month when the dry continental winds predominantly setup across the country. The first week of the month remained under the dry continental air across the entire country followed by 3 westerly waves on 11-12, 15-16, 28-30 November which affected Khyber Pakhtunkhwa (KP), Punjab, Gilgit-Baltistan (GB), Kashmir and North Balochistan producing some moderate to heavy rain in KP & Balochistan and light/moderate rains in Punjab, GB, and Kashmir. On the other hand, central and south Punjab remained in grip of a severe smog/fog lowering air quality to dangerously worst levels during most of the month (Fig-1).

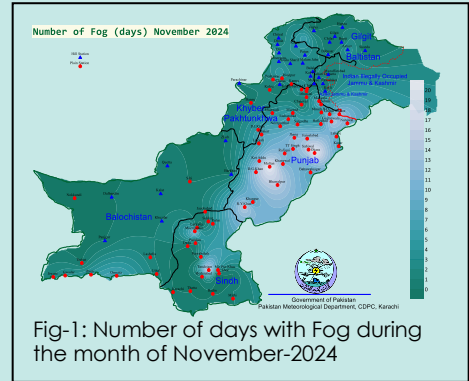
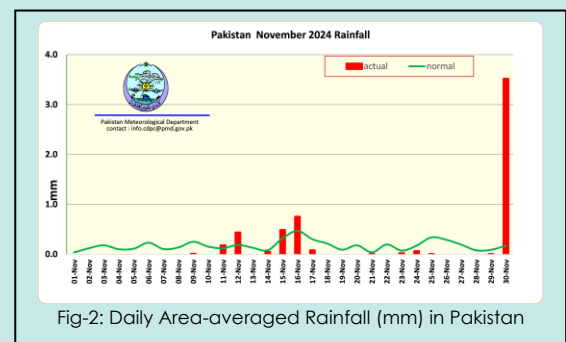


Table-2: New Temperature Records Set in November 2024

S No	Stations	Weather Parameters	New Record		Old Record		No of years examined.
			Value	Date	Value	Date	
1	KHUZDAR	Wettest month rainfall(mm)	54.3	Nov-2024	53.0	Nov-2019	61
2	KHUZDAR	Heaviest one day Rainfall (mm)	54.3	30/Nov/2024	27.0	25/Nov/1997	61
3	BAHAWALPUR,CITY	Hottest night Temperature (°C)	20.2	07/Nov/2024	20.0	08/Nov/1979	64
4	BARKHAN	Hottest night Temperature (°C)	18.0	07/Nov/2024	18.0	02/Nov/1976	58
5	BUNJI	Hottest night Temperature (°C)	13.9	11/Nov/2024	13.9	01/Nov/2022	64
6	JACOBABAD	Hottest night Temperature (°C)	22.0	01/Nov/2024	22.0	(03)/Nov/2022	64
7	KHANPUR	Hottest night Temperature (°C)	20.3	01/Nov/2024	19.8	02/Nov/2019	64
8	LARKANA	Hottest night Temperature (°C)	23.5	01/Nov/2024	22.5	01/Nov/2023	37
9	MOIN-JO-DARO	Hottest night Temperature (°C)	21.5	01/Nov/2024	21.5	01/Nov/2019	46
10	PADIDAN	Hottest night Temperature (°C)	22.0	1&2/Nov/2024	22.0	07/Nov/2014	64
11	PARACHINAR	Hottest night Temperature (°C)	16.0	05/Nov/2024	13.3	05/Nov/1963	64
12	RAHIM YAR KHAN	Hottest night Temperature (°C)	20.5	01/Nov/2024	19.9	07/Nov/2023	23
13	ROHRI	Hottest night Temperature (°C)	23.0	1&3/Nov/2024	23.0	07/Nov/2014	64
14	SHORKOT	Hottest night Temperature (°C)	20.0	11/Nov/2024	20.0	01/Nov/1977	53
15	SUKKUR	Hottest night Temperature (°C)	21.8	07/Nov/2024	21.5	(02)/Nov/2019	28
16	THATTA	Hottest night Temperature (°C)	25.2	01/Nov/2024	25.0	01/Nov/2019	21
17	ASTORE	Hottest day Temperature (°C)	22.0	7&8/Nov/2024	21.0	02/Nov/1977	64
18	BANNU	Hottest day Temperature (°C)	34.0	01/Nov/2024	33.5	01/Nov/2007	26
19	D.I.KHAN(City)	Hottest day Temperature (°C)	35.5	01/Nov/2024	35.0	01/Nov/1996	144
20	DADU	Hottest day Temperature (°C)	39.0	01/Nov/2024	37.0	01/Nov/2017	21
21	DALBANDIN	Hottest day Temperature (°C)	37.0	5&6/Nov/2024	35.6	07/Nov/2008	84
22	GUPIS	Hottest day Temperature (°C)	25.0	06/Nov/2024	24.0	02/Nov/2017	64
23	KHUZDAR	Hottest day Temperature (°C)	33.0	05/Nov/2024	32.5	06/Nov/2008	64
24	LARKANA	Hottest day Temperature (°C)	37.5	07/Nov/2024	37.0	02/Nov/2001	37
25	MIRPUR KHAS	Hottest day Temperature (°C)	38.5	01/Nov/2024	37.0	(02)/Nov/2022	21
26	NOKKUNDI	Hottest day Temperature (°C)	37.5	06/Nov/2024	36.7	01/Nov/2001	92
27	PANJGUR	Hottest day Temperature (°C)	35.5	06/Nov/2024	34.0	01/Nov/1977	114
28	PARACHINAR	Hottest day Temperature (°C)	29.5	1&4/Nov/2024	27.4	01/Nov/1996	124
29	QUETTA. (SH MAN)	Hottest day Temperature (°C)	29.5	5&6/Nov/2024	29.0	01/Nov/2001	28
30	SUKKUR	Hottest day Temperature (°C)	37.5	07/Nov/2024	37.5	01/Nov/2017	28
31	THATTA	Hottest day Temperature (°C)	38.0	01/Nov/2024	38.0	01/Nov/2009	21
32	TURBAT	Hottest day Temperature (°C)	41.0	03/Nov/2024	40.0	01/Nov/1999	28

Rainfall: Near Average in the country.

Climatologically, November is considered as the least rainy month with rainfall contribution to the national annual total and post-monsoon (OND) being only 1.7% and 19.5%, respectively. During the month, Pakistan experienced about three rain spells of light to moderate intensity. The daily area-averaged rainfall is shown in Fig-2. November 2024 rainfall with 5.6 mm was near average with a positive anomaly of (+8%) for Pakistan as a whole. However, diverse situation has been observed on regional scale i.e. Balochistan with 7.6mm (+193%) was the only region having recorded excessively above



average rainfall and ranked 8th wettest November (the record is 25.8mm in 2019). In contrast to Balochistan all other regions recorded below to excessively below average rain (Table-3). The heaviest one-day rainfall of 54.3 mm occurred at Khuzdar (Balochistan) on 30th November. Whereas the station, Dir (KP) has been the wettest place with monthly total 110.0 mm (Table-1).

The other notable rainfalls were Kalam 107.7 mm, Khuzdar 54.3 mm, Pattan 45.0 mm, Malam Jabba 39.0 mm, Kakul 36.0 mm and, Saidu Sharif 31.0 mm. The stations: Badin, Chhor, Hyderabad, Karachi A/P, Larkana, Mithi, Sh. Benazirabad, Padidan, Rohri, Mohenjo-daro, Thatta, Dadu, MirpurKhas, Tando Jam, Sakrand, Khairpur, Gwadar, Jiواني, Lasbela, Nokkundi, Panjgur, Pasni, Turbat, Ormara, and Karachi remained absolutely dry with no rain during the month. Whereas the stations: Faisalabad Airport, Chaklala Airbase, Jhelum, Kasur, Mangla, Sahiwal, Sargodha (Airbase & City), Sialkot (Cantt & Airport), Skardu, Dalbandin and Sibbi recorded only traces of rainfall during the month.

Table-3: November 2024 Area Weighted Rainfall

Region	Rank (of 64y)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	38	5.2	5.6	8	---
Azad Jammu & Kashmir	24	22.1	10.0	-55	---
Balochistan	57	2.6	7.6	193	08th highest (record is 25.8 mm in 2019)
Gilgit Baltistan	36	4.3	2.5	-43	---
Khyber Pakhtunkhwa	30	17.6	14.8	-16	---
Punjab	27	4.2	1.6	-61	---
Sindh	37	1.6	0.3	-79	---

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

November 2024 Rainfall maps

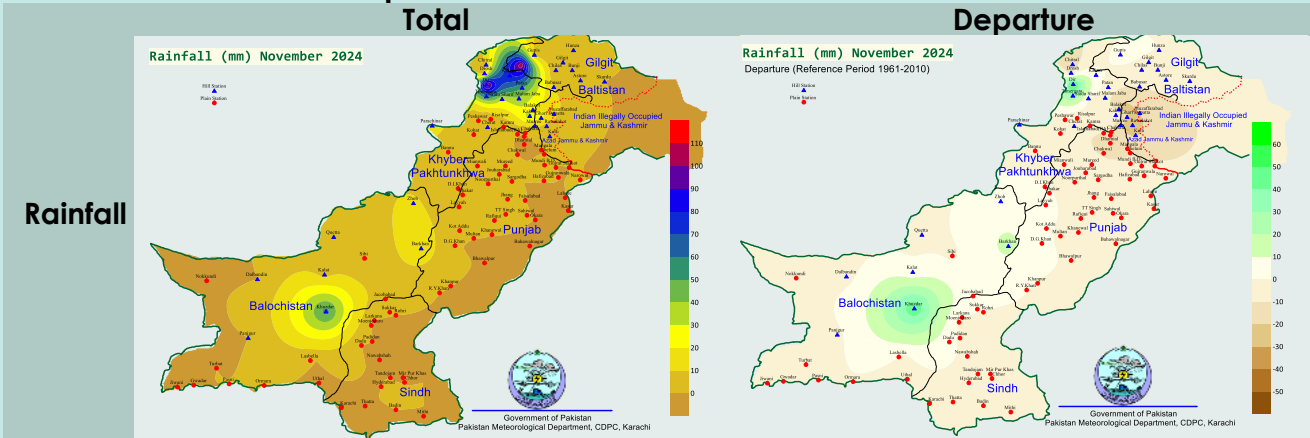


Fig. 3. November-2024 spatial rainfall distribution and departure from normal

Table 4: Significantly Warmer-than-average Temperatures across the country.

Area Averaged Temperatures (°C) in November 2024 and anomalies from normal 1961-1990						
Regions	Maximum Temperature		Minimum Temperature		Mean Temperature	
	Actual	Anomaly	Actual	Anomaly	Actual	Anomaly
Pakistan	28.05	+2.13	13.40	+4.07	20.75	+2.89
Azad Jammu & Kashmir	19.71	+1.09	6.26	+1.73	13.01	+1.41
Balochistan	29.56	+3.56	13.60	+4.39	21.63	+3.70
Gilgit-Baltistan	16.61	+1.36	2.12	+1.13	9.39	+1.25
Khyber Pakhtunkhwa	23.96	+1.61	10.11	+2.90	17.05	+2.27
Punjab	27.89	+0.16	14.98	+4.46	21.45	+1.96
Sindh	33.61	+2.01	18.85	+4.97	26.25	+3.54

The November 2024 national mean temperature of 20.75 °C was significantly warmer, +2.89 °C, than the country-average of 17.87 °C and ranked as the **highest mean temperature** in the month (previous record was 19.87°C in 2011) during the past 64 years. A similar trend prevailed at regional scale too i.e. for Balochistan with 21.63 °C (+3.70 °C), Sindh with 26.25 °C (+3.54 °C), KP with 17.05 °C (+2.27 °C) the November ranks now the highest mean temperatures since 1961 (previous records were 20.27°C in 1999, 25.64°C in 2011 and 16.18 in 1977 respectively). For Punjab with 21.45 °C (+1.96 °C) it ranked the 2nd highest mean temperature (the record is 21.58° C in 2011). The regions AJ&K with 13.01 °C (+1.41 °C) and GB with 9.39 °C (+1.25 °C) also observed 5th-6th highest mean temperatures in the month. (Table-4, Fig. 4 lower panel). The mean temperature anomalies ranged from 0.0 °C to +5.2 °C in the country with those being considerably higher over Sindh and western Balochistan.

The monthly mean maximum (daytime) temperature of 28.05 °C at country-level was also positively anomalous (+2.13 °C) than the country average of 25.92 °C and ranked as the 2nd highest of the month (record being 28.09 °C in 2007). Similarly, Balochistan with 29.56 °C (+3.56 °C) and Sindh with 33.61 °C (+2.01 °C) observed the warmest monthly mean maximum temperatures during past 64 years (records were 28.95 °C and 33.41 °C both in 2007 respectively). A persistent thick smog/fog over central and south Punjab (Fig-1) for about half a month brought the mean maximum temperature close to average (Table-4, Fig-4 upper panel). The mean temperature anomalies ranged from -1.8 °C to +5.6 °C in the country with those being considerably higher over western Balochistan.

The monthly mean minimum (night-time) temperature (13.40 °C) has been warmer, by a significant magnitude of +4.07 °C, than average (9.33 °C) and now ranks as the **highest mean minimum temperature** of the month since 1961 (record was 12.22 °C in 2011). A very similar trend was found across all the regions: Sindh with 18.85°C (+4.97 °C), Punjab with 14.98 °C (+4.46°C), Balochistan with 13.60 °C (+4.39°C) and KP with 10.11 °C (+2.90 °C) all experienced significantly warmer than average temperatures and also ranked as the highest mean minimum temperatures of the month during past 64 years (the records were 18.58°C in 2011, 14.23°C in 2011, 11.98°C in 1963 and 9.26°C in 1977 respectively). The AJ&K with 6.26°C (+1.73 °C) and GB with 2.12 °C (+1.13 °C) rank as the 4th and 8th warmest mean minimum temperature respectively (Table-4, Fig-4, middle panel). The mean minimum temperature anomalies ranged from -1.5 to +6.9°C in the country with those being considerably higher over Sindh, South Punjab and western Balochistan.

The hottest day of the month was 41.0 °C recorded at Turbat (Balochistan) on 3rd November. Whereas the station Mithi (Sindh) happened to be the **warmest** place with 35.5 °C average maximum temperature during the month. The lowest night (minimum) temperature of the month

was -6.6°C recorded at Skardu (GB) on 28th November, which, coincidentally was the **coolest** place with -0.9°C average night (minimum) temperature.

November 2024 Temperature maps

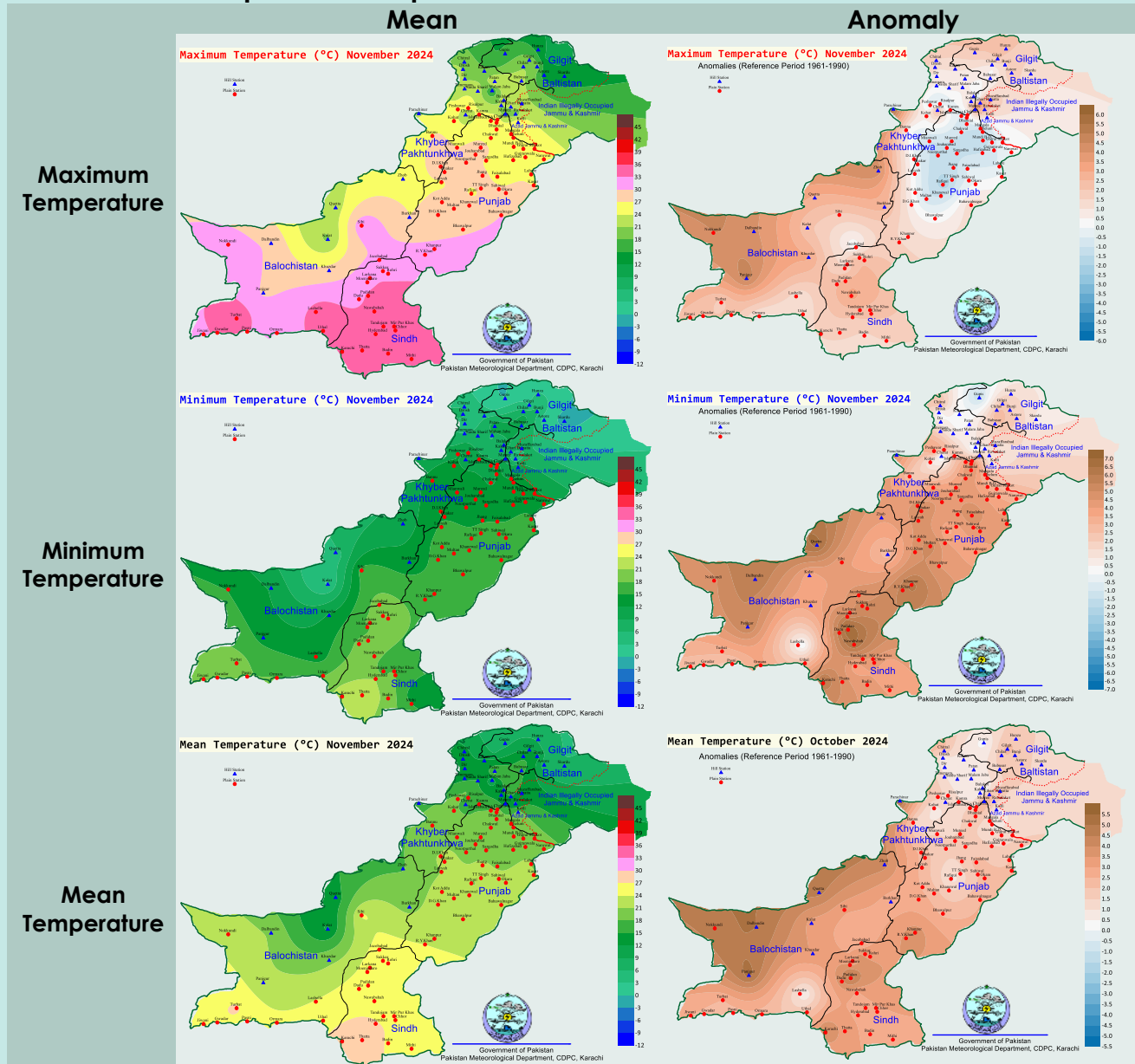


Fig. 4. November-2024 Temperatures (Maximum, Minimum & Mean) and their anomalies.

Table 5: November 2024 Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	856.9	1531.5	13.3	20.3	6.3	6.4	12.2	4.0
	857.8	1540.5	13.0	19.6	6.5	4.7	26.8	3.8
Peshawar	978.1	1016.2	18.7	26.1	11.2	15.0	7.0	1.0
	974.1	1015.8	17.9	26.2	9.5	11.3	11.4	2.3
Parachinar	831.9	1541.6	16.6	23.5	9.8	8.8	13.0	2.0
	830.5	1531.4	11.1	18.5	3.8	5.1	16.5	3.3
Rawalpindi	958.0	1016.1	19.0	25.1	12.8	12.2	0.0	0.0
	957.2	1015.8	16.9	25.9	7.9	10.6	15.6	2.6
Sargodha	993.0	1014.3	21.5	27.5	15.4	18.1	0.0	0.0
	993.5	1015.3	19.2	27.9	10.6	13.5	6.7	1.4
Jhelum	987.2	1014.4	19.5	26.1	12.7	16.4	0.0	0.0
	987.8	1015.0	19.0	27.7	10.4	12.9	10.0	1.7
Sialkot	985.3	1014.8	19.3	26.0	12.6	18.2	0.0	0.0
	985.7	1015.3	18.0	26.1	9.9	13.5	9.5	1.6
Zhob	859.8	1502.5	17.8	25.7	9.9	6.7	11.0	1.0
	860.9	1511.8	14.0	22.4	6.0	5.9	3.5	0.3
D.I.Khan	994.3	1014.2	21.5	27.7	15.3	17.8	3.0	1.0
	986.6	1014.7	19.4	28.0	10.7	13.1	2.2	0.8
Lahore	989.9	1014.7	21.2	26.9	15.5	17.6	0.0	0.0
	990.0	1014.9	20.1	27.7	12.4	13.6	6.5	1.8
Quetta	846.5	1554.4	13.9	22.0	5.8	5.2	5.0	1.0
	844.6	1534.9	9.9	19.7	0.1	5.1	4.5	1.3
Multan	999.7	1014.0	22.0	27.7	16.2	18.5	0.0	0.0
	1000.8	1015.3	20.1	28.8	11.4	13.9	2.3	0.8
Barkhan	892.9	1519.3	20.0	27.0	13.0	8.3	17.0	2.0
	893.6	1520.8	17.4	24.3	10.5	6.9	5.0	0.4
Nokkundi	936.3	1011.7	23.1	31.4	14.9	6.3	0.0	0.0
	938.7	1015.4	18.8	27.3	10.3	7.4	0.3	0.3
Dalbandin	920.8	1534.0	20.6	29.5	11.7	8.1	0.0	0.0
	921.6	1530.9	16.2	24.8	5.1	5.5	0.4	0.3
Jacobabad	1007.2	1013.6	24.6	30.2	18.9	21.6	6.0	1.0
	1008.0	1014.6	22.2	30.2	14.1	13.4	1.3	0.1
Khanpur	1003.5	1013.7	23.5	30.7	16.3	20.0	0.0	0.0
	1004.1	1014.4	20.1	29.7	10.5	13.2	0.5	0.3
Panjgur	906.8	1536.9	21.8	29.6	13.9	10.0	0.0	0.0
	907.7	1529.5	17.1	25.1	9.0	4.3	1.9	0.3
Khuzdar	880.3	1532.1	20.2	28.0	12.4	6.7	54.3	1.0
	879.4	1511.0	16.6	25.0	8.3	3.2	5.1	0.3
Sh. Benazirabad	1010.1	1013.5	26.8	34.8	18.7	21.1	0.0	0.0
	1011.1	1015.0	22.1	32.0	12.3	15.0	1.5	0.1
Jiwani	1007.5	1013.9	26.3	31.6	20.9	25.7	0.0	0.0
	1009.2	1014.9	23.8	29.7	17.9	18.2	3.9	0.4
Pasni	1013.4	1014.0	25.5	32.8	18.1	23.2	0.0	0.0
	1013.4	1013.9	23.3	31.0	16.0	17.4	1.0	0.1
Hyderabad	1008.0	1012.9	27.5	33.9	21.0	19.0	0.0	0.0
	1009.9	1014.3	24.8	31.8	17.4	14.1	2.3	0.2
Chhor	1012.7	1013.4	25.4	35.1	15.7	17.9	0.0	0.0
	1013.0	1013.7	22.5	33.5	11.8	12.9	3.6	0.3
Karachi	1010.9	1013.6	27.8	33.6	21.9	23.1	0.0	0.0
	1012.1	1014.4	24.2	32.2	16.3	14.8	0.9	0.2

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

Table 6: November 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	18.2	04*	9.2	29	33.3	03	8.5	24	12.4	08	8.0	04*
Peshawar	23.0	01*	11.9	29	38.0	01	14.2	25	25.0	06	10.0	05
Parachinar	22.5	01	8.0	29	32.5	01*	8.0	21*	8.0	08	6.0	06*
Rawalpindi	22.6	06	15.4	27	34.1	02	15.1	27	49.0	06	16.0	29
Sargodha	26.2	01	17.8	29	37.8	01	17.5	31	1.0	06	12.0	05
Jhelum	23.2	01*	15.4	29	37.0	02	16.9	25	35.0	06	10.0	05
Sialkot	24.4	01	15.5	23*	34.5	02*	15.5	25	23.0	06	6.0	05
Zhob	23.0	07	12.0	30	34.5	03	13.0	25*	4.0	08	6.0	01*
D.I.Khan	27.3	01	17.5	29	39.5	01	19.5	15	0.0	00	6.0	07
Lahore	25.9	01	18.6	29	37.0	02*	19.5	25	6.8	06	16.0	05
Quetta	19.0	06	10.5	17*	31.0	04	6.5	31	2.0	08	20.0	02*
Multan	27.4	01	18.9	29	40.8	02	19.7	31	0.0	00	8.0	01*
Barkhan	25.0	07	15.5	30	36.0	04	16.5	10*	3.0	01	4.0	01*
Nokkundi	28.5	06	19.5	24*	40.5	04*	16.0	30	0.0	00	12.0	06*
Dalbandin	26.5	06	17.0	16	40.0	05	15.0	29*	0.0	00	8.0	07
Jacobabad	28.5	02	20.3	30	40.0	27	22.0	13*	0.0	00	15.0	07
Khanpur	28.2	01	20.8	25	40.2	01*	19.0	14	0.2	21	6.0	01
Panjgur	26.3	06	14.5	25	37.5	03*	14.5	29*	0.0	00	12.0	03
Khuzdar	23.8	08	17.0	30	35.5	02*	14.5	29*	1.0	08	8.0	02*
Sh.Benazirabad	30.8	01	22.5	30	42.5	27	21.0	24*	0.0	00	10.0	04*
Jiwani	28.3	03	24.5	26	36.0	28	20.0	08	0.0	00	12.0	15
Pasni	27.8	02	23.5	30	39.5	17*	20.0	30	0.0	00	14.0	01
Hyderabad	31.3	02	23.5	30	41.5	26	23.0	24	0.0	00	22.0	02
Chhor	29.7	02	21.5	30	40.5	08*	19.0	25	0.0	00	12.0	03*
Karachi	31.2	01	25.9	27	39.9	09	23.5	24*	11.0	12	12.0	01*

* 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).

Contact

Director, Climate Data Processing Centre, Pakistan Meteorological Dept
 Meteorological Complex, Gulistan e Jauhar, Block #5, Karachi-75290
 Webpage: <http://www.pmd.gov.pk/cdpc/home.htm>; Email: info.cdpc@pmd.gov.pk

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