



Pakistan's Monthly Climate Summary November 2022

In brief

- National rainfall for the month of November 2022 was largely above average (+145%).
- November 2022 rainfall was largely above average in all regions except Sindh where it remained below average.
- The wettest day of the month in the country was 8th November when Panjgur (Balochistan) recorded 44.0 mm rainfall. Whereas, Kalam proved to be the wettest place during the month with highest monthly total rainfall of 132.4 mm.
- The national mean monthly temperature of November 2022 for Pakistan as a whole was 18.86 °C, being **1.22 °C warmer** than average of 17.63 °C.
- Daytime (maximum) temperature at country-level was 26.07 °C, being **0.14 °C Warmer** than the country-average of 25.93 °C.
- Nighttime (minimum) temperature was 11.65 °C, being **2.32 °C warmer** than the country-average of 9.33 °C. It is the 4th highest nighttime (minimum) temperature (record is 12.31°C in 2011) in past 62 years
- The hottest day of the month was at Mithi (Sindh) when it recorded 40.5 °C temperature on 2nd November 2022.
- The coldest temperatures of -8.0 °C of the month was recorded at Skardu (GB) on 24th November 2022.
- The Indian Ocean Dipole (IOD) remained in negative phase during the month.
- The La Niña conditions have been persisting through almost 3rd year, one of the rare phenomena, being described as a Triple-dip La Niña and is likely to prevail through this winter.

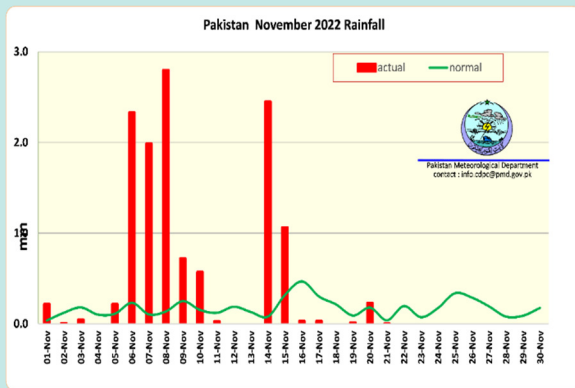
National weather extremes during November 2022

Hottest day	40.5 °C	at Mithi (Sindh) on the 2 nd
Coldest day	2.5 °C	at Malam Jabba (KP) on the 14 th
Coldest night	-8.0 °C	at Skardu (GB) on the 24 th
Warmest night	24.0 °C	at Karachi Airport (Sindh) on the 2 nd & 3 rd
Wettest day	44.0 mm	at Panjgur (Balochistan) on the 8 th
Wettest month	132.4 mm	at Kalam (KP)

Synoptic Summary

November is the month when the dry continental winds predominantly set up across Pakistan. However, a westerly trough of low prevailed from beginning of the month until 16th over upper Khyber Pakhtunkhwa (KP), adjoining Gilgit-Baltistan (GB) and Kashmir. Meanwhile, a low-pressure area formed over upper Sindh & adjoining areas on 4th November and persisted until 8 November. While, another low-pressure area formed over west Balochistan during this period which consequently yielded light to moderate rainfall in upper Sindh, Karachi division and Balochistan on 7- 8 November. Then from 17 November until the month end, dry continental air prevailed over the country.

Rainfall: Largely Above average in most parts of the country



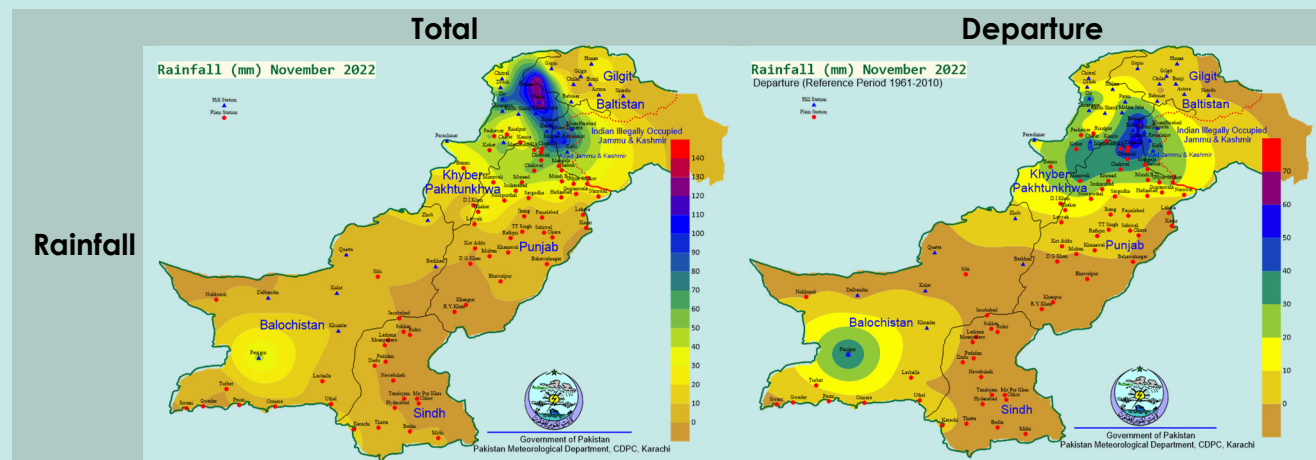
New weather Record Set in Nov 2022

S No	STATION	Weather Parameter	New Record		Old Record	
			Value	date	Value	Date
1	Jacobabad	Hottest Night temperature (°C)	22.0	03/2022	21.5	06/2011
2	Kalat	Hottest Night temperature (°C)	9.0	03/2022	8.0	22/2019
3	Larkana	Hottest Night temperature (°C)	22.5	02/2022	22.5	09/2006
4	Mirpur Khas	Hottest Day temperature (°C)	37.0	02/2022	37.0	02/2019
5	Mithi	Hottest Day temperature (°C)	40.5	03/2022	39.5	05/2007
6	Nawabshah	Hottest Night temperature (°C)	22.5	07/2022	22.0	01/2019
7	Panjgur	Wettest Monthly rain (mm)	44.0	2022	37.5	1997
		Heaviest Rainfall in 24 hours (mm)	44.0	08/2022	27.8	24/1997
8	Bunji	Hottest Night temperature (°C)	13.9	01/2022	13.9	01/2018
9	Peshawar A/P	Hottest Night temperature (°C)	18.5	01/2022	17.0	03/2006

The November 2022 brought three light to moderate rain spells in Punjab and four in KP & GB/AJK. Whereas, two light-rain spells observed in Balochistan and lower Sindh observed only one-day light rain event. Climatologically, November is a less-average rainy month contributing 19.5% and 1.7% to the post monsoon (OND) and annual rainfall respectively. However, with +145% deviation, the November 2022 happened to be a largely above-average rainy month (8th highest rainfall in past 62 years, whereas record is 31.4 mm in 2019) for Pakistan with 12.7 mm area-weighted rain against 5.2 mm monthly average. The situation was almost similar on regional scale too. Balochistan (7.4 mm/189%), Punjab (11.2/167%), KP (43.3 mm/146%), GB (9.8 mm/127%) and AJK (49.9 mm/126%) all witnessed largely above-average rainfall. Sindh with (0.9 mm/-45%) was the only region recording below-average rainfall during the month.

The wettest day of the month in the country was 8th November when Panjgur (Balochistan) which recorded 44.0 mm rainfall and set up a new record of heaviest rainfall in 24 hours & wettest month total at the station, while Kalam proved to be wettest place with a total of 132.4 mm.

November 2022 Rainfall maps



The other significant monthly-total rains were at Murree 95.0 mm, Garhi Dupatta 77.8 mm, Muzaffarabad Airport 100.8 mm, Muzaffarabad City 79.6 mm, Rawalakot 101.5 mm, Balakot 100.0 mm, Dir 91.0 mm, Malam Jabba 91.0 mm and Pattan 130.5 mm. The stations: Kot Addu, Rahim Yar Khan, Badin, Chhor, Hyderabad, Jacobabad, Larkana, Mithi, Sh.Benazirabad, Padidan, Rohri, Sukkur, MoenJo Daro, Dadu, Mirpurkhas, Tando Jam, Sakrand, Khairpur, Barkhan, Gwadar, Jiwani, Nokkundi and Pasni remained dry with no rain during the month. Whereas, D.G.Khan, Kasur, Khanpur, Toba Tek Singh, Dalbandin and Sibbi, reported only traces of rainfall.

November, 2022 Area-Weighted Rainfall

	Rank (of 62)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	55	5.2	12.7	145	8th highest (record 31.4 mm in 2019)
Azad Jammu & Kashmir	55	22.1	49.9	126	8th highest (record 122.8 mm in 2019)
Balochistan	56	2.6	7.4	189	7th highest (record 25.8 mm in 2019)
Gilgit Baltistan	53	4.3	9.8	127	10th highest (record 41.5 mm in 1986)
Khyber Pakhtunkhwa	56	17.6	43.3	146	7th highest (record 64.7 mm in 2020)
Punjab	56	4.2	11.2	167	7th highest (record 22.5 mm in 1982)
Sindh	45	1.6	0.9	-45	----

[RANK RANGES FROM 1 (LOWEST) TO 62 (HIGHEST)]

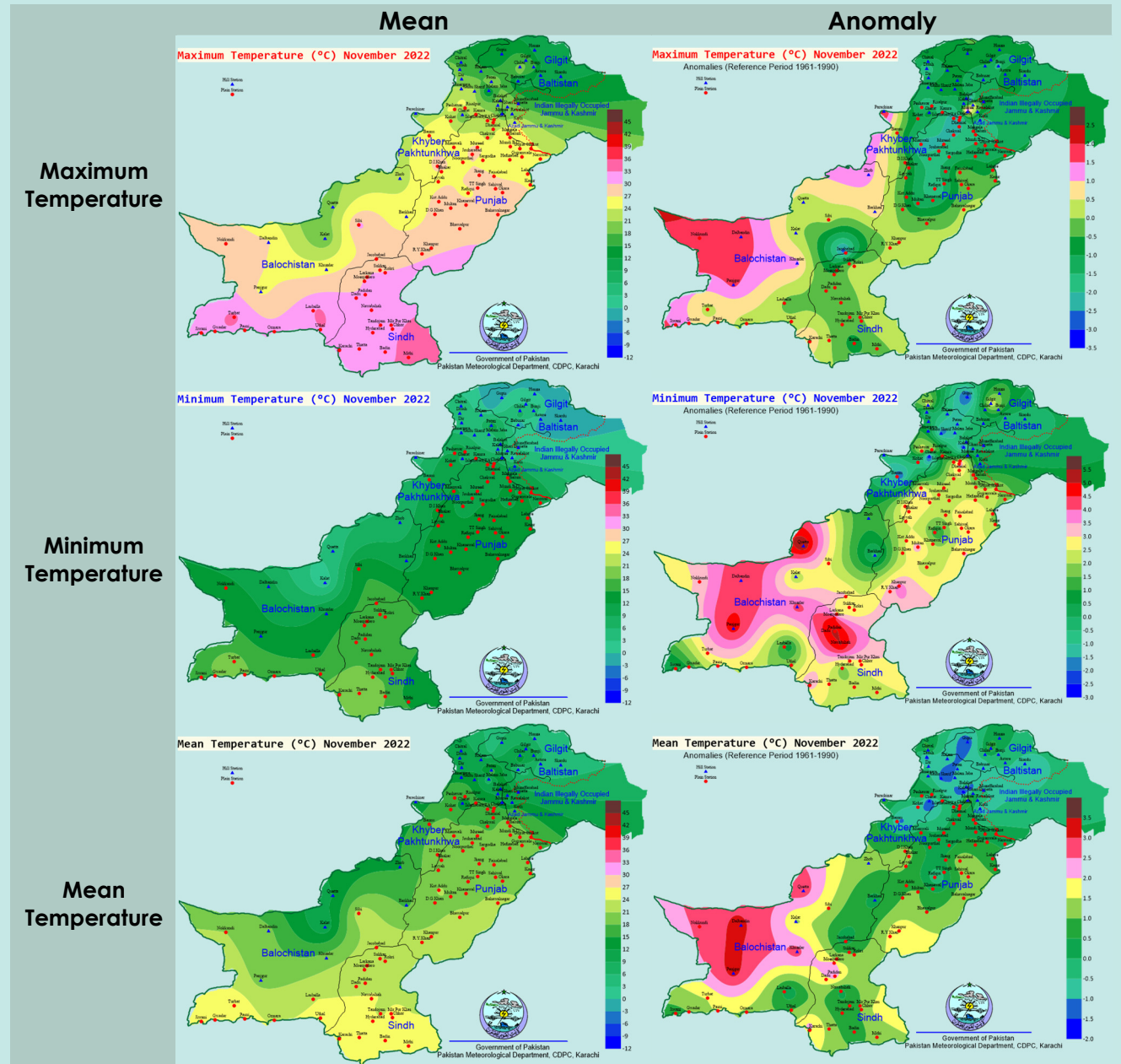
Temperatures: **Warmer** than average temperatures observed over the country.

The November 2022 **1.22 °C warmer** than average with national mean monthly temperature of 18.86 °C against the average 17.63 °C. Similarly on regional scale, Balochistan with 19.56 °C (**+1.99 °C**), Sindh 24.26 °C (**+1.44 °C**) and Punjab 20.05 °C (**+0.91 °C**) all recorded **warmer** than average temperatures. Whereas AJK with 11.06 (**-0.59 °C**), GB 7.66 °C (**-0.47 °C**) and KP 14.79 °C (**-0.14 °C**) recorded **cooler** than average temperature.

November 2022 mean maximum (daytime) temperature of 26.07 °C recorded at country-level being **+0.14 °C slightly warmer** than average of 25.93 °C. The average night (minimum) temperature of 11.65 °C was also **+2.32 °C warmer** than the country-average of 9.33 °C during the month. The mean temperature anomalies of November 2022 range between -2.0

to +3.2 °C in the country. The Mean Minimum temperature anomalies were -2.7 to +5.5 °C in the country with minimum temperature anomalies over upper Sindh, South Punjab, and Central parts of Balochistan were considerably higher. The hottest day of the month was at Mithi (Sindh) when it recorded 40.5° C temperature on 2nd November, which has also been the warmest place with 35.2 °C average maximum temperature during the month. Skardu recorded the month's coldest temperature (-8.0 °C) on 24th November and incidentally has also been the coolest place with -2.2 °C average minimum temperature.

November 2022 Temperature maps



November 2022 Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	857.7	1539.1	11.4	17.2	5.5	7.4	38.6	8
	857.8	1540.5	13.0	19.6	6.5	4.7	26.8	3.8
Peshawar	978.9	1017.2	16.7	24.5	8.9	13.9	51.0	4
	974.1	1015.8	17.9	26.2	9.5	11.3	11.4	2.3
Parachinar	831.1	1536.8	12.2	20.0	4.4	7.4	38.0	7
	830.5	1531.4	11.1	18.5	3.8	5.1	16.5	3.3
Rawalpindi	958.3	1016.8	17.0	23.0	11.0	11.4	65.5	5
	957.2	1015.8	16.9	25.9	7.9	10.6	15.6	2.6
Sargodha	993.3	1014.7	20.2	27.2	13.1	16.0	18.0	2
	993.5	1015.3	19.2	27.9	10.6	13.5	6.7	1.4
Jhelum	987.4	1014.7	18.8	26.0	11.5	14.8	37.7	3
	987.8	1015.0	19.0	27.7	10.4	12.9	10.0	1.7
Sialkot	985.4	1015.1	18.3	24.6	11.8	15.3	32.0	4
	985.7	1015.3	18.0	26.1	9.9	13.5	9.5	1.6
Zhob	860.2	1505.8	14.8	22.6	6.9	5.4	12.0	3
	860.9	1511.8	14.0	22.4	6.0	5.9	3.5	0.3
D.I.Khan	994.9	1014.9	20.5	27.5	13.4	16.1	17.0	3
	986.6	1014.7	19.4	28.0	10.7	13.1	2.2	0.8
Lahore	990.1	1015.0	20.3	26.5	14.0	14.7	1.9	1
	990.0	1014.9	20.1	27.7	12.4	13.6	6.5	1.8
Quetta	846.2	1552.0	12.0	19.4	4.6	5.1	4.0	2
	844.6	1534.9	9.9	19.7	0.1	5.1	4.5	1.3
Multan	1000.3	1014.6	20.8	27.3	14.2	15.7	1.4	1
	1000.8	1015.3	20.1	28.8	11.4	13.9	2.3	0.8
Barkhan	892.9	1515.7	17.6	25.1	10.1	7.6	0.0	0
	893.6	1520.8	17.4	24.3	10.5	6.9	5.0	0.4
Nokkundi	937.2	1013.3	21.0	28.9	13.1	6.1	0.0	0
	938.7	1015.4	18.8	27.3	10.3	7.4	0.3	0.3
Dalbandin	921.6	1531.8	18.7	27.2	10.2	6.5	0.0	0
	921.6	1530.9	16.2	24.8	5.1	5.5	0.4	0.3
Jacobabad	1007.9	1014.4	22.3	27.3	17.2	18.7	0.0	0
	1008.0	1014.6	22.2	30.2	14.1	13.4	1.3	0.1
Khanpur	1003.8	1014.2	21.7	29.5	13.8	17.1	0.0	0
	1004.1	1014.4	20.1	29.7	10.5	13.2	0.5	0.3
Panjgur	906.6	1530.3	19.8	26.4	13.2	10.1	44.0	1
	907.7	1529.5	17.1	25.1	9.0	4.3	1.9	0.3
Khuzdar	880.4	1533.0	19.5	26.1	12.8	9.8	9.4	2
	879.4	1511.0	16.6	25.0	8.3	3.2	5.1	0.3
Sh. Benazirabad	1010.8	1014.1	24.3	31.2	17.2	19.3	0.0	0
	1011.1	1015.0	22.1	32.0	12.3	15.0	1.5	0.1
Jiwani	1007.8	1014.3	24.5	30.9	18.1	21.9	0.0	0
	1009.2	1014.9	23.8	29.7	17.9	18.2	3.9	0.4
Pasni	1014.0	1014.6	24.9	31.4	18.4	21.0	0.0	0
	1013.4	1013.9	23.3	31.0	16.0	17.4	1.0	0.1
Hyderabad	1008.9	1013.8	25.3	31.5	19.0	16.8	0.0	0
	1009.9	1014.3	24.8	31.8	17.4	14.1	2.3	0.2
Chhor	1013.0	1013.7	24.1	33.4	14.7	18.0	0.0	0
	1013.0	1013.7	22.5	33.5	11.8	12.9	3.6	0.3
Karachi	1011.5	1014.2	26.1	32.8	19.3	20.8	2.6	1
	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

November 2022 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	16.5	1	7.3	14	23.6	3	2.4	16	7.6	5	14	24
Peshawar	23.4	1	13.9	13	31.5	3	4.5	24	26.0	5	4	5*
Parachinar	16.5	1	7.5	19	25.0	1	0.5	23	10.0	20	6	16*
Rawalpindi	22.6	1	13.2	14	29.3	2	7.5	24	25.0	7	18	5
Sargodha	25.3	3*	16.9	14	32.3	3	9.3	28	14.0	14	6	5*
Jhelum	24.6	1	16.1	29	32.0	1*	7.0	25	24.0	6	6	5*
Sialkot	22.9	1*	15.7	14*	30.5	4	8.0	25	17.0	6	4	6
Zhob	19.0	1*	11.8	20	27.5	24	1.0	12	5.0	8*	7	4*
D.I.Khan	25.0	3	17.8	14	32.5	3	9.5	26	8.0	7*	6	14
Lahore	25.0	3	17.0	29	31.5	3	9.5	29*	1.2	14	8	20
Quetta	19.3	2	8.5	26	26.5	2	-0.5	26	3.0	9	22	13
Multan	25.6	3	17.7	30	31.3	3	10.0	30	1.2	15	8	1*
Barkhan	23.5	3	15.0	15	31.5	3	6.5	27	0.0	0	4	6*
Nokkundi	27.0	1	16.0	23	35.5	1	6.5	23	0.0	0	10	21
Dalbandin	25.3	1	14.0	23	35.0	1	4.0	27	0.0	0	8	5*
Jacobabad	27.0	1*	18.8	30	32.0	1*	13.0	29	0.0	0	12	6*
Khanpur	26.7	3	17.9	29	34.5	3*	9.1	30	0.0	0	6	6*
Panjgur	25.0	1	16.0	29	33.0	1	8.5	29	44.0	8	20	3
Khuzdar	22.8	2*	16.5	27*	29.0	2*	9.0	27*	5.8	9	6	6
Sh.Benazirabad	29.3	4*	20.2	29	38.0	4	13.0	28*	0.0	0	12	6
Jiwani	26.3	1	22.5	30	32.5	24	14.0	24*	0.0	0	12	13
Pasni	27.5	12	22.5	26*	34.5	12	15.0	30	0.0	0	16	22
Hyderabad	29.3	2*	21.1	18	38.2	5	13.3	24	0.0	0	14	2
Chhor	28.8	4*	20.3	29	37.0	2*	9.0	26*	0.0	0	4	3*
Karachi	29.5	2	22.5	30	36.3	5	13.5	30	2.6	8	10	13*

* 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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