



Pakistan's Monthly Climate Summary December 2022

In brief

- National rainfall for the month of December 2022 was largely below average (-64%).
- December 2022 rainfall was largely below average in all regions.
- The wettest day of the month in the country was 29th December when Turbat (Balochistan) recorded 34.2 mm rainfall, and which has also proved to be the wettest place with monthly total rainfall of 44.2 mm.
- The national mean monthly temperature of December 2022 for Pakistan as a whole was 13.70 °C, being 1.18 °C warmer than average of 12.52 °C.
- Daytime (maximum) temperature at country-level was 21.35 °C, being 1.1 °C Warmer than the country-average of 20.24 °C.
- Nighttime (minimum) temperature was 6.05 °C, being 1.22 °C warmer than the country-average of 4.83 °C.
- The hottest day of the month was at Mithi (Sindh) when it recorded 35.0 °C temperature on 18th December 2022, which has also been found the warmest place with 30.2 °C mean monthly maximum temperature.
- The coldest temperatures of -11.6 °C of the month was recorded at Skardu (GB) on 25th & 26th December 2022, which has also been found the coolest place with -6.8 °C mean monthly minimum temperature.
- The Indian Ocean Dipole (IOD) has changed to neutral phase during the month.
- The La Niña conditions have been persisting during last three years, one of the rare phenomena, being described as a Triple-dip La Niña and is likely to prevail through this winter.

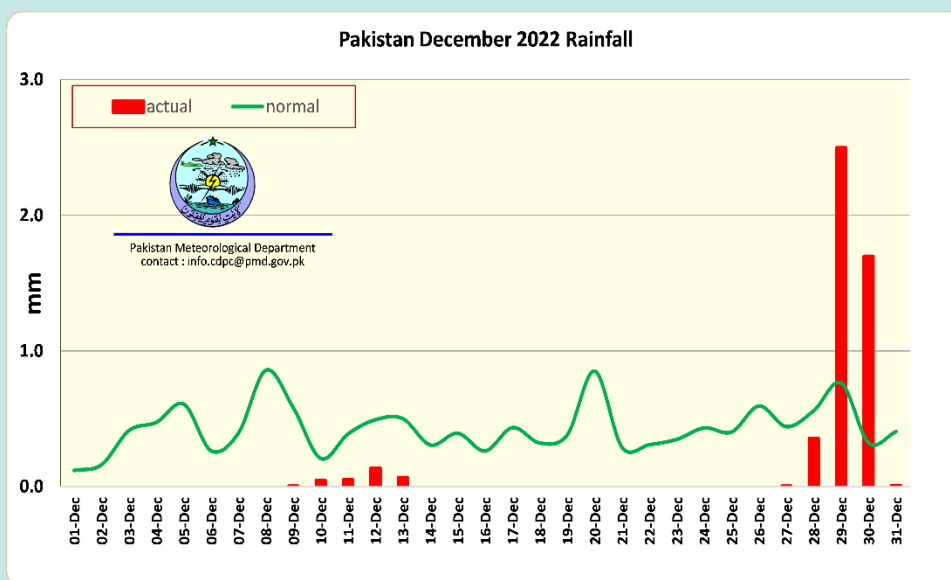
National weather extremes during December 2022

Hottest day	35.0 °C	at Mithi (Sindh) on the 18 th
Coldest day	2.5 °C	at Hunza (GB) on the 29 th & 30 th
Coldest night	-11.6 °C	at Skardu (GB) on the 25 th & 26 th
Warmest night	18.0 °C	at Karachi Airport & Thatta (Sindh) on the 14 th & 12 th respectively.
Wettest day	34.2 mm	at Turbat (Balochistan) on the 29 th
Wettest month	44.2 mm	at Turbat (Balochistan)

Synoptic Summary

Generally, the dry continental air remained a pre-dominant feature to prevail over most parts of the country during the month. However, a Westerly Trough prevailed over Gilgit-Baltistan (GB), Upper Khyber Pakhtunkhwa (KP) and Kashmir during 1-4 and 7-13 December. Then after a long dry spell, a significant Westerly Wave entered west Balochistan on 27 December inducing a low-pressure area formation over Balochistan and upper half of the country. This low-pressure area persisted through the following 3 days and yielded widespread light/moderate rainfall in Balochistan, Punjab, KP, and AJK with snowfall over mountains of KP & GB.

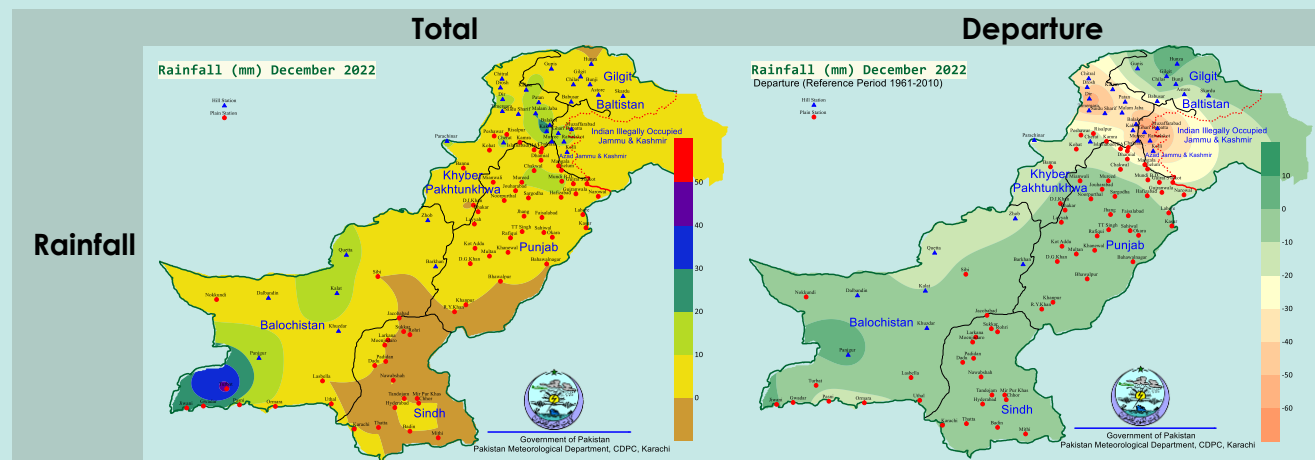
Rainfall: Largely below average in all parts of the country



December 2022 brought only two light to moderate rain spells in Punjab, Balochistan, KP and GB/AJK. Climatologically, December is a less-average rainy month contributing 50% and 4.5% to the post monsoon (OND) and annual rainfall respectively. However, with -64% deviation, the December 2022 happened to be a largely below-average rainy month for Pakistan with only 4.8 mm area-weighted rain against 13.3 mm monthly average. The situation was almost similar on a regional scale too i.e., Sindh with (0.0 mm/-99%), AJK (8.8 mm/-79%), KP (6.6 mm/-78%), Punjab (3.2/-69%), GB (3.5 mm/-67%) and Balochistan (7.2 mm/-44%) all witnessed largely below-average rainfall during the month.

The wettest day of the month in the country was 29th December when Turbat (Balochistan) recorded 34.2 mm rainfall which has also proved to be the wettest place with a total of 44.2 mm.

December 2022 Rainfall maps



The other significant monthly-total rains were at Kakul 24.0 mm, Malamjabba 21.0 mm, Balakot 19.0 mm, Garhi Dupatta 15.5 mm, Rawalakot 15.1 mm, Dir 15.0 mm, Kalat 15.0 mm, Panjgur 15.0 mm and Quetta (Sh Manda) 15.0 mm. The stations: Rahim Yar Khan, Hunza, Chitral, Badin, Chhor, Hyderabad, Karachi, Mithi, Shaheed Banezeerabad, Padidan, Rohri, Sukkur, Moen Jo Daro, Thatta, Dadu, Mirpur Khas, Tando Jam, Sakrand, Khairpur, Jiwani, Lasbela and Zhob. remained dry with no rain during the month. Whereas, Bahawalnagar, Bahawalpur, Khanpur, Bunji, D.I.Khan, Jacobabad, Larkana, Nokkundi and Sibbi reported only traces of rainfall.

December 2022 Area-Weighted Rainfall

	Rank (of 62)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	21	13.3	4.8	-64	----
Azad Jammu & Kashmir	11	41.5	8.8	-79	----
Balochistan	38	12.8	7.2	-44	----
Gilgit Baltistan	25	10.6	3.5	-67	----
Khyber Pakhtunkhwa	12	30.0	6.6	-78	----
Punjab	24	10.2	3.2	-69	----
Sindh	-	3.4	0.0	-99	----

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

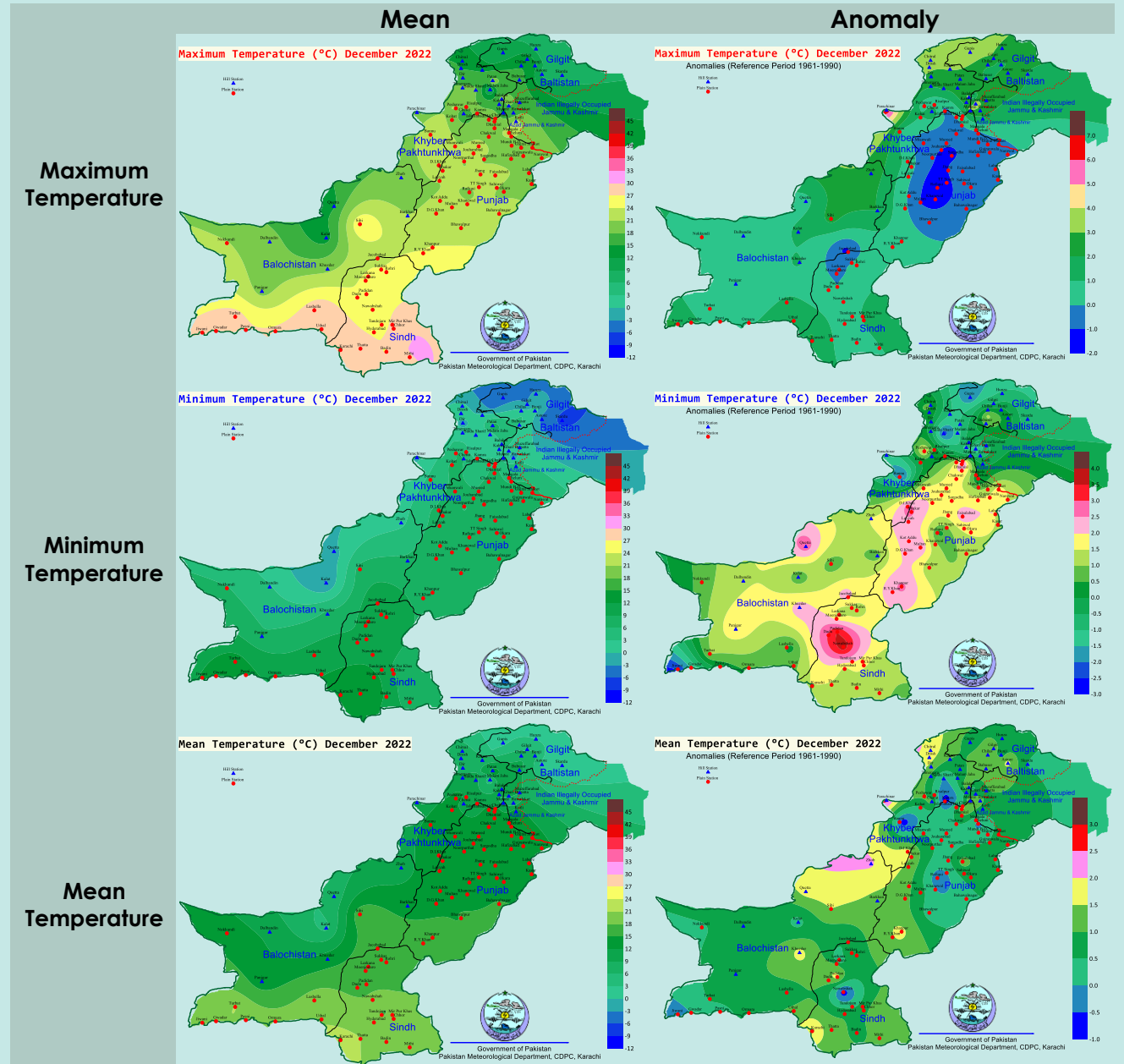
Temperatures: Warmer than average temperatures observed over the country.

December 2022 was 1.18 °C warmer than average with national mean monthly temperature of 13.70 °C against the average 12.52 °C. Similarly on regional scale, Balochistan with 14.09 °C (+1.29 °C), KP 10.9 °C (+1.19 °C), Sindh 18.74 °C (+1.16 °C), AJK 7.65 °C (+0.95 °C), GB 3.45 °C (+0.82 °C), Punjab 14.58 °C (+0.77 °C) all recorded warmer than average temperatures.

December 2022 mean maximum (daytime) temperature of 21.35 °C recorded at country-level being +1.10 °C warmer than average of 20.24 °C. The average night (minimum) temperature of 6.05 °C was also +1.22 °C warmer than the country-average of 4.83 °C during the month. The mean temperature anomalies of December 2022 ranges between -0.9 to

+2.7 °C in the country. The Mean Minimum temperature anomalies were -3.0 to +3.8 °C in the country with minimum temperature anomalies over Sindh and South-west Punjab were considerably higher. The hottest day of the month was at Mithi (Sindh) when it recorded 35.0 °C temperature on 18th December, which has also been the warmest place with 30.2 °C average maximum temperature during the month. PMD weather observing station at Skardu recorded the month's coldest night temperature (-11.6 °C) on 25th & 26th December and incidentally has also been the coolest place with -6.8 °C average minimum temperature.

December 2022 Temperature maps



December 2022 Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	857.3	1534.3	8.3	14.5	2.1	4.2	1.4	0
	858.8	1548.4	7.3	12.2	2.3	4.4	37.7	5.5
Peshawar	979.4	1018.4	12.3	21.2	3.4	10.1	8.0	1
	976.3	1018.7	12.9	20.7	5.1	8.9	16.9	3.5
Parachinar	830.6	1533.2	9.4	19.4	-0.7	4.7	12.0	2
	830.2	1530.6	6.4	13.4	-0.3	4.4	28.6	3.7
Rawalpindi	958.6	1018.0	13.3	20.2	6.4	8.4	7.5	1
	942.8	1019.0	12.0	20.0	4.0	8.3	31.2	4.5
Sargodha	994.4	1016.4	14.9	21.8	8.0	12.6	7.0	1
	996.0	1018.3	13.9	22.0	5.6	10.6	9.5	3.4
Jhelum	988.2	1016.0	13.4	21.2	5.6	11.4	9.0	1
	990.1	1017.9	13.9	21.5	6.3	10.3	26.6	4
Sialkot	986.5	1016.6	13.4	19.7	7.0	11.8	3.5	1
	987.8	1018.1	12.9	20.2	5.6	10.8	24.0	3.3
Zhob	860.8	1510.2	10.3	18.2	2.3	4.6	0.0	0
	861.3	1515.5	9.1	16.3	1.0	4.8	11.5	0.7
D.I.Khan	996.0	1016.4	15.4	22.6	8.0	12.1	0.0	0
	997.2	1017.9	14.0	22.2	5.7	10.1	8.8	2.3
Lahore	991.5	1016.8	14.9	21.0	8.8	12.0	1.0	1
	992.5	1017.9	14.8	21.9	7.8	10.6	9.9	3.1
Quetta	845.7	1547.5	6.8	13.9	-0.3	4.2	14.0	2
	844.3	1533.5	5.9	14.0	-1.9	5.0	37.5	4.3
Multan	1001.9	1016.5	14.9	21.7	8.0	12.1	4.4	2
	1003.6	1018.4	14.7	23.0	6.3	10.8	2.7	0.9
Barkhan	893.0	1510.4	13.7	21.0	6.4	5.0	1.0	1
	894.3	1521.6	12.6	20.9	6.0	5.5	6.0	0.6
Nokkundi	939.2	1017.4	13.7	21.2	6.2	5.6	0.0	0
	939.8	1018.1	13.4	21.4	5.5	6.1	1.8	0.3
Dalbandin	923.3	1531.9	11.4	19.5	3.2	6.1	5.6	1
	922.5	1527.1	11.6	18.7	1.8	5.8	12.5	0.9
Jacobabad	1010.1	1016.7	16.9	22.8	11.0	14.3	0.0	0
	1011.1	1017.7	16.6	24.3	8.9	10.3	2.9	0.2
Khanpur	1005.6	1016.1	16.1	24.1	8.0	12.8	0.0	0
	1006.9	1017.6	14.9	23.8	5.9	10.3	2.7	0.7
Panjgur	907.0	1521.1	13.1	19.7	6.4	6.9	15.0	2
	907.8	1527.4	12.5	19.8	5.2	3.9	8.9	1
Khuzdar	880.5	1528.0	13.6	20.3	6.9	6.1	8.2	1
	878.7	1510.4	12.1	19.8	4.7	2.9	14.3	1.2
Sh. Benazirabad	1012.6	1015.9	18.7	26.1	11.2	14.0	0.0	0
	1014.0	1018.0	16.9	26.0	7.8	11.8	1.8	0.2
Jiwani	1009.3	1015.9	20.1	27.9	12.2	11.8	23.0	2
	1010.6	1017.1	20.6	26.0	15.1	14.9	23.5	1.4
Pasni	1015.3	1015.8	20.5	27.7	13.2	12.9	3.0	1
	1015.6	1016.3	19.7	26.9	12.9	14.0	19.6	0.9
Hyderabad	1010.4	1015.5	20.3	26.8	13.9	12.3	0.0	0
	1013.0	1017.1	19.7	26.5	13.0	11.2	1.4	0.2
Chhor	1014.2	1014.9	18.7	29.8	7.7	11.7	0.0	0
	1015.7	1016.4	17.7	28.6	6.8	9.9	0.2	0
Karachi	1012.7	1015.4	21.3	29.5	13.2	12.5	0.0	0
	1014.3	1017.1	20.1	27.9	12.2	11.6	3.9	0.6

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

December 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	11.0	1*	5.2	12	18.5	6	-0.7	26	0.6	13	12	15*
Peshawar	15.5	14	6.8	29	27.0	15*	0.0	27*	8.0	30	4	11*
Parachinar	13.0	5	4.0	31	23.5	5	-5.0	31	8.0	30	6	2
Rawalpindi	16.1	10	8.5	24	22.7	1	0.7	24	7.5	30	12	13*
Sargodha	18.1	7	8.5	26	27.0	7	4.7	26	7.0	30	2	2*
Jhelum	18.7	10	7.9	29	26.5	10	3.2	29*	9.0	30	8	11*
Sialkot	18.7	10	8.4	23	24.4	10	5.5	28	3.5	30	4	13*
Zhob	14.3	1	6.0	25	24.0	1	-0.5	25*	0.0	0	9	19
D.I.Khan	18.5	14	8.8	23	27.5	15	4.5	27	0.0	0	12	13
Lahore	18.4	9*	9.7	24	25.5	9*	5.0	27*	1.0	30	8	30
Quetta	11.5	28	2.5	23	18.5	1	-5.5	24	12.0	29	18	29
Multan	17.6	13	9.1	25	25.4	13	3.6	27	2.4	30	8	14*
Barkhan	17.0	8	9.8	31	25.0	1*	1.0	31	1.0	29	4	10*
Nokkundi	18.8	1	9.3	24	26.0	1	2.0	22*	0.0	0	12	23*
Dalbandin	16.3	28	6.5	24	25.0	7	0.0	23*	5.6	29	6	3*
Jacobabad	19.3	8	12.3	24*	25.0	8*	7.5	24	0.0	0	4	24
Khanpur	19.4	8	8.4	25	28.8	1*	2.7	27	0.0	0	6	11*
Panjgur	16.5	7	8.5	23	25.0	7	2.0	23	10.0	29	18	20*
Khuzdar	16.3	1	10.8	25	24.0	1	5.0	25*	7.7	29	8	28
Sh.Benazirabad	21.3	1	15.0	27	30.5	29	8.0	27*	0.0	0	12	10*
Jiwani	23.5	9	16.0	31	31.5	3	8.0	23*	19.0	29	12	28*
Pasni	23.0	1	17.8	25	31.5	2	10.0	25	3.0	12	8	30*
Hyderabad	22.7	8	17.2	26	32.2	8	10.6	23	0.0	0	12	10*
Chhor	21.0	13	15.5	23	33.2	1	4.0	23*	0.0	0	6	13*
Karachi	24.3	14	18.2	25	32.1	7*	9.9	25	0.0	0	12	11

* 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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