



# Pakistan's Monthly Climate Summary September 2022

## In brief

- National rainfall for the month of September 2022 was below average (-21%).
- September 2022 rainfall was below average in all the regions except AJK, where it was slightly above average (+16.5%).
- The wettest day of the month in the country was 5<sup>th</sup> September when Kakul (KP) recorded 92.0mm rainfall which has also proved to be the wettest place during the month with highest monthly total of 229.0mm.
- The monsoon 2022 after producing torrential downpour & devastated floods withdrew from the country from third week of September.
- The national mean monthly temperature of September 2022 for Pakistan as a whole was 28.62 °C, being 0.84°C warmer than average of 27.78 °C.
- Daytime (maximum) temperature at country-level was 34.84 °C, being 0.31 °C Warmer than the country-average of 34.54 °C.
- The nighttime (minimum) temperature was 22.34 °C, being 1.33 °C warmer than the country-average of 21.02 °C.
- The hottest day of the month was at Nokkundi (Balochistan) when it recorded 43.0 °C temperature on 9<sup>th</sup> September 2022.
- Coldest temperature of 5.5 °C of the month were recorded at Kalam (KP) on 18<sup>th</sup> & 22<sup>nd</sup> September 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 Triple-dip La Niña and is likely to prevail through this fall.

## National weather extremes during September 2022

Hottest day	43.0 °C	at Nokkundi (Balochistan) on 9 <sup>th</sup> .
Coldest day	13.0 °C	at Babusar (GB) on the 25 <sup>th</sup>
Coldest night	5.5 °C	at Kalam (KP) on the 18 <sup>th</sup> and 22 <sup>nd</sup>
Warmest night	30.2 °C	at Multan AP (Punjab) on 11 <sup>th</sup>
Wettest day	92.0 mm	at Kakul (KP) on the 5 <sup>th</sup>
Wettest month	229.0 mm	at Kakul (KP)

## New weather Record Set in September 2022

S No	STATION	Weather Parameter	New Record		Old Record	
			Value	date	Value	Date
1	Zhob	Hottest night temperature	26.0	04/09/2022	25.5	01&06/09/2019

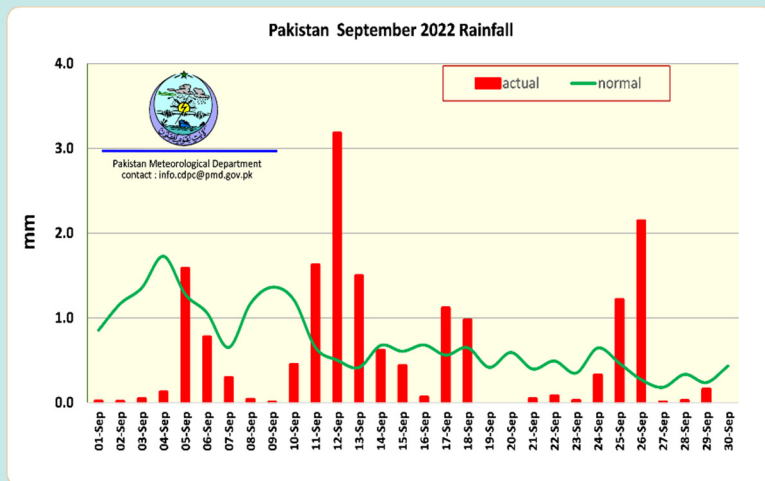
## Synoptic Summary

The Seasonal Low, a predominant synoptic feature, prevailed over west-northwest Balochistan through the entire month. On the other hand, a westerly trough prevailed over Gilgit Baltistan (GB) from 1<sup>st</sup> September, spread over upper Khyber Pakhtunkhwa (KP) and adjoining areas from 4<sup>th</sup> of September and persisted through the month. In addition, a low-pressure area formed over Southern areas of Punjab from the 2<sup>nd</sup> day, which prevailed for the following two days.

Monsoon currents of moderate intensity from the Arabian Sea & Bay of Bengal penetrated into central and upper Parts of the country from 10<sup>th</sup> to 15<sup>th</sup> September with another low-pressure area formed over the Bay of Bengal, which eventually intensified into deep depression and moved towards central India. After weakening into a well-marked low, it prevailed through the following two days with westward extended trough and resultantly yielded some moderate/heavy rainfall-thunderstorms in southeast Sindh and upper parts of the country during 12- 15 Sep. The monsoon withdrew from the country from 3<sup>rd</sup> week of September.

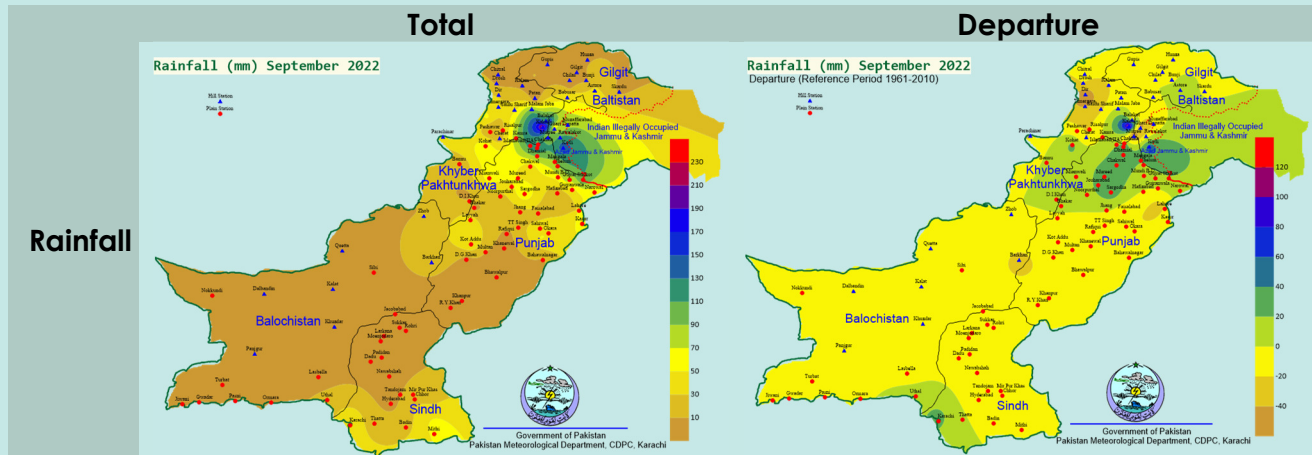
### Rainfall: Below average in most parts of the country.

During September 2022, about four light to moderate rain spells were experienced in Punjab, GB, KP and AJK. Only one rain spell observed in Sindh & Balochistan. Climatologically, September is a less-average rainy month contributing 15% and 7% to the monsoon (JAS) and annual rainfall respectively. However, with (-21%) deviation, the September 2022 happened to be a below-average rainfall month as a whole for Pakistan with 16.8mm area weighted rain keeping in view of 21.4mm average.



The situation was not much different on regional scale too. Balochistan (2.6mm/-59%), Sindh (15.5mm/-22%), Punjab (27.5mm/-21%), GB (7.9mm/-18%) & KP (38.5mm/-16%) all witnessed below-average rainfall, except AJK with (75.7mm/+17%) received slightly above average rainfall during the month.

## September 2022 Rainfall maps



The other significant monthly-total rains were at Muzaffarabad City 166.0mm, Kotli 144.0mm, Muzaffarabad Airport 143.8mm, Islamabad Old Airport 141.0mm, Islamabad Airport 120.8mm, Rawalakot 116.2mm, Sialkot Cantt 111.1mm, Balakot 103.0mm, Sargodha 102.2mm and Islamabad (Zero-Point) 102.0mm. The stations: Bahawalpur, Khanpur, Rahim Yar Khan, Jacobabad, Larkana, Padidan, Rohri, Sukkur, Moen Jo Daro, Dadu, Khairpur, Dalbandin, Gawadar, Jiwani, Kalat, Nokkundi, Panjgur, Pasni, Quetta, Turbat and Ormara remained absolutely dry with no rain during the month. Whereas the stations; Chitral and Sakrand reported only traces of rainfall.

## September, 2022 Area-Weighted Rainfall

	Rank (of 62)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	25	21.4	16.8	-21	----
Azad Jammu & Kashmir	44	64.9	75.7	17	----
Balochistan	22	6.2	2.6	-59	----
Gilgit Baltistan	35	9.7	7.9	-18	----
Khyber Pakhtunkhwa	22	46	38.5	-16	----
Punjab	22	34.7	27.5	-21	----
Sindh	39	19.9	15.5	-22	----

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

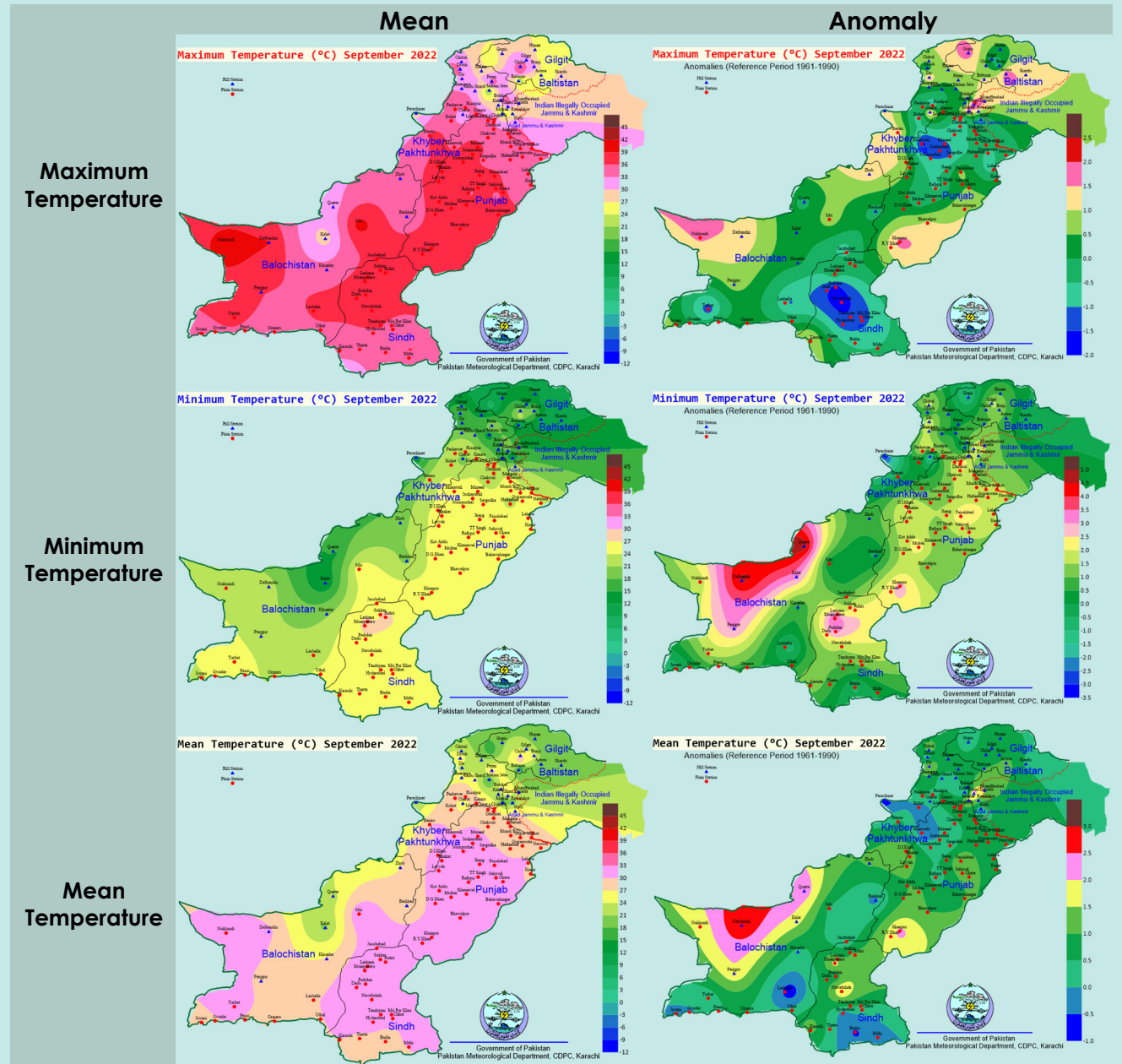
**Temperatures: Warmer than average temperatures observed over the country.**

The national mean monthly temperature of September 2022 for Pakistan as a whole was 28.62 °C, being 0.84 °C warmer than average of 27.78 °C. Similarly on regional scale, AJK recorded 23.31 °C (+0.84 °C), Balochistan 28.59 °C (+1.00 °C), GB 22.27 °C (+0.74 °C), KP 26.39 °C (+0.37°C), Punjab 30.72 °C (+0.91 °C) and Sindh 30.80 °C (+0.45 °C) all recorded warmer than average temperatures.

September 2022 mean maximum (daytime) temperature of 34.84 °C was recorded at country-level being 0.31 °C warmer than average of 34.54°C. The average night (minimum) temperature of 22.34 °C was too 1.33 °C warmer than country-average of 21.02 °C, during

the month. The mean temperature anomalies of September 2022 range between -1.0 to +3.0 °C in the country. The Mean Maximum temperature anomalies were -1.8 to +2.5 °C in the country with maximum temperature anomalies over GB, South Punjab and western Balochistan were considerably higher. The hottest day of the month was at Nokkundi (Balochistan) when it recorded 43.0° C temperature on 9<sup>th</sup> September with Sibbi being the warmest place with 40.2 °C average maximum temperature during the month. The coldest temperature of 5.5 °C of the month was recorded at Kalam (KP) on 18<sup>th</sup> & 22<sup>nd</sup> September and the same was found to be the coolest place with 7.9 °C average minimum temperature during the month.

### September 2022 Temperature maps



## September 2022 Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	849.0	1453.1	25.7	33.1	18.3	14.0	1.4	1
	850.3	1466.6	25.6	33.1	18.2	11.4	21.8	4.8
Peshawar	967.9	1004.1	29.7	36.0	23.4	29.1	5.4	2
	963.7	1003.3	29.0	35.2	22.7	24.0	22.2	4.4
Parachinar	826.1	1479.5	20.5	28.4	12.6	15.7	36.7	4
	825.6	1473.5	20.7	27.2	14.3	13.1	55.4	8.4
Rawalpindi	949.1	1004.8	27.9	32.7	23.1	23.1	141.0	4
	948.3	1004.3	26.6	33.5	20.7	23.1	113.2	8.7
Sargodha	982.9	1003.2	31.1	36.2	25.9	32.0	102.2	5
	983.3	1004.1	30.3	36.3	24.2	26.2	27.7	4.3
Jhelum	977.3	1003.2	29.6	34.9	24.3	30.9	89.8	5
	978.0	1004.0	28.9	34.7	23.1	26.3	74.5	7.1
Sialkot	975.8	1004.1	28.7	33.1	24.2	30.2	111.1	6
	976.1	1004.4	27.9	33.2	22.6	27.4	90.7	6.8
Zhob	854.9	1455.0	27.0	34.2	19.8	11.7	11.0	1
	854.6	1451.4	26.1	33.2	19.1	12.9	11.5	1.2
D.I.Khan	983.6	1002.7	31.7	37.6	25.9	31.4	31.0	1
	983.9	1003.0	30.1	36.5	23.6	26.4	20.8	2.1
Lahore	980.4	1004.2	30.3	34.2	26.3	30.4	27.4	5
	980.0	1003.8	29.8	35.0	24.6	26.4	65.1	6.4
Quetta	840.0	1485.7	23.5	31.2	15.8	7.0	0.0	0
	838.5	1469.6	21.6	31.6	11.7	9.0	2.5	0.4
Multan	989.3	1003.0	32.1	37.0	27.2	28.4	9.6	1
	989.8	1003.4	30.9	36.9	24.9	26.4	24.9	1.7
Barkhan	886.2	1463.4	26.9	33.4	20.3	18.6	18.0	2
	886.4	1465.7	27.1	33.6	20.6	16.5	44.5	3
Nokkundi	927.3	999.8	31.7	39.7	23.6	3.7	0.0	0
	929.4	1002.0	30.1	38.6	22.2	9.4	0.0	0
Dalbandin	912.0	1471.3	30.7	39.1	22.3	7.8	0.0	0
	912.6	1474.4	28.0	37.2	16.5	6.3	0.0	0.1
Jacobabad	996.8	1003.0	31.5	36.2	26.7	33.6	0.0	0
	996.3	1003.2	31.4	36.8	26.0	28.2	11.0	0.4
Khanpur	993.0	1002.8	32.3	38.7	25.8	31.4	0.0	0
	993.4	1003.3	29.8	36.7	22.9	26.7	14.6	1.2
Panjgur	898.8	1472.3	29.2	36.2	22.1	11.0	0.0	0
	899.7	1476.7	27.4	35.4	19.3	8.3	2.5	0.4
Khuzdar	873.0	1466.1	27.3	34.1	20.5	7.8	0.4	0
	872.5	1451.4	26.7	34.2	20.0	6.1	7.9	1.5
Nawabshah	----	----	----	----	----	----	----	----
	1000.3	1004.0	31.2	38.6	23.7	28.1	16.2	1
Jiwani	999.0	1005.3	27.7	32.1	23.3	29.3	0.0	0
	999.3	1005.7	27.8	31.5	24.3	28.2	0.3	0.1
Pasni	1005.0	1005.6	28.7	32.9	24.5	30.3	0.0	0
	1004.2	1004.8	27.4	32.6	23.6	27.5	1.2	0.2
Hyderabad	999.4	1004.2	30.9	35.5	26.2	30.2	2.0	1
	1000.6	1004.2	31.0	36.4	25.3	26.8	12.6	0.8
Chhor	1003.6	1004.3	30.1	34.9	25.3	31.6	24.0	2
	1003.8	996.9	29.8	36.0	23.7	27.3	37.3	1.4
Karachi	1002.6	1005.2	30.2	33.6	26.8	30.8	43.4	2
	1003.2	1005.9	29.1	32.8	25.4	27.8	10.2	0.8

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

## September 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	28.5	8*	23.1	25	36.0	1*	15.0	17	1.4	17	15	27
Peshawar	32.0	3	26.7	5	38.0	3	21.0	25*	4.4	5	8	4
Parachinar	22.3	4*	18.8	25	30.0	3*	10.0	25	25.0	18	4	4*
Rawalpindi	30.8	2	23.9	25	35.8	2	18.4	25	46.0	5	25	11
Sargodha	34.2	9	25.5	11	40.0	9	21.0	26	49.0	11	16	11
Jhelum	32.5	2	23.7	5	38.5	1	20.5	17	49.1	12	6	23
Sialkot	31.9	1	25.2	5	36.0	1	21.7	18	47.0	5	10	5
Zhob	32.0	4	24.0	26	38.0	3*	16.5	13*	11.0	13	9	12
D.I.Khan	33.7	4	27.8	26	40.0	10	22.0	26	31.0	26	4	5*
Lahore	32.5	1	25.5	24	36.8	3	22.8	26	16.0	24	8	5*
Quetta	27.3	10	20.5	28	34.0	10	12.5	24*	0.0	0	18	12*
Multan	34.2	10*	29.8	26	38.7	9	24.3	18	9.2	12	20	11
Barkhan	28.3	3	25.0	26	35.0	3*	18.0	30	12.0	12	6	26
Nokkundi	34.0	10	29.0	30	43.0	9	20.0	30	0.0	0	18	16
Dalbandin	33.8	9	27.8	28	42.0	10	19.0	25*	0.0	0	10	12
Jacobabad	33.0	10*	30.3	26*	39.0	10*	25.5	30	0.0	0	6	12
Khanpur	34.4	11	30.5	28	40.8	9*	23.3	29	0.0	0	12	17*
Panjgur	31.3	11	26.5	29*	38.5	11	19.0	26	0.0	0	16	24
Khuzdar	28.5	1	26.3	23	36.0	1	19.5	18*	0.4	13	4	6*
Nawabshah	---	---	---	---	---	---	---	---	---	---	---	---
Jiwani	29.0	11	26.3	30	34.0	10*	21.0	30	0.0	0	12	20*
Pasni	30.8	10	27.8	28*	36.5	10	23.5	25*	0.0	0	16	23
Hyderabad	34.5	10	29.6	30	39.4	10	24.4	30	2.0	14	18	17
Chhor	33.3	9*	28.5	24	40.5	9	23.3	29	22.0	12	16	11
Karachi	34.5	10	28.8	23	40.5	10	24.5	13	34.2	13	16	4

\* 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

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