



Pakistan's Monthly Climate Summary November, 2020

Overview

- National rainfall for the month of November was 168% above normal.
- November 2020 ranked as 7th wettest month on record since 1961.
- KP (+285%), AJK (+182%), Punjab (+100%) and Balochistan (+135%) recorded excessive rainfall of the month.
- KP, AJK, Punjab and Balochistan rainfall of November 2020 ranked as ever, 4th, 10th and 12th highest rainfall respectively during 60 years period.
- Two stations had their wettest November month on record and seven had their wettest November day on record.
- The wettest place of the month in the country was Malam Jabba in KP (180 mm).
- The wettest day of the month in country was 15th, when Dir (KP) recorded 86 mm of rain.
- Islamabad (92.8mm) and Karma (98mm) recorded ever highest monthly rainfall of November.
- Pakistan mean temperature was below normal at -1.38 °C.
- Pakistan mean maximum temperature was 2.06 °C lower than average.
- National mean minimum temperature was 0.72 °C cooler than average.
- 2nd and 3rd day of November at Shaheed Benazirabad (Sindh) was hottest day in country with 37.0 °C day temperature.
- Kalam (KP) saw the coldest night of the month in the country with -12.0 °C minimum temperature.
- Karachi recorded 10.5 °C on 29th, the coldest night of November since 2004.

National weather extremes

Hottest day	37.0 °C	at Sh. Benazirabad (Sindh) on the 2 nd & 3 rd
Coldest day	0.0 °C	at Hunza (GB) on the 23 rd
Coldest night	-12.0 °C	at Kalam (KP) on the 21 st
Warmest night	21.5 °C	at Hyderabad (Sindh) on the 7 th
Wettest day	86.0 mm	at DIR (KP) on the 15 th
Wettest month	180.0 mm	at Malam Jabba (KP)

Synoptic Summary

With the start of the month, mainly dry continental air prevailed over the country. On 2nd November, a shallow low-pressure area developed over South Punjab and adjoining upper Sindh which persisted for about a week, till 9th November, 2020. Another low-pressure area was located over Southeast Balochistan and western Sindh during 5-8 November. Then followed the dry continental air until 10th November. On 11th November, a well-marked low

pressure developed over Northeast Afghanistan and adjoining upper KP which shifted next day over KP and weakened gradually. Along with this, there were two shallow lows over Northeast Balochistan and Southeast Sindh which persisted for a weak until the dry Continental air again took over and persisted till 21st November.

On 22nd, a fresh low-pressure area developed over upper KP, prevailed through the following two days and then moved over Kashmir on 24th November. It persisted till 26th November with another low-pressure found located over west Balochistan. The situation remained so until the dry continental air again invaded the country from 27th November 2020 towards the month's end.

November area-weighted rainfall

	Rank (of 60)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	54	5.2	13.8	168.1	7 th highest (record 31.4 mm in 2019)
Azad Jammu & Kashmir	57	21.7	61.1	181.5	4 th highest (record 96.9 mm in 2019)
Balochistan	49	2.6	6.1	134.7	12 th highest (record 25.7 mm in 2019)
Gilgit Baltistan	39	5.1	3.9	-23.3	22 nd highest (record 45.0 mm in 1986)
Khyber Pakhtunkhwa	60	17.6	67.8	285.3	1 st highest (record 64.8 mm in 1986)
Punjab	51	4.2	8.4	100.0	10 th highest (record 22.5 mm in 1982)
Sindh	45	1.6	1.6	0.4	16 th highest (record 25.8 mm in 2019)

Rank ranges from 1 (lowest) to 60 (highest).

Rainfall

During November 2020 two significant rain events occurred and brought significant rain to country, especially to KP, AJK and Balochistan areas. The first spell was during 14-16 while the other was happened during 24-26. The month of November is happened to be driest month in the contrary and its contribution to annual rainfall is very minimal i.e. only 2%. Contrary to its normal feature, the month of November 2020 National rainfall was 168% above normal for Pakistan as a whole and ranked as 7th highest wettest month since 1961.

Seven and two numbers of weather observing sites registered highest ever record of November daily and monthly rainfall totals respectively as a result of these events. Islamabad (92.8 mm) and Karma (98 mm) recorded ever highest monthly rainfall of November. The province of KP experienced exceptionally excessive rainfall of 285% more than average rainfall and stood ever highest rainfall of November in last sixty years. The provinces of AJK (+182%), Punjab (+100%) and Balochistan (+135%) also recorded excessive rainfall of the month and ranked as 4th, 10th and 12th highest rainfall respectively since 1961. The wettest place of the month in the country was Malam Jabba in KP (180 mm). The wettest day of the month in country was 15th, when Dir (KP) recorded 86 mm of rain. Islamabad (92.8mm) and Karma (98mm) recorded ever highest monthly rainfall of November.

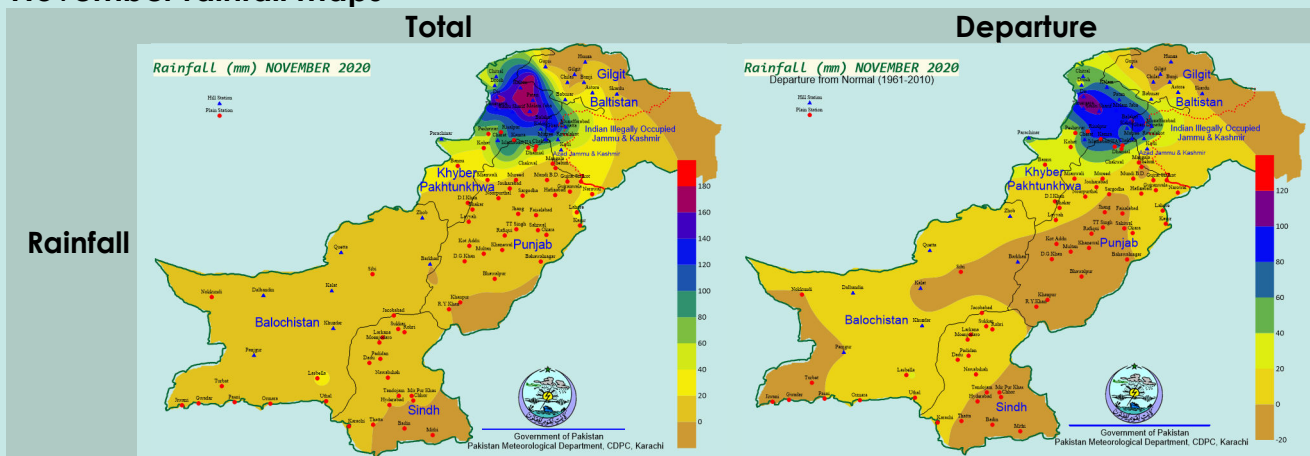
Record highest monthly total rainfall (mm)

SN	Stations	New Record	Normal	Previous Record	Years of record
1	Islamabad zero pt.	92.8	11.9	54.6 in 2009	37
2	Kamra	98.0	17.4	67.6 in 1999	23

Record highest 24-hours rainfall (mm)

SN	Stations	New Records		Previous Record		Years of record
		Amount	Date	Amount	Date	
1	Kamra	65.0	16 November 2020	43.0	02 November 2001	23
2	Okara	11.0	16 November 2020	6.0	15 November 2017	13
3	Gujranwala	15.1	16 November 2020	7.4	08 November 2019	8
4	Lower Dir	86.8	15 November 2020	50.0	13 November 2000	12
5	Kalam	57.0	15 November 2020	51.0	01 November 2018	17
6	Malam Jabba	75.0	15 November 2020	55.0	13 November 2015	17
7	Lasbella	23.0	25 November 2020	18.0	24 November 1989	89

November rainfall maps



Temperatures

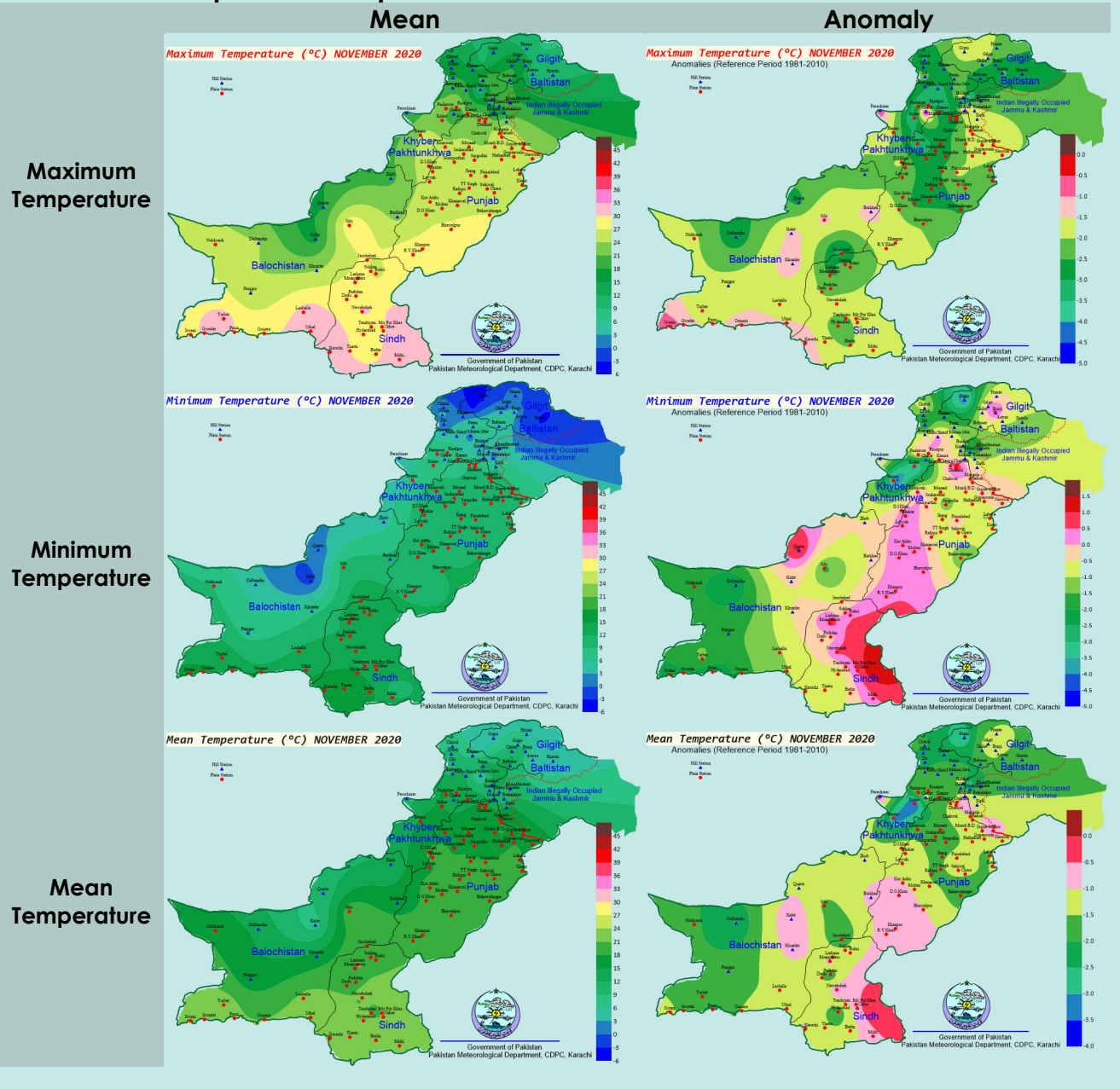
The national mean temperature for Pakistan as a whole was 1.38 °C cooler than average for November. The mean maximum (day) temperature of the country was 2.06 °C lower than average. The night's temperatures (minimum) for November were lower than country average at -0.72 °C.

The monthly mean temperature of all the regions were lower than averages. The mean temperature anomalies of November were -1 to -2 °C over major parts of the country except Southern Punjab and Eastern parts of Sindh where it ranges close to its normal value.

Mean Maximum temperatures were 2-4 °C lower than average over major parts of the country. The mean minimum temperature for the month was around ± 1 °C over major parts

of Sindh, Balochistan & Punjab. 2nd and 3rd day of November at Shaheed Benazirabad (Sindh) was hottest day in country with 37.0 °C day temperature. Kalam (KP) saw the coldest night of the month in the country with -12.0 °C minimum temperature. The city of Karachi recorded 10.5 °C on 29th, the coldest night of November since 2004.

November Temperature maps



November Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	858.0	1541.4	10.2	16.7	4.3	5.0	57.6	5
	857.8	1540.5	12.0	19.6	6.5	4.7	26.8	3.8
Peshawar	980.4	1018.8	15.2	23.3	8.1	12.2	63.7	5
	974.1	1015.8	16.5	26.2	9.5	11.3	11.4	2.3
Parachinar	831.0	1537.0	8.9	17.8	3.3	6.0	65.0	7
	830.5	1531.4	11.7	18.5	3.8	5.1	16.5	3.3
Rawalpindi	959.7	1018.5	15.7	23.1	9.3	10.6	74.6	4
	957.2	1015.8	15.9	25.9	7.9	10.6	15.6	2.6
Sargodha	---	1014.3	18.6	25.7	11.9	14.5	0.2	0
	993.5	1015.3	18.7	27.9	10.6	13.5	6.7	1.4
Jhelum	989.3	1016.6	17.2	25.8	10.2	12.5	6.6	2
	987.8	1015.0	17.7	27.7	10.4	12.9	10.0	1.7
Sialkot	986.9	1016.7	16.6	24.5	10.3	13.1	22.0	1
	985.7	1015.3	17.2	26.1	9.9	13.5	9.5	1.6
Zhob	862.6	1528.2	13.0	20.2	4.9	5.5	11.0	3
	860.9	1511.8	14.4	22.4	6.0	5.9	3.5	0.3
D.I.Khan	996.5	1016.6	18.5	26.0	10.6	14.1	7.0	1
	986.6	1014.7	18.8	28.0	10.7	13.1	2.2	0.8
Lahore	991.7	1016.7	18.8	25.3	12.1	12.5	21.6	1
	990.0	1014.9	19.4	27.7	12.4	13.6	6.5	1.8
Quetta	846.7	1556.4	10.1	17.5	2.2	4.2	13.0	3
	844.6	1534.9	10.3	19.7	0.1	5.1	4.5	1.3
Multan	1002.1	1016.5	19.1	26.0	12.3	13.4	0.6	0
	1000.8	1015.3	19.4	28.8	11.4	13.9	2.3	0.8
Barkhan	894.0	1523.8	16.2	23.3	9.4	5.1	0.0	0
	893.6	1520.8	17.3	24.3	10.5	6.9	5.0	0.4
Nokkundi	939.2	1016.4	17.7	25.8	9.0	3.0	0.0	0
	938.7	1015.4	19.0	27.3	10.3	7.4	0.3	0.3
Dalbandin	923.4	1540.4	15.1	24.1	---	6.5	8.6	2
	921.6	1530.9	16.6	24.8	5.1	5.5	0.4	0.3
Jacobabad	1010.1	1016.6	20.8	27.0	13.6	14.3	3.0	2
	1008.0	1014.6	22.1	30.2	14.1	13.4	1.3	0.1
Khanpur	1005.3	1015.7	19.2	28.0	11.4	14.1	0.0	0
	1004.1	1014.4	20.1	29.7	10.5	13.2	0.5	0.3
Panjgur	906.7	1523.4	16.3	23.9	7.8	6.8	1.0	1
	907.7	1529.5	17.6	25.1	9.0	4.3	1.9	0.3
Khuzdar	880.9	1534.7	16.8	24.0	8.4	5.0	6.0	1
	879.4	1511.0	17.4	25.0	8.3	3.2	5.1	0.3
Nawabshah	1012.9	1016.2	21.3	30.6	13.0	14.1	4.4	1
	1011.1	1015.0	21.7	32.0	12.3	15.0	1.5	0.1
Jiwani	1009.4	1015.9	24.3	29.5	15.8	15.1	2.0	1
	1009.2	1014.9	24.0	29.7	17.9	18.2	3.9	0.4
Pasni	1015.5	1016.1	22.8	29.7	13.5	14.8	0.0	0
	1013.4	1013.9	23.8	31.0	16.0	17.4	1.0	0.1
Hyderabad	1010.2	1015.2	23.2	29.6	16.4	12.9	0.0	0
	1009.9	1014.3	24.5	31.8	17.4	14.1	2.3	0.2
Chhor	1014.5	1015.2	22.5	32.0	13.3	13.5	0.0	0
	1013.0	1013.7	22.7	33.5	11.8	12.9	3.6	0.3
Karachi	1012.9	1015.6	24.0	31.3	15.9	13.4	3.1	1
	1012.1	1014.4	24.3	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

Extreme values of month

STATION	Mean Temperature (°C)				Temperature (°C)				Highest (mm & knots)			
	Highest	Date	Lowest	Date	Highest	Date	Lowest	Date	Rain	Date	Wind Speed	Date
Drosh	15.0	9	5.3	23	24.5	9	0.6	22	35.2	15	14	7*
Peshawar	20.1	1	11.4	25	32.5	1*	4.4	21	42.0	15	4	14
Parachinar	13.6	1	1.6	30	21.5	1	-4.5	30	25.0	15	5	22*
Rawalpindi	20.4	1	11.9	25	30.0	1*	5.8	21	31.2	26	16	14*
Sargodha	22.5	1	15.1	25	32.5	1*	8.0	28	0.2	26	4	16*
Jhelum	20.5	1	14.3	25	32.0	1	6.0	21	5.0	16	6	21*
Sialkot	20.0	2*	13.5	25	29.9	1	7.8	20	22.0	16	4	27
Zhob	17.5	9	6.5	25	27.0	8	-0.5	27	5.0	26	9	14*
D.I.Khan	24.0	2	14.3	25	34.0	1*	7.0	22	7.0	15	4	2*
Lahore	22.4	2	15.6	22	30.5	2*	8.1	22	21.6	16	8	15
Quetta	16.0	13	4.5	16	23.5	7*	-3.0	26	7.0	15	18	18*
Multan	23.1	2	15.6	24*	31.5	3	7.9	28	0.6	25	8	8*
Barkhan	20.3	8	10.9	24	28.5	2*	6.0	27	0.0	0	6	15
Nokkundi	22.8	12	12.5	26	32.0	12	1.0	30	0.0	0	12	4
Dalbandin	20.8	13	9.5	16	31.5	8	1.0	27	7.6	15	6	19*
Jacobabad	24.0	7	16.3	24	32.0	2*	9.0	28	2.0	25	4	15
Khanpur	23.3	1	15.4	24	34.5	1	6.5	28	0.0	0	12	24
Panjgur	20.5	13	11.5	20	29.0	6*	4.0	26*	1.0	15	20	15
Khuzdar	22.0	9	9.6	24	29.5	3	4.0	26	6.0	25	6	15*
Nawabshah	25.9	9	16.4	25	37.0	3*	9.0	25*	4.4	25	12	24*
Jiwani	26.6	1	22.1	26	33.0	1*	12.5	17*	2.0	25	12	4*
Pasni	25.8	1	20.1	29	33.5	4	10.0	22	0.0	0	25	15
Hyderabad	27.6	2	17.4	25	35.5	3	11.5	25	0.0	0	24	24
Chhor	25.6	6	19.1	25	36.3	1	9.0	29	0.0	0	12	26
Karachi	26.8	6	19.0	25	35.6	9	10.5	29	3.1	25	18	26*

* 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 Pakistan weather events occurred in Pakistan during the month. The summary contains detail 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 results contained above 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 while normal period for temperature is 1981-2010.

Contact

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