In brief

- National rainfall for the month of May 2023 was excessively above average (+127%) and stands 2nd wettest rainfall in May during past 63 years (the record is 34.30 mm in 1987).
- The wettest day of the month in the country was 5th May when Hafizabad (Punjab) recorded 80.0 mm rainfall, whereas Malam Jabba (KP) was the wettest place with monthly total rainfall of 185.0 mm.
- The national mean monthly temperature of May 2023 for Pakistan was 28.23 °C, being -0.71 °C cooler than average of 28.94 °C.
- Daytime (maximum) temperature at country-level was 35.28 °C, being -0.98 °C cooler than the country-average of 36.26 °C.
- Nighttime (minimum) temperature seen no departure (21.12 °C) from the country-average of 21.12 °C.
- The hottest day of the month was at Jacobabad (Sindh) when it recorded 49.0 °C temperature on 21st May 2023, whereas Shaheed Benazirabad being the warmest place with 42.7 °C mean monthly maximum temperature.
- The coldest temperature (0.0°C) of the month was recorded at Kalam (KP) on 8th May 2023, whereas same being the coolest place with 4.4 °C in mean monthly minimum temperature.
- The Indian Ocean Dipole (IOD) has remained in neutral phase during the month.
- The El Niño–Southern Oscillation (ENSO) too remained neutral (neither La Niña nor El Niño).

National Weather Extremes during May 2023

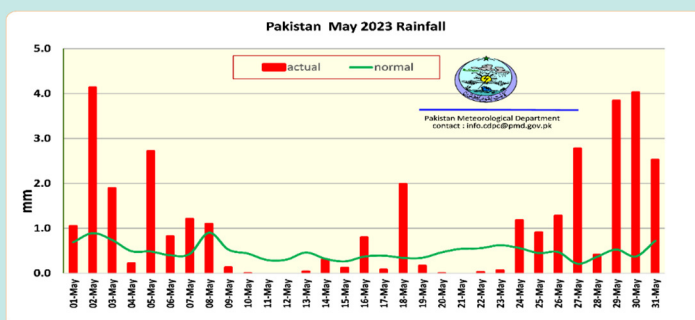|		
Hottest day	49.0 °C	at Jacobabad (Sindh) on the 21st
Coldest day	7.5 °C	at Astore (GB) on the 8th
Coldest night	0.0 °C	at Kalam (KP) on the 8th
Warmest night	31.6 °C	at Lahore City (Punjab) on the 23rd
Wettest day	80.0 mm	at Hafizabad (Punjab) on the 5th
Wettest month	185.0 mm	at Malam Jabba (KP)

Synoptic Summary

Western Disturbance (WDs) remained unusually the dominant feature of May 2023 over Pakistan. Four back-to-back westerly waves approached the country during 1-9, 14-19, 21-23 & 25-31 May and covered the Balochistan, Khyber Pakhtunkhwa (KP), Gilgit-Baltistan (GB), Kashmir, Punjab, and parts of Sindh. Resultantly, moderate with few heavy spells of rain with severe dust-thunder and hailstorms occurred across most parts of the country. While dry continental air prevailed over the country from 10-13 May, which temporarily raised the day temperatures in the country during the period.

New Weather Records Set in May 2023

S No	STATION	Weather Paramter	New Record Value	New Record date	Old Record Value	Old Record Date	No of years examined.
1	Dadu	Coldest Day temperature (°C)	33.0	30/2023	33.5	04/2005	20
2	Mirpur Khas	Wettest Monthly rain (mm)	3.5	2023	0.0	----	20
		Heaviest Rainfall in 24 hours (mm)	3.5	30/2023	0.0		20
3	Mithi	Wettest Monthly rain (mm)	32.2	2023	16.6	2005	20
		Heaviest Rainfall in 24 hours (mm)	24.0	30/2023	16.6	28/2005	20
4	Quetta Sh. Manda	Wettest Monthly rain (mm)	63	2023	38	2005	27
		Heaviest Rainfall in 24 hours (mm)	40	01/2023	18	25/2003	27
5	Tandojam	Wettest Monthly rain (mm)	5.0	2023	4	2010	16
		Heaviest Rainfall in 24 hours (mm)	5.0	31/2023	4	07/2010	16
6	Bahawalnagar	Wettest Monthly rain (mm	125.0	2023	113.3	1993	61
7	Bahawalpur City	Coldest Day temperature (°C)	26.2	02/2023	26.8	07/1998	63
8	Khanpur	Wettest Monthly rain (mm)	49	2023	37.8	2014	70
		Heaviest Rainfall in 24 hours (mm)	28	16/2023	27	18/2014	70
9	Multan	Wettest Monthly rain (mm)	72.5	2023	66.7	2014	70
		Heaviest Rainfall in 24 hours (mm)	42.3	29/2023	40	28/2002	70
10	Rahim Yar Khan	Coldest Day temperature (°C)	31.5	30/2023	32.7	14/2014	22
		Wettest Monthly rain (mm)	27.3	2023	10.2	2014	22
		Heaviest Rainfall in 24 hours (mm)	23.5	30/2023	7.2	10/2014	22
11	Saidu Sharif	Coldest Night temperature (°C)	5.5	26/2023	7.0	09/1998	50

Rainfall: Largely above average in the country as a whole

During May 2023, Pakistan experienced four moderate to heavy rainfall events. Accompanied with severe dust-hailstorms. May 2023 rainfall was 127% largely above average for Pakistan as a whole and stands 2nd wettest May on record (the record is 34.30 mm in 1987). Climatologically, the May rainfall contribution to the annual national total and to the Pre-Monsoon (AMJ) is 26.6%

Pakistan May 2023 Rainfall

Pakistan Meteorological Department
contact : info.cdpc@pmd.gov.pk

and 5.0%, respectively. The situation was more or less similar on regional scale too i.e., the extremely above-average rainfall occurred in Punjab with 58.20 mm/+273% and ranked as the wettest ever May during past 63 years (record being 43.30 mm in 1987). Balochistan with 21.30 mm/+255.60% (record being 27.30 mm in 1987) and Sindh with 13.10 mm/+348% (record being 58.70 mm in 1999) both stand 2nd wettest May during past 63 years. The AJK with 80.50 mm/+33%, and KP with 58.20 mm/+34% also recorded above average Rainfall. In contrast, the region of GB with 14.00 mm/-49% witnessed largely below-average rainfall.
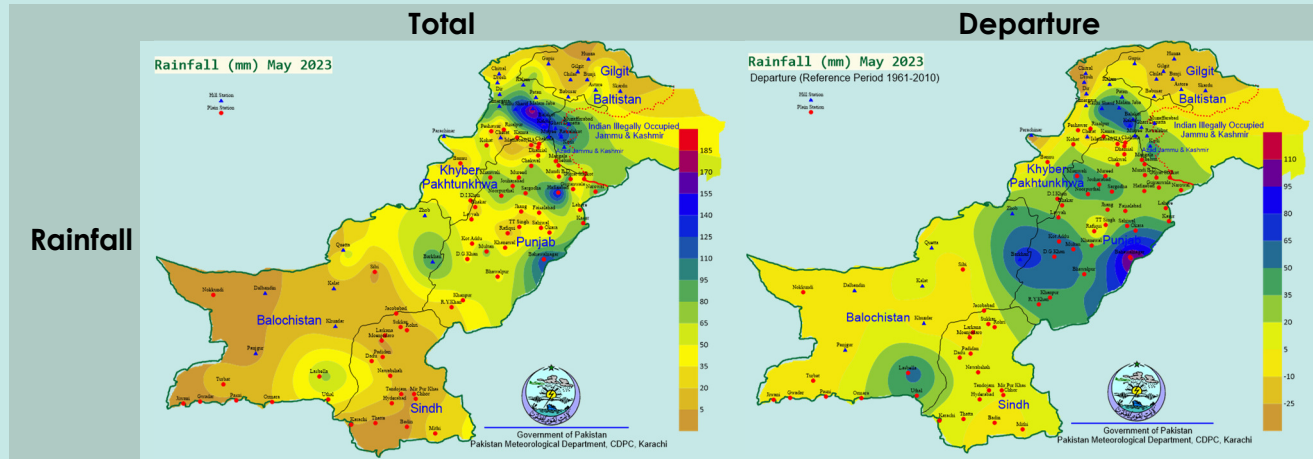
The wettest day of the month in the country was 5th May when Hafizabad (Punjab) recorded 80.0 mm rainfall, whereas Malam Jabba (KP) was the wettest place with a monthly total rainfall of 185.0 mm.

May 2023 Area-Weighted Rainfall

Region	Rank (of 63y)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	62	14.90	33.80	127	2nd highest (record 34.30 mm in 1987)
Azad Jammu & Kashmir	52	60.40	80.50	33	------
Balochistan	62	6.00	21.30	256	2nd highest (record 27.30 mm in 1987)
Gilgit Baltistan	28	27.50	14.00	-49	------
Khyber Pakhtunkhwa	50	43.40	58.20	34	------
Punjab	63	15.60	58.20	273	1st highest (record 43.30 mm in 1987)
Sindh	62	2.90	13.10	348	2nd highest (record 58.70 mm in 1999)

[RANK RANGES FROM 1 (LOWEST) TO 63 (HIGHEST) IN TERMS OF YEARS]

May 2023 Rainfall maps

	Total	Departure
Rainfall	Rainfall (mm) May 2023	Rainfall (mm) May 2023 Departure (Reference Period 1961-2010)

The other significant monthly-total rains recorded at Bahawalnagar (a desert place) 125.0 mm, Murree 117.0 mm, Sialkot A/P 99.5 mm, Hafizabad 152.8 mm, Garhi Dopatta 110.7 mm, Muzaffarabad Airport 130.9 mm, Muzaffarabad City 117.6 mm, Rawalakot 131.6 mm, Balakot 126.0 mm, Kakul 163.0 mm, Malam Jabba 185.0 mm, Saidu Sharif 130.0 mm, and Barkhan 96.0 mm, The stations Thatta, Gawadar, Jiwani, Panjgur and Pasni, remained absolutely dry with no rain during the month. Badin, Nokkundi and Sibbi recorded traces of rainfall during the month.
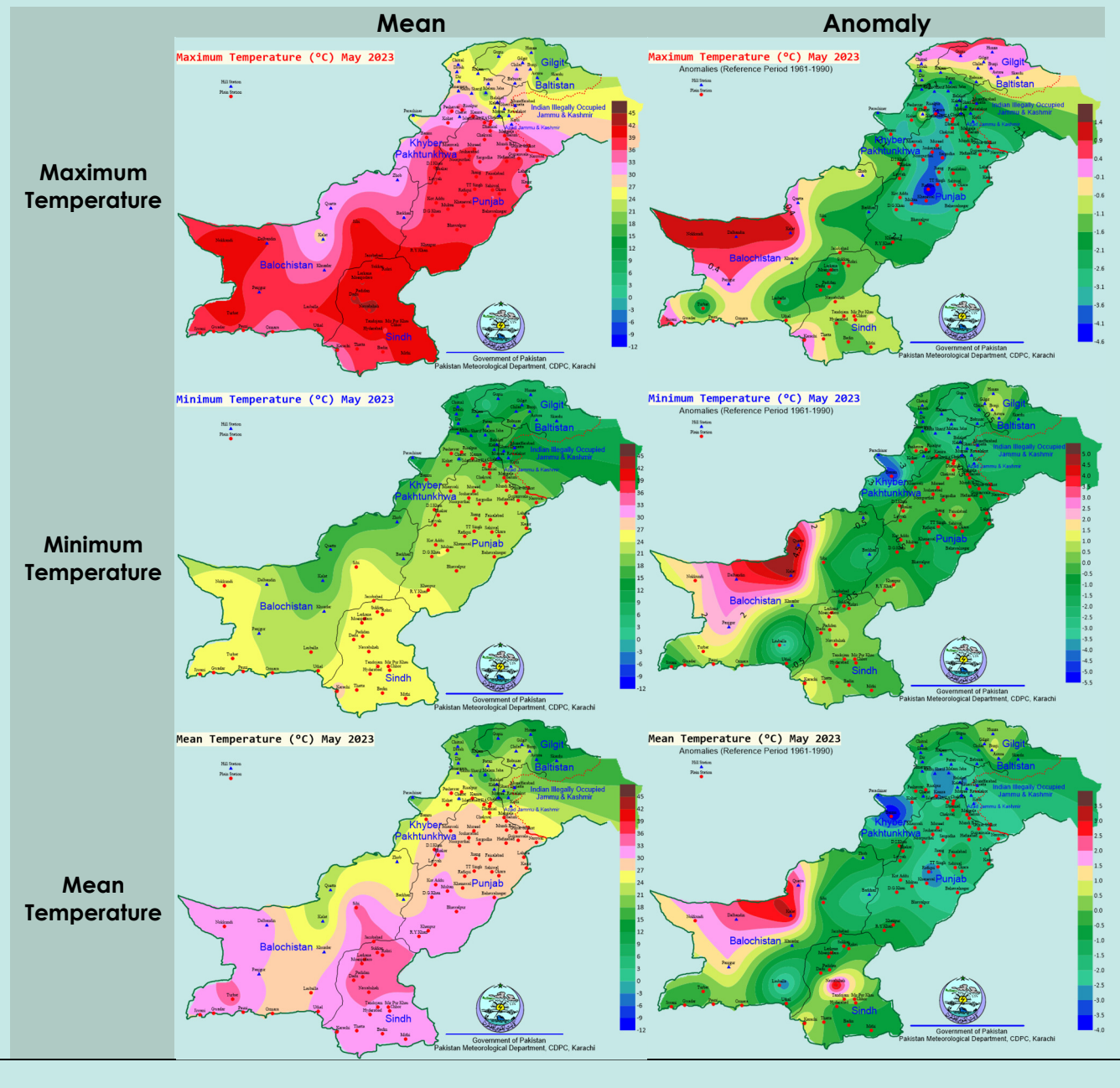
Temperatures: Cooler than average in the country Except Balochistan.

Area Average Temperatures(°C) statistics in May 2023						
Regions	Maximum Temperature		Minimum Temperature		Mean Temperature	
	Actual	Anomaly	Actual	Anomaly	Actual	Anomaly
Pakistan	35.28	-0.98	21.12	0.00	28.23	-0.71
Azad Jammu & Kashmir	26.54	-1.40	13.19	-1.19	19.90	-1.28
Balochistan	36.26	-0.07	22.01	0.69	29.19	0.03
Gilgit Baltistan	25.23	-0.13	10.81	-1.11	18.04	-0.62
Khyber Pakhtunkhwa	30.53	-1.74	16.76	-1.19	23.67	-1.39
Punjab	36.47	-2.62	22.58	-0.54	29.55	-1.92
Sindh	40.19	-0.88	25.53	0.30	32.87	-0.33

May 2023 was -0.71 °C, cooler than average with national mean monthly temperature being 28.23 °C against the average 28.94 °C. The situation was more or less similar on a regional scale too; i.e. KP with 23.67 °C (-1.39 °C), Sindh 32.87 °C (-0.33 °C), AJK 19.90 °C (-1.28 °C), Punjab 29.55 °C (-1.92 °C) and GB with 18.04 °C (-0.62 °C) all recorded cooler than average temperatures. The Balochistan was the only region with 29.19 °C (+0.03 °C) that exhibited slightly warmer than average temperature.

May 2023 mean maximum (daytime) temperature of 35.28 °C recorded at country-level being only -0.98 °C slightly cooler than average of 36.26 °C. The night (minimum) temperature (21.12 °C) happened to be exactly same as the national monthly average is. The mean temperature anomalies ranged in -4.0 to +3.5 °C in the country. The Mean maximum temperature anomalies were -4.5 to +1.3 °C in the country, being considerably higher in northern parts of Pakistan and Eastern Balochistan. The hottest day of the month was at Jacobabad (Sindh) when it recorded 49.0 °C temperature on 21st May, while Shaheed Benazirabad (Sindh) proved to be the warmest place with 42.7 °C average maximum temperature during the month. Kalam (KP) recorded the month's coldest night temperature of 0.0 °C on 8th May and incidentally has been the coolest place with 4.4 °C average minimum temperature.

May 2023 Temperature maps

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May 2023 Monthly Averages & Normal

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	850.9	1473.2	20.7	27.4	13.9	10.0	34.3	7
	852.0	1472.7	22.5	29.4	15.4	9.1	67.0	10.2
Peshawar	969.9	1006.5	27.7	34.3	21.0	18.2	27.0	2
	962.7	1002.0	29.1	36.6	21.5	16.1	23.8	7.2
Parachinar	828.3	1505.8	16.8	23.9	9.6	10.8	41.0	6
	827.0	1466.1	19.7	26.6	12.9	9.6	73.5	11.9
Rawalpindi	950.7	1006.8	26.6	32.5	20.7	13.5	26.4	9
	946.6	1002.2	27.5	35.6	20.1	14.5	34.1	8.3
Sargodha	984.6	1005.1	29.4	36.0	22.8	20.8	53.2	9
	981.3	1001.8	31.5	39.7	23.5	17.3	19.1	6.1
Jhelum	978.8	1004.9	28.5	35.9	21.1	18.5	62.8	8
	975.4	1001.5	30.5	38.4	22.6	16.0	27.3	7
Sialkot	977.4	1005.9	27.7	34.8	20.5	18.0	51.1	6
	973.8	1001.8	30.0	37.9	22.1	15.8	25.7	5.8
Zhob	855.7	1463.6	24.6	31.7	17.5	8.9	57.0	5
	853.8	1433.8	25.5	32.8	18.2	9.4	16.9	1.7
D.I.Khan	985.5	1004.7	30.3	37.3	23.3	21.9	36.0	4
	982.4	1001.0	31.2	39.0	23.4	17.7	17.0	3.4
Lahore	981.8	1005.7	29.4	35.7	23.1	19.1	43.7	6
	977.6	1001.2	31.7	38.9	24.5	16.7	20.8	5.7
Quetta	840.7	1492.8	23.3	30.3	16.3	6.1	13.0	3
	837.8	1466.3	21.6	30.8	12.4	9.9	5.5	2.8
Multan	990.9	1004.6	30.5	36.8	24.1	20.8	72.5	6
	987.4	1000.9	32.8	40.8	24.8	17.9	11.5	2.5
Barkhan	887.5	1474.8	26.1	32.8	19.4	11.4	96.0	6
	885.4	1459.3	28.7	35.1	22.1	11.4	20.3	2.4
Nokkundi	928.3	1001.0	32.7	40.2	25.2	6.0	0.0	0
	928.6	1001.4	31.2	39.4	24.0	11.5	0.3	0.2
Dalbandin	913.1	1482.3	31.5	39.2	23.8	10.3	2.0	2
	912.1	1473.0	29.6	37.7	19.2	8.5	1.6	0.8
Jacobabad	997.4	1003.6	34.1	42.1	26.1	21.5	10.0	4
	994.4	1000.7	35.2	43.4	26.9	18.2	3.1	0.8
Khanpur	994.4	1004.3	31.8	39.3	24.2	23.5	49.0	3
	991.1	1000.8	32.7	41.7	23.6	19.0	4.9	1.2
Panjgur	898.8	1473.5	30.0	36.7	23.2	10.9	0.0	0
	899.4	1476.4	28.9	36.5	21.3	8.1	2.5	0.3
Khuzdar	875.0	1486.5	27.8	34.2	21.4	6.9	7.9	4
	871.5	1450.3	27.9	35.0	20.6	4.5	13.2	1.5
Sh. Benazirabad	1000.5	1003.8	34.0	42.7	25.3	23.4	11.0	3
	998.3	1001.9	34.1	43.7	24.5	23.9	1.5	0.4
Jiwani	999.9	1006.3	29.3	34.9	23.6	30.5	0.0	0
	998.1	1004.4	29.6	34.2	25.1	28.4	0.2	0.1
Pasni	1006.0	1006.6	30.2	35.6	24.8	32.6	0.0	0
	1002.9	1003.6	29.1	35.4	24.3	27.6	0.7	0.1
Hyderabad	1000.1	1004.9	33.1	40.4	25.8	24.5	13.0	1
	998.6	1002.5	33.4	41.4	26.1	24.5	4.6	0.5
Chhor	1004.2	1004.9	32.7	41.0	24.4	26.4	12.4	2
	1001.7	1002.3	33.2	41.8	24.6	23.5	7.2	0.5
Karachi	1003.9	1006.5	31.5	35.6	27.5	30.7	14.9	1
	1001.8	1004.3	30.8	35.3	26.2	28.4	0.2	0.1

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

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May 2023 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	25.3	22	16.0	7	34.2	22	10.4	8	8.4	31	14	3*
Peshawar	32.7	22	22.5	2	41.0	20	16.0	8*	25.0	2	32	13
Parachinar	20.8	29	12.5	2	29.0	29	5.5	3	18.0	3	4	1*
Rawalpindi	32.9	23	21.2	2	40.3	22	16.9	5	8.0	18	26	24
Sargodha	35.7	23	23.1	2	43.0	21*	18.2	5	11.4	27	10	28
Jhelum	34.3	13	21.2	2	44.5	22	15.8	7	22.6	2	12	23*
Sialkot	33.1	22	21.3	31	43.4	22	16.6	10	15.9	26	16	13
Zhob	30.0	22	17.8	30	37.5	20*	12.0	2	30.0	30	13	29
D.I.Khan	36.3	23	23.5	2	44.5	22	18.5	2	28.0	2	30	31
Lahore	36.7	23	22.8	31	43.2	21	18.4	5	16.8	5	20	29
Quetta	27.8	22	17.8	7	35.0	22	10.5	7	8.0	6	32	13
Multan	36.5	22	21.9	2	44.2	21	18.5	2*	42.3	29	16	7
Barkhan	31.5	22	19.5	1	39.0	21	12.5	1	34.0	5	10	4
Nokkundi	36.0	22	28.8	1*	44.0	21	20.5	7	0.0	0	16	22*
Dalbandin	35.5	22	26.5	7	42.0	11*	17.0	8*	1.0	2*	20	15
Jacobabad	39.0	21	28.3	30	49.0	21	22.0	1*	5.0	29	8	7*
Khanpur	36.3	22	26.0	30	44.5	12	20.0	30	28.0	16	22	31
Panjgur	33.0	27	23.5	1	40.0	22*	16.5	1	0.0	0	16	5*
Khuzdar	29.8	14*	22.8	1	36.5	19*	16.5	2	3.3	6	6	5*
Sh.Benazirabad	37.5	14*	26.3	30	48.0	26	19.0	30	9.0	30	20	24*
Jiwani	32.3	28	26.0	1	38.5	27	19.5	1	0.0	0	14	23
Pasni	31.8	23*	27.3	1	38.0	13	21.5	1*	0.0	0	22	24
Hyderabad	35.4	11*	28.8	1	45.3	12	22.0	1	13.0	31	26	16*
Chhor	34.6	12	25.8	30	45.7	11	17.0	30	11.0	30	16	13*
Karachi	33.9	11	28.3	1	40.3	11	23.5	1	14.6	1	16	16*

* Means value occurred multiple times