



Government of Pakistan  
**Pakistan Meteorological Department**  
**Pakistan's Monthly Climate Summary**  
**January 2024**

**In brief**

- National area-weighted rainfall with only 5.4mm for the month of January 2024 was **excessively below average** (-72%). Most of January was snowless, however only few light rain & snow have occurred during last days of the month.
- The wettest day of the month in the country was January 29 when Dir (KP) recorded rainfall of 45.0mm, making it the wettest place as well with 58.0mm monthly total rainfall.
- The national mean monthly temperature for Pakistan as a whole was 11.81 °C, being **0.58 °C warmer** than the country average (11.24 °C).
- The daytime (maximum) temperature at the country-level was 18.49 °C, **slightly warmer** (0.15 °C) than the country average of 18.34 °C.
- The nighttime (minimum) temperature at country level was 5.08 °C, also **1.39 °C warmer** than the countrywide average of 3.69 °C and ranks as the 8<sup>th</sup> warmest average minimum temperature for the month in the past 64 years, with the record being 6.62 °C in 1965.
- The hottest day of the month was observed at Turbat (Balochistan) when it recorded a maximum temperature of 32.5 °C on 17 January. Whereas, Mithi has been found to be the **warmest** place with a mean monthly maximum temperature of 28.6 °C.
- The **coldest** temperature of the month, -10.7°C, was recorded in Skardu (GB) on January 22, 2024. Coincidentally, the same station was the **coolest** place with a mean monthly minimum temperature of -7.8 °C.
- A prolonged and dense fog remained another unusual phenomena across Punjab, south KP and upper Sindh through the month.
- The El Niño having been at peak during past two months now tends to be declining with sea surface temperatures (SSTs) decreased from +2.0 °C to +1.6 °C.
- The positive Indian Ocean Dipole (IOD) started turning into a neutral phase.

**Table-1: National Weather Extremes during January 2024**

Hottest day	32.5° C	at Turbat (Balochistan) on the 17 <sup>th</sup>
Coldest day	1.5° C	at Malamjabba (GB) on the 28 <sup>th</sup>
Coldest night	-10.7° C	at Skardu (GB) on the 22 <sup>nd</sup>
Warmest night	18.5° C	at Gawadar (Balochistan) on the 30 <sup>th</sup> at Turbat (Balochistan) on the 27 <sup>th</sup>
Wettest day	45.0 mm	at Dir (KP) on the 29 <sup>th</sup>
Wettest month	58.0 mm	at Dir (KP)

**Synoptic Summary**

Prevalence of dry continental air with dense fog was the predominant feature of the month over most parts of the country. On the 2nd day of month, a shallow westerly trough entered west Balochistan and spread over upper Sindh and persisted until 8 Jan, which caused some light rain in west Balochistan and upper Sindh. Otherwise, due to persistent high-pressure existence over the country, a severe cold wave affected most parts of the country during the month. After a long dry spell, a fresh westerly trough approached northwest Balochistan on 18 Jan, spread over the coastal areas and persisted until 21 Jan yielding light rain in Northwest Balochistan & Sindh-Makran coast. On 27/28 Jan, first significant westerly wave entered the northern parts of the country and sub-mountain Punjab that persisted through the end of the month and produced season's first good spell of rains and snow.

**Table-2: New Weather (temperature) Records Set in January 2024**

S No	Stations	Weather Parameters	New Record		Old Record		No of years examined.
			Value	Date	Value	Date	
1	PANJGUR	Hottest night Temperature (°C)	14.0	29&30/Jan/2024	13.3	06/Jan/1964	64
2	ASTORE	Hottest day Temperature (°C)	12.5	13/Jan/2024	12.3	30/Jan/2001	64
3	GILGIT	Hottest day Temperature (°C)	17.5	13/Jan/2024	17.5	31/Jan/2007	64
4	GUPIS	Hottest day Temperature (°C)	14.0	14/Jan/2024	13.0	19/Jan/2010	64
5	JHELUM	Coldest day Temperature (°C)	7.5	08/Jan/2024	8.3	02/Jan/2002	64
6	ROHRI	Coldest day Temperature (°C)	11.0	24/Jan/2024	11.0	15/Jan/1993	64

**Rainfall: Excessively below average in the country.**

Climatologically, the January rainfall contribution to the national annual total and Winter (JFM) is 6.4% & 25.5%, respectively. During the month, Pakistan experienced only 1-2 light rainfall spells. The area-averaged daily rainfall is shown in Fig-1. January 2024 rainfall was excessively below average, with only 5.40mm (-72%), for Pakistan as a whole. The situation was similar on regional scale too: Punjab recorded only 1.60mm (-90%) rainfall and stands as the 7<sup>th</sup> driest January (record is 0.0 mm in 1963, 1966 & 1967), for GB with 0.50mm (-97%) it stands 8<sup>th</sup> driest

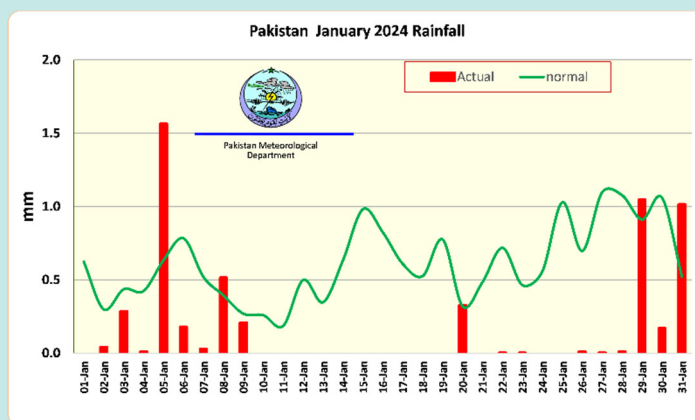


Fig1: Daily Area Weighted Rainfall

January in past 64 years (record 0.0 mm in 1963 & 1966). Sindh with 0.60mm (-80%), AJK with 14.90mm (-77%), KP with 11.20mm (-74%) and Balochistan with 8.10mm (-55%) all exhibited excessively markedly below- average rainfall (Table-3). The wettest day of the month in the country was 29<sup>th</sup> January when Dir (KP) recorded 45.0 mm of rainfall. Coincidentally, the same station was the wettest place with a monthly total rainfall of 58.0 mm (Table-1).

**Table-3: January 2024 Area-Weighted Rainfall**

Region	Rank (of 63y)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	15	18.90	5.40	-72	----
Azad Jammu & Kashmir	12	63.60	14.90	-77	----
Balochistan	23	18.00	8.10	-55	----
Gilgit Baltistan	08	15.60	0.50	-97	8th driest (record 0.0 mm in 1963 & 1966)
Khyber Pakhtunkhwa	12	43.10	11.20	-74	----
Punjab	07	15.50	1.60	-90	7th driest (record 0.0 mm in 1963, 1966 & 1967)
Sindh	26	2.80	0.60	-80	----

[RANK RANGES FROM 1 (LOWEST) TO 63 (HIGHEST) IN TERMS OF YEARS FROM 1961]

The other mentionable rainfalls were recorded at Pattan 45.0 mm, Muzaffarabad City 44.3mm, Muzaffarabad Airport 40.6mm, Parachinar 35.0mm, Rawalakot 32.5mm, Quetta (Samungli) 31.0mm, Ormara 30.0mm and Garhi Dupatta 28.0mm. The stations: Kot Addu, Noorpur Thal, Bunji, Chilas, Gilgit, Hunza, D. I. Khan (Airport), Badin, Chhor, Hyderabad, Mithi, Shaheed Benazirabad, Rohri, Sukkur, Moen-Jo-Daro, Mirpur Khas, Tando Jam, Sakrand, Zhob, Faisal Base and Masroor Base remained absolutely dry with no rain during the month. The stations: Bahawalnagar, Bahawalpur, Bhakkar, Faisalabad Airport, Jhang, Kasur, Lahore, Layyah, Mianwali, Multan, Okara, Sahiwal, Shorkot, Sargodha, Khanewal, Skardu, Bannu, D. I. Khan (City), Dadu, Nokkundi and Sibbi recorded only traces of rainfall during the month.

## January 2024 Rainfall maps

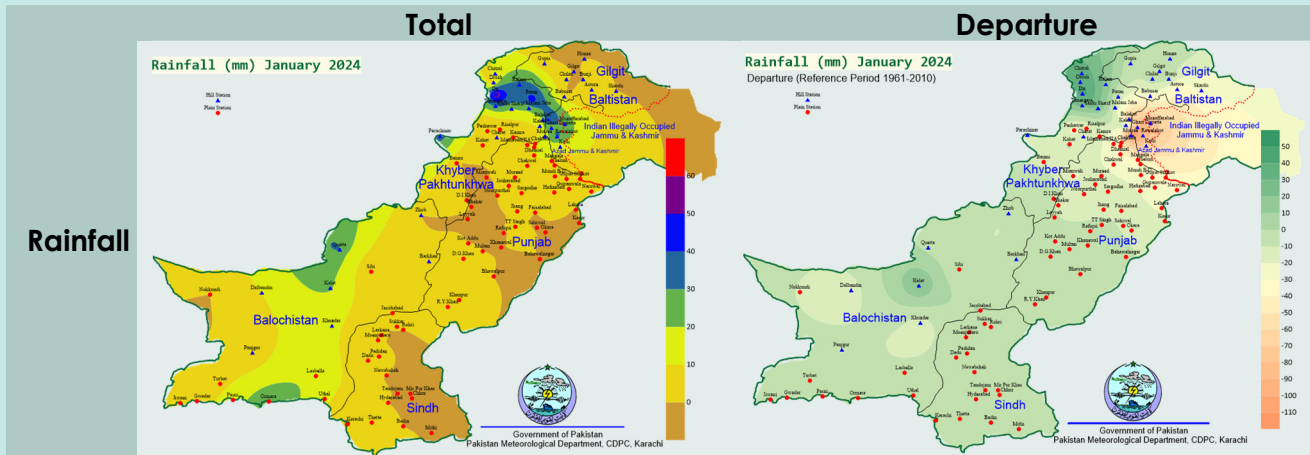


Fig. 2. January-2024 spatial rainfall distribution and departure from normal

### Table 4: Temperatures: **Warmer** than average in most parts of the country.

A significant contrast has been observed in mean & average maximum temperatures, when Punjab, upper Sindh and part of Khyber Pakhtunkhwa (KP) remained under smog/fog most of time that blocked the solar radiations penetration, keeping the daytime temperatures significantly cooler than average in Punjab and Sindh.

Area Average Temperatures (°C) in January 2024						
Regions	Maximum Temperature		Minimum Temperature		Mean Temperature	
	Actual	Anomaly	Actual	Anomaly	Actual	Anomaly
Pakistan	18.49	0.15	5.08	1.39	11.81	0.58
Azad Jammu & Kashmir	13.02	2.43	-0.34	0.64	6.35	1.54
Balochistan	21.64	3.07	6.34	2.28	14.03	2.45
Gilgit-Baltistan	11.21	5.07	-4.59	-0.14	3.32	2.48
Khyber Pakhtunkhwa	15.02	0.62	1.68	0.08	8.39	0.39
Punjab	14.26	-5.79	5.52	0.98	9.90	-2.75
Sindh	23.14	-1.74	8.71	1.15	15.96	-0.20

January 2024 was **0.58 °C warmer** than average for Pakistan as a whole, with national mean monthly temperature being 11.81°C against the country average of 11.24 °C. So was the case in most of the regions. GB with 3.32°C (**+2.48°C**) and Balochistan with 14.03°C (**+2.45°C**) both recorded the **4<sup>th</sup> warmest** mean temperature (record is 3.62°C and 14.81°C) respectively in the year 2003). For AJK with 6.35°C (**+1.54°C**) it stands the **7<sup>th</sup> warmest** (record is 7.14°C in 2010) and KP with 8.39°C (**+0.39°C**) too exhibited warmer than average. On the other hand, in a sharp contrast Punjab with 9.90°C (**-2.75°C**) observed the **coldest ever mean temperature** of the month during the past 64 years (record is 10.5°C in 1964) and Sindh with 15.96°C too exhibited **slightly cooler (-0.20°C)** than average temperature (Table-4) primarily due to prolonged persistent foggy conditions. The mean monthly maximum (daytime) temperature (18.49 °C) recorded at country-level was **+0.15 °C warmer** than average of 18.34 °C. However, a record-breaking contrast has been observed in the regions as the GB with 11.21°C (**+5.07°C**) stands with highest mean maximum temperature (record is 10.54°C in 2003). For Balochistan with 21.64°C (**+3.07°C**) and AJK with 13.02°C (**+2.43°C**) it ranked 4<sup>th</sup> & 5<sup>th</sup> highest maximum temperature ranges respectively. KP with 15.02°C (**+0.62**) also exhibited **warmer** than average temperature. In contrast, Punjab with 14.26°C (**-5.79°C**) exhibited **ever lowest**

mean maximum temperature (record is 16.66°C in 1964) and Sindh with 23.14°C (-1.74°C) also exhibited the 5<sup>th</sup> lowest maximum temperature (the record is 21.82 in 1964) (Table-5, Fig. 3-upper panel). Whereas the country-level night (minimum) temperature of 5.08 °C was warmer (+1.39 °C) than average of 3.69 °C and stands as the 8<sup>th</sup> warmest night-time (minimum) temperature in the month (record was 6.62 °C in 1965). The minimum temperatures in the regions also exhibited warmer than average except GB with -4.59°C (-0.14°C) being slightly cooler. The hottest day of the month was observed at Turbat (Balochistan) when it recorded 32.5 °C on 17 January (Table-1). Mithi has been found the warmest place with a mean monthly maximum temperature of 28.6 °C. Skardu (GB) recorded the month's coldest night temperature of -10.7°C on 22 January (Table-1), which also proved to be the coolest place during the month with -7.8°C average minimum temperature.

### January 2024 Temperature maps

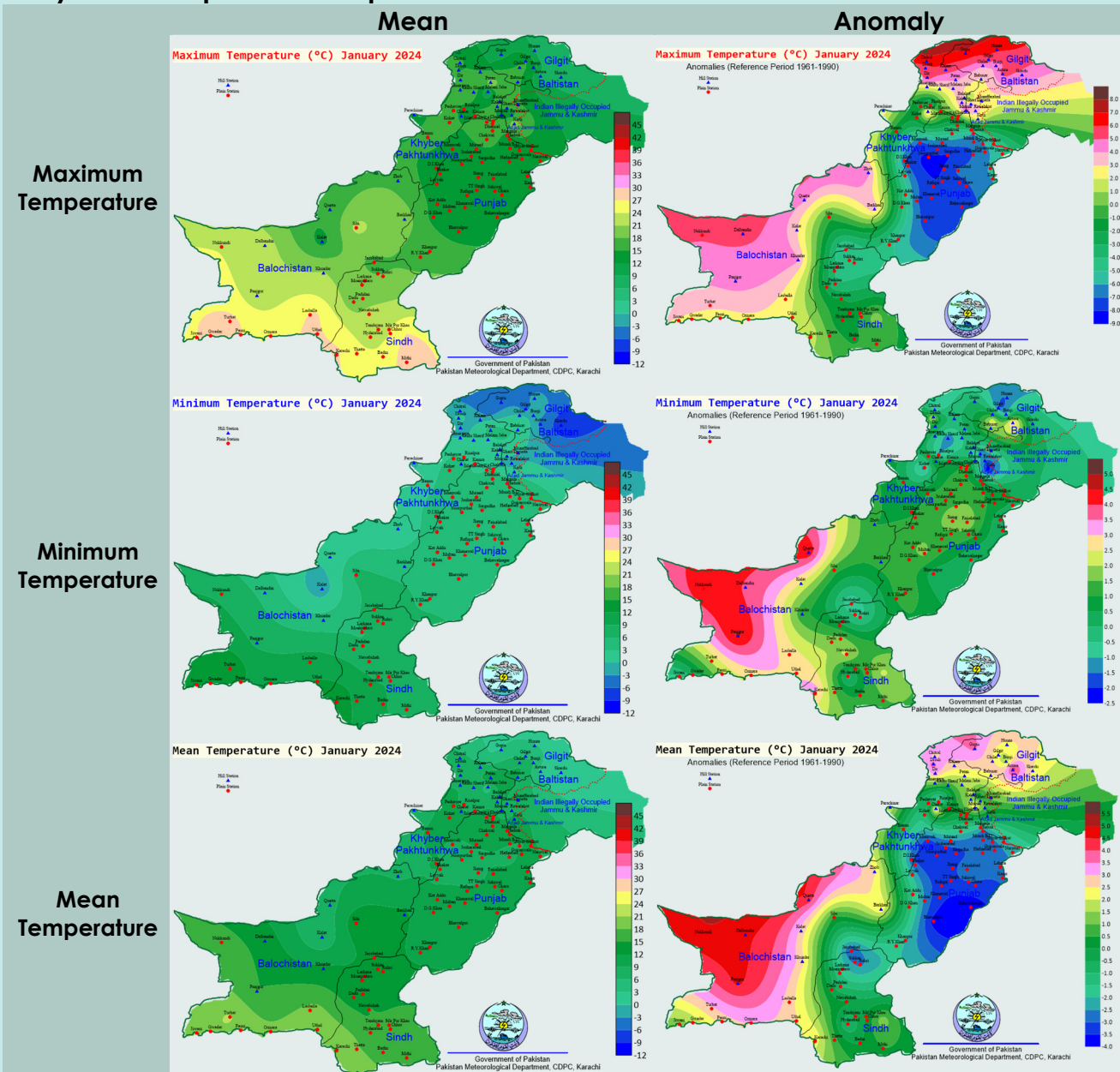


Fig. 3. January-2024 Temperatures (Maximum, Minimum & Mean) and their anomalies.

## Fog/Smog over Punjab and Upper Sindh

January 2024 has seen an unusual frequent and persistent fog especially in Punjab, south KP and upper Sindh. The dense fog lasted for most of the days through the month (Fig. 4); it was so dense and prolonged that it blocked the sunlight for many days even weeks. The extremely dense fog, reducing the visibility virtually to zero meters, badly disrupted the aviation, road and rail traffic movement for many days resulting in considerable economic losses to the transport sector. A continuous dense fog also caused the health issues due to extreme cold conditions in Punjab.

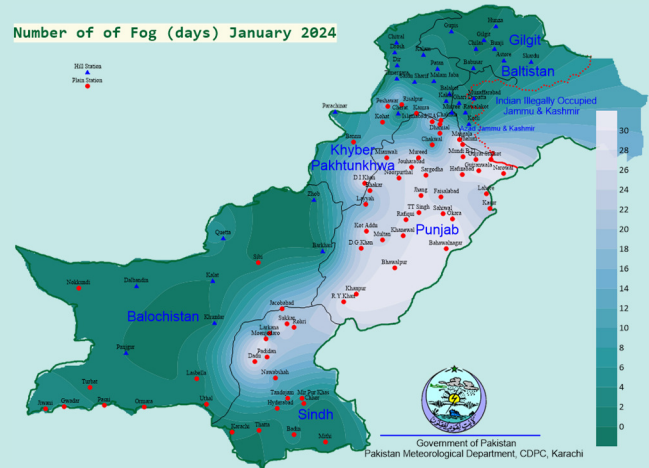


Fig. 4. January-2024 Number of Fog Days

The prolonged foggy weather rendered the daytime maximum temperatures across Punjab to well-below zero ( $-5.79^{\circ}\text{C}$ ) which happened to be the **ever lowest mean maximum temperature** and so was the case in Sindh ( $-1.74^{\circ}\text{C}$ ) which observed the **5<sup>th</sup> lowest mean maximum temperature**.

**Table 5: January 2024 Monthly Averages & Normals**

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	856.5	1526.9	8.2	14.5	2.0	3.7	10.0	2
	858.4	1535.3	4.6	9.2	0.1	4.3	48.6	6.1
Peshawar	980.8	1020.3	9.9	16.3	3.4	9.5	2.1	1
	975.8	1018.3	11.3	18.5	4.1	7.9	30.8	4.4
Parachinar	828.2	1513.1	6.0	12.6	-0.7	4.8	35.0	3
	828.3	1514.7	4.0	10.2	-3.0	4.1	47.6	2.9
Rawalpindi	959.9	1019.9	10.3	16.9	3.8	8.5	17.0	1
	958.5	1018.2	10.4	17.6	3.1	7.9	59.2	6.2
Sargodha	997.0	1019.5	9.2	12.7	5.6	10.1	0.0	0
	995.6	1017.4	12.1	19.9	4.3	9.4	16.8	4.1
Jhelum	990.8	1019.0	9.6	13.6	5.7	10.1	7.4	2
	989.7	1017.6	12.8	19.3	5.5	9.4	37.4	5.7
Sialkot	988.8	1019.4	9.3	13.1	5.6	10.5	5.2	1
	987.2	1017.5	11.6	18.2	5.1	10.1	41.8	5
Zhob	859.0	1491.6	8.6	17.1	0.1	4.2	0.0	0
	860.1	1500.5	5.9	12.8	-1.0	4.7	20.0	1.7
D.I.Khan	998.3	1019.1	9.3	13.4	5.1	10.3	0.0	0
	996.8	1017.3	12.4	20.1	4.4	8.8	11.4	3.5
Lahore	993.8	1019.8	10.0	13.8	6.1	10.1	0.0	0
	991.9	1017.4	13.2	19.6	6.7	9.7	22.9	4.8
Quetta	844.8	1538.9	8.0	15.0	1.0	4.8	31.0	6
	842.8	1519.0	4.1	10.8	-2.7	5.0	64.0	5.9
Multan	1004.1	1019.0	10.1	14.1	6.1	10.2	0.0	0
	1003.1	1018.0	12.9	20.9	5.0	9.3	8.2	2
Barkhan	892.9	1508.1	12.5	19.7	5.2	5.5	2.0	1
	893.2	1508.0	10.2	16.2	4.1	5.2	13.9	1.3
Nokkundi	937.3	1014.5	16.2	23.8	8.5	5.5	0.0	0
	938.5	1017.8	11.4	18.8	3.9	6.2	8.4	0.6
Dalbandin	921.2	1518.8	13.9	22.5	5.2	6.9	10.0	3
	921.6	1513.8	9.8	16.6	1.9	6.0	24.9	1
Jacobabad	1011.8	1018.6	12.2	17.5	6.9	11.2	4.0	2
	1010.8	1017.4	15.1	22.5	7.7	9.2	3.6	0.5
Khanpur	1007.9	1018.7	11.1	16.4	5.8	10.9	2.0	1
	1006.5	1017.3	13.2	21.7	4.7	9.2	3.8	1.1
Panjgur	906.3	1519.2	15.1	21.9	8.3	7.5	2.0	2
	906.9	1516.7	10.6	17.3	3.9	3.8	15.8	1.6
Khuzdar	880.3	1525.2	12.8	21.2	4.3	6.6	12.0	2
	877.9	1496.8	10.7	17.1	3.2	2.8	22.1	1.4
Sh. Benazirabad	1014.5	1017.9	15.2	22.4	8.0	11.5	0.0	0
	1013.8	1017.7	15.3	24.3	6.2	10.6	2.5	0.1
Jiwani	1009.6	1016.3	19.8	26.6	13.0	19.4	3.0	1
	1010.4	1016.9	19.0	24.1	13.9	13.1	22.0	1.5
Pasni	1016.5	1017.1	19.5	27.1	11.8	16.1	17.0	2
	1015.1	1015.9	18.3	25.1	12.1	12.3	23.8	1.4
Hyderabad	1011.8	1016.9	17.0	23.1	10.9	11.2	0.0	0
	1018.4	1016.9	18.1	24.8	11.4	10.1	2.0	0.5
Chhor	1016.1	1016.8	17.3	27.0	7.5	11.4	0.0	0
	1015.4	1016.0	16.2	26.6	5.7	9.0	1.1	0.3
Karachi	1014.0	1016.8	20.5	27.4	13.6	13.0	2.2	1
	1013.9	1016.8	18.1	25.9	10.8	10.6	10.8	0.7

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

**Table 6: January 2024 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	10.8	13	4.8	31	17.5	13	-0.5	29	5.8	29	12	31
Peshawar	14.2	29	5.9	23	23.0	14	1.0	8*	1.3	31	6	28
Parachinar	8.8	1	3.5	29	17.0	1	-3.0	17	28.0	29	4	14*
Rawalpindi	13.5	28	6.7	22	20.7	27	1.5	16	17.0	31	18	31
Sargodha	15.8	29*	6.4	5*	22.8	27	2.4	17	0.0	0	4	29*
Jhelum	14.8	31	6.2	8	23.2	27	3.0	18*	6.0	31	8	30
Sialkot	14.7	29	6.2	24	21.4	26*	3.6	24	5.2	31	4	31
Zhob	11.3	11*	4.3	8	21.5	15	-2.5	3*	0.0	0	9	31*
D.I.Khan	16.5	30	5.8	11	24.0	28	3.0	10*	0.0	0	4	28
Lahore	15.9	30	7.5	9*	22.5	27	4.4	12	0.0	0	4	22*
Quetta	13.0	29	5.3	9	18.5	25*	-2.5	1*	14.0	5	20	31
Multan	15.6	31	7.3	6	21.4	29	2.5	19	0.0	0	6	14*
Barkhan	14.3	15*	7.5	8	23.0	11	3.5	10*	2.0	9	4	4*
Nokkundi	20.8	28	12.3	10	28.5	25	3.5	10	0.0	0	10	30*
Dalbandin	18.3	28*	9.0	9	27.0	25	0.0	10	7.0	3	8	26*
Jacobabad	17.5	31	9.5	9	24.5	31	5.0	10*	3.0	6	6	24
Khanpur	18.2	31	7.2	22	25.8	31	2.6	11	2.0	31	6	17*
Panjgur	18.5	29*	11.8	9	25.0	1*	4.5	9*	1.0	5*	18	28
Khuzdar	14.5	30	9.8	9	24.0	24	2.0	9	7.0	8	4	8*
Sh.Benazirabad	20.0	31	11.3	25	27.5	22*	5.0	11*	0.0	0	12	4*
Jiwani	21.5	28	17.8	10	28.0	21*	9.0	9	3.0	5	16	18
Pasni	22.3	31	17.5	11*	31.0	31	9.0	11	10.0	8	4	6*
Hyderabad	22.5	31	13.0	4	28.7	13	8.3	11	0.0	0	16	3*
Chhor	20.9	31	15.2	9	29.3	21	4.5	10*	0.0	0	6	9*
Karachi	23.4	31	18.8	11	29.5	16*	10.0	11*	2.2	31	12	9*

\* 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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