Singapore Climate 2024: The Year in Numbers

2024 was the warmest year on record for Singapore, tied with 2019 and 2016. All months recorded temperatures that were equal to or above their respective long-term averages. July 2024 was the warmest July on record, during which Singapore also experienced a dry spell[1] from 13 to 30 July 2024.

While there were some dry periods in 2024, Singapore experienced above-average rainfall in a few months, including November 2024 which recorded the highest November islandwide average rainfall since 1980. Singapore's total rainfall for 2024 was 8.1% above the long-term[2] annual average.

The 2023/2024 El Niño event contributed to Singapore's warmer temperatures in 2024, as well as rainfall earlier in the year.

Temperature

At the Changi climate station, the annual mean temperature in 2024 was 28.4°C, 0.6°C above the long-term average and the warmest on record, tying with 2019 and 2016 (Figure 1). 2024's annual mean daily maximum and minimum temperatures of 32.1°C and 25.9°C were ranked third (tied with 1998) and highest on record (tied with 2019) respectively.

The mean temperature for the last decade from 2015 to 2024 reached a new high of 28.11°C, 0.05°C above the previous record for the decade from 2014 to 2023. This is the fourth consecutive year that Singapore's decadal mean temperature record has been broken, with 6 of the top 10 warmest years occurring in the last decade.

[1] A dry spell is defined as a period of at least 15 consecutive days with daily total rainfall of less than 1.0 mm, averaged over the 32 islandwide stations with long-term records. The last recorded dry spell in Singapore lasted 17 days from 31 July to 16 August 2019.
[2] This refers to the 30-year climatological reference period from 1991 to 2020.

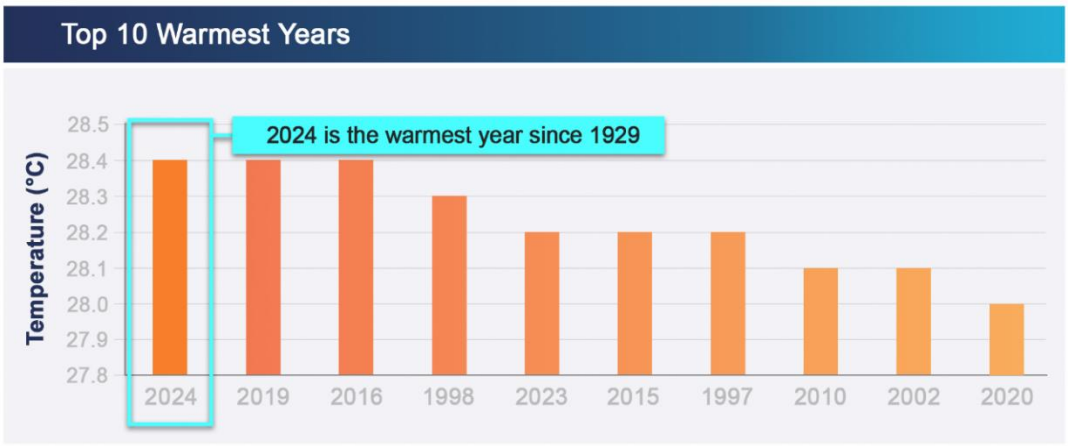

Figure 1: The ten warmest years on record at the Changi climate station since temperature records began in 1929.

Monthly mean temperatures at the Changi climate station were above their respective long-term averages except for January, where the monthly mean temperature of 26.8°C was equal to January's long-term average from 1991 – 2020 (Figure 2).

April was the warmest month in Singapore in 2024. The month's mean temperature of 29.4°C was 1.2°C above the long-term average and tied with 2016 as the warmest April on record (Figure 2). April 2024's mean daily minimum temperature of 26.7°C also tied with 2016 for the highest April mean daily minimum temperature (Figure 4).

The second warmest month in 2024 was July, which was also the warmest July on record. July 2024's mean temperature of 29.3°C was 1.1°C above the long-term average for the month and surpassed the previous warmest July recorded in 2015 by 0.2°C (Figure 2). The month's mean daily minimum temperature of 27.1°C also broke the previous July record of 26.9°C set in 2019 (Figure 4).

While December 2024 was one of the cooler months of the year, it was the warmest December on record with monthly mean temperature of 27.7°C, tying with 2015 and 2021 (Figure 2). The mean daily maximum temperature of 31.7°C in December broke the previous record of 31.6°C recorded in 2016 and 2018 (Figure 3). Notably, Changi climate station's highest daily maximum temperature for the month of December was broken by a wide margin on 7 December 2024, when the station recorded a temperature of 35.6ºC, exceeding the previous record of 33.9°C set on 1 December 2021 by 1.7°C. The highest temperature recorded that day was 36.2ºC at Paya Lebar, which also broke the record for December's highest daily maximum temperature across all stations (35.9ºC set on 6 December 2016 at Seletar).

Other records for highest daily minimum and maximum temperatures are listed in Table 2 (for the climate station) and Table 3 (for all stations). No lowest temperature records were reached or broken in 2024.

Heat Stress

Singapore experienced 21 days of high heat stress[3] in 2024. Most of these days occurred in March, April and May. The highest 15-min average Wet-Bulb Globe Temperature (WBGT) in 2024 was 34.4°C, recorded at Bishan Stadium on 7 March and at Bedok Stadium on 28 May.

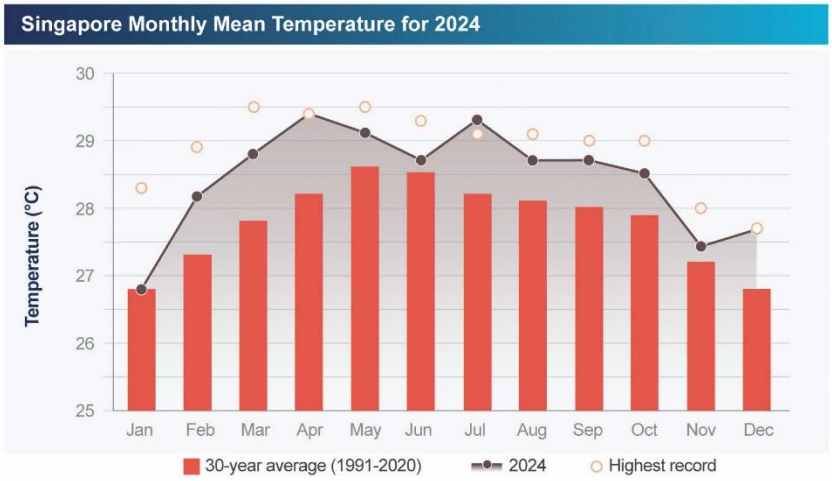

Figure 2: Climate station monthly mean temperature for 2024 (solid line), long-term average (bars, 1991–2020) and the corresponding historical extremes (circle).

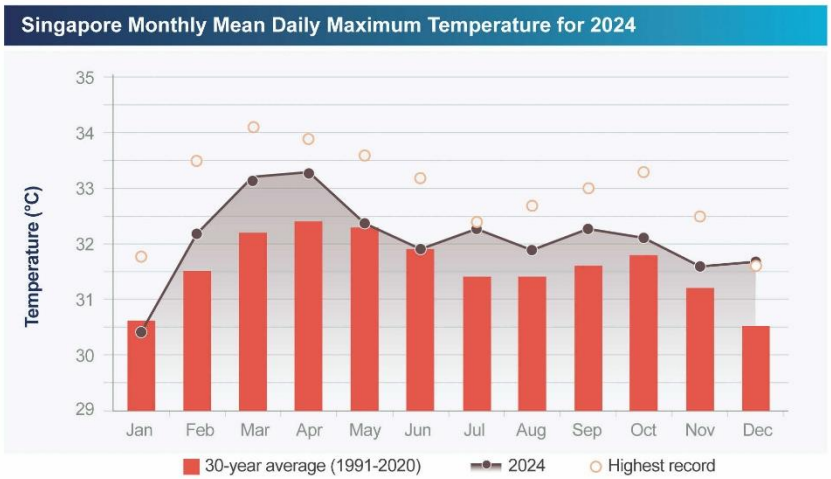

Figure 3: Climate station monthly mean daily maximum temperature for 2024 (solid line), long-term average (bars, 1991–2020) and the corresponding historical extremes (circle).

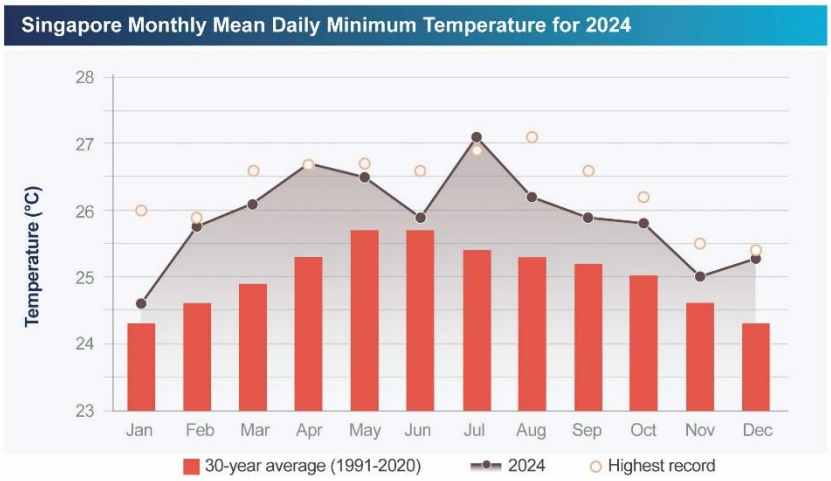

Figure 4: Climate station monthly mean daily minimum temperature for 2024 (solid line), long-term average (bars, 1991– 2020) and the corresponding historical extremes (circle).

[3] Heat stress levels are based on Wet-Bulb Globe Temperature (WBGT). A day of high heat stress is defined when any hourly-average WBGT at a station is equal to or greater than 33°C. Warm temperatures coupled with other factors (humidity, wind speed and solar radiation) contribute to occurrences of high heat stress. More information available at: https://www.weather.gov.sg/learn-heat-stress/.

Rainfall

Singapore's annual total rainfall averaged across the islandwide stations[4] (2739.8 mm) was 8.1% above the long-term average of 2534.3 mm and the 12th highest since 1980. The Changi climate station recorded 2432.0 mm of rainfall in 2024, 15.1% above its long-term average of 2113.3 mm.

Singapore's monthly rainfall for 2024 was highly variable. January's islandwide average rainfall of 407.5 mm was 83.3% above the month's long-term average (Figure 5). The monthly total rainfall at Changi climate station (499.6 mm) was also 125.5% above its long-term average for January (Figure 6).

After a wet start to the year, islandwide average rainfall for February, March and April dropped slightly below their respective long-term averages (Figure 5). More rain fell over Singapore in May and June, with islandwide average rainfall for May and June 35.8% and 58.2% above their respective long-term averages. However, Singapore experienced a dry spell of 18 days between 13 and 30 July 2024. As a result, July's islandwide average rainfall (84.6 mm) was 52.7% below the long-term average. The dry weather continued into August with islandwide average rainfall of 120.8 mm, which was 33.8% below the month's long-term average.

After the drier period, November 2024's islandwide average rainfall (419.0 mm) broke the record for the wettest November since 1980 (Figure 5). It was 47.4% above its long-term average and exceeded the previous highest November rainfall of 390.1 mm recorded in 1992. The monthly total rainfall at Changi climate station (407.4 mm) was also 60.3% above its long-term average for November (Figure 6).

The year ended on a drier note, with December 2024's islandwide average rainfall (221.3 mm) 30.0% below its long-term average (Figure 5).

[4] The 32 stations with continuous rainfall records starting from 1980.

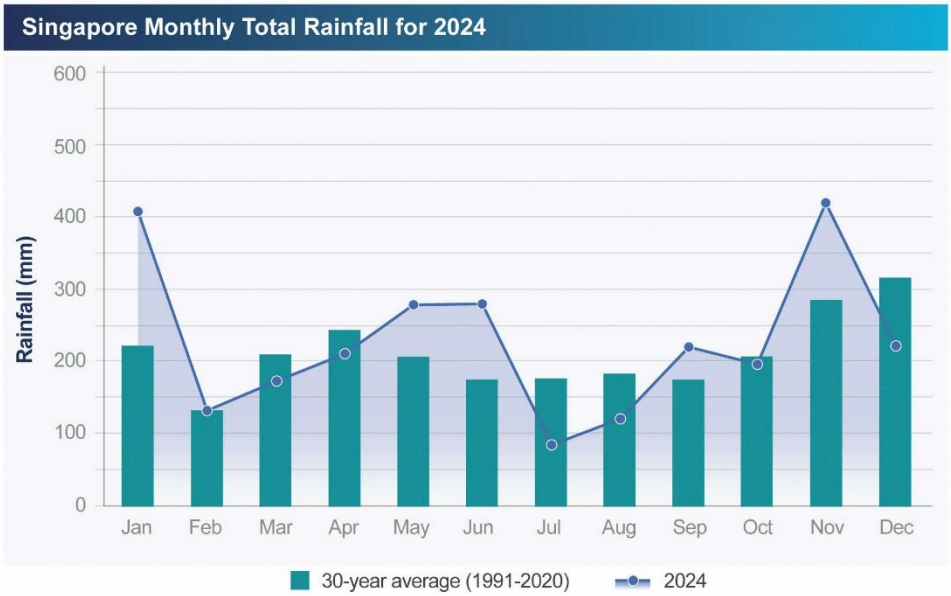

Figure 5: Singapore average monthly total rainfall for 2024 (solid line) and long-term average (bars, 1991 – 2020).

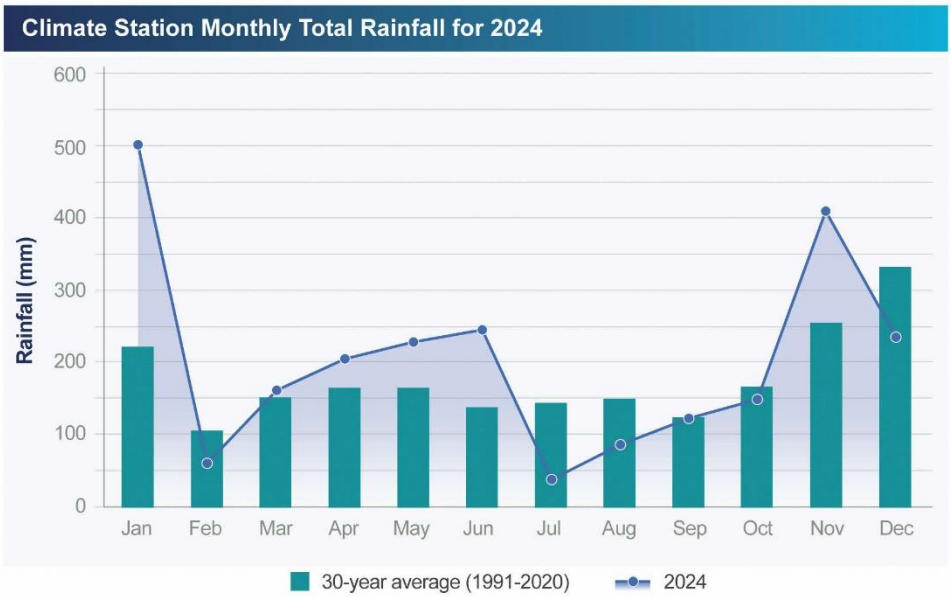

Figure 6: Climate station monthly total rainfall for 2024 (solid line) and long-term average (bars, 1991 – 2020).

Weather Extremes and Records in 2024

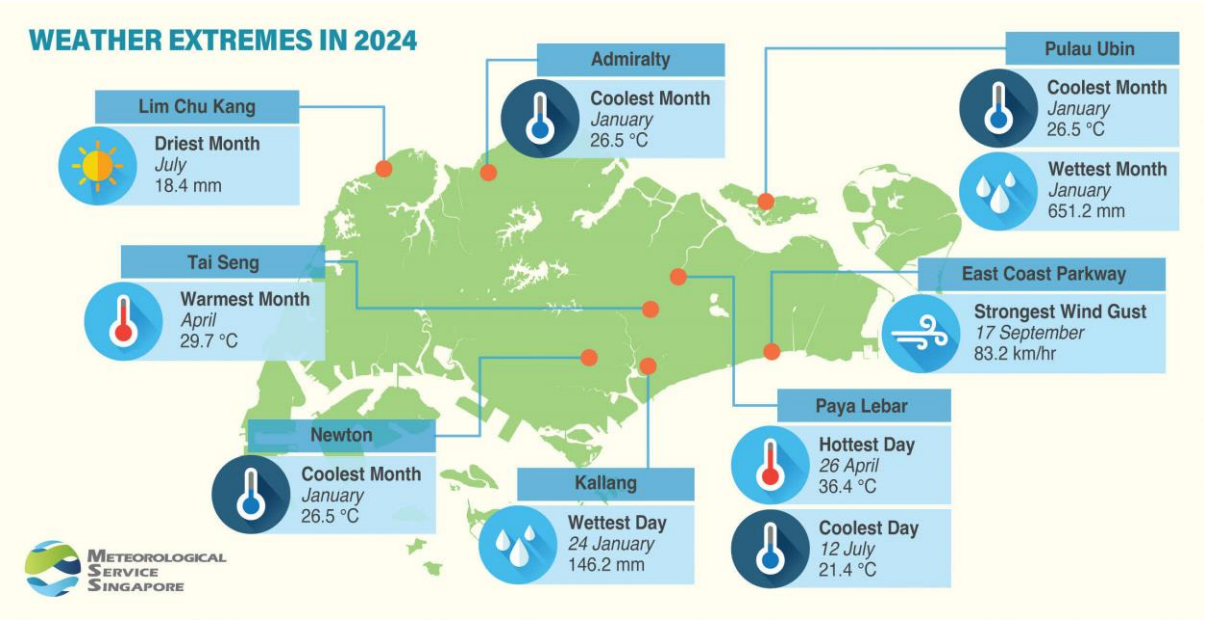

Figure 7: Extreme weather records based on all available stations in 2024.

	Climate Station Records	
	2024	**Historical Extremes***
Hottest Day *(°C)*	35.8 9 Apr	**36.0** 26 Mar 1998
Coolest Day *(°C)*	22.4 20 Oct	**19.4** 30 Jan 1934 31 Jan 1934
Warmest Month *(°C)*	29.4 Apr	**29.5** Mar 1998 May 2023
Coolest Month *(°C)*	26.8 Jan	**24.2** Jan 1934
Wettest Day *(mm)*	85.4 4 May	**512.4** 2 Dec 1978
Wettest Month *(mm)*	499.6 Jan	**818.6** Jan 1893
Driest Month *(mm)*	36.8 Jul	**0.2** Feb 2014
Strongest Wind Gust *(km/h)*	75.9 17 Sep	**90.7** 29 Nov 2010

**Rainfall records since 1869; temperature records since 1929; wind records since 1984*

Table 1: Temperature, rainfall and wind extremes recorded at the climate station in 2024 and the corresponding historical extremes.

Record Temperatures for Climate Station			
Climate Extreme	**2024**	**Previous Record (Year)**	**New Record**
Highest Daily Minimum Temperature for February *(°C)*	27 Feb	26.9 (1998 and 2016)	**27.1**
Highest Daily Minimum Temperature for March *(°C)*	30 Mar	27.5 (1998 and 2016)	**27.8**
Highest Daily Maximum Temperature for April *(°C)*	9 Apr	35.8 (1983)	35.8
Highest Daily Minimum Temperature for April *(°C)*	25 Apr	28.4 (1983)	28.4
Highest Monthly Mean Temperature for April *(°C)*	Apr	29.4 (2016)	29.4
Highest Monthly Mean Daily Minimum Temperature for April *(°C)*	Apr	26.7 (2016)	26.7
Highest Monthly Mean Temperature for July *(°C)*	Jul	29.1 (2015)	**29.3**
Highest Monthly Mean Daily Minimum Temperature for July *(°C)*	Jul	26.9 (2019)	**27.1**
Highest Daily Minimum Temperature for September *(°C)*	2 Sep	27.9 (2015 and 2023)	**28.1**
Highest Daily Minimum Temperature for October *(°C)*	28 Oct	28.2 (2021)	28.2
Highest Daily Maximum Temperature for November *(°C)*	1 Nov	34.6 (2023)	34.6
Highest Daily Maximum Temperature for December *(°C)*	7 Dec	33.9 (2021)	**35.6**
Highest Monthly Mean Temperature for December *(°C)*	Dec	27.7 (2015 and 2021)	27.7
Highest Monthly Mean Daily Maximum Temperature for December *(°C)*	Dec	31.6 (2016 and 2018)	**31.7**

Table 2: Summary of record-matching and record-breaking (in bold) temperatures at the climate station in 2024.

Record Temperatures for All Stations				
Climate Extreme	**Location**	**2024**	**Previous Record (Location, Year)**	**New Record**
Highest Daily Minimum Temperature for March *(°C)*	Pasir Panjang	30 Mar	28.4 (Semakau Island, 2016)	**28.7**
Highest Daily Minimum Temperature for April *(°C)*	Pasir Panjang	30 Apr	29.3 (Semakau Island, 2009)	**29.5**
Highest Daily Maximum Temperature for December *(°C)*	Paya Lebar	7 Dec	35.9 (Seletar, 2016)	**36.2**

Table 3: Summary of record-breaking (in bold) temperatures at all stations in 2024.