香港天文台
HONG KONG OBSERVATORY

The Weather of July 2024 - An exceptionally hot July

2 August 2024

With a stronger than usual subtropical ridge dominating over southern China for most of the time in the month, July 2024 was exceptionally hot in Hong Kong. The monthly mean minimum temperature of 28.0 degrees, monthly mean temperature of 29.9 degrees and monthly mean maximum temperature of 32.4 degrees were respectively 1.1 degrees, 1.0 degrees and 0.8 degrees above their normals and respectively one of the third, the fourth and one of the ninth highest on record for July. The monthly rainfall was 458.5 millimetres, about 19 percent above the normal of 385.8 millimetres. The accumulated rainfall recorded in the first seven months of the year was 1321.9 millimetres, about 10 percent below the normal figure of 1468.2 millimetres for the same period.

Under the influence of a southwesterly airstream, there were sunny intervals and a few showers in Hong Kong on the first two days of the month. With the dominance of the subtropical ridge, apart from a few showers and isolated thunderstorms, there was a spell of generally fine and very hot weather in Hong Kong during 3 – 11 July. The daily mean temperature of 30.8 degrees and daily minimum temperature of 29.2 degrees on 6 July were both the highest on record for Moderate Heat. Moreover, the daily maximum temperature of 34.0 degrees on the same day was one of the highest on record for Moderate Heat. With plenty of sunshine, the temperatures at the Observatory rose to a maximum of 34.8 degrees on the afternoon of 7 July, the highest of the month. Furthermore, it was extremely hot on the afternoons of 7 and 10 July with maximum temperatures reaching 35 degrees or above in many places. With the slight weakening of the subtropical ridge, there were generally more showers during 12 – 14 July. Despite the extremely hot weather on 14 July, heavy showers and squally thunderstorms affected Hong Kong around that evening. Over 50 millimetres of rainfall were recorded over Kwai Tsing and parts of Kowloon and Hong Kong Island.

Under the influence of a broad trough of low pressure over the South China Sea, local weather was a mixture of sunny intervals, showers and squally thunderstorms on 15 – 19 July. More than 70 millimetres of rainfall were generally recorded over most parts of the territory and rainfall even exceeded 140 millimetres over Sha Tin, Wong Tai Sin and Kowloon City Districts on these five days. Under the rain, the temperature at the Observatory dropped to a minimum of 26.0 degrees on 16 July, the lowest of the month. While Hong Kong was still affected by a few showers and isolated thunderstorms on 20 July, the weather improved with very hot weather and sunny intervals under the influence of the subtropical ridge.

Meanwhile, the Inter-tropical Convergence Zone to the south of the subtropical ridge became active and favoured the formation of tropical cyclones. An area of low pressure over the central part of the South China Sea intensified into a tropical depression on the afternoon of 19 July and tracked west-northwestwards towards Hainan Island. The tropical depression intensified into a tropical storm and was named Prapiroon on the morning of 21 July. Prapiroon further intensified and moved across Hainan Island and Beibu Wan on 21 – 22 July. It then moved into the inland areas of the northern part of Vietnam and progressively weakened into an area of low pressure on 23 July. The outer rainbands of Prapiroon brought a few squally showers and thunderstorms to Hong Kong on 21 July. With Prapiroon departing from Hong Kong, it was very hot with sunny periods during the day on 22 July.

Besides, another area of low pressure over the seas east of the Philippines intensified into a tropical depression on 19 July. It intensified into a tropical storm and was named Gaemi on 20 July. Gaemi progressively intensified into a super typhoon in the next four days and headed towards Taiwan. Moving generally northwestwards, Gaemi swept across Taiwan and then Fujian on 25 July. It then moved into the inland areas of eastern China and central China and weakened into an area of low pressure over Hubei on 28 July. Under the influence of the outer subsiding air of Gaemi, local weather was very hot with sunny periods on 23 – 25 July. The daily minimum temperatures of 29.1 degrees and 29.7 degrees at Ta Kwu Ling and Sheung Shui respectively on 25 July were the highest on record for those stations. Affected by an active southwest monsoon over the South China Sea, local winds strengthened later on 25 July and at first on 26 July. Besides, the thundery showers triggered by high temperatures affected Hong Kong on the early morning of 26 July. More than 60 millimetres of rainfall were recorded over the northern part of the New Territories.

Affected by an active southwest monsoon and the subsequent broad trough of low pressure over the northern part of the South China Sea, it was mainly cloudy with occasional heavy showers and squally thunderstorms on 27 – 31 July. More than 150 millimetres of rainfall were generally recorded over most parts of the territory and rainfall even exceeded 250 millimetres over parts of the eastern territory on these five days.

Three tropical cyclones occurred over the South China Sea and the western North Pacific in July 2024.

Details of issuance and cancellation of various warnings/signals in the month are summarised in Tables 1.1 to 1.5. Monthly meteorological figures and departures from normal for July are tabulated in Table 2.

Warnings and Signals issued in July 2024

Table 1.1 Tropical Cyclone Warning Signals

Name of Tropical Cyclone	Signal Number	Beginning Time		Ending Time	
		Day/Month	HKT	Day/Month	HKT
PRAPIROON	1	20 / 7	2240	22 / 7	1220

Table 1.2 Strong Monsoon Signal

Beginning Time		Ending Time	
Day/Month	HKT	Day/Month	HKT
25 / 7	1645	26 / 7	1445

Table 1.3 Rainstorm Warning Signals

Colour	Beginning Time		Ending Time	
	Day/Month	HKT	Day/Month	HKT
Amber	14 / 7	1900	14 / 7	2135
Amber	16 / 7	0535	16 / 7	0725
Amber	18 / 7	1345	18 / 7	1600
Amber	27 / 7	0900	27 / 7	1250
Amber	28 / 7	0550	28 / 7	1040
Amber	31 / 7	0735	31 / 7	1045

Table 1.4 Thunderstorm Warning

Beginning Time		Ending Time	
Day/Month	HKT	Day/Month	HKT
1 / 7	0145	1 / 7	0345
4 / 7	0611	4 / 7	1120
4 / 7	1220	4 / 7	1530
6 / 7	1240	6 / 7	1400
7 / 7	1440	7 / 7	1515
8 / 7	1150	8 / 7	1430
9 / 7	1450	9 / 7	1615
10 / 7	0248	10 / 7	0730
11 / 7	1300	11 / 7	1400
11 / 7	1520	11 / 7	1630
12 / 7	0455	12 / 7	0700
12 / 7	0750	12 / 7	1430
13 / 7	0600	13 / 7	0830
13 / 7	1240	13 / 7	1400
14 / 7	1620	15 / 7	0130
15 / 7	0220	15 / 7	0400
15 / 7	0515	15 / 7	1030
15 / 7	1500	15 / 7	1930
15 / 7	1952	16 / 7	0045
16 / 7	0440	16 / 7	1300
16 / 7	1506	16 / 7	1730
16 / 7	1838	16 / 7	1945

17 / 7	0405	17 / 7	0745
17 / 7	1610	17 / 7	1830
18 / 7	0437	18 / 7	0615
18 / 7	0914	18 / 7	1700
18 / 7	1745	18 / 7	1820
19 / 7	0630	19 / 7	1430
20 / 7	0910	20 / 7	1230
20 / 7	1635	20 / 7	1800
21 / 7	1044	21 / 7	1300
21 / 7	2143	21 / 7	2300
22 / 7	1751	22 / 7	1900
25 / 7	1928	26 / 7	1030
26 / 7	1750	26 / 7	1930
27 / 7	0750	27 / 7	2000
27 / 7	2205	28 / 7	1230
28 / 7	1835	28 / 7	1920
29 / 7	0140	29 / 7	0430
29 / 7	1110	29 / 7	1630
29 / 7	2114	29 / 7	2200
30 / 7	0110	30 / 7	0630
31 / 7	0115	31 / 7	0245
31 / 7	0640	31 / 7	1630

Table 1.5 Very Hot Weather Warning

Beginning Time		Ending Time	
Day/Month	**HKT**	**Day/Month**	**HKT**
1 / 7	0830	14 / 7	1845
15 / 7	1415	15 / 7	1730
17 / 7	1400	17 / 7	1640
20 / 7	1300	20 / 7	1800
22 / 7	1315	25 / 7	2000

Table 2 Figures and Departures from Normal - July 2024

Meteorological Element	Figure of the Month	Departure from Normal*
Mean Daily Maximum Air Temperature	32.4 degrees C	0.8 degrees above normal
Mean Air Temperature	29.9 degrees C	1.0 degrees above normal
Mean Daily Minimum Air Temperature	28.0 degrees C	1.1 degrees above normal
Mean Dew Point Temperature	26.2 degrees C	1.0 degrees above normal
Mean Relative Humidity	81 %	normal
Mean Cloud Amount	78 %	6 % above normal
Total Rainfall	458.5 mm	72.7 mm above normal
Number of hours of Reduced VisibilityΔ	0 hour	11.2 hours below normal§
Total Bright Sunshine Duration	178.3 hours	19.0 hours below normal
Mean Daily Global Solar Radiation	17.00 Megajoule / square metre	0.22 Megajoule below normal
Total Evaporation	113.6 mm	28.4 mm below normal

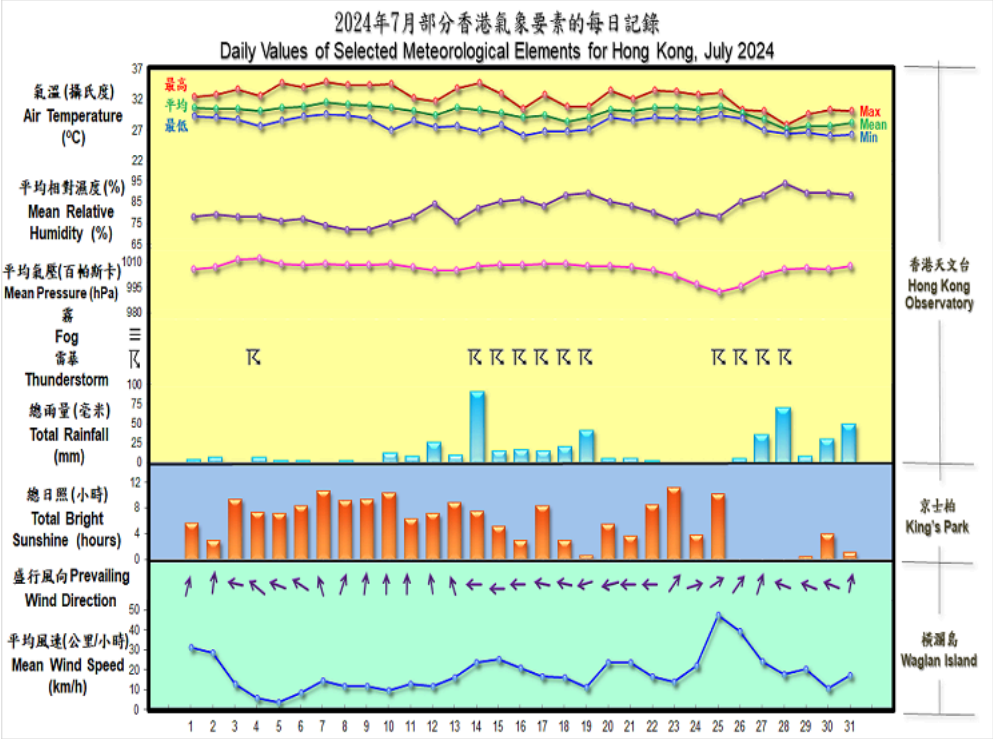
Remarks : All measurements were made at the Hong Kong Observatory except sunshine, solar radiation and evaporation which were recorded at King's Park Meteorological Station and visibility which was observed at the Hong Kong

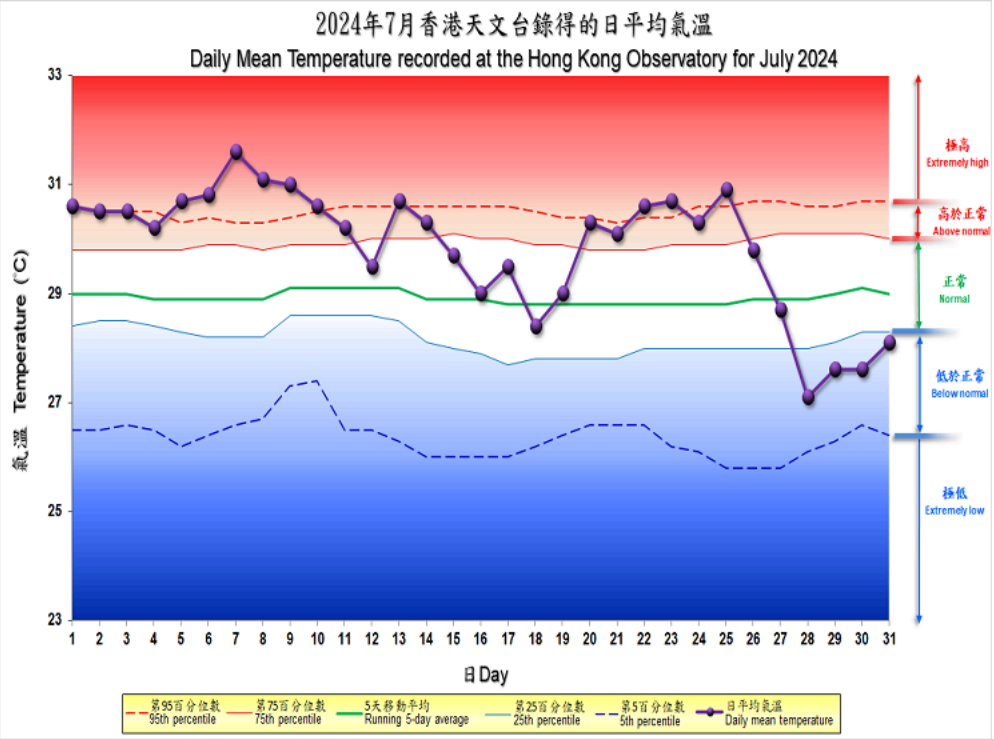
International Airport.

Δ The visibility readings at the Hong Kong International Airport are based on hourly observations by professional meteorological observers in 2004 and before, and average readings over the 10-minute period before the clock hour of the visibility meter near the middle of the south runway from 2005 onwards. The change of the data source in 2005 is an improvement of the visibility assessment using instrumented observations following the international trend.
Before 10 October 2007, the number of hours of reduced visibility at the Hong Kong International Airport in 2005 and thereafter displayed in this web page was based on hourly visibility observations by professional meteorological observers. Since 10 October 2007, the data have been revised using the average visibility readings over the 10-minute period before the clock hour, as recorded by the visibility meter near the middle of the south runway.

* Departure from 1991 - 2020 climatological normal, except for number of hours of reduced visibility

§ Departure from mean value between 1997 and 2023





Remarks : Extremely high: above 95th percentile
Above normal: between 75th and 95th percentile
Normal: between 25th and 75th percentile
Below normal: between 5th and 25th percentile
Extremely low: below 5th percentile
Percentile and 5-day running average values are computed based on the data from 1991 to 2020

Extract of Meteorological Observations in Hong Kong for July 2024