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The Weather of September 2024 - A wet and unseasonably hot September

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4 October 2024

Mainly attributing to weaker than normal northeast monsoon over southern China, September 2024 was much hotter than usual in Hong Kong. The mean temperature of 29.2 degrees, mean maximum temperature of 32.0 degrees and mean minimum temperature of 26.8 degrees were 1.3 degrees, 1.5 degrees and 0.7 degrees above the respective normals and were respectively the third, one of the fourth and one of the seventh highest for September on record. With stronger than normal troughing flow in the lower atmosphere over the coast of southern China and the northern part of the South China Sea, the month was also cloudier and wetter than usual. The mean amount of cloud in the month was 74 percent, 8 percent above the normal of 66 percent and one of the ninth highest on record for September. The monthly total rainfall was 520.9 millimetres, about 62 percent above the normal figure of 321.4 millimetres. The accumulated rainfall this year up to September was 2104.3 millimetres, about 6 percent lower than the normal figure of 2242.8 millimetres for the same period.

Under the influence of an anticyclone aloft, the weather of Hong Kong was very hot with sunny periods during the day on the first four days of the month. High temperatures also triggered thundery showers over the territory on 2 – 4 September. The showers were particularly heavy on 3 September and more than 30 millimetres of rainfall were recorded over many places of Hong Kong.

After a quiet period of tropical cyclone activities over the South China Sea in August, an area of low pressure over the seas east of the Philippines intensified into a tropical depression on 1 September and was named Yagi. Yagi moved across Luzon the next day and entered the northern part of the South China Sea on 3 September. Moving generally westward across the northern part of the South China Sea, Yagi rapidly intensified from a severe tropical storm to a super typhoon in just 24 hours. Yagi attained its peak intensity with an estimated maximum sustained wind of 230 kilometres per hour near its centre on 6 September, making it the second strongest tropical cyclone in the South China Sea since the Observatory's records began in 1950. After moving across Hainan Island and Beibu Wan, Yagi made landfall over the northern part of Vietnam later on 7 September and progressively weakened into an area of low pressure over the inland areas on 8 September.

In Hong Kong, it was still very hot with sunny intervals during the day on 5 September. With the approach of Yagi, the weather of Hong Kong deteriorated later on that day and the Observatory issued the first No. 8 Gale or Storm Signal in the year. Strong to gale force winds generally affected the territory with occasional storm force winds on high ground later on 5 September and at first on 6 September. With Yagi departing from Hong Kong, local winds moderated later on 6 September. The outer rainbands of Yagi brought heavy showers, violent gusts and thunderstorms to Hong Kong on the night of 5 September and the next two days. Violent gusts of around 139 kilometres per hour were once recorded at Central Pier on the night of 5 September. More than 100 millimetres of rainfall were recorded over most parts of Hong Kong on 5 – 7 September and rainfall even exceeded 200 millimetres over the northeastern part of the New Territories.

Under the influence of an upper-air disturbance, it was mainly cloudy with occasional heavy showers and thunderstorms on 8 – 9 September. The showers were particularly heavy over parts of Sha Tin, Wong Tai Sin and Eastern Districts with more than 80 millimetres of rainfall recorded on these two days. Under light wind conditions, apart from isolated showers and thunderstorms, the weather was generally fine and very hot on 10 – 13 September and the morning of 14 September. Thundery showers associated with upper-air disturbances affected the territory on the afternoon of 14 September and more than 50 millimetres of rainfall were recorded over Kowloon. Affected by an upper-air disturbance, the weather was a mixture of sunny periods and showers on 15 – 16 September.

The weather was generally fine and very hot during the day on 17 – 19 September. With plenty of sunshine, it was extremely hot on 17 September, with temperatures at the Observatory rising to a maximum of 35.7 degrees, the highest of the month and also the hottest Mid-Autumn Festival on record. However, thundery showers triggered by high temperatures developed over the coast of eastern Guangdong and moved towards Hong Kong at night, bringing around 30 millimetres of rainfall to many places of the territory.

A broad trough of low pressure lingered over the northern part of the South China Sea and the coast of Guangdong on 20 – 24 September, local weather turned cloudy with occasional heavy showers and thunderstorms. The showers were particularly heavy during the day on 21 September when an area of low pressure over the trough moved across Hong Kong, necessitating

the issuance of the Red Rainstorm Warning Signal. More than 50 millimeters of rainfall were recorded over many places of the territory and rainfall even exceeded 70 millimeters over Hong Kong Island on that day. The weather remained unsettled in the next few days. More than 100 millimetres of rainfall were generally recorded over the territory and rainfall even exceeded 250 millimetres over most parts of Hong Kong Island on 20 – 24 September. Besides, a northeast monsoon reached the coast of southern China on 22 September and brought slightly cooler weather to Hong Kong on 22 – 23 September. Under the rain and affected by the northeast monsoon, the temperatures at the Observatory dropped to a minimum of 23.4 degrees on the morning of 23 September, the lowest of the month.

With the weakening of the trough of low pressure, the showers eased off with sunny periods during the day on 25 September. An anticyclone aloft brought generally fine weather on 26 – 27 September. Affected by an upper-air disturbance, the weather turned cloudier with more showers on 28 September with severe squally thunderstorms in the afternoon. Waterspout was also reported over the sea area off Hung Hom, the first occurrence in the Victoria Harbour according to reports received by the Observatory since 1959. Under the influence of the outer subsiding air of Super Typhoon Krathon, apart from isolated showers, it was generally fine in Hong Kong on the last two days of the month.



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Waterspout inside the Victoria Harbour on 28 September 2024
(Courtesy of Kathie Wong (top) and the Government Flying Service (bottom))

Eleven tropical cyclones occurred over the South China Sea and the western North Pacific in September 2024.

Details of issuance and cancellation of various warnings/signals in the month are summarised in Tables 1.1 to 1.6. Monthly meteorological figures and departures from normal for September are tabulated in Table 2.

Warnings and Signals issued in September 2024

Table 1.1 Tropical Cyclone Warning Signals

Name of Tropical Cyclone	Signal Number	Beginning Time		Ending Time	
		Day/Month	HKT	Day/Month	HKT
YAGI	1	3 / 9	1740	4 / 9	1840
	3	4 / 9	1840	5 / 9	1820
	8 NE	5 / 9	1820	6 / 9	1240
	3	6 / 9	1240	7 / 9	0420

Table 1.2 Strong Monsoon Signal

Beginning Time		Ending Time	
Day/Month	HKT	Day/Month	HKT
7 / 9	0421	7 / 9	1245

Table 1.3 Rainstorm Warning Signals

Colour	Beginning Time		Ending Time	
	Day/Month	HKT	Day/Month	HKT
Amber	3 / 9	2225	3 / 9	2350
Amber	5 / 9	2130	5 / 9	2340

Amber	6 / 9	0235	6 / 9	0425
Amber	6 / 9	1915	7 / 9	0050
Amber	17 / 9	2150	17 / 9	2350
Amber	21 / 9	1145	21 / 9	1205
Red	21 / 9	1205	21 / 9	1320
Amber	21 / 9	1320	21 / 9	1355
Amber	24 / 9	1110	24 / 9	1345

Table 1.4 Thunderstorm Warning

Beginning Time		Ending Time	
Day/Month	HKT	Day/Month	HKT
2 / 9	1306	2 / 9	1700
3 / 9	2120	4 / 9	0030
4 / 9	1710	4 / 9	2000
5 / 9	1850	6 / 9	1400
6 / 9	1553	7 / 9	0330
7 / 9	0859	7 / 9	1130
7 / 9	2256	8 / 9	1300
9 / 9	1145	9 / 9	1420
10 / 9	0250	10 / 9	0545
12 / 9	1458	12 / 9	1615
13 / 9	1655	13 / 9	2100
14 / 9	1200	14 / 9	1645
15 / 9	2048	15 / 9	2200
16 / 9	0121	16 / 9	0300
17 / 9	1713	17 / 9	1800
17 / 9	1855	18 / 9	0130
20 / 9	1800	20 / 9	2200
21 / 9	1055	21 / 9	1930
22 / 9	0108	22 / 9	0200
22 / 9	1325	22 / 9	1700
24 / 9	0430	24 / 9	0630
24 / 9	0715	24 / 9	1500
25 / 9	0808	25 / 9	1130
28 / 9	0115	28 / 9	0300
28 / 9	1105	28 / 9	1800

Table 1.5 Fire Danger Warnings

Colour	Beginning Time		Ending Time	
	Day/Month	HKT	Day/Month	HKT
Yellow	15 / 9	0745	15 / 9	1800
Yellow	17 / 9	1200	17 / 9	1910
Yellow	18 / 9	0600	18 / 9	2330

Table 1.6 Very Hot Weather Warning

Beginning Time		Ending Time	
Day/Month	HKT	Day/Month	HKT
1 / 9	0645	3 / 9	2225
4 / 9	0645	4 / 9	1840
5 / 9	1305	5 / 9	1730
10 / 9	1145	10 / 9	1800
11 / 9	0645	12 / 9	1830

13 / 9	0745	13 / 9	1745
14 / 9	0745	14 / 9	1340
15 / 9	0945	15 / 9	1800
17 / 9	1115	17 / 9	1855
18 / 9	0645	18 / 9	1800
19 / 9	0645	19 / 9	1730
30 / 9	0645	1 / 10	1710

Table 2 Figures and Departures from Normal - September 2024

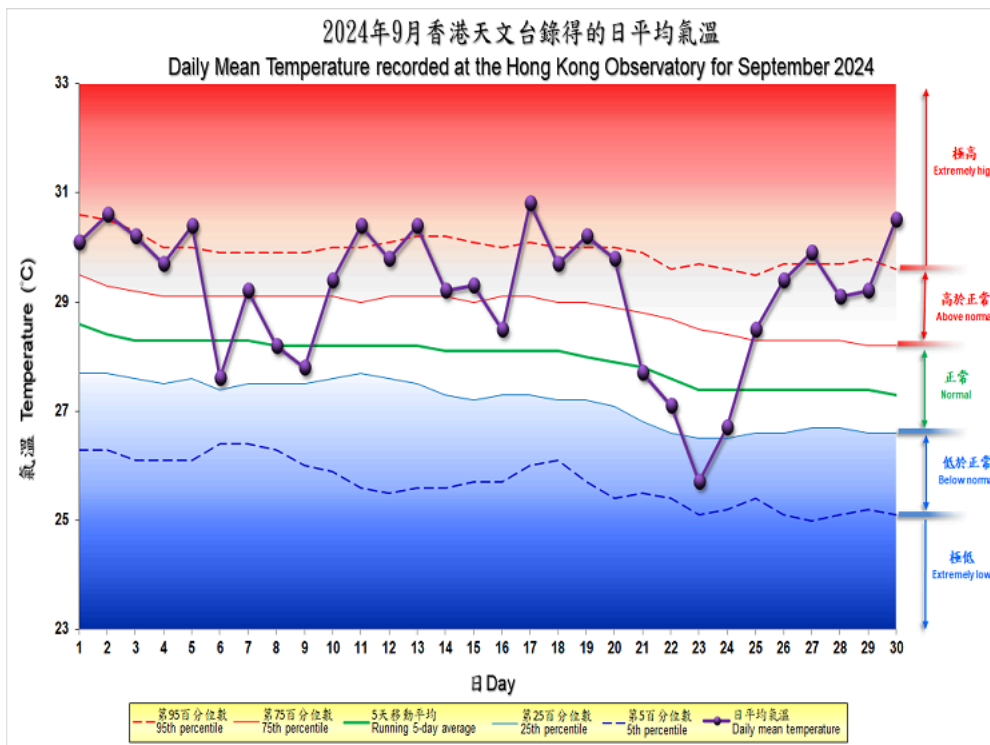
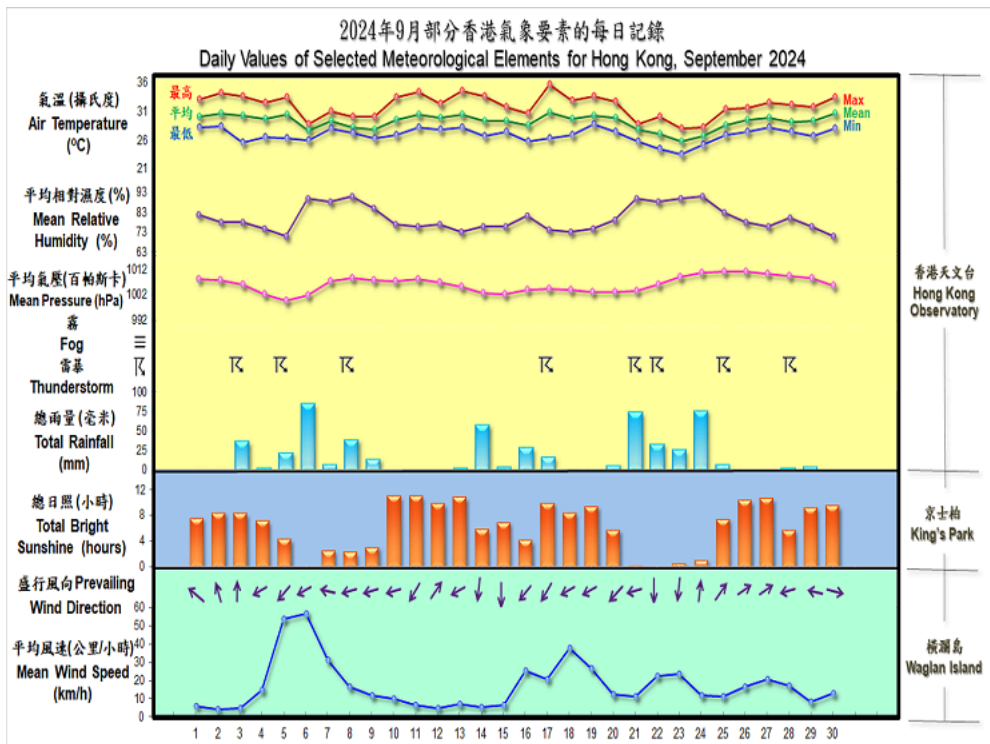
Meteorological Element	Figure of the Month	Departure from Normal*
Mean Daily Maximum Air Temperature	32.0 degrees C	1.5 degrees above normal
Mean Air Temperature	29.2 degrees C	1.3 degrees above normal
Mean Daily Minimum Air Temperature	26.8 degrees C	0.7 degrees above normal
Mean Dew Point Temperature	25.2 degrees C	1.6 degrees above normal
Mean Relative Humidity	80 %	2 % above normal
Mean Cloud Amount	74 %	8 % above normal
Total Rainfall	520.9 mm	199.5 mm above normal
Number of hours of Reduced Visibility Δ	0 hours	63.1 hours below normal \S
Total Bright Sunshine Duration	190.5 hours	16.1 hours above normal
Mean Daily Global Solar Radiation	15.80 Megajoule / square metre	0.81 Megajoule above normal
Total Evaporation	100.3 mm	22.5 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

\S 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 September 2024](#)

