

# A July with record-breaking high temperatures

With a stronger than usual subtropical ridge persisting over southern China and bringing prolonged high-temperature weather to the region in the month, July 2022 was the hottest month in Hong Kong since records began in 1884, breaking the previous record set in July 2020. The monthly mean temperature of 30.3 degrees and the monthly mean minimum temperature of 28.4 degrees were 1.4 degrees and 1.5 degrees above their normals and both were the highest of the correspondingly monthly mean values on record. Moreover, the monthly mean maximum temperature of 33.3 degrees was 1.7 degrees above the normal and one of the highest on record. There were 10 days with daily maximum temperatures recorded equal to or higher than 35.0 degrees, the highest number in a month on record and also breaking the record for a year. With a total of 25 hot nights, July 2022 was the month with the highest number of hot nights on record. The 21 consecutive hot nights that started from July 9 also set a new record. Moreover, there were 21 very hot days in the month, the highest number of very hot days in a month on record. With fine weather prevailing for most of the time in the month, July 2022 was also much drier than usual. The total monthly rainfall was only 158.5 millimetres, about 41 per cent of the normal figure of 385.8 millimetres. The accumulated rainfall for the first seven months of the year was 1 213.0 millimetres, about 17 per cent below the normal figure of 1 468.2 millimetres.

Severe Tropical Storm Chaba over the northern part of the South China Sea moved generally north-northwestwards towards the coast of western Guangdong on July 1. It further intensified into a typhoon the next morning. Chaba made landfall near Maoming and weakened into a severe tropical storm that evening. It then moved across inland Guangdong and Guangxi and weakened gradually into a low pressure area over inland on July 3. With the approach of Chaba, local winds strengthened significantly later on July 1, necessitating the issuance of the first No. 8 Gale or Storm Signal in this year and also the first such issuance on Hong Kong Special Administrative Region Establishment Day. Strong to gale force winds generally affected the territory on July 2, with occasional storm force winds offshore and on high ground at first. With Chaba moving away from Hong Kong and weakening gradually inland, local winds moderated gradually later in that afternoon. The outer rainbands of Chaba also brought heavy squally showers and thunderstorms to Hong Kong on July 1 and 2. More than 100 millimetres of rainfall were generally recorded over Hong Kong on those two days and rainfall even exceeded 150 millimetres in parts of Tsuen Wan, Sha Tin, Kowloon City and Wan Chai Districts. Under the rain, the temperature at the Hong Kong Observatory fell to the month's lowest of 25.4 degrees on July 1. The weather of Hong Kong remained mainly cloudy with occasional showers and squalls on July 3.

Affected by the remnant of Chaba and subsequently a strong southwest monsoon, the weather of Hong Kong was cloudy with showers and thunderstorms

on July 4 to 6. The showers were particularly heavy in some areas of Tai Po and North Districts with more than 70 millimetres of rainfall recorded on July 5. Under the influence of a southerly airstream, there were sunny intervals with a few showers and isolated thunderstorms on July 7.

With the subtropical ridge extending westwards and dominating over southern China, apart from a few showers, there was a long spell of generally fine and very hot weather in Hong Kong starting from July 8 to July 29. With plenty of sunshine, the maximum temperature at the Observatory reached 34.9 degrees on July 23, the hottest Great Heat on record. The maximum temperature at the Observatory soared further to 36.1 degrees on July 24, the highest of the month and the highest maximum temperature for July on record. The maximum temperature recorded at Sheung Shui on that day even reached 39.0 degrees, the highest record since the station was established in 2004. Moreover, the daily mean temperature recorded at the Observatory on both July 24 and 25 was 32.0 degrees, the highest on record for July. The daily minimum temperature of 29.9 degrees on July 25 was also the highest on record for July.

Under light wind and unstable atmospheric conditions, there were thundery showers over Hong Kong on July 30. The showers were heavy at times with intense thunderstorms and incessant lightning in the morning. More than 30 millimetres of rainfall were recorded over some places and rainfall even exceeded 70 millimetres over Sai Kung. During the inclement weather in that morning, a person died after being struck by lightning while hiking in Sha Tin. Affected by an anticyclone aloft, apart from isolated showers and thunderstorms, the weather became generally fine and very hot again on the last day of the month.

Four tropical cyclones occurred over the South China Sea and the western North Pacific in July 2022.

Details of issuance and cancellation of various warnings/signals in July are summarised in Table 1. Monthly meteorological figures and departures from normal for July are tabulated in Table 2.