

The hottest August

August 2023 was much hotter than usual in Hong Kong, mainly attributable to the warmer than normal sea surface temperature over the northern part of the South China Sea and a stronger than usual southwesterly flow in the lower atmosphere over the south China coast. The monthly mean temperature of 29.7 degrees and monthly mean minimum temperature of 27.8 degrees were respectively 1.0 degree and 1.1 degrees above their normal levels, and both were the highest on record for August. Moreover, the monthly mean maximum temperature of 32.4 degrees was 1.1 degrees above normal and one of the second highest on record for August. Together with the exceptionally hot weather in June and July, Hong Kong experienced the hottest summer on record from June to August 2023 with a record-breaking high mean temperature of 29.7 degrees. The mean maximum temperature of 32.4 degrees and mean minimum temperature of 27.6 degrees were both the second highest on record for the same period. There were 15 hot nights in August 2023, one of the highest on record for August. The month was also much drier than usual with a total rainfall of 140.7 millimetres, about 31 per cent of the normal figure of 453.2 millimetres and the ninth lowest on record for August. The accumulated rainfall up to August this year was 1 157.2 millimetres, a deficit of about 40 per cent compared with the normal level of 1 921.5 millimetres for the same period.

Under the influence of a broad trough of low pressure, there were some showers and sunny periods on the first day of the month. Showers and thunderstorms triggered by high temperatures also affected parts of the territory around noon that day. The showers were heavier in some places with more than 30 millimetres of rainfall recorded over Tsing Yi, Tuen Mun and Yuen Long. Under light wind conditions, it was mainly fine and very hot on August 2. Meanwhile, tropical cyclone Khanun moved west-northwestwards towards the East China Sea and lingered there on August 3 and 4. Under the influence of the outer subsiding air of Khanun, it was mainly fine and extremely hot on the afternoon of August 3. The maximum temperature at the Observatory soared to 35.1 degrees that afternoon, the highest of the month.

With the prevalence of a southwesterly airstream and the subsequent establishment of the anticyclone aloft, the weather was very hot with sunny periods apart from a few showers during the day from August 4 to 9. There were also a few thunderstorms on August 5 and 9. Affected by a trough of low pressure, apart from sunny intervals on August 12 and 14, it was mainly cloudy with occasional showers and squally thunderstorms in Hong Kong on August 10 to 14. More than 50 millimetres of rainfall were recorded generally over the territory, and rainfall even exceeded 100 millimetres over Tseung Kwan O, parts of Hong Kong Island and Lantau Island on these five days. Under the rain, temperatures at the Observatory dropped to a minimum of 25.7 degrees on August 11, the lowest of the month but the highest monthly absolute minimum temperature on record for August.

Under the influence of an anticyclone aloft, apart from a few showers

and isolated thunderstorms, the weather of Hong Kong improved with more sunshine on August 15 to 17. It was also very hot during the day on August 16. Affected by a trough of low pressure over the South China coast, local weather became mainly cloudy with showers and squally thunderstorms on August 18 and 19. More than 40 millimetres of rainfall were recorded over many places and rainfall even exceeded 100 millimetres over the northern part of the New Territories on these two days. With the weakening of the trough of low pressure, the showers abated on August 20. Under the influence of a southerly airstream, the weather of Hong Kong was a mixture of sunshine, showers and isolated thunderstorms on August 21 to 28. It was also very hot during the day on August 22, 23 and 28.

Affected by a trough of low pressure along the coast of Guangdong and a weak northeast monsoon over southern China, the weather of Hong Kong turned mainly cloudy and more showery with thunderstorms on August 29. The showers were particularly heavy in some places with more than 90 millimetres of rainfall recorded over the northern part of the New Territories. Meanwhile, over the western North Pacific, tropical cyclone Saola tracked northwestwards across the Luzon Strait on August 29 and 30. It continued to edge towards the coast of eastern Guangdong on August 31. Locally, it was hot and dry with sunny periods during the day on the last two days of the month. With Saola edging closer to the coast of eastern Guangdong, local winds strengthened gradually and there were a few showers later on August 31.

Seven tropical cyclones occurred over the South China Sea and the western North Pacific in August 2023.

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