

## A hot June

June 2023 was hotter than usual in Hong Kong due to the warmer than normal sea surface temperature over the northern part of the South China Sea and the prevalence of a southerly flow. The monthly mean maximum temperature of 31.9 degrees and monthly mean temperature of 29.2 degrees were respectively 1.2 degrees and 0.9 degree above their normals, both ranking as the fourth highest on record for June. Moreover, the monthly mean minimum temperature of 27.1 degrees was 0.6 degree above normal and one of the fifth highest on record. With all six months warmer than usual, the first half of 2023 was abnormally warm. The mean maximum temperature of 25.5 degrees was the third highest on record for the same period. Also, the mean temperature of 22.8 degrees and the mean minimum temperature of 20.8 degrees were both the fifth highest on record for the same period. The monthly rainfall of June 2023 was 490.9 millimetres, near the normal of 491.5 millimetres. The accumulated rainfall recorded in the first six months of the year was 841.3 millimetres, about 22 per cent below the normal figure of 1 082.5 millimetres for the same period.

Under the influence of an area of intense thundery showers moving southwards from inland Guangdong, there were heavy showers and severe squally thunderstorms in Hong Kong on the morning of June 1 with more than 50 millimetres of rainfall recorded over Tuen Mun and Sai Kung. Moreover, more than 10 000 strokes of cloud-to-ground lightning were recorded within Hong Kong on that morning. With the departure of the area of thundery showers, sunshine emerged on that afternoon. Affected by an anticyclone aloft, it was generally fine apart from a few showers and isolated thunderstorms on June 2 to 4. It was extremely hot on the afternoons of June 2 and 3 with maximum temperatures reaching 35 degrees or above in many places. The maximum temperature recorded at the Observatory on the afternoon of June 2 was 35.2 degrees, the highest of the month and the third highest monthly absolute maximum temperature on record for June.

Under the influence of the monsoon depression lingering over the northern part of the South China Sea and Beibu Wan, and the trough of low pressure that subsequently developed over the coast of southern China, local weather was a mixture of sunny periods, showers and thunderstorms on June 5 to 11. The showers were particularly heavy on June 6 and 10 with more than 70 millimetres of rainfall recorded over Tuen Mun and the northeastern part of the New Territories on June 6 and over Ma On Shan on June 10. With the departure of the trough of low pressure, there was more sunshine on June 12. It was very hot on the afternoons of June 8, 10 and 12.

With the trough of low pressure lingering over the coastal areas of Guangdong, the weather of Hong Kong deteriorated with occasional heavy showers and squally thunderstorms on June 13 to 17. More than 200 millimetres of rainfall were recorded generally over the territory and rainfall even exceeded 300 millimetres over the eastern part of the territory and parts of Hong Kong Island and Lantau Island on these five days. The heavy rain on the

afternoon of June 17 necessitated the issuance of the Red Rainstorm Warning Signal. There were reports of serious flooding over some places in the New Territories on that day. Under the rain, temperatures at the Observatory dropped to a minimum of 25.1 degrees on June 14, the lowest of the month.

Under the influence of a southwesterly airstream, it was mainly cloudy and showery on June 18 and 19. The showers were heavier with a few squally thunderstorms on the morning of June 18. Affected by an anticyclone aloft, there were sunny periods and a few showers on June 20 to 22. Under the influence of an active southerly airstream, the weather turned mainly cloudy with thundery showers on the next two days. The showers were particularly heavy on June 24 with more than 50 millimetres of rainfall recorded over Lantau Island and parts of the western New Territories. Affected by an anticyclone aloft over southeastern China and a southerly airstream, local weather was a mixture of sunny periods, showers and isolated thunderstorms on June 25 to 27. The showers were particularly heavy in some places on June 26 with more than 70 millimetres of rainfall recorded over Sha Tin. It was very hot on the afternoon of June 27. Under the influence of the tropical disturbance over the northeastern part of the South China Sea and the subsequent southerly airstream, the weather of Hong Kong remained a mixture of sunny periods, showers and isolated thunderstorms on the last three days of the month. It was very hot on the afternoon of June 29.

Two tropical cyclones occurred over the South China Sea and the western North Pacific in June 2023.

Details of issuances and cancellations of various warnings/signals during the month are summarised in Table 1. Monthly meteorological figures and departures from normal for June are tabulated in Table 2.