

## A June with rejuvenating rain

June 2021 was marked by the long awaited rainy weather brought by tropical cyclone Koguma, troughs of low pressure and the active southwesterly airstream. The total rainfall of June 2021 was 628.0 millimetres, about 28 per cent above the normal of 491.5 mm (or about 38 per cent above the 1981-2010 normal of 456.1 mm). The abundant rainfall in the month alleviated the very dry condition of Hong Kong in the last few months. The accumulated rainfall recorded in the first half of the year was 791.1 mm, a decrease of about 27 per cent compared to the normal of 1 082.5 mm (or about 28 per cent below the 1981-2010 normal of 1 096.9 mm). The month was also warmer than usual with a mean temperature of 28.8 degrees, 0.5 degrees above the normal figure of 28.3 degrees (or 0.9 degrees above the 1981-2010 normals). Mainly attributable to the well-above normal temperatures in the previous four months, the first half of this year from January to June was exceptionally warm. The mean maximum temperature of 26.3 degrees, the mean temperature of 23.3 degrees and the mean minimum temperature of 21.3 degrees were all the highest on record for the same period.

Under the influence of a trough of low pressure, local weather was unstable with heavy showers and squally thunderstorms on the first day of the month. More than 100 mm of rainfall were recorded over many places of Lantau Island and Hong Kong Island that afternoon, and the recorded rainfall even exceeded 150 mm over the southern part of Lantau Island, Cheung Chau, Lamma Island and Stanley. With the trough of low pressure moving to the north, local weather improved with sunny intervals and fewer showers the next day. Affected by an anticyclone aloft, it was generally fine and very hot on June 3. With plenty of sunshine, the temperature recorded at the Hong Kong Observatory soared to maximum of 34.0 degrees in that afternoon, the highest of the month.

A trough of low pressure moved across the coast of Guangdong and brought some showers and a few thunderstorms to Hong Kong on June 4. With the trough of low pressure departing from Hong Kong and the band of clouds over the coast of Guangdong thinning out gradually, local weather improved with sunny periods over the next two days. Under light wind conditions, there was some haze on the morning of June 6. With the setting in of an easterly airstream, apart from a few showers, local weather gradually became mainly fine from June 7 to 8. The weather was very hot during the day on June 8.

Affected by a broad trough of low pressure and subsequently an area of low pressure over the South China Sea, there were sunny intervals and a few heavy showers and thunderstorms in Hong Kong from June 9 to 11. The area of low pressure over the South China Sea intensified into a tropical depression on the afternoon of June 11. It moved across the southwestern part of Hainan Island and entered Beibu Wan on June 12. The tropical depression further intensified into a tropical storm over Beibu Wan and was named Koguma later that day. It made landfall over the northern part of Vietnam and then weakened into an area of low pressure inland on June 13. The thundery showers

associated with the outer rain bands of Koguma continued to affect Hong Kong from June 12 to 13. From June 9 to 12, more than 50 mm of rainfall were generally recorded over the territory and the rainfall even exceeded 100 mm over Tai Po, parts of Kowloon and Hong Kong Island.

Under the influence of a southwesterly airstream, there were sunny periods and a few showers from June 14 to 20. It was also very hot during the day from June 16 to 20. The daily minimum temperature of 29.5 degrees on June 19 was one of the joint highest on record for June. A trough of low pressure over southern China edged towards the coastal areas gradually on June 21. Locally, there were sunny intervals with a few showers and squally thunderstorms on that day. With the trough of low pressure lingering over the coast of Guangdong, it was mainly cloudy with occasional heavy showers and thunderstorms in Hong Kong from June 22 to 26. More than 100 mm of rainfall were generally recorded over the territory on these five days and the rainfall even exceeded 200 mm over Sai Kung, many parts of Kowloon and Hong Kong Island.

With an active southwesterly airstream affecting the coast of Guangdong, the weather of Hong Kong remained unsettled with occasional showers and squally thunderstorms from June 27 to 29. The rain was particularly heavy and persistent on the morning of June 28 and the incessant downpour necessitated the issuance of the first Black Rainstorm Warning this year. More than 150 mm of rainfall were recorded over the Kowloon Peninsula, Hong Kong Island, Tsing Yi, Tseung Kwan O, Cheung Chau and Lantau Island. Under the torrential rain, the temperature recorded at the Hong Kong Observatory dropped to 24.0 degrees, the lowest of the month. With the showers easing off gradually, it was very hot with sunny intervals on the last day of the month.

Three tropical cyclones occurred over the South China Sea and the western North Pacific in June 2021.

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