

# An exceptionally hot June

With a warmer than normal sea surface temperature and stronger than usual southerly flow in the lower atmosphere over the northern part of the South China Sea, June 2019 was much hotter than usual in Hong Kong. The monthly mean temperature of 29.0 degrees was 1.1 degrees above the normal figure of 27.9 degrees, the joint third highest on record for June. Moreover, the first half of this year was exceptionally warm. The mean temperature, mean minimum temperature and mean maximum temperature from January to June 2019 were 23.0 degrees, 21.3 degrees and 25.4 degrees respectively, all the highest on record for the same period. The monthly rainfall for June 2019 was 429.1 millimetres, about 6 per cent below the normal of 456.1 millimetres. The accumulated rainfall recorded in the first six months of the year was 1 109.4 millimetres, slightly higher than the normal figure of 1 096.9 millimetres for the same period.

Under the influence of a trough of low pressure and an upper-air disturbance, there were heavy showers and squally thunderstorms on the first day of June. More than 30 millimetres of rainfall were recorded in many places, and the rainfall even exceeded 70 millimetres over Sai Kung and Kwun Tong. The upper-air disturbance continued to bring thundery showers to the territory over the next three days. The heavy showers on the morning of June 4 brought more than 90 millimetres of rainfall to Sai Kung District and Eastern District.

With the departure of the upper-air disturbance and strengthening of the anticyclone aloft over the northern part of the South China Sea, the weather in Hong Kong turned generally fine and hot apart from isolated showers from June 5 to 8. With plenty of sunshine, the maximum temperature at the Hong Kong Observatory soared to 33.2 degrees on the afternoon of June 7, the third hottest Tuen Ng Festival on record. As the anticyclone aloft weakened, local weather became more showery on June 9 and 10.

Meanwhile, a trough of low pressure over the northern part of south China edged southwards gradually and lingered over the south China coastal areas from June 11 to 13. Locally, the weather deteriorated again with occasional heavy downpours and squally thunderstorms. More than 160 millimetres of rainfall were recorded at the Hong Kong Observatory in these three days. Under the rain, the temperature at the Hong Kong Observatory dropped to a minimum of 24.6 degrees on June 11, the lowest of the month. With the trough of low pressure moving away from the coastal areas, local weather turned generally fine during the day on June 14. Under the influence of a dry easterly airstream over the coast of Guangdong, the weather in Hong Kong remained generally fine over the next two days. With the weakening of the easterly airstream, it was mainly cloudy with a few showers from June 17 to 19.

With the anticyclone aloft strengthening again over the south China coast, apart from isolated showers, local weather was fine and very hot from

June 20 to 23. The daily minimum temperature of 29.5 degrees on June 21 was the highest on record for June. The daily mean temperature of 30.8 degrees that day also made it the hottest summer solstice on record. Under the influence of a trough of low pressure over the south China coast, the weather in Hong Kong became unsettled with outbreaks of heavy showers and thunderstorms from June 24 to 26. Heavy showers brought more than 80 millimetres of rainfall to Tseung Kwan O, Tai Po and parts of Hong Kong Island in these three days. With the weakening of the trough of low pressure and a prevailing southerly airstream, local weather became very hot with a mixture of sunshine and showers towards the end of the month. With plenty of sunshine during the day, the maximum temperature at the Hong Kong Observatory soared to 33.3 degrees on June 29, the highest of the month. The daily minimum temperature of 29.5 degrees was also recorded that day, on a par with that of June 21 as the highest on record for June.

One tropical cyclone occurred over the South China Sea and the western North Pacific in June 2019.

Details of 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.