

# A hot and rainy September

Due to the warmer than normal sea surface temperature over the northern part of the South China Sea, September 2020 was hotter than usual in Hong Kong. The monthly mean temperature of 28.4 degrees was 0.7 degree above the normal figure of 27.7 degrees. With more than the usual low-level moisture supply from the south over southern China, the month was also much cloudier and wetter than usual. The monthly rainfall was 708.8 millimetres, about 116 per cent above the normal figure of 327.6mm, and was the sixth highest on record for September. The mean amount of cloud in the month was 78 per cent, 12 per cent above the normal figure of 66 per cent, and was the joint third highest on record for September. The duration of bright sunshine in the month was only 131.3 hours, about 24 per cent lower than the normal figure of 172.3 hours and the fifth lowest on record for September. The accumulated rainfall up to September this year was 2 246.0mm, slightly more than the normal figure of 2 233.1mm for the same period.

Under the influence of a weak continental airstream, the weather of Hong Kong was generally fine and very hot on the first three days of the month. With plenty of sunshine, the maximum temperature at the Hong Kong Observatory soared to 34.2 degrees on September 2, the highest of the month. However, the high temperature in these few days also triggered thundery showers over parts of the territory in the afternoon. Showery activities continued to affect the territory from September 4 to 5. The heavy showers and thunderstorms on the morning of September 5 necessitated the issuance of the Red Rainstorm Warning. More than 40mm of rainfall were recorded over Hong Kong Island, Kowloon and Tseung Kwan O on that day, and the rainfall even exceeded 100mm over Southern District, Eastern District and Kwun Tong. During the downpour, the temperature at the Hong Kong Observatory dropped to a minimum of 25.2 degrees, the lowest of the month.

Apart from a few showers and thunderstorms, it was hot with sunny intervals and light wind on September 6. With a trough of low pressure lingering over the South China coast, the weather in Hong Kong became unsettled with occasional showers and thunderstorms from September 7 to 12. The showers were particularly heavy on September 8 and 12, with more than 100mm of rainfall recorded over Wong Tai Sin, Sha Tin and Sai Kung on September 8 and over 50mm of rainfall over many parts of the territory on September 12.

Under the influence of an easterly airstream, it was mainly cloudy with sunny periods and a few showers on September 13. With the setting in of an upper-air disturbance, local weather became unsettled again with occasional heavy showers and thunderstorms from September 14 to 15. More than 50mm of rainfall were recorded over most parts of the territory and the rainfall even exceeded 150mm over Sai Kung on September 15.

Meanwhile, an area of low pressure gradually developed into a tropical depression over the southern part of the South China Sea on the night of

September 15 and was later named as Noul. Noul moved generally west-northwestward across the South China Sea and intensified into a severe tropical storm on the morning of September 17. Noul made landfall over the central part of Vietnam the next morning and weakened gradually into an area of low pressure over the Indochina Peninsula on September 19.

Affected by the anticyclone aloft, local weather was hot with sunny periods and less showers on September 16. Under the combined effect of Noul and the northeast monsoon, the weather of Hong Kong became mainly cloudy and windy with occasional showers and squally thunderstorms on September 17 and 18. A broad trough of low pressure continued to bring showery weather and squally thunderstorms to Hong Kong the next day. With the strengthening of the anticyclone aloft, the weather became hot with sunny periods and fewer showers on September 20.

A fresh easterly airstream set in on September 21 and brought heavy showers and thunderstorms to the territory in the afternoon and at night. More than 50mm of rainfall were recorded over many places and the rainfall even exceeded 100mm over most parts of the urban areas, necessitating the issuance of the Red Rainstorm Warning. Affected by a drier easterly airstream and the subsequent weak northeast monsoon, local weather improved with sunny periods and less showers from September 22 to 24. Under the influence of a fresh to strong easterly airstream, local weather turned mainly cloudy with a few showers later on September 25 and remained so in the next two days. A tornado was reported near the Hong Kong International Airport on the afternoon of September 25. Affected by a broad trough of low pressure over the northern part of the South China Sea, there were heavy showers on the evening of September 28. More than 10mm of rainfall were recorded over many places and the rainfall even exceeded 70mm over the Southern District of Hong Kong Island. The broad trough of low pressure continued to bring showers and thunderstorms to Hong Kong on September 29. A band of intense thundery showers moved across the coastal areas of Guangdong and brought heavy rain and squally thunderstorms to Hong Kong on the evening of September 30. More than 70mm of rainfall were recorded in most parts of the territory on that day and the rainfall even exceeded 100mm over Hong Kong Island and Kowloon, necessitating the issuance of the Black Rainstorm Warning.

Five tropical cyclones occurred over the South China Sea and the western North Pacific in September 2020.

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