

A dry and exceptionally hot July

With a stronger than usual subtropical ridge dominating over southern China for most of the month, July 2023 was exceptionally hot in Hong Kong. The monthly mean maximum temperature of 33.0 degrees, monthly mean temperature of 30.1 degrees and monthly mean minimum temperature of 28.0 degrees were respectively 1.4 degrees, 1.2 degrees and 1.1 degrees above their normals, and all were the third highest on record for July. The month was also much drier than usual with only 175.2 millimetres of rainfall, about 45 per cent of the normal of 385.8 millimetres. The accumulated rainfall recorded in the first seven months of the year was 1 016.5 millimetres, about 31 per cent below the normal figure of 1 468.2 millimetres for the same period.

Under the influence of a broad trough of low pressure and the subsequent southwesterly airstream, the weather of Hong Kong was mainly cloudy with occasional showers and squally thunderstorms on the first four days of the month. More than 40 millimetres of rainfall were recorded over most parts of the territory and rainfall even exceeded 100 millimetres over Tai Po, Sha Tin and parts of Lantau Island on these four days. Under the rain, temperatures at the Observatory dropped to a minimum of 26.2 degrees on July 1 and 2, the lowest of the month. Dominated by an anticyclone aloft, apart from isolated showers, local weather turned generally fine and very hot on July 5 and remained so till July 14. It was also extremely hot during the afternoons of July 13 and 14 with maximum temperatures reaching 35 degrees or above in many places.

Meanwhile, an area of low pressure near northern Luzon intensified into a tropical depression on July 14 and was later named as Talim. It tracked west-northwestwards across the northern part of the South China Sea towards the coast of western Guangdong and intensified into a typhoon gradually on July 15 to 17. Talim moved across Leizhou Peninsula and Beibu Wan on the night of July 17 and the next morning. It then moved into the inland areas of Guangxi on July 18 and eventually weakened into an area of low pressure over the northern part of Vietnam on July 19.

Under the influence of the outer subsiding air of Talim, it was mainly fine and extremely hot during the day on July 15. Squally thunderstorms triggered by high temperatures also affected parts of the territory later that day. With Talim edging closer to western Guangdong and further intensifying, local winds strengthened gradually with occasional squally showers and thunderstorms on July 16. Strong to gale force winds generally affected the territory with occasional storm force winds on high ground on July 17, necessitating the issuance of the first No. 8 Gale or Storm Signal this year. As Talim departed from Hong Kong and weakened over inland areas, local winds moderated gradually later on July 17 and the next day. The outer rainbands of Talim brought occasional heavy squally showers to Hong Kong on July 17 and 18. More than 40 millimetres of rainfall were generally recorded over most parts of the territory on these two days and rainfall even exceeded 90 millimetres in parts of Tai Po and North Districts.

Under the influence of a broad trough of low pressure, the weather was mainly cloudy with a few showers on July 19. Affected by an anticyclone aloft, apart from a few showers, generally fine and very hot weather persisted in Hong Kong on July 20 to 25. It was extremely hot during the afternoons of July 24 and 25 with maximum temperatures reaching 35 degrees or above in many places. Meanwhile, tropical cyclone Doksuri moved across the Luzon Strait and entered the northeastern part of the South China Sea on July 26 and 27. It then moved north-northwestwards across the northeastern part of the South China Sea and made landfall over Jinjiang, Fujian, on July 28.

Under the influence of the outer subsiding air of Doksuri, it was generally fine and extremely hot during the day on July 26 and 27. The maximum temperature at the Observatory soared to 36.1 degrees on the afternoon of July 27, the highest of the month and one of the highest monthly absolute maximum temperatures on record for July. Moreover, the daily mean temperature on that day was 32.2 degrees and was the highest on record for July. The oppressive heat also triggered squally thunderstorms that evening. It was very hot with sunny periods and isolated showers on July 28. Affected by an active southerly airstream, the weather turned showery with squally thunderstorms on July 29 and 30. More than 40 millimetres of rainfall were recorded over most parts of the territory and rainfall even exceeded 100 millimetres over parts of Tai Po, Sha Tin, Tuen Mun and North Districts on these two days. Under the influence of a broad trough of low pressure, it was showery with thunderstorms in the small hours of July 31. The weather improved with sunny periods during the day.

Three tropical cyclones occurred over the South China Sea and the western North Pacific in July 2023.

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