

The hottest September

Due to the stronger than usual subtropical ridge over southern China, September 2021 was the hottest September in Hong Kong on record. The monthly mean maximum temperature of 32.8 degrees, the monthly mean temperature of 29.7 degrees and the monthly mean minimum temperature of 27.8 degrees were 2.3 degrees, 1.8 degrees and 1.7 degrees above their corresponding normal figures (or 2.7 degrees, 2.0 degrees and 2.0 degrees above their corresponding 1981-2010 normal figures), making all of them the highest on record for September. There were 15 very hot days and 11 hot nights in the month, both marking new records for September. Meanwhile, the numbers of very hot days and hot nights from January to September 2021 have already reached 53 days and 57 days respectively, both exceeding the annual records made in 2020. September 2021 was also much drier than usual with a total rainfall of 129.6 millimetres, about 40 per cent of the normal figure of 321.4mm (or about 40 per cent of the 1981-2010 normal of 327.6mm). The accumulated rainfall recorded in the first nine months of the year was 1 650.7mm, about 26 per cent below the normal figure of 2 242.8mm for the same period (or about 26 per cent below the 1981-2010 normal of 2 233.1mm).

Under the dominance of the anticyclone over southern China, apart from a few showers and isolated thunderstorms, the weather of Hong Kong was sunny and very hot for most of the time from September 1 to 12. Over the western North Pacific, Super Typhoon Chanthu tracked northwards and moved across the Luzon Strait and the sea areas to the east of Taiwan from September 10 to 12. With plenty of sunshine and under the influence of the outer subsiding air of Chanthu, the temperature recorded at the Hong Kong Observatory soared to 34.5 degrees on September 12, the highest of the month. The daily mean temperature of 31.2 degrees on that day was the joint highest on record for September.

Under light wind conditions, high temperatures triggered localised thundery showers in some regions from September 13 to 17 with sunny periods in between. The daily minimum temperature of 29.5 degrees on September 13 was the joint highest on record for September. Localised heavy showers and thunderstorms occurred on September 16 with hail reported in Tseung Kwan O at around 1pm and more than 100mm of rainfall recorded in that region. A man was also reported dead after being struck by lightning in Clear Water Bay that afternoon.

Affected by an anticyclone aloft, there were a few showers and isolated thunderstorms with sunny periods from September 18 to 19. Under light wind conditions, there were sunny periods from September 20 to 22 with the day heating triggering a few thundery showers. The showers were particularly heavy in some areas on September 21, with more than 60mm of rainfall recorded over Tsuen Wan District. With plenty of sunshine, the temperature recorded at the Hong Kong Observatory soared to a maximum of 34.0 degrees on the afternoon of September 22, making it the hottest day following the Mid-Autumn Festival on record.

With the setting in of a fresh to strong easterly airstream on the night of September 22, the local weather turned mainly cloudy with occasional showers and squally thunderstorms the next day. Under the rain, the temperature recorded at the Hong Kong Observatory dropped to a minimum of 26.0 degrees, the lowest of the month. This was also the highest monthly absolute minimum temperature on record for September. The weather gradually became sunnier and less showery from September 24 to 26. Under the influence of an anticyclone aloft and the moderation of the easterly airstream, apart from some isolated showers and thunderstorms from September 29 to 30, the local weather became mainly fine and was very hot towards the end of the month.

Five tropical cyclones occurred over the South China Sea and the western North Pacific in September 2021.

Details of 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.