

Appendix E

Summary of Meteorological Condition Extracted from Hong Kong Observatory

Year 2019

In Hong Kong, with eleven out of the twelve months warmer than usual, 2019 was the warmest year since records began in 1884 with an annual mean temperature of 24.5 degrees, 1.2 degrees above the 1981-2010 normal (or 1.5 degrees above the 1961-1990 normal). The annual mean maximum temperature of 27.1 degrees and annual mean minimum temperature of 22.6 degrees were also the highest on record. In particular, the mean temperatures for winter (December 2018 to February 2019) and autumn (September to November 2019) respectively reached 19.1 degrees and 26.1 degrees, both ranking the highest on record. The highest temperature recorded at the Hong Kong Observatory in the year was 35.1 degrees on 9 August, the fourteenth highest on record. There were 46 Hot Nights and 33 Very Hot Days in Hong Kong in 2019, ranking the highest and one of the fourth highest on record respectively. The lowest temperature recorded at the Hong Kong Observatory in the year was 11.4 degrees on 1 January, the highest annual absolute minimum temperature on record. There was only one Cold Day^[4] in the year, which is 16.1 days less than the 1981-2010 normal and the fewest annual number of Cold Days since 1884.

Year 2020 (Jan to Oct)

With the northeast monsoon over southern China generally weaker than normal for most of the time in the month, January 2020 was much warmer than usual. The mean maximum temperature of 21.2 degrees and mean temperature of 18.6 degrees were respectively 2.6 degrees and 2.3 degrees above their corresponding normals and both were the highest on record for January. The mean minimum temperature of 16.8 degrees was 2.3 degrees above the normal and one of the second highest on record for January. The month was also drier than usual with 14.8 millimetres of rainfall recorded in the month, about 60 percent of the normal figure of 24.7 millimetres.

February 2020 was much warmer than usual. The monthly mean maximum temperature was 21.4 degrees, 2.5 degrees above the normal figure of 18.9 degrees and the sixth highest on record for February. The monthly mean temperature of 18.5 degrees and mean minimum temperature of 16.6 degrees were respectively 1.7 degrees and 1.6 degrees above their corresponding normal figures. Both were one of the eighth highest on record for February. Moreover, the winter from December 2019 to February 2020 was exceptionally warm in Hong Kong. The mean maximum temperature of 21.5 degrees was the highest on record for the same period. The mean temperature of 18.7 degrees and mean minimum temperature of 16.8 degrees were both the second highest on record for the same period. February 2020 was also wetter than normal with the monthly rainfall of 79.8 millimetres, about 47 percent above the normal of 54.4 millimetres. The accumulated rainfall recorded in the first two months of the year was 94.6 millimetres, about 20 percent above the normal figure of 79.1 millimetres for the same period.

With the northeast monsoon over southern China generally weaker than normal for most of the time in the month, March 2020 continued to be much warmer than usual in Hong Kong. The monthly mean temperature of 21.3 degrees and mean minimum temperature of 19.7 degrees were respectively 2.2 degrees and 2.5 degrees above their corresponding

normal figures and both were one of the second highest on record for March. The monthly mean maximum temperature was 23.8 degrees, 2.4 degrees above the normal figure and the fifth highest on record for March. The month was also drier than usual with a total rainfall of 41.3 millimetres, about half of the normal figure of 82.2 millimetres. The accumulated rainfall recorded in the first three months of the year was 135.9 millimetres, about 16 percent below the normal figure of 161.3 millimetres for the same period

Mainly attributing to the stronger than usual northeast monsoon over southern China, April 2020 was slightly cooler than usual with the mean temperature of 22.0 degrees, 0.6 degree below the normal figure of 22.6 degrees. With weaker southerlies and less moisture in the lower atmosphere over southern China, the month was also drier than usual in Hong Kong. The total rainfall in the month was 77.8 millimetres, about 55 percent below the normal figure of 174.7 millimetres. The accumulated rainfall recorded in the first four months of the year was 213.7 millimetres, about 36 percent below the normal figure of 336.1 millimetres for the same period.

May 2020 was characterized by generally fine and hot weather during the first part of the month and unsettled weather with outbreaks of heavy showers in the latter part. Overall, the month was much hotter than usual. The monthly mean minimum temperature was 25.9 degrees, 1.8 degrees above the normal figure and one of the second highest on record for May. The monthly mean temperature of 27.7 degrees and mean maximum temperature of 30.4 degrees were respectively 1.8 degrees and 2.0 degrees above their corresponding normal figures and both were the fifth highest on record for May. Moreover, the spring of this year from March to May was exceptionally warm. The mean minimum temperature of 21.9 degrees, mean temperature of 23.7 degrees and mean maximum temperature of 26.4 degrees were respectively the fourth, fifth and sixth highest on record for the same period. May 2020 was also wetter than usual. The monthly rainfall was 352.5 millimetres, about 16 percent above the normal figure of 304.7 millimetres. The accumulated rainfall recorded in the first five months of the year was 566.2 millimetres, about 12 percent below the normal figure of 640.8 millimetres for the same period.

June 2020 was much hotter than usual in Hong Kong. The monthly mean minimum temperature was 27.8 degrees, 1.6 degrees above the normal figure and the highest on record for June. The monthly mean temperature and monthly mean maximum temperature were 29.6 degrees and 32.3 degrees respectively, both were the second highest on record for June. With a total of 18 hot nights, June 2020 was on par with July 1993 as one of the highest record of number of hot nights in a month. The 12 consecutive hot nights that started from 19 June also set a new record for June. Moreover, the first half of this year was exceptionally warm. The mean maximum temperature of 25.7 degrees and mean temperature of 23.0 degrees were both the highest on record for the same period. The mean minimum temperature of 21.1 degrees was the third highest on record for the same period. June 2020 was also marked by sunny weather with the monthly total sunshine duration amounting to 192.5 hours, about 32 percent above the

normal of 146.1 hours. Despite the heavy rain episode on 6 – 8 June, the monthly total rainfall was only 397.2 millimetres, about 13 percent below the normal figure of 456.1 millimetres. The accumulated rainfall for the first half of the year of 963.4 millimetres was about 12 percent below the normal figure of 1096.9 millimetres.

July 2020 became the hottest month in Hong Kong since records began in 1884. The monthly mean maximum temperature of 33.3 degrees, monthly mean temperature of 30.2 degrees and monthly mean minimum temperature of 28.3 degrees were 1.9 degrees, 1.4 degrees and 1.5 degrees above their corresponding normals and all of them were the highest of the correspondingly monthly mean values on record. With a total of 21 hot nights, July 2020 was the month with the highest number of hot nights on record and the 11 consecutive hot nights that started from 5 July also set a new record for July. Moreover, there were 20 very hot days in the month, the highest number of very hot days in a month on record. With long spell sunny weather, the month was also much drier than usual. The total monthly rainfall was only 125.4 millimetres, about 33 percent of the normal figure of 376.5 millimetres. The accumulated rainfall for the first seven months of the year was 1088.8 millimetres, about 26 percent below the normal figure of 1473.3 millimetres.

August 2020 was hotter than usual in Hong Kong. The monthly mean temperature of 29.0 degrees was 0.4 degree above the normal figure of 28.6 degrees. Together with the extremely high temperature weather in June and July, Hong Kong experienced the hottest summer on record from June to August 2020. The mean temperature of 29.6 degrees, mean minimum temperature of 27.7 degrees and mean maximum temperature of 32.6 degrees for June to August 2020 were all the highest on record for the same period. There were 16 very hot days in August 2020, the highest number of very hot days on record for August. Moreover, from January to August, the annual number of very hot days in 2020 already reached 43, which is 32.8 days above the annual normal and broke the previous highest record of 38 days set in 2016. The number of hot nights up to August 2020 also reached 46, on par with the highest record in 2019. The monthly rainfall was 448.4 millimetres, about 4 percent above the normal figure of 432.2 millimetres. The accumulated rainfall recorded in the first eight months of the year was 1537.2 millimetres, about 19 percent below the normal figure of 1905.5 millimetres for the same period.

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 usual low-level moisture supply from the south over southern China, the month was also much cloudier and wetter than usual. The monthly total rainfall was 708.8 millimetres, about 116 percent above the normal figure of 327.6 millimetres and the sixth highest on record for September. The mean amount of cloud in the month was 78 percent, 12 percent above the normal of 66 percent and one of the third highest on record for September. The

duration of bright sunshine in the month was only 131.3 hours, about 24 percent 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 2246.0 millimetres, slightly more than the normal figure of 2233.1 millimetres for the same period.

The mean temperature for October 2020 was 25.6 degrees, close to the normal figure of 25.5 degrees. Mainly attributing to the heavy downpour on 5 October, the month was wetter than usual with the monthly rainfall of 142.4 millimeters, about 41 percent above the normal of 100.9 millimetres. The accumulated rainfall this year up to October was 2388.4 millimetres, about 2 percent above the normal figure of 2334.0 millimetres for the same period.