

Appendix E

Summary of Meteorological Condition Extracted from Hong Kong Observatory

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November 2017

The weather in Hong Kong was gloomier and more humid than usual in November 2017. The duration of bright sunshine in the month was only 114.3 hours, about 37 percent below the normal figure of 180.1 hours and the third lowest for November on record. The monthly mean temperature was 22.2 degrees, 0.4 degree above the normal figure of 21.8 degrees. Despite the rather cloudy and more humid conditions for most part of the month, the monthly rainfall was only 31.2 millimetres, about 17 percent below the normal of 37.6 millimetres. The accumulated rainfall this year up to November was 2572.1 millimetres, a surplus of about 8 percent above the normal of 2371.7 millimetres for the same period.

Under the influence of a dry northeast monsoon, the weather in Hong Kong was generally fine and dry for the first three days of the month. A freshening of the northeast monsoon brought cloudy weather with some light rain patches on 4 November, before fine weather returned the next day.

While the northeast monsoon prevailed on 6 – 8 November, moister air moved in towards the coastal areas of Guangdong and brought clouds and rain patches to Hong Kong. Despite the strengthening of an easterly airstream and some light rain on the night of 8 November, winds soon subsided the next day and clouds gradually dissipated. A fine day on 10 November saw temperature at the Hong Kong Observatory rising to a maximum of 28.4 degrees, the highest of the month.

A replenishment of the northeast monsoon reached the south China coast and the weather in Hong Kong turned cloudy again on 11 November. As a tropical cyclone Haikui made its way across the northern part of the South China Sea, the combined effect between the northeast monsoon and a weakening Haikui resulted in windy and rainy weather in Hong Kong over the next couple of days. Generally cloudy conditions then persisted for another two days before fine weather returned on 16 – 17 November.

Meanwhile, a cold front formed over southern China and crossed the coast of Guangdong on 18 November. Local weather became cloudy with rain patches persisting till the next day. As cool air under a northerly airstream continued to spread southwards, the weather in Hong Kong got progressively cooler. Even though the weather turned fine on 22 November, temperature continued to fall and a minimum of 15.5 degrees, the lowest of the month, was recorded at the Hong Kong Observatory the next morning.

The northerly winds lasted till 26 November and winds then turned increasingly to an easterly direction under a mixture of clouds and sunshine. Local temperatures gradually recovered towards the end of the month, with some light rain patches affecting the territory on 30 November as a replenishment of the northeast monsoon reached the south China coastal areas.

Four tropical cyclones occurred over the South China Sea and the western North Pacific in the month.

December 2017

In contrast to November, the weather in Hong Kong was sunny and bright in December 2017 and, apart from three days on 13, 17 and 23 December, the territory enjoyed more than two hours of sunshine each day during the month. The monthly total sunshine duration amounted to 209.6 hours, 37.4 hours and 22 percent above the December normal of 172.2 hours. The monthly mean temperature was 17.8 degrees, 0.1 degree below the December normal of 17.9 degrees. Only traces of rainfall were recorded in the month, with most of them occurring during a surge of strong easterly monsoon on 12 – 14 December. The only rain-free December was way back in 1909, and December 2017 was one of ten Decembers with traces of rainfall since records began in 1884. Nevertheless, the total rainfall of 2572.1 millimetres accumulated in 2017 still exceeded the annual normal of 2398.5 millimetres by about 7 percent.

Under the prevalence of dry continental air brought by the northeast monsoon, the weather in Hong Kong was generally fine for the first eleven days of the month, with conditions becoming cooler and drier on 8 – 10 December as a replenishment of the northeast monsoon reached the south China coastal areas.

A fresh to strong easterly airstream brought windy and cloudier weather with light rain patches to the territory on 12 – 14 December. The easterly winds were soon replaced by a strong northerly airstream as a cold front formed over Guangdong on 15 December and moved across the coastal areas during the night. Affected by an intense winter monsoon behind the cold front, local weather became cold, windy and dry over the next six days. Temperatures at the Hong Kong Observatory on 18 December dropped to a minimum of 9.8 degrees, the lowest of the month, and daytime relative humidity fell below 40 percent on 19 – 21 December. Apart from a cloudy day on 17 December, the weather in Hong Kong remained mostly fine with plenty of sunshine during the period.

The monsoon winds started to subside on 22 December and moister maritime air returned to the south China coast, with cloud bands from the northern part of the South China Sea covering the territory the next day. A replenishment of dry continental air on 24 December soon cleared away the clouds, and generally fine conditions then persisted in Hong Kong till the end of the month.

Two tropical cyclones occurred over the South China Sea and the western North Pacific in the month.

January 2018

Despite some mild interludes, January 2018 was dominated by the northeast monsoon with two episodes of cold weather during the first half and towards the end of the month. Overall, the month was slightly cooler than usual with a mean temperature of 16.1 degrees, 0.2 degree below the normal figure of 16.3 degrees. It also had more rain than usual with 62.2 millimetres of rainfall recorded in the month, more than double the normal figure of 24.7 millimetres.

Under the influence of an easterly airstream, the weather in Hong Kong was mainly cloudy with sunny periods on the first two days of the month. After a generally fine and mild day on 3 January, a broad band of clouds moved in from the northern part of the South China Sea, bringing cloudy weather and light rain patches to the territory over the next couple of days. The weather turned windy and cooler and the rain became heavier on 6 – 7 January as a strong easterly airstream affected the south China coastal areas.

A cold front over southern China moved across the coastal areas of Guangdong on 8 January, bringing gloomy conditions and more rain to Hong Kong. Under the strengthening northerly winds, the weather became much colder and temperature at the Hong Kong Observatory fell to around 8 degrees on the morning of 9 January. As a continental air mass spread towards the south China coast, the clouds thinned out and the weather turned brighter and drier on 10 January. With fine and sunny weather settling in, dry conditions persisted for another couple of days as daytime relative humidity fell below 40 percent. Meanwhile, another northerly replenishment of the winter monsoon helped to maintain the cold weather in Hong Kong till 14 January.

With fine weather persisting and the northeast monsoon going into a lull, temperature rose significantly, culminating in a warm and hazy day on 17 January. Temperature at the Hong Kong Observatory climbed to the month's highest of 25.5 degrees that day. Apart from a cloudy interlude on 19 January with rain patches in the morning, generally fine and mild weather persisted for another four days with the occurrence of mist on 21 January and haze on 22 January under light wind conditions.

Even though the weather remained mostly fine on 24 - 25 January, conditions became windy and appreciably cooler as easterly winds strengthened along the south China coast. The weather turned increasingly cloudy and light rain patches affected the territory on 26 -27 January. Following the passage of a cold front on 28 January, northerly winds set in and an intense winter monsoon brought a spell of cold weather with overcast skies and rain patches that persisted till the end of the month. Rain was particularly heavy during the day on 31 January and temperature at the Hong Kong Observatory dropped to the month's lowest of 7.8 degrees before midnight.

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

February 2018

With the persistence of an intense winter monsoon during the early part of the month, the weather of February 2018 was overall cooler than usual. The monthly mean temperature of 16.0 degrees was 0.8 degree below the normal figure of 16.8 degrees. It was also relatively dry with only 4.5 millimetres of rainfall recorded in the month, less than 10 percent of the February normal of 54.4 millimetres. The accumulated rainfall for the first two months of the year was 66.7 millimetres, about 15 percent below the normal figure of 78.9 millimetres for the same period.

An intense winter monsoon that started to affect the south China coastal areas in late January continued its dominance into the early part of February. Cold weather persisted till 8 February, with the lowest temperature of the month, 6.8 degrees, recorded at the Hong Kong Observatory on 1 February and frost being reported in places over the territory during the period as well. Following the arrival of a cold but dry continental airstream on 5 February, the initially cloudy conditions gave way to sunny skies the next day and daytime relative humidity dropped to 40 percent or below on 5 – 7 February.

Apart from a couple of cloudy interludes on 7 and 9 February, generally fine weather persisted till 13 February. Temperatures started to climb during the period as the winter monsoon moderated, but a replenishment of northerly winds soon brought another cold snap on 12 February. Approaching the Chinese New Year festive period, the winter monsoon finally loosened its grip and moister air of maritime origin started to move in towards the south China

coast. This led to increased cloudiness at first but as temperatures rose, a sunny and mild day greeted the first day of Chinese New Year on 16 February.

After some morning fog on 17 February, a freshening easterly airstream brought cloudy and cooler weather to Hong Kong. As the easterly winds moderated, a warm maritime airstream returned to the coastal areas of Guangdong on 19 February and temperatures over most parts of the territory rose to 25 degrees or above on 20 February. Meanwhile, generally cloudy conditions persisted and with a replenishment of the winter monsoon coming down the coast of southeastern China, the weather in Hong Kong turned cooler again on 21 February. This was followed by the setting in of a fresh northerly airstream that brought overcast skies with rain patches and led to temperatures falling further over the next couple of days.

As the winter monsoon subsided, two days of relatively mild and brighter weather followed on 24 and 25 February. Under the influence of a fresh easterly airstream, the weather then turned generally cloudy and cooler again the next day. As the easterly winds moderated, it became warm with sunny periods on 27-28 February. Temperatures at the Hong Kong Observatory climbed to the month's highest of 26.2 degrees on the last day of the month.

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

March 2018

March 2018 was unseasonably warm and sunny with little rain. The total duration of bright sunshine of 196.2 hours in the month was more than twice the normal of 90.8 hours and was the highest on record for March. The monthly mean temperature was 20.8 degrees, 1.7 degrees higher than the normal of 19.1 degrees and one of the fourth highest on record for March. The total rainfall in the month was 22.7 millimetres, only about 28 percent of the normal of 82.2 millimetres. The accumulated rainfall of 89.4 millimetres since 1 January was about 45 percent below the normal of 161.3 millimetres for the same period.

Affected by a mild and humid maritime airstream over the coast of Guangdong, the weather in Hong Kong was warm and foggy with sunny periods in the early part of the month, with conditions turning cloudy on 3 – 4 March and visibility in the harbour falling below 1000 metres in fog. There were also a few showers and isolated thunderstorms on the morning of 4 March. After another foggy morning on 5 March, the weather turned fine and rather warm during the day.

A cold front moved across the coast of Guangdong on the night of 5 March. Windy conditions under the influence of a strong easterly airstream cleared away the lingering fog patches, and the weather in Hong Kong turned cloudy and appreciably cooler with light rain patches over the next couple of days. Rain associated with the passage of another cold front on the morning of 8 March made up most of the rainfall for the month, and under strengthening northerly winds, temperatures plummeted during the day with temperature at the Hong Kong Observatory reaching a minimum of 11.1 degrees, the lowest of the month, on the morning of 9 March. The cold air mass of continental origin also brought drier conditions and the weather turned sunny during the day.

A spell of fine weather with abundant sunshine then persisted till 13 March, with winds turning easterly and temperature gradually on the rise. With a humid maritime airstream pushing back towards the coast of Guangdong, the weather became cloudy with light rain patches on 14 March. The weather turned fine and warm over the next couple of days apart

from some morning fog on 16 March.

A fresh to strong easterly airstream brought slightly cooler weather and light rain patches to the territory on 17 March. With the easterly winds moderating over the next couple of days, the weather in Hong Kong became warm with some mist patches early on 19 March. The passage of a cold front on the morning of 20 March brought cooler weather and a dry northeast monsoon to the coastal areas of Guangdong. Sunny weather prevailed in Hong Kong over the next three days, with daytime relative humidity falling below 40 percent on 21 March.

Winds gradually turned easterly and moister air of maritime origin brought cloudier skies on 24 March. A weak northeast monsoon then generally prevailed over the coast of Guangdong over the next few days and despite a replenishment of easterly winds towards the end of the month, the weather remained generally fine and warm in Hong Kong. With abundant sunshine, temperature at the Hong Kong Observatory climbed to the month's highest of 27.9 degrees on 30 March.

April 2018

April 2018 was warmer than usual with a mean temperature of 23.6 degrees, 1.0 degree above the normal of 22.6 degrees. The month was also much drier than usual with only 28.1 millimetres of rainfall recorded in the month, about one-sixth of the normal of 174.7 millimetres and the eighth lowest on record for April. The accumulated rainfall recorded in the first four months of the year was 117.5 millimetres, a deficit of 65 percent compared to the normal of 336.1 millimetres for the same period.

Under the influence of a ridge of high pressure, the weather in Hong Kong was generally fine and warm on the first five days of the month. A cold front moved across the coast of Guangdong on 6 April. Local weather turned cloudy with a few showers and became significantly cooler when winds strengthened from the north in that afternoon. The weather remained generally cloudy on 7 April with temperature at the Hong Kong Observatory dropping to a minimum of 16.1 degrees in the morning, the lowest of the month. Under the influence of the dry northeast monsoon, it was fine and dry in Hong Kong on 8 April.

With the moderation of the northeast monsoon and the onset of a southerly airstream, the temperatures rose gradually on 9 - 13 April. With plenty of sunshine, the temperature at the Hong Kong Observatory reached a maximum of 30.6 degrees on 13 April, the highest of the month.

A cold front moved across the coast of Guangdong on the night of 14 April and the associated northeast monsoon brought cooler weather to Hong Kong in next two days. Under the influence of an upper-air disturbance, there were also showers and squally thunderstorms on 15 April with more than 10 millimetres of rainfall recorded generally over the territory.

With a broad area of cloud band covering the coastal areas of Guangdong, it was mainly cloudy with a mixture of isolated showers and sunny intervals in Hong Kong on 17 – 21 April. Under the influence of a southerly airstream, apart from coastal fog on the morning of 23 April, the weather was hot with sunny periods on 22 - 23 April.

A trough of low pressure moved across the coast of Guangdong on 24 April. The weather in Hong Kong turned cloudy with showers and a few thunderstorms during the day. More than 20 millimetres of rainfall were recorded over Hong Kong Island, Tuen Mun and Lantau Island. Under the influence of a broad cloud band over the south China coast, local weather remained

cloudy with isolated showers on 25 – 27 April.

With the onset of an anticyclone aloft, the weather gradually became mainly fine and hot towards the end of the month apart from isolated showers.

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

May 2018

Under the dominance of an upper-air anticyclone over the northern part of the South China Sea, Hong Kong experienced an exceptionally hot and dry May with a 20-day fine spell that lasted till the end of the month. The monthly mean temperature of 28.3 degrees and monthly mean minimum temperature of 26.1 degrees were 2.4 degrees and 2.0 degrees above their respective normals and were the highest ever on record for May. The mean maximum temperature of 31.7 degrees was 3.3 degrees above normal and the second highest on record for May. There were in total 16 very hot days, including a heat wave of 15 consecutive very hot days that started from 17 May, and 6 hot nights in the month, all breaking the records for May. The total duration of bright sunshine was 236.9 hours, 96.5 hours above the normal of 140.4 hours and the fourth highest on record for May. The mean cloud amount of 62% and the mean relative humidity of 77% were respectively the joint fifth and joint third lowest on record for May. Rainfall in the month amounted to only 57.5 millimetres, less than one-fifth of the normal of 304.7 millimetres. The accumulated rainfall recorded in the first five months of the year was 175.0 millimetres, a deficit of 73 percent compared to the normal of 640.8 millimetres and the second lowest record for the same period.

Apart from some isolated showers and coastal fog on 1 May, the month began with generally fine weather. After a very hot day on 3 May, the weather turned cloudy with some scattered showers towards the evening as winds strengthened from the east. The easterly airstream brought much cooler conditions and the month's lowest temperature of 22.1 degrees on 4 May. As the easterly airstream subsided, the weather turned brighter over the next couple of days despite the occurrence of some showers, particularly over the eastern part of the territory on 6 May.

As a trough of low pressure over Guangdong moved towards the coastal areas, the weather in Hong Kong turned cloudy with showers and thunderstorms later on 7 May. More than 50 millimetres of rain fell over Hong Kong Island and Sai Kung on the morning of 8 May as the trough swept across the territory. Cloudy and showery conditions continued for the next three days as a strengthening easterly airstream once again brought cooler weather to the south China coastal areas.

With the easterly airstream subsiding and an upper-air anticyclone becoming firmly established over the northern part of the South China Sea, a spell of fine weather set in on 12 May and persisted till the end of the month in Hong Kong. The territory was mostly rain-free during the period, apart from some isolated showers on 21, 22, 25 and 30 May and the weather becoming more showery on the mornings of 26 and 27 May as a trough of low pressure developed over southern China. With long hours of sunshine, a heat wave tightened its grip on the territory in the latter half of the month with daytime temperature at the Hong Kong Observatory reaching 33.0 degrees or above for 15 consecutive days from 17 to 31 May and soaring to a peak of 35.4 degrees on 30 May, the highest of the month and the second highest on record for May. The Very Hot Weather Warning remained in force for more than 320 hours, a record since the introduction of the warning in 2000.

There was no tropical cyclone over the South China Sea and the western North Pacific in the month.

June 2018

After a very dry May, the long awaited rainfall eventually returned to Hong Kong in June 2018, mainly due to the passage of tropical cyclone Ewiniar in early June, as well as showery activities associated with troughs and an active southerly airstream later in the month. The monthly rainfall was 458.8 millimetres, slightly above the normal of 456.1 millimetres in June. However, with well below normal rainfall in the first five months, the accumulated rainfall recorded in the first half of the year was 633.8 millimetres, a deficit of 42 percent compared to the normal of 1096.9 millimetres for the same period. The month was also warmer than usual with a mean temperature of 28.6 degrees, 0.7 degree above the normal of 27.9 degrees.

The heat wave in the latter half of May extended into early June. With plenty of sunshine in the morning, the temperature at the Hong Kong Observatory soared to the month's highest of 35.1 degrees around noon on 1 June. The heat also triggered some isolated heavy showers near Tai Po. An easterly airstream then reached the coastal area of Guangdong later in the day and the intense heat was slightly relieved by the windy conditions over the next couple of days.

Meanwhile, an area of low pressure over the South China Sea intensified into a tropical depression on 2 June and was later named Ewiniar. It skirted past the east coast of Hainan Island and then turned in the general direction of the coastal areas of western Guangdong. The weather in Hong Kong became cloudy with some squally showers and thunderstorms on 4 June and tropical cyclone warning signal was issued for the first time this year on the morning of 5 June. After making landfall near Yangjiang on the night of 7 June, a weakening Ewiniar continued to drift towards the Pearl River Delta. Its rainbands brought heavy squally showers and thunderstorms to Hong Kong with more than 170 millimetres of rainfall generally recorded over the territory on 6 - 8 June. The heavy downpour necessitated the issuance of the first rainstorm warnings this year, including the Red Rainstorm Warning on 8 June. A waterspout was also spotted near Cheung Chau in the evening on 7 June. Local winds gradually subsided and the showers eased off on 9 June as generally fine weather returned.

After a couple of fine and very hot days on 10 and 11 June, a trough of low pressure brought heavy showers and thunderstorms to the coast of Guangdong on 12 - 13 June. There was a report of waterspout near Ninepin Islands on the morning of 12 June, and more than 100 millimetres of rain fell over Sai Kung, Hong Kong Island and Cheung Chau on 13 June. The trough passed to the south of Hong Kong and local weather improved with a mixture of sunshine and isolated showers on 14 - 15 June. Despite the development of a low pressure area along the trough over the northern part of the South China Sea, the weather in Hong Kong remained mostly fine but windy on 16 - 17 June.

Under the influence of the southwest monsoon, local weather was a mixture of sunny periods and showers on 18 - 21 June. An active southerly airstream brought more clouds and some heavy showers to the territory on 22 - 23 June. Another waterspout was observed near Cheung Chau on the morning of 22 June, and the temperature at the Hong Kong Observatory fell to the month's lowest of 24.4 degrees on 23 June during heavy showers. Despite a sunny day on 24 June, more showers affected the territory that night and the next day.

As the subtropical ridge became established over southeastern China, showery activities

gradually decreased on 26 June. Under the influence of the southwest monsoon and despite still some showers around at times, the weather in Hong Kong remained mostly fine and hot till the end of the month.

Four tropical cyclone occurred over the South China Sea and the western North Pacific in the month.

July 2018

The weather in Hong Kong was cloudier than usual in July 2018. The mean amount of cloud in the month was 77 percent, 8 percent above the normal of 69 percent. The duration of bright sunshine in the month was only 181.1 hours, about 15 percent below the normal figure of 212.0 hours. The month was also warmer than usual with the mean temperature of 29.1 degrees, 0.3 degrees above the normal of 28.8 degrees. Despite the cloudy and rather showery conditions for most part of the month, the monthly rainfall was 341.1 millimetres, about 9 percent below the normal of 376.5 millimetres in July. The accumulated rainfall recorded in the first seven months of the year was 974.9 millimetres, a deficit of 34 percent compared to the normal of 1473.3 millimetres for the same period.

Under the influence of the southwest monsoon, local weather was a mixture of sunshine and showers on 1 - 7 July. There were also occasional heavy showers and squally thunderstorms in isolated areas during these few days. During the localized heavy showers on 5 July, more than 200 millimetres of rainfall were recorded over Tai Po District. A broad trough of low pressure continued to bring showery weather to Hong Kong on 8 - 9 July.

Apart from one or two morning showers on 10 July, the subsiding air associated with the outer circulation of tropical cyclone Maria brought generally fine weather to Hong Kong on 10 - 11 July. While it was generally fine and very hot on 12 July, with a broad trough of low pressure edging closer to the coast of Guangdong and the picking up of easterly winds, there were heavy showers and squally thunderstorms in Hong Kong on 13 - 15 July. During the downpour, the temperature at the Hong Kong Observatory fell to a minimum of 25.0 degrees on 15 July, the lowest in the month.

A ridge of high pressure maintained a strong easterly airstream over the coast of Guangdong on 16 July and the showery activities subsided gradually. Meanwhile, an area of low pressure near Luzon developed into a tropical storm, named Son-Tinh, on 17 July. Son-Tinh moved generally westward across the northern part of the South China Sea and entered Beibu Wan on 18 July. It made landfall over the northern part of Vietnam and weakened into an area of low pressure inland on 19 July. Locally, with plenty of sunshine, it was very hot with temperature at the Hong Kong Observatory soaring to 34.3 degrees on the afternoon of 17 July, the highest in the month. Affected by the outer rainbands of Son-Tinh, the weather in Hong Kong became mainly cloudy with occasional squally showers and thunderstorms that night and on the next day. Under the combined effect of the ridge of high pressure over the southeast coast of China and Son-Tinh, it was also windy on 17 - 18 July.

While the easterly airstream affecting the coast of Guangdong moderated gradually, a broad trough of low pressure continued to bring a few squally showers to Hong Kong on 19 - 20 July. Under the influence of the subsiding air ahead of tropical cyclone Ampil, local weather became generally fine and very hot on 21 July. After a fine and very hot morning, the weather became mainly cloudy with some squally showers over the western part of Hong Kong on the afternoon of 22 July.

Meanwhile, an area of low pressure associated with the remnant of Son-Tinh re-intensified into a tropical depression over Beibu Wan on 22 July. It moved slowly over Beibu Wan and skirted past the northwestern part of Hainan Island. The tropical depression then made landfall over Leizhou Peninsula on 23 July and dissipated over inland Guaugxi on 24 July. Locally, with active showery activities over the northern part of the South China Sea, it was mainly cloudy with heavy showers and a few squally thunderstorms on 23 July. Showers gradually subsided with more sunshine in the following two days.

As an anticyclone aloft southeastern China strengthened gradually, the local weather remained generally fine and very hot apart from isolated showers towards the end of the month with the maximum temperature reaching the month's highest of 34.3 degrees again on 29 July.

Seven tropical cyclones occurred over the South China Sea and the western North Pacific in the month.

August 2018

Affected by the outer rainbands of tropical cyclone Bebinca in mid-August and the heavy showers associated with an active trough of low pressure towards the end of the month, the weather in Hong Kong was wetter and much gloomier than usual in August 2018. The mean amount of cloud in the month was 84 percent, 15 percent above the normal of 69 percent and one of the highest on record for August. The duration of bright sunshine in the month was only 116.2 hours, about 38 percent lower than the normal figure of 188.9 hours and the lowest on record for August. The monthly rainfall was 615.1 millimetres, about 42 percent above the normal of 432.2 millimetres in August. The accumulated rainfall recorded in the first eight months of the year was 1590.0 millimetres, a deficit of 17 percent compared to the normal of 1905.5 millimetres for the same period.

Under the influence of an anticyclone aloft southern China, the weather in Hong Kong was marked by a mixture of sunshine and showers on 1 - 9 August. With plenty of sunshine in the morning, it was very hot with the temperature at the Hong Kong Observatory soaring to 34.2 degrees around noon on 7 August, the highest in the month. The high temperatures then triggered heavy thundery showers over the western part of Hong Kong in that afternoon, bringing more than 30 millimetres of rainfall to the western part of the New Territories and over 100 millimetres to the southwestern part of Lantau Island.

Meanwhile, a broad area of low pressure over the northern part of the South China Sea intensified into a tropical depression on 9 August and was later named as Bebinca. It moved slowly northward and made landfall near Yangjiang around noon on 11 August. Bebinca then made an anti-clockwise loop over the coastal region of western Guangdong and moved back to the coastal waters that night. After drifting southeastwards on 12 August, Bebinca intensified into a tropical storm and looped slowly in anti-clockwise direction off the coast of western Guangdong on 13 and 14 August. Bebinca picked up speed to move west-southwestwards and intensified into a severe tropical storm on 15 August. It moved across Beibu Wan the next day. Bebinca made landfall over the northern part of Vietnam and weakened into an area of low pressure inland on 17 August. The outer rainbands associated with Bebinca brought occasional heavy squally showers and thunderstorms to Hong Kong on 10 - 16 August with more than 150 millimetres of rainfall generally recorded over the territory during this period.

Affected by a south to southwesterly airstream, the weather in Hong Kong was mainly cloudy with occasional showers and thunderstorms on 17 - 19 August. The showers were heavier on 19 August with more than 70 millimetres of rainfall recorded over Tsuen Wan, Kwai Tsing and Lantau Island. A broad trough of low pressure over the south China coast continued to bring showery weather to Hong Kong on 20 - 21 August.

A low pressure area over the northeastern part of the South China Sea moved slowly northeastwards on 22 August. It then developed into a tropical depression on 23 August near Taiwan and edged northwards slowly along the western coast of Taiwan. The tropical depression turned west-northwest on 24 August and made landfall over Fujian on 25 August. Locally, under light wind condition, it was hot with sunny periods on 22 August. Convective activities triggered by high temperatures also brought heavy showers and thunderstorms to Hong Kong on that evening. Occasional showers and squally thunderstorms still affected the territory on 23 August, the temperature at the Hong Kong Observatory fell to the lowest in the month of 24.6 degrees in rain that night.

Eleven tropical cyclones occurred over the South China Sea and the western North Pacific in the month.

September 2018

September 2018 was marked by the ferocious strike of severe typhoon Mangkhut which necessitated the issuance of the No. 10 Hurricane Signal in Hong Kong for 10 hours on 16 September. This is the second longest duration of No. 10 Hurricane Signal in Hong Kong since 1946, just next to the record of 11 hours set by Typhoon York in 1999. Mainly attributing to the rainfall brought by Mangkhut, the month was wetter than usual. The monthly rainfall was 383.3 millimetres, about 17 percent above the normal of 327.6 millimetres in September. The accumulated rainfall recorded in the first nine months of the year was 1973.3 millimetres, a deficit of 12 percent compared to the normal of 2233.1 millimetres for the same period. The month was also hotter than usual with a mean temperature of 28.0 degrees, 0.3 degrees above normal of 27.7 degrees.

Under the influence of a trough of low pressure, the weather in Hong Kong was mainly cloudy with occasional heavy showers and thunderstorms on 1 September. More than 30 millimetres of rainfall were recorded over most parts of the territory, and rainfall even exceeded 70 millimetres over Sai Kung and Cheung Chau. With the trough of low pressure weakening gradually, there were sunny periods and a few showers on 2 - 3 September. An anticyclone aloft southern China brought generally fine weather to the territory on 4 September.

Under light wind conditions, it was very hot with sunny periods on 5 - 7 September. High temperatures also triggered thundery showers in the afternoon over Sai Kung and parts of the New Territories in these few days. As a cold front moved across southern China on the night of 7 September, local weather became mainly cloudy with some showers on 8 September. More than 20 millimetres of rainfall were recorded over parts of the urban areas, and rainfall even exceeded 40 millimetres over Happy Valley. The northeast monsoon associated with the cold front brought a few showers and slightly cooler weather to Hong Kong on 8 - 10 September.

Meanwhile, an area of low pressure over the Luzon Strait intensified into a tropical storm and was named as Barijat on 11 September. It moved westwards across the northern part of the South China Sea on the next day. Barijat then moved across Leizhou Peninsula and weakened gradually on 13 September, and dissipated over inland Guangxi afterwards. Under the influence of the outer subsiding air of Barijat, the weather of Hong Kong was generally fine on 11 September. Local weather became showery and windier on 12 September when Barijat skirted past to the south of Hong Kong. With winds subsiding gradually, apart from a few showers at first, there were sunny periods on 13 September.

Meanwhile over the western North Pacific, Super Typhoon Mangkhut tracked northwestwards on 14 September and made landfall over Luzon in the small hours of 15 September. After crossing the northern part of Luzon, Mangkhut continued to track northwestwards quickly across the northern part of the South China Sea on 15 September, edging towards the coast of Guangdong. Mangkhut weakened into a severe typhoon on the morning of 16 September and skirted about 100 km south-southwest of Hong Kong in the afternoon. It made landfall over the vicinity of Taishan of Guangdong before dusk and moved into western part of Guangdong. Mangkhut degenerated into an area of low pressure over Guangxi the next night.

Locally, the outer subsiding air of Mangkhut brought generally fine weather to Hong Kong on 14 – 15 September. It was also very hot on 15 September with the temperature at the Hong Kong Observatory soaring to 35.1 degrees, the highest of the month and the second highest on record for September. With the approach of Mangkhut, local winds strengthened on the night of 15 September. The weather in Hong Kong deteriorated rapidly during the passage of Mangkhut

on 16 September. The destructive storm to hurricane force winds, severe storm surge and squally heavy rain associated with Mangkhut ravaged the territory and caused extensive damages to Hong Kong on that day, including serious flooding in many coastal and low-lying areas, substantial damages of coastal structures and buildings, huge amount of fallen trees, many reports of smashed windows or glass curtain walls, and interruptions of water and power supply in some places. Over 450 people were also injured during the stormy weather. Traffic and transportation services were also seriously affected on 16 – 17 September. The maximum 60-minute mean wind speeds recorded at Waglan Island and Cheung Chau were 161 km/h and 157 km/h respectively. Both are the second highest record at the corresponding stations. The storm surge induced by Mangkhut resulted in unusually high water level in many parts of Hong Kong. The water levels at Quarry Bay of the Victoria Harbour rose to a maximum of 3.88 metres above Chart Datum on the afternoon of 16 September 2018, the second highest since 1954 and only lower than the record high of 3.96 metres above Chart Datum set by Super Typhoon Wanda in 1962. Moreover, the maximum storm surge (above astronomical tide) induced by Mangkhut at Quarry Bay was 2.35 metres which was the highest on record, breaking the previous record of 1.77 metres kept by Wanda in 1962. More than 100 millimetres of rainfall were generally recorded over Hong Kong, and rainfall even exceeded 200 millimetres over parts of the territory on that day. During the downpour, the temperature at the Hong Kong Observatory fell to a minimum of 23.6 degrees, the lowest in the month. With Mangkhut departing from Hong Kong, local winds subsided gradually on 17 September, but the outer rainbands associated with Mangkhut continued to bring squally showers to Hong Kong on that day.

With the subtropical ridge extending westwards, apart from a few morning showers, local weather became fine during the day on 18 September. The weather over Hong Kong remained generally fine and hot on 19 – 22 September. Under light wind situation, isolated thunderstorms triggered by high temperatures also brought more than 10 millimetres of rainfall to parts of the New Territories on the afternoon 23 September.

With the setting in of an easterly airstream, local weather became slightly cooler and mainly cloudy with occasional showers and thunderstorms on 24 - 25 September. Showers were heavy on the morning of 24 September with more than 30 millimetres of rainfall generally recorded over the territory and rainfall even exceeding 70 millimetres over Tai Po, Kwai Tsing and Kowloon. As the easterly airstream moderated gradually, local weather was marked by a mixture of sunshine and showers on 26 - 27 September. Apart from one or two morning showers on 28 and 29 September, the weather in Hong Kong became generally fine and dry towards the end of the month as affected by the northeast monsoon.

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

October 2018

With the northeast monsoon successively affecting south China coastal areas, October 2018 was slightly cooler than usual in Hong Kong. The monthly mean temperature of 25.3 degrees was 0.2 degrees below the normal figure of 25.5 degrees. The monthly rainfall was 104.3 millimetres, slightly above the normal of 100.9 millimetres in October. The accumulated rainfall recorded in the first ten months of the year was 2077.6 millimetres, a deficit of 11 percent compared to the normal of 2334.0 millimetres for the same period.

Under the influence of the northeast monsoon, apart from a few morning showers on 1 October, the local weather was generally fine and dry on 1 - 8 October. With abundant sunshine, temperatures at the Hong Kong Observatory rose to 31.4 degrees on the afternoon of

5 October, the highest of the month. Affected by an easterly airstream, there were sunny periods and a few showers on 9 October.

A cold front crossed the coastal areas of Guangdong on the afternoon of 10 October. Heavy showers associated with the cold front brought more than 20 millimetres of rainfall to most parts of the territory in the afternoon, rainfall even exceeded 40 millimetres in the urban areas and Shek Kong. The northeast monsoon brought mainly cloudy and cooler weather as well as a few rain patches to Hong Kong in the next four days. With an easterly airstream setting in, it was cloudy with showers on 15 October.

A weak cold front crossed the coast of Guangdong on the morning of 16 October. The associated northeast monsoon brought some rain and slightly cooler weather to Hong Kong on 16 - 17 October. Under the influence of a strong easterly airstream, it was windy and cooler with rain patches on 18 October. The temperature of the Observatory dropped to 20.9 degrees under the rain on the morning of 18 October, the lowest of the month. Apart from a few rain patches, local weather became gradually brighter during the day on 19 - 20 October.

Dominated by an anticyclone aloft southern China, local weather became generally fine on 21 October and the next morning. With a weak northeast monsoon arriving at the coast of Guangdong on 22 October, local weather turned mainly cloudy with light rain patches in the afternoon and the next two days. Under the influence of anticyclone aloft, the weather in Hong Kong became brighter with sunny periods on 25 - 26 October. A cold front moved across the coastal areas of Guangdong on the night of 26 October. Under the influence of the dry northeast monsoon, the weather in Hong Kong became fine and very dry with cooler mornings on 27 - 30 October. Meanwhile, tropical cyclone Yutu entered the northern part of the South China Sea and edged closer to the coast of Guangdong on 31 October. Locally, it was very dry with winds picking up gradually from the north on that day.

Three tropical cyclone occurred over the South China Sea and the western North Pacific in the month.