

每月天氣摘要 二零一二年十二月

Monthly Weather Summary December 2012



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1. 二零一二年十二月天氣回顧

本月初期及後期受東北季候風相關的廣闊雨帶影響，二零一二年十二月較正常陰暗及多雨，全月總日照時間為 101.0 小時，較正常數值 172.2 小時少約百分之 41，為十二月份的最低第五位。而月總雨量為 56.0 毫米，為正常 26.8 毫米的兩倍以上。而二零一二年的全年雨量為 1924.7 毫米，較年雨量正常值 2398.4 毫米少約百分之 20。整體來說，本月的平均氣溫接近正常，比正常值 17.9 度低 0.1 度。

在東北季候風及伴隨的一道廣闊雲帶影響下，本港天氣於首八天大致多雲及有幾陣雨。受一股乾燥內陸氣流影響，十二月九日及十日轉為大致天晴及乾燥。廣東北部的一道微弱冷鋒於十二月十一日橫過沿岸，為本港帶來一些煙霞。受相關的東北季候風持續影響，隨後兩天普遍天晴及陽光充沛。

受一股海洋氣流影響，十二月十四日至十七日本港大致多雲、天氣稍暖及部分地區能見度頗低。橫瀾島於十二月十六日及十七日早上有霧，能見度下降至 200 米以下。一道強烈冷鋒於十二月十八日橫過廣東沿岸地區，本港轉為多雲及有幾陣雨，天氣顯著轉涼，下午氣溫逐漸降至 15 度以下。冷鋒隨後的偏北強風於翌日為本港帶來普遍寒冷的天氣。

受廣東沿岸地區清勁至強風程度的偏東氣流影響，本港於十二月二十日多雲、風勢頗大及能見度較低。隨著該偏東氣流於十二月二十一日逐漸緩和，本港下午短暫時間有陽光。

隨著另一道冷鋒於十二月二十二日早上橫過廣東沿岸，本港早上天氣多雲及有薄霧，下午轉為大致天晴。當晚偏北風增強及氣溫顯著下降，較前一晚的氣溫普遍低 6 至 8 度。在冬季季候風持續影響下，本港於隨後兩天仍然寒冷及乾燥。聖誕日氣溫開始逐漸回升，但天氣仍然多雲及普遍清涼。

在一股清勁至強風程度的偏東氣流影響下，十二月二十六日本港風勢頗大、天氣乾燥及短暫時間有陽光。該股偏東氣流於翌日逐漸減弱，但華南仍受一道廣闊雲帶所覆蓋，為本港帶來幾陣雨。隨著該雲帶東移，本港天氣於十二月二十八日轉為大致天晴。同時，一道冷鋒在中國東北部形成，並於十二月二十九日向南移動。隨著該冷鋒接近，本港當日天氣多雲及間中有雨。當該冷鋒於黃昏橫過本港時，北風風勢增強及氣溫於晚間顯著下降，天文台的氣溫由大約 19 度降至翌日早上的 9 度。在冷鋒隨後的強烈冬季季候風支配下，十二月三十日寒冷及乾燥。本月最後一日天文台的氣溫進一步下降至最低的 7.1 度，是有記錄以來第三最冷的除夕。

本月有兩個熱帶氣旋影響北太平洋西部及南海，有關報告刊登於第二節。

本月有六班航機因惡劣天氣須轉飛其他地方。表 1.1 載列本月發出及取消各種警告／信號的詳情。

◆

1. The Weather of December 2012

Affected by rain-bearing cloud band associated with the northeast monsoon during the first and last part of the month, December 2012 was gloomier and wetter than usual. The total duration of bright sunshine in the month was 101.0 hours, 41 percent below the normal figure of 172.2 hours and ranking the fifth lowest on record for December. The monthly total rainfall was 56.0 millimetres, more than double the normal figure of 26.8 millimetres. The annual rainfall for 2012 was 1924.7 millimetres, a deficit of about 20 percent compared with the annual normal of 2398.4 millimetres. Overall, the monthly mean temperature was close to normal, being 0.1 degree lower than the normal figure of 17.9 degrees.

Under the influence of the northeast monsoon, accompanied by rain-bearing clouds, the weather in Hong Kong was generally cloudy with rain patches for the first eight days of the month. Affected by a dry continental airstream, it turned mainly fine and dry on 9 and 10 December. A weak cold front over northern Guangdong moved across the coast on 11 December, bringing some haze to Hong Kong. With the prevalence of the associated northeast monsoon, it remained generally fine and sunny for the next two days.

Affected by a maritime airstream, it was mainly cloudy and warmer with low visibility over parts of the territory from 14 to 17 December. Fog was reported at Waglan Island with visibility fell below 200 metres on the mornings of 16 and 17 December. An intense cold front crossed the coastal areas of Guangdong on the morning of 18 December. Local weather turned cloudy with rain patches and significantly cooler with temperatures generally dropping below 15 degrees that afternoon. The strong northerly winds behind the cold front brought generally cold weather to Hong Kong the next day.

With the setting in of a fresh to strong easterly airstream over the coastal areas of Guangdong, it was cloudy and windy with relatively low visibility on 20 December. The

easterly airstream moderated gradually on 21 December and there were some sunny intervals in the afternoon.

Another cold front crossed the coast of Guangdong on the morning of 22 December. Local weather was cloudy with mist in the morning and became mainly fine in the afternoon. Northerly winds strengthened overnight with temperatures falling significantly, by generally 6 to 8 degrees as compared with those of the previous night. Dominated by the winter monsoon, the weather remained cold and dry for the next two days. It began to gradually warm up with cloudy and generally cool condition on Christmas Day.

Affected by a fresh to strong easterly airstream, the weather was windy and dry with sunny intervals on 26 December. The easterlies moderated gradually on the next day but a broad band of cloud covered southern China, bringing a few rain patches to the territory. The weather became mainly fine on 28 December as the cloud band moved eastwards. Meanwhile, a cold front formed over northeast China and edged southwards on 29 December. With the approach of the cold front, local weather was cloudy with occasional rain on that day. As the cold front moved across the territory that evening, winds strengthened from the north and temperatures dropped significantly overnight from about 19 degrees to 9 degrees at the Observatory in the next morning. Dominated by the intense winter monsoon behind the cold front, the weather was cold and dry on 30 December. The temperature dropped further on the last day of the month, lowering to a minimum of 7.1 degrees at the Observatory, making this the third coldest New Year's Eve on record.

Two tropical cyclones occurred over the western North Pacific and the South China Sea in the month. An overview of this tropical cyclone is presented in Section 2.

During the month, a total of six aircraft was diverted due to adverse weather. Details of the issuance and cancellation of various warnings/signals in the month are summarized in Table 1.1.

表 1.1 二零一二年十二月發出的警告及信號

Table 1.1 Warnings and Signals issued in December 2012

強烈季候風信號

Strong Monsoon Signal

開始時間 Beginning Time		終結時間 Ending Time		開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour	日/月 day/month	時 hour	日/月 day/month	時 hour
2/12	0710	2/12	1045	5/12	1115	5/12	1620
18/12	1340	19/12	0520	19/12	2100	21/12	0840
23/12	0245	23/12	1600	26/12	2220	27/12	0945
29/12	1845	31/12	0745				

火災危險警告

Fire Danger Warnings

顏色 Colour	開始時間 Beginning Time		終結時間 Ending Time	
	日/月 day/month	時 hour	日/月 day/month	時 hour
黃色 Yellow	9/12	0600	9/12	2315
紅色 Red	23/12	0600	23/12	2345
黃色 Yellow	25/12	0600	26/12	1800
黃色 Yellow	30/12	0600	30/12	1245
紅色 Red	30/12	1245	1/1	2345

霜凍警告

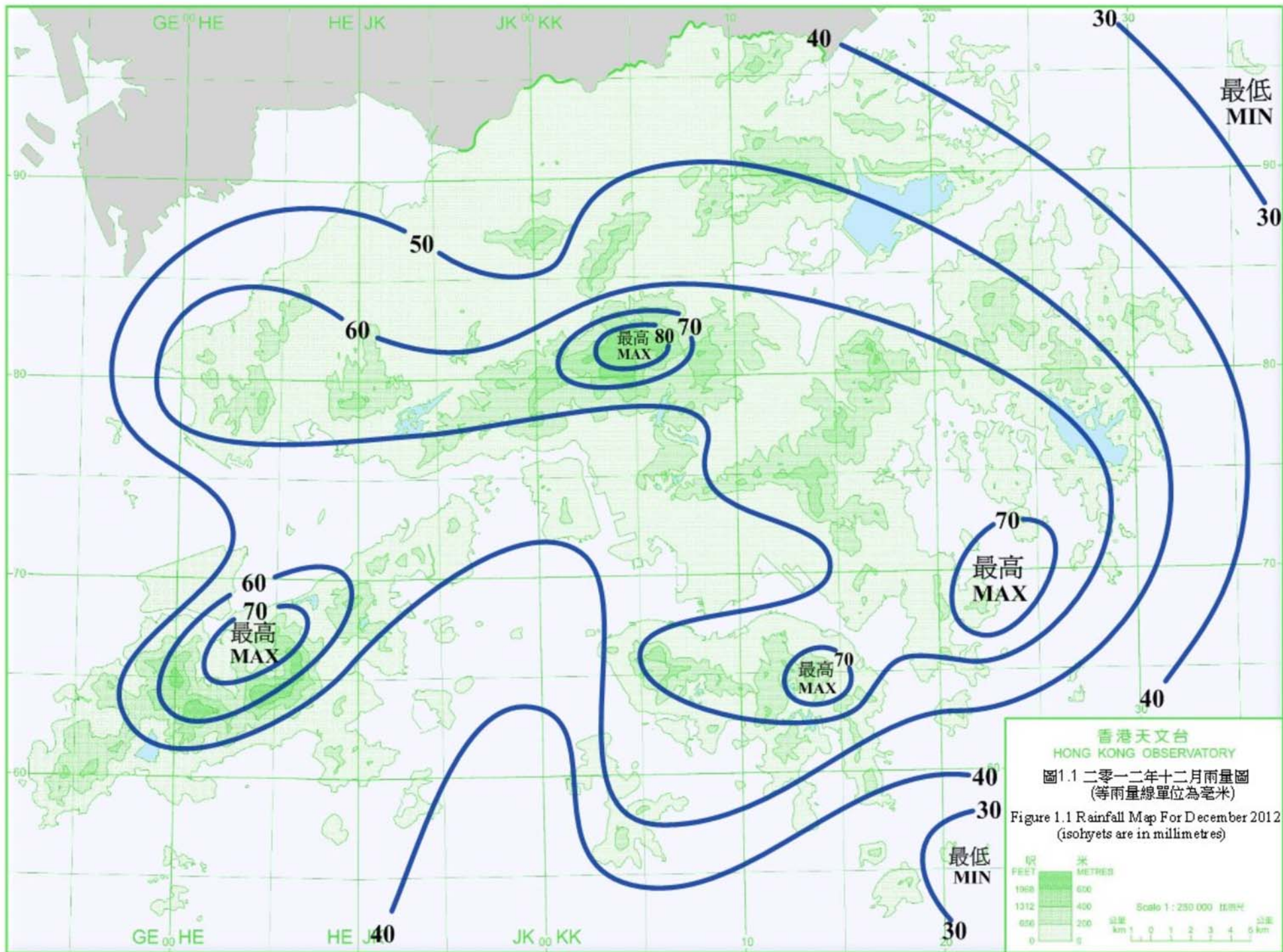
Frost Warning

開始時間 Beginning Time		終結時間 Ending Time		開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour	日/月 day/month	時 hour	日/月 day/month	時 hour
23/12	1630	24/12	0745	30/12	2245	31/12	0945
31/12	1630	1/1	0905				

寒冷天氣警告

Cold Weather Warning

開始時間 Beginning Time		終結時間 Ending Time		開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour	日/月 day/month	時 hour	日/月 day/month	時 hour
18/12	1620	19/12	1045	22/12	1620	25/12	0745
29/12	1620	1/1	1420				



2.1 二零一二年十二月熱帶氣旋概述

二零一二年十二月北太平洋西部及南海區域出現了兩個熱帶氣旋，圖 2.1.1 顯示本月內各熱帶氣旋的路徑。

寶霞於十一月二十六日在關島東南約 1 740 公里的北太平洋西部上形成後向西至西北偏西移動並逐漸增強，於十二月一日在雅浦島東南約 760 公里的北太平洋西部上增強為颱風，當日黃昏逐漸增強為超強颱風，隨後兩天達到其最高強度，中心附近最高持續風力達每小時 210 公里。寶霞於十二月四日橫過菲律賓南部，並逐漸減弱為颱風，於十二月五日進入南海中部及轉向西北移動。它於十二月七日在西沙東南的南海上增強為強颱風，翌日在西沙以東轉向東北偏東移動，並逐漸減弱為強烈熱帶風暴。寶霞於十二月九日進一步減弱為熱帶風暴，下午在呂宋以西的海域上消散。根據報章報導，寶霞吹襲菲律賓期間，觸發菲律賓水災及山泥傾瀉，導致至少 1 067 人死亡，超過 800 人失蹤。

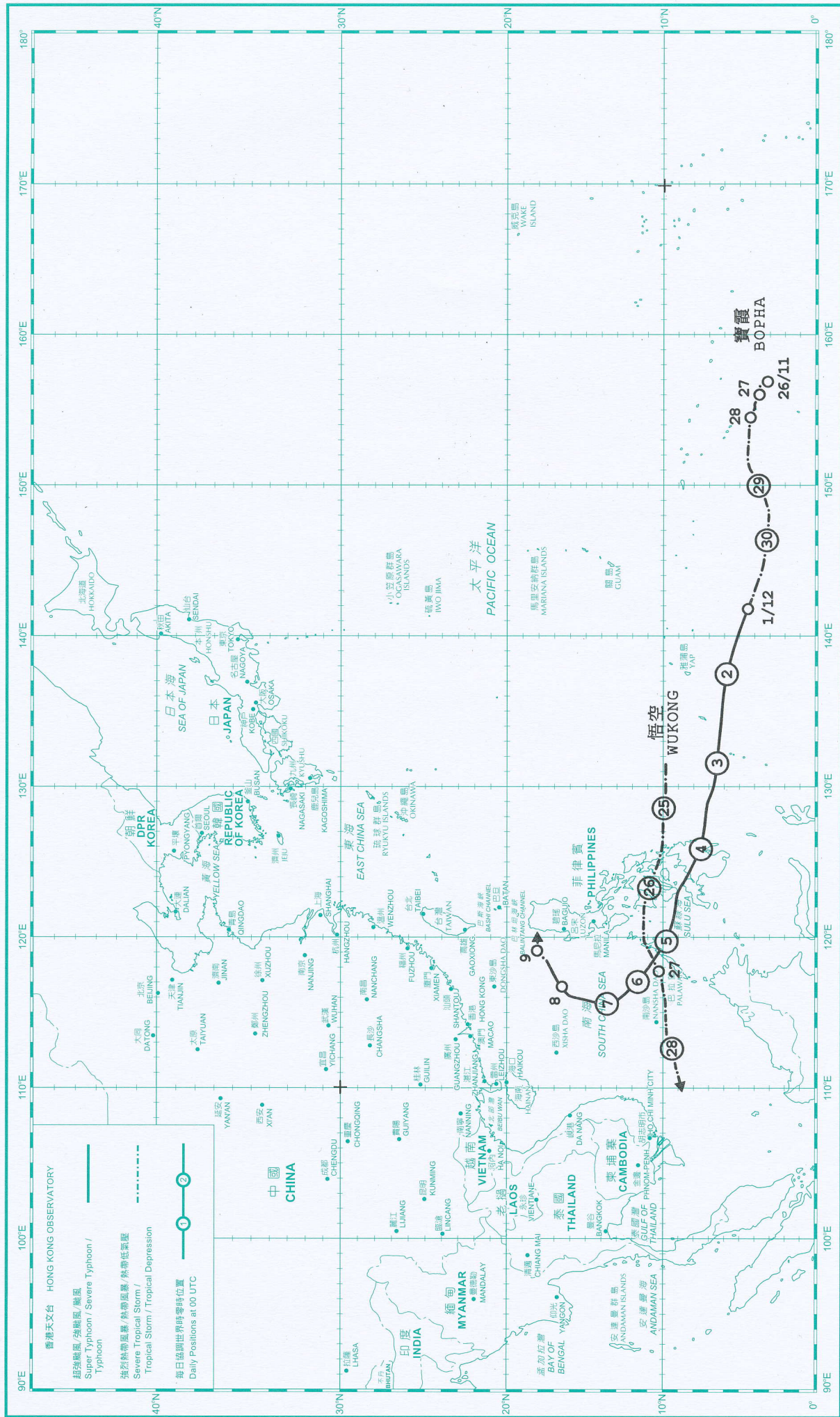
悟空於十二月二十四日在馬尼拉東南偏東約 1 250 公里的北太平洋西部上形成，並向西移動，翌日增強為熱帶風暴，並達到其最高強度，中心附近最高持續風力達每小時 65 公里。悟空於十二月二十六日向西至西北偏西移動，橫過菲律賓中部，十二月二十七日減弱為熱帶低氣壓，進入南海中部及轉向西南偏西移動。悟空於十二月二十八日在南沙西南偏西的南海南部上消散。悟空吹襲菲律賓期間，造成 11 人死亡。

2.1 Overview of Tropical Cyclones in December 2012

Two tropical cyclones occurred over the western North Pacific and South China Sea in December 2012. Figure 2.1.1 shows the tracks of the tropical cyclones in the month.

After forming over the western North Pacific about 1 740 km southeast of Guam on 26 November, Bopha moved west to west-northwestwards and gradually intensified. Bopha became a typhoon over the western North Pacific about 760 km southeast of Yap on 1 December. It intensified gradually into a super typhoon that evening, reaching its peak intensity in the following two days with an estimated maximum sustained wind of 210 km/h near its centre. Bopha crossed the southern part of the Philippines on 4 December and gradually weakened into a typhoon. It entered the central part of the South China Sea on 5 December and turned to move northwestwards. It intensified again into a severe typhoon over the South China Sea to the southeast of Xisha on 7 December. Bopha turned to move east-northeastwards to the east of Xisha on the following day and gradually weakened into a severe tropical storm. Bopha weakened further into a tropical storm on 9 December and dissipated over the seas west of Luzon that afternoon. According to press reports, Bopha triggered flooding and landslides in the Philippines, where at least 1 067 people were killed, and more than 800 people missing.

Wukong formed as a tropical depression over the western North Pacific about 1 250 km east-southeast of Manila on 24 December and moved westwards. It intensified into a tropical storm on the following day, reaching its peak intensity with an estimated maximum sustained wind of 65 km/h near its centre. Wukong moved west to west-northwestwards across the central Philippines on 26 December. Wukong weakened into a tropical depression on 27 December, entered the central part of the South China Sea and turned to move west-southwestwards. Wukong dissipated over the southern part of the South China Sea to the west-southwest of Nansha on 28 December. Eleven people were killed in the Philippines during the passage of Wukong.



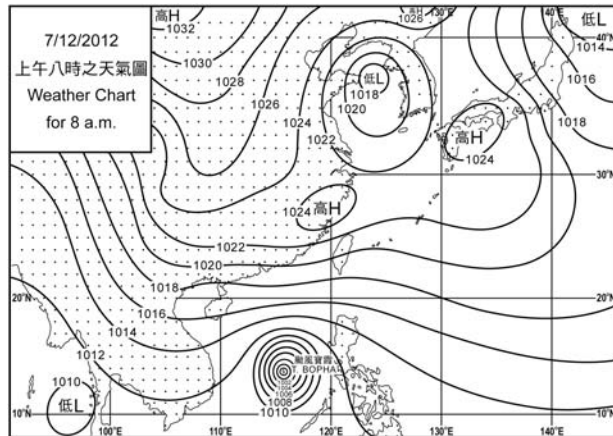
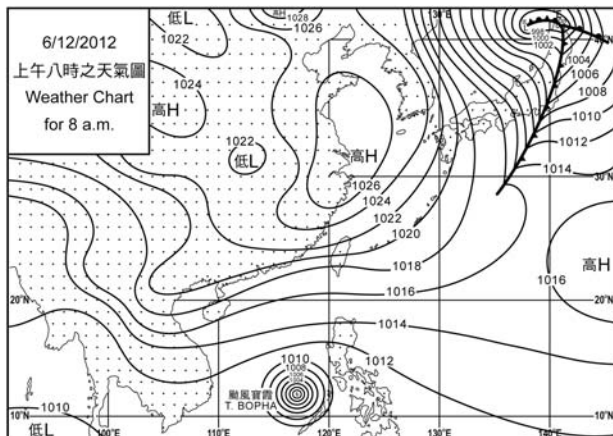
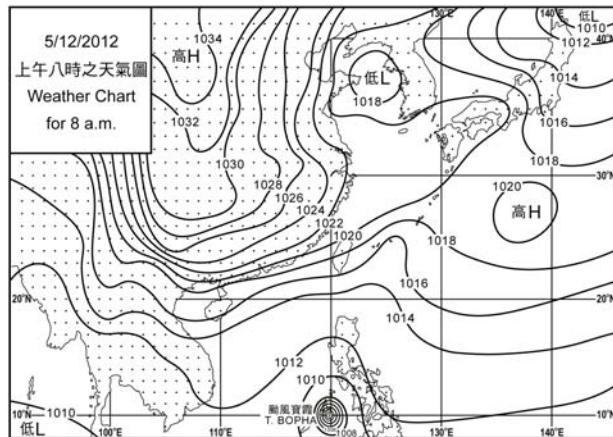
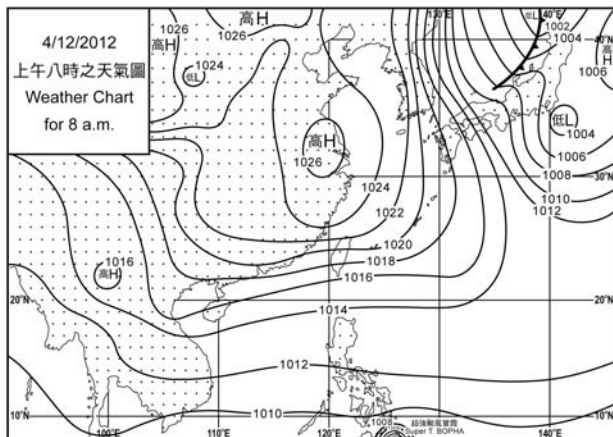
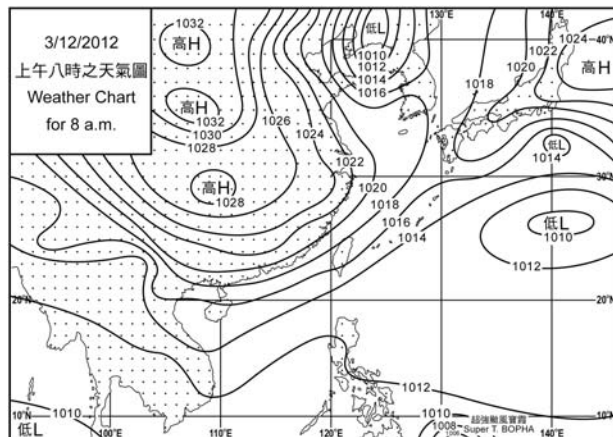
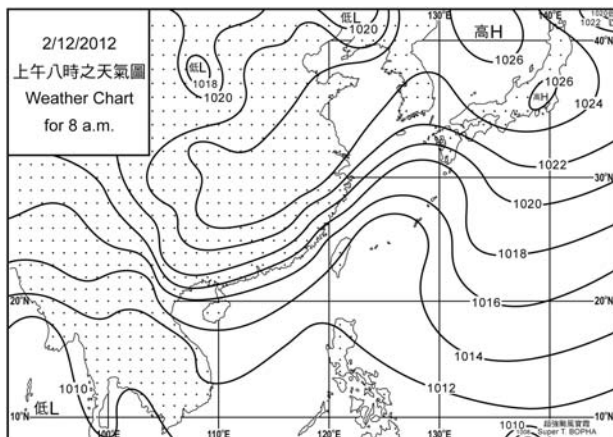
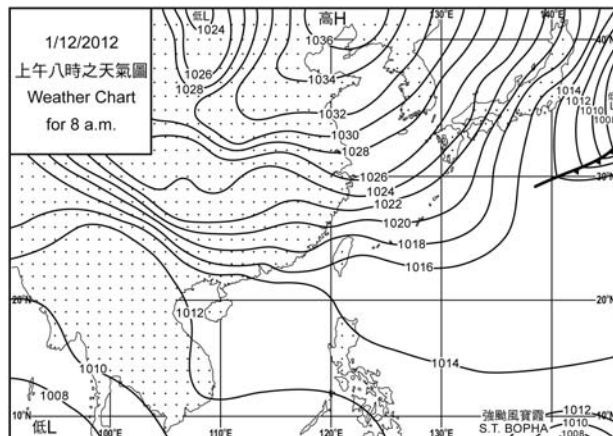
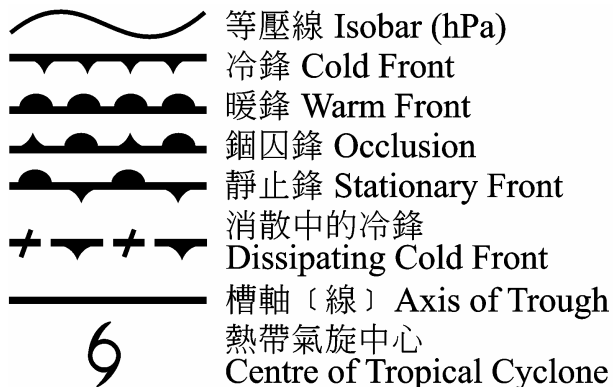
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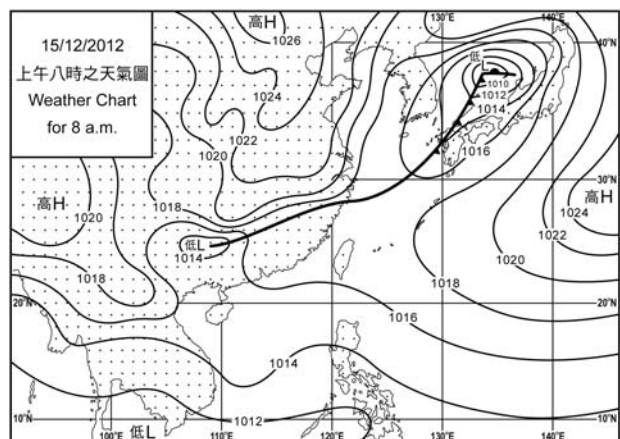
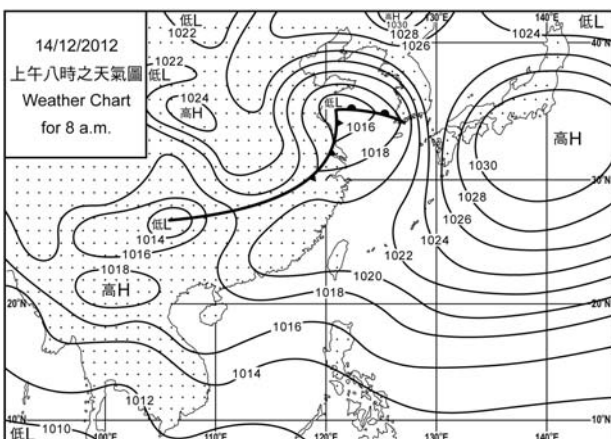
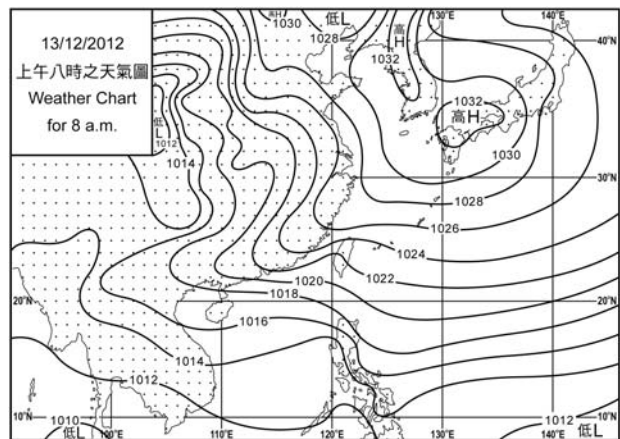
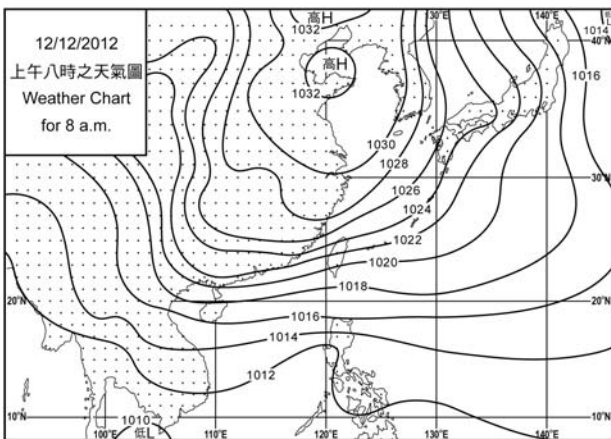
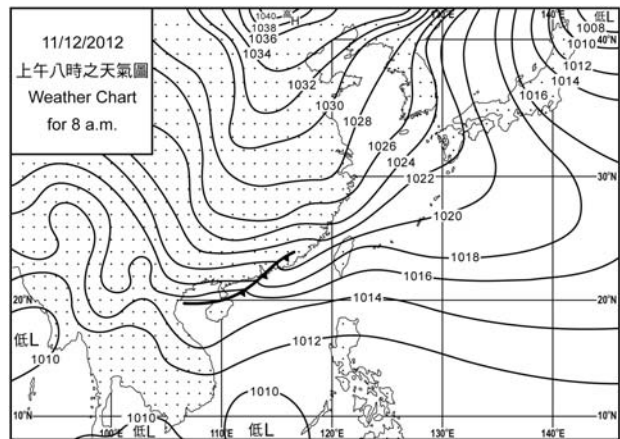
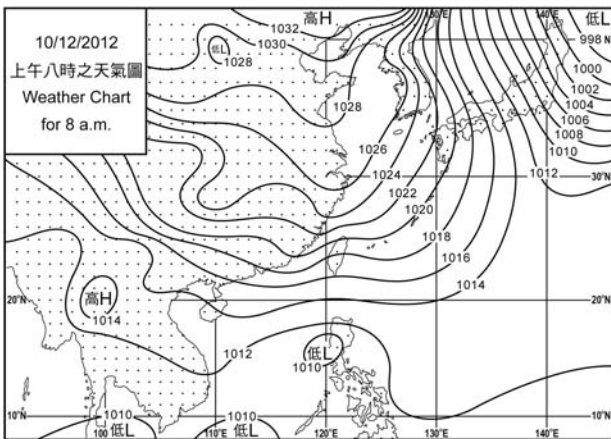
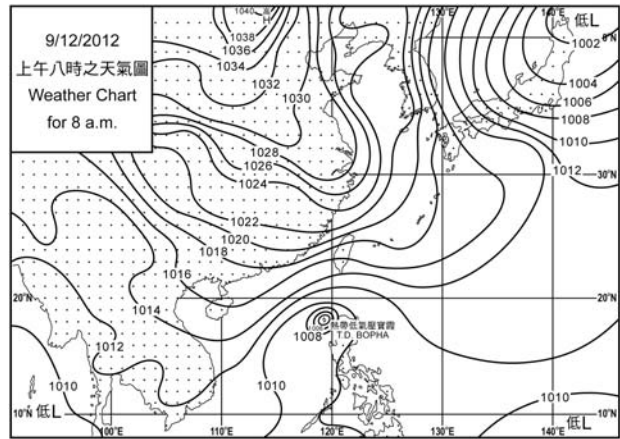
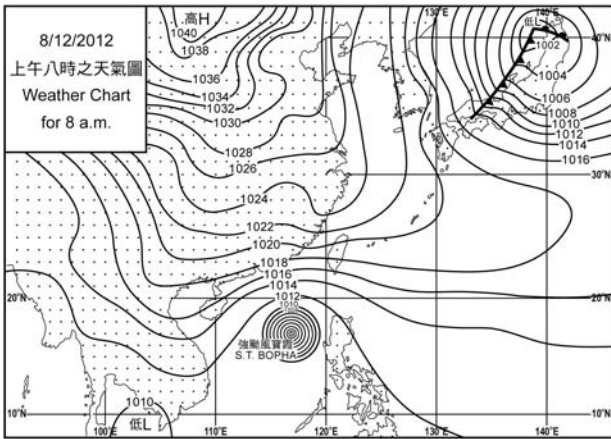
地政總署測繪處繪製 Cartography by Survey and Mapping Office, Lands Department

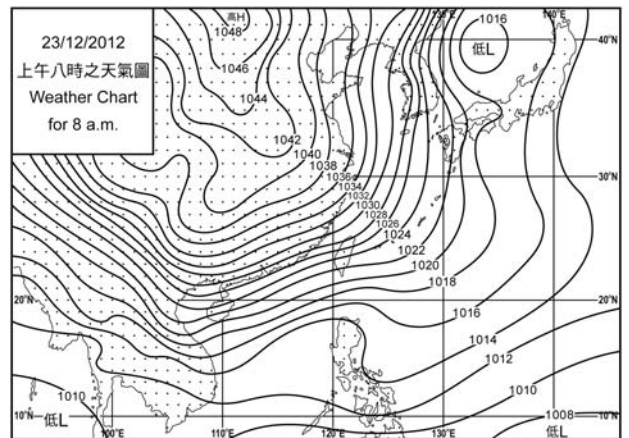
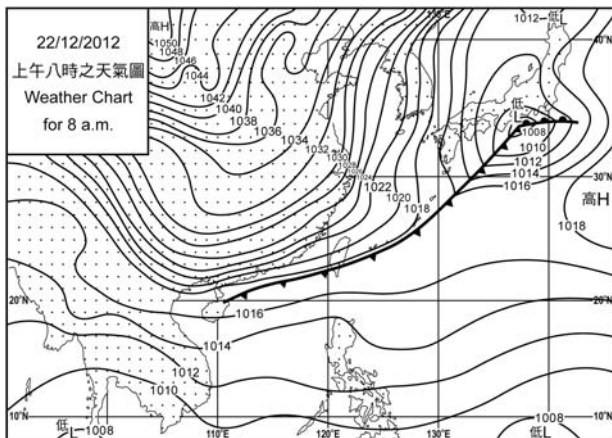
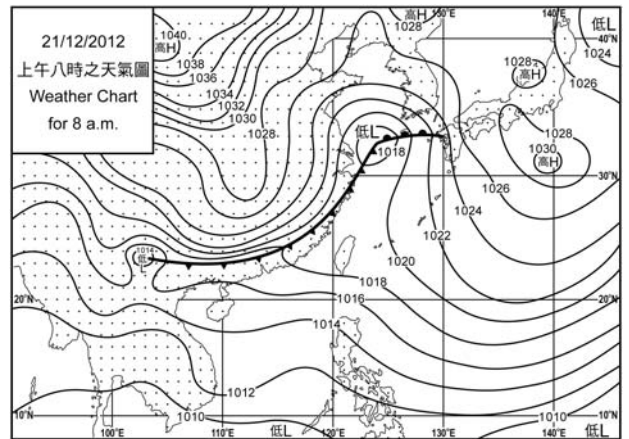
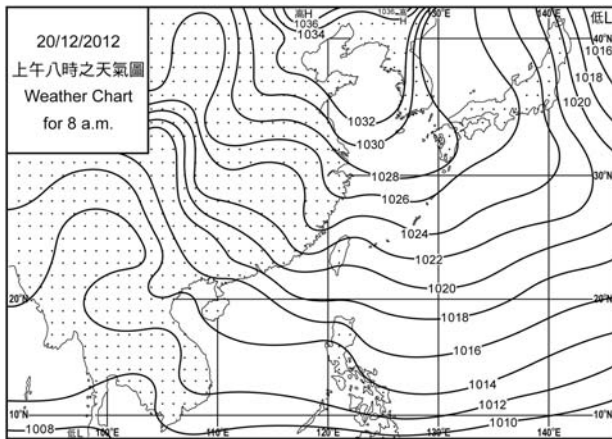
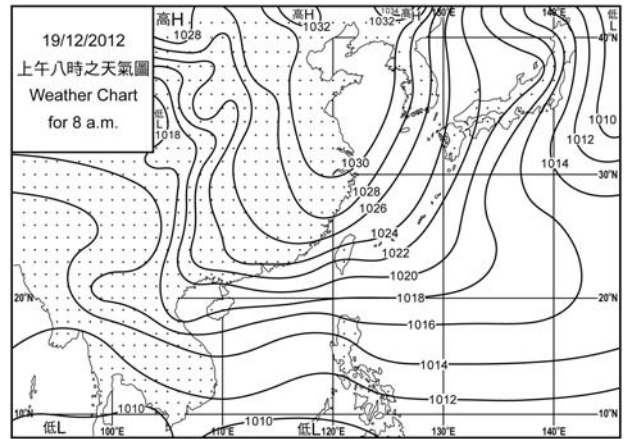
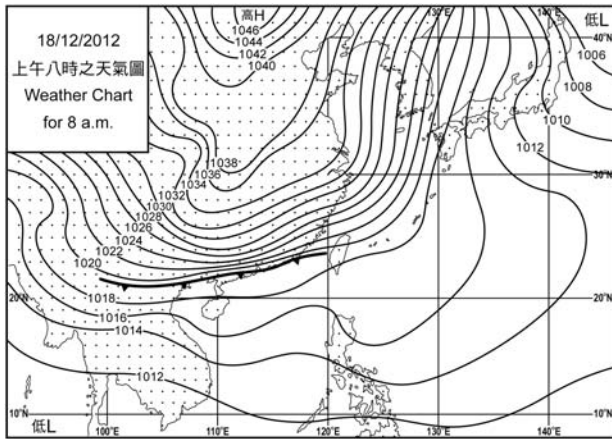
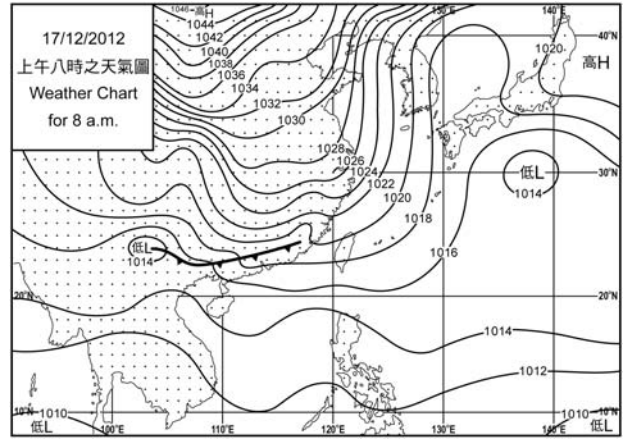
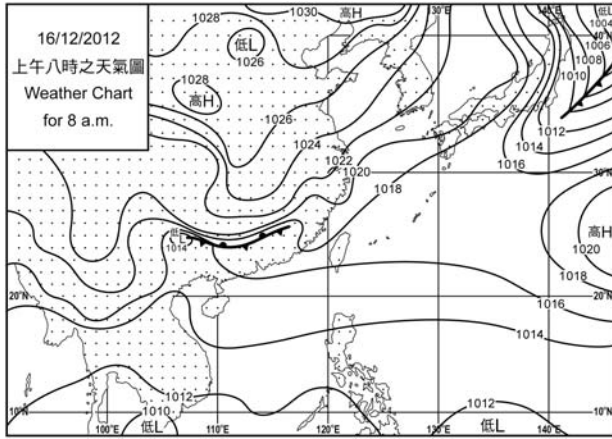
H.K.O. 80C (2009) 蘇丹托投影—北緯 22½ 度 墨卡托投影—北緯 22½ N

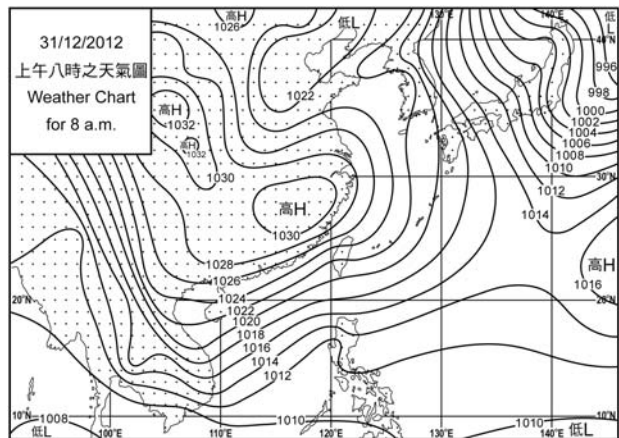
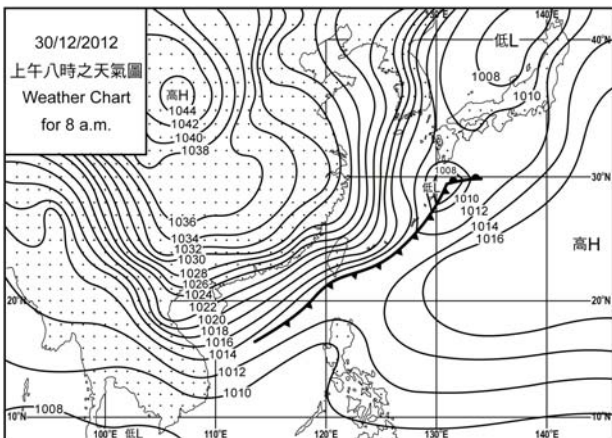
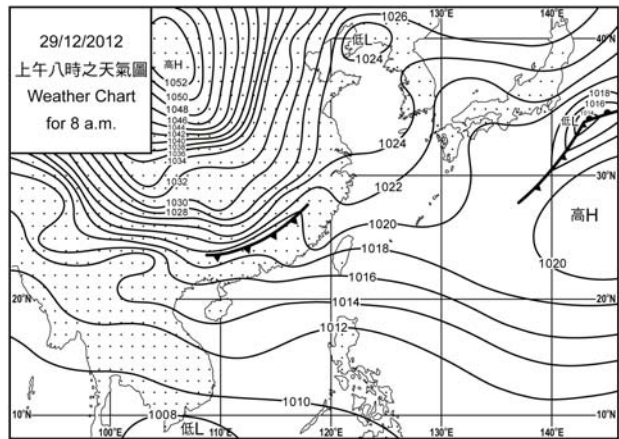
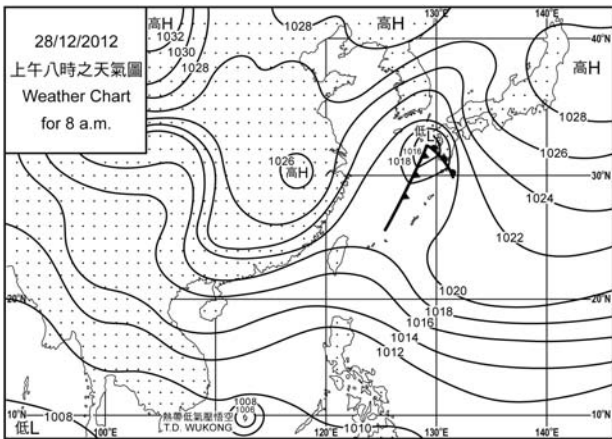
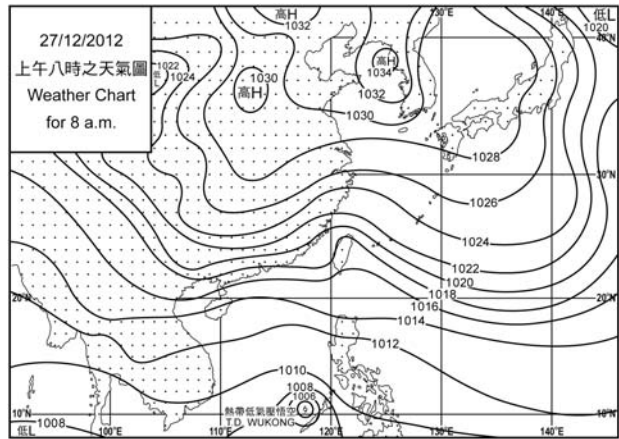
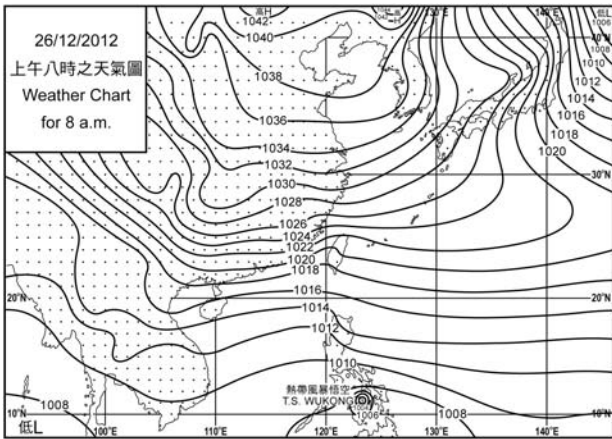
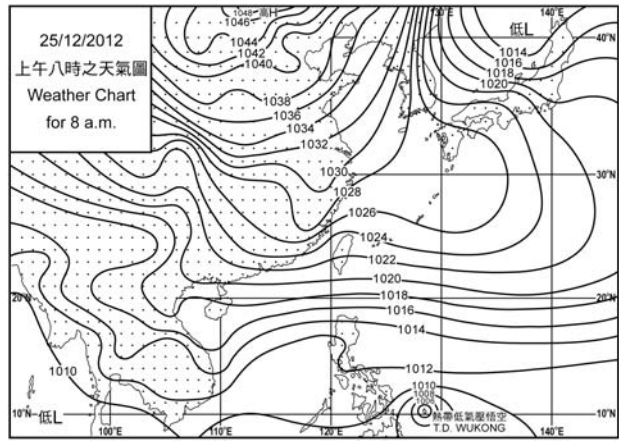
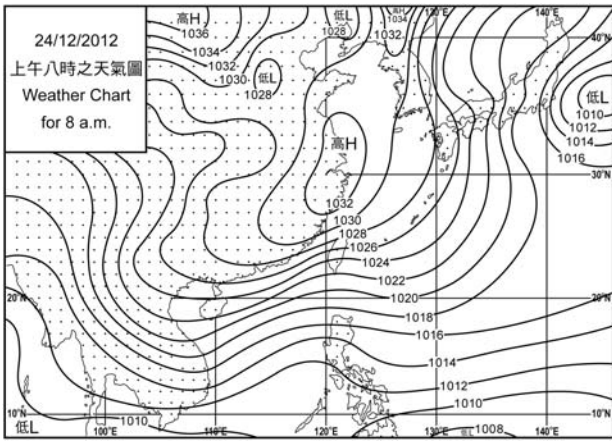
圖 2.1.1 二零一二年十二月的熱帶氣旋路徑圖
Figure 2.1.1 Track of tropical cyclones in December 2012

3. 二零一二年十二月每日天氣圖 3. Daily Weather Maps for December 2012









4.1.1 二零一二年十二月香港氣象觀測摘錄(一)

4.1.1 Extract of Meteorological Observations in Hong Kong (Part 1), December 2012

日期 Date	平均氣壓 Mean Pressure	氣 溫 Air Temperature			平均 露點溫度 Mean Dew Point Temperature	平均 相對濕度 Mean Relative Humidity	平均雲量 Mean Amount of Cloud	總雨量 Total Rainfall
		最高 Maximum	平均 Mean	最低 Minimum				
十二月 December	百帕斯卡 hPa	°C	°C	°C	°C	%	%	毫米 mm
1	1015.0	21.4	20.8	20.1	19.5	92	97	0.3
2	1015.6	20.9	18.1	16.8	15.9	87	90	3.2
3	1017.3	18.3	17.1	16.6	15.6	91	90	10.9
4	1016.3	17.9	17.3	16.5	15.3	88	88	8.7
5	1017.6	17.8	16.2	14.9	13.9	86	89	6.5
6	1018.2	18.3	16.9	14.6	11.8	72	74	-
7	1017.8	20.3	18.4	16.2	14.5	78	80	Tr
8	1016.3	19.8	18.8	17.0	15.0	79	86	0.9
9	1016.1	21.1	19.0	17.3	14.8	77	47	-
10	1016.8	19.5	18.3	17.6	13.7	74	71	-
11	1018.2	20.9	18.7	17.4	14.1	75	73	-
12	1020.7	19.9	17.9	16.6	13.3	74	69	-
13	1020.0	20.6	18.9	16.7	14.7	77	49	-
14	1018.6	23.1	21.0	19.0	17.6	81	69	-
15	1015.4	24.2	22.3	20.6	20.2	88	73	-
16	1015.2	26.2	23.5	22.1	21.2	87	70	-
17	1016.5	22.8	21.7	20.7	19.1	85	84	-
18	1020.3	20.8	17.1	13.7	13.4	79	79	2.3
19	1020.0	17.3	15.1	13.0	11.5	79	88	1.1
20	1017.4	19.1	17.8	16.1	15.4	86	88	-
21	1016.2	22.8	20.7	18.9	18.9	89	76	Tr
22	1019.0	21.2	18.4	14.6	13.6	74	64	-
23	1025.0	16.0	13.3	10.3	4.1	54	40	-
24	1023.6	15.4	13.3	10.1	7.5	68	47	-
25	1020.3	18.7	17.0	14.8	12.2	73	88	-
26	1018.8	20.2	18.7	17.5	14.2	75	88	Tr
27	1017.0	19.3	18.6	18.0	14.8	79	83	Tr
28	1015.9	22.0	19.7	18.0	15.1	75	64	Tr
29	1016.3	19.7	18.0	12.6	15.2	84	90	22.1
30	1022.0	12.6	10.4	9.0	1.8	57	85	Tr
31	1022.6	13.2	10.2	7.1	-0.7	47	28	-
平均/總值 Mean/Total	1018.3	19.7	17.8	15.9	13.8	78	74	56.0
正常* Normal*	1020.5	20.2	17.9	15.9	11.9	69	52	26.8
觀測站 Station	天文台 Hong Kong Observatory							

天文台於十二月一日 15 時 25 分及十二月十六日 15 時 12 分錄得本月最低氣壓 1013.3 百帕斯卡。

The minimum pressure recorded at the Hong Kong Observatory was 1013.3 hectopascals at 1525 HKT on 1 December and at 1512 HKT on 16 December.

天文台於十二月十六日 12 時 53 分錄得本月最高氣溫 26.2 °C。

The maximum air temperature recorded at the Hong Kong Observatory was 26.2 °C at 1253 HKT on 16 December.

天文台於十二月三十一日 6 時 50 分錄得本月最低氣溫 7.1 °C。

The minimum air temperature recorded at the Hong Kong Observatory was 7.1 °C at 0650 HKT on 31 December.

京士柏於十二月二十九日 19 時 37 分錄得本月最高瞬時降雨率 62 毫米/小時。

The maximum instantaneous rate of rainfall recorded at King's Park was 62 millimetres per hour at 1937 HKT on 29 December.

* 1981-2010 氣候平均值 (除特別列明外) (<http://www.hko.gov.hk/wxinfo/climat/normal/cnormal12.htm>)

* 1981-2010 Climatological normal, unless otherwise specified (<http://www.hko.gov.hk/wxinfo/climat/normal/enormal12.htm>)

Tr - 微量 (降雨量少於 0.05 毫米)

Tr - Trace of rainfall (amount less than 0.05 mm)

4.1.2 二零一二年十二月香港氣象觀測摘錄(二)

4.1.2 Extract of Meteorological Observations in Hong Kong (Part 2), December 2012

日期 Date	出現低能見度的時數# Number of hours of Reduced Visibility#	總日照 Total Bright Sunshine	每日太陽總輻射 Daily Global Solar Radiation	總蒸發量 Total Evaporation	盛行風向 Prevailing Wind Direction	平均風速 Mean Wind Speed
十二月 December	小時 hours	小時 hours	兆焦耳/米 ² MJ/m ²	毫米 mm	度 degrees	公里/小時 km/h
1	0	-	4.71	1.6	070	32.1
2	0	0.1	4.10	1.2	020	21.8
3	1	-	2.83	0.9	020	22.3
4	2	-	3.03	0.9	060	33.3
5	2	-	2.69	2.5	020	36.0
6	0	1.5	5.01	1.2	070	34.4
7	0	2.3	9.09	1.2	060	26.6
8	0	1.0	6.33	2.9	060	28.5
9	0	8.9	16.26	2.0	090	33.8
10	0	3.8	10.42	2.3	080	39.1
11	4	3.6	10.84	2.8	070	29.4
12	0	7.7	15.02	3.7	060	37.7
13	0	8.6	16.12	2.6	070	38.3
14	3	4.1	10.42	1.5	050	20.8
15	4	3.6	10.19	1.5	040	10.0
16	6	7.1	12.87	2.5	050	7.9
17	3	1.0	7.28	2.3	070	34.8
18	0	-	1.91	1.9	020	38.1
19	0	-	3.35	0.7	050	40.0
20	18	-	2.60	0.4	070	43.8
21	11	1.9	8.66	1.4	070	23.3
22	2	8.8	15.31	6.3	020	25.0
23	0	7.6	15.32	3.2	020	46.1
24	0	7.6	15.02	2.5	060	27.7
25	15	-	4.90	1.0	050	24.3
26	7	1.3	8.74	2.4	080	46.8
27	4	0.1	2.67	2.0	020	33.5
28	6	8.3	15.61	3.7	060	19.3
29	0	0.5	4.77	2.3	070	37.3
30	0	2.3	10.06	4.2	020	52.3
31	0	9.3	16.86	2.7	020	25.8
平均/總值 Mean/Total	88	101.0	8.81	68.3	070	31.3
正常* Normal*	243.4 §	172.2	10.89	83.7	070	26.0
觀測站 Station	香港國際機場 Hong Kong International Airport	京士柏 King's Park	京士柏 King's Park	橫瀾島 Waglan Island	橫瀾島 Waglan Island	橫瀾島 Waglan Island

橫瀾島於十二月三十日 2 時 30 分錄得本月最高陣風 85 公里/小時，風向 010 度。

The maximum gust peak speed recorded at Waglan Island was 85 kilometres per hour from 010 degrees at 0230 HKT on 30 December.

低能見度是指能見度低於 8 公里，不包括出現霧、薄霧或降水。

- 在2004年及以前，香港國際機場的能見度讀數是基於專業氣象觀測員每小時的觀測數據。在2005年及以後，讀數是採用位於機場南跑道中間的能見度儀表在每小時前10分鐘的平均數據。這與使用儀器觀測來改進能見度評估的國際趨勢是一致的。
- 在2007年10月10日前曾出現於此摘錄內香港國際機場2005年及以後的低能見度時數資料乃基於專業氣象觀測員每小時的觀測數據。有關資料已於2007年10月10日起改為以機場南跑道中間之能見度儀表在每小時前10分鐘的平均數據計算。

Reduced visibility refers to visibility below 8 kilometres when there is no fog, mist, or precipitation

- The visibility readings at the Hong Kong International Airport are based on hourly observations by professional meteorological observers in 2004 and before, and average readings over the 10-minute period before the clock hour of the visibility meter near the middle of the south runway from 2005 onwards. The change of the data source in 2005 is an improvement of the visibility assessment using instrumented observations following the international trend.
- Before 10 October 2007, the number of hours of reduced visibility at the Hong Kong International Airport in 2005 and thereafter displayed in this summary was based on hourly visibility observations by professional meteorological observers. Since 10 October 2007, the data have been revised using the average visibility readings over the 10-minute period before the clock hour, as recorded by the visibility meter near the middle of the south runway.

* 1981-2010 氣候平均值 (除特別列明外) (<http://www.hko.gov.hk/wxinfo/climat/normal/cnormal112.htm>)

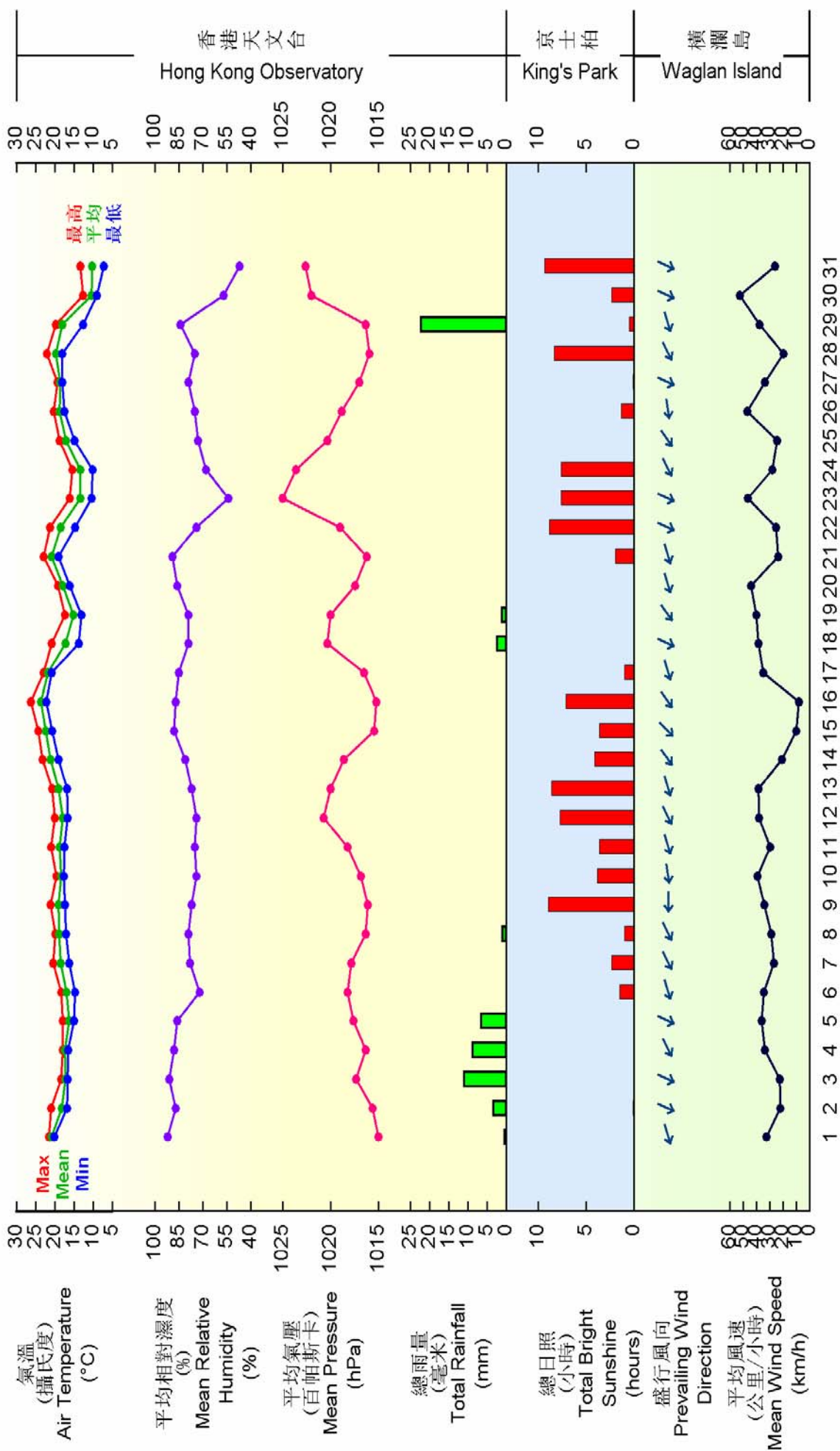
* 1981-2010 Climatological normal, unless otherwise specified (<http://www.hko.gov.hk/wxinfo/climat/normal/enormal112.htm>)

§ 1997-2011 平均值

§ 1997-2011 Mean value

4.2 二零一二年十二月部分香港氣象要素的每日記錄

4.2 Daily Values of Selected Meteorological Elements for Hong Kong, December 2012



5. 二零一二年天氣概況

全球天氣而言，儘管在年初受到弱至中等強度拉尼娜的冷卻效應所影響，全球很多地方在 2012 年仍是異常溫暖的一年。2012 年 1 月至 11 月的全球平均氣溫有可能是同期十個最溫暖的年份之一。於 2012 年，全球各地亦出現了很多極端天氣事件，當中包括美國及歐洲的熱浪；歐亞大陸的寒流；美國本土、墨西哥北部、俄羅斯西部、歐洲東南部、巴西北部、中國雲南及四川省的嚴重旱災；在非洲和巴基斯坦部分地區的洪澇災害；以及在菲律賓、日本、朝鮮半島和美國本土東北部出現由熱帶氣旋引致的暴雨。在北極地區，2012 年 9 月海冰覆蓋程度也創了歷史新低。

本港方面，2012 年 1 至 2 月天氣顯著較正常冷，這主要與在拉尼娜情況下華南的東北季候風一般較強有關。然而，隨著拉尼娜於春季逐漸減弱，年初的偏低氣溫被 4 月、5 月和 8 月異常溫暖天氣所抵消。整體而言，全年的平均氣溫為 23.4 度，比 1981-2010 年氣候正常值^[1]23.3 度高 0.1 度(如參考較早期變化，則較 1961-1990 年氣候正常值的 23.0 度高 0.4 度)，是自 1885 年以來第 12 位最高記錄。在極端氣溫方面，2012 年酷熱^[2]天氣日數共有 21 天，熱夜^[3]日數共有 23 天、寒冷^[4]日數共有 21 天，分別比 1981-2010 年氣候正常值多出 11 天、5 天及 4 天。天文台於 2012 年錄得的最高氣溫為 8 月 28 日的 34.5 度。受一股強烈冬季季候風引致的寒潮影響，12 月 31 日錄得本年的最低氣溫 7.1 度，此亦是紀錄上第三最冷的除夕。

2012 年比正常少雨。由於 6 月和 8 月的雨量明顯比正常少，全年雨量只有 1924.7 毫米，較 1981-2010 年氣候正常值少約百分之 20 (較 1961-1990 年氣候正常值少約百分之 13)。香港天文台於 2012 年間只發出過兩次紅色暴雨警告，約為暴雨警告系統自 1992 年推出以來每年平均發出紅色暴雨警告次數的一半。而本年並沒有發出黑色暴雨警告。2012 年的雷暴日數共 37 天，接近 1981-2010 年氣候正常值。

2012 年是異常陰暗的一年，尤其是首兩個月及最後兩個月。全年總日照時間為 1551.2 小時，是自 1885 年有紀錄以來的最少。

2012 年共有 27 個熱帶氣旋影響北太平洋西部及南海區域，略少於正常年平均約 29 個。全年有 15 個熱帶氣旋達到颱風或以上強度^[5]，接近正常數目。年內有 5 個熱帶氣旋引致香港天文台發出熱帶氣旋警告信號，接近長期年平均的 6 個。天文台於 7 月在韋森特影響香港期間發出十號颶風信號，和於 6 月及 8 月分別在杜蘇芮及啟德吹襲期間發出八號烈風或暴風信號。

至於本年各月份的詳細天氣概況，可參考以下「每月天氣摘要」網頁：
<http://www.hko.gov.hk/wxinfo/pastwx/mwsc.htm>

於 2012 年在本港發生的一些重要天氣事件如下：

天氣較冷的一月及二月

受拉尼娜影響，華南的東北季候風較強，2012 年 1 至 2 月的天氣顯著較冷，1 至 2 月的平均氣溫為 15.5 度，較正常值 16.6 度低 1.1 度。天文台於 1 月 25 日早上的最低氣溫下降至 7.4 度，是自 1996 年以來農曆年假期的最低紀錄。

異常溫暖的四月及五月

在大部分時間受溫暖海洋氣流影響下，2012 年 4 月及 5 月香港天氣是異常溫暖，這兩個月的平均氣溫為 25.5 度，較同期正常值 24.3 度高 1.2 度。4 月 30 日的平均氣溫為 28.5 度，與 1994 年 4 月 26 日並列為自 1884 年有紀錄以來 4 月份的最高日平均氣溫。2012 年 5 月 3 日錄得最低氣溫為 28.0 度，是自有紀錄以來最早出現的「熱夜」^[3]。5 月 1 日至 15 日的平均氣溫為 27.7 度，與 1977 年相同時段並列為有紀錄以來 5 月份上半月的最高日平均氣溫。

最熱的八月

主要受熱帶氣旋蘇拉、啟德及天秤相關的乾燥下沉氣流的影響，2012 年 8 月是有紀錄以來其中一個最熱的 8 月。本月平均氣溫升至 29.5 度，較正常高 0.9 度，平了 1990 年、1998 年及 2011 年的 8 月份最高紀錄。本月亦是自 1992 年以來最少雨的 8 月，月總雨量為 149.8 毫米，只有正常數值 432.2 毫米的百分之 35。

自 1999 年以來首個 10 號颶風信號

天文台於 2012 年 7 月 24 日強颶風韋森特襲港期間發出最高 10 號熱帶氣旋警告信號，是自 13 年前 1999 年 9 月颶風約克襲港以來首次的 10 號信號。韋森特是自 1946 年以來導致天文台發出 10 號颶風信號距離香港最遠的熱帶氣旋，當時其最高持續中心風力約為每小時 155 公里。韋森特在 30 小時內迅速增強三級由熱帶風暴至強颶風^[5]。這種靠近本港的熱帶氣旋迅速加強現象是自 1946 年以來相當罕見的。在韋森特吹襲本港期間，至少有 138 人受傷，而倒下的樹木數量約為 8800 棵。（詳情請參考強颶風韋森特的報告 http://www.hko.gov.hk/informtc/vicente/vicente_uc.htm）

極陰暗及潮濕的十一月

受清涼的東北季候風和溫暖潮濕的海洋氣流於華南沿岸頻密交替的影響，2012 年 11 月，特別在下半月期間，本港天氣主要為陰暗及潮濕。本月總日照時間為 101.4 小時，

是自 1885 年以來 11 月份的最低紀錄。月平均相對濕度為百分之 81，與 1960 年並列為 11 月份的最高紀錄。

一個陰暗而除夕寒冷的十二月

2012 年 12 月初期及後期受東北季候風相關的廣闊雨帶影響，該月顯著較正常陰暗，全月總日照時間為 101.0 小時，較正常數值 172.2 小時少約百分之 41，為 12 月份第五位最低紀錄。此外，受一股強烈冬季季候風引致的寒潮影響，12 月 31 日氣溫下降至最低的 7.1 度，是有記錄以來第三最冷的除夕。

圖 5.2 及圖 5.3 分別顯示二零一二年之月平均氣溫距平及月雨量距平。

附註：

- [1] 1961-1990 年、1971-2000 及 1981-2010 年氣候正常值，可參考：http://www.weather.gov.hk/cis/normal_c.htm。除特別列明外，本文採用 1981-2010 氣候正常值。
- [2] 酷熱天氣指當日最高氣溫達 33.0 度或以上
- [3] 熱夜天氣指當日最低氣溫在 28.0 度或以上
- [4] 寒冷天氣指當日最低氣溫在 12.0 度或以下
- [5] 熱帶氣旋分類資料可瀏覽 <http://www.hko.gov.hk/informtc/classc.htm>

5. The Year's Weather – 2012

Globally, despite the cooling influence of a weak-to-moderate La Nina at the beginning of the year, 2012 is still an unusually warm year in many parts of the world. The global average temperature from January to November 2012 is likely to rank among the top ten warmest for the same period. Moreover, notable extreme weather events were observed worldwide in 2012, including major heat waves in the United States and Europe, the cold spell in the Eurasian continent, severe drought in the continental United States, the northern part of Mexico, western Russia, Southeast Europe, northern Brazil and the Yunnan and Sichuan provinces of China, extreme flooding in parts of Africa and Pakistan, and tropical cyclone induced torrential rain in the Philippines, Japan, Korean Peninsula and the northeastern part of contiguous United States. Over the Arctic, the sea ice extent also reached a new record low in September 2012.

In Hong Kong, 2012 started with significantly colder than normal weather in January and February which is mainly due to the stronger northeast monsoon over southern China usually in the presence of La Nina. However, with La Nina fading out in spring, the below-normal temperature was compensated by the exceptionally warm weather in April, May and August in 2012. Overall, the average temperature of 2012 was 23.4 degrees, 0.1 degrees above the 1981-2010 normal^[1] figure of 23.3 degrees (which is 0.4 degrees above the 1961-1990 normal figure of 23.0 degrees when we consider an earlier timeframe) and ranking the 12th highest since record began in 1885. For extreme temperatures, there were 21 Very Hot Days^[2], 23 Hot Nights^[3] and 21 Cold Days^[4] in 2012, about 11, 5 and 4 days more than the 1981-2010 normal figures respectively. The maximum temperature recorded at the Hong Kong Observatory in 2012 was 34.5 degrees on 28 August. During the passage of an intense cold surge of the winter monsoon, the minimum temperature of the year of 7.1 degrees was recorded on 31 December. This was also the third coldest New Year's Eve on record.

The year 2012 was drier than usual. With well below normal rainfall in June and August, the annual rainfall of 1924.7 millimetres was about 20 percent below the 1981-2010 normal (which is about 13 percent below the 1961-1990 normal). There were only two red rainstorm warnings issued by the Hong Kong Observatory in 2012, about one half of the average number of red rainstorm warnings in a year since the Rainstorm Warning System commenced operation in 1992. There was no black rainstorm warning issued in the year. The number of days with thunderstorms reported in Hong Kong was 37 days in 2012, close to the 1981-2010 normal.

It was exceptionally gloomy in 2012, particularly in the first two months and the last two months of the year. The annual total duration of bright sunshine of 1551.2 hours was the lowest since record began in 1885.

A total of 27 tropical cyclones occurred over the western North Pacific and the South China Sea in 2012, slightly less than the normal annual figure of around 29. Fifteen of the tropical cyclones reached typhoon intensity^[5] or above during the year, close to the normal annual figure. In Hong Kong, five tropical cyclones necessitated the issuance of local tropical cyclone warning signals, close to the long term average of about six in a year. The Hurricane Signal No. 10 was issued during the passage of Vicente in July, while the No. 8 Gale or Storm Signal was issued during the passages of Doksuri and Kai-tak respectively in June and August.

Detailed descriptions of the weather for individual months are available in the Monthly Weather Summary webpage: <http://www.hko.gov.hk/wxinfo/pastwx/mws.htm>

Some significant weather events in Hong Kong in 2012 are highlighted below:

Rather cold January and February

January and February 2012 were significantly colder than usual because of the stronger winter monsoon over South China under the influence of La Nina. The mean temperature of the two months was 15.5 degrees, 1.1 degrees below the normal figure of 16.6 degrees. In the morning on 25 January, the temperature at the Hong Kong Observatory fell to a minimum of 7.4 degrees, the lowest during the Lunar New Year holidays since 1996.

Exceptionally warm in April and May

Under the prevalence of a warm maritime airstream most of the time, the weather of April and May 2012 was exceptionally warm in Hong Kong. The mean temperature recorded at the Hong Kong Observatory for these two months was 25.5 degrees, 1.2 degrees above the normal figure of 24.3 degrees for the same period. The daily mean temperature of 28.5 degrees recorded on 30 April 2012 tied with that on 26 April 1994 as the highest in April since record began in 1884. The daily minimum temperature reached 28.0 degrees on 3 May 2012, the earliest occurrence of 'Hot Night'^[3] since record began. The mean temperature of 27.7 degrees during 1 to 15 May tied with that of 1977 as the highest in the first half of May since record began.

The hottest August

August 2012 was one of the hottest Augusts on record in Hong Kong which was mainly attributed to the prevalence of the dry subsiding airstream associated with tropical cyclones Saola, Kai-tak and Tembin. The monthly mean temperature rose to 29.5 degrees which was 0.9 degrees above normal, matching the records set in 1990, 1998 and 2011. It was also the driest August in Hong Kong since 1992. The monthly total rainfall was 149.8 millimetres, only about 35 percent of the normal figure of 432.2 millimetres.

The first Hurricane Signal No. 10 since 1999

The Hong Kong Observatory issued the Hurricane Signal No. 10, the highest tropical cyclone warning signal in Hong Kong, on 24 July 2012 during the passage of Severe Typhoon Vicente. This was the first No. 10 Signal since Typhoon York 13 years ago in September 1999. Packed with an estimated maximum sustained winds of 155 km/hr near its centre, Vicente passed about 100 km to the southwest of Hong Kong, and was the farthest tropical cyclone that had necessitated the issuance of the No. 10 Signal in Hong Kong since 1946. Vicente underwent rapid intensification within around 30 hours prior to its closest approach to Hong Kong, strengthening by three categories from a tropical storm to a severe typhoon^[5]. Such rapid intensification of tropical cyclones near the territory was rather rare since 1946. At least 138 people were injured during the strike of Vicente. The number of fallen trees amounted to about 8800. (Please refer to the Report of Severe Typhoon Vicente available at <http://www.hko.gov.hk/informtc/vicente/vicente.htm> for more details).

Extremely gloomy and humid in November

As a result of the frequent interchange between cool northeast monsoon and warm and humid maritime airstream over the south China coastal areas, November 2012 was marked by unseasonably gloomy and humid weather, particularly in the latter part of the month. The total duration of bright sunshine captured in the month was only 101.4 hours, a record low for November since 1885. The monthly mean relative humidity was 81 percent, tying with that of 1960 as the highest record for November.

A gloomy December with a cold New Year's Eve

Affected by rain-bearing cloud bands associated with the northeast monsoon during the first and last part of the month, December 2012 was significantly gloomier than usual. The total duration of bright sunshine in the month was 101.0 hours, 41 percent below the

normal figure of 172.2 hours and ranking the fifth lowest on record for December. During the passage of an intense cold surge of the winter monsoon on the last day of December, the temperature dropped to a minimum of 7.1 degrees, making this the third coldest New Year's Eve on record.

Figure 5.2 and 5.3 show respectively the monthly mean temperature anomalies and total rainfall anomalies in 2012.

Note :

- [1] Climatological normals for the reference period of 1961-1990, 1971-2000 and 1981-2010 are available at : http://www.weather.gov.hk/cis/normal_e.htm. Climatological normals of 1981-2010 are referenced in the text unless otherwise stated.
- [2] 'Very Hot Day' refers to the condition with the daily maximum temperature equal to or higher than 33.0 degrees.
- [3] 'Hot Night' refers to the condition with the daily minimum temperature equal to or higher than 28.0 degrees.
- [4] 'Cold Day' refers to the condition with the daily minimum temperature equal to or lower than 12.0 degrees.
- [5] Information on the classification of tropical cyclones is available at: <http://www.hko.gov.hk/informtc/class.htm>

表 5.1.1 二零一二年香港氣象觀測摘要(一)

Table 5.1.1 Summary of Meteorological Observations in Hong Kong (Part1), 2012

月份 Month	平均氣壓 Mean Pressure	氣 溫 Air Temperature			平均 露點溫度 Mean Dew Point Temperature	平均 相對濕度 Mean Relative Humidity	平均雲量 Mean Amount of Cloud	總雨量 Total Rainfall
		平均日最高 Mean Daily Maximum	平均 Mean	平均日最低 Mean Daily Minimum				
	百帕斯卡 hPa	°C	°C	°C	°C	%	%	毫米 mm
一月 January	1019.3	17.0	15.1	13.5	11.9	82	79	42.1
二月 February	1016.8	17.8	15.8	14.0	13.1	85	84	29.5
三月 March	1015.6	21.8	19.0	16.9	15.8	83	75	22.1
四月 April	1011.3	26.2	23.9	22.0	21.2	85	80	294.9
五月 May	1007.5	29.4	27.0	25.5	24.4	86	78	277.7
六月 June	1002.6	30.5	28.1	26.4	25.0	83	78	261.5
七月 July	1004.6	31.6	28.8	26.8	25.2	81	70	467.8
八月 August	1003.3	32.2	29.5	27.4	24.9	77	71	149.8
九月 September	1010.3	30.9	28.0	26.0	23.0	75	65	213.0
十月 October	1014.3	28.3	25.6	23.7	20.4	74	59	46.4
十一月 November	1015.5	24.2	22.2	20.6	18.7	81	76	63.9
十二月 December	1018.3	19.7	17.8	15.9	13.8	78	74	56.0
平均/總值 Mean/Total	1011.6	25.8	23.4	21.6	19.8	81	74	1924.7
正常* Normal*	1012.9	25.6	23.3	21.4	19.0	78	68	2398.5
觀測站 Station	天文台 Hong Kong Observatory							

天文台於七月二十四日 0 時 53 分錄得本年最低氣壓 986.0 百帕斯卡。

The minimum pressure recorded at the Hong Kong Observatory was 986.0 hectopascals at 0053 HKT on 24 July.

天文台於八月二十八日 13 時 1 分錄得本年最高氣溫 34.5 °C。

The maximum air temperature recorded at the Hong Kong Observatory was 34.5 °C at 1301 HKT on 28 August.

天文台於十二月三十一日 6 時 50 分錄得本年最低氣溫 7.1 °C。

The minimum air temperature recorded at the Hong Kong Observatory was 7.1 °C at 0650 HKT on 31 December.

天文台於七月五日 9 時 26 分錄得本年最高瞬時降雨率 332 毫米/小時。

The maximum instantaneous rate of rainfall recorded at the Hong Kong Observatory was 332 millimetres per hour at 0926 HKT on 5 July.

* 1981-2010 氣候平均值 (http://www.weather.gov.hk/cis/normal/1981_2010/normals_c.htm)

* 1981-2010 Climatological normal (http://www.weather.gov.hk/cis/normal/1981_2010/normals_e.htm)

表 5.1.2 二零一二年香港氣象觀測摘要(二)

Table 5.1.2 Summary of Meteorological Observations in Hong Kong (Part2), 2012

月份 Month	出現低能見度的時數# Number of hours of Reduced Visibility#		總日照 Total Bright Sunshine	平均每日 太陽總輻射 Mean Daily Global Solar Radiation	總蒸發量 Total Evaporation	盛行風向 Prevailing Wind Direction	平均風速 Mean Wind Speed
	小時 hours	小時 hours	小時 hours	兆焦耳/米 ² MJ/m ²	毫米 mm	度 degrees	公里/小時 km/h
一月 January	193	223	86.0	8.16	54.8	030	23.3
二月 February	93	120	38.1	7.49	45.9	040	25.4
三月 March	54	61	106.5	11.62	79.7	050	24.0
四月 April	83	55	88.1	11.45	96.9	080	21.4
五月 May	14	7	136.1	15.14	117.9	100	24.0
六月 June	22	27	126.0	14.10	113.5	100	26.0
七月 July	10	7	197.6	18.14	154.7	230	22.6
八月 August	144	57	183.2	16.46	143.1	230	17.0
九月 September	35	5	187.4	16.76	140.5	110	20.0
十月 October	91	117	199.8	14.97	125.8	100	25.7
十一月 November	63	59	101.4	8.97	69.3	080	26.2
十二月 December	85	88	101.0	8.81	68.3	070	31.3
平均/總值 Mean/Total	887	826	1551.2	12.67	1210.4	050	23.9
正常* Normal*	692.3	1430.7	§ 1835.6	12.85	1227.3	080	23.3
觀測站 Station	天文台 Hong Kong Observatory	香港國際機場 Hong Kong International Airport		京士柏 King's Park			橫瀾島 Waglan Island

橫瀾島於七月二十三日 22 時 10 分鐘得本年最高陣風 149 公里/小時，風向 110 度。

The maximum gust peak speed recorded at Waglan Island was 149 kilometres per hour from 110 degrees at 2210 HKT on 23 July.

低能見度是指能見度低於 8 公里，不包括出現霧、薄霧或降水。

- 在2004年及以前，香港國際機場的能見度讀數是基於專業氣象觀測員每小時的觀測數據。在2005年及以後，讀數是採用位於機場南跑道中間的能見度儀表在每小時前10分鐘的平均數據。這與使用儀器觀測來改進能見度評估的國際趨勢是一致的。
- 在2007年10月10日前曾出現於此摘錄內香港國際機場2005年及以後的低能見度時數資料乃基於專業氣象觀測員每小時的觀測數據。有關資料已於2007年10月10日起改為以機場南跑道中間之能見度儀表在每小時前10分鐘的平均數據計算。

Reduced visibility refers to visibility below 8 kilometres when there is no fog, mist, or precipitation

- The visibility readings at the Hong Kong International Airport are based on hourly observations by professional meteorological observers in 2004 and before, and average readings over the 10-minute period before the clock hour of the visibility meter near the middle of the south runway from 2005 onwards. The change of the data source in 2005 is an improvement of the visibility assessment using instrumented observations following the international trend.
- Before 10 October 2007, the number of hours of reduced visibility at the Hong Kong International Airport in 2005 and thereafter displayed in this summary was based on hourly visibility observations by professional meteorological observers. Since 10 October 2007, the data have been revised using the average visibility readings over the 10-minute period before the clock hour, as recorded by the visibility meter near the middle of the south runway.

* 1981-2010 氣候平均值 (除特別列明外) (http://www.weather.gov.hk/cis/normal/1981_2010/normal_s_c.htm)

* 1981-2010 Climatological normal, unless otherwise specified (http://www.weather.gov.hk/cis/normal/1981_2010/normal_s_e.htm)

§ 1997-2011 平均值

§ 1997-2011 Mean value

表 5.1.3 二零一二年香港氣象觀測摘要(三)

Table 5.1.3 Summary of Meteorological Observations in Hong Kong (Part3), 2012

月份 Month	酷熱天氣日數 Number of Very Hot days	熱夜日數 Number of Hot nights	寒冷天氣日數 Number of Cold days	雷暴日數 Number of days with Thunderstorm
一月 January	-	-	8	-
二月 February	-	-	7	-
三月 March	-	-	2	-
四月 April	-	-	-	9
五月 May	-	1	-	7
六月 June	2	6	-	3
七月 July	7	5	-	7
八月 August	10	11	-	6
九月 September	2	-	-	5
十月 October	-	-	-	-
十一月 November	-	-	-	-
十二月 December	-	-	4	-
平均/總值 Mean/Total	21	23	21	37
正常* Normal*	10.2	17.8	17.1	38.6
觀測站 Station	天文台 Hong Kong Observatory			

* 1981-2010 氣候平均值 (http://www.weather.gov.hk/cis/normal/1981_2010/normal_s_c.htm)

* 1981-2010 Climatological normal (http://www.weather.gov.hk/cis/normal/1981_2010/normal_s_e.htm)

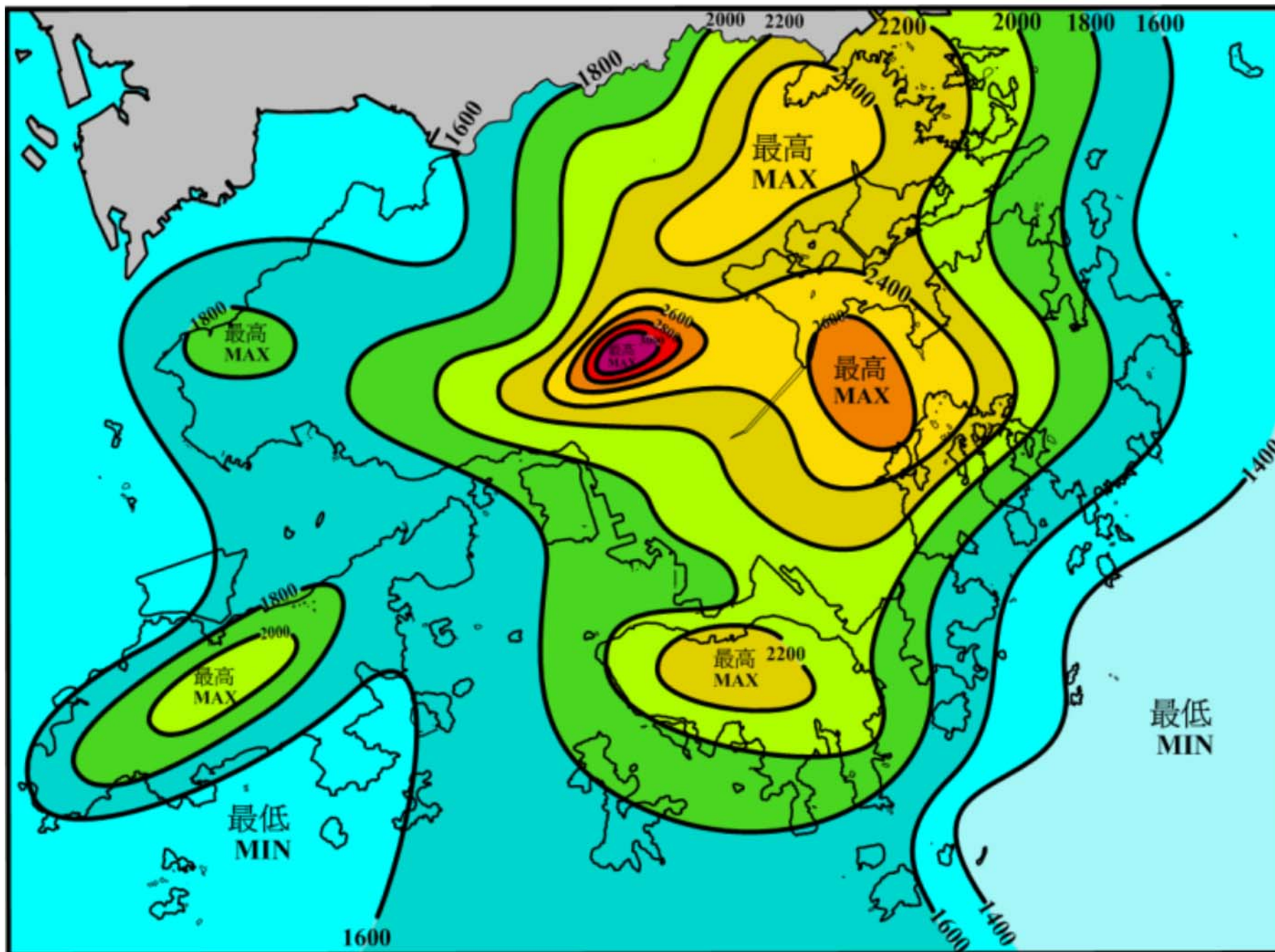


圖 5.1 二零一二年的年雨量圖 (等雨量線單位為毫米)

Figure 5.1 Annual rainfall map for 2012 (isohyets are in millimetres)

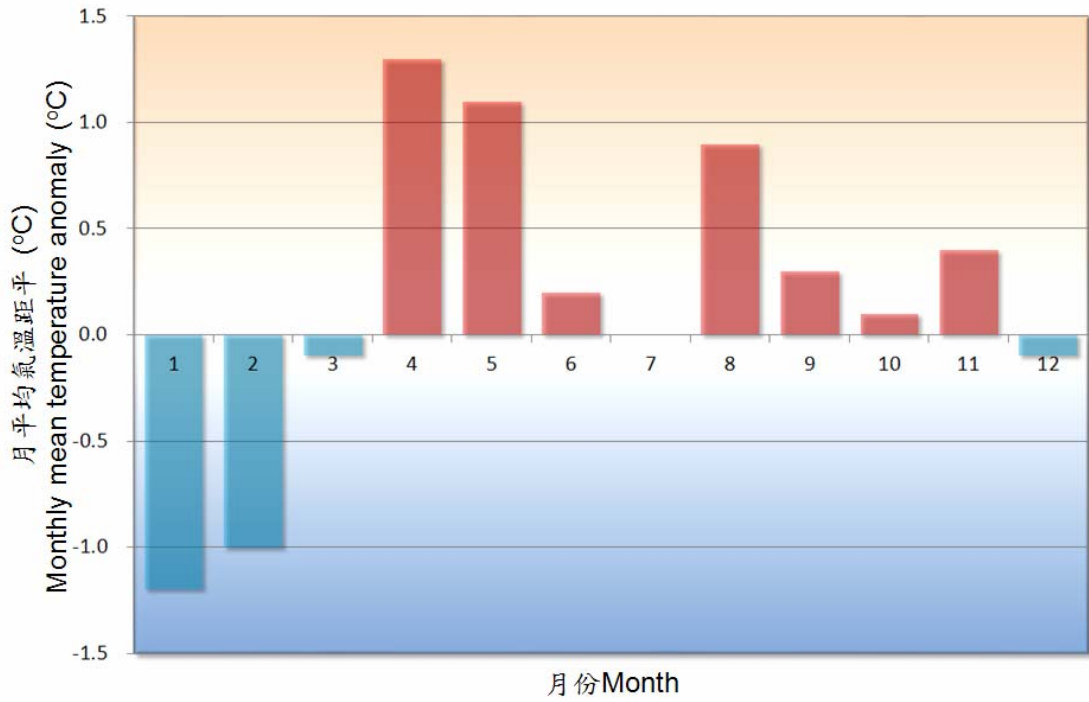


圖 5.2 二零一二年月平均氣溫距平
Figure 5.2 Monthly mean temperature anomalies in 2012

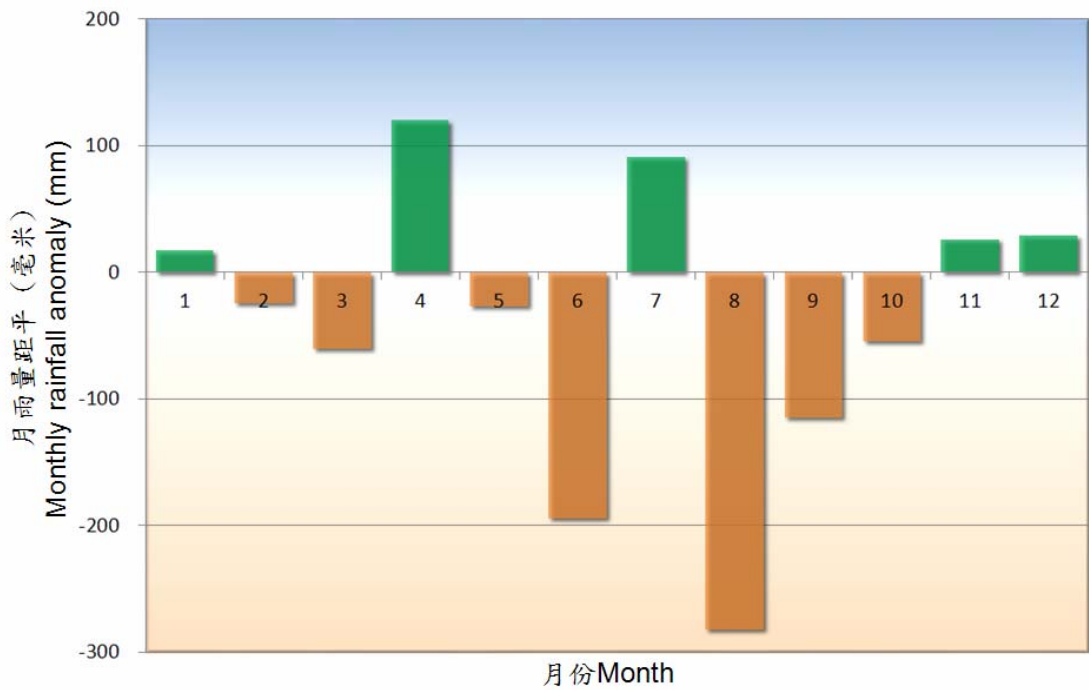


圖 5.3 二零一二年月雨量距平
Figure 5.3 Monthly total rainfall anomalies in 2012

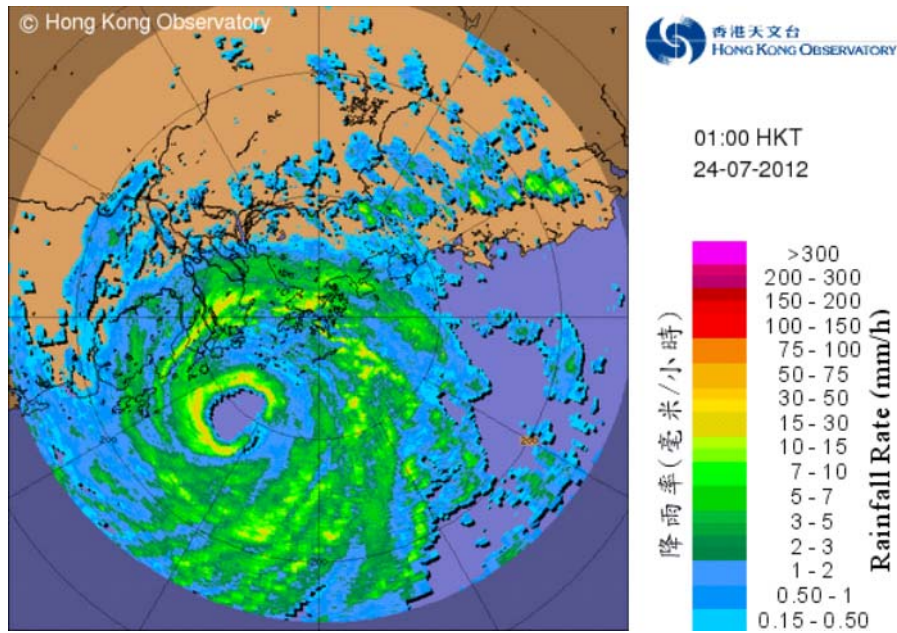


圖 5.4 雷達回波圖像顯示在 2012 年 7 月 24 日早上 1 時強颱風韋森特的中心位於香港天文台西南約 100 公里

Figure 5.4 Radar echoes captured at 1:00 a.m. on 24 July 2012, showing the centre of Severe Typhoon Vicente about 100 km to the southwest of the Observatory



圖 5.5 在強颱風韋森特吹襲香港期間，奧海城附近的樹木被吹倒。
(相片由 Ms Carly Tse 提供)

Figure 5.5 Trees blown down near Olympian City during the strike of Severe Typhoon Vicente (Courtesy of Ms. Carly Tse)

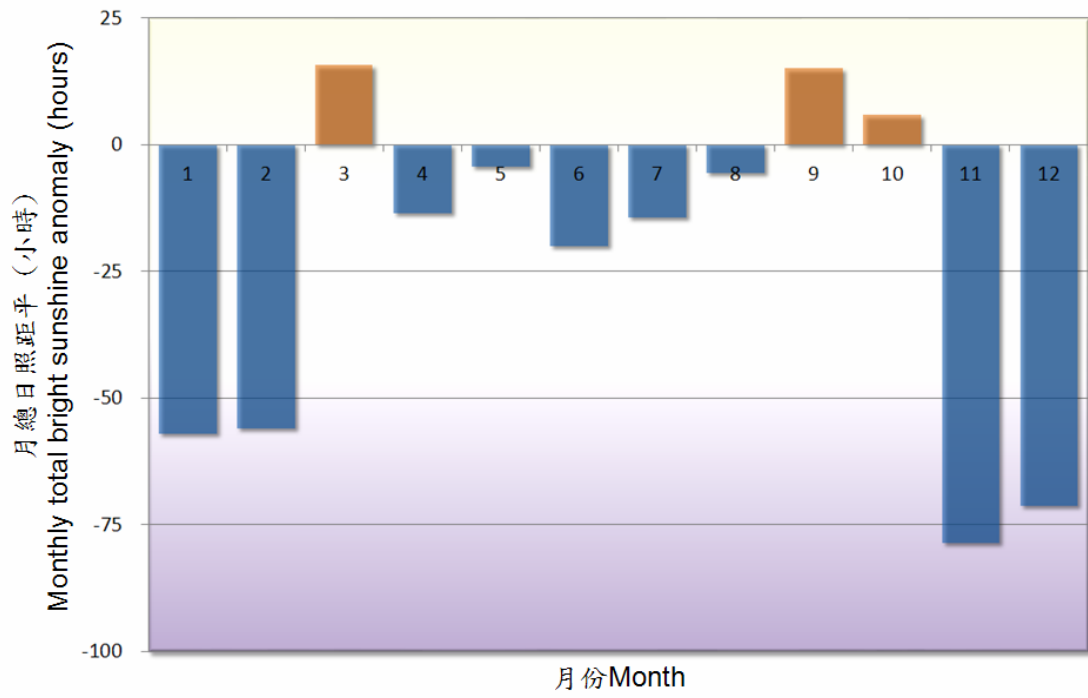


圖 5.6 二零一二年月總日照距平

Figure 5.6 Monthly total duration of bright sunshine anomalies in 2012