每月天氣摘要
二零一二年七月

Monthly Weather Summary
July 2012

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目錄

Contents

二零一二年十月出版

香港天文台編製
香港九龍彌敦道134A

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1. 二零一二年七月天氣回顧

在副熱帶高壓脊持續影響下，二零一二年七月上半月本港較正常少雨及溫暖，但下半月西南季候風及強颱風韋森特分別為香港帶來的大雨，彌補了上半月雨量偏少的情況。整體來說，本月共錄得 467.8 毫米的雨量，較正常多約百分之 24。而本年至今累積雨量為 1395.6 毫米，較同期正常數值 1473.3 毫米少約百分之 5。本月的平均氣溫及相對濕度均接近正常。

受副熱帶高壓脊影響，本港天氣於首兩天除有幾陣驟雨外，大致天晴及炎熱。隨著風勢轉弱，七月三日及四日日間陽光充沛及酷熱。天文台於七月四日的最高氣溫上升至 33.8 度，為本月錄得的最高記錄。

南海北部的一道低壓槽於七月五日及六日為本港帶來普遍多雲及有驟雨的天氣。隨著太平洋的副熱帶高壓脊向西伸展，其後六天除局部地區有幾陣驟雨外，陽光充沛及天氣炎熱。

在一股西南氣流支配下，七月十三日至十七日天氣持續炎熱及有幾陣驟雨。受活躍西南季候風影響，七月十八日早上有大驟雨及狂風雷暴，本港大部分地區錄得超過 30 毫米雨量。在華南上空的反氣旋持續影響下，隨後三天天氣轉為大致天晴及酷熱。

同時，熱帶低氣壓韋森特於七月二十一日進入南海，並於當晚增強為熱帶風暴及於七月二十二日徘徊於南海東北部。受韋森特的外圍雨帶影響，當日本港天氣轉為大致多雲、有幾陣狂風驟雨及雷暴。韋森特在七月二十三日開始移近華南沿岸珠江口以西一帶，並於下午迅速增強為一個颱風，韋森特之後進一步增強為強颱風。隨著韋森特靠近，本港於七月二十三日天氣顯著轉差，有狂風大驟雨，本地風力於黃昏普遍增強，部分地區達烈風至暴風程度。七月二十四日清晨時分本港西南部受颶風影響，天文台發出了自一九九九年以來首個十號颶風信號。韋森特於七月二十四日黎明前在台山沿岸附近(香港之西南偏西約 130 公里)登陸，並於日間逐漸在內陸減弱。隨著韋森特遠離本港，本地風勢及雨勢於當日下午逐漸減弱。七月二十三日至二十四日天文台共錄得超過 200 毫米雨量。

受一道廣闊季風槽影響，七月二十五日至二十七日本港天氣持續不穩定，有大驟雨及狂風雷暴。隨著該季風槽減弱，本港於七月二十八日天氣逐漸轉好及部分時間有陽光。一道高壓脊於其後兩天為本港帶來普遍天晴及酷熱的天氣。受位於台灣以東海域的颱風蘇拉外圍下沉氣流影響，本港在七月三十一日天氣酷熱，但在廣東內陸形成的雷雨於當日傍晚移至影響本港。

本月有四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 53 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 July 2012

Under the general prevalence of the subtropical ridge of high pressure, the weather of the first half of July 2012 was drier and warmer than usual. However, the rainfall deficit was more than compensated by the heavy rain episodes in the latter part of the month respectively brought about by the southwest monsoon and Severe Typhoon Vicente. Overall, the monthly total rainfall was 467.8 millimetres, about 24 percent above the normal. The accumulated rainfall since 1 January was 1395.6 millimetres, about 5 percent below the normal figure of 1473.3 millimetres for the same period. The mean temperature and relative humidity of the whole month are both near-normal.

Under the influence of the subtropical ridge, the weather in Hong Kong was mainly fine and hot apart from a few showers for the first two days of the month. With winds turning light, it was sunny and very hot during the day on 3 and 4 July. The temperature at the Observatory rose to a maximum of 33.8 degrees on 4 July, the highest in the month.

Affected by the trough of low pressure over the northern part of the South China Sea, local weather became mainly cloudy with showers on 5 and 6 July. With the return of the subtropical ridge extending westwards from the Pacific Ocean, it was sunny and hot with a few isolated showers for the ensuing six days.

Dominated by a southwesterly airstream, the weather remained hot with some showers from 13 to 17 July. Affected by an active southwest monsoon, there were heavy showers and squally thunderstorms on the morning of 18 July. More than 30 millimetres of rainfall were recorded over most parts of the territory. Under the prevalence of the anticyclone aloft over southern China, local weather turned mainly fine and very hot for the next three days.

Meanwhile, Tropical Depression Vicente entered the South China Sea on 21 July and intensified into a tropical storm that night. It stalled over the northeastern part of the South China Sea on 22 July. Affected by the outer rainbands of Vicente, the weather became mainly cloudy with a few squally showers and thunderstorms on that day. Vicente began to edge towards the south China coast to the west of the Pearl River Estuary on 23 July, undergoing rapid intensification to a typhoon in the afternoon and further to a severe typhoon. With the approach of Vicente, local weather deteriorated significantly on that day with heavy squally showers. Local winds also strengthened generally in the evening and reached gale to storm force in some places. Hurricane force winds affected the southwestern part of the territory in the small hours on 24 July, necessitated the issuance of the Hurricane Signal No.10, the first time since 1999. Vicente made landfall near the coastal areas of Taishan about 130 kilometers west-southwest of Hong Kong before dawn on 24 July and weakened gradually overland during the day. As Vicente moved away, local wind and rain abated gradually in that afternoon. Between 23 and 24 July, over 200 millimeters of rainfall were recorded at the Hong Kong Observatory.

Affected by a broad monsoon trough, local weather remained unsettled with heavy showers and squally thunderstorms from 25 to 27 July. With the weakening of the trough, the weather improved gradually with sunny periods on 28 July. A ridge of high pressure brought generally fine and very hot weather to the territory for the next two days. Under the influence of the outer subsiding air mass of Typhoon Saola over the seas east of Taiwan, it was very hot in Hong Kong on 31 July. However, thundery showers developed over inland Guangdong moved in to affect the territory towards that evening.

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

During the month, a total of 53 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　二零一二年七月發出的警告及信號
Table 1.1　Warnings and Signals issued in July 2012

熱帶氣旋警告信號
Tropical Cyclones Warning Signals

熱帶氣旋名稱 Name of Tropical Cyclone	信號 Signal Number	開始時間 Beginning Time		終結時間 Ending Time	
		日/月 day/month	時 hour	日/月 day/month	時 hour
韋森特 VICENTE	1	21/7	1540	23/7	0520
	3	23/7	0520	23/7	1740
	8 東北 8NE	23/7	1740	23/7	2320
	9	23/7	2320	24/7	0045
	10	24/7	0045	24/7	0335
	8 東南 8SE	24/7	0335	24/7	1010
	3	24/7	1010	24/7	1440
	1	24/7	1440	24/7	2315

強烈季候風信號
Strong Monsoon Signal

開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour
24/7	2316	25/7	0520

暴雨警告信號
Rainstorm 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 Amber	5/7	0920	5/7	1020
黃色 Amber	18/7	0610	18/7	0820
黃色 Amber	21/7	1735	21/7	1840
黃色 Amber	24/7	0155	24/7	1040
黃色 Amber	25/7	1130	25/7	1420
黃色 Amber	27/7	1100	27/7	1230
黃色 Amber	31/7	1710	31/7	1835

山泥傾瀉警告
Landslip Warning

開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour
24/7	0110	24/7	1500

雷暴警告
Thunderstorm 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
5/7	0250	5/7	0400	5/7	0425	5/7	0630
5/7	0725	5/7	1600	8/7	1232	8/7	1445
14/7	0455	14/7	0600	14/7	0720	14/7	0930
16/7	1140	16/7	1245	16/7	1900	16/7	2245
17/7	0625	17/7	0730	18/7	0130	18/7	1100
18/7	1245	18/7	1400	18/7	1945	18/7	2030
19/7	0225	19/7	0745	19/7	1355	19/7	1500
20/7	0705	20/7	0745	20/7	1430	20/7	1530
21/7	1445	21/7	1915	21/7	2125	21/7	2400
22/7	1135	22/7	1700	24/7	0015	24/7	0515
25/7	0420	25/7	0830	25/7	1030	25/7	1530
25/7	1755	25/7	2030	26/7	0845	26/7	1530
27/7	0400	27/7	1700	28/7	1100	28/7	1330
31/7	1605	31/7	1850				

酷熱天氣警告
Very Hot 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
3/7	1345	4/7	1945	7/7	1455	12/7	1945
15/7	0915	15/7	1945	16/7	0745	16/7	1745
19/7	0745	21/7	1945	29/7	1505	31/7	1710

新界北部水浸特別報告
Special Announcement on Flooding in the Northern New Territories

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
24/7	0155	24/7	1225	25/7	1300	25/7	1845

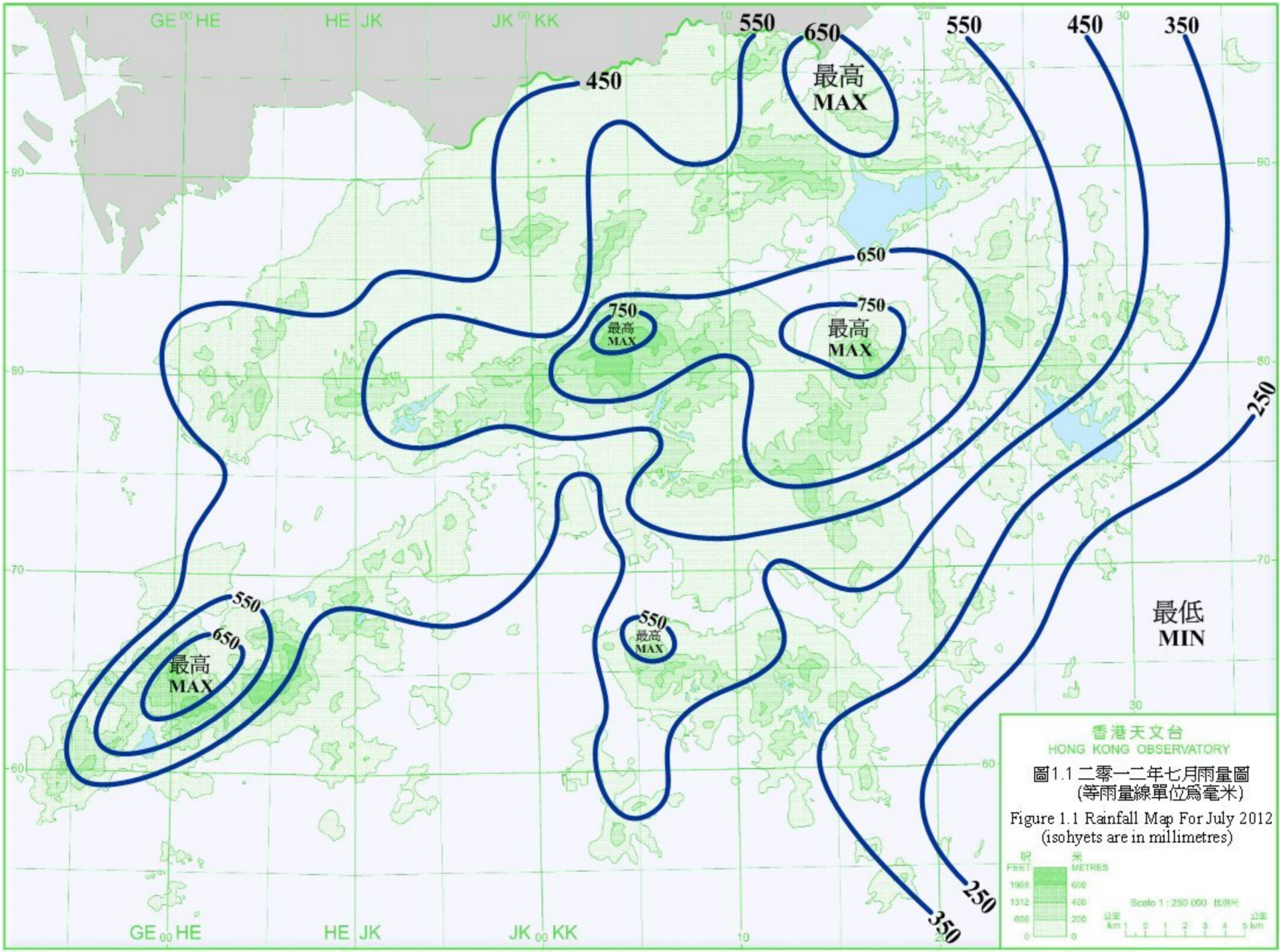
GE 00 HE
HE JK
JK 00 KK
550
650
450
最高
MAX
550
450
350
650
750
最高
MAX
750
最高
MAX
250
550
650
最高
MAX
550
最高
MAX
最低
MIN
250
350
香港天文台
HONG KONG OBSERVATORY
圖1.1 二零一二年七月雨量圖
(等雨量線單位爲毫米)
Figure 1.1 Rainfall Map For July 2012
(isohyets are in millimetres)
呎
FEET
米
METRES
1968
1312
656
0
600
400
200
0
Scale 1 : 250 000 比例尺
公里
km
公里
km

圖 1.2　　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 1.2　Trees blown down near Olympian City during the strike of Severe Typhoon Vicente. (Photo courtesy of Ms. Carly Tse)

2.1　二零一二年七月熱帶氣旋概述

二零一二年七月在北太平洋西部及南海區域出現了四個熱帶氣旋，其中韋森特引致天文台發出熱帶氣旋警告信號。有關韋森特的詳細描述及傷亡報告載於第2.2節。圖2.1.1顯示各熱帶氣旋的路徑。

熱帶低氣壓卡努於七月十六日在硫黃島西南偏南約340公里的北太平洋西部上形成，並向西北偏西至西北移動，當日黃昏增強為熱帶風暴，翌日橫過冲繩島附近海域。卡努於七月十八日早上在東海上增強為強烈熱帶風暴及轉向北移動，並達到其最高強度，中心附近最高持續風力達到每小時90公里。卡努於當日黃昏減弱為熱帶風暴，隨後橫過韓國，七月十九日在朝鮮半島上消散。根據報章報導，卡努吹襲期間，造成韓國一人死亡、數間房屋被破壞，超過26 000間房屋無電力供應。朝鮮至少有七人死亡，部分沿岸地區出現風暴潮。

熱帶低氣壓韋森特於七月二十日在馬尼拉之東北約460公里的北太平洋西部上形成，並向西北偏西移動，當晚經過呂宋海峽。韋森特於七月二十一日進入南海北部，並向西移動及在當晚增強為熱帶風暴，於七月二十二日在南海上幾乎停留不動。韋森特在七月二十三日開始移近珠江口以西一帶，並於下午迅速增強為一個颱風，當晚接近午夜時進一步增強為強颱風，並達到其最高強度，中心附近最高持續風力達到每小時155公里。韋森特於七月二十四日黎明前在香港西南偏西約130公里的台山附近沿岸地區登陸，並減弱為颱風。隨後它大致向西北偏西移動，橫過廣東西部及廣西，並逐漸減弱。韋森特於七月二十五日在越南北部消散。

熱帶低氣壓蘇拉於七月二十八日在馬尼拉以東約700公里的北太平洋西部上形成，並向西北偏北移動，當日下午增強為熱帶風暴。蘇拉於七月二十九日繼續增強為強烈熱帶風暴，翌日在呂宋海峽以東進一步增強為颱風，中心附近最高持續風力達到每小時120公里。蘇拉於七月三十一日向北至西北偏北移動，橫過台灣以東海域。

熱帶低氣壓達維於七月二十八日在硫黃島以東約530公里的北太平洋西部上形成，初時移動緩慢。它於七月三十日開始大致向西北偏西移動及增強為熱帶風暴。達維於七月三十一日在日本以南的北太平洋西部上再增強為強烈熱帶風暴，中心附近最高持續風力達到每小時105公里，並繼續向西北偏西方向移動，移向九州以南海域。

2.1 Overview of Tropical Cyclones in July 2012

Four tropical cyclones occurred over the western North Pacific and South China Sea in July 2012. Amongst them, Vicente necessitated the issuance of tropical cyclone warning signals in Hong Kong. The detailed report of Vicente including reports of damage is presented in Section 2.2. Figure 2.1.1 shows the tracks of the tropical cyclones.

Khanun formed as a tropical depression over the western North Pacific about 340 km south-southwest of Iwo Jima on 16 July. Moving west-northwest to northwestwards, it intensified into a tropical storm that evening and moved across the seas near Ryukyu Islands on the following day. Khanun intensified into a severe tropical storm over the East China Sea on the morning of 18 July and turned to move northwards, reaching its peak intensity with an estimated maximum sustained wind of 90 km/h near its centre. It weakened into a tropical storm that evening and subsequently moved across the Republic of Korea. Khanun dissipated over the Korean Peninsula on 19 July. According to press reports, one person was killed, several buildings were damaged and over 26 000 houses were left without electricity in the Republic of Korea during the passage of Khanun. At least seven people were killed in DPR Korea and storm surge was reported in some coastal areas.

Vicente formed as a tropical depression over the western North Pacific about 460 km northeast of Manila on 20 July. Moving west-northwestwards, it made its way over Luzon Strait that night and entered the northern part of the South China Sea on 21 July. Moving westwards, it intensified into a tropical storm that night and became almost stationary over the South China Sea on 22 July. Vicente began to edge towards the south China coast to the west of the Pearl River Estuary on 23 July and underwent rapid intensification to a typhoon in the afternoon and further to a severe typhoon around mid-night, reaching its peak intensity with an estimated maximum sustained wind of 155 km/h near its centre. Vicente made landfall near the coastal areas of Taishan about 130 km west-southwest of Hong Kong before dawn on 24 July and weakened into a typhoon. It subsequently moved generally west-northwestwards across western Guangdong and Guangxi and weakened gradually. Vicente dissipated over the northern part of Vietnam on 25 July.

Saola formed as a tropical depression over the western North Pacific about 700 km east of Manila on 28 July. Moving north-northwestwards, it intensified into a tropical storm that afternoon. Saola continued to intensify into a severe tropical storm on 29 July and further into a typhoon to the east of the Luzon Strait on the following day, with an estimated maximum sustained wind of 120 km/h near its centre. Saola moved north to north-northwestwards across the seas to the east of Taiwan on 31 July.

Damrey formed as a tropical depression over the western North Pacific about 530 km east of Iwo Jima on 28 July and was slow moving initially. It started to move generally west-northwestwards on 30 July and intensified into a tropical storm. Damrey strengthened further into a severe tropical storm over the western North Pacific to the south of Japan with an estimated maximum sustained wind of 105 km/h near its centre on 31 July and continued to move west-northwestwards towards the seas south of Kyushu.

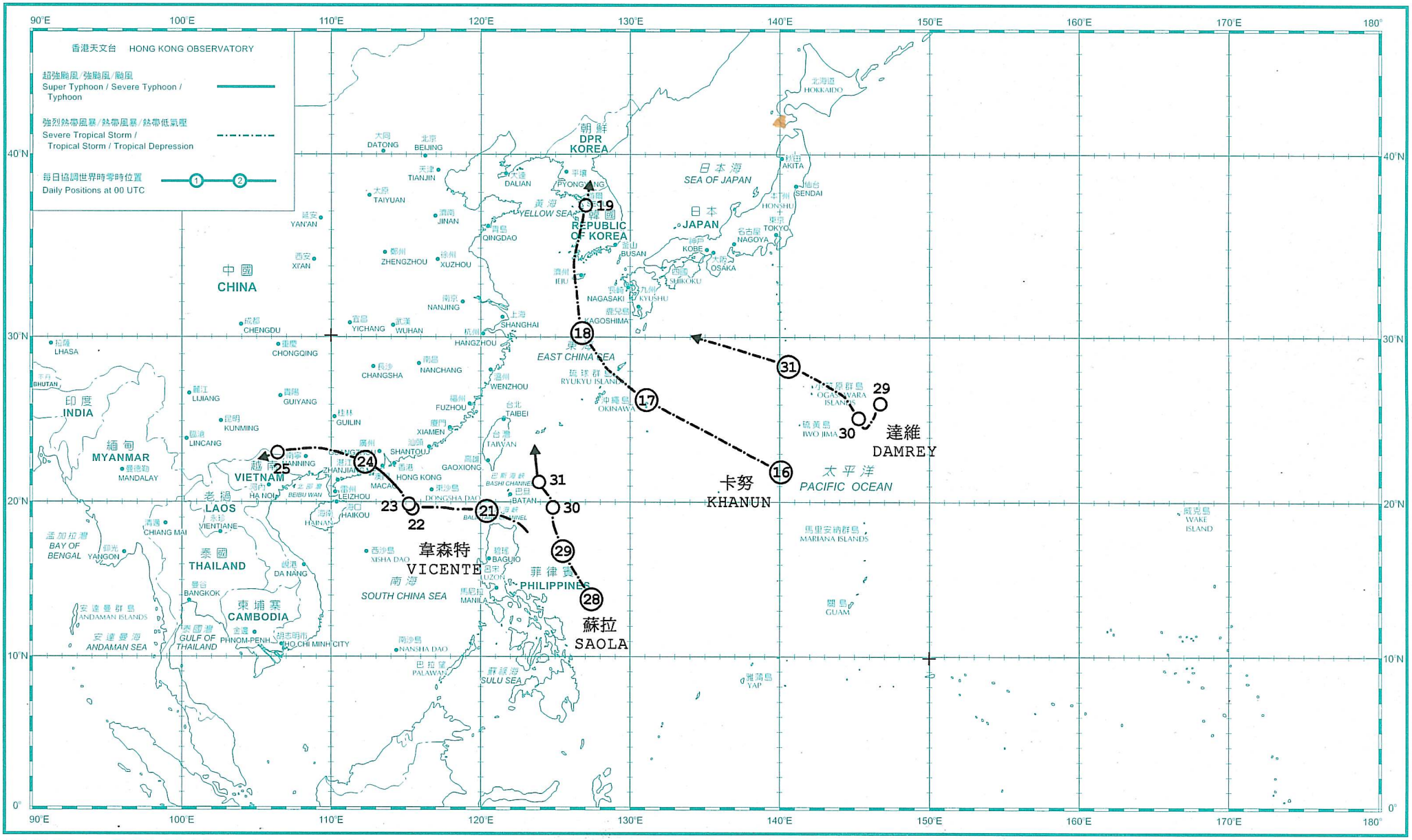

圖 2.1.1 二零一二年七月的熱帶氣旋路徑圖

Figure 2.1.1 Track of tropical cyclones in July 2012

2.2 強颱風韋森特 (1208)
二零一二年七月二十日至二十五日

韋森特是香港天文台在二零一二年第三個需要發出熱帶氣旋警告信號的熱帶氣旋。韋森特亦是天文台在一九九九年九月颱風約克襲港以來首次發出十號颶風信號。韋森特吹襲期間，本港西南部風力達到颶風程度。韋森特在最接近香港前約三十小時內迅速增強，從熱帶風暴增強三級成為強颱風。這樣迅速增強的情況，對自 1946 年來引致天文台發出十號颶風信號的熱帶氣旋來說是較為罕見的。

熱帶低氣壓韋森特於七月二十日在馬尼拉之東北約 450 公里的北太平洋西部上形成，並向西北偏西移動，晚間經過呂宋海峽。韋森特於七月二十一日早上進入南海北部，並向西移動及在晚上增強為熱帶風暴，於七月二十二日在距離香港東南偏南約 350 公里的南海上幾乎停留不動。韋森特於七月二十三日凌晨增強成為強烈熱帶風暴，早上逐漸轉向西北移動，並於下午增強為一個颱風，其風眼在天文台雷達圖像上清晰可見。入夜後，雷達及閃電位置圖像顯示韋森特風眼壁附近出現非常強烈的對流，其雲頂高度超過 15 公里，直達對流層[1]頂部，並伴隨有雲對地閃電，顯示上升運動轉趨劇烈。韋森特其後在接近午夜時於香港西南偏南的南海上迅速增強為強颱風，並達到其最高強度，中心附近最高持續風力達到每小時 155 公里[2]。韋森特其後加速移近珠江口以西一帶，於七月二十四日黎明前在香港西南偏西約 130 公里的台山附近沿岸地區登陸及減弱為颱風。當日早上它在廣東西部採取西北偏西方向移動，並減弱為強烈熱帶風暴，下午繼續減弱為熱帶風暴，並轉向西移動橫過廣西。韋森特於晚上進一步減弱為熱帶低氣壓，七月二十五日在越南北部消散。

根據報章報導，韋森特為廣東帶來暴雨，造成最少五人死亡，另六人失蹤。此外，廣東有 44 000 公頃農作物受災，約 1 080 間房屋倒塌，直接經濟損失達 8.45 億元人民幣。

香港天文台於七月二十一日下午 3 時 40 分發出一號戒備信號，當時韋森特位於香港之東南約 540 公里。本港當日下午吹和緩西風，黃昏時轉吹東北風。七月二十二日吹和緩至清勁東北風，離岸及高地間中吹強風。隨着韋森特開始移向華南沿岸，天文台在七月二十三日上午 5 時 20 分發出三號強風信號，當時韋森特集結在香港之東南偏南約 320 公里。日間本港風勢逐漸增強，下午普遍吹東北強風，離岸及高地吹烈風。天文台在下午 5 時 40 分改發八號東北烈風或暴風信號，當時韋森特集結在香港以南約 170 公里。晚間本港風力進一步增強，多處吹烈風，南部海域更達暴風程度。天文台在下午 11 時 20 分改發九號烈風或暴風風力增強信號，當時韋森特已移至香港之西南偏南約 110 公里。

[1] 根據大氣温度的垂直分佈，可將大氣分為四層，即對流層、平流層、中間層和熱成層。對流層是大氣中的最低一層。

[2] 基於現有數據

七月二十四日凌晨韋森特繼續移近香港，其眼壁接近本港西南部，本港轉吹東至東南風，維多利亞港及赤鱲角、新界東北部分地區及本港南部海域吹烈風或暴風、西南部海域及高地吹颶風。天文台在上午 12 時 45 分改發十號颶風信號，取代九號信號。韋森特的中心在上午 1 時至 2 時最接近香港，並在天文台西南約 100 公里掠過。隨著韋森特開始移離香港及風力逐漸減弱，天文台先後在上午 3 時 35 分改發八號東南烈風或暴風信號，在上午 10 時 10 分改發三號強風信號，及後在下午 2 時 40 分改發一號戒備信號。當晚韋森特進一步遠離香港，其環流不再覆蓋香港，天文台於下午 11 時 15 分取消所有熱帶氣旋警告信號。但由於中國東南沿岸的一道高壓脊持續為本港離岸海域帶來強風，天文台接續發出強烈季候風信號，直至七月二十五日上午 5 時 20 分取消。

韋森特吹襲期間，長洲、大帽山及昂坪錄得的最高每小時平均風速分別為 126、135 及 153 公里，最高陣風則分別為每小時 184、196 及 256 公里。各站錄得的最低瞬時海平面氣壓如下：—

站	最低瞬時海平面氣壓 (百帕斯卡)	日期/月份	時間
香港天文台總部	986.0	24/7	上午 12 時 53 分
長洲	981.6	24/7	上午 1 時 25 分
香港國際機場	982.8	24/7	上午 1 時 45 分
京士柏	985.7	24/7	上午 1 時 27 分
流浮山	985.3	24/7	上午 1 時 42 分
坪洲	983.2	24/7	上午 1 時 28 分
橫瀾島	983.5	24/7	上午 12 時 42 分

韋森特吹襲期間，尖鼻咀錄得海圖基準面以上 3.23 米的最高潮位，而最大風暴潮亦在尖鼻咀錄得，高度為 1.51 米。

七月二十一日天氣酷熱及有煙霞，但黃昏時有狂風雷暴，本港東部錄得超過 20 毫米的雨量。七月二十二日大致多雲及有幾陣狂風驟雨及雷暴。受到韋森特的雨帶影響，七月二十三日及二十四日早上香港有狂風大驟雨，期間本港多處地區錄得超過 200 毫米的雨量。七月二十四日下午本港雨勢逐漸減弱。

韋森特影響香港期間，本港最少有 138 人受傷，約 8 800 棵樹木倒塌、兩宗山泥傾瀉及七宗水浸報告。本港多處有危險招牌或棚架，部分道路要封閉及多部車輛被毀壞。中環干諾道中有一塊木板被狂風吹起，擊中數名途人。風暴期間，港鐵東鐵線電纜被塌樹壓毀，致東鐵線全線癱瘓，乘客被迫通宵滯留在車箱或車站。此外，上水多塊菜田被浸，農作物損毀。一艘遊艇在深水灣擱淺及損毀。七個貨櫃從一艘貨輪在香港附近海域上墮海，引致約 150 噸膠粒飄浮海上，或湧上海灘。香港國際機場最少有 90 班航班取消、超過 446 班航班延誤及 50 班航機轉飛其它地方。

表 2.2.1- 2.2.4 分別是韋森特影響香港期間各站錄得的最高風速、持續風力達到強風及烈風程度的時段、香港的日雨量及最高潮位資料。圖 2.2.1 及 2.2.2 分別為韋森特的路徑圖及韋森特中心附近最高持續風速的時間序列圖。圖 2.2.3 顯示長洲錄得的風向、風速及海平面氣壓圖及天文台錄得的海平面氣壓圖。圖 2.2.4 顯示韋森特最接近香港時本港各站錄得的風向和風速。圖 2.2.5 顯示尖鼻咀錄得的潮位及風暴潮。圖 2.2.6-2.2.8 分別為本港的雨量分佈圖、韋森特的衛星圖像及最接近香港時的雷達圖像。韋森特的衛星圖像及雷達圖像動畫可在天文台網頁上觀看 (http://www.hko.gov.hk/informtc/vicente/vicente_uc.htm)。圖 2.2.9 顯示當韋森特迅速增強為強颱風時，雷達及閃電系統顯示強烈的對流活動上升至超過 15 公里，而且伴隨著閃電。韋森特在香港造成的一些破壞可參見圖 2.2.10。

有關引致天文台需要發出十號颶風信號的颱風的資料，請參考天文台網頁: http://www.weather.gov.hk/informtc/historical_tc/histtypc.htm。

2.2 Severe Typhoon Vicente (1208)
20 - 25 July 2012

Vicente was the third tropical cyclone that necessitated the issuance of a tropical cyclone warning signal by the Hong Kong Observatory in 2012. It also necessitated the issuance of the first No. 10 Hurricane Signal in Hong Kong since Typhoon York in September 1999. Hurricane force winds were recorded over the southwestern part of Hong Kong during the passage of Vicente. 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. Such rapid intensification near the territory was rather rare among the tropical cyclones that had necessitated the issuance of the No. 10 Signal since 1946.

Vicente formed as a tropical depression over the western North Pacific about 450 km northeast of Manila on 20 July. Moving west-northwestwards, it made its way over Luzon Strait that night and entered the northern part of the South China Sea on the morning of 21 July. Moving westwards, it intensified into a tropical storm that night. On 22 July, it was almost stationary over the South China Sea about 350 km south-southeast of Hong Kong. Vicente intensified into a severe tropical storm on the small hours of 23 July and gradually turned to move northwestwards in the morning. It underwent intensification into a typhoon in the afternoon, with its eye clearly discernible on the Observatory's radar. After dusk, very intense convection was observed on the eyewall of Vicente and was captured on both radar imagery and lightning location map. The corresponding cloud top overshot 15 km up to the top of the troposphere[3] accompanied by cloud-to-ground lightning. Such observations signified that the associated updraft turned violent. Shortly afterwards, Vicente intensified rapidly to a severe typhoon over the South China Sea to the south-southwest of Hong Kong towards mid-night, reaching its peak intensity with an estimated maximum sustained wind of 155[4] km/h near its centre. Vicente speeded up towards the region west of the Pearl River Estuary thereafter and made landfall near the coastal areas of Taishan, about 130 km west-southwest of Hong Kong before dawn on 24 July and subsequently weakened into a typhoon. It took up a west-northwesterly track over western Guangdong that morning and weakened into a severe tropical storm. Vicente continued to weaken into a tropical storm in the afternoon and turned to move westwards across Guangxi. It became a tropical depression that night and dissipated over the northern part of Vietnam on 25 July.

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[3] Based on the temperature distribution in the vertical, the atmosphere can be divided into four layers, that is, the troposphere, stratosphere, mesosphere and thermosphere. Troposphere is the lowest layer of the atmosphere.

[4] based on available information at present

According to press reports, Vicente brought rainstorms to Guangdong where at least five people were killed and six others missing. Over 44 000 hectares of farmland were inundated, some 1 085 houses collapsed and the economic loss amounted to 845 million RMB.

In Hong Kong, the Standby Signal No. 1 was issued at 3:40 p.m. on 21 July when Vicente was about 540 km southeast of Hong Kong. Local winds were moderate westerlies that afternoon, becoming northeasterly in the evening. Moderate to fresh northeasterlies prevailed over Hong Kong on 22 July, with occasional strong winds over offshore waters and on high ground. As Vicente started to move towards the south China coast, the Strong Wind Signal No. 3 was issued at 5:20 a.m. on 23 July, when Vicente was about 320 km south-southeast of Hong Kong. Local winds strengthened gradually during the day, becoming generally strong northeasterlies in the afternoon, reaching gale force offshore and on high ground. The No. 8 NE Gale or Storm Signal was issued at 5:40 p.m. when Vicente was about 170 km south of Hong Kong. Local winds strengthened further that night, with gales in many parts of Hong Kong, reaching storm force over the waters in the southern part of Hong Kong. The Increasing Gale or Storm Signal No. 9 was issued at 11:20 p.m. when Vicente was about 110 km south-southwest of Hong Kong.

Vicente continued to move closer to Hong Kong and its eyewall came close to the southwestern part of Hong Kong during the small hours on 24 July. Local winds turned to the east to southeasterlies, with gale or storm force winds over Victoria Harbour, Chek Lap Kok, parts of the northeastern New Territories and the waters over the southern part of Hong Kong, reaching hurricane force over the waters in the southwestern part of Hong Kong and on high ground. The Hurricane Signal No. 10 was issued at 12:45 a.m. to replace the No. 9 Signal. The centre of Vicente was closest to Hong Kong between 1 a.m. and 2 a.m., passing about 100 km to the southwest of the Hong Kong Observatory. As Vicente started to move away and local winds gradually subsided, the No. 8 SE Gale or Storm Signal was issued at 3:35 a.m. to replace the No. 10 Signal. The No. 8 Signal was then replaced by the Strong Wind Signal No. 3 at 10:10 a.m., followed by the Standby Signal No. 1 at 2:40 p.m. Vicente moved further away and its outer circulation no longer covered Hong Kong that night and all tropical cyclone warning signals were cancelled at 11:15 p.m. Nevertheless, a ridge of high pressure along the southeastern coast of China came into play and continued to maintain strong winds over the offshore waters of Hong Kong. The Strong Monsoon Signal was issued immediately afterwards, which was cancelled at 5:20 a.m. on 25 July.

During the passage of Vicente, a maximum hourly mean wind of 126, 135 and 153 km/h and gusts of 184, 196 and 256 km/h were recorded at Cheung Chau, Tai Mo Shan and Ngong Ping respectively. The lowest instantaneous mean sea-level pressures recorded at some selected stations are as follows:-

Station	Lowest instantaneous mean sea-level pressure (hPa)	Date/Month	Time
Hong Kong Observatory Headquarters	986.0	24/7	12:53 a.m.
Cheung Chau	981.6	24/7	1:25 a.m.
Hong Kong International Airport	982.8	24/7	1:45 a.m.
King's Park	985.7	24/7	1:27 a.m.
Lau Fau Shan	985.3	24/7	1:42 a.m.
Peng Chau	983.2	24/7	1:28 a.m.
Waglan Island	983.5	24/7	12:42 a.m.

During the passage of Vicente, a maximum sea level of 3.23m above chart datum was recorded at Tsim Bei Tsui. The maximum storm surge was 1.51 m also at Tsim Bei Tsui.

The weather in Hong Kong was very hot and hazy on 21 July, but there were squally thunderstorms in the evening, bringing over 20 millimetres of rainfall to the eastern part of the territory. It was mainly cloudy with a few squally showers and thunderstorms on 22 July. The rainbands of Vicente brought heavy squally showers to Hong Kong on 23 July and on the morning of 24 July, during which more than 200 millimetres of rainfall were recorded over many parts of the territory. The showers gradually abated on the afternoon of 24 July.

In Hong Kong, at least 138 people were injured during the passage of Vicente. The number of fallen trees amounted to about 8 800. There were two reports of landslip and 7 reports of flooding. Dangerous signboards or fallen scaffoldings were reported in many parts of the territory, resulting in closure of some roads and damage to many vehicles. A wooden board was blown up by strong winds in Connaught Road, Central, hitting a number of passers-by. During the storm, the East Rail line of the Mass Transit Railway had to halt service because of damage of overhead cables by toppling trees. As a result, hundreds of commuters were forced to spend the night in trains or at the MTR stations. Crops were damaged by flood waters in some

farmlands in Sheung Shui. A small craft ran aground in Deep Water Bay and was damaged. Seven containers fell overboard from a freighter in waters nearby and about 150 tons of plastic pallets drifted over the sea or were washed ashore. At the Hong Kong International Airport, at least 90 flights were cancelled, over 446 flights delayed and 50 flights diverted on 23-24 July.

Information on the maximum wind, period of strong and gale force winds, daily rainfall and maximum sea level reached in Hong Kong during the passage of Vicente is given in Tables 2.2.1- 2.2.4 respectively. Figures 2.2.1 - 2.2.2 show respectively the track of Vicente and the time series of the maximum sustained wind speed near the centre of Vicente. Charts in figures 2.2.3 show the time traces of wind direction, wind speed and mean sea-level pressure recorded at Cheung Chau and mean sea-level pressure recorded at the Hong Kong Observatory. Figure 2.2.4 shows the winds recorded at various stations in Hong Kong at the time of closest approach of Vicente. Figure 2.2.5 shows the tide and storm surge recorded at Tsim Bei Tsui. Figures 2.2.6 - 2.2.8 show respectively the rainfall distribution for Hong Kong, a satellite imagery of Vicente and radar imagery of Vicente near its closest approach to Hong Kong. The animation sequences of satellite and radar imageries are available on the Observatory's website at http://www.hko.gov.hk/informtc/vicente/vicente.htm. Figure 2.2.9 shows the radar imagery of Vicente with intense convection exceeding 15 km in elevation and locations of lightning, during which Vicente intensified rapidly into a severe typhoon. Some damages caused by Vicente in Hong Kong are illustrated in Figure 2.2.10.

Details on typhoons that had necessitated the issuance of the Hurricane Signal No. 10 are available in the Observatory's website at: http://www.weather.gov.hk/informtc/historical_tc/histtyp.htm.

表 2.2.1　在韋森特影響下，本港各站在熱帶氣旋警告信號生效時所錄得的最高陣風、最高每小時平均風速及風向

Table 2.2.1　Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when the tropical cyclone warning signals for Vicente were in force

站 Station (http://www.weather.gov.hk/informtc/appendix_c.htm)		最高陣風 Maximum Gust					最高每小時平均風速 Maximum Hourly Mean Wind				
		風向 Direction		風速 (公里/時) Speed (km/h)	日期/月份 Date/Month	時間 Time	風向 Direction		風速 (公里/時) Speed (km/h)	日期/月份 Date/Month	時間 Time
中環碼頭	Central Pier	東北偏東	ENE	122	23/7	22:39	東	E	76	23/7	23:00
長洲	Cheung Chau	東	E	184	24/7	00:17	東南	SE	126	24/7	02:00
長洲泳灘	Cheung Chau Beach	東	E	171	23/7	23:54	東	E	115	24/7	00:00
青洲	Green Island	東北	NE	155	23/7	23:20	東北	NE	92	23/7	21:00
香港國際機場	Hong Kong International Airport	東	E	133	24/7	01:34	東	E	85	24/7	01:00
啟德	Kai Tak	東	E	135	24/7	01:34	東南偏東	ESE	67	24/7	07:00
京士柏	King's Park	東南偏東	ESE	110	24/7	01:26	東南偏東	ESE	52	24/7	02:00
流浮山	Lau Fau Shan	-	-	106	24/7	00:27	-	-	59	24/7	00:00
昂坪	Ngong Ping	東北偏東	ENE	256	23/7	23:48	東	E	153	24/7	02:00
北角	North Point	東	E	130	24/7	00:33	東	E	65	24/7	00:00
							東	E	65	24/7	01:00
坪洲	Peng Chau	東南偏東	ESE	128	24/7	01:28	東	E	90	24/7	01:00
平洲	Ping Chau	東	E	121	23/7	21:09	東	E	41	23/7	22:00
西貢	Sai Kung	東北偏東	ENE	121	23/7	21:26	東北偏東	ENE	72	23/7	22:00
沙洲	Sha Chau	東南偏南	SSE	126	24/7	03:31	東南	SE	85	24/7	03:00
沙螺灣	Sha Lo Wan	東	E	149	24/7	02:06	東	E	76	24/7	02:00
沙田	Sha Tin	東南偏南	SSE	88	24/7	02:54	東南	SE	41	24/7	05:00
石崗	Shek Kong	東北偏東	ENE	121	24/7	01:33	東	E	58	24/7	02:00
九龍天星碼頭	Star Ferry (Kowloon)	東	E	122	24/7	00:33	東	E	83	24/7	00:00
打鼓嶺	Ta Kwu Ling	東北偏東	ENE	94	24/7	01:11	東	E	40	24/7	03:00
大美督	Tai Mei Tuk	東北偏東	ENE	146	23/7	19:20	東	E	96	24/7	01:00
大帽山	Tai Mo Shan	東南偏東	ESE	196	24/7	01:01	東南偏東	ESE	135	24/7	01:00
大埔滘	Tai Po Kau	東南偏東	ESE	115	24/7	00:21	東南偏東	ESE	72	24/7	01:00
		東南偏東	ESE	115	24/7	01:34					
大老山	Tate's Cairn	東南偏東	ESE	166	23/7	23:45	東	E	115	24/7	00:00
將軍澳	Tseung Kwan O	東南偏東	ESE	101	24/7	01:58	東南偏東	ESE	36	24/7	05:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	東南	SE	106	24/7	01:42	東南偏東	ESE	43	24/7	01:00
屯門政府合署	Tuen Mun Government Offices	東南偏東	ESE	128	24/7	02:26	東南偏東	ESE	43	24/7	03:00
橫瀾島	Waglan Island	東南偏東	ESE	149	23/7	22:10	東	E	106	23/7	22:00
濕地公園	Wetland Park	東	E	94	24/7	01:06	東	E	40	24/7	01:00
							東	E	40	24/7	02:00
							東南	SE	40	24/7	04:00
黃竹坑	Wong Chuk Hang	東	E	124	24/7	01:18	東南偏東	ESE	51	24/7	01:00

黃麻角(赤柱)、塔門 - 沒有資料

Bluff Head (Stanley), Tap Mun - data not available

表 2.2.2　在韋森特影響下，在熱帶氣旋警告系統的八個參考測風站所錄到持續風力達到強風及烈風程度的時段

Table 2.2.2　Periods during which sustained strong and gale force winds were reached at the 8 reference anemometers in the tropical cyclone warning system when warning signals for Vicente were in force

站 Station (http://www.weather.gov.hk/informtc/appendix_c.htm)		最初達到強風* 時間 First time strong wind speed* was reached		最後達到強風* 時間 Last time strong wind speed* was reached		最初達到烈風# 時間 First time gale force wind speed# was reached		最後達到烈風# 時間 Last time gale force wind speed# was reached	
		日期/月份 Date/Month	時間 Time	日期/月份 Date/Month	時間 Time	日期/月份 Date/Month	時間 Time	日期/月份 Date/Month	時間 Time
長洲	Cheung Chau	21/7	18:15	24/7	23:15	23/7	16:23	24/7	09:36
香港國際機場	Hong Kong International Airport	23/7	13:37	24/7	13:03	23/7	22:25	24/7	05:29
啟德	Kai Tak	21/7	17:49	24/7	12:17	23/7	23:35	24/7	07:58
西貢	Sai Kung	21/7	17:34	24/7	12:15	23/7	19:23	24/7	06:45
沙田	Sha Tin	23/7	22:23	24/7	06:16	-			
打鼓嶺	Ta Kwu Ling	23/7	19:30	24/7	02:44	-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	23/7	23:01	24/7	05:35	-			
濕地公園	Wetland Park	23/7	22:59	24/7	05:17	-			

- 未達到指定的風力

- not reaching the specified wind speed

* 十分鐘平均風力達每小時 41-62 公里

* 10-minute mean wind speed of 41- 62 km/h

十分鐘平均風力達每小時 63-87 公里

10-minute mean wind speed of 63-87 km/h

註:　本表列出持續風力最初及最後達到強風及烈風程度的時間。其間，風力可能高於或低於指定的風力。

Note: The table gives the first and last time when strong or gale force winds were recorded. Note that the winds might fluctuate above or below the specified wind speeds in between the times indicated.

表 2.2.3　　韋森特影響香港期間，香港天文台總部及其他各站所錄得的日雨量

Table 2.2.3　Daily rainfall amounts recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Vicente

站 (參閱圖 2.2.6) Station (See Fig. 2.2.6)			七月二十一日 21 Jul	七月二十二日 22 Jul	七月二十三日 23 Jul	七月二十四日 24 Jul	總雨量 (毫米)
香港天文台 Hong Kong Observatory			2.2	1.0	112.0	99.5	214.7
香港國際機場 Hong Kong International Airport (HKA)			2.6	1.7	98.4	162.2	264.9
長洲 Cheung Chau (N26)			1.0	1.5	85.0	117.5	205.0
N05	粉 嶺	Fanling	2.0	6.5	101.5	106.0	216.0
N13	糧 船 灣	High Island	21.5	5.5	81.5	44.5	153.0
K04	佐 敦 谷	Jordan Valley	5.5	3.0	130.0	119.0	257.5
N06	葵 涌	Kwai Chung	1.5	4.0	139.5	125.5	270.5
H12	半 山 區	Mid Levels	5.5	4.5	138.5	135.0	283.5
N09	沙 田	Sha Tin	9.0	10.0	176.0	155.0	350.0
H19	筲 箕 灣	Shau Kei Wan	4.5	4.0	72.5	59.0	140.0
SEK	石 崗	Shek Kong	1.0	9.0	169.0	175.5	354.5
K06	蘇 屋 邨	So Uk Estate	1.5	4.0	158.0	132.0	295.5
R31	大 美 督	Tai Mei Tuk	8.5	6.0	116.0	80.0	210.5
R21	踏 石 角	Tap Shek Kok	0.0	2.0	92.0	141.5	235.5
N17	東 涌	Tung Chung	2.0	4.0	116.0	207.5	329.5
R27	元 朗	Yuen Long	0.0	3.5	118.5	134.0	256.0

淺水灣 (H21) - 沒有資料 Repulse Bay (H21) - data not available

表 2.2.4　　韋森特影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 2.2.4　Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Vicente

站 Station (http://www.weather.gov.hk/informtc/appendix_c.htm)		最高潮位 (海圖基準面以上) Maximum sea level (above chart datum)			最大風暴潮 (天文潮高度以上) Maximum storm surge (above astronomical tide)		
		高度(米) Height (m)	日期/月份 Date/Month	時間 Time	高度(米) Height (m)	日期/月份 Date/Month	時間 Time
鰂魚涌	Quarry Bay	2.76	24/7	01:48	1.11	24/7	01:48
石壁	Shek Pik	3.19	24/7	02:08	1.47	24/7	02:08
大廟灣	Tai Miu Wan	2.78	24/7	01:45	1.19	24/7	01:45
大埔滘	Tai Po Kau	3.09	24/7	01:53	1.47	24/7	03:24
尖鼻咀	Tsim Bei Tsui	3.23	24/7	03:46	1.51	24/7	03:46

橫瀾島 - 沒有資料 Waglan Island - data not available

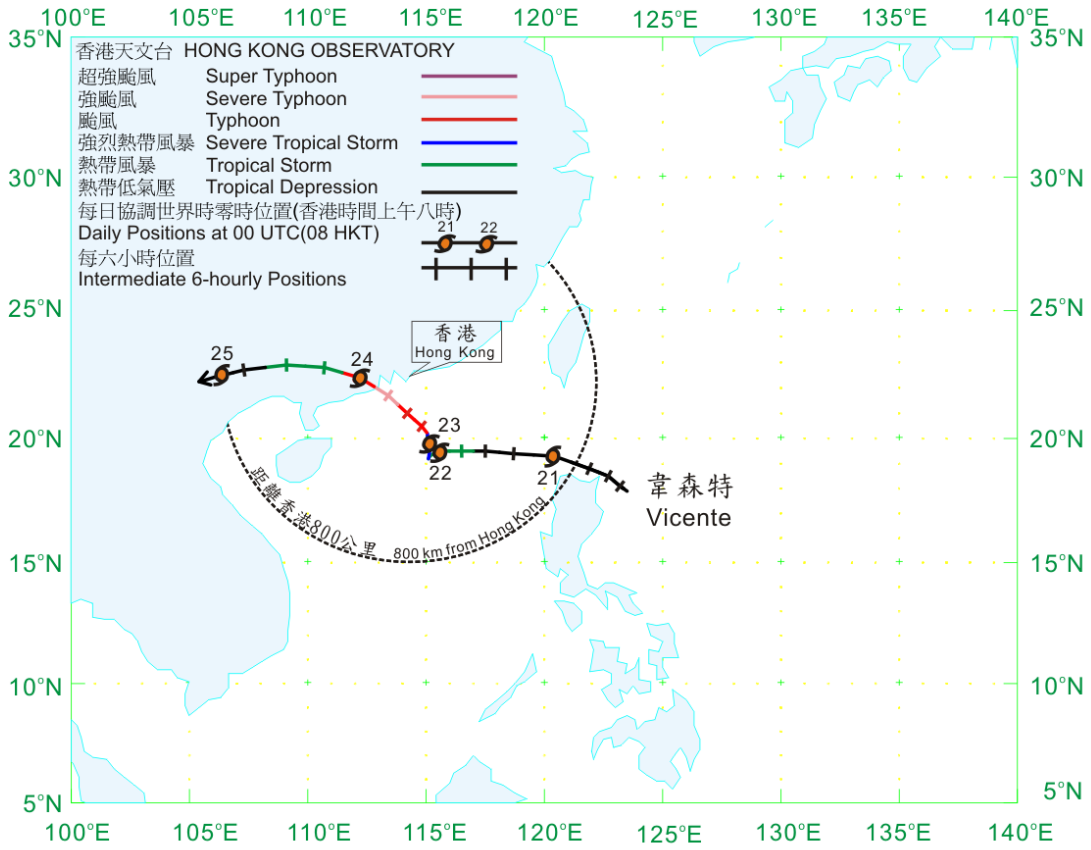


圖 2.2.1(a)　　韋森特（1208）在二零一二年七月二十日至二十五日的路徑圖。

Figure 2.2.1(a)　Track of Vicente (1208) for 20 – 25 July 2012.

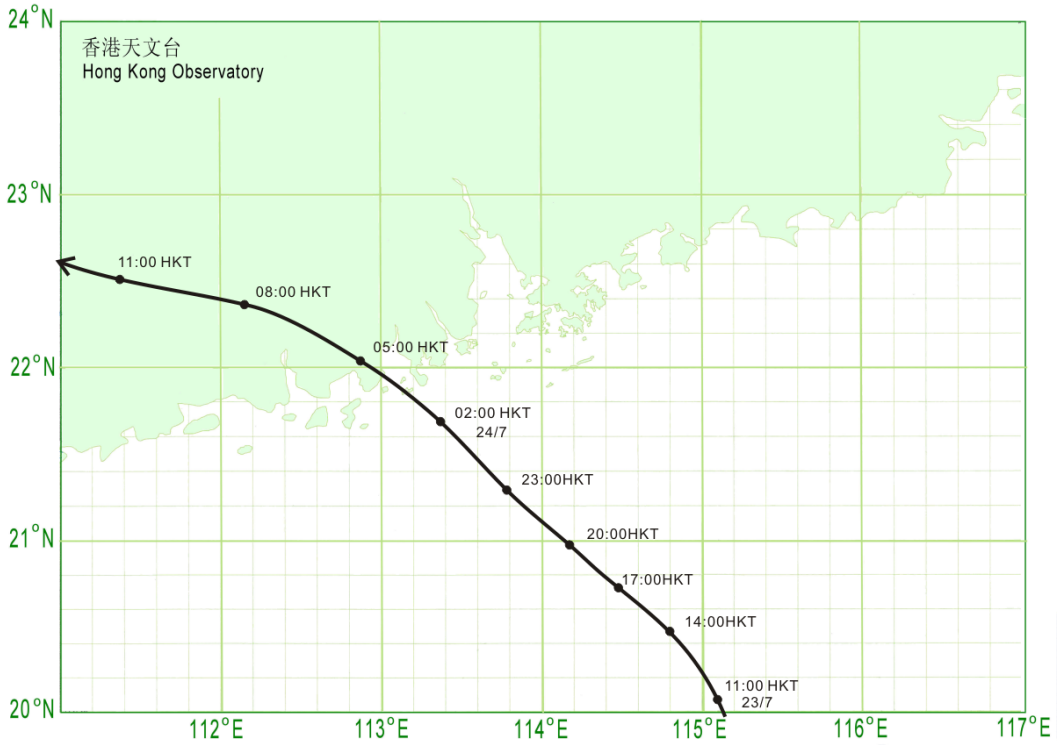


圖 2.2.1(b)　　韋森特（1208）接近香港時的路徑圖。

Figure 2.2.1(b)　Track of Vicente (1208) near Hong Kong.

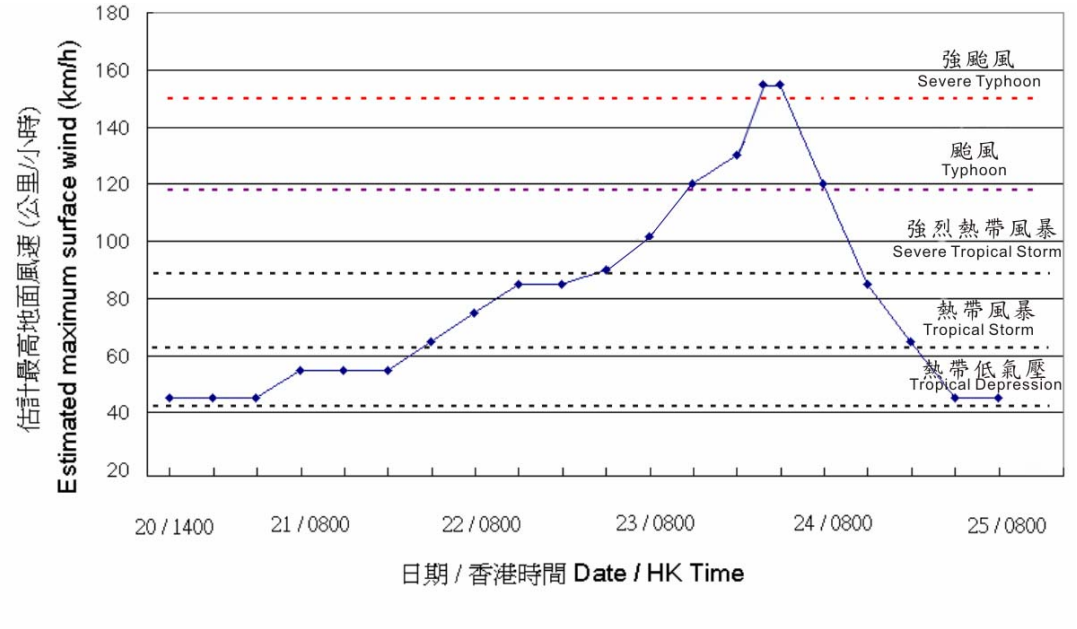


圖 2.2.2　　韋森特（1208）中心附近最高持續風速(十分鐘平均)的時間序列。

Figure 2.2.2　　Time series of the maximum sustained wind speed (10-minute mean) near the centre of Vicente (1208).

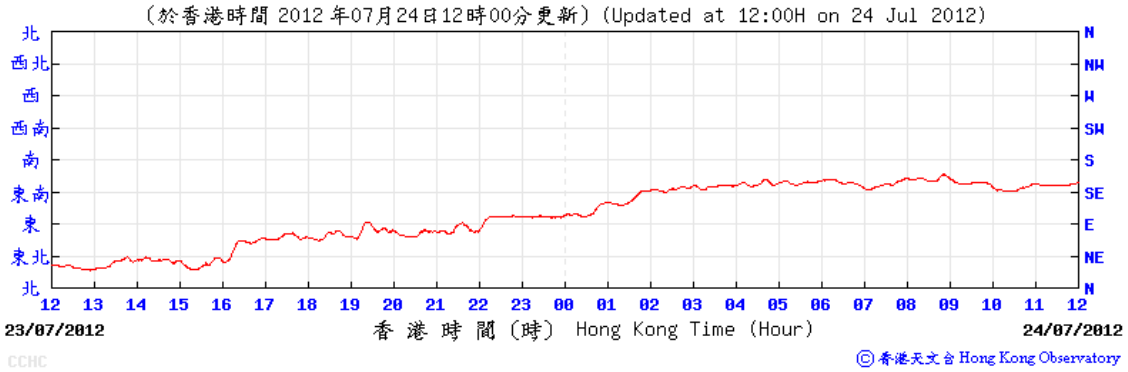


圖 2.2.3(a)　　二零一二年七月二十三日至二十四日長洲自動氣象站錄得的十分鐘平均風向。

Figure 2.2.3(a)　　Trace of 10-minute mean wind direction recorded at Cheung Chau automatic weather station on 23 – 24 July 2012.

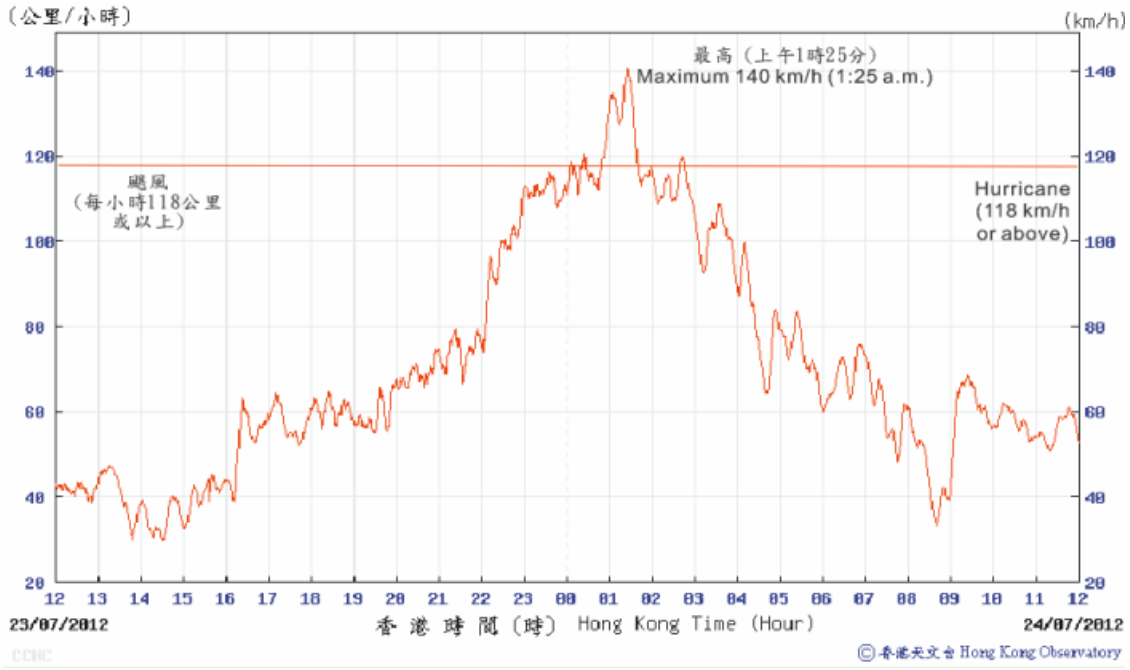


圖 2.2.3(b) 二零一二年七月二十三日至二十四日長洲自動氣象站錄得的十分鐘平均風速。該站在七月二十四日上午 12 時 07 分至 2 時 45 分之間錄得颶風(每小時 118 公里或以) 的風力。

Figure 2.2.3(b) Trace of 10-minute mean wind speed recorded at Cheung Chau automatic weather station on 23 – 24 July 2012. Hurricane force winds were recorded at that station between 12:07 a.m. and 2:45 a.m. on 24 July.

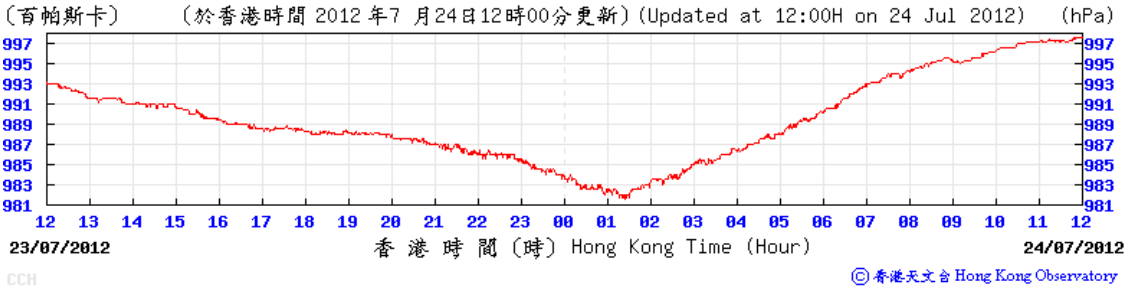


圖 2.2.3(c) 二零一二年七月二十三日至二十四日長洲自動氣象站錄得的海平面氣壓。

Figure 2.2.3(c) Trace of mean sea-level pressure recorded at Cheung Chau automatic weather station on 23 – 24 July 2012.

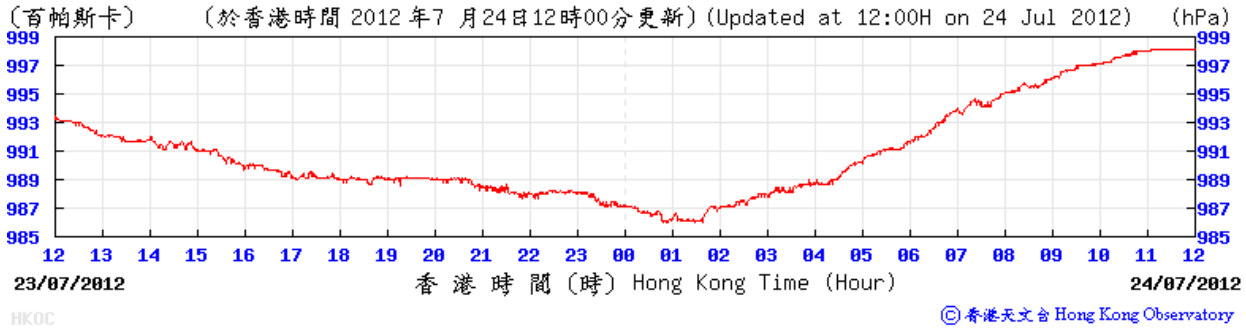


圖 2.2.3(d) 二零一二年七月二十三日至二十四日天文台總部錄得的海平面氣壓。

Figure 2.2.3(d) Trace of mean sea-level pressure recorded at the Hong Kong Observatory's Headquarters on 23 – 24 July 2012.

圖 2.2.4 二零一二年七月二十四日上午 1 時 30 分香港各站錄得的風向和風速，當時韋森特的中心最接近香港。

Figure 2.2.4 Winds recorded at various stations in Hong Kong at 1:30 a.m. on 24 July 2012 when the centre of Vicente was closest to Hong Kong.

「M」	：表示該站在維修中 Maintenance
「 」	：表示東風，風速每小時 18 公里 Easterly wind of 18 km/h
「 」	：表示東風，風速每小時 90 公里 Easterly wind of 90 km/h
「 」	：表示該站位於離平均海平面 500 米以上的地方 Station higher than 500 metres above mean sea level
「 」	：社區天氣資訊網絡 (Co-WIN) 站用紫色表示 Community Weather Information Network (Co-WIN) station(s) is/are shown in purple

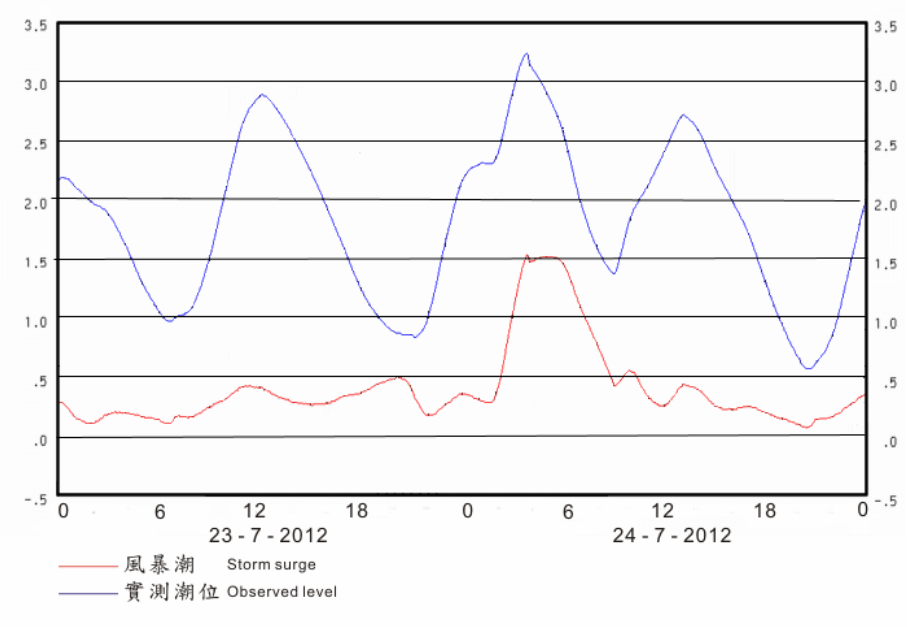


圖 2.2.5　二零一二年七月二十三日至二十四日尖鼻咀錄得的潮位圖(潮位為海圖基準面以上，單位為米)。

Figure 2.2.5　Tide and storm surge recorded at Tsim Bei Tsui for 23 – 24 July 2012 (Sea level in metres above chart datum).

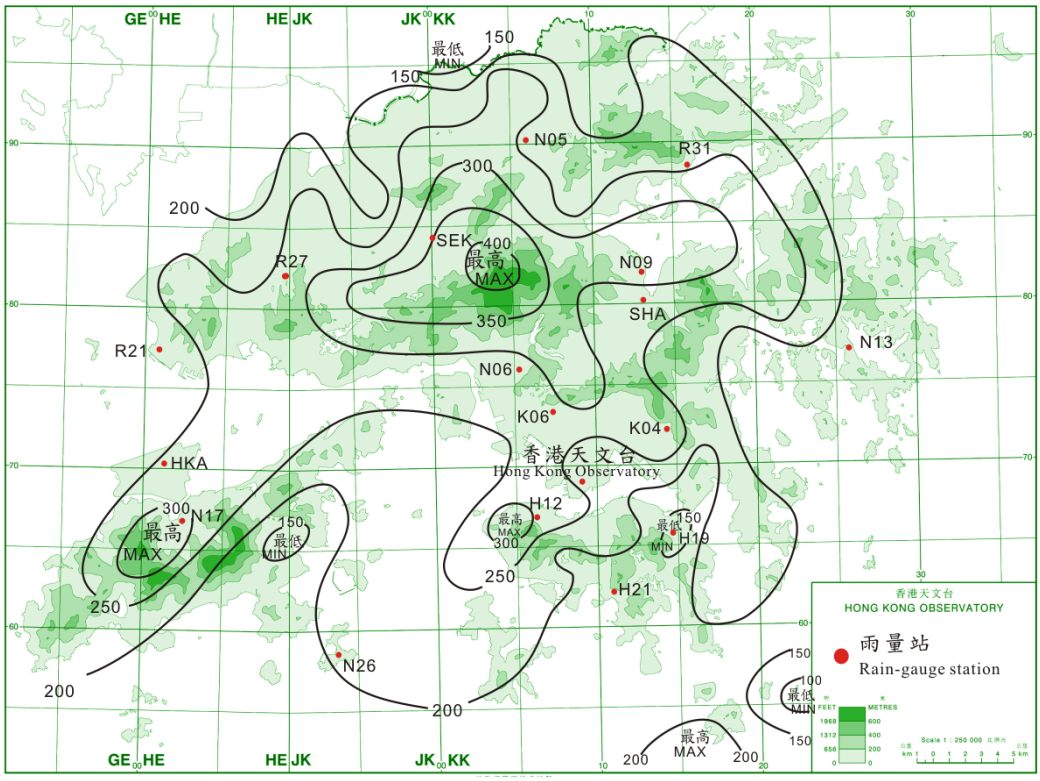


圖 2.2.6　二零一二年七月二十一日至二十四日的雨量分佈(等雨量線單位為毫米)。

Figure 2.2.6　Rainfall distribution for 21 – 24 July 2012 (isohyets are in millimetres).

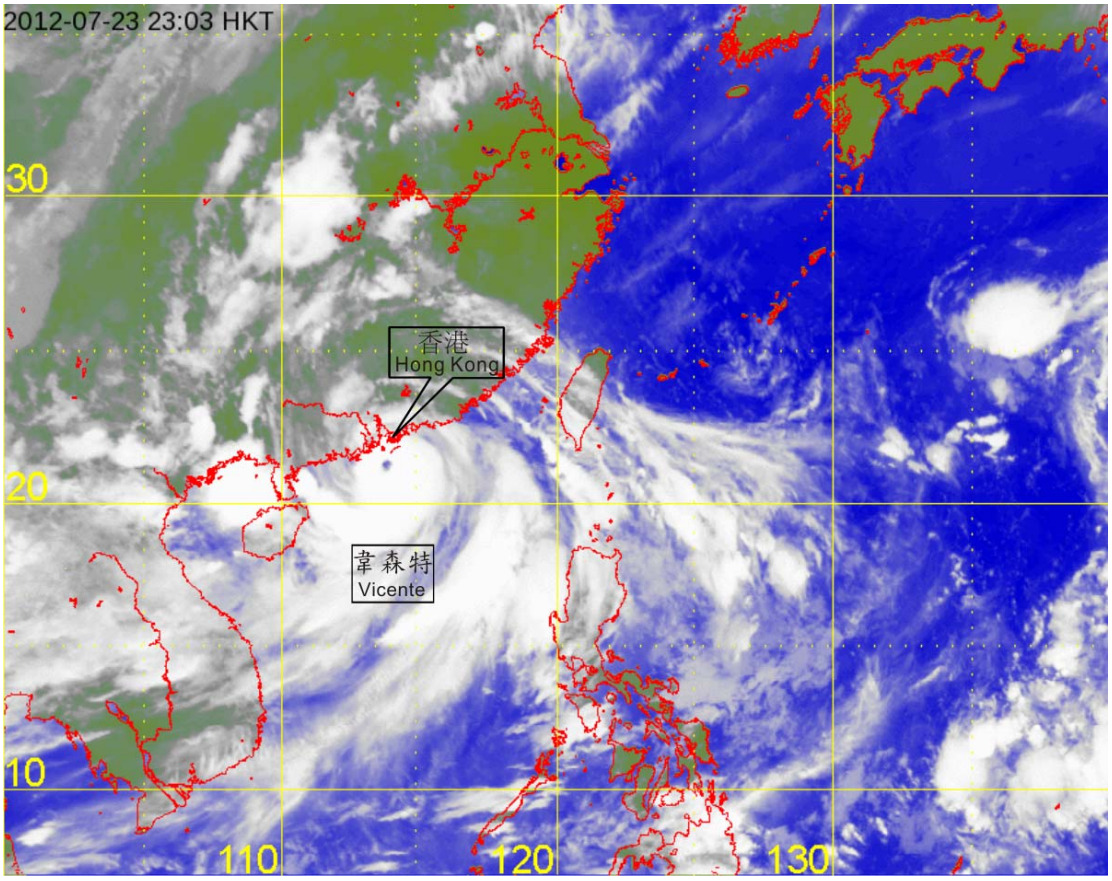


圖 2.2.7　強颱風韋森特在二零一二年七月二十三日下午 11 時的紅外線衛星圖片，其風眼清晰可見，並位於香港之西南偏南約 120 公里的南海北部上。當時韋森特達到其最高強度，中心附近估計最高持續風速達到每小時 155 公里。

Figure 2.2.7　Infra-red satellite imagery at 11 p.m. on 23 July 2012 of Severe Typhoon Vicente, showing a distinct eye at about 120 km south-southwest of Hong Kong. Vicente was at its peak intensity with estimated maximum sustained winds of 155 kilometres per hour near its centre.

〔此衛星圖像接收自日本氣象廳的多用途輸送衛星-2。〕

[The satellite imagery was originally captured by the Multi-functional Transport Satellite-2 (MTSAT-2) of Japan Meteorological Agency (JMA).]

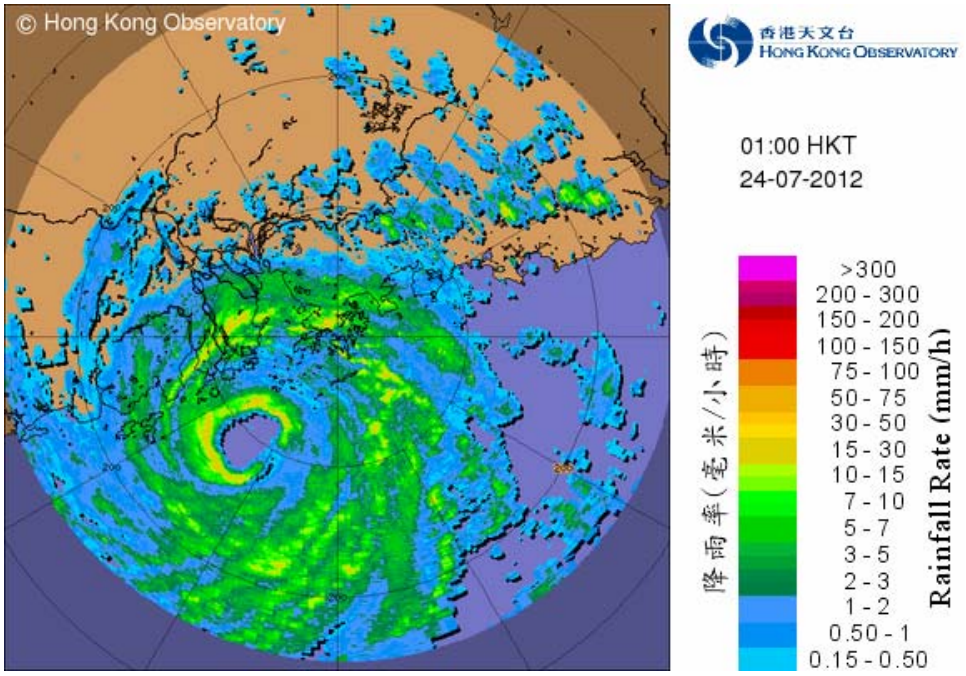


圖 2.2.8(a)　二零一二年七月二十四日上午 1 時的雷達回波圖像，當時強颱風韋森特的中心集結在香港天文台西南約 100 公里。與韋森特相連的雨帶正影響香港及廣東沿岸地區。

Figure 2.2.8(a)　Radar echoes captured at 1:00 a.m. on 24 July 2012 when the centre of Severe Typhoon Vicente was at about 100 km to the southwest of the Hong Kong Observatory. Rainbands associated with Vicente were affecting Hong Kong and the coast of Guangdong.

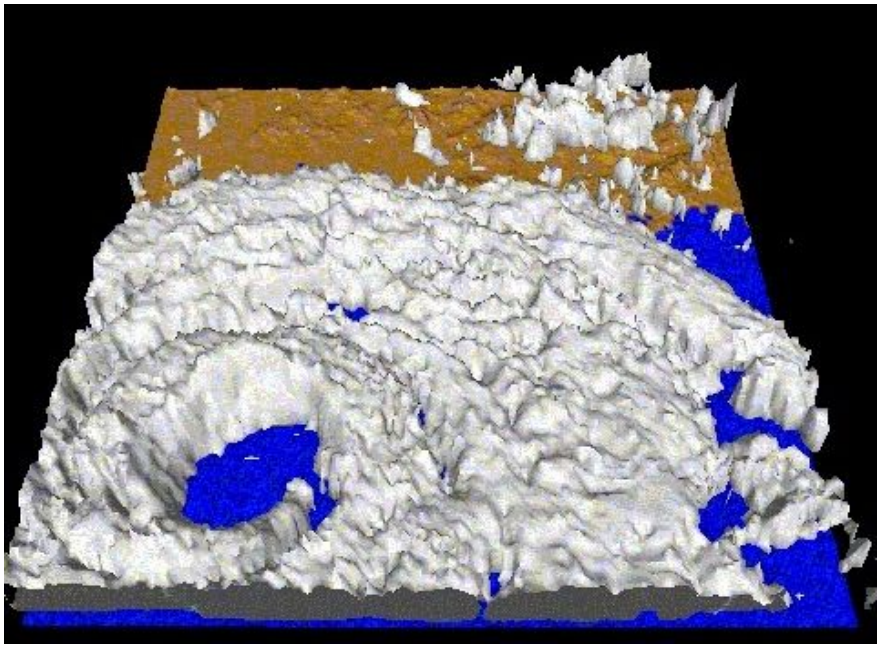


圖 2.2.8(b)　二零一二年七月二十四日上午 1 時的立體雷達回波圖片。

Figure 2.2.8(b)　3-dimensional radar echoes captured at 1:00 a.m. on 24 July 2012.

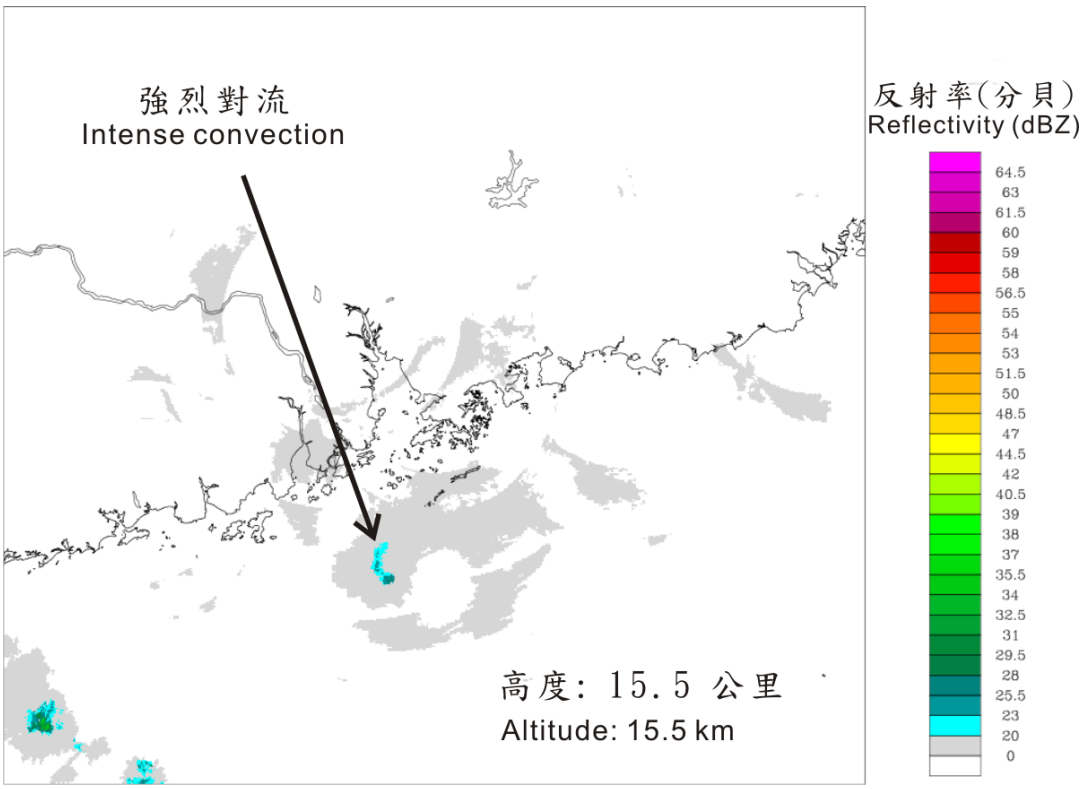


圖 2.2.9(a) 二零一二年七月二十三日下午 10 時 30 分的雷達反射率圖片：15.5 公里高的水平切面圖。箭頭所指之處，顯示韋森特風眼壁（圖中香港以南的灰色區域）上出現強烈對流區域，有劇烈上升運動把雲中水點抬升至對流層頂部。

Figure 2.2.9(a) Radar reflectivity images at 10:30 p.m. on 23 July 2012: horizontal cross-section taken at an altitude of 15.5 km. The arrow points to an area of intense convection on the eyewall of Vicente (grey shadings south of Hong Kong in the image). This signifies the existence of violent updraft raising cloud water to the top of the troposphere.

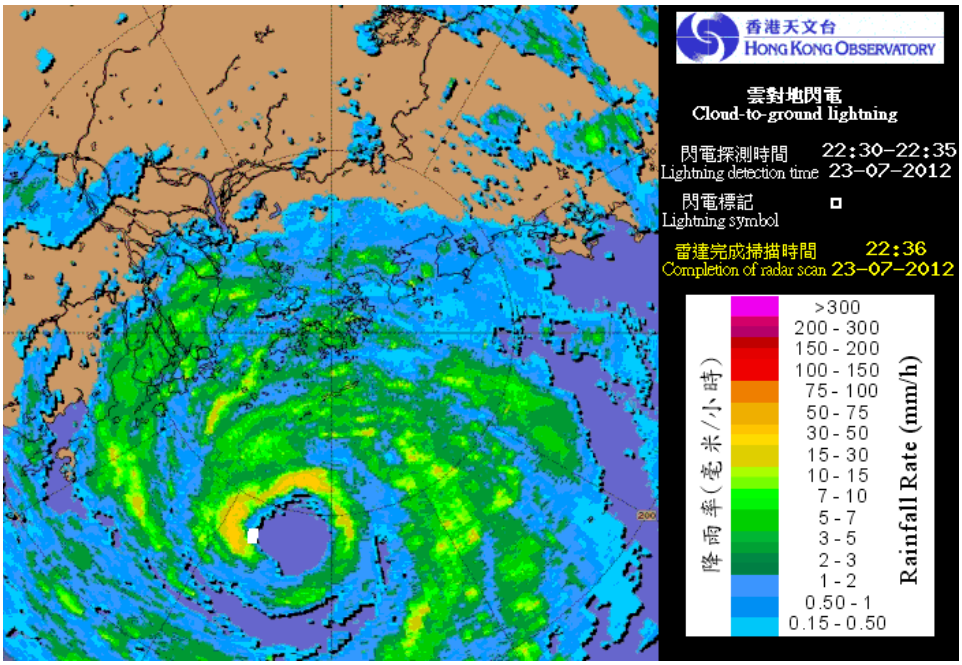


圖 2.2.9(b)　二零一二年七月二十三日晚上 10 時 30 分左右的閃電位置和雷達圖像。

Figure 2.2.9(b)　Lightning location map and the radar imagery around 10:30 p.m. on 23 July 2012.

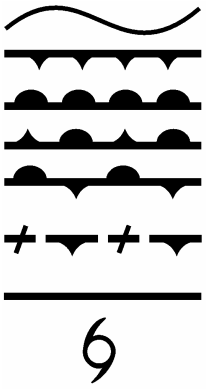
圖 2.2.10(a)　在強颱風韋森特吹襲香港期間，奧海城附近的樹木被吹倒。(相片由 Ms. Carly Tse 提供)

Figure 2.2.10(a)　Trees blown down near Olympian City during the passage of Severe Typhoon Vicente (photo courtesy of Ms. Carly Tse)

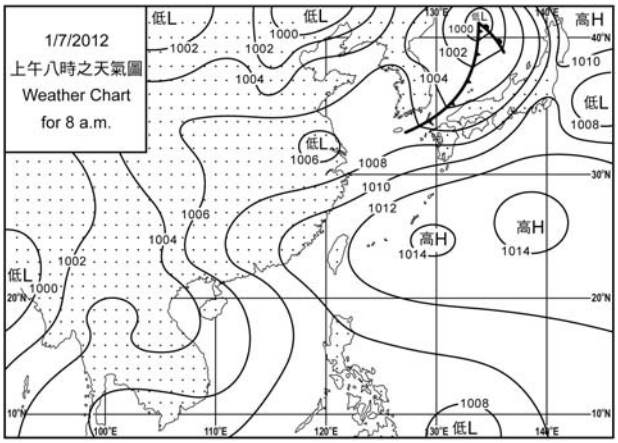
圖 2.2.10(b)　　尖沙咀在強颱風韋森特吹襲下的塌樹情況 (相片由成報提供)

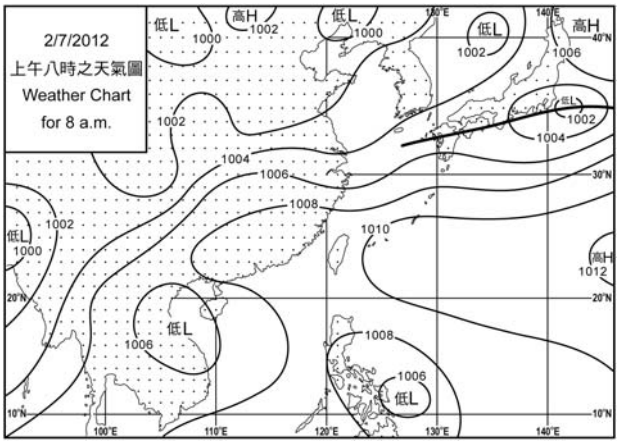
Figure 2.2.10(b)　Trees blown down in Tsim Sha Tsui during the passage of Severe Typhoon Vicente (photo courtesy of Sing Pao)

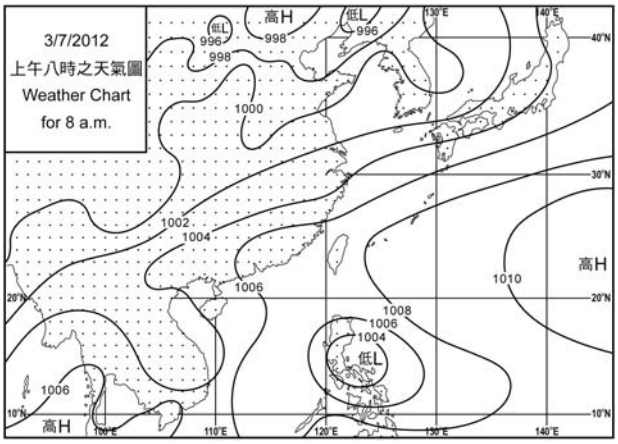
3. 二零一二年七月每日天氣圖
3. Daily Weather Maps for July 2012

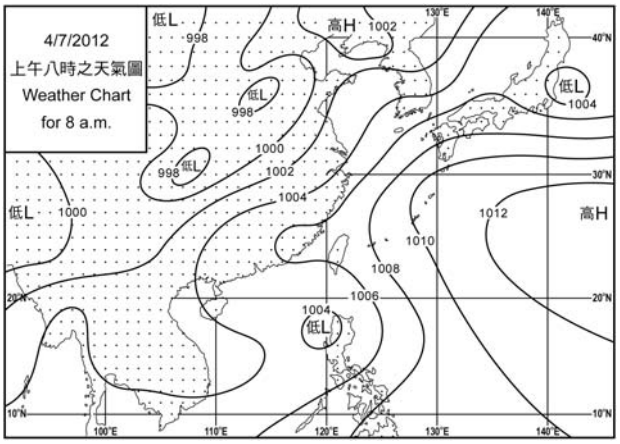


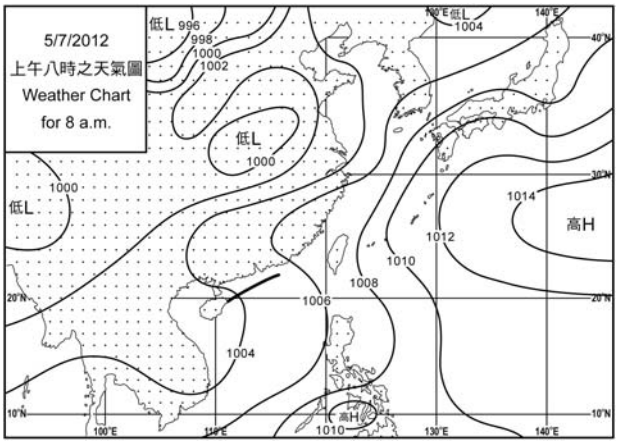
等壓線 Isobar (hPa)
冷鋒 Cold Front
暖鋒 Warm Front
錮囚鋒 Occlusion
靜止鋒 Stationary Front
消散中的冷鋒
Dissipating Cold Front
槽軸〔線〕Axis of Trough
熱帶氣旋中心
Centre of Tropical Cyclone

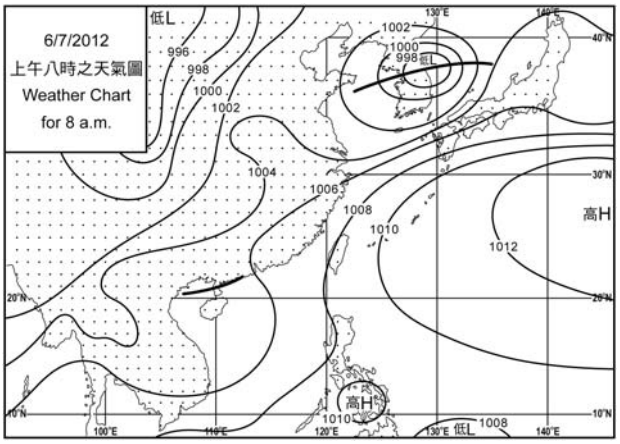


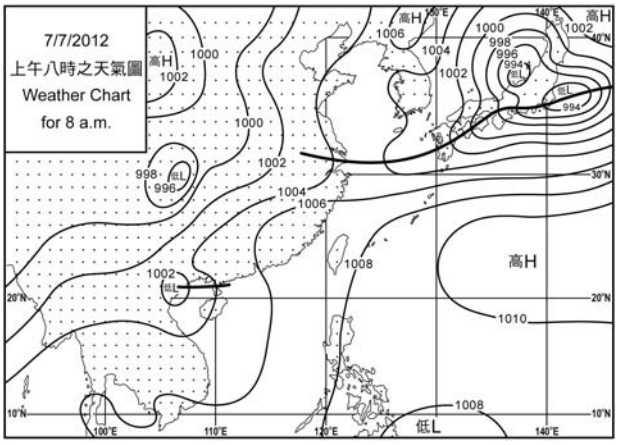


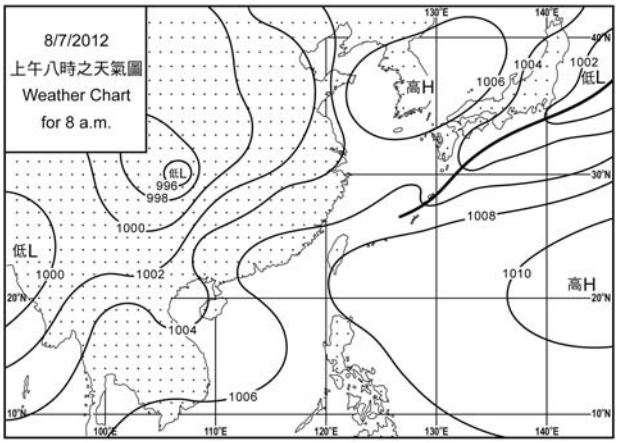


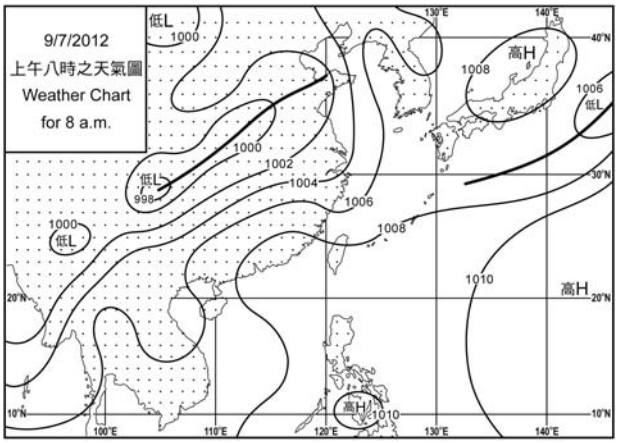


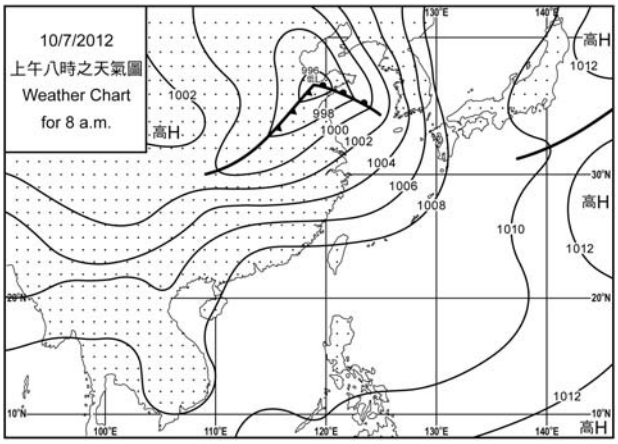


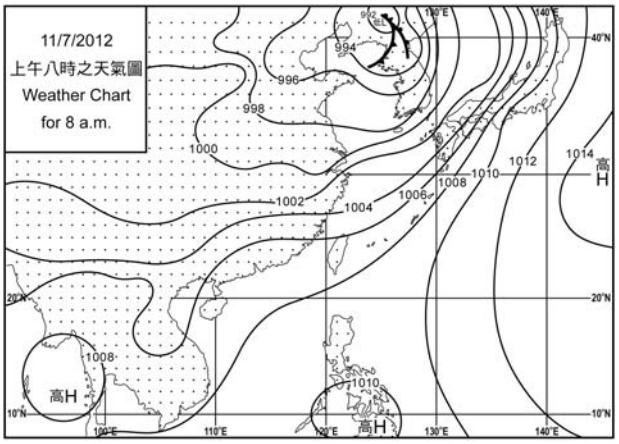


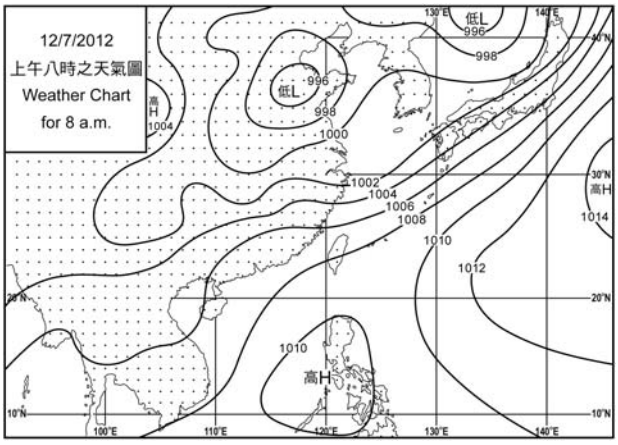


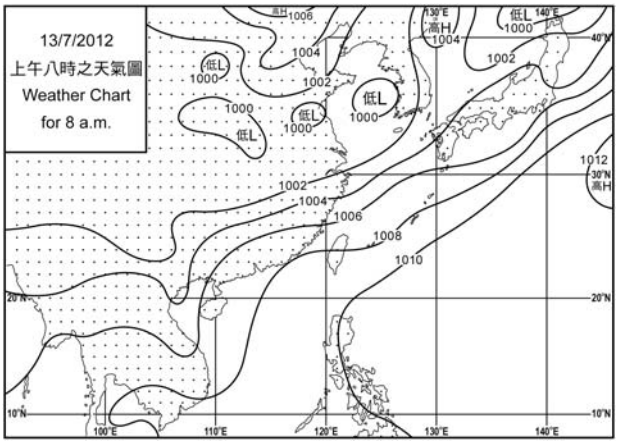

8/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

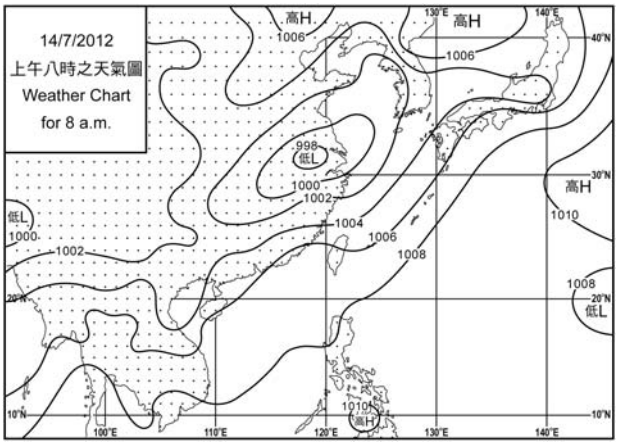

9/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

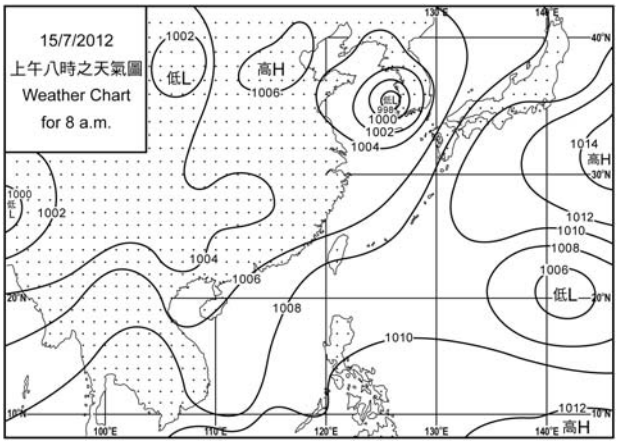

10/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

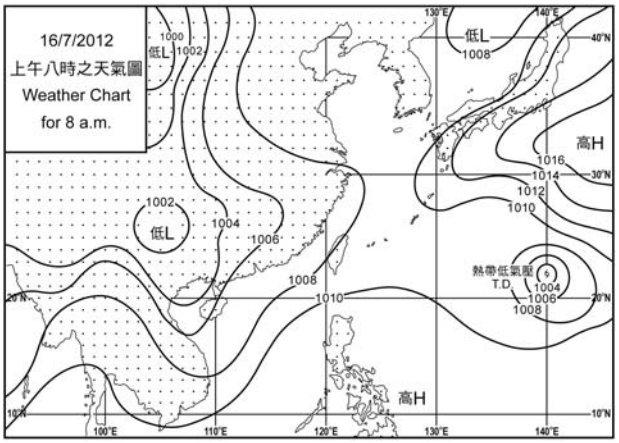

11/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

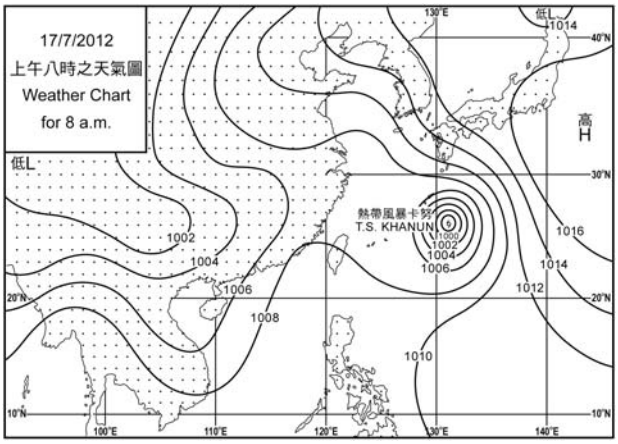

12/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

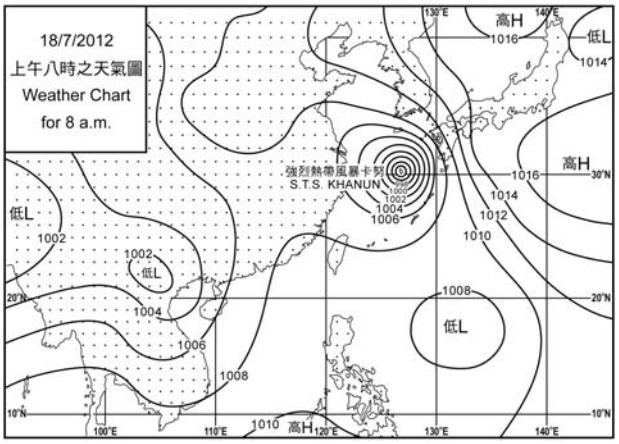

13/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

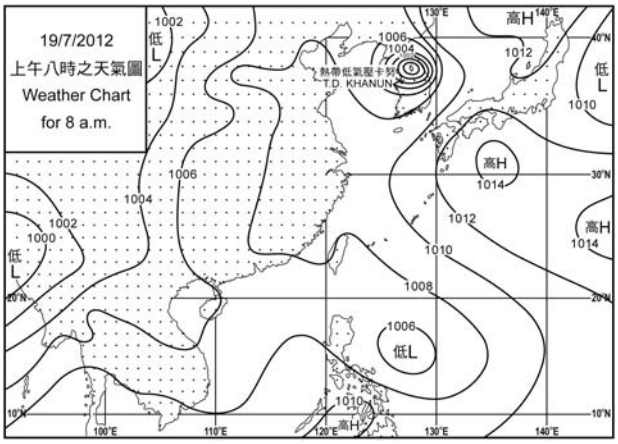

14/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

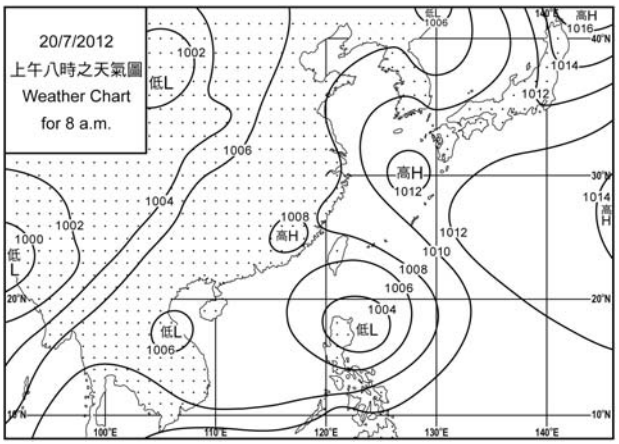

15/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

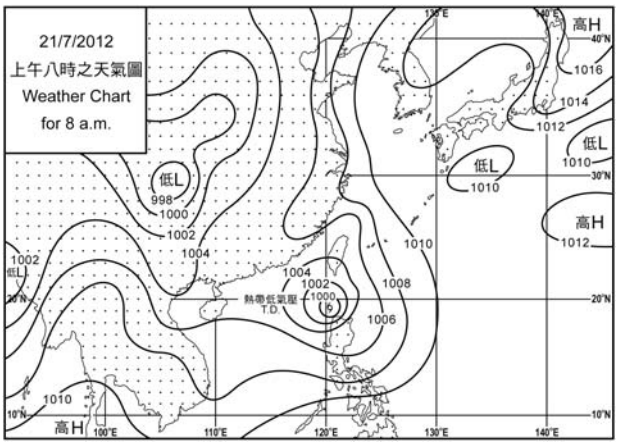

16/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
低L
高H
熱帶低氣壓
T.D.

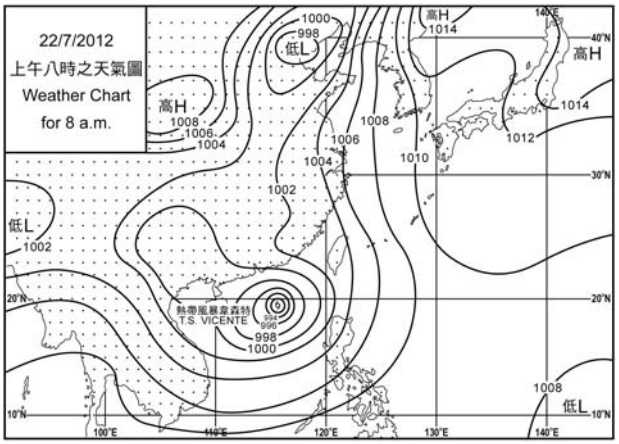

17/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶風暴卡努
T.S. KHANUN

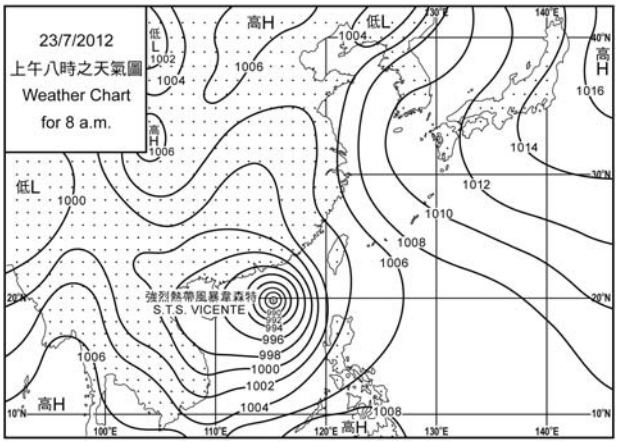

18/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
強烈熱帶風暴卡努
S.T.S. KHANUN

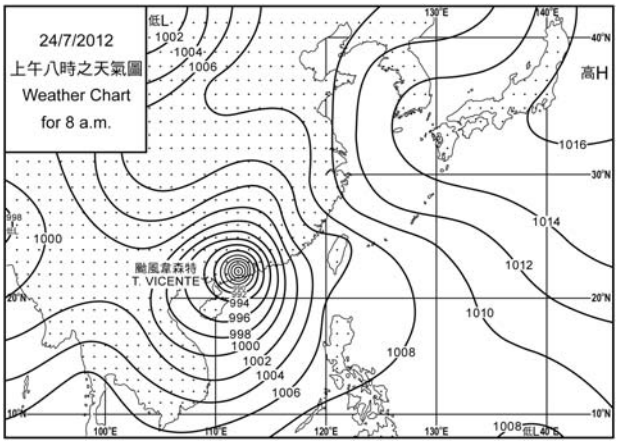

19/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶低氣壓卡努
T.D. KHANUN

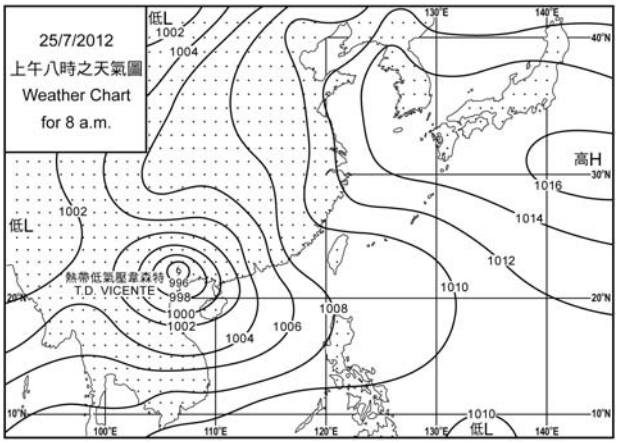

20/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.

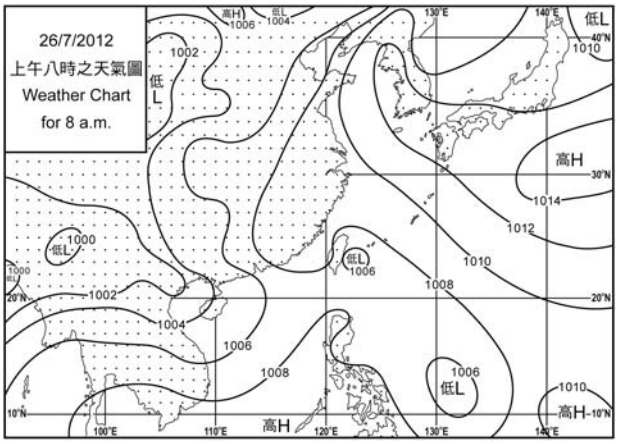

21/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶低氣壓
T.D.

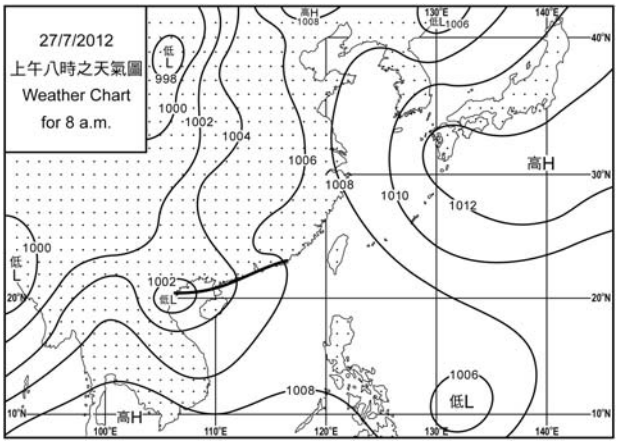

22/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶風暴韋森特
T.S. VICENTE

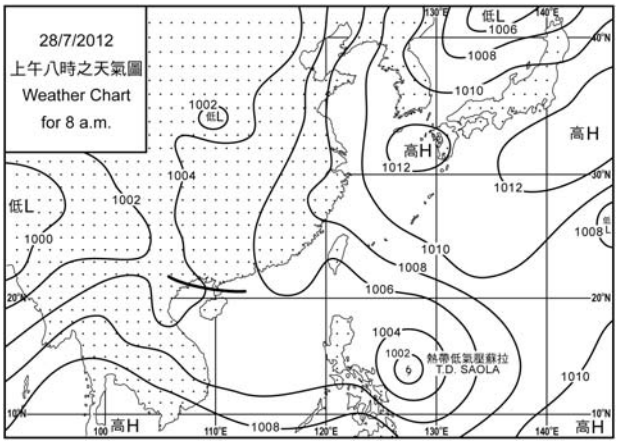

23/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
強烈熱帶風暴韋森特
S.T.S. VICENTE

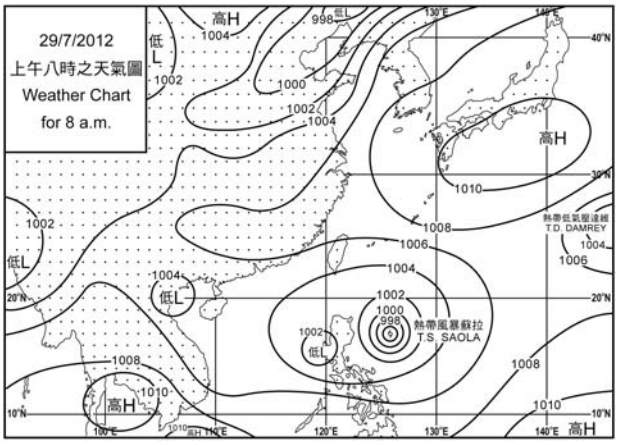

24/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
颱風韋森特
T. VICENTE

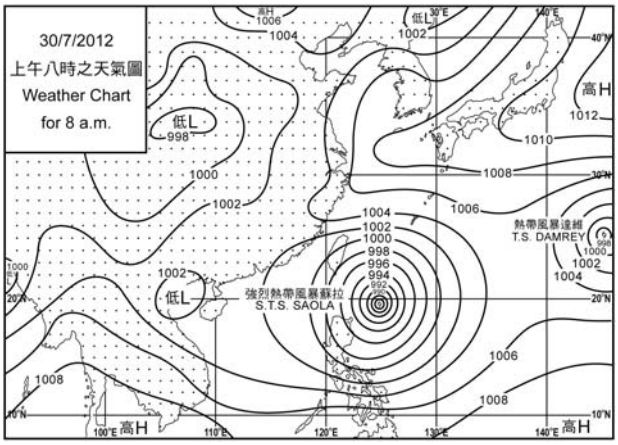

25/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶低氣壓韋森特
T.D. VICENTE

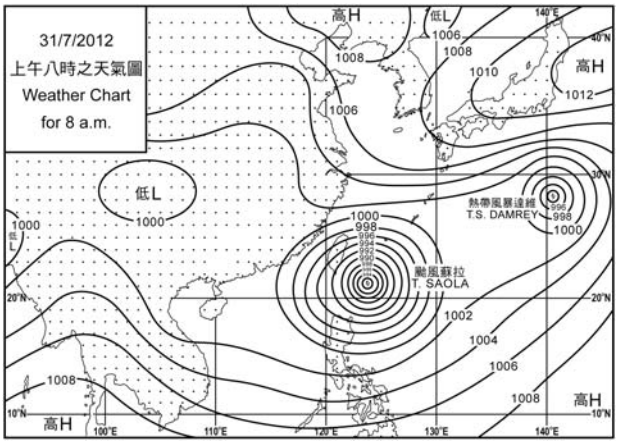

26/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.


27/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.


28/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶低氣壓蘇拉
T.D. SAOLA


29/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶低氣壓達維
T.D. DAMREY
熱帶風暴蘇拉
T.S. SAOLA


30/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶風暴達維
T.S. DAMREY
強烈熱帶風暴蘇拉
S.T.S. SAOLA


31/7/2012
上午八時之天氣圖
Weather Chart
for 8 a.m.
熱帶風暴達維
T.S. DAMREY
颱風蘇拉
T. SAOLA

4.1.1 二零一二年七月香港氣象觀測摘錄(一)

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

日期 Date	平均氣壓 Mean Pressure	氣溫 Air Temperature 最高 Maximum	氣溫 Air Temperature 平均 Mean	氣溫 Air Temperature 最低 Minimum	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
七月 July	百帕斯卡 hPa	°C	°C	°C	°C	%	%	毫米 mm
1	1008.5	31.0	27.8	25.7	25.2	86	63	4.3
2	1007.9	31.4	28.3	26.6	25.1	83	58	Tr
3	1005.3	33.2	29.1	26.8	24.9	79	38	-
4	1004.8	33.8	29.6	27.2	25.3	78	39	-
5	1005.0	28.8	27.8	26.0	26.3	92	84	22.0
6	1006.1	31.5	28.5	26.6	25.5	84	74	0.8
7	1005.9	32.6	29.1	26.9	25.3	81	63	2.7
8	1006.7	32.3	29.3	27.8	25.1	78	70	0.4
9	1007.8	32.9	29.8	27.8	24.9	76	68	Tr
10	1007.2	32.3	29.9	28.4	24.6	74	58	Tr
11	1006.8	32.6	30.0	28.6	25.0	75	76	Tr
12	1006.9	32.6	30.0	27.8	24.5	73	55	1.3
13	1006.0	31.7	29.2	27.1	25.2	79	69	9.0
14	1004.7	32.3	29.6	26.8	25.7	80	75	7.0
15	1005.6	33.0	30.2	28.7	25.8	77	78	2.1
16	1006.1	31.9	29.8	27.5	25.9	80	85	18.4
17	1006.0	32.1	30.0	28.7	25.7	78	83	1.0
18	1006.6	32.4	29.1	25.4	26.0	84	79	34.3
19	1006.8	33.6	30.2	27.6	25.2	75	62	Tr
20	1005.4	33.0	30.3	28.4	25.2	75	74	4.2
21	1002.2	33.7	30.1	26.8	25.2	76	78	2.2
22	998.7	32.4	28.9	26.5	24.9	79	83	1.0
23	992.2	27.9	26.4	25.3	24.6	90	85	112.0
24	996.5	29.2	26.9	25.6	25.3	91	88	99.5
25	1005.4	28.3	25.7	24.4	24.8	95	91	82.3
26	1006.6	26.2	25.5	25.0	25.0	97	85	28.1
27	1005.0	27.0	25.8	25.1	25.1	96	88	25.7
28	1005.2	32.1	27.7	25.6	25.1	86	72	Tr
29	1004.4	33.4	28.9	26.4	24.6	78	48	-
30	1001.2	32.9	29.4	26.8	24.0	74	38	-
31	999.1	32.5	29.2	26.3	24.8	78	66	9.5
平均/總值 Mean/Total	1004.6	31.6	28.8	26.8	25.2	81	70	467.8
正常* Normal*	1005.7	31.4	28.8	26.8	25.1	81	69	376.5
觀測站 Station	天文台 Hong Kong Observatory							

天文台於七月二十四日 0 時 53 分錄得本月最低氣壓 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.

天文台於七月四日 15 時 18 分錄得本月最高氣溫 33.8 °C。
The maximum air temperature recorded at the Hong Kong Observatory was 33.8 °C at 1518 HKT on 4 July.

天文台於七月二十五日 15 時 23 分錄得本月最低氣溫 24.4 °C。
The minimum air temperature recorded at the Hong Kong Observatory was 24.4 °C at 1523 HKT on 25 July.

天文台於七月五日 9 時 26 分錄得本月最高瞬時降雨率 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 (除特別列明外) *(http://www.hko.gov.hk/wxinfo/climat/normal/cnormal07.htm)*

* 1981-2010 Climatological normal, unless otherwise specified *(http://www.hko.gov.hk/wxinfo/climat/normal/enormal07.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 二零一二年七月香港氣象觀測摘錄(二)

4.1.2 Extract of Meteorological Observations in Hong Kong (Part 2), July 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
七月 July	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	5.9	19.97	4.5	120	22.5
2	0	6.3	19.55	5.4	130	19.2
3	0	10.4	26.96	6.5	140	11.0
4	0	11.2	27.29	5.9	110	14.1
5	0	0.3	5.67	1.1	110	20.0
6	0	5.7	18.10	3.5	160	19.2
7	0	7.9	23.83	6.2	170	22.3
8	0	7.3	20.77	5.3	180	20.3
9	0	10.1	25.20	5.6	210	15.9
10	0	10.8	27.47	7.9	230	22.0
11	0	9.6	24.23	6.5	230	27.2
12	0	10.3	26.07	7.2	230	22.9
13	0	6.7	18.87	4.9	220	25.8
14	0	7.0	19.57	6.1	230	30.5
15	0	8.5	23.29	7.0	230	28.0
16	0	4.0	14.68	5.6	220	26.1
17	0	4.0	16.73	6.5	220	22.7
18	0	5.4	15.87	4.5	200	12.7
19	0	10.6	24.90	6.8	230	11.8
20	0	6.6	17.96	4.4	230	8.7
21	7	8.3	18.78	6.2	040	11.9
22	0	3.5	14.69	4.1	050	39.5
23	0	0.5	4.78	3.2	050	73.1
24	0	0.3	6.44	2.7	140	62.1
25	0	0.2	3.83	3.1	140	29.4
26	0	-	4.98	1.1	120	18.0
27	0	0.1	4.10	2.3	140	15.5
28	0	5.8	18.45	2.2	160	8.5
29	0	10.2	23.87	6.1	040	7.9
30	0	11.5	26.33	6.7	240	14.7
31	0	8.6	19.23	5.6	280	16.4
平均/總值 Mean/Total	7	197.6	18.14	154.7	230	22.6
正常* Normal*	17.5 §	212.0	17.17	146.2	230	21.3
觀測站 Station	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 分錄得本月最高陣風 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.hko.gov.hk/wxinfo/climat/normal/cnormal07.htm)*

* 1981-2010 Climatological normal, unless otherwise specified *(http://www.hko.gov.hk/wxinfo/climat/normal/enormal07.htm)*

§ 1997-2011 平均值

§ 1997-2011 Mean value

4.2 二零一二年七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, July 2012