3.3 颱風海高斯(2007)：二零二零年八月十七日至十九日

海高斯是二零二零年第三個影響香港的熱帶氣旋。海高斯吹襲香港期間，天文台需要發出九號烈風或暴風風力增強信號，是自二零一八年超強颱風山竹吹襲本港以來的首次。

熱帶低氣壓海高斯於八月十七日晚上在香港之東南偏東約650公里的南海東北部上形成，大致向西北移動橫過南海北部。翌日海高斯迅速增強，下午發展為強烈熱帶風暴並趨向珠江口一帶。當晚海高斯在珠江口附近進一步增強為颱風，八月十九日凌晨達到最高強度，中心附近最高持續風速估計為每小時130公里。海高斯於八月十九日早上在珠海登陸，日間移入廣東西部並逐漸減弱，晚上在廣西減弱為低壓區。

根據報章報導，海高斯在澳門造成15人受傷，內港低窪地區出現水浸。

香港天文台在八月十八日上午3時40分發出一號戒備信號，當時海高斯集結在香港之東南偏東約490公里。早上本港吹和緩東北風。隨著海高斯靠近廣東沿岸，天文台在當日下午2時20分發出三號強風信號，當時海高斯位於香港之東南約250公里。傍晚時分本港普遍吹清勁至強風程度的東至東北風。由於海高斯採取較為接近香港的路徑移動並繼續增強，天文台在八月十八日晚上10時40分發出八號東北烈風或暴風信號，當時海高斯集結在香港天文台以南約100公里。午夜前後本港風力迅速增強，普遍吹強風至烈風程度的偏東風。由於預料當海高斯在香港西南面近距離掠過時，本港風力會顯著增強，天文台在八月十九日上午1時30分發出九號烈風或暴風風力增強信號，當時海高斯已移至天文台以南約90公里。凌晨時分香港多處吹達烈風程度的東至東南風，離岸吹暴風，部分高地風力更達颶風程度。海高斯在八月十九日上午5時左右最接近香港，其中心位於香港天文台之西南偏西約80公里。早上海高斯在珠海登陸，本港風力減弱，天文台在上午7時40分改發八號東南烈風或暴風信號，取代九號烈風或暴風風力增強信號。隨著海高斯繼續減弱及遠離香港，天文台在上午11時10分改發三號強風信號，並在當日下午1時20分取消所有熱帶氣旋警告信號。

在海高斯的影響下，大帽山、長洲及橫瀾島錄得的最高每小時平均風速分別為每小時98、98及82公里，而最高陣風則分別為每小時158、129及112公里。尖鼻咀錄得最高潮位3.38米(海圖基準面以上)及最大風暴潮(天文潮高度以上) 1.02米。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	1001.2	19/8	上午 2 時 51 分
香港國際機場	999.4	19/8	上午 4 時 40 分
長洲	998.5	19/8	上午 3 時 58 分
京士柏	1001.5	19/8	上午 3 時 31 分
流浮山	1000.8	19/8	上午 4 時 26 分
坪洲	1000.3	19/8	上午 3 時 59 分
沙田	1002.2	19/8	上午 3 時 38 分
上水	1001.2	19/8	上午 4 時 01 分
打鼓嶺	1001.7	19/8	上午 4 時 10 分
大埔	1001.9	19/8	上午 3 時 53 分
橫瀾島	1000.5	19/8	上午 2 時 36 分

受海高斯的相關雨帶影響，八月十八日及十九日本港有狂風大驟雨及雷暴，期間大部分地區錄得超過150毫米雨量，天文台曾發出黃色暴雨警告及山泥傾瀉警告。

海高斯吹襲香港期間，最少有7人受傷，另有約800宗塌樹報告及2宗水浸報告。風暴下兩人在塔門露營被困，需要警務人員協助離開。石門有私家車被塌樹擊中損毀。將軍澳有單位的玻璃窗被吹毀。大澳曾出現海水倒灌，部份地方有輕微水浸。香港國際機場有14班航班需要轉飛其他地方。

3.3 Typhoon Higos (2007): 17 to 19 August 2020

Higos was the third tropical cyclone affecting Hong Kong in 2020. The Increasing Gale or Storm Signal, No. 9 was issued during the passage of Higos, the first time since Super Typhoon Mangkhut hitting Hong Kong in 2018.

Higos formed as a tropical depression over the northeastern part of the South China Sea at about 650 km east-southeast of Hong Kong on the night of 17 August. It generally moved northwestwards across the northern part of the South China Sea. While edging towards the vicinity of the Pearl River Estuary, Higos intensified rapidly the next day and developed into a severe tropical storm in the afternoon. Higos further intensified into a typhoon near the Pearl River Estuary that night, reaching its peak intensity in the small hours of 19 August with an estimated maximum sustained wind of 130 km/h near its centre. It made landfall over Zhuhai on the morning of 19 August. Higos then moved into the western part of Guangdong and weakened gradually during the day. It degenerated into an area of low pressure over Guangxi that night.

According to press reports, 15 persons were injured in Macao during the passage of Higos. There were flooding in low lying areas in Inner Harbour.

The Standby Signal No. 1 was issued at 3:40 a.m. on 18 August when Higos was about 490 km east-southeast of Hong Kong. Local winds were moderate northeasterlies in the morning. With Higos edging closer to the coast of Guangdong, the Strong Wind Signal No. 3 was issued at 2:20 p.m. on that day when Higos was about 250 km southeast of Hong Kong. Locally, winds became generally fresh to strong east to northeasterlies in the evening. As Higos adopted a track closer to Hong Kong and continued to intensify, the No. 8 Northeast Gale or Storm Signal was issued at 10:40 p.m. on 18 August when Higos was about 100 km south of the Hong Kong Observatory. Local winds strengthened rapidly around midnight with strong to gale easterlies generally affecting Hong Kong. As winds over Hong Kong were expected to increase significantly when Higos skirted past to the southwest of Hong Kong closely, the Increasing Gale or Storm Signal No. 9 was issued at 1:30 a.m. on 19 August when Higos was about 90 km south of the Hong Kong Observatory. Up to gale force east to southeasterly winds affected many places in Hong Kong in the early morning on 19 August, with winds reaching storm force offshore and hurricane force on some of the high ground. Higos came closest to Hong Kong around 5 a.m. on 19 August with its centre passing about 80 km west-southwest of the Hong Kong Observatory. Higos made landfall over Zhuhai in the morning while local winds subsided. The No. 8 Southeast Gale or Storm Signal was issued at 7:40 a.m. to replace the Increasing Gale or Storm Signal No. 9. As Higos continued to weaken and depart from Hong Kong, the Strong Wind Signal No. 3 was issued at 11:10 a.m. and all tropical cyclone warning signals were cancelled at 1:20 p.m. that day.

Under the influence of Higos, maximum hourly mean winds of 98, 98 and 82 km/h and maximum gusts of 158, 129 and 112 km/h were recorded at Tai Mo Shan, Cheung Chau and Waglan Island respectively. A maximum sea level (above chart datum) of 3.38 m and a maximum storm surge (above astronomical tide) of 1.02 m were recorded at Tsim Bei Tsui. 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	1001.2	19/8	2:51 a.m.
Hong Kong International Airport	999.4	19/8	4:40 a.m.
Cheung Chau	998.5	19/8	3:58 a.m.
King's Park	1001.5	19/8	3:31 a.m.
Lau Fau Shan	1000.8	19/8	4:26 a.m.
Peng Chau	1000.3	19/8	3:59 a.m.
Shatin	1002.2	19/8	3:38 a.m.
Sheung Shui	1001.2	19/8	4:01 a.m.
Ta Kwu Ling	1001.7	19/8	4:10 a.m.
Tai Po	1001.9	19/8	3:53 a.m.
Waglan Island	1000.5	19/8	2:36 a.m.

Under the influence of the rain bands associated with Higos, there were heavy squally showers and thunderstorms in Hong Kong on 18 and 19 August. More than 150 millimetres of rainfall were recorded over the territory during this period and the Amber Rainstorm Warning and the Landslip Warning were once issued.

In Hong Kong, at least 7 people were injured during the passage of Higos. There were around 800 reports of fallen trees and 2 reports of flooding. Two campers were stranded in Tap Mun and had to be rescued by police officers. Private cars were damaged by a fallen tree in Shek Mun. Windows were broken in an apartment building in Tseung Kwan O. There were backflow of sea water in Tai O and reports of minor flooding in some areas. 14 flights to the Hong Kong International Airport were diverted.

表 3.3.1　在海高斯影響下，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 3.3.1　Maximum gust peak speeds and maximum hourly mean wind speeds with associated wind directions recorded at various stations when the tropical cyclone warning signals for Higos were in force

站 (參閱圖 1.1) Station (See Fig. 1.1)		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
黃麻角(赤柱)	Bluff Head (Stanley)	東南偏東	ESE	94	19/8	02:26	東南偏南	SSE	62	19/8	05:00
中環碼頭	Central Pier	東南偏東	ESE	91	19/8	03:40	東南偏東	ESE	42	19/8	04:00
長洲	Cheung Chau	東南	SE	129	19/8	04:30	東南	SE	98	19/8	05:00
長洲泳灘	Cheung Chau Beach	東	E	112	19/8	02:34	東	E	75	19/8	03:00
青洲	Green Island	東南偏南	SSE	97	19/8	06:05	東南偏東	ESE	49	19/8	05:00
香港國際機場	Hong Kong International Airport	東南偏東	ESE	104	19/8	05:54	東	E	62	19/8	05:00
啟德	Kai Tak	東南偏東	ESE	88	19/8	03:53	東南偏東	ESE	44	19/8	04:00
京士柏	King's Park	東南偏東	ESE	87	19/8	03:56	東南偏東	ESE	38	19/8	03:00
南丫島	Lamma Island	東南偏東	ESE	90	19/8	04:30	東南偏東	ESE	51	19/8	05:00
流浮山	Lau Fau Shan	東南偏東	ESE	80	19/8	05:42	東南偏東	ESE	34	19/8	06:00
北角	North Point	東	E	83	19/8	02:52	東	E	44	19/8	00:00
坪洲	Peng Chau	東南偏東	ESE	82	19/8	03:42	東南偏東	ESE	49	19/8	03:00
平洲	Ping Chau	東南	SE	51	19/8	02:17	東北偏東	ENE	12	18/8	22:00
西貢	Sai Kung	東南	SE	78	19/8	04:36	東南偏南	SSE	48	19/8	05:00
沙洲	Sha Chau	東南偏南	SSE	119	19/8	06:19	東南偏南	SSE	67	19/8	07:00
沙螺灣	Sha Lo Wan	東	E	115	19/8	03:46	東	E	42	19/8	04:00
沙田	Sha Tin	東南偏南	SSE	66	19/8	03:59	東南	SE	23	19/8	06:00
九龍天星碼頭	Star Ferry (Kowloon)	東南偏東	ESE	89	19/8	03:38	東	E	49	19/8	04:00
		東南偏東	ESE	89	19/8	03:39					
打鼓嶺	Ta Kwu Ling	東北偏東	ENE	60	19/8	01:43	東	E	24	19/8	05:00
大美督	Tai Mei Tuk	東	E	94	19/8	03:45	東	E	54	19/8	04:00
大帽山	Tai Mo Shan	東南	SE	158	19/8	04:28	東南偏東	ESE	98	19/8	05:00
大埔滘	Tai Po Kau	東	E	82	19/8	03:45	東南偏東	ESE	48	19/8	04:00
塔門東	Tap Mun East	東南	SE	101	19/8	05:30	東南偏東	ESE	66	19/8	03:00
							東南偏東	ESE	66	19/8	05:00
大老山	Tate's Cairn	東南	SE	124	19/8	01:41	東南偏東	ESE	71	19/8	01:00
將軍澳	Tseung Kwan O	東南偏東	ESE	65	19/8	04:38	東南偏東	ESE	21	19/8	05:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	東南偏東	ESE	78	19/8	05:28	東南	SE	30	19/8	07:00
屯門政府合署	Tuen Mun Government Offices	東南	SE	92	19/8	04:43	東南	SE	35	19/8	06:00
橫瀾島	Waglan Island	東	E	112	19/8	02:36	東南偏東	ESE	82	19/8	04:00
濕地公園	Wetland Park	東南	SE	59	19/8	05:05	東南	SE	24	19/8	06:00
黃竹坑	Wong Chuk Hang	東北	NE	91	19/8	01:25	東北偏東	ENE	32	19/8	02:00

昂坪、石崗 - 沒有資料　Ngong Ping, Shek Kong - data not available

表 3.3.2　在海高斯影響下，熱帶氣旋警告信號系統的八個參考測風站在熱帶氣旋警告信號生效時錄得持續風力達到強風及烈風程度的時段

Table 3.3.2　Periods during which sustained strong and gale force winds were attained at the eight reference anemometers in the tropical cyclone warning system when tropical cyclone warning signals for Higos were in force

站 (參閱圖 1.1) Station (See Fig. 1.1)		最初達到強風*時間 Start time when strong wind speed* was attained		最後達到強風*時間 End time when strong wind speed* was attained		最初達到烈風#時間 Start time when gale force wind speed# was attained		最後達到烈風#時間 End time when gale force wind speed# was attained	
		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	18/8	15:33	19/8	12:17	19/8	00:22	19/8	06:10
香港國際機場	Hong Kong International Airport	19/8	01:59	19/8	09:01	19/8	03:52	19/8	05:17
啟德	Kai Tak	19/8	01:35	19/8	05:43	-			
西貢	Sai Kung	18/8	15:13	19/8	10:07	-			

流浮山、沙田、打鼓嶺及青衣島蜆殼油庫的持續風力未達到強風程度。

The sustained wind speed did not attain strong force at Lau Fau Shan, Sha Tin, Ta Kwu Ling and Tsing Yi Shell Oil Depot.

- 未達到指定的風速

- not attaining the specified wind speed

* 十分鐘平均風速達每小時 41-62 公里

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

十分鐘平均風速達每小時 63-87 公里

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

註:　本表列出持續風力達到強風及烈風程度的起始及終結時間。期間風力可能高於或低於指定的風力。

Note: The table gives the start and end time of sustained strong or gale force winds. Winds might fluctuate above or below the specified wind speeds in between the times indicated.

表 3.3.3　海高斯影響香港期間，香港天文台總部及其他各站所錄得的日雨量
Table 3.3.3　Daily rainfall amounts recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Higos

站 (參閱圖 3.3.2) Station (See Fig. 3.3.2)			八月十八日 18 Aug	八月十九日 19 Aug	總雨量(毫米) Total rainfall (mm)
香港天文台 Hong Kong Observatory (HKO)			52.7	119.5	172.2
香港國際機場 Hong Kong International Airport (HKA)			66.8	104.2	171.0
H23	香港仔	Aberdeen	52.5	61.0	113.5
N05	粉嶺	Fanling	32.0	71.5	103.5
N13	糧船灣	High Island	40.5	67.0	107.5
K04	佐敦谷	Jordan Valley	79.5	110.5	190.0
N06	葵涌	Kwai Chung	70.5	106.0	176.5
H12	半山區	Mid Levels	77.5	137.5	215.0
N09	沙田	Sha Tin	67.5	107.5	175.0
H19	筲箕灣	Shau Kei Wan	82.5	112.5	195.0
SEK	石崗	Shek Kong	54.5	98.5	153.0
K06	蘇屋邨	So Uk Estate	76.5	112.5	189.0
R31	大美督	Tai Mei Tuk	63.0	67.0	130.0
R21	踏石角	Tap Shek Kok	31.0	119.0	150.0
N17	東涌	Tung Chung	58.5	106.5	165.0
TMR	屯門水庫	Tuen Mun Reservoir	33.9	108.6	142.5

長洲 - 沒有資料　Cheung Chau - data not available

註 : [ ] 基於不完整的每小時雨量數據。Note : [ ] based on incomplete hourly data.

表 3.3.4　海高斯影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮
Table 3.3.4　Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Higos

站 (參閱圖 1.1) Station (See Fig. 1.1))		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	2.75	19/8	07:28	0.51	19/8	03:48
石壁	Shek Pik	3.00	19/8	07:22	0.71	19/8	05:26
大廟灣	Tai Miu Wan	2.79	19/8	07:40	0.64	19/8	04:49
大埔滘	Tai Po Kau	2.77	19/8	06:43	0.61	19/8	00:54
尖鼻咀	Tsim Bei Tsui	3.38	19/8	07:50	1.02	19/8	07:43

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

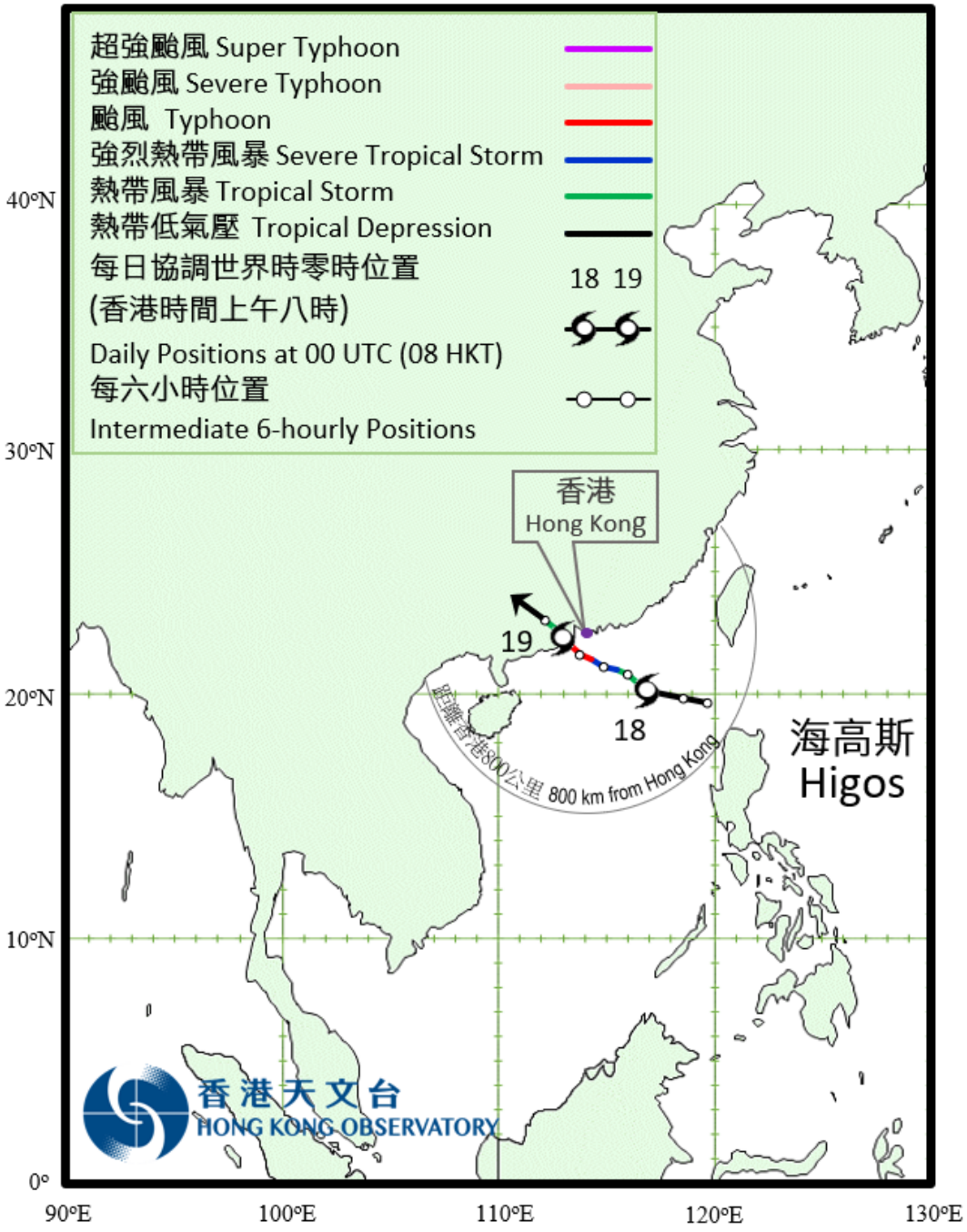

圖 3.3.1a　　二零二零年八月十七日至十九日海高斯的路徑圖。

Figure 3.3.1a　Track of Higos: 17 – 19 August 2020.

圖 3.3.1b　　海高斯接近香港時的路徑圖。

Figure 3.3.1b　Track of Higos near Hong Kong.

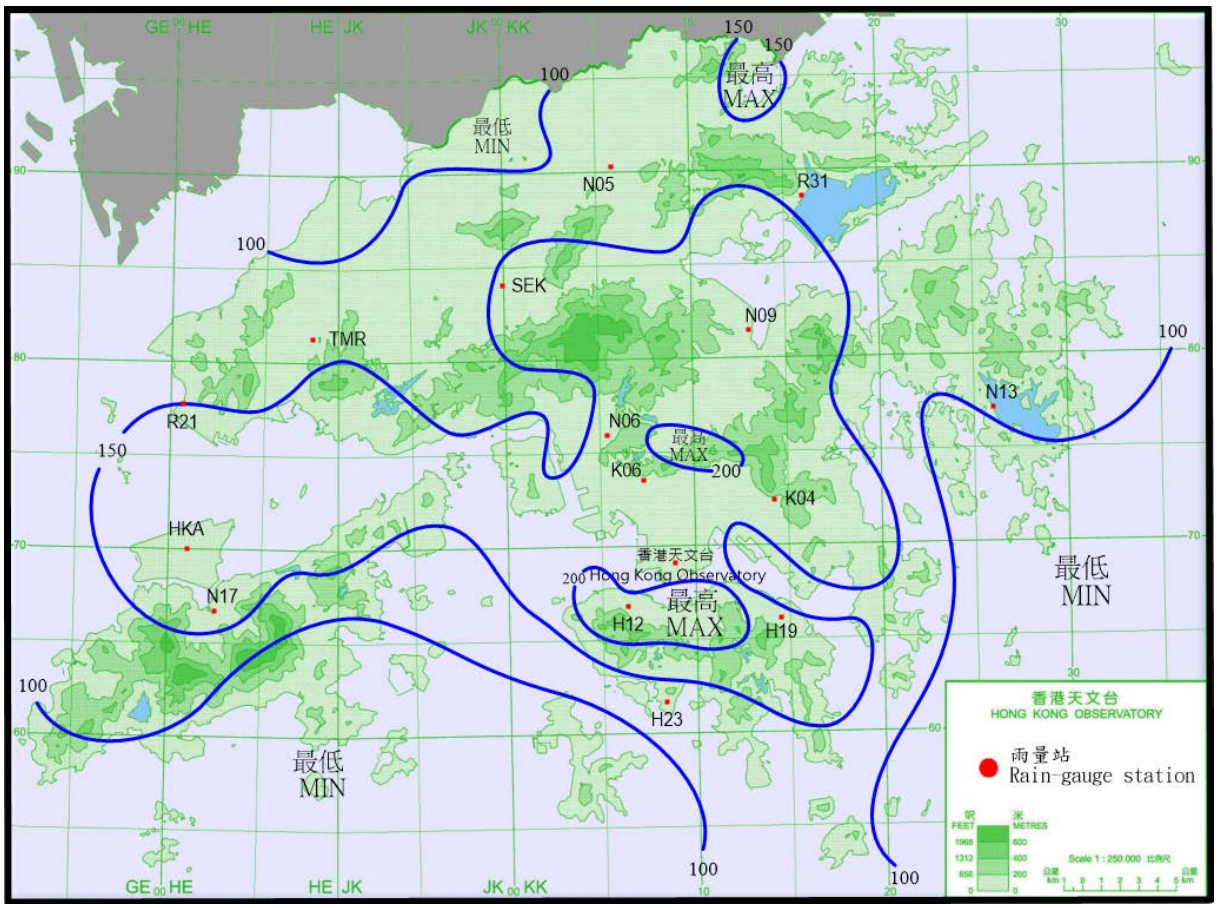

圖 3.3.2　　二零二零年八月十八至十九日的雨量分佈(等雨量線單位為毫米)。

Figure 3.3.2　Rainfall distribution on 18 - 19 August 2020 (isohyets in millimetres).

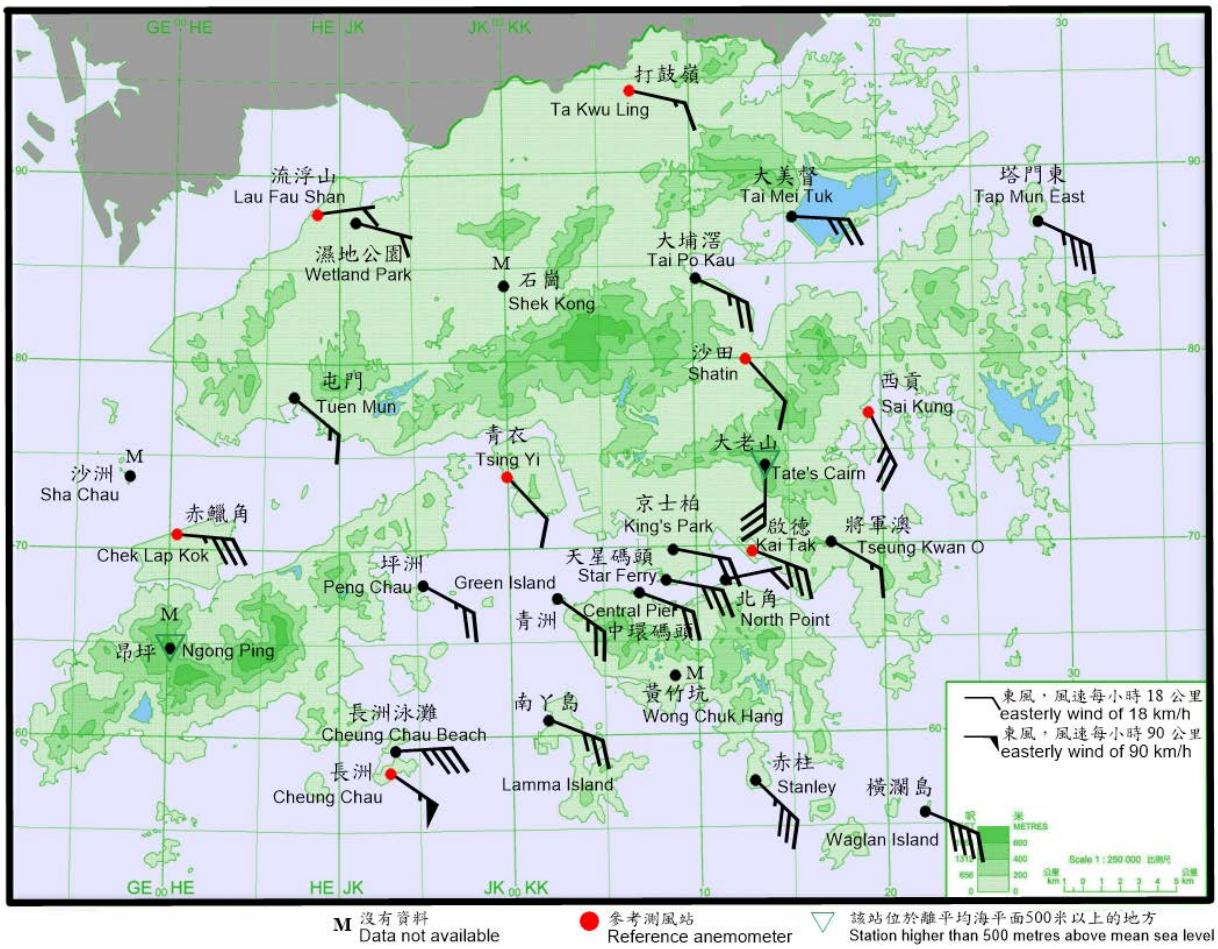

圖 3.3.3　二零二零年八月十九日上午 4 時正香港各站錄得的十分鐘平均風向和風速。當時長洲的風力達到暴風程度，而橫瀾島及長洲泳灘的風力達到烈風程度。

Figure 3.3.3　10-minute mean wind direction and speed recorded at various stations in Hong Kong at 4 a.m. on 19 August 2020. Winds at Cheung Chau reached storm force at that time, while winds at Waglan Island and Cheung Chau Beach reached gale force.

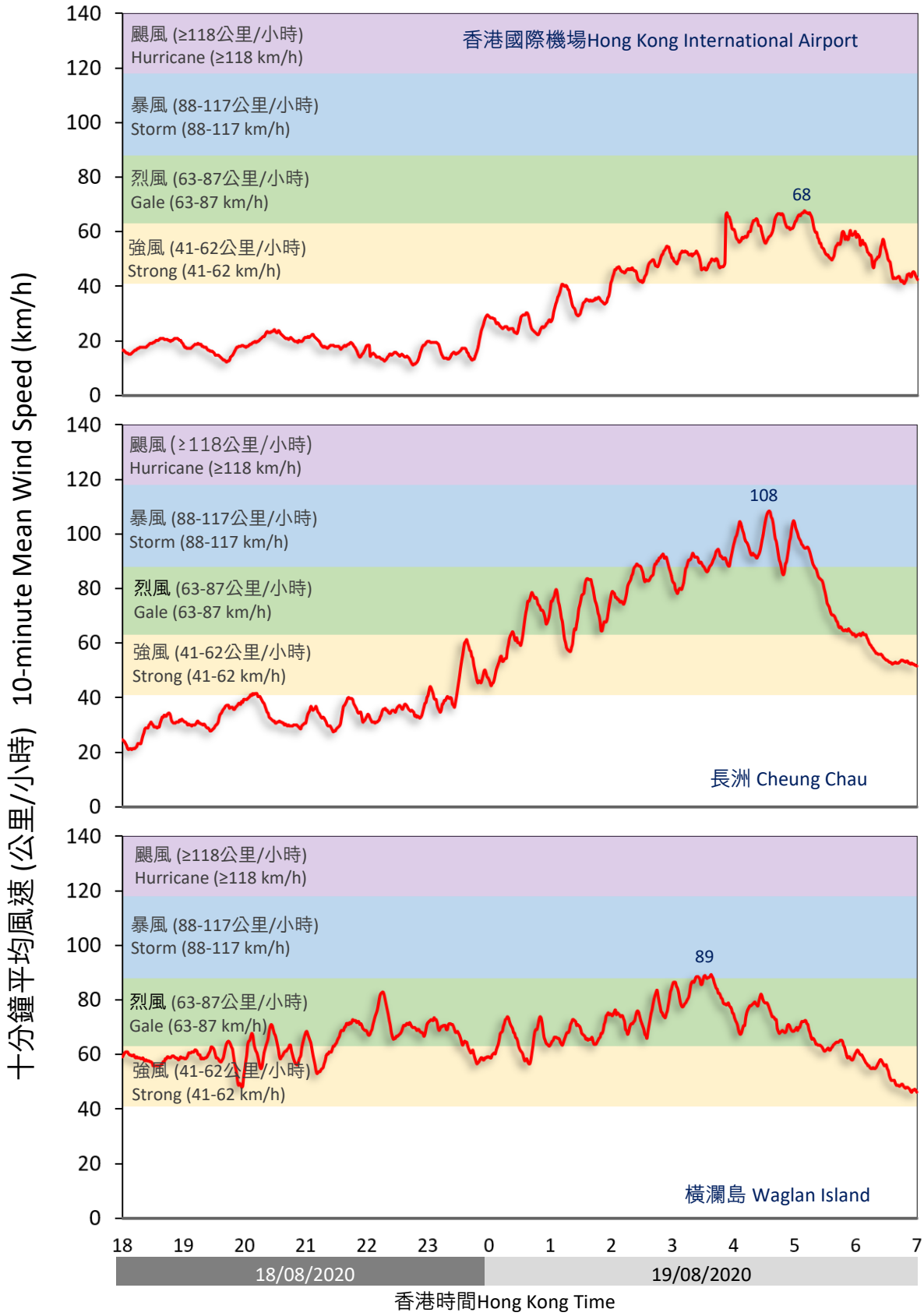

圖 3.3.4　二零二零年八月十八日至十九日在香港國際機場、長洲及橫瀾島錄得的十分鐘平均風速。

Figure 3.3.4　Traces of 10-minute mean wind speed recorded at Hong Kong International Airport, Cheung Chau and Waglan Island on 18 and 19 August 2020.

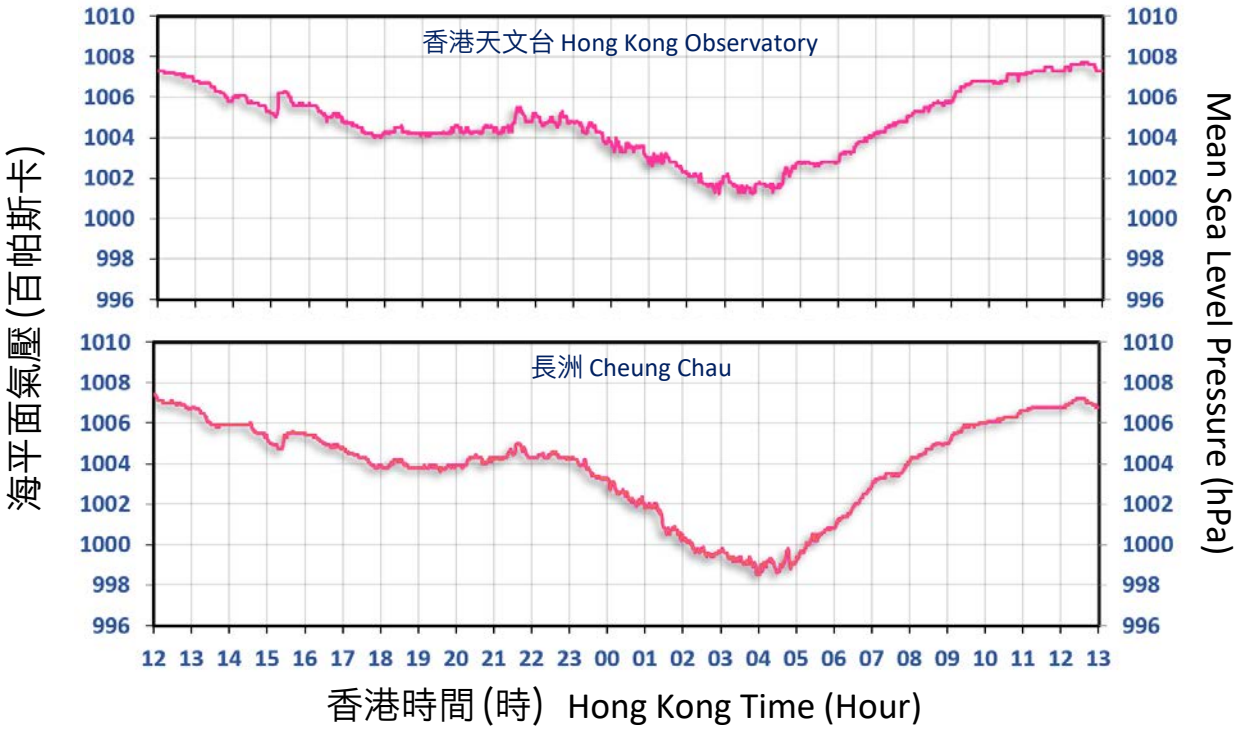

圖 3.3.5 二零二零年八月十八及十九日香港天文台及長洲錄得的海平面氣壓。

Figure 3.3.5 Traces of mean sea-level pressure recorded at the Hong Kong Observatory and Cheung Chau on 18 and 19 August 2020.

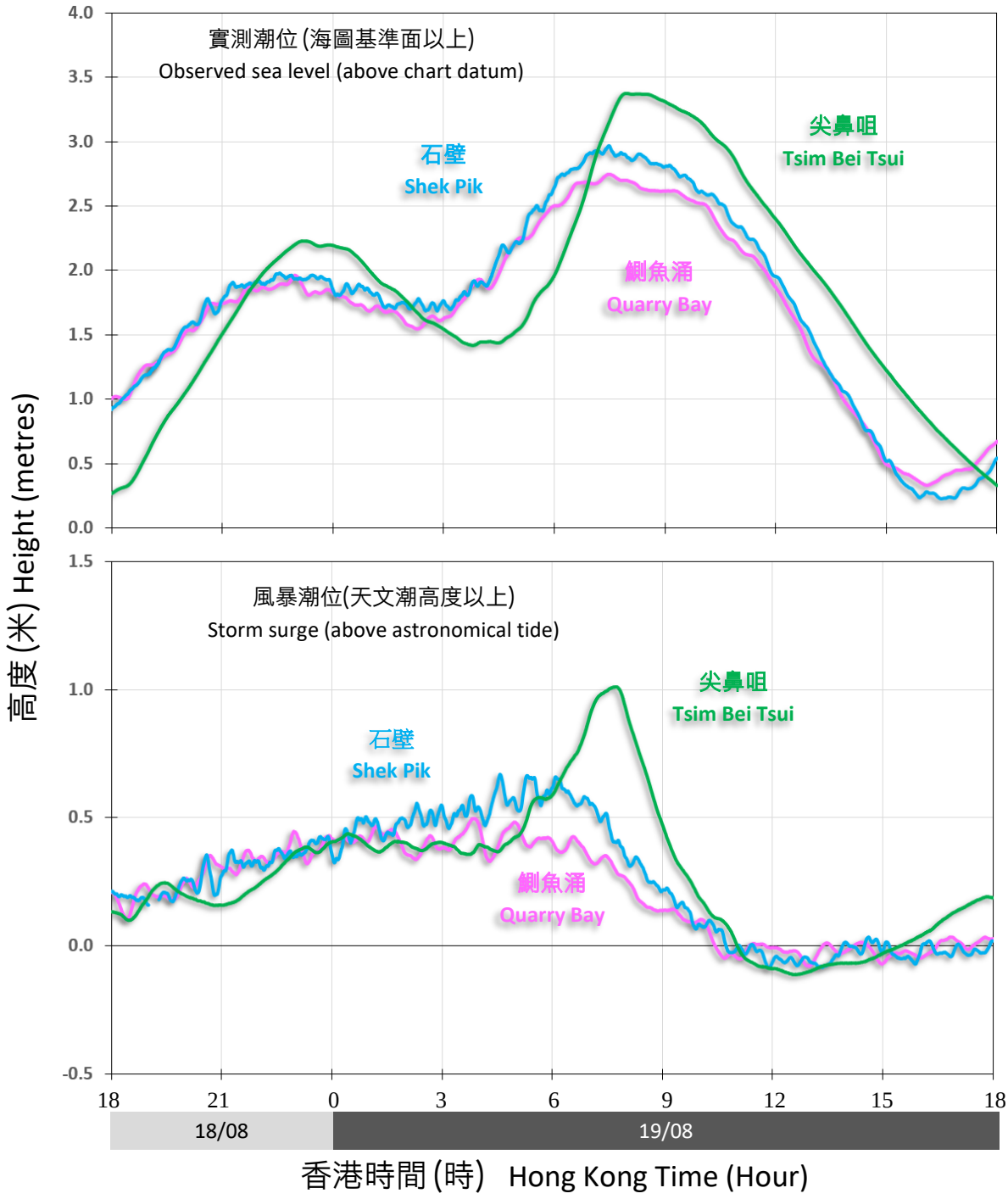

圖 3.3.6　二零二零年八月十八日及十九日在鰂魚涌、尖鼻咀及石壁錄得的潮位(海圖基準面以上)及風暴潮(天文潮高度以上)。

Figure 3.3.6　Traces of sea level (above chart datum) and storm surge (above astronomicaltide) recorded at Quarry Bay, Tsim Bei Tsui and Shek Pik on 18 and 19 August 2020.

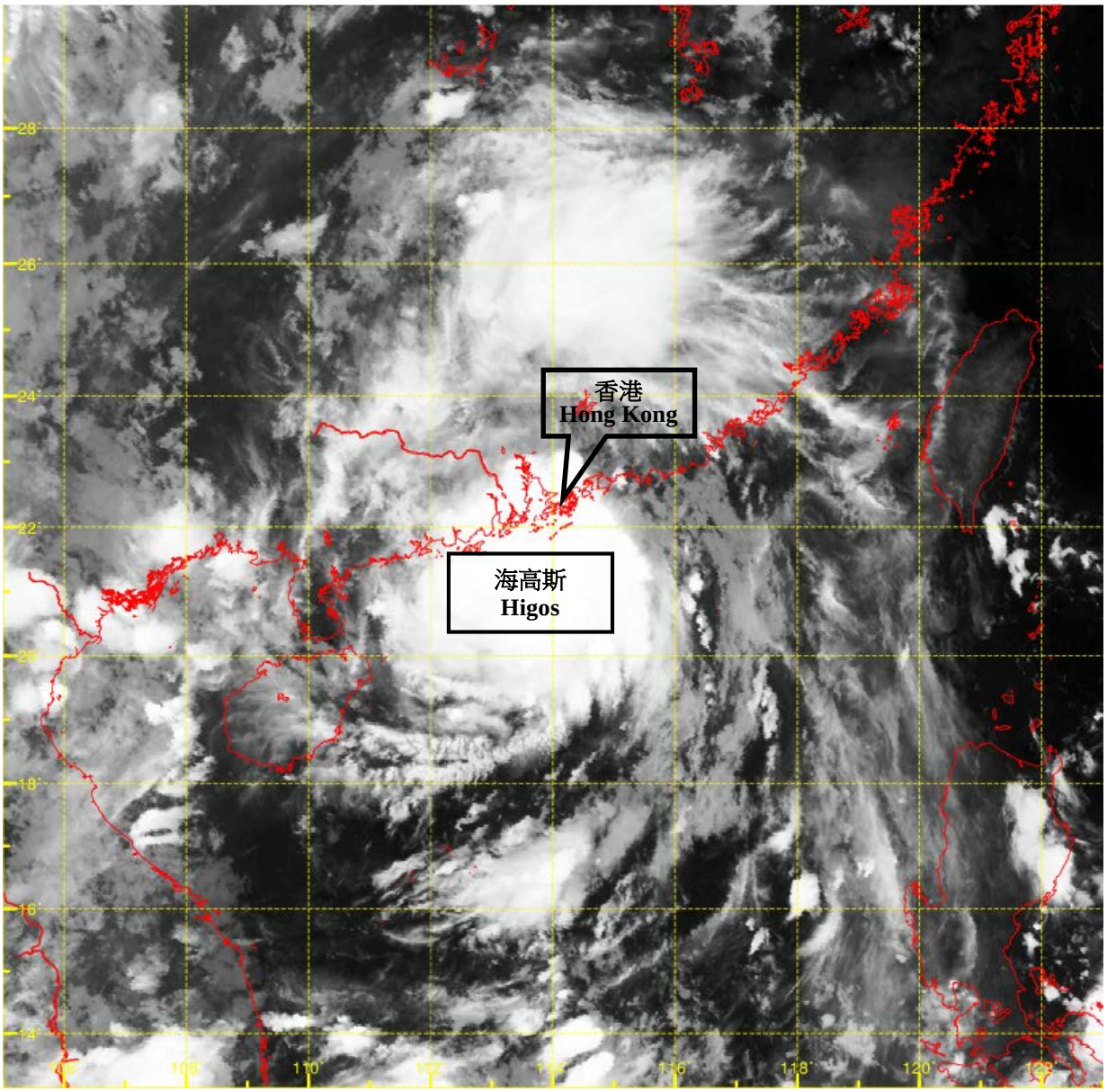

圖 3.3.7　二零二零年八月十九日上午 2 時左右的紅外線衛星圖片，當時海高斯達到其最高強度，中心附近最高持續風速估計為每小時 130 公里。海高斯的對流雲團較為細小，直徑只有約 400 公里。

Figure 3.3.7　Infra-red satellite imagery around 2 a.m. on 19 August 2020, when Higos was at its peak intensity with estimated maximum sustained winds of 130 km/h near its centre. The convection of Higos was relatively small with a diameter of only around 400 km.

〔此衛星圖像接收自日本氣象廳的向日葵8號衛星。〕

[The satellite imagery was originally captured by Himawari-8 Satellite (H-8) of Japan Meteorological Agency (JMA).]

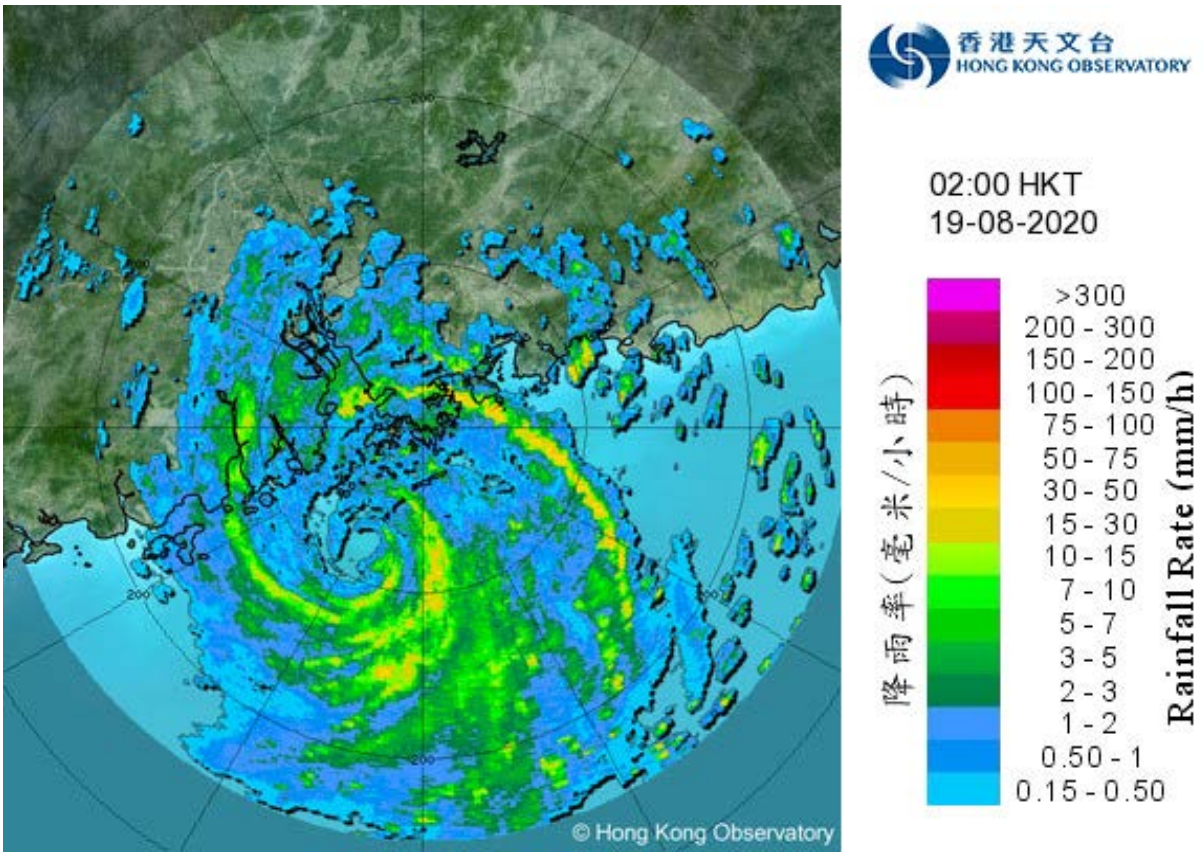

圖 3.3.8a　二零二零年八月十九日上午 2 時正的雷達回波圖像，海高斯的風眼清晰可見。

Figure 3.3.8a　Image of radar echoes at 2 a.m. on 19 August 2020, clearly showing the eye of Higos.

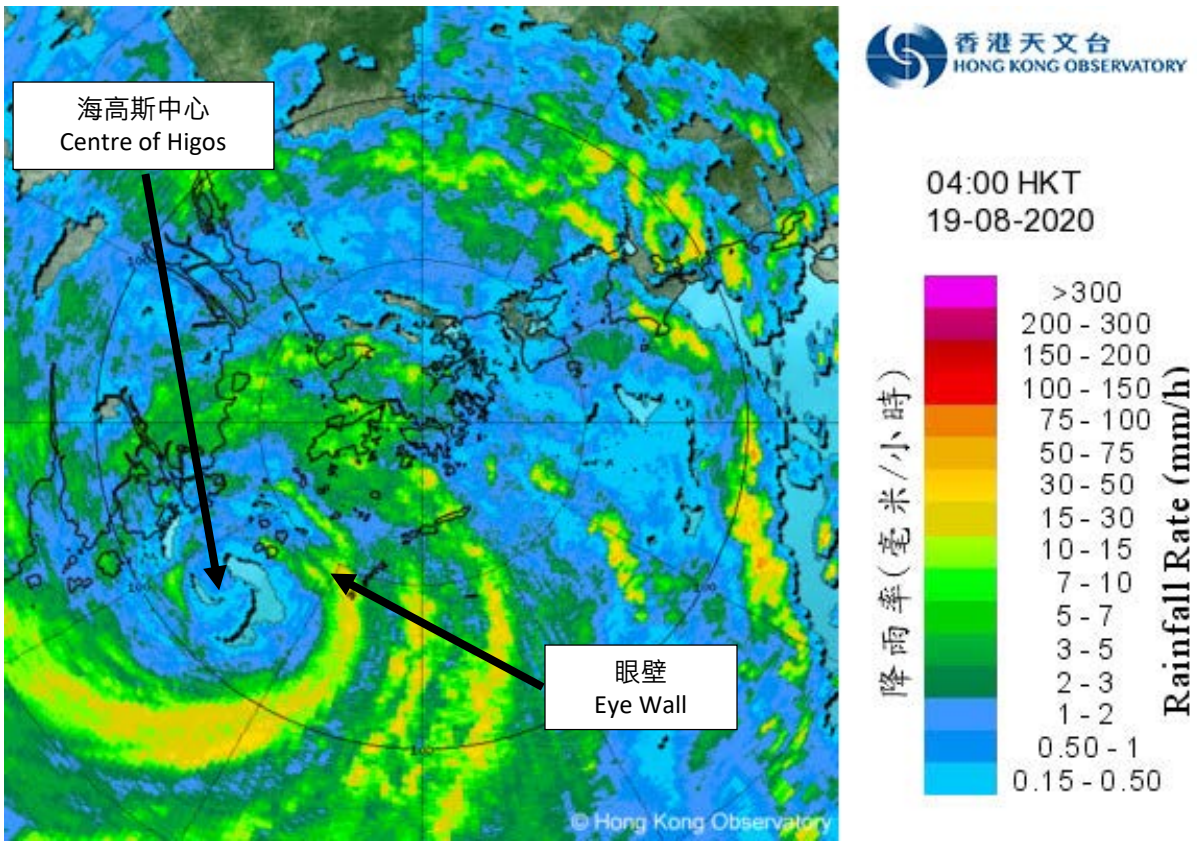

圖 3.3.8b　二零二零年八月十九日上午4時正的雷達回波圖像，當時海高斯的眼壁相當接近本港西南部地區。眼壁是最接近颱風中心的環型對流雨帶，該區的風力最強，雨勢最大。當時受眼壁影響的地區錄得持續颶風。

Figure 3.3.8b　Image of radar echoes at 4 a.m. on 19 August 2020. The eye wall of Higos was very close to the southwestern part of Hong Kong. The eye wall is the inner most ring of convection near the centre of a typhoon, containing most intense winds and heavy rain. Sustained hurricane force winds were recorded at the area covered by the eye wall at that time.