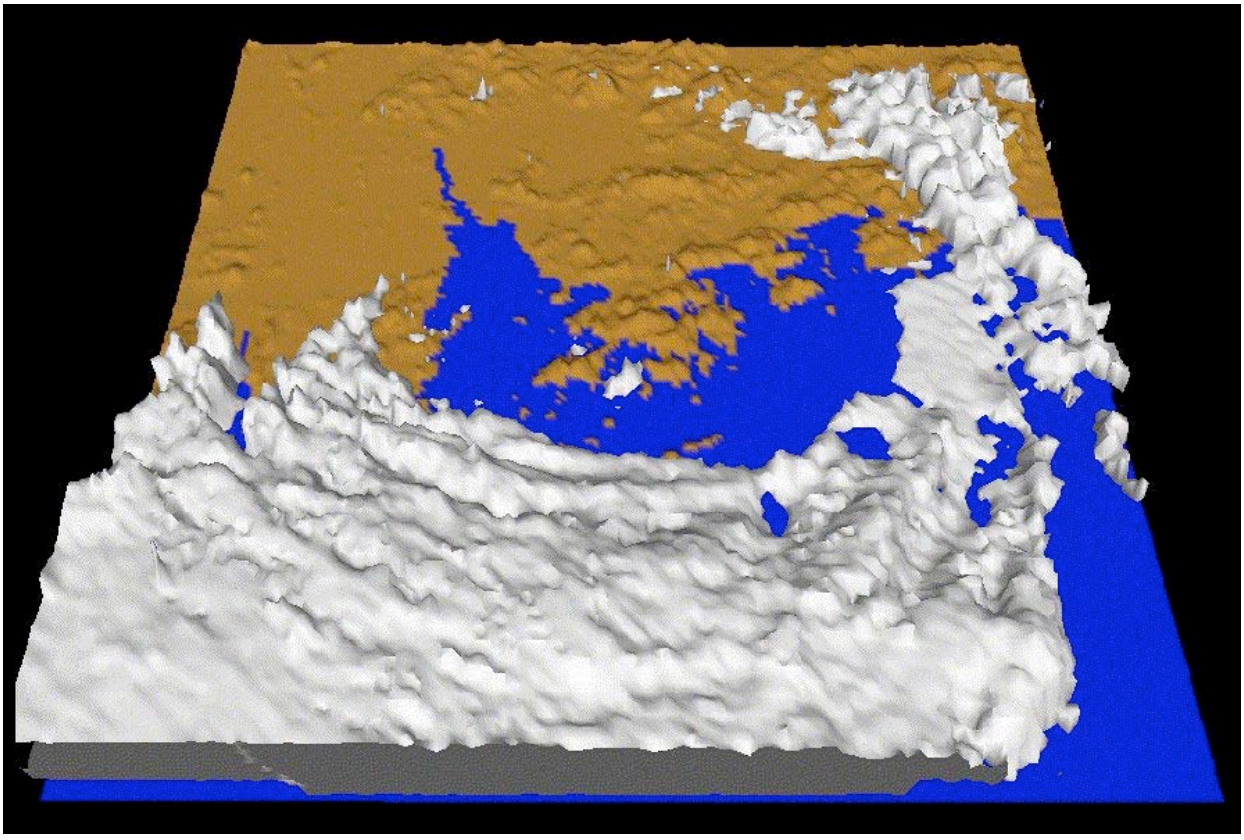
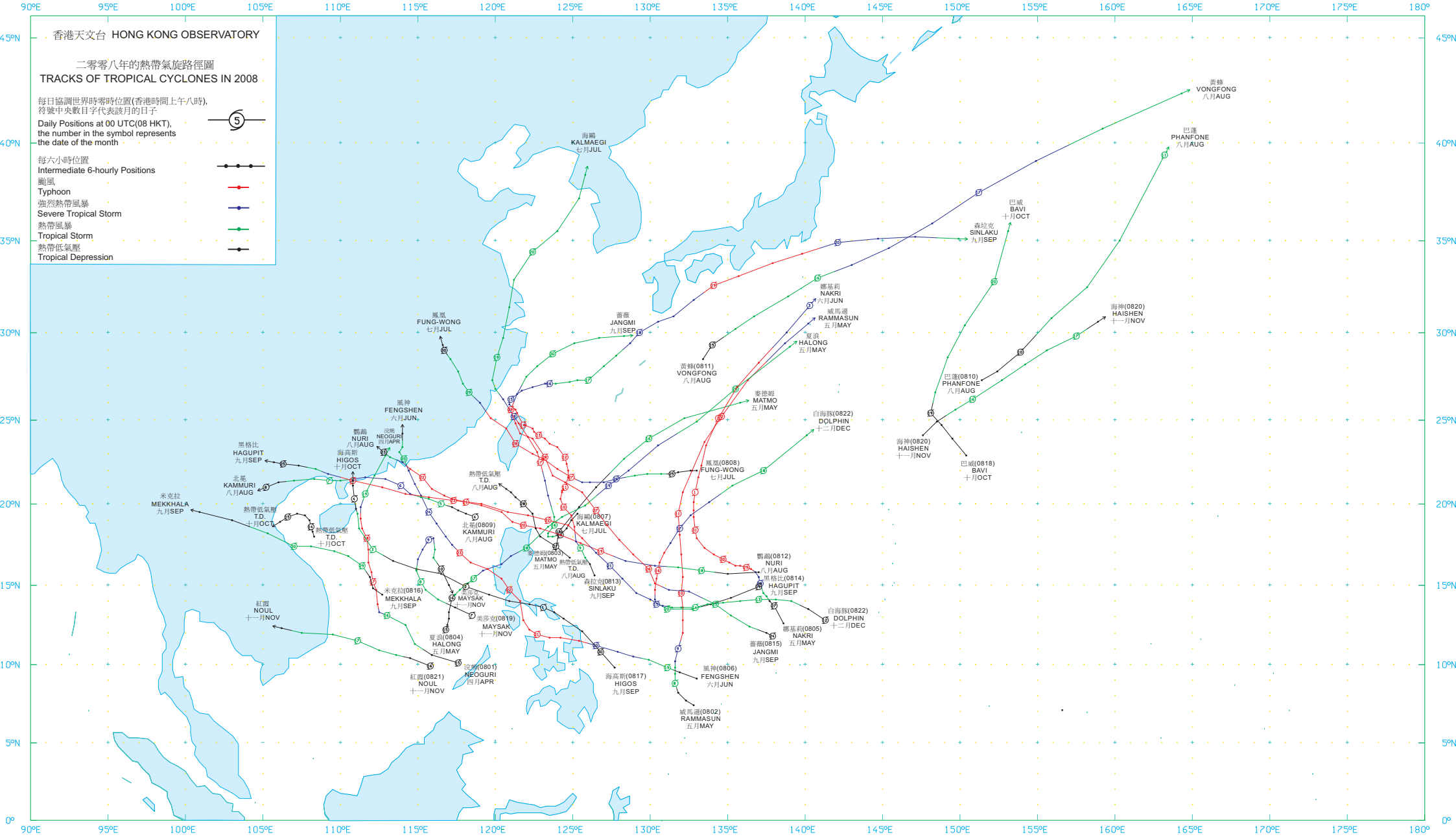
香港天文台
HONG KONG OBSERVATORY

二零零八熱帶氣旋

TROPICAL CYCLONES IN 2008




香港天文台 HONG KONG OBSERVATORY
二零零八年的熱帶氣旋路徑圖
TRACKS OF TROPICAL CYCLONES IN 2008
每日協調世界時零時位置(香港時間上午八時),
符號中央數目字代表該月的日子
Daily Positions at 00 UTC(08 HKT),
the number in the symbol represents
the date of the month
每六小時位置
Intermediate 6-hourly Positions
颱風
Typhoon
強烈熱帶風暴
Severe Tropical Storm
熱帶風暴
Tropical Storm
熱帶低氣壓
Tropical Depression
海鷗 KALMAEGI 七月JUL
鳳凰 FUNG-WONG 七月JUL
薔薇 JANGMI 九月SEP
風神 FENGSHEN 六月JUN
鸚鵡 NURI 八月AUG
涅斯 NEOGURI 四月APR
海高斯 HIGOS 十月OCT
黑格比 HAGUPIT 九月SEP
北冕 KAMMURI 八月AUG
米克拉 MEKKHALA 九月SEP
熱帶低氣壓 T.D. 十月OCT
熱帶低氣壓 T.D. 十月OCT
紅霞 NOUL 十一月NOV
夏浪(0804) HALONG 五月MAY
紅霞(0821) NOUL 十一月NOV
涅斯(0801) NEOGURI 四月APR
米克拉(0816) MEKKHALA 九月SEP
麥莎克 MAYSAK 十一月NOV
美莎克(0819) MAYSAK 十一月NOV
北冕(0809) KAMMURI 八月AUG
熱帶低氣壓 T.D. 八月AUG
麥德姆(0803) MATMO 五月MAY
熱帶低氣壓 T.D. 八月AUG
海鷗(0807) KALMAEGI 七月JUL
森拉克(0813) SINLAKU 九月SEP
海高斯(0817) HIGOS 九月SEP
風神(0806) FENGSHEN 六月JUN
威馬遜(0802) RAMMASUN 五月MAY
鳳凰(0808) FUNG-WONG 七月JUL
麥德姆 MATMO 五月MAY
黃蜂(0811) VONGFONG 八月AUG
娜基莉 NAKRI 六月JUN
威馬遜 RAMMASUN 五月MAY
夏浪 HALONG 五月MAY
鸚鵡(0812) NURI 八月AUG
黑格比(0814) HAGUPIT 九月SEP
薔薇(0815) JANGMI 九月SEP
娜基莉(0805) NAKRI 五月MAY
白海豚(0822) DOLPHIN 十二月DEC
白海豚(0822) DOLPHIN 十二月DEC
黃蜂 VONGFONG 八月AUG
巴蓬 PHANFONE 八月AUG
巴威 BAVI 十月OCT
森拉克 SINLAKU 九月SEP
海神(0820) HAISHEN 十一月NOV
巴蓬(0810) PHANFONE 八月AUG
海神(0820) HAISHEN 十一月NOV
巴威(0818) BAVI 十月OCT
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
45°N
40°N
35°N
30°N
25°N
20°N
15°N
10°N
5°N
0°

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封面
強烈熱帶風暴鸚鵡於二零零八年八月二十二日下午五時十八分的立體雷達圖片。
Cover
Three-dimensional radar picture of Severe Tropical Storm Nuri as at 5:18 p.m. on 22 August 2008.

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第一節　引言

1.1 熱帶氣旋刊物的沿革

除了在一九四零至一九四六年有過短暫中斷外，天文台自一八八四年以來便一直進行地面氣象觀測，並將整理好的數據撮列於由天文台出版的《氣象資料》年刊內。天文台在一九四七年開始進行高空氣象觀測後，該年刊便分成兩冊：分別是《氣象資料第一冊（地面觀測）》及《氣象資料第二冊（高空觀測）》。一九八一年，年刊第二冊改稱為《無線電探空儀觀測摘要》，而第一冊亦於一九八七年改稱為《香港地面觀測年報》。一九九三年，該兩刊物由一本名為《香港氣象觀測摘要》的新刊物所取代。這份摘要載列了地面及高空的氣象數據。

一八八四至一九三九年期間，部分對香港造成破壞的颱風的報告，曾以附錄形式載於《氣象資料》年刊內。而在一九四七至一九六七年出版的《天文台年報》，更擴充了有關熱帶氣旋的內容，收納所有導致香港吹烈風的熱帶氣旋的報告。其後，年刊系列加推《氣象資料第三冊（熱帶氣旋摘要）》，以記載每年北太平洋西部及南海區域所有熱帶氣旋的資料。此冊第一期在一九七一年出版，內容包括一九六八年赤道至北緯45度、東經100至160度範圍內所有熱帶氣旋的報告。由於有氣象偵察機提供報告（此項服務已在一九八七年八月停辦）及氣象衛星圖片，在原本資料短缺的海洋上追蹤熱帶氣旋位置的工作比從前順利得多。因此，由一九八五年開始，第三冊的覆蓋範圍東面邊界由東經160度伸展至180度。一九八七年，第三冊改稱為《熱帶氣旋年報》，但內容則大致上維持不變。本年報由一九九七年起以中英雙語刊出，一年後加設電腦光碟版，並在二零零零年以網上版取代印刷版。

在一九三九年及以前，每年北太平洋西部及南海區域的熱帶氣旋的路徑圖都收錄於《氣象資料》年刊內。一九四七至一九六七年的路徑圖則載列於《氣象資料第一冊》內。在一九六一年以前，熱帶氣旋的路徑只顯示每日位置。在較早期的刊物內，熱帶氣旋的每日定位時間在某程度上還未統一。但到了一九四四年以後，則一直維持以每日協調世界時（UTC）零時作定位。此項改變的資料詳載於天文台出版的《技術記錄第十一號第一冊》內。由一九六一年開始，所有熱帶氣旋的路徑圖都顯示每六小時的位置。

為了能盡早滿足傳媒、航運界及其他有關人士或團體的需求，天文台自一九六零年開始就影響香港的個別熱帶氣旋編寫臨時報告，供有需要的人士使用。初時，天文台只就那些曾導致天文台發出烈風或暴風信號的熱帶氣旋編寫臨時報告，但自一九六八年起，天文台為所有引致天文台發出熱帶氣旋警告信號的熱帶氣旋編寫臨時報告。

1.2 熱帶氣旋等級

本年報根據熱帶氣旋中心附近的最高持續地面風速，把熱帶氣旋分為以下四個級別：

（ i ） 熱帶低氣壓（T.D.）的最高持續風速為每小時63公里以下。
（ii） 熱帶風暴（T.S.）的最高持續風速為每小時63至87公里。
（iii） 強烈熱帶風暴（S.T.S.）的最高持續風速為每小時88至117公里。
（iv） 颱風（T.）的最高持續風速為每小時118公里或以上。

除特別列明外，在本年報內提及的最高持續風速均為10分鐘內風速的平均值；每小時平均風速為該小時前60分鐘內的平均風速；每日雨量為該日香港時間午夜前24小時內的總雨量。

1.3 熱帶氣旋命名

從一九四七年至一九九九年，北太平洋西部及南海區域的熱帶氣旋非正式地採用美國軍方「聯合颱風警報中心」所編訂的名單上的名字。但由二零零零年開始，日本氣象廳根據一套新名單為每個達到熱帶風暴強度的熱帶氣旋命名。表1.1是二零零八年一月一日起生效的熱帶氣旋名單。這套名單經颱風委員會通過，一共有140個名字，分別由14個國家和地區提供。這些名字除了用於為國際航空及航海界發放的預測和警報外，亦是向國際傳媒發放熱帶氣旋消息時採用的規範名稱。另外，日本氣象廳在一九八一年起已獲委託為每個在北太平洋西部及南海區域出現而達到熱帶風暴強度的熱帶氣旋編配一個四位數字編號。例如編號"0801"代表在二零零八年區內第一個被日本氣象廳分類為熱帶風暴或更強的熱帶氣旋。在本年報內，此編號會顯示在熱帶氣旋名稱後的括弧內，例如颱風浣熊(0801)。

1.4 資料來源

本年報內的海平面氣壓及地面風資料，是由天文台所操作的氣象站及測風站網絡錄得的。表1.2及1.3分別是該些網絡內各站的位置及海拔高度。

熱帶氣旋產生的最大風暴潮是由裝置在香港多處的潮汐測量器量度的。圖1.1是本年報內提及的各個風速表及潮汐測量站的分佈地點。

本年報內的雨量資料，是由天文台所操作的氣象站及雨量站，及土力工程處的雨量站所錄得的雨量。

1.5 年報內容

本年報第二節是二零零八年所有影響北太平洋西部及南海區域的熱帶氣旋的概述。

而本年報第三節是二零零八年影響香港的熱帶氣旋的個別詳細報告，內容包括：

(a) 該熱帶氣旋對香港造成的影響；
(b) 發出熱帶氣旋警告信號的過程；
(c) 香港各地錄得的最高陣風風速及最高每小時平均風速；
(d) 香港天文台錄得的最低平均海平面氣壓；
(e) 香港天文台及其他地方錄得的每日總雨量；
(f) 香港各潮汐測量站錄得的最高潮位及最大風暴潮；及
(g) 氣象衛星雲圖及雷達圖像。

有關熱帶氣旋的各種資料及統計表載於本年報第四節內。

二零零八年每個熱帶氣旋的每六小時位置，連同當時的最低中心氣壓及最高持續風速，則表列於本年報的第五節內。

本年報依照內文需要採用了不同的時間系統。正式的時間以協調世界時（即UTC）為準。至於在熱帶氣旋的敘述中，用作表示每天各時段的詞彙，例如"上午"、"下午"、"早上"、"傍晚" 等則是指香港時間。香港時間為協調世界時加八小時。

1.6 香港的熱帶氣旋警告系統

表1.4是香港熱帶氣旋警告信號的意義。

由二零零七年開始，發出3號和8號信號的參考範圍由維多利亞港擴展至由八個涵蓋全港並接近海平面的參考測風站組成的網絡(請參閱圖1.1)。

揀選這些測風站，是基於它們處於較為空曠的位置及地理上的分佈，當中包括自然山脈分隔的考慮。這個參考測風站網絡應可概括地反映全港的風勢。

當參考網絡中半數或以上的測風站錄得或預料錄得的持續風速達到有關的風速限值，且風勢可能持續時，則會發出3號或8號信號。3號信號風速範圍為每小時41至62公里，而8號信號則為每小時63至117公里。

Section 1 INTRODUCTION

1.1 Evolution of tropical cyclone publications

Apart from a short break during 1940-1946, surface observations of meteorological elements since 1884 have been summarized and published in the Observatory's annual publication "Meteorological Results". Upper-air observations began in 1947 and from then onwards the annual publication was divided into two parts, namely "Meteorological Results Part I - Surface Observations" and "Meteorological Results Part II - Upper-air Observations". These two publications were re-titled "Summary of Radiosonde-Radiowind Ascents" and "Surface Observations in Hong Kong" in 1981 and 1987 respectively. In 1993, both of these publications were made obsolete, and since then surface and upper-air data have been included in one revised publication entitled "Summary of Meteorological Observations in Hong Kong".

During the period 1884-1939, reports on some destructive typhoons were printed as Appendices to the "Meteorological Results". This practice was extended and accounts of all tropical cyclones which caused gales in Hong Kong were included in the publication "Director's Annual Departmental Reports" from 1947 to 1967 inclusive. The series "Meteorological Results Part III - Tropical Cyclone Summaries" was subsequently introduced to provide information on tropical cyclones over the western North Pacific and the South China Sea. The first issue, published in 1971, contained reports on tropical cyclones occurring in 1968 within the area bounded by the Equator, 45°N, 100°E and 160°E. With reconnaissance aircraft reports (terminated from August 1987 onwards) and satellite pictures facilitating the tracking of tropical cyclones over the otherwise data-sparse ocean, the eastern boundary of the area of coverage was extended from 160°E to 180° from 1985 onwards. In 1987, the series was re-titled as "Tropical Cyclones in 19YY" but its contents remained largely the same. Starting from 1997, the series was published in both Chinese and English. The CD-ROM version of the publication first appeared in 1998 and the printed version was replaced by the Internet version in 2000.

Tracks of tropical cyclones in the western North Pacific and the South China Sea were published in "Meteorological Results" up to 1939 and in "Meteorological Results Part I" from 1947 to 1967. Before 1961, only daily positions were plotted on the tracks. The time of the daily positions varied to some extent in the older publications but remained fixed at 0000 UTC after 1944. Details of the variation are given in the Observatory's publication "Technical Memoir No. 11, Volume 1". From 1961 onwards, six-hourly positions are shown on the tracks of all tropical cyclones.

Provisional reports on individual tropical cyclones affecting Hong Kong have been prepared since 1960 to meet the immediate needs of the press, shipping companies and others. These reports are printed and supplied on request. Initially, provisional reports were only written on those tropical cyclones for which gale or storm signals had been issued in Hong Kong. From 1968 onwards, provisional reports were prepared for all tropical cyclones that necessitated the issuing of tropical cyclone warning signals.

1.2 Classification of tropical cyclones

In this publication, tropical cyclones are classified into the following four categories according to the maximum sustained surface winds near their centres :

(i) A TROPICAL DEPRESSION (T.D.) has maximum sustained winds of less than 63 km/h.

(ii) A TROPICAL STORM (T.S.) has maximum sustained winds in the range 63-87 km/h.
(iii) A SEVERE TROPICAL STORM (S.T.S.) has maximum sustained winds in the range 88-117 km/h.
(iv) A TYPHOON (T.) has maximum sustained winds of 118 km/h or more.

Throughout this publication, maximum sustained surface winds when used without qualification refer to wind speeds averaged over a period of 10 minutes. Mean hourly winds are winds averaged over a 60-minute interval ending on the hour. Daily rainfall amounts are computed over a 24-hour period ending at midnight Hong Kong Time.

1.3 Naming of tropical cyclones

Over the western North Pacific and the South China Sea between 1947 and 1999, tropical cyclone names were assigned by the U.S. Armed Forces' Joint Typhoon Warning Center according to a pre-determined but unofficial list. However, with effect from 2000, the Japan Meteorological Agency assigns names from a new list to tropical cyclones attaining tropical storm strength. Table 1.1 shows the name list effective from 1 January 2008. The name list was adopted by the Typhoon Committee. It consists of a total of 140 names contributed by 14 countries and territories. Apart from being used in forecasts and warnings issued to the international aviation and shipping communities, the names will also be used officially in information on tropical cyclones issued to the international press. Besides, Japan Meteorological Agency has been delegated since 1981 with the responsibility of assigning to each tropical cyclone in the western North Pacific and the South China Sea of tropical storm strength a numerical code of four digits. For example, the first tropical cyclone of tropical storm strength or above as classified by Japan Meteorological Agency which occurred within the region in 2008 was assigned the code "0801". In this publication, the appropriate code immediately follows the name of the tropical cyclone in bracket, e.g. Typhoon Neoguri (0801).

1.4 Data sources

Mean sea level pressure and surface wind data presented in this report were obtained from a network of meteorological stations and anemometers operated by the Hong Kong Observatory. Details of such stations are listed in Tables 1.2 and 1.3.

Maximum storm surges caused by tropical cyclones were measured by tide gauges installed at several locations around Hong Kong. The locations of anemometers and tide gauges mentioned in this report are shown in Figure 1.1.

Rainfall data presented in this report were obtained from a network of meteorological and rainfall stations operated by the Hong Kong Observatory and raingauges operated by the Geotechnical Engineering Office (GEO).

1.5 Content

In Section 2, an overview of all the tropical cyclones over the western North Pacific and the South China Sea in 2008 is presented.

The reports in Section 3 are individual accounts of the life history of tropical cyclones affecting Hong Kong in 2008. They include the following information :-

(a) the effects of the tropical cyclone on Hong Kong;
(b) the sequence of display of tropical cyclone warning signals;

(c) the maximum gust peak speeds and maximum hourly mean winds recorded in Hong Kong;
(d) the lowest mean sea level pressure recorded at the Hong Kong Observatory;
(e) the daily amounts of rainfall recorded at the Hong Kong Observatory and selected locations;
(f) the times and heights of the maximum sea level and maximum storm surge recorded at various tide stations in Hong Kong;
(g) satellite and radar imageries.

Statistics and information relating to tropical cyclones are presented in various tables in Section 4.

Six-hourly positions together with the corresponding estimated minimum central pressures and maximum sustained surface winds for individual tropical cyclones are tabulated in Section 5.

In this publication, different times are used in different contexts. The official reference times are given in Co-ordinated Universal Time and labelled UTC. Times of the day expressed as "a.m.", "p.m.", "morning", "evening" etc. in the tropical cyclone narratives are in Hong Kong Time which is eight hours ahead of UTC.

1.6 Hong Kong's Tropical Cyclone Warning System

Table 1.4 shows the meaning of tropical cyclone warning signals in Hong Kong.

Starting from 2007, the reference for the issue of No.3 and No.8 signals has been expanded from the Victoria Harbour to a network of eight near-sea level reference anemometers covering the whole of Hong Kong as depicted in Figure 1.1.

The reference anemometers were selected on account of their good exposure and geographical distribution, taking into account the natural separation by Hong Kong's mountain ranges. Together, they provide a broad picture of the wind condition in Hong Kong.

The No. 3 or No. 8 signal, as the case may be, will be issued when half or more anemometers in the reference network register or are expected to register sustained strong winds or gale/storm force winds and the wind condition is expected to persist. The wind speed range of the No.3 signal is 41-62 km/h and that of the No.8 signal is 63-117 km/h.

表 1.1　　二零零八年一月一日起生效的熱帶氣旋名單
TABLE 1.1 Tropical cyclone name list effective from 1 January 2008

來源	Contributed by	I	II	III	IV	V
		名字 Name	名字 Name	名字 Name	名字 Name	名字 Name
柬埔寨	Cambodia	達維 Damrey	康妮 Kong-rey	娜基莉 Nakri	科羅旺 Krovanh	莎莉嘉 Sarika
中國	China	海葵 Haikui	玉兔 Yutu	風神 Fengshen	杜鵑 Dujuan	海馬 Haima
朝鮮	DPR Korea	鴻雁 Kirogi	桃芝 Toraji	海鷗 Kalmaegi	彩虹 Mujigae	米雷 Meari
中國香港	Hong Kong, China	啓德 Kai-tak	萬宜 Man-yi	鳳凰 Fung-wong	彩雲 Choi-wan	馬鞍 Ma-on
日本	Japan	天秤 Tembin	天兔 Usagi	北冕 Kammuri	巨爵 Koppu	蝎虎 Tokage
老撾	Lao PDR	布拉萬 Bolaven	帕布 Pabuk	巴蓬 Phanfone	凱薩娜 Ketsana	洛坦 Nock-ten
中國澳門	Macau, China	三巴 Sanba	蝴蝶 Wutip	黃蜂 Vongfong	芭瑪 Parma	梅花 Muifa
馬來西亞	Malaysia	杰拉華 Jelawat	聖帕 Sepat	鸚鵡 Nuri	茉莉 Melor	苗柏 Merbok
米克羅尼西亞	Micronesia	艾雲尼 Ewiniar	菲特 Fitow	森拉克 Sinlaku	尼伯特 Nepartak	南瑪都 Nanmadol
菲律賓	Philippines	馬力斯 Maliksi	丹娜絲 Danas	黑格比 Hagupit	盧碧 Lupit	塔拉斯 Talas
韓國	RO Korea	格美 Gaemi	百合 Nari	薔薇 Jangmi	銀河 Mirinae	奧鹿 Noru
泰國	Thailand	派比安 Prapiroon	韋帕 Wipha	米克拉 Mekkhala	妮妲 Nida	玫瑰 Kulap
美國	U.S.A.	瑪莉亞 Maria	范斯高 Francisco	海高斯 Higos	奧麥斯 Omais	洛克 Roke
越南	Viet Nam	山神 Son-Tinh	利奇馬 Lekima	巴威 Bavi	康森 Conson	桑卡 Sonca
柬埔寨	Cambodia	寶霞 Bopha	羅莎 Krosa	美莎克 Maysak	燦都 Chanthu	納沙 Nesat
中國	China	悟空 Wukong	海燕 Haiyan	海神 Haishen	電母 Dianmu	海棠 Haitang
朝鮮	DPR Korea	清松 Sonamu	楊柳 Podul	紅霞 Noul	蒲公英 Mindulle	尼格 Nalgae
中國香港	Hong Kong, China	珊珊 Shanshan	玲玲 Lingling	白海豚 Dolphin	獅子山 Lionrock	榕樹 Banyan
日本	Japan	摩羯 Yagi	劍魚 Kajiki	鯨魚 Kujira	圓規 Kompasu	天鷹 Washi
老撾	Lao PDR	麗琵 Leepi	法茜 Faxai	燦鴻 Chan-hom	南川 Namtheun	帕卡 Pakhar

表 1.1 (續)
TABLE 1.1 (cont'd)

來源	Contributed by	I	II	III	IV	V
		名字 Name	名字 Name	名字 Name	名字 Name	名字 Name
中國澳門	Macau, China	貝碧嘉 Bebinca	琵琶 Peipah	蓮花 Linfa	瑪瑙 Malou	珊瑚 Sanvu
馬來西亞	Malaysia	溫比亞 Rumbia	塔巴 Tapah	浪卡 Nangka	莫蘭蒂 Meranti	瑪娃 Mawar
米克羅尼西亞	Micronesia	蘇力 Soulik	米娜 Mitag	蘇迪羅 Soudelor	凡亞比 Fanapi	古超 Guchol
菲律賓	Philippines	西馬侖 Cimaron	海貝思 Hagibis	莫拉菲 Molave	馬勒卡 Malakas	泰利 Talim
韓國	RO Korea	飛燕 Jebi	浣熊 Neoguri	天鵝 Goni	鮎魚 Megi	杜蘇芮 Doksuri
泰國	Thailand	山竹 Mangkhut	威馬遜 Rammasun	莫拉克 Morakot	暹芭 Chaba	卡努 Khanun
美國	U.S.A.	尤特 Utor	麥德姆 Matmo	艾濤 Etau	艾利 Aere	韋森特 Vicente
越南	Viet Nam	潭美 Trami	夏浪 Halong	環高 Vamco	桑達 Songda	蘇拉 Saola

註：在二零零八年，北太平洋西部和南海的熱帶氣旋名單上，加入了五個新的名字：「麗琵」、「三巴」、「馬力斯」、「山竹」及「山神」，分別取代舊有名字「象神」、「珍珠」、「碧利斯」、「榴槤」及「桑美」。

Note: In 2008, five new names have been added to the name list for tropical cyclones in the western North Pacific and the South China Sea. They are "Leepi", "Sanba", "Maliksi", "Mangkhut" and "Son-Tinh", replacing the old names "Xangsane", "Chanchu", "Bilis", "Durian" and "Saomai" respectively.

表 1.2 本年報內各氣壓表的位置及海拔高度
TABLE 1.2 Positions and elevations of various barometers mentioned in this publication

站 Station		位置 Position		氣壓表的海拔高度(米)
		北緯 Latitude N	東經 Longitude E	Elevation of barometer above M.S.L. (m)
香港天文台總部	Hong Kong Observatory Headquarters	22°18’07”	114°10’27”	40
長洲	Cheung Chau	22°12’04”	114°01’36”	80
香港國際機場	Hong Kong International Airport	22°18’34”	113°55’19”	7*
流浮山	Lau Fau Shan	22°28’08”	113°59’01”	36
坪洲	Peng Chau	22°17’28”	114°02’36”	35
打鼓嶺	Ta Kwu Ling	22°31’43”	114°09’24”	14
橫瀾島	Waglan Island	22°10’56”	114°18’12”	60

***** 香港國際機場的氣壓表海拔高度乃根據地政總署最新的大地測量資料作出修訂。

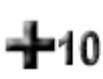
***** The elevation of the barometer at the Hong Kong International Airport was revised according to the latest geodetic measurement by the Lands Department.

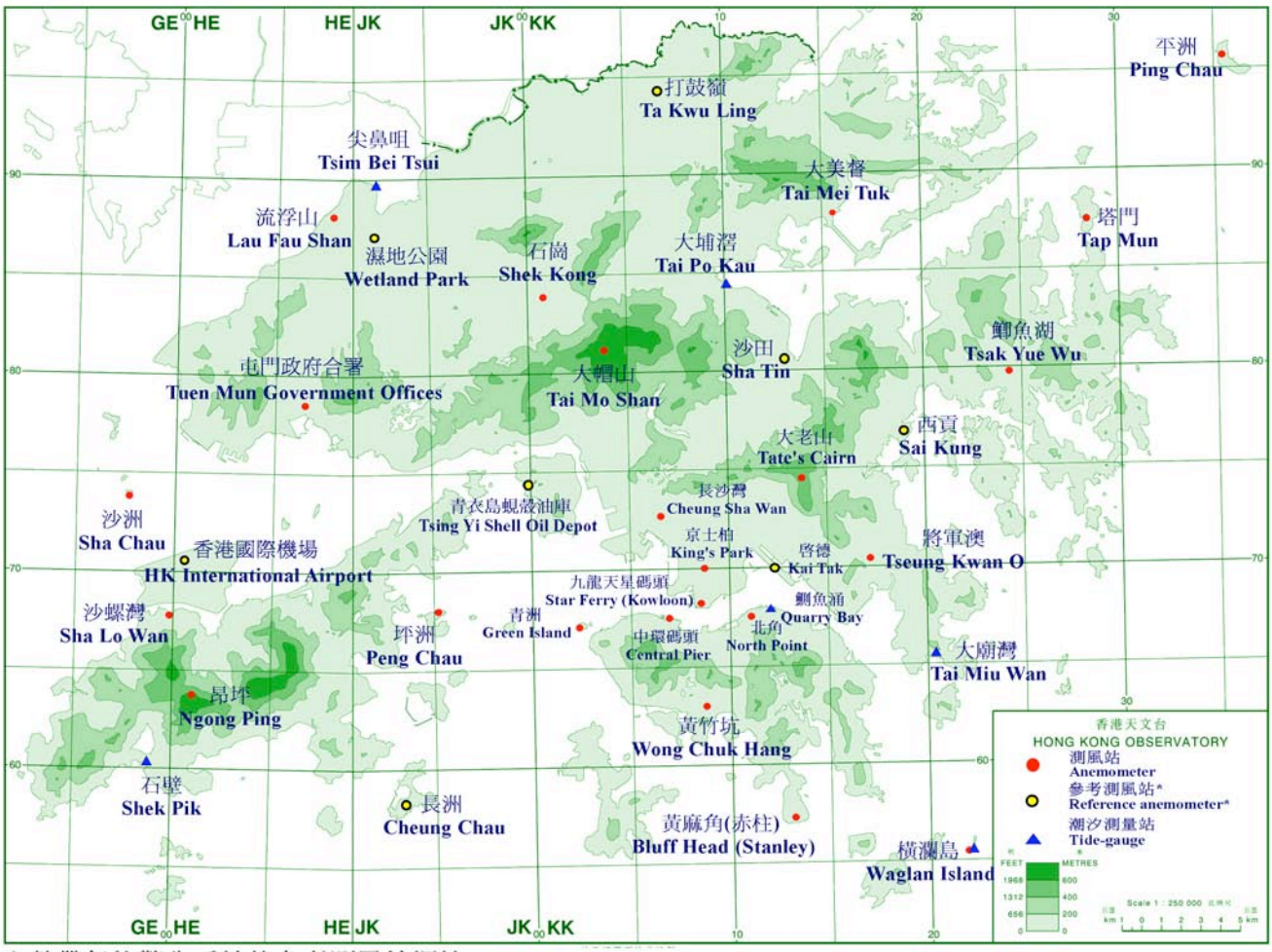
表 1.3　　本年報內各風速表的位置及海拔高度
TABLE 1.3　Positions and elevations of various anemometers mentioned in this publication

站 Station		位置 Position		風速表的海拔高度(米) Elevation of anemometer above M.S.L. (m)
		北緯 Latitude N	東經 Longitude E	
黃麻角(赤柱)	Bluff Head (Stanley)	22°11’51”	114°12’43”	103
中環碼頭	Central Pier	22°17’20”	114°09’21”	30
長洲	Cheung Chau	22°12’04”	114°01’36”	99
長沙灣	Cheung Sha Wan	22°19’58”	114°09’14”	30
青洲	Green Island	22°17’06”	114°06’46”	107
香港國際機場	Hong Kong International Airport	22°18’34”	113°55’19”	14
啓德	Kai Tak	22°18’35”	114°12’48”	16
京士柏	King’s Park	22°18’43”	114°10’22”	90
流浮山	Lau Fau Shan	22°28’08”	113°59’01”	50
昂坪	Ngong Ping	22°15’31”	113°54’46”	607
北角	North Point	22°17’40”	114°11’59”	26
坪洲	Peng Chau	22°17’28”	114°02’36”	47
平洲	Ping Chau	22°32’48”	114°25’42”	39
西貢	Sai Kung	22°22’32”	114°16’28”	32
沙洲	Sha Chau	22°20’45”	113°53’28”	31
沙螺灣	Sha Lo Wan	22°17’28”	113°54’25”	71
沙田	Sha Tin	22°24’09”	114°12’36”	16
石崗	Shek Kong	22°26’10”	114°05’05”	26
九龍天星碼頭	Star Ferry (Kowloon)	22°17’35”	114°10’07”	18
打鼓嶺	Ta Kwu Ling	22°31’43”	114°09’24”	28
大美督	Tai Mei Tuk	22°28’31”	114°14’15”	71
大帽山	Tai Mo Shan	22°24’38”	114°07’28”	966
塔門	Tap Mun	22°28’17”	114°21’38”	35
大老山	Tate's Cairn	22°21’28”	114°13’04”	587
鯽魚湖	Tsak Yue Wu	22°24’11”	114°19’24”	23
將軍澳	Tseung Kwan O	22°18’57”	114°15’20”	52
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	22°20’48”	114°05’11”	43
屯門政府合署	Tuen Mun Government Offices	22°23’26”	113°58’36”	69
橫瀾島	Waglan Island	22°10’56”	114°18’12”	83
濕地公園	Wetland Park	22°28’00”	114°00’32”	15
黃竹坑	Wong Chuk Hang	22°14’52”	114°10’25”	30

表 1.4　　二零零八年香港熱帶氣旋警告信號的意義

TABLE 1.4　MEANING OF TROPICAL CYCLONE WARNING SIGNALS IN HONG KONG IN 2008

信號 Signals		顯示符號 Symbol Display	信號的意義 Meaning of Signals
戒備 Standby	1		有一熱帶氣旋集結於香港約800公里的範圍內，可能影響本港。 A tropical cyclone is centred within about 800 km of Hong Kong and may affect the territory.
強風 Strong Wind	3		香港近海平面處現正或預料會普遍吹強風，持續風力達每小時41至62公里，陣風更可能超過每小時110公里，且風勢可能持續。 Strong wind is expected or blowing generally in Hong Kong near sea level, with a sustained speed of 41-62 kilometres per hour (km/h), and gusts which may exceed 110 km/h, and the wind condition is expected to persist.
西北 烈風或暴風 NW'LY Gale or Storm	8 西北 NW		香港近海平面處現正或預料會普遍受烈風或暴風從信號所示方向吹襲，持續風力達每小時63至117公里，陣風更可能超過每小時180公里，且風勢可能持續。 Gale or storm force wind is expected or blowing generally in Hong Kong near sea level, with a sustained wind speed of 63-117 km/h from the quarter indicated and gusts which may exceed 180 km/h, and the wind condition is expected to persist.
西南 烈風或暴風 SW'LY Gale or Storm	8 西南 SW		
東北 烈風或暴風 NE'LY Gale or Storm	8 東北 NE		
東南 烈風或暴風 SE'LY Gale or Storm	8 東南 SE		
烈風或暴風 風力增強 Increasing Gale or Storm	9		烈風或暴風的風力現正或預料會顯著加強。 Gale or storm force wind is increasing or expected to increase significantly in strength.
颶風 Hurricane	10		風力現正或預料會達到颶風程度，持續風力達每小時118公里或以上，陣風更可能超過每小時220公里。 Hurricane force wind is expected or blowing with sustained speed reaching upwards from 118 km/h and gusts that may exceed 220 km/h.



* 熱帶氣旋警告系統的參考測風站網絡
Network of reference anemometers in the tropical cyclone warning system

圖 1.1　本年報內提及的測風站及潮汐測量站之分佈地點。

Figure 1.1　Locations of anemometers and tide gauge stations mentioned in this publication.

第二節　二零零八年熱帶氣旋概述

2.1　二零零八年的熱帶氣旋回顧

2.1.1　北太平洋西部（包括南海區域）的熱帶氣旋

二零零八年共有24個熱帶氣旋影響北太平洋西部及南海區域（即由赤道至北緯45度、東經100至180度所包括的範圍）。在過去四年(2005-2008年)，在該海域的熱帶氣旋數目都少於1971-2000年的30年平均數(30個)。此外，全年有11個熱帶氣旋達到颱風強度，比正常數目少四個。

本年首個熱帶氣旋在四月形成。圖2.1是二零零八年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈。

二零零八年內有八個熱帶氣旋吹襲中國，四個橫過台灣，一個在日本南部沿岸地區及琉球群島附近掠過，一個登陸朝鮮，另有三個橫過菲律賓及五個登陸越南。

二零零八年風力最強的熱帶氣旋是薔薇（0815），最高風速估計約為每小時230公里，而最低中心氣壓則約為905百帕斯卡（表4.1），當時薔薇位於台灣東南偏東的北太平洋西部上（圖2.7）。

二零零八年年初太平洋出現「拉尼娜」現象，當時太平洋東部及中部近赤道區域海溫偏低。下半年拉尼娜現象減退，但太平洋中部近赤道區域海溫仍然較正常稍低。此外，夏季及秋季時北太平洋西部副熱帶高壓脊亦較強，抑制了該區的對流活動。受到這特殊氣候的影響，二零零八年在北太平洋西部及南海的熱帶氣旋活動較集中在西部，有20個熱帶氣旋在東經140度以西形成，而只有四個在東經140度以東形成。此外，二零零八年有較多的熱帶氣旋引致香港吹烈風，而香港亦較早受到熱帶氣旋的影響。

2.1.2　香港責任範圍內的熱帶氣旋

在二零零八年的24個熱帶氣旋中，有17個影響香港責任範圍（即北緯10至30度、東經105至125度所包括的地區），較1971-2000年的30年平均15.4個多（表2.1）。這17個熱帶氣旋中，有八個在香港責任範圍內形成。在二零零八年，香港天文台總共發出472個供船舶使用的熱帶氣旋警告（表4.2）。

2.1.3　南海區域內的熱帶氣旋

二零零八年共有十一個熱帶氣旋影響南海區域（即北緯10至25度、東經105至120度所包括的地區），當中有六個在南海形成，其餘五個從北太平洋西部進入南海。

2.1.4　影響香港的熱帶氣旋

二零零八年的颱風季節於四月十七日開始，當日颱風浣熊進入香港800公里範圍內，天文台發出一號戒備信號，是自一九四六年以來第二早的風季開始時間(最早是在一九六七年的四月九日)。

二零零八年共有六個熱帶氣旋影響香港（圖2.2），分別為四月的颱風浣熊(0801)、六月的颱風風神(0806)、八月的強烈熱帶風暴北冕(0809) 及颱風鸚鵡(0812)、九月的颱風黑格比(0814) 及十月的熱帶風暴海高斯(0817)，接近正常的六至七個(表2.2）。但是，當中四個熱帶氣旋，風神、北冕、鸚鵡及黑格比令天文台發出八號烈風或暴風或以上的信號，比正常的一至兩個為高，亦是自1999年以來天文台發出最多八號信號的年份。

鸚鵡的中心於二零零八年八月橫過香港，天文台需要發出九號烈風或暴風增強信號，是天文台在二零零八年發出的最高信號。在四月浣熊及十月海高斯影響香港時，天文台分別發出三號強風信號及一號戒備信號。

黑格比影響香港期間，在風暴潮及漲潮的共同影響下，鰂魚涌的最高潮位為3.53米，是自1962年9月颱風溫黛影響香港以來的最高記錄。

2.1.5 熱帶氣旋的雨量

二零零八年各熱帶氣旋為香港帶來的雨量（即該熱帶氣旋在出現於香港600公里範圍內至其消散或離開香港600公里範圍之後72小時期間，天文台錄得的雨量）共為1,096.6毫米（表4.8.1），約佔該年總雨量3,066.2毫米的百分之36，比正常的745.5毫米多約47%。

六月二十三日至二十五日影響香港的颱風風神為香港帶來342.6毫米的雨量，是二零零八年為香港帶來最多雨量的熱帶氣旋。而浣熊及北冕影響香港期間，天文台亦錄得超過200毫米的雨量。

2.2 每月概述

這一節逐月介紹二零零八年北太平洋西部及南海區域的熱帶氣旋概況。影響香港的各熱帶氣旋則詳述於第三節。

一月至三月

二零零八年一月至三月並無熱帶氣旋影響北太平洋西部及南海區域。

四月

熱帶低氣壓浣熊(0801)於四月十五日在南沙以東約360公里的南海上形成。浣熊初時大致向西北偏西移動，並於當日黃昏增強為熱帶風暴。浣熊於四月十六日下午增強為強烈熱帶風暴及轉向西北偏北移動，當日黃昏進一步增強為颱風。它於四月十八日黃昏轉向北移動。浣熊於四月十九日凌晨掠過海南島東北端後減弱為強烈熱帶風暴及轉向東北偏北移動。它於當日早上減弱為熱帶風暴，然後於下午在廣東省陽東縣東平鎮登陸。浣熊於當晚減弱為熱帶低氣壓，隨後在內陸消散。

五月

熱帶低氣壓威馬遜(0802)於五月七日在馬尼拉東南偏東約1510 公里的北太平洋西部上形成，並向西北移動。它於翌日增強為熱帶風暴及轉向北移動。威馬遜於五月九日首先增強為強烈熱帶風暴，然後進一步增強為颱風。它於五月十一日轉向東北偏北移動，翌日減弱為強烈熱帶風暴及向東北移動。威馬遜於五月十三日在東京以南的北太平洋西部上變成溫帶氣旋。圖2.3顯示威馬遜的衛星圖片。

熱帶低氣壓麥德姆(0803)於五月十五日在馬尼拉東北約420公里的北太平洋西部上形成，並大致向東北移動。它於五月十六日增強為熱帶風暴，然後於當晚在日本以南的北太平洋西部上變成溫帶氣旋。

熱帶低氣壓夏浪(0804)於五月十五日在馬尼拉西南偏西約530公里的南海中部上形成，並向東北偏北移動。它於五月十六日增強為熱帶風暴及轉向東北移動，然後於翌日增強為強烈熱帶風暴。夏浪於五月十七日晚上及翌日凌晨橫過呂宋後減弱為熱帶風暴。根據報章報導，菲律賓至少有44人死亡。夏浪於五月十九日再度增強為強烈熱帶風暴，但於五月二十日減弱為熱帶風暴，然後在日本以南的北太平洋西部上變成溫帶氣旋。

熱帶低氣壓娜基莉(0805)於五月二十七日在雅蒲島以北約350公里的北太平洋西部上形成，並大致向西北移動。它於當日黃昏增強為熱帶風暴，翌日增強為強烈熱帶風暴。娜基莉於五月二十九日進一步增強為颱風，然後於五月卅一日轉向北移動。 娜基莉於六月一日在沖繩島東南處轉向東北偏北移動，並於六月二日進一步轉向東北移動。娜基莉於六月三日首先減弱為強烈熱帶風暴，最後於日間在日本以南的北太平洋西部上變成溫帶氣旋。

六月

熱帶低氣壓風神(0806)於六月十八日在馬尼拉東南偏東約1 440 公里的北太平洋西部上形成，並向西北偏西移動。它於翌日首先增強為熱帶風暴，然後再增強為強烈熱帶風暴。風神於六月二十日增強為颱風後於當日下午開始橫過菲律賓，然後於六月二十二日黃昏進入南海。它於六月二十三日減弱為強烈熱帶風暴，並於翌日轉向西北偏北移動。風神於六月二十五日早上在香港以東掠過後在深圳登陸。它於當日早上減弱為熱帶風暴，晚上進一步減弱為熱帶低氣壓。風神於翌日早上在廣東減弱為一低壓區。

七月

熱帶低氣壓海鷗(0807)於七月十四日在高雄東南約630公里的北太平洋西部上形成，並向西南緩慢移動。海鷗於翌日增強為熱帶風暴。它於七月十六日大致轉向西北偏北移動及增強為強烈熱帶風暴，翌日進一步增強為颱風。海鷗於七月十八日凌晨橫過台灣北部及減弱為強烈熱帶風暴。根據報章報導，海鷗為台灣帶來豪雨，引致水災及山泥傾瀉，造成20人死亡、農業損失逾10億元新台幣。海鷗於當日黃昏在福建東北部霞浦縣附近登陸，並進一步減弱為熱帶風暴。福建部份地區受災，直接經濟損失約為三億元人民幣。海鷗於七月十九日轉向東北偏北移動，橫過浙江及江蘇，翌日轉向東北移動。海鷗於七月二十一日在朝鮮附近變成溫帶氣旋。圖2.4顯示海鷗的衛星圖片 。

熱帶低氣壓鳳凰(0808)於七月二十四日在冲繩島東南約720公里的北太平洋西部上形成，並大致向西移動。鳳凰於七月二十五日增強為熱帶風暴，翌日再增強為強烈熱帶風暴，七月二十七日進一步增強為颱風及轉向西北移動。它於七月二十八日早上橫過台灣。根據報章報導，台灣有兩人死亡、另六人受傷，農作物損失超過三億元新台幣。鳳凰於當晚在福建省福清市登陸，翌日首先減弱為強烈熱帶風暴，後再減弱為熱帶風暴。它於七月三十日減弱為熱帶低氣壓，隨後在陸地減弱為一低壓區。鳳凰為中國東南部帶來暴雨，並引發江蘇受龍捲風襲擊，共造成六人死亡、超過40人受傷，超過2 000間房屋倒塌或損壞，直接經濟損失約15億元人民幣。圖2.5顯示鳳凰的衛星圖片 。

八月

熱帶低氣壓北冕(0809)於八月四日在香港東南580公里的南海上形成，並向西北偏西移動，翌日早上增強為熱帶風暴。北冕於八月六日凌晨增強為強烈熱帶風暴及向西北移動。它於當日下午較後時間轉向西移動，並於黃昏在廣東西部陽西縣登陸，當晚減弱為熱帶風暴。北冕於八月八日凌晨在越南北部減弱為熱帶低氣壓，當日早上在該處進一步減弱為一低壓區。

熱帶低氣壓巴蓬(0810)於八月九日在東京東南約1 440公里的北太平洋西部上形成，並大致向東北移動，翌日下午增強為熱帶風暴。巴蓬於八月十一日在日本以東的北太平洋西部上變成一個溫帶氣旋。

熱帶低氣壓黃蜂(0811)於八月十五日在大阪西南偏南約710公里的北太平洋西部上形成，並向東北移動。黃蜂於當日下午增強為熱帶風暴，並大致向東北偏東移動。它於八月十六日進一步增強為強烈熱帶風暴，但於翌日減弱為熱帶風暴。黃蜂最後於八月十八日在日本以東的北太平洋西部上變成一個溫帶氣旋。

熱帶低氣壓鸚鵡(0812)於八月十七日在馬尼拉以東約 1 730公里的北太平洋西部上形成，並向西移動。鸚鵡於翌日首先增強為熱帶風暴，後再增強為強烈熱帶風暴，八月十九日進一步增強為颱風及向西北偏西移動。鸚鵡於八月二十日黃昏進入南海，翌日黃昏轉向西北移動。鸚鵡於八月二十二日下午在香港西貢登陸及減弱為強烈熱帶風暴，並橫過香港。當晚鸚鵡橫過深圳西部，隨後在南沙附近第二次登陸。八月二十三日鸚鵡減弱為熱帶風暴，早上再減弱為熱帶低氣壓，隨後在廣東進一步減弱為一低壓區。

一股熱帶低氣壓於八月二十七日在馬尼拉東北約470公里的北太平洋西部上形成，並大致向西北移動。該熱帶低氣壓於當日黃昏掠過呂宋東北端，翌日橫過呂宋海峽，隨後於八月二十九日在台灣以南的呂宋海峽上減弱為一低壓區。圖2.6顯示該熱帶低氣壓的衛星圖片。

九月

熱帶低氣壓森拉克(0813)於九月八日在馬尼拉以東約590公里的北太平洋西部上形成，並向西北偏北移動。森拉克於九月九日首先增強為熱帶風暴，當日再增強為強烈熱帶風暴及颱風。它於九月十一日向北移動，但於九月十二日轉向西北移動。森拉克於九月十四日橫過台灣北部，當晚減弱為強烈熱帶風暴。根據報章報導，森拉克引致台灣廣泛地區水浸及山泥傾瀉，橋樑、隧道及飯店倒塌，至少導致11人死亡，11人失蹤，直接經濟損失約七億元新台幣。森拉克於九月十五日在東海轉向東北偏東移動，翌日減弱為熱帶風暴。它於九月十八日再度增強為強烈熱帶風暴，翌日增強為颱風，並在日本南部沿岸掠過。森拉克於九月二十日減弱為強烈熱帶風暴，翌日減弱為熱帶風暴，隨後在日本以東的北太平洋西部上變成溫帶氣旋。

熱帶低氣壓黑格比(0814)於九月十九日在馬尼拉以東約1 720公里的北太平洋西部上形成，並向西南偏西移動。它於九月二十日首先增強為熱帶風暴，並向西北偏西移動，隨後增強為強烈熱帶風暴。黑格比於九月二十一日進一步增強為颱風，並向西北移動。它於九月二十二日向西北偏西移動，橫過巴林坦海峽，黃昏進入南海，翌日橫過南海北部。黑格比於九月二十四日早上在廣東西部登陸，下午減弱為強烈熱帶風暴，隨後再減弱為熱帶風暴。它於九月二十五日減弱為熱帶低氣壓，隨後在越南北部減弱為一低壓區。

熱帶低氣壓薔薇(0815)於九月二十四日在雅浦島以北約260公里的北太平洋西部上形成，並向西北偏西移動。它於當日黃昏增強爲熱帶風暴，翌日增強爲強烈熱帶風暴。薔薇於九月二十六日進一步增強爲颱風及向西北移動，並於九月二十八日晚上橫過台灣北部。它於九月二十九日轉向北移動及減弱爲強烈熱帶風暴，黃昏再減弱爲熱帶風暴及轉向東北移動。根據報章報導，台灣至少有兩人死亡、兩人失蹤、61人受傷、約一百萬戶家庭沒有電力供應、農業損失估計約三億元新台幣。一艘貨輪在温州海域沉沒，有一名船員死亡、五人失蹤。薔薇於九月三十日向東北偏東移動，橫過東海，並於十月一日在日本西南偏南的海域上變成温帶氣旋。圖2.7顯示薔薇的衛星圖片。

熱帶低氣壓米克拉(0816)於九月二十八日在西沙以南約270公里的南海中部上形成，並向西北移動。它於九月二十九日增強爲熱帶風暴。米克拉於九月三十日轉向西北偏西移動，並在越南北部登陸及減弱爲熱帶低氣壓。米克拉於十月一日凌晨在中南半島減弱爲一低壓區。根據報章報導，米克拉引致越南八人死亡，另八人失蹤。一艘漁船在海南島海域上沉沒，船上兩名船員獲救。

熱帶低氣壓海高斯(0817)於九月三十日在馬尼拉東南約900公里的北太平洋西部上形成，並向西北移動。它於當日下午及翌日橫過菲律賓中部及轉向西北偏西移動。海高斯於十月二日凌晨進入南海中部，十月三日早上增強爲熱帶風暴及向西北移動，當晚再轉向北移動，並在海南島東北端文昌市附近登陸。它於十月四日凌晨減弱爲熱帶低氣壓，當晚在廣東西部吳川市再次登陸，並於十月五日凌晨減弱爲一低壓區。

十月

一股熱帶低氣壓於十月十三日在峴港以北約 220 公里的北部灣以南形成，並慢慢向西北偏北移動。該熱帶低氣壓於翌日黃昏轉向西移動，十月十五日再轉向西南移動，並於當日黃昏在越南北部登陸及減弱爲一低壓區。

熱帶低氣壓巴威(0818)於十月十八日在硫黃島東南偏東約950公里的北太平洋西部上形成，初時向西北移動。巴威於翌日下午增強爲熱帶風暴及向東北偏北移動，最後於十月二十日在日本以東的北太平洋西部上變成溫帶氣旋。

十一月

熱帶低氣壓美莎克(0819)於十一月七日早上在南沙東北約540公里的南海中部上形成，並向西北偏西移動，當日黃昏增強爲熱帶風暴。美莎克於十一月八日向西北移動，當日黃昏增強爲強烈熱帶風暴及轉向東北偏北移動。受到東北季候風的影響，美莎克於十一月九日轉向南移動及減弱爲熱帶風暴。它於十一月十日減弱爲熱帶低氣壓，隨後在南海中部上減弱爲一低壓區。圖2.8顯示美莎克的衛星圖片。

熱帶低氣壓海神(0820)於十一月十五日在硫黃島以東約640公里的北太平洋西部上形成，並向東北移動。它於翌日增強爲熱帶風暴，並向東北偏東移動。海神於十一月十七日首先減弱爲熱帶低氣壓，然後在日本東南偏東的北太平洋西部上變成溫帶氣旋。

熱帶低氣壓紅霞(0821)於十一月十六日在南沙東南偏東約170公里上形成，並向西北偏西移動，當日黃昏增強爲熱帶風暴。紅霞於十一月十七日在越南南部登陸及減弱爲熱帶低

氣壓，翌日在越南南部減弱為一低壓區。據報導，受紅霞影響，越南約有15人死亡、兩人失蹤、八人受傷、超過100艘漁船沉沒及超過8 000 公頃農作物受損。圖2.9顯示紅霞的衛星圖片。

十二月

熱帶低氣壓白海豚(0822)於十二月十二日在關島西南偏西約390公里的北太平洋西部上形成，並向西北偏西移動，當日黃昏增強為熱帶風暴。白海豚在隨後兩天大致向西移動，並於十二月十五日增強為強烈熱帶風暴及轉向北移動，當日黃昏進一步增強為颱風。白海豚於十二月十六日向東北移動，翌日減弱為強烈熱帶風暴。它於十二月十八日減弱為熱帶風暴，並於黃昏在日本以南的北太平洋西部上變成溫帶氣旋。圖2.10顯示白海豚的衛星圖片。

備註：人命傷亡及財物損毀數據是根據報章報導輯錄而成。

Section 2 TROPICAL CYCLONE OVERVIEW FOR 2008

2.1 Review of tropical cyclones in 2008

2.1.1 Tropical cyclones over the western North Pacific (including the South China Sea)

In 2008, 24 tropical cyclones affected the western North Pacific and the South China Sea (i.e. the area bounded by the Equator, 45°N, 100°E and 180°). In the past 4 years (2005-2008), the annual number of tropical cyclones in this ocean basin has been less than the 30-year (1971-2000) average of 30. Throughout the year, 11 tropical cyclones attained typhoon strength, about 4 less than the normal figure.

The first tropical cyclone of the year formed in April. Figure 2.1 shows the monthly frequencies of the occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2008.

During the year, eight tropical cyclones hit mainland China, four crossed over Taiwan, one skirted the coastal areas of southern Japan and the Ryukyu Islands, one made landfall over DPR Korea, three traversed the Philippines and another five made landfall over Vietnam.

The most intense tropical cyclone in 2008 was Jangmi (0815), which had a maximum wind speed of about 230 km/h and a minimum sea-level pressure of about 905 hPa (Table 4.1) when it was located over the western North Pacific to the east-southeast of Taiwan (Fig. 2.7).

The "Na Lina" phenomena over the Pacific occurred in early 2008 when the sea temperatures over the eastern and central equatorial Pacific were below normal. In the second half of the year, the "Nina Lina" conditions had weakened but the sea temperatures in the central Pacific were still slightly below normal. Furthermore, the subtropical ridge of high pressure over the western North Pacific was stronger than normal in summer and autumn, suppressing the convection over the area. Affected by such climatic conditions, the activity of the tropical cyclones in the western North Pacific and the South China Sea in 2008 was more concentrated over the western part of the region with 20 tropical cyclones formed in the region west of 140°E and only four to the east of 140°E. In addition, there were more tropical cyclones bringing gale force winds to Hong Kong and the typhoon season in Hong Kong started earlier than normal.

2.1.2 Tropical cyclones in Hong Kong's area of responsibility

Amongst the 24 tropical cyclones in 2008, 17 occurred inside Hong Kong's area of responsibility (i.e. the area bounded by 10°N, 30°N, 105°E and 125°E), more than the 30-year (1971-2000) annual average of 15.4 (Table 2.1). Eight of these 17 tropical cyclones developed within Hong Kong's area of responsibility. Altogether, 472 tropical cyclone warnings to ships and vessels were issued by the Hong Kong Observatory in 2008 (Table 4.2).

2.1.3 Tropical cyclones over the South China Sea

Eleven tropical cyclones affected the South China Sea (i.e. the area bounded by 10°N, 25°N, 105°E and 120°E) in 2008. Six of them formed over the area. Five moved into the area from the western North Pacific.

2.1.4 Tropical cyclones affecting Hong Kong

In 2008, the typhoon season started on 17 April when Typhoon Neoguri came within 800 km and necessitated the issuance of the Standby Signal No. 1. This was the second earliest onset time since 1946 (The earliest time of 9 April was set in 1967).

Six tropical cyclones, namely Typhoon Neoguri (0801) in April, Typhoon Fengshen (0806) in June, Severe Tropical Storm Kammuri (0809) and Typhoon Nuri (0812) in August, Typhoon Hagupit (0814) in September and Tropical Storm Higos (0817) in October affected Hong Kong (Figure 2.2), which was close to the normal number of 6 to 7 (Table 2.2). However, four of them, Fengshen, Kammuri, Nuri and Hagupit necessitated the issuance of the No. 8 Gale or Storm Signal or higher signals in Hong Kong, higher than the normal of one to two per year, and making 2008 the year with the most No. 8 Signals since 1999.

The centre of Nuri crossed Hong Kong in August 2008 and necessitated the issuance of the Increasing Gale or Storm Signal No. 9, the highest signal issued in 2008. Neoguri in April and Higos in October only necessitated the issuance of the Strong Wind Signal No. 3 and the Standby Signal No. 1 in Hong Kong respectively.

During the passage of Hagupit, the combined effect of storm surges and high tides resulted in a maximum sea level of 3.53 metres at Quarry Bay, the highest since Typhoon Wanda in September 1962.

2.1.5 Tropical cyclone rainfall

Tropical cyclone rainfall (the total rainfall recorded at the Hong Kong Observatory from the time when a tropical cyclone is centred within 600 km of Hong Kong to 72 hours after it has dissipated or moved farther than 600 km away from Hong Kong) in 2008 was 1,096.6 mm (Table 4.8.1). This is 47% above the normal of 745.5 mm and accounts for some 36% of the year's total rainfall of 3,066.2 mm.

Fengshen which affected Hong Kong on 23-25 June brought 342.6 mm of rainfall to Hong Kong, which was the tropical cyclone bringing the most rainfall to Hong Kong in 2008. Over 200 mm of rainfall were also recorded at the Hong Kong Observatory during the passages of Neoguri and Kammuri.

2.2 Monthly overview

A monthly overview of tropical cyclones is given in this section. Detailed reports on tropical cyclones affecting Hong Kong are presented in Section 3.

JANUARY TO MARCH

No tropical cyclone occurred over the western North Pacific and the South China Sea from January to March.

APRIL

Neoguri (0801) formed as a tropical depression over the South China Sea about 360 km east of Nansha on 15 April. It moved generally west-northwestwards at first and intensified into a tropical storm that evening. Neoguri intensified into a severe tropical storm and turned onto a north-northwesterly track on the afternoon of 16 April, and intensified further into a typhoon that evening. It turned to a northerly track on the evening of 18 April. After skirting the northeastern tip of Hainan on the small hours of 19 April, Neoguri weakened into a severe tropical storm and moved north-northeastwards. Neoguri weakened further into a tropical storm that morning and made landfall at Dongping Town, Yangdong County, Guangdong that afternoon. Neoguri continued to weaken further into a tropical depression that night and then dissipated inland.

MAY

Rammasun (0802) formed as a tropical depression over the western North Pacific about 1,510 km east-southeast of Manila on 7 May and moved northwestwards. It intensified into a tropical storm and turned to move northwards the next day. On 9 May, Rammasun intensified first into a severe tropical storm, and then further into a typhoon. It turned to move north-northeastwards on 11 May, then weakened into a severe tropical storm and moved northeastwards the next day. Rammasun became an extra-tropical cyclone over the western North Pacific to the south of Tokyo on 13 May. Fig. 2.3 shows the satellite image of Rammasun.

Matmo (0803) formed as a tropical depression over the western North Pacific about 420 km northeast of Manila on 15 May and moved generally northeastwards. It intensified into a tropical storm on 16 May and then became an extra-tropical cyclone over the western North Pacific south of Japan that night.

Halong (0804) formed as a tropical depression over the central part of the South China Sea about 530 km west-southwest of Manila on 15 May and moved north-northeastwards. It intensified into a tropical storm and turned to move northeastwards on 16 May. It intensified into a severe tropical storm the next day. Halong weakened into a tropical storm after crossing Luzon on the night of 17 May and the small hours of 18 May. According to press reports, at least 44 people were killed in the Philippines. Halong re-intensified into a severe tropical storm on 19 May but weakened into a tropical storm on 20 May. Halong became an extra-tropical cyclone over the western North Pacific south of Japan that day.

Nakri (0805) developed into a tropical depression over the western North Pacific about 350 km north of Yap on 27 May and moved generally northwestwards. It intensified into a tropical storm that evening and a severe tropical storm the next day. Nakri intensified further into a typhoon on 29 May, and turned to move northwards on 31 May. Nakri then turned to move north-northeastwards to the southeast of Ryukyu Islands on 1 June. It turned further to move northeastwards on 2 June. Nakri weakened first into a severe tropical storm on 3 June and finally became an extratropical cyclone over the western North Pacific south of Japan during the day.

JUNE

Fengshen (0806) formed as a tropical depression over the western North Pacific about 1,440 km east-southeast of Manila on 18 June and moved west-northwestwards. It intensified first into a tropical storm and then a severe tropical storm the next day. After intensifying into a typhoon on 20 June, Fengshen started to cross the Philippines that afternoon, and entered the South China Sea on the evening of 22 June. It weakened into a severe tropical storm on 23 June and turned to move north-northwestwards the next day. On the morning of 25 June, Fengshen made landfall in Shenzhen after skirting to the east of Hong Kong. Fengshen weakened into a tropical storm that morning and further into a tropical depression that night. It finally weakened into an area of low pressure over Guangdong the next morning.

JULY

Kalmaegi (0807) formed as a tropical depression over the western North Pacific about 630 km southeast of Gaoxiong on 14 July and moved southwestwards slowly. Kalmaegi intensified into a tropical storm the next day. It turned to move generally north-northwestwards and intensified into a severe tropical storm on 16 July, and a typhoon the next day. Kalmaegi crossed northern Taiwan on the small hours of 18 July and weakened into a severe tropical storm. According to press reports, Kalmaegi brought torrential rain to Taiwan, triggering flash floods and landslides. Twenty people were killed and the agricultural losses exceeded NT$1 billion. Kalmaegi made landfall near Xiapu in northeastern Fujian that evening and weakened further into a tropical storm. Kalmaegi brought damage to parts of Fujian and the direct economic losses were around 300 million RMB. It turned to move north-northeastwards across Zhejiang and Jiangsu on 19 July and turned to move northeastwards the next day. Kalmaegi became an extra-tropical cyclone near DPR Korea on 21 July. Fig. 2.4 shows the satellite image of Kalmaegi.

Fung-wong (0808) formed as a tropical depression over the western North Pacific about 720 km southeast of Okinawa on 24 July and moved generally westwards. It intensified into a tropical storm on 25 July and a severe tropical storm the next day. Fung-wong intensified further into a typhoon on 27 July and turned to move northwestwards, crossing Taiwan on the morning of 28 July. According to press reports, two people were killed and six others injured in Taiwan and the agricultural damage exceeded NT$300 million. Fung-wong made landfall at Fuqing City, Fujian on the night of 28 July. It weakened first into a severe tropical storm and then a tropical storm on the following day. Fung-wong weakened into a tropical depression and subsequently into an area of low pressure overland on 30 July. Fung-wong brought rainstorms to southeastern China and triggered tornadoes in Jiangsu. At least six people were killed and over 40 others injured. Over 2 000 houses collapsed or were damaged and the direct economic losses were some 1.5 billion RMB. Fig. 2.5 shows the satellite image of Fung-wong.

AUGUST

Kammuri (0809) formed as a tropical depression over the South China Sea about 580 km southeast of Hong Kong on 4 August and moved west-northwestwards. It intensified into a tropical storm the next morning. On the small hours of 6 August, Kammuri intensified into a severe tropical storm and moved northwestwards. It turned to move westwards later that afternoon and made landfall at Yangxi County in western Guangdong that evening, and weakened into a tropical storm that night. Kammuri weakened into a tropical depression over northern Vietnam on the small hours of 8 August and further into an area of low pressure there that morning.

Phanfone (0810) formed as a tropical depression over the western North Pacific about 1,440 km southeast of Tokyo on 9 August and moved generally northeastwards. It intensified into a tropical storm on the afternoon of the following day. Phanfone became an extra-tropical cyclone over the western North Pacific to the east of Japan on 11 August.

Vongfong (0811) formed as a tropical depression over the western North Pacific about 710 km south-southwest of Osaka on 15 August and moved northeastwards. It intensified into a tropical storm that afternoon and turned to move generally east-northeastwards. Vongfong intensified further into a severe tropical storm on 16 August but weakened into a tropical storm the next day. It finally became an extra-tropical cyclone over the western North Pacific to the east of Japan on 18 August.

Nuri (0812) formed as a tropical depression over the western North Pacific about 1 730 km east of Manila on the evening of 17 August and moved westwards. It intensified first into a

tropical storm and then a severe tropical storm the next day, and further into a typhoon and moved west-northwestwards on 19 August. Nuri entered the South China Sea on the evening of 20 August and turned to move northwestwards on the next evening. Nuri weakened into a severe tropical storm and crossed Hong Kong after making landfall at Sai Kung, Hong Kong on the afternoon of 22 August. Nuri crossed western Shenzhen and then made a second landfall near Nansha that night. It weakened first into a tropical storm on 23 August and a tropical depression that morning. Nuri weakened further into an area of low pressure over Guangdong subsequently.

A tropical depression formed over the western North Pacific about 470 km northeast of Manila on 27 August and moved generally northwestwards. The tropical depression skirted the northeastern tip of Luzon that evening and crossed the Luzon Strait the next day. It weakened into an area of low pressure over the Luzon Strait to the south of Taiwan on 29 August. Fig. 2.6 shows the satellite image of the tropical depression.

SEPTEMBER

Sinlaku (0813) formed as a tropical depression over the western North Pacific about 590 km east of Manila on 8 September and moved north-northwestwards. It intensified first into a tropical storm on 9 September, and further into a severe tropical storm and then a typhoon that day. Sinlaku moved northwards on 11 September but turned to move northwestwards on 12 September. It crossed the northern part of Taiwan on 14 September and weakened into a severe tropical storm that night. According to press reports, Sinlaku caused widespread flooding and landslides in Taiwan, collapsing bridges, tunnels and hotels. At least 11 people were killed and 11 missing, and the direct economic losses were around NT$0.7 billion. Sinlaku turned to move east-northeast over the East China Sea on 15 September and weakened into a tropical storm the next day. It intensified into a severe tropical storm again on 18 September and a typhoon the next day and skirted the southern coasts of Japan. Sinlaku weakened into a severe tropical storm on 20 September and a tropical storm the next day. It subsequently became an extra-tropical cyclone to the east of Japan.

Hagupit (0814) formed as a tropical depression over the western North Pacific about 1 720 km east of Manila on 19 September and moved west-southwestwards. It intensified first into a tropical storm on 20 September and moved west-northwestwards and then intensified into a severe tropical storm. Hagupit intensified further into a typhoon on 21 September and moved northwestwards. It turned to move west-northwestwards and crossed the Balintang Channel on 22 September and entered the South China Sea that evening. It crossed the northern part of the South China Sea the next day. Hagupit made landfall in western Guangdong on the morning of 24 September. It weakened into a severe tropical storm that afternoon and a tropical storm thereafter. Hagupit weakened into a tropical depression and further into an area of low pressure over northern Vietnam on 25 September.

Jangmi (0815) formed as a tropical depression over the western North Pacific about 260 km north of Yap on 24 September and moved west-northwestwards. It intensified into a tropical storm that evening and a severe tropical storm the next day. Jangmi intensified further into a typhoon on 26 September and moved northwestwards, and crossed northern Taiwan on the night of 28 September. Jangmi turned to move northwards and weakened into a severe tropical storm on 29 September. It weakened further to a tropical storm that evening and moved northeastwards. According to press reports, at least two people were killed, two missing and 61 injured in Taiwan. Electricity supply to about one million households was disrupted and the agricultural losses were estimated to be about NT$0.3 billion. A freighter sank in the waters of Wenzhou, one crewman was killed and five missing. Jangmi moved east-northeastwards across the East China Sea on 30 September and became an extra-tropical cyclone over the seas to the south-southwest of Japan on 1 October. Fig. 2.7 shows the satellite image of Jangmi.

Mekkhala (0816) formed as a tropical depression over the central part of the South China Sea about 270 km south of Xisha on 28 September and moved northwestwards. It intensified into a tropical storm on 29 September. Mekkhala turned to move west-northwestwards and made landfall over northern Vietnam on 30 September while weakening into a tropical depression. Mekkhala further weakened into an area of low pressure over Indochina on the early hours of 1 October. According to press reports, eight people were killed and eight others missing in Vietnam during the passage of Mekkhala. A fishing boat sank over the waters of Hainan Island but two crewmen on board were rescued.

Higos (0817) formed as a tropical depression over the western North Pacific about 900 km southeast of Manila on 30 September and moved northwestwards. It crossed the central part of the Philippines that afternoon and the next day and turned to move west-northwestwards, entering the central part of the South China Sea on the small hours of 2 October. Higos intensified into a tropical storm on the morning of 3 October and moved northwestwards. Higos turned to move northwards that night and made landfall near Wenchong in the eastern tip of Hainan. It weakened into a tropical depression on the early hours of 4 October and made landfall again near Wuchuan in western Guangdong that night. Higos weakened into an area of low pressure on the early hours of 5 October.

OCTOBER

A tropical depression formed to the south of Beibu Wan about 220 km north of Danang on 13 October and moved slowly north-northwestwards. It turned to move westwards the next evening and southwestwards on 15 October. It made landfall over northern Vietnam and weakened into an area of low pressure that evening.

Bavi (0818) formed as a tropical depression over the western North Pacific about 950 km east-southeast of Iwo Jima on 18 October and moved northwestwards initially. Bavi intensified into a tropical storm and moved north-northeastwards on the following afternoon. It finally became an extra-tropical cyclone over the western North Pacific to the east of Japan on 20 October.

NOVEMBER

Maysak (0819) formed as a tropical depression over the central part of the South China Sea about 540 km northeast of Nansha on the morning of 7 November. Moving west-northwestwards, it intensified into a tropical storm that evening. Maysak moved northwestwards on 8 November. It intensified into a severe tropical storm and turned to move north-northeastwards that evening. Under the influence of the northeast monsoon, Maysak turned to move southwards and weakened into a tropical storm on 9 November. It weakened into a tropical depression and subsequently an area of low pressure over the central part of the South China Sea on 10 November. Fig. 2.8 shows the satellite image of Maysak.

Haishen (0820) formed as a tropical depression about 640 km east of Iwo Jima on 15 November and moved northeastwards. It intensified into a tropical storm the next day and moved east-northeastwards. Haishen weakened first into a tropical depression on 17 November, and then became an extra-tropical cyclone over the western North Pacific to the east-southeast of Japan that day.

Noul (0821) formed as a tropical depression about 170 km east-southeast of Nansha on 16 November. Moving west-northwestwards, Noul intensified into a tropical storm that evening. Noul made landfall over southern Vietnam on 17 November and weakened into a tropical

depression. It weakened into an area of low pressure over southern Vietnam the following day. Noul had reportedly resulted in some 15 deaths, two missing and eight others injured in Vietnam, over 100 fishing boats sank and over 8 000 hectares of crops damaged. Fig. 2.9 shows the satellite image of Noul.

DECEMBER

Dolphin (0822) formed as a tropical depression over the western North Pacific about 390 km west-southwest of Guam on 12 December. Moving west-northwestwards, Dolphin intensified into a tropical storm that evening. Dolphin moved generally westwards for the following two days and intensified into a severe tropical storm on 15 December while turning to move northwards. It intensified further into a typhoon that evening. Dolphin moved northeastwards on 16 December and weakened into a severe tropical storm the next day. It weakened into a tropical storm on 18 December and became an extra-tropical cyclone over the western North Pacific south of Japan that evening. Fig. 2.10 shows the satellite image of Dolphin.

Note: Casualties and damage figures were compiled from press reports.

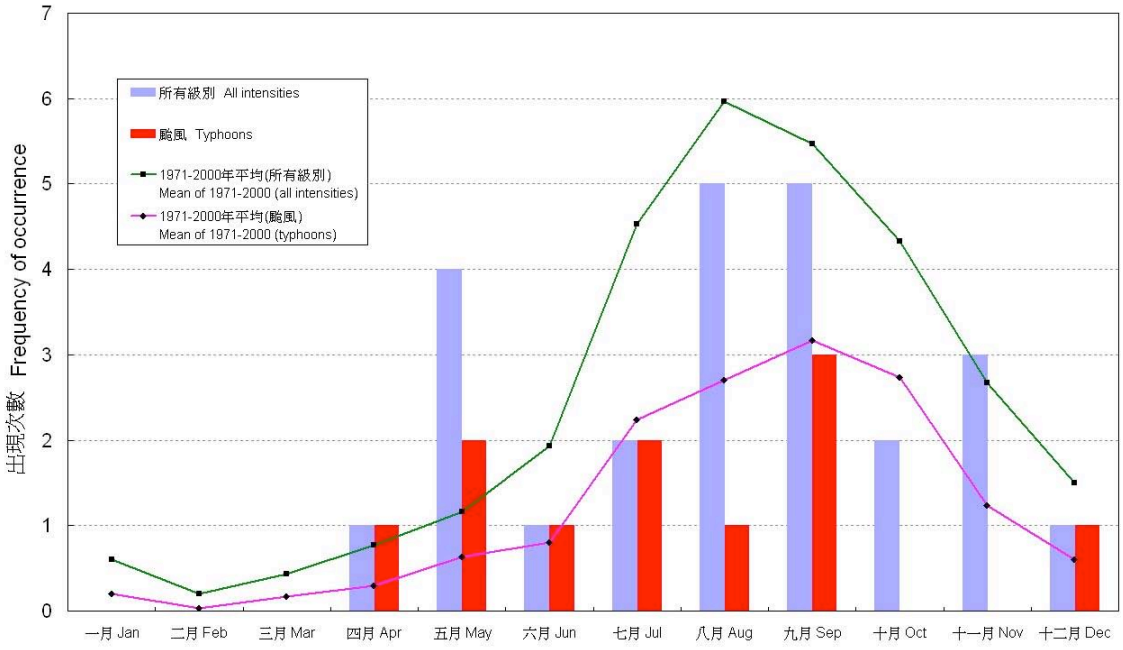


圖 2.1　二零零八年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈 (以熱帶氣旋在該月初次出現為準)。

Figure 2.1 Monthly frequencies of the occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2008 (based on the first occurrence of the tropical cyclone in the month).

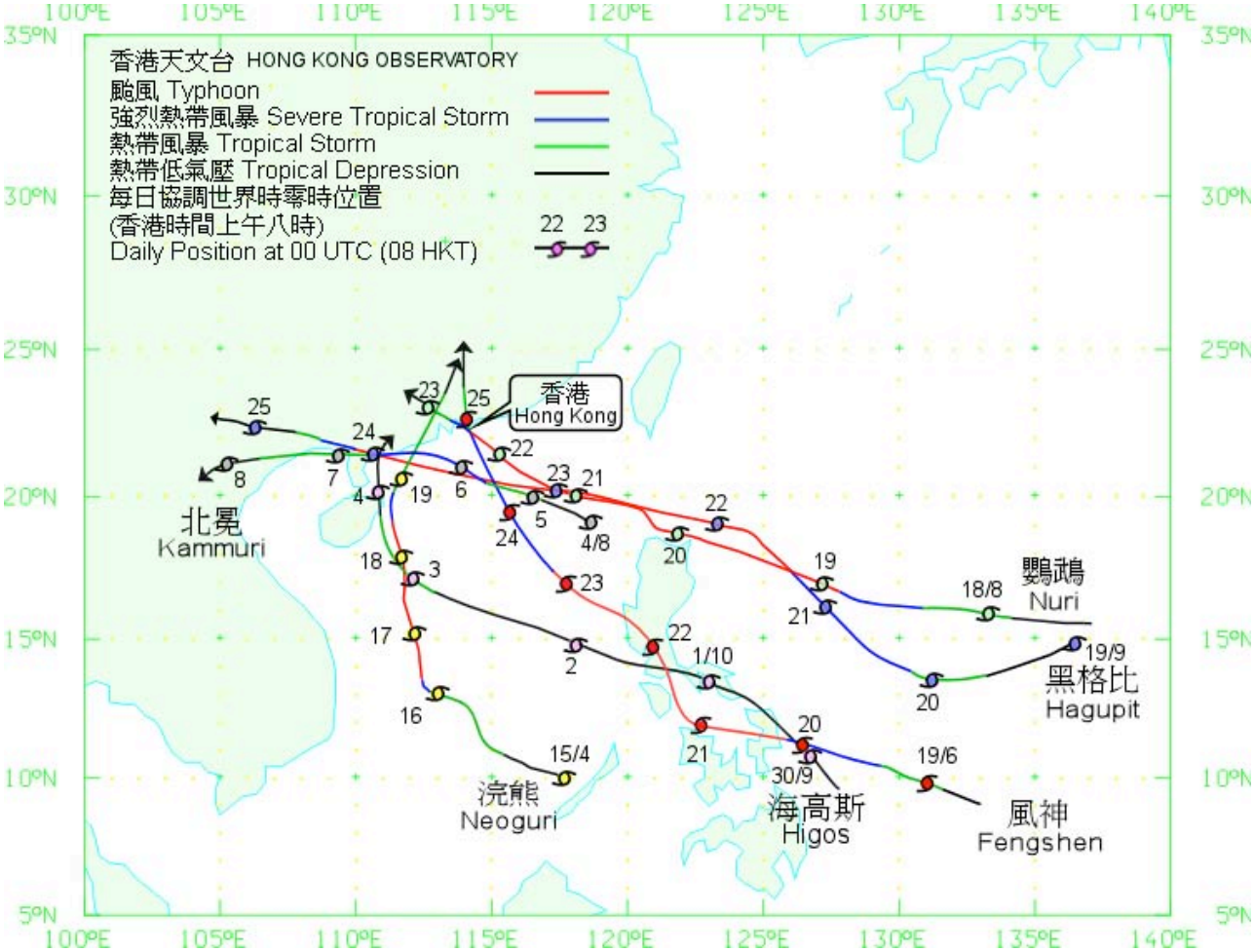


圖 2.2　二零零八年六個影響香港的熱帶氣旋的路徑圖。

Figure 2.2 Tracks of the six tropical cyclones affecting Hong Kong in 2008.

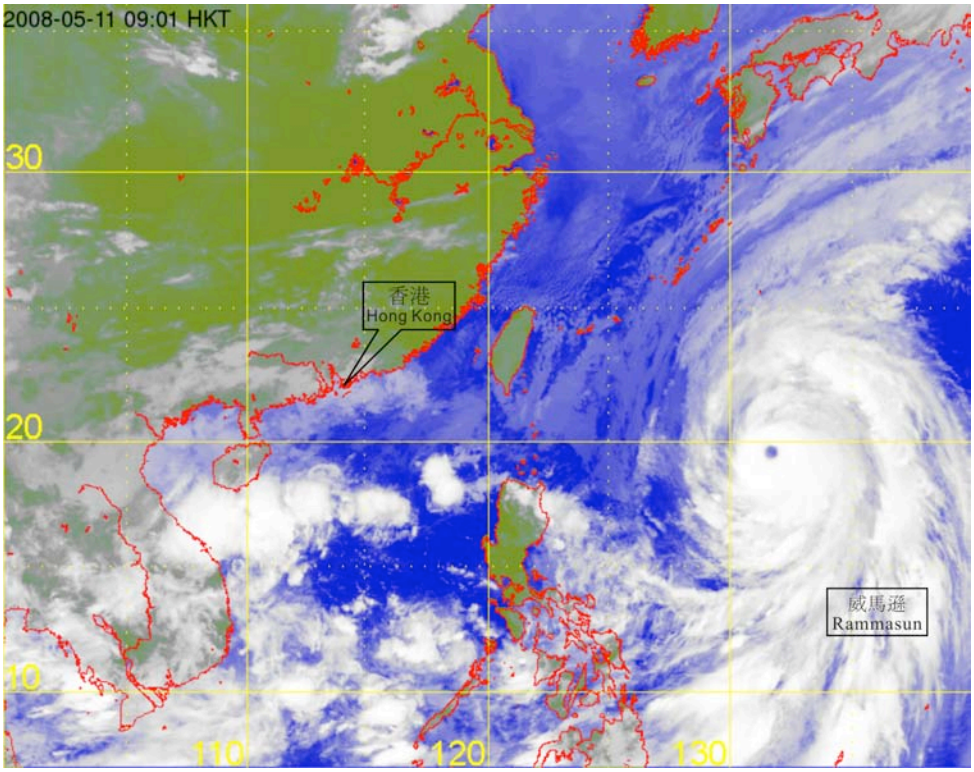


圖 2.3　颱風威馬遜在二零零八年五月十一日上午九時的紅外線衛星圖片。

Figure 2.3　Infra-red satellite imagery at 9 a.m. on 11 May 2008 of Typhoon Rammasun.

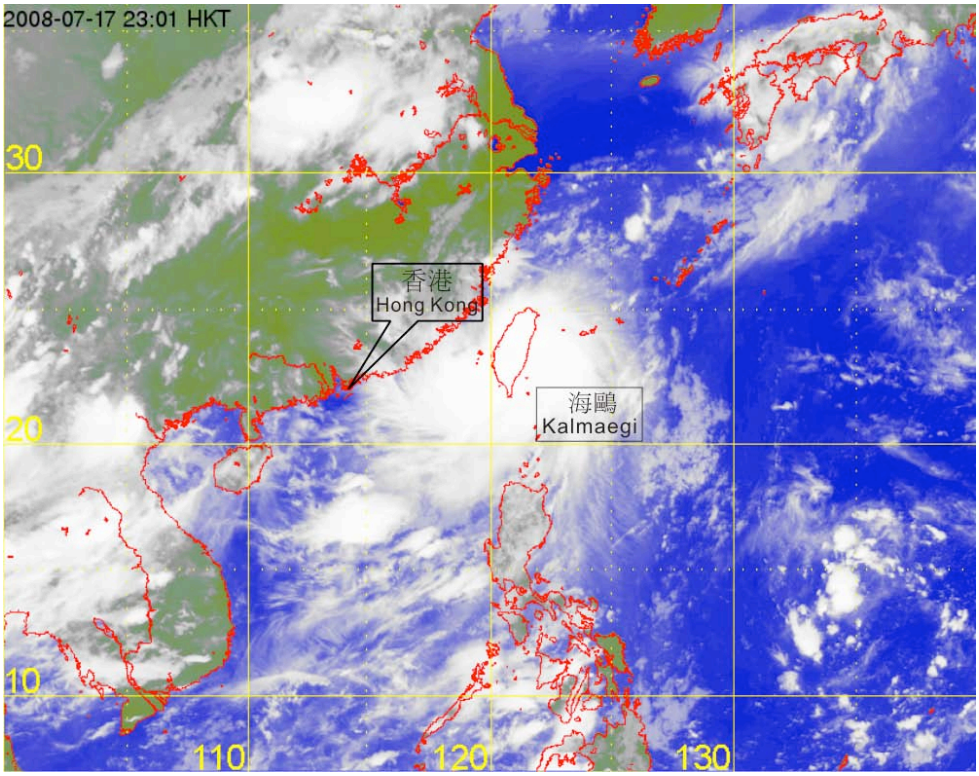


圖 2.4　颱風海鷗在二零零八年七月十七日下午十一時的紅外線衛星圖片。

Figure 2.4　Infra-red satellite imagery at 11 p.m. on 17 July 2008 of Typhoon Kalmaegi.

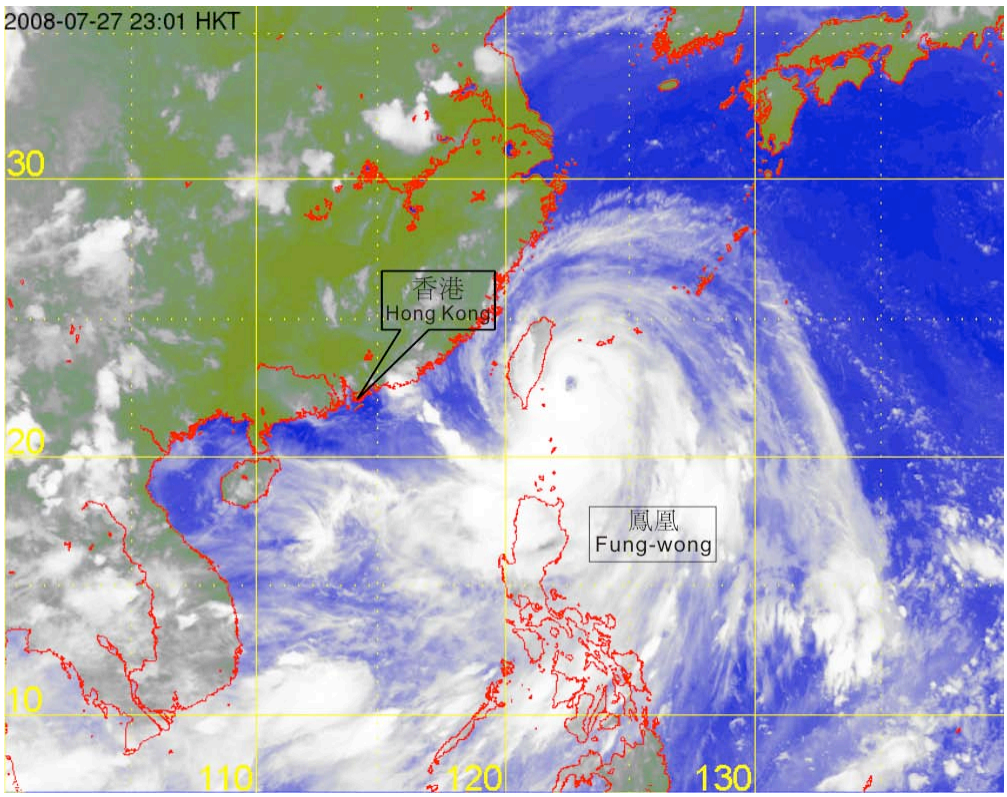


圖 2.5　颱風鳳凰在二零零八年七月二十七日下午十一時的紅外線衛星圖片。

Figure 2.5　Infra-red satellite imagery at 11 p.m. on 27 July 2008 of Typhoon Fung-wong.

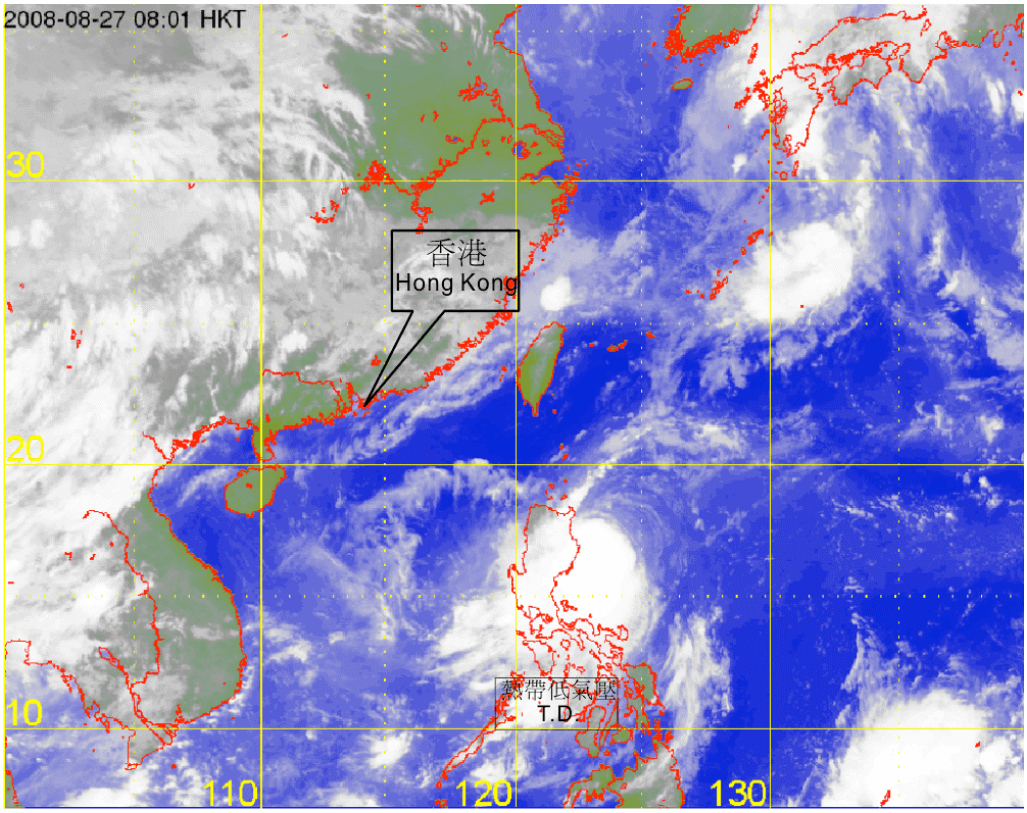


圖 2.6　熱帶低氣壓在二零零八年八月二十七日上午八時的紅外線衛星圖片。

Figure 2.6　Infra-red satellite imagery at 8 a.m. on 27 August 2008 of Tropical Depression.

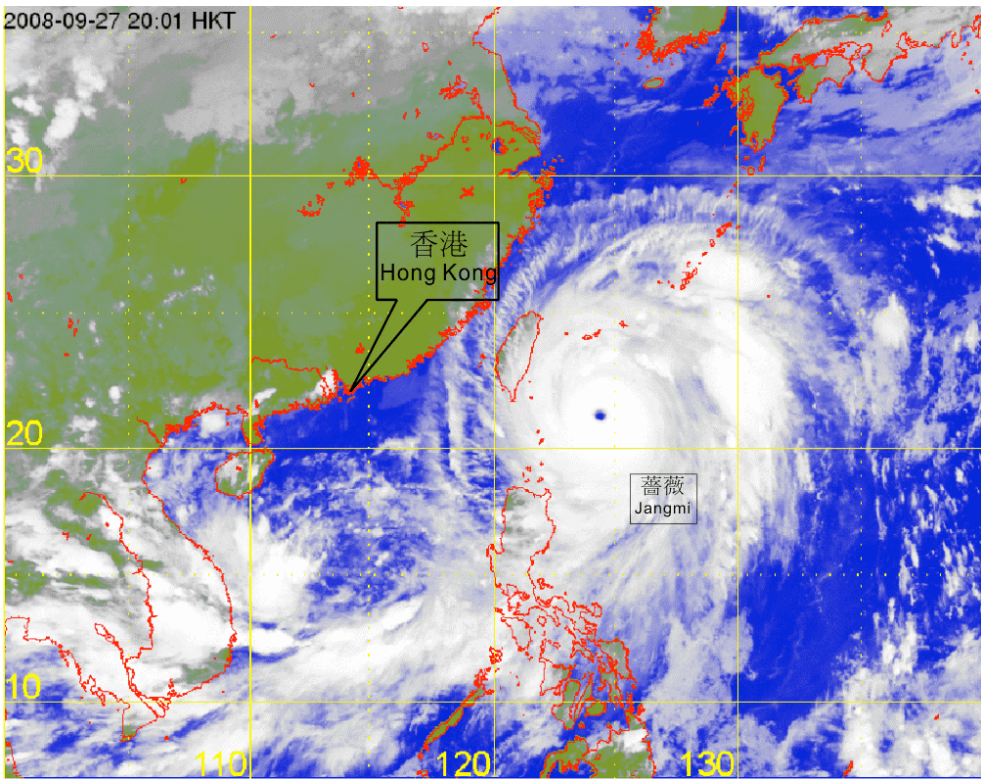


圖 2.7　颱風薔薇在二零零八年九月二十七日下午八時的紅外線衛星圖片。

Figure 2.7　Infra-red satellite imagery at 8 p.m. on 27 September 2008 of Typhoon Jangmi.

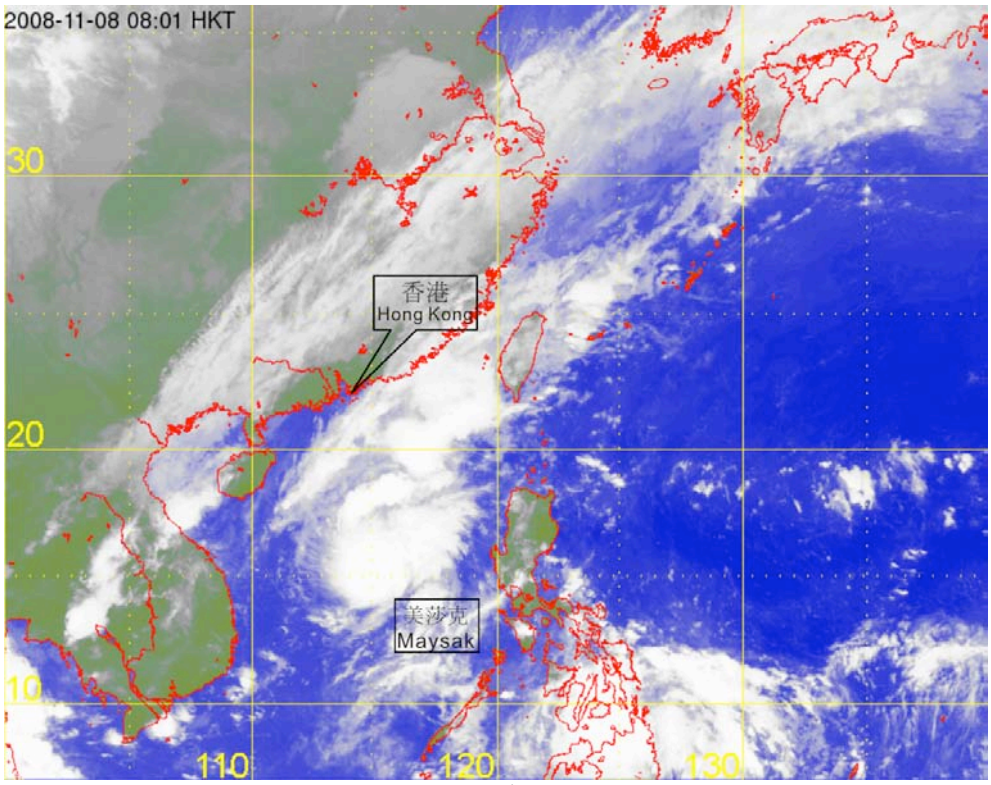


圖 2.8　熱帶風暴美莎克在二零零八年十一月八日上午八時的紅外線衛星圖片。

Figure 2.8　Infra-red satellite imagery at 8 a.m. on 8 November 2008 of Tropical Storm Maysak.

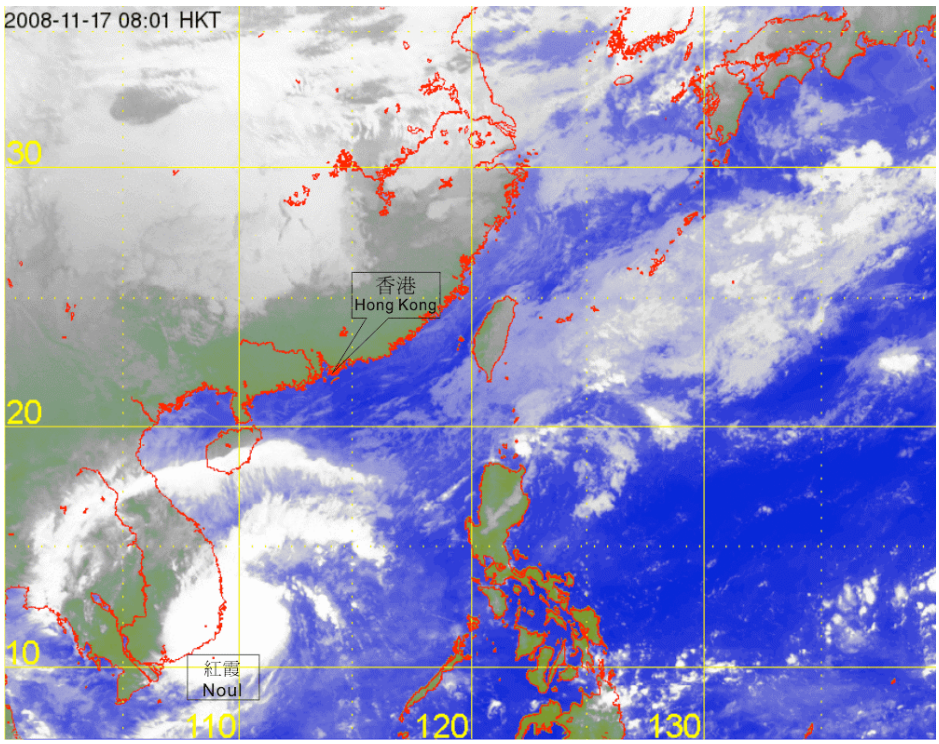


圖 2.9　熱帶風暴紅霞在二零零八年十一月十七日上午八時的紅外線衛星圖片。

Figure 2.9　Infra-red satellite imagery at 8 a.m. on 17 November 2008 of Tropical Storm Noul.

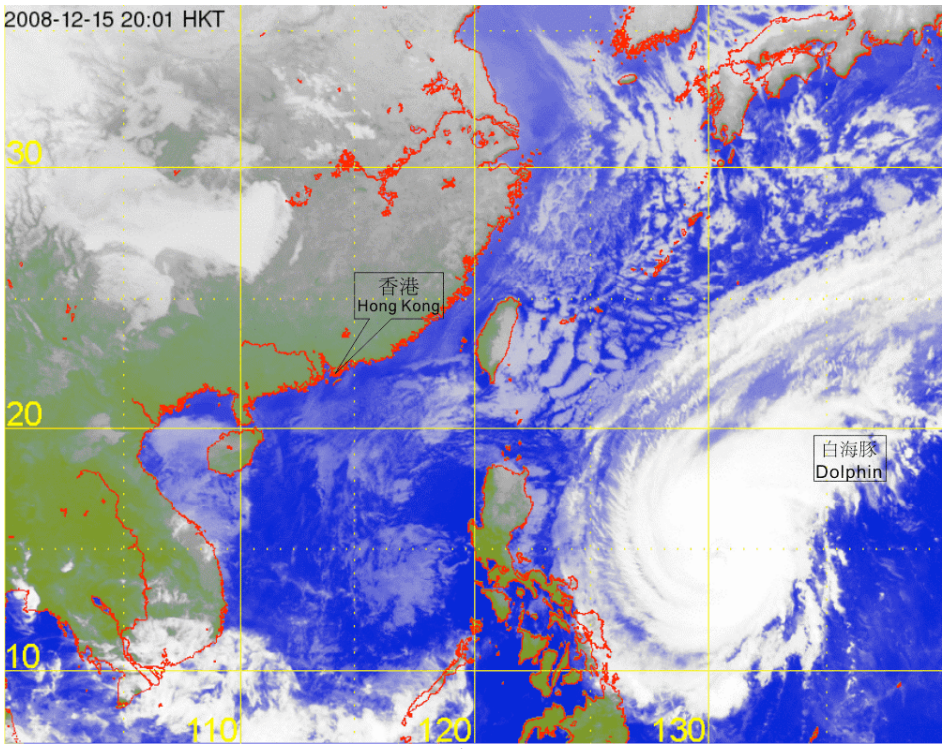


圖 2.10　颱風白海豚在二零零八年十二月十五日下午八時的紅外線衛星圖片。

Figure 2.10　Infra-red satellite imagery at 8 p.m. on 15 December 2008 of Typhoon Dolphin.

〔圖像 2.3至2.10接收自日本氣象廳的多用途輸送衛星-1R。〕

[The imageries in Figures 2.3 to 2.10 were originally captured by the Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

表 2.1　在香港責任範圍內 (10°-30°N, 105°-125°E)熱帶氣旋出現之每月分佈
(以熱帶氣旋在該月初次出現爲準)

TABLE 2.1 MONTHLY DISTRIBUTION OF THE OCCURRENCE OF TROPICAL CYCLONES IN HONG KONG'S AREA OF RESPONSIBILITY (10° - 30°N, 105° - 125°E), BASED ON THE FIRST OCCURRENCE OF THE TROPICAL CYCLONE IN THE MONTH

年份 Year	月份 Month												共 Total
	一月	二月	三月	四月	五月	六月	七月	八月	九月	十月	十一月	十二月	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1961					3	5	2	5	4	3	1	1	24
1962					3		4	5	4	1	3		20
1963						3	3	3	2			2	13
1964					1	1	5	3	6	3	6	1	26
1965	1				2	3	4	3	2		1		16
1966					2		5	2	3	2	2	1	17
1967			1	1		1	2	6	1	2	3		17
1968							2	4	2	1	3		12
1969							3	3	4	1			11
1970		1				2	2	3	4	5	3		20
1971				1	2	2	5	3	3	4			20
1972	1					3	2	4	2	1	1	1	15
1973							4	4	2	4	3		17
1974						3	2	4	2	4	4	2	21
1975	1					1		3	2	3	1	1	12
1976					1	1	1	4	1		1	1	10
1977						1	4	1	3		1		10
1978	1			1		2	2	4	5	4	1		20
1979				1	2	1	3	5	2	2	1	1	18
1980			1		3	1	5	2	3	1	1		17
1981						3	3	3	1	1	3	1	15
1982			2		1	1	3	3	3	1		2	16
1983						1	3	1	3	5	2		15
1984						2	2	4	2	2	2		14
1985						2	2	2	4	4	1		15
1986					1	1	1	4	1	3	3	2	16
1987						1	3	2	1	1	3	1	12
1988	1				1	3	1	1	2	5	2	1	17
1989					2	1	4	2	4	3	1		17
1990					1	4	2	3	3	3	2		18
1991				1	1	1	3	2	2	1	3		14
1992						2	3	2	2	2			11
1993						1	1	2	3	2	2	3	14
1994				1	1	2	6	5	2	2		1	20
1995						1	1	5	5	3	1	1	17
1996		1		1	2		3	3	2	1	2		15
1997					1		1	4	1	2	1		10
1998							1	3	4	3	3	1	15
1999				1		1	1	2	3	2	1	1	12
2000					2	1	3	5	3	3	2	1	20
2001					1	2	4	2	2	1	1	1	14
2002	1					1	3	2	3				10
2003				1	1	2	2	3	1	1	1		12
2004			1		1	3	2	2	2	1	2	1	15
2005			1				2	3	4	3	2		15
2006					1	1	3	3	4	1	2	1	16
2007							1	4	3	1	3		12
2008				1	2	1	2	3	5	1	2		17
正常 Normal	0.1	0.0	0.1	0.2	0.7	1.4	2.5	3.1	2.5	2.4	1.6	0.7	15.4

表 2.2　　影響香港的熱帶氣旋之每月分佈

TABLE 2.2　MONTHLY DISTRIBUTION OF TROPICAL CYCLONES AFFECTING HONG KONG

年份 Year	月份 # Month #												共 Total
	一月 Jan	二月 Feb	三月 Mar	四月 Apr	五月 May	六月 Jun	七月 Jul	八月 Aug	九月 Sep	十月 Oct	十一月 Nov	十二月 Dec	
1961					1		3		2				6
1962							2	1		1			4
1963						1	1	1	1				4
1964					1	1		1	4	3			10
1965						1	2		2		1		6
1966					1		3	1	1				6
1967				1		1	1	3		1	1		8
1968							1	3	2				6
1969							1		2	1			4
1970							1	2	1	2			6
1971					1	2	3	1	1	1			9
1972						2	1	1			1		5
1973							2	3	2	2			9
1974						2	1		2	4	1	1	11
1975						1		1	2	3			7
1976						1	1	2	1				5
1977						1	3	1	3				8
1978				1			1	2	2	2			8
1979							2	2	2				6
1980					1	1	4	1	2	1			10
1981						1	2	1	1				5
1982						1	2		1	1			5
1983							3		2	2			7
1984						1	1	2	1				5
1985						1	1		2	1			5
1986							1	2		1			4
1987						1		2	1	1			5
1988					1	1	1		1	2			6
1989					1	1	2		1	2			7
1990					1	2	1	1	1				6
1991							3	1	2				6
1992						1	3	1					5
1993						1	1	2	3	1	1		9
1994						2		1	1				4
1995							1	4	2	1			8
1996							2	2	2	1			7
1997							1	1					2
1998								2	1	2			5
1999				1		1	1	1	3	1			8
2000						1	2	2	1		1		7
2001						2	2	1	1				6
2002								2	1				3
2003							2	1	1				4
2004						1	1	1					3
2005								1	2				3
2006					1	1		3	1	1			7
2007								1	1				2
2008				1		1		2	1	1			6
正常 Normal	0.0	0.0	0.0	0.1	0.2	0.8	1.5	1.3	1.4	1.0	0.1	0.0	6.5

熱帶氣旋警告信號首次發出的月份。

The month that the tropical cyclone warning signal was first issued.

第三節　二零零八年影響香港的熱帶氣旋

3.1　颱風浣熊 (0801)：　二零零八年四月十五日至二十日

浣熊是香港在二零零八年首個需要發出熱帶氣旋警告信號的熱帶氣旋。

熱帶低氣壓浣熊於四月十五日在香港東南偏南約1 400公里的南海上形成。它初時大致向西北偏西移動，並於當日黃昏增強為熱帶風暴。浣熊於四月十六日下午增強為強烈熱帶風暴及轉向西北偏北移動，當日黃昏進一步增強為颱風。它於四月十八日黃昏轉向北移動。浣熊於四月十九日凌晨掠過海南島東北端後減弱為強烈熱帶風暴及轉向東北偏北移動。它於當日早上減弱為熱帶風暴，然後於下午在廣東省陽東縣東平鎮登陸。浣熊於當晚減弱為熱帶低氣壓，於四月二十日凌晨在廣州東北偏北的內陸消散。據報導，受到浣熊的影響，至少有三艘漁船在西沙海域附近沉沒，40名漁民失蹤。另外，海南島有550間房屋損壞，廣東省受水浸及山泥傾瀉影響，有三人死亡。海南島及廣東省直接經濟損失超過四億元人民幣。

香港天文台於四月十七日下午4時15分發出一號戒備信號，當時浣熊位於香港西南偏南約730公里。在浣熊及東北季候風的共同影響下，當日香港離岸海域及高地風勢清勁。四月十八日離岸海域吹強風，天文台於當日下午8時40分發出三號強風信號。隨着浣熊於四月十九日下午在華南沿岸登陸，本港轉吹南至東南風，近海平面處普遍吹強風，離岸及高地間中吹烈風。隨着浣熊在內陸減弱，本港風勢在晚上緩和，所有熱帶氣旋警告信號在翌日上午1時30分取消。香港天文台總部於當日下午6時正錄得最低瞬時海平面氣壓1003.9百帕斯卡，當時浣熊位於香港以西約155公里。浣熊約於兩小時後最接近香港，其位置在香港西北偏西約150公里。四月十九日香港有雨及幾陣狂風雷暴，下午及黃昏有暴雨，天文台總部在下午四時至八時期間共錄得161.1毫米的雨量。 天文台在當日下午4時40分、下午5時10分及下午7時15分分別發出黃色、紅色及黑色暴雨警告信號，並於下午7時10分發出山泥傾瀉警告。

浣熊影響香港期間，香港有兩人受傷、157宗水浸、13宗山泥傾瀉及70宗塌樹報告。紅磡有天台屋鋅鐵屋頂被吹起，而土瓜灣亦有外牆石屎簷蓬墮下，事件中無人受傷。香港國際機場有超過200航班延誤，約30航班取消及66航班轉飛其它機場。

表3.1.1-3.1.4 分別是浣熊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、日雨量及最高潮汐資料。圖3.1.1-3.1.4 分別為浣熊的路徑圖、雨量分佈圖，浣熊的衛星及雷達圖像。

Section 3 TROPICAL CYCLONES AFFECTING HONG KONG IN 2008

3.1 Typhoon Neoguri (0801): 15 – 20 April 2008

Neoguri was the first tropical cyclone to necessitate the issuance of tropical cyclone warning signals in Hong Kong in 2008.

Neoguri formed as a tropical depression over the South China Sea about 1 400 km south-southeast of Hong Kong on 15 April. It moved generally west-northwestwards at first and intensified into a tropical storm that evening. Neoguri intensified into a severe tropical storm and turned onto a north-northwesterly track on the afternoon of 16 April. It intensified further into a typhoon that evening and turned to a northerly track on the evening of 18 April. After skirting the northeastern tip of Hainan on the small hours of 19 April, Neoguri weakened into a severe tropical storm and moved north-northeastwards. Neoguri weakened further into a tropical storm that morning and made landfall at Dongping Town, Yangdong County, Guangdong that afternoon. Neoguri weakened further into a tropical depression that night and dissipated to the north-northeast of Guangzhou on the small hours of 20 April. During the passage of Neoguri, there were reports of at least three fishing boats sinking in the waters near Xisha with around 40 fishermen missing. In addition, some 550 houses were destroyed in Hainan while landslides and flooding resulted in three deaths in Guangdong. The direct economic loss in Hainan Island and Guangdong exceeded 0.4 billion yuan.

In Hong Kong, the Standby Signal No. 1 was issued at 4:15 p.m. on 17 April when Neoguri was about 730 km south-southwest of Hong Kong. Under the combined influence of Neoguri and the northeast monsoon, fresh easterly winds affected the offshore waters and high grounds that day. Winds became strong offshore on 18 April and the No. 3 Signal was issued at 8:40 p.m. that day. With Neoguri making landfall over the south China coast on the afternoon of 19 April, winds turned to the south to southeast and were generally strong near sea level with occasional gales offshore and on high grounds. As Neoguri weakened overland, local winds moderated that night and all signals were cancelled at 1:30 a.m. the next morning. At the Hong Kong Observatory Headquarters, the lowest instantaneous mean sea-level pressure of 1003.9 hPa was recorded at 6:00 p.m. on 19 April, when Neoguri was about 155 km west of Hong Kong. Neoguri was closest to Hong Kong about two hours later when it was about 150 km to the west-northwest. It was rainy with a few squally thunderstorms on 19 April. The rain was heavy in the afternoon and evening. A total of 161.1 millimetres of rainfall were recorded at the Hong Kong Observatory Headquarters between 4 p.m. and 8 p.m. that day. The Amber, Red and Black Rainstorm Warning Signals were issued at 4:40 p.m., 5:10 p.m. and 7:15 p.m. on that day respectively, while the Landslip Warning was issued at 7:10 p.m. the same day.

In Hong Kong, two people were injured during the passage of Neoguri. There were 157 reports of flooding, 13 reports of landslides and 70 reports of fallen trees. In Hung Hom, the iron-cover of a rooftop structure was blown off. In To Kwa Wan, a concrete window ledge was broken and fell to the street, but there were no injuries. At the Hong Kong International Airport, over 200 flights were delayed, around 30 flights cancelled and 66 flights diverted.

Information on the maximum wind, daily rainfall and maximum sea level during the passage of Neoguri is given in Tables 3.1.1 - 3.1.4. Figures 3.1.1 - 3.1.4 show the track of Neoguri, rainfall distribution, satellite and radar imageries of Neoguri respectively.

表 3.1.1　在浣熊影響下，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 3.1.1　Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when tropical cyclone warning signals for Neoguri 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 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	E	85	19/4	18:48	東	E	56	19/4	19:00
中環碼頭	Central Pier	東南	SE	72	19/4	21:32	東	E	43	19/4	16:00
長洲	Cheung Chau	東南偏東	ESE	117	19/4	15:21	東南偏東	ESE	76	19/4	16:00
長沙灣	Cheung Sha Wan	東南偏東	ESE	45	18/4	21:09	東	E	16	18/4	20:00
							東	E	16	18/4	21:00
							東北偏東	ENE	16	19/4	03:00
青洲	Green Island	東北	NE	96	19/4	14:27	西南偏南	SSW	70	19/4	22:00
香港國際機場	Hong Kong International Airport	西南	SW	104	19/4	18:19	西南偏南	SSW	56	19/4	21:00
							南	S	56	19/4	22:00
啟德	Kai Tak	東南偏東	ESE	83	19/4	13:59	東	E	45	19/4	15:00
京士柏	King's Park	南	S	77	19/4	20:28	東	E	27	19/4	18:00
流浮山	Lau Fau Shan	南	S	77	19/4	22:16	南	S	40	19/4	23:00
昂坪	Ngong Ping	東	E	191	19/4	14:51	東	E	135	19/4	15:00
北角	North Point	東	E	62	19/4	13:08	東	E	30	17/4	22:00
坪洲	Peng Chau	東	E	94	19/4	14:40	東	E	70	19/4	15:00
平洲	Ping Chau	東	E	75	19/4	15:38	東	E	30	19/4	16:00
西貢	Sai Kung	東南	SE	67	19/4	19:24	南	S	38	19/4	23:00
沙洲	Sha Chau	南	S	104	19/4	18:42	西南偏南	SSW	63	19/4	22:00
沙螺灣	Sha Lo Wan	東	E	96	19/4	14:38	東	E	45	19/4	15:00
沙田	Sha Tin	西南偏南	SSW	65	19/4	21:49	西南偏南	SSW	30	19/4	23:00
石崗	Shek Kong	東	E	72	19/4	15:21	東	E	41	19/4	16:00
九龍天星碼頭	Star Ferry (Kowloon)	東南偏東	ESE	67	19/4	15:29	東南偏東	ESE	41	19/4	16:00
打鼓嶺	Ta Kwu Ling	東	E	62	19/4	18:28	東	E	25	19/4	15:00
大美篤	Tai Mei Tuk	東北偏東	ENE	87	19/4	16:45	東北偏東	ENE	62	19/4	17:00
大帽山	Tai Mo Shan	東南偏東	ESE	128	19/4	15:20	東南偏東	ESE	90	19/4	15:00
塔門	Tap Mun	東南偏東	ESE	85	19/4	18:52	東	E	41	19/4	17:00
大老山	Tate's Cairn	東南偏東	ESE	94	19/4	15:17	東南偏東	ESE	58	19/4	16:00
鯽魚湖	Tsak Yue Wu	東北偏東	ENE	58	19/4	15:04	東北偏東	ENE	25	19/4	15:00
將軍澳	Tseung Kwan O	東南偏東	ESE	68	19/4	19:01	西南偏南	SSW	20	19/4	22:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	東南偏東	ESE	68	19/4	15:20	東南偏南	SSE	36	19/4	20:00
屯門政府合署	Tuen Mun Government Offices	東南偏南	SSE	72	19/4	18:59	東南偏南	SSE	31	19/4	20:00
橫瀾島	Waglan Island	東	E	104	19/4	16:32	東南偏南	SSE	76	19/4	21:00
濕地公園	Wetland Park	東	E	51	19/4	14:33	東	E	23	19/4	13:00
							東	E	23	19/4	14:00
黃竹坑	Wong Chuk Hang	東南偏東	ESE	83	19/4	14:08	東南偏東	ESE	38	19/4	16:00

表 3.1.2　在浣熊影響下，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 3.1.2 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 Neoguri were in force

站 (參閱圖1.1) Station (See Fig. 1.1)		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 reaching gale force#		最後達到烈風#時間 Last time reaching gale force#	
		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	18/4	04:48	20/4	00:15	19/4	12:42	19/4	20:59
香港國際機場	Hong Kong International Airport	18/4	00:09	20/4	00:28	19/4	19:04	19/4	19:14
啟德	Kai Tak	19/4	10:39	19/4	15:56	-			
西貢	Sai Kung	19/4	16:33	19/4	22:39	-			
沙田	Sha Tin	-				-			
打鼓嶺	Ta Kwu Ling	-				-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	19/4	19:47	19/4	20:00	-			
濕地公園	Wetland Park	-				-			

\- 未達到指定的風力
not reaching 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 speed in between the times indicated.

表 3.1.3　浣熊影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位為毫米)

Table 3.1.3　Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Neoguri

站 (參閱圖3.1.2) Station (see Fig. 3.1.2)	四月十七日 17 Apr	四月十八日 18 Apr	四月十九日 19 Apr	四月二十日 20 Apr	總雨量 Total
香港天文台 Hong Kong Observatory	微量 Trace	微量 Trace	237.4	0.0	237.4
HKA 香港國際機場 Hong Kong International Airport	微量 Trace	微量 Trace	172.1	0.0	172.1
CCH 長洲 Cheung Chau	0.0	0.0	115.5	0.0	115.5
H12 半山區 Mid Levels	0.0	0.0	202.0	0.0	202.0
H19 筲箕灣 Shau Kei Wan	0.0	0.0	193.5	0.0	193.5
H21 淺水灣 Repulse Bay	0.0	0.0	184.0	0.0	184.0
K04 佐敦谷 Jordan Valley	[0.0]	[0.0]	[229.5]	0.0	[229.5]
K06 蘇屋邨 So Uk Estate	0.0	0.0	[203.0]	0.0	[203.0]
N05 粉嶺 Fanling	0.0	0.0	198.5	0.0	198.5
N06 葵涌 Kwai Chung	0.0	0.0	182.5	0.0	182.5
N09 沙田 Sha Tin	0.0	0.0	262.0	0.0	262.0
N12 元朗 Yuen Long	0.0	0.0	145.0	0.0	145.0
N13 糧船灣 High Island	0.0	0.0	137.5	0.0	137.5
R21 踏石角 Tap Shek Kok	0.0	0.0	103.0	0.0	103.0
SEK 石崗 Shek Kong	0.0	0.0	151.0	0.0	151.0
R31 大美督 Tai Mei Tuk	0.0	0.0	200.5	1.0	201.5

註：　[ ] 基於不齊全的每小時雨量數據。

Note :　[ ] based on incomplete hourly data.

表 3.1.4　浣熊影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.1.4　Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Neoguri

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	2.08	19/4	08:54	0.38	19/4	18:58
石壁	Shek Pik	2.36	19/4	09:37	0.54	19/4	13:42
大廟灣	Tai Miu Wan	2.09	19/4	08:50	0.35	19/4	20:41
大埔滘	Tai Po Kau	2.23	19/4	10:13	0.62	19/4	14:06
尖鼻咀	Tsim Bei Tsui	2.55	19/4	21:41	0.69	19/4	20:03
橫瀾島	Waglan Island	2.20	19/4	08:46	0.32	19/4	13:55

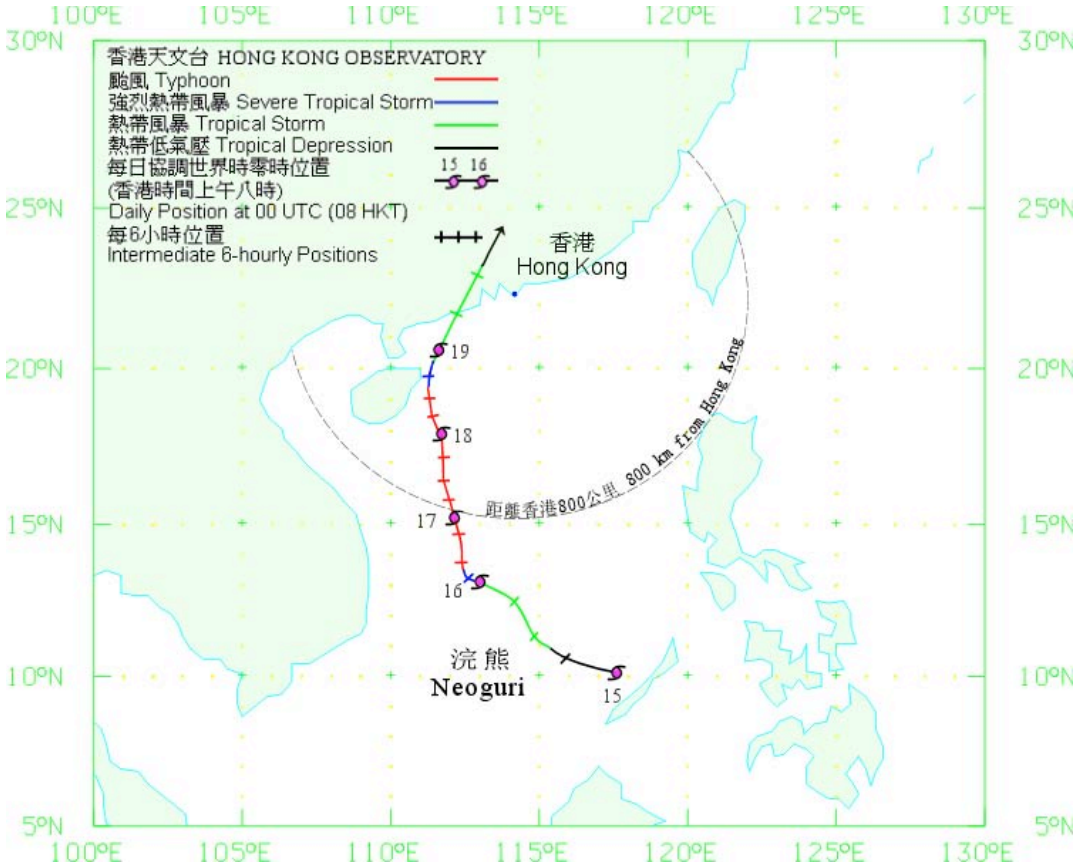


圖 3.1.1　　浣熊（0801）在二零零八年四月十五日至二十日的路徑圖。

Figure 3.1.1　　Track of Neoguri (0801) on 15 – 20 April 2008.

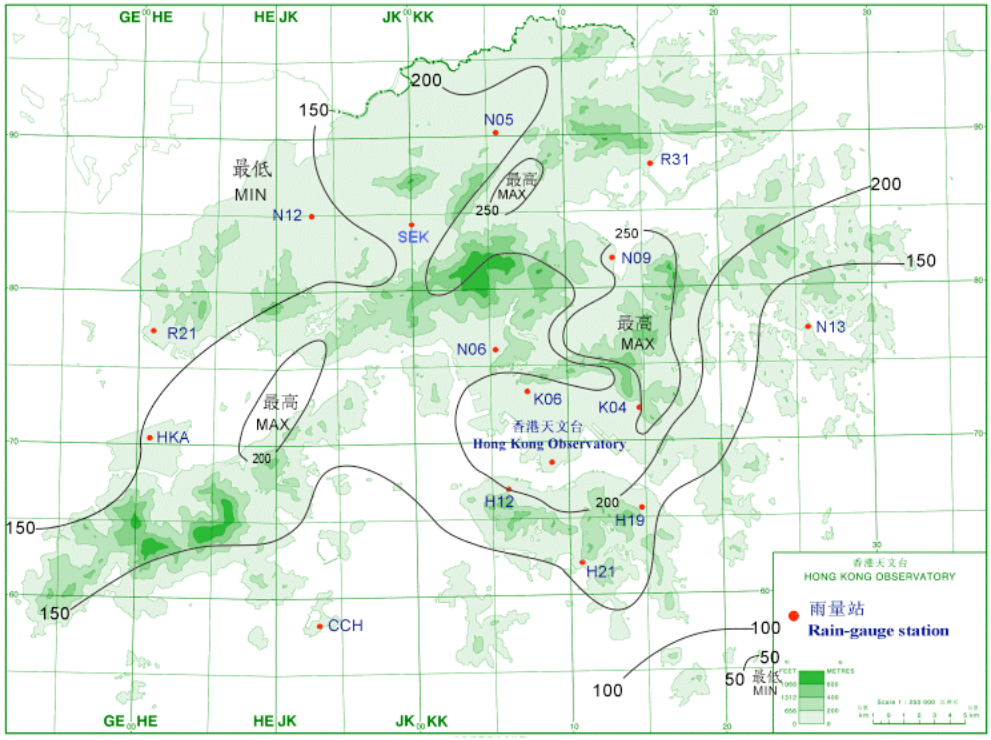


圖 3.1.2　　二零零八年四月十七日至二十日的雨量分佈(等雨量線單位為毫米)。

Figure 3.1.2　　Rainfall distribution on 17 – 20 April 2008 (isohyets are in millimetres).

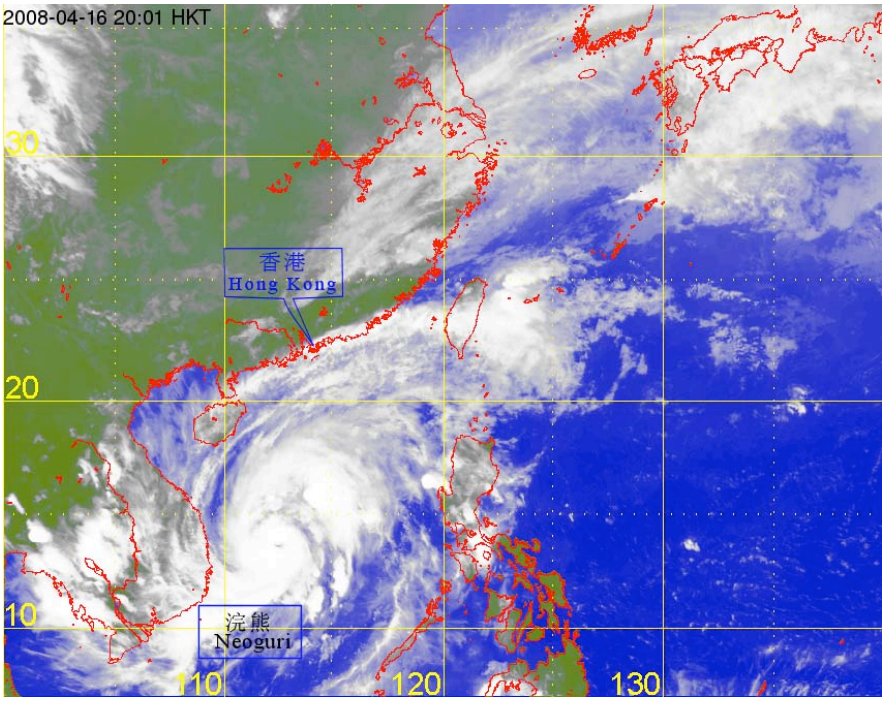


圖 3.1.3.a 浣熊在二零零八年四月十六日下午8時的紅外線衛星圖片。

Figure 3.1.3.a Infra-red satellite imagery at 8 p.m. on 16 April 2008 of Neoguri.

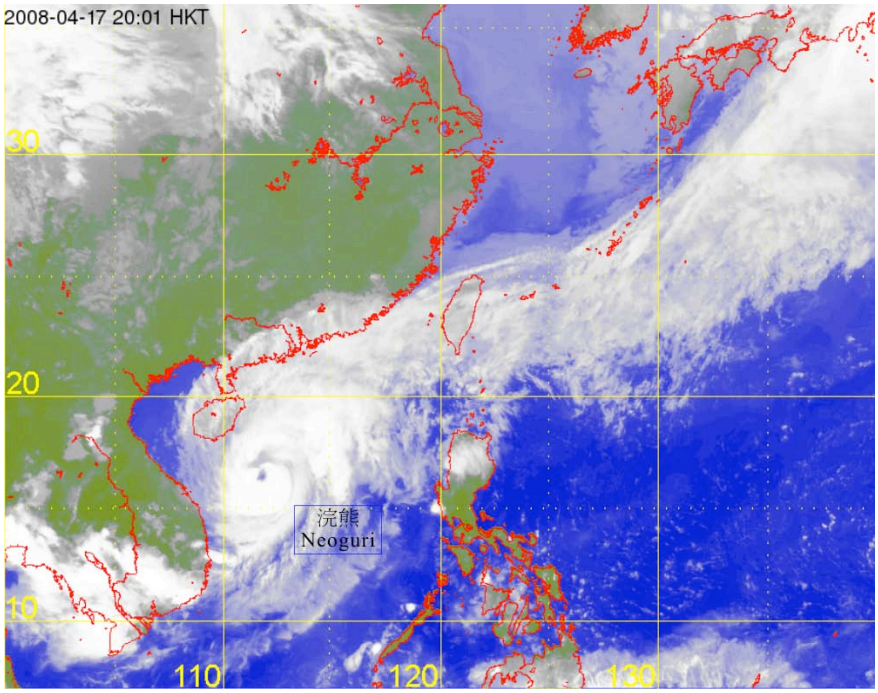


圖 3.1.3.b 浣熊在二零零八年四月十七日下午8時的紅外線衛星圖片。

Figure 3.1.3.b Infra-red satellite imagery at 8 p.m. on 17 April 2008 of Neoguri.

〔圖像 3.1.3.a-d 接收自日本氣象廳的多用途輸送衛星-1R。〕

[The imageries in Figures 3.1.3.a-d were originally captured by Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

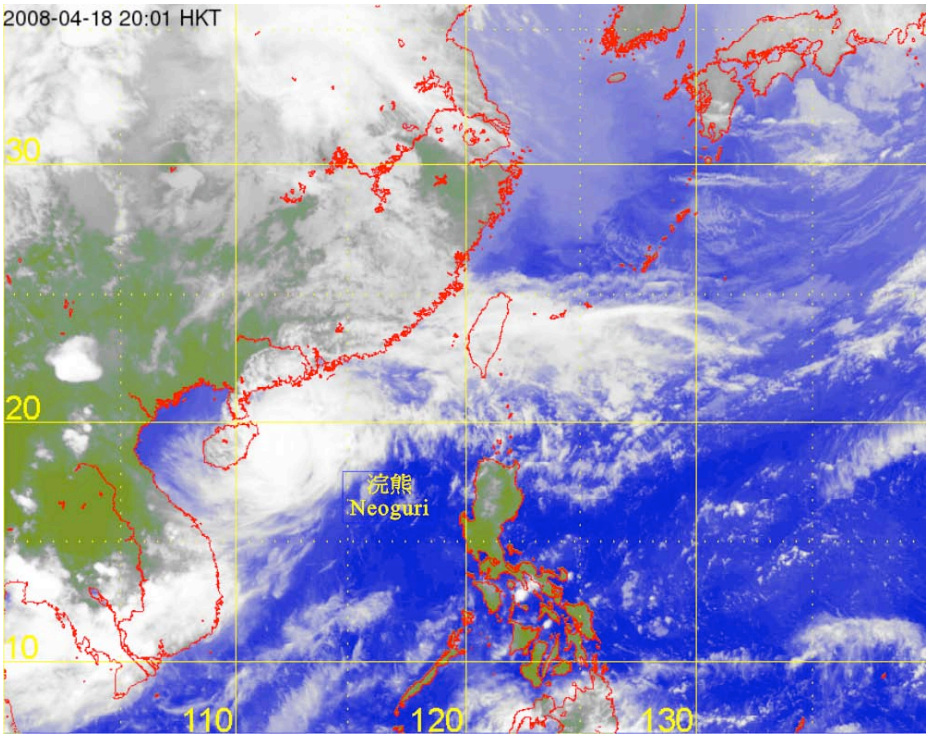


圖 3.1.3.c　　浣熊在二零零八年四月十八日下午8時的紅外線衛星圖片。

Figure 3.1.3.c　　Infra-red satellite imagery at 8 p.m. on 18 April 2008 of Neoguri.

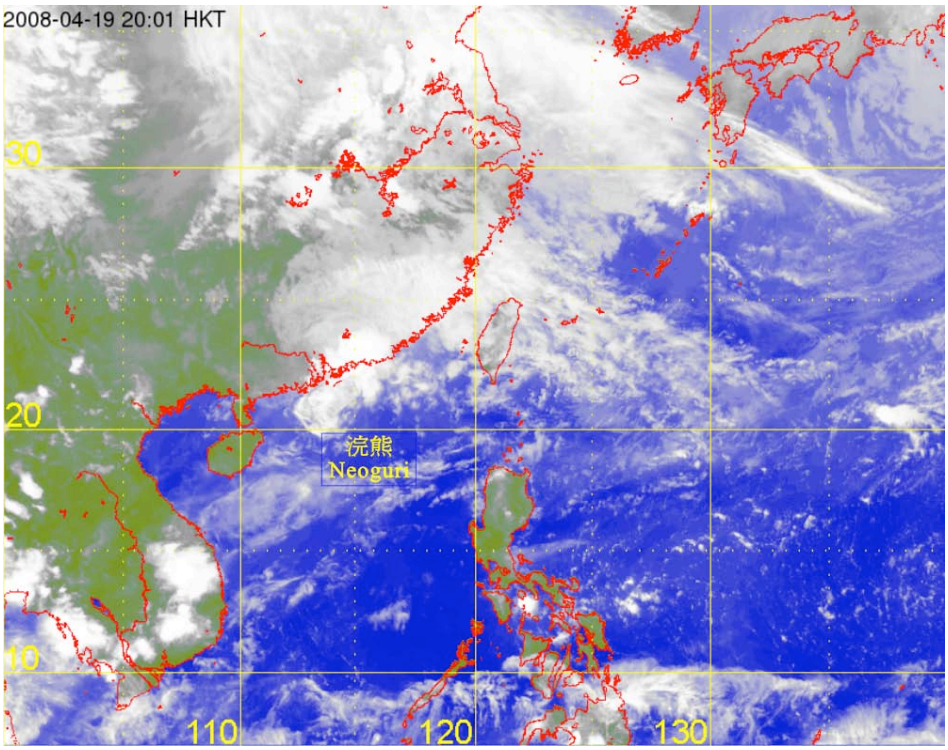
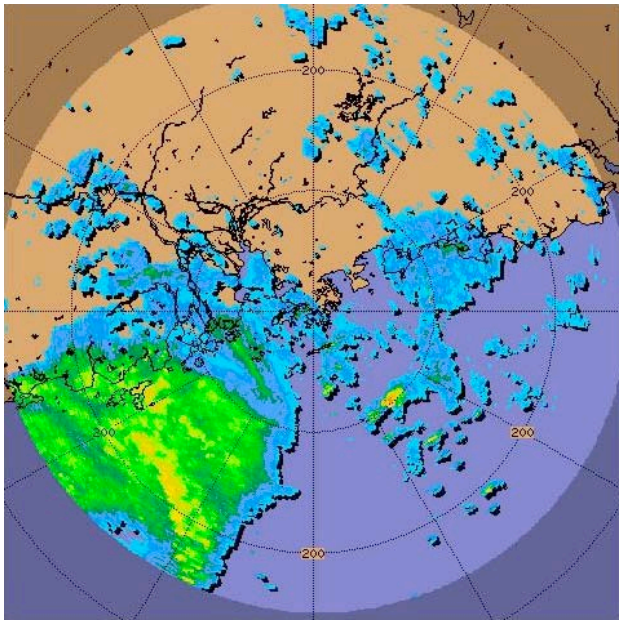
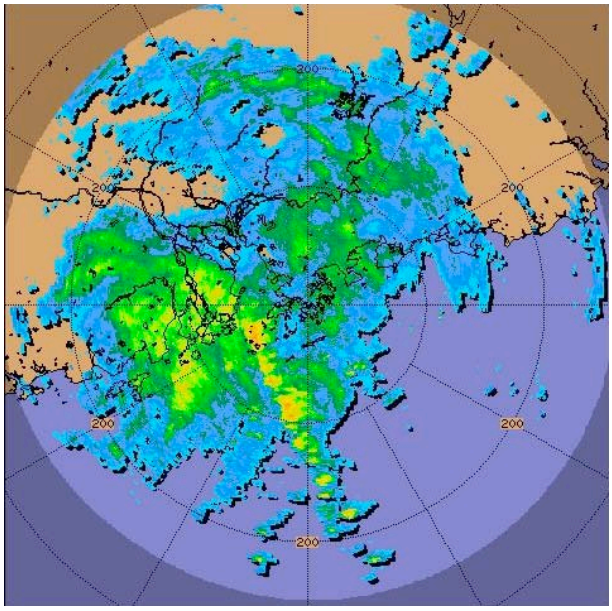


圖 3.1.3.d　　浣熊在二零零八年四月十九日下午8時的紅外線衛星圖片。

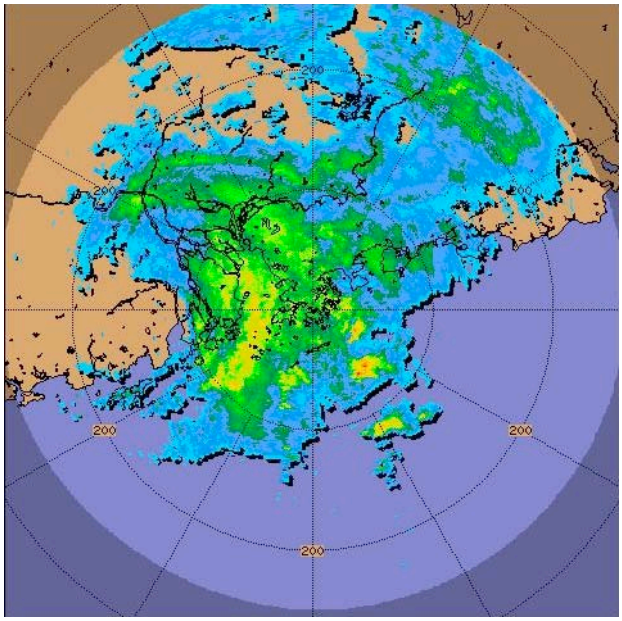
Figure 3.1.3.d　　Infra-red satellite imagery at 8 p.m. on 19 April 2008 of Neoguri.



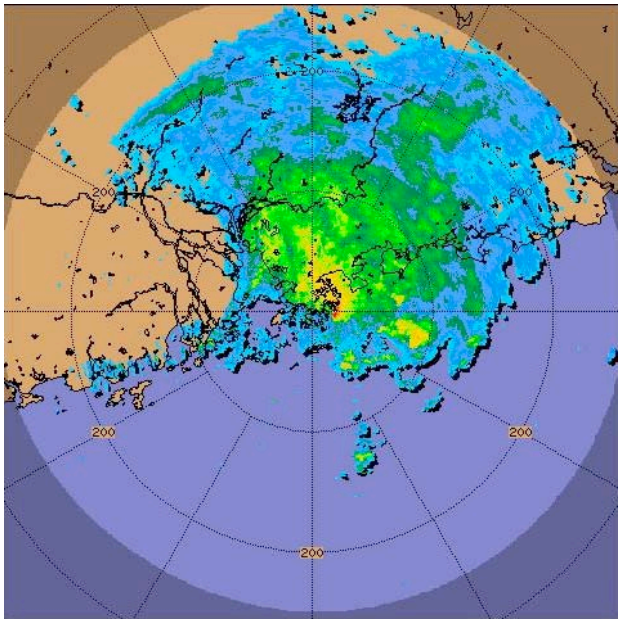
(a) 二零零八年四月十九日上午8時
8 a.m. on 19 April 2008



(b) 二零零八年四月十九日下午2時
2 p.m. on 19 April 2008



(c) 二零零八年四月十九日下午5時
5 p.m. on 19 April 2008



(d) 二零零八年四月十九日下午8時
8 p.m. on 19 April 2008

圖 3.1.4 浣熊的雷達回波圖像。
Fig. 3.1.4 Radar echoes of Neoguri.

颱風風神（0806）：二零零八年六月十八日至二十六日

風神是香港在二零零八年第二個需要發出熱帶氣旋警告信號的熱帶氣旋。天文台亦在風神襲港期間發出該年首個八號烈風或暴風信號。

熱帶低氣壓風神於六月十八日黃昏在香港東南約2 480公里的北太平洋西部上形成，並向西北偏西移動。它於翌日首先增強為熱帶風暴，後再增強為強烈熱帶風暴。風神於六月二十日增強為颱風，於當日下午吹襲菲律賓中部，翌日大致轉向西北移動，並於六月二十二日橫過呂宋西南部。風神肆虐菲律賓期間，導致最少229人死亡，有143間房屋倒塌或損毀。一艘渡輪在菲律賓中部錫布延島對開海面上沉沒，約800名乘客及船員失蹤。

風神於六月二十二日黃昏進入南海，翌日下午減弱為強烈熱帶風暴。它於六月二十四日轉向西北偏北移動，直趨香港附近的華南沿岸。風神於六月二十五日凌晨短暫時間轉向北移動，並在香港以東掠過後在深圳葵涌登陸。它於當日早上減弱為熱帶風暴，晚上進一步減弱為熱帶低氣壓，最後於六月二十六日凌晨在廣東減弱為一低壓區。風神為廣東帶來水浸及山泥傾瀉，而其殘餘在其後數天為廣東帶來暴雨。根據報章報導，廣東共有17人死亡、七人失蹤，倒塌房屋超過13 000間，直接經濟損失約12億元人民幣。

香港天文台於六月二十三日上午7時40分發出一號戒備信號，當時風神位於香港東南偏南約690公里。由於風神移近香港，天文台在六月二十四日下午4時40分發出三號強風信號，當時風神位於香港東南偏南約190公里。本港風勢在當日下午轉為清勁，黃昏時離岸及高地普遍吹強風。當日晚上風勢繼續增強，天文台於下午10時45分發出八號東北烈風或暴風信號，再於六月二十五日凌晨12時45分改發八號西北烈風或暴風信號。隨着風神在香港以東掠過，本港轉吹西南風，天文台於當日上午5時45分改發八號西南烈風或暴風信號。當日早上本港普遍吹強風，風力間中達烈風程度。隨着早上風勢減弱，天文台於當日上午11時15分改發三號強風信號。當日下午及黃昏離岸及高地繼續普遍吹強風。隨着風神在內陸減弱，本港風勢在晚上緩和，天文台在當日下午10時15分取消所有熱帶氣旋警告信號。

在風神影響香港期間，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	日期/月份	時間
香港天文台總部	991.3 百帕斯卡	25/6	上午3時23分
橫瀾島	989.5 百帕斯卡	25/6	上午2時56分，2時57分，3時08分
打鼓嶺	991.3 百帕斯卡	25/6	上午4時18分 - 4時22分

風神於六月二十五日上午四時左右最接近香港，當時其位置在天文台總部以東約25公里。

香港於六月二十三日天晴及炎熱，六月二十四日轉為多雲，黃昏有幾陣驟雨。六月二十五日早上本港有大雨及幾陣狂風雷暴，該日其餘時間仍然有雨。天文台在六月二十五日上午5時15分及上午6時正分別發出黃色及紅色暴雨警告信號，並於上午6時35分及上午8時10分分別發出新界北水浸特別報告及山泥傾瀉警告。風神的殘餘於六月二十六日繼續為本港帶來大雨。

香港在風神影響期間有17人受傷、各區有38宗水浸報告及41宗塌樹報告。此外，淺水灣、屯門及大嶼山有12宗山泥傾瀉報告，而上環、中環、太古城及九龍灣有五宗棚架墮下報告。荃灣一商場的玻璃幕牆被風吹脫，三名途人受傷。在元朗一對年長夫婦居住的房屋被洪水沖入，幸無人受傷。香港國際機場有超過135班來港及182班離港航班延誤，26航班取消及一航班轉飛其它機場。

表3.2.1-3.2.4 分別是風神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、日雨量及最高潮汐資料。圖3.2.1-3.2.4 分別為風神的路徑圖、雨量分佈圖、風神的衛星及雷達圖像。

3.2 Typhoon Fengshen (0806): 18 – 26 June 2008

Fengshen was the second tropical cyclone that necessitated the issuance of tropical cyclone warning signals in Hong Kong in 2008. It also necessitated the issuance of the first No. 8 Gale or Storm Signal in the year.

Fengshen formed as a tropical depression over the western North Pacific about 2 480 km southeast of Hong Kong on the evening of 18 June and moved west-northwestwards. It intensified first into a tropical storm and then a severe tropical storm the next day. After intensifying into a typhoon on 20 June, Fengshen hit the central Philippines that afternoon and turned to a generally northwesterly track the next day, and crossed the southwestern part of Luzon on 22 June. In the fury of Fengshen, at least 229 people were killed in the Philippines, 143 houses collapsed or were damaged. A passenger ship capsized off the coast of Sibuyan Island in the central Philippines and around 800 passengers and crewmen on board were missing.

Fengshen entered the South China Sea on the evening of 22 June and weakened into a severe tropical storm in the following afternoon. It turned to move north-northwestwards on 24 June towards the south China coast near Hong Kong. On the small hours of 25 June, Fengshen took a northerly track for a short period and made landfall at Kuichong, Shenzhen after skirting to the east of Hong Kong. Fengshen weakened into a tropical storm that morning and further into a tropical depression that night. It finally weakened into an area of low pressure in Guangdong in the early morning of 26 June. Fengshen brought flooding and landslides to Guangdong. Its remnant also brought rainstorms to the province for the following few days. According to press reports, in Guangdong up to 17 people were killed and another seven missing. More than 13 000 houses collapsed. The direct economic loss was around 1.2 billion yuan.

In Hong Kong, the Standby Signal No. 1 was issued at 7:40 a.m. on 23 June when Fengshen was about 690 km south-southeast of Hong Kong. As Fengshen moved closer to Hong Kong, the Strong Wind Signal No. 3 was issued at 4:40 p.m. on 24 June when Fengshen was about 190 km south-southeast of Hong Kong. Local winds freshened during the afternoon and became generally strong offshore and on high grounds that evening. The winds continued to strengthen that night and the No. 8 NE Gale or Storm Signal was issued at 10:45 p.m. This was followed by the No. 8 NW Gale or Storm Signal at 12:45 a.m. on 25 June. As Fengshen passed to the east of Hong Kong, local winds turned to the southwest and the No. 8 SW Gale or Storm Signal was issued at 5:45 a.m. Local winds were generally strong and occasionally up to gale force on the morning of 25 June. With the winds subsiding during the morning, the No. 8 SW Gale or Storm Signal was replaced by the No. 3 Strong Wind Signal at 11:15 a.m. Local winds remained generally strong offshore and on high grounds during the afternoon and evening. All signals were cancelled at 10:15 p.m. as Fengshen weakened overland and winds subsided further.

During the passage of Fengshen, the lowest instantaneous mean sea-level pressures recorded at some selected stations were as follows :-

Station	Lowest instantaneous mean sea-level pressure	Date/Month	Time
Hong Kong Observatory Headquarters	991.3 hPa	25/6	3:23 a.m.
Waglan Island	989.5 hPa	25/6	2:56, 2:57, 3:08 a.m.
Ta Kwu Ling	991.3 hPa	25/6	4:18 – 4:22 a.m.

Fengshen was closest to Hong Kong at about 4 a.m. on 25 June when it was about 25 km to the east of the Hong Kong Observatory.

The weather was fine and hot on 23 June. It became cloudy on 24 June with a few showers that evening. Heavy rain and a few squally thunderstorms affected Hong Kong on the morning of 25 June and rainy conditions persisted for the rest of the day. The Amber and the Red Rainstorm Warning were issued at 5:15 a.m. and 6:00 a.m. on 25 June respectively while the Special Announcement on Flooding in the northern New Territories and the Landslip Warning were issued at 6:35 a.m. and 8:10 a.m. respectively. The remnant of Fengshen continued to bring heavy rain to Hong Kong on 26 June.

In Hong Kong, 17 people were injured during the passage of Fengshen. There were 38 reports of flooding and 41 reports of fallen trees in various districts, 12 reports of landslides at Repulse Bay, Tuen Mun and Lantau and five reports of collapsed scaffoldings at Sheung Wan, Central, Tai Koo Shing and Kowloon Bay. A glass panel was blown off the outer wall of a shopping mall in Tsuen Wan, injuring three passers-by. Flood water washed into the house of an elderly couple in Yuen Long but there were no casualties. At the Hong Kong International Airport, 135 inbound and 182 outbound flights were delayed, 26 flights were cancelled and one flight had to be diverted.

The information on maximum wind, periods of strong and gale force winds, daily rainfall and maximum sea level during the passage of Fengshen is given in Tables 3.2.1 - 3.2.4. Figures 3.2.1 - 3.2.4 show the track of Fengshen, rainfall distribution, satellite and radar imageries of Fengshen respectively.

表 3.2.1　在風神影響下，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 3.2.1　Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when tropical cyclone warning signals for Fengshen 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 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)	西南	SW	113	25/6	05:43	西南偏西	WSW	72	25/6	07:00
中環碼頭	Central Pier	西	W	68	25/6	03:57	西	W	45	25/6	04:00
		西南偏西	WSW	68	25/6	18:09					
長洲	Cheung Chau	西南偏西	WSW	108	25/6	06:11	西南偏西	WSW	70	25/6	07:00
長沙灣	Cheung Sha Wan	西南偏西	WSW	76	25/6	06:50	西南偏西	WSW	38	25/6	07:00
香港國際機場	Hong Kong International Airport	西南	SW	85	25/6	07:13	西南	SW	59	25/6	08:00
啟德	Kai Tak	西南偏南	SSW	104	25/6	06:19	西南	SW	54	25/6	07:00
京士柏	King's Park	西南	SW	96	25/6	06:40	西南	SW	31	25/6	07:00
流浮山	Lau Fau Shan	西北偏西	WNW	88	25/6	05:22	西南偏西	WSW	65	25/6	08:00
		西北偏西	WNW	88	25/6	05:29					
昂坪	Ngong Ping	西南偏西	WSW	189	25/6	06:54	西	W	140	25/6	08:00
北角	North Point	西	W	83	25/6	06:17	西	W	45	25/6	07:00
坪洲	Peng Chau	西北	NW	87	25/6	02:48	西北	NW	59	25/6	04:00
平洲	Ping Chau	東北	NE	63	25/6	02:39	西南	SW	25	25/6	07:00
西貢	Sai Kung	東北偏北	NNE	87	24/6	22:09	東北	NE	47	24/6	21:00
沙洲	Sha Chau	西北偏北	NNW	99	25/6	03:08	西北偏北	NNW	59	25/6	03:00
沙螺灣	Sha Lo Wan	西南	SW	96	25/6	06:29	西南	SW	49	25/6	08:00
沙田	Sha Tin	北	N	72	25/6	00:45	西南	SW	31	25/6	07:00
石崗	Shek Kong	東北偏東	ENE	51	24/6	19:14	東北偏東	ENE	25	24/6	20:00
九龍天星碼頭	Star Ferry (Kowloon)	西	W	99	25/6	12:43	西南偏西	WSW	51	25/6	07:00
打鼓嶺	Ta Kwu Ling	東北偏北	NNE	59	25/6	01:30	北	N	23	25/6	01:00
大帽山	Tai Mo Shan	西南	SW	122	25/6	07:49	西南	SW	85	25/6	09:00
		西南	SW	122	25/6	07:50					
大老山	Tate's Cairn	西南	SW	130	25/6	06:34	北	N	76	25/6	01:00
鯽魚湖	Tsak Yue Wu	東北偏北	NNE	92	25/6	01:29	東北偏北	NNE	30	25/6	02:00
將軍澳	Tseung Kwan O	西南	SW	70	25/6	06:31	東北	NE	23	24/6	21:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	-	-	81	25/6	06:19	-	-	45	25/6	07:00
屯門政府合署	Tuen Mun Government Offices	西南	SW	88	25/6	08:09	西南	SW	30	25/6	09:00
橫瀾島	Waglan Island	西南偏西	WSW	122	25/6	05:49	西南偏西	WSW	99	25/6	07:00
		西南偏西	WSW	122	25/6	05:54					
濕地公園	Wetland Park	西北偏北	NNW	58	25/6	03:00	西北偏北	NNW	30	25/6	03:00
黃竹坑	Wong Chuk Hang	西南偏西	WSW	77	25/6	06:29	西北偏西	WNW	31	25/6	07:00

表 3.2.2　在風神影響下，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 3.2.2 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 Fengshen were in force

站（參閱圖 1.1）Station (See Fig. 1.1)		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 reaching gale force#		最後達到烈風#時間 Last time reaching gale force#	
		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	24/6	19:30	25/6	21:39	25/6	03:05	25/6	11:06
香港國際機場	Hong Kong International Airport	25/6	01:19	25/6	21:24	25/6	03:04	25/6	09:18
啓德	Kai Tak	25/6	05:04	25/6	18:47	25/6	06:24	25/6	06:40
西貢	Sai Kung	24/6	19:05	25/6	01:37	-			
沙田	Sha Tin	-				-			
打鼓嶺	Ta Kwu Ling	-				-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	25/6	05:20	25/6	07:33	-			
濕地公園	Wetland Park	-				-			

\- 未達到指定的風力

not reaching 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 speed in between the times indicated.

表 3.2.3　風神影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位爲毫米)

Table 3.2.3　Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Fengshen

站 (參閱圖 3.2.2) Station (see Fig. 3.2.2)	六月二十三日 23 Jun	六月二十四日 24 Jun	六月二十五日 25 Jun	六月二十六日 26 Jun	總雨量 Total
香港天文台 Hong Kong Observatory	0.0	0.6	146.1	100.4	247.1
CCH 長洲　Cheung Chau	0.0	0.0	158.5	85.0	243.5
HKA 香港國際機場 Hong Kong International Airport	0.0	微量 Trace	286.7	35.2	321.9
H12 半山區 Mid Levels	[0.0]	[0.5]	[148.0]	[98.5]	[247.0]
H19 筲箕灣 Shau Kei Wan	0.0	4.5	176.0	91.5	272.0
H21 淺水灣 Repulse Bay	0.0	3.0	143.5	64.5	211.0
K04 佐敦谷 Jordan Valley	[0.0]	[0.5]	[128.0]	[89.0]	[217.5]
K06 蘇屋邨 So Uk Estate	[0.0]	[1.0]	[188.5]	[132.5]	[322.0]
N05 粉嶺　Fanling	[0.0]	0.0	154.5	49.5	[204.0]
N06 葵涌　Kwai Chung	0.0	0.0	195.0	78.0	273.0
N09 沙田　Sha Tin	[0.0]	[0.0]	[150.5]	81.0	[231.5]
N12 元朗　Yuen Long	0.0	0.0	213.5	41.0	254.5
N13 糧船灣 High Island	0.0	5.0	89.5	85.5	180.0
N17 東涌　Tung Chung	0.0	0.0	298.0	101.5	399.5
R21 踏石角 Tap Shek Kok	0.0	0.0	192.0	32.5	224.5
SEK 石崗　Shek Kong	0.0	0.0	176.5	40.0	216.5
R31 大美督 Tai Mei Tuk	0.0	0.0	105.0	41.0	146.0

註：　[　] 基於不齊全的每小時雨量數據。

Note :　[　] based on incomplete hourly data.

表 3.2.4　風神影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.2.4　Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Fengshen

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	1.95	23/6	10:54	0.23	24/6	20:54
石壁	Shek Pik	2.38	23/6	11:25	0.34	24/6	17:56
大廟灣	Tai Miu Wan	2.25	23/6	10:33	0.56	25/6	03:55
大埔滘	Tai Po Kau	2.18	23/6	10:21	0.61	25/6	05:23
尖鼻咀	Tsim Bei Tsui	2.64	23/6	12:23	0.66	25/6	07:49
橫瀾島	Waglan Island	2.18	23/6	10:38	0.36	25/6	03:55

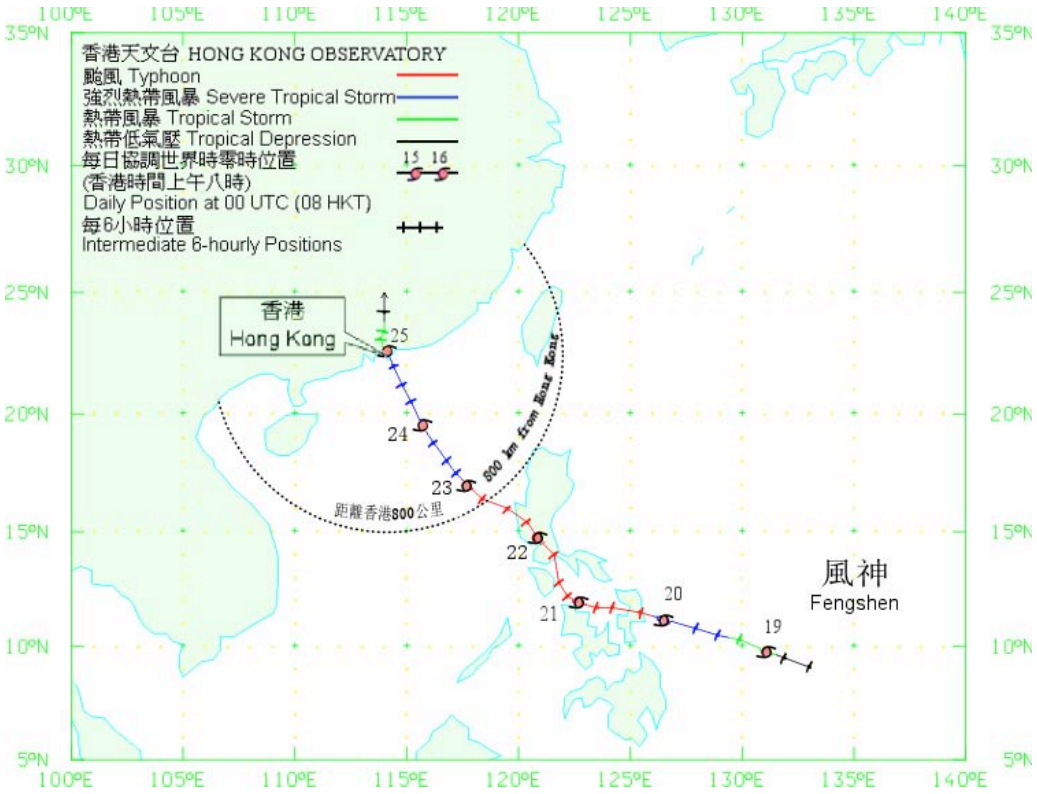


圖 3.2.1a　　風神（0806）在二零零八年六月十八日至二十六日的路徑圖。

Figure 3.2.1a　　Track of Fengshen (0806) on 18 – 26 June 2008.

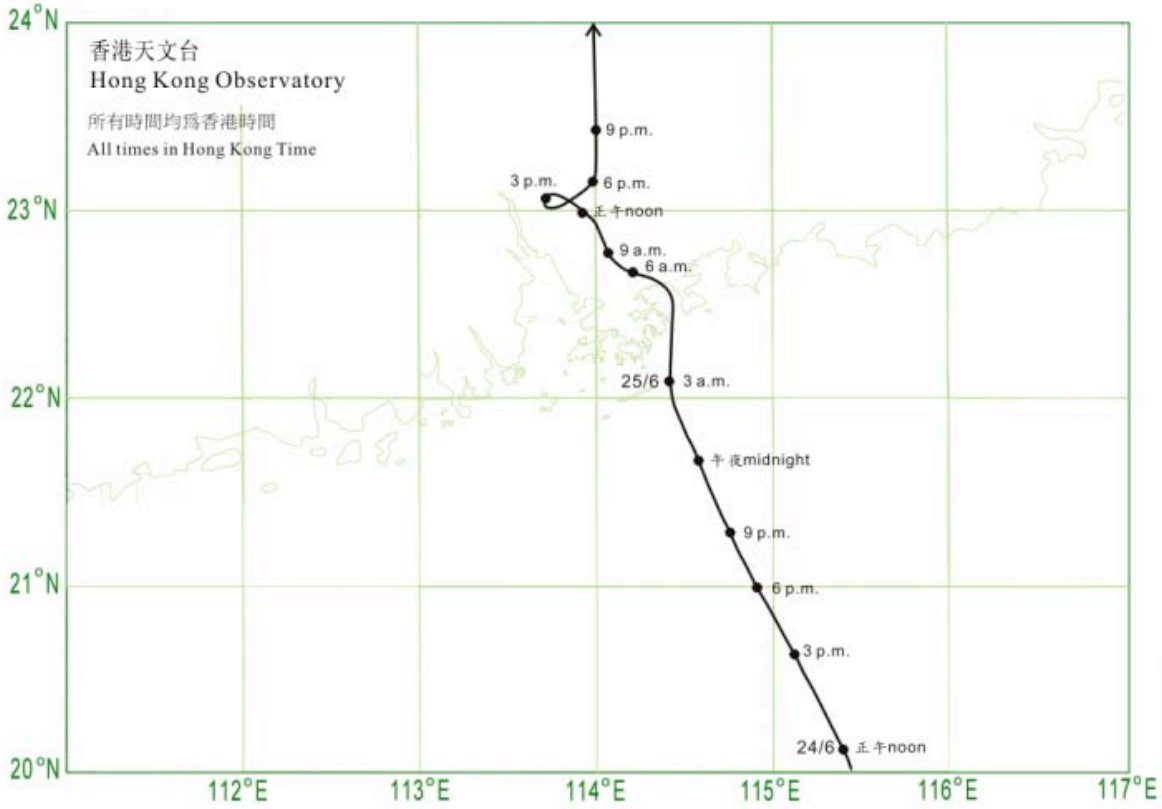


圖 3.2.1b　　風神（0806）接近香港時的路徑圖。

Figure 3.2.1b　　Track of Fengshen (0806) near Hong Kong.

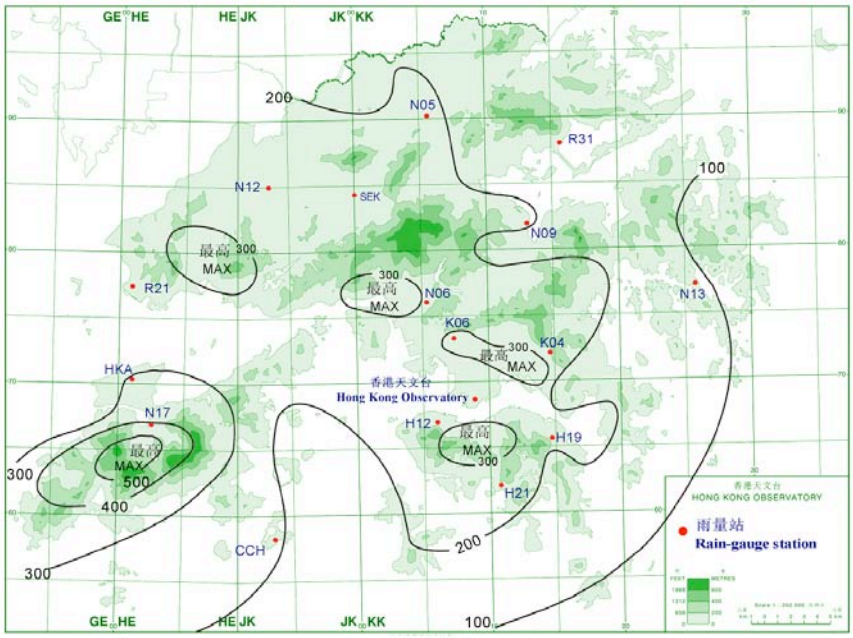


圖 3.2.2　　二零零八年六月二十三日至二十六日的雨量分佈(等雨量線單位為毫米)。

Figure 3.2.2　Rainfall distribution on 23 – 26 June 2008 (isohyets are in millimetres).

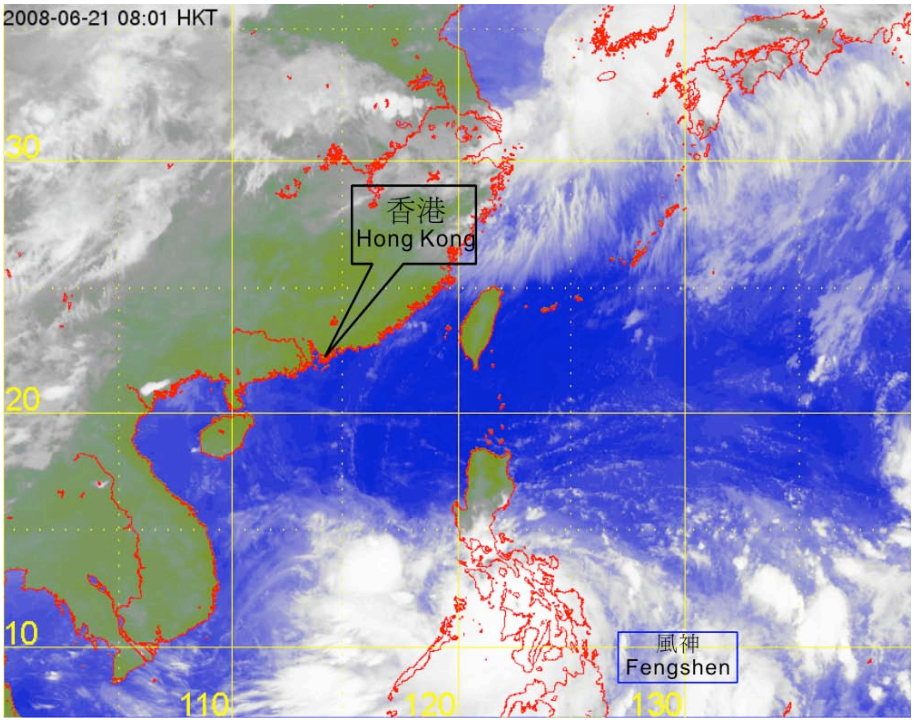


圖 3.2.3.a　　風神在二零零八年六月二十一日上午8時的紅外線衛星圖片 。

Figure 3.2.3.a　Infra-red satellite imagery at 8 a.m. on 21 June 2008 of Fengshen.

〔圖像 3.2.3.a-e接收自日本氣象廳的多用途輸送衛星-1R。〕

[The imageries in Figures 3.2.3.a-e were originally captured by Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

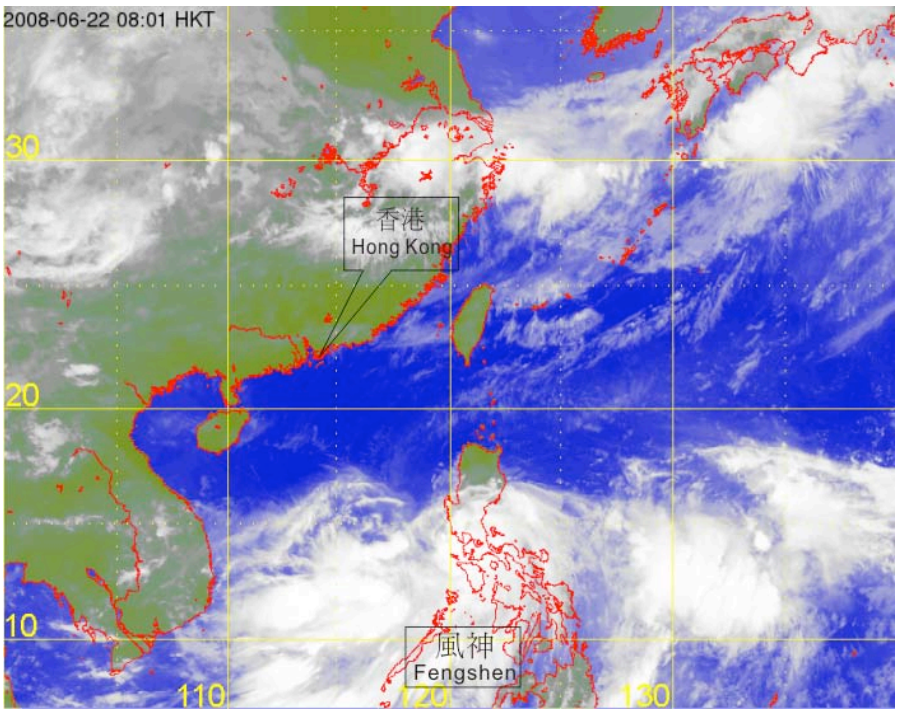


圖 3.2.3.b　　風神在二零零八年六月二十二日上午8時的紅外線衛星圖片。

Figure 3.2.3.b　　Infra-red satellite imagery at 8 a.m. on 22 June 2008 of Fengshen.

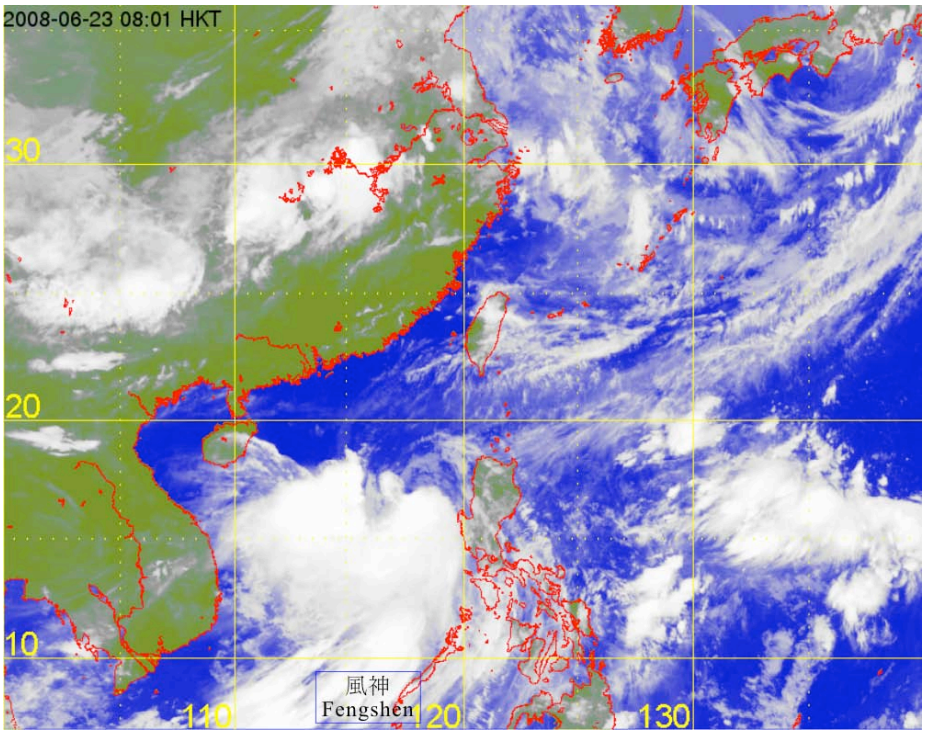


圖 3.2.3.c　　風神在二零零八年六月二十三日上午8時的紅外線衛星圖片。

Figure 3.2.3.c　　Infra-red satellite imagery at 8 a.m. on 23 June 2008 of Fengshen.

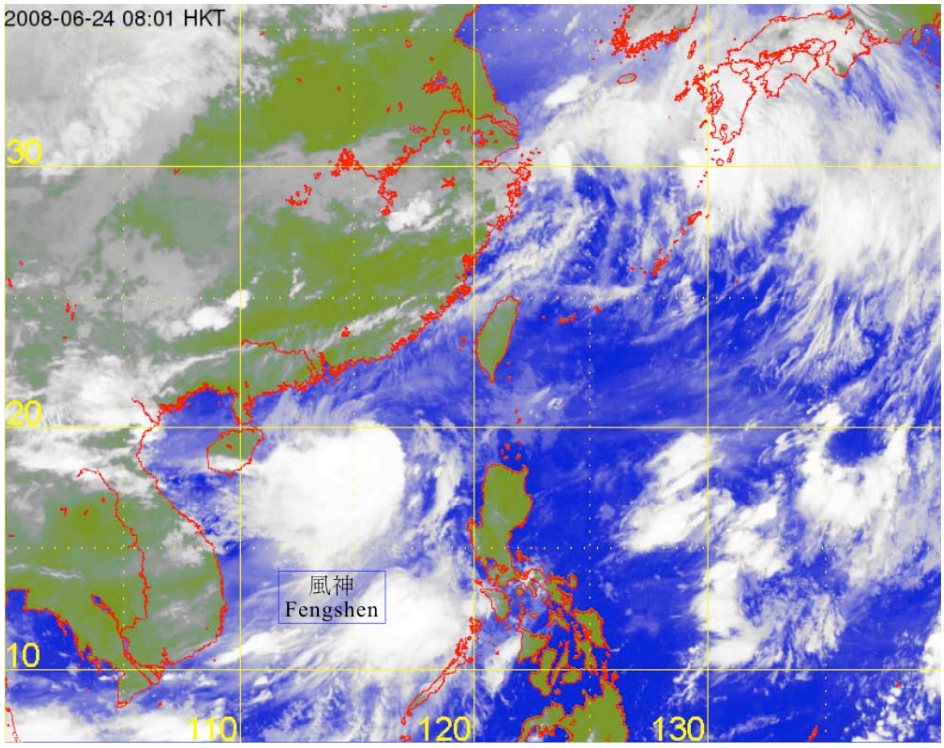


圖 3.2.3.d　　風神在二零零八年六月二十四日上午8時的紅外線衛星圖片。

Figure 3.2.3.d　　Infra-red satellite imagery at 8 a.m. on 24 June 2008 of Fengshen.

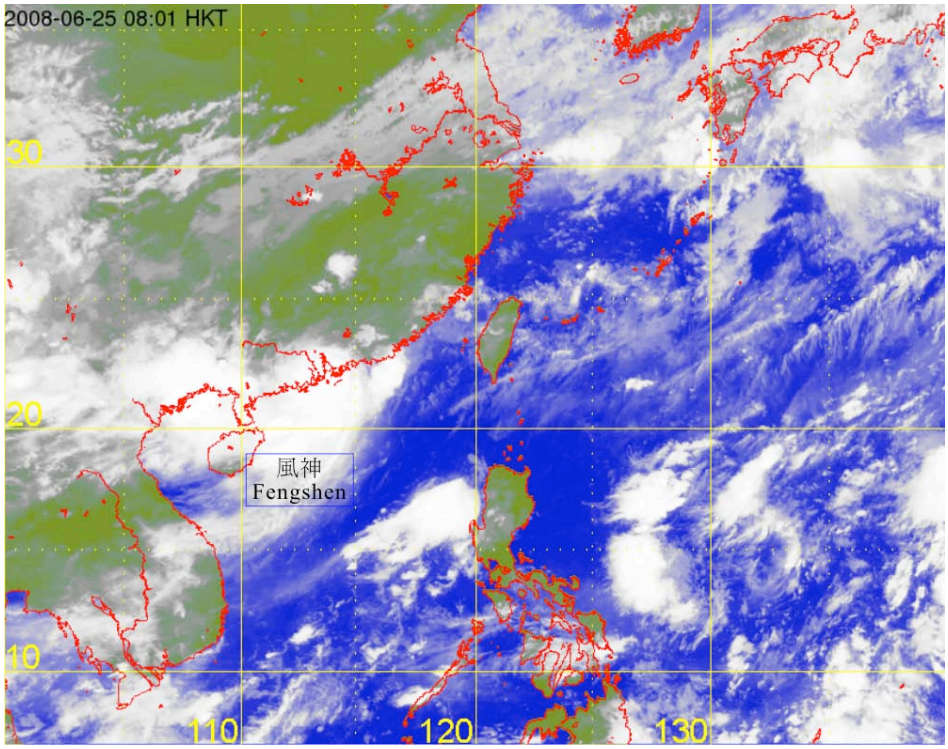
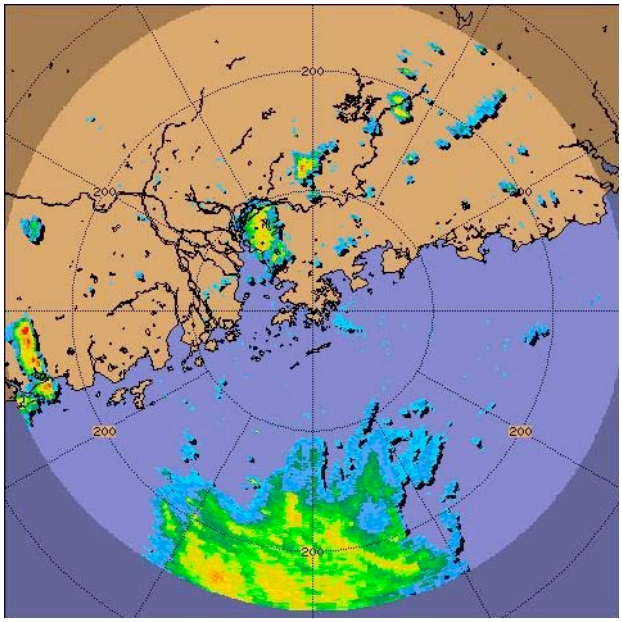
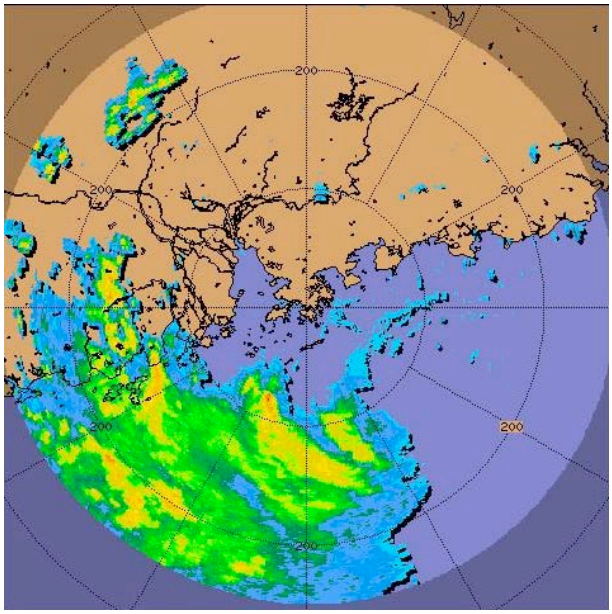


圖 3.2.3.e　　風神在二零零八年六月二十五日上午8時的紅外線衛星圖片。

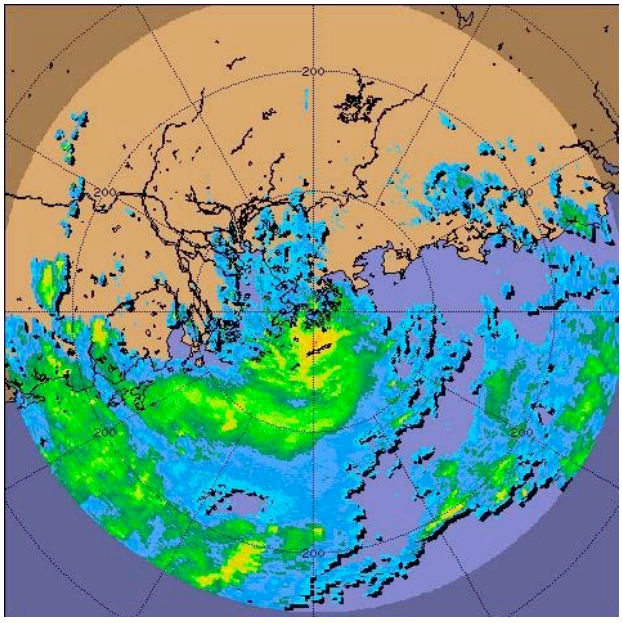
Figure 3.2.3.e　　Infra-red satellite imagery at 8 a.m. on 25 June 2008 of Fengshen.



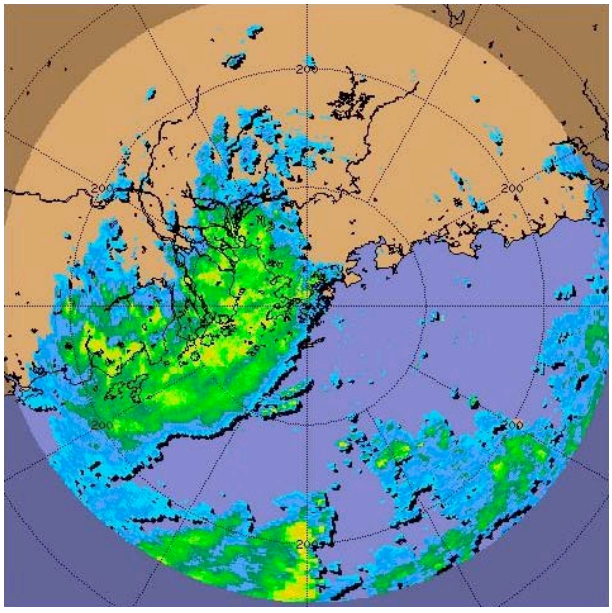
(a) 二零零八年六月二十四日下午4時
4 p.m. on 24 June 2008



(b) 二零零八年六月二十四日下午10時
10 p.m. on 24 June 2008



(c) 二零零八年六月二十五日上午4時，當時風神最為接近香港
4 a.m. on 25 June 2008, when Fengshen was closest to Hong Kong



(d) 二零零八年六月二十五日上午10時
10 a.m. on 25 June 2008

圖 3.2.4 風神的雷達回波圖像。
Fig. 3.2.4 Radar echoes of Fengshen.

3.3 強烈熱帶風暴北冕(0809)： 二零零八年八月四日至八日

北冕是香港在二零零八年第三個需要發出熱帶氣旋警告信號的熱帶氣旋，亦是本年第二個需要發出八號烈風或暴風信號的熱帶氣旋。

熱帶低氣壓北冕於八月四日早上在香港東南580公里的南海東北部上形成，並向西北偏西移動，翌日早上增強為熱帶風暴。北冕於八月六日凌晨增強為強烈熱帶風暴及向西北移動，並於早上在香港西南偏南約130公里處掠過。它於當日下午較後時間轉向西移動，並於黃昏在廣東西部陽西縣登陸，當晚減弱為熱帶風暴。北冕隨後橫過廣東西部及廣西沿岸地區。它於八月八日凌晨在越南北部減弱為熱帶低氣壓，當日早上在該處進一步減弱為一低壓區。根據報章報導，北冕帶來的暴雨引致廣東、廣西及海南島水災，直接經濟損失超過五億元人民幣。33名在廣西海域上作業的漁民被大風捲走，幸而獲救。此外，北冕及其殘餘為雲南帶來暴雨，導致約40人死亡，直接經濟損失超過三億元人民幣。北冕吹襲越南北部期間，引致該處水災及山泥傾瀉，導致至少100人死亡，50人失蹤。

香港天文台於八月四日上午10時15分發出一號戒備信號，當時北冕位於香港東南約570公里。由於北冕移近香港，天文台在八月五日下午7時15分改發三號強風信號，當時北冕位於香港東南偏南約250公里。當日本港吹和緩至清勁北風，晚上離岸海域及高地普遍吹強風。由於本港風勢繼續增強，天文台於八月六日上午5時40分發出八號東北烈風或暴風信號，當時北冕位於香港以南約180公里。在上午8時40分天文台改發八號東南烈風或暴風信號。當日早上本港風勢顯著增強，普遍吹偏東強風，離岸海域吹烈風，而本港南部海域及高地間中吹暴風。當日下午北冕移離香港，本港轉吹東南強風，而離岸海域及高地的烈風亦逐漸減弱，天文台於當日下午5時15分改發三號強風信號。隨着北冕進一步移離香港，本港風力進一步緩和，天文台於八月七日上午4時15分改發一號戒備信號及在當日上午7時15分取消所有熱帶氣旋警告信號。

在北冕影響香港期間，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	日期/月份	時間
香港天文台總部	990.6 百帕斯卡	6/8	上午6時51分 - 6時52分
橫瀾島	987.5 百帕斯卡	6/8	上午6時44分
長洲	990.2 百帕斯卡	6/8	上午7時45分及中午12時正

北冕於八月六日上午10時左右最接近香港，當時其位置在香港西南偏南約130公里。

香港於八月四日天晴及酷熱，部份地區有煙霞，但黃昏局部地區有驟雨。八月五日轉為多雲及有雨。八月六日本港有狂風大驟雨。八月七日本港繼續有零散狂風驟雨，晚上亦有幾陣狂風雷暴。

本港在北冕影響期間至少有37人受傷、各區有超過40宗塌樹及棚架倒塌、而大坑有一宗山泥傾瀉報告。鰂魚涌一座70層商廈的兩幅玻璃幕牆被吹脫，擊毀鄰近四個住宅單位的窗台。觀塘一間鋅鐵屋頂被風吹脫，十多人需要疏散。香港國際機場受側風影響，超過380航班取消或延誤、12班航班轉飛其它機場。

表3.3.1-3.3.4 分別是北冕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、日雨量及最高潮汐資料。圖3.3.1-3.3.4 分別為北冕的路徑圖、雨量分佈圖、北冕的衛星及雷達圖像。

3.3 Severe Tropical Storm Kammuri (0809): 4 – 8 August 2008

Kammuri was the third tropical cyclone that necessitated the issuance of tropical cyclone warning signals in Hong Kong in 2008. It was also the second tropical cyclone that necessitated the issuance of the No. 8 Gale or Storm Signal in the year.

Kammuri formed as a tropical depression over the northeastern part of the South China Sea about 580 km southeast of Hong Kong on the morning of 4 August and moved west-northwestwards. It intensified into a tropical storm the next morning. In the early morning of 6 August, Kammuri intensified into a severe tropical storm and moved northwestwards, passing about 130 km south-southwest of Hong Kong that morning. It turned to move westwards later that afternoon and made landfall at Yangxi County in western Guangdong that evening, and weakened into a tropical storm that night. Kammuri then moved across the coastal areas of western Guangdong and Guangxi. It weakened into a tropical depression over northern Vietnam on the small hours of 8 August and further into an area of low pressure there that morning. According to press reports, rainstorms brought about by Kammuri resulted in flooding in Guangdong, Guangxi and Hainan Island, with direct economic losses of over 500 million RMB. Thirty-three fishermen blown overboard by high winds in the coastal waters of Guangxi were all rescued later. Rainstorm associated with Kammuri and its remnant also affected Yunnan where some 40 people were killed and the direct economic losses were around 300 million RMB. During its passage over northern Vietnam, Kammuri triggered flash floods and landslides. At least 100 people were killed and 50 others missing.

In Hong Kong, the Standby Signal No. 1 was issued at 10:15 a.m. on 4 August when Kammuri was about 570 km southeast of Hong Kong. As Kammuri moved closer to Hong Kong, the Strong Wind Signal No. 3 was issued at 7:15 p.m. on 5 August when Kammuri was about 250 km to the south-southeast. The winds over Hong Kong were moderate to fresh northerlies that day, becoming generally strong over offshore waters and on high grounds at night. As the local winds continued to strengthen, the No. 8 NE Gale or Storm Signal was issued at 5:40 a.m. on 6 August when Kammuri was 180 km to the south. It was replaced by the No. 8 SE Gale or Storm Signal at 8:40 a.m. Local winds strengthened significantly and became generally strong easterlies with gales over offshore waters in the morning. Occasional storm force winds affected the waters in the south of Hong Kong and high grounds. The winds turned to strong southeasterlies that afternoon and the gales over offshore waters and on high grounds also gradually subsided as Kammuri was moving away from Hong Kong. The No. 8 Signal was replaced by the No. 3 Strong Wind Signal at 5:15 p.m. that day. The No. 3 Signal was replaced by Standby Signal No. 1 at 4:15 a.m. on 7 August and all signals were cancelled at 7:15 a.m. that day as Kammuri moved further away and local winds subsided further.

During the passage of Kammuri, the lowest instantaneous mean sea-level pressures recorded at some selected stations were as follows :-

Station	Lowest instantaneous mean sea-level pressure	Date/Month	Time
Hong Kong Observatory Headquarters	990.6 hPa	6/8	6:51 – 6:52 a.m.
Waglan Island	987.5 hPa	6/8	6:44 a.m.
Cheung Chau	990.2 hPa	6/8	7:45 a.m. and 12:00 noon

Kammuri was closest to Hong Kong at about 10 a.m. on 6 August when it was about 130 km to the south-southwest.

The weather was fine and very hot with some haze on 4 August but there were isolated showers in the evening. The weather became cloudy with rain on 5 August. Heavy squally showers affected Hong Kong on 6 August. There were still scattered squally showers on 7 August with a few squally thunderstorms at night.

In Hong Kong, at least 37 people were injured during the passage of Kammuri. There were over 40 reports of fallen trees and collapsed scaffoldings in various districts. There was also one report of landslides in Tai Hang. Two windows were blown off from a 70-storey office tower in Quarry Bay and damaged four flats of a nearby residential building. Over 10 people had to be evacuated in Kwun Tong as the zinc roof of their hut was blown away. Significant crosswinds affected the Hong Kong International Airport and over 380 flights were cancelled or delayed and 12 others diverted.

The information on maximum wind, periods of strong and gale force winds, daily rainfall and maximum sea level during the passage of Kammuri is given in Tables 3.3.1 - 3.3.4. Figures 3.3.1 - 3.3.4 show the track of Kammuri, rainfall distribution, satellite and radar imageries of Kammuri respectively.

表 3.3.1　在北冕影響下，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 winds with associated wind directions recorded at various stations when tropical cyclone warning signals for Kammuri 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 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)	東北偏北	NNE	113	6/8	03:41	東北偏東	ENE	62	6/8	09:00
中環碼頭	Central Pier	東	E	96	6/8	08:28	東	E	56	6/8	08:00
長洲	Cheung Chau	東北	NE	124	6/8	09:13	東北偏東	ENE	83	6/8	10:00
長沙灣	Cheung Sha Wan	東北	NE	96	6/8	08:14	東北	NE	31	6/8	05:00
							東北	NE	31	6/8	06:00
青洲	Green Island	東北偏東	ENE	126	6/8	06:56	東北偏東	ENE	56	6/8	08:00
香港國際機場	Hong Kong International Airport	東	E	90	6/8	08:44	東	E	58	6/8	12:00
啓德	Kai Tak	東北	NE	101	6/8	05:26	東	E	47	6/8	11:00
京士柏	King's Park	東南偏東	ESE	85	6/8	10:32	東	E	36	6/8	10:00
流浮山	Lau Fau Shan	東	E	92	6/8	10:25	東	E	47	6/8	12:00
		東	E	92	6/8	11:43					
昂坪	Ngong Ping	東北偏東	ENE	227	6/8	10:09	東	E	166	6/8	11:00
北角	North Point	東	E	101	6/8	08:03	東	E	52	6/8	09:00
坪洲	Peng Chau	東北	NE	112	6/8	07:12	東北偏東	ENE	75	6/8	09:00
平洲	Ping Chau	東北偏東	ENE	75	6/8	05:59	東	E	25	6/8	06:00
西貢	Sai Kung	東北	NE	104	6/8	07:23	東北偏東	ENE	58	6/8	08:00
沙洲	Sha Chau	東	E	83	6/8	12:12	東	E	54	6/8	13:00
沙螺灣	Sha Lo Wan	東	E	103	6/8	08:27	東	E	54	6/8	12:00
沙田	Sha Tin	東北	NE	77	6/8	08:41	東北	NE	30	6/8	09:00
石崗	Shek Kong	東	E	92	6/8	10:29	東	E	40	6/8	10:00
							東	E	40	6/8	12:00
九龍天星碼頭	Star Ferry (Kowloon)	東南偏東	ESE	90	6/8	10:24	東	E	54	6/8	10:00
打鼓嶺	Ta Kwu Ling	東北偏東	ENE	85	6/8	09:12	東北偏東	ENE	31	6/8	08:00
大帽山	Tai Mo Shan	東	E	146	6/8	08:56	東	E	96	6/8	11:00
大老山	Tate's Cairn	東	E	142	6/8	06:25	東	E	96	6/8	11:00
		東	E	142	6/8	10:08					
鯽魚湖	Tsak Yue Wu	東北偏東	ENE	65	6/8	07:35	東北	NE	20	5/8	23:00
將軍澳	Tseung Kwan O	東北	NE	85	6/8	05:26	東北	NE	27	6/8	03:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	東南偏東	ESE	85	6/8	10:13	東南偏東	ESE	31	6/8	11:00
屯門政府合署	Tuen Mun Government Offices	東南	SE	79	6/8	19:59	東南	SE	31	6/8	22:00
橫瀾島	Waglan Island	東	E	140	6/8	06:44	東	E	96	6/8	07:00
濕地公園	Wetland Park	東	E	75	6/8	11:19	東北偏東	ENE	34	6/8	08:00
黃竹坑	Wong Chuk Hang	東南偏東	ESE	101	6/8	10:17	東南偏東	ESE	45	6/8	12:00

表 3.3.2　北冕影響香港期間，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 3.3.2 Periods during which sustained strong and gale force winds were reached at the 8 reference anemometers in the tropical cyclone warning system, when tropical cyclone warning signals for Kammuri were in force

站 (參閱圖 1.1) Station (See Fig. 1.1)		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 reaching gale force#		最後達到烈風#時間 Last time reaching gale force#	
		日期/月份	時間	日期/月份	時間	日期/月份	時間	日期/月份	時間
		Date/Month	Time	Date/Month	Time	Date/Month	Time	Date/Month	Time
長洲	Cheung Chau	5/8	17:26	7/8	05:44	6/8	05:12	6/8	23:19
香港國際機場	Hong Kong International Airport	6/8	03:27	7/8	00:53	-			
啓德	Kai Tak	6/8	03:10	7/8	02:14	-			
西貢	Sai Kung	5/8	21:57	7/8	01:57	6/8	07:08	6/8	09:14
沙田	Sha Tin	-				-			
打鼓嶺	Ta Kwu Ling	-				-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	7/8	01:23	7/8	01:23	-			
濕地公園	Wetland Park	-				-			

\- 未達到指定的風力

not reaching the specified wind speed

* 十分鐘平均風速達 41 – 62 公里

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

十分鐘平均風速達 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 speed in between the times indicated.

表 3.3.3　北冕影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位為毫米)

Table 3.3.3　Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Kammuri

站 (參閱圖 3.3.2) Station (See Fig. 3.3.2)	八月四日 4 Aug	八月五日 5 Aug	八月六日 6 Aug	八月七日 7 Aug	總雨量 Total
香港天文台 Hong Kong Observatory	微量 Trace	6.1	74.1	72.3	152.5
CCH長洲 Cheung Chau	0.0	1.5	37.5	58.5	97.5
HKA 香港國際機場 Hong Kong International Airport	微量 Trace	1.4	84.1	88.0	173.5
H12 半山區 Mid Levels	[0.0]	[7.0]	[63.5]	[47.0]	[117.5]
H19 筲箕灣 Shau Kei Wan	0.0	13.0	62.0	55.5	130.5
H21 淺水灣 Repulse Bay	0.0	12.0	68.5	46.5	127.0
K04 佐敦谷 Jordan Valley	0.0	[3.5]	[74.0]	[20.0]	[97.5]
K06 蘇屋邨 So Uk Estate	0.0	[5.0]	[69.0]	[55.5]	[129.5]
N05 粉嶺 Fanling	0.0	4.0	[64.0]	73.5	[141.5]
N06 葵涌 Kwai Chung	0.0	3.0	90.0	100.5	193.5
N09 沙田 Sha Tin	[0.0]	[6.0]	115.0	[7.0]	[128.0]
N12 元朗 Yuen Long	0.0	2.5	77.5	33.5	113.5
N13 糧船灣 High Island	0.0	8.5	37.0	[0.5]	[46.0]
N17 東涌 Tung Chung	0.0	4.0	104.5	114.5	223.0
R21 踏石角 Tap Shek Kok	0.0	[4.0]	62.0	66.5	[132.5]
R28 凹頭 Au Tau	0.0	3.5	80.0	58.0	141.5
R31 大美督 Tai Mei Tuk	0.0	3.0	58.5	7.5	69.0

註：　[ ] 基於不齊全的每小時雨量數據。

Note :　[ ] based on incomplete hourly data.

表 3.3.4　北冕影響香港期間，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 Kammuri

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	2.16	6/8	13:03	0.47	6/8	08:12
石壁	Shek Pik	2.67	6/8	12:25	0.69	6/8	12:22
大埔滘	Tai Po Kau	2.82	6/8	09:25	1.11	6/8	09:14
尖鼻咀	Tsim Bei Tsui	2.88	6/8	14:10	0.77	6/8	14:09
橫瀾島	Waglan Island	2.42	6/8	10:12	0.61	6/8	07:54

大廟灣沒有資料。 No data for Tai Miu Wan.

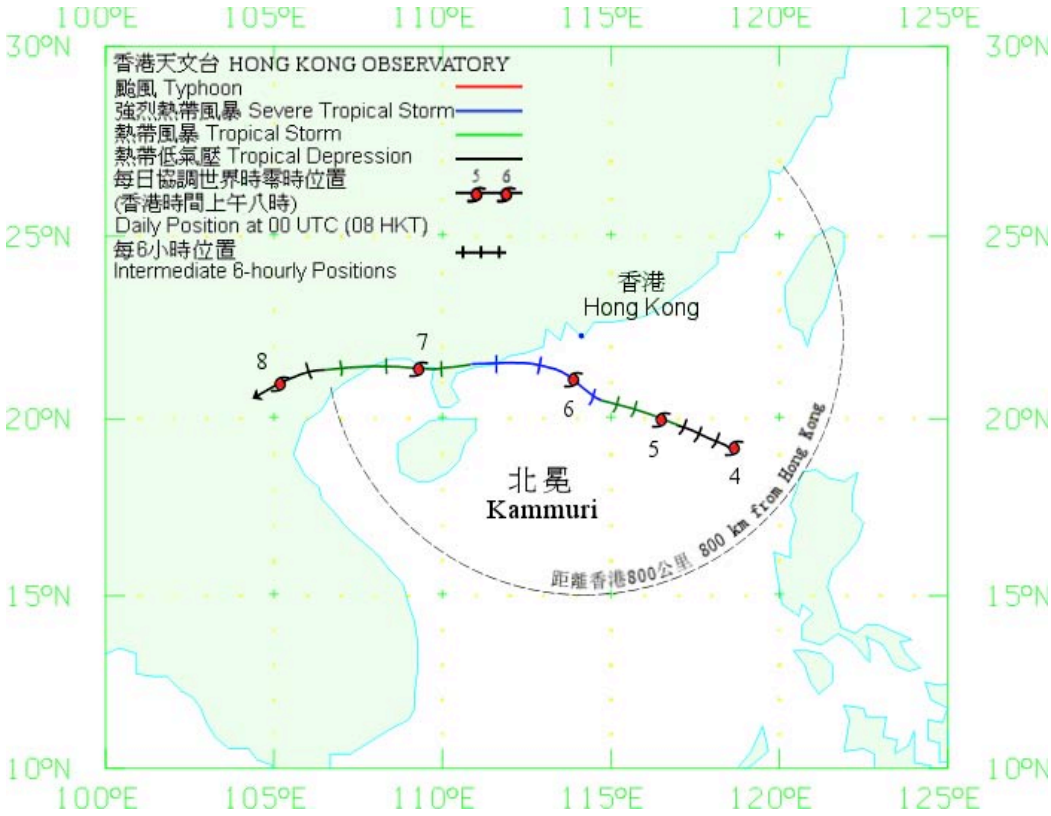


圖 3.3.1a　　北冕（0809）在二零零八年八月四日至八日的路徑圖。

Figure 3.3.1a　　Track of Kammuri (0809) on 4 – 8 August 2008.

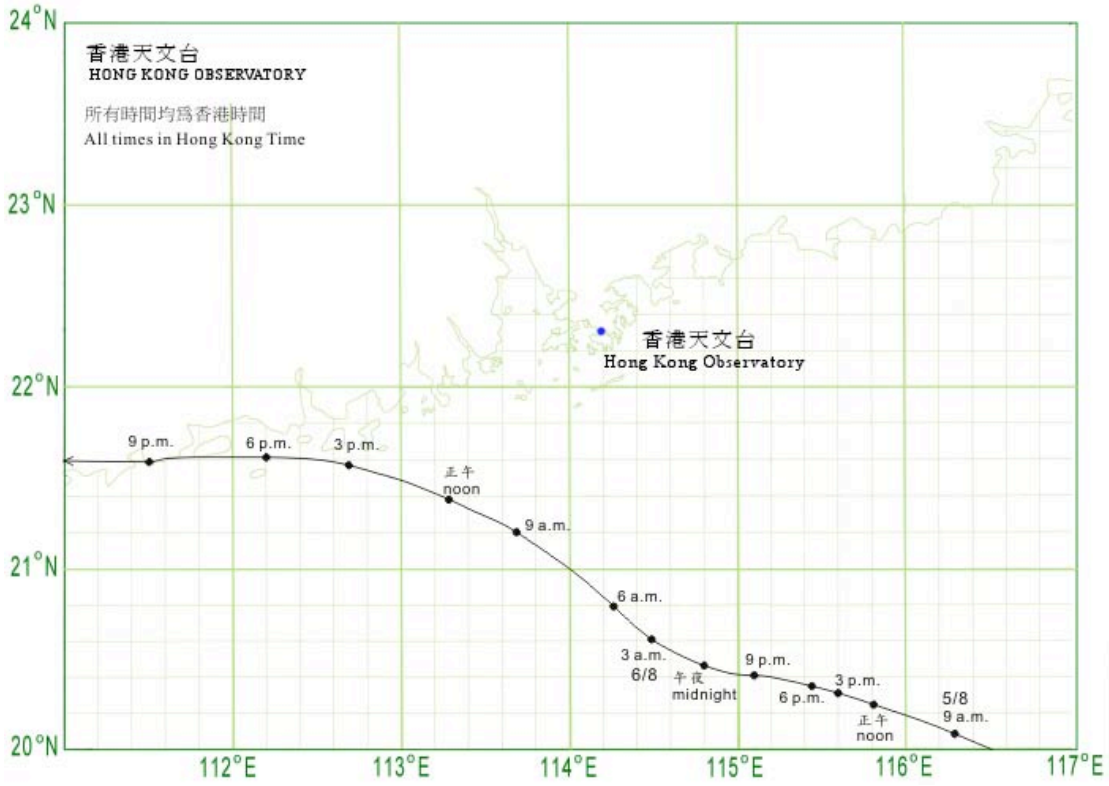


圖 3.3.1b　　北冕（0809）接近香港時的路徑圖。

Figure 3.3.1b　　Track of Kammuri (0809) near Hong Kong.

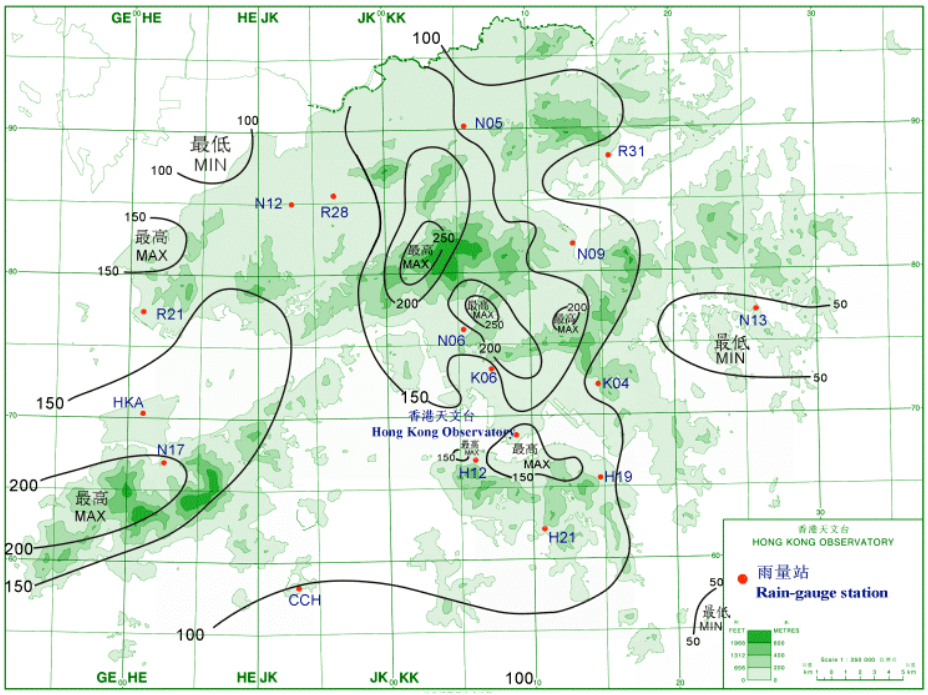


圖 3.3.2　　二零零八年八月四至七日的雨量分佈(等雨量線單位為毫米)。

Figure 3.3.2　　Rainfall distribution on 4 – 7 August 2008 (isohyets are in millimetres).

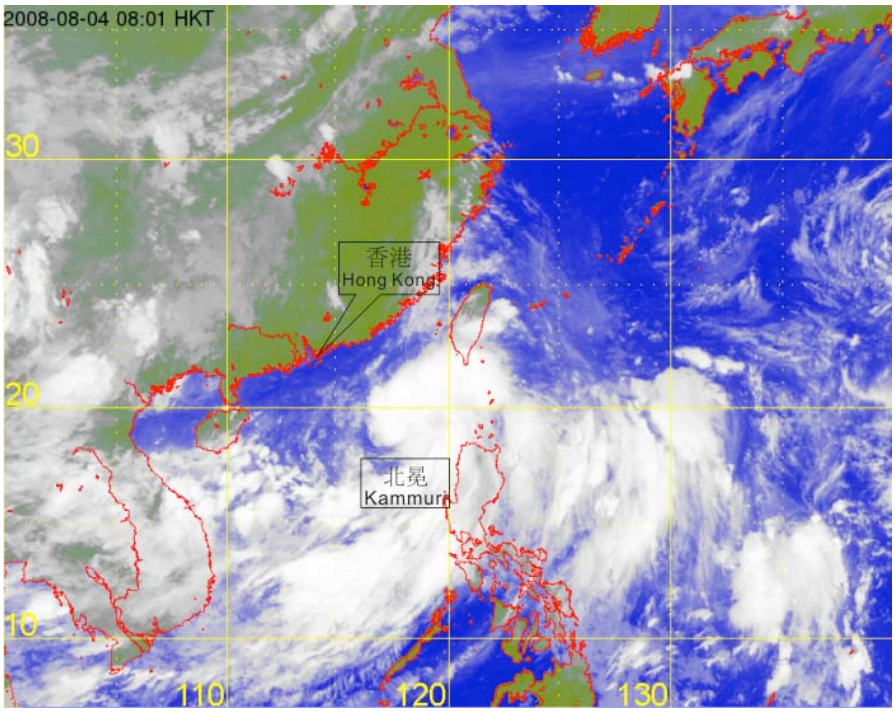


圖 3.3.3.a　　北冕在二零零八年八月四日上午8時的紅外線衛星圖片。

Figure 3.3.3.a　　Infra-red satellite imagery at 8 a.m. on 4 August 2008 of Kammuri.

〔圖像3.3.3.a-e 接收自日本氣象廳的多用途輸送衛星-1R。〕

[The imageries in Figures 3.3.3.a-e were originally captured by Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

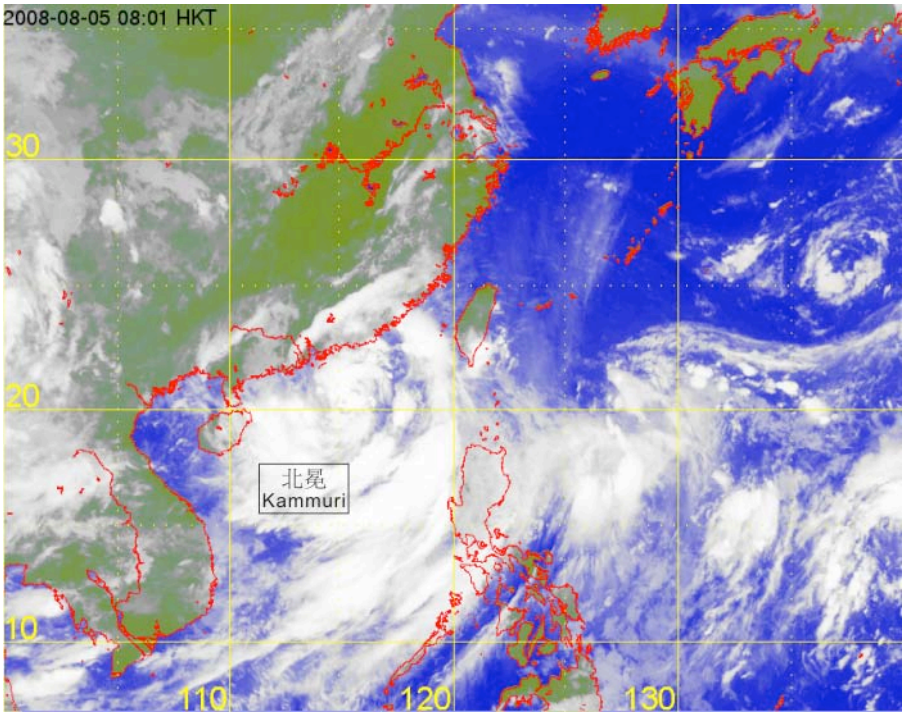


圖 3.3.3.b　　北冕在二零零八年八月五日上午8時的紅外線衛星圖片。

Figure 3.3.3.b　　Infra-red satellite imagery at 8 a.m. on 5 August 2008 of Kammuri.

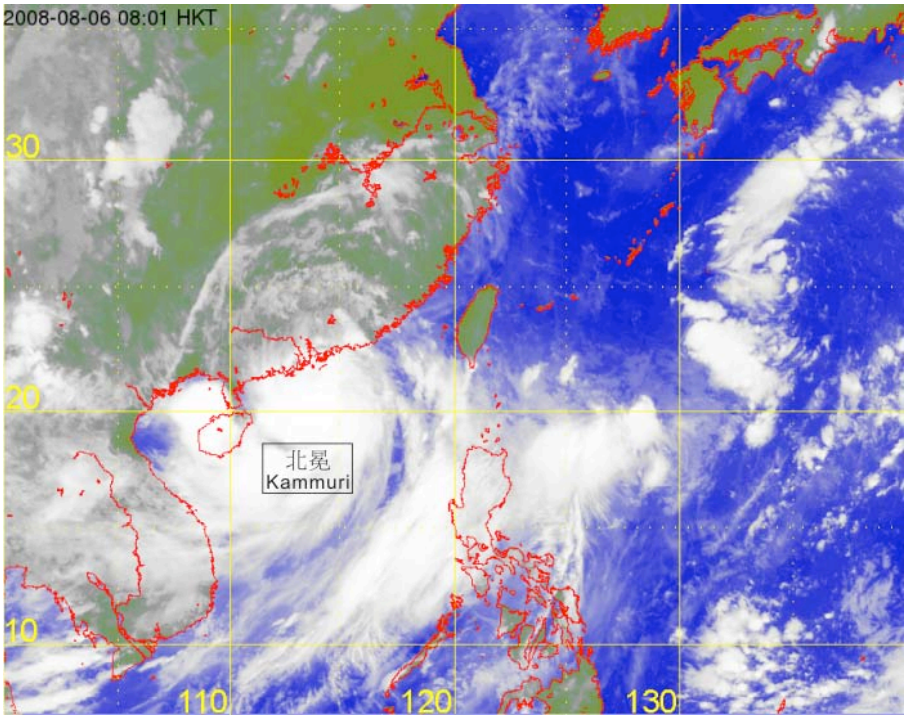


圖 3.3.3.c　　北冕在二零零八年八月六日上午8時的紅外線衛星圖片。

Figure 3.3.3.c　　Infra-red satellite imagery at 8 a.m. on 6 August 2008 of Kammuri.

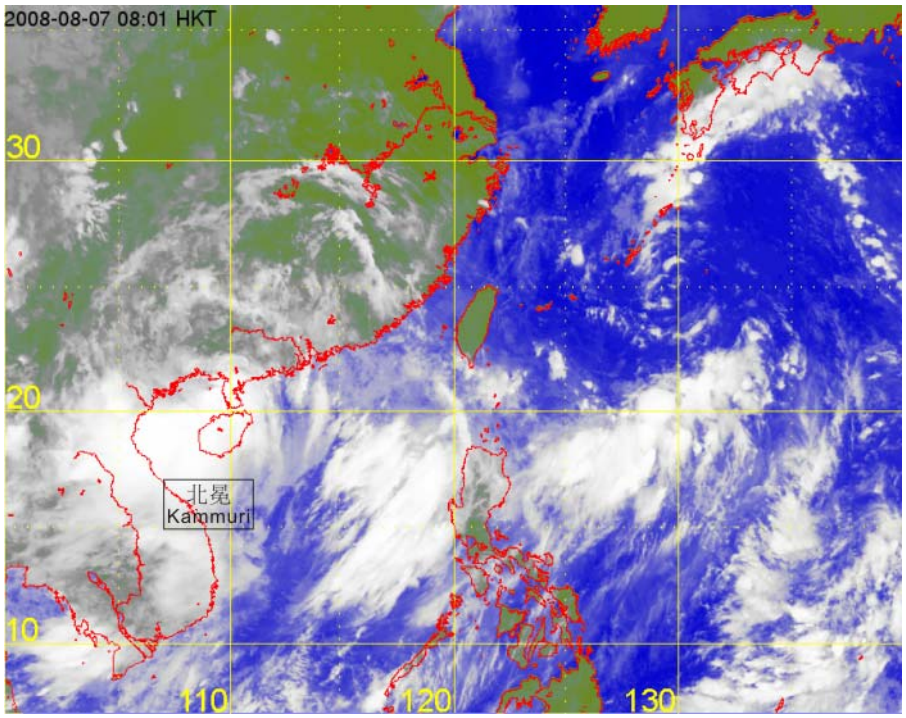


圖 3.3.3.d　　北冕在二零零八年八月七日上午 8 時的紅外線衛星圖片。

Figure 3.3.3.d　　Infra-red satellite imagery at 8 a.m. on 7 August 2008 of Kammuri.

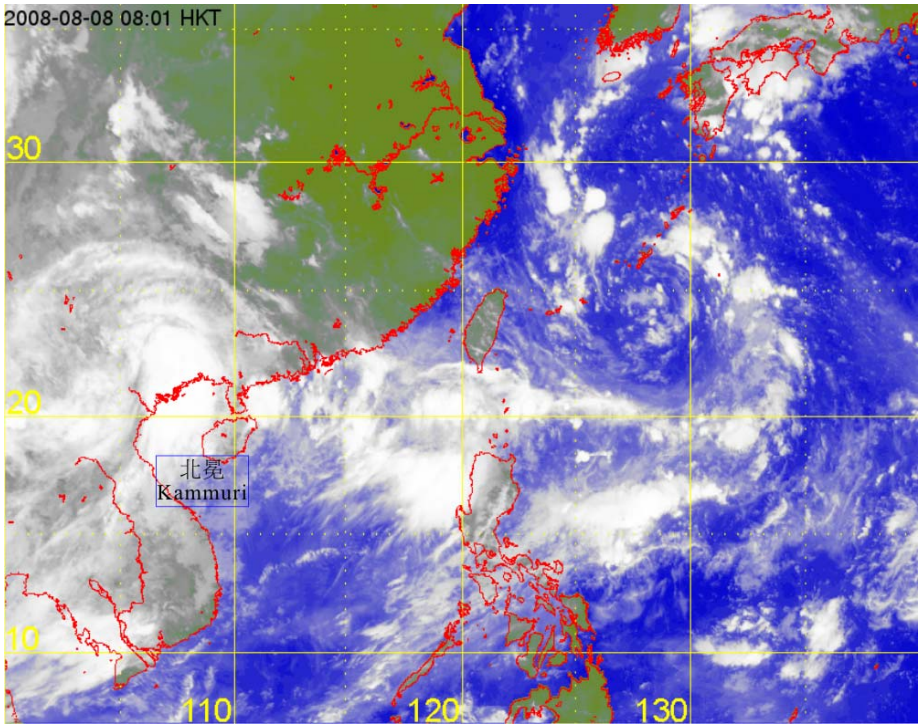
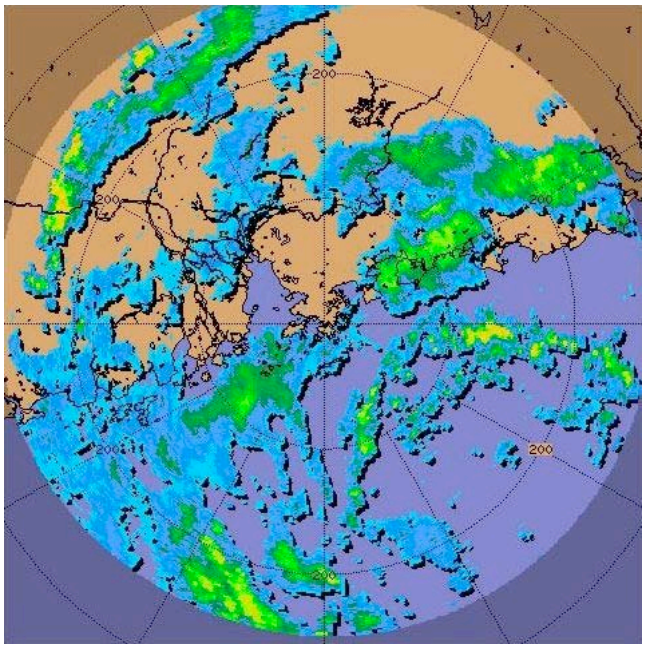
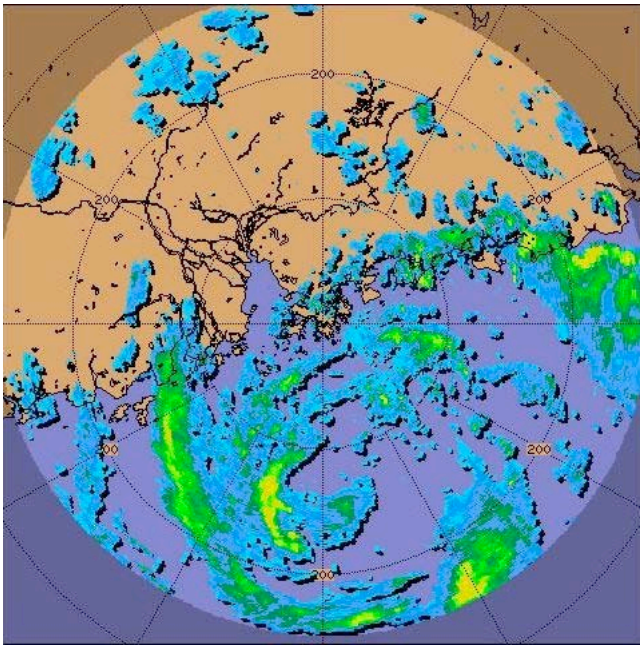


圖 3.3.3.e　　北冕在二零零八年八月八日上午 8 時的紅外線衛星圖片。

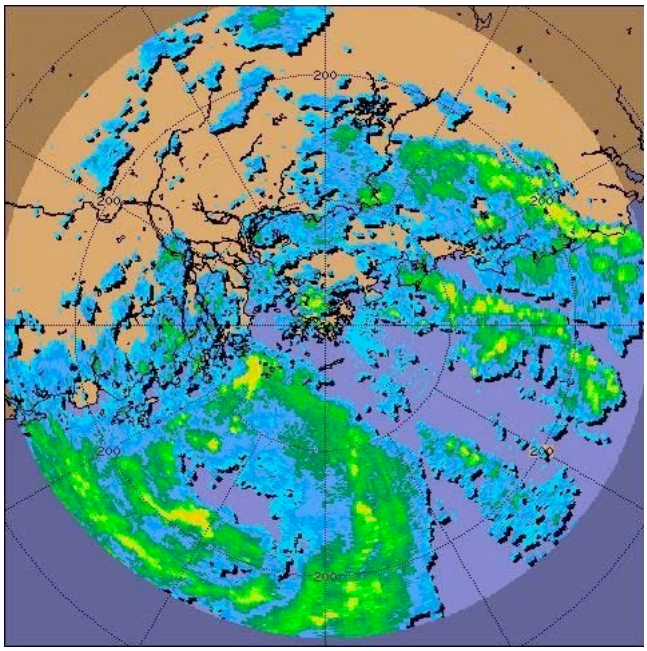
Figure 3.3.3.e　　Infra-red satellite imagery at 8 a.m. on 8 August 2008 of Kammuri.



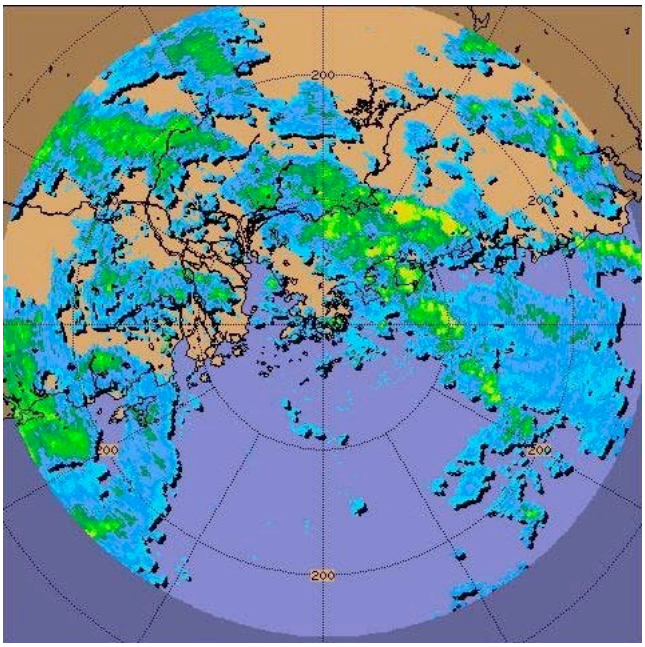
(a) 二零零八年八月五日下午10時
10 p.m. on 5 August 2008



(b) 二零零八年八月六日上午4時
4 a.m. on 6 August 2008



(c) 二零零八年八月六日上午10時， 當時北冕最為接近香港
10 a.m. on 6 August 2008, when Kammuri was closest to Hong Kong



(d) 二零零八年八月六日下午4時
4 p.m. on 6 August 2008

圖 3.3.4 北冕的雷達回波圖像。
Fig. 3.3.4 Radar echoes of Kammuri.

3.4 颱風鸚鵡 (0812)： 二零零八年八月十七日至二十三日

鸚鵡是香港在二零零八年第四個需要發出熱帶氣旋警告信號的熱帶氣旋。鸚鵡吹襲香港期間，天文台需要發出九號烈風或暴風增強信號，是自二零零三年九月颱風杜鵑影響香港以來的首次。

熱帶低氣壓鸚鵡於八月十七日黃昏在香港東南偏東約2 500公里的北太平洋西部上形成，並向西移動。鸚鵡於八月十八日早上增強為熱帶風暴，當日黃昏再增強為強烈熱帶風暴，八月十九日進一步增強為颱風及向西北偏西移動。鸚鵡於八月二十日橫過巴林坦海峽，當日黃昏進入南海。八月二十一日黃昏鸚鵡在東沙附近掠過及轉向西北移動，大致移向香港。鸚鵡於八月二十二日下午四時五十分左右在本港東部西貢區香港科技大學附近登陸，並減弱為強烈熱帶風暴。受到地形影響，鸚鵡的環流重整，原有的中心向西北移動並迅速消散，一個新的中心在將軍澳附近形成，並轉向西移動，經過維多利亞港東部及九龍半島南部，並在天文台總部以南一公里內掠過。隨後鸚鵡的中心經過青衣島以南，然後向北移動，黃昏時橫過大嶼山東北部、屯門及元朗。當天晚上鸚鵡橫過后海灣、深圳西部及珠江口，隨後在南沙附近第二次登陸。八月二十三日凌晨鸚鵡減弱為熱帶風暴，當日早上減弱為熱帶低氣壓，早上較後時間在廣東減弱為一低壓區。根據報章報導，廣東至少有四人死亡、超過91萬人受災及53 000公頃農作物損壞，直接經濟損失約四億元人民幣。

香港天文台於八月二十日下午6時15分發出一號戒備信號，當時鸚鵡位於香港東南偏東約750公里。由於鸚鵡移近香港，天文台在八月二十一日下午8時40分改發三號強風信號，當時鸚鵡位於香港東南約310公里。當日本港大致吹輕微至和緩東北風，黃昏時本港東南部海域開始吹強烈東北風。由於鸚鵡繼續移近香港及本港風勢繼續增強，天文台於八月二十二日上午7時40分發出八號西北烈風或暴風信號，當時鸚鵡位於香港東南約140公里。當日早上本港受強烈北風影響，離岸及高地吹烈風，風力間中達到暴風程度。天文台在當日下午1時40分改發九號烈風或暴風增強信號，當時鸚鵡位於天文台東南偏東約40公里。鸚鵡的中心在下午較後時間及黃昏經過香港，本港風勢暫時減弱，但黃昏時本港離岸海域及高地轉吹西南烈風或暴風。當鸚鵡移離香港及暴風風力減弱，天文台於八月二十三日凌晨12時40分改發八號西南烈風或暴風信號，並於當日上午2時40分改發三號強風信號，而本港的烈風亦普遍減弱。隨着鸚鵡進一步移離香港，本港風勢繼續減弱，天文台於當日上午9時40分改發一號戒備信號及在當日上午11時15分取消所有熱帶氣旋警告信號。

在鸚鵡影響香港期間，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	日期/月份	最初及最後錄得的時間
香港天文台總部	982.3 百帕斯卡	22/8	下午3時46分 - 4 時12分

橫瀾島	979.5 百帕斯卡	22/8	下午12時53分 – 2 時40分
坪洲	983.4百帕斯卡	22/8	下午4時34分
香港國際機場	985.5百帕斯卡	22/8	下午4時01分 - 4時02分
流浮山	984.2 百帕斯卡	22/8	下午3時31 - 4時37分

香港於八月二十日天晴及酷熱，翌日轉為多雲及有幾陣驟雨。八月二十二日本港有狂風大雨。八月二十三日本港天氣轉為大致多雲及有驟雨。

本港在鸚鵡影響期間有兩人死亡，包括一名游泳人士及一名小輪大偈，及超過112人受傷。此外，共有122宗倒塌或危險樹木報告、超過31宗危險招牌及八宗棚架倒塌事件。彌敦道部份路段受到棚架倒塌影響，交通受阻約九個小時。銅鑼灣一座樓宇屋頂的外牆被破壞。觀塘及長洲分別有天台屋屋頂被風吹脫。深水埗有棚架倒塌，附近四輛汽車受損及兩人受傷。沙田及大圍之間有一列火車被塌下的樹木擊中，約250名乘客需要疏散。大埔魚排嚴重受損，估計損失約三百萬港元。香港國際機場超過590航班取消、延誤或轉飛其它機場。

表3.4.1-3.4.4 分別是鸚鵡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或暴風程度的時段、日雨量及最高潮汐資料。表3.4.5是一九四六年至今導致天文台需要發出九號或以上熱帶氣旋警告信號的熱帶氣旋。圖3.4.1-3.4.10 分別為鸚鵡的路徑圖、雨量分佈圖、鸚鵡的衛星及雷達圖像、香港各區風向及風力分佈圖、天文台總部錄得的氣壓變化圖、及長洲錄得的氣壓及風向風速變化圖。

3.4 Typhoon Nuri (0812):17 – 23 August 2008

Nuri was the fourth tropical cyclone that necessitated the issuance of tropical cyclone warning signals in Hong Kong in 2008. It also necessitated the issuance of the Increasing Gale or Storm Signal No. 9. This was the first No. 9 signal since Typhoon Dujuan in September 2003.

Nuri formed as a tropical depression over the western North Pacific about 2 500 km east-southeast of Hong Kong on the evening of 17 August and moved westwards. It intensified into a tropical storm on the morning of 18 August and a severe tropical storm that evening. It further intensified into a typhoon on 19 August and moved west-northwestwards. Nuri crossed the Balintang Channel on 20 August and entered the South China Sea that evening. It passed close to Dongsha on the evening of 21 August and turned to move northwestwards in the general direction

of Hong Kong. Nuri made landfall near the Hong Kong University of Science and Technology in Sai Kung area over the eastern part of Hong Kong at around 4:50 p.m. on 22 August and weakened into a severe tropical storm. Affected by the terrain, the circulation of Nuri re-organized itself. The original centre moved northwestwards and dissipated rapidly. A new centre formed near Tseung Kwan O and turned to move westwards, passing over the eastern part of Victoria Harbour and the southern part of Kowloon Peninsula within 1 km south of the Hong Kong Observatory Headquarters. The centre of Nuri then passed to the south of Tsing Yi Island, and turned northwards to cross the northeastern part of Lantau Island, Tuen Mun and Yuen Long that evening. Nuri then crossed Deep Bay, the western part of Shenzhen and the Pearl River Estuary that night and made a second landfall near Nansha subsequently. Nuri weakened into a tropical storm on the small hours of 23 August and a tropical depression that morning. It weakened further into an area of low pressure over Guangdong later in the morning. According to press reports, at least four people were killed in Guangdong, over 910 000 people and over 53 000 hectares of crops were affected during the passage of Nuri. The direct economic losses in Guangdong were around 0.4 billion yuan.

In Hong Kong, the Standby Signal No. 1 was issued at 6:15 p.m. on 20 August when Nuri was about 750 km east-southeast of Hong Kong. As Nuri moved closer to Hong Kong, the Strong Wind Signal No. 3 was issued at 8:40 p.m. on 21 August when Nuri was about 310 km to the southeast. The winds over Hong Kong were mainly light to moderate northeasterlies that day, with strong northeasterlies setting in over the southeastern part of the Hong Kong waters that evening. As Nuri continued to move closer and local winds continued to strengthen, the No. 8 NW Gale or Storm Signal was issued at 7:40 a.m. on 22 August when Nuri was about 140 km to the southeast. Local winds became generally strong northerlies that morning, with gales offshore and on high grounds and occasionally reaching storm force. The Increasing Gale or Storm Signal No. 9 was issued at 1:40 p.m. that day when Nuri was about 40 km to the east-southeast of the Observatory. The centre of Nuri passed through Hong Kong in the late afternoon and evening and local winds weakened temporarily. However, gale to storm force southwesterly winds affected the offshore waters and high grounds again that night. With Nuri moving away from Hong Kong and the storm force winds offshore subsiding, the No. 8 SW Gale or Storm Signal was issued at 12:40 a.m. on 23 August. It was replaced by the No. 3 Strong Wind Signal at 2:40 a.m. as the gales generally subsided. The No. 1 Signal was issued at 9:40 a.m. that day and all tropical cyclone warning signals were cancelled at 11:15 a.m. as Nuri moved further away and local winds continued to subside.

During the passage of Nuri, the lowest instantaneous mean sea-level pressures recorded at some selected stations were as follows :-

Station	Lowest instantaneous mean sea-level pressure	Date/Month	First and last time recorded
Hong Kong Observatory Headquarters	982.3 hPa	22/8	3:46 – 4:12 p.m.
Waglan Island	979.5 hPa	22/8	12:53 – 2:40 p.m.
Peng Chau	983.4 hPa	22/8	4:34 p.m.
Hong Kong International Airport	985.5 hPa	22/8	4:01 – 4:02 p.m.
Lau Fau Shan	984.2 hPa	22/8	3:31 – 4:37 p.m.

The weather was fine and very hot on 20 August. The weather became cloudy with a few showers the next day. It was overcast with squalls and heavy rain on 22 August. The weather became mainly cloudy with showers on 23 August.

In Hong Kong, two people, including one swimmer and one Launch Mechanic, were killed and over 112 others were injured during the passage of Nuri. There were 122 reports of fallen or dangerous trees, more than 31 cases of dangerous signboards and eight reports of collapsed scaffolding. Traffic in part of Nathan Road in Mongkok was disrupted for about 9 hours due to collapsed scaffolding. In Causeway Bay, the outer walls of the roof top of a building were damaged. The roof of two roof-top buildings were blown loose in Kwun Tong and Cheung Chau respectively. In Sham Shui Po, fallen scaffoldings damaged four vehicles nearby and injured two people. About 250 passengers had to be evacuated when a train was hit by a tree between Sha Tin and Tai Wai. Fishing rafts in Tai Po were severely damaged and the losses were estimated to be around three million Hong Kong dollars. At the Hong Kong International Airport, over 590 flights were either cancelled, delayed or diverted.

The information on maximum wind, periods of strong and gale or storm force winds, daily rainfall and maximum sea level during the passage of Nuri is given in Tables 3.4.1 - 3.4.4. The list of tropical cyclones requiring the issuance of the Increasing Gale or Storm Signal No. 9 or above since 1946 is given in Table 3.4.5. Figures 3.4.1 - 3.4.10 show the track of Nuri, rainfall distribution, satellite and radar imageries of Nuri, wind distribution around Hong Kong, variation of the pressure at the Observatory, and variation of the pressure and winds at Cheung Chau respectively.

表 3.4.1　在鸚鵡影響下，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 3.4.1　Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when tropical cyclone warning signals for Nuri 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 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)	西南偏南	SSW	118	22/8	19:54	西南偏南	SSW	75	22/8	20:00
中環碼頭	Central Pier	西北偏西	WNW	90	22/8	11:44	西北	NW	43	22/8	12:00
長洲	Cheung Chau	西南偏南	SSW	126	22/8	22:18	西南偏南	SSW	88	22/8	23:00
長沙灣	Cheung Sha Wan	西南	SW	96	23/8	00:10	西南	SW	54	22/8	21:00
青洲	Green Island	西南偏南	SSW	144	22/8	23:06	西南	SW	110	22/8	21:00
香港國際機場	Hong Kong International Airport	西南偏南	SSW	112	23/8	01:11	西南偏南	SSW	76	23/8	01:00
啟德	Kai Tak	北	N	118	22/8	13:08	北	N	47	22/8	13:00
京士柏	King's Park	東北偏北	NNE	118	22/8	10:51	西南偏南	SSW	49	22/8	21:00
流浮山	Lau Fau Shan	北	N	92	22/8	08:28	北	N	49	22/8	09:00
昂坪	Ngong Ping	西南	SW	196	22/8	23:31	西南	SW	128	23/8	01:00
北角	North Point	東北偏北	NNE	110	22/8	12:02	東北偏北	NNE	54	22/8	14:00
坪洲	Peng Chau	北	N	112	22/8	10:32	西北偏北	NNW	62	22/8	12:00
							西北偏北	NNW	62	22/8	14:00
平洲	Ping Chau	東北偏東	ENE	108	22/8	13:32	東	E	34	22/8	15:00
西貢	Sai Kung	東北偏北	NNE	148	22/8	13:33	東北偏北	NNE	87	22/8	14:00
沙洲	Sha Chau	西北偏北	NNW	128	22/8	12:36	北	N	94	22/8	15:00
		西南偏南	SSW	128	23/8	01:12					
沙螺灣	Sha Lo Wan	西南	SW	135	23/8	01:10	西南	SW	65	23/8	02:00
沙田	Sha Tin	西南	SW	101	22/8	21:27	西南偏南	SSW	45	22/8	21:00
石崗	Shek Kong	東北偏北	NNE	76	22/8	14:10	北	N	38	22/8	15:00
九龍天星碼頭	Star Ferry (Kowloon)	西南偏西	WSW	104	22/8	20:00	南	S	34	22/8	21:00
		西南	SW	104	22/8	21:12					
打鼓嶺	Ta Kwu Ling	東北偏北	NNE	87	22/8	13:26	北	N	40	22/8	14:00
大美督	Tai Mei Tuk	西南	SW	144	22/8	20:25	東北	NE	79	22/8	14:00
大帽山	Tai Mo Shan	西南偏南	SSW	144	22/8	20:53	北	N	96	22/8	13:00
塔門	Tap Mun	東北	NE	121	22/8	13:33	東北	NE	62	22/8	14:00
大老山	Tate's Cairn	北	N	193	22/8	13:45	北	N	122	22/8	14:00
鯽魚湖	Tsak Yue Wu	東北偏北	NNE	106	22/8	11:48	東北偏北	NNE	45	22/8	12:00
將軍澳	Tseung Kwan O	北	N	90	22/8	12:08	北	N	31	22/8	13:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	西北偏北	NNW	101	22/8	10:06	西北偏北	NNW	56	22/8	13:00
屯門政府合署	Tuen Mun Government Offices	西南偏南	SSW	96	23/8	02:39	南	S	36	23/8	01:00
							南	S	36	23/8	02:00
橫瀾島	Waglan Island	西南偏南	SSW	157	22/8	19:32	西南偏南	SSW	115	22/8	20:00
濕地公園	Wetland Park	北	N	94	22/8	12:08	北	N	41	22/8	14:00
黃竹坑	Wong Chuk Hang	北	N	88	22/8	11:32	西北偏北	NNW	31	22/8	13:00

表 3.4.2　在鸚鵡影響下，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 3.4.2 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 Nuri were in force

站 (參閱圖 1.1) Station (See Fig 1.1))		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 reaching gale force#		最後達到烈風#時間 Last time reaching gale force#	
		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	22/8	06:05	23/8	09:51	22/8	09:45	23/8	02:58
香港國際機場	Hong Kong International Airport	22/8	06:19	23/8	09:46	22/8	09:51	23/8	03:47
啓德	Kai Tak	22/8	11:34	23/8	00:44	-			
西貢	Sai Kung	22/8	05:09	23/8	02:22	22/8	10:14	22/8	23:40
沙田	Sha Tin	22/8	19:53	23/8	01:53	-			
打鼓嶺	Ta Kwu Ling	22/8	12:51	22/8	21:07	-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	22/8	06:42	23/8	02:37	-			
濕地公園	Wetland Park	22/8	11:00	22/8	15:25	-			

\- 未達到指定的風力
not reaching the specified wind speed

* 十分鐘平均風速達 41 – 62 公里
10-minute mean wind speed of 41 – 62 km/h

十分鐘平均風速達 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 speed in between the times indicated.

表 3.4.3　　鸚鵡影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位為毫米)

Table 3.4.3　Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Nuri

站 (參閱圖 3.4.2) Station (See Fig. 3.4.2)	八月二十日 20 Aug	八月二十一日 21 Aug	八月二十二日 22 Aug	八月二十三日 23 Aug	總雨量 Total
香港天文台 Hong Kong Observatory	0.0	微量 Trace	61.6	36.9	98.5
CCH 長洲 Cheung Chau	0.0	0.0	34.5	15.0	49.5
HKA 香港國際機場 Hong Kong International Airport	0.0	微量 Trace	69.8	34.9	104.7
H12 半山區 Mid Levels	[0.0]	[0.0]	[47.0]	[39.0]	[86.0]
H19 筲箕灣 Shau Kei Wan	0.0	0.0	53.0	38.0	91.0
H21 淺水灣 Repulse Bay	0.0	0.0	20.5	29.5	50.0
K04 佐敦谷 Jordan Valley	[0.0]	[0.0]	[56.5]	[29.5]	[86.0]
K06 蘇屋邨 So Uk Estate	[0.0]	[0.0]	[51.0]	[26.0]	[77.0]
N05 粉嶺 Fanling	0.0	0.0	21.5	23.0	44.5
N06 葵涌 Kwai Chung	0.0	0.0	49.0	35.0	84.0
N09 沙田 Sha Tin	[0.0]	[0.0]	[58.0]	36.5	[94.5]
N12 元朗 Yuen Long	0.0	0.0	26.0	20.0	46.0
N13 糧船灣 High Island	0.0	0.0	40.5	24.0	64.5
N17 東涌 Tung Chung	0.0	0.0	106.0	66.5	172.5
R21 踏石角 Tap Shek Kok	0.0	5.5	26.0	19.5	51.0
SEK 石崗 Shek Kong	0.0	0.0	33.5	18.5	52.0
R31 大美督 Tai Mei Tuk	0.0	0.0	35.0	15.0	50.0

註：　[ ] 基於不齊全的每小時雨量數據。

Note :　[ ] based on incomplete hourly data.

表 3.4.4　　鸚鵡影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.4.4　Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Nuri

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	2.16	22/8	11:10	0.56	22/8	11:10
石壁	Shek Pik	2.46	23/8	00:30	0.48	22/8	12:44
大廟灣	Tai Miu Wan	2.50	22/8	11:10	0.93	22/8	11:10
大埔滘	Tai Po Kau	2.61	22/8	13:51	1.13	22/8	16:17
尖鼻咀	Tsim Bei Tsui	3.03	23/8	02:10	0.78	23/8	00:00
橫瀾島	Waglan Island	2.43	22/8	12:15	0.69	22/8	10:52

表 3.4.5　一九四六年至二零零八年間引致天文台需要發出九號烈風或暴風增強信號或以上信號的熱帶氣旋

Table 3.4.5　Tropical cyclones requiring the issuing of the Increasing Gale or Storm Signal No. 9 or above during the period 1946 – 2008

熱帶氣旋名稱 Name of tropical cyclone		最高信號 Highest signal	日期 Date
颱風	Typhoon	10	18/7/1946
颱風	Typhoon	9	8/9/1949
奧西亞	Ossia	9	5/10/1950
露爾斯	Louise	9	1/8/1951
蘇姍	Susan	9	18/9/1953
艾黛	Ida	9	29/8/1954
柏美娜	Pamela	9	6/11/1954
姬羅莉亞	Gloria	10	22/9/1957
瑪麗	Mary	10	9/6/1960
愛麗斯	Alice	10	19/5/1961
溫黛	Wanda	10	1/9/1962
艾黛	Ida	9	8/8/1964
露比	Ruby	10	5/9/1964
黛蒂	Dot	10	13/10/1964
雪麗	Shirley	10	21/8/1968
露絲	Rose	10	16 - 17/8/1971
黛蒂	Dot	9	16 - 17/7/1973
嘉曼	Carmen	9	19/10/1974
愛茜	Elsie	10	14/10/1975
荷貝	Hope	10	2/8/1979
愛倫	Ellen	10	9/9/1983
維克托	Victor	9	2/8/1997
瑪姬	Maggie	9	7/6/1999
約克	York	10	16/9/1999
杜鵑	Dujuan	9	2/9/2003
鸚鵡	Nuri	9	22 - 23/8/2008

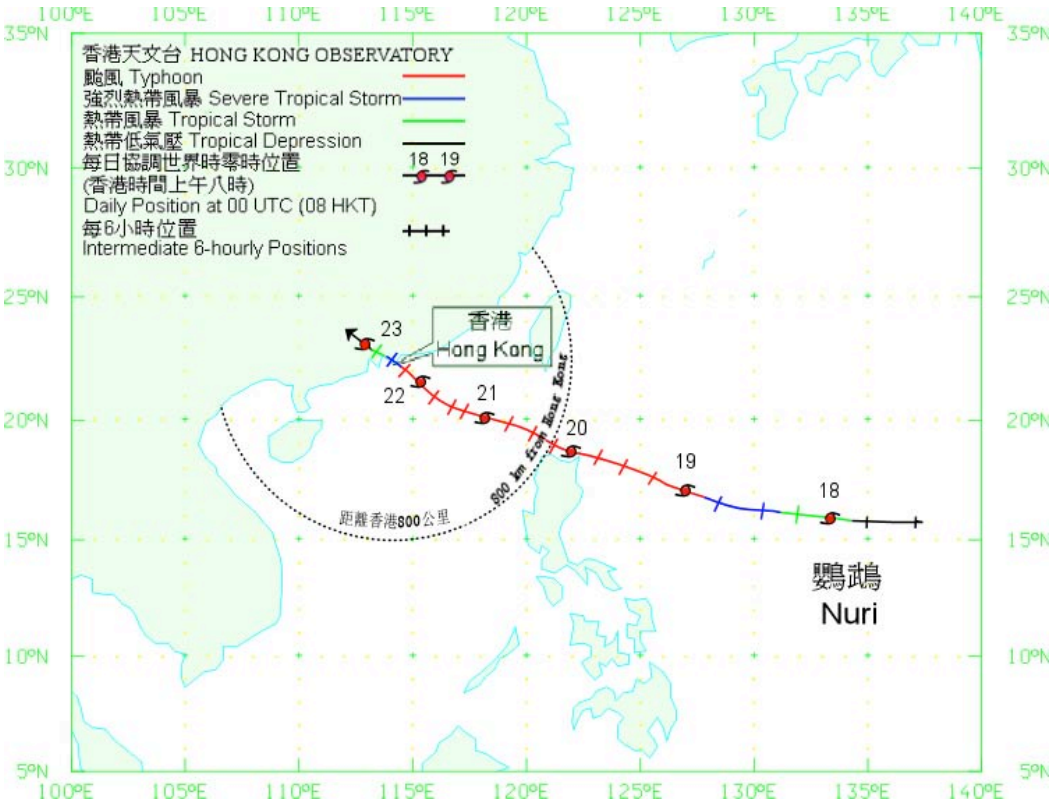


圖 3.4.1a 鸚鵡（0812）在二零零八年八月十七日至二十三日的路徑圖。

Figure 3.4.1a Track of Nuri (0812) on 17 – 23 August 2008.

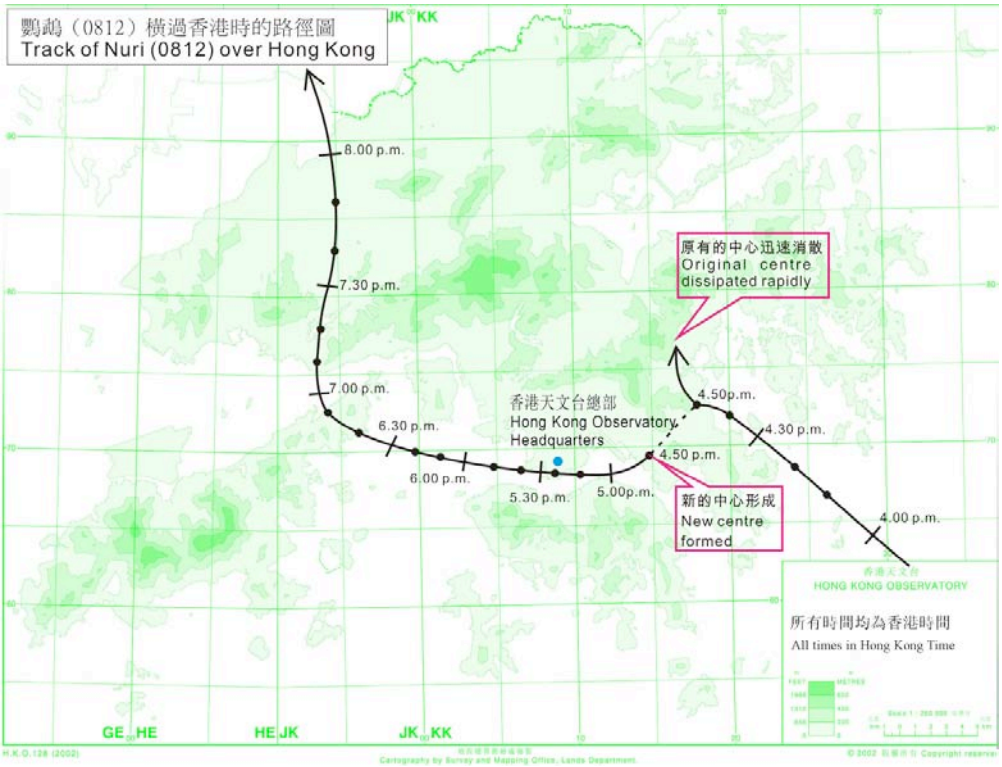


圖 3.4.1b 鸚鵡（0812）橫過香港時的路徑圖。

Figure 3.4.1b Track of Nuri (0812) over Hong Kong.

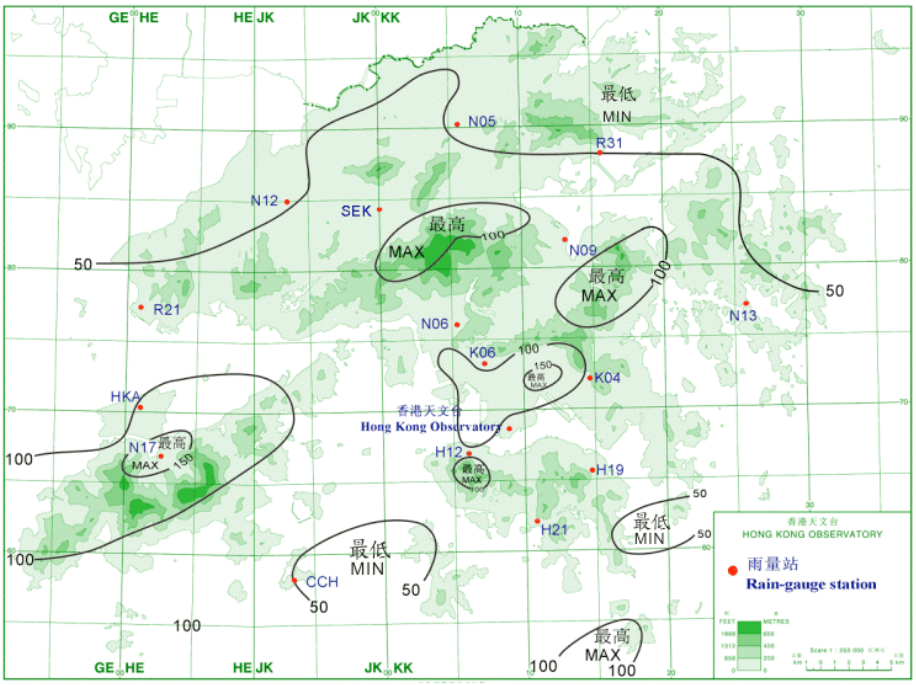


圖 3.4.2　　二零零八年八月二十至二十三日的雨量分佈(等雨量線單位為毫米)。

Figure 3.4.2　　Rainfall distribution on 20 – 23 August 2008 (isohyets are in millimetres).

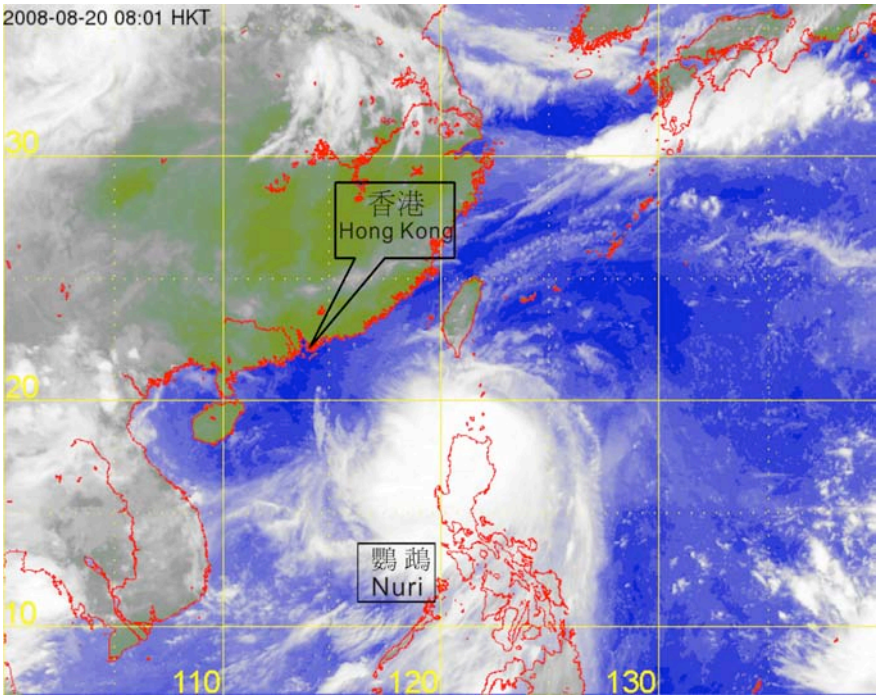


圖 3.4.3.a　　鸚鵡在二零零八年八月二十日上午8時的紅外線衛星圖片。

Figure 3.4.3.a　　Infra-red satellite imagery at 8 a.m. on 20 August 2008 of Nuri.

〔圖像 3.4.3.a-d接收自日本氣象廳的多用途輸送衛星-1R。〕

[The imageries in Figures 3.4.3.a-d were originally captured by Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

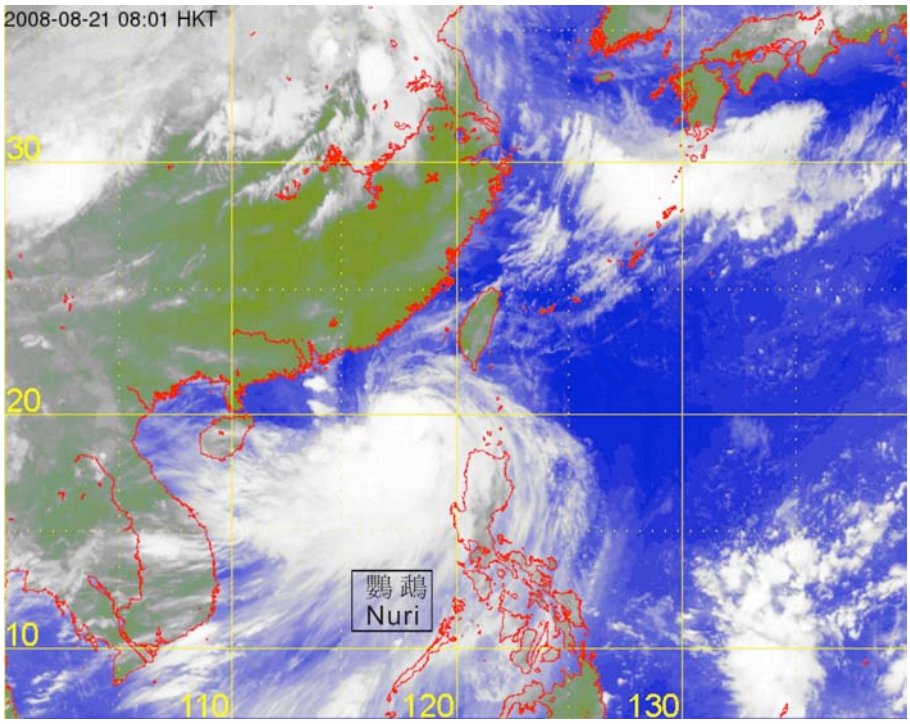


圖 3.4.3.b　　鸚鵡在二零零八年八月二十一日上午8時的紅外線衛星圖片。

Figure 3.4.3.b　　Infra-red satellite imagery at 8 a.m. on 21 August 2008 of Nuri.

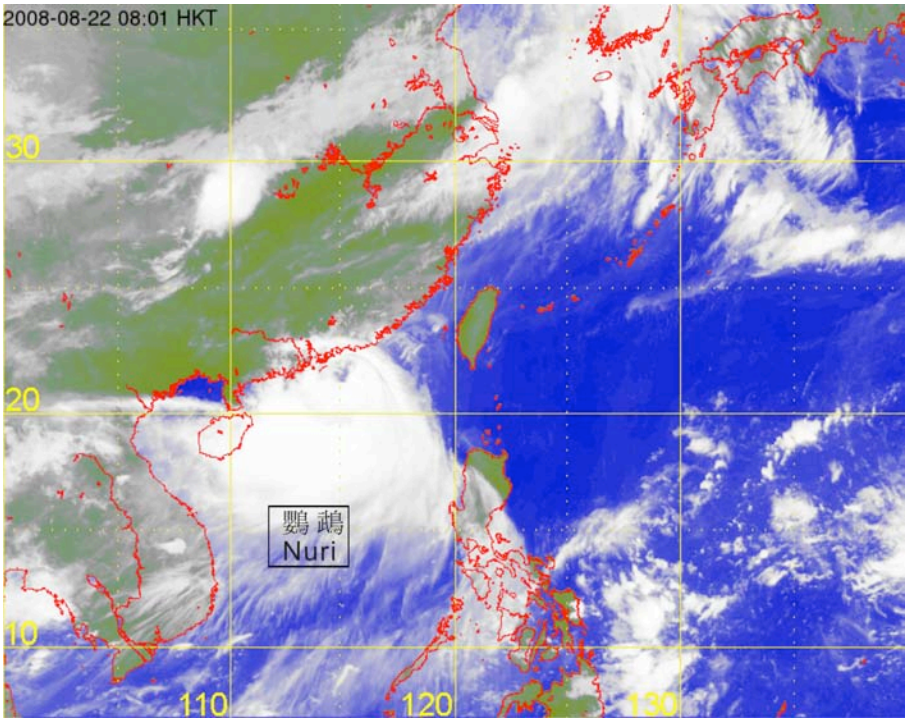


圖 3.4.3.c　　鸚鵡在二零零八年八月二十二日上午8時的紅外線衛星圖片。

Figure 3.4.3.c　　Infra-red satellite imagery at 8 a.m. on 22 August 2008 of Nuri.

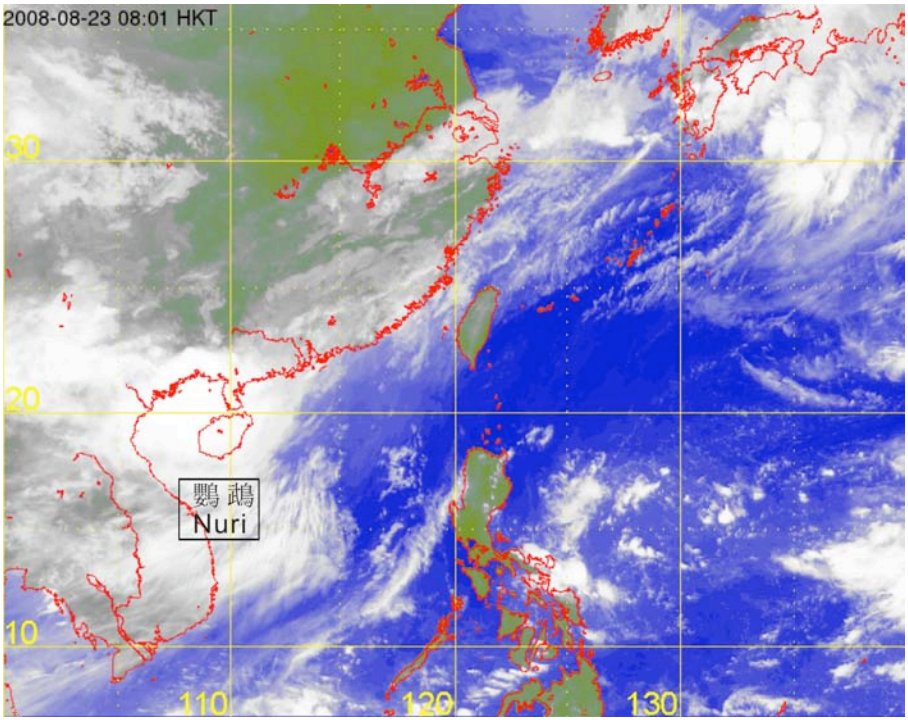


圖 3.4.3.d　　鸚鵡在二零零八年八月二十三日上午8時的紅外線衛星圖片。

Figure 3.4.3.d　　Infra-red satellite imagery at 8 a.m. on 23 August 2008 of Nuri.

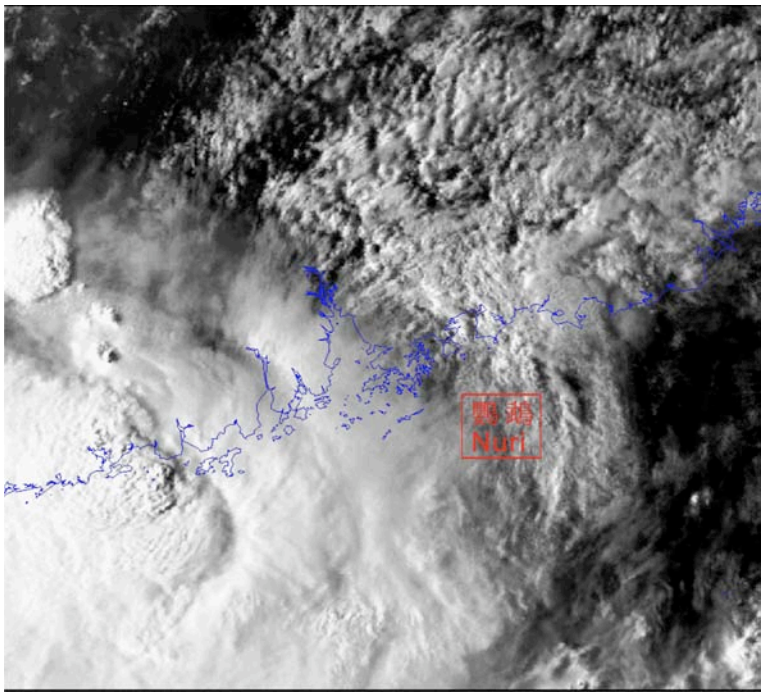
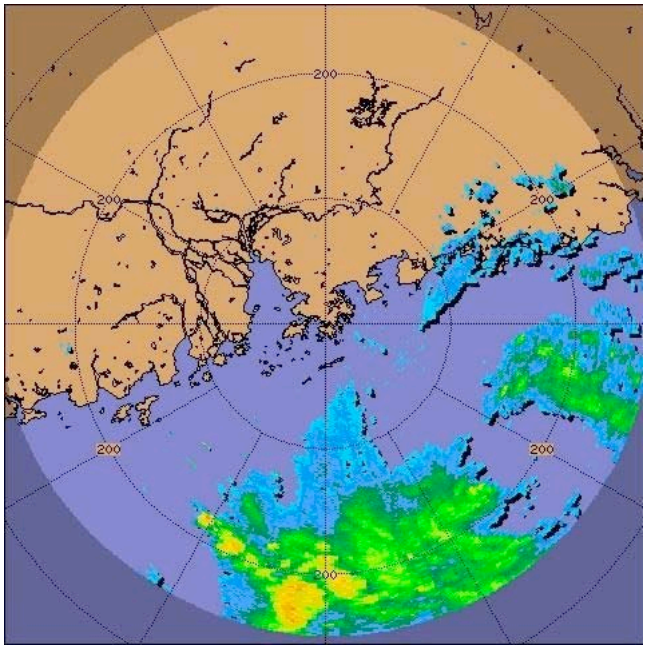
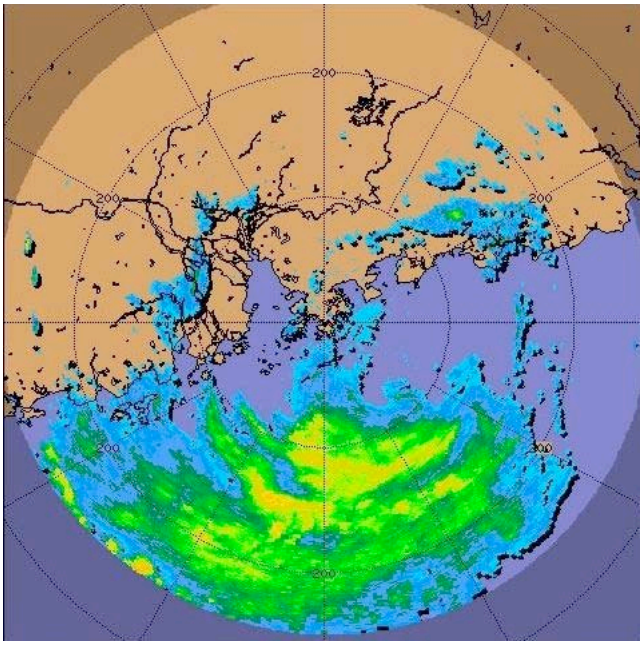


圖 3.4.3e　　鸚鵡在二零零八年八月二十二日下午4時47分的可見光衛星圖片，當時鸚鵡正在香港東部西貢區登陸。
〔圖像接收自美國國家海洋及大氣管理局的NOAA-16號衛星。〕

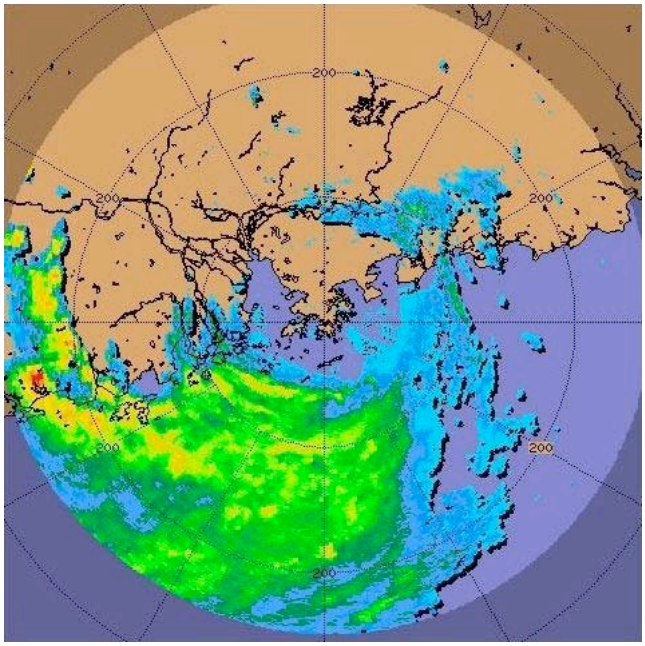
Figure 3.4.3e　Visible satellite imagery of Nuri at 4:47 p.m. on 22 August 2008, when Nuri was making landfall at Sai Kung area in the eastern part of Hong Kong.
[The imagery was originally captured by the NOAA-16 satellite operated by the U.S. National Oceanic and Atmospheric Administration.]



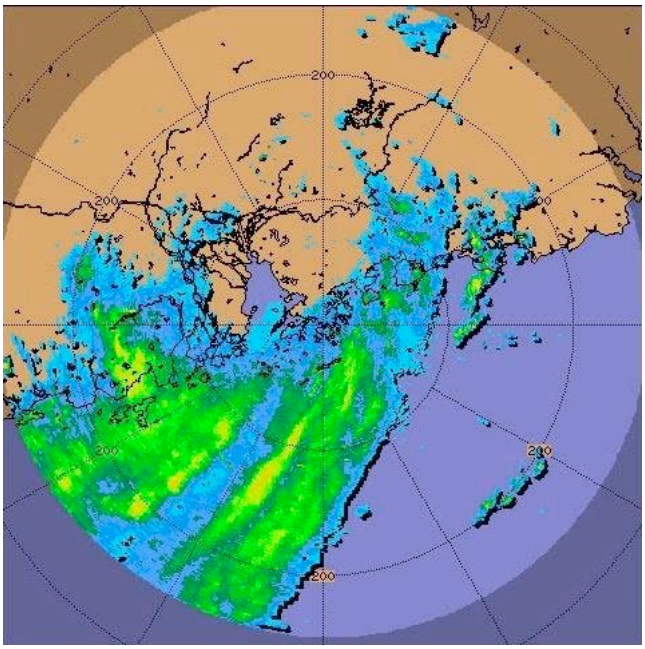
(a) 二零零八年八月二十二日上午5時
5 a.m. on 22 August 2008



(b) 二零零八年八月二十二日上午11時
11 a.m. on 22 August 2008



(c) 二零零八年八月二十二日下午5時
5 p.m. on 22 August 2008



(d) 二零零八年八月二十二日下午11時
11 p.m. on 22 August 2008

圖 3.4.4 鸚鵡的雷達回波圖像。
Fig. 3.4.4 Radar echoes of Nuri.

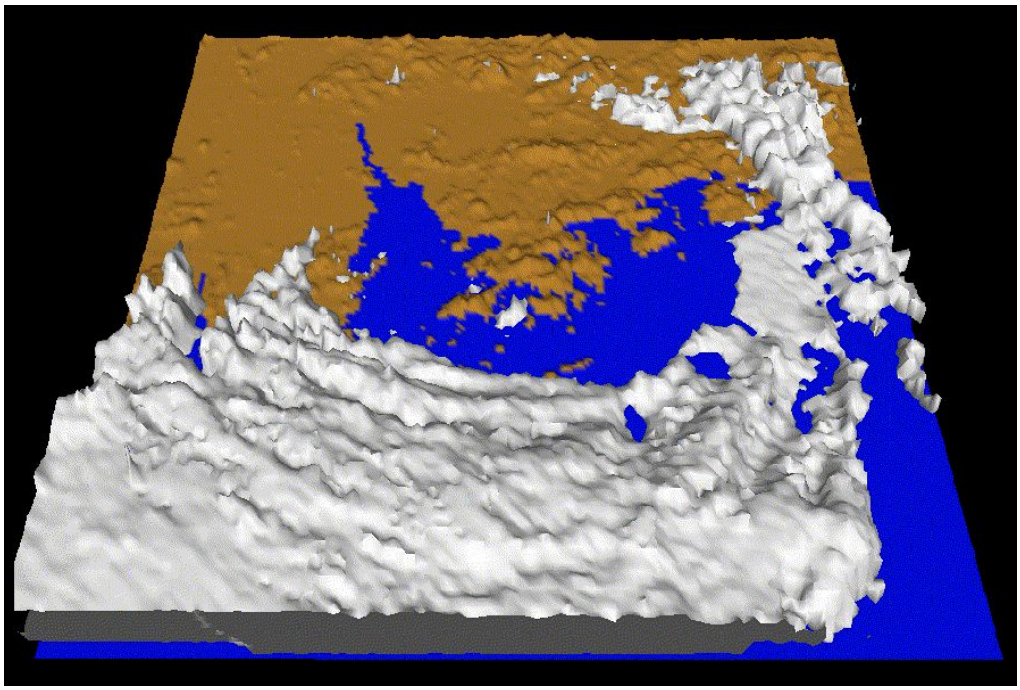


圖 3.4.5　強烈熱帶風暴鸚鵡在二零零八年八月二十二日下午 5 時 18 分的立體雷達回波圖像。當時鸚鵡的中心正在橫過九龍半島。

Figure 3.4.5　Three-dimensional radar echoes captured at 5:18 p.m. on 22 August 2008 of Severe Tropical Storm Nuri.　The centre of Nuri was crossing the Kowloon Peninsula around that time.

圖 3.4.6　二零零八年八月二十二日下午五時二十分香港各區風向及風力分佈圖。

Figure 3.4.6　Wind distribution around Hong Kong as at 5:20 p.m. on 22 August 2008.

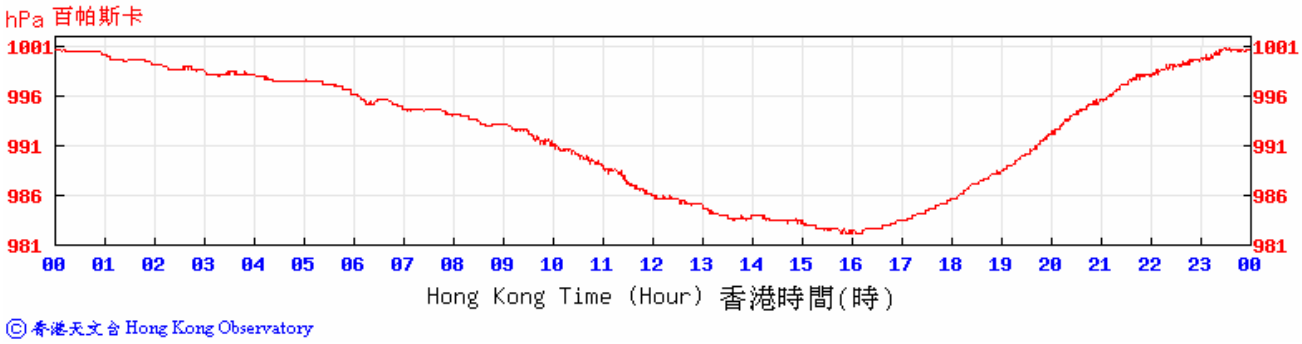


圖 3.4.7　　天文台總部在二零零八年八月二十二日錄得的海平面氣壓變化。

Figure 3.4.7　　Trace of mean sea level pressure recorded at the Hong Kong Observatory Headquarters on 22 August 2008.

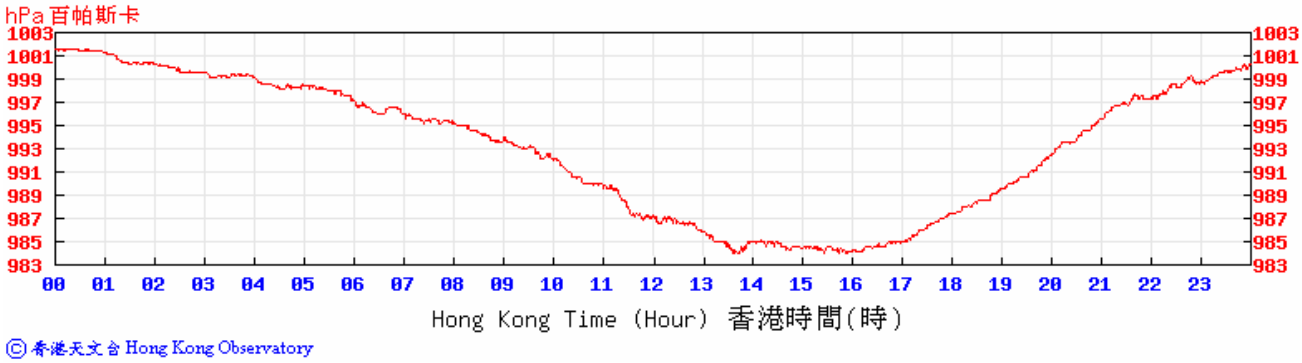


圖 3.4.8　　長洲在二零零八年八月二十二日錄得的海平面氣壓變化。

Figure 3.4.8　　Trace of mean sea level pressure recorded at Cheung Chau on 22 August 2008.

圖 3.4.9　　長洲在二零零八年八月二十二日錄得的十分鐘平均風向及風速變化 (└── 表示吹西風，風速爲每小時 18 公里，而 ◣── 表示吹西風，風速爲每小時 90 公里)

Figure 3.4.9　　Ten-minute mean wind directions and speeds recorded at Cheung Chau on 22 August 2008 (└── represents westerly winds with speed of 18 kilometres per hour and ◣── represents westerly winds with speeds of 90 kilometres per hour).

3.5 颱風黑格比（0814）：二零零八年九月十九日至二十五日

黑格比是香港在二零零八年第五個需要發出熱帶氣旋警告信號的熱帶氣旋，亦是本年第四個需要發出八號烈風或暴風信號的熱帶氣旋。這是自一九九九年以來天文台發出最多八號烈風或暴風信號的年份。

熱帶低氣壓黑格比於九月十九日早上在香港東南偏東約2 540公里的北太平洋西部上形成，並向西南偏西移動。它於九月二十日凌晨增強為熱帶風暴，當日下午再增強為強烈熱帶風暴及向西北偏西移動。黑格比於九月二十一日向西北移動及進一步增強為颱風，翌日轉向西北偏西移動，橫過巴林坦海峽，黃昏進入南海。黑格比於九月二十三日以每小時接近30公里的速度橫過南海北部，並於當日下午十時至十一時在香港西南偏南約180公里處掠過。黑格比在橫過南海北部期間中心附近的最高持續風速估計約為每小時175公里，是二零零八年影響香港最強的颱風。它於九月二十四日早上在廣東西部電白附近登陸，當日下午減弱為強烈熱帶風暴，黃昏再減弱為熱帶風暴。黑格比於九月二十五日凌晨減弱為熱帶低氣壓，當日下午在越南北部減弱為低壓區。根據報章報導，黑格比導致菲律賓有九人死亡。廣東及廣西則至少有五人死亡、兩人失蹤、約八百五十萬人受災、超過14 000間房屋倒塌，直接經濟損失約58億元人民幣。黑格比引致越南北部水浸及山泥傾瀉，至少有25人死亡、七人失蹤、20人受傷。

香港天文台於九月二十二日下午6時40分發出一號戒備信號，當時黑格比位於香港東南偏東約780公里。當日香港吹輕微至和緩西北風。由於黑格比移近香港，天文台在九月二十三日上午10時25分改發三號強風信號，當時黑格比位於香港東南約350公里。當日早上本港轉吹清勁北風，高地吹強風。由於黑格比移動快速，下午本港風勢迅速增強，並普遍吹強風，高地吹烈風。天文台於九月二十三日下午6時正發出八號東北烈風或暴風信號，當時黑格比位於香港東南偏南約210公里。當晚香港普遍吹東北至偏東烈風，離岸及高地吹暴風，而高地風力間中達颶風程度。本港熱帶氣旋警告系統網絡的八個參考測風站中有四個站的持續風力達烈風或暴風程度，其中以長洲風力最高，在長洲錄得的最高十分鐘平均風速為每小時113公里。九月二十四日凌晨黑格開始移離香港，本港轉吹東南烈風至暴風，天文台於凌晨12時40分改發八號東南烈風或暴風信號。隨後本港的風力逐漸減弱，天文台於當日上午6時30分改發三號強風信號。當黑格比進一步移離香港及本港風勢繼續減弱，天文台於當日下午12時50分取消所有熱帶氣旋警告信號。

在黑格比影響香港期間，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	日期/月份	最初及最後錄得的時間
香港天文台總部	992.2 百帕斯卡	23/9	下午5時49分 – 6 時57分
橫瀾島	990.4 百帕斯卡	23/9	下午6時51分 – 6 時55分
長洲	992.0百帕斯卡	23/9	下午8時23分
香港國際機場	992.2百帕斯卡	23/9	下午8時29分 – 8時48分

香港於九月二十二日天晴酷熱，部份地區有煙霞。九月二十三日轉為多雲及有狂風大驟雨。九月二十四日本港繼續有狂風大驟雨，而黃色暴雨警告信號在上午11時05分至下午4時20分生效。當日港島、新界西部及大嶼山錄得超過100毫米的雨量。受到黑格比帶來的風暴潮及漲潮的共同影響，鰂魚涌的最高潮位為3.53米，是自1962年9月颱風溫黛影響香港以來最高記錄。而大埔滘錄得的最高潮位為3.77米，是自1979年8月颱風荷貝影響香港以來最高記錄。

在黑格比襲港期間本港至少有58人受傷、16宗水浸、7宗棚架倒塌及46宗樹木倒塌報告。此外，約4 500棵樹木受損、其中1 000棵損毀嚴重。紅磡區一座住宅樓宇的50隻窗戶被風吹脫。黑格比帶來的風暴潮及漲潮使到香港沿岸地區水浸及受破壞。巨浪冲毀長洲一列房屋前的地台，超過一百名住客需要疏散。巨浪亦損毀愉景灣海邊木製的路段及在海洋公園附近的車輛。本港出現海水倒灌淹浸低窪地區包括有大澳、坪洲、屯門、深井、西貢、油塘、鯉魚門及柴灣。據報大澳的水浸是過去60至70年最嚴重的一次。水浸令到該區無電力供應，影響超過二百戶居民。坪洲附近至少有十艘小艇翻沉或被撞毀。油塘海傍有三艘工程船在巨浪中被吹斷錨鏈，隨水飄流至尖東後，撞毀該處的海濱長廊。大嶼山三個著名的海灘嚴重受損，大浪為海灘帶來大量垃圾或帶走大量海沙。香港國際機場超過400航班取消或延誤，7航班轉飛其它機場。一架停泊在香港國際機場的波音747-200貨機被風吹轉了約90度。一艘船隻在香港東北約110公里沉沒，七名漁民獲救。此外，一艘貨輪在澳門西南翻側，17名船員失蹤。

表3.5.1-3.5.4 分別是黑格比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或暴風程度的時段、日雨量及最高潮汐資料。圖3.5.1-3.5.4 分別為黑格比的路徑圖、雨量分佈圖、黑格比的衛星及雷達圖像。

3.5 Typhoon Hagupit (0814): 19 – 25 September 2008

Hagupit was the fifth tropical cyclone that necessitated the issuance of tropical cyclone warning signals in Hong Kong in 2008. It was also the fourth tropical cyclone that necessitated the issuance of the No. 8 Gale or Storm Signal in the year, making this year the one with the most No. 8 Signals since 1999.

Hagupit formed as a tropical depression over the western North Pacific about 2 540 km east-southeast of Hong Kong on the morning of 19 September and moved west-southwestwards. It intensified into a tropical storm on the early hours of 20 September, and a severe tropical storm that afternoon and moved west-northwestwards. Hagupit moved northwestwards and intensified further into a typhoon on 21 September. Turning to move west-northwestwards, Hagupit crossed the Balintang Channel on 22 September and entered the South China Sea that evening. Hagupit moved at a speed close to 30 km/h across the northern part of the South China Sea on 23 September and passed about 180 km south-southwest of Hong Kong from about 10 to 11 p.m. on 23 September. While crossing the northern part of the South China Sea, Hagupit attained an estimated maximum sustained wind speed of about 175 km/h near the centre, and was the most intense typhoon to affect Hong Kong in 2008. Hagupit made landfall near Dianbai in western Guangdong on the morning of 24 September. It weakened into a severe tropical storm that afternoon and further into a tropical storm in the evening. Hagupit weakened into a tropical depression on the small hours of 25 September and into an area of low pressure over northern Vietnam that morning. According to press reports, nine people were killed in the Philippines. In Guangdong and Guangxi, at least five people were killed and two others missing. About 8.5 million people were affected, over 14 000 houses collapsed and the direct economic losses were around RMB$ 5.8 billion. Hagupit triggered floods and landslides in northern Vietnam, where at least 25 people were killed, seven missing and 20 others injured.

In Hong Kong, the Standby Signal No. 1 was issued at 6:40 p.m. on 22 September when Hagupit was about 780 km east-southeast of Hong Kong. Local winds were light to moderate northwesterlies on 22 September. As Hagupit moved closer to Hong Kong, the Strong Wind Signal No. 3 was issued at 10:25 a.m. on 23 September when Hagupit was about 350 km to the southeast. Local winds freshened from the north and became strong on high grounds that morning. As Hagupit was a relatively fast moving typhoon, local winds strengthened rapidly in the afternoon, becoming generally strong with gales on high grounds. The No. 8 NE Gale or Storm Signal was issued at 6:00 p.m. that day when Hagupit was about 210 km to the south-southeast. Gale force northeasterlies to easterlies prevailed over Hong Kong that night, with storm force winds offshore and on high grounds, and occasionally reaching hurricane force on high grounds. Sustained gale or storm force winds were attained in four of the eight reference stations in the network of reference anemometers in the tropical cyclone warning

system. The maximum 10-minute mean wind recorded at Cheung Chau was 113 km/h, which was the highest among the eight stations. With Hagupit starting to move away from Hong Kong on the early hours of 24 September, local winds turned to the southeast and the No. 8 SE Gale or Storm Signal was issued at 12:40 a.m. on 24 September. The gale or storm force winds in Hong Kong gradually subsided thereafter and the No. 8 Signal was replaced by the No. 3 Strong Wind Signal at 6:30 a.m. in the morning. All tropical cyclone warning signals were cancelled at 12:50 p.m. that day as Hagupit moved further away and local winds continued to subside.

During the passage of Hagupit, the lowest instantaneous mean sea-level pressures recorded at some selected stations were as follows :-

Station	Lowest instantaneous mean sea-level pressure	Date/Month	First and last time recorded
Hong Kong Observatory Headquarters	992.2 hPa	23/9	5:49 – 6:57 p.m.
Waglan Island	990.4 hPa	23/9	6:51 – 6:55 p.m.
Cheung Chau	992.0 hPa	23/9	8:23 p.m.
Hong Kong International Airport	992.2 hPa	23/9	8:29 – 8:48 p.m.

The weather was fine and very hot with some haze on 22 September. It became cloudy with heavy squally showers the next day. Heavy squally showers continued to affect Hong Kong on 24 September and the Amber Rainstorm Warning Signal was in force between 11:05 a.m. and 4:20 p.m. More than 100 millimetres of rainfall were recorded over Hong Kong Island, western part of the New Territories and Lantau Island on 24 September. The combined effect of the storm surges of Hagupit and high tides resulted in a maximum sea level of 3.53 metres at Quarry Bay, the highest since Typhoon Wanda in September 1962. At Tai Po Kau, the maximum sea level was 3.77 metres, the highest since Typhoon Hope in August 1979.

In Hong Kong, at least 58 people were injured during the passage of Hagupit. There were 16 reports of flooding, seven of collapsed scaffolding and 46 of fallen trees. Around 4 500 trees were damaged with around 1 000 of them severely damaged. In Hung Hom, 50 windows of a residential building were blown out. Storm surges associated with Hagupit combined with high tides led to flooding and damages in the coastal areas. Hugh waves damaged an embankment in front of a row of houses in Cheung Chau, forcing the evacuation of more than 100 residents. The waves also caused damage to the wooden seaside walkway in Discovery Bay and vehicles near the Ocean Park. Flooding due to back-flow of sea water affected low-lying areas in many parts of Hong Kong, including Tai O, Peng Chau, Tuen Mun, Sham Tseng, Sai Kung, Yau Tong, Lei Yue Mun and Chai Wan. The flooding in Tai O, which cut off electricity

supply and affected more than 200 households there, was reported to be the most serious in the past 60 to 70 years. At least 10 vessels sank or were damaged near Peng Chau. On the Tsim Sha Tsui East promenade, three barges smashed into the seawall after they broke free from their anchors in the waterfront at Yau Tong. Three popular beaches on Lantau Island were severely damaged as waves brought tons of rubbish to the shore or washed away tons of sand. At the Hong Kong International Airport, over 400 flights were either cancelled or delayed and seven flights diverted. A Boeing Classic 747-200 cargo plane parked at the Hong Kong International Airport was rotated about 90 degrees under strong wind. Seven fishermen were rescued from a sinking boat at about 110 km northeast of Hong Kong. Seventeen crewmen were missing after a cargo ship capsized southwest of Macau.

The information on maximum wind, periods of strong and gale or storm force winds, daily rainfall and maximum sea level during the passage of Hagupit is given in Tables 3.5.1 - 3.5.4. Figures 3.5.1 - 3.5.4 show the track of Hagupit, rainfall distribution, satellite and radar imageries of Hagupit respectively.

表 3.5.1　在黑格比影響下，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 3.5.1　Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when tropical cyclone warning signals for Hagupit 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 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)	東北	NE	131	23/9	18:55	東	E	77	24/9	02:00
中環碼頭	Central Pier	東北偏東	ENE	118	23/9	19:55	東	E	76	23/9	23:00
長洲	Cheung Chau	東北	NE	153	23/9	22:40	-	-	108	24/9	02:00
長沙灣	Cheung Sha Wan	東北偏東	ENE	133	23/9	22:08	東北偏東	ENE	40	23/9	23:00
青洲	Green Island	東北	NE	157	23/9	20:55	東北偏北	NNE	70	23/9	17:00
香港國際機場	Hong Kong International Airport	東	E	121	23/9	22:53	東	E	76	24/9	03:00
啟德	Kai Tak	東北偏東	ENE	131	24/9	00:19	東	E	54	24/9	00:00
京士柏	King's Park	東北	NE	112	23/9	20:22	東南偏東	ESE	49	24/9	02:00
流浮山	Lau Fau Shan	東	E	112	23/9	22:55	東	E	59	23/9	23:00
昂坪	Ngong Ping	東	E	194	24/9	01:47	東	E	148	24/9	02:00
北角	North Point	東	E	130	23/9	21:30	東	E	65	23/9	23:00
坪洲	Peng Chau	東北偏東	ENE	137	23/9	22:14	東北偏東	ENE	90	23/9	23:00
平洲	Ping Chau	東	E	101	23/9	21:19	東	E	45	23/9	21:00
西貢	Sai Kung	東北偏東	ENE	117	23/9	19:41	東北偏東	ENE	72	23/9	22:00
沙洲	Sha Chau	東南	SE	115	24/9	02:30	東南偏東	ESE	77	24/9	03:00
沙螺灣	Sha Lo Wan	東北偏東	ENE	126	23/9	23:54	東	E	70	23/9	23:00
沙田	Sha Tin	東北	NE	96	23/9	21:59	東北偏東	ENE	34	23/9	23:00
石崗	Shek Kong	東南偏東	ESE	103	23/9	23:09	東	E	52	24/9	01:00
九龍天星碼頭	Star Ferry (Kowloon)	東	E	108	23/9	23:21	東	E	62	24/9	01:00
打鼓嶺	Ta Kwu Ling	東北偏東	ENE	88	23/9	22:29	東	E	38	24/9	03:00
							東	E	38	24/9	04:00
大美督	Tai Mei Tuk	東北偏東	ENE	137	23/9	22:42	東北偏東	ENE	96	23/9	23:00
大帽山	Tai Mo Shan	東	E	173	23/9	22:57	東	E	113	24/9	01:00
大老山	Tate's Cairn	-	-	171	23/9	19:17	-	-	110	23/9	23:00
鯽魚湖	Tsak Yue Wu	東	E	77	24/9	00:42	東北	NE	25	23/9	18:00
		東南偏東	ESE	77	24/9	03:03					
將軍澳	Tseung Kwan O	東北	NE	101	23/9	18:10	東北偏北	NNE	36	23/9	18:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	東南偏東	ESE	99	24/9	01:53	東南偏東	ESE	40	24/9	00:00
							東南偏東	ESE	40	24/9	02:00
屯門政府合署	Tuen Mun Government Offices	東南	SE	101	24/9	02:21	東南	SE	36	24/9	04:00
橫瀾島	Waglan Island	東北偏東	ENE	139	23/9	21:59	東北	NE	108	23/9	19:00
濕地公園	Wetland Park	東	E	103	23/9	22:49	東	E	43	23/9	23:00
黃竹坑	Wong Chuk Hang	東南	SE	126	23/9	23:23	東南偏東	ESE	58	24/9	01:00

表 3.5.2　在黑格比影響下，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 3.5.2　Periods during which sustained strong winds and gale force winds were reached at the 8 reference anemometers in the tropical cyclone warning system when warning signals for Hagupit were in force

站 (參閱圖 1.1) Station (See Fig 1.1)		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 reaching gale force#		最後達到烈風#時間 Last time reaching gale force#	
		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	23/9	09:52	24/9	10:39	23/9	14:45	24/9	10:03
香港國際機場	Hong Kong International Airport	23/9	14:21	24/9	10:50	23/9	20:31	24/9	04:55
啓德	Kai Tak	23/9	18:07	24/9	12:45	23/9	23:22	23/9	23:27
西貢	Sai Kung	23/9	13:59	24/9	08:41	23/9	17:29	23/9	23:55
沙田	Sha Tin	23/9	23:26	23/9	23:26	-			
打鼓嶺	Ta Kwu Ling	24/9	01:11	24/9	03:41	-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	23/9	22:39	24/9	08:18	-			
濕地公園	Wetland Park	23/9	20:27	24/9	04:18	-			

\- 未達到指定的風力
not reaching the specified wind speed

* 十分鐘平均風速達 41 – 62 公里
10-minute mean wind speed of 41 – 62 km/h

\# 十分鐘平均風速達 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 speed in between the times indicated.

表 3.5.3　黑格比影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位為毫米)

Table 3.5.3　Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Hagupit

站 (參閱圖 3.5.2) Station (See Fig. 3.5.2)	九月二十二日 22 Sep	九月二十三日 23 Sep	九月二十四日 24 Sep	總雨量 Total
香港天文台 Hong Kong Observatory	0.0	34.1	43.7	77.8
CCH 長洲 Cheung Chau	0.0	[13.0]	106.5	[119.5]
HKA 香港國際機場 Hong Kong International Airport	0.0	38.8	110.8	149.6
H12 半山區 Mid Levels	[0.0]	[36.5]	[88.0]	[124.5]
H19 筲箕灣 Shau Kei Wan	0.0	32.0	11.0	43.0
H21 淺水灣 Repulse Bay	0.0	40.0	33.0	73.0
K04 佐敦谷 Jordan Valley	[0.0]	[15.0]	[40.0]	[55.0]
N05 粉嶺 Fanling	0.0	[0.0]	48.0	[48.0]
N06 葵涌 Kwai Chung	0.0	30.0	83.5	113.5
N09 沙田 Sha Tin	[0.0]	30.5	23.0	[53.5]
N12 元朗 Yuen Long	0.0	47.0	63.5	110.5
N13 糧船灣 High Island	0.0	[22.5]	[8.0]	[30.5]
N17 東涌 Tung Chung	0.0	38.5	135.5	174.0
R21 踏石角 Tap Shek Kok	0.0	32.5	124.0	156.5
SEK 石崗 Shek Kong	0.0	[43.5]	[123.0]	[166.5]
R31 大美督 Tai Mei Tuk	0.0	11.5	12.5	24.0

註：　[ ] 基於不齊全的每小時雨量數據。

Note :　[ ] based on incomplete hourly data.

表 3.5.4　黑格比影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.5.4　Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Hagupit

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	3.53	24/9	00:51	1.43	24/9	00:54
大埔滘	Tai Po Kau	3.77	23/9	23:45	1.77	23/9	23:47
尖鼻咀	Tsim Bei Tsui	3.70	24/9	04:16	1.46	24/9	02:07

石壁、大廟灣及橫瀾島沒有資料。

No data for Shek Pik, Tai Miu Wan and Waglan Island.

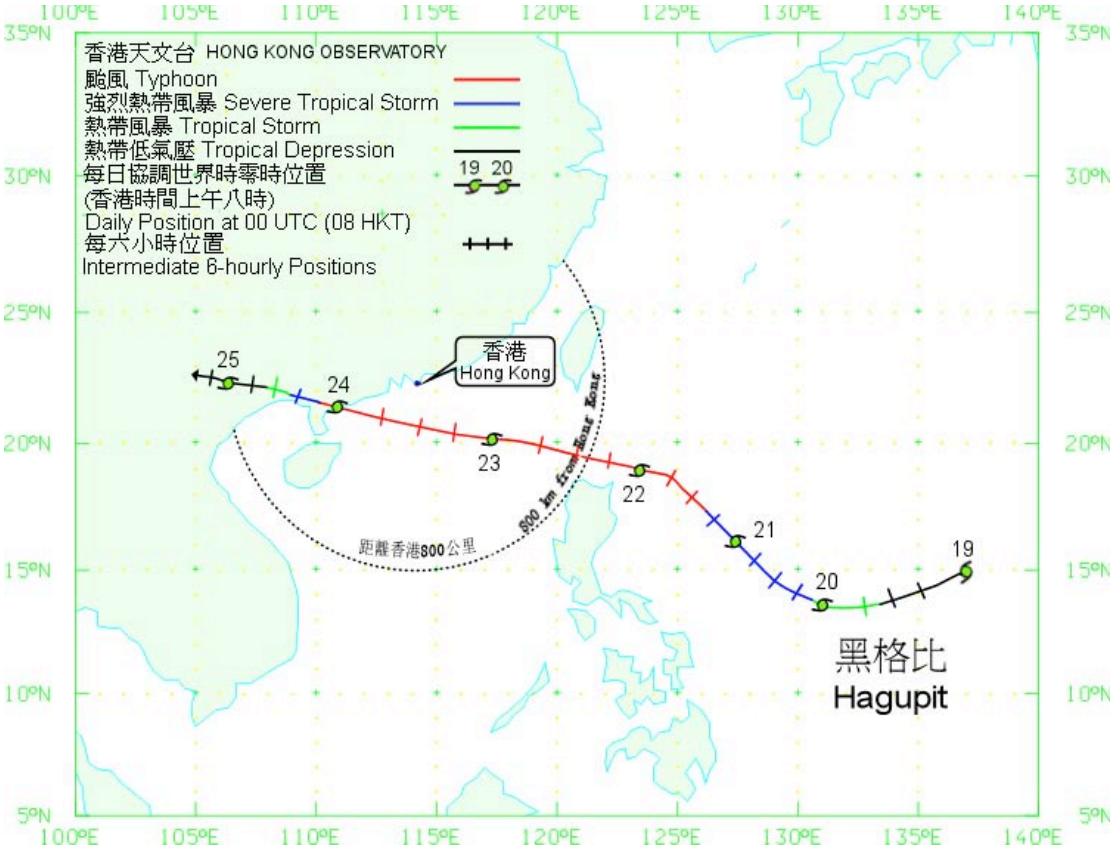


圖 3.5.1a 黑格比（0814）在二零零八年九月十九日至二十五日的路徑圖。

Figure 3.5.1a Track of Hagupit (0814) on 19 – 25 September 2008.

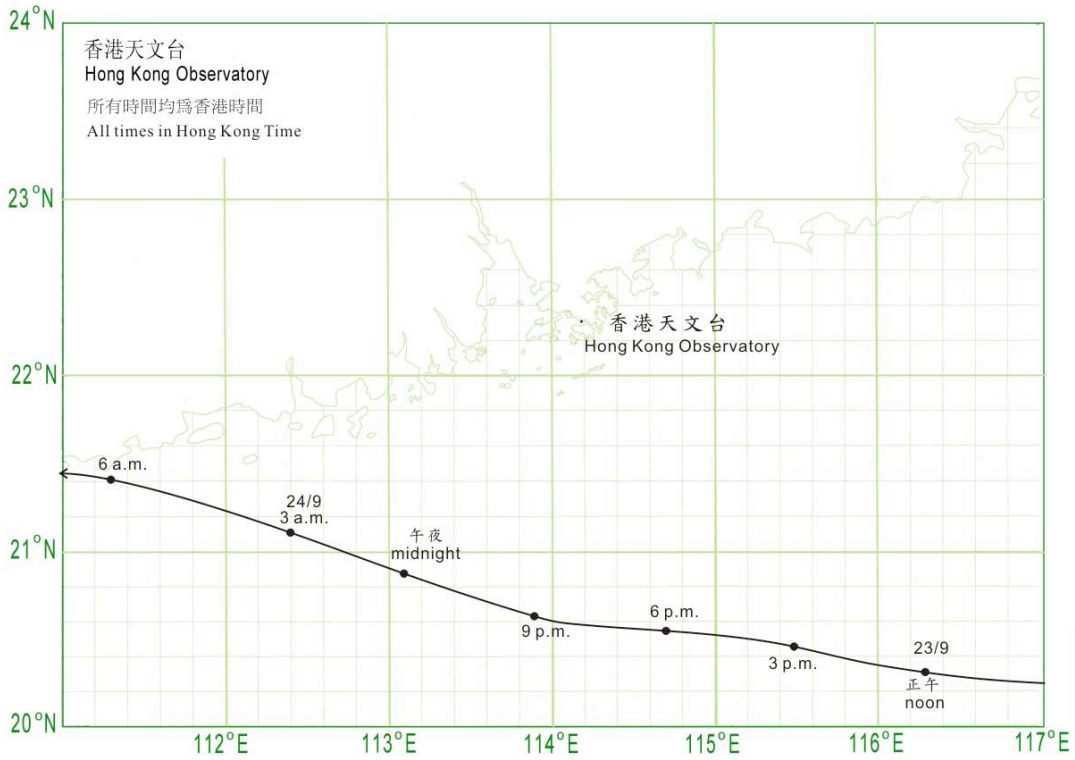


圖 3.5.1b 黑格比（0814）接近香港時的路徑圖。

Figure 3.5.1b Track of Hagupit (0814) near Hong Kong.

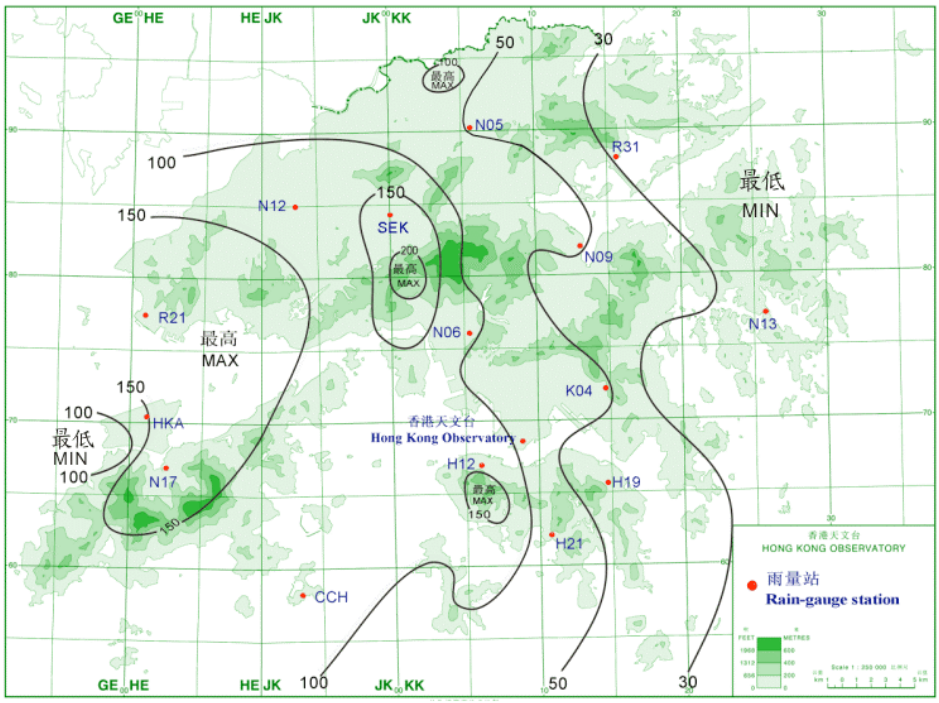


圖 3.5.2　　二零零八年九月二十二至二十四日的雨量分佈(等雨量線單位為毫米)。

Figure 3.5.2　　Rainfall distribution on 22 – 24 September 2008 (isohyets are in millimetres).

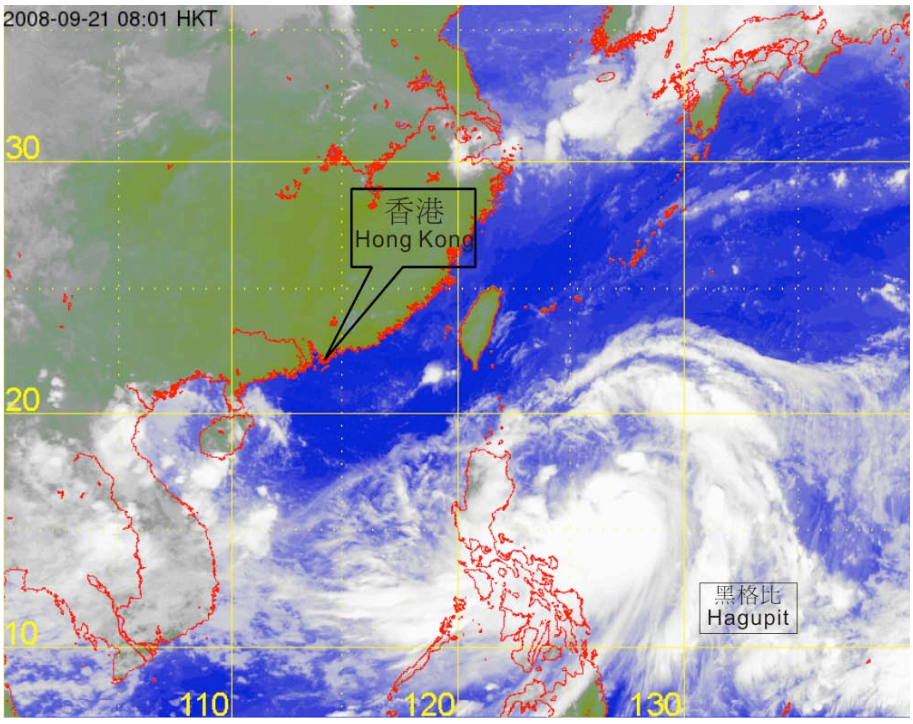


圖 3.5.3.a　　黑格比在二零零八年九月二十一日上午8時的紅外線衛星圖片 。

Figure 3.5.3.a　　Infra-red satellite imagery at 8 a.m. on 21 September 2008 of Hagupit.

〔圖像 3.5.3.a-e接收自日本氣象廳的多用途輸送衛星-1R 。〕[The imageries in Figures 3.5.3.a-e were originally captured by Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

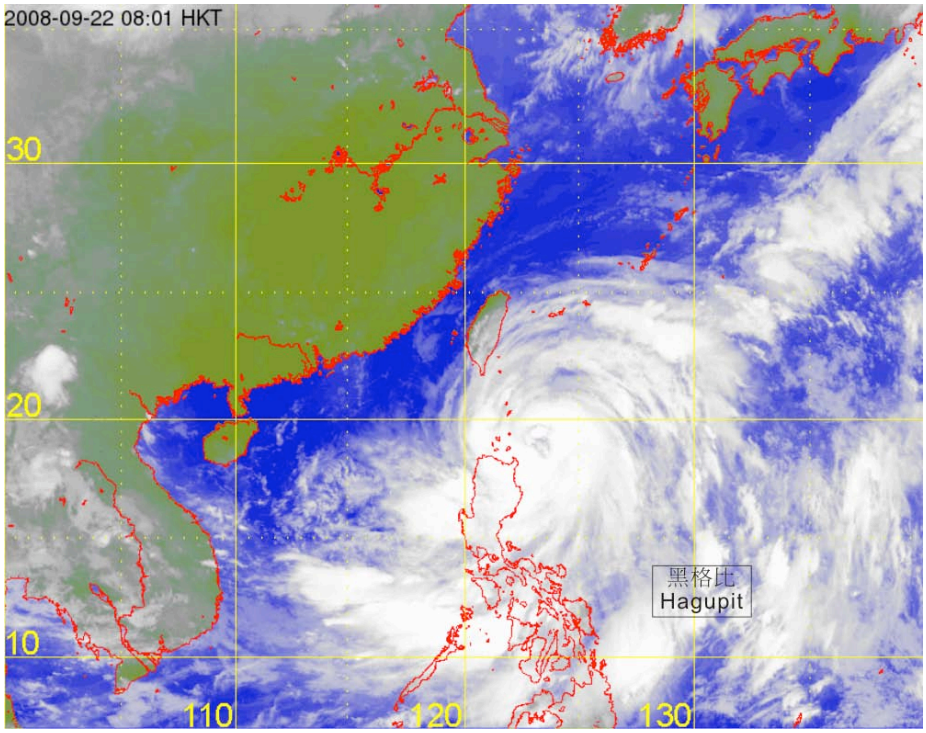


圖 3.5.3.b　　黑格比在二零零八年九月二十二日上午8時的紅外線衛星圖片。

Figure 3.5.3.b　　Infra-red satellite imagery at 8 a.m. on 22 September 2008 of Hagupit.

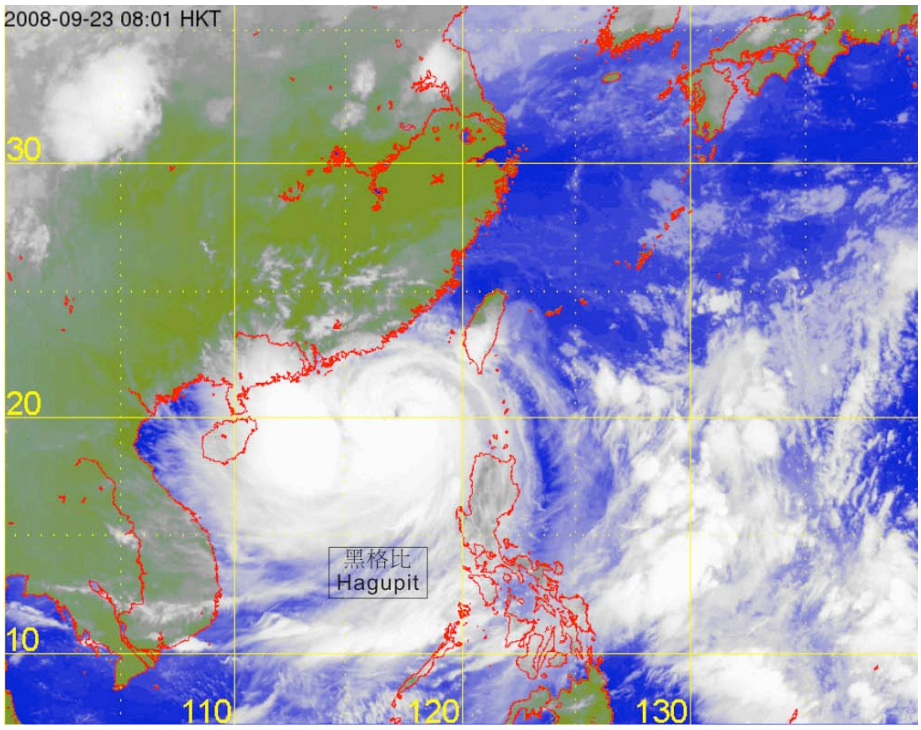


圖 3.5.3.c　　黑格比在二零零八年九月二十三日上午8時的紅外線衛星圖片。

Figure 3.5.3.c　　Infra-red satellite imagery at 8 a.m. on 23 September 2008 of Hagupit.

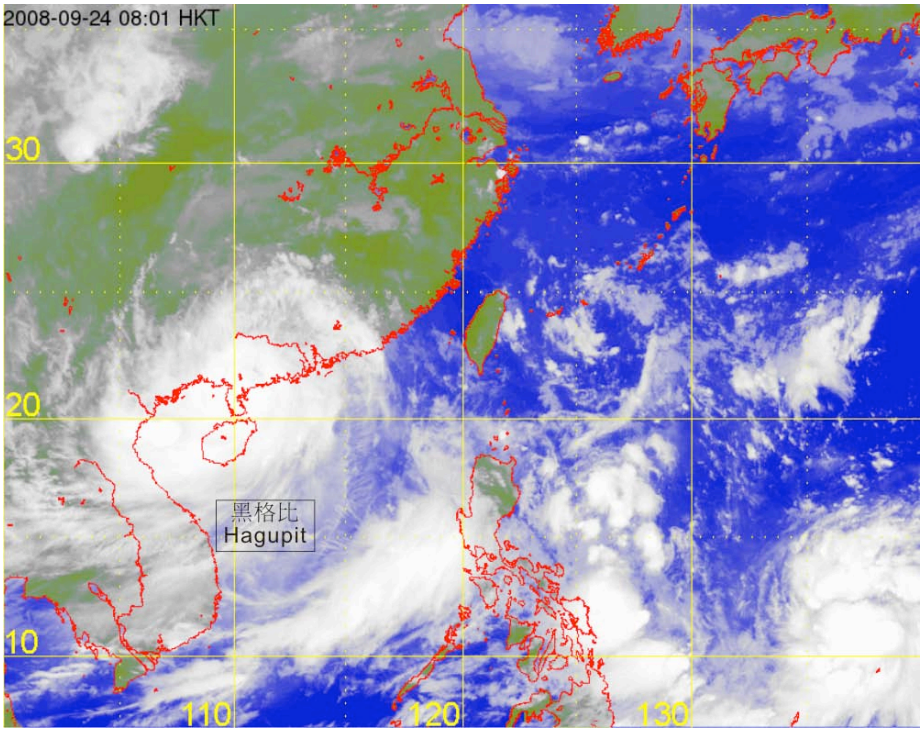


圖 3.5.3.d　　黑格比在二零零八年九月二十四日上午8時的紅外線衛星圖片。

Figure 3.5.3.d　　Infra-red satellite imagery at 8 a.m. on 24 September 2008 of Hagupit.

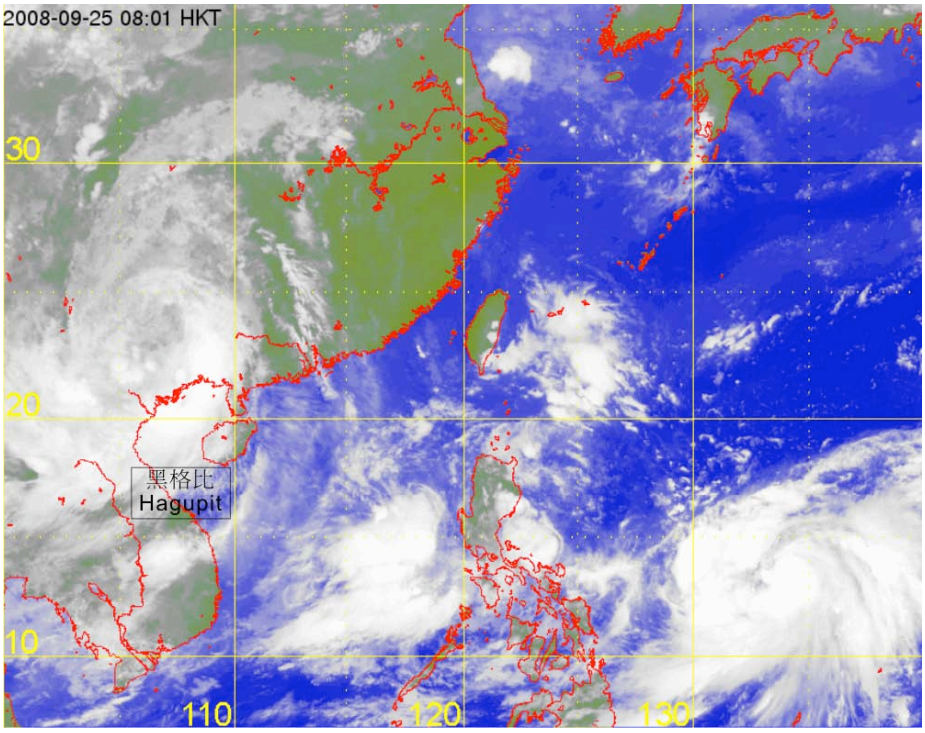
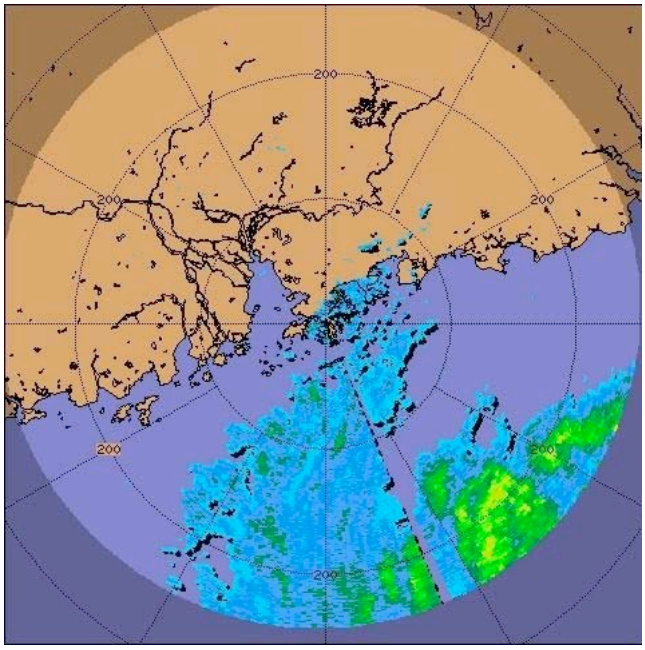
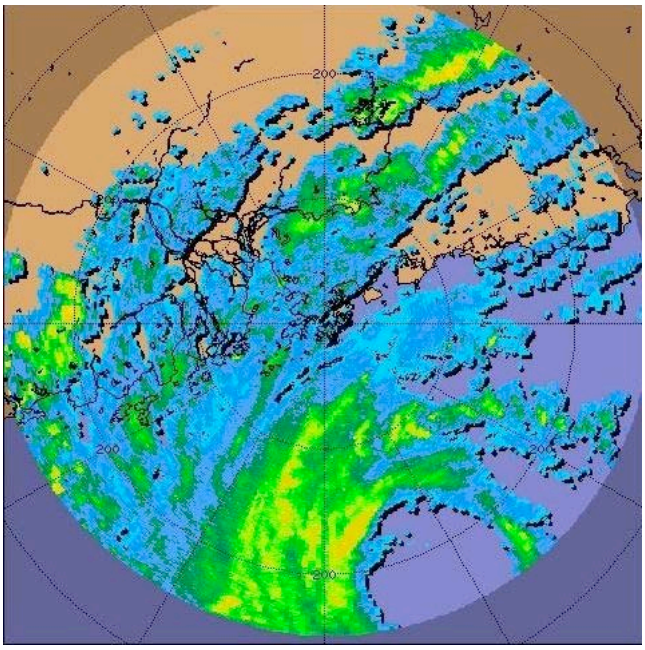


圖 3.5.3.e　　黑格比在二零零八年九月二十五日上午8時的紅外線衛星圖片。

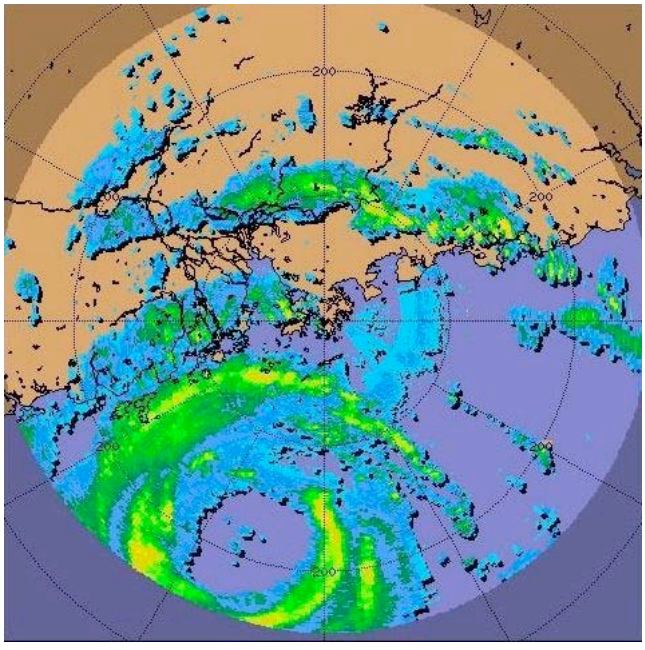
Figure 3.5.3.e　　Infra-red satellite imagery at 8 a.m. on 25 September 2008 of Hagupit.



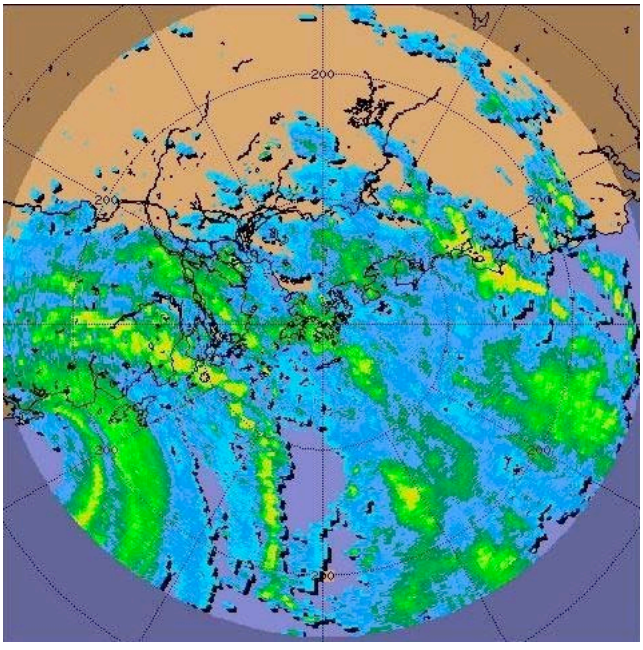
(a) 二零零八年九月二十三日上午10時
10 a.m. on 23 September 2008



(b) 二零零八年九月二十三日下午4時
4 p.m. on 23 September 2008



(c) 二零零八年九月二十三日下午10時。當時黑格比最為接近香港，其風眼清晰可見。
10 p.m. on 23 September 2008. Hagupit was closest to Hong Kong at that time and its eye was clearly visible.



(d) 二零零八年九月二十四日上午4時
4 a.m. on 24 September 2008

圖 3.5.4 黑格比的雷達回波圖像。
Fig. 3.5.4 Radar echoes of Hagupit.

3.6 熱帶風暴海高斯 (0817)： 二零零八年九月三十日至十月五日

海高斯是香港在二零零八年第六個需要發出熱帶氣旋警告信號的熱帶氣旋。

熱帶低氣壓海高斯於九月三十日凌晨在香港東南約2 000公里的北太平洋西部上形成，並向西北移動。它於當日下午及翌日橫過菲律賓中部及轉向西北偏西移動，於十月二日凌晨進入南海中部。它在十月三日早上增強為熱帶風暴及向西北移動，當晚再轉向北移動，並在海南島東北端文昌市附近登陸。它於十月四日凌晨減弱為熱帶低氣壓，當晚在廣東西部吳川市再次登陸。隨後海高斯轉向東北偏北移動，橫過廣東西部沿岸地區，並於十月五日凌晨減弱為一低壓區。受到高空西風氣流影響，海高斯的殘餘低壓區當日早上大致向東移動，黃昏時在中山及廣州附近掠過。當遇到在華南向南擴展的較涼空氣時，該低壓區呈現温帶氣旋的特徵，並於十月六日橫過華南沿岸，十月七日在南海北部上消散。根據報章報導，海南及廣東有超過四萬艘船隻回港避風。

香港天文台於十月二日下午7時30分發出一號戒備信號，當時海高斯位於香港以南約700公里。當日香港吹和緩東至東北風，十月三日及四日部分離岸海域及高地轉吹強風。長洲錄得最高每小時49公里的十分鐘平均風速，是本港熱帶氣旋警告系統網絡的八個參考測風站中錄得的最高風速。隨着海高斯在廣東西部登陸及減弱，天文台於十月四日下午10時30分取消所有熱帶氣旋警告信號。香港天文台總部於當日下午5時正及5時01分錄得最低瞬時海平面氣壓1007.7百帕斯卡，當時海高斯位於香港西南偏西約370公里。在海高斯殘餘低壓區的影響下，十月五日黃昏香港離岸海域及高地吹南至西南強風，風勢間中達烈風程度。強烈季候風信號在當日下午5時45分至11時40分生效。

香港於十月二日部分時間有陽光及有幾陣驟雨。十月三日轉為多雲及有幾陣雨，翌日有幾陣大驟雨。十月五日海高斯殘餘低壓區為本港帶來狂風大驟雨及雷暴，而黃色暴雨警告信號在上午8時50分至11時30分及下午6時15分至8時40分生效。當日香港多處地區錄得超過100毫米的雨量。

在強烈季候風信號生效期間，九龍尖沙咀一商業中心的一幅玻璃幕牆墜下，事件中兩部車輛被擊毀，一人輕傷。此外，九龍灣有一棚架搖搖欲墜。受到惡劣天氣影響，十月五日香港國際機場有40航班轉飛其它機場。

表3.6.1-3.6.4 分別是海高斯影響香港期間各站錄得的最高風速、持續風力達到強風程度的時段、日雨量及最高潮汐資料。圖3.6.1-3.6.4 分別為海高斯及其殘餘低壓區的路徑圖、雨量分佈圖、海高斯的衛星圖像及其殘餘低壓區的雷達圖像。

3.6 Tropical Storm Higos (0817): 30 September – 5 October 2008

Higos was the sixth tropical cyclone that necessitated the issuance of a tropical cyclone warning signal in Hong Kong in 2008.

Higos formed as a tropical depression over the western North Pacific about 2 000 km southeast of Hong Kong on the early hours of 30 September and moved northwestwards. It crossed the central part of the Philippines that afternoon and the next day and turned to move west-northwestwards, entering the central part of the South China Sea on the early hours of 2 October. Higos intensified into a tropical storm on the morning of 3 October and moved northwestwards. It turned to move northwards that night and made landfall near Wenchong at the eastern tip of Hainan. It weakened into a tropical depression on the early hours of 4 October and made landfall again near Wuchuan in western Guangdong that night. Higos then turned to move north-northeastwards across the coastal areas of western Guangdong and weakened into an area of low pressure on the early hours of 5 October. Under the influence of westerlies at upper levels, the remnant low pressure area of Higos moved generally eastwards across the coastal areas of western Guangdong that morning and passed close to Zhongshan and Guangzhou in the evening. Under the influence of cooler air spreading southwards over south China, the low pressure area attained characteristics of an extra-tropical cyclone. The low pressure area moved across the coast of Guangdong on 6 October and dissipated over the northern part of the South China Sea on 7 October. According to press reports, over 40 000 boats returned to the ports for shelter in Hainan and Guangdong.

In Hong Kong, the Standby Signal No. 1 was issued at 7:30 p.m. on 2 October when Higos was about 700 km south of Hong Kong. Local winds were moderate east to northeasterlies that day. Winds became locally strong in offshore waters and on high grounds for the following two days. Cheung Chau recorded a maximum 10-minute mean wind speed of 49 km/h, the highest in the eight reference stations in the network of reference anemometers in the tropical cyclone warning system. All tropical cyclone warning signals were cancelled at 10:30 p.m. on 4 October as Higos made landfall over western Guangdong and weakened. At the Hong Kong Observatory Headquarters, the lowest instantaneous mean sea-level pressure of 1007.7 hPa was recorded at 5:00 p.m. and 5:01 p.m. on 4 October, when Higos was about 370 km west-southwest of Hong Kong. The remnant low pressure area of Higos brought strong south to southwesterlies, occasionally reaching gale force, to the offshore waters and high grounds of Hong Kong on the evening of 5 October. The Strong Monsoon Signal was in force between 5:45 p.m. and 11:40 p.m that day.

There were sunny periods and a few showers on 2 October. The weather turned cloudy with rain patches on 3 October and a few heavy showers the next day. The remnant low

pressure area of Higos brought heavy squally showers and thunderstorms to Hong Kong on 5 October and the Amber Rainstorm Warning Signal was in force between 8:50 a.m. and 11:30 a.m. and also between 6:15 p.m. to 8:40 p.m. More than 100 millimetres of rainfall were recorded in many parts of the territory that day.

In Hong Kong, a sheet of glass fell off from a shopping centre in Tsim Sha Tsui when the Strong Monsoon Signal was in force. Two vehicles were damaged and a person was slightly injured during the incident. In addition, a scaffolding was reported loose in Kowloon Bay. At the Hong Kong International Airport, 40 flights had to be diverted due to adverse weather on 5 October.

Information on the maximum wind, periods of strong winds, daily rainfall and maximum sea level during the passage of Higos is given in Tables 3.6.1 - 3.6.4. Figures 3.6.1 - 3.6.4 show the track of Higos and its remnant low pressure area, rainfall distribution, satellite imageries of Higos and the radar imagery of its remnant low pressure area respectively.

表 3.6.1　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 3.6.1　Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when 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 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)	東北偏北	NNE	56	3/10	23:57	東北	NE	34	3/10	20:00
中環碼頭	Central Pier	東北偏東	ENE	45	3/10	13:45	東	E	31	3/10	06:00
							東	E	31	4/10	01:00
長洲	Cheung Chau	東	E	62	4/10	03:10	東	E	38	4/10	08:00
長沙灣	Cheung Sha Wan	東北	NE	34	3/10	12:17	東北偏東	ENE	13	3/10	09:00
青洲	Green Island	東北偏東	ENE	65	3/10	08:23	東北偏東	ENE	51	3/10	13:00
		東北偏東	ENE	65	3/10	12:29					
香港國際機場	Hong Kong International Airport	南	S	54	4/10	18:05	東南	SE	31	4/10	14:00
啟德	Kai Tak	東北偏東	ENE	54	3/10	13:36	東	E	30	3/10	20:00
京士柏	King's Park	東	E	41	3/10	15:07	東	E	20	3/10	13:00
流浮山	Lau Fau Shan	東	E	49	3/10	12:17	東南偏南	SSE	31	4/10	15:00
昂坪	Ngong Ping	西南	SW	110	4/10	22:11	東	E	59	4/10	01:00
北角	North Point	東	E	47	4/10	01:24	東	E	25	3/10	17:00
							東	E	25	4/10	01:00
坪洲	Peng Chau	東北偏東	ENE	52	3/10	14:04	東北偏東	ENE	36	4/10	01:00
		東北偏東	ENE	52	3/10	14:08					
平洲	Ping Chau	東	E	43	3/10	13:57	東	E	16	3/10	14:00
西貢	Sai Kung	東北偏東	ENE	45	3/10	19:55	東北偏東	ENE	31	3/10	20:00
沙洲	Sha Chau	東南偏南	SSE	54	4/10	16:22	東南偏南	SSE	34	4/10	17:00
沙螺灣	Sha Lo Wan	東南	SE	49	4/10	22:12	東	E	27	3/10	15:00
沙田	Sha Tin	東南偏東	ESE	31	4/10	09:43	東南	SE	16	4/10	14:00
							東南	SE	16	4/10	16:00
石崗	Shek Kong	東	E	49	3/10	12:58	東	E	23	3/10	15:00
九龍天星碼頭	Star Ferry (Kowloon)	東南偏東	ESE	43	3/10	18:44	東	E	25	3/10	13:00
							東南偏東	ESE	25	3/10	15:00
打鼓嶺	Ta Kwu Ling	東南	SE	36	4/10	14:35	東南	SE	14	4/10	15:00
大美督	Tai Mei Tuk	東	E	52	3/10	20:08	東	E	34	3/10	19:00
大帽山	Tai Mo Shan	東	E	81	4/10	03:06	東	E	54	4/10	03:00
大老山	Tate's Cairn	-	-	70	4/10	01:08	-	-	41	3/10	15:00
鯽魚湖	Tsak Yue Wu	東	E	36	3/10	13:20	東北偏東	ENE	13	3/10	11:00
							東北偏東	ENE	13	4/10	00:00
將軍澳	Tseung Kwan O	東	E	38	3/10	12:04	東北偏北	NNE	14	3/10	09:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	東南	SE	40	4/10	13:48	東南偏東	ESE	23	4/10	19:00
		東南	SE	40	4/10	13:49					
屯門政府合署	Tuen Mun Government Offices	東南偏東	ESE	47	4/10	07:13	東南	SE	22	4/10	22:00
橫瀾島	Waglan Island	東	E	56	3/10	14:35	東	E	49	3/10	23:00
		東	E	56	3/10	18:18					
		東	E	56	3/10	18:31					
濕地公園	Wetland Park	東南偏南	SSE	40	4/10	15:42	東南偏南	SSE	20	4/10	16:00
黃竹坑	Wong Chuk Hang	東	E	58	4/10	00:44	東	E	25	3/10	13:00
							東	E	25	4/10	01:00

表 3.6.2　在海高斯影響下，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*的時段

Table 3.6.2 Periods during which sustained strong winds* were reached at the 8 reference anemometers in the tropical cyclone warning system when 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 First time specified strong wind speed was reached		最後達到強風時間 Last time strong wind speed was reached	
		日期/月份 Date/Month	時間 Time	日期/月份 Date/Month	時間 Time
長洲	Cheung Chau	4/10	03:15	4/10	03:17
香港國際機場	Hong Kong International Airport	-			
啟德	Kai Tak	-			
西貢	Sai Kung				
沙田	Sha Tin	-			
打鼓嶺	Ta Kwu Ling	-			
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	-			
濕地公園	Wetland Park	-			

- 未達到指定的風力
  not reaching the specified wind speed

* 十分鐘平均風速達41 – 62 公里
  10-minute mean wind speed of 41 – 62 km/h

註: 本表列出持續風力最初及最後達到強風的時間。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 winds were recorded. Note that the winds might fluctuate above or below the specified wind speed in between the times indicated.

表 3.6.3　海高斯及其殘餘低壓區影響香港期間，香港天文台總部及其他各站所錄得的日雨量 (單位為毫米)

Table 3.6.3　Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Higos and its remnant low pressure area

站 (參閱圖 3.6.2) Station (See Fig. 3.6.2)	十月二日 2 Oct	十月三日 3 Oct	十月四日 4 Oct	十月五日 5 Oct	總雨量 Total
香港天文台 Hong Kong Observatory	3.0	2.4	14.0	122.6	142.0
CCH 長洲 Cheung Chau	4.5	0.0	8.5	114.5	127.5
HKA 香港國際機場 Hong Kong International Airport	微量 Trace	0.2	4.5	83.1	87.8
H12 半山區 Mid Levels	[2.0]	[3.0]	[21.0]	[101.5]	[127.5]
H19 筲箕灣 Shau Kei Wan	2.5	3.5	[7.0]	101.0	[114.0]
H21 淺水灣 Repulse Bay	3.0	3.5	[6.0]	[84.0]	[96.5]
K04 佐敦谷 Jordan Valley	[0.5]	[0.0]	[22.0]	[29.5]	[52.0]
N05 粉嶺 Fanling	0.0	0.0	[5.5]	113.5	[119.0]
N06 葵涌 Kwai Chung	1.5	1.5	[21.5]	131.5	[156.0]
N09 沙田 Sha Tin	0.0	1.5	[11.5]	107.5	[120.5]
N12 元朗 Yuen Long	0.0	0.0	[11.0]	121.5	[132.5]
N13 糧船灣 High Island	0.0	1.5	[8.0]	66.5	[76.0]
N17 東涌 Tung Chung	0.0	3.5	[9.0]	138.5	[151.0]
R21 踏石角 Tap Shek Kok	0.0	0.0	4.5	68.5	73.0
SEK 石崗 Shek Kong	0.0	1.0	11.0	[94.5]	[106.5]
R31 大美督 Tai Mei Tuk	0.0	0.0	33.0	97.5	130.5

註： [ ] 基於不齊全的每小時雨量數據。

Note : [ ] based on incomplete hourly data.

表 3.6.4　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 3.6.4　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	2.33	3/10	21:39	0.15	3/10	03:40
大埔滘	Tai Po Kau	2.45	3/10	00:17	0.26	3/10	00:41
尖鼻咀	Tsim Bei Tsui	2.60	2/10	23:08	0.06	3/10	05:35

石壁、大廟灣及橫瀾島沒有資料。

No data for Shek Pik, Tai Miu Wan and Waglan Island.

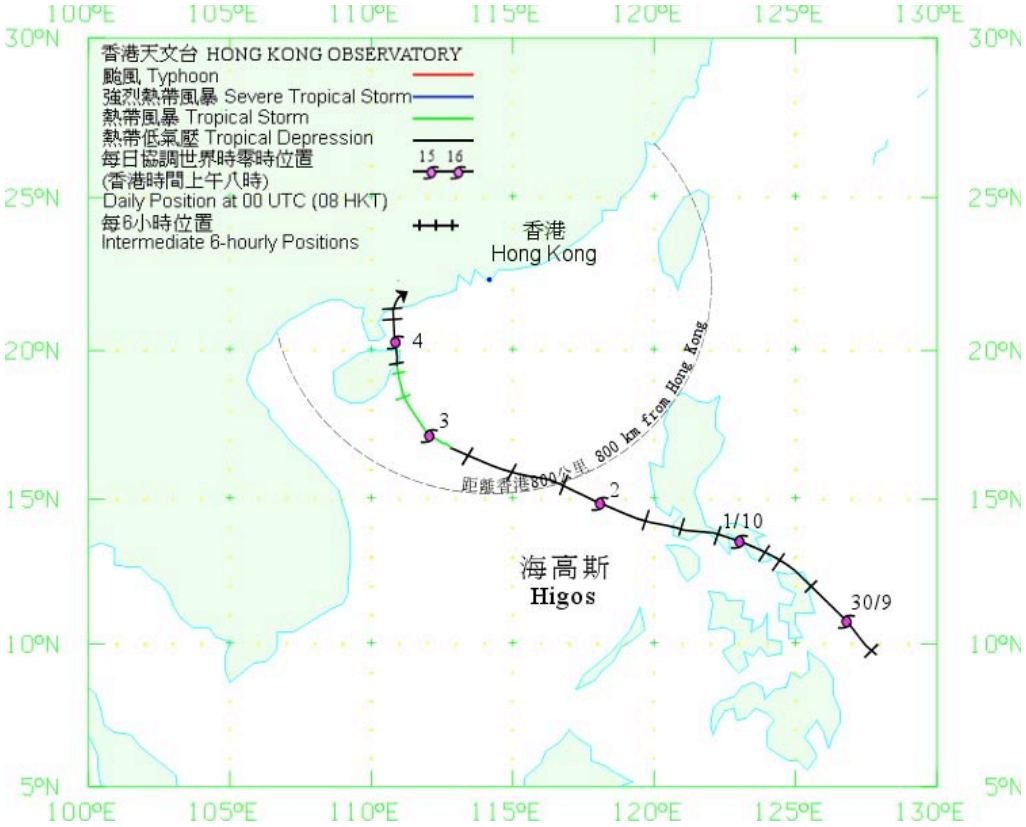


圖 3.6.1a　　海高斯（0817）在二零零八年九月三十日至十月四日的路徑圖。

Figure 3.6.1a　　Track of Higos (0817) on 30 September – 4 October 2008.

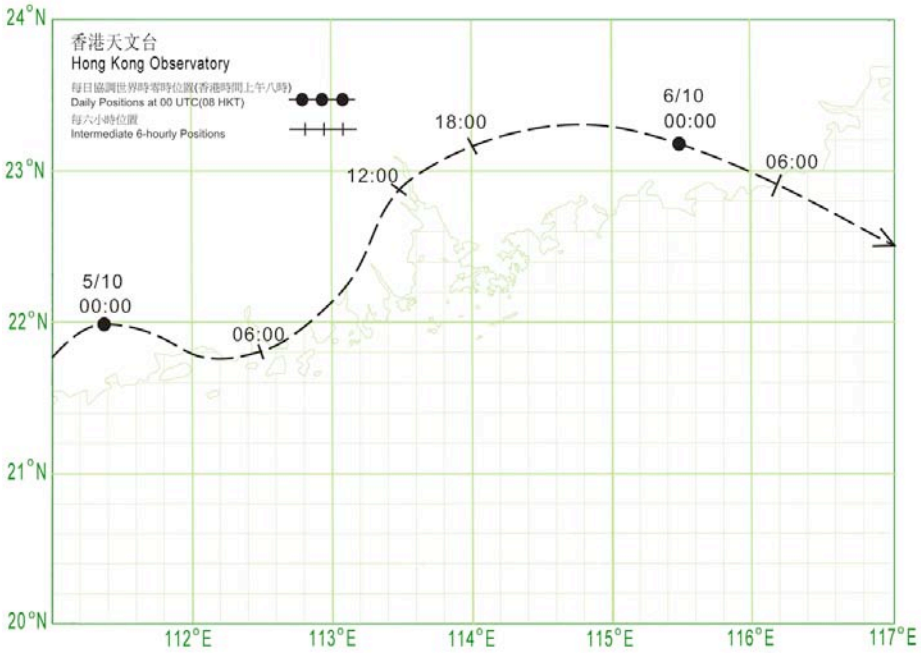


圖 3.6.1b　　海高斯殘餘低壓區在十月五日至六日的路徑圖。

Figure 3.6.1b　　Track of the remnant low pressure area of Higos on 5 – 6 October 2008.

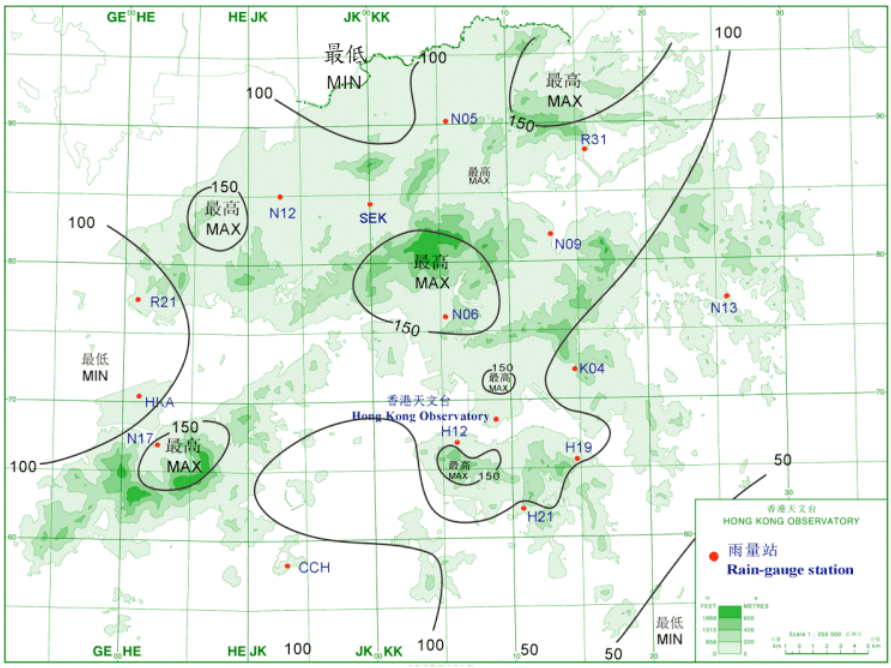


圖 3.6.2　　二零零八年十月二日至五日的雨量分佈(等雨量線單位為毫米)。

Figure 3.6.2　　Rainfall distribution on 2 – 5 October 2008 (isohyets are in millimetres).

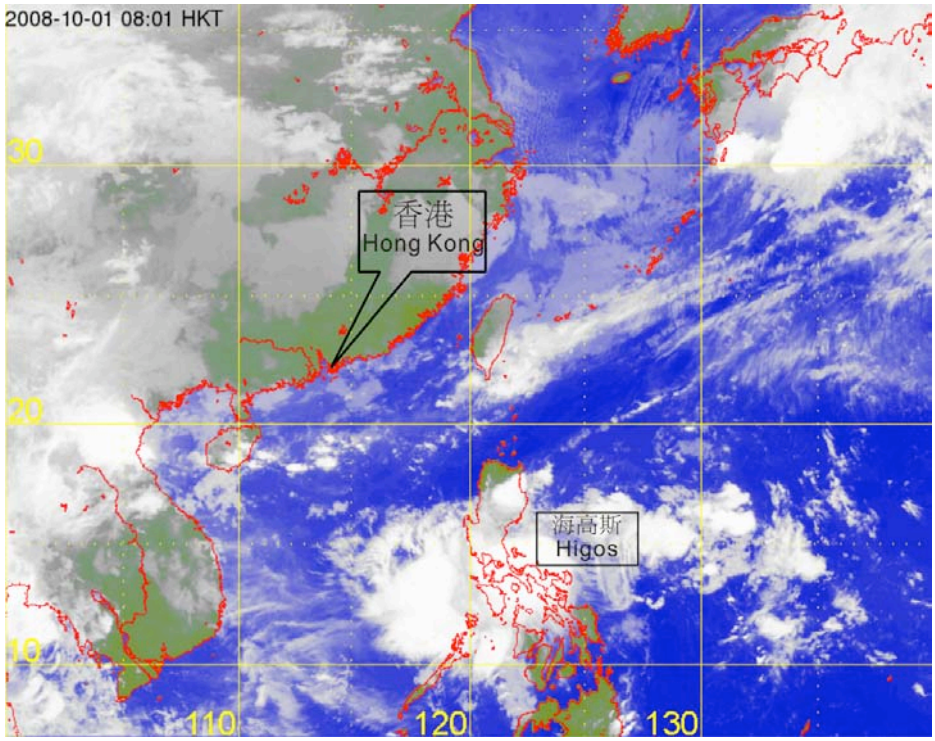


圖 3.6.3.a　　海高斯在二零零八年十月一日上午8時的紅外線衛星圖片 。

Figure 3.6.3.a　　Infra-red satellite imagery at 8 a.m. on 1 October 2008 of Higos.

〔圖像 3.6.3.a-d接收自日本氣象廳的多用途輸送衛星-1R。〕 [The imageries in Figures 3.6.3.a-d were originally captured by Multi-functional Transport Satellite-1R (MTSAT-1R) of Japan Meteorological Agency (JMA).]

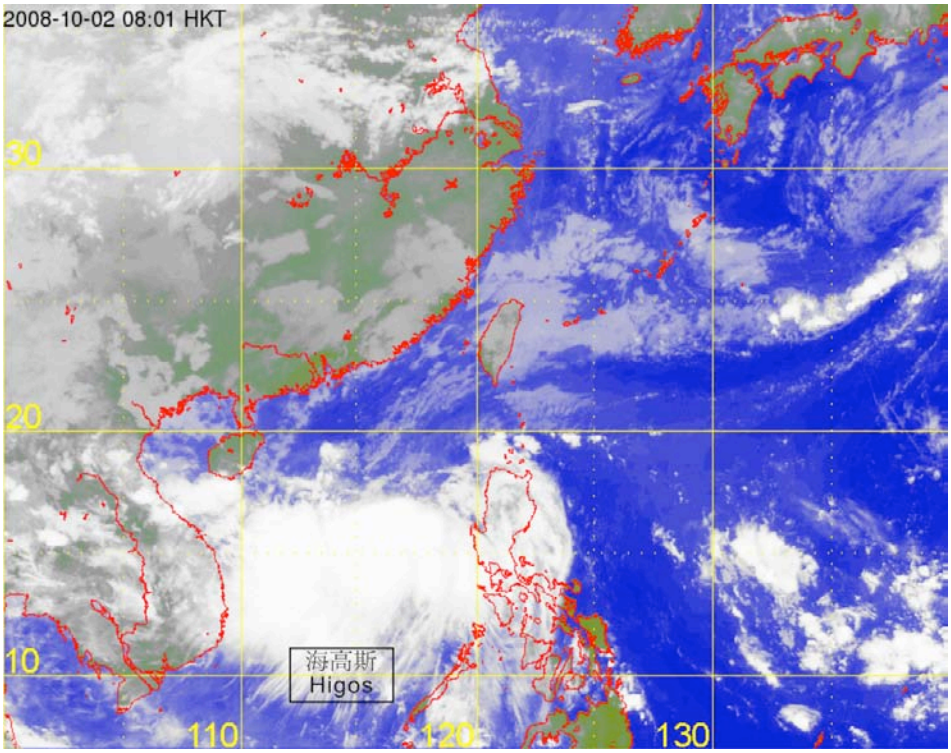


圖 3.6.3.b　　海高斯在二零零八年十月二日上午8時的紅外線衛星圖片。

Figure 3.6.3.b　　Infra-red satellite imagery at 8 a.m. on 2 October 2008 of Higos.

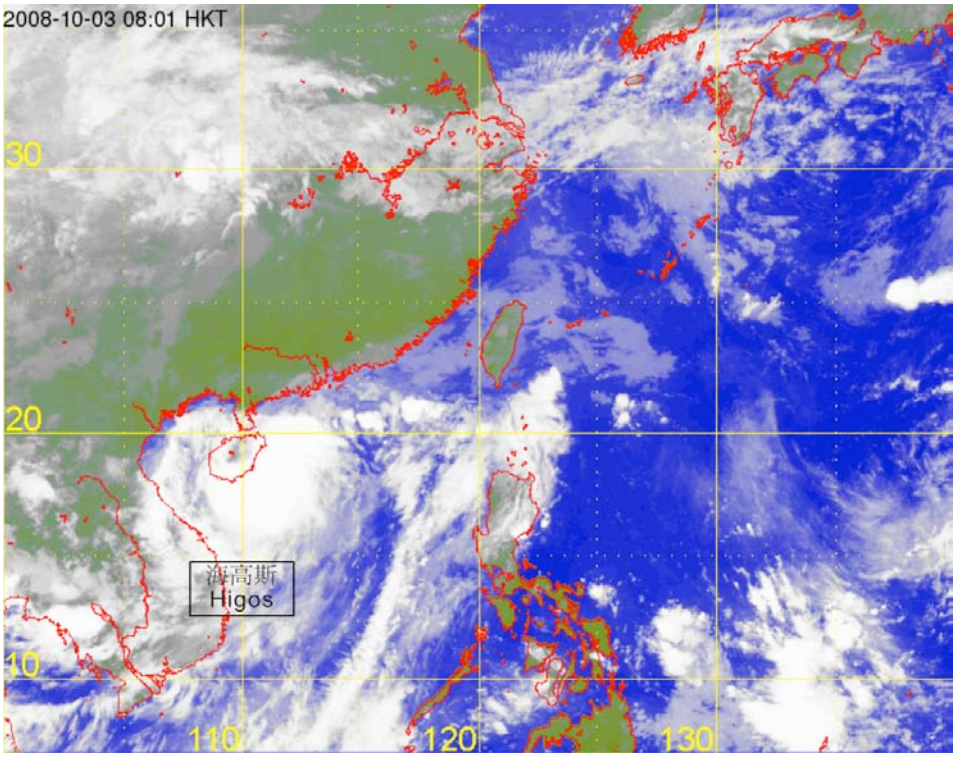


圖 3.6.3.c　　海高斯在二零零八年十月三日上午8時的紅外線衛星圖片。

Figure 3.6.3.c　　Infra-red satellite imagery at 8 a.m. on 3 October 2008 of Higos.

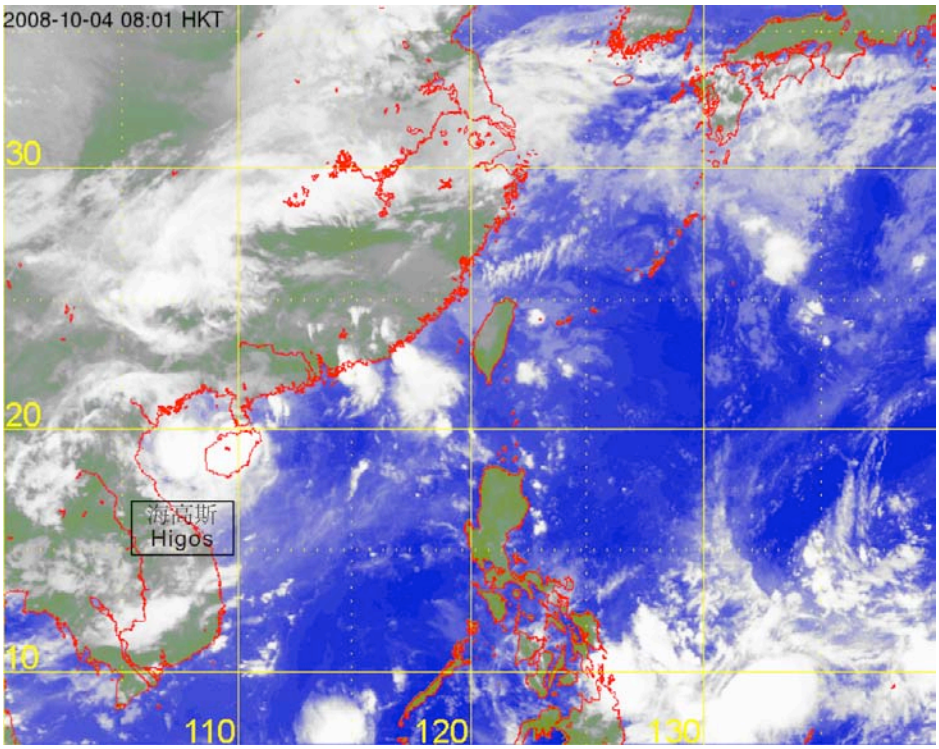


圖 3.6.3.d　　海高斯在二零零八年十月四日上午8時的紅外線衛星圖片。

Figure 3.6.3.d　　Infra-red satellite imagery at 8 a.m. on 4 October 2008 of Higos.

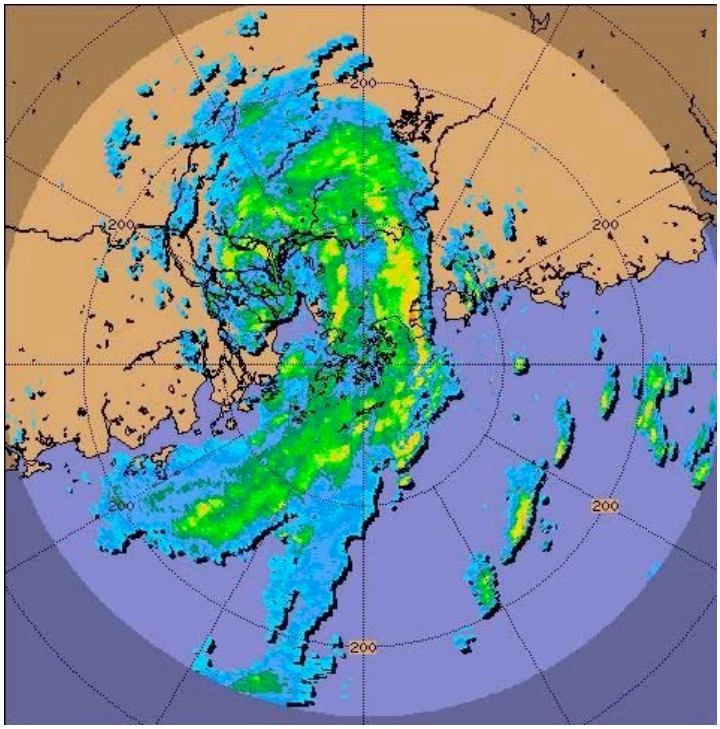


圖 3.6.4　　二零零八年十月五日下午8時與海高斯殘餘低壓區相連的雨帶的雷達回波 圖像。

Figure 3.6.4　　Radar echoes of the rainbands associated with the remnant low pressure area of Higos at 8 p.m. on 5 October 2008.

第四節　熱帶氣旋統計表

表4.1是二零零八年在北太平洋西部及南海區域（即由赤道至北緯45度、東經100度至180度所包括的範圍）的熱帶氣旋一覽。表內所給出的日期只說明某熱帶氣旋在上述範圍內出現的時間，因而不一定包括整個風暴過程。這個限制對表內其他元素亦同樣適用。

表4.2是天文台在二零零八年為船舶發出的熱帶氣旋警告的次數、時段、首個及末個警告發出的時間。當有熱帶氣旋位於香港責任範圍內時（即由北緯10至30度、東經105至125度所包括的範圍），天文台會發出這些警告。表內使用的時間為協調世界時。

表4.3是二零零八年熱帶氣旋警告信號發出的次數及其時段的摘要。表內亦提供每次熱帶氣旋警告信號生效的時間和發出警報的次數。表內使用的時間為香港時間。

表4.4是一九五六至二零零八年間熱帶氣旋警告信號發出的次數及其時段的摘要。

表4.5是一九五六至二零零八年間每年位於香港責任範圍內以及每年引致天文台需要發出熱帶氣旋警告信號的熱帶氣旋總數。

表4.6是一九五六至二零零八年間天文台發出各種熱帶氣旋警告信號的最長、最短及平均時段。

表4.7是二零零八年當熱帶氣旋影響香港時本港的氣象觀測摘要。資料包括熱帶氣旋最接近香港時的位置及時間和當時估計熱帶氣旋中心附近的最低氣壓、京士柏、香港國際機場及橫瀾島錄得的最高風速、香港天文台錄得的最低平均海平面氣壓以及香港各潮汐測量站錄得的最大風暴潮（即實際水位高出潮汐表中預計的部分，單位為米）。

表4.8.1是二零零八年位於香港600公里範圍內的熱帶氣旋及其為香港所帶來的雨量。

表4.8.2是一八八四至一九三九年以及一九四七至二零零八年間十個為香港帶來最多雨量的熱帶氣旋和有關的雨量資料。

表4.9是自一九四六年以來，天文台發出十號颶風信號時所錄得的氣象資料，包括熱帶氣旋吹襲香港時的最近距離及方位、天文台錄得的最低平均海平面氣壓、香港各站錄得的最高60分鐘平均風速和最高陣風。

表4.10是二零零八年間熱帶氣旋在香港所造成的損失。資料參考了各政府部門和公共事業機構所提供的報告及本地報章的報導。

表4.11是一九六零至二零零八年間熱帶氣旋在香港所造成的人命傷亡及破壞。資料參考了各政府部門和公共事業機構所提供的報告及本地報章的報導。

Section 4 TROPICAL CYCLONE STATISTICS AND TABLES

TABLE 4.1 is a list of tropical cyclones in 2008 in the western North Pacific and the South China Sea (i.e. the area bounded by the Equator, 45°N, 100°E and 180°). The dates cited are the residence times of each tropical cyclone within the above-mentioned region and as such might not cover the full life-span. This limitation applies to all other elements in the table.

TABLE 4.2 gives the number of tropical cyclone warnings for shipping issued by the Hong Kong Observatory in 2008, the durations of these warnings and the times of issue of the first and last warnings for all tropical cyclones in Hong Kong's area of responsibility (i.e. the area bounded by 10°N, 30°N, 105°E and 125°E). Times are given in hours and minutes in UTC.

TABLE 4.3 presents a summary of the occasions/durations of the issuing of tropical cyclone warning signals in 2008. The sequence of the signals displayed and the number of tropical cyclone warning bulletins issued for each tropical cyclone are also given. Times are given in hours and minutes in Hong Kong Time.

TABLE 4.4 presents a summary of the occasions/durations of the issuing of tropical cyclone warning signals from 1956 to 2008 inclusive.

TABLE 4.5 gives the annual number of tropical cyclones in Hong Kong's area of responsibility between 1956 and 2008 and also the annual number of tropical cyclones necessitated the issuing of tropical cyclone warning signals in Hong Kong.

TABLE 4.6 shows the maximum, mean and minimum durations of the tropical cyclone warning signals issued during the period 1956-2008.

TABLE 4.7 is a summary of meteorological information for each tropical cyclone affecting Hong Kong in 2008, including the position, time and the estimated minimum central pressure of each tropical cyclone during its closest approach to Hong Kong, the maximum winds at King’s Park, Hong Kong International Airport and Waglan Island, the minimum mean sea-level pressure recorded at the Hong Kong Observatory and the maximum storm surge (the excess, in metres, of the actual water level over that predicted in the Tide Tables) recorded at various tide stations in Hong Kong.

TABLE 4.8.1 tabulates the amount of rainfall associated with each tropical cyclone that came within 600 km of Hong Kong in 2008.

TABLE 4.8.2 highlights the 10 wettest tropical cyclones in Hong Kong for the period 1884-1939 and 1947-2008.

TABLE 4.9 provides some meteorological information for those typhoons requiring the issuing of the Hurricane Signal No. 10 in Hong Kong since 1946. The information presented includes the distances and bearings of nearest approach, the minimum mean sea-level pressures recorded at the Hong Kong Observatory and the maximum 60-minute mean winds and maximum gust peak speeds recorded at some stations in Hong Kong.

TABLE 4.10 contains damage caused by tropical cyclones in 2008. The information is based on reports from various government departments, public utility companies and local newspapers.

TABLE 4.11 presents casualties and damage caused by tropical cyclones in Hong Kong : 1960-2008. The information is based on reports from various government departments, public utility companies and local newspapers.

表 4.1　　二零零八年在北太平洋西部及南海區域的熱帶氣旋一覽

TABLE 4.1　LIST OF TROPICAL CYCLONES IN THE WESTERN NORTH PACIFIC AND THE SOUTH CHINA SEA IN 2008

熱帶氣旋名稱	Name of tropical cyclone	編號 Code	路徑起點 Beginning of track				最高強度 (估計) Peak intensity (estimated)		路徑終點 End of track				DISP: 消散 Dissipated XT: 變為溫帶氣旋 Extratropical
			日期/月份 Date/Month	時間+ Time+	位置 Position 北緯 ºN	東經 ºE	風力 (公里每小時) Winds (km/h)	氣壓 (百帕斯卡) Pressure (hPa)	日期/月份 Date/Month	時間+ Time+	位置 Position 北緯 ºN	東經 ºE	
颱風浣熊	Typhoon Neoguri	0801	15 / 4	0000	10.1	117.6	150	955	19 / 4	1200	22.9	112.9	DISP
颱風威馬遜	Typhoon Rammasun	0802	7 / 5	0600	7.4	132.8	195	925	12 / 5	1800	30.5	140.2	XT
熱帶風暴麥德姆	Tropical Storm Matmo	0803	14 / 5	1800	17.2	123.9	75	990	16 / 5	1200	26.0	135.8	XT
強烈熱帶風暴夏浪	Severe Tropical Storm Halong	0804	15 / 5	0000	12.2	116.8	100	975	20 / 5	0600	29.2	139.0	XT
颱風娜基莉	Typhoon Nakri	0805	26 / 5	1800	12.6	138.6	195	925	3 / 6	0000	31.5	140.3	XT
颱風風神	Typhoon Fengshen	0806	18 / 6	1200	9.1	133.0	165	950	25 / 6	1800	24.2	114.0	DISP
颱風海鷗	Typhoon Kalmaegi	0807	14 / 7	0600	19.4	125.3	120	965	20 / 7	1800	38.4	125.8	XT
颱風鳳凰	Typhoon Fung-wong	0808	24 / 7	0600	22.0	133.0	160	950	30 / 7	0600	29.3	116.6	DISP
強烈熱帶風暴北冕	Severe Tropical Storm Kammuri	0809	4 / 8	0000	19.2	118.7	110	975	8 / 8	0000	21.0	105.2	DISP
熱帶風暴巴蓬	Tropical Storm Phanfone	0810	9 / 8	1200	27.3	151.4	85	996	11 / 8	0000	39.4	163.2	XT
強烈熱帶風暴黃蜂	Severe Tropical Storm Vongfong	0811	14 / 8	1800	28.5	133.4	90	990	17 / 8	1800	42.4	164.3	XT
颱風鸚鵡	Typhoon Nuri	0812	17 / 8	1200	15.8	137.0	150	955	23 / 8	0000	23.1	112.8	DISP
熱帶低氣壓	Tropical Depression	-	26 / 8	1800	16.7	124.8	45	1002	28 / 8	1800	20.9	120.7	DISP
颱風森拉克	Typhoon Sinlaku	0813	8 / 9	0600	15.6	126.4	175	940	20 / 9	1800	35.1	149.9	XT
颱風黑格比	Typhoon Hagupit	0814	19 / 9	0000	14.9	137.0	175	940	25 / 9	0600	22.5	105.7	DISP
颱風薔薇	Typhoon Jangmi	0815	24 / 9	0000	11.8	137.9	230	905	30 / 9	1800	29.8	128.3	XT
熱帶風暴米克拉	Tropical Storm Mekkhala	0816	28 / 9	0600	14.4	112.7	85	985	30 / 9	1800	19.5	100.9	DISP
熱帶風暴海高斯	Tropical Storm Higos	0817	29 / 9	1800	9.8	127.7	65	996	4 /10	1200	21.4	110.8	DISP
熱帶低氣壓	Tropical Depression	-	13 /10	1200	18.0	108.3	55	1002	15 /10	0600	18.9	106.1	DISP
熱帶風暴巴威	Tropical Storm Bavi	0818	18 /10	0600	22.9	150.4	85	992	20 /10	0600	35.5	153.1	XT
強烈熱帶風暴美莎克	Severe Tropical Storm Maysak	0819	7 /11	0000	13.1	118.5	90	982	10 /11	0600	15.0	117.0	DISP
熱帶風暴海神	Tropical Storm Haishen	0820	15 /11	0600	24.1	147.6	75	998	17 /11	0600	30.6	158.9	XT
熱帶風暴紅霞	Tropical Storm Noul	0821	16 /11	0000	9.9	115.8	85	988	17 /11	1800	12.3	106.2	DISP
颱風白海豚	Typhoon Dolphin	0822	12 /12	0000	12.8	141.3	120	970	18 /12	0600	24.1	140.1	XT

+ 時間為協調世界時　+ Times are given in UTC

表 4.2　　二零零八年爲船舶發出的熱帶氣旋警告
TABLE 4.2　TROPICAL CYCLONE WARNINGS FOR SHIPPING ISSUED IN 2008

熱帶氣旋	Tropical cyclone	發出警告的次數 No. of warnings issued	發出的日期及時間 Date and time of issue of				時段 (小時) Duration (hours)
			首次警告 First warning		末次警告 Last warning		
			日期/月份 Date/Month	時間+ Time+	日期/月份 Date/Month	時間+ Time+	
* 颱風浣熊	* Typhoon Neoguri	39	15 / 4	0600	19 / 4	1500	105
強烈熱帶風暴夏浪	Severe Tropical Storm Halong	31	15 / 5	0000	18 / 5	1500	87
熱帶風暴麥德姆	Tropical Storm Matmo	3	15 / 5	0000	15 / 5	0600	6
* 颱風風神	* Typhoon Fengshen	45	20 / 6	0900	25 / 6	1500	126
颱風海鷗	Typhoon Kalmaegi	40	14 / 7	1200	19 / 7	0900	117
颱風鳳凰	Typhoon Fung-wong	22	27 / 7	0000	29 / 7	1500	63
* 強烈熱帶風暴北冕	* Severe Tropical Storm Kammuri	33	4 / 8	0000	8 / 8	0000	96
* 颱風鸚鵡	* Typhoon Nuri	31	19 / 8	0900	23 / 8	0000	87
熱帶低氣壓	Tropical Depression	18	26 / 8	2100	29 / 8	0000	51
颱風森拉克	Typhoon Sinlaku	57	9 / 9	1500	16 / 9	1200	165
* 颱風黑格比	* Typhoon Hagupit	24	21 / 9	1800	24 / 9	1500	69
颱風薔薇	Typhoon Jangmi	23	27 / 9	1200	30 / 9	0600	66
熱帶風暴米克拉	Tropical Storm Mekkhala	17	28 / 9	0600	30 / 9	0600	48
* 熱帶風暴海高斯	* Tropical Storm Higos	32	30 / 9	1200	4 / 10	0900	93
熱帶低氣壓	Tropical Depression	16	13 / 10	1500	15 / 10	0900	42
強烈熱帶風暴美莎克	Severe Tropical Storm Maysak	29	7 / 11	0000	10 / 11	1200	84
熱帶風暴紅霞	Tropical Storm Noul	12	16 / 11	0600	17 / 11	1200	30
	共 Total	472					1281

* 這些熱帶氣旋引致天文台需要發出熱帶氣旋警告信號。

* Tropical cyclones for which tropical cyclone warning signals were issued in Hong Kong.

+ 時間爲協調世界時。

+ Times are given in UTC.

表 4.3　　二零零八年天文台所發出的熱帶氣旋警告信號及警報發出的次數
TABLE 4.3　TROPICAL CYCLONE WARNING SIGNALS ISSUED IN HONG KONG AND NUMBER OF WARNING BULLETINS ISSUED IN 2008

摘要 SUMMARY

信號 Signal	次數 No. of occasions	總時段 Total duration	
		時 h	分 min
1	8	192	10
3	9	99	15
8 西北 NW	2	11	0
8 西南 SW	2	7	30
8 東北 NE	3	11	40
8 東南 SE	2	14	25
9	1	11	0
10	-	-	
共 Total	27	347	0

詳情 DETAILS

熱帶氣旋 Tropical cyclone	警報發出的次數 No. of warning bulletins issued	信號 Signal	發出 Issued 日期/月份 Date/Month	發出 Issued 時間* Time*	取消 Cancelled 日期/月份 Date/Month	取消 Cancelled 時間* Time*
颱風浣熊 Typhoon Neoguri	62	1	17/4	1615	18/4	2040
		3	18/4	2040	20/4	0130
颱風風神 Typhoon Fengshen	65	1	23/6	0740	24/6	1640
		3	24/6	1640	24/6	2245
		8 東北 NE	24/6	2245	25/6	0045
		8 西北 NW	25/6	0045	25/6	0545
		8 西南 SW	25/6	0545	25/6	1115
		3	25/6	1115	25/6	2215
強烈熱帶風暴北冕 Severe Tropical Storm Kammuri	74	1	4/8	1015	5/8	1915
		3	5/8	1915	6/8	0540
		8 東北 NE	6/8	0540	6/8	0840
		8 東南 SE	6/8	0840	6/8	1715
		3	6/8	1715	7/8	0415
		1	7/8	0415	7/8	0715
颱風鸚鵡 Typhoon Nuri	67	1	20/8	1815	21/8	2040
		3	21/8	2040	22/8	0740
		8 西北 NW	22/8	0740	22/8	1340
		9	22/8	1340	23/8	0040
		8 西南 SW	23/8	0040	23/8	0240
		3	23/8	0240	23/8	0940
		1	23/8	0940	23/8	1115
颱風黑格比 Typhoon Hagupit	46	1	22/9	1840	23/9	1025
		3	23/9	1025	23/9	1800
		8 東北 NE	23/9	1800	24/9	0040
		8 東南 SE	24/9	0040	24/9	0630
		3	24/9	0630	24/9	1250
熱帶風暴海高斯 Tropical Storm Higos	53	1	2/10	1930	4/10	2230

* 香港時間（協調世界時加八小時）
* Hong Kong Time（UTC + 8 hours）

表 4.4　　一九五六至二零零八年間每年各熱帶氣旋警告信號的發出次數及總時段

TABLE 4.4　FREQUENCY AND TOTAL DURATION OF DISPLAY OF TROPICAL CYCLONE WARNING SIGNALS : 1956-2008

信號 Signals / 年份 Year	1	3	8 西北 NW	8 西南 SW	8 東北 NE	8 東南 SE	9	10	總時段 Total duration 時 h	分 min
1956	5	4	0	0	0	0	0	0	191	25
1957	4	9	1	1	2	2	0	1	295	45
1958	4	5	0	0	1	0	0	0	214	5
1959	1	1	0	0	0	0	0	0	36	35
1960	11	7	0	2	2	2	1	1	432	35
1961	6	7	1	2	1	0	1	1	192	55
1962	4	3	0	1	1	0	1	1	158	10
1963	4	5	0	0	1	0	0	0	175	50
1964	11	14	1	3	5	3	3	2	570	15
1965	7	6	0	0	1	1	0	0	239	40
1966	6	5	0	0	2	2	0	0	284	40
1967	8	6	0	0	2	1	0	0	339	10
1968	7	7	0	1	1	0	1	1	290	10
1969	4	2	0	0	0	0	0	0	110	15
1970	6	8	2	1	2	0	0	0	286	45
1971	9	10	1	3	2	2	1	1	323	25
1972	8	6	0	0	1	1	0	0	288	20
1973	8	6	1	1	1	0	1	0	416	50
1974	12	10	0	0	2	1	1	0	525	20
1975	8	6	1	0	0	1	1	1	292	20
1976	6	6	0	0	1	2	0	0	351	30
1977	8	6	0	0	1	0	0	0	395	10
1978	8	9	1	1	3	2	0	0	462	10
1979	5	5	1	0	2	2	1	1	281	15
1980	10	8	0	0	1	1	0	0	414	5
1981	5	4	0	0	1	1	0	0	202	20
1982	7	4	0	0	0	0	0	0	247	35
1983	8	7	0	1	2	2	1	1	289	42
1984	6	6	0	0	1	0	0	0	280	2
1985	5	4	1	0	0	1	0	0	193	35
1986	6	7	0	1	1	0	0	0	305	0
1987	6	1	0	0	0	0	0	0	165	45
1988	6	4	0	0	0	0	0	0	204	10
1989	7	8	0	0	2	2	0	0	306	10
1990	6	4	0	0	0	0	0	0	245	10
1991	8	6	0	0	1	1	0	0	349	55
1992	5	5	0	0	1	1	0	0	167	5
1993	8	9	0	0	2	4	0	0	325	40
1994	4	3	0	0	0	0	0	0	138	10
1995	8	6	2	2	1	1	0	0	348	50
1996	7	2	0	0	0	1	0	0	189	0
1997	2	3	0	1	1	0	1	0	97	30
1998	5	2	0	0	0	0	0	0	188	35
1999	10	13	4	3	2	0	2	1	520	0
2000	7	3	0	0	0	0	0	0	329	5
2001	6	6	1	1	2	1	0	0	253	35
2002	3	2	0	0	0	1	0	0	144	25
2003	4	5	1	1	1	1	1	0	158	0
2004	3	2	1	1	1	0	0	0	77	35
2005	3	1	0	0	0	0	0	0	142	45
2006	10	3	0	0	0	0	0	0	317	50
2007	4	3	0	1	0	0	0	0	86	50
2008	8	9	2	2	3	2	1	0	347	0
共 Total	337	293	22	30	57	42	18	12	14189	59
平均 Mean	6.4	5.5	0.4	0.6	1.1	0.8	0.3	0.2	267	44

表 4.5 一九五六至二零零八年間每年位於香港責任範圍內以及每年引致天文台需要發出熱帶氣旋警告信號的熱帶氣旋總數

TABLE 4.5 ANNUAL NUMBER OF TROPICAL CYCLONES IN HONG KONG'S AREA OF RESPONSIBILITY AND THE NUMBER THAT NECESSITATED THE DISPLAY OF TROPICAL CYCLONE WARNING SIGNALS IN HONG KONG : 1956-2008

年份 Year	每年位於香港責任範圍內的熱帶氣旋總數 Annual number of tropical cyclones in Hong Kong's area of responsibility	每年引致天文台需要發出熱帶氣旋警告信號的熱帶氣旋總數 Annual number of tropical cyclones necessitating the display of signals in Hong Kong
1956	23	5
1957	12	6
1958	15	5
1959	18	2
1960	18	9
1961	24	6
1962	20	4
1963	13	4
1964	26	10
1965	16	6
1966	17	6
1967	17	8
1968	12	6
1969	11	4
1970	20	6
1971	20	9
1972	15	5
1973	17	9
1974	21	11
1975	12	7
1976	10	5
1977	10	8
1978	20	8
1979	18	6
1980	17	10
1981	15	5
1982	16	5
1983	15	7
1984	14	5
1985	15	5
1986	16	4
1987	12	5
1988	17	6
1989	17	7
1990	18	6
1991	14	6
1992	11	5
1993	14	9
1994	20	4
1995	17	8
1996	15	7
1997	10	2
1998	15	5
1999	12	8
2000	20	7
2001	14	6
2002	10	3
2003	12	4
2004	15	3
2005	15	3
2006	16	7
2007	12	2
2008	17	6
共 Total	836	315
平均 Mean	15.8	5.9

表 4.6　　一九五六至二零零八年間天文台發出熱帶氣旋警告信號的時段

TABLE 4.6　DURATION OF TROPICAL CYCLONE WARNING SIGNALS ISSUED IN HONG KONG : 1956-2008

信號 Signal	次數 Number of occasions	每次時段 Duration of each occasion			每年總時段 Total duration per year		
		平均 Mean	最長 Maximum	最短 Minimum	平均 Mean	最長 Maximum	最短 Minimum
		時 分 h min	時 分 h min	時 分 h min	時 分 h min	時 分 h min	時 分 h min
一號或以上 1 or higher	328	43 16	161 0 (桃麗達Tilda, 1964)	4 30 (熱帶低氣壓 T.D., 2000)	267 44	570 15 (1964)	36 35 (1959)
三號或以上 3 or higher	218	30 11	124 15 (瑪麗Mary, 1960)	4 5 (熱帶低氣壓 T.D., 2006)	124 9	306 35 (1974)	15 5 (2004)
八號或以上 8 or higher	77	15 12	66 50 (瑪麗Mary, 1960)	2 40 (雲茵Wynne, 1984)	22 5	100 55 (1964)	0 0
8 西北 NW	22	5 58	15 45	1 30	2 28	18 0	0 0
8 西南 SW	30	4 54	10 45	2 0	2 47	16 10	0 0
8 東北 NE	57	7 50	35 35	2 0	8 26	40 20	0 0
8 東南 SE	42	7 19	21 45	0 20	5 48	31 15	0 0
九號或以上 9 or higher	19	7 14	12 25 (約克York, 1999)	2 0 (杜鵑Dujuan, 2003)	2 36	19 25 (1964)	0 0
10	12	6 34	11 0 (約克York, 1999)	2 30 (愛麗斯Alice, 1961)	1 29	12 10 (1964)	0 0

註：( ) 內為創造該記錄的熱帶氣旋名稱及年份

Note: ( ) are the years and the names of the tropical cyclones which created the record

表 4.7 二零零八年當熱帶氣旋影響香港時本港的氣象觀測摘要

TABLE 4.7 A SUMMARY OF METEOROLOGICAL OBSERVATIONS RECORDED IN HONG KONG DURING THE PASSAGES OF TROPICAL CYCLONES IN 2008

熱帶氣旋名稱 Name of tropical cyclone	當最接近香港時 Nearest approach to Hong Kong							香港天文台錄得的最低海平面氣壓(百帕斯卡) Minimum M.S.L. pressure (hPa) at the Hong Kong Observatory				最大風暴潮(米) Maximum storm surge (metres)					
	月份 Month	日期 Date	時間* Hour*	方位 Direction	距離 (公里) Distance (km)	移動方向及速度 (公里每小時) Movement (km/h)	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	月份 Month	日期 Date	時間* Hour*	瞬時 Inst. / 每小時 Hourly	鰂魚涌 Quarry Bay	石壁 Shek Pik	大廟灣 Tai Miu Wan	大埔滘 Tai Po Kau	尖鼻咀 Tsim Bei Tsui	橫瀾島 Waglan Island
颱風浣熊 Typhoon Neoguri	4	19	20	西北偏西 WNW	150	東北偏北 NNE 27	998	4	19	18:00	1003.9	0.38	0.54	0.35	0.62	0.69	0.32
										18:00	1003.9						
颱風風神 Typhoon Fengshen	6	25	4	東 E	25	北 N 22	980	6	25	3:23	991.3	0.23	0.34	0.56	0.61	0.66	0.36
										3:00	991.5						
強烈熱帶風暴北冕 Severe Tropical Storm Kammuri	8	6	9	西南偏南 SSW	130	西北偏西 WNW 12	975	8	6	06:51-06:52	990.6	0.47	0.69	-	1.11	0.77	0.61
										7:00	990.7						
颱風鸚鵡 Typhoon Nuri	8	22	17	南 S	1	西 W 9	981	8	22	15:46-16:12 #	982.3	0.56	0.48	0.93	1.13	0.78	0.69
										16:00	982.5						
颱風黑格比 Typhoon Hagupit	9	23	22	西南偏南 SSW	180	西北偏西 WNW 28	940	9	23	17:49-17:50, 18:57	992.2	1.43	-	-	1.77	1.46	-
										18:00, 19:00	993.0						
熱帶風暴海高斯 Tropical Storm Higos	10	4	23	西南偏西 WSW	350	東北偏北 NNE 7	1000	10	4	17:00-17:01	1007.7	0.15	-	-	0.26	0.06	-
										17:00	1007.7						

* 香港時間（協調世界時加八小時） * Hong Kong Time （UTC + 8 hours）

\# 最初及最後錄得的時間 \# First and last time recorded

\- 沒有資料 - No data

表 4.7 (續) TABLE 4.7 (cont'd)

熱帶氣旋名稱 Name of tropical cyclone	月份 Month	最高60分鐘平均風向及風速 (公里每小時) Maximum 60-min mean wind in points and km/h			最高10分鐘平均風向及風速 (公里每小時) Maximum 10-min mean wind in points and km/h			最高陣風風向及風速 (公里每小時) Maximum gust peak speed in km/h with direction in points		
		京士柏 King's Park	香港國際機場 HK International Airport	橫瀾島 Waglan Island	京士柏 King's Park	香港國際機場 HK International Airport	橫瀾島 Waglan Island	京士柏 King's Park	香港國際機場 HK International Airport	橫瀾島 Waglan Island
颱風浣熊 Typhoon Neoguri	4	東 E 27	西南偏南 SSW 58	東南偏南 SSE 76	東南偏東 ESE 31	南 S 68	東 E 85	南 S 77	西南 SW 104	東 E 104
颱風風神 Typhoon Fengshen	6	西南 SW 34	西北偏北 NNW 59	西南偏西 WSW 103	西南 SW 41	西南偏西 WSW 65	西南偏西 WSW 110	西南 SW 96	西南 SW 85	西南偏西 WSW 122
強烈熱帶風暴北冕 Severe Tropical Storm Kammuri	8	東 E 38	東 E 59	東 E 96	東 E 45	東 E 62	東 E 104	東南偏東 ESE 85	東 E 90	東 E 140
颱風鸚鵡 Typhoon Nuri	8	西南偏南 SSW 51	西南偏南 SSW 77	西南偏南 SSW 122	西南偏南 SSW 59	西南偏南 SSW 83	西南偏南 SSW 128	東北偏北 NNE 118	西南偏南 SSW 112	西南偏南 SSW 157
颱風黑格比 Typhoon Hagupit	9	東南偏東 ESE 51	東 E 76	東北 NE 108	東南偏東 ESE 54	東 E 81	東北 NE 115	東北 NE 112	東 E 121	東北偏東 ENE 139
熱帶風暴海高斯 Tropical Storm Higos	10	東 E 20	東南 SE 31	東 E 49	東 E 23	東南 SE 36	東 E 51	東 E 41	南 S 54	東 E 56

表 4.8.1　　二零零八年位於香港600公里範圍內的熱帶氣旋及其爲本港帶來的雨量期間，天文台錄得的雨量

TABLE 4.8.1　RAINFALL ASSOCIATED WITH EACH TROPICAL CYCLONE THAT CAME WITHIN 600 KM OF HONG KONG IN 2008

熱帶氣旋 名稱 Name of tropical cyclone	熱帶氣旋位於 香港600公里 範圍內的時期 Period when tropical cyclone within 600 km of Hong Kong (T_1 → T_2) 日期/月份 Date/Month　時間* Time*	香港天文台錄得的雨量(毫米) Rainfall at the Hong Kong Observatory (mm)				
		(i) 在香港600公里內 within 600 km of Hong Kong (T_1 → T_2)	(ii) 在 T_2 之後 的24小時內 24-hour period after T_2	(iii) 在 T_2 之後 的48小時內 48-hour period after T_2	(iv) 在 T_2 之後 的72小時內 72-hour period after T_2	(i) + (iv) 共 Total T_1 → (T_2+72 小時 hours)
颱風浣熊 T. Neoguri	(T_1) 18 / 4 0400 - (T_2) 19 / 4 2000	220.3	17.1	17.1	17.1	237.4
颱風風神 T. Fengshen	(T_1) 23 / 6 1600 - (T_2) 26 / 6 0200	146.7	127.5	160.4	195.9	342.6
強烈熱帶風暴北冕 S.T.S. Kammuri	(T_1) 4 / 8 0800 - (T_2) 7 / 8 1300	129.0	67.2	71.8	71.8	200.8
颱風鸚鵡 T. Nuri	(T_1) 21 / 8 0200 - (T_2) 23 / 8 0800	84.9	13.6	13.6	13.6	98.5
颱風黑格比 T. Hagupit	(T_1) 23 / 9 0200 - (T_2) 24 / 9 2000	77.8	微量 Trace	0.5	0.5	78.3
熱帶風暴海高斯 T.S. Higos	(T_1) 3 /10 0900 - (T_2) 4 /10 2000	16.4	114.2	122.6	122.6	139.0
熱帶風暴美莎克 # T.S. Maysak #	(T_1) 7 /11 0800 - (T_2) 10 /11 1400	微量 Trace	0.0	0.0	微量 Trace	微量 Trace
					共 Total	1096.6

* 香港時間（協調世界時加八小時）

T_1 - 熱帶氣旋首次出現於香港600公里範圍內的時間。

T_2 - 熱帶氣旋在香港600公里範圍內消散或離開該範圍的時間。

\# 該熱帶氣旋並未導致天文台需要發出熱帶氣旋警告信號。

* Hong Kong Time （UTC + 8 hours）

T_1 - The time when a tropical cyclone was first centred within 600 km of Hong Kong.

T_2 - The time when a tropical cyclone was dissipated within or moved outside 600 km of Hong Kong.

\# Tropical cyclone without issuing of tropical cyclone warning signal in Hong Kong.

表 4.8.2　一八八四至一九三九年及一九四七至二零零八年間十個爲香港帶來最多雨量的熱帶氣旋
TABLE 4.8.2　TEN WETTEST TROPICAL CYCLONES IN HONG KONG (1884-1939, 1947-2008)

熱帶氣旋 Tropical Cyclone			香港天文台錄得的雨量(毫米) Rainfall at the Hong Kong Observatory (mm)				
年份 Year	月份 Month	名稱 Name	(i) 在香港600公里內 within 600 km of Hong Kong ($T_1 \rightarrow T_2$)	(ii) 在 T_2 之後的 24 小時內 24-hour period after T_2	(iii) 在 T_2 之後的 48 小時內 48-hour period after T_2	(iv) 在 T_2 之後的 72 小時內 72-hour period after T_2	(i) + (iv) 共 Total $T_1 \rightarrow$ (T_2+72 小時 hours)
1999	8	森姆 Sam	368.1	178.9	248.1	248.4	616.5
1926	7	熱帶氣旋 T.C.	34.8 #	534.0 #	561.1 #	562.2 #	597.0
1916	6	熱帶氣旋 T.C.	494.8 #	27.9 #	59.4 #	67.2 #	562.0
1965	9	愛娜斯 Agnes	404.6	8.9	64.3	126.1	530.7
1978	7	愛娜斯 Agnes	502.4	12.3	12.3	16.6	519.0
1976	8	愛倫 Ellen	90.7	394.2	421.0	425.4	516.1
1993	9	黛蒂 Dot	459.6	37.9	37.9	37.9	497.5
1982	8	黛蒂 Dot	41.2	322.5	403.1	450.5	491.7
1995	8	海倫 Helen	241.4	146.2	235.2	239.5	480.9
1904	8	熱帶氣旋 T.C.	446.5 #	0.0 #	3.7 #	26.7 #	473.2

T_1 - 熱帶氣旋首次出現於香港600公里範圍內的時間。

T_2 - 熱帶氣旋在香港600公里範圍內消散或離開該範圍的時間。

對於一九六一年以前的熱帶氣旋，欄(i)顯示當它位於香港600公里範圍內的日子裡，天文台所錄得的總日雨量，欄(ii)至(iv)分別是指其後一至三天累積的日雨量。

T_1 - The time when a tropical cyclone was first centred within 600 km of Hong Kong.

T_2 - The time when a tropical cyclone was dissipated within or moved outside 600 km of Hong Kong.

For years prior to 1961, column (i) is the sum of daily rainfall on those days when a tropical cyclone was centred within 600 km of Hong Kong, columns (ii) to (iv) show respectively the accumulated daily rainfall on the following one to three days.

表 4.9　　一九四六至二零零八年間引致天文台需要發出十號颶風信號的颱風

TABLE 4.9　TYPHOONS REQUIRING THE ISSUING OF THE HURRICANE SIGNAL NO. 10 DURING THE PERIOD 1946-2008

颱風名稱 Name of typhoon	當最接近天文台時 Nearest approach to the Hong Kong Observatory			最低平均海平面氣壓 (百帕斯卡) Minimum M.S.L. pressure (hPa)		最高60分鐘平均風向及風速 (公里每小時) Maximum 60-min mean wind in points and km/h							最高陣風風向及風速 (公里每小時) Maximum gust peak speed in km/h with direction in points						
	日期/月份 年份 Date/Month Year	方位 Direction	距離 (公里) Distance (km)	每小時 Hourly	瞬時 Inst.	香港天文台 Hong Kong Observatory	京士柏 King's Park	啓德機場 Kai Tak Airport	橫瀾島 Waglan Island	長洲 Cheung Chau	大老山 Tate's Cairn	青洲 Green Island	香港天文台 Hong Kong Observatory	京士柏 King's Park	啓德機場 Kai Tak Airport	橫瀾島 Waglan Island	長洲 Cheung Chau	大老山 Tate's Cairn	青洲 Green Island
-	18 / 7 1946	南 S	70	985.7	-	東北 NE	-	-	-	-	-	-	-	-	-	-	-	-	-
姬羅莉亞 Gloria	22 / 9 1957	西南 SW	55	986.2	984.3	東南偏東 ESE	115	-	東南偏東 ESE	72	東 E	113	-	-	-	東 E	187	-	東北偏東 ENE	158	東北偏東 ENE	185	-	-	-
瑪麗 Mary	9 / 6 1960	西北偏西 WNW	10	974.3	973.8	東南偏南 SSE	96	-	東南偏南 SSE	92	西南偏南 SSW	112	-	-	-	東南偏南 SSE	191	-	東南 SE	164	西南偏南 SSW	194	-	-	-
愛麗斯 Alice	19 / 5 1961		0	981.6	981.1	東北偏東 ENE	83	-	東 E	70	東南偏東 ESE	90	東北偏東 ENE	76	-	-	東 E	166	-	東北偏東 ENE	139	西南 SW	128	東北偏東 ENE	135	-	-
溫黛 Wanda	1 / 9 1962	西南偏南 SSW	20	955.1	953.2	北 N	133	-	北 N	108	西北 NW	148	西北 NW	118	東南 SE	189	-	北 N	259	-	北 N	229	西北偏北 NNW	216	西北 NW	232	東南偏東 ESE	284	-
露比 Ruby	5 / 9 1964	西南 SW	30	971.0	968.2	東 E	110	-	北 N	118	東北偏東 ENE	148	東北 NE	113	東南偏東 ESE	167	-	東北偏北 NNE	227	-	西北 NW	203	東 E	230	東北偏北 NNE	216	東 E	268	-
黛蒂 Dot	13 / 10 1964	東 E	35	978.9	977.3	西北偏北 NNW	88	-	北 N	67	北 N	117	西北偏北 NNW	96	東北偏北 NNE	157	-	北 N	175	-	北 N	198	北 N	184	西北偏西 WNW	205	東北 NE	220	-
雪麗 Shirley	21 / 8 1968		0	968.7	968.6	北 N	68	-	北 N	75	東北偏北 NNE	124	西南偏南 SSW	90	東北偏北 NNE	126	-	北 N	133	-	北 N	151	東北 NE	209	西南偏南 SSW	167	東北偏北 NNE	203	-
露絲 Rose	17 / 8 1971	西南偏西 WSW	20	984.5	982.8	東南 SE	103	-	東南 SE	122	東南偏東 ESE	140	東南 SE	131	南 S	148	-	東南偏東 ESE	224	-	東南偏東 ESE	211	東南偏東 ESE	189	東南 SE	194	南 S	221	-
愛茜 Elsie	14 /10 1975	南 S	50	996.4	996.2	東北偏東 ENE	58	北 N	75	西北偏北 NNW	67	東北偏北 NNE	118	北 N	106	東北 NE	130	西北偏北 NNW	118	東北 NE	140	北 N	137	北 N	140	東北偏東 ENE	176	東北 NE	158	東北偏北 NNE	180	東北 NE	167
荷貝 Hope	2 / 8 1979	西北偏北 NNW	10	961.8	961.6	西 W	75	西北偏西 WNW	79	西 W	115	西南 SW	144	西南偏南 SSW	117	西北 NW	115	西 W	108	西 W	175	西北偏西 WNW	166	西北偏西 WNW	182	西南 SW	198	西南偏西 WSW	185	西北偏西 WNW	229	西 W	167
愛倫 Ellen	9 / 9 1983	西南 SW	45	983.9	983.1	東 E	92	東 E	88	東 E	112	東南偏東 ESE	169	東南偏東 ESE	171	東 E	126	南 S	137	東 E	185	東 E	167	東 E	203	東 E	227	東南偏南 SSE	238	東北偏東 ENE	218	南 S	220*
約克 York	16 / 9 1999	西南偏南 SSW	20	976.8	976.1	東 E	63	北 N	68	東北偏北 NNE	59	東北偏北 NNE	153	東北偏北 NNE	113	-	-	東 E	137	東北偏北 NNE	149	東北偏東 ENE	142	東北偏北 NNE	234	東北 NE	182	-	-

* 估計，超出風速記錄圖的上限。

estimated, exceeding upper limit of anemogran

表 4.10　　二零零八年熱帶氣旋在香港所造成的損失

TABLE 4.10　DAMAGE CAUSED BY TROPICAL CYCLONES IN HONG KONG IN 2008

熱帶氣旋名稱 Name of tropical cyclone	月份 Month	物質損毀 Damage in physical terms					金錢損失（百萬港元） Damage in monetary terms (million HK$)					
		農業 Agriculture	公用建設 Public works facilities	公用業務 Public utilities	物業單位 Property	山泥傾瀉及斜坡倒塌 Landslip and collapse of slope	農業 Agriculture	公用建設 Public works facilities	公用業務 Public utilities	私人物業 Private property	其他 Others	共Total
颱風浣熊 Typhoon Neoguri	4	-	道路Road: 3 處sites 行人道Pedestrian pavement: 1 處site 小徑及通道Footpath & access: 2 處sites 空曠地區Open space: 4 處sites 建築工地Construction site: 1 處site	排水渠 Catchwater: 2 處sites	1 個unit	20 宗cases	-	-	-	0.2808	-	0.2808
颱風風神 Typhoon Fengshen	6	-	道路Road: 2 處sites 小徑及通道Footpath & access: 4 處sites 空曠地區Open space: 6 處sites 其他Others: 1 處site	墓地Cemetery: 1處 site 鐵路Railway: 1 處site	3 個units	18 宗cases	-	-	0.0050	-	-	0.0050
強烈熱帶風暴北冕 Severe Tropical Storm Kammuri	8	農地Farmland: 24 公頃hectares 農作物Crops: 384噸tons 魚Fish: 4.7噸tons	小徑及通道Footpath & access: 1處site	-	2 個units	1 宗case	6.0060	-	-	-	-	6.0060
颱風鸚鵡 Typhoon Nuri	8	農地Farmland: 16 公頃hectares 農作物Crops: 256噸tons 魚Fish: 199 噸tons	-	鐵路Railway: 2 處sites	1 個unit	-	20.0460	-	0.4243	-	-	20.4703
颱風黑格比 Typhoon Hagupit	9	農地Farmland: 29.58 公頃hectares 農作物Crops: 307.2 噸tons 魚Fish: 23.6 噸tons	行人道Pedestrian pavement: 1 處site 小徑及通道Footpath & access: 2 處sites 海港及港口Harbour & port: 3 處sites	鐵路Railway: 2 處sites	15 個units	3 宗cases	5.7720	0.3646	0.0333	-	-	6.1699
熱帶風暴海高斯 Tropical Storm Higos	10	-	小徑及通道 Footpath & access: 1 處site	-	-	1 宗case	-	-	-	-	-	-

備註：　資料由各有關政府部門及公共事業機構提供，同時亦參考了本地報章上的損毀報導。

N.B.:　Based on information supplied by relevant government departments and public utility companies.　Damage reports in the local press were also examined and collated.

表 4.11　　一九六零至二零零八年間熱帶氣旋在香港所造成的人命傷亡及破壞

TABLE 4.11　CASUALTIES AND DAMAGE CAUSED BY TROPICAL CYCLONES IN HONG KONG : 1960-2008

年份 Year	日期 / 月份 Date / Month	Name of tropical cyclone	熱帶氣旋名稱	死亡人數 Persons dead	失蹤人數 Persons missing	受傷人數 Persons injured	遇事越洋船舶 Ocean-going vessels in trouble	受到毀壞或翻沉的小艇數目 Small craft sunk or wrecked	受到損壞的小艇數目 Small craft damaged
1960	4 / 6 - 12 / 6	T. Mary	瑪麗	45	11	127	6	352	462
1961	17 / 5 - 21 / 5	T. Alice	愛麗斯	4	0	20	*	*	*
	7 / 9 - 10 / 9	S.T.S. Olga	奧嘉	7	0	0	0	1	0
1962	28 / 8 - 2 / 9	T. Wanda	溫黛	130	53	*	36	1 297	756
1963	1 / 9 - 9 / 9	T. Faye	菲爾	3	0	51	0	2	0
1964	26 / 5 - 28 / 5	T. Viola	維奧娜	0	0	41	5	18	18
	2 / 8 - 9 / 8	T. Ida	艾黛	5	4	56	3	7	60
	2 / 9 - 6 / 9	T. Ruby	露比	38	6	300	20	32	282
	4 / 9 - 10 / 9	T. Sally	莎莉	9	0	24	0	0	0
	7 /10 - 13 /10	T. Dot	黛蒂	26	10	85	2	31	59
1965	6 / 7 - 16 / 7	T. Freda	法妮黛	2	0	16	0	1	0
	25 / 9 - 28 / 9	T.S. Agnes	愛娜斯	5	0	3	0	0	0
1966	12 / 7 - 14 / 7	S.T.S. Lola	露娜	1	0	6	0	*	6
1967	19 / 8 - 22 / 8	S.T.S. Kate	姬蒂	0	0	3	3	1	0
1968	17 / 8 - 22 / 8	T. Shirley	雪麗	0	0	4	1	*	3
1969	22 / 7 - 29 / 7	T. Viola	維奧娜	0	0	0	0	3	0
1970	1 / 8 - 3 / 8	T.D. -	-	2[+]	0	0	0	0	0
	8 / 9 - 14 / 9	T. Georgia	喬治亞	0	0	0	2	0	*
1971	15 / 6 - 18 / 6	T. Freda	法妮黛	2	0	30	8	0	0
	16 / 7 - 22 / 7	T. Lucy	露茜	0	0	38	10	2	13
	10 / 8 - 17 / 8	T. Rose	露絲	110	5	286	34	303	*
1972	4 /11 - 9 /11	T. Pamela	柏美娜	1	0	8	3	0	0
1973	14 / 7 - 20 / 7	T. Dot	黛蒂	1	0	38	14	*	*
1974	7 / 6 - 14 / 6	T. Dinah	戴娜	0	0	0	1	*	*
	18 / 7 - 22 / 7	T. Ivy	艾菲	0	0	0	2	*	*
	15 /10 - 19 /10	T. Carmen	嘉曼	1	0	0	5	*	*
	21 /10 - 27 /10	T. Della	黛娜	0	0	0	2	*	*
1975	10 / 8 - 14 / 8	T.D. -	-	2	1	0	3	1	*
	9 /10 - 14 /10	T. Elsie	愛茜	0	0	46	7	2	1
	16 /10 - 23 /10	S.T.S. Flossie	霍蘿茜	0	0	0	1	*	*
1976	22 / 6 - 4 / 7	T. Ruby	露比	3	2	2	0	0	0
	21 / 7 - 26 / 7	S.T.S. Violet	維奧莉	2	1	1	0	0	0
	5 / 8 - 6 / 8	S.T.S. Clara	嘉麗	0	0	4	0	0	0
	21 / 8 - 24 / 8	T.S. Ellen	愛倫	27	3	65	0	4	7
	15 / 9 - 21 / 9	T. Iris	愛莉斯	0	0	27	6	0	1
1977	4 / 7 - 6 / 7	T.D. -	-	0	0	2	0	0	0
	3 / 9 - 5 / 9	T.S. Carla	嘉娜	0	0	1	1	0	0
	22 / 9 - 25 / 9	S.T.S. Freda	法妮黛	1	0	37	2	0	0
1978	24 / 7 - 30 / 7	S.T.S. Agnes	愛娜斯	3	0	134	0	25	42
	9 / 8 - 12 / 8	T.S. Bonnie	邦妮	0	0	0	2	0	0
	23 / 8 - 28 / 8	S.T.S. Elaine	伊蘭	1	0	51	8	5	8
	22 / 9 - 26 / 9	S.T.S. Kit	吉蒂	0	7	0	0	1	0
	7 /10 - 16 /10	S.T.S. Nina	蓮娜	0	0	2	0	0	0
	17 /10 - 29 /10	T. Rita	麗妲	0	0	3	1	5	0
1979	1 / 7 - 6 / 7	T. Ellis	艾利斯	0	0	0	0	2	0
	26 / 7 - 30 / 7	T.S. Gordon	戈登	0	0	0	0	2	0
	28 / 7 - 3 / 8	T. Hope	荷貝	12	0	260	29	167	207
	6 / 8 - 9 / 8	T.D. -	-	0	0	0	0	3	0
	16 / 9 - 24 / 9	S.T.S. Mac	麥克	1	0	67	2	12	0

表 4.11 (續)
TABLE 4.11 (cont'd)

年份 Year	日期 / 月份 Date / Month	Name of tropical cyclone	熱帶氣旋名稱	死亡人數 Persons dead	失蹤人數 Persons missing	受傷人數 Persons injured	遇事越洋船舶 Ocean-going vessels in trouble	受到毀壞或翻沉的小艇數目 Small craft sunk or wrecked	受到損壞的小艇數目 Small craft damaged
1980	5 / 7 - 12 / 7	S.T.S. Ida	艾黛	0	0	0	1	0	0
	18 / 7 - 23 / 7	T. Joe	喬伊	2	1	59	4	0	1
	20 / 7 - 28 / 7	T. Kim	甘茵	0	0	0	0	2	1
	29 /10 - 2 /11	T.S. Cary	卡里	0	0	0	0	0	2
1981	3 / 7 - 7 / 7	S.T.S. Lynn	林茵	0	0	32	0	0	3
1982	27 / 6 - 2 / 7	T.S. Tess	戴絲	0	0	16	0	1	0
	22 / 7 - 30 / 7	T. Andy	安迪	0	0	0	0	0	1
	5 / 9 - 16 / 9	T. Irving	伊文	0	0	0	0	0	2
1983	12 / 7 - 19 / 7	T. Vera	維娜	0	0	0	0	1	0
	29 / 8 - 9 / 9	T. Ellen	愛倫	10	12	333	44	135	225
	10 /10 - 14 /10	T. Joe	喬伊	0	0	58	2	0	3
	20 /10 - 26 /10	S.T.S. Lex	力士	0	0	0	0	0	1
1984	27 / 8 - 7 / 9	T. Ike	艾克	0	0	1	0	0	0
1985	19 / 6 - 25 / 6	T. Hal	哈爾	0	1	13	0	4	2
	1 / 9 - 7 / 9	T. Tess	戴絲	2	0	12	6	1	3
	13 /10 - 22 /10	T. Dot	黛蒂	0	0	1	0	0	0
1986	3 / 7 - 12 / 7	T. Peggy	蓓姬	1	0	26	3	0	3
	9 / 8 - 12 / 8	T.D. -	-	0	0	3	0	1	5
	18 / 8 - 6 / 9	T. Wayne	韋恩	3	1	15+	0	3	0
	11 /10 - 19 /10	T. Ellen	愛倫	0	0	4	1	2	1
1987	16 /10 - 27 /10	T. Lynn	林茵	0	0	1	0	0	0
1988	14 / 7 - 20 / 7	T. Warren	華倫	0	1	12	1	2	1
	19 / 9 - 22 / 9	T. Kit	吉蒂	0	0	0	0	0	1
	18 /10 - 23 /10	T. Pat	帕特	2	0	1	0	0	0
	21 /10 - 29 /10	T. Ruby	露比	0	0	4	0	0	0
1989	16 / 5 - 21 / 5	T. Brenda	布倫達	6	1	119	0	3	5
	11 / 7 - 19 / 7	T. Gordon	戈登	2	0	31	1	0	8
	8 /10 - 14 /10	T. Dan	丹尼	0	0	0	1	0	1
1990	15 / 5 - 19 / 5	T. Marian	瑪麗安	0	0	0	0	0	1
	15 / 6 - 19 / 6	S.T.S. Nathan	彌敦	5	1	1	1	0	2
	21 / 6 - 30 / 6	T. Percy	珀西	1	0	0	0	0	0
	27 / 7 - 31 / 7	S.T.S. Tasha	泰莎	0	0	1	0	1	0
	25 / 8 - 30 / 8	T. Becky	貝姬	0	1	0	0	0	0
	10 / 9 - 20 / 9	T. Ed	義德	0	0	1	0	0	0
1991	15 / 7 - 20 / 7	T. Amy	艾美	0	0	1	1	0	2
	20 / 7 - 24 / 7	S.T.S. Brendan	布倫登	0	0	17	1	1	13
	13 / 8 - 18 / 8	T. Fred	法雷德	0	0	0	0	1	0
1992	9 / 7 - 14 / 7	T. Eli	艾里	0	0	23	0	0	1
	17 / 7 - 18 / 7	T.S. Faye	菲爾	2	0	24	1	0	3
	19 / 7 - 23 / 7	S.T.S. Gary	加里	0	0	18	2	0	0
1993	21 / 6 - 28 / 6	T. Koryn	高蓮	0	0	183	0	0	2
	16 / 8 - 21 / 8	T. Tasha	泰莎	0	0	35	0	0	7
	9 / 9 - 14 / 9	T. Abe	艾貝	1	0	0	0	0	0
	15 / 9 - 17 / 9	S.T.S. Becky	貝姬	1	0	130	0	0	10
	23 / 9 - 27 / 9	T. Dot	黛蒂	0	1	48	0	1	0
	28 /10 - 5 /11	T. Ira	艾拉	2	0	30	0	1	0

表 4.11 (續)
TABLE 4.11 (cont'd)

年份 Year	日期 / 月份 Date / Month	Name of tropical cyclone	熱帶氣旋名稱	死亡人數 Persons dead	失蹤人數 Persons missing	受傷人數 Persons injured	遇事越洋船舶 Ocean-going vessels in trouble	受到毀壞或翻沉的小艇數目 Small craft sunk or wrecked	受到損壞的小艇數目 Small craft damaged
1994	23 / 6 - 25 / 6	T.S. Sharon	莎朗	0	0	5	0	1	1
	25 / 8 - 29 / 8	S.T.S. Harry	夏里	1	0	2	0	0	2
1995	7 / 8 - 12 / 8	S.T.S. Helen	海倫	3	0	35	0	0	0
	25 / 8 - 1 / 9	T. Kent	肯特	0	0	5	0	0	0
	28 / 9 - 4 /10	T. Sibyl	斯寶	0	0	14	0	0	0
1996	5 / 9 - 10 / 9	T. Sally	莎莉	2	0	4	0	0	0
	18 / 9 - 23 / 9	S.T.S. Willie	威利	0	1	0	0	0	0
1997	31 / 7 - 3 / 8	T. Victor	維克托	1	0	58	0	0	0
	20 / 8 - 23 / 8	T. Zita	思蒂	0	0	3	0	0	0
1998	7 / 8 - 11 / 8	S.T.S. Penny	彭妮	1	0	1	0	0	0
	12 / 9 - 14 / 9	T.D. -	-	0	0	10	0	0	0
	15 /10 - 27 /10	T. Babs	寶絲	0	0	14	0	0	0
1999	28 / 4 - 2 / 5	T. Leo	利奧	0	0	14	0	0	0
	2 / 6 - 8 / 6	T. Maggie	瑪姬	0	0	5	0	2	0
	25 / 7 - 28 / 7	T.S. -	-	0	0	18	0	0	0
	19 / 8 - 23 / 8	T. Sam	森姆	4	0	328	0	0	0
	12 / 9 - 17 / 9	T. York	約克	2	0	500	3	*	*
	24 / 9 - 26 / 9	S.T.S. Cam	錦雯	1	0	23	0	0	0
2000	15 / 7 - 16 / 7	T.D. -	-	0	1	6	0	0	0
	27 / 8 - 1 / 9	S.T.S. Maria	瑪莉亞	2	0	0	0	0	0
	5 / 9 - 10 / 9	T. Wukong	悟空	0	0	1	0	0	1
2001	30 / 6 - 3 / 7	T. Durian	榴槤	0	0	1	0	0	0
	1 / 7 - 8 / 7	T. Utor	尤特	1	0	1	0	1	0
	23 / 7 - 26 / 7	T. Yutu	玉兔	0	0	10	0	0	0
	28 / 8 - 1 / 9	T.S. Fitow	菲特	2	0	0	0	0	0
2002	15 / 8 - 20 / 8	S.T.S. Vongfong	黃蜂	0	0	2	0	0	1
	10 / 9 - 13 / 9	S.T.S. Hagupit	黑格比	0	0	32	0	0	3
2003	16 / 7 - 23 / 7	S.T.S. Koni	天鵝	0	0	15	0	0	0
	17 / 7 - 25 / 7	T. Imbudo	伊布都	1	0	45	0	2	8
	17 / 8 - 26 / 8	T. Krovanh	科羅旺	0	0	11	0	0	2
	29 / 8 - 3 / 9	T. Dujuan	杜鵑	0	4	24	0	1	4
2004	14 / 7 - 16 / 7	T.S. Kompasu	圓規	0	0	12	0	0	0
2005	10 / 8 - 14 / 8	S.T.S. Sanvu	珊瑚	0	0	0	0	0	1
	16 / 9 - 19 / 9	T.S. Vicente	韋森特	2	0	0	0	0	0
	21 / 9 - 28 / 9	T. Damrey	達維	0	0	5	0	0	1
2006	9 / 5 - 18 / 5	T. Chanchu	珍珠	0	0	6	0	1	0
	27 / 6 - 29 / 6	T.S. Jelawat	杰拉華	1	0	0	0	0	0
	31 / 7 - 4 / 8	T. Prapiroon	派比安	0	0	8	0	1	4
	6 / 8 - 10 / 8	S.T.S. Bopha	寶霞	0	0	0	0	0	1
	23 / 8 - 25 / 8	T.D. -	-	0	0	0	0	0	1
	12 / 9 - 13 / 9	T.D. -	-	0	0	1	0	0	0
	27 /10 - 6 / 11	T. Cimaron	西馬侖	0	0	4	0	0	0
2007	5 / 8 - 11 / 8	S.T.S. Pabuk	帕布	1	0	17	0	0	0
2008	15 / 4 - 20 / 4	T. Neoguri	浣熊	0	0	2	0	0	0
	18 / 6 - 26 / 6	T. Fengshen	風神	0	0	17	0	0	0
	4 / 8 - 8 / 8	S.T.S. Kammuri	北冕	0	0	37	0	0	0
	17 / 8 - 23 / 8	T. Nuri	鸚鵡	2	0	112	0	0	0
	19 / 9 - 25 / 9	T. Hagupit	黑格比	0	0	58	0	10	0

備註： 資料由各有關政府部門及公共事業機構提供，同時亦參考了本地報章上的損毀報導。
N.B.: Based on information supplied by relevant government departments and public utility companies. Damage reports in the local press were also examined and collated.

* 缺乏數據 Data unavailable.
+ 被雷電擊中 Struck by lightning.

第五節　二零零八年熱帶氣旋的位置及強度數據

以下是二零零八年位於北太平洋西部及南海區域（即由赤道至北緯45度、東經100度至180度所包括的範圍）的熱帶氣旋。其每六小時之位置及強度刊於本節。

在本節，風速均取10分鐘內的平均值，單位為米每秒（1米每秒約為1.94海里或3.6公里每小時）。熱帶氣旋的強度分為：-

(a) T.D.: - 熱帶低氣壓
(b) T.S.: - 熱帶風暴
(c) S.T.S.: - 強烈熱帶風暴
(d) T.: - 颱風

Section 5 TROPICAL CYCLONE POSITION AND INTENSITY DATA, 2008

Six-hourly position and intensity data are tabulated in this section for the following tropical cyclones in 2008 over the western North Pacific and the South China Sea (i.e. the area bounded by the Equator, 45°N, 100°E and 180°).

In this section, surface winds refer to wind speeds averaged over a period of 10 minutes given in the unit of m/s (1 m/s is about 1.94 knots or 3.6 km/h). Intensities of tropical cyclones are classified as follows:-

(a) T.D. : - tropical depression
(b) T.S. : - tropical storm
(c) S.T.S. : - severe tropical storm
(d) T. : - typhoon

颱風浣熊(0801)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NEOGURI (0801)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
四月 Apr	15	0000	T.D.	1003	13	10.1	117.6
		0600	T.D.	1002	16	10.6	115.9
		1200	T.S.	1000	18	11.3	114.8
		1800	T.S.	995	21	12.5	114.2
	16	0000	T.S.	990	23	13.1	113.0
		0600	S.T.S.	980	28	13.3	112.5
		1200	T.	970	33	13.8	112.4
		1800	T.	970	33	14.7	112.3
	17	0000	T.	965	36	15.2	112.1
		0600	T.	960	39	15.8	112.0
		1200	T.	960	39	16.4	111.8
		1800	T.	955	41	17.2	111.8
	18	0000	T.	960	40	17.9	111.7
		0600	T.	965	39	18.5	111.4
		1200	T.	970	36	19.1	111.3
		1800	S.T.S.	980	31	19.8	111.3
	19	0000	T.S.	992	23	20.6	111.6
		0600	T.S.	995	23	21.7	112.2
		1200	T.S.	998	21	22.9	112.9
			消散 Dissipated				

颱風威馬遜(0802)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON RAMMASUN (0802)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
五月 May	7	0600	T.D.	1001	13	7.4	132.8
		1200	T.D.	1001	13	7.7	132.3
		1800	T.D.	1000	16	8.2	131.8
	8	0000	T.S.	995	18	8.8	131.6
		0600	T.S.	992	21	9.4	131.6
		1200	T.S.	990	23	9.8	131.6
		1800	S.T.S.	985	25	10.2	131.6
	9	0000	S.T.S.	980	28	11.0	131.8
		0600	T.	970	33	12.0	132.1
		1200	T.	965	36	12.8	132.1
		1800	T.	960	39	13.6	132.1
	10	0000	T.	950	43	14.5	132.0
		0600	T.	940	49	15.5	132.1
		1200	T.	925	54	16.9	132.0
		1800	T.	930	51	18.1	131.9
	11	0000	T.	930	51	19.4	131.8
		0600	T.	935	49	20.7	132.1
		1200	T.	940	46	22.0	132.7
		1800	T.	950	41	23.7	133.5
	12	0000	T.	955	39	25.2	134.6
		0600	T.	960	36	27.3	136.3
		1200	S.T.S.	975	31	29.4	138.7
		1800	S.T.S.	980	28	30.5	140.2

變為溫帶氣旋
Became Extratropical

熱帶風暴麥德姆(0803)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM MATMO (0803)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. °N	東經 Long. °E
五月 May	14	1800	T.D.	1002	13	17.2	123.9
	15	0000	T.D.	1000	13	18.3	124.1
		0600	T.D.	998	16	19.8	125.4
		1200	T.D.	998	16	21.0	126.5
		1800	T.S.	996	18	22.7	128.3
	16	0000	T.S.	990	21	23.9	129.9
		0600	T.S.	990	21	25.1	132.2
		1200	T.S.	998	18	26.0	135.8
		變爲溫帶氣旋 Became Extratropical					

強烈熱帶風暴夏浪(0804)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM HALONG (0804)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. °N	東經 Long. °E
五月 May	15	0000	T.D.	1000	13	12.2	116.8
		0600	T.D.	998	16	12.5	116.9
		1200	T.D.	1000	16	12.9	117.0
		1800	T.D.	998	16	13.3	117.0
	16	0000	T.D.	998	16	14.2	117.2
		0600	T.S.	995	18	14.4	117.4
		1200	T.S.	988	23	14.7	117.7
		1800	T.S.	985	23	15.1	118.2
	17	0000	T.S.	985	23	15.4	118.6
		0600	S.T.S.	978	28	15.9	119.2
		1200	S.T.S.	975	28	16.3	120.4
		1800	S.T.S.	980	25	16.8	121.0
	18	0000	T.S.	990	23	17.3	122.0
		0600	T.S.	990	23	18.6	123.4
		1200	T.S.	990	23	19.2	124.3
		1800	T.S.	988	23	19.9	125.8
	19	0000	S.T.S.	985	25	21.1	127.3
		0600	S.T.S.	985	25	22.0	128.6
		1200	S.T.S.	985	25	23.5	130.5
		1800	T.S.	990	23	24.9	133.0
	20	0000	T.S.	992	21	26.8	135.5
		0600	T.S.	996	18	29.2	139.0
		變爲溫帶氣旋 Became Extratropical					

颱風娜基莉(0805)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NAKRI (0805)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
五月 May	26	1800	T.D.	1008	13	12.6	138.6
	27	0000	T.D.	1006	13	13.7	138.0
		0600	T.D.	1000	16	14.0	137.7
		1200	T.S.	998	18	14.3	137.5
		1800	T.S.	995	21	14.5	137.3
	28	0000	S.T.S.	985	25	15.1	137.1
		0600	S.T.S.	980	28	15.5	137.0
		1200	S.T.S.	975	31	15.8	136.8
		1800	T.	965	36	16.0	136.5
	29	0000	T.	955	41	16.1	136.2
		0600	T.	935	49	16.2	135.8
		1200	T.	930	51	16.2	135.5
		1800	T.	930	51	16.4	135.1
	30	0000	T.	925	54	16.6	134.7
		0600	T.	925	54	16.9	134.1
		1200	T.	930	51	17.3	133.5
		1800	T.	940	46	17.9	133.0
	31	0000	T.	950	41	18.4	132.9
		0600	T.	955	39	19.2	132.8
		1200	T.	960	36	19.6	132.8
		1800	T.	960	36	20.1	132.8
六月 Jun	1	0000	T.	962	36	20.7	132.9
		0600	T.	970	33	21.6	133.1
		1200	T.	970	33	22.3	133.3
		1800	T.	965	36	23.5	133.6
	2	0000	T.	965	36	25.1	134.4
		0600	T.	965	36	26.9	135.6
		1200	T.	970	33	28.3	137.0
		1800	S.T.S.	975	31	30.0	138.8
	3	0000	S.T.S.	980	28	31.5	140.3

變為溫帶氣旋
Became Extratropical

颱風風神(0806)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON FENGSHEN (0806)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
六月 Jun	18	1200	T.D.	1006	13	9.1	133.0
		1800	T.D.	1002	16	9.5	131.9
	19	0000	T.S.	996	18	9.8	131.1
		0600	T.S.	992	21	10.3	129.9
		1200	S.T.S.	985	25	10.5	128.9
		1800	S.T.S.	978	31	10.8	127.9
	20	0000	S.T.S.	975	32	11.2	126.5
		0600	T.	970	36	11.5	125.4
		1200	T.	970	36	11.7	124.2
		1800	T.	960	41	11.7	123.5
	21	0000	T.	950	46	11.9	122.7
		0600	T.	950	46	12.2	122.2
		1200	T.	960	39	12.8	121.8
		1800	T.	960	39	14.0	121.6
	22	0000	T.	965	36	14.7	120.9
		0600	T.	970	33	15.4	120.4
		1200	T.	970	33	16.0	119.5
		1800	T.	970	33	16.4	118.4
	23	0000	T.	970	33	17.0	117.7
		0600	S.T.S.	975	31	17.5	117.2
		1200	S.T.S.	975	31	18.0	116.8
		1800	S.T.S.	975	31	18.8	116.2
	24	0000	S.T.S.	980	28	19.5	115.7
		0600	S.T.S.	980	28	20.5	115.2
		1200	S.T.S.	980	28	21.2	114.8
		1800	S.T.S.	980	28	22.0	114.4
	25	0000	T.S.	990	23	22.7	114.1
		0600	T.S.	992	21	23.1	113.8
		1200	T.S.	995	18	23.4	114.0
		1800	T.D.	998	16	24.2	114.0
			消散 Dissipated				

颱風海鷗(0807)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON KALMAEGI (0807)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. °N	東經 Long. °E
七月 Jul	14	0600	T.D.	1001	13	19.4	125.3
		1200	T.D.	1000	16	19.0	124.9
		1800	T.D.	1000	16	18.5	124.6
	15	0000	T.D.	1000	16	18.1	124.2
		0600	T.S.	996	18	18.0	123.7
		1200	T.S.	996	18	18.0	123.4
		1800	T.S.	994	21	18.2	123.4
	16	0000	T.S.	990	23	18.7	123.8
		0600	T.S.	988	23	19.2	123.8
		1200	S.T.S.	980	25	20.5	123.4
		1800	S.T.S.	970	31	21.4	123.2
	17	0000	T.	965	33	22.5	122.9
		0600	T.	965	33	23.1	122.7
		1200	T.	965	33	24.0	122.1
		1800	T.	968	33	24.8	121.5
	18	0000	S.T.S.	980	28	25.2	121.2
		0600	S.T.S.	985	25	26.2	120.5
		1200	T.S.	990	23	26.8	120.0
		1800	T.S.	992	21	27.3	119.8
	19	0000	T.S.	994	21	28.6	120.1
		0600	T.S.	994	21	29.7	120.5
		1200	T.S.	995	18	31.4	120.9
		1800	T.S.	995	18	32.9	121.2
	20	0000	T.S.	995	18	34.4	122.4
		0600	T.S.	995	18	35.5	124.0
		1200	T.S.	994	18	37.2	125.4
		1800	T.S.	993	18	38.4	125.8

變為溫帶氣旋
Became Extratropical

颱風鳳凰(0808)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON FUNG-WONG (0808)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
七月 Jul	24	0600	T.D.	1001	13	22.0	133.0
		1200	T.D.	998	16	22.0	132.6
		1800	T.D.	998	16	21.9	131.8
	25	0000	T.D.	998	16	21.8	131.4
		0600	T.S.	995	18	21.8	130.7
		1200	T.S.	990	21	21.8	129.8
		1800	T.S.	988	23	21.7	129.0
	26	0000	S.T.S.	985	25	21.5	127.8
		0600	S.T.S.	980	28	21.3	127.0
		1200	S.T.S.	975	31	21.3	126.1
		1800	S.T.S.	975	31	21.3	125.6
	27	0000	T.	970	33	21.6	124.9
		0600	T.	960	39	22.1	124.0
		1200	T.	950	43	22.7	123.1
		1800	T.	950	43	23.0	122.4
	28	0000	T.	955	41	23.6	121.3
		0600	T.	970	36	24.5	120.7
		1200	T.	975	33	25.1	119.7
		1800	S.T.S.	982	28	26.0	119.0
	29	0000	T.S.	988	23	26.6	118.3
		0600	T.S.	990	21	27.1	117.9
		1200	T.S.	990	21	27.8	117.6
		1800	T.S.	992	18	28.5	117.1
	30	0000	T.D.	994	16	29.0	116.7
		0600	T.D.	995	16	29.3	116.6
			消散 Dissipated				

強烈熱帶風暴北冕(0809)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM KAMMURI (0809)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
八月 Aug	4	0000	T.D.	1000	13	19.2	118.7
		0600	T.D.	996	16	19.4	118.1
		1200	T.D.	995	16	19.6	117.6
		1800	T.D.	992	16	19.8	117.2
	5	0000	T.S.	990	18	20.0	116.5
		0600	T.S.	988	21	20.3	115.7
		1200	T.S.	984	23	20.4	115.2
		1800	S.T.S.	982	25	20.6	114.5
	6	0000	S.T.S.	975	31	21.1	113.9
		0600	S.T.S.	976	28	21.5	112.9
		1200	S.T.S.	980	25	21.6	111.6
		1800	T.S.	985	21	21.4	110.0
	7	0000	T.S.	985	21	21.4	109.3
		0600	T.S.	986	18	21.5	108.3
		1200	T.S.	988	18	21.4	107.0
		1800	T.D.	992	16	21.3	106.0
	8	0000	T.D.	995	13	21.0	105.2
			消散 Dissipated				

熱帶風暴巴蓬(0810)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM PHANFONE (0810)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
八月 Aug	9	1200	T.D.	1004	13	27.3	151.4
		1800	T.D.	1002	16	27.8	152.4
	10	0000	T.D.	1002	16	28.9	153.9
		0600	T.S.	1000	18	30.8	155.9
		1200	T.S.	998	21	32.5	158.2
		1800	T.S.	996	23	35.0	160.3
	11	0000	T.S.	998	21	39.4	163.2
			變為溫帶氣旋 Became Extratropical				

強烈熱帶風暴黃蜂(0811)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM VONGFONG (0811)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
八月 Aug	14	1800	T.D.	1002	13	28.5	133.4
	15	0000	T.D.	999	16	29.3	134.0
		0600	T.S.	996	18	30.2	135.5
		1200	T.S.	996	18	30.9	136.7
		1800	T.S.	994	21	32.0	138.9
	16	0000	T.S.	992	23	33.0	140.8
		0600	S.T.S.	990	25	33.7	143.0
		1200	S.T.S.	990	25	34.6	145.4
		1800	S.T.S.	990	25	35.9	148.2
	17	0000	S.T.S.	990	25	37.5	151.2
		0600	S.T.S.	990	25	39.1	154.9
		1200	T.S.	992	23	40.7	159.2
		1800	T.S.	992	23	42.4	164.3

變為溫帶氣旋
Became Extratropical

颱風鸚鵡(0812)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NURI (0812)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
八月 Aug	17	1200	T.D.	1006	13	15.8	137.0
		1800	T.D.	1004	16	15.7	135.0
	18	0000	T.S.	1000	18	15.9	133.3
		0600	T.S.	992	23	16.1	131.8
		1200	S.T.S.	980	28	16.2	130.3
		1800	S.T.S.	975	31	16.5	128.4
	19	0000	T.	970	33	17.1	126.8
		0600	T.	960	39	17.6	125.5
		1200	T.	960	39	18.1	124.2
		1800	T.	960	39	18.5	122.9
	20	0000	T.	955	41	18.7	121.8
		0600	T.	955	41	18.9	121.1
		1200	T.	960	39	19.5	120.4
		1800	T.	955	41	19.9	119.1
	21	0000	T.	955	41	20.1	118.1
		0600	T.	960	39	20.3	117.2
		1200	T.	970	33	20.5	116.7
		1800	T.	970	33	20.9	115.9
	22	0000	T.	970	33	21.6	115.3
		0600	T.	975	33	22.1	114.5
		1200	S.T.S.	988	31	22.5	114.0
		1800	T.S.	990	23	22.8	113.2
	23	0000	T.D.	998	16	23.1	112.8
			消散 Dissipated				

熱帶低氣壓由八月二十七日至二十九日的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL DEPRESSION OF 27 - 29 AUGUST

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
八月 Aug	26	1800	T.D.	1004	13	16.7	124.8
	27	0000	T.D.	1002	13	17.4	123.9
		0600	T.D.	1002	13	18.0	122.9
		1200	T.D.	1002	13	18.5	122.6
		1800	T.D.	1002	13	19.4	122.4
	28	0000	T.D.	1004	13	20.0	121.8
		0600	T.D.	1004	13	20.4	121.3
		1200	T.D.	1006	13	20.7	121.0
		1800	T.D.	1006	13	20.9	120.7
			消散 Dissipated				

颱風森拉克(0813)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON SINLAKU (0813)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. °N	東經 Long. °E
九月 Sep	8	0600	T.D.	1001	13	15.6	126.4
		1200	T.D.	998	16	16.3	126.1
		1800	T.S.	992	18	16.7	125.8
	9	0000	T.S.	988	23	17.3	125.5
		0600	S.T.S.	980	28	17.7	125.2
		1200	T.	970	33	18.6	125.1
		1800	T.	965	36	19.3	124.9
	10	0000	T.	960	39	19.8	124.4
		0600	T.	950	43	20.3	124.2
		1200	T.	940	49	20.7	124.3
		1800	T.	940	49	20.8	124.3
	11	0000	T.	940	49	21.0	124.5
		0600	T.	940	49	21.6	124.7
		1200	T.	940	49	22.0	124.7
		1800	T.	940	49	22.4	124.6
	12	0000	T.	940	49	22.8	124.5
		0600	T.	940	49	23.4	124.0
		1200	T.	945	46	23.6	123.5
		1800	T.	945	46	23.9	123.2
	13	0000	T.	945	46	24.1	122.8
		0600	T.	945	46	24.3	122.5
		1200	T.	945	46	24.5	122.4
		1800	T.	950	43	24.7	121.9
	14	0000	T.	965	36	24.7	121.8
		0600	T.	970	33	25.4	121.4
		1200	T.	970	33	25.6	121.3
		1800	S.T.S.	975	31	25.9	120.9
	15	0000	S.T.S.	980	28	26.2	121.0
		0600	S.T.S.	980	28	26.7	121.7
		1200	S.T.S.	980	28	26.9	122.4
		1800	S.T.S.	980	28	27.1	123.2
	16	0000	S.T.S.	985	25	27.1	123.5
		0600	T.S.	992	21	27.1	123.9
		1200	T.S.	994	18	27.2	124.8
		1800	T.S.	994	18	27.3	125.3
	17	0000	T.S.	990	21	27.3	126.0
		0600	T.S.	990	21	28.1	127.0
		1200	T.S.	988	23	28.7	127.8
		1800	S.T.S.	985	25	29.4	128.7
	18	0000	S.T.S.	985	25	30.0	129.3
		0600	S.T.S.	980	28	30.6	130.5
		1200	S.T.S.	985	28	30.9	131.5
		1800	S.T.S.	985	28	31.8	132.8
	19	0000	T.	980	33	32.6	134.1
		0600	T.	980	33	33.1	135.7
		1200	T.	985	33	33.8	137.9
		1800	T.	985	33	34.3	139.8
	20	0000	S.T.S.	990	28	34.9	142.1
		0600	S.T.S.	992	28	35.1	144.7
		1200	S.T.S.	992	25	35.2	147.1
		1800	T.S.	994	23	35.1	149.9
		變為溫帶氣旋 Became Extratropical					

颱風黑格比(0814)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON HAGUPIT (0814)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
九月 Sep	19	0000	T.D.	1002	13	14.9	137.0
		0600	T.D.	1000	16	14.2	135.2
		1200	T.D.	998	16	13.8	133.9
		1800	T.S.	992	21	13.5	132.7
	20	0000	T.S.	990	23	13.5	131.1
		0600	S.T.S.	985	25	14.1	130.0
		1200	S.T.S.	985	25	14.5	129.1
		1800	S.T.S.	985	25	15.4	128.2
	21	0000	S.T.S.	980	28	16.2	127.4
		0600	S.T.S.	975	31	17.0	126.5
		1200	T.	970	33	17.9	125.6
		1800	T.	965	36	18.7	124.7
	22	0000	T.	960	39	19.0	123.4
		0600	T.	955	41	19.3	122.1
		1200	T.	950	43	19.5	120.8
		1800	T.	950	43	20.0	119.1
	23	0000	T.	940	49	20.2	117.3
		0600	T.	940	49	20.4	115.7
		1200	T.	940	49	20.6	114.2
		1800	T.	940	49	21.0	112.7
	24	0000	T.	950	43	21.4	110.8
		0600	S.T.S.	975	31	21.8	109.2
		1200	T.S.	986	21	22.1	108.4
		1800	T.D.	992	16	22.3	107.3
	25	0000	T.D.	995	13	22.4	106.3
		0600	T.D.	997	13	22.5	105.7
			消散 Dissipated				

颱風薔薇(0815)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON JANGMI (0815)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
九月 Sep	24	0000	T.D.	1004	13	11.8	137.9
		0600	T.D.	1000	16	12.0	137.5
		1200	T.S.	996	18	12.4	136.4
		1800	T.S.	992	21	13.1	135.2
	25	0000	T.S.	986	23	13.8	134.2
		0600	S.T.S.	975	25	14.6	132.5
		1200	S.T.S.	970	31	14.7	131.2
		1800	T.	965	36	15.1	130.3
	26	0000	T.	955	41	16.0	129.9
		0600	T.	955	41	16.9	128.9
		1200	T.	945	46	17.8	128.0
		1800	T.	935	51	18.7	127.2
	27	0000	T.	930	54	19.6	126.5
		0600	T.	920	57	20.7	125.6
		1200	T.	905	64	21.3	124.5
		1800	T.	905	64	21.7	123.7
	28	0000	T.	915	59	22.8	123.2
		0600	T.	925	54	23.9	122.4
		1200	T.	950	46	24.2	121.6
		1800	T.	960	41	24.8	121.3
	29	0000	T.	970	33	25.6	121.0
		0600	S.T.S.	985	25	26.5	121.4
		1200	T.S.	990	23	27.5	122.0
		1800	T.S.	992	21	28.1	122.7
	30	0000	T.S.	992	21	28.8	123.7
		0600	T.S.	992	21	29.4	125.1
		1200	T.S.	995	18	29.7	126.7
		1800	T.S.	996	18	29.8	128.3

變為溫帶氣旋
Became Extratropical

熱帶風暴米克拉(0816)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM MEKKHALA (0816)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
九月 Sep	28	0600	T.D.	1000	13	14.4	112.7
		1200	T.D.	995	16	14.8	112.1
		1800	T.D.	994	16	15.5	111.9
	29	0000	T.S.	990	18	16.2	111.4
		0600	T.S.	988	21	16.8	110.5
		1200	T.S.	985	23	17.1	109.6
		1800	T.S.	985	23	17.4	108.1
	30	0000	T.S.	985	23	17.4	107.0
		0600	T.S.	992	21	18.2	105.3
		1200	T.D.	1000	16	19.0	103.0
		1800	T.D.	1004	13	19.5	100.9
			消散 Dissipated				

熱帶風暴海高斯(0817)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM HIGOS (0817)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
九月 Sep	29	1800	T.D.	1000	13	9.8	127.7
	30	0000	T.D.	998	16	10.8	126.8
		0600	T.D.	998	16	12.1	125.6
		1200	T.D.	998	16	12.9	124.4
		1800	T.D.	998	16	13.3	123.8
十月 Oct	1	0000	T.D.	998	16	13.6	123.1
		0600	T.D.	998	16	13.8	122.2
		1200	T.D.	998	16	14.0	120.9
		1800	T.D.	998	16	14.4	119.6
	2	0000	T.D.	998	16	14.9	118.1
		0600	T.D.	998	16	15.7	116.5
		1200	T.D.	998	16	16.0	114.9
		1800	T.D.	998	16	16.5	113.4
	3	0000	T.S.	996	18	17.2	112.1
		0600	T.S.	996	18	18.5	111.2
		1200	T.S.	996	18	19.4	111.1
		1800	T.D.	998	16	19.7	111.0
	4	0000	T.D.	999	16	20.3	110.9
		0600	T.D.	999	16	21.1	110.8
		1200	T.D.	999	16	21.4	110.8
			消散 Dissipated				

熱帶低氣壓由十月十三日至十五日的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL DEPRESSION OF 13 - 15 OCTOBER

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
十月 Oct	13	1200	T.D.	1006	13	18.0	108.3
		1800	T.D.	1004	13	18.3	108.2
	14	0000	T.D.	1004	13	18.6	108.1
		0600	T.D.	1004	13	19.0	108.0
		1200	T.D.	1002	16	19.3	107.7
		1800	T.D.	1002	16	19.4	107.2
	15	0000	T.D.	1004	16	19.2	106.6
		0600	T.D.	1006	13	18.9	106.1
			消散 Dissipated				

熱帶風暴巴威(0818)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM BAVI (0818)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
十月 Oct	18	0600	T.D.	1009	13	22.9	150.4
		1200	T.D.	1008	13	23.9	149.5
		1800	T.D.	1006	16	24.7	148.8
	19	0000	T.D.	1004	16	25.4	148.1
		0600	T.S.	1000	18	26.6	148.4
		1200	T.S.	996	21	28.6	149.2
		1800	T.S.	992	23	30.4	150.3
	20	0000	T.S.	992	23	32.8	152.2
		0600	T.S.	992	23	35.5	153.1
			變為溫帶氣旋 Became Extratropical				

強烈熱帶風暴美莎克(0819)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM MAYSAK (0819)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
十一月 Nov	7	0000	T.D.	1002	13	13.1	118.5
		0600	T.D.	1000	16	13.6	117.4
		1200	T.S.	995	18	14.1	116.3
		1800	T.S.	990	21	14.7	115.5
	8	0000	T.S.	985	23	15.2	115.2
		0600	T.S.	985	23	15.9	114.9
		1200	S.T.S.	982	25	16.6	115.0
		1800	S.T.S.	982	25	17.2	115.3
	9	0000	S.T.S.	982	25	17.8	115.7
		0600	S.T.S.	985	25	17.9	116.0
		1200	T.S.	995	18	17.2	116.1
		1800	T.S.	995	18	16.7	116.0
	10	0000	T.D.	997	16	16.0	116.5
		0600	T.D.	997	16	15.0	117.0
			消散 Dissipated				

熱帶風暴海神(0820)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM HAISHEN (0820)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
十一月 Nov	15	0600	T.D.	1008	13	24.1	147.6
		1200	T.D.	1006	16	24.9	148.5
		1800	T.S.	1002	18	25.6	149.7
	16	0000	T.S.	998	21	26.2	150.8
		0600	T.S.	998	21	27.3	152.7
		1200	T.S.	1002	18	28.2	154.2
		1800	T.S.	1002	18	29.0	155.6
	17	0000	T.S.	1002	18	29.8	157.5
		0600	T.D.	1006	16	30.6	158.9
			變為溫帶氣旋 Became Extratropical				

熱帶風暴紅霞(0821)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM NOUL (0821)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
十一月 Nov	16	0000	T.D.	1002	13	9.9	115.8
		0600	T.D.	998	16	10.4	114.5
		1200	T.S.	995	18	10.6	113.6
		1800	T.S.	995	18	10.9	112.5
	17	0000	T.S.	988	23	11.5	111.1
		0600	T.S.	988	23	11.9	109.5
		1200	T.S.	996	18	12.0	107.5
		1800	T.D.	1000	13	12.3	106.2
			消散 Dissipated				

颱風白海豚(0822)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON DOLPHIN (0822)

月份 Month	日期 Date	時間 (協調世界時) Time (UTC)	強度 Intensity	估計最低中心氣壓 (百帕斯卡) Estimated minimum central pressure (hPa)	估計最高風速 (米每秒) Estimated maximum surface winds (m/s)	北緯 Lat. ºN	東經 Long. ºE
十二月 Dec	12	0000	T.D.	1002	13	12.8	141.3
		0600	T.D.	998	16	13.5	140.2
		1200	T.S.	995	18	14.0	139.1
		1800	T.S.	995	18	14.1	138.1
	13	0000	T.S.	990	21	14.1	137.0
		0600	T.S.	990	21	14.0	135.8
		1200	T.S.	990	21	13.9	134.7
		1800	T.S.	988	23	13.8	133.7
	14	0000	T.S.	988	23	13.6	132.9
		0600	T.S.	988	23	13.6	132.0
		1200	T.S.	988	23	13.6	131.4
		1800	S.T.S.	985	25	13.7	130.8
	15	0000	S.T.S.	980	28	13.8	130.4
		0600	S.T.S.	975	31	14.1	130.3
		1200	T.	970	33	14.7	130.3
		1800	T.	970	33	15.4	130.4
	16	0000	T.	970	33	15.9	130.5
		0600	T.	970	33	16.4	130.6
		1200	T.	970	33	17.0	130.9
		1800	S.T.S.	975	31	17.6	131.3
	17	0000	S.T.S.	980	28	18.5	131.9
		0600	S.T.S.	980	28	19.3	132.6
		1200	S.T.S.	985	25	20.1	133.8
		1800	T.S.	988	23	21.1	135.3
	18	0000	T.S.	990	21	22.0	137.3
		0600	T.S.	995	18	24.1	140.1
			變為溫帶氣旋 Became Extratropical				