香港天文台
HONG KONG OBSERVATORY

二零零一
熱帶氣旋

TROPICAL CYCLONES IN 2001

香港天文台 HONG KONG OBSERVATORY

二零零一年的熱帶氣旋路徑圖
TRACKS OF TROPICAL CYCLONES IN 2001

每日協調世界時零時位置(香港時間上午八時)
Daily Positions at 00 UTC(08 HKT)

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

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°

丹娜絲 DANAS 九月SEP
萬宜 MAN-YI 八月AUG
韋帕 VIPA 九月SEP
范斯高 FRANCISCO 九月SEP
康妮 KONG-REY 七月JUL
帕布 PABUK 八月AUG
聖帕 SEPAT 八月AUG
蝴蝶 WUTIP 九月SEP
楊柳 PODUL 十月OCT
羅莎 KROSA 十月OCT
海燕 HAIYAN 十月OCT
飛燕 CHEBI 六月JUN
法茜 FAXAI 十二月DEC
桃芝 TORAJI 七月JUL
利奇馬 LEKIMA 九月SEP
西馬侖 CIMARON 五月MAY
潭美 TRAMI 七月JUL
尤特 UTOR 七月JUL
百合 NARI 九月SEP
玉兔 YUTU 七月JUL
菲特 FITOW 八月AUG
榴槤 DURIAN 七月JUL
天兔 USAGI 八月AUG
玲玲 LINGLING 十一月NOV
劍魚 KAJIKI 十二月DEC
潛艇 VAMEI 十二月DEC

丹娜絲(0115) DANAS 九月SEP
萬宜(0109) MAN-YI 八月AUG
韋帕(0111) PABUK 八月AUG
聖帕(0113) SEPAT 八月AUG
范斯高(0118) FRANCISCO 九月SEP
康妮(0106) KONG-REY 七月JUL
韋帕(0117) VIPA 九月SEP
熱帶低氣壓 T.D 十一月NOV
蝴蝶(0112) WUTIP 八月AUG
羅莎(0120) KROSA 十月OCT
楊柳(0122) PODUL 十月OCT
法茜(0125) FAXAI 十二月DEC
海燕(0121) HAIYAN 十月OCT
桃芝(0108) TORAJI 七月JUL
飛燕(0102) CHEBI 六月JUN
尤特(0104) UTOR 七月JUL
玲玲(0123) LINGLING 十一月NOV
劍魚(0124) KAJIKI 十二月DEC
熱帶低氣壓 T.D 十一月NOV
熱帶低氣壓 T.D 十一月NOV
百合(0116) NARI 九月SEP
利奇馬(0119) LEKIMA 九月SEP
玉兔(0107) YUTU 七月JUL
潭美(0105) TRAMI 七月JUL
菲特(0114) FITOW 八月AUG
榴槤(0103) DURIAN 六月JUN
天兔(0110) USAGI 八月AUG
西馬侖(0101) CIMARON 五月MAY
熱帶低氣壓 T.D 十一月NOV
熱帶低氣壓 T.D 十一月NOV
潛艇(0126) VAMEI 十二月DEC

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引言

Section 1

INTRODUCTION

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，年刊第二冊改稱爲《無線電探空儀觀測摘要》，而第一冊亦於一九八七年改稱爲《香港地面觀測年報》。一九九三年，該兩刊物由一本名爲《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，第三冊的覆蓋範圍東面邊界於一九八五年開始，由東經160度伸展至180度。一九八七年，第三冊改稱爲《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。由一九四七至一九六七年，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。

爲了能儘早滿足傳媒、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報告初稿。這些報告可提供給有需要的人士使用。初時，天文台只就那些曾導致天文台懸掛暴風或烈風信號的熱帶氣旋編寫報告初稿，但到了一九六八年，則須就每個引致天文台懸掛熱帶氣旋警告信號的熱帶氣旋編寫報告初稿。

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，把熱帶氣旋分爲以下四個級別：

（ i ） 熱帶低氣壓（T.D.）的最高持續風速爲每小時63公里以下。
（ii） 熱帶風暴（T.S.）的最高持續風速爲每小時63至87公里。
（iii） 強烈熱帶風暴（S.T.S.）的最高持續風速爲每小時88至117公里。
（iv） 颱風（T.）的最高持續風速爲每小時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爲10分鐘內風速的平均值；每小時平均風速爲該小時前60分鐘內的平均風速；每日雨量爲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，日本氣象廳會根據一套新名單爲每個達到熱帶風暴強度的熱帶氣旋命名。表1.1是二零零零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。這些名字除了用於爲國際航空及航海界發放的預測和警報外，亦是向國際傳媒介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爲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"0101"代表在二零零一年區內第一個被日本氣象廳分類爲熱帶風暴或更強的熱帶氣旋。在本年報內，此編號會顯示在緊隨著熱帶氣旋名稱的括弧內，例如強烈熱帶風暴西馬侖(0101)。

1.4 資料來源

本年報內的地面風資料，是由天文台所操作的測風站網絡而錄得的。表1.2是該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。

1.5 年報內容

本年報第二節是二零零一年所有影響北太平洋西部及南海區域的熱帶氣旋的概述。

而本年報第三節是二零零一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) 懸掛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回波圖（如適用）。

有關熱帶氣旋的各種資料及統計表載於本年報第四節內。

二零零一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）爲準。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"、"黃昏" 等則是指香港時間。香港時間爲協調世界時加八小時。

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. It contained information on tropical cyclones over the western North Pacific and the South China Sea. The first issue, which contained reports on tropical cyclones occurring in 1968, was published in 1971. Tropical cyclones within the area bounded by the Equator, 45°N, 100°E and 160°E were described. 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, reports were only written on those tropical cyclones for which gale or storm signals had been hoisted in Hong Kong. By 1968, it had become necessary to produce a report on every tropical cyclone that necessitated the hoisting 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 will assign names from a new list to tropical cyclones attaining tropical storm strength. Table 1.1 shows the name list effective from 1 January 2000. 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 2001 was assigned the code "0101". In this publication, the appropriate code immediately follows the name of the tropical cyclone in bracket, e.g. Severe Tropical Storm Cimaron (0101).

1.4 Data sources

Surface wind data presented in this report were obtained from a network of anemometers operated by the Hong Kong Observatory. Details of the stations are listed on Table 1.2.

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.

1.5 Content

In Section 2, an overview of all the tropical cyclones over the western North Pacific and the South China Sea in 2001 is presented.

The reports in Section 3 are individual accounts of the life history of tropical cyclones affecting Hong Kong in 2001. 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 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 imageries and radar echoes (if applicable).

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.

表 1.1　　二零零零年一月一日生效的新熱帶氣旋名單

TABLE 1.1 NEW TROPICAL CYCLONE NAME LIST EFFECTIVE FROM 1 JANUARY 2000

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	龍王 Longwang	玉兔 Yutu	風神 Fengshen	杜鵑 Dujuan	海馬 Haima
北韓	DPR Korea	鴻雁 Kirogi	桃芝 Toraji	海鷗 Kalmaegi	鳴蟬 Maemi	米雷 Meari
中國香港	HK, 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	珍珠 Chanchu	蝴蝶 Wutip	黃蜂 Vongfong	芭瑪 Parma	梅花 Muifa
馬來西亞	Malaysia	杰拉華 Jelawat	聖帕 Sepat	鹿莎 Rusa	茉莉 Melor	苗柏 Merbok
米克羅尼西亞	Micronesia	艾雲尼 Ewiniar	菲特 Fitow	森垃克 Sinlaku	尼伯特 Nepartak	南瑪都 Nanmadol
菲律賓	Philippines	碧利斯 Bilis	丹娜絲 Danas	黑格比 Hagupit	盧碧 Lupit	塔拉斯 Talas
南韓	RO Korea	格美 Kaemi	百合 Nari	薔薇 Changmi	蘇特 Sudal	奧鹿 Noru
泰國	Thailand	派比安 Prapiroon	韋帕 Vipa	米克拉 Megkhla	妮妲 Nida	玫瑰 Kularb
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	桑美 Saomai	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
北韓	DPR Korea	清松 Sonamu	楊柳 Podul	鳳仙 Pongsona	蒲公英 Mindulle	尼格 Nalgae
中國香港	HK, China	珊珊 Shanshan	玲玲 Lingling	欣欣 Yanyan	婷婷 Tingting	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	象神 Xangsane	法茜 Faxai	燦鴻 Chan-hom	南川 Namtheun	麥莎 Matsa

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	畫眉 Vamei	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	雲娜 Rananim	古超 Guchol
菲律賓	Philippines	西馬侖 Cimaron	海貝思 Hagibis	伊布都 Imbudo	馬勒卡 Malakas	泰利 Talim
南韓	RO Korea	飛燕 Chebi	浣熊 Noguri	天鵝 Koni	鮸魚 Megi	彩蝶 Nabi
泰國	Thailand	榴槤 Durian	威馬遜 Ramasoon	翰文 Hanuman	暹芭 Chaba	卡努 Khanun
美國	U.S.A.	尤特 Utor	查特安 Chataan	艾濤 Etau	庫都 Kodo	韋森特 Vicente
越南	Viet Nam	潭美 Trami	夏浪 Halong	環高 Vamco	桑達 Songda	蘇拉 Saola

表 1.2　　本年報內各風速表的位置及海拔高度

TABLE 1.2　POSITIONS AND ELEVATIONS OF VARIOUS ANEMOMETERS MENTIONED IN THIS REPORT

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	
中環（天星碼頭）	Central (Star Ferry Pier)	22°17’	114°10’	17
中環廣場	Central Plaza	22°17’	114°10’	378
赤鱲角（機場）	Chek Lap Kok (Airport)	22°19’	113°55’	13
長洲	Cheung Chau	22°12’	114°02’	99
長沙灣	Cheung Sha Wan	22°20’	114°09’	30
青洲	Green Island	22°17’	114°07’	105
京士柏	King’s Park	22°19’	114°10’	90
流浮山	Lau Fau Shan	22°28’	113°59’	50
北角	North Point	22°18’	114°12’	26
平洲	Ping Chau	22°33’	114°26’	39
西貢	Sai Kung	22°23’	114°16’	31
沙螺灣	Sha Lo Wan	22°18’	113°54’	71
沙田	Sha Tin	22°24’	114°12’	16
石崗	Shek Kong	22°26’	114°05’	26
天星碼頭（九龍）	Star Ferry Pier (Kowloon)	22°18’	114°10’	18
打鼓嶺	Ta Kwu Ling	22°32’	114°09’	28
大尾篤	Tai Mei Tuk	22°29’	114°14’	71
大帽山	Tai Mo Shan	22°25’	114°07’	969
塔門	Tap Mun	22°28’	114°21’	37
大老山	Tate's Cairn	22°22’	114°13’	588
鯽魚湖	Tsak Yue Wu	22°24’	114°19’	23
將軍澳	Tseung Kwan O	22°19’	114°15’	52
青衣（青柏樓）	Tsing Yi (Ching Pak House)	22°21’	114°06’	136
屯門	Tuen Mun	22°24’	113°58’	69
橫瀾島	Waglan Island	22°11’	114°18’	82
黃竹坑	Wong Chuk Hang	22°15’	114°10’	30

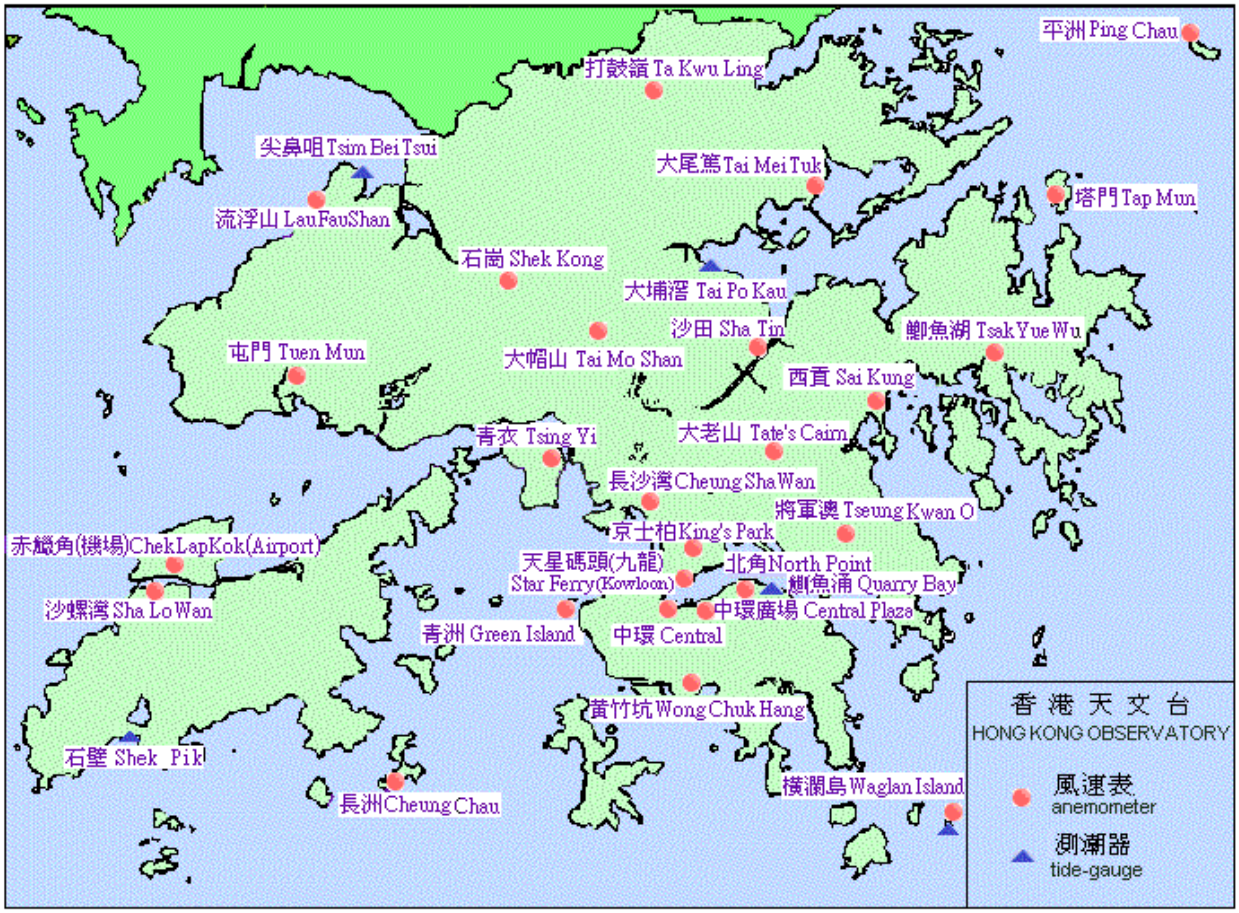


圖 1.1　　本年報內提及的測風站及潮汐測量站之分佈地點。

FIGURE 1.1　LOCATIONS OF ANEMOMETERS AND TIDE GAUGE STATIONS MENTIONED IN THIS REPORT.

第二節

二零零一年熱帶氣旋概述

Section 2

TROPICAL CYCLONE OVERVIEW FOR 2001

2.1 二零零一年的熱帶氣旋回顧

2.1.1 北太平洋西部（包括南海區域）的熱帶氣旋

二零零一年共有28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），這數目比30年平均數（1961-1990）少三個，當中有19個熱帶氣旋達到颱風強度，較正常多三個。

本年首個熱帶氣旋在五月形成。圖2.1是二零零一年在北太平洋西部及南海區域的熱帶氣旋及颱風出現次數之每月分佈。

於二零零一年，共有兩個熱帶氣旋登陸菲律賓，五個影響日本（包括琉球群島）。越南及台灣分別受三個和四個熱帶氣旋吹襲。另外有七個熱帶氣旋登陸中國。

颱風百合（0116）是本年路徑最特別的熱帶氣旋，它的壽命長達15天，期間曾四度增強及減弱。由於引導氣流較弱，及受到颱風丹娜絲所產生的藤原效應影響，百合初時以逆時針方向在沖繩島附近打轉，其後位於中國的反氣旋向東伸延，促使百合由東北移向西南，橫越台灣及影響廣東沿岸，它最終在廣東內陸消散（圖2.3）。

颱風法茜（0125）是二零零一年風力最強的熱帶氣旋。它的最高風速估計約每小時205公里，而最低中心氣壓則約爲925百帕斯卡。

熱帶風暴畫眉是二次大戰後區內移到最接近赤度的一個熱帶氣旋，它爲新加坡帶來強風和大雨（圖2.4）。

2.1.2 香港責任範圍內的熱帶氣旋

在二零零一年的28個熱帶氣旋中，有14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），此數目略低於30年（1961-1990）的年平均16.4個（表2.1）。這14個熱帶氣旋中，有七個在香港責任範圍內形成。香港天文台在二零零一年共發出451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

二零零一年共有12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）。當中有四個在南海形成，較正常少約一個。另外，亦有八個熱帶氣旋從北太平洋西部進入南海。這12個熱帶氣旋中，有七個達到颱風強度，其中五個登陸中國內地，兩個吹襲台灣。

2.1.4 影響香港的熱帶氣旋

全年共有六個熱帶氣旋影響香港（圖2.2），此數目屬正常（表2.2）。在該六個熱帶氣旋之中，颱風榴槤（0103）和熱帶風暴菲特（0114）均在南海形成。

本年懸掛的最高信號爲八號烈風或暴風信號，分別由七月的颱風尤特（0104）及颱風玉兔（0107）所引致。另外，當尤特掠過香港時，大風及低氣壓所引起的風暴潮剛好疊加在原本的漲潮上，令鰂魚涌的海平面高度升至3.4米，是自1962年颱風溫黛襲港以來維港錄得的最高海平面高度（圖2.5）。

其餘四個熱帶氣旋之中，颱風榴槤和颱風百合引致三號強風信號懸掛，颱風飛燕（0102）和熱帶風暴菲特則引致一號戒備信號懸掛。

2.1.5 熱帶氣旋的雨量

二零零一年各熱帶氣旋爲香港帶來的雨量(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)共爲1 089.8毫米，比正常的737.9毫米多百分之48，佔該年總雨量3 091.8毫米的百分之35。

2.2 每月概述

這一節逐月介紹二零零一年西太平洋北部及南海的熱帶氣旋概況。影響香港的各熱帶氣旋則詳述於第三節。

一月

本年一月有一個熱帶氣旋影響北太平洋西部及南海區域。

蘇力 (0023) 在二零零零年十二月二十九日於雅蒲島以西約850公里處發展爲一熱帶低氣壓，並向西北移動。翌日，它增強爲一熱帶風暴，接著向北前進。蘇力在十二月三十一日進一步加強爲一強烈熱帶風暴後，轉向東北推進。它在本年一月三日達到颱風強度，向偏東移動並迅速減弱，在一月五日變爲一低壓區。

二至四月

二零零一年二月至四月期間並無熱帶氣旋影響北太平洋西部及南海區域。

五月

五月有一個熱帶氣旋影響北太平洋西部及南海區域。

西馬侖 (0101) 是二零零一年首個在南海形成的熱帶氣旋。它在五月十日於馬尼拉西南面約170公里處發展爲一熱帶低氣壓。西馬侖在南海東北部向北移動，次日增強爲一熱帶風暴。在五月十二日，它採取東北途徑移動並進入呂宋海峽。西馬侖在五月十三日進一步增強爲一強烈熱帶風暴並向東北加速前進。它在五月十四日掠過沖繩島時減弱爲一熱帶風暴，並在該晚變爲一溫帶氣旋。

六月

六月共有兩個熱帶氣旋影響西北太平洋及南海區域。它們分別爲飛燕及榴槤，這兩個熱帶氣旋均引致天文台懸掛熱帶氣旋警告信號。這是自1994年後，首次有兩個熱帶氣旋在六月份影響香港。

飛燕 (0102)在六月二十日於雅蒲島西北面約410公里處發展成爲一熱帶低氣壓。它向西北移動，橫過呂宋海峽，在六月二十二日增強成一颱風。受到飛燕的吹襲，台灣蒙受相當的損失。飛燕越過台灣海峽後，在六月二十三日晚上於福州附近登陸。之後它減弱爲一熱帶風暴，以東北偏北的途徑，沿著福建及浙江沿岸地區移動，並爲這兩省帶來嚴重災害。在六月二十四日，飛燕進入東海，朝東北方向前進，該晚轉變爲一溫帶氣旋。

榴槤 (0103)在六月三十日早上於於香港南面約650公里處形成爲一熱帶低氣壓。榴槤向西北移動，次日增強爲一強烈熱帶風暴。榴槤在七月一日黃昏時份達至颱風強度，翌日早上於湛江附近登陸。它在下午減弱爲一強烈熱帶風暴，並進入廣西南部。榴槤向著內陸推進，七月三日移入越南時消散。在榴槤的吹襲下，中國廣東、廣西和海南省及越南均受到災害。

七月

包括榴槤在內，七月共有六個熱帶氣旋影響西北太平洋及南海區域。除了潭美，其餘的均達颱風強度。這是自1971年以來，該區域內在七月份首次有五個或更多的颱風出現。本月的六個熱帶氣旋中，有三個颱風影響香港，它們分別爲榴槤、尤特和玉兔。當中，尤特及玉兔均引致八號風球懸掛。這是自1966年後，首次七月份有兩次八號風球懸掛。

尤特 (0104)在七月一日於雅蒲島以南約340公里處發展成一熱帶低氣壓。它向北推進，次日增強爲一熱帶風暴。尤特隨後以每小時約38公里的高速向西北移動，在七月三日下午增強成一颱風。當尤特橫過呂宋海峽時，其廣闊的環流在菲律賓及台灣造成嚴重破壞。進入南海後，它在七月五日移向廣東沿岸。八號風球在該晚懸掛，它所引致的風暴潮在七月六日於香港多處造成嚴重水浸。

尤特在七月六日的早上於汕尾附近登陸，並減弱爲一強烈熱帶風暴。它隨後轉向偏西移動，橫過廣東。尤特在七月七日逐漸減弱爲一熱帶低氣壓，次日早上進入廣西時消散。尤特在登陸後40小時才消散，在廣東造成23人死亡，直接經濟損失約爲24億元人民幣。廣西省亦出現嚴重水浸，交通及水電設施受到影響。

潭美 (0105)在七月九日於高雄東南面約680公里處形成爲一熱帶低氣壓。它採取西北路徑移動，翌日增強爲一熱帶風暴，並直趨台灣南部。潭美在七月十一日晚越過台灣，爲台灣南部帶來超過500毫米雨量，令該區出現嚴重水浸，數百人被困，最少有四人死亡。在高雄，約有10萬戶的電力供應出現中斷，總損失估計爲10億元新台幣。

潭美在七月十二日早上於台灣海峽減弱爲一熱帶低氣壓。它向北移動，在趨近福建沿岸時減弱爲一低壓區。

康妮 (0106)在七月二十一日於硫黃島以東約1 000公里處發展成一熱帶低氣壓。它向西移動，七月二十四日增強爲一強烈熱帶風暴。康妮然後轉向西北移動，次日增強爲颱風。在隨後三天，康妮於太平洋上向東北偏東移動，並維持著颱風強度。七月二十八日，它減弱成一強烈熱帶風暴。康妮朝東北方向加速前進，次日變一溫帶氣旋。

玉兔 (0107)在七月二十三日於馬尼拉東北面約600公里處形成爲一個熱帶低氣壓。它向西北偏西移動，該晚在呂宋海峽增強爲一熱帶風暴。七月二十四日，玉兔採取較西的路徑進入南海。它在該晚進一步增強爲一颱風，並開始對香港構成嚴重威脅，八號風球在午夜時份懸掛。在玉兔的吹襲下，七月二十五日香港共有10人在各種意外中受傷。玉兔隨後減弱爲一強烈熱帶風暴，在七月二十六日早上於湛江市附近登陸。玉兔繼續移入內陸，在該晚變爲一低壓區。受到玉兔的影響，廣東省共損失約七億元人民幣。

桃芝 (0108)在七月二十六日於馬尼拉東北偏東約1 000公里處發展成一熱帶低氣壓。它向西移動，於七月二十八日迅速增強成一颱風。桃芝轉向西北偏北推進，七月三十日橫掃台灣。它是繼潭美後，七月第二個登陸台灣的熱帶氣旋。桃芝爲台灣帶來豪雨，並引致嚴重土石流和洪水。根據報章所報導，死亡人數預計會逾200，這是近40年來最多的一次。在桃芝的吹襲下，台灣有數百間房屋受到破壞及11 700多公頃農地被毀。風暴導致交通大癱瘓及35萬戶停電，農業損失約45億元新台幣。

桃芝在七月三十日下午減弱爲一強烈熱帶風暴，並進入台灣海峽。它在翌日於福州附近作第二次登陸，同時減弱爲一熱帶風暴，該晚隨即變爲一低壓區。

八月

八月共有六個熱帶氣旋影響西北太平洋及南海區域，其中菲特引致天文台懸掛一號戒備信號。

萬宜 (0109)在八月二日於關島東南偏東約800公里處發展成一熱帶低氣壓，向西北推進，它在八月三日迅速增強爲一強烈熱帶風暴，次日更達至颱風強度。萬宜於八月五日在硫黃島以東約250公里處開始轉向東北移動，在八月八日減弱爲一強烈熱帶風暴並轉向北移動。它在八月九日進一步減弱爲一熱帶風暴，並於該日稍後變爲一溫帶氣旋。

天兔 (0110)在八月九日於西沙島西南偏西約30公里處形成爲一熱帶低氣壓。它初時移動緩慢，翌日開始穩定地向西移動。天兔於八月十日早上在海南島以南沿岸掠過，下午增強爲一熱帶風暴，在八月十一日的清晨，天兔登陸越南，下午進入泰國並且減弱爲一低壓區。受到天兔的影響，海南島對開海面有五艘漁船沉沒。在越南，最少有兩人死亡，5 000座樓房被毀。天兔帶來的暴雨亦在泰國北部釀成嚴重水浸及山泥傾瀉，最少有76人死亡，30人失蹤，約300間房屋被毀，1 000人失去家園。

帕布 (0111)在八月十四日於關島東北偏北約550公里處發展爲一熱帶低氣壓，向西北偏西移動，次日它迅速增強成一強烈熱帶風暴。帕布在八月十六日達至颱風強度並在隨後三天向西北前進。在八月二十日，帕布轉向東北移動，翌日減弱爲一強烈熱帶風暴。它在八月二十二日登陸日本本州，並進一步減弱爲熱帶風暴，帕布在八月二十三日於北海道附近變爲一溫帶氣旋。在帕布的吹襲下，日本最少有七人死亡、26人受傷及兩人失蹤，名古屋約有50 000人需要疏散，東京和日本東北部的交通亦大受影響。

蝴蝶 (0112)在八月二十七日於雅蒲島東北偏北約750公里處發展成一熱帶低氣壓，向東北推進，它在八月二十八日增強爲一強烈熱帶風暴，並於該晚達到颱風強度。在八月最後的兩天，蝴蝶採取一個較爲偏北方向移動。蝴蝶在九月一日減弱爲一強烈熱帶風暴，並在九月三日變爲一溫帶氣旋。

聖帕 (0113)在八月二十七日於威克島西北偏西約360公里處發展爲一熱帶低氣壓並向西北方向移動，翌日它增強爲一熱帶風暴，朝偏北方向前進。八月二十九日聖帕加速移動，時速約30公里，它在八月三十日下午變爲一溫帶氣旋。

菲特 (0114)在八月二十八日晚上於南海北部形成爲一熱帶低氣壓，當時它位於香港西南偏南約320公里，天文台在晚上10時15分懸掛一號戒備信號。菲特向西移動，八月三十日清晨於海南島海口附近掠過，進入北部灣，它在該晚增強成爲一熱帶風暴，並轉向北移動。菲特於八月三十一日在廣西北海附近登陸，並減弱爲一熱帶低氣壓，在九月一日清晨再減弱成一個低壓區。

九月

除蝴蝶及菲特外，本年九月另有五個熱帶氣旋影響西北太平洋及南海區域，其中百合引致天文台懸掛三號強風信號。百合前後共擾釀了15天，其移動路徑亦很不規則，是一個較爲不尋常的熱帶氣旋。

丹娜絲 (0115)在九月三日於關島東北偏東約1 200公里處發展成一熱帶低氣壓。它向西推進，次日迅速增強爲一強烈熱帶風暴。丹娜絲採取偏北路徑移動，在九月五日達至颱風強度。隨後的四天，丹娜絲朝西北前進，然後轉往東北移動，在九月十一日於東京附近登陸，並減弱爲一強烈熱帶風暴。丹娜絲在日本本州的東南面掠過，九月十二日於太平洋上進一步減弱爲一熱帶風暴，同日再變爲一溫帶氣旋。日本最少有五人死亡及22人受傷，另有三人失蹤，約350間房屋被浸，超過100班國內航機要取消，及多班國際航機延誤。

百合 (0116)在九月六日清晨於台北以東約220公里處形成爲一熱帶低氣壓，向東北移動，並於該日下午增強爲一熱帶風暴。九月七日，百合橫越沖繩島後，速度減慢，並增強爲一強烈熱帶風暴。在隨後的一週，百合以逆時針方向在沖繩島附近打轉了三次，強度反覆變化，並兩度增強爲颱風。九月十四日，百合開始移向西南，次日它第三次增強爲颱風，直趨台灣。

百合撲向台灣後，在九月十七日逐步減弱爲一熱帶風暴。百合爲台灣帶來暴雨，釀成嚴重水浸，最少有84人死亡、16人失蹤及208人受傷，經濟損失逾300億元新台幣。百合在九月十九日進入南海北部，並轉向西移動，引致天文台懸掛一號戒備信號。百合在九月二十日再次增強，成爲一強烈熱帶風暴，正午於汕頭附近登陸，並逼近香港，三號強風信號隨後懸掛。該晚，百合繼續減弱，及後消散於廣東內陸。

九月十七日，韋帕 (0117)在琉黃島東南偏南約250公里發展成一熱帶低氣壓。韋帕向北推進，九月十九日逐漸增強爲一強烈熱帶風暴。它隨後轉向東北移動，在九月二十日達颱風強度。次日它減弱爲強烈熱帶風暴，並加速前進，稍後再變爲一溫帶氣旋。

范斯高 (0118)在九月十九日於威克島西南面約650公里發展成一熱帶低氣壓。它朝向西北推進，次日增強爲一熱帶風暴。范斯高在九月二十二日進一步增強爲一颱風，於隨後的三天在太平洋上向北移動。在九月二十五日減弱爲強烈熱帶風暴後，它加速往東北前進，並在次日變爲一溫帶氣旋。

九月二十二日，利奇馬 (0119)在高雄東南面約600公里形成爲一熱帶低氣壓，該晚增強爲一熱帶風暴，並在九月二十四日達到颱風強度。利奇馬向西北偏北前進，在九月二十六日晚登陸台灣南部，是十天內繼百合後第二個吹襲台灣的颱風。

利奇馬爲台灣帶來暴雨，引發山泥傾瀉，釀成一死三傷，數以百計村民需要撤離家園。一艘漁船及一艘貨船沉沒，三名漁民失蹤，而16名貨船上的船員則全部獲救。在利奇馬的吹襲下，部份交通受到影響，超過12 000戶停電，農業損失估計最少爲四億元新台幣。

利奇馬在九月二十八日進入台灣海峽。次日它減弱爲一熱帶低氣壓，並加速向東北前進，九月三十日於東海上變爲一溫帶氣旋。利奇馬的環流在溫州亦造成損害，有一人死亡及另一人失蹤，約2 300公頃農地被浸，另有一些房屋、道路和橋樑受到破壞。

十月

本年十月共有三個熱帶氣旋影響西北太平洋，它們都達到颱風強度。另外，本月沒有熱帶氣旋在南海上出現，這是1977年以來的第一次。

羅莎 (0120)在十月四日於關島西北面約250公里處形成爲一熱帶低氣壓。它向西北前進，並迅速增強，次日達到颱風強度，中心附近最高風速約爲每小時140公里。羅莎在十月六日轉向偏北移動，次日朝東北推進，十月八日減弱爲一強烈熱帶風暴，翌日變爲一溫帶氣旋。

海燕 (0121)在十月十二日於馬尼拉東北偏東約1 000公里處發展成一熱帶低氣壓後，緩慢地向北移動，並在十月十四日增強成一強烈熱帶風暴。海燕隨後向西北前進，在十月十五日增強爲一颱風。次日清晨，它的風力達到最強，其中心附近最高風速約爲每小時140公里。海燕同時開始轉往東北移動，在十月十七日減弱爲一強烈熱帶風暴。翌日，它進一步減弱爲一熱帶風暴，該晚變爲一溫帶氣旋。

楊柳 (0122)在十月十九日於關島東南面約1 500公里處發展成一熱帶低氣壓。它朝偏北方向移動，翌日增強爲一熱帶風暴，並在十月二十二日達到颱風強度。隨後的兩天，楊柳往西北前進。十月二十五日，楊柳的風力達到最強，其中心附近最高風速約達每小時195公里。楊柳於次日加速向東北偏北移動，十月二十七日減弱爲一強烈熱帶風暴，翌日變爲一溫帶氣旋。

十一月

本年十一月共有三個熱帶氣旋影響西北太平洋及南海區域。

玲玲 (0123)在十一月六日於馬尼拉東南約750公里處形成爲一熱帶低氣壓，它向西北偏西移動，橫過菲律賓，翌日增強爲一熱帶風暴。玲玲在十一月八日進一步增強爲一強烈熱帶風暴，並爲菲律賓帶來暴雨。在玲玲的吹襲下，菲律賓中部和南部最少有200人死亡，130人受傷及137人失蹤。玲玲在十一月九日進入南海後增強爲一颱風並向西推進，它在十一月十日晚上風力達到最強，其中心附近最高風速約爲每小時155公里。十一月十二日的清晨，玲玲在登陸越南中部前不久減弱爲一強烈熱帶風暴。該日稍後它移入內陸並迅速減弱，於晚上在柬埔寨北部變爲一個低壓區。受到玲玲的影響，越南中部最少有18人死亡及超過70人受傷，大量房屋被毀，導致12 000人無家可歸。

十一月二十一日，一個熱帶低氣壓於雅蒲島西北偏西約750公里的太平洋上形成。它初時移動緩慢，但在十一月二十三日開始向東北偏北加速推進。它在十一月二十五日變爲一溫帶氣旋。

另一熱帶低氣壓在十一月二十一日於南沙島西南偏南約280公里處形成，並向東緩慢移動。它在十一月二十三日的清晨於海上消散。

十二月

本年十二月共有三個熱帶氣旋影響西北太平洋及南海區域。其中法茜是二零零一年最強的颱風，而畫眉則是二次大戰後區內移到最接近赤度的一個熱帶氣旋。

劍魚(0124)在十二月五日於馬尼拉東南約730公里處形成爲一熱帶低氣壓。在隨後的兩天，它向西北偏西移動，橫過菲律賓中部。劍魚在菲律賓引致嚴重水浸和山泥傾瀉，二人死亡，一人失蹤及超過6 400人徹離家園。十二月七日，劍魚進入南海並增強爲一熱帶風暴。十二月八日，它改爲向西推進，橫越南海中部。同日晚上，劍魚減弱爲一熱帶低氣壓，並轉向西南移動。十二月九日，它在越南以東的海上進一步減弱成一低壓區。在劍魚吹襲下，12艘共載有149人的越南漁船失蹤。

十二月十六日，法茜(0125)在關島東南偏東約2 000公里的太平洋上發展成一個熱帶低氣壓，並於次日增強成一熱帶風暴。法茜在最初四天的移動都很緩慢。到了十二月二十日，它朝西北方向前進並增強爲一強烈熱帶風暴。次日，它更達至颱風強度。法茜的風力在十二月二十三日達到頂點，中心最高風速約爲每小時205公里，成爲二零零一年風力最強的颱風。十二月二十四日，法茜改爲向北移動，其後再轉向東北並加速前進。它在十二月二十五日減弱爲一強烈熱帶風暴，次日在北太平洋變爲一溫帶氣旋。

畫眉(0126)在十二月二十七日於新加坡以東約130公里處形成爲一熱帶低氣壓。隨後它向西移動，並在該日下午增強爲一熱帶風暴。在十二月二十八日早上，畫眉在新加坡以北掠過後減弱爲一熱帶低氣壓，並在同日於馬六甲海峽變爲一個低壓區。期間畫眉一直維持在北緯兩度以南，這是二次大戰後西北太平洋及南海區域內移到最接近赤度的一個熱帶氣旋。畫眉爲新加坡帶來強風和大雨，導致樹木倒塌、道路水浸、嚴重交通阻塞、部份火車班次出現延誤和部份飛機航班被逼延遲或轉飛到附近的機場。

備註：人命傷亡及財物損毀數據是根據報章報導輯錄而成。

2.1 Review of tropical cyclones in 2001

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

In 2001, 28 tropical cyclones occurred over the western North Pacific and the South China Sea (i.e. the area bounded by the Equator, 45°N, 100°E and 180°). This number was less than the 30-year (1961-1990) average by about 3. Amongst them, 19 tropical cyclones attained typhoon strength, three more than the normal.

The first tropical cyclone of the year formed in May. The monthly frequencies of first occurrence of tropical cyclones and typhoons in the western North Pacific and the South China Sea in 2001 are shown in Figure 2.1.

During the year, two tropical cyclones landed over the Philippines and five visited Japan (including Ryukyu Islands). Vietnam and Taiwan were hit by three and four tropical cyclones respectively. Seven tropical cyclones made landfall over mainland China.

Typhoon Nari (0116) was the tropical cyclone with the most unusual track in 2001 and had a long life span of 15 days, strengthening and weakening for four times. At first, Nari looped in anti-clockwise direction near Ryukyu Islands under the weak steering flow and the Fujiwhara effect induced by Typhoon Danas, then the eastward extension of the anticyclone over China forced Nari to move from northeast to southwest, traversing Taiwan and affecting the coast of Guangdong. Nari at last dissipated over inland Guangdong (Figure 2.3).

In 2001, the most intense tropical cyclone was Typhoon Faxai (0125). Faxai had a maximum wind speed of about 205 km/h and minimum sea-level pressure about 925 hPa.

Tropical Storm Vamei (0126) was the tropical cyclone which moved nearest to the Equator since World War II. It brought strong winds and torrential rains to Singapore (Figure 2.4).

2.1.2 Tropical cyclones in Hong Kong's area of responsibility

Of the 28 tropical cyclones in 2001, 14 occurred within Hong Kong's area of responsibility (i.e. the area bounded by 10°N, 30°N, 105°E and 125°E). This was slightly less than the 30-year (1961-90) annual average of 16.4 (Table 2.1). Seven of these 14 tropical cyclones developed within the area. Altogether, 451 tropical cyclone warnings to ships and vessels were issued by the Hong Kong Observatory in 2001 (Table 4.2).

2.1.3 Tropical cyclones over the South China Sea

There were 12 tropical cyclones affecting the South China Sea (i.e. the area bounded by 10°N, 25°N, 105°E and 120°E) in 2001. Four, or about one below normal, formed in-situ. Another eight crossed from the western North Pacific. Seven of the 12 tropical cyclones attained typhoon strength. Five of the typhoons landed over China and two struck Taiwan.

2.1.4 Tropical cyclones affecting Hong Kong

Six tropical cyclones affected Hong Kong in 2001 (Figure 2.2). This was near to the normal (Table 2.2). Of those, Typhoon Durian (0103) and Tropical Storm Fitow (0114) formed in the South China Sea.

The highest signal displayed in this year was the Gale or Storm Signal No. 8, hoisted for Typhoon Utor (0104) and Typhoon Yutu (0107) in July. During the passage of Utor, high winds and low pressure brought storm surge to Hong Kong. Coupled with the astronomical high tide, the sea level at Quarry Bay rose to 3.4 metres which was the highest recorded in Victoria Harbour since Typhoon Wanda in 1962 (Figure 2.5).

For the other four tropical cyclones, Typhoon Durian and Typhoon Nari led to the hoisting of the Strong Wind Signal No. 3, Typhoon Chebi (0102) and Tropical Storm Fitow only necessitated the Standby Signal No. 1 in Hong Kong.

2.1.5 Tropical cyclone rainfall

Tropical cyclone rainfall (defined as the total rainfall recorded at the Hong Kong Observatory from the time when a tropical cyclone was centred within 600 km of Hong Kong to 72 hours after it had dissipated or moved outside 600 km of Hong Kong) in 2001 was 1 089.8 mm. This is 48 % above the normal of 737.9 mm and accounting for some 35 % of the year's total rainfall of 3 091.8 mm.

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

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

Soulik (0023) formed as a tropical depression about 850 km west of Yap on 29 December 2000 and tracked northwestwards. It intensified into a tropical storm the next day and turned towards the north. Soulik strengthened further into a severe tropical storm on 31 December and began to track east-northeastwards. Soulik attained typhoon strength on 3 January this year. It then headed eastwards and weakened rapidly to become an area of low pressure on 5 January.

FEBRUARY – APRIL

No tropical cyclone occurred over the western North Pacific and the South China Sea during February to April.

MAY

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

Cimaron (0101) was the first tropical cyclone to form over the South China Sea in 2001. It developed as a tropical depression about 170 km southwest of Manila on 10 May. Tracking northwards over the northeastern part of the South China Sea, Cimaron intensified into a tropical storm the next day. It adopted a northeastward course and entered the Luzon Strait on 12 May. Cimaron strengthened further into a severe tropical storm on 13 May and accelerated towards the northeast. While traversing Okinawa, it weakened into a tropical storm on 14 May. Cimaron became an extratropical cyclone that night.

JUNE

Two tropical cyclones occurred over the western North Pacific and the South China Sea in June. They were Chebi and Durian. Both necessitated the hoisting of tropical cyclone warning signals in Hong Kong. It was the first time since 1994 that two tropical cyclones affected Hong Kong in June.

Chebi (0102) developed as a tropical depression about 410 km northwest of Yap on 20 June. Tracking northwestwards to cross the Luzon Strait, it intensified into a typhoon on 22 June. Taiwan suffered substantial damage during Chebi's passage. Having crossed the Taiwan Strait, Chebi made landfall near Fuzhou on the night of 23 June. It then weakened into a tropical storm while sweeping north-northeast across the coastal areas of Fujian and Zhejiang, inflicting severe damage on these two provinces. Upon entering the East China Sea on 24 June, Chebi tracked northeastwards and became an extratropical cyclone that night.

Durian (0103) formed as a tropical depression about 650 km south of Hong Kong on the morning of 30 June. Tracking northwestwards, it strengthened into a severe tropical storm the next day. Durian attained typhoon strength in the evening of 1 July and landed in the vicinity of Zhanjiang the next morning. It weakened into a severe tropical storm that afternoon on entering southern Guangxi. Moving further inland, Durian dissipated when entering Vietnam on 3 July. Guangdong, Guangxi, Hainan provinces of China and Vietnam all sustained losses during the passage of Durian.

JULY

Including Durian, six tropical cyclones occurred over the western North Pacific and the South China Sea in July. With the exception of Trami, all attained typhoon strength. This was the first time since 1971 that five or more typhoons occurred over the region in July. Of the six tropical cyclones in this month, three typhoons affected Hong Kong, viz. Durian, Utor and Yutu. Among them, Utor and Yutu necessitated the hoisting of the No. 8 signal in Hong Kong. The last time that the No. 8 signal had to be hoisted on two separate occasions in July was in 1966.

Utor (0104) developed as a tropical depression about 340 km south of Yap on 1 July. Moving northwards, it deepened into a tropical storm the next day. Utor then tracked northwestwards at a high speed of about 38 km/h and attained typhoon strength on the afternoon of 3 July. While traversing the Luzon Strait, Utor's extensive circulation inflicted severe damage on the Philippines and Taiwan. It entered the South China Sea and approached the coast of Guangdong on 5 July. The No. 8 signal was hoisted that night. Storm surges due to Utor caused severe flooding in several places in Hong Kong on 6 July.

Utor made landfall near Shanwei and weakened into a severe tropical storm on the morning of 6 July. It then tracked generally westwards across Guangdong. Utor weakened gradually into a tropical depression on 7 July and dissipated the next morning while entering Guangxi. Utor did not dissipate for over 40 hours after landfall. It caused 23 deaths in Guangdong where direct economic losses were estimated at about 2.4 billion RMB. There was also severe flooding in Guangxi. Transport as well as water and power supply were all disrupted.

Trami (0105) formed as a tropical depression about 680 km southeast of Gaoxiong on 9 July. Taking on a northwestward course, it intensified into a tropical storm the next day and headed towards the southern Taiwan. Trami rampaged across the island during the night of 11 July. It brought over 500 mm of rainfall to the southern part of Taiwan, causing severe flooding and trapping hundreds. At least four persons were killed. In Gaoxiong, power supply to some 100 000 households was cut off and damage incurred was estimated at about NT$ 1.0 billion.

Trami weakened into a tropical depression over the Taiwan Strait on the morning of 12 July. Tracking northwards, Trami degenerated into an area of low pressure as it approached the coast of Fujian.

Kong-rey (0106) developed as a tropical depression about 1 000 km east of Iwo Jima on 21 July. Tracking westwards, it intensified into a severe tropical storm on 24 July. After turning to the northwest, Kong-rey became a typhoon the next day. Kong-rey recurved east-northeastwards and maintained typhoon strength for almost three days over the Pacific. Kong-rey then weakened into a severe tropical storm on 28 July. Accelerating towards the northeast, it became an extratropical cyclone the next day.

Yutu (0107) formed as a tropical depression about 600 km northeast of Manila on 23 July. Tracking west-northwestwards, it intensified into a tropical storm over the Luzon Strait that evening. Yutu took on a more westward course and entered the South China Sea on 24 July. It deepened further into a typhoon that evening and posed a serious threat to Hong Kong. The No. 8 signal was hoisted at around mid-night. During the passage of Yutu, 10 persons were injured in various incidents in Hong Kong on 25 July. After weakening into a severe tropical storm, Yutu made landfall in the vicinity of Zhanjiang on the morning of

26 July. Moving further inland, Yutu became an area of low pressure that night. In Guangdong, the passage of Yutu inflicted losses amounting to 700 million RMB.

Toraji (0108) developed as a tropical depression about 1 000 km east-northeast of Manila on 26 July. Moving towards the west, it intensified rapidly into a typhoon on 28 July. Toraji adopted a north-northwestward course and swept across Taiwan on 30 July. It was the second tropical cyclone after Trami to make landfall over Taiwan in July. Torrential rain associated with Toraji triggered off severe mudslides and flash floods. As reported by the press, the death toll was expected to reach 200, the highest in nearly four decades. In the fury of Toraji, hundreds of homes were destroyed and 11 700 hectares of farmland was wiped out in Taiwan. The storm also paralysed transport. Power supply to 350 000 households was cut off. Agricultural losses were estimated at NT$4.5 billion.

Toraji weakened into a severe tropical storm and entered the Taiwan Strait on the afternoon of 30 July. It made a second landfall near Fuzhou while weakening into a tropical storm the next day and became an area of low pressure later that evening.

AUGUST

In August, six tropical cyclones occurred over the western North Pacific and the South China Sea. Amongst them, Fitow necessitated the hoisting of the Standby Signal No. 1 in Hong Kong.

Man-yi (0109) developed as a tropical depression about 800 km east-southeast of Guam on 2 August. Tracking northwestwards, it intensified rapidly into a severe tropical storm the next day and attained typhoon strength on 4 August. Man-yi began to turn towards the northeast on 5 August when it was about 250 km to the east of Iwo Jima. It weakened into a severe tropical storm on 8 August and moved generally northwards. It weakened further into a tropical storm on 9 August and became an extratropical cyclone later that day.

Usagi (0110) formed as a tropical depression about 30 km west-southwest of Xisha Dao on 9 August. It was slow-moving at first but took on a steady westward movement the following day. Usagi skirted along the south coast of Hainan Island in the morning of 10 August and intensified into a tropical storm that afternoon. It made landfall over Vietnam on the early morning of 11 August. Usagi weakened into an area of low pressure while entering Thailand that afternoon. During the passage of Usagi, five fishing boats sank off the coast of Hainan Island. In Vietnam, at least two persons were killed and 5 000 buildings were damaged. Heavy rain associated with Usagi caused serious flooding and landslides in northern Thailand. At least 76 people were killed and 30 others went missing. Some 300 houses were destroyed leaving 1 000 people homeless.

Pabuk (0111) formed as a tropical depression about 550 km north-northeast of Guam on 14 August. Heading west-northwestwards, Pabuk quickly intensified into a severe tropical storm the next day. Pabuk reached typhoon strength on 16 August and adopted a northwestward course in the next three days. On 20 August, Pabuk turned towards the northeast, and weakened into a severe tropical storm the following day. It made landfall over Honshu in Japan and weakened further into a tropical storm on 22 August. Pabuk became an extratropical cyclone near Hokkaido on 23 August. In the fury of Pabuk, at least seven people were killed, 26 injured and two others reported missing in Japan. About 50 000 residents in Nagoya had to be evacuated. Pabuk also caused serious disruption to the traffic in Tokyo and northeastern Japan.

Wutip (0112) developed as a tropical depression about 750 km north-northeast of Yap on 27 August. Tracking northeastwards, it deepened into a severe tropical storm on 28 August and reached typhoon intensity that night. Wutip took on a more northerly course on the last two days of August. It weakened into a severe tropical storm on 1 September and became an extratropical cyclone on 3 September.

Sepat (0113) developed as a tropical depression about 360 km west-northwest of Wake Island on 27 August. After intensifying into a tropical storm, Sepat headed towards the north on 28 August and accelerated to a speed of about 30 km/h the following day. It turned northeastwards on 30 August and became an extratropical cyclone that afternoon.

Fitow (0114) formed as a tropical depression over the northern part of the South China Sea about 320 km south-southwest of Hong Kong on the night of 28 August. The Standby Signal No. 1 was hoisted in Hong Kong at 10.15 p.m. on 28 August. Fitow tracked westwards and skirted pass Haikou in Hainan Island on the early morning of 30 August. Upon entering the Beibu Wan, it intensified into a tropical storm and turned towards the north that night. On 31 August, Fitow made landfall near Beihai of Guangxi and weakened into a tropical depression. It weakened further into an area of low pressure on the early morning of 1 September.

SEPTEMBER

Apart from Wutip and Fitow, five other tropical cyclones occurred over the western North Pacific and the South China Sea in September. Amongst them, Nari necessitated the hoisting of the Strong Wind Signal No. 3 in Hong Kong. Nari was unusual in its long life-span of 15 days and erratic motion.

Danas (0115) developed as a tropical depression about 1 200 km east-northeast of Guam on 3 September. Tracking westwards, it intensified rapidly into a severe tropical storm the next day. Danas took on a northward course and attained typhoon strength on 5 September. It headed northwest over the Pacific in the next four days before turning northeastwards to make landfall near Tokyo and weaken into a severe tropical storm on 11 September. Danas traversed the southeastern part of Honshu and moved into the Pacific where it weakened further into a tropical storm on 12 September, and became an extratropical cyclone the same day. In Japan, the passage of Danas caused at least five deaths and 22 injuries. Three persons were also reported missing. Some 350 houses were inundated. Over 100 domestic flights were cancelled and many international flights delayed.

Nari (0116) formed as a tropical depression about 220 km east of Taibei on the early morning of 6 September. It moved northeastwards and strengthened into a tropical storm that afternoon. After traversing Okinawa, Nari became slow-moving and intensified into a severe tropical storm on 7 September. In the following week, Nari made three anti-clockwise looping motions over Ryukyu Islands and attained typhoon strength on two separate occasions. On 14 September, Nari started to head southwest. It re-gained typhoon intensity for the third time the next day and tracked towards Taiwan.

After ploughing into Taiwan, Nari weakened rapidly into a tropical storm on 17 September. Torrential rain associated with Nari triggered off severe flooding in Taiwan. At least 84 people were killed, 16 went missing and 208 were injured. Direct economic losses were estimated to be at least NT$ 30 billion. Nari entered the northern part of the South China Sea and adopted a westward track on 19 September. The Standby Signal No. 1 was hoisted in Hong Kong. Nari re-intensified into a severe tropical storm before landing near Shantou at around noon on 20 September. The Strong Wind Signal No. 3 was hoisted soon in Hong Kong due to the approach of Nari. That night, Nari weakened progressively and dissipated over inland Guangdong.

On 17 September, Vipa (0117) developed as a tropical depression about 250 km south-southwest of Iwo Jima. Heading northwards, Vipa gradually intensified into a severe tropical storm on 19 September. It then adopted a northeastward course and reached typhoon strength on 20 September. Vipa weakened into a severe tropical storm the next day and picked up its speed. Later, it became an extratropical cyclone.

Francisco (0118) developed as a tropical depression about 650 km southwest of Wake Island 19 September. Tracking northwestwards, it deepened into a tropical storm a day later. Francisco intensified into a typhoon on 22 September and headed north over the Pacific in the following three days.

After weakening into a severe tropical storm on 25 September, it accelerated towards the northeast and became an extratropical cyclone the next day.

On 22 September, Lekima (0119) formed as a tropical depression about 600 km southeast of Gaoxiong. It intensified into a tropical storm that night and attained typhoon strength on 24 September. Lekima tracked north-northwestwards to make landfall over southern Taiwan on the night of 26 September. It was the second typhoon following Nari to attack Taiwan within ten days.

In Taiwan, torrential rain associated with Lekima triggered off landslides. One man was killed and three others injured. Hundreds of villagers had to be evacuated from their homes. A fishing boat and a cargo ship sank. Three fishermen went missing while the cargo ship's crew of 16 was rescued. Transportation was partly interrupted and electricity supply to over 12 000 families were cut off. Agricultural losses were estimated at NT$400 million.

Lekima entered the Taiwan Strait on 28 September. It weakened into a tropical depression the next day and accelerated towards the northeast. Lekima became an extratropical cyclone over the East China Sea on 30 September. The circulation of Lekima also caused damages in Wenzhou. One person was killed and another went missing. About 2 300 hectares of farmland were inundated. Other damages included houses, roads and bridges.

OCTOBER

In October, three tropical cyclones occurred over the western North Pacific. All attained typhoon strength. Also, this was the first time since 1977 that no tropical cyclone was found over the South China Sea in October.

Krosa (0120) developed as a tropical depression about 250 km northwest of Guam on 4 October. Tracking northwestwards, it intensified rapidly and became a typhoon the next day with maximum winds near its centre estimated to be 140 km/h. Krosa changed its course to head north on 6 October and northeast the next day. It weakened into a severe tropical storm on 8 October and became an extratropical cyclone the following day.

Having formed as a tropical depression about 1 000 km east-northeast of Manila on 12 October, Haiyan (0121) drifted northwards and became a severe tropical storm on 14 October. Haiyan then tracked northwestwards and intensified into a typhoon on 15 October. It attained peak intensity early next morning with maximum winds near its centre estimated to be 140 km/h. Haiyan began to turn towards the northeast at the same time and weakened into a severe tropical storm on 17 October. It weakened further into a tropical storm the next day and became an extratropical cyclone that night.

Podul (0122) developed as a tropical depression about 1 500 km southeast of Guam on 19 October. Tracking north, it intensified into a tropical storm the following day and attained typhoon strength on 22 October. Podul then headed towards the northwest in the next two days. Podul reached its peak intensity on 25 October when maximum winds near its centre were estimated at about 195 km/h. Podul accelerated towards the north-northeast the next day. It weakened into a severe tropical storm on 27 October and became an extratropical cyclone the following day.

NOVEMBER

Three tropical cyclones occurred over the western North Pacific and the South China Sea in November.

Lingling (0123) formed as a tropical depression about 750 km southeast of Manila on 6 November. Tracking west-northwestwards across the Philippines, it strengthened into a tropical storm the next day.

On 8 November, Lingling intensified further into a severe tropical storm and brought torrential rain over the Philippines. In the fury of Lingling, at least 200 people were killed, 130 injured and 137 others went missing in the central and southern parts of the Philippines. After entering the South China Sea on 9 November, Lingling intensified into a typhoon and took on a westward course. It attained peak intensity on the night of 10 November with maximum winds near its centre reaching 155 km/h. On the early morning of 12 November, Lingling weakened into a severe tropical storm before making landfall over central Vietnam. Lingling moved inland later that day and weakened rapidly. It became an area of low pressure over northern Cambodia that night. During the passage of Lingling, at least 18 people were killed and 70 injured in central Vietnam. Numerous houses were damaged, leaving 12 000 people homeless.

On 21 November, a tropical depression formed over the Pacific at about 750 km west-northwest of Yap. It was slow-moving at first but accelerated towards the north-northeast on 23 November. It became an extratropical cyclone on 25 November.

Another tropical depression developed about 280 km south-southwest of Nansha Dao on 21 November. It moved slowly to the east, and dissipated over water on the early morning of 23 November.

DECEMBER

Three tropical cyclones occurred over the western North Pacific and the South China Sea in December. Among them, Faxai was the most intense typhoon in 2001 while Vamei was the tropical cyclone which moved nearest to the Equator since World War II.

Kajiki (0124) formed as a tropical depression about 730 km southeast of Manila on 5 December. In the next two days, it tracked west-northwestwards across the central part of the Philippines and gave rise to severe flooding and landslides. Two persons were killed and one was reported missing. More than 6 400 people had to be evacuated. On 7 December, Kajiki entered the South China Sea and strengthened into a tropical storm. On 8 December, it turned west and traveled across the central part of the South China Sea. Kajiki weakened into a tropical depression and took on a southwestward course later that night. On 9 December, it weakened further into an area of low pressure over the seas east of Vietnam. In the fury of Kajiki, 12 Vietnamese fishing vessels with 149 fishermen on board went missing.

On 16 December, Faxai (0125) developed into a tropical depression over the Pacific at about 2 000 km east-southeast of Guam and strengthened into a tropical storm the next day. In the first four days, Faxai was slow-moving. On 20 December, it took on a northwest track and intensified into a severe tropical storm. On the next day, it attained typhoon intensity. Faxai intensified further on 23 December with the maximum wind speed estimated to reach 205 km/h, making it the most intense typhoon in 2001. On 24 December, Faxai turned north and later accelerated towards the northeast. It weakened into a severe tropical storm on 25 December and became an extratropical cyclone over the North Pacific the following day.

Vamei (0126) formed as a tropical depression about 130 km east of Singapore on the morning of 27 December. It tracked west and intensified into a tropical storm that afternoon. In the small hours of 28 December, Vamei's centre passed to the north of Singapore. It then weakened into a tropical depression later that morning and became an area of low pressure over the Malacca Straits the same day. During its entire life span, Vamei stayed south of 2 ^{o}N and was the tropical cyclone which moved closest to the Equator over the western North Pacific and the South China Sea since World War II. Vamei brought

strong winds and torrential rains to Singapore, forcing some planes to be delayed or diverted to nearby airports. Fallen trees and flooding also caused massive traffic jams and delay to some train services.

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

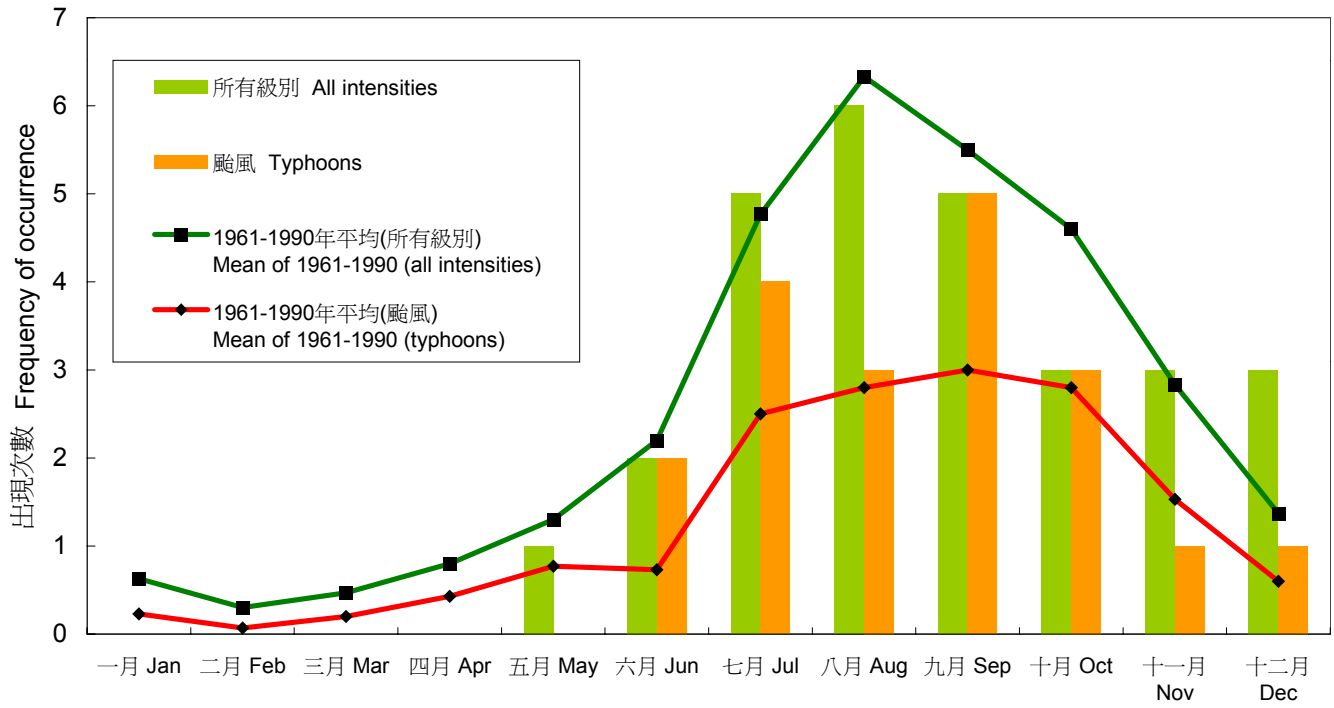


圖 2.1　　二零零一年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈。

Figure 2.1 Monthly frequencies of first occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2001.

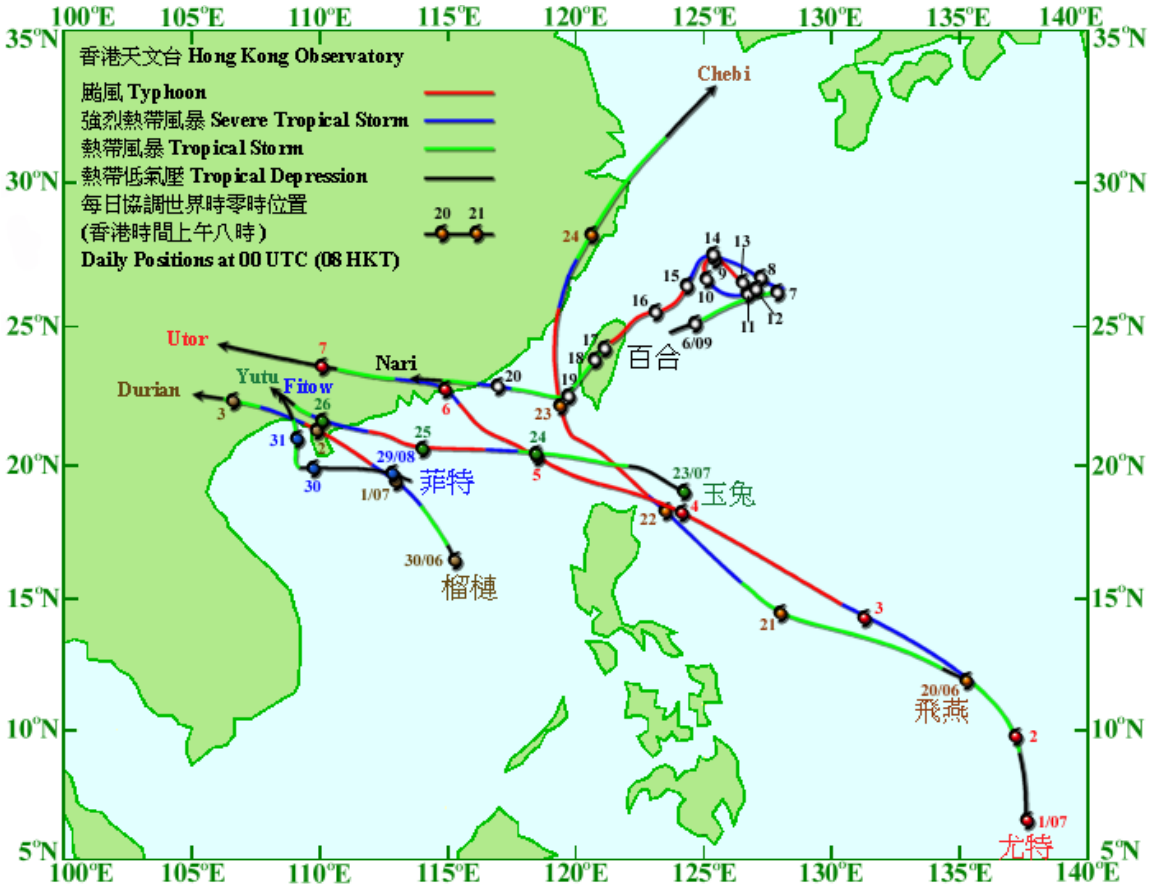


圖 2.2　　二零零一年六個影響香港的熱帶氣旋的路徑圖。

Figure 2.2 Tracks of the six tropical cyclones affecting Hong Kong in 2001.

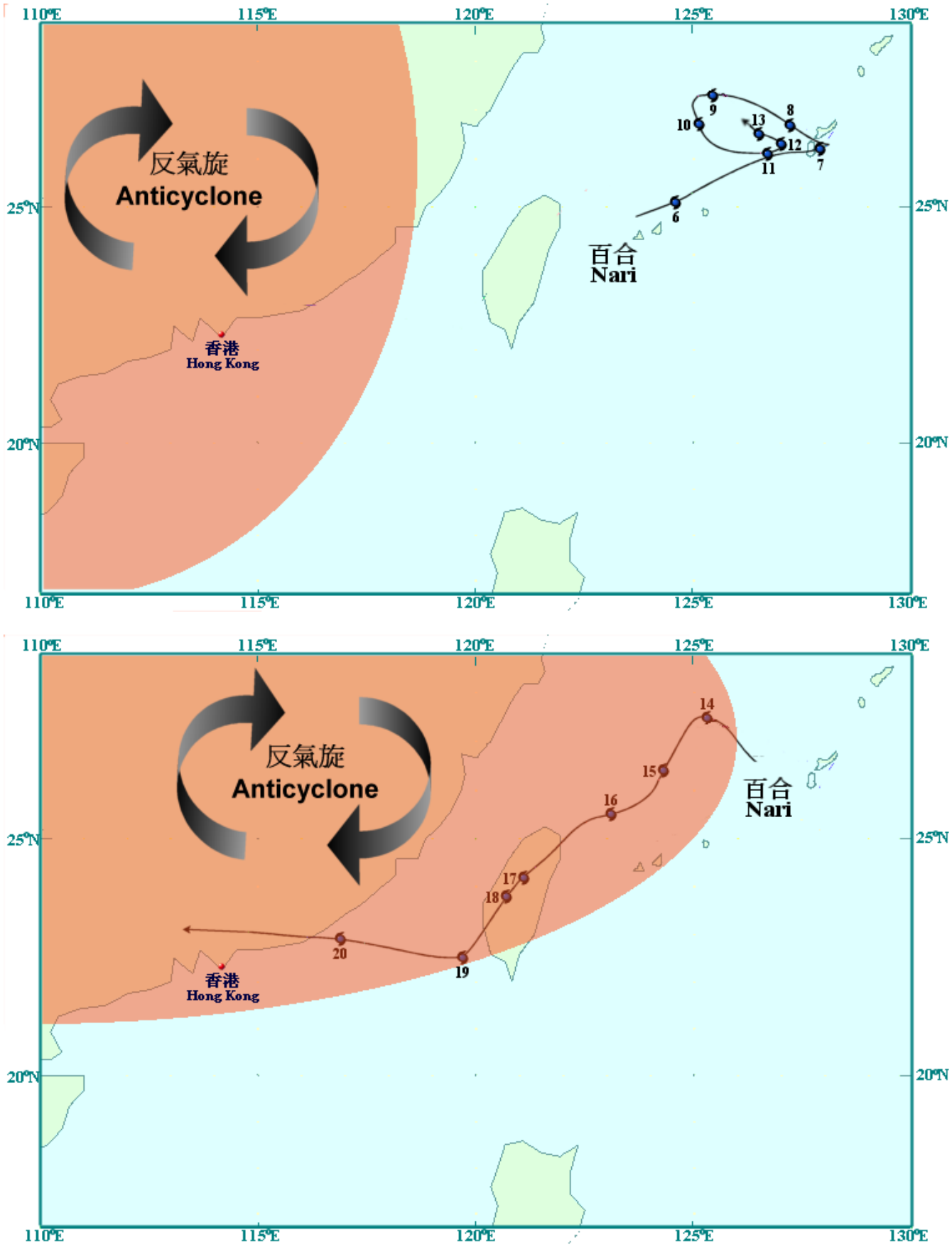


圖 2.3　百合初時以逆時針方向在沖繩島附近打轉(上圖)，其後位於中國的反氣旋向東伸延，促使百合由東北移向西南，橫越台灣及影響廣東沿岸(下圖)。

Figure 2.3　Nari at first looped in anti-clockwise sense near Ryukyu Islands (above). Then the eastward extension of the anticyclone over China forced Nari to move from northeast to southwest, traversing Taiwan and affecting the coast of Guangdong (below).

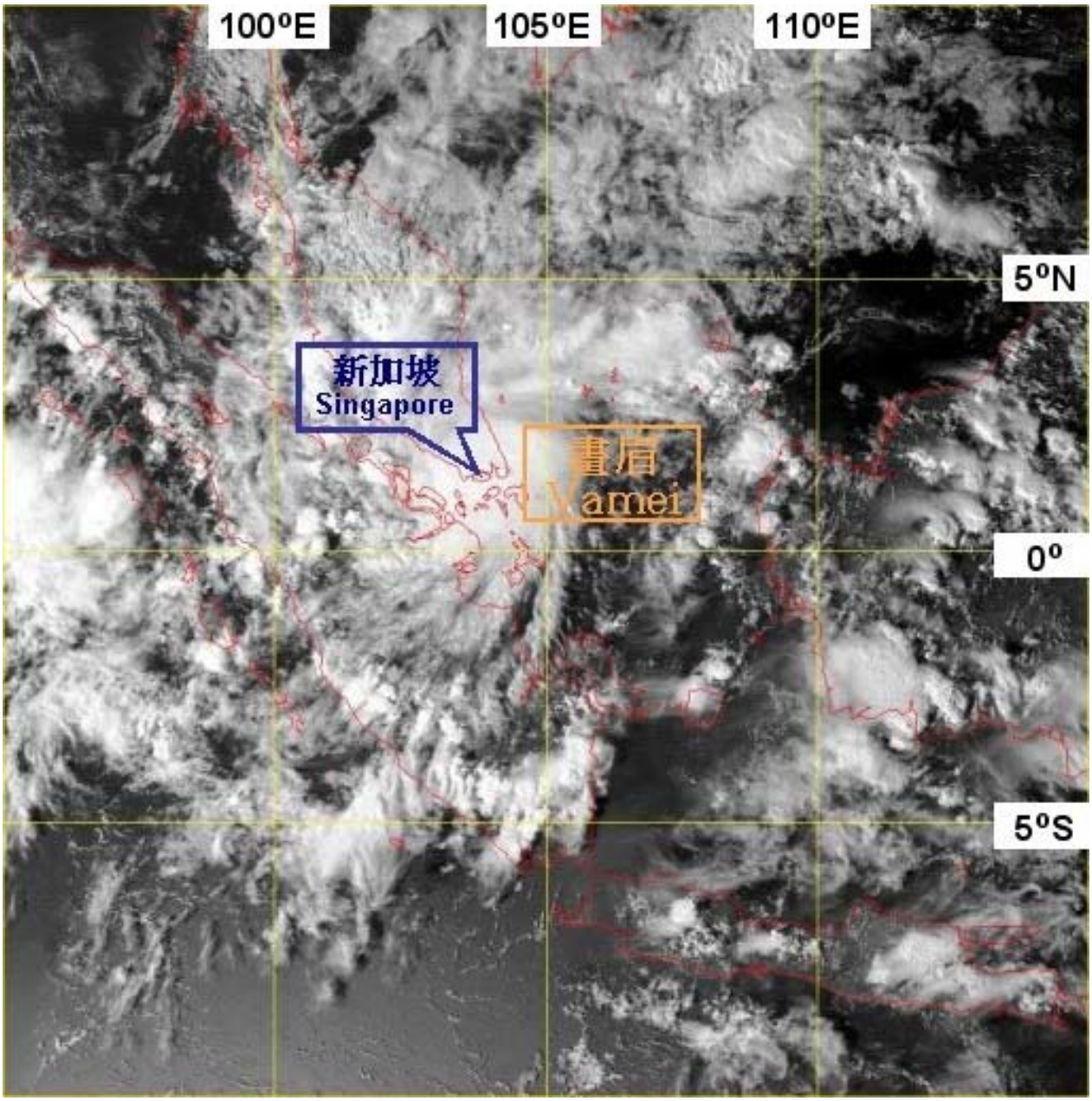
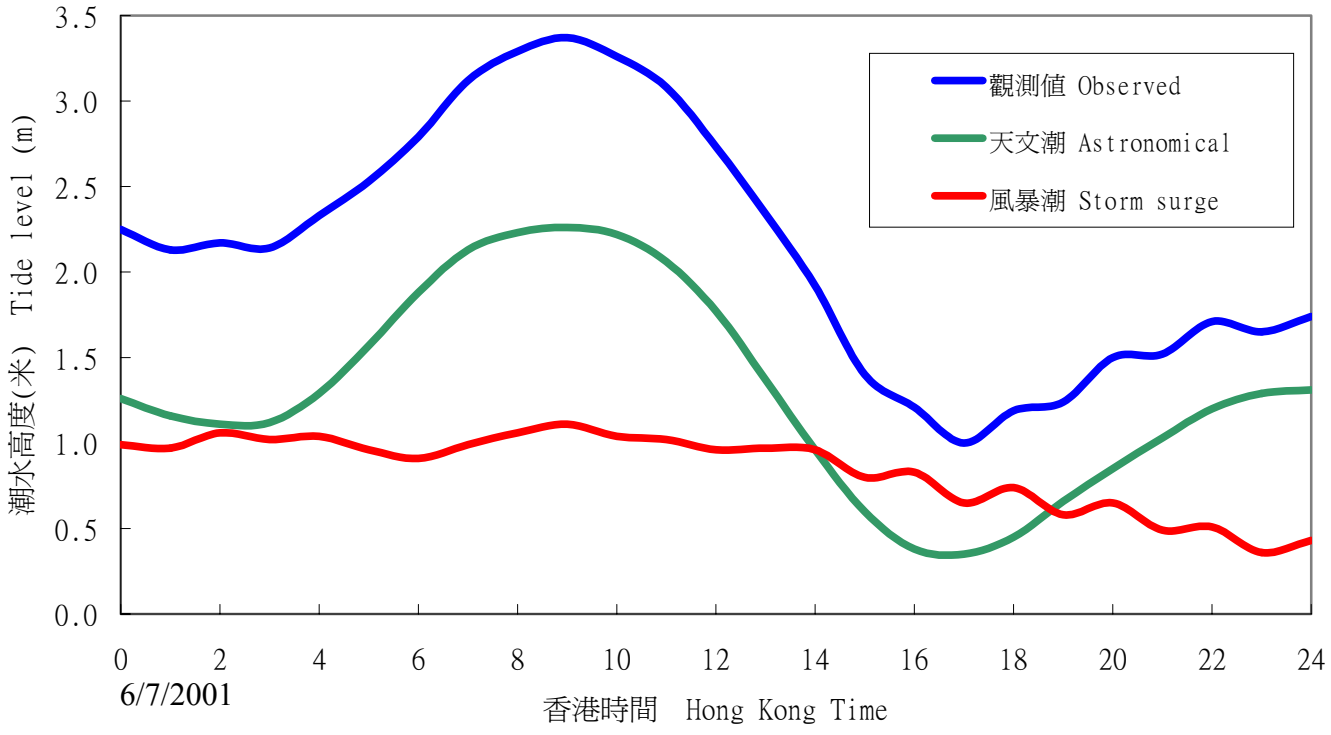


圖 2.4　二零零一年十二月二十七日約下午4時30分的可見光衛星圖片，顯示當時畫眉在新加坡附近。
[此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)]

Figure 2.4　Visible imagery at around 4.30 p.m. on 27 December 2001 showing that Vamei was close to Singapore.
[The cloud imagery was originally captured with the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency]



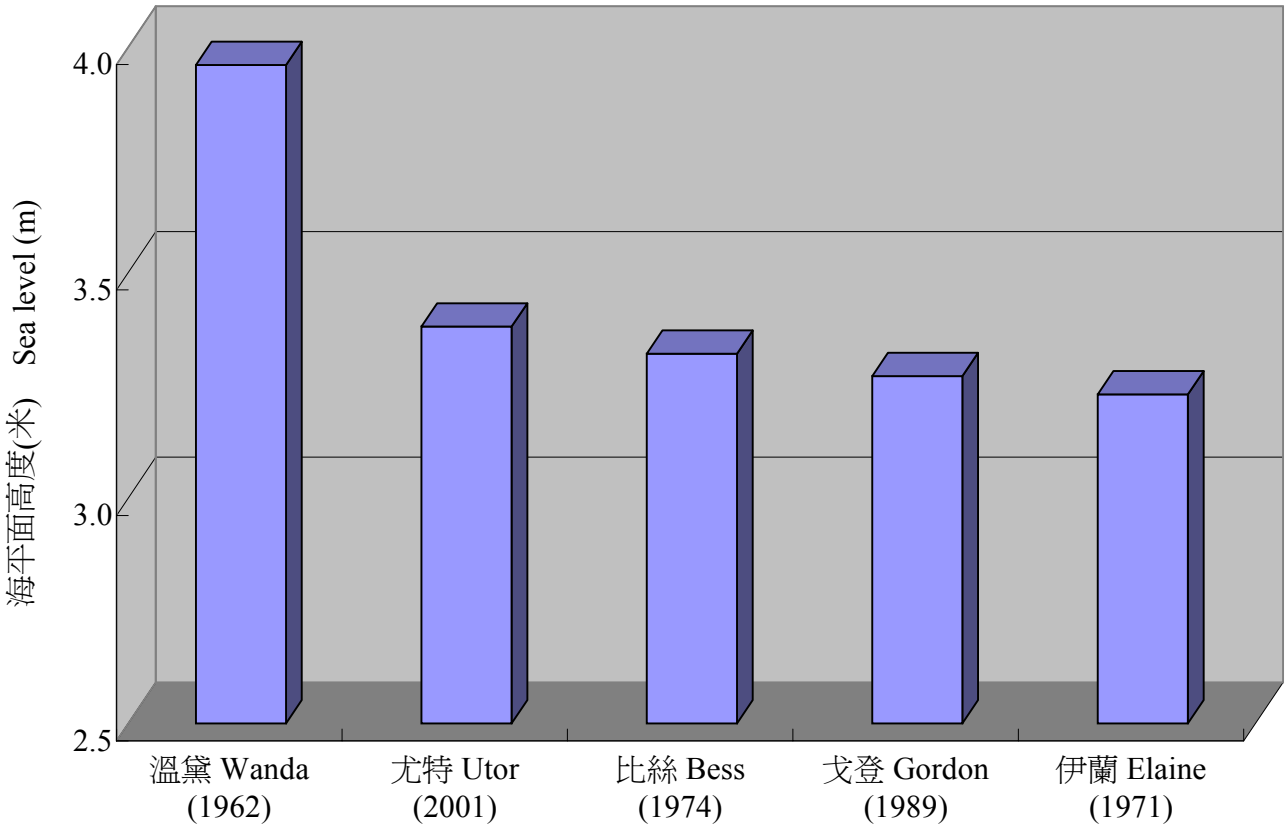


圖 2.5　二零零一年七月六日颱風尤特掠過時，鰂魚涌的海平面高度上升至3.4米 (上圖)。由一九四七年至二零零一年在鰂魚涌錄得的五個最高海平面高度 (下圖)。

Figure 2.5　Sea level at Quarry Bay rose to a level of 3.4 metres during the passage of Typhoon Utor on 6 July 2001 (above). Top five sea levels recorded at Quarry Bay from1947 to 2001 (below).

表 2.1　在香港責任範圍內 (10^{o} - 30^{o}N, 105^{o} - 125^{o}E)，熱帶氣旋出現之每月分佈

TABLE 2.1 MONTHLY DISTRIBUTION OF FIRST OCCURRENCE OF TROPICAL CYCLONES IN HONG KONG'S AREA OF RESPONSIBILITY (10^{o} - 30^{o}N, 105^{o} - 125^{o}E)

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					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
正常 Normal	0.2	0.0	0.1	0.1	0.8	1.6	2.8	3.2	2.7	2.3	1.8	0.6	16.4

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
正常 Normal	0.0	0.0	0.0	0.1	0.3	0.8	1.6	1.1	1.4	1.0	0.1	0.0	6.4

熱帶氣旋警告信號首次懸掛的月份。

The month that the tropical cyclone warning signal was firstly hoisted.

表 2.3　　香港各熱帶氣旋警告信號之意義

TABLE 2.3　MEANING OF ALL TROPICAL CYCLONE WARNING SIGNALS IN HONG KONG

信號 Signal		顯示 Display		信號之意義 Meaning of the Signal
		符號 Symbol	燈號 Lights	
戒備 Standby	1		白 White 白 White 白 White	有一熱帶氣旋集結於香港約800公里之範圍內，稍後可能影響香港。 A tropical cyclone is centred within about 800 kilometres (km) of Hong Kong and may later affect Hong Kong.
強風 Strong Wind	3		綠 Green 白 White 綠 Green	維多利亞港內吹強風或將有強風，持續風力每小時41-62公里，陣風可能超過每小時110公里。 Strong wind is expected or blowing in the Victoria harbour, with a sustained speed of 41-62 kilometres per hour (km/h), and gusts which may exceed 110 km/h.
西北 烈風或暴風 NW'LY Gale or Storm	8 西北 NW		白 White 綠 Green 綠 Green	維多利亞港內風力已達或將達每小時63-117公里之烈風或暴風程度，由所指之方向吹襲，而陣風可能超過每小時180公里。 Gale or storm force wind is expected or blowing in the Victoria harbour, with a sustained wind speed of 63-117 km/h from the quarter indicated and gusts which may exceed 180 km/h.
西南 烈風或暴風 SW'LY Gale or Storm	8 西南 SW		綠 Green 白 White 白 White	
東北 烈風或暴風 NE'LY Gale or Storm	8 東北 NE		綠 Green 綠 Green 白 White	
東南 烈風或暴風 SE'LY Gale or Storm	8 東南 SE		白 White 白 White 綠 Green	
烈風或暴風 風力增強 Increasing Gale or Storm	9		綠 Green 綠 Green 綠 Green	烈風或暴風風力現正或將會顯著增強。 Gale or storm force wind is increasing or expected to increase significantly in strength.
颶風 Hurricane	10		紅 Red 綠 Green 紅 Red	風力已達或將達颶風程度。即持續風力每小時118公里或以上，而陣風可能超過每小時220公里。 Hurricane force wind is expected or blowing, with sustained speed reaching upwards from 118 km/h and with gusts that may exceed 220 km/h.

第三節

二零零一年影響香港的熱帶氣旋

Section 3

TROPICAL CYCLONES AFFECTING HONG KONG IN 2001

3.1 颱風飛燕（0102）：六月二十至二十四日

飛燕是二零零一年首個在西北太平洋上形成的颱風，香港天文台爲它懸掛了全年的第一個一號戒備信號。

飛燕在六月二十日於雅蒲島西北面約410公里處發展成爲一熱帶低氣壓。它在該日下午增強爲一熱帶風暴。飛燕以每小時約25公里的速度向西北移動，在六月二十一日進一步增強爲一強烈熱帶風暴。翌日，它達到颱風強度，並橫過呂宋海峽。

飛燕在六月二十三日早上進入台灣海峽，並向北移動。當時飛燕的風力達到最強，其中心附近的最高持續風速約爲每小時140公里，而最低中心氣壓則約960百帕斯卡。衛星雲圖上可見其風眼。

受到飛燕的吹襲，台灣發生多宗沉船及其他意外，導致12人死亡、18人失蹤及110多人受傷。在台灣南部，陸上及空中交通因惡劣天氣而阻延，約140艘船艇翻沉，數萬戶的電力及電話通訊中斷，農作物損失約爲395萬美元。

飛燕越過台灣海峽後，在六月二十三日晚上於福州附近登陸，隨後減弱爲一熱帶風暴，並以東北偏北的途徑，沿著福建及浙江沿岸地區移動，爲這兩省帶來嚴重災害。在福州市，災情最爲嚴重，最少有70人死亡及80人失蹤。在鄰近的福清市，約有12 000間房屋被吹毀，320多條輸電線被吹斷。全福建省的經濟損失估計爲35億元人民幣。在杭州，暴雨釀成山泥傾瀉，最少有22名工人死亡及七人受傷。另外，浙江省其他地方也超過三人死亡及一人失蹤。上海幸無大損失，但其北面的崇明島則有52間房屋被吹毀及2 000間受浸。

飛燕於上海東南面約140公里處掠過後，在六月二十四日下午進入東海，朝東北方向前進，並減弱爲一熱帶低氣壓。該晚，飛燕轉變爲一溫帶氣旋。

在香港，一號戒備信號在六月二十二日晚上11時25分懸掛，當時飛燕位於香港東南偏東約680公里。本地吹和緩北至西北風，海有大浪。飛燕在六月二十三日下午最接近香港，當時它位於香港以東約520公里。香港天文台於下午3時12分錄得最低瞬時海平面氣壓999.8百帕斯卡。隨著飛燕在黃昏時份遠離本港，所有熱帶氣旋警告信號在下午8時25分除下。

在六月二十二日至二十三日，受到飛燕前方下沉空氣的影響，香港日間天氣酷熱及有煙霞。這兩天香港天文台錄得的最高氣溫均達33.2度，是本年以來的最高紀錄。六月二十三日沙田及赤鱲角錄得的最高氣溫更高達35度以上。酷熱天氣警告在六月二十二日正午時份發出，有效至次日下午4時30分。

在六月二十三日下午，雷暴於內陸形成並往南移，影響香港東部。在黃昏時份，南海的西南氣流北上並爲香港帶來暴雨。荃灣附近的雨勢最大。本港共錄得約30宗水浸報告，但並無任何嚴重損毀。該晚，閃電導致多處停電，消防處共收到42宗涉及升降機故障的求助報告。黃色暴雨警告信號在晚上8時35分發出，有效至翌日上午6時。

表3.1.1 - 3.1.3分別是飛燕影響香港時各站錄得的最高風速、日雨量及最高潮汐資料。圖3.1.1 - 3.1.3是飛燕的路徑圖、香港雨量分佈圖及衛星雲圖。

3.1 Typhoon Chebi (0102) : 20 - 24 June 2001

Chebi was the first typhoon to form over the western North Pacific in 2001. It caused the Standby Signal No. 1 to be hoisted in Hong Kong for the first time this year.

Chebi developed as a tropical depression about 410 km northwest of Yap on 20 June. It intensified into a tropical storm that afternoon. Tracking northwestwards at around 25 km/h, Chebi strengthened further into a severe tropical storm on 21 June. It attained typhoon strength and traversed the Luzon Strait the next day.

Chebi entered the Taiwan Strait and headed northwards on the morning of 23 June. It attained peak intensity at the same time when maximum winds near the centre were estimated to be 140 km/h. The minimum pressure was about 960 hPa. An eye could be seen on satellite imagery.

In Taiwan, 12 people died, 18 others went missing and some 110 were injured in shipwrecks and other accidents caused by Chebi. Severe weather disabled ground as well as air traffic in southern Taiwan. Over 140 boats were sunk. Electricity supply and telephone lines to tens of thousands of households were cut. Agricultural damages were estimated at around US$ 3.95 million.

Having crossed the Taiwan Strait, Chebi made landfall near Fuzhou on the night of 23 June. It then weakened into a tropical storm as it swept north-northeast across the coastal areas of Fujian and Zhejiang, inflicting severe damage. Fuzhou was the hardest hit. At least 70 people were killed and 80 reported missing. In nearby Fuqing, around 12 000 houses were destroyed and 320 power lines were cut. Economic losses to Fujian province were put at 3.5 billion RMB. In Hangzhou, heavy rain triggered off landslides in which no less than 22 workers were killed and seven others injured. In addition, at least three people died and one person was reported missing elsewhere in Zhejiang. Shanghai largely escaped damage, but Chongming Dao to its north had 52 houses destroyed and 2 000 others flooded.

Passing about 140 km to the southeast of Shanghai, Chebi entered the East China Sea on the afternoon of 24 June. It then tracked northeastwards and weakened into a tropical depression. That night, Chebi evolved into an extratropical cyclone.

In Hong Kong, the Standby Signal No. 1 was hoisted at 11.25 p.m. on 22 June when Chebi was about 680 km to the east-southeast. Local winds were moderate north to northwesterly and seas were rough. Chebi was closest to Hong Kong in the afternoon of 23 June when it was about 520 km to the east. The lowest instantaneous mean sea-level pressure of 999.8 hPa was recorded at the Hong Kong Observatory at 3.12 p.m. on 23 June. As Chebi moved away from Hong Kong that evening, all tropical cyclone warning signals were lowered at 8.25 p.m.

Due to subsidence ahead of Chebi, it was very hot and hazy in Hong Kong on 22 and 23 June. The maximum temperatures recorded at the Hong Kong Observatory on these two days were 33.2 degrees, the highest so far this year. Maximum temperatures over Shatin and Chep Lap Kok exceeded 35 degrees on 23 June. The Very Hot Weather Warning was issued at noon on 22 June, and remained in force till 4.30 p.m. the next day.

In the afternoon of 23 June, thunderstorms developed over land and moved south to affect mainly the eastern part of Hong Kong. That evening, southwesterly winds over the South China Sea edged north and brought heavy rain to Hong Kong. Rainfall was the heaviest in the vicinity of Tsuen Wan. Some 30 cases of flooding were reported but there was no significant damage. Lightning disrupted power supply that night. The Fire Services Department attended 42 calls related to lift failure. The Amber Rainstorm Warning Signal, issued at 8.35 p.m on 23 June, remained in force till 6 a.m. the following day.

Information on wind, rainfall and tide during the passage of Chebi is given in Tables 3.1.1 - 3.1.3. Figures 3.1.1 - 3.1.3 show the track of Chebi, rainfall distribution in Hong Kong and cloud imagery.

表 3.1.1　在飛燕影響下，本港各站在熱帶氣旋警告信號懸掛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 during the hoisting of the tropical cyclone warning signal for Chebi.

站 (參閱圖 1.1)	Station (see Fig. 1.1)	最高陣風 Maximum Gust		日期/月份	時間	最高每小時平均風速 Maximum Hourly Wind		日期/月份	時間
		風向 Direction	風速(公里/時) Speed (km/h)	Date/Month	Time	風向 Direction	風速(公里/時) Speed (km/h)	Date/Month	Time
中環	Central	西南偏南 SSW	36	23/6	18:52	西北偏北 NNW	13	23/6	13:00
中環廣場	Central Plaza	南 S	52	23/6	17:56	南 S	40	23/6	19:00
赤鱲角 (機場)	Chek Lap Kok (Airport)	西南 SW	45	23/6	20:00	西南偏西 WSW	26	23/6	17:00
長洲	Cheung Chau	西南偏西 WSW	41	23/6	16:40	西南偏西 WSW	25	23/6	17:00
長沙灣	Cheung Sha Wan	東北 NE	52	23/6	20:19	西南 SW	14	23/6	11:00
						西南偏南 SSW	14	23/6	14:00
青洲	Green Island	南 S	52	23/6	17:55	西南偏南 SSW	25	23/6	20:00
京士柏	King's Park	東 E	30	23/6	20:06	西 W	13	23/6	14:00
流浮山	Lau Fau Shan	西南偏西 WSW	51	23/6	20:07	西南 SW	25	23/6	19:00
北角	North Point	西南 SW	36	23/6	19:29	西南偏西 WSW	22	23/6	15:00
平洲	Ping Chau	東北偏東 ENE	27	23/6	18:03	南 S	9	23/6	19:00
西貢	Sai Kung	東北偏北 NNE	65	23/6	19:34	西北偏西 WNW	12	23/6	10:00
沙田	Sha Tin	北 N	40	23/6	19:27	西南 SW	19	23/6	18:00
天星碼頭 (九龍)	Star Ferry (Kowloon)	西南偏南 SSW	40	23/6	18:12	西南 SW	19	23/6	19:00
打鼓嶺	Ta Kwu Ling	東北偏東 ENE	34	23/6	18:51	東北偏東 ENE	14	23/6	20:00
大尾篤	Tai Mei Tuk	西 W	68	23/6	14:40	西 W	27	23/6	15:00
大帽山	Tai Mo Shan	西北偏北 NNW	38	23/6	06:48	西北偏北 NNW	31	23/6	07:00
		西 W	38	23/6	14:50				
塔門	Tap Mun	北 N	65	23/6	18:26	西南偏南 SSW	19	23/6	19:00
大老山	Tate's Cairn	東南偏南 SSE	67	23/6	20:03	西南偏南 SSW	31	23/6	19:00
鯽魚湖	Tsak Yue Wu	東北 NE	45	23/6	18:57	西南 SW	14	23/6	19:00
		東北偏北 NNE	45	23/6	18:58				
將軍澳	Tseung Kwan O	東 E	31	23/6	19:15	西南 SW	13	23/6	19:00
青衣	Tsing Yi	東北 NE	58	23/6	20:25	西 W	23	23/6	15:00
屯門	Tuen Mun	西 W	52	23/6	20:18	西北偏西 WNW	16	23/6	15:00
橫瀾島	Waglan Island	西南 SW	41	23/6	18:22	西南 SW	36	23/6	19:00
黃竹坑	Wong Chuk Hang	西南偏西 WSW	25	23/6	17:04	西南偏西 WSW	12	23/6	11:00

表 3.1.2　飛燕影響香港期間，香港天文台及其他各站所錄得的日雨量(單位爲毫米)
Table 3.1.2 Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Chebi.

站 (參閱圖 3.1.2) Station (see Fig. 3.1.2)	六月二十二日 22 Jun	六月二十三日 23 Jun	六月二十四日 24 Jun	總雨量 Total
香港天文台 Hong Kong Observatory	微量 Trace	39.4	39.3	78.7
H12　半山區　Mid Levels	0.0	54.5	33.0	87.5
H19　筲箕灣　Shau Kei Wan	0.0	14.0	28.0	42.0
H21　淺水灣　Repulse Bay	0.0	19.0	113.0	132.0
K04　佐敦谷　Jordan Valley	0.0	35.0	27.0	62.0
K06　蘇屋邨　So Uk Estate	0.0	99.0	7.0	106.0
N06　葵涌　Kwai Chung	0.0	147.5	6.0	153.5
N09　沙田　Sha Tin	0.0	21.0	2.0	23.0
N12　元朗　Yuen Long	0.0	52.0	0.5	52.5
N17　東涌　Tung Chung	0.0	1.0	7.5	8.5
R21　踏石角　Tap Shek Kok	0.0	21.5	1.0	22.5
R26　石崗　Shek Kong	0.0	87.5	1.0	88.5
R31　大尾篤　Tai Mei Tuk	0.0	37.0	4.5	41.5

表 3.1.3　飛燕影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮
Table 3.1.3 Times and heights of the maximum sea level and the maximum storm surge recorded at various tide stations in Hong Kong during the passage of Chebi.

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	2.57	23/6	10:37	0.18	23/6	03:00
石壁　Shek Pik	2.63	23/6	09:28	0.20	23/6	02:04
大埔滘　Tai Po Kau	2.46	23/6	11:16	0.26	23/6	17:02
尖鼻咀　Tsim Bei Tsui	2.90	23/6	10:16	0.18	22/6	23:26
橫瀾島　Waglan Island	2.66	23/6	10:33	0.27	23/6	12:08

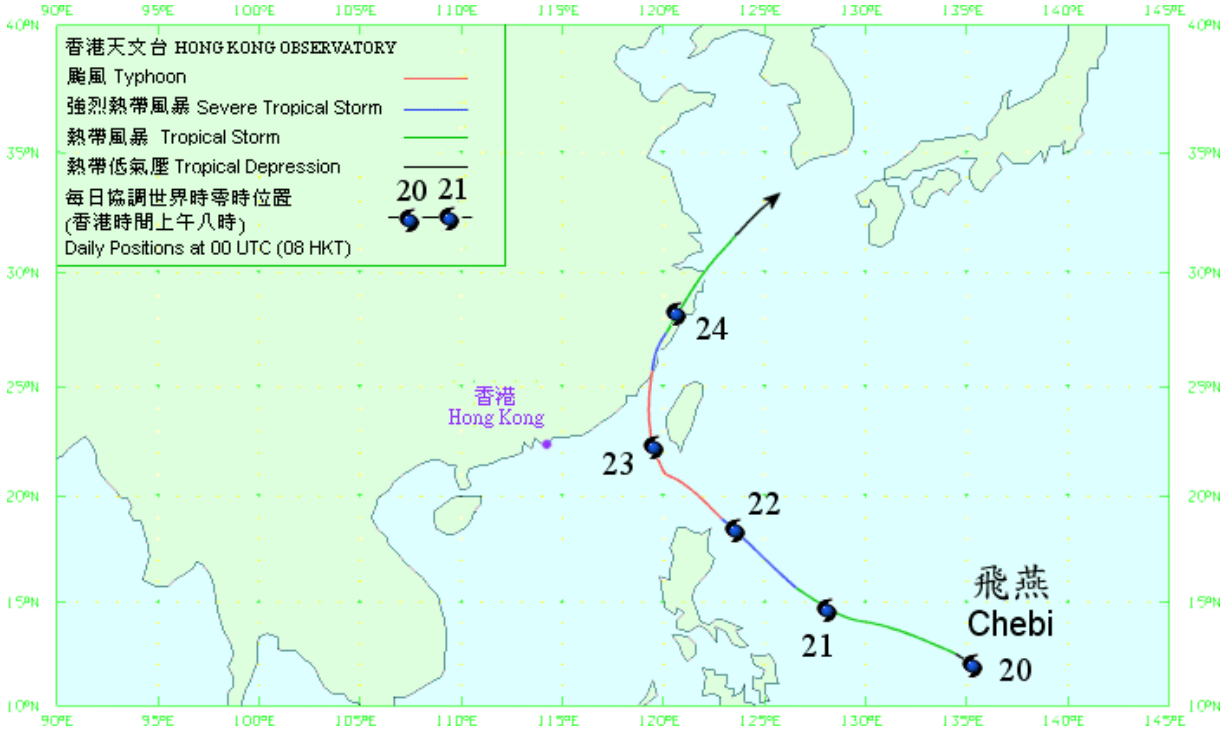


圖 3.1.1　　飛燕（0102）的路徑圖: 二零零一年六月二十日至二十四日。
Figure 3.1.1　Track of Chebi (0102) : 20 - 24 June 2001.

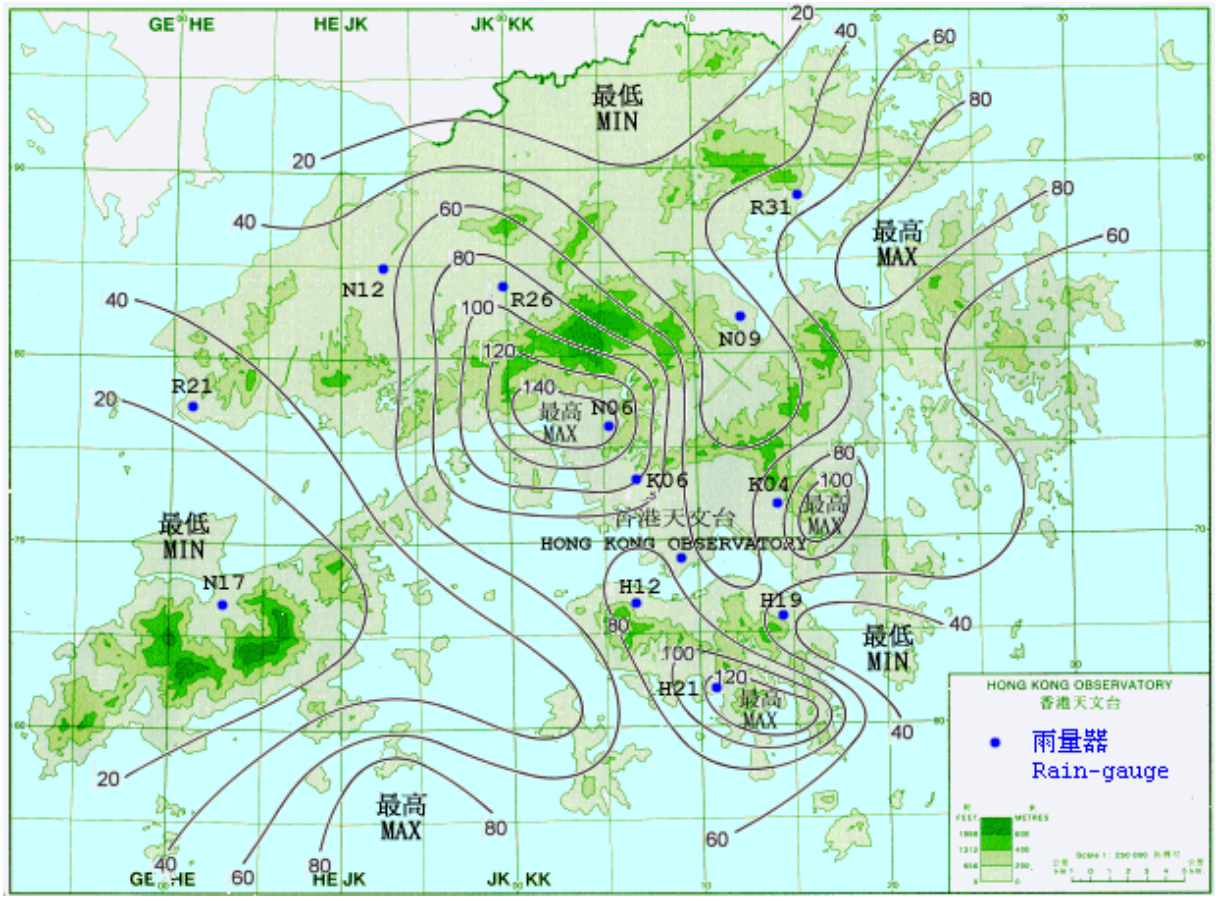


圖 3.1.2　　二零零一年六月二十二日至二十四日的雨量分佈(等雨量線單位爲毫米)。
Figure 3.1.2　Rainfall distribution on 22-24 June 2001 (isohyets are in millimetres).

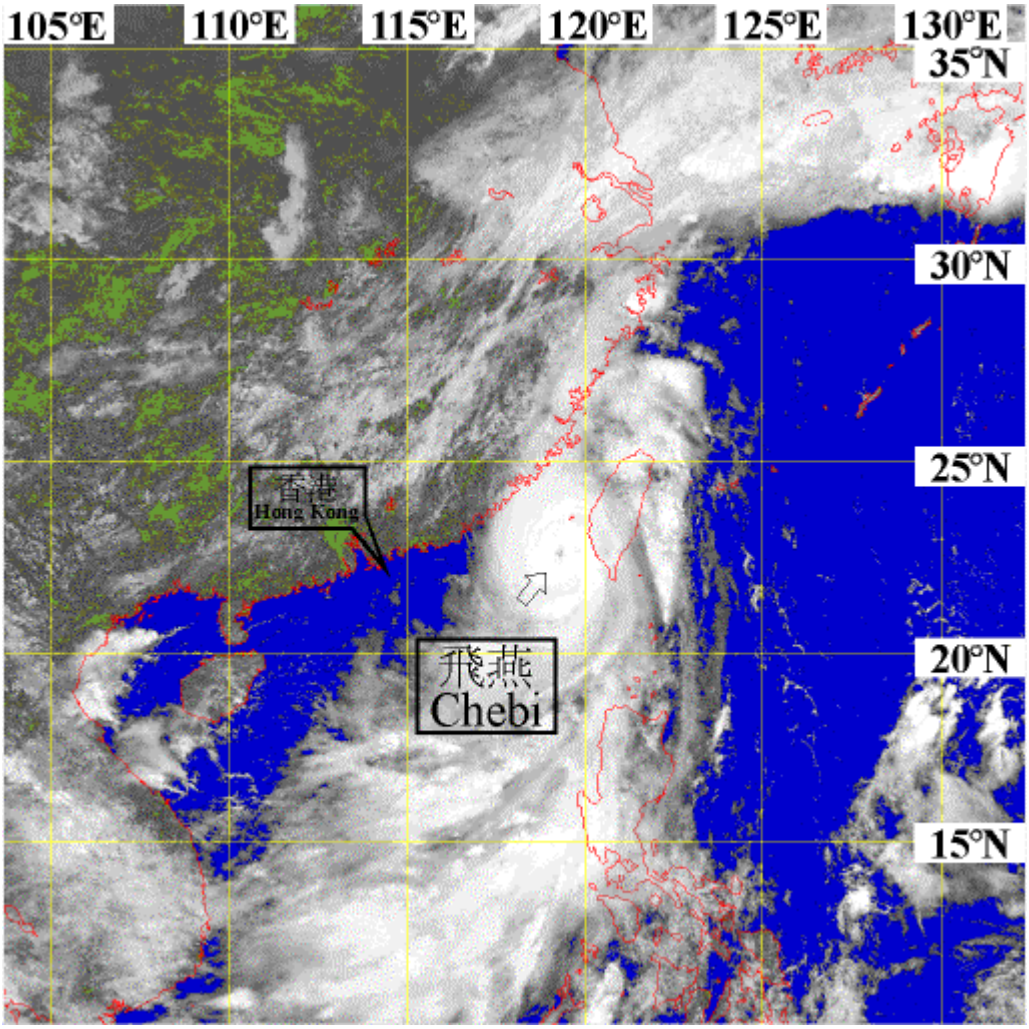


圖 3.1.3　二零零一年六月二十三日約上午10時30分的可見光衛星圖片，顯示當時飛燕的風眼。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.1.3　Visible imagery at around 10.30 a.m. on 23 June 2001 showing the eye of Chebi. (The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency)

3.2 颱風榴槤（0103）：六月三十日至七月三日

榴槤是二零零一年首個需要懸掛三號強風信號的熱帶氣旋。它在短短四日內，由一低壓區增強爲一颱風，然後消散於陸上。

榴槤在六月三十日早上於南海北部形成爲一熱帶低氣壓，當時它位於香港南面約650公里。榴槤在該日下午迅速增強爲一熱帶風暴，以每小時15公里的速度向西北移動，於次日清早向雷州半島推進時進一步增強爲一強烈熱帶風暴。

榴槤在七月一日黃昏時份達到颱風強度。從衛星雲圖上可看到其細小而清晰的風眼。雷達回波圖顯示出風眼的直徑約爲20公里。在七月二日的清晨，榴槤登陸前的四小時左右，其風力達至最強，中心附近的最高風速約爲每小時130公里，而最低中心氣壓則接近965百帕斯卡。

榴槤在七月二日上午6時左右於廣東省湛江市附近登陸。下午它減弱爲一強烈熱帶風暴，並進入廣西南部，向著內陸推進。榴槤繼續減弱並在七月三日進入越南時消散。

在榴槤的吹襲下，廣東、廣西及海南三省超過430萬人受影響，最少有13 000間房屋倒塌，直接經濟損失估計爲三億元人民幣以上。在湛江約有18萬畝農田受到破壞，食水和電力供應及通訊系統亦一度中斷。21人在廣東海域失蹤。海南島有30班航機取消，逾2 000名乘客被迫滯留。廣西最少有一人死亡及一人失蹤。榴槤亦在越南北部引致最少32人死亡，三人失蹤，萬多間房屋被水淹浸。

在香港，一號戒備信號在六月三十日上午7時40分懸掛，當時榴槤剛形成爲一熱帶低氣壓並位於香港南面約650公里。受到榴槤的影響，本港當天多雲，有驟雨及雷暴。

由於榴槤增強爲一熱帶風暴並趨近香港，三號強風信號在六月三十日晚上10時20分懸掛。本地亦轉吹強勁偏東風，離岸及高地間中吹烈風。七月一日，榴槤的外圍雨帶爲本港帶來狂風大驟雨。

另外，下午12時50分左右有市民報告在石澳和東龍洲之間的藍塘海峽出現水龍捲，該水龍捲向西移動，約五分鐘後在石澳後灘登岸及消散。水龍捲是在水面上出現的強烈柱狀渦旋，一般呈漏斗形並且由積雨雲底向下延伸至水面。水龍捲通常在有強對流活動或不穩定的大氣中形成。

榴槤約在下午2時左右最接近本港，當時它位於香港西南面約340公里。香港天文台於下午3時30分錄得最低瞬時海平面氣壓1000.7百帕斯卡。隨著榴槤的登陸並開始減弱，本地風力也轉弱，所有熱帶氣旋警告信號在七月二日上午9時20分除下。

在榴槤襲港期間，將軍澳一名婦人被一塊凌空吹起的木板擊中頭部受傷，港九有多宗棚架鬆脫及大樹倒塌報告，觀塘一電燈柱亦被吹倒。

表3.2.1 - 3.2.3分別是榴槤影響香港時各站錄得的最高風速、日雨量及最高潮汐資料。圖3.2.1 - 3.2.5分別是榴槤的路徑圖、香港雨量分佈圖、衛星雲圖、雷達回波圖及水龍捲的照片。

3.2 Typhoon Durian (0103) : 30 June - 3 July 2001

Durian was the first tropical cyclone necessitating the hoisting of the Strong Wind Signal No. 3 in 2001. It intensified from an area of low pressure to a typhoon, and then dissipated over land, in a matter of 4 days.

Durian formed as a tropical depression over the northern part of the South China Sea on the morning of 30 June. It was about 650 km south of Hong Kong at the time. Durian intensified rapidly into a tropical storm that afternoon. Moving northwestwards at a speed of about 15 km/h, Durian strengthened further into a severe tropical storm the next day while heading towards Leizhou Peninsula.

Durian attained typhoon strength in the evening of 1 July. Satellite imagery at that time showed a small but well-defined eye. Radar image indicated that the eye's diameter was about 20 km. Peak intensity was reached early next morning shortly before Durian made landfall. The maximum sustained winds and minimum sea-level pressure near its centre were estimated at 130 km/h and 965 hPa respectively.

Durian landed in the vicinity of Zhanjiang in Guangdong at around 6 a.m. on 2 July. It weakened into a severe tropical storm that afternoon on entering southern Guangxi. Durian moved further inland and continued to weaken. It finally dissipated when entering Vietnam on 3 July.

In Guangdong, Guangxi and Hainan provinces, more than 4.3 million people were affected by Durian, over 13 000 houses collapsed. Direct economic loss was estimated to be at least 300 million RMB. In Zhanjiang, Durian damaged some 180 000 hectares of farmland. Power and water supplies as well as part of the telecommunications network there were temporarily cut off. 21 persons went missing in the seas off Guangdong. 30 flights were cancelled in Hainan, stranding 2 000 passengers. In Guangxi, at least one person was killed and another was missing. In northern Vietnam, at least 32 persons were killed and three others went missing. More than ten thousand houses were flooded.

In Hong Kong, the Standby Signal No. 1 was hoisted at 7.40 a.m. on 30 June. At that time, Durian had just intensified into a tropical depression and was about 650 km south of Hong Kong. Under the influence of Durian, the weather was mainly cloudy with showers and thunderstorms in Hong Kong that day.

As Durian intensified into a tropical storm and moved closer to Hong Kong, the Strong Wind Signal No. 3 was hoisted at 10.20 p.m. on 30 June. Local winds became strong easterlies and occasionally reached gale force offshore and on high ground. The outer rainbands of Durian brought heavy squally showers to Hong Kong on 1 July.

Also, a waterspout was observed over the Tathong Channel between Shek O and Tung Lung Chau at around 12.50 p.m.. The waterspout moved westwards and landed over Rocky Bay in Shek O five minutes later where it dissipated. Waterspouts are intense vortex columns occurring over water. They are generally funnel-shaped and extend from the base of Cumulonimbus downwards to the surface of water. Waterspouts usually form in areas of strong convection or instability in the atmosphere.

Durian was closest to Hong Kong at around 2 p.m. when it was about 340 km to the southwest. The lowest instantaneous mean sea-level pressure of 1000.7 hPa was recorded at the Hong Kong Observatory at 3.30 p.m. on 1 July.

As Durian made landfall and started to weaken, local winds moderated. All tropical cyclone warning signals were lowered at 9.20 a.m. on 2 July.

In Hong Kong, a wooden board lifted by the wind injured a woman at Tseung Kwan O. There were several reports of fallen trees and collapsed scaffoldings.

Information on wind, rainfall and tide during the passage of Durian is given in Tables 3.2.1 - 3.2.3 respectively. Figures 3.2.1 - 3.2.5 show respectively the track of Durian, rainfall distribution in Hong Kong, cloud imagery, radar echoes and the photograph of the waterspout.

表 3.2.1　在榴槤影響下，本港各站在熱帶氣旋警告信號懸掛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 during the hoisting of the tropical cyclone warning signals for Durian..

站 (參閱圖 1.1)	Station (see Fig. 1.1)	最高陣風 Maximum Gust		日期/月份 Date/Month	時間 Time	最高每小時平均風速 Maximum Hourly Wind		日期/月份 Date/Month	時間 Time
		風向 Direction	風速(公里/時) Speed (km/h)			風向 Direction	風速(公里/時) Speed (km/h)		
中環	Central	東 E	72	1/7	10:06	東 E	36	1/7	11:00
中環廣場	Central Plaza	東 E	103	1/7	05:30	東 E	59	1/7	06:00
赤鱲角 (機場)	Chek Lap Kok (Airport)	東南偏東 ESE	83	1/7	08:00	東 E	42	1/7	08:00
長洲	Cheung Chau	東南偏東 ESE	112	1/7	15:49	東南偏東 ESE	67	1/7	15:00
						東南 SE	67	2/7	03:00
長沙灣	Cheung Sha Wan	東北 NE	62	1/7	03:56	東北偏東 ENE	23	1/7	05:00
青洲	Green Island	東南偏東 ESE	99	1/7	23:39	東南偏東 ESE	45	1/7	15:00
京士柏	King's Park	東 E	67	1/7	09:30	東南偏東 ESE	31	2/7	01:00
		東南偏東 ESE	67	1/7	23:50				
流浮山	Lau Fau Shan	東 E	67	1/7	04:36	東 E	30	1/7	03:00
						東 E	30	1/7	05:00
						東 E	30	1/7	06:00
北角	North Point	東北偏東 ENE	87	1/7	03:53	東北偏東 ENE	38	1/7	05:00
平洲	Ping Chau	東南 SE	62	1/7	17:17	東 E	19	1/7	15:00
西貢	Sai Kung	東南偏南 SSE	79	1/7	19:50	東南 SE	40	2/7	05:00
沙田	Sha Tin	東南 SE	65	2/7	03:04	東北偏東 ENE	22	1/7	10:00
						東南偏南 SSE	22	2/7	04:00
						東南 SE	22	2/7	06:00
天星碼頭 (九龍)	Star Ferry (Kowloon)	東 E	72	2/7	02:22	東南偏東 ESE	41	1/7	20:00
						東 E	41	1/7	21:00
打鼓嶺	Ta Kwu Ling	東北偏北 NNE	67	1/7	06:24	東北偏北 NNE	25	1/7	10:00
						東北偏北 NNE	25	1/7	11:00
大尾篤	Tai Mei Tuk	東 E	94	1/7	10:20	東北偏東 ENE	58	1/7	10:00
大帽山	Tai Mo Shan	東南偏東 ESE	118	1/7	06:00	東南 SE	83	1/7	07:00
塔門	Tap Mun	東南偏東 ESE	77	1/7	14:11	東南偏東 ESE	41	2/7	03:00
大老山	Tate's Cairn	東 E	103	1/7	09:03	東 E	67	1/7	10:00
		東南偏東 ESE	103	1/7	10:05				
鯽魚湖	Tsak Yue Wu	東北偏東 ENE	54	1/7	13:45	東北偏東 ENE	16	1/7	04:00
將軍澳	Tseung Kwan O	東南偏東 ESE	63	1/7	21:11	東南偏東 ESE	22	2/7	01:00
青衣	Tsing Yi	東南偏東 ESE	103	1/7	14:12	東南 SE	54	1/7	23:00
屯門	Tuen Mun	東南 SE	79	1/7	23:22	東南 SE	27	2/7	04:00
橫瀾島	Waglan Island	東南偏東 ESE	90	1/7	09:01	東南偏東 ESE	58	1/7	21:00
黃竹坑	Wong Chuk Hang	東 E	92	1/7	09:44	東南偏東 ESE	31	1/7	11:00

表 3.2.2　榴槤影響香港期間，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 3.2.2 Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Durian.

站 (參閱圖 3.2.2) Station (see Fig. 3.2.2)	六月三十 30 June	七月一日 1 July	七月二日 2 July	七月三日 3 July	總雨量 Total
香港天文台 Hong Kong Observatory	30.3	57.8	11.8	6.9	106.8
H12　半山區　Mid Levels	[22.5]	104.5	6.0	9.0	[142.0]
H19　筲箕灣　Shau Kei Wan	[18.0]	47.5	13.5	7.0	[86.0]
H21　淺水灣　Repulse Bay	[19.5]	87.0	3.5	13.5	[123.5]
K04　佐敦谷　Jordan Valley	[47.5]	89.0	38.5	15.5	[190.5]
K06　蘇屋邨　So Uk Estate	[25.5]	82.5	21.5	20.0	[149.5]
N06　葵涌　Kwai Chung	[33.0]	103.5	26.5	24.5	[187.5]
N09　沙田　Sha Tin	[25.5]	79.5	54.0	8.0	[167.0]
N12　元朗　Yuen Long	[18.0]	53.5	5.5	14.0	[91.0]
N17　東涌　Tung Chung	[15.0]	59.0	14.5	1.5	[90.0]
R21　踏石角　Tap Shek Kok	10.0	[60.5]	12.5	2.0	[85.0]
R26　石崗　Shek Kong	26.0	[84.0]	27.0	30.5	[167.5]
R31　大尾篤　Tai Mei Tuk	4.5	[29.0]	15.0	4.0	[52.5]

註 :　[　] 基於不完整的每小時雨量數據。

Note : [　] based on incomplete hourly data.

表 3.2.3　榴槤影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.2.3 Times and heights of the maximum sea level and the maximum storm surge recorded at various tide stations in Hong Kong during the passage of Durian.

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	2.25	1/7	06:33	0.40	1/7	04:58
石壁　Shek Pik	2.34	1/7	06:08	0.47	1/7	13:09
大埔滘　Tai Po Kau	2.22	1/7	07:21	0.56	1/7	15:46
尖鼻咀　Tsim Bei Tsui	2.51	2/7	07:04	0.34	1/7	17:12
橫瀾島　Waglan Island	2.32	1/7	06:56	0.50	1/7	10:05

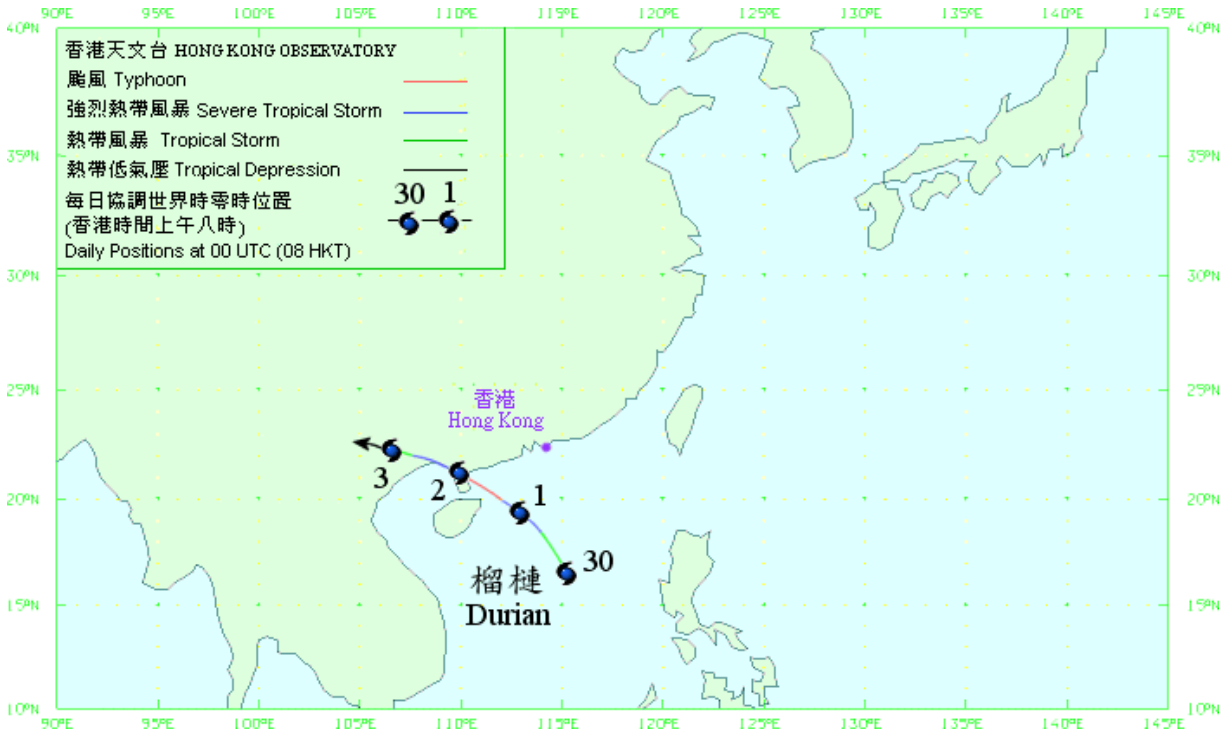


圖 3.2.1　　二零零一年六月三十日至七月三日颱風榴槤（0103）的路徑圖。
Figure 3.2.1　Track of Typhoon Durian (0103) : 30 June – 3 July 2001.

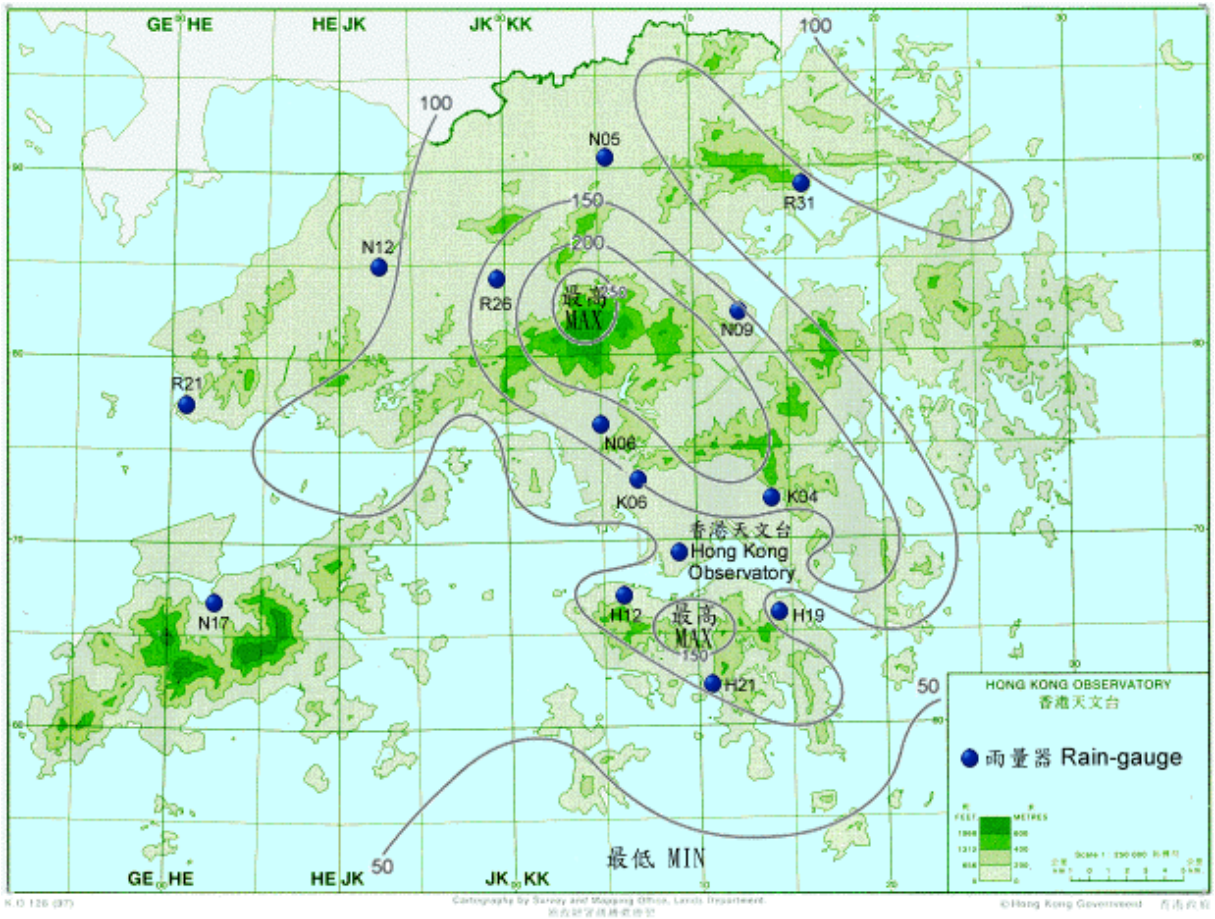


圖 3.2.2　　二零零一年六月三十日至七月三日的雨量分佈(等雨量線單位爲毫米)。
Figure 3.2.2　Rainfall distribution on 30 June - 3 July 2001 (isohyets are in millimetres).

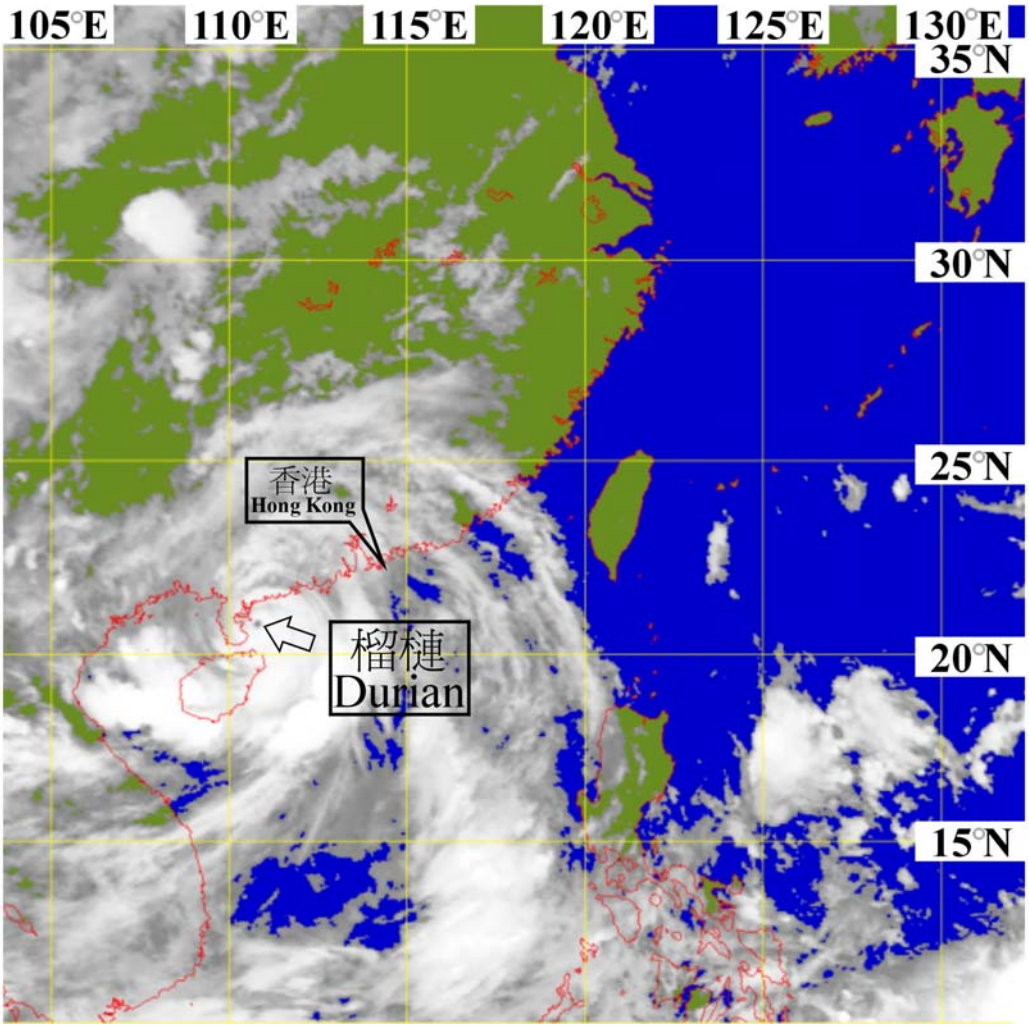


圖 3.2.3　二零零一年七月二日約上午1時30分的紅外線衛星圖片，顯示當時榴槤細小但清晰的風眼。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.2.3　Infra-red imagery at around 1.30 a.m. on 2 July 2001 showing the small but well-defined eye of Durian. (The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency).

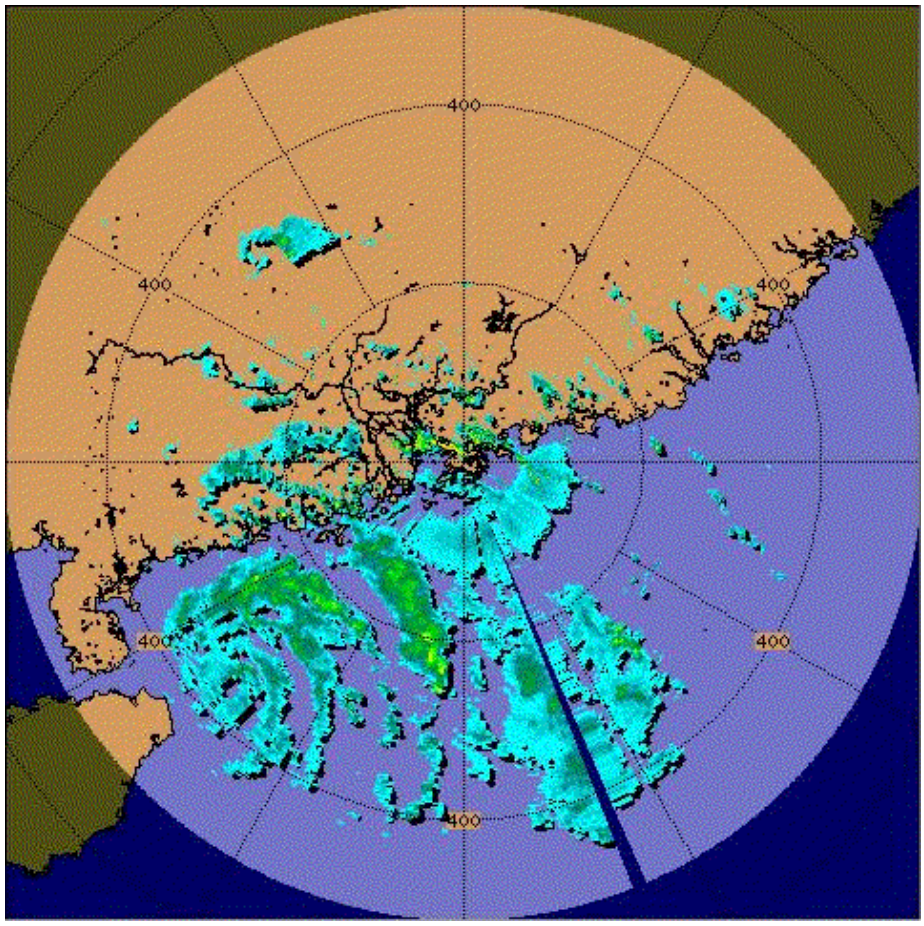


圖 3.2.4　二零零一年七月一日約下午8時的雷達回波圖像，當時榴槤的風眼直徑約爲20公里。
Figure 3.2.4　Radar echoes captured at around 8 p.m. on 1 July 2001. At that time, the eye diameter of Durian was about 20 km.

圖 3.2.5　二零零一年七月一日約下午1時在石澳附近的水龍捲（鳴謝 — 照片由黃永恒先生提供）。
Figure 3.2.5　Waterspout near Shek O around 1 p.m. on 1 July 2001 (by courtesy of Mr. Irwin Wong).

3.3 颱風尤特（0104）：七月一日至八日

尤特是二零零一年首個需要懸掛八號烈風或暴風信號的熱帶氣旋。它是一個環流廣闊的颱風，在多個地方造成嚴重災害。尤特在登陸廣東後40多小時才消散，是近30年罕見的。

七月一日，尤特在西北太平洋發展成一熱帶低氣壓，當時它位於雅蒲島以南約340公里。尤特向北推進，於次日增強爲一熱帶風暴。尤特隨後轉向西北移動，並加速至每小時38公里。尤特在七月三日下午增強成一颱風，並於該晚達到最大強度，當時其中心附近的最高風速估計爲每小時130公里，而最低中心氣壓則約965百帕斯卡。在衛星圖像上可見到尤特較大和不規則的風眼。

尤特的環流廣闊，其半徑達1 000公里。七月四日橫過呂宋海峽時，它的外圍雨帶在台灣及菲律賓造成嚴重破壞。在菲律賓，尤特導致至少112人喪生，58人失蹤。馬尼拉有超過8 390間房屋損毀，北部地區的航機及渡輪服務一度暫停。尤特的外圍雨帶亦爲台灣帶來暴雨和強風，造成兩死六傷，農牧業方面損失估計約爲6 800萬元新台幣。

尤特在七月五日清晨進入南海，它的移動速度在靠近廣東沿岸時減慢至每小時20公里。七月六日上午8時左右，尤特在汕尾附近登陸，並減弱爲一強烈熱帶風暴。尤特登陸後轉向西移動，橫過廣東省。它在七月七日逐漸減弱爲一熱帶低氣壓。翌日早上它進入廣西省後消散。

尤特在登陸後40多小時才消散，打破了1979年颱風荷貝所創30多小時的最長時間紀錄。

尤特在廣東造成23人死亡，超過4 000間房屋受到破壞，758畝農田遭浸壞，500畝魚塘受損，直接經濟損失估計約爲24億元人民幣。在鄰近的廣西，暴雨令南寧出現了嚴重的水浸，邕江的水位上漲至警戒線以上5.4米，是50年來的最高水位。另外，當地機場亦被逼暫時關閉，鐵路、道路、供水及供電設施亦受影響。

在香港，一號戒備信號在七月四日下午5時45分懸掛，當時尤特位於香港東南偏東約790公里。隨著尤特逐漸逼近，本地開始轉吹偏北風，風力亦不斷增強。三號強風信號在七月五日上午10時45分懸掛，當日下午天氣開始轉壞，並有雷雨。

當日尤特繼續趨近香港，本地風力亦進一步增強，天文台在七月五日下午7時30分懸掛八號東北烈風或暴風信號，再在該晚11時40分改掛八號西北烈風或暴風信號，本地亦轉吹強勁至烈風程度的西北風。

尤特在汕尾附近登陸後減弱爲一強烈熱帶風暴。本地轉吹西南風，天文台在七月六日上午9時40分改掛八號西南烈風或暴風信號。尤特在該日上午10時左右最接近本港，當時它位於香港北面約80公里。在尤特的影響下，香港一些站錄得如下的最低瞬時海平面氣壓：

站	最低瞬時海平面氣壓(百帕斯卡)	時間	日期/月份
香港天文台總部	980.6	上午5時21分	6/7
橫瀾島	978.6	上午5時16分	6/7
打鼓嶺	980.0	上午6時39分	6/7
流浮山	980.3	上午8時14分	6/7

尤特遠離本港並且減弱，其中心附近的烈風帶亦相應地移離香港。本地風力逐漸減弱，天文台在七月六日下午1時40分改掛三號強風信號。因雨勢開始變大，天文台在下午12時30分發出了黃色暴雨警告，在下午6時發出山泥傾瀉警告。

七月六日晚上，當尤特已進入廣東內陸及距離香港約200公里時，其外圍的強烈雨帶影響香港，特別是本港西部地區，與暴雨相關連的狂風令香港普遍吹強風，離岸及高地吹烈風。

七月七日，尤特繼續減弱爲一熱帶低氣壓並進一步遠離香港，本地風力亦逐漸減弱。所有熱帶氣旋警告信號在上午11時20分除下。

在尤特影響香港期間，香港多處地區亦因強風和烈風關係發生棚架倒塌及大樹被吹倒，引致一人受傷。一艘油躉在屯門對開海面被大浪打沉，幸而船員獲救。貨櫃碼頭在七月六日下午被逼關閉，令葵涌附近地區交通出現擠塞。很多渡輪及巴士服務一度暫停，部份航班因惡劣天氣亦受到影響。

尤特爲本港大部份地區帶來約150毫米雨量，大嶼山的雨勢最大，共錄得超過300毫米雨量。大雨引起的水浸報告有25宗。

尤特所帶來的大風及低氣壓，令本港在七月六日受風暴潮(即海平面比正常天文潮汐水位爲高)影響，風暴潮𡆥加在該日早上的正常漲潮，令尖鼻咀在該早9至10時錄得3.6米的海平面高度，鯓魚涌則爲3.4米。後者是自1962年颱風溫黛襲港以來維港錄得的最高海平面高度。根據天文台紀錄，自1947年以來，鯓魚涌共有13次錄得超過3米的海平面高度。

風暴潮引致七月六日在大澳及新界西北地區嚴重水浸，部份村民經濟損失慘重。大澳有些主要街道變爲河道，水深一度達三米。部份棚屋最低一層完全被淹浸，共有四人被困，需由消防員救出。

流浮山的海鮮批發市場亦被海水淹浸，很多商舖被逼關閉。一艘木船被海潮沖上岸。后海灣沿岸一些村落水深及腰，超過30名村民被困，需由消防員救離。部份村民表示這次水浸是近40至50年來最嚴重的。

上環一帶亦出現海水倒灌，海水由水渠口湧出，倒流返地面，引致部份街道水浸。據報永樂街水深超過半米。海水亦沖上堅尼地城海旁，一名司機被困車內，需消防員救出。

表3.3.1 - 3.3.3分別是尤特影響香港時各站錄得的最高風速、日雨量及最高潮汐資料。圖3.3.1 - 3.3.2是尤特的路徑圖和七月五日上午8時的天氣圖。圖3.3.3 - 3.3.5是香港雨量分佈圖、衛星雲圖和雷達回波圖。圖3.3.6則是大澳的嚴重水浸情況。

3.3 Typhoon Utor (0104) : 1 - 8 July 2001

Utor necessitated the hoisting of the first No.8 Gale or Storm Signal in Hong Kong in 2001. It was a very large typhoon which wreaked havoc in many places. Utor was unusual in that it did not dissipate for more than 40 hours after making landfall in Guangdong, something not seen in the last 30 years.

Utor developed into a tropical depression over the western North Pacific on 1 July. At that time, it was about 340 km south of Yap. Moving northwards, it intensified into a tropical storm the next day. Utor then tracked northwestwards and accelerated to a high speed of about 38 km/h. Utor attained typhoon strength on the afternoon of 3 July. It reached its peak intensity that night when the maximum sustained winds and minimum sea-level pressure near its centre were estimated at 130 km/h and 965 hPa respectively. A large and irregular eye was discernible on satellite imagery.

Utor's circulation was extensive, its radius reaching some 1 000 km. Traversing the Luzon Strait on 4 July, Utor's outer rainbands inflicted severe damage on the Philippines and Taiwan. In the Philippines, Utor caused at least 112 deaths. 58 others were reported missing. Over 8 390 houses were damaged in Manila, and air and ferry transport services in the northern Philippines were temporarily suspended. In Taiwan, Utor's outer rainbands brought torrential rain and strong winds, causing two deaths and six injuries. Agricultural losses were estimated to be about NT$68 million.

After entering the South China Sea on the early morning of 5 July, Utor slowed down to 20 km/h as it approached the coast of Guangdong. It made landfall near Shanwei at around 8 a.m. on 6 July and weakened into a severe tropical storm. Utor then tracked generally westwards across Guangdong. Utor weakened gradually into a tropical depression on 7 July and dissipated the next morning while entering Guangxi.

That Utor did not dissipate for over 40 hours after landfall is a new record, exceeding that of 30 hours set by Typhoon Hope in 1979.

Utor caused 23 deaths in Guangdong where over 4 000 houses were destroyed, 758 hectares of farmland inundated, 500 hectares of fishponds lost. Direct economic losses were estimated at about 2.4 billion RMB. In neighbouring Guangxi, torrential rain brought severe flooding to Nanning where the Yongjiang river rose to 5.4 m above the danger level, the highest in 50 years. The airport there had to be closed temporarily. Rail and road transport as well as water and power supply were all disrupted.

In Hong Kong, the Standby Signal No. 1 was hoisted at 5.45 p.m. on 4 July when Utor was about 790 km east-southeast of Hong Kong. As Utor moved closer to Hong Kong, local winds began to strengthen from the north. The Strong Wind Signal No. 3 was hoisted at 10.45 a.m. on 5 July. Weather started to deteriorate and there were thundery showers in the afternoon.

Utor continued to edge closer to Hong Kong during the day and local winds strengthened further. The No. 8 NORTHEAST Gale or Storm Signal was hoisted at 7.30 p.m. This was followed by the hoisting of the No. 8 NORTHWEST Gale or Storm Signal at 11.40 p.m. on 5 July as strong to gale force northwesterlies began to affect the territory.

Utor weakened into a severe tropical storm shortly after making landfall near Shanwei. As local winds changed to southwesterlies, the No. 8 NORTHWEST Gale or Storm Signal was replaced by the No. 8 SOUTHWEST Gale or Storm Signal at 9.40 a.m. on 6 July. Utor was closest to Hong Kong at around 10 a.m. when it was about 80 km to the north. The lowest instantaneous mean sea-level pressures recorded at some selected stations during the passage of Utor were as follows:

Station	Lowest instantaneous mean sea-level pressure (hPa)	Time	Date/Month
Hong Kong Observatory Headquarters	980.6	5.21 a.m.	6/7
Waglan Island	978.6	5.16 a.m.	6/7
Ta Kwu Ling	980.0	6.39 a.m.	6/7
Lau Fau Shan	980.3	8.14 a.m.	6/7

Utor moved away from Hong Kong and weakened, bringing along with it the gale force wind belt near its centre. Winds over Hong Kong moderated progressively and the No. 8 SOUTHWEST Gale or Storm Signal was replaced by the Strong Wind Signal No. 3 at 1.40 p.m. on 6 July. Rain began to become heavy and the Amber Rainstorm Warning was issued at 12.30 p.m. and the Landslip Warning issued at 6 p.m.

Utor was well over inland Guangdong and about 200 km away from Hong Kong during the night of 6 July when the squalls associated with Utor's intense outer rainbands affected Hong Kong, particularly the western part of the territory, bringing strong winds to the territory and gales to offshore areas and high grounds.

On 7 July, Utor weakened into a tropical depression and moved further away from Hong Kong. Local winds subsided and all tropical cyclone warning signals were lowered at 11.20 a.m.

During the passage of Utor, gales and strong winds associated with Utor toppled trees and blown down scaffolding in many places in Hong Kong, with one person injured. A barge sunk in high seas off Tuen Mun but the crew was rescued. The container terminal was closed on the afternoon of 6 July and this caused traffic jams near the Kwai Chung areas. Many ferry and bus services were once suspended and some flights were disrupted due to inclement weather.

Utor brought some 150 mm of rainfall to most parts of Hong Kong. The heaviest rain fell at Lantau Island where more than 300 mm of rain were recorded. Due to heavy rain, about 25 cases of flooding were reported.

The high winds and low pressure of Utor also brought storm surge (i.e. abnormal sea level rise above normal astronomical tides) to Hong Kong on 6 July. Coupled with the astronomical high tide, sea levels reached 3.6 metres at Tsim Bei Tsui and 3.4 metres at Quarry Bay at around 9 to 10 a.m. that morning. The reading at Quarry Bay was the highest recorded in Victoria Harbour since Typhoon Wanda in 1962. According to records of the Observatory, since 1947 there was a total of 13 occasions on which the sea level at Quarry Bay was higher than 3 metres.

Storm surges caused severe flooding in Tai O and numerous places in the northwestern New Territories on 6 July. Some villagers sustained serious economic loss. In Tai O, water was at one time as high as 3 metres, turning main streets into rivers. The ground floors of many houses were completely submerged. Four residents were trapped and had to be rescued by firemen.

In Lau Fau Shan, the seafood wholesale market was inundated and many other shops were forced to close. A wooden craft was washed ashore by the rising seas. In a number of villages along Deep Bay, the flood was waist-deep. More than 30 villagers had to be brought to safety by firemen. Some villagers said that the flooding was the most severe in the last 40 to 50 years.

In Sheung Wan, sea water was flushed backwards through the drains and surged to ground level, flooding some of the streets there. In Wing Lok Street, sea water over half a metre deep was reported. Kennedy Town Praya was under water. A driver trapped in a car there had to be brought to safety by firemen.

Information on wind, rainfall and tide during the passage of Utor is given in Tables 3.3.1 - 3.3.3. Figures 3.3.1 - 3.3.2 show the track of Utor and the weather chart at 8 a.m. on 5 July. The rainfall distribution in Hong Kong during the passage of Utor, cloud imageries and radar echoes are given in Figures 3.3.3 - 3.3.5. The severe flooding in Tai O is shown in Figure 3.3.6.

表 3.3.1　在尤特影響下，本港各站在熱帶氣旋警告信號懸掛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 during the hoisting of the tropical cyclone warning signals for Utor.

站 (參閱圖 1.1)	Station (see Fig. 1.1)	最高陣風 Maximum Gust		日期/月份 Date/Month	時間 Time	最高每小時平均風速 Maximum Hourly Wind		日期/月份 Date/Month	時間 Time
		風向 Direction	風速(公里/時) Speed (km/h)			風向 Direction	風速(公里/時) Speed (km/h)		
中環	Central	東 E	79	7/7	05:19	東南偏東 ESE	34	7/7	07:00
中環廣場	Central Plaza	東南偏南 SSE	131	6/7	20:16	南 S	83	6/7	20:00
赤鱲角 (機場)	Chek Lap Kok (Airport)	南 S	122	7/7	01:00	南 S	75	6/7	24:00
長洲	Cheung Chau	南 S	118	6/7	23:04	南 S	85	6/7	24:00
長沙灣	Cheung Sha Wan	西南偏南 SSW	83	6/7	18:46	西南偏南 SSW	22	6/7	14:00
青洲	Green Island	西南偏西 WSW	128	7/7	00:20	西南偏西 WSW	83	6/7	24:00
京士柏	King's Park	南 S	85	6/7	19:13	東南偏南 SSE	34	6/7	23:00
流浮山	Lau Fau Shan	南 S	115	6/7	22:18	西北偏西 WNW	65	6/7	09:00
北角	North Point	西南偏西 WSW	67	6/7	09:09	西南 SW	36	6/7	10:00
平洲	Ping Chau	南 S	68	6/7	19:33	東南偏南 SSE	23	7/7	02:00
西貢	Sai Kung	南 S	96	7/7	00:56	南 S	51	6/7	20:00
						南 S	51	7/7	01:00
沙田	Sha Tin	西南 SW	77	7/7	01:46	西南偏南 SSW	34	6/7	21:00
天星碼頭 (九龍)	Star Ferry (Kowloon)	東南 SE	81	6/7	22:20	西 W	43	6/7	09:00
打鼓嶺	Ta Kwu Ling	東南偏南 SSE	58	6/7	21:55	南 S	25	7/7	01:00
		東南 SE	58	7/7	07:33				
大尾篤	Tai Mei Tuk	南 S	96	7/7	00:18	西南偏南 SSW	40	6/7	23:00
大帽山	Tai Mo Shan	西南偏南 SSW	124	7/7	00:37	西南偏南 SSW	77	6/7	20:00
塔門	Tap Mun	東南 SE	94	7/7	05:51	西 W	45	6/7	07:00
大老山	Tate's Cairn	南 S	112	6/7	23:10	西北 NW	58	6/7	05:00
鯽魚湖	Tsak Yue Wu	西南 SW	68	6/7	19:38	東北偏北 NNE	23	5/7	11:00
將軍澳	Tseung Kwan O	西南偏南 SSW	83	6/7	20:26	西南偏南 SSW	34	6/7	20:00
青衣	Tsing Yi	東南偏南 SSE	117	6/7	23:15	東南偏南 SSE	72	6/7	24:00
屯門	Tuen Mun	東南偏南 SSE	112	7/7	00:33	東南偏南 SSE	49	6/7	24:00
橫瀾島	Waglan Island	南 S	113	6/7	19:15	南 S	88	6/7	20:00
黃竹坑	Wong Chuk Hang	西北偏西 WNW	85	6/7	05:03	西北偏西 WNW	36	6/7	05:00

表 3.3.2　尤特影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位爲毫米)
Table 3.3.2 Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Utor.

站 (參閱圖 3.3.3) Station (see Fig. 3.3.3)	七月四日 4 Jul	七月五日 5 Jul	七月六日 6 Jul	七月七日 7 Jul	總雨量 Total
香港天文台 Hong Kong Observatory	0.0	15.8	142.1	8.8	166.7
H12 半山區 Mid Levels	0.0	15.5	176.0	[10.5]	[202.0]
H19 筲箕灣 Shau Kei Wan	0.0	10.0	161.5	[16.5]	[188.0]
H21 淺水灣 Repulse Bay	0.0	12.5	130.0	[5.0]	[147.5]
K04 佐敦谷 Jordan Valley	0.0	16.0	150.0	[20.5]	[186.5]
K06 蘇屋邨 So Uk Estate	0.0	20.5	148.0	[16.0]	[184.5]
N06 葵涌 Kwai Chung	0.0	12.5	164.0	[17.5]	[194.0]
N09 沙田 Sha Tin	0.0	18.0	138.5	[20.0]	[176.5]
N12 元朗 Yuen Long	1.0	12.0	145.5	[3.5]	[162.0]
N17 東涌 Tung Chung	0.0	18.0	276.0	[14.0]	[308.0]
R21 踏石角 Tap Shek Kok	[0.0]	[18.0]	132.0	8.0	[158.0]
R26 石崗 Shek Kong	[0.0]	[14.0]	110.0	10.5	[134.5]
R31 大尾篤 Tai Mei Tuk	[0.0]	[9.5]	97.0	30.0	[136.5]

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

表 3.3.3　尤特響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮
Table 3.3.3 Times and heights of the maximum sea level and the maximum storm surge recorded at various tide stations in Hong Kong during the passage of Utor.

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	3.38	6/7	08:58	1.12	6/7	08:58
石壁 Shek Pik	3.28	6/7	09:25	0.91	6/7	09:25
大埔滘 Tai Po Kau	3.47	6/7	08:01	1.35	6/7	08:01
尖鼻咀 Tsim Bei Tsui	3.58	6/7	10:24	1.07	6/7	20:25
橫瀾島 Waglan Island	3.43	6/7	08:32	1.16	6/7	02:15

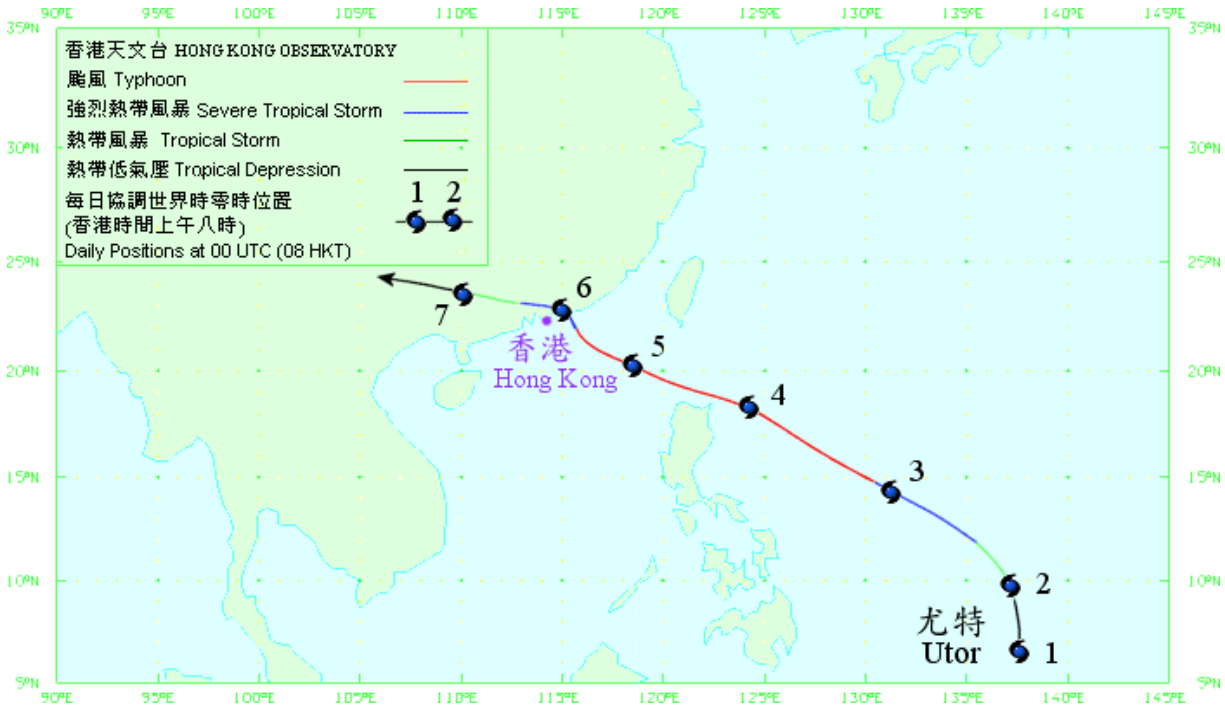


圖 3.3.1.a　　二零零一年七月一日至八日尤特（0104）的路徑圖。
Figure 3.3.1.a　Track of Utor (0104) : 1 - 8 July 2001

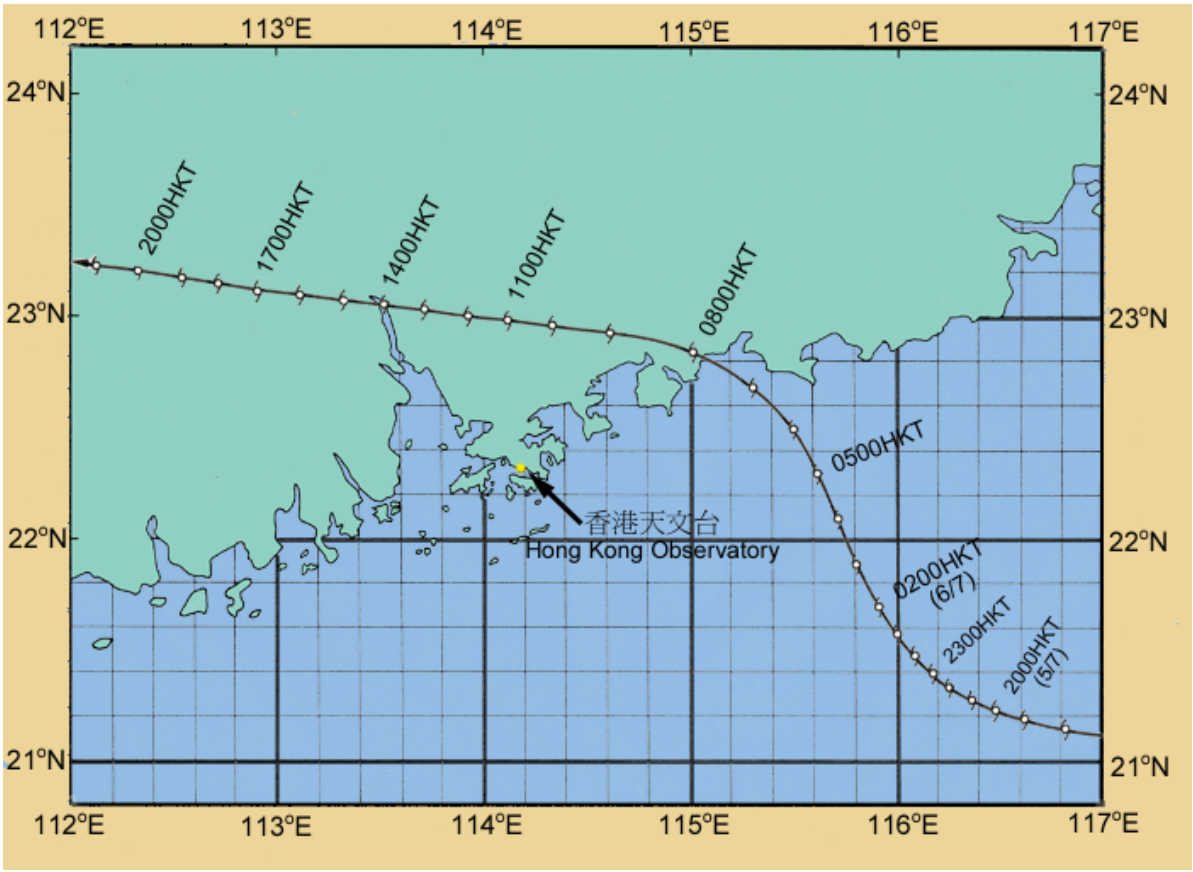


圖 3.3.1.b　　尤特接近香港時的路徑圖。
Figure 3.3.1.b　Track of Utor near Hong Kong.

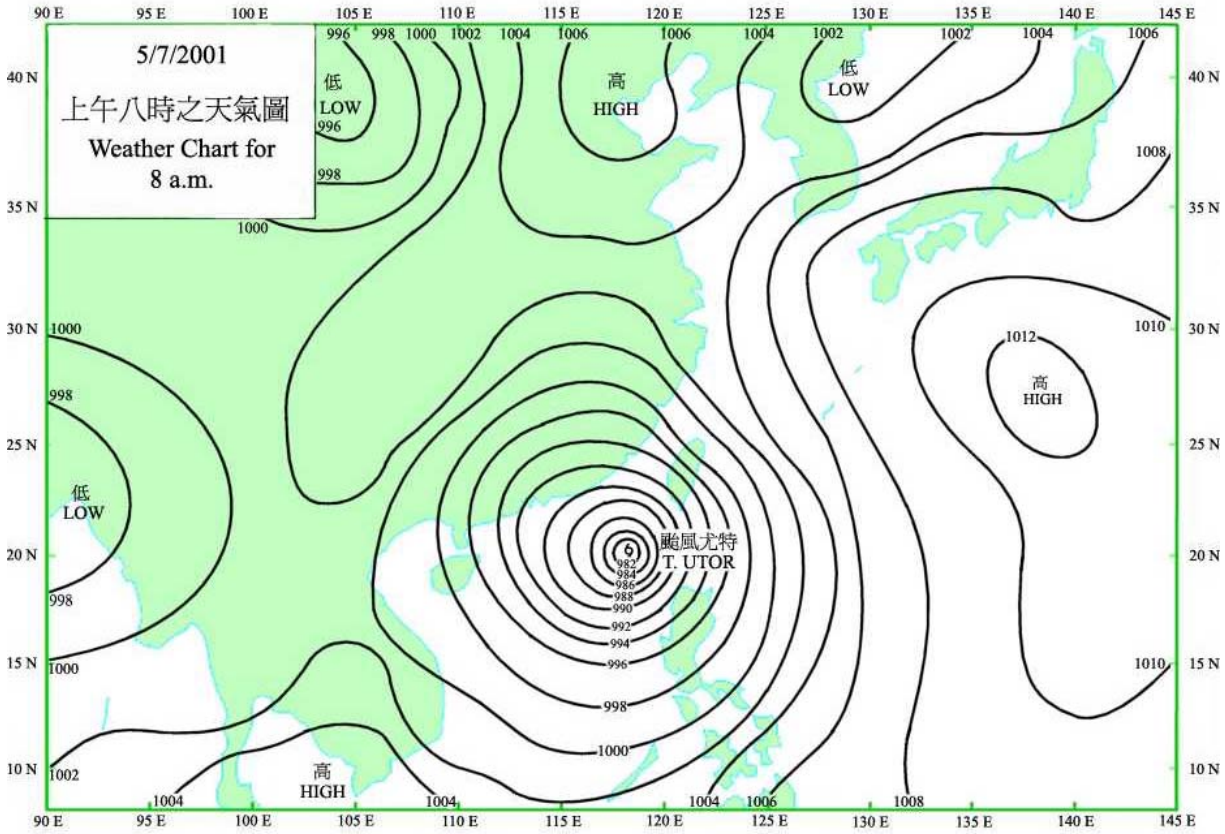


圖 3.3.2　　二零零一年七月五日上午8時的天氣圖，顯示尤特廣闊的環流。

Figure 3.3.2　Weather chart for 8 a.m. on 5 July 2001 showing the large circulation of Utor.

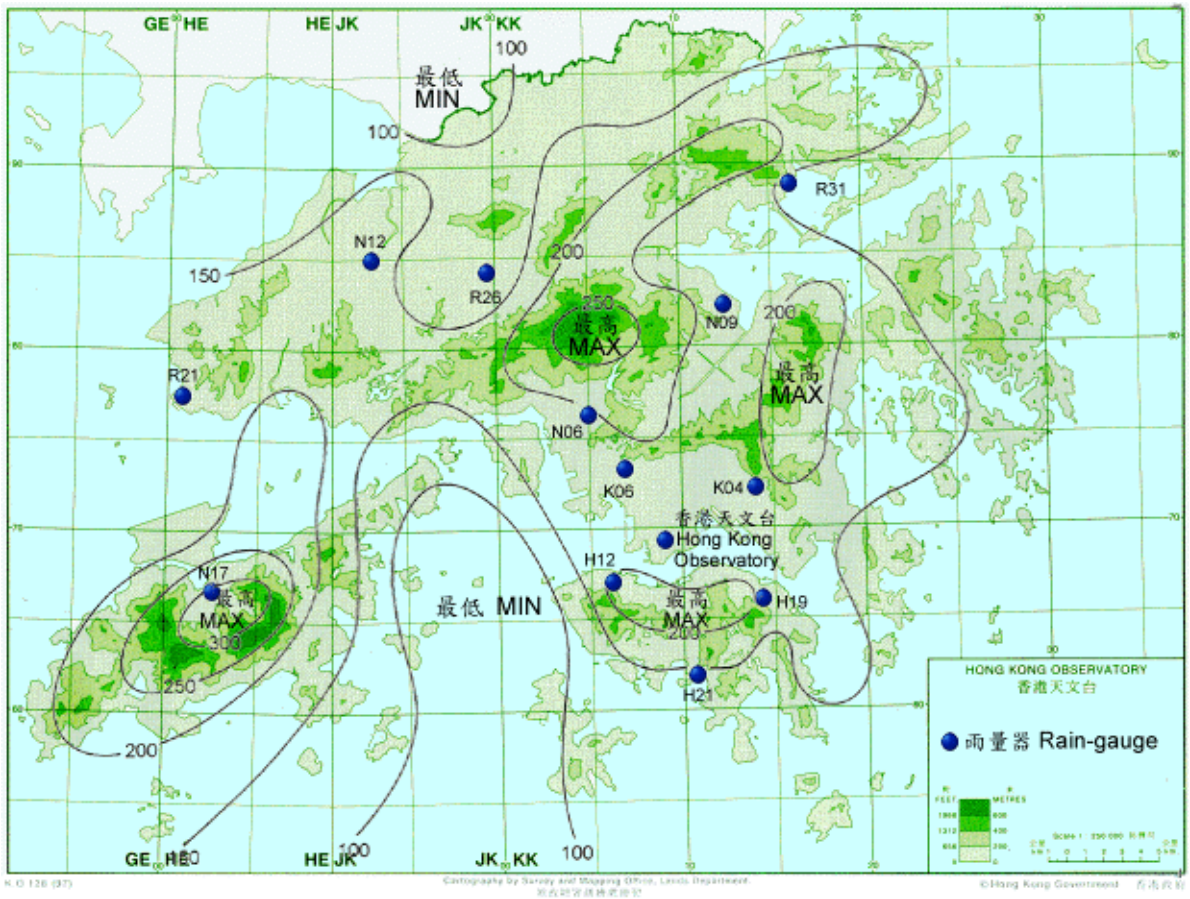


圖 3.3.3　　二零零一年七月四日至七日的雨量分佈(等雨量線單位爲毫米)。

Figure 3.3.3　Rainfall distribution on 4 - 7 July 2001 (isohyets are in millimetres).

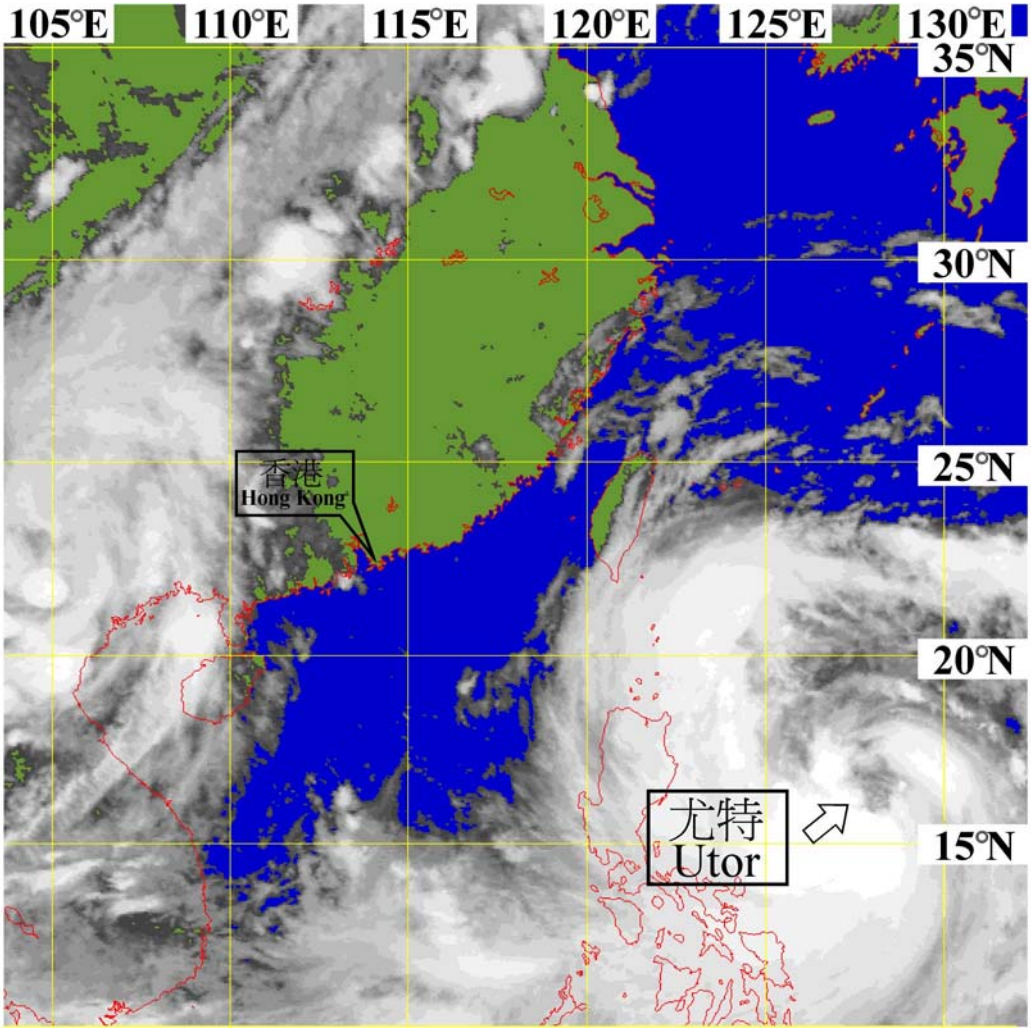


圖 3.3.4　二零零一年七月三日約下午8時的紅外線衛星圖片，顯示當時尤特較大和不規則的風眼。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.3.4　Infra-red imagery at around 8 p.m. on 3 July 2001 showing the large and irregular eye of Utor. (The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency)

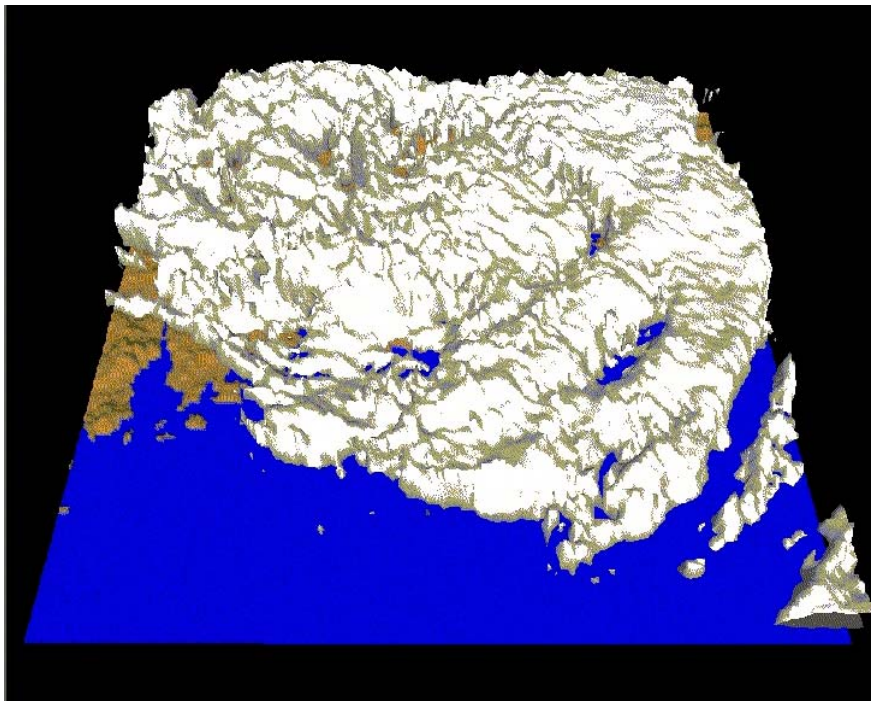


圖 3.3.5.a　二零零一年七月六日上午10時的立體雷達回波圖像，當時尤特離香港最近，位於北面約80公里。

Figure 3.3.5.a 3-D radar echoes captured at 10 a.m. on 6 July 2001. At that time, Utor was closest to Hong Kong, about 80 km to the north.

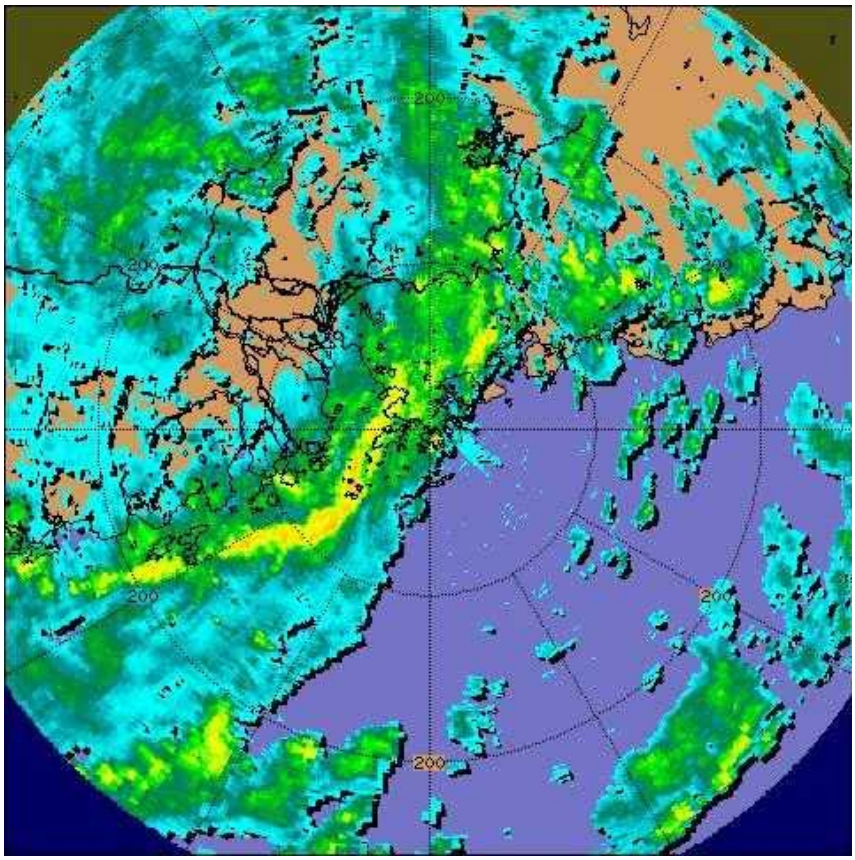


圖 3.3.5.b　二零零一年七月六日下午7時的雷達回波圖像，當時香港正受到尤特外圍的強烈雨帶影響。黃色回波代表每小時30-50毫米的降雨率。

Figure 3.3.5.b Radar echoes captured at 7 p.m. on 6 July 2001. At that time, Hong Kong was affected by the intense outer rainbands of Utor. Echoes coded in yellow represent rainfall rates of 30-50 mm/h.

圖 3.3.6　二零零一年七月六日大澳的嚴重水浸情況 (鳴謝－照片由蘋果日報提供)。
Figure 3.3.6 Severe flooding in Tai O on 6 July 2001 (by courtesy of Apple Daily).

3.4 颱風玉兔（0107）：七月二十三日至二十六日

玉兔是今年七月第二個需要懸掛八號風球的颱風。這是自一九六六年以來首次有兩個八號風球在七月份內懸掛。

七月二十三日，玉兔於馬尼拉東北面約600公里形成爲一個熱帶低氣壓，以每小時25公里的速度，向西北偏西移動，中午時份進入呂宋海峽，並在該晚增強爲一熱帶風暴。

玉兔進入南海後，轉向偏西移動，七月二十四日中午前增強爲強烈熱帶風暴，在接著的數小時內更增強爲颱風。玉兔在午夜時份風力達到最強，中心附近最高風速及最低氣壓分別約爲每小時150公里及960百帕斯卡。玉兔的環流緊密，風眼直徑約爲60公里。

七月二十五日，玉兔轉向西北偏西移動，逼近廣東西部沿岸，七月二十六日凌晨玉兔減弱爲強烈熱帶風暴，並在早上5時左右於湛江附近登陸。

玉兔在七月二十六日下午進一步減弱爲熱帶風暴，並向內陸推進，該晚變爲一個低壓區。受到玉兔的吹襲，廣東省約有4 650間房屋被毀壞，省內的茂名、陽江及湛江等城市，估計損失共爲七億元人民幣。

在香港，一號戒備信號在七月二十三日晚上9時50分懸掛，當時玉兔位於香港東南偏東約720公里。玉兔在七月二十四日繼續逼近香港，其外圍雨帶並在該日下午爲本港帶來大驟雨及雷暴。天文台在下午3時50分改掛三號強風信號。該晚本地風力顯著增強，離岸地區亦轉吹強風。

午夜前數小時，玉兔的中心風力迅速從每小時120公里增強至每小時150公里，其烈風範圍爲160公里左右，天文台在七月二十五日零時30分改掛八號東北烈風或暴風信號。

七月二十五日的清晨，離岸及高地風力迅速增強至烈風程度，其後風向從東北轉爲東南，八號東北烈風或暴風信號在上午10時40分被八號東南烈風或暴風信號所取代。玉兔正午時份最接近本港，當時位於香港西南偏南約180公里。該日，香港南部及高地均受烈風影響。在玉兔的影響下，長洲錄得的最高每小時平均風速爲68公里，最高陣風達每小時115公里。大帽山錄得的最高每小時平均風速爲79公里，最高陣風達每小時112公里。

七月二十五日，與玉兔相聯的狂風大驟雨爲荃灣附近地區帶來超過60毫米雨量，而本港大部份地區則錄得逾20毫米雨量。在玉兔的影響下，香港部份站錄得的最低瞬時海平面氣壓如下：

站	最低瞬時海平面氣壓 (百帕斯卡)	時間	日期/月份
香港天文台總部	1000.9	04:33	25/7
橫瀾島	999.8	04:13	25/7
長洲	1000.7	04:23	25/7
流浮山	1001.5	04:51	25/7

由於玉兔逐漸遠離香港，以及本地的烈風開始減弱，八號東南烈風或暴風信號在七月二十五日下午7時40分被三號強風信號所取代。隨著玉兔減弱爲強烈熱帶風暴並在七月二十六日的清晨於湛江附近登陸，本地風力進一步轉弱，所有熱帶氣旋警告信號在上午6時15分除下。

在玉兔的吹襲下，香港共有10人在各種意外中受傷，另有11宗大樹倒塌的報告，其中下亞厘畢道一棵六米高的大樹被吹倒，交通一度受阻，尖沙咀天文台道亦有兩棵樹被吹倒，壓毀一輛汽車和一間酒店的篷蓬。油塘和葵涌有兩宗棚架倒塌事件。另外，超過160人需要入住各區的臨時疕護中心。八號風球懸掛期間，約有30班航機取消，逾150班機延誤。

表3.4.1 - 3.4.3分別是玉兔影響香港時各站錄得的最高風速、日雨量及最高潮汐資料。圖3.4.1 - 3.4.4是玉兔的路徑圖、香港雨量分佈圖、衛星雲圖和立體雷達回波圖。圖3.4.5是玉兔掠過香港時，香港南部受烈風影響的區域。圖3.4.6-3.4.7則是各處大樹倒塌情況。

3.4 Typhoon Yutu (0107) : 23 - 26 July 2001

Yutu was the second typhoon necessitating the hoisting of the No. 8 signal in Hong Kong this July. It was the first time since 1966 that the No. 8 signal had to be hoisted on two separate occasions in July.

Yutu developed into a tropical depression about 600 km northeast of Manila on 23 July. Tracking west-northwestwards at 25 km/h, it entered the Luzon Strait around noon and intensified into a tropical storm that evening.

After entering the South China Sea, Yutu took on a more westward course and deepened into a severe tropical storm just before noon on 24 July. It attained typhoon strength in the next few hours and reached peak intensity at around midnight. The maximum sustained winds and minimum sea-level pressure near its centre were estimated to be 150 km/h and 960 hPa. Yutu's circulation was compact and the diameter of its eye was about 60 km.

On 25 July, Yutu turned west-northwestwards and approached the coast of western Guangdong. It weakened into a severe tropical storm on the early morning of 26 July and made landfall in the vicinity of Zhanjiang at around 5 a.m.

Yutu weakened further into a tropical storm on the afternoon of 26 July. It moved inland and degenerated into an area of low pressure during the night. In Guangdong, some 4 650 houses were wrecked in the fury of Yutu. The total loss sustained by the cities of Maoming, Yangjiang and Zhanjiang in Guangdong was estimated at about 700 million RMB.

In Hong Kong, the Standby Signal No. 1 was hoisted at 9.50 p.m. on 23 July when Yutu was about 720 km to Hong Kong's east-southeast. Yutu moved closer to Hong Kong on 24 July. The outer rainbands associated with Yutu brought heavy showers and thunderstorms to the territory that afternoon. The Strong Wind Signal No. 3 was hoisted at 3.50 p.m. Local winds strengthened appreciably and became strong offshore that night.

In the few hours before midnight, maximum winds near the center of Yutu increased rapidly from 120 km/h to 150 km/h. Gale force winds extended to about 160 km from the centre of Yutu. The No. 8 NORTHEAST Gale or Storm Signal was hoisted at 0.30 a.m. on 25 July.

Winds strengthened quickly to gale force offshore and on high grounds on the early morning of 25 July. As winds changed from northeasterly to southeasterly, the No. 8 NORTHEAST Gale or Storm Signal was replaced by the No. 8 SOUTHEAST Gale or Storm Signal at 10.40 a.m. Yutu was closest to Hong Kong at around noon when it was about 180 km to the south-southwest. Gale force winds affected

the southern part of the territory and high grounds that day. During the passage of Yutu, a maximum hourly mean wind of 68 km/h and a maximum gust of 115 km/h were recorded at Cheung Chau. At Tai Mo Shan, a maximum hourly wind of 79 km/h and a maximum gust of 112 km/h were recorded.

On 25 July, heavy squally showers associated with Yutu brought more than 60 millimetres of rainfall to areas around Tsuen Wan, and most parts of the territory recorded over 20 millimetres of rainfall. The lowest instantaneous mean sea-level pressures recorded at selected stations during Yutu's passage were as follows:

Station	Lowest instantaneous mean sea-level pressure (hPa)	Time	Date/Month
Hong Kong Observatory Headquarters	1000.9	04:33	25/7
Waglan Island	999.8	04:13	25/7
Cheung Chau	1000.7	04:23	25/7
Lau Fau Shan	1001.5	04:51	25/7

With Yutu moving gradually away from Hong Kong and local winds beginning to fall to below gale force, the No. 8 SOUTHEAST Gale or Storm Signal was replaced by the Strong Wind Signal No. 3 at 7.40 p.m. on 25 July. As Yutu weakened into a severe tropical storm and made landfall near Zhanjiang on the early morning of 26 July, local winds subsided further. All tropical cyclone warning signals were lowered at 6.15 a.m.

In Hong Kong, 10 persons were injured in various incidents during the passage of Yutu. There were 11 reports of disruptions caused by fallen trees. A six-metre tall tree was blown down in Lower Albert Road, briefly blocking traffic. Two trees in Observatory Road, Tsim Sha Tsui, were also blown down, damaging a car and a hotel awning. Two cases of collapsed scaffolding were reported in Yau Tong and Kwai Chung. Over 160 people had to seek refuge at temporary shelters in various districts. Some 30 flights were cancelled and over 150 flights were delayed during the hoisting of the No. 8 signal.

Information on wind, rainfall and tide during the passage of Yutu is given in Tables 3.4.1 - 3.4.3. Figures 3.4.1 - 3.4.4 show the track of Yutu, rainfall distribution in Hong Kong, cloud imagery and 3-D radar echoes. Areas on the south side of Hong Kong affected by gales during the passage of Yutu are given in Figure 3.4.5. Photographs of trees blown down are shown in Figures 3.4.6 - 3.4.7.

表 3.4.1　在玉兔影響下，本港各站在熱帶氣旋警告信號懸掛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 during the hoisting of the tropical cyclone warning signals for Yutu

站 (參閱圖 1.1)	Station (see Fig. 1.1)	最高陣風 Maximum Gust		日期/月份 Date/Month	時間 Time	最高每小時平均風速 Maximum Hourly Wind		日期/月份 Date/Month	時間 Time
		風向 Direction	風速(公里/時) Speed (km/h)			風向 Direction	風速(公里/時) Speed (km/h)		
中環	Central	東 E	76	25/7	10:09	東 E	31	25/7	10:00
中環廣場	Central Plaza	東 E	104	25/7	10:06	東 E	65	25/7	11:00
赤鱲角 (機場)	Chek Lap Kok (Airport)	東 E	77	25/7	11:00	東 E	44	25/7	12:00
長洲	Cheung Chau	東南偏東 ESE	115	25/7	09:39	東南偏東 ESE	68	25/7	17:00
長沙灣	Cheung Sha Wan	東北偏東 ENE	76	25/7	08:35	東北偏東 ENE	30	25/7	08:00
京士柏	King's Park	東 E	85	25/7	10:06	東 E	31	25/7	14:00
流浮山	Lau Fau Shan	北 N	62	24/7	15:31	東 E	30	25/7	09:00
北角	North Point	東北偏東 ENE	88	25/7	04:53	東北偏東 ENE	40	25/7	10:00
西貢	Sai Kung	北 N	81	24/7	17:12	東北 NE	49	25/7	06:00
沙田	Sha Tin	東北偏東 ENE	62	25/7	04:45	東北偏東 ENE	23	25/7	04:00
天星碼頭 (九龍)	Star Ferry (Kowloon)	東 E	75	25/7	10:02	東 E	41	25/7	11:00
		東 E	75	25/7	10:03				
打鼓嶺	Ta Kwu Ling	東北偏北 NNE	58	25/7	10:53	東北偏北 NNE	23	25/7	11:00
大尾篤	Tai Mei Tuk	東 E	88	25/7	10:27	東 E	59	25/7	11:00
大帽山	Tai Mo Shan	東南 SE	112	25/7	11:04	東南 SE	79	25/7	12:00
塔門	Tap Mun	東 E	72	25/7	07:27	東 E	38	25/7	11:00
大老山	Tate's Cairn	東北偏東 ENE	113	25/7	04:03	東 E	63	25/7	04:00
鯽魚湖	Tsak Yue Wu	東北偏東 ENE	54	25/7	05:08	東 E	19	25/7	06:00
將軍澳	Tseung Kwan O	東南偏東 ESE	68	25/7	05:15	東北偏北 NNE	22	25/7	01:00
青衣	Tsing Yi	東南偏東 ESE	103	25/7	13:06	東南偏東 ESE	43	25/7	12:00
						東南偏東 ESE	43	25/7	14:00
屯門	Tuen Mun	東南偏南 SSE	70	25/7	17:15	東南 SE	25	24/7	15:00
橫瀾島	Waglan Island	東 E	90	25/7	09:04	東 E	68	25/7	06:00
黃竹坑	Wong Chuk Hang	東南偏東 ESE	77	25/7	12:34	東 E	34	25/7	07:00

表 3.4.2　玉兔影響香港期間，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 3.4.2 Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Yutu.

站 (參閱圖 3.4.2) Station (see Fig. 3.4.2)		七月二十三日 23 Jul	七月二十四日 24 Jul	七月二十五日 25 Jul	七月二十六日 26 Jul	總雨量 Total
香港天文台 Hong Kong Observatory		0.0	14.5	17.7	15.8	48.0
H12	半山區 Mid Levels	[0.0]	7.0	[22.5]	16.0	[45.5]
H19	筲箕灣 Shau Kei Wan	[0.0]	3.0	[15.5]	[12.0]	[30.5]
H21	淺水灣 Repulse Bay	[0.0]	13.5	[17.5]	[18.0]	[49.0]
K04	佐敦谷 Jordan Valley	[0.0]	18.0	[22.5]	[10.0]	[50.5]
K06	蘇屋邨 So Uk Estate	[0.0]	24.5	[22.0]	[17.5]	[64.0]
N06	葵涌 Kwai Chung	[0.0]	7.5	[34.0]	[16.5]	[58.0]
N12	元朗 Yuen Long	[0.0]	15.5	[25.5]	[7.5]	[48.5]
N14	大帽山 Tai Mo Shan	[0.0]	40.0	[68.0]	[22.0]	[130.0]
N17	東涌 Tung Chung	[0.0]	7.5	[16.0]	[5.5]	[29.0]
R21	踏石角 Tap Shek Kok	[0.0]	10.0	[8.0]	4.0	[22.0]
R26	石崗 Shek Kong	[0.0]	20.0	[44.0]	[10.5]	[74.5]
R31	大尾篤 Tai Mei Tuk	[0.0]	4.5	[13.0]	10.0	[27.5]

註 :　[　] 基於不完整的每小時雨量數據。

Note : [　] based on incomplete hourly data.

表 3.4.3　玉兔影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.4.3 Times and heights of the maximum sea level and the maximum storm surge recorded at various tide stations in Hong Kong during the passage of Yutu.

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	2.71	25/7	11:59	0.57	25/7	03:45
石壁	Shek Pik	2.92	25/7	12:31	0.68	25/7	12:31
大埔滘	Tai Po Kau	2.62	25/7	10:49	0.75	25/7	10:47
橫瀾島	Waglan Island	2.78	25/7	12:10	0.67	25/7	10:15

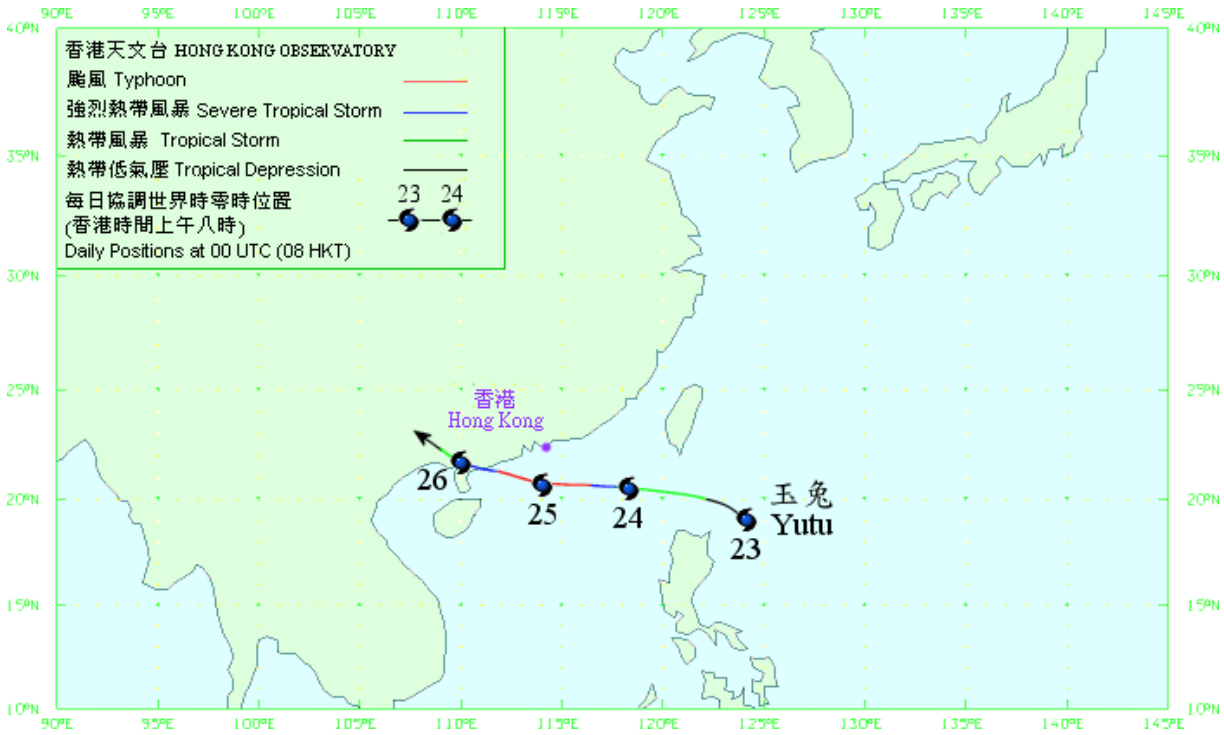


圖 3.4.1.a　　二零零一年七月二十三日至二十六日玉兔（0107）的路徑圖。
Figure 3.4.1.a Track of Yutu (0107) : 23 – 26 July 2001.

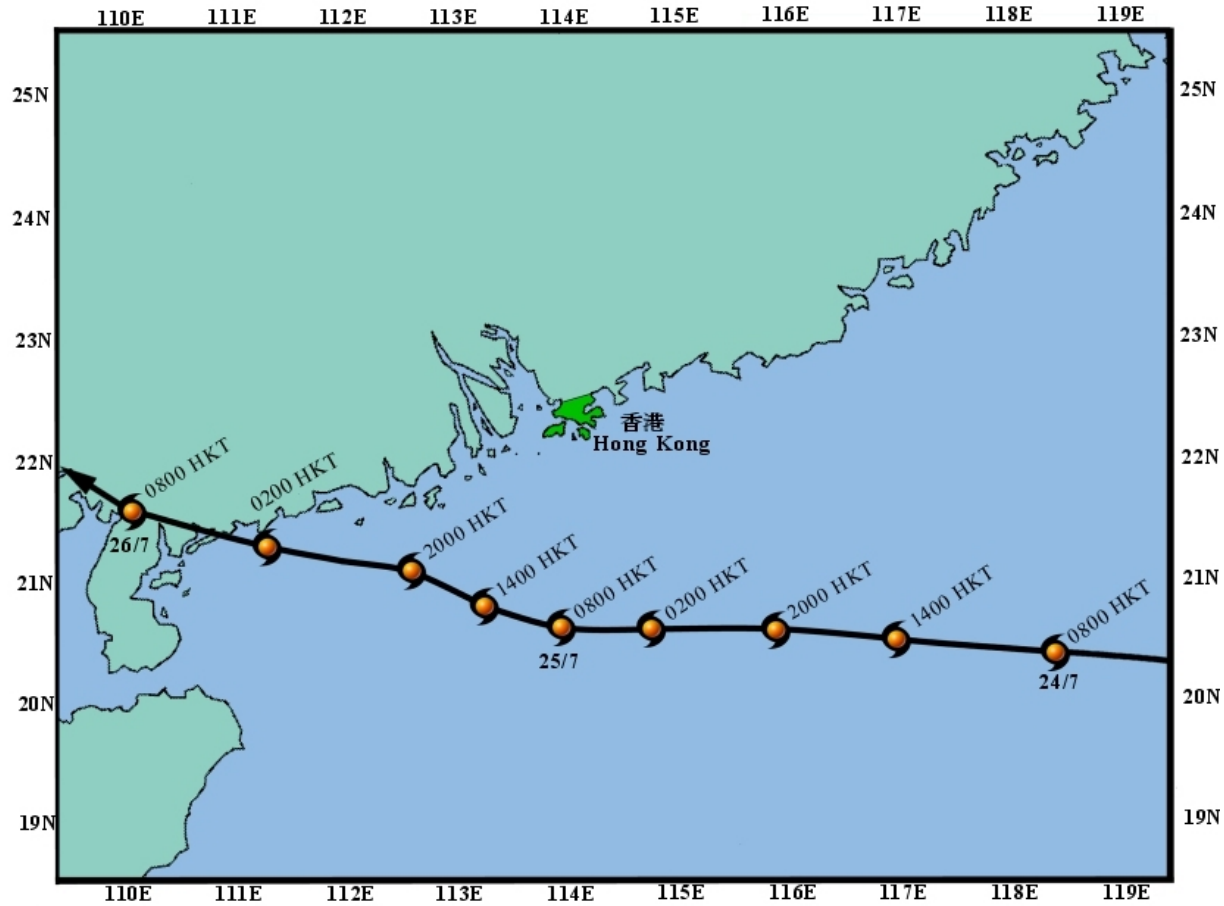


圖 3.4.1.b　　玉兔接近香港時的路徑圖。
Figure 3.4.1.b Track of Yutu near Hong Kong.

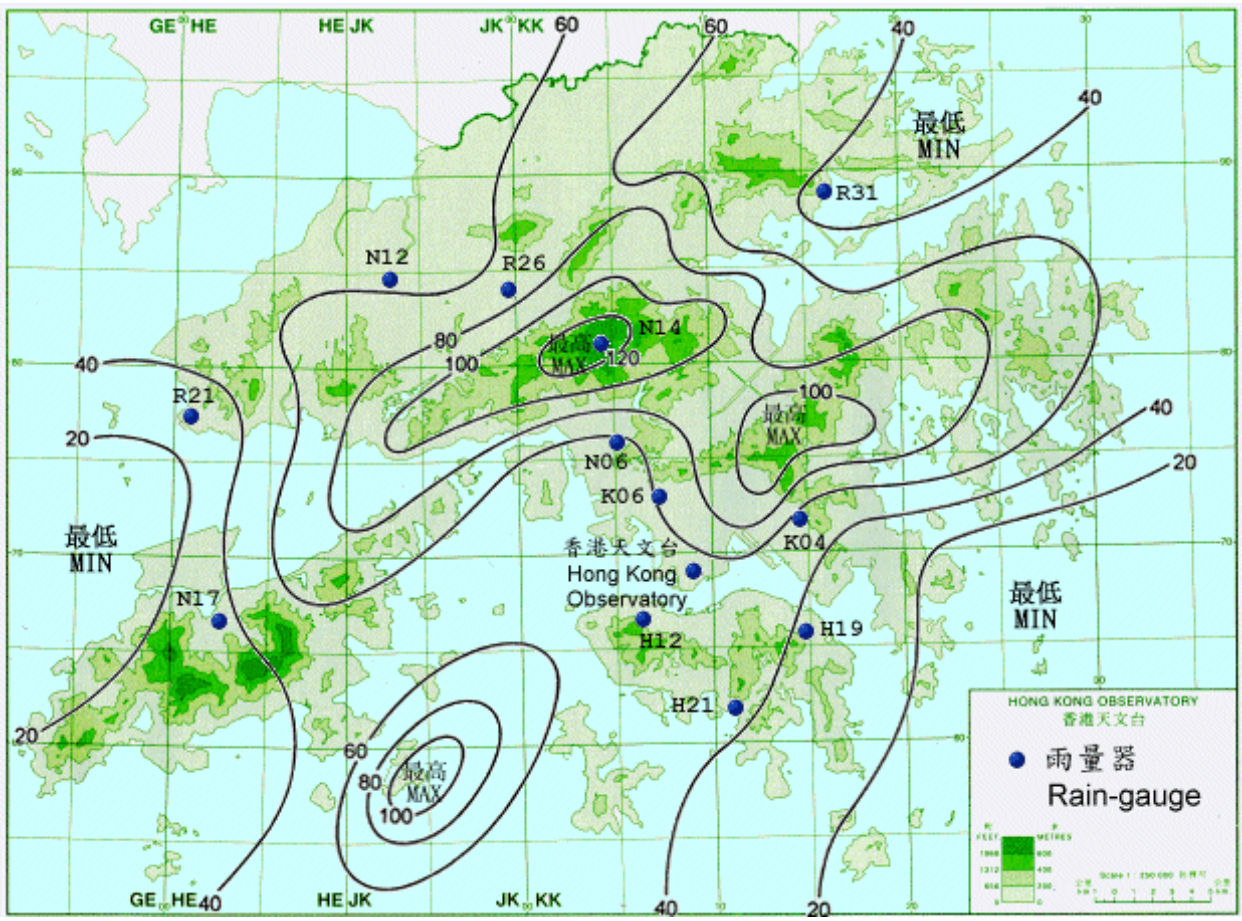


圖 3.4.2　　二零零一年七月二十三日至二十六日的雨量分佈(等雨量線單位爲毫米)。
Figure 3.4.2 Rainfall distribution on 23 – 26 July 2001 (isohyets are in millimetres).

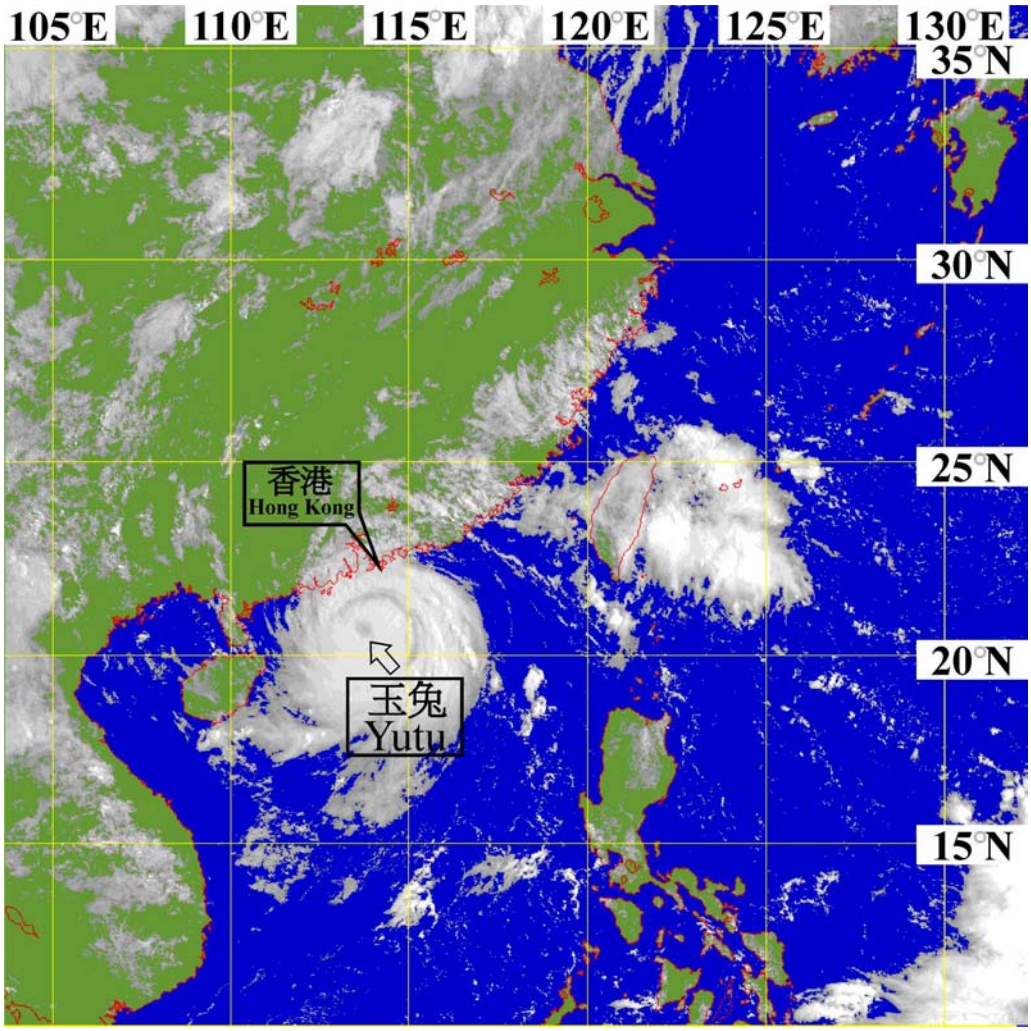


圖 3.4.3　二零零一年七月二十五日約上午8時30分的可見光衛星圖片，顯示當時玉兔緊密的環流及其風眼。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.4.3　Visible imagery at around 8.30 a.m. on 25 July 2001 showing the compact circulation of Yutu and its eye. [The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency]

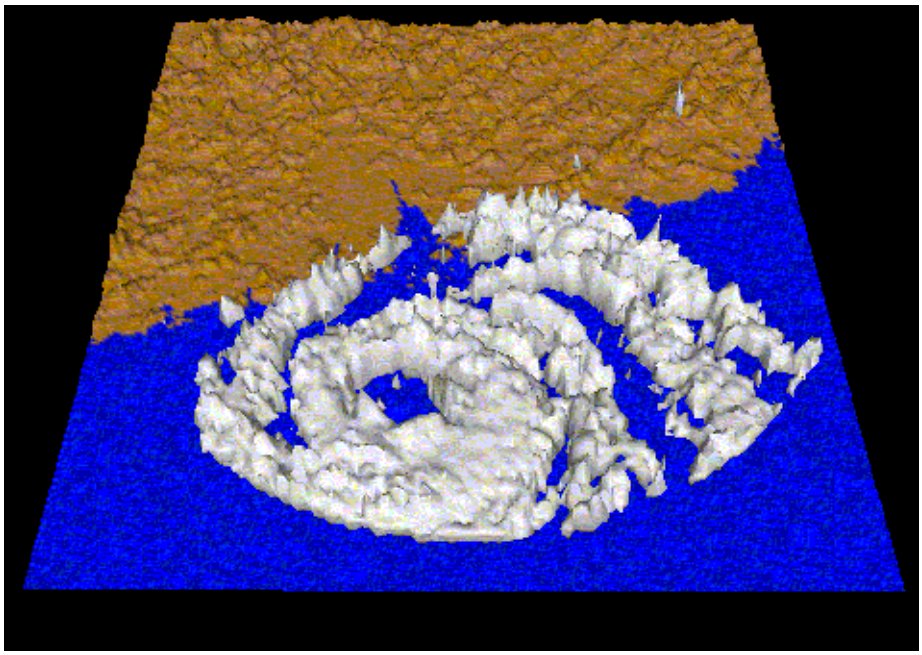


圖 3.4.4　二零零一年七月二十五日約上午10時的立體雷達回波圖像。當時，玉兔的強烈雨帶正爲香港東部地區帶來狂風大雨，而其風眼的直徑約爲60公里。

Figure 3.4.4　3-D radar echoes captured at around 10 a.m. on 25 July 2001. At that time, the intense rainbands associated with Yutu were bringing squally showers to the eastern part of Hong Kong. The diameter of Yutu's eye was about 60 km.

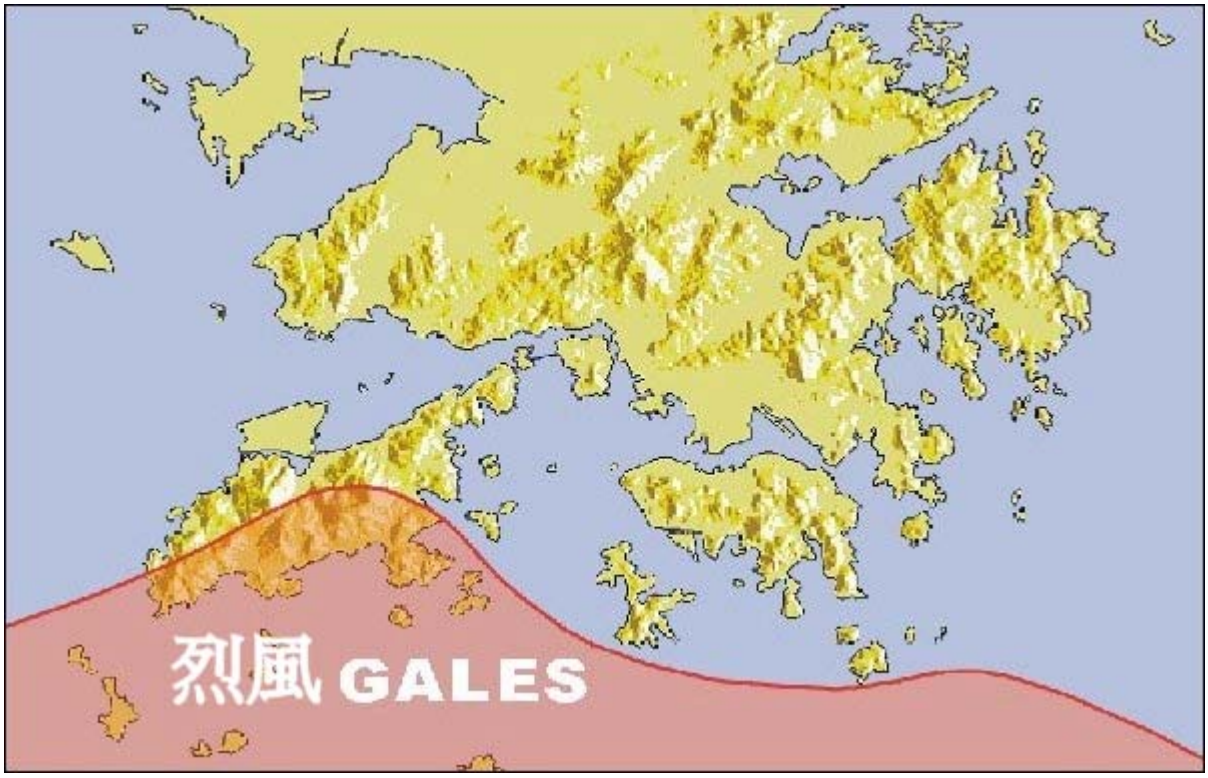


圖 3.4.5　玉兔掠過香港時，香港南部受烈風影響的區域。

Figure 3.4.5　Areas on the south side of Hong Kong affected by gales during the passage of Yutu.

圖 3.4.6　下亞厘畢道一大樹被風吹倒，交通一度受阻。〔鳴謝－蘋果日報提供〕

Figure 3.4.6 A tree blown down in Lower Albert Road, briefly blocking traffic. (by courtesy of Apple Daily)

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Rooms 2304-2309, 23/F, Miramar Tower,
132 Nathan Road, Tsim Sha Tsui, Kowloon.
(Tel.: 2926 8250)

圖 3.4.7　尖沙咀天文台道兩棵大樹被風吹倒，一輛汽車〔圖左〕及一酒店的簷蓬〔圖右〕被壓毀。〔鳴謝－文匯報提供〕

Figure 3.4.7 Two trees blown down in Observatory Road, Tsim Sha Tsui, damaging a car (left) and a hotel awning (right). (by courtesy of Wen Wei Po)

3.5 熱帶風暴菲特（0114）：八月二十八日至九月一日

一個位於南海北部的低壓區在八月二十八日晚上發展成一熱帶低氣壓，以每小時約10公里的速度向西移動，趨向海南島。

熱帶低氣壓於八月三十日的清晨在海南島海口市附近掠過，下午進入北部灣。它在該晚轉向北推進，同時增強爲一熱帶風暴，定名爲菲特。

菲特在八月三十一日正午時份在廣西北海市附近登陸，於該晚減弱爲一熱帶低氣壓，在次日早上變爲一低壓區。

在香港，一號戒備信號在八月二十八日晚上10時15分懸掛。在菲特及大陸反氣旋的共同影響下，本港離岸及高地吹強風。八月二十九日，菲特的外圍雨帶爲本港帶來大雨，沙田及石崗一帶在該日錄得超過100毫米的雨量。

菲特在八月二十八日晚上最接近本港，當時位於香港西南偏南約320公里。在菲特的影響下，香港天文台於八月二十九日上午5時18分錄得998.8百帕斯卡的最低瞬時海平面氣壓。

隨著菲特逐漸遠離香港，本地風勢減弱，一號戒備信號在八月三十日上午4時45分除下。然而，菲特的外圍雨帶仍爲本港間中帶來大雨，黃色暴雨警告信號在該日下午12時55分發出，有效至下午5時20分。

在香港，八月二十八日，西貢大浪灣有兩個人被大浪捲走後溺斃。

表3.5.1 - 3.5.3分別是菲特影響香港時各站錄得的最高風速、日雨量及最高潮汐資料。圖3.5.1 - 3.5.3是菲特的路徑圖、香港雨量分佈圖及衛星雲圖。

———————♦———————

3.5 Tropical Storm Fitow (0114) : 28 August – 1 September 2001

An area of low pressure over the northern part of the South China Sea developed into a tropical depression on the night of 28 August. The tropical depression tracked westwards at about 10 km/h in the general direction towards the Hainan Island.

The tropical depression skirted pass Haikou in Hainan Island on the early morning of 30 August. It entered Biebu Wan in the afternoon, intensified into a tropical storm named Fitow while turning north that night.

Fitow made landfall near Beihai in Guangxi at around noon on 31 August. It weakened into a tropical depression that night and became an area of low pressure the next morning.

In Hong Kong, the Standby Signal No. 1 was hoisted at 10.15 p.m. on 28 August. Under the combined effect of Fitow and a continental anticyclone, local winds became strong offshore and on high grounds. The outer rain bands of Fitow brought heavy rain on 29 August. Over 100 mm of rainfall were recorded around Sha Tin and Shek Kong that day.

Fitow was closest to Hong Kong on the night of 28 August when it was about 320 km to the south-southwest. During Fitow's passage, the lowest instantaneous mean sea-level pressure of 998.8 hPa was recorded at the Hong Kong Observatory at around 5.18 a.m. on 29 August.

As Fitow moved gradually away from Hong Kong, local winds subsided and the Standby Signal No. 1 was lowered at 4.45 a.m. on 30 August. However, the outer rain bands of Fitow continued to bring occasional heavy rain to Hong Kong. The Amber Rainstorm Warning Signal was issued at 12.55 p.m. and remained in force till 5.20 p.m.

In Hong Kong, two persons drowned after being swept away by strong waves off Tai Long Wan in Sai Kung on 28 August.

Information on wind, rainfall and tide during the passage of Fitow is given in Tables 3.5.1 - 3.5.3. Figures 3.5.1 - 3.5.3 show the track of Fitow, rainfall distribution in Hong Kong and cloud imagery.

表 3.5.1　在菲特影響下，本港各站在熱帶氣旋警告信號懸掛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 during the hoisting of the tropical cyclone warning signal for Fitow.

站 (參閱圖 1.1)	Station (see Fig. 1.1)	最高陣風 Maximum Gust		日期/月份 Date/Month	時間 Time	最高每小時平均風速 Maximum Hourly Wind		日期/月份 Date/Month	時間 Time
		風向 Direction	風速(公里/時) Speed (km/h)			風向 Direction	風速(公里/時) Speed (km/h)		
中環	Central	東南偏東 ESE	58	29/8	00:31	東 E	23	29/8	13:00
赤鱲角 (機場)	Chek Lap Kok (Airport)	東 E	54	29/8	10:00	東 E	30	29/8	12:00
長洲	Cheung Chau	東南偏東 ESE	81	29/8	08:42	東南偏東 ESE	51	29/8	21:00
長沙灣	Cheung Sha Wan	東北偏東 ENE	56	29/8	00:33	東北偏東 ENE	22	29/8	09:00
京士柏	King's Park	東南偏東 ESE	63	29/8	08:51	東 E	23	29/8	09:00
流浮山	Lau Fau Shan	東北偏東 ENE	56	29/8	01:01	東 E	27	29/8	13:00
北角	North Point	東北偏東 ENE	75	28/8	23:30	東北偏東 ENE	30	29/8	09:00
西貢	Sai Kung	東北偏東 ENE	65	29/8	00:28	東北 NE	31	29/8	09:00
沙螺灣	Sha Lo Wan	東 E	63	29/8	22:45	東 E	34	28/8	23:00
						東 E	34	29/8	08:00
沙田	Sha Tin	- -	49	29/8	12:51	- -	16	28/8	23:00
石崗	Shek Kong	東 E	58	29/8	00:54	東北偏東 ENE	23	29/8	11:00
天星碼頭 (九龍)	Star Ferry (Kowloon)	東 E	63	29/8	00:33	東 E	31	29/8	13:00
打鼓嶺	Ta Kwu Ling	- -	47	29/8	23:35	- -	19	29/8	10:00
大尾篤	Tai Mei Tuk	東北偏東 ENE	79	29/8	02:06	東北偏東 ENE	41	29/8	10:00
大帽山	Tai Mo Shan	東南 SE	96	29/8	00:50	東南偏東 ESE	62	29/8	08:00
塔門	Tap Mun	東 E	59	29/8	01:58	東 E	31	29/8	10:00
		東 E	59	29/8	02:01				
鯽魚湖	Tsak Yue Wu	東北偏東 ENE	68	29/8	06:57	東北偏東 ENE	13	28/8	23:00
						東北偏東 ENE	13	29/8	09:00
						東 E	13	29/8	13:00
將軍澳	Tseung Kwan O	東 E	51	29/8	08:45	東 E	14	29/8	09:00
青衣	Tsing Yi	東南偏東 ESE	79	29/8	06:45	東北偏東 ENE	36	29/8	07:00
屯門	Tuen Mun	東南偏南 SSE	51	29/8	24:00	東南 SE	19	29/8	18:00
橫瀾島	Waglan Island	東 E	92	29/8	00:06	東北偏東 ENE	52	28/8	23:00
黃竹坑	Wong Chuk Hang	東 E	68	29/8	06:32	東 E	25	28/8	24:00

表 3.5.2　菲特影響香港期間，香港天文台總部及其他各站所錄得的日雨量(單位爲毫米)

Table 3.5.2 Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Fitow.

站 (參閱圖 3.5.2) Station (see Fig. 3.5.2)		八月二十八日 28 August	八月二十九日 29 August	八月三十日 30 August	八月三十一日 31 August	總雨量 Total
香港天文台 Hong Kong Observatory		17.4	51.9	90.6	3.6	163.5
H12 半山區	Mid Levels	14.0	[63.5]	97.0	1.5	[176.0]
H19 筲箕灣	Shau Kei Wan	14.0	[52.0]	120.0	3.5	[189.5]
H21 淺水灣	Repulse Bay	22.0	[72.0]	110.5	5.0	[209.5]
K04 佐敦谷	Jordan Valley	29.5	[67.5]	120.0	10.0	[227.0]
K06 蘇屋邨	So Uk Estate	14.5	[48.0]	108.0	5.5	[176.0]
N06 葵涌	Kwai Chung	12.0	[54.5]	112.0	2.5	[181.0]
N09 沙田	Sha Tin	14.5	[112.0]	122.5	6.0	[255.0]
N12 元朗	Yuen Long	3.0	[63.5]	97.5	10.5	[174.5]
N17 東涌	Tung Chung	15.0	[51.5]	96.5	7.5	[170.5]
R21 踏石角	Tap Shek Kok	0.0	[40.0]	78.5	11.5	[130.0]
R26 石崗	Shek Kong	[6.0]	[103.5]	83.5	[6.5]	[199.5]
R31 大尾篤	Tai Mei Tuk	5.0	[46.0]	124.0	37.0	[212.0]

註 : [ ] 基於不完整的每小時雨量數據。

Note : [ ] based on incomplete hourly data.

表 3.5.3　菲特影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 3.5.3 Times and heights of the maximum sea level and the maximum storm surge recorded at various tide stations in Hong Kong during the passage of Fitow.

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	2.47	29/8	05:37	0.39	29/8	05:37
石壁	Shek Pik	2.48	29/8	05:41	0.41	29/8	12:58
大埔滘	Tai Po Kau	2.42	29/8	06:34	0.49	29/8	08:49
尖鼻咀	Tsim Bei Tsui	2.36	29/8	05:39	0.20	29/8	04:16
橫瀾島	Waglan Island	2.54	29/8	05:45	0.43	29/8	07:04

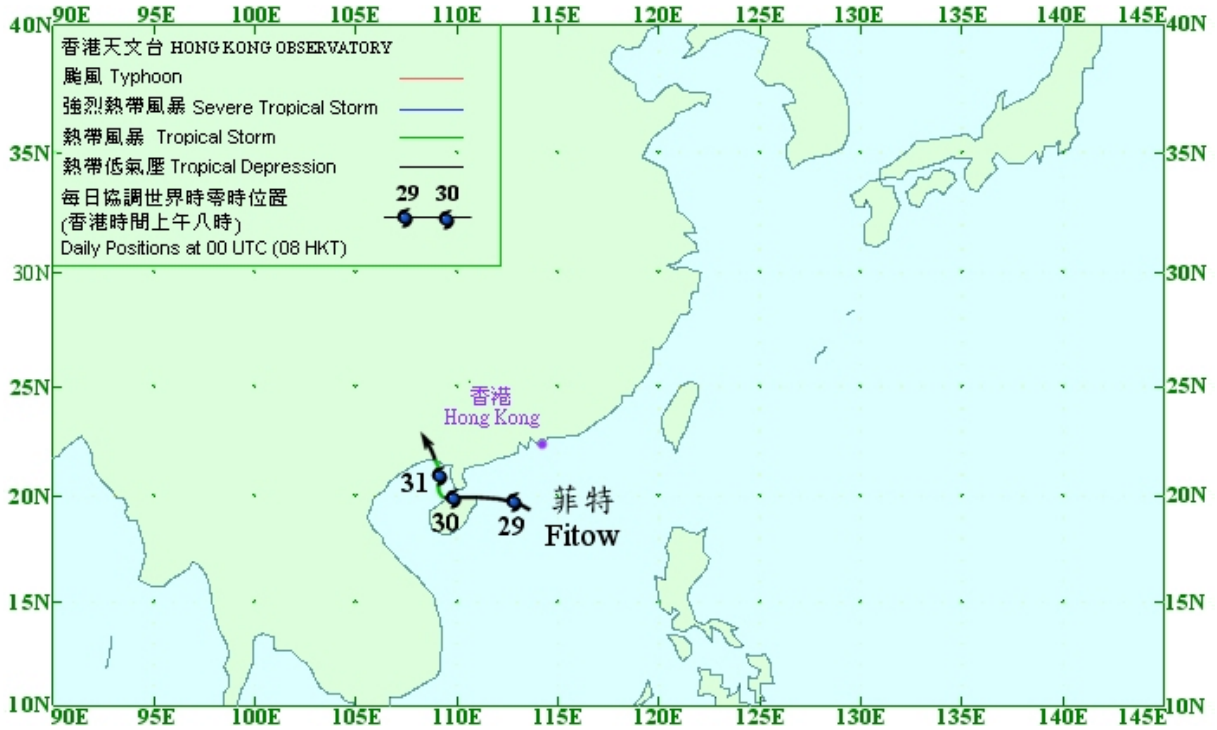

圖 3.5.1　　二零零一年八月二十八日至九月一日菲特（0114）的路徑圖。
Figure 3.5.1　Track of Fitow (0114) : 28 August – 1 September 2001.

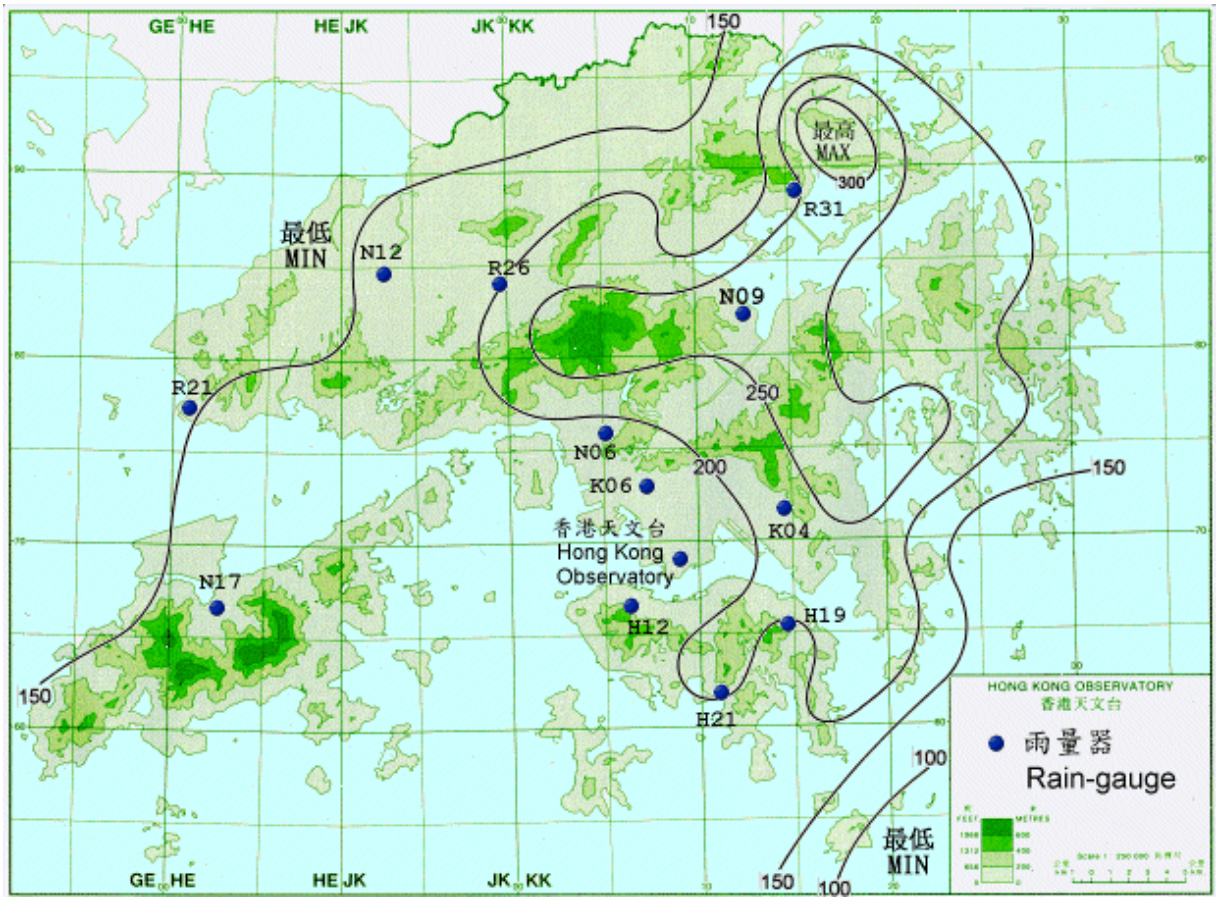

圖 3.5.2　　二零零一年八月二十八日至三十一日的雨量分佈(等雨量線單位爲毫米)。
Figure 3.5.2　Rainfall distribution on 28 – 31 August 2001 (isohyets are in millimetres).

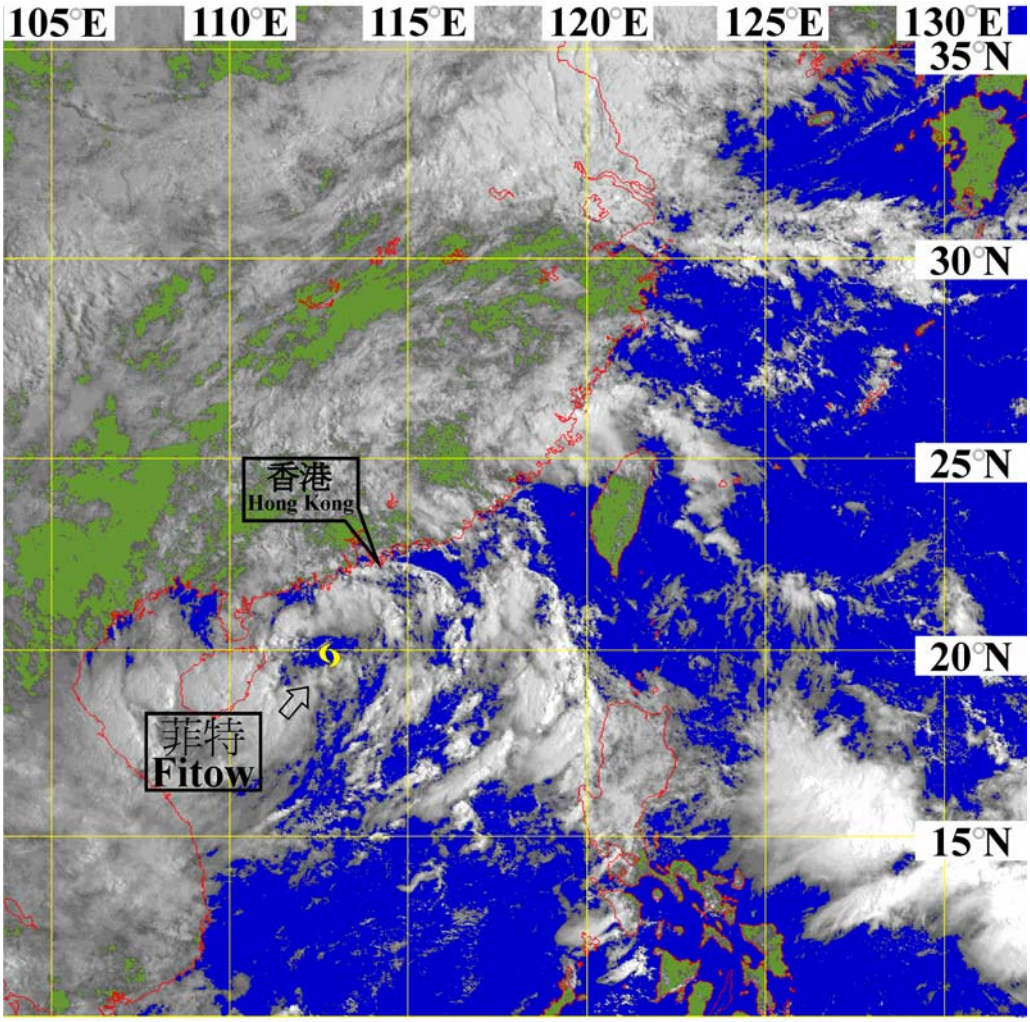

圖 3.5.3　二零零一年八月二十九日約上午8時30分的可見光衛星圖片，當時菲特正趨向海南島。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.5.3　Visible imagery at around 8.30 a.m. on 29 August 2001 when Fitow was tracking towards Hainan Island. [The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency]

3.6 颱風百合（0116）：九月六日至二十日

百合是近年最不尋常的熱帶氣旋之一，它增強和減弱四次，並作出了五次顯著的路徑轉變，當中包括在沖繩島及附近的四次急轉彎。另外，百合是繼一九六零年八月的愛娜斯及伊蘭後，首次從太平洋以西南的途徑越過台灣並影響香港的熱帶氣旋。

百合的生命長達15天，在歷來影響香港的熱帶氣旋中，它的壽命名列第三，僅次於一九八六年颱風韋恩〔超過19天〕和一九九一年颱風納德〔接近16天〕。

百合在九月六日清晨於台北以東約220公里處形成爲一熱帶低氣壓。它向東北移動，該日下午增強爲一熱帶風暴，並於次日早上橫越沖繩島。百合減慢移動，在九月七日下午變爲一強烈熱帶風暴。該晚，它急轉彎並折返沖繩島。越過沖繩島後，百合在九月八日以每小時約10公里的速度穩定地向西北移動。

九月九日，百合與在它東北偏東約1 400公里的颱風丹娜絲產生「藤原效應」，再次轉彎，並向東南移動，第三次逼近沖繩島。

百合在九月九日達到颱風強度，它的風眼首次形成。次日早上，它迅速減弱爲一強烈熱帶風暴。百合在九月十一日又一次增強爲颱風，它的風眼再度出現。該日，百合的風力達到最強，其中心附近的最高持續風速及最低氣壓分別估計約爲每小時150公里及955百帕斯卡。

九月十一日，丹娜絲在日本登陸並減弱爲一強烈熱帶風暴，對百合的影響相應減少。這天及次日，百合於沖繩島以西附近幾乎停留不動。

百合第三次轉彎後，九月十三日向西北推進。它在九月十四日減弱爲一強烈熱帶風暴，及第四次轉彎，朝向西南移動。

百合在九月十五日下午第三度增強爲一颱風。次日它的風眼變得清晰，直徑約有50公里，強度與九月十一日相同。

百合在九月十六日晚上撲向台灣，次日早上減弱爲一強烈熱帶風暴。受到地形的影響，百合的移動速度減慢至每小時約2公里，並於下午減弱爲一熱帶風暴。百合向西南移動，肆虐台灣，最後在九月十八日晚上於高雄市西北面掠過，並離開台灣。

據報，百合爲台北帶來破紀錄的425毫米的日雨量。捷運（地鐵）及台北火車站皆受到水浸，市面交通大受影響，台北的內陸及國際機場一度關閉。基隆、宜蘭、桃園及苗栗等地亦蒙受損失。在台灣，最少有84人死亡、16人失蹤及208人受傷，數以千計的房屋及商業樓宇受到洪水的破壞。超過120萬戶停水、50萬戶停電及30萬戶電話不通，8 000多人需要撤離家園，經濟損失逾300億元新台幣。

進入南海北部後，百合在九月十九日從西南轉向偏西移動。溫暖的海水令百合第四次增強，並在九月二十日早上變爲一強烈熱帶風暴。該日中午，百合在汕頭市西南面約60公里登陸。在汕頭，超過15人受傷，離岸有兩艘漁船翻沉，共三名漁民失蹤。

登陸汕頭後，百合在黃昏時份於香港北面掠過並進一步減弱爲熱帶低氣壓。百合在九月二十日晚，也就是在太平洋上形後的第15天，在陸上消散。

在香港，一號戒備信號在九月十九日下午4時15分懸掛，當時百合位於香港以東約500公里。受到百合及東北季侯風的共同影響，該晚本地風力開始增強。

隨著百合逐漸逼近，次日本港變得多雲有雨。西北風繼續增強，三號強風信號在九月二十日下午2時45分懸掛。大帽山錄得最高每小時平均風速爲49公里，而最高陣風則達每小時67公里。

天文台於九月二十日下午2時16分錄得最低瞬時海平面氣壓1003.4百帕斯卡。百合在該晚8時左右最接近香港，當時它位於香港北面約90公里。

百合掠過香港後，在廣東內陸逐漸消散，本地轉吹偏南風，風勢亦減弱，所有熱帶氣旋警告信號在下午10時40分除下。

百合影響香港期間，本港並無嚴重破壞及傷亡的報告。

表 3.6.1 - 3.6.3分別是百合影響香港時各站錄得的最高風速、日雨量及最高潮汐資料。圖 3.6.1 - 3.6.4是百合的路徑圖、香港雨量分佈圖、衛星雲圖及立體雷達回波圖。

3.6 Typhoon Nari (0116) : 6 - 20 September 2001

Nari was one of the most unusual tropical cyclones to occur in recent years. It intensified and weakened on four occasions, and made five major directional changes including four sharp turns over or in the vicinity of Okinawa. Also, this was the first time since Agnes and Elaine in August 1960 that a tropical cyclone has tracked generally southwestwards from the Pacific across Taiwan to affect Hong Kong.

Nari's life-span of almost 15 days ranked the third longest for all tropical cyclones affecting Hong Kong. It is exceeded by that of Typhoon Wayne in 1986 (over 19 days) and Typhoon Nat in 1991 (nearly 16 days).

Nari formed as a tropical depression about 220 km east of Taibei on the early morning of 6 September. Tracking northeastwards, it intensified into a tropical storm that afternoon and traversed Okinawa the next morning. Nari slowed down and became a severe tropical storm on the afternoon of 7 September. It turned sharply and backtracked towards Okinawa during the night. After crossing Okinawa, Nari headed northwestwards at a steady speed of about 10 km/h on 8 September.

Under the "Fujiwhara effect" induced by its interaction with Typhoon Danas which was about 1 400 km to its east-northeast, Nari turned again on 9 September to curve southeast and head towards Okinawa for the third time.

Nari attained typhoon strength on 9 September. An eye developed for the first time. However, Nari weakened rapidly into a severe tropical storm the next morning. The eye re-developed as Nari re-intensified into a typhoon on 11 September. That day, Nari attained peak intensity. The maximum sustained winds and minimum sea level pressure near its centre were estimated at 150 km/h and 955 hPa respectively.

As Danas made landfall over Japan and weakened into a severe tropical storm on 11 September, the influence of Danas on Nari's movement decreased. Nari became quasi-stationary to the west of Okinawa on that as well as the following day.

Nari made an about-turn for the third time and tracked northwestwards on 13 September. It weakened into a severe tropical storm and took the fourth directional change to the southwest on 14 September.

Nari strengthened into a typhoon for the third time on the afternoon of 15 September. It regained the peak intensity attained on 11 September, and its eye was distinct with a diameter of about 50 km.

Nari ploughed into Taiwan on the night of 16 September. It weakened into a severe tropical storm the next morning. Interacting with the terrain on that island, Nari decelerated to about 2 km/h and weakened further into a tropical storm that afternoon. Nari swept across Taiwan on a southwestward course. It finally passed to the northwest of Gaoxiong and left Taiwan on the night of 18 September.

According to press reports, Nari brought a record daily rainfall of 425 mm to Taibei, flooding the Mass Rapid Transit system and the Taibei Railway Station and severely disrupting local transport. Both the domestic and international airports in Taibei had to be temporarily closed. Chi-lung, I-lan, Tao-yuan and Miao-li also suffered losses during the passage of Nari. Across Taiwan, at least 84 people were killed, 16 went missing and 208 were injured. Thousands of houses and buildings were damaged by flooding. Water supply to over 1 200 000 households were cut off, electricity supply to 500 000 households were disrupted and 300 000 telephones were disabled. Some 8 000 people had to be evacuated from their homes. Direct economic losses were estimated to be at least NT$ 30 billion.

Upon entering the northern part of the South China Sea, Nari changed course from southwest to west on 19 September. Gathering strength over the warm waters, it re-intensified for the fourth time and became a severe tropical storm on the morning of 20 September. Nari landed about 60 km southwest of Shantou at around noon. In Shantou, over 15 persons were injured. Offshore, two fishing boats capsized and a total of three fishermen went missing.

After making landfall over Shantou, Nari skirted past to the north of Hong Kong and weakened further into a tropical depression that evening. It finally dissipated over land on the night of 20 September, some 15 days after it first formed over the western North Pacific.

In Hong Kong, the Standby Signal No. 1 was hoisted at 4.15 p.m. on 19 September when Nari was about 500 km to the east of Hong Kong. Under the combined effect of Nari and the northeast monsoon, local winds started to increase during the night.

With the gradual approach of Nari, the weather became cloudy with rain the next day. Winds continued to strengthen from the northwest and the Strong Wind Signal No. 3 was hoisted at 2.45 p.m. on 20 September. A maximum hourly mean wind of 49 km/h and a maximum gust of 67 km/h were recorded at Tai Mo Shan.

The lowest instantaneous mean sea-level pressure of 1003.4 hPa was recorded at the Hong Kong Observatory at 2.16 p.m. on 20 September. Nari was closest to Hong Kong at around 8 p.m. when it was about 90 km to the north.

After skirting past Hong Kong, Nari dissipated gradually over inland Guangdong. As local winds subsided and changed to southerlies, all signals were lowered at 10.40 p.m.

During the passage of Nari, no significant damage was reported in Hong Kong.

Information on wind, rainfall and tide during the passage of Nari is given in Tables 3.6.1 - 3.6.3. Figures 3.6.1 - 3.6.4 show the track of Nari, rainfall distribution in Hong Kong, cloud imageries and 3-D radar echoes.

表 3.6.1　在百合影響下，本港各站在熱帶氣旋警告信號懸掛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 during the hoisting of the tropical cyclone warning signals for Nari

站 Station	(參閱圖 1.1) (see Fig. 1.1)	最高陣風 Maximum Gust		日期/月份 Date/Month	時間 Time	最高每小時平均風速 Maximum Hourly Wind		日期/月份 Date/Month	時間 Time
		風向 Direction	風速(公里/時) Speed (km/h)			風向 Direction	風速(公里/時) Speed (km/h)		
中環	Central	東北偏北 NNE	36	20/9	15:23	西北偏北 NNW	12	20/9	10:00
中環廣場	Central Plaza	-- --	47	20/9	15:20	-- --	25	20/9	15:00
赤鱲角(機場)	Chek Lap Kok (Airport)	東北偏北 NNE	41	20/9	16:00	西北偏北 NNW	31	20/9	15:00
長洲	Cheung Chau	東北偏北 NNE	47	20/9	16:02	北 N	25	20/9	04:00
		東北偏北 NNE	47	20/9	16:03				
長沙灣	Cheung Sha Wan	東北偏北 NNE	38	20/9	15:18	北 N	9	20/9	16:00
青洲	Green Island	北 N	43	20/9	15:23	西 W	25	20/9	15:00
						東北 NE	25	20/9	16:00
京士柏	King's Park	西北偏北 NNW	45	20/9	15:21	北 N	13	20/9	16:00
流浮山	Lau Fau Shan	東北偏北 NNE	51	20/9	15:09	西北 NW	38	20/9	15:00
北角	North Point	西北偏北 NNW	38	20/9	15:17	西南 SW	19	20/9	15:00
平洲	Ping Chau	西南 SW	34	20/9	18:27	西南偏南 SSW	14	20/9	19:00
西貢	Sai Kung	北 N	62	20/9	14:45	北 N	19	20/9	04:00
沙螺灣	Sha Lo Wan	西北偏北 NNW	36	20/9	15:27	西南 SW	16	20/9	19:00
沙田	Sha Tin	-- --	31	20/9	14:43	-- --	12	20/9	09:00
石崗	Shek Kong	北 N	34	20/9	15:06	西 W	14	20/9	15:00
		西北偏北 NNW	34	20/9	15:07				
天星碼頭(九龍)	Star Ferry (Kowloon)	西 W	23	20/9	14:47	西 W	14	20/9	15:00
打鼓嶺	Ta Kwu Ling	西北偏北 NNW	43	20/9	14:27	北 N	13	20/9	15:00
大尾篤	Tai Mei Tuk	東北偏北 NNE	49	20/9	14:22	東北偏北 NNE	16	20/9	01:00
大帽山	Tai Mo Shan	西 W	67	20/9	19:06	北 N	49	20/9	16:00
塔門	Tap Mun	東北偏北 NNE	45	20/9	14:13	西 W	19	20/9	14:00
大老山	Tate's Cairn	西北偏北 NNW	63	20/9	14:53	西北 NW	38	20/9	16:00
鯽魚湖	Tsak Yue Wu	東北偏北 NNE	45	20/9	14:38	東北偏北 NNE	20	20/9	09:00
		東北偏北 NNE	45	20/9	14:48				
將軍澳	Tseung Kwan O	東北偏東 ENE	49	20/9	14:52	東北偏東 ENE	12	20/9	09:00
青衣	Tsing Yi	西 W	47	20/9	14:33	西北偏西 WNW	23	20/9	15:00
屯門	Tuen Mun	西 W	51	20/9	19:43	西北偏西 WNW	16	20/9	15:00
橫瀾島	Waglan Island	北 N	52	20/9	15:45	北 N	30	20/9	04:00
						北 N	30	20/9	16:00
						東南 SE	30	20/9	22:00
黃竹坑	Wong Chuk Hang	東北偏北 NNE	45	20/9	15:27	東北 NE	14	20/9	16:00

表 3.6.2　百合影響香港期間，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 3.6.2 Daily rainfall amounts in millimetres recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Nari

站 (參閱圖 3.6.2) Station (see Fig. 3.6.2)	九月十九日 19 Sep	九月二十日 20 Sep	九月二十一日 21 Sep	總雨量 Total
香港天文台 Hong Kong Observatory	0.0	52.6	26.4	79.0
H12　半山區　Mid Levels	[0.0]	39.5	[12.0]	[51.5]
H19　筲箕灣　Shau Kei Wan	[0.0]	74.0	[31.0]	[105.0]
H21　淺水灣　Repulse Bay	0.0	38.0	[10.5]	[48.5]
K04　佐敦谷　Jordan Valley	0.0	79.0	[42.5]	[121.5]
K06　蘇屋邨　So Uk Estate	0.0	68.0	[27.5]	[95.5]
N06　葵涌　Kwai Chung	0.0	47.0	[35.5]	[82.5]
N09　沙田　Sha Tin	[0.0]	81.5	[33.0]	[114.5]
N12　元朗　Yuen Long	[0.0]	27.5	[51.0]	[78.5]
N17　東涌　Tung Chung	[0.0]	20.5	[27.5]	[48.0]
R21　踏石角　Tap Shek Kok	[0.0]	[27.0]	[27.5]	[54.5]
R26　石崗　Shek Kong	[0.0]	[31.5]	[42.5]	[74.0]
R31　大尾篤　Tai Mei Tuk	0.0	80.0	[26.0]	[106.0]

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

表 3.6.3　百合影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮
Table 3.6.3 Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Nari

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	2.39	19/9	23:08	0.34	19/9	23:42
石壁　Shek Pik	2.37	19/9	23:33	0.29	19/9	23:49
尖鼻咀　Tsim Bei Tsui	2.52	20/9	00:11	0.20	20/9	22:34
橫瀾島　Waglan Island	2.47	19/9	23:34	0.41	19/9	23:54

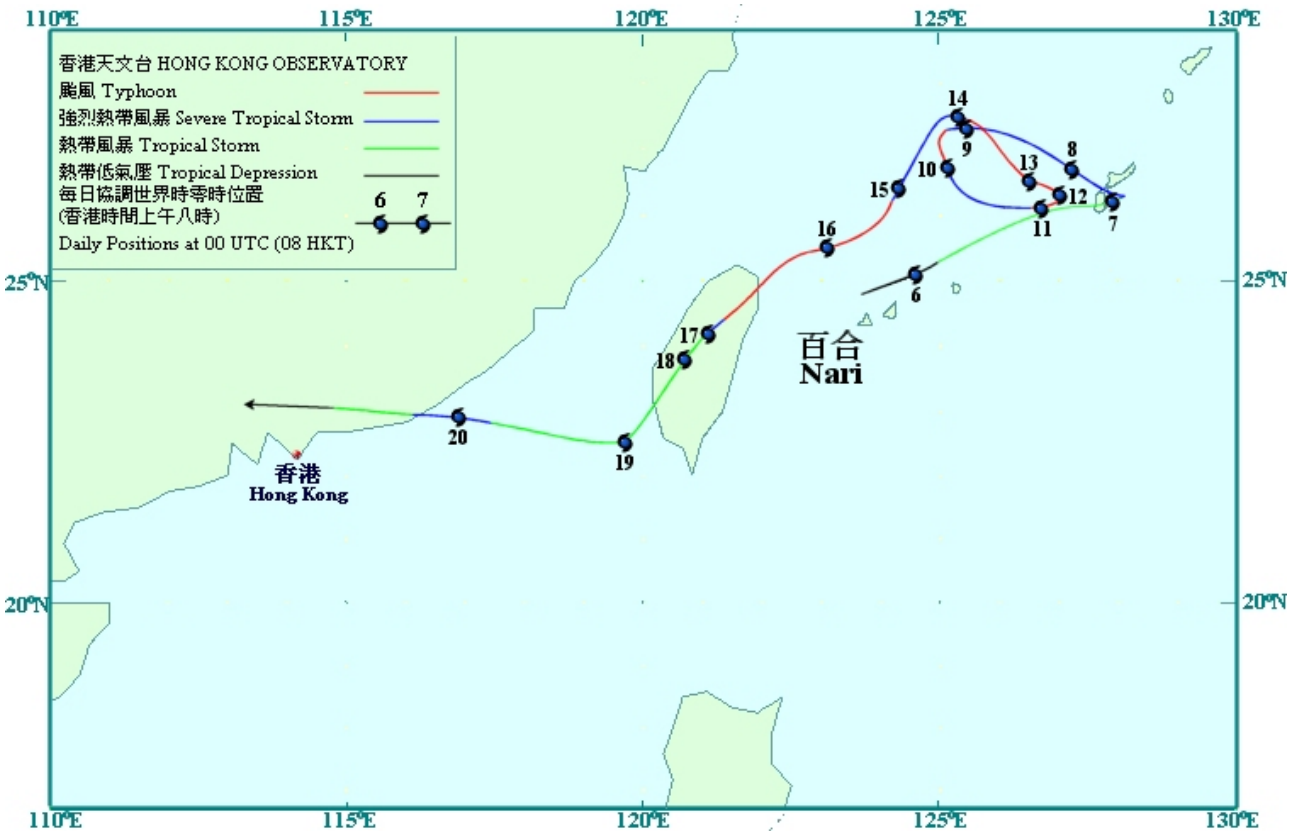

圖 3.6.1　　二零零一年九月六日至二十日百合（0116）的路徑圖。

Figure 3.6.1　Track of Nari (0116) : 6 – 20 September 2001.

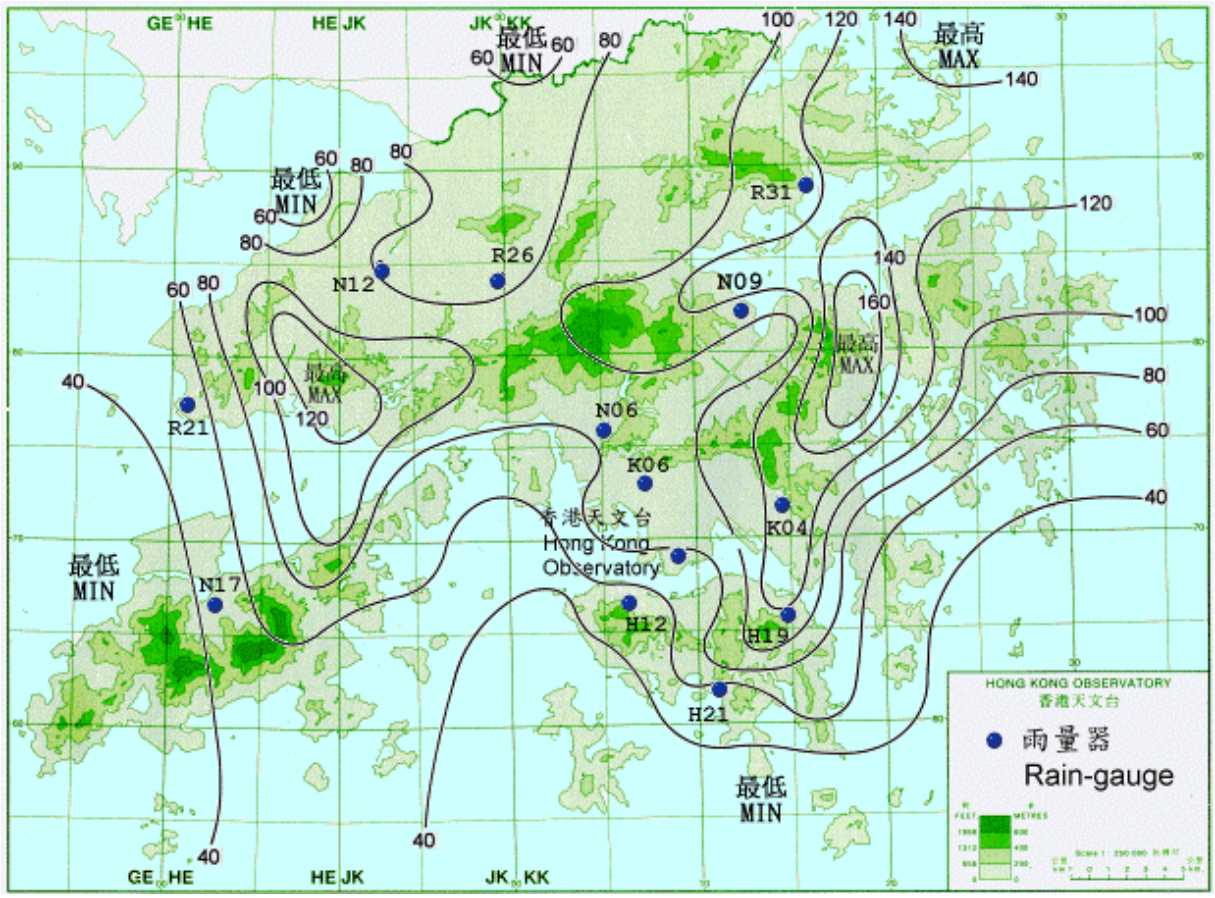

圖 3.6.2　　二零零一年九月十九日至二十一日的雨量分佈(等雨量線單位爲毫米)。

Figure 3.6.2　Rainfall distribution on 19 – 21 September 2001 (isohyets are in millimetres).

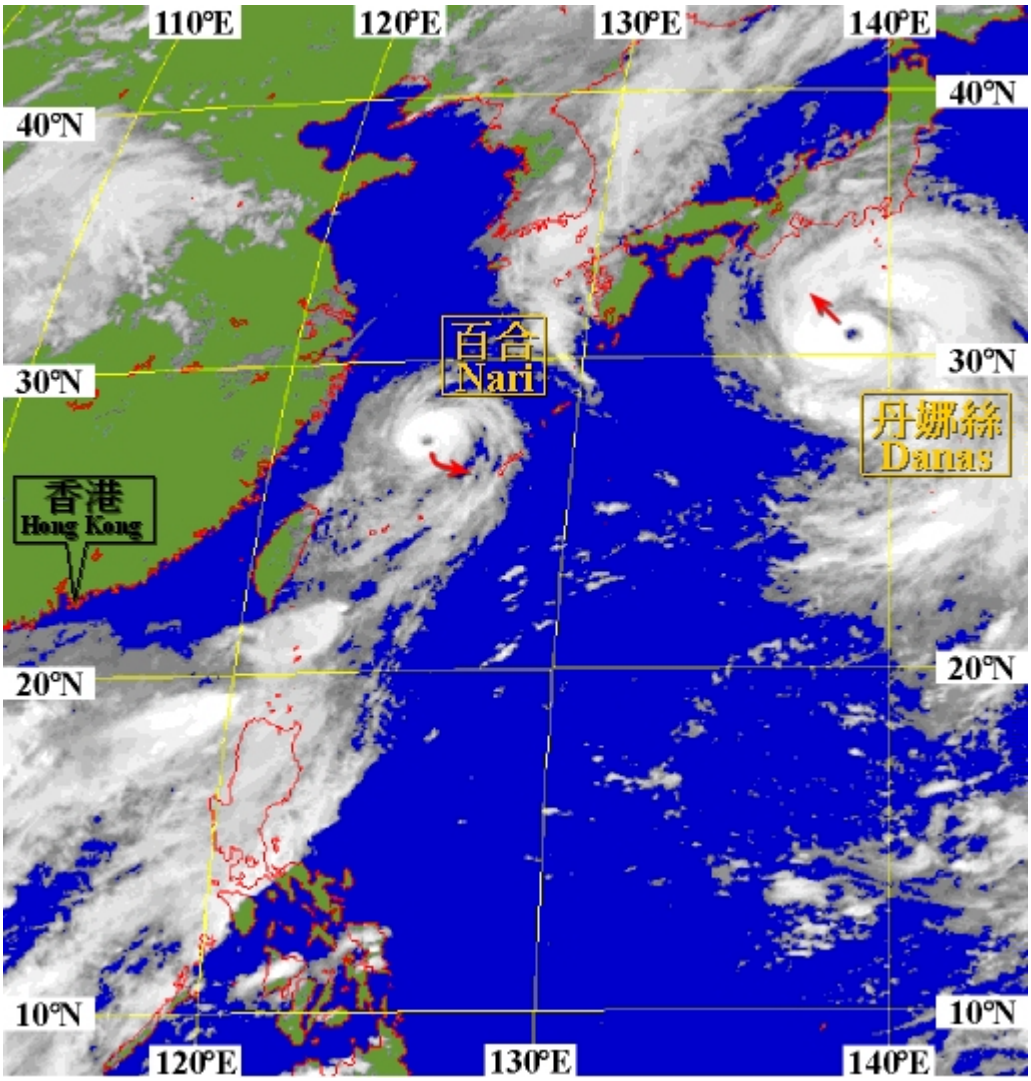

圖 3.6.3.a　二零零一年九月九日約下午4時30分的紅外線衛星圖片，當時百合的風眼首次形成。受到與丹娜絲所產生的藤原效應影響，百合作反時針轉動，圖中紅色箭咀爲百合及丹娜絲的移動方向。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.6.3.a Infra-red imagery at around 4.30 p.m. on 9 September 2001 when the eye of Nari first formed. Under the Fujiwhara effect induced by Danas, Nari rotated anti-clockwise. Red arrows indicate the directions of movements of Nari and Danas. [The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency]

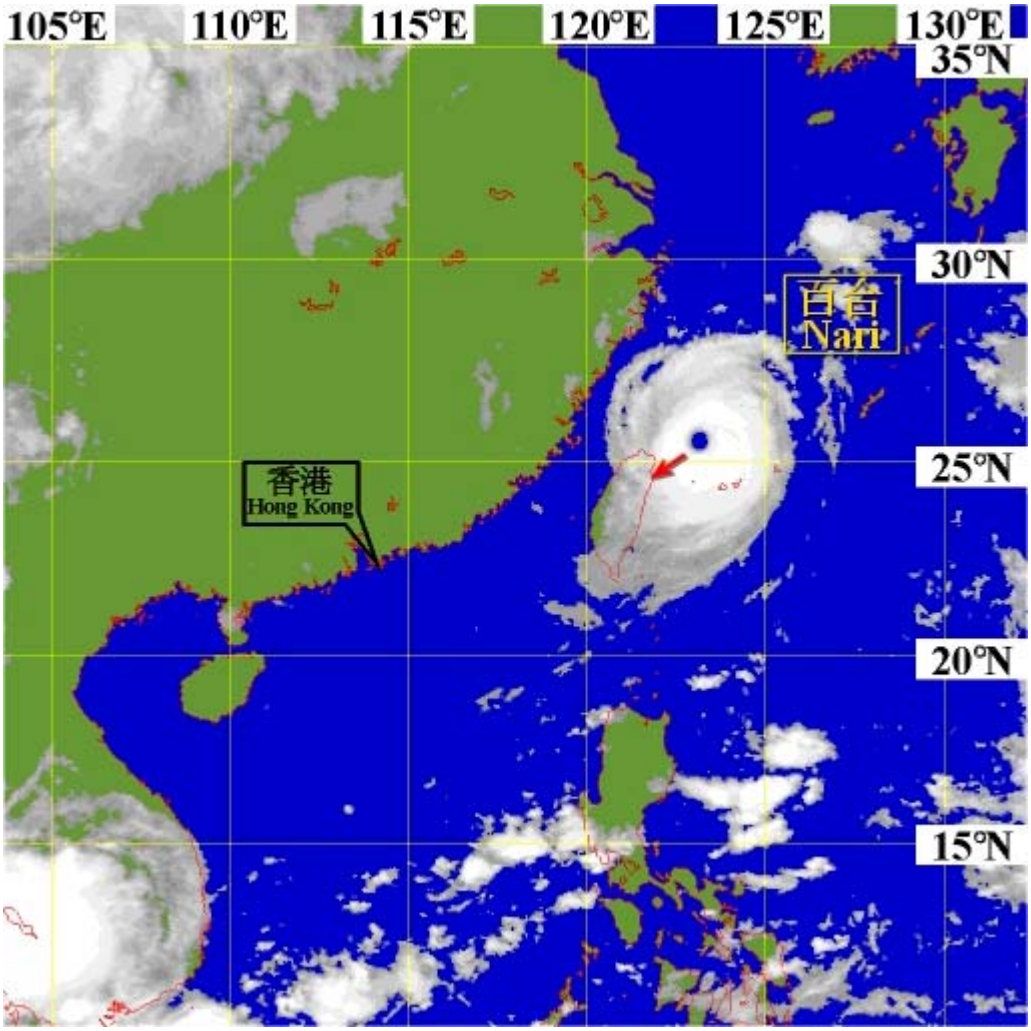

圖 3.6.3.b　二零零一年九月十六日約上午7時30分的紅外線衛星圖片，當時百合第三次增強爲颱風。百合的風眼圓大，直徑約爲50公里，圖中紅色箭咀爲百合的移動方向。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.6.3.b Infra-red imagery at around 7.30 a.m. on 16 September 2001 when Nari attained typhoon strength for the third time. Its eye was circular with a diameter of about 50 km. The red arrow indicates the direction of movement of Nari. [The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency]

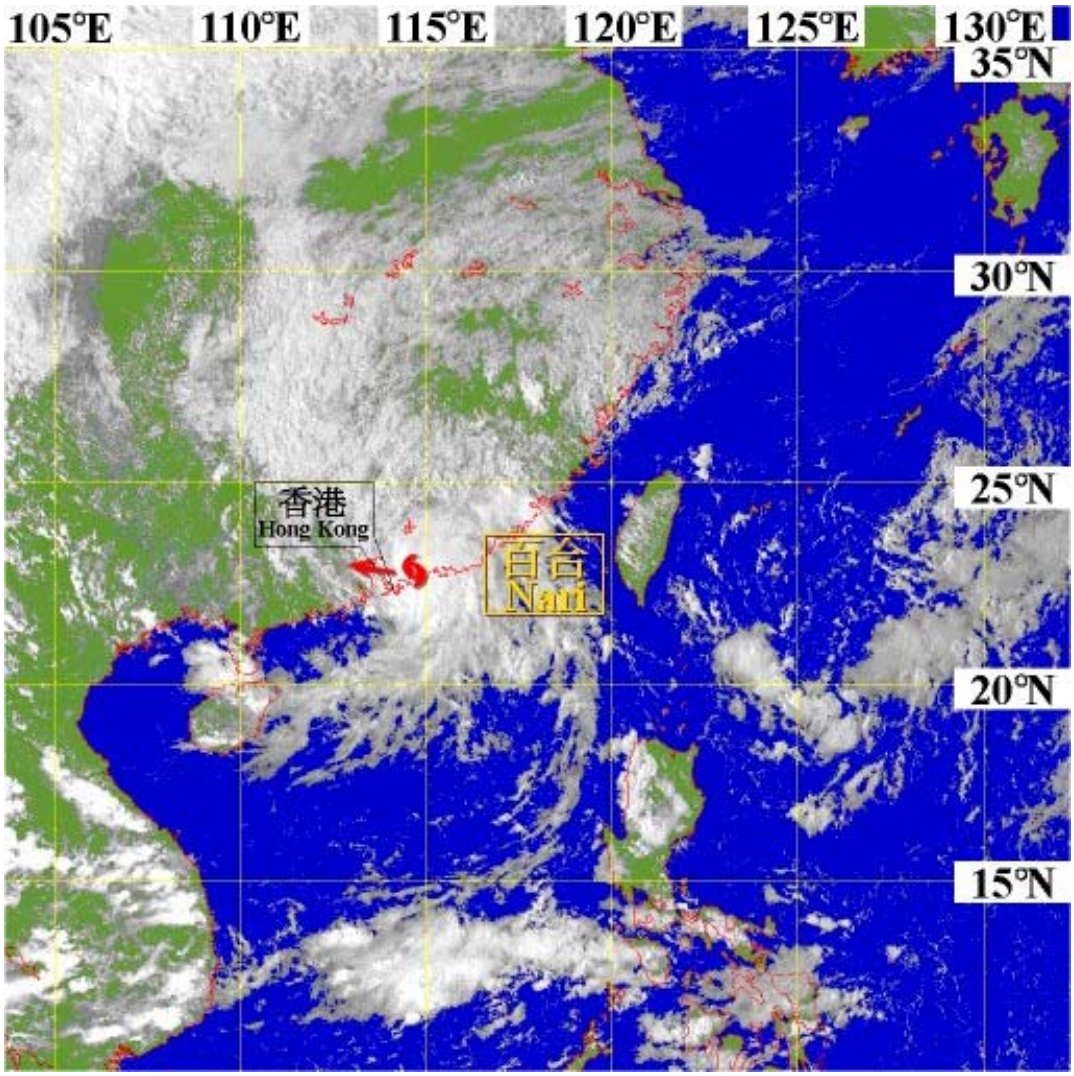

圖 3.6.3.c　二零零一年九月二十日約下午3時30分的可見光衛星圖片，當時百合正趨近香港，圖中紅色箭咀爲百合的移動方向。〔此衛星雲圖接收自日本氣象廳的地球同步氣象衛星(GMS-5)〕

Figure 3.6.3.c Visible imagery at around 3.30 p.m. on 20 September 2001 when Nari was approaching Hong Kong. The red arrow indicates the direction of movement of Nari. [The cloud imagery was originally captured by the Geostationary Meteorological Satellite (GMS-5) of Japan Meteorological Agency]

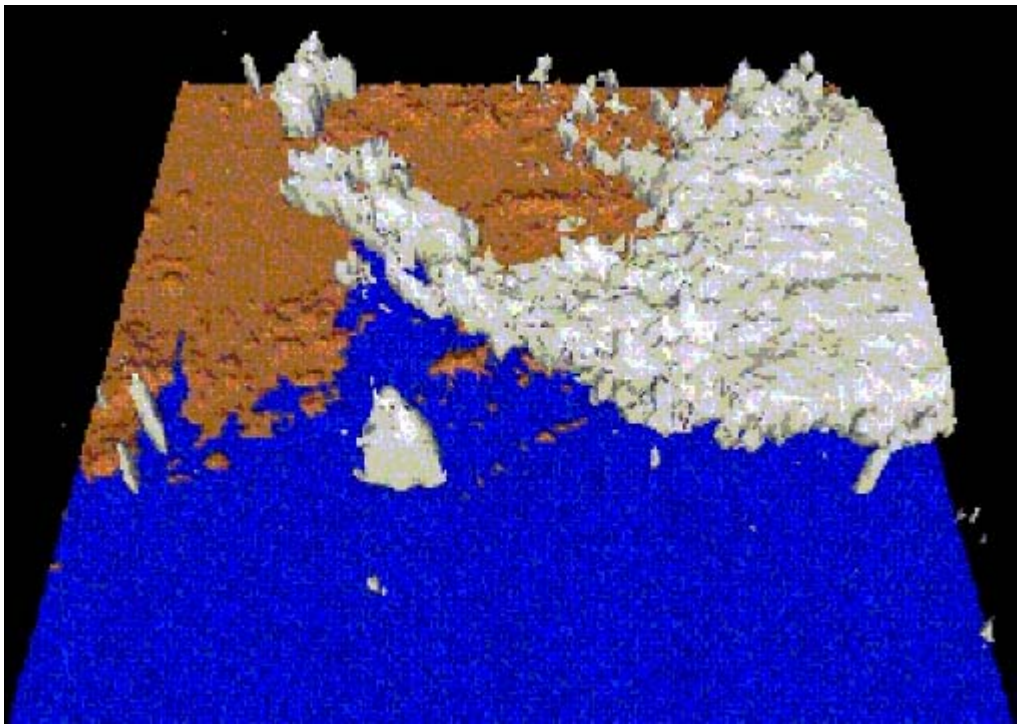

圖 3.6.4　二零零一年九月二十日約下午3時30分的立體雷達回波圖像，當時百合的雨帶正爲香港帶來狂風大雨。

Figure 3.6.4　3-D radar echoes captured at around 3.30 p.m. on 20 September 2001. At that time, the rainbands associated with Nari were bringing squally showers to Hong Kong.

第四節

熱帶氣旋統計表

Section 4

TROPICAL CYCLONE STATISTICS AND TABLES

表4.1是二零零一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是天文台在二零零一年爲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。表內使用的時間爲協調世界時。

表4.3是二零零一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懸掛或除下的時間和發出警報的次數。表內使用的時間爲香港時間。

表4.4是一九五六至二零零一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是一九五六至二零零一年間每年位於香港責任範圍內以及每年引致天文台需要懸掛熱帶氣旋警告信號的熱帶氣旋總數。

表4.6是一九五六至二零零一年間天文台懸掛各種熱帶氣旋警告信號的最長、最短及平均時段。

表4.7是二零零一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，單位爲米）。

表4.8.1是二零零一年位於香港600公里範圍內的熱帶氣旋及其爲香港所帶來的雨量。

表4.8.2是一八八四至一九三九年以及一九四七至二零零一年間十個爲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，天文台懸掛十號颶風信號時所錄得的氣象資料。內容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是二零零一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是一九六零至二零零一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。

TABLE 4.1 is a list of tropical cyclones in 2001 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 2001, 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 hoisting of tropical cyclone warning signals in 2001. 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 hoisting of tropical cyclone warning signals from 1956 to 2001 inclusive.

TABLE 4.5 gives the annual number of tropical cyclones in Hong Kong's area of responsibility between 1956 and 2001 and also the annual number of tropical cyclones necessitated the hoisting of tropical cyclone warning signals in Hong Kong.

TABLE 4.6 shows the maximum, mean and minimum durations of the tropical cyclone warning signals hoisted during the period 1956-2001.

TABLE 4.7 is a summary of meteorological information for each tropical cyclone affecting Hong Kong in 2001. Information on the nearest approach together with an estimate of the minimum central pressure of each tropical cyclone during its closest approach, the maximum winds at King’s Park 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 are included.

TABLE 4.8.1 tabulates the amount of rainfall associated with each tropical cyclone that came within 600 km of Hong Kong in 2001.

TABLE 4.8.2 highlights the 10 wettest tropical cyclones in Hong Kong for the period 1884-1939 and 1947-2001.

TABLE 4.9 provides some meteorological information for those typhoons requiring the hoisting 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 2001. 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 : 1960-2001. The information is based on reports from various government departments, public utility companies and local newspapers.

表 4.1　　二零零一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 2001

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: 變爲溫帶氣旋 Became Extratropical
			日期/月份 Date/Month	時間+ Time+	位置 Position 北緯 °N 東經 °E	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 °N 東經 °E	
強烈熱帶風暴西馬侖	Severe Tropical Storm Cimaron	(0101)	10 / 5	0600	13.6 119.8	90	985	14 / 5	1200	27.5 129.8	XT
颱風飛燕	Typhoon Chebi	(0102)	20 / 6	0000	11.9 135.2	140	960	24 / 6	1200	32.7 124.9	XT
颱風榴槤	Typhoon Durian	(0103)	30 / 6	0000	16.5 115.3	130	965	3 / 7	0600	22.5 105.9	DISP
颱風尤特	Typhoon Utor	(0104)	1 / 7	0000	6.5 137.6	130	965	7 / 7	1800	24.2 106.8	DISP
熱帶風暴潭美	Tropical Storm Trami	(0105)	9 / 7	0600	18.5 125.1	75	994	12 / 7	0600	24.4 119.4	DISP
颱風康妮	Typhoon Kong-rey	(0106)	21 / 7	1200	24.4 151.6	140	960	29 / 7	0600	38.7 157.1	XT
颱風玉兔	Typhoon Yutu	(0107)	23 / 7	0000	19.0 124.2	150	960	26 / 7	1200	22.4 108.7	DISP
颱風桃芝	Typhoon Toraji	(0108)	26 / 7	1200	17.1 130.0	130	965	31 / 7	0600	27.4 119.5	DISP
颱風萬宜	Typhoon Man-yi	(0109)	2 / 8	0000	11.0 151.8	150	955	9 / 8	0600	40.5 151.6	XT
熱帶風暴天兔	Tropical Storm Usagi	(0110)	9 / 8	0600	16.7 112.1	75	992	11 / 8	0000	18.0 104.2	DISP
颱風帕布	Typhoon Pabuk	(0111)	14 / 8	0000	18.3 146.5	140	960	22 / 8	1200	37.7 141.1	XT
颱風蝴蝶	Typhoon Wutip	(0112)	26 / 8	1800	16.2 140.3	165	945	2 / 9	1200	35.3 157.0	XT
熱帶風暴聖帕	Tropical Storm Sepat	(0113)	26 / 8	1800	20.6 163.5	75	994	30 / 8	0000	36.2 159.5	XT
熱帶風暴菲特	Tropical Storm Fitow	(0114)	28 / 8	1200	19.5 113.5	65	985	31 / 8	1800	22.0 108.8	DISP
颱風丹娜絲	Typhoon Danas	(0115)	3 / 9	1200	18.4 154.2	150	955	12 / 9	0000	41.9 145.8	XT
颱風百合	Typhoon Nari	(0116)	5 / 9	1800	24.8 123.7	150	955	20 / 9	1200	23.1 114.3	DISP
颱風韋帕	Typhoon Vipa	(0117)	17 / 9	0600	22.9 140.3	120	970	21 / 9	0600	40.1 152.4	XT
颱風范斯高	Typhoon Francisco	(0118)	19 / 9	1200	14.5 162.0	150	955	25 / 9	1200	39.3 152.0	XT
颱風利奇馬	Typhoon Lekima	(0119)	22 / 9	0600	19.4 124.7	130	965	30 / 9	0000	28.9 123.4	XT
颱風羅莎	Typhoon Krosa	(0120)	4 /10	0000	15.2 143.6	140	960	9 /10	0600	34.1 151.3	XT
颱風海燕	Typhoon Haiyan	(0121)	12 /10	0000	17.0 129.9	140	960	18 /10	0600	32.5 139.6	XT
颱風楊柳	Typhoon Podul	(0122)	19 /10	0000	5.4 155.6	195	930	27 /10	1800	36.6 161.9	XT
颱風玲玲	Typhoon Lingling	(0123)	6 /11	1200	10.5 126.3	155	950	12 /11	1200	13.6 106.3	DISP
熱帶低氣壓	Tropical Depression		20 /11	1800	12.1 132.0	55	998	25 /11	0000	21.8 133.9	XT
熱帶低氣壓	Tropical Depression		21 /11	0600	8.0 113.5	45	1004	22 /11	1800	8.2 115.9	DISP
熱帶風暴劍魚	Tropical Storm Kajiki	(0124)	5 /12	0000	10.2 126.0	65	996	9 /12	0000	12.8 111.3	DISP
颱風法茜	Typhoon Faxai	(0125)	16 /12	0000	5.1 160.9	205	925	25 /12	1800	29.8 159.0	XT
熱帶風暴畫眉	Tropical Storm Vamei	(0126)	27 /12	0000	1.5 105.2	75	1006	28 /12	0000	1.6 102.1	DISP

+ 時間爲協調世界時

+ Times are given in UTC

表 4.2　　二零零一年爲船舶發出的熱帶氣旋警告

TABLE 4.2　TROPICAL CYCLONE WARNINGS FOR SHIPPING ISSUED IN 2001

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 時間+ Date/Month Time+	日期/月份 時間+ Date/Month Time+	
強烈熱帶風暴西馬侖	Severe Tropical Storm Cimaron	34	10 / 5 0300	13 / 5 2100	90
* 颱風飛燕	* Typhoon Chebi	22	21 / 6 1800	24 / 6 0600	60
* 颱風榴槤	* Typhoon Durian	25	30 / 6 0000	3 / 7 0000	72
* 颱風尤特	* Typhoon Utor	29	4 / 7 0000	7 / 7 0000	72
熱帶風暴潭美	Tropical Storm Trami	25	9 / 7 0900	12 / 7 0600	69
* 颱風玉兔	* Typhoon Yutu	28	23 / 7 0000	26 / 7 0900	81
颱風桃芝	Typhoon Toraji	30	28 / 7 0000	31 / 7 0600	78
熱帶風暴天兔	Tropical Storm Usagi	15	9 / 8 0300	10 / 8 2100	42
* 熱帶風暴菲特	* Tropical Storm Fitow	27	28 / 8 1200	31 / 8 1800	78
* 颱風百合	* Typhoon Nari	5	6 / 9 0000	6 / 9 1200	12
		11	9 / 9 0000	10 / 9 0600	30
		52	14 / 9 0600	20 / 9 1200	150
颱風利奇馬	Typhoon Lekima	63	22 / 9 0600	30 / 9 0000	186
颱風海燕	Typhoon Haiyan	9	15 / 10 2100	16 / 10 1500	18
颱風玲玲	Typhoon Lingling	45	6 / 11 2100	12 / 11 0900	132
熱帶風暴劍魚	Tropical Storm Kajiki	31	5 / 12 0600	9 / 12 0000	90
	共 Total	451			1260

* 這些熱帶氣旋皆引致天文台需要懸掛熱帶氣旋警告信號。

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

+ 時間爲協調世界時。

+ Times are given in UTC.

表 4.3　　二零零一年天文台所懸掛的熱帶氣旋警告信號及警報發出的次數
TABLE 4.3　TROPICAL CYCLONE WARNING SIGNALS HOISTED IN HONG KONG AND NUMBER OF WARNING BULLETINS ISSUED IN 2001

摘要 SUMMARY

信號 Signal	次數 No. of occasions	總時段 Total duration	
		時 h	分 min
1	6	123	40
3	6	92	35
8 西北 NW	1	10	0
8 西南 SW	1	4	0
8 東北 NE	2	14	20
8 東南 SE	1	9	0
9	-	-	
10	-	-	
共 Total	17	253	35

詳情 DETAILS

熱帶氣旋 Tropical cyclone	警報發出的次數 No. of warning bulletins issued	信號 Signal	懸掛 Hoisted 日期/月份 Date/Month	懸掛 Hoisted 時間* Time*	除下 Lowered 日期/月份 Date/Month	除下 Lowered 時間* Time*
颱風飛燕 T. Chebi	25	1	22 / 6	2325	23 / 6	2025
颱風榴槤 T. Durian	56	1	30 / 6	0740	30 / 6	2220
		3	30 / 6	2220	2 / 7	0920
颱風尤特 T. Utor	77	1	4 / 7	1745	5 / 7	1045
		3	5 / 7	1045	5 / 7	1930
		8 東北 NE	5 / 7	1930	5 / 7	2340
		8 西北 NW	5 / 7	2340	6 / 7	0940
		8 西南 SW	6 / 7	0940	6 / 7	1340
		3	6 / 7	1340	7 / 7	1120
颱風玉兔 T. Yutu	59	1	23 / 7	2150	24 / 7	1550
		3	24 / 7	1550	25 / 7	0030
		8 東北 NE	25 / 7	0030	25 / 7	1040
		8 東南 SE	25 / 7	1040	25 / 7	1940
		3	25 / 7	1940	26 / 7	0615
熱帶風暴菲特 T.S. Fitow	35	1	28 / 8	2215	30 / 8	0445
颱風百合 T. Nari	32	1	19 / 9	1615	20 / 9	1445
		3	20 / 9	1445	20 / 9	2240

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

表 4.4　　一九五六至二零零一年間每年各熱帶氣旋警告信號的懸掛次數及總時段

TABLE 4.4　FREQUENCY AND TOTAL DURATION OF DISPLAY OF TROPICAL CYCLONE WARNING SIGNALS : 1956-2001

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
共 Total	302	268	18	25	52	38	16	12	12915	34
平均 Mean	6.6	5.8	0.4	0.5	1.1	0.8	0.3	0.3	280	46

表 4.5 一九五六至二零零一年間每年位於香港責任範圍內以及每年引致天文台需要懸掛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 : 1956-2001

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懸掛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
共 Total	739	287
平均 Mean	16.1	6.2

表 4.6　　一九五六至二零零一年間天文台懸掛熱帶氣旋警告信號的時段

TABLE 4.6　DURATION OF TROPICAL CYCLONE WARNING SIGNALS HOISTED IN HONG KONG : 1956-2001

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 h	分 min	時 h	分 min	時 h	分 min	時 h	分 min	時 h	分 min	時 h	分 min
一號或以上 1 or higher	299	43	12	161	0	4	30	280	46	570	15	36	35
三號或以上 3 or higher	202	30	41	124	15	4	30	134	44	306	35	17	15
八號或以上 8 or higher	68	15	42	66	50	2	40	23	12	100	55	0	0
8 西北 NW	18	6	14	15	45	1	30	2	27	18	0	0	0
8 西南 SW	25	5	4	10	45	2	30	2	45	16	10	0	0
8 東北 NE	52	8	11	35	35	2	35	9	15	40	20	0	0
8 東南 SE	38	7	19	21	45	0	20	6	3	31	15	0	0
九號或以上 9 or higher	17	7	19	12	25	3	0	2	42	19	25	0	0
10	12	6	34	11	0	2	30	1	43	12	10	0	0

表 4.7　　二零零一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 2001

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	大埔滘 Tai Po Kau	尖鼻咀 Tsim Bei Tsui	橫瀾島 Waglan Island
颱風飛燕 T. Chebi	6	23	13	東 E	520	北 N 25	965	6	23	15:12	999.8	0.18	0.20	0.26	0.18	0.27
								6	23	15:00	999.9					
颱風榴槤 T. Durian	7	1	14	西南 SW	340	西北 NW 15	975	7	1	15:30	1000.7	0.40	0.47	0.56	0.34	0.50
								7	1	15:00	1001.0					
颱風尤特 T. Utor	7	6	10	北 N	80	西北偏西 WNW 25	970	7	6	05:21	980.6	1.12	0.91	1.35	1.07	1.16
								7	6	06:00	980.8					
颱風玉兔 T. Yutu	7	25	12	西南偏南 SSW	180	西北偏西 WNW 15	960	7	25	04:33	1000.9	0.57	0.68	0.75	-	0.67
								7	25	05:00	1000.9					
熱帶風暴菲特 T.S Fitow	8	28	23	西南偏南 SSW	320	西北偏西 WNW 5	996	8	29	05:18	998.8	0.39	0.41	0.49	0.20	0.43
								8	29	06:00	999.0					
颱風百合 T. Nari	9	20	20	北 N	90	西 W 20	996	9	20	14:16	1003.4	0.34	0.29	-	0.20	0.41
								9	20	15:00	1003.4					

* 香港時間（協調世界時加八小時）

* Hong Kong Time （UTC + 8 hours）

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	赤鱲角(機場) Chek Lap Kok (Airport)	橫瀾島 Waglan Island	京士柏 King's Park	赤鱲角(機場) Chek Lap Kok (Airport)	橫瀾島 Waglan Island	京士柏 King's Park	赤鱲角(機場) Chek Lap Kok (Airport)	橫瀾島 Waglan Island
颱風飛燕 T. Chebi	6	西 W 13	西南偏西 WSW 30	西南 SW 36	東 E 16	西南 SW 31	西南 SW 38	東 E 30	西南 SW 45	西南 SW 41
颱風榴槤 T. Durian	6 - 7	東 E 31	東 E 43	東南偏東 ESE 62	東 E 38	東南偏東 ESE 49	東南偏東 ESE 68	東, 東南偏東 E, ESE 67	東南偏東 ESE 83	東南偏東 ESE 90
颱風尤特 T. Utor	7	南 S 36	南 S 76	南 S 92	南 S 45	南 S 81	南 S 96	南 S 85	南 S 122	南 S 113
颱風玉兔 T. Yutu	7	東 E 31	東 E 45	東北偏東 ENE 68	東 E 38	東 E 54	東 E 76	東 E 85	東 E 77	東 E 90
熱帶風暴菲特 T.S. Fitow	8	東 E 23	東 E 30	東北偏東 ENE 58	東 E 31	東 E 34	東北偏東 ENE 62	東南偏東 ESE 63	東 E 54	東 E 92
颱風百合 T. Nari	9	西 W 16	西北偏北 NNW 31	北 N 31	北 N 23	西北偏北 NNW 31	北 N 40	西北偏北 NNW 45	東北偏北 NNE 41	北 N 52

表 4.8.1　　二零零一年位於香港600公里範圍內的熱帶氣旋及其爲本港帶來的雨量

TABLE 4.8.1 RAINFALL ASSOCIATED WITH EACH TROPICAL CYCLONE THAT CAME WITHIN 600 KM OF HONG KONG IN 2001

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)
颱風飛燕 T. Chebi	(T_1) 23 / 6 0300 - (T_2) 23 / 6 2100	15.0	61.0	168.6	238.1	253.1
颱風榴槤 T. Durian	(T_1) 30 / 6 1100 - (T_2) 2 / 7 1700	75.9	7.8	7.8	15.2 +	91.1
颱風尤特 T. Utor	(T_1) 5 / 7 0300 - (T_2) 7 / 7 1600	163.7 +	4.4	4.4	4.4	168.1
熱帶風暴潭美 # T.S. Trami #	(T_1) 12 / 7 0300 - (T_2) 12 / 7 1400	0.0	41.0	41.5	65.3	65.3
颱風玉兔 T. Yutu	(T_1) 24 / 7 0400 - (T_2) 27 / 7 0000	48.0	微量 Trace	微量 Trace	微量 Trace	48.0
熱帶風暴菲特 T.S. Fitow	(T_1) 28 / 8 2000 - (T_2) 1 / 9 0200	152.2	150.6	168.8	240.4	392.6
颱風百合 T. Nari	(T_1) 19 / 9 0200 - (T_2) 20 / 9 2000	31.5	47.5	47.5	47.5	79.0
					共 Total	1089.8 +

* 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懸掛熱帶氣旋警告信號。

\+ 欄(iv)有關榴槤的雨量與欄(i)有關尤特的雨量出現了7.4毫米的重疊部份。

* 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 hoisting of tropical cyclone warning signal in Hong Kong.

\+ Figure in column (iv) of T. Durian overlaps the rainfall amount in column (i) of T. Utor by 7.4 mm.

表 4.8.2　一八八四至一九三九年及一九四七至二零零一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, 1947-2001)

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	-	34.8 #	534.0 #	561.1 #	562.2 #	597.0
1916	6	-	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	-	446.5 #	- #	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　　一九四六至二零零一年間引致天文台需要懸掛十號颶風信號的颱風

TABLE 4.9　TYPHOONS REQUIRING THE HOISTING OF THE HURRICANE SIGNAL NO. 10 DURING THE PERIOD 1946-2001

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 Date/Month	年份 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	-
愛西 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 anemogram.

表 4.10　　二零零一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 2001

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
颱風榴槤 T. Durian	6 - 7	–	–	–	-	2 宗 2 cases	-	-	-	-	-	-
颱風尤特 T. Utor	7	農地: 2.63 公頃 farmland: 2.63 hectares 鮮花及穀物: 1.55 公頃 flowers & field crops : 1.55 hectares 果園: 0.37 公頃 fruit plants: 0.37 hectare 魚塘: 31.6 公頃 fish pond: 31.6 hectares 塘魚: 44.8 噸 pond fish: 44.8 tons 蔬菜: 11 噸 vegetable: 11 tons 堰: 1 處 agricultural weirs: 1 site	道路: 2 處 road: 2 sites 公共設施: 2 處 public facilities: 2 sites	–	-	4 宗 4 cases	1.03	-	-	-	-	1.03

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　　一九六零至二零零一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 : 1960-2001

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	33	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

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
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
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

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
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
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

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

二零零一年熱帶氣旋的位置及強度數據

Section 5

TROPICAL CYCLONE POSITION AND INTENSITY DATA, 2001

以下是二零零一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，單位爲米每秒（1米每秒約爲1.94海里或3.6公里每小時）。熱帶氣旋的強度分爲：-

(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

Six-hourly position and intensity data are tabulated in this section for the following tropical cyclones in 2001 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

強烈熱帶風暴西馬侖(0101)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM CIMARON (0101)

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	10	0600	T.D.	1002	13	13.6	119.8
		1200	T.D.	1002	13	14.5	119.7
		1800	T.D.	1002	13	15.4	119.5
	11	0000	T.D.	1000	16	16.2	119.4
		0600	T.S.	998	18	16.9	119.3
		1200	T.S.	998	18	17.6	119.3
		1800	T.S.	996	21	18.3	119.4
	12	0000	T.S.	996	21	18.9	119.7
		0600	T.S.	996	21	19.5	120.2
		1200	T.S.	996	21	20.0	120.7
		1800	T.S.	990	23	20.5	121.2
	13	0000	T.S.	990	23	21.1	121.8
		0600	S.T.S.	985	26	22.0	122.6
		1200	S.T.S.	985	26	23.1	123.6
		1800	S.T.S.	985	26	24.2	125.0
	14	0000	S.T.S.	985	26	25.4	126.4
		0600	T.S.	994	21	26.6	128.0
		1200	T.S.	1000	18	27.5	129.8

變爲溫帶氣旋
Became Extratropical

颱風飛燕(0102)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON CHEBI (0102)

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
六月 Jun	20	0000	T.D.	1000	16	11.9	135.2
		0600	T.S.	996	18	12.9	133.4
		1200	T.S.	996	18	13.6	131.4
		1800	T.S.	992	21	14.0	129.4
	21	0000	T.S.	990	23	14.5	128.0
		0600	T.S.	990	23	15.2	127.0
		1200	S.T.S.	985	25	16.0	126.0
		1800	S.T.S.	980	28	17.1	124.8
	22	0000	S.T.S.	975	31	18.3	123.5
		0600	T.	970	33	19.5	122.1
		1200	T.	970	33	20.4	121.1
		1800	T.	965	36	21.0	119.9
	23	0000	T.	960	39	22.2	119.4
		0600	T.	965	36	23.4	119.2
		1200	T.	970	33	24.7	119.2
		1800	S.T.S.	975	31	26.5	119.6
	24	0000	T.S.	990	23	28.2	120.6
		0600	T.S.	994	18	30.3	122.2
		1200	T.D.	998	16	32.7	124.9

變爲溫帶氣旋
Became Extratropical

颱風榴槤(0103)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON DURIAN (0103)

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
六月 Jun	30	0000	T.D.	1000	16	16.5	115.3
		0600	T.S.	996	18	17.5	114.7
		1200	T.S.	990	23	18.2	114.2
		1800	S.T.S.	985	25	18.8	113.7
七月 Jul	1	0000	S.T.S.	980	28	19.4	113.0
		0600	S.T.S.	975	31	19.8	112.3
		1200	T.	970	33	20.3	111.6
		1800	T.	965	36	20.8	110.8
	2	0000	T.	970	33	21.3	109.9
		0600	S.T.S.	975	31	21.7	108.9
		1200	S.T.S.	985	25	22.0	108.0
		1800	T.S.	990	21	22.2	107.3
	3	0000	T.S.	992	18	22.3	106.6
		0600	T.D.	994	16	22.5	105.9
			消散 Dissipated				

颱風尤特(0104)的每小時之位置及強度
HOURLY POSITION AND INTENSITY DATA OF TYPHOON UTOR (0104)

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	1	0000	T.D.	1002	13	6.5	137.6
		0600	T.D.	1002	13	7.0	137.6
		1200	T.D.	1000	16	7.6	137.6
		1800	T.D.	1000	16	8.5	137.5
	2	0000	T.S.	992	21	9.8	137.2
		0600	T.S.	990	23	11.2	136.2
		1200	S.T.S.	985	25	12.3	134.9
		1800	S.T.S.	980	28	13.4	133.2
	3	0000	S.T.S.	975	31	14.3	131.3
		0600	T.	970	33	15.3	129.5
		1200	T.	965	36	16.3	127.7
		1800	T.	965	36	17.3	125.9
	4	0000	T.	965	36	18.3	124.2
		0600	T.	965	36	18.9	122.4
		1200	T.	965	36	19.4	120.4
		1800	T.	965	36	19.8	119.4
	5	0000	T.	965	36	20.3	118.5
		0600	T.	965	36	20.8	117.5
		1200	T.	965	36	21.2	116.4
		1800	T.	965	36	21.7	115.9
	6	0000	S.T.S.	970	31	22.8	115.0
		0600	S.T.S.	975	25	23.1	113.5
		1200	T.S.	980	23	23.2	112.3
		1800	T.S.	985	21	23.4	111.2
	7	0000	T.D.	990	16	23.6	110.1
		0600	T.D.	994	13	23.8	109.0
		1200	T.D.	994	13	24.0	107.9
		1800	T.D.	996	13	24.2	106.8

消散
Dissipated

熱帶風暴潭美(0105)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM TRAMI (0105)

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	9	0600	T.D.	1000	13	18.5	125.1
		1200	T.D.	1000	13	19.0	124.6
		1800	T.D.	998	16	19.4	124.3
	10	0000	T.D.	998	16	19.8	123.9
		0600	T.S.	996	18	20.3	123.5
		1200	T.S.	996	18	20.7	123.1
		1800	T.S.	994	21	21.2	122.6
	11	0000	T.S.	994	21	21.8	122.1
		0600	T.S.	994	21	22.3	121.5
		1200	T.S.	996	18	22.8	120.8
		1800	T.S.	996	18	23.1	120.0
	12	0000	T.D.	998	16	23.6	119.6
		0600	T.D.	1000	13	24.4	119.4

消散
Dissipated

颱風康妮(0106)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON KONG-REY (0106)

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	21	1200	T.D.	1000	16	24.4	151.6
		1800	T.D.	1000	16	24.7	151.0
	22	0000	T.S.	996	18	25.0	150.3
		0600	T.S.	996	18	25.2	149.6
		1200	T.S.	996	18	25.3	149.0
		1800	T.S.	994	21	25.3	148.5
	23	0000	T.S.	990	23	25.3	148.0
		0600	T.S.	990	23	25.3	147.2
		1200	T.S.	990	23	25.3	146.3
		1800	T.S.	990	23	25.3	145.3
	24	0000	S.T.S.	985	25	25.4	144.2
		0600	S.T.S.	985	25	25.7	143.1
		1200	S.T.S.	980	28	26.1	142.2
		1800	S.T.S.	980	28	26.5	141.4
	25	0000	S.T.S.	975	31	27.1	140.8
		0600	T.	970	33	27.5	140.5
		1200	T.	960	39	28.0	140.4
		1800	T.	960	39	28.6	140.4
	26	0000	T.	965	36	29.2	140.8
		0600	T.	965	36	29.7	141.3
		1200	T.	965	36	30.2	141.9
		1800	T.	965	36	30.7	142.6
	27	0000	T.	965	36	31.2	143.6
		0600	T.	965	36	31.6	144.8
		1200	T.	965	36	32.0	145.9
		1800	T.	970	33	32.4	147.0
	28	0000	T.	970	33	33.1	148.3
		0600	S.T.S.	975	31	33.8	149.9
		1200	S.T.S.	975	31	34.6	151.5
		1800	S.T.S.	980	28	35.6	153.0
	29	0000	S.T.S.	985	25	37.1	155.0
		0600	S.T.S.	985	25	38.7	157.1

變爲溫帶氣旋
Became Extratropical

颱風玉兔(0107)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON YUTU (0107)

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	23	0000	T.D.	1002	13	19.0	124.2
		0600	T.D.	1000	16	19.8	122.8
		1200	T.S.	996	18	20.1	121.3
		1800	T.S.	992	21	20.3	119.9
	24	0000	T.S.	990	23	20.4	118.4
		0600	S.T.S.	980	28	20.5	117.0
		1200	T.	970	36	20.6	115.9
		1800	T.	960	41	20.6	114.8
	25	0000	T.	960	41	20.6	114.0
		0600	T.	960	41	20.8	113.3
		1200	T.	970	36	21.1	112.6
		1800	S.T.S.	975	31	21.3	111.3
	26	0000	S.T.S.	985	25	21.6	110.1
		0600	T.S.	992	21	22.0	109.3
		1200	T.D.	996	16	22.4	108.7
			消散 Dissipated				

颱風桃芝(0108)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON TORAJI (0108)

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	26	1200	T.D.	1002	13	17.1	130.0
		1800	T.D.	998	16	17.1	128.6
	27	0000	T.S.	994	21	17.1	127.6
		0600	S.T.S.	985	25	17.3	126.7
		1200	S.T.S.	980	28	17.5	126.1
		1800	T.	970	33	17.9	125.5
	28	0000	T.	970	33	18.4	124.9
		0600	T.	965	36	19.0	124.3
		1200	T.	965	36	19.7	123.7
		1800	T.	965	36	20.4	123.2
	29	0000	T.	965	36	21.2	122.7
		0600	T.	965	36	22.2	122.3
		1200	T.	965	36	23.1	122.0
		1800	T.	970	33	23.7	121.4
	30	0000	T.	970	33	24.4	120.9
		0600	S.T.S.	980	28	25.1	120.5
		1200	S.T.S.	985	25	25.6	120.2
		1800	T.S.	990	23	26.1	119.9
	31	0000	T.S.	996	18	26.7	119.6
		0600	T.D.	998	16	27.4	119.5
			消散 Dissipated				

颱風萬宜(0109)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MAN-YI (0109)

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
八月 Aug	2	0000	T.D.	1000	16	11.0	151.8
		0600	T.S.	998	18	11.8	151.2
		1200	T.S.	994	21	12.6	150.5
		1800	T.S.	990	23	13.7	149.6
	3	0000	S.T.S.	985	25	14.9	148.6
		0600	S.T.S.	980	28	16.1	147.7
		1200	S.T.S.	975	31	17.3	146.8
		1800	T.	970	33	18.5	145.9
	4	0000	T.	965	36	19.8	145.2
		0600	T.	960	39	21.1	144.5
		1200	T.	955	41	22.4	144.1
		1800	T.	955	41	23.6	143.8
	5	0000	T.	955	41	24.7	143.6
		0600	T.	955	41	25.3	143.7
		1200	T.	955	41	25.6	143.9
		1800	T.	955	41	25.9	144.2
	6	0000	T.	960	39	26.2	144.6
		0600	T.	960	39	26.5	145.0
		1200	T.	960	39	26.9	145.4
		1800	T.	960	39	27.3	145.9
	7	0000	T.	960	39	28.0	146.6
		0600	T.	960	39	28.9	147.4
		1200	T.	965	36	30.0	148.4
		1800	T.	965	36	31.2	149.3
	8	0000	T.	970	33	32.6	150.2
		0600	S.T.S.	975	31	34.2	150.8
		1200	S.T.S.	980	28	36.0	151.0
		1800	S.T.S.	985	25	37.6	151.2
	9	0000	T.S.	990	23	38.8	151.4
		0600	T.S.	990	23	40.5	151.6

變爲溫帶氣旋
Became Extratropical

熱帶風暴天兔(0110)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM USAGI (0110)

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
八月 Aug	9	0600	T.D.	1000	13	16.7	112.1
		1200	T.D.	998	16	16.8	112.4
		1800	T.D.	996	16	17.3	111.7
	10	0000	T.D.	996	16	17.8	110.6
		0600	T.S.	994	18	18.0	109.0
		1200	T.S.	992	21	18.1	107.4
		1800	T.S.	994	18	18.2	105.8
	11	0000	T.D.	998	16	18.0	104.2
			消散 Dissipated				

颱風帕布(0111)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON PABUK (0111)

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
八月 Aug	14	0000	T.D.	1000	16	18.3	146.5
		0600	T.D.	1000	16	18.5	146.0
		1200	T.S.	998	18	18.7	145.5
		1800	T.S.	994	21	19.1	144.5
	15	0000	T.S.	990	23	19.5	143.4
		0600	S.T.S.	985	25	19.9	142.3
		1200	S.T.S.	985	25	20.2	141.5
		1800	S.T.S.	980	28	20.5	140.8
	16	0000	S.T.S.	975	31	20.7	140.2
		0600	S.T.S.	975	31	21.0	139.6
		1200	T.	970	33	21.2	139.0
		1800	T.	970	33	21.3	138.6
	17	0000	T.	965	36	21.5	138.2
		0600	T.	960	39	21.7	137.8
		1200	T.	960	39	22.0	137.4
		1800	T.	960	39	22.4	137.0
	18	0000	T.	960	39	22.8	136.7
		0600	T.	960	39	23.4	136.3
		1200	T.	960	39	24.0	135.8
		1800	T.	960	39	24.7	135.0
	19	0000	T.	960	39	25.4	134.3
		0600	T.	960	39	26.2	133.7
		1200	T.	960	39	27.0	133.2
		1800	T.	960	39	27.7	133.0
	20	0000	T.	960	39	28.5	132.9
		0600	T.	960	39	29.4	133.0
		1200	T.	965	36	30.2	133.5
		1800	T.	965	36	30.8	134.4
	21	0000	T.	970	33	31.9	135.0
		0600	S.T.S.	970	31	33.1	135.0
		1200	S.T.S.	970	31	33.7	135.7
		1800	S.T.S.	975	28	34.1	136.6
	22	0000	S.T.S.	980	25	34.6	138.0
		0600	S.T.S.	980	25	35.5	139.8
		1200	T.S.	985	23	37.7	141.1

變爲溫帶氣旋
Became Extratropical

颱風蝴蝶(0112)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON WUTIP (0112)

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
八月 Aug	26	1800	T.D.	1000	16	16.2	140.3
	27	0000	T.D.	1000	16	16.6	140.4
		0600	T.D.	1000	16	17.3	140.8
		1200	T.S.	996	18	18.0	141.4
		1800	T.S.	990	23	18.8	142.1
	28	0000	S.T.S.	980	28	19.6	142.8
		0600	S.T.S.	975	31	20.4	143.5
		1200	T.	970	33	21.2	144.2
		1800	T.	965	36	22.0	144.9
	29	0000	T.	955	41	22.8	145.5
		0600	T.	945	46	23.4	146.0
		1200	T.	945	46	24.0	146.4
		1800	T.	945	46	24.6	146.8
	30	0000	T.	945	46	25.1	147.1
		0600	T.	950	43	25.6	147.4
		1200	T.	955	41	26.1	147.7
		1800	T.	965	36	26.9	147.9
	31	0000	T.	965	36	27.7	147.8
		0600	T.	965	36	28.6	148.0
		1200	T.	970	33	29.4	148.6
		1800	T.	970	33	30.2	149.2
九月 Sep	1	0000	S.T.S.	975	31	31.1	150.0
		0600	S.T.S.	975	31	32.0	151.0
		1200	S.T.S.	975	31	32.7	152.2
		1800	S.T.S.	980	28	33.3	153.3
	2	0000	S.T.S.	985	25	33.9	154.4
		0600	S.T.S.	985	25	34.6	155.7
		1200	T.S.	990	23	35.3	157.0

變爲溫帶氣旋
Became Extratropical

熱帶風暴聖帕(0113)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM SEPAT (0113)

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
八月 Aug	26	1800	T.D.	1000	16	20.6	163.5
	27	0000	T.D.	1000	16	21.5	162.7
		0600	T.D.	1000	16	22.5	162.1
		1200	T.D.	1000	16	23.2	161.8
		1800	T.S.	998	18	23.8	161.6
	28	0000	T.S.	994	21	24.5	161.4
		0600	T.S.	994	21	25.2	161.2
		1200	T.S.	994	21	26.3	161.0
		1800	T.S.	994	21	27.5	160.8
	29	0000	T.S.	998	18	29.0	160.6
		0600	T.S.	998	18	30.5	160.6
		1200	T.S.	998	18	32.0	160.6
		1800	T.S.	998	18	34.1	160.0
	30	0000	T.S.	998	18	36.2	159.5

變爲溫帶氣旋
Became Extratropical

熱帶風暴菲特(0114)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM FITOW (0114)

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
八月 Aug	28	1200	T.D.	996	13	19.5	113.5
		1800	T.D.	996	13	19.6	113.2
	29	0000	T.D.	994	15	19.7	112.8
		0600	T.D.	990	16	19.8	112.2
		1200	T.D.	990	16	19.9	111.4
		1800	T.D.	990	16	19.9	110.6
	30	0000	T.D.	990	16	19.9	109.8
		0600	T.D.	990	16	19.9	109.3
		1200	T.S.	985	18	20.1	109.1
		1800	T.S.	985	18	20.5	109.1
	31	0000	T.S.	985	18	20.9	109.2
		0600	T.S.	990	18	21.6	109.0
		1200	T.D.	994	16	21.8	108.9
		1800	T.D.	996	16	22.0	108.8

消散
Dissipated

颱風丹娜絲(0115)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON DANAS (0115)

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	3	1200	T.D.	1000	16	18.4	154.2
		1800	T.D.	1000	16	18.4	153.5
	4	0000	T.S.	998	18	18.5	152.8
		0600	T.S.	990	23	18.6	152.2
		1200	S.T.S.	980	28	18.8	151.7
		1800	S.T.S.	975	31	19.3	151.3
	5	0000	T.	970	33	20.0	151.0
		0600	T.	965	36	20.7	150.9
		1200	T.	965	36	21.5	150.8
		1800	T.	965	36	22.4	150.6
	6	0000	T.	965	36	23.1	150.5
		0600	T.	960	39	23.8	150.4
		1200	T.	960	39	24.6	150.1
		1800	T.	960	39	25.5	149.5
	7	0000	T.	960	39	26.3	148.7
		0600	T.	960	39	27.1	147.5
		1200	T.	960	39	27.8	146.3
		1800	T.	960	39	28.3	144.9
	8	0000	T.	955	41	28.4	143.6
		0600	T.	955	41	28.4	142.7
		1200	T.	955	41	28.4	142.0
		1800	T.	955	41	28.7	141.5
	9	0000	T.	955	41	29.6	140.4
		0600	T.	955	41	30.5	139.3
		1200	T.	955	41	31.2	138.4
		1800	T.	955	41	31.8	137.6
	10	0000	T.	960	39	32.4	137.3
		0600	T.	960	39	33.0	137.4
		1200	T.	960	39	33.6	137.9
		1800	T.	965	36	34.3	138.5
	11	0000	S.T.S.	975	31	35.3	139.4
		0600	S.T.S.	980	28	36.3	140.4
		1200	S.T.S.	985	25	37.7	141.8
		1800	T.S.	990	23	39.5	143.6
	12	0000	T.S.	994	21	41.9	145.8

變爲溫帶氣旋
Became Extratropical

颱風百合(0116)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NARI (0116)

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	5	1800	T.D.	1000	16	24.8	123.7
	6	0000	T.D.	1000	16	25.1	124.6
		0600	T.S.	996	18	25.5	125.4
		1200	T.S.	996	18	25.9	126.2
		1800	T.S.	992	21	26.1	127.1
	7	0000	T.S.	990	23	26.2	127.9
		0600	S.T.S.	985	25	26.3	128.1
		1200	S.T.S.	980	28	26.3	128.0
		1800	S.T.S.	980	28	26.4	127.7
	8	0000	S.T.S.	980	28	26.7	127.2
		0600	S.T.S.	980	28	27.0	126.7
		1200	S.T.S.	980	28	27.2	126.2
		1800	S.T.S.	980	28	27.3	125.7
	9	0000	S.T.S.	980	28	27.3	125.4
		0600	S.T.S.	975	31	27.3	125.2
		1200	T.	970	33	27.2	125.0
		1800	T.	970	33	27.0	125.0
	10	0000	S.T.S.	975	31	26.7	125.1
		0600	S.T.S.	975	31	26.3	125.4
		1200	S.T.S.	975	31	26.1	126.0
		1800	S.T.S.	975	31	26.1	126.4
	11	0000	T.	965	36	26.1	126.7
		0600	T.	955	41	26.2	127.0
		1200	T.	955	41	26.3	127.0
		1800	T.	960	39	26.3	127.0
	12	0000	T.	965	36	26.3	127.0
		0600	T.	970	33	26.3	127.0
		1200	T.	970	33	26.3	127.0
		1800	T.	970	33	26.4	126.9
	13	0000	T.	970	33	26.5	126.5
		0600	T.	970	33	26.9	126.1
		1200	T.	970	33	27.2	125.8
		1800	T.	970	33	27.4	125.6
	14	0000	S.T.S.	975	31	27.5	125.3
		0600	S.T.S.	975	31	27.5	125.1
		1200	S.T.S.	975	31	27.3	124.9
		1800	S.T.S.	975	31	26.9	124.6

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颱風百合(0116)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NARI (0116)

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
(續上頁 Continued from previous page)							
九月 Sep	15	0000	S.T.S.	975	31	26.4	124.3
		0600	T.	970	33	26.0	124.1
		1200	T.	965	36	25.8	123.8
		1800	T.	960	39	25.6	123.5
	16	0000	T.	955	41	25.5	123.1
		0600	T.	955	41	25.4	122.6
		1200	T.	960	39	25.1	122.2
		1800	T.	970	33	24.6	121.6
	17	0000	S.T.S.	980	28	24.2	121.1
		0600	T.S.	990	23	24.1	121.0
		1200	T.S.	990	23	24.0	120.9
		1800	T.S.	990	23	23.9	120.8
	18	0000	T.S.	994	21	23.8	120.7
		0600	T.S.	996	18	23.7	120.6
		1200	T.S.	996	18	23.4	120.4
		1800	T.S.	996	18	22.8	120.0
	19	0000	T.S.	996	18	22.5	119.7
		0600	T.S.	996	18	22.5	119.2
		1200	T.S.	992	21	22.6	118.7
		1800	T.S.	990	23	22.7	118.0
	20	0000	S.T.S.	985	25	22.9	116.9
		0600	T.S.	990	21	23.0	115.3
		1200	T.D.	996	16	23.1	114.3
			消散 Dissipated				

颱風韋帕(0117)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON VIPA (0117)

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	17	0600	T.D.	1000	16	22.9	140.3
		1200	T.D.	1000	16	23.6	140.3
		1800	T.D.	1000	16	24.3	140.2
	18	0000	T.S.	998	18	25.2	139.8
		0600	T.S.	998	18	26.3	139.1
		1200	T.S.	994	21	27.7	138.5
		1800	T.S.	990	23	28.9	138.2
	19	0000	S.T.S.	985	25	29.9	138.1
		0600	S.T.S.	980	28	30.9	138.3
		1200	S.T.S.	975	31	31.8	138.9
		1800	S.T.S.	975	31	32.6	139.6
	20	0000	S.T.S.	980	28	33.4	140.7
		0600	S.T.S.	980	28	34.2	142.1
		1200	T.	970	33	35.0	143.8
		1800	T.	970	33	36.1	145.8
	21	0000	T.	970	33	37.7	148.4
		0600	S.T.S.	980	28	40.1	152.4

變爲溫帶氣旋
Became Extratropical

颱風范斯高(0118)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON FRANCISCO (0118)

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	19	1200	T.D.	1000	16	14.5	162.0
		1800	T.D.	1000	16	15.0	161.0
	20	0000	T.S.	998	18	15.5	160.0
		0600	T.S.	998	18	16.0	159.0
		1200	T.S.	994	21	16.7	157.6
		1800	T.S.	990	23	17.6	155.8
	21	0000	T.S.	990	23	18.4	154.2
		0600	S.T.S.	985	25	19.0	153.0
		1200	S.T.S.	980	28	19.5	151.9
		1800	S.T.S.	980	28	20.1	150.8
	22	0000	S.T.S.	975	31	20.8	149.8
		0600	T.	970	33	21.6	149.1
		1200	T.	965	36	22.5	148.7
		1800	T.	960	39	23.5	148.3
	23	0000	T.	955	41	24.5	148.0
		0600	T.	955	41	25.5	147.7
		1200	T.	955	41	26.4	147.5
		1800	T.	955	41	27.3	147.6
	24	0000	T.	955	41	28.4	147.8
		0600	T.	960	39	29.8	148.1
		1200	T.	965	36	31.4	148.6
		1800	T.	970	33	33.2	148.5
	25	0000	T.	970	33	35.2	148.3
		0600	S.T.S.	975	31	37.1	149.5
		1200	S.T.S.	980	28	39.3	152.0

變爲溫帶氣旋
Became Extratropical

颱風利奇馬(0119)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON LEKIMA (0119)

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	22	0600	T.D.	1000	16	19.4	124.7
		1200	T.S.	998	18	19.4	124.2
		1800	T.S.	994	21	19.3	123.7
	23	0000	T.S.	994	21	19.3	123.1
		0600	T.S.	990	23	19.3	122.6
		1200	S.T.S.	985	25	19.3	122.1
		1800	S.T.S.	980	28	19.4	121.8
	24	0000	S.T.S.	975	31	19.6	121.6
		0600	T.	965	36	19.8	121.5
		1200	T.	965	36	20.0	121.6
		1800	T.	970	33	20.2	121.7
	25	0000	T.	970	33	20.5	121.9
		0600	T.	970	33	20.8	121.9
		1200	T.	965	36	21.2	121.8
		1800	T.	965	36	21.5	121.7
	26	0000	T.	965	36	21.8	121.5
		0600	T.	965	36	22.3	121.2
		1200	S.T.S.	975	31	22.7	120.9
		1800	S.T.S.	980	28	23.0	120.8
	27	0000	S.T.S.	985	25	23.2	120.7
		0600	T.S.	990	23	23.4	120.5
		1200	T.S.	990	23	23.6	120.4
		1800	T.S.	990	23	23.8	120.3
	28	0000	T.S.	994	21	24.0	120.2
		0600	T.S.	994	21	24.2	120.1
		1200	T.S.	994	21	24.4	120.0
		1800	T.S.	998	18	24.8	119.9
	29	0000	T.S.	998	18	25.5	119.9
		0600	T.D.	1000	16	26.2	120.2
		1200	T.D.	1000	16	26.8	120.6
		1800	T.D.	1002	13	27.7	121.6
	30	0000	T.D.	1002	13	28.9	123.4

變爲溫帶氣旋
Became Extratropical

颱風羅莎(0120)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON KROSA (0120)

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
十月 Oct	4	0000	T.D.	1000	16	15.2	143.6
		0600	T.S.	998	18	15.9	142.5
		1200	T.S.	994	21	16.5	141.4
		1800	S.T.S.	985	25	17.2	140.3
	5	0000	S.T.S.	980	28	17.9	139.2
		0600	T.	970	33	18.7	138.2
		1200	T.	960	39	19.6	137.2
		1800	T.	960	39	20.6	136.3
	6	0000	T.	960	39	21.5	135.7
		0600	T.	960	39	22.5	135.3
		1200	T.	960	39	23.4	135.3
		1800	T.	960	39	24.1	135.4
	7	0000	T.	960	39	24.9	135.8
		0600	T.	965	36	25.7	136.6
		1200	T.	965	36	26.4	137.6
		1800	T.	965	36	27.1	138.6
	8	0000	T.	970	33	27.9	139.7
		0600	T.	970	33	28.8	141.0
		1200	S.T.S.	975	31	29.7	142.4
		1800	S.T.S.	980	28	31.1	144.9
	9	0000	S.T.S.	985	25	32.4	147.6
		0600	T.S.	990	23	34.1	151.3

變爲溫帶氣旋
Became Extratropical

颱風海燕(0121)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON HAIYAN (0121)

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
十月 Oct	12	0000	T.D.	1000	16	17.0	129.9
		0600	T.D.	1000	16	17.2	129.9
		1200	T.D.	1000	16	17.4	129.9
		1800	T.S.	998	18	17.7	129.9
	13	0000	T.S.	994	21	18.0	129.9
		0600	T.S.	994	21	18.3	129.9
		1200	T.S.	990	23	18.6	129.9
		1800	S.T.S.	985	25	18.9	129.9
	14	0000	S.T.S.	985	25	19.4	129.9
		0600	S.T.S.	980	28	20.2	129.7
		1200	S.T.S.	980	28	21.0	129.4
		1800	S.T.S.	975	31	21.8	128.6
	15	0000	T.	970	33	22.3	127.6
		0600	T.	965	36	22.7	126.5
		1200	T.	965	36	23.3	125.7
		1800	T.	960	39	23.9	125.0
	16	0000	T.	960	39	24.6	124.5
		0600	T.	960	39	25.4	124.4
		1200	T.	960	39	26.2	124.9
		1800	T.	970	33	27.0	125.8
	17	0000	S.T.S.	975	31	27.6	127.0
		0600	S.T.S.	975	31	28.2	128.7
		1200	S.T.S.	980	28	28.9	130.6
		1800	S.T.S.	985	25	29.6	133.0
	18	0000	S.T.S.	985	25	30.8	136.4
		0600	T.S.	990	23	32.5	139.6

變爲溫帶氣旋
Became Extratropical

颱風楊柳(0122)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON PODUL(0122)

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
十月 Oct	19	0000	T.D.	1000	16	5.4	155.6
		0600	T.D.	1000	16	5.5	155.9
		1200	T.D.	1000	16	5.7	156.1
		1800	T.D.	1000	16	6.1	156.3
	20	0000	T.S.	998	18	6.8	156.5
		0600	T.S.	994	21	7.6	156.8
		1200	T.S.	990	23	8.9	157.1
		1800	S.T.S.	985	25	10.2	156.9
	21	0000	S.T.S.	980	28	11.1	156.5
		0600	S.T.S.	980	28	11.8	156.4
		1200	S.T.S.	975	31	12.4	156.4
		1800	S.T.S.	975	31	13.0	156.5
	22	0000	T.	970	33	13.5	156.6
		0600	T.	965	36	14.0	156.8
		1200	T.	965	36	14.6	157.0
		1800	T.	960	39	15.0	157.3
	23	0000	T.	955	41	15.3	157.6
		0600	T.	950	43	15.6	157.9
		1200	T.	945	46	16.0	157.9
		1800	T.	940	49	16.3	157.6
	24	0000	T.	935	51	16.7	157.2
		0600	T.	935	51	17.1	156.8
		1200	T.	935	51	17.5	156.3
		1800	T.	935	51	18.0	155.8
	25	0000	T.	930	54	18.6	155.1
		0600	T.	930	54	19.3	154.5
		1200	T.	930	54	20.1	154.1
		1800	T.	930	54	20.9	154.0
	26	0000	T.	930	54	21.9	154.1
		0600	T.	940	49	23.1	154.3
		1200	T.	945	46	24.7	154.9
		1800	T.	950	43	26.6	155.8
	27	0000	T.	955	41	28.8	157.1
		0600	T.	965	36	31.3	158.5
		1200	S.T.S.	975	31	34.0	160.1
		1800	S.T.S.	985	25	36.6	161.9

變爲溫帶氣旋
Became Extratropical

颱風玲玲(0123)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON LINGLING(0123)

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
十一月 Nov	6	1200	T.D.	1002	13	10.5	126.3
		1800	T.D.	1000	16	10.6	125.2
	7	0000	T.S.	998	18	10.7	124.2
		0600	T.S.	994	21	10.8	123.8
		1200	T.S.	994	21	10.9	123.4
		1800	T.S.	994	21	11.1	123.0
	8	0000	T.S.	994	21	11.4	122.4
		0600	T.S.	990	23	11.7	121.7
		1200	S.T.S.	985	25	12.1	120.8
		1800	S.T.S.	985	25	12.5	119.9
	9	0000	S.T.S.	980	28	12.8	118.8
		0600	S.T.S.	975	31	13.0	117.8
		1200	T.	970	33	13.2	116.9
		1800	T.	965	36	13.4	116.0
	10	0000	T.	960	39	13.5	115.3
		0600	T.	955	41	13.5	114.7
		1200	T.	950	43	13.6	114.0
		1800	T.	950	43	13.6	113.3
	11	0000	T.	950	43	13.6	112.5
		0600	T.	955	41	13.6	111.7
		1200	T.	960	39	13.6	110.6
		1800	S.T.S.	975	31	13.6	109.4
	12	0000	S.T.S.	985	25	13.6	108.3
		0600	T.S.	994	21	13.6	107.3
		1200	T.D.	1000	16	13.6	106.3
			消散 Dissipated				

熱帶低氣壓由十一月二十一日至二十五日的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF THE TROPICAL DEPRESSION OF 21 - 25 NOVEMBER

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
十一月 Nov	20	1800	T.D.	1002	13	12.1	132.0
	21	0000	T.D.	1002	13	11.9	131.4
		0600	T.D.	1000	16	11.7	130.8
		1200	T.D.	1000	16	11.5	130.3
		1800	T.D.	1000	16	11.3	129.9
	22	0000	T.D.	1000	16	11.2	129.6
		0600	T.D.	998	16	11.1	129.3
		1200	T.D.	998	16	11.2	129.0
		1800	T.D.	998	16	11.7	128.8
	23	0000	T.D.	998	16	12.3	128.7
		0600	T.D.	998	16	12.9	128.8
		1200	T.D.	998	16	13.7	129.1
		1800	T.D.	998	16	14.6	129.6
	24	0000	T.D.	998	16	16.0	130.4
		0600	T.D.	998	16	17.4	131.2
		1200	T.D.	998	16	18.8	132.0
		1800	T.D.	998	16	20.2	132.8
	25	0000	T.D.	998	16	21.8	133.9

變爲溫帶氣旋
Became Extratropical

熱帶低氣壓由十一月二十一日至二十三日的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF THE TROPICAL DEPRESSION OF 21 - 23 NOVEMBER

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
十一月 Nov	21	0600	T.D.	1004	13	8.0	113.5
		1200	T.D.	1004	13	8.1	113.9
		1800	T.D.	1004	13	8.2	114.2
	22	0000	T.D.	1004	13	8.2	114.6
		0600	T.D.	1004	13	8.2	115.0
		1200	T.D.	1006	13	8.2	115.4
		1800	T.D.	1006	13	8.2	115.9

消散
Dissipated

熱帶風暴劍魚(0124)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM KAJIKI (0124)

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
十二月 Dec	5	0000	T.D.	1000	13	10.2	126.0
		0600	T.D.	998	16	10.5	124.9
		1200	T.D.	998	16	10.7	123.9
		1800	T.D.	998	16	11.0	122.9
	6	0000	T.D.	998	16	11.2	122.0
		0600	T.D.	998	16	11.4	121.2
		1200	T.D.	998	16	11.6	120.4
		1800	T.D.	998	16	11.8	119.4
	7	0000	T.D.	998	16	12.2	118.0
		0600	T.S.	996	18	12.5	116.7
		1200	T.S.	996	18	12.8	115.6
		1800	T.S.	996	18	13.0	114.7
	8	0000	T.S.	996	18	13.1	113.8
		0600	T.S.	996	18	13.2	113.0
		1200	T.D.	998	16	13.2	112.2
		1800	T.D.	1000	13	13.2	111.7
	9	0000	T.D.	1000	13	12.8	111.3

消散
Dissipated

颱風法茜(0125)的每六小時之位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON FAXAI (0125)

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
十二月 Dec	16	0000	T.D.	1000	16	5.1	160.9
		0600	T.D.	1000	16	5.2	161.0
		1200	T.D.	1000	16	5.3	161.1
		1800	T.S.	998	18	5.4	161.3
	17	0000	T.S.	998	18	5.7	161.5
		0600	T.S.	994	21	5.9	161.4
		1200	T.S.	994	21	6.1	161.2
		1800	T.S.	994	21	6.1	161.0
	18	0000	T.S.	994	21	6.0	160.8
		0600	T.S.	994	21	5.8	160.7
		1200	T.S.	994	21	5.6	161.0
		1800	T.S.	994	21	5.6	161.4
	19	0000	T.S.	994	21	5.8	161.8
		0600	T.S.	994	21	5.9	162.0
		1200	T.S.	994	21	6.1	162.1
		1800	T.S.	994	21	6.3	162.1
	20	0000	T.S.	990	23	7.1	161.5
		0600	S.T.S.	985	25	7.7	160.7
		1200	S.T.S.	985	25	8.2	159.9
		1800	S.T.S.	980	28	8.7	159.2
	21	0000	T.	970	33	9.2	158.5
		0600	T.	965	36	9.8	157.7
		1200	T.	960	39	10.4	156.8
		1800	T.	950	43	11.0	155.9
	22	0000	T.	940	49	11.6	155.0
		0600	T.	935	51	12.3	153.9
		1200	T.	930	54	13.1	152.7
		1800	T.	930	54	13.9	151.5
	23	0000	T.	925	57	14.8	150.2
		0600	T.	935	51	15.6	149.1
		1200	T.	940	49	16.4	148.1
		1800	T.	945	46	17.3	147.2
	24	0000	T.	950	43	18.1	146.6
		0600	T.	955	41	19.1	146.2
		1200	T.	960	39	20.2	146.4
		1800	T.	965	36	21.6	147.4
	25	0000	T.	970	33	23.3	149.0
		0600	S.T.S.	975	31	25.4	151.5
		1200	S.T.S.	980	28	27.4	154.3
		1800	S.T.S.	985	25	29.8	159.0

變爲溫帶氣旋
Became Extratropical

熱帶風暴畫眉(0126)的每六小時之位置及強度

SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM VAMEI (0126)

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
十二月 Dec	27	0000	T.D.	1010	16	1.5	105.2
		0600	T.S.	1006	21	1.5	104.4
		1200	T.S.	1008	18	1.5	103.8
		1800	T.S.	1008	18	1.6	103.0
	28	0000	T.D.	1010	16	1.6	102.1
			消散 Dissipated				