香港天文台
HONG KONG OBSERVATORY

二零零四
熱帶氣旋

TROPICAL CYCLONES IN 2004

香港天文台 HONG KONG OBSERVATORY

二零零四年的熱帶氣旋路徑圖
TRACKS OF TROPICAL CYCLONES IN 2004

每日協調世界時零時位置(香港時間上午八時),
符號中央數目字代表該月的日子

Daily Positions at 00 UTC(08 HKT),
the number in the symbol represents
the date of the month

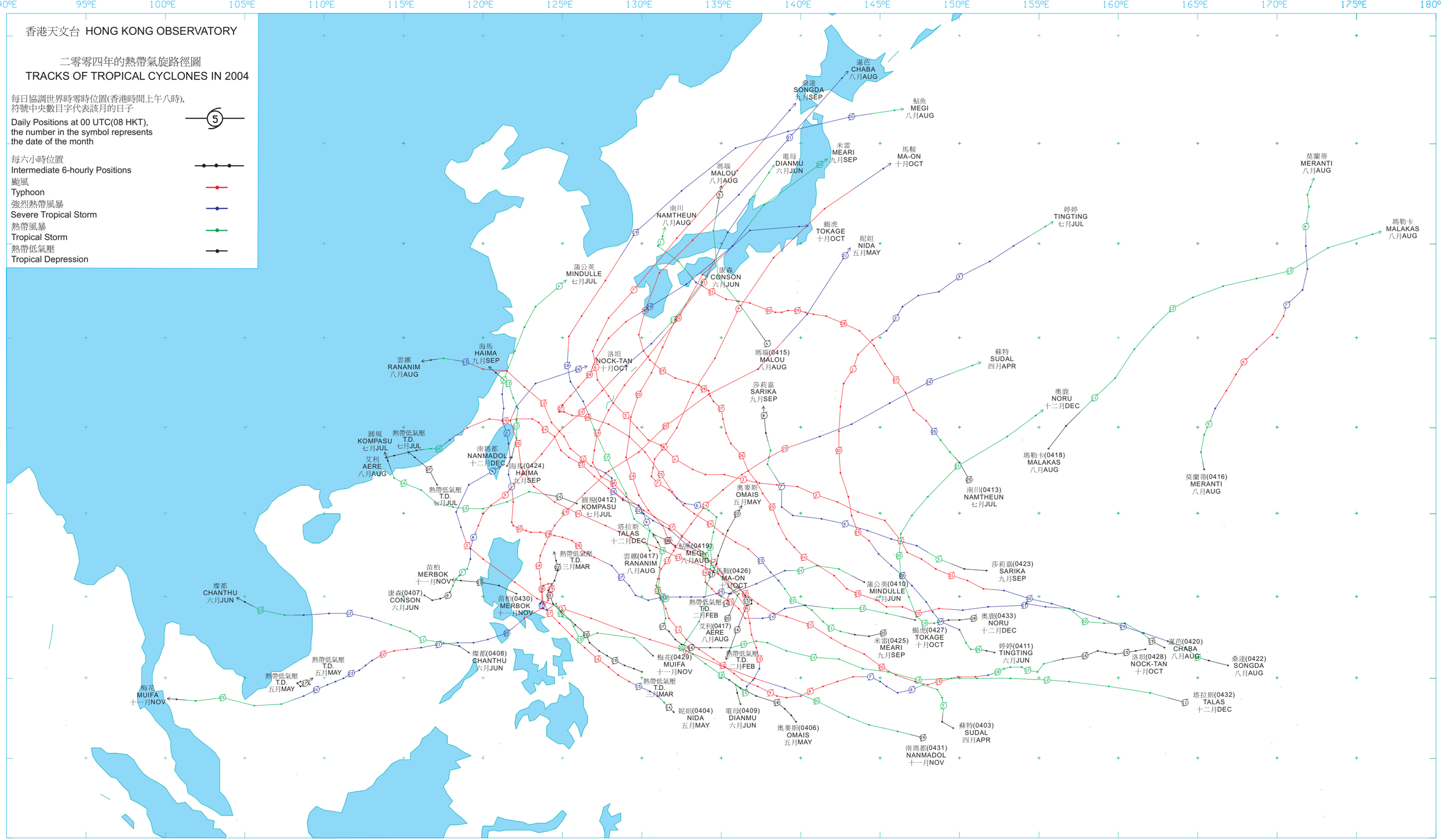
每六小時位置
Intermediate 6-hourly Positions

颱風
Typhoon

強烈熱帶風暴
Severe Tropical Storm

熱帶風暴
Tropical Storm

熱帶低氣壓
Tropical Depression



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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。

爲了能盡早滿足傳媒、航運界及其他有關人士或團體的需求，天文台自一九六零年開始就影響香港的個別熱帶氣旋編寫臨時報告。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發出暴風或烈風信號的熱帶氣旋編寫臨時報告，但自一九六八年起，所有引致天文台發出熱帶氣旋警告信號的熱帶氣旋都有編寫臨時報告。

1.2 熱帶氣旋等級

本年報根據熱帶氣旋中心附近的最高持續地面風速，把熱帶氣旋分爲以下四個級別：

（ 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是二零零四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"0401"代表在二零零四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，例如颱風蘇特(0401)。

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

本年報第二節是二零零四年所有影響北太平洋西部及南海區域的熱帶氣旋的概述。

而本年報第三節是二零零四年影響香港的熱帶氣旋的個別詳細報告，內容包括：

(a)該熱帶氣旋對香港造成的影響；
(b)發出熱帶氣旋警告信號的過程；
(c)香港各地錄得的最高陣風風速及最高每小時平均風速；
(d)香港天文台錄得的最低海平面氣壓；
(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。

二零零四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, provisional reports were only written on those tropical cyclones for which gale or storm signals had been issued in Hong Kong. From 1968 onwards, provisional reports were prepared for all tropical cyclones that necessitated the issuing of tropical cyclone warning signals.

1.2 Classification of tropical cyclones

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

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

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

1.3 Naming of tropical cyclones

Over the western North Pacific and the South China Sea between 1947 and 1999, tropical cyclone names were assigned by the U.S. Armed Forces' Joint Typhoon Warning Center according to a pre-determined but unofficial list. However, with effect from 2000, the Japan Meteorological Agency 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 2004. 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 2004 was assigned the code "0401". In this publication, the appropriate code immediately follows the name of the tropical cyclone in bracket, e.g. Typhoon Sudal (0401).

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 2004 is presented.

The reports in Section 3 are individual accounts of the life history of tropical cyclones affecting Hong Kong in 2004. 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　　二零零四年一月一日起生效的熱帶氣旋名單
TABLE 1.1 TROPICAL CYCLONE NAME LIST EFFECTIVE FROM 1 JANUARY 2004

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	鸚鵡 Nuri	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 Wipha	米克拉 Mekkhala	妮妲 Nida	玫瑰 Kulap
美國	U.S.A.	瑪莉亞 Maria	范斯高 Francisco	海高斯 Higos	奧麥斯 Omais	洛克 Roke
越南	Viet Nam	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	琵琶 Peipah	蓮花 Linfa	瑪瑙 Malou	珊瑚 Sanvu
馬來西亞	Malaysia	溫比亞 Rumbia	塔巴 Tapah	浪卡 Nangka	莫蘭蒂 Meranti	瑪娃 Mawar
米克羅尼西亞	Micronesia	蘇力 Soulik	米娜 Mitag	蘇廸羅 Soudelor	雲娜 Rananim	古超 Guchol
菲律賓	Philippines	西馬侖 Cimaron	海貝思 Hagibis	莫拉菲 Molave	馬勒卡 Malakas	泰利 Talim
南韓	RO Korea	飛燕 Chebi	浣熊 Noguri	天鵝 Koni	鮎魚 Megi	彩蝶 Nabi
泰國	Thailand	榴槤 Durian	威馬遜 Rammasun	莫拉克 Morakot	暹芭 Chaba	卡努 Khanun
美國	U.S.A.	尤特 Utor	麥德姆 Matmo	艾濤 Etau	艾利 Aere	韋森特 Vicente
越南	Viet Nam	潭美 Trami	夏浪 Halong	環高 Vamco	桑達 Songda	蘇拉 Saola

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 PUBLICATION

站 Station		位置 Position		風速表的海拔高度(米) Elevation of anemometer above M.S.L. (m)
		北緯 Latitude N	東經 Longitude E	
中環（天星碼頭）	Central (Star Ferry Pier)	22°17’08”	114°09’31”	17
中環廣場	Central Plaza	22°16’53”	114°10’16”	378
香港國際機場	Hong Kong International Airport	22°19’00”	113°54’43”	14
長洲	Cheung Chau	22°12’04”	114°01’36”	99
長沙灣	Cheung Sha Wan	22°20’04”	114°09’05”	30
青洲	Green Island	22°17’12”	114°06’37”	105
啓德	Kai Tak	22°18’40”	114°12’39”	16
京士柏	King’s Park	22°18’47”	114°10’13”	90
流浮山	Lau Fau Shan	22°28’14”	113°58’52”	50
北角	North Point	22°17’40”	114°11’59”	26
平洲	Ping Chau	22°32’54”	114°25’33”	39
西貢	Sai Kung	22°22’38”	114°16’18”	31
沙螺灣	Sha Lo Wan	22°17’33”	113°54’16”	71
沙田	Sha Tin	22°24’11”	114°12’31”	16
石崗	Shek Kong	22°26’02”	114°05’06”	26
天星碼頭（九龍）	Star Ferry Pier (Kowloon)	22°17’35”	114°10’07”	18
打鼓嶺	Ta Kwu Ling	22°31’50”	114°09’13”	28
大尾篤	Tai Mei Tuk	22°28’36”	114°14’06”	71
大帽山	Tai Mo Shan	22°24’40”	114°07’29”	969
塔門	Tap Mun	22°28’22”	114°21’29”	37
大老山	Tate's Cairn	22°21’34”	114°12’55”	588
鯽魚湖	Tsak Yue Wu	22°24’11”	114°19’24”	23
將軍澳	Tseung Kwan O	22°18’56”	114°15’20”	52
青衣（青柏樓）	Tsing Yi (Ching Pak House)	22°21’00”	114°06’24”	136
屯門	Tuen Mun	22°23’32”	113°58’27”	69
橫瀾島	Waglan Island	22°11’01”	114°18’02”	82
黃竹坑	Wong Chuk Hang	22°14’54”	114°10’15”	30

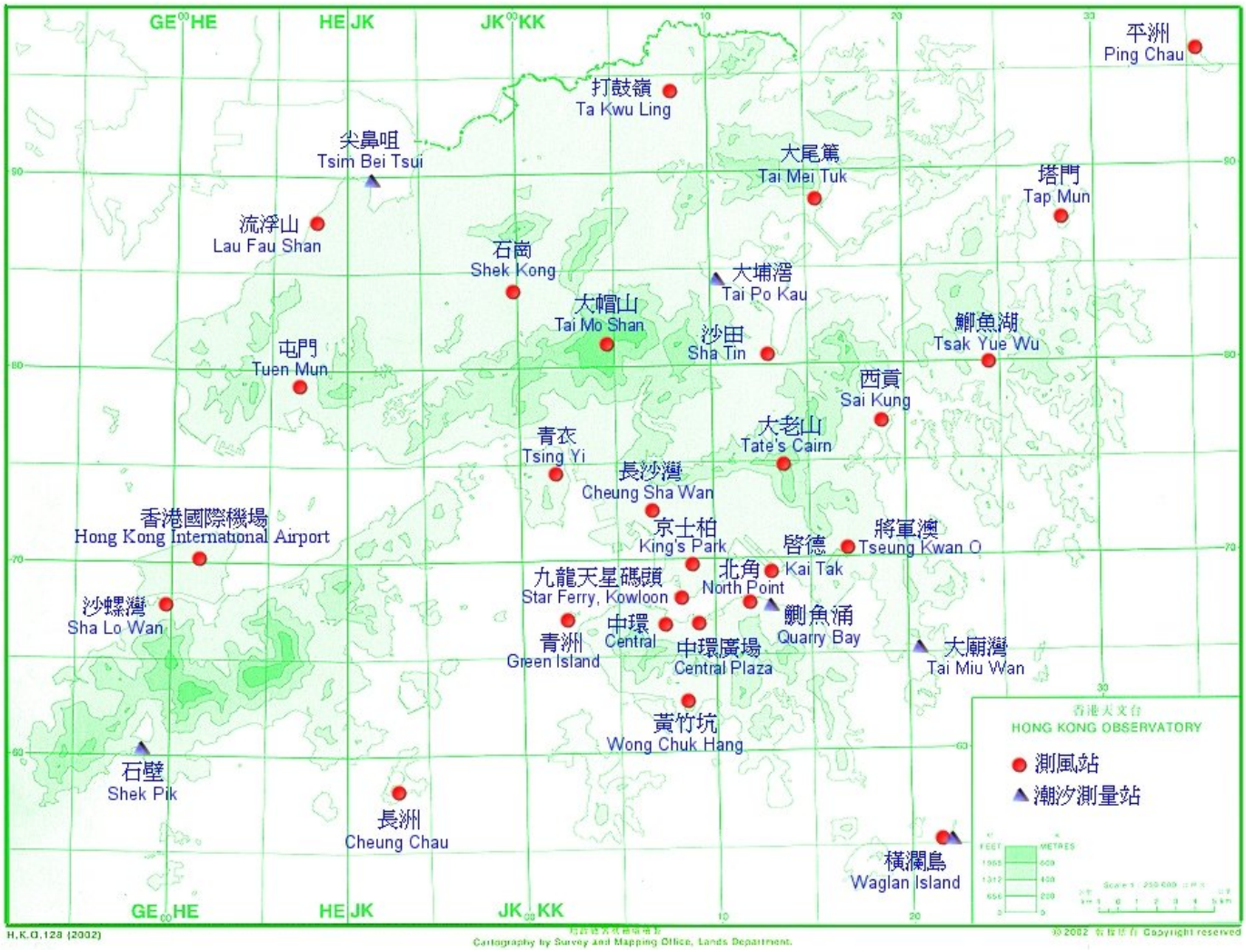

圖 1.1　　本年報內提及的測風站及潮汐測量站之分佈地點。

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

第二節

二零零四年熱帶氣旋概述

Section 2

TROPICAL CYCLONE OVERVIEW FOR 2004

2.1 二零零四年的熱帶氣旋回顧

2.1.1 北太平洋西部（包括南海區域）的熱帶氣旋

二零零四年共有33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），這數目與1961-1990的30年的年平均數31個相約，當中有19個熱帶氣旋達到颱風強度，比正常數目多三個。

本年首個熱帶氣旋在二月形成。圖2.1是二零零四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。

於二零零四年內有六個熱帶氣旋吹襲中國東南沿岸地區，至於台灣和日本（包括琉球群島）則分別受到七個和十個熱帶氣旋影響，另有三個橫過菲律賓及一個登陸越南。

二零零四年風力最強的熱帶氣旋是暹芭（0416），最高風速估計約爲每小時220公里，而最低中心氣壓則約爲910百帕斯卡。

2.1.2 香港責任範圍內的熱帶氣旋

在二零零四年的33個熱帶氣旋中，有15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），比1961-1990的30年的年平均16.4個相約（表2.1）。這15個熱帶氣旋中，有四個在香港責任範圍內形成。在二零零四年，香港天文台總共發出337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

二零零四年共有八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），當中有三個在南海形成，其餘五個從北太平洋西部進入南海。

2.1.4 影響香港的熱帶氣旋

全年只有三個熱帶氣旋影響香港（圖2.2），比正常數目少三個（表2.2）。這三個熱帶氣旋是康森（0404）、圓規（0409）及艾利（0417）。

本年七月圓規影響香港期間，天文台發出了八號烈風或暴風信號，這亦是今年發出的最高信號。而六月的康森和八月的艾利則導致天文台發出一號戒備信號。

2.1.5 熱帶氣旋的雨量

二零零四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402.1毫米，約佔該年總雨量1 738.6毫米的百分之23，比正常的737.9毫米少約百分之46。

2.2 每月概述

這一節逐月介紹二零零四年北太平洋西部及南海區域的熱帶氣旋概況。影響香港的各熱帶氣旋則詳述於第三節。

一月

二零零四年一月並無熱帶氣旋影響北太平洋西部及南海區域。

二月

一個熱帶低氣壓於二月十四日早上在馬尼拉以東約1 500公里的太平洋形成並緩慢移動。它於二月十六日在太平洋上減弱爲一個低壓區。

三月

一個熱帶低氣壓於三月十八日在馬尼拉東南偏東約1 100公里的太平洋上形成。隨後兩天它向西北移動，趨向呂宋。它於三月二十一日轉向偏北移動，翌日在呂宋以東海域減弱爲一個低壓區。

四月

蘇特(0401)於四月四日晚上在關島東南約900公里發展成一個熱帶低氣壓，它蜿蜒向偏西方向移動，次日增強爲一個熱帶風暴。蘇特在四月六日進一步增強爲一個強烈熱帶風暴，翌日達至颱風強度。四月九日，它向西北推進，其最高持續風力於四月十日達每小時175 公里。蘇特於四月十二日轉向東北，翌日開始加速。它於四月十五日減弱爲一個強烈熱帶風暴。蘇特在四月十六日進一步減弱爲一個熱帶風暴，同日變爲一個溫帶氣旋。

五月

五月十四日清晨，妮妲(0402)在雅浦島西南偏西約690公里的太平洋上形成，並向西北緩慢移動。同日它增強爲一個強烈熱帶風暴，並於翌日進一步增強爲一個颱風。妮妲貼著菲律賓東面海岸移動，於五月十七日轉向北推進，翌日其最高持續風力達每小時195公里。妮妲接近菲律賓期間導致20人死亡及11人受傷。它於五月十九日向東北推進並開始加速，五月二十一日清晨減弱爲一個強烈熱帶風暴，同日變爲一個溫帶氣旋。

五月十六日，一個熱帶低氣壓在胡志明市東南偏東約230公里的南海形成，它移動緩慢，翌日減弱爲一個低壓區。

奧麥斯(0403)於五月十七日在雅浦島東南約300公里的太平洋上形成，並大致向西北移動，五月十九日它增強爲一個熱帶風暴。奧麥斯於五月二十日轉向東北偏北移動，翌日減弱爲一個熱帶低氣壓，並於五月二十二日在太平洋上減弱爲一個低壓區。

六月

康森(0404)在六月五日於馬尼拉以西約510公里處的南海中部發展成爲一個熱帶低氣壓。它初時移動緩慢，翌日開始向東北偏北推進，並於六月八日增強成爲颱風。隨後兩天康森採取東北路徑橫越呂宋海峽及台灣以東海面。它在六月十一日於日本四國南部沿岸變成溫帶氣旋。

一個名爲燦都(0405)的熱帶低氣壓在六月十日於馬尼拉西南偏南約390公里處形成。它向西移動，於翌日清晨變成熱帶風暴並在六月十二日進一步增強爲強烈熱帶風暴。

燦都直趨越南中部並在該處登陸，它於六月十三日在泰國消散。在燦都的吹襲下，越南最少有11人死亡。

電母(0406)在六月十三日下午於雅蒲島西南偏西約240公里處發展成爲一個熱帶低氣壓。它初時在太平洋上緩慢移動，在六月十五日早上迅速增強爲一颱風。隨後數天電母採取西北路徑移動，並在六月二十日轉向東北推進。翌日，電母橫過日本本州並於日本海迅速減弱成爲溫帶氣旋。電母在吹襲日本期間共導致三人死亡及超過100人受傷，有三人失蹤，約1 300人需要撤離。約 27 000用戶的電力受到中斷。最少137班航機被取消。

蒲公英(0407)在六月二十三日於關島西北偏北約270公里的太平洋上發展成爲一個熱帶低氣壓。它大致趨向呂宋並在六月二十七日增強成爲一個颱風。蒲公英於六月三十日上午在呂宋海峽緩慢移動，下午轉向北推進。受到蒲公英相關的豪雨影響，菲律賓共有31人死亡，11人失蹤，經濟損失約爲二千萬美元。七月一日，蒲公英減弱爲一強烈熱帶風暴，次日橫過台灣東北部。蒲公英吹襲台灣期間，共導致23人死亡，16人受傷，13人失蹤，超過一萬人的用電和供水受中斷，經濟損失超過九億新台幣。蒲公英於七月三日進一步減弱爲熱帶風暴，並掠過浙江沿岸，繼而橫越東海。在浙江有兩人溺斃，七人受傷，另有兩人失蹤。翌日早上，蒲公英在濟州附近變成溫帶氣旋。它亦爲朝鮮半島和日本部份地區帶來大雨。

一個名爲婷婷(0408)的熱帶低氣壓在六月二十五日於關島東南偏東約830公里處形成，並向西北方向移動。婷婷於六月二十九日橫越馬里安納群島，期間增強爲一颱風。婷婷於硫磺島及小笠原群島以東附近掠過後，在七月一日開始轉向東北移動，翌日清晨減弱爲一強烈熱帶風暴，七月四日在太平洋上變成一個溫帶氣旋。婷婷爲關島帶來豪雨，令多處地方出現水浸和山泥傾瀉，關島機場一度關閉。受婷婷的影響，馬利安納群島有四人死亡。

七月

圓規(0409)在七月十四日清晨於高雄東南偏東約620公里的太平洋上形成。它在當天下午增強爲一熱帶風暴，並且向西移動，橫越呂宋海峽及進入南海北部。圓規於七月十六日在香港登陸，同日傍晚減弱爲一熱帶低氣壓，然後在廣東內陸消散。

南川(0410)於七月二十五日在關島東北約1 030公里的太平洋上發展成爲一個熱帶低氣壓，它向西北移動，翌日迅速增強成爲一個颱風。南川於七月二十八日轉向西北偏西移動，於七月三十一日在日本四國登陸，並減弱成爲強烈熱帶風暴，南川於八月一日進入日本海，同日下午變成溫帶氣旋。受到南川吹襲，日本廣泛地區有強風和大雨，共有15人受傷，兩人失蹤。

七月二十七日清晨，在汕頭東南偏南約190公里的南海上有一熱帶低氣壓形成，並向西北移動，趨向廣東東部。該熱帶低氣壓於同日下午在汕頭附近登陸並迅速消散。在它的影響下，汕頭有一艘漁船翻沉，意外中有21名船員失蹤。

八月

熱帶低氣壓瑪瑙(0411)在八月四日早上於日本東京之西南偏南約680公里的太平洋上形成。它向西北推進，當天下午增強爲一熱帶風暴，並掠過日本四國的東岸，然後橫過本州的西南部。瑪瑙於八月五日清晨在日本海變成溫帶氣旋。

熱帶低氣壓莫蘭蒂(0412)在八月四日下午於威克島西北偏北約400公里處形成，並向北移動。它於八月五日採取東北偏北路徑推進，當天晚上增強成爲一颱風。莫蘭蒂於八月七日減弱爲一強烈熱帶風暴並轉向北移動，最終在八月九日變成溫帶氣旋。

雲娜(0413)在八月八日於馬尼拉東北偏東約1 100公里的太平洋上發展成爲一個熱帶低氣壓。它大致趨向東海並在八月十一日達到颱風強度。雲娜於八月十二日晚上在溫州登陸後，進一步移入內陸，翌日在南昌附近減弱爲一低壓區。雲娜在多省造成嚴重災害，導致164人死亡，1 800人受傷，24人失蹤，經濟損失超過150億人民幣。

熱帶低氣壓馬勒卡(0414)於八月十日在硫磺島以東約1 320公里處形成，它向東北移動，次日增強爲一熱帶風暴。馬勒卡在八月十二日轉向東北偏東推進，翌日成溫帶氣旋。

鮎魚(0415)在八月十六日於雅蒲島西北約1 130公里處發展成爲一個熱帶低氣壓，並向西北移動。鮎魚在八月十八日在東海增強成爲一颱風，並轉向東北推進，翌日掠過南韓東南沿岸，繼而橫越日本海。鮎魚在八月二十日減弱爲一強烈熱帶風暴，並橫過日本本州北岸，同日下午變成溫帶氣旋。鮎魚影響南韓和日本期間，共導致13人死亡。

熱帶低氣壓暹芭(0416)在八月十九日於威克島之西南偏南約910公里處形成。它向西移動，趨向關島。暹芭在八月二十二日增強成爲一個颱風，翌日轉向西北推進。暹芭於八月三十日在日本鹿兒島附近登陸，同日轉向東北移動，橫越九州及本州的西南部。

暹芭於八月三十一日早上在日本海減弱爲一強烈熱帶風暴，當天下午在北海道變成溫帶氣旋。暹芭在吹襲日本期間導致12人死亡及最少230人受傷，另五人失蹤，超過50 000戶需要疏散，約 350 000用戶的電力中斷，超過500班航機被取消。

艾利(0417)在八月二十日早上於雅蒲島西北偏北約550公里處形成，同日下午增強爲一熱帶風暴，隨後在西北太平洋上以西北路徑移動，大致趨向台灣北部。艾利逐漸增強，並於八月二十二日達至颱風程度。艾利於八月二十四日轉向西移動掠過台灣北部沿岸後，翌日在廈門附近登陸。隨後，艾利轉向西南移動，橫過福建沿岸地區，並於八月二十七日在廣東中部變成一個低壓區。

熱帶低氣壓桑達(0418)於八月二十七日在威克島以南約910公里的太平洋上形成。它向西北偏西移動，在八月三十一日增強成爲一個颱風，翌日橫過馬里安納群島。桑達於九月五日橫越沖繩島。它於九月六日在東海轉向東北推進，次日在日本長崎附近登陸，然後掠過本州西南端。桑達於九月八日清晨在日本海減弱爲強烈熱帶風暴，在擦過北海道西南沿岸後，變成溫帶氣旋。桑達爲日本廣泛地區帶來連場暴雨，多處出現山泥傾瀉和水浸。在桑達影響下，日本有最少32人死亡，900多人受傷，數萬用戶的電力中斷，逾300班航機被取消，一艘船舶沉沒，三艘擱淺。

九月

莎莉嘉(0419)於九月四日在關島之東約950公里的太平洋上發展成爲一個熱帶低氣壓，並採取西北偏西路徑推進，翌日增強成爲一個強烈熱帶風暴，並橫過馬里安納群島。九月七日清晨，莎莉嘉轉向北推進，次日在太平洋上減弱爲一個低壓區。

海馬(0420)在九月十一日於高雄以東約150公里處發展成爲一個熱帶低氣壓，它向北移動，橫過台灣以東海域。翌日海馬增強爲一個熱帶風暴，並進入東海。海馬吹襲台灣期間，相關的惡劣天氣導致六人死亡，數千戶被水淹。海馬在九月十三日於溫州登陸並減弱爲一熱帶低氣壓，同日變爲一個低壓區。與海馬相關連的大雨，令溫州部份道路出現水浸。

熱帶低氣壓米雷(0421)於九月二十日在關島東南偏南約140公里的太平洋上形成。它向西橫過關島南面海域後，翌日轉向西北推進，並在九月二十三日達到颱風強度。米雷於九月二十七日轉向東北推進，橫過東海。兩日後米雷在日本鹿兒島附近登陸並減弱爲一強烈熱帶風暴。隨後，它橫掃四國和本州，並於本月最後一天在本州東北沿岸地區變成溫帶氣旋。米雷在吹襲日本期間導致20人死亡及85人受傷，另七人失蹤，約10 000人需要疏散，米雷引發山泥傾瀉和水浸，約 90 000用戶電力中斷，數百班航機被取消，列車及渡輪服務亦一度中斷。

十月

熱帶低氣壓馬鞍(0422)於十月四日在雅蒲島西北偏北約870公里的太平洋上形成，並向北移動，在當晚增強爲一個熱帶風暴。馬鞍於翌日轉向西北移動，十月七日清晨增強爲一個颱風，同日下午它轉向東北偏北推進，趨向日本。馬鞍於十月九日橫過本州東南部，翌日清晨減弱爲一強烈熱帶風暴，繼而變成一溫帶氣旋。在馬鞍影響下，日本有六人死亡，103人受傷，兩人失蹤，超過3 500戶需要疏散，逾400班航機被取消，列車及渡輪服務亦一度中斷。

蝎虎(0423)在十月十二日於關島以東約260公里的太平洋上發展成爲一個熱帶低氣壓，並向西移動。它於十月十四日增強爲一個颱風，並採取西北路徑推進。蝎虎於十月十九日轉向東北移動，掠過沖繩島，翌日在日本四國登陸，並在本州中部減弱爲一強烈熱帶風暴。蝎虎於十月二十一日清晨變成一溫帶氣旋。在蝎虎的吹襲下，日本有82人死亡，443人受傷，八人失蹤，約200間房屋受破壞，另23 000戶被水淹。一艘船舶擱淺，約1 000班內陸航機被取消，列車服務亦一度中斷。

熱帶低氣壓洛坦(0424)於十月十四日在威克島西南偏南約990公里的太平洋上形成，並向西移動。它於十月十八日增強到颱風強度。洛坦於十月十九日轉向西北偏西推進，直趨台灣。洛坦於十月二十五日吹襲台灣北部，繼而進入東海，並轉向東北推進。洛坦於當晚減弱爲一強烈熱帶風暴，翌日早上變成一溫帶氣旋。與洛坦相關連的強風和暴雨在台灣引發山泥傾瀉，最少四人死亡，104人受傷，兩人失蹤，逾38萬用戶的電力中斷，農業損失估計達一億六千萬元新台幣。

十一月

熱帶低氣壓梅花(0425)於十一月十四日在雅蒲島西北偏西約840公里的太平洋上形成，並向西北偏西移動。它於十一月十七日開始以順時針方向打圈，並在次日增強爲一個颱風。梅花打了一圈後，於十一月十九日橫掃菲律賓中部，翌日減弱爲一強烈熱帶風暴，繼而進入南海。梅花在吹襲菲律賓期間有61人死亡及101人受傷，另80人失蹤，經濟損失約爲130萬美元。

梅花於十一月二十一日在南海中部再次增強爲颱風，翌日轉向西南偏西移動，並變成一強烈熱帶風暴。梅花在十一月二十五日早上掠過越南南端，並於當晚橫過泰國灣後減弱爲一低壓區。梅花在越南引發山泥傾瀉和水浸，最少有33人死亡。

苗柏(0426)於十一月二十二日在馬尼拉東北偏東約140公里的太平洋上發展成爲一個熱帶低氣壓。它向西北偏西移動，橫過呂宋，次日進入南海，並於同日下午變爲一低壓區。在苗柏的吹襲下，菲律賓有26人死亡。

南瑪都(0427)於十一月二十九日在關島東南偏南約860公里的太平洋上發展爲一熱帶低氣壓，並向西北偏西移動。翌日南瑪都橫過雅蒲島，並增強爲一個颱風。它於十二月二日吹襲呂宋。在菲律賓，南瑪都導致37人死亡，38人失蹤。南瑪都於十二月三日進入南

海，並減弱爲一強烈熱帶風暴，及轉向東北推進。它於十二月四日在台灣南部登陸，隨後變成一溫帶氣旋。在南瑪都的吹襲下，台灣有一人死亡，農業損失估計達六千萬元新台幣。

十二月

熱帶低氣壓塔拉斯(0428)於十二月十一日早上在威克島西南偏南約1 220公里的太平洋上形成，同日下午增強爲一熱帶風暴。塔拉斯於隨後數天向西推進，在十二月十六日減弱爲一熱帶低氣壓，及轉向西北偏北移動。它於十二月十七日再次增強爲一熱帶風暴，但移動緩慢。塔拉斯在十二月十九日減弱爲一低壓區。

熱帶低氣壓奧鹿(0429)於十二月十八日在關島以東約570公里的太平洋上形成，並向西移動。次日它增強爲一熱帶風暴後，向西北偏北推進。奧鹿於十二月二十日在馬里安納群島以東附近掠過後，轉向東北移動，兩天後在太平洋上變成一個溫帶氣旋。

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 2004

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

In 2004, 33 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°), Near the 30-year (1961-1990) average of 31. Throughout the year, 19 tropical cyclones attained typhoon strength, three more than the normal figure.

The first tropical cyclone of the year formed in February. The monthly frequencies of the occurrence of tropical cyclones and typhoons in the western North Pacific and the South China Sea in 2004 are shown in Figure 2.1.

During the year, six tropical cyclones hit the southeast coast of China, seven affected Taiwan, ten affected Japan (including Ryukyu Islands), three traversed the Philippines, another one made landfall over Vietnam.

The most intense tropical cyclone in 2004 was Chaba (0416). Chaba had a maximum wind speed of about 220 km/h and a minimum sea-level pressure about 910 hPa.

2.1.2 Tropical cyclones in Hong Kong's area of responsibility

Amongst those 33 tropical cyclones in 2004, 15 occurred inside Hong Kong's area of responsibility (i.e. the area bounded by 10°N, 30°N, 105°E and 125°E). This was near the 30-year (1961-90) annual average of 16.4 (Table 2.1). Four of these 15 tropical cyclones developed within Hong Kong's area of responsibility. Altogether, 337 tropical cyclone warnings to ships and vessels were issued by the Hong Kong Observatory in 2004 (Table 4.2).

2.1.3 Tropical cyclones over the South China Sea

There were eight tropical cyclones affecting the South China Sea (i.e. the area bounded by 10°N, 25°N, 105°E and 120°E) in 2004. Three of them formed over the area. Five moved into the area from the western North Pacific.

2.1.4 Tropical cyclones affecting Hong Kong

Only three tropical cyclones affected Hong Kong in 2004 (Figure 2.2), three less than the normal number (Table 2.2). These three tropical cyclones were Conson (0404), Kompasu (0409) and Aere (0417).

The highest signal issued this year was the Gale or Storm Signal No.8. When Kompasu affected Hong Kong in July. Conson in June and Aere in August only necessitated the issuance of the Standby Signal No. 1 in Hong Kong.

2.1.5 Tropical cyclone rainfall

Tropical cyclone rainfall (the total rainfall recorded at the Hong Kong Observatory from the time when a tropical cyclone is centred within 600 km of Hong Kong to 72 hours after it has dissipated or moved farther than 600 km away from Hong Kong) in 2004 was 402.1 mm. This is 46 % below the normal of 737.9 mm and accounts for some 23 % of the year's total rainfall of 1 738.6 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

No tropical cyclone occurred over the western North Pacific and the South China Sea in January.

FEBRUARY

A tropical depression formed over the Pacific about 1 500 km east of Manila on the morning of 14 February and was slow-moving. It weakened into an area of low pressure on 16 February.

MARCH

A tropical depression formed over the Pacific about 1 100 km east of Manila on 18 March. It tracked northwestwards towards Luzon in the next two days. It turned north on 21 March and weakened into an area of low pressure the next day over seas east of Luzon.

APRIL

Sudal (0401) developed as a tropical depression about 900 km southeast of Guam on the night of 4 April. While meandering towards the west, it intensified into a tropical storm the next day. Sudal strengthened further into a severe tropical storm on 6 April and attained typhoon intensity the following day. It adopted a northwest track on 9 April, and it attained a maximum sustained wind speed of 175 km/h on 10 April. Sudal turned to the northeast on 12 April and started to accelerate on the next day. It weakened into a severe tropical storm on 15 April. Sudal further weakened into a tropical storm on 16 April and became an extratropical cyclone the same day.

MAY

On the early morning of 14 May, Nida (0402) formed over the Pacific, about 690 km west-southwest of Yap. While tracking slowly towards the northwest, it intensified rapidly into a severe tropical storm on 14 May and further intensified into a typhoon on 15 May. Moving over the seas along the east coast of the Philippines, Nida tracked northwards on 17 May and attained a maximum sustained wind speed of 195 km/h the next day. In the Philippines, 20 people were found dead and 11 others were hurt during the approach of Nida. It tracked towards the northeast and started to speed up on 19 May. Nida weakened into a severe tropical storm on the early morning of 21 May and became an extratropical cyclone the same day.

On 16 May, a tropical depression formed over the South China Sea, about 230 km east-southeast of Ho Chi Minh City. While moving slowing, it weakened into an area of low pressure the next day.

On 17 May, Omais (0403) formed over the Pacific, about 300 km southeast of Yap. While tracking mainly towards the northwest for the next three days, it intensified into a tropical storm on 19 May. Omais turned to the north-northeast on 20 May and weakened into a tropical depression the next day. It weakened into an area of low pressure over the Pacific on 22 May.

JUNE

Conson (0404) formed as a tropical depression about 510 km west of Manila on 5 June. Being slow moving at first, it began to track north-northeastwards over the South China Sea the next day and intensified into a typhoon on 8 June. In the next 2 days, Conson took on a northeastward course, traversing Luzon Strait and the seas east of Taiwan. It became an extratropical cyclone near the southern coast of Shikoku, Japan on 11 June.

A tropical depression named Chanthu (0405) developed about 390 km south-southwest of Manila on 10 June. Moving westwards, it became a tropical storm early next morning and further intensified into a severe tropical storm on 12 June. Heading towards central Vietnam, Chanthu made landfall there and dissipated over Thailand on 13 June. In Vietnam, at least 11 people were killed in the fury of Chanthu.

Dianmu (0406) developed into a tropical depression about 240 km west-southwest of Yap on the afternoon of 13 June. Drifting slowly over the Pacific at first, Dianmu intensified rapidly into a Typhoon on the morning of 15 June. It took on a northwestward course in the following days and turned northeastwards on 20 June. Dianmu swept across Honshu, Japan and weakened rapidly into extratropical cyclone over the Sea of Japan the next day. In Japan, Dianmu caused three deaths and more than 100 injuries. Three were reported missing and about 1 300 had to be evacuated. Electricity supply to some 27 000 households was cut off. At least 137 flights were cancelled.

Mindulle (0407) developed as a tropical depression over the Pacific about 270 km north-northwest of Guam on 23 June. Tracking in the general direction of Luzon, it intensified gradually and became a typhoon on 27 June. On 30 June, Mindulle drifted over the Luzon Straits in the morning and turned northwards that afternoon. Torrential rain associated with Mindulle caused 31 deaths in the Philippines, and another 11 persons were reported missing. Total damage inflicted by Mindulle in the Philippines amounted to approximately US$ 20 million. Mindulle weakened into a severe tropical storm on 1 July before sweeping across the northeastern part of Taiwan the following day. In the fury of Mindulle, 23 people were killed, 16 injured, 13 reported missing, and the electricity and water supply to over ten thousand people were interrupted in Taiwan. The economic loss exceeded NT$ 9 billion. Mindulle weakened further into a tropical storm on 3 July as it skirted the coastal areas of Zhejiang and traversed the East China Sea. During its passage, two persons drowned, seven were injured, and two others were reported missing in Zhejiang. Mindulle became an extratropical cyclone near Cheju the next morning. It brought heavy rain to the Korean Peninsula as well as parts of Japan.

A tropical depression named Tingting (0408) formed about 820 km east-southeast of Guam on 25 June. Moving northwestwards over the Pacific, it reached typhoon strength on 29 June as it crossed the Mariana Islands. After passing just to the east of Iwo Jima and Ogasawara Islands, Tingting began to track northeastwards on 1 July. It weakened into a severe tropical storm early next morning, and became an extratropical cyclone over the Pacific on 4 July. In Guam, torrential rain associated with Tingting caused a number of floods and landslides. Guam airport had to be temporarily closed. In the Mariana Islands, four people were killed during the passage of Tingting.

JULY

Kompasu (0409) developed as a tropical depression over the Pacific about 620 km east-southeast of Gaoxiong on the early morning of 14 July. Moving westwards, Kompasu intensified into a tropical storm that afternoon and crossed the Luzon Strait into the northern part of the South China Sea. It made landfall over Hong Kong on 16 July. Kompasu weakened into a tropical depression and dissipated over inland Guangdong that evening.

On 25 July, Namtheun (0410) developed as a tropical depression over the Pacific, about 1 030 km northeast of Guam. Tracking northwestwards, Namtheun intensified rapidly into a typhoon the next day. It turned west-northwestwards on 28 July. On 31 July, Namtheun made landfall over Shikoku of Japan and weakened into a severe tropical storm. It entered the Sea of Japan on 1 August and became an extratropical cyclone that afternoon. Namtheun brought strong winds and widespread heavy rain to many parts of Japan. Seven people injured, and two others reported missing.

A tropical depression formed over the South China Sea about 190 km east-southeast of Hong Kong on the early morning of 27 July. Moving in a northwest direction towards the eastern part of Guangdong, the tropical depression made landfall in the vicinity of Shantou that afternoon and dissipated rapidly. During its passage, a fishing boat capsized near Shantou and 21 crew members were reported missing.

AUGUST

Tropical depression Malou (0411) formed over the Pacific about 680 km south-southwest of Tokyo, Japan on the morning of 4 August. Moving northwestwards, it intensified into a tropical storm and skirted the eastern coast of Shikoku, Japan that afternoon. After sweeping across the southwestern part of Honshu, Malou became an extratropical cyclone over the Sea of Japan on the early morning of 5 August.

A tropical depression named Meranti (0412) formed about 400 km north-northwest of Wake Island on the afternoon of 4 August. Moving northwards at first, it began to track north-northeastwards over the Pacific on 5 August and intensified into a typhoon that evening. On 7 August, Meranti weakened into a severe tropical storm as it turned northward. It eventually became an extratropical cyclone on 9 August.

On 8 August, Rananim (0413) developed as a tropical depression over the Pacific, about 1 100 km east-northeast of Manila. Tracking in the general direction of the East China Sea, it attained typhoon strength on 11 August. Rananim made landfall over Wenzhou on the night of 12 August and weakened into an area of low pressure over near Nanchang the next day. Rananim inflicted severe damage on several provinces, killing 164 people and injuring 1800 others. 24 people were reported missing. The economic loss exceeded RMB$15 billion.

On 10 August, tropical depression Malakas (0414) formed about 1 320 km east of Iwo Jima. It took on a northeastward course and intensified into a tropical storm the following day. Malakas turned east-northeastward on 12 August and became an extratropical cyclone the next day.

On 16 August, Megi (0415) developed as a tropical depression about 1 130 km northwest of Yap and moved northwestwards. It intensified into a typhoon over the East China Sea and turned northeastwards on 18 August. Megi skirted the southeastern coast of the South Korea and traversed the Sea of Japan the next day. On 20 August, Megi weakened into a severe tropical storm and crossed the northern coast of Honshu, Japan. It became an extratropical cyclone that afternoon. During the passage of Megi, 13 people were killed in South Korea and Japan.

Tropical depression Chaba (0416) formed about 910 km south-southwest of Wake Island on 19 August. Moving in a westerly direction towards Guam, Chaba intensified into a typhoon on 22 August and turned northwestwards the next day. On 30 August, Chaba made landfall near Kagoshima, Japan. It then turned northeastward and rampaged across Kushu and the southwestern part of Honshu the same day. Chaba weakened into a severe tropical storm over the Sea of Japan on the morning of 31 August and became an extratropical cyclone over Hokkaido that afternoon. In Japan, Chaba caused 12 deaths and at least 230 injuries. Five people were reported missing and

more than 50 000 families had to be evacuated. Electricity supply to some 350 000 households was cut off. More than 500 flights were cancelled.

Aere (0417) developed as a tropical depression about 550 km north-northwest of Yap on 20 August and intensified into a tropical storm that afternoon. Moving in a northwesterly direction towards the northern part of Taiwan, Aere intensified gradually and reached typhoon strength on 22 August. On 24 August, Aere turned westwards and skirted the coast of northern Taiwan. After making landfall near Xiamen the next day, Aere turned southwest and traversed the coastal areas of Fujian. It degenerated into an area of low pressure over central Guangdong on 27 August.

A tropical depression named Songda (0418) formed over the Pacific about 910 km south of Wake Island on 27 August. Tracking west-northwestwards, Songda intensified into a typhoon on 31 August and crossed the Mariana Islands the next day. It traversed Okinawa on 5 September. Songda began to track northeastward on 6 September while it was over the East China Sea. It made landfall near Nagasaki of Japan and skirted the southwestern tip of Honshu the following day. Songda weakened into a severe tropical storm over the Sea of Japan on the early morning of 8 September and skirted the southwestern coast of Hokkaido before becoming an extratropical cyclone. In Japan, widespread heavy rain associated with Songda triggered off landslides and floods. Under the influence of Songda, at least 32 people were killed and over 900 were injured in Japan. Electricity supply to tens of thousands families was cut off. More than 300 flights were cancelled. One vessel sank and three others ran aground.

SEPTEMBER

On 4 September, Sarika (0419) developed as a tropical depression over the Pacific about 950 km east of Guam. Tracking west-northwestwards, Sarika intensified into a severe tropical storm a day later and crossed the Mariana Islands. It turned northeast on the early morning of 7 September and weakened into an area of low pressure over the Pacific the following day.

Haima (0420) developed as a tropical depression about 150 km east of Gaoxiong on 11 September. It moved northwards and traversed the seas to the east of Taiwan. Haima intensified into a tropical storm and entered the East China Sea the next day. In Taiwan, the inclement weather associated with Haima caused six deaths and thousands of homes to be flooded. On 13 September, Haima made landfall over Wenzhou and weakened into a tropical depression. It degenerated into an area of low pressure the same day. The heavy rain associated with Haima flooded roads over parts of Wenzhou.

A tropical depression formed over the Pacific about 140 km south-southeast of Guam on 20 September and was named Meari (0421). After traversing the seas to the south of Guam, Meari turned northwest the next day and attained typhoon strength on 23 September. Meari began to track northeastwards to cross the East China Sea on 27 September. It made landfall near Kagoshima, Japan and weakened into a severe tropical storm two days later. Meari then swept across Shikoku and Honshu. On the last day of the month, it became an extratropical cyclone over the coastal areas of northeastern Honshu. During the passage of Meari, 20 people were killed and 85 injured in Japan. Another seven were reported missing and about 10 000 people had to be evacuated. Meari triggered off a number of landslides and floods in Japan. Power supply to about 90 000 families was suspended. Hundreds of flights were cancelled. Train and ferry services were also interrupted.

OCTOBER

A tropical depression named Ma-on (0422) formed over the Pacific about 870 km north-northwest of Yap on 4 October. Moving northwards, Ma-on intensified into a tropical storm that night. It turned northwest the next day and intensified into a typhoon on the early morning of 7 October. Ma-on headed north-northeast towards Japan that afternoon. On 9 October, Ma-on traversed the southeastern part of Honshu. It weakened into a severe tropical storm and became an extratropical cyclone early next morning. In Japan, Ma-on caused six deaths, 103 injuries. Two persons were reported missing and over 3 500 families had to be evacuated. More than 400 flights were cancelled. Rail and ferry services were also interrupted.

Tokage (0423) developed as a tropical depression over the Pacific about 260 km east of Guam on 12 October. Moving westwards, Tokage intensified into a typhoon on 14 October. It then took on a northwestward course. On 19 October, Tokage turned northeast and skirted Okinawa. After making landfall over Shikoku of Japan the next day, Tokage weakened into a severe tropical storm over the central part of Honshu. It became an extratropical cyclone on the early morning of 21 October. In the fury of Tokage, 82 people were killed, 443 injured and eight went missing in Japan. About 200 houses were destroyed and another 23 000 homes were flooded. A vessel ran aground, around 1 000 domestic flights were cancelled and train services were also suspended.

Nock-ten (0424) formed as a tropical depression over the Pacific about 990 km south-southwest of Wake Island on 14 October. Tracking westwards, it attained typhoon strength on 18 October. It adopted a west-northwest course on 19 October towards Taiwan. Nock-ten hit the northern part of Taiwan on 25 October and turned northeastwards as it entered the East China Sea. Nock-ten weakened into a severe tropical storm that night and became an extratropical cyclone the next morning. Strong winds and torrential rain associated with Nock-ten triggered off landslides in Taiwan. At least four people were killed, 104 injured and two went missing. Electricity supply to over 380 thousand families was cut off. Agricultural losses were estimated at NT$ 160 million.

NOVEMBER

A tropical depression named Muifa (0425) formed over the Pacific about 840 km west-northwest of Yap on 14 November. Moving west-northwestwards, Muifa began to execute a clockwise loop on 17 November and intensified into a typhoon the following day. After looping, it swept across the central part of the Philippines on 19 November. Muifa weakened into a severe tropical storm the next day and entered the South China Sea. In the fury of Muifa, 61 people were killed, 101 injured and 80 reported missing in the Philippines where total damage amounted to approximately US$ 1.3 million.

Muifa re-intensified into a typhoon over the central part of the South China Sea on 21 November. It turned west-southwest and became a severe tropical storm the next day. Muifa skirted the southern tip of Vietnam on the morning of 25 November. It weakened into an area of low pressure that night after traversing the Gulf of Thailand. In Vietnam, landslides and floods triggered by Muifa caused at least 33 deaths.

Merbok (0426) developed as a tropical depression over the Pacific about 140 km east-northeast of Manila on 22 November and tracked west-northwest. After crossing Luzon, Merbok entered the South China Sea the following day and degenerated into an area of low pressure that afternoon. During the passage of Merbok, 26 people were killed in the Philippines.

Nanmadol (0427) developed as a tropical depression over the Pacific about 860 km south-southeast of Guam on 29 November. Moving west-northwestwards, Nanmadol traversed Yap and intensified into a typhoon the next day. It struck Luzon on 2 December. Nanmadol caused 37 deaths in the Philippines, and another 38 persons were reported missing. As Nanmadol entered the South China Sea on 3 December, it weakened into a severe tropical storm and adopted a northeastward course. It made landfall over the southern part of Taiwan before becoming an extratropical cyclone on 4 December. In Taiwan, one person was killed during the passage of Nanmadol. Agricultural losses were estimated at NT$ 60 million.

DECEMBER

Talas (0428) formed as a tropical depression over the Pacific about 1 220 km south-southwest of Wake Island on the morning of 11 December and intensified into a tropical storm that afternoon. Talas headed westwards in the next few days. It weakened into a tropical depression on 16 December and turned north-northwestwards. It re-intensified into a tropical storm and became slow-moving on 17 December. Talas weakened into an area of low pressure on 19 December.

Noru (0429) formed as a tropical depression over the Pacific about 570 km east of Guam on 18 December. Moving westwards, it intensified into a tropical storm and tracked north-northwestwards the following day. After passing just to the east of Mariana Islands on 20 December, Noru turned northeastwards and became an extratropical cyclone over the Pacific two days later.

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

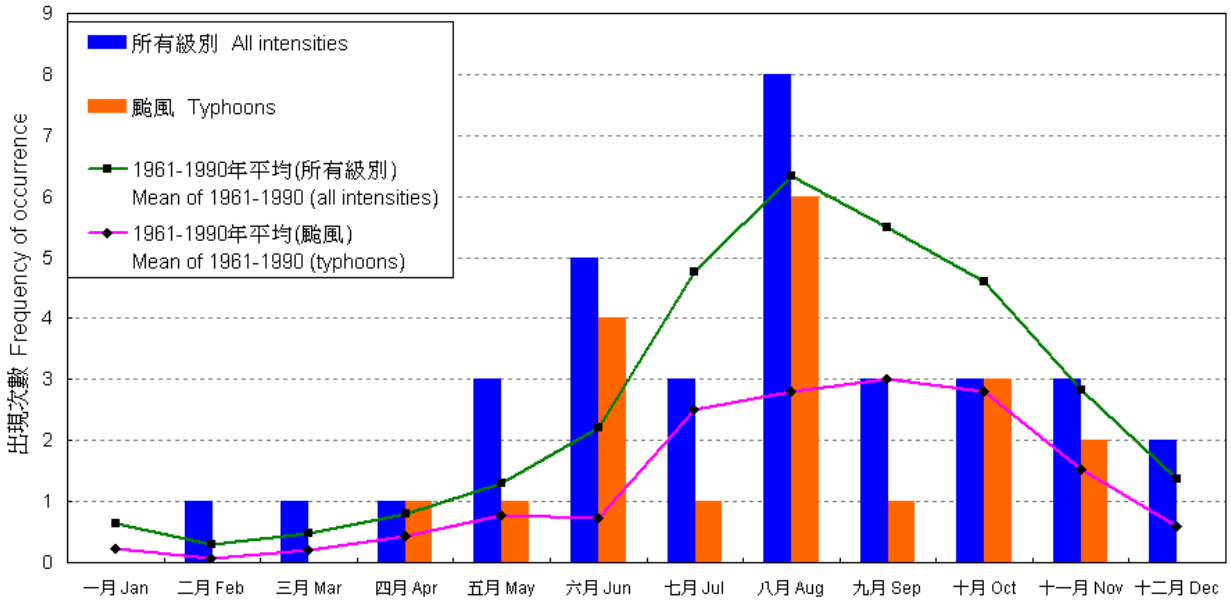

圖 2.1　二零零四年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈 (以熱帶氣旋在該月初次出現爲準)。

Figure 2.1 Monthly frequencies of the occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2004 (based on the first occurrence of the tropical cyclone in the month).

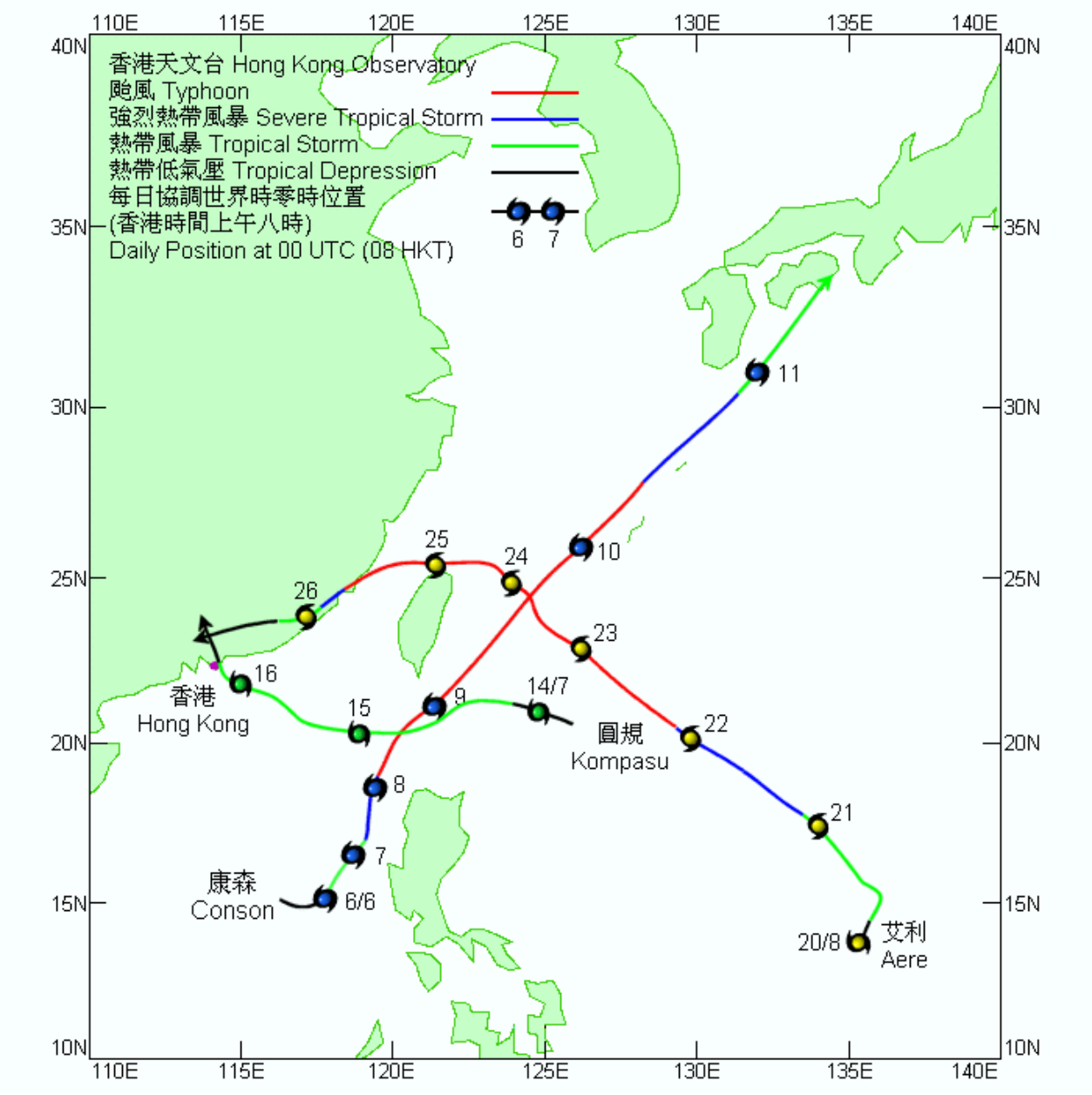

圖 2.2　　二零零四年三個影響香港的熱帶氣旋的路徑圖。

Figure 2.2　　Tracks of the three tropical cyclones affecting Hong Kong in 2004.

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

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

年份 Year	月份 Month												共 Total
	一月 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
2002	1					1	3	2	3				10
2003				1	1	2	2	3	1	1	1		12
2004			1		1	3	2	2	2	1	2	1	15
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
2002								2	1				3
2003							2	1	1				4
2004						1	1	1					3
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發出的月份。

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

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		顯示符號 Symbol Display	信號之意義 Meaning of the Signal
戒備 Standby	1		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		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		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		
東北 烈風或暴風 NE'LY Gale or Storm	8 東北 NE		
東南 烈風或暴風 SE'LY Gale or Storm	8 東南 SE		
烈風或暴風風力增強 Increasing Gale or Storm	9		烈風或暴風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		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

二零零四年影響香港的熱帶氣旋

Section 3

TROPICAL CYCLONES AFFECTING HONG KONG IN 2004

3.1 颱風康森 (0404)：二零零四年六月五日至十一日

康森在六月五日下午於馬尼拉以西約 510 公里處發展成爲一個熱帶低氣壓。它初時向東緩慢移動，翌日轉向東北偏北推進。康森在六月七日爲呂宋中部帶來暴雨，次日發展成爲颱風。它於六月九日轉向東北橫越呂宋海峽並掠過台灣以東海面。在台灣，有多班內陸航機被取消，來往離島的渡輪和連接高雄的列車服務一度停頓。康森在六月十日於東海減弱爲一強烈熱帶風暴，並在翌日於日本四國南部沿岸變成溫帶氣旋。

六月八日下午 2 時 15 分，香港天文台發出一號戒備信號，當時康森剛增強爲一颱風並集結於香港東南偏東約 670 公里。康森的最高持續風速及最低中心氣壓估計分別約爲每小時 130 公里及 965 百帕斯卡。香港天文台總部於當日下午 3 時及 4 時錄得每小時最低海平面氣壓爲 1 007.5 百帕斯卡。康森在下午 6 時最接近香港，位於香港東南偏東約 660 公里處。隨著康森開始採取東北途徑移動遠離香港，所有熱帶氣旋警告信號在六月九日上午 4 時 30 分取消。

康森並沒有在香港引起任何傷亡或損失。

表 3.1.1-3.1.2 分別是康森影響香港時各站錄得的最高風速及最高潮汐資料。圖 3.1.1-3.1.2 則分別是康森的路徑圖及衛星雲圖。

3.1 Typhoon Conson (0404) : 5 - 11 June 2004

Conson formed as a tropical depression about 510 km west of Manila in the afternoon of 5 June. It moved slowly eastward at first and turned towards the north-northeast the next day. It brought torrential rain to central Luzon on 7 June. Conson intensified into a typhoon the following day. Conson turned northeast, crossed the Luzon Strait and traversed the seas east of Taiwan on 9 June. In Taiwan, some domestic flights were cancelled. Ferry services to outlying islands as well as rail services for Gaoxiong were suspended. Conson weakened into a severe tropical storm over the East China Sea on 10 June and eventually became an extratropical cyclone near the southern coast of Shikoku, Japan on the next day.

In Hong Kong the Standby Signal No. 1 was issued at 2.15 p.m. on 8 June soon after Conson attained typhoon strength about 670 km to the east-southeast. The maximum sustained winds and minimum sea-level pressure near the centre of Conson were estimated to be 130 km/h and 965 hPa respectively. At the Hong Kong Observatory Headquarters, the lowest hourly sea-level pressure of 1 007.5 hPa was recorded at 3 p.m. and 4 p.m. that afternoon. Conson was closest to Hong Kong at 6 p.m. when it was around 660 km to the east-southeast. As Conson began to adopt a northeastward course and move away from Hong Kong, all tropical cyclone warning signals were cancelled at 4.30 a.m. on 9 June 2004.

Conson had not caused any casualty or damage in Hong Kong.

Information on wind and tide during the passage of Conson is given in Tables 3.1.1and 3.1.2. Figures 3.1.1 and 3.1.2 show the track of Conson and cloud imagery and radar echoes respectively.

表 3.1.1　在康森影響下，本港各站在熱帶氣旋警告信號生效時所錄得的最高陣風、最高每小時平均風速及風向

Table 3.1.1 Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations during the issuing of the tropical cyclone warning signal for Conson

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	東南偏南 SSE	22	8/6	16:32	東 E	9	8/6	15:00
中環廣場	Central Plaza	- -	22	8/6	16:01	- -	12	8/6	16:00
香港國際機場	Hong Kong International Airport	東南偏南 SSE	25	8/6	18:13	西 W	14	8/6	16:00
長洲	Cheung Chau	東南 SE	25	8/6	14:19	東南 SE	19	8/6	15:00
長沙灣	Cheung Sha Wan	西南偏西 WSW	22	8/6	16:20	西南 SW	12	8/6	17:00
青洲	Green Island	南 S	34	8/6	15:05	南 S	23	8/6	16:00
啓德	Kai Tak	東南 SE	25	8/6	15:28	東南 SE	20	8/6	16:00
		東南 SE	25	8/6	15:33				
		東南 SE	25	8/6	15:36				
京士柏	King's Park	東 E	19	8/6	15:41	東 E	9	8/6	23:00
流浮山	Lau Fau Shan	西 W	23	8/6	14:53	西 W	19	8/6	16:00
北角	North Point	東 E	25	8/6	15:50	東 E	14	8/6	16:00
平洲	Ping Chau	東南偏南 SSE	22	8/6	15:29	東南偏南 SSE	7	8/6	17:00
		東南偏南 SSE	22	8/6	16:15				
西貢	Sai Kung	東南偏南 SSE	23	8/6	14:54	南 S	19	8/6	16:00
		南 S	23	8/6	15:43				
沙螺灣	Sha Lo Wan	西 W	19	8/6	15:17	西南偏西 WSW	9	8/6	16:00
沙田	Sha Tin	東北偏北 NNE	19	8/6	14:33	西南 SW	12	8/6	18:00
石崗	Shek Kong	西南偏南 SSW	19	8/6	15:30	西南偏南 SSW	6	8/6	16:00
						南 S	6	8/6	17:00
九龍天星碼頭	Star Ferry, Kowloon	南 S	20	8/6	16:22	東 E	12	8/6	15:00
打鼓嶺	Ta Kwu Ling	東 E	16	8/6	14:47	南 S	7	8/6	15:00
						東南偏東 ESE	7	8/6	16:00
大尾篤	Tai Mei Tuk	東南 SE	27	8/6	16:19	東南 SE	16	8/6	20:00
		東南 SE	27	8/6	18:52				
		東南 SE	27	8/6	19:35				
大帽山	Tai Mo Shan	東北 NE	31	8/6	23:40	東北偏東 ENE	20	9/6	1:00
塔門	Tap Mun	東南偏東 ESE	25	8/6	14:37	東南偏東 ESE	16	8/6	16:00
大老山	Tate's Cairn	西北偏西 WNW	22	8/6	14:28	東 E	16	9/6	1:00
		東北偏東 ENE	22	8/6	15:12				
鯽魚湖	Tsak Yue Wu	西南偏南 SSW	19	8/6	14:25	西南偏南 SSW	6	8/6	17:00
						西南偏西 WSW	6	8/6	18:00
將軍澳	Tseung Kwan O	南 S	19	8/6	14:48	南 S	7	8/6	15:00
						西南偏南 SSW	7	8/6	16:00
青衣	Tsing Yi	南 S	25	8/6	16:05	南 S	12	8/6	17:00
						東南偏東 ESE	12	8/6	23:00
屯門	Tuen Mun	東南偏南 SSE	25	8/6	20:44	東南偏南 SSE	13	8/6	19:00
		東南偏南 SSE	25	8/6	20:47				
		南 S	25	8/6	22:45				
橫瀾島	Waglan Island	東南偏東 ESE	20	8/6	15:11	東南 SE	16	8/6	16:00
		東南 SE	20	8/6	15:37				
黃竹坑	Wong Chuk Hang	東南 SE	25	8/6	14:30	東南偏南 SSE	7	8/6	16:00

表 3.1.2　康森影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮
Table 3.1.2 Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Conson

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/月 Date/Month	時間 Time	高度 (米) Height (m)	日/月 Date/Month	時間 Time
鰂魚涌	Quarry Bay	2.24	8/6	14:15	0.27	8/6	19:12
大埔滘	Tai Po Kau	2.39	8/6	14:35	0.38	8/6	18:55
尖鼻咀	Tsim Bei Tsui	2.59	8/6	14:15	0.22	8/6	22:02

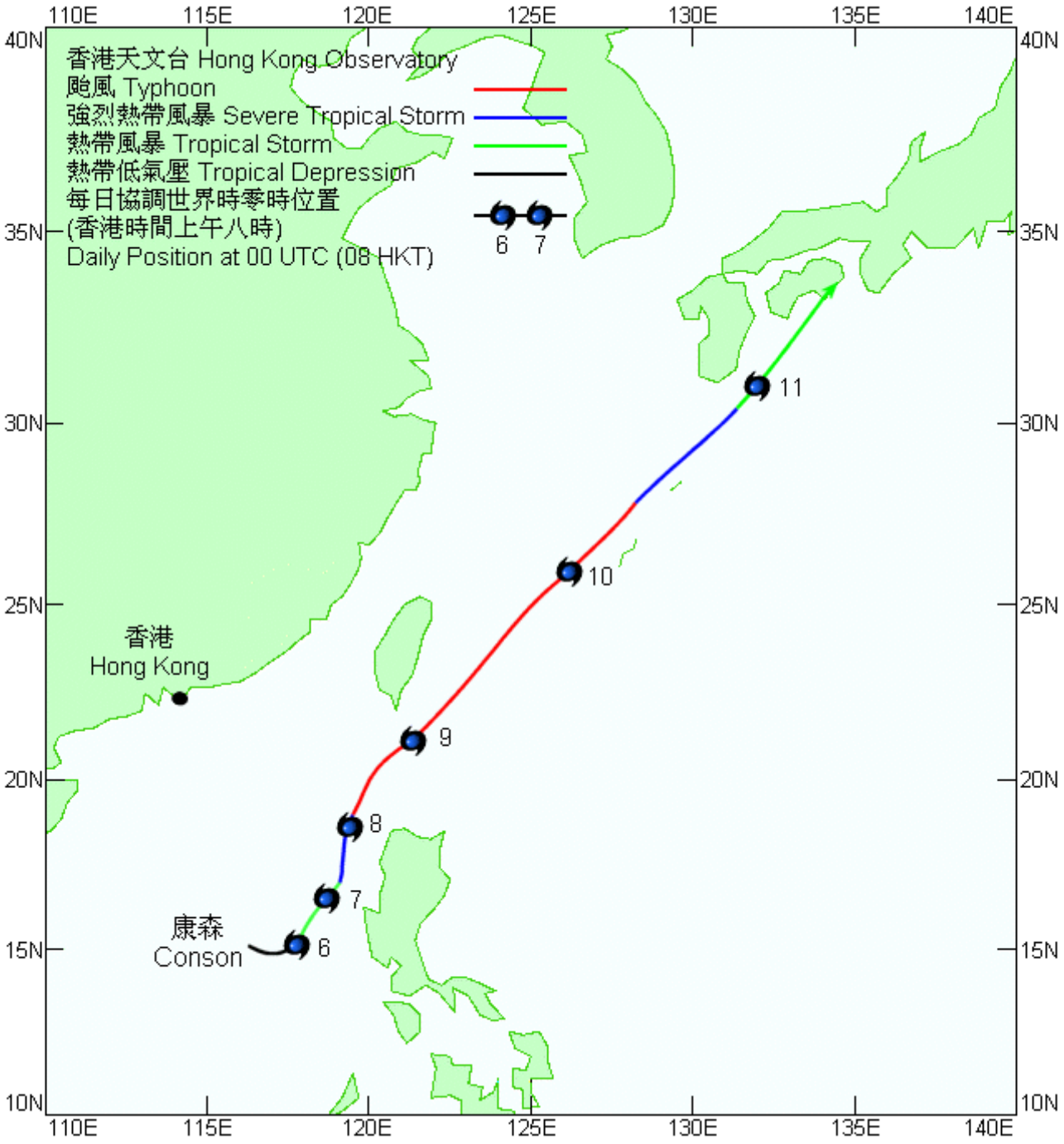

圖 3.1.1　　二零零四年六月五日至十一日康森（0404）的路徑圖
Figure 3.1.1　Track of Conson(0404) : 5 - 11 June 2004.

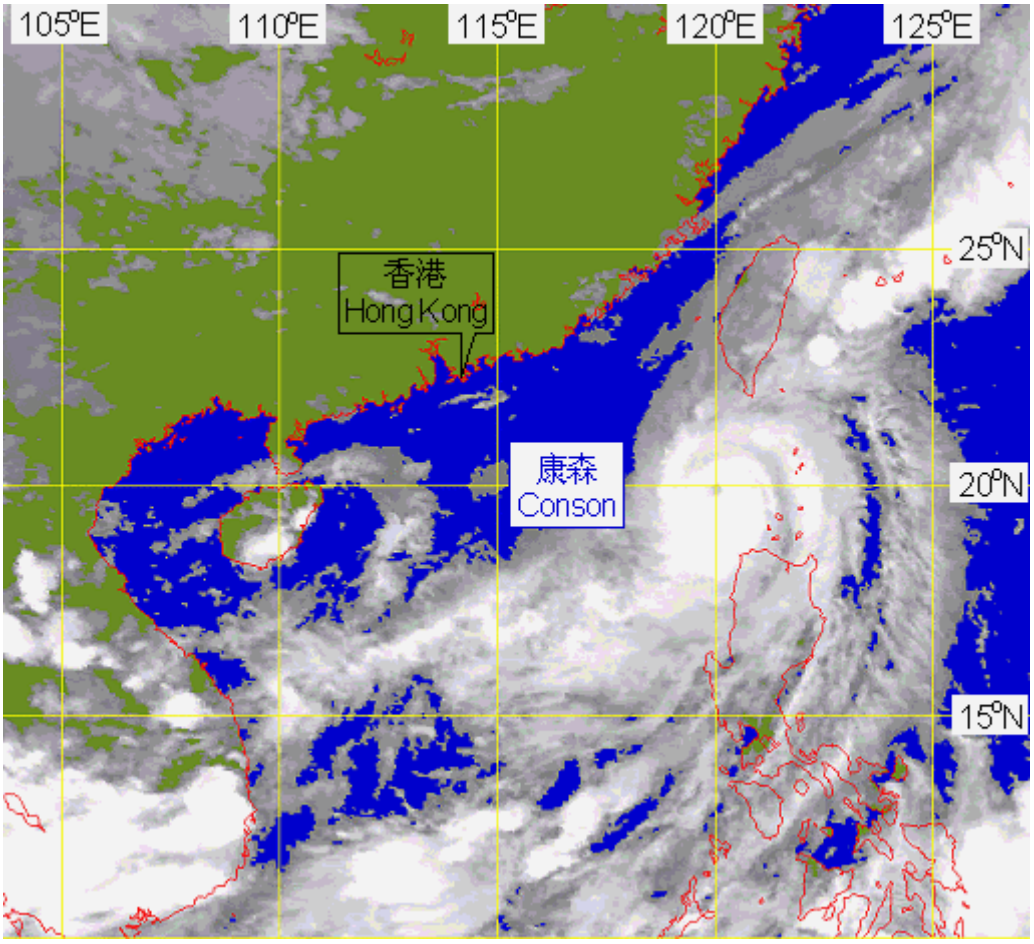

圖 3.1.2　二零零四年六月八日約下午七時三十分的紅外線衛星圖片，颱風康森的風眼清晰可見。[此衛星圖像接收自地球同步業務環境衛星(GOES-9)。GOES-9是日本氣象廳(JMA)和美國國家海洋及大氣管理局(NOAA)轄下的國家環境衛星數據及資訊服務處 (NESDIS)合作下的成果]

Figure 3.1.2　Infra-red imagery at around 7.30 p.m. on 8 June 2004 depicting the eye of Typhoon Conson. [The satellite imagery was originally captured with Geostationary Operational Environmental Satellite (GOES-9) which is operated by the joint effort of Japan Meteorological Agency (JMA) and National Environmental Satellite Data and Information Service (NESDIS) of US National Oceanic and Atmospheric Administration (NOAA)]

3.2 熱帶風暴圓規（0409）：二零零四年七月十四日至十六日

圓規是今年唯一引致香港天文台發出八號烈風或暴風信號的熱帶氣旋。

圓規在七月十四日清晨於高雄東南偏東約620公里的太平洋上發展成爲一個熱帶低氣壓。它在當天下午增強爲一熱帶風暴，並且向西移動，橫越呂宋海峽。圓規進入南海之後，大致採取西北路徑趨向廣東沿岸。圓規於七月十六日轉向西北偏北移動並在香港登陸，同日傍晚減弱爲一熱帶低氣壓，然後在廣東內陸消散。在廣東，有多棵大樹被吹倒及多個招牌塌下。來往廣東、香港和澳門的渡輪服務一度停頓。

香港天文台於七月十四日晚上10時55分發出一號戒備信號，當時圓規位於香港東南偏東約720公里。隨著圓規逼近，香港風勢逐漸增強，天文台於七月十六日上午5時15分發出三號強風信號，圓規的螺旋雨帶亦開始爲香港帶來驟雨。橫瀾島風力於早上逐漸增強至烈風程度，香港天文台於上午11時45分發出本年度首個八號東北烈風或暴風信號。

圓規於七月十六日下午3時左右在西貢登陸，當時它位於天文台總部東面約25公里，圓規亦是在這時最接近天文台總部。登陸後，圓規橫過新界東北部。天文台於下午2時45分改發八號西北烈風或暴風信號，繼而在下午4時45分轉爲八號西南烈風或暴風信號。當圓規開始遠離香港，境內風勢逐漸減弱，天文台在七月十六日傍晚7時20分改發三號強風信號，隨後在晚上8時20分取消所有熱帶氣旋警告信號。

於七月十六日下午圓規接近香港期間，塔門錄得的最高每小時平均風速爲47公里，最高陣風則達每小時79公里。橫瀾島錄得最高每小時平均風速爲88公里，最高陣風則達每小時106公里。在香港天文台總部、橫瀾島和打鼓嶺錄得的最低瞬時海平面氣壓分別爲1 000.5百帕斯卡、995.7百帕斯卡和1 001.0百帕斯卡。

圓規的雨帶和殘餘分別在七月十六日下午及次日爲香港帶來狂風大驟雨。天文台在七月十六日下午5時正至6時50分及七月十七日上午2時20分至3時30分兩度發出黃色暴雨警告信號。天文台總部共錄得超過120毫米雨量。

圓規襲港期間，共有12人受傷，當中兩人分別在荃灣及北角被高空墮物擊中。灣仔駱克道出現輕微水浸，西環寶翠園有石屎墮下報告，而在數碼港及九龍城道則共有兩宗棚架倒塌報告。全港共發生19宗樹木倒塌事件。本港機場有13班航機延誤及兩班航機取消。渡輪服務一度停頓。

表3.2.1 - 3.2.3 分別是圓規影響香港期間各站錄得的最高風速、日雨量及最高潮汐資料。圖3.2.1 和3.2.2分別爲圓規的路徑圖及雨量分佈圖。圖3.2.3是圓規橫過香港時，在橫瀾島及大尾篤錄得的風速變化。圖3.2.4顯示圓規中心附近的氣旋性風場。圖3.2.5是圓規橫過香港時，橫瀾島及打鼓嶺錄得的氣壓時間序列。圖3.2.6 和3.2.7分別爲圓規的衛星和雷達圖像。

3.2 Tropical Storm Kompasu (0409) : 14 – 16 July 2004

Kompasu was the only tropical cyclone to necessitate the issuance of No. 8 Gale or Storm Signal in the year.

Kompasu developed as a tropical depression over the Pacific about 620 km east-southeast of Gaoxiong on the early morning of 14 July. Moving westwards, Kompasu intensified into a tropical storm that afternoon and crossed the Luzon Strait. Upon entering the South China Sea, it adopted a northwestward course and headed towards the coast of Guangdong. It turned north-northweastwards and made landfall over Hong Kong on 16 July. Kompasu weakened into a tropical depression and dissipated over inland Guangdong that evening. In Guangdong, many trees were uprooted and signboards collapsed. Ferry services between Guangdong, Hong Kong and Macao were suspended.

In Hong Kong, the Standby Signal No. 1 was issued at 10.55 p.m. on 14 July when Kompasu was 720 km to the east-southeast of Hong Kong. With Kompasu moving closer to Hong Kong and winds strengthening, the Strong Wind Signal No. 3 was issued at 5.15 a.m. on 16 July. Showers set in as Hong Kong began to come under the influence of Kompasu's spiral rainbands. Local winds reached gale force at Waglan Island later that morning. The No. 8 NORTHEAST Gale or Storm Signal was issued for the first time this year at 11.45 a.m.

Kompasu made landfall over Sai Kung at around 3.00 p.m. on 16 July when it was 25 km to the east of Hong Kong Observatory Headquarters, its closest approach. Following landfall Kompasu traversed the northeastern part of the New Territories. The No. 8 NORTHWEST Gale or Storm Signal and No. 8 SOUTHWEST Gale or Storm Signal were issued at 2.45 p.m and 4.45 p.m respectively. With Kompasu beginnnig to move away and local winds gradually subsiding, the No. 8 Signal was replaced by the Strong Wind Signal No. 3 at 7.20 p.m. on 16 July. All tropical cyclone warning signals were cancelled an hour later.

During the approach of Kompasu, a maximum hourly mean wind of 47 km/h and a maximum gust of 79 km/h were recorded at Tap Mun on the afternoon of 16 July. At Waglan, a maximum hourly mean wind of 88 km/h and a maximum gust of 106 km/h were recorded. The lowest instantaneous mean sea-level pressures recorded at Hong Kong Observatory Headquarters, Waglan Island and Ta Kwu Ling were 1 000.5 hPa, 995.7 hPa and 1 001.0 hPa respectively.

The rainbands and remnant of Kompasu brought heavy squally showers to Hong Kong on the afternoon of 16 July and on the following day. The Amber Rainstorm Warning Signal was in force between 5.00 p.m. and 6.50 p.m. on 16 July, and between 2.20 a.m and 3.30 a.m. on 17 July. More than 120 millimetres of rainfall were recorded at the Observatory Headquarters.

Locally, 12 people were injured during the passage of Kompasu. Among them two were hit by fallen objects, one in North Point and another in Tsuen Wan. Minor flooding was reported at Lockhart Road in Wan Chai. There was one report of fallen concrete at Belcher's Tower in Western District and two reports of collapsed scaffolding at Cyberport and Kowloon City Road. A total of 19 cases of fallen trees was reported. At the Hong Kong International Airport, 13 flights were delayed and two were cancelled. Ferry services were suspended.

Information on maximum wind, daily rainfall and maximum sea level during the passage of Kompasu is given in Tables 3.2.1 - 3.2.3. Figures 3.2.1 and 3.2.2 show the track of Kompasu and the rainfall distribution respectively. Time series of the wind speed recorded at Waglan Island and Tai Mei Tuk are given in Figure 3.2.3. The cyclonic circulation of Kompasu's wind field is shown in Figure 3.2.4. Traces of the pressure recorded at Waglan Island and Ta Kwu Ling are given in Figure 3.2.5. Figures 3.2.6 and 3.2.7 are respectively the satellite and radar imageries of Kompasu.

表 3.2.1　在圓規影響下，本港各站在熱帶氣旋警告信號生效時所錄得的最高陣風、最高每小時平均風速及風向

Table 3.2.1 Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations during the issuing of the tropical cyclone warning signal for Kompasu

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	北 N	65	16/7	13:41	西北偏北 NNW	31	16/7	14:00
中環廣場	Central Plaza	- -	96	16/7	17:11	- -	65	16/7	18:00
香港國際機場	Hong Kong International Airport	西南偏西 WSW	73	16/7	16:58	西南 SW	49	16/7	18:00
長洲	Cheung Chau	西南偏西 WSW	99	16/7	16:30	北 N	54	16/7	13:00
長沙灣	Cheung Sha Wan	東北偏北 NNE	67	16/7	13:28	西南偏南 SSW	27	16/7	18:00
青洲	Green Island	西南偏南 SSW	90	16/7	17:10	西南偏南 SSW	65	16/7	18:00
啓德	Kai Tak	西南 SW	79	16/7	17:37	西北 NW	41	16/7	15:00
京士柏	King's Park	西南偏南 SSW	70	16/7	17:28	北 N	27	16/7	14:00
流浮山	Lau Fau Shan	北 N	70	16/7	14:56	北 N	47	16/7	15:00
北角	North Point	北 N	76	16/7	13:25	西 W	38	16/7	16:00
平洲	Ping Chau	東南 SE	67	16/7	16:00	西南 SW	31	16/7	19:00
西貢	Sai Kung	東北偏北 NNE	87	16/7	13:22	東北偏北 NNE	49	16/7	13:00
沙螺灣	Sha Lo Wan	西南 SW	79	16/7	16:56	西南 SW	36	16/7	18:00
沙田	Sha Tin	西北偏北 NNW	65	16/7	14:51	北 N	25	16/7	14:00
石崗	Shek Kong	西北 NW	56	16/7	15:27	西北 NW	25	16/7	16:00
九龍天星碼頭	Star Ferry, Kowloon	西 W	96	16/7	17:30	西 W	47	16/7	16:00
打鼓嶺	Ta Kwu Ling	北 N	63	16/7	15:11	東北偏北 NNE	22	16/7	15:00
大尾篤	Tai Mei Tuk	東北偏北 NNE	103	16/7	14:41	東北偏北 NNE	59	16/7	15:00
大帽山	Tai Mo Shan	西北偏北 NNW	92	16/7	15:06	北 N	63	16/7	15:00
塔門	Tap Mun	東北偏東 ENE	79	16/7	13:39	東 E	47	16/7	14:00
大老山	Tate's Cairn	西北 NW	121	16/7	13:50	東北偏北 NNE	77	16/7	13:00
鯽魚湖	Tsak Yue Wu	西南偏西 WSW	59	16/7	17:09	東北偏北 NNE	25	16/7	14:00
將軍澳	Tseung Kwan O	西北 NW	72	16/7	12:56	西北偏北 NNW	23	16/7	14:00
青衣	Tsing Yi	北 N	94	16/7	13:34	西北 NW	40	16/7	15:00
屯門	Tuen Mun	北 N 西北偏西 WNW	52 52	16/7 16/7	14:57 17:41	東南偏東 ESE	19	16/7	20:00
橫瀾島	Waglan Island	西南 SW	106	16/7	16:17	西南 SW	88	16/7	17:00
黃竹坑	Wong Chuk Hang	西北 NW	77	16/7	14:20	西北 NW	31	16/7	15:00

表 3.2.2　圓規影響香港期間，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 Kompasu

站 (參閱圖 3.2.2) Station (see Fig. 3.2.2)			七月十四日 14 Jul	七月十五日 15 Jul	七月十六日 16 Jul	七月十七日 17 Jul	總雨量 Total
香港天文台 Hong Kong Observatory			0.0	0.0	77.5	44.4	121.9
H19	筲箕灣	Shau Kei Wan	0.0	0.0	59.5	72.0	131.5
K04	佐敦谷	Jordan Valley	0.0	0.0	64.5	63.0	127.5
K06	蘇屋邨	So Uk Estate	0.0	0.0	80.5	48.5	129.0
N06	葵涌	Kwai Chung	0.0	0.0	49.5	82.0	131.5
N09	沙田	Sha Tin	0.0	0.0	31.5	43.5	75.0
N12	元朗	Yuen Long	0.0	0.0	27.5	25.0	52.5
N13	糧船灣	High Island	0.0	0.0	35.0	95.0	130.0
N17	東涌	Tung Chung	0.0	0.0	36.0	43.5	79.5
R21	踏石角	Tap Shek Kok	0.0	0.0	35.0	17.5	52.5
R26	石崗	Shek Kong	0.0	0.0	31.5	43.5	75.0
R31	大尾篤	Tai Mei Tuk	0.0	0.0	17.0	41.5	58.5

表 3.2.3　圓規影響香港期間，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 tide stations in Hong Kong during the passage of Kompasu

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/月 Date/Month	時間 Time	高度 (米) Height (m)	日/月 Date/Month	時間 Time
鰂魚涌	Quarry Bay	2.34	16/7	7:10	0.35	16/7	14:11
大埔滘	Tai Po Kau	2.34	16/7	6:46	0.62	16/7	13:02
尖鼻咀	Tsim Bei Tsui	2.75	16/7	8:50	0.42	16/7	19:10

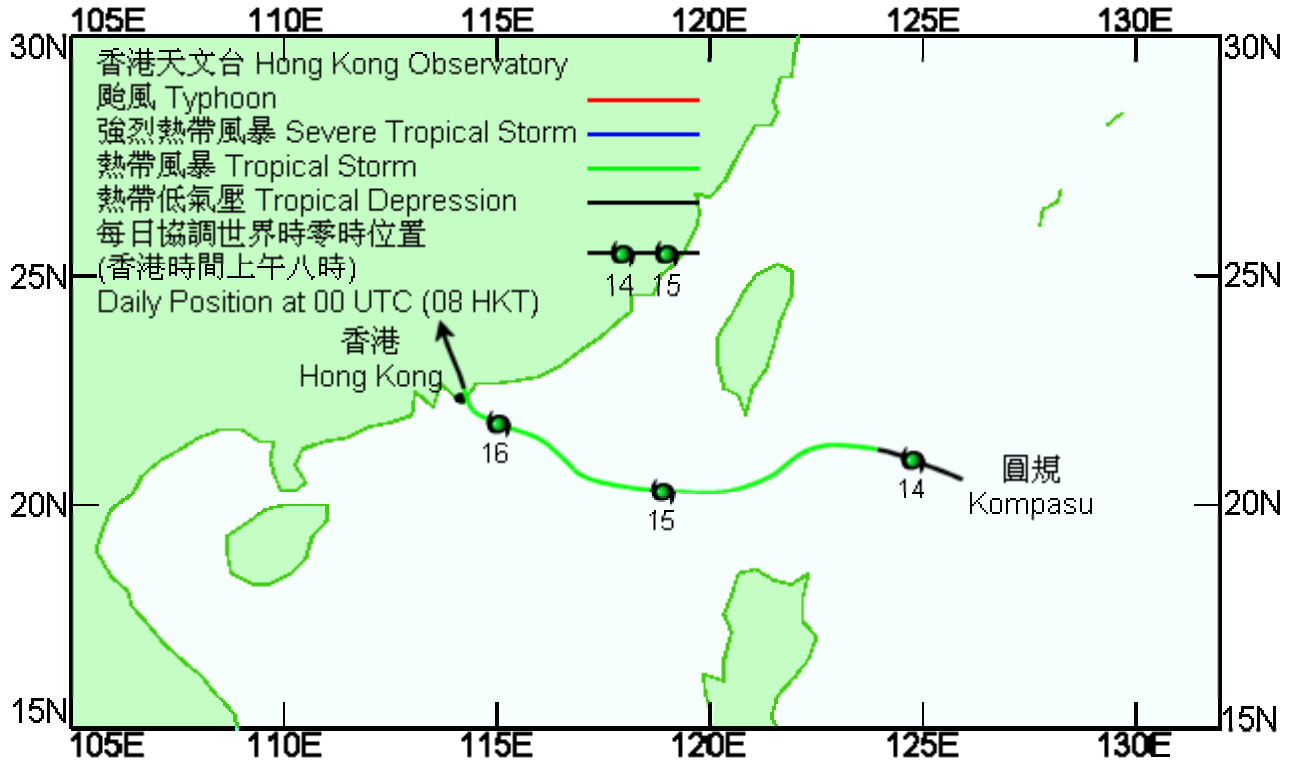

圖 3.2.1.a　　二零零四年七月十四日至十六日圓規（0409）的路徑圖
Figure 3.2.1.a　　Track of Kompasu (0409) : 14 - 16 July 2004.

圖 3.2.1.b　　圓規橫過香港時的路徑圖。
Figure 3.2.1.b　　Track of Kompasu over Hong Kong.

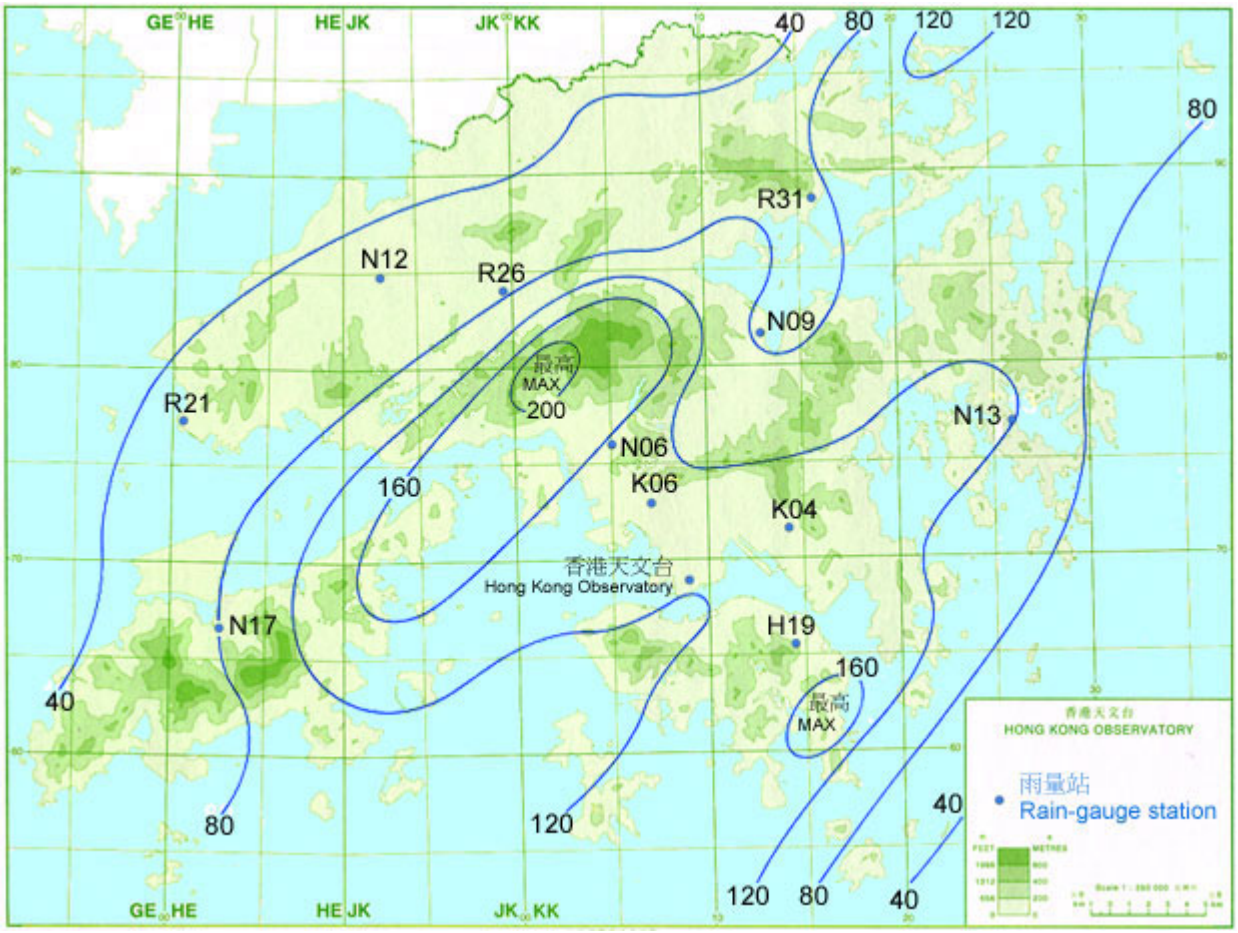

圖 3.2.2　　二零零四年七月十四至十七日的雨量分佈(等雨量線單位爲毫米)。
Figure 3.2.2　Rainfall distribution on 14-17 July 2004 (isohyets are in millimetres).

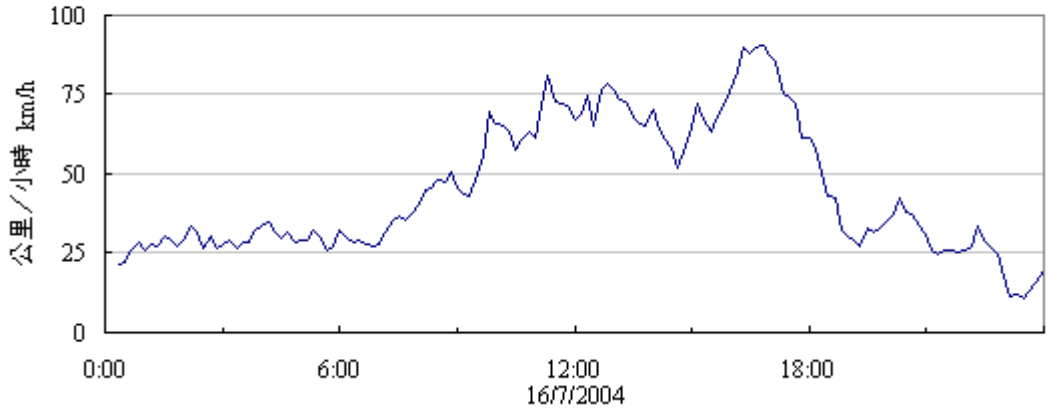

圖 3.2.3.a　　二零零四年七月十六日圓規橫過香港時，在橫瀾島錄得的十分鐘平均風速。
Figure 3.2.3.a Trace of the 10-minute mean wind speed recorded at Waglan Island during the passage of Kompasu on 16 July 2004.

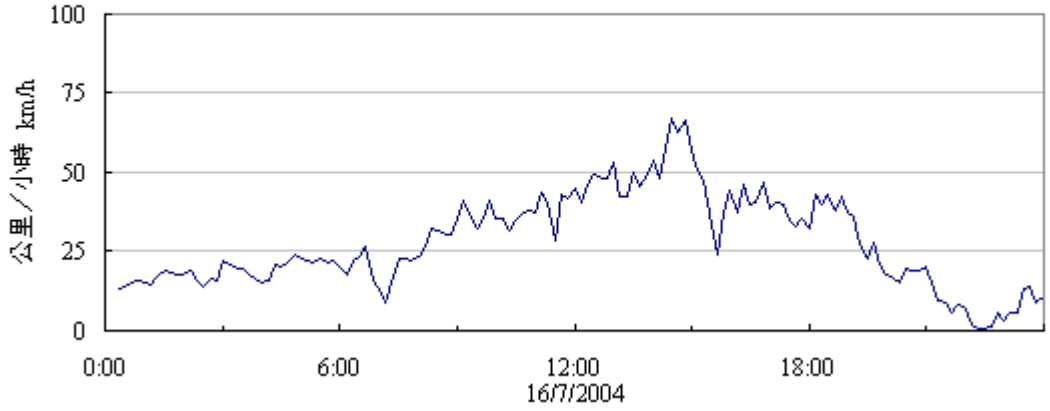

圖 3.2.3.b　　二零零四年七月十六日圓規橫過香港時，在大尾篤錄得的十分鐘平均風速。
Figure 3.2.3.b Trace of the 10-minute mean wind speed recorded at Tai Mei Tuk during the passage of Kompasu on 16 July 2004.

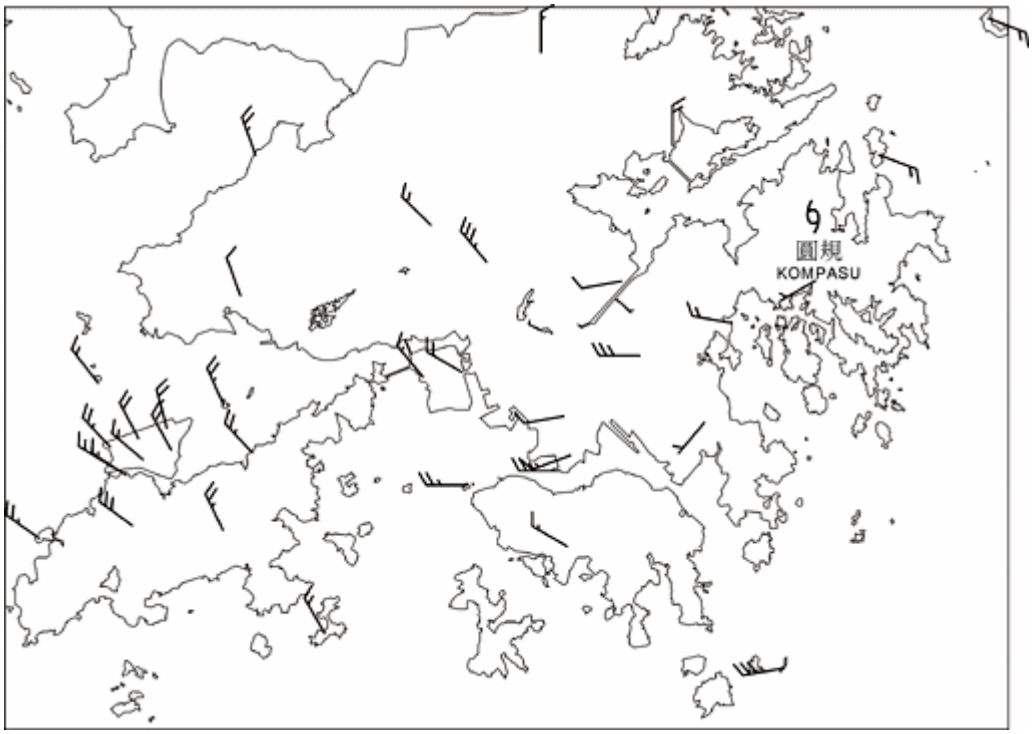

圖 3.2.4　二零零四年七月十六日下午三時三十分香港各站所錄得的風向和風速。當時圓規剛於西貢登陸。

Figure 3.2.4　Winds recorded at various stations in Hong Kong at 3.30 p.m. on 16 July 2004 shortly after Kompasu's landfall over Sai Kung.

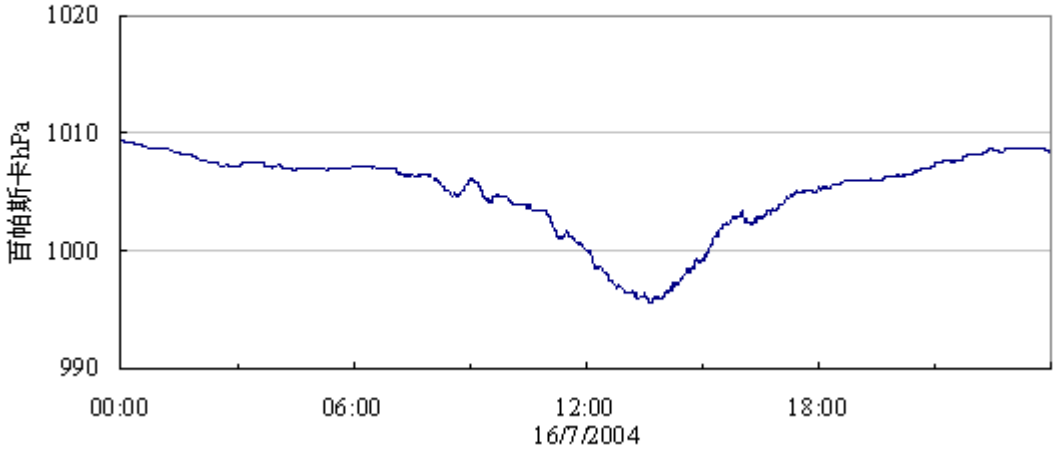

圖 3.2.5.a　　二零零四年七月十六日圓規橫過香港時，在橫瀾島錄得的氣壓變化。
Figure 3.2.5.a Trace of pressure recorded at Waglan Island during the passage of Kompasu on 16 July 2004.

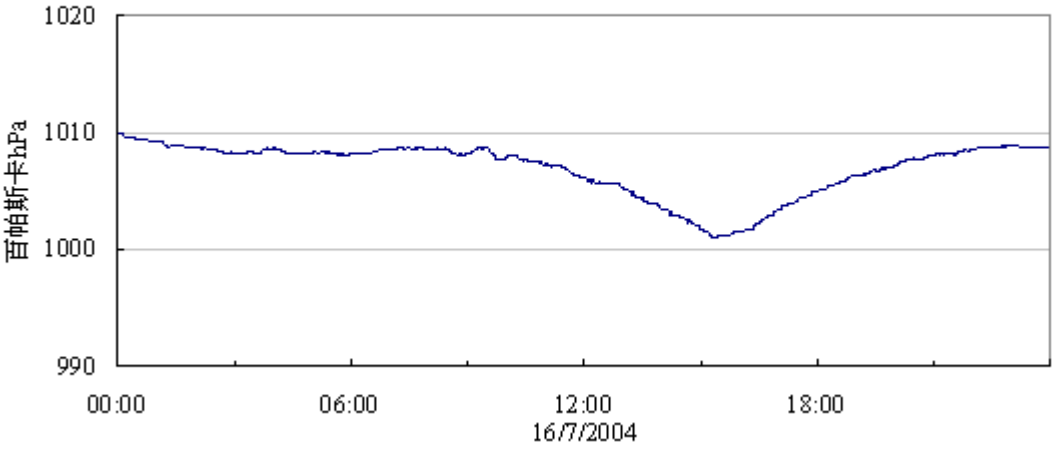

圖 3.2.5.b　　二零零四年七月十六日圓規橫過香港時，在打鼓嶺錄得的氣壓變化。
Figure 3.2.5.b Trace of pressure recorded at Ta Kwu Ling during the passage of Kompasu on 16 July 2004.

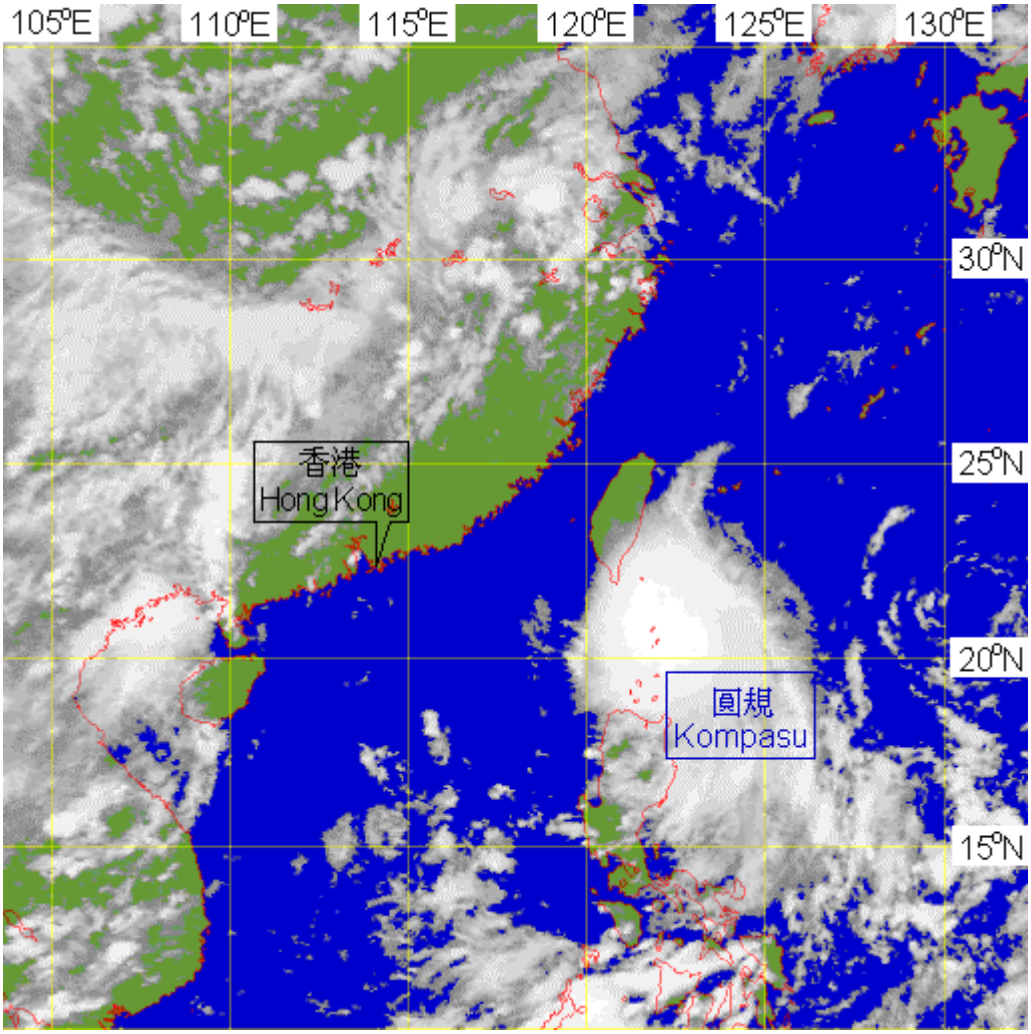

圖 3.2.6　熱帶風暴圓規在二零零四年七月十四日約下午二時的紅外線衛星圖片。
[此衛星圖像接收自地球同步業務環境衛星(GOES-9)。GOES-9是日本氣象廳(JMA)和美國國家海洋及大氣管理局(NOAA)轄下的國家環境衛星數據及資訊服務處 (NESDIS)合作下的成果]

Figure 3.2.6　Infra-red imagery at around 2 p.m. on 14 July 2004 of Tropical Storm Kompasu. [The satellite imagery was originally captured with Geostationary Operational Environmental Satellite (GOES-9) which is operated by the joint effort of Japan Meteorological Agency (JMA) and National Environmental Satellite Data and Information Service (NESDIS) of US National Oceanic and Atmospheric Administration (NOAA)]

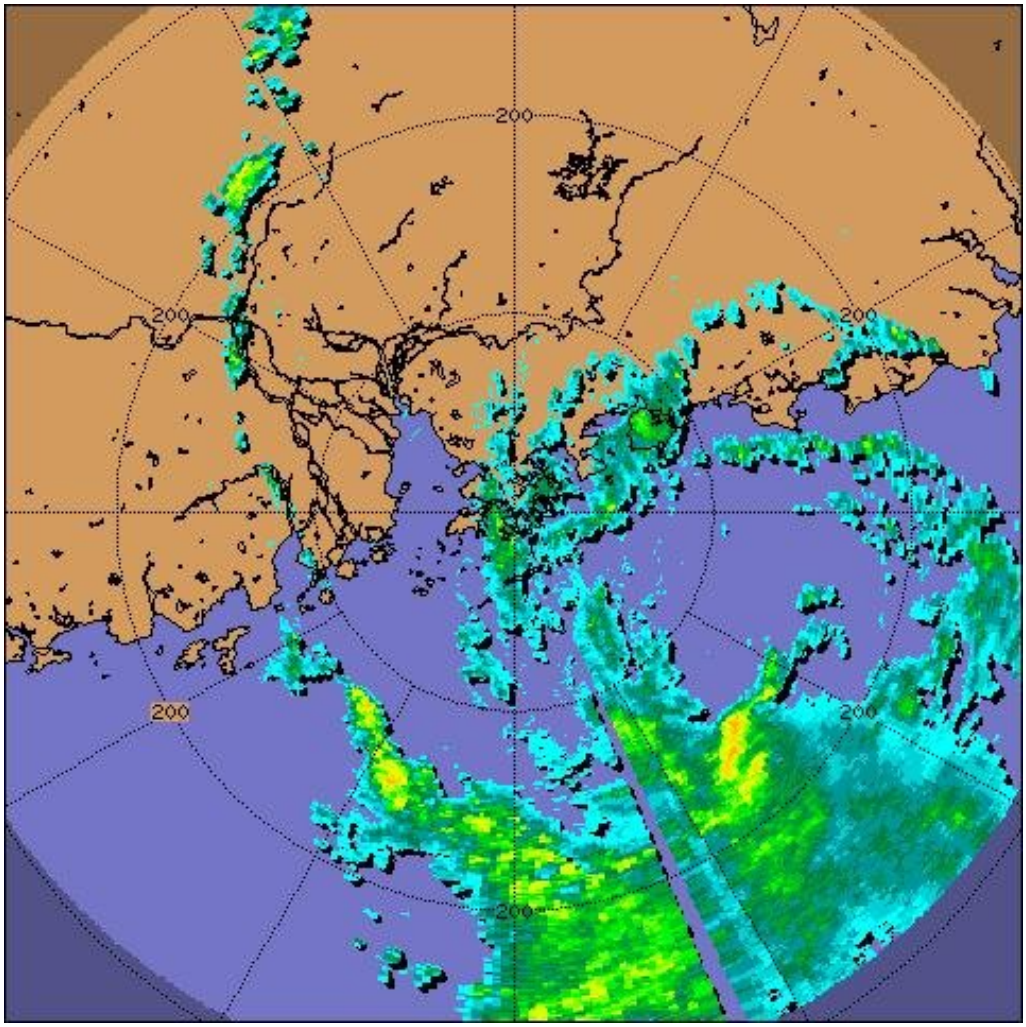

圖 3.2.7　　二零零四年七月十六日上午7 時的雷達回波圖像，顯示圓規的螺旋雨帶。

Figure 3.2.7　Radar echoes at 7.00 a.m. on 16 July 2004 showing the spiral rainbands of Kompasu.

3.3 颱風艾利（0417）：二零零四年八月二十日至二十七日

艾利是今年第三個令香港天文台發出警告信號的熱帶氣旋。

艾利在八月二十日早上於雅蒲島西北偏北約 550 公里的太平洋上形成。它初時向北移動，同日下午增強爲一熱帶風暴，隨後採取西北路徑推進。艾利於八月二十二日達颱風強度。艾利於八月二十四日轉向西移動，次日掠過台灣北部沿岸。受到艾利吹襲，台灣有 24 人死亡，另九人失蹤， 91 萬戶停水、36 萬用戶的電力受中斷，經濟損失逾四億元新台幣。

艾利於八月二十五日穿越台灣海峽，於廈門附近登陸。隨後，艾利轉向西南移動，橫過福建沿岸地區。翌日清晨艾利減弱爲一強烈熱帶風暴，隨後進一步減弱爲一熱帶風暴，並轉向西推進，直趨廣東。它於八月二十七日在廣東中部減弱成一個低壓區。艾利在吹襲福建省期間，導致兩人死亡，約有 4 萬 7 千公頃農田受到破壞，經濟損失超過 20 億元人民幣。

香港天文台在八月二十六日上午 10 時 15 分發出一號戒備信號，當時艾利位於香港東北偏東約 330 公里。受到艾利影響，本港天氣變得不穩定及有狂風驟雨。香港天文台總部於八月二十七日上午 3 時錄得每小時最低海平面氣壓爲 992.7 百帕斯卡。一小時後，艾利最接近本港，當時它位於香港西北偏北約 120 公里。隨後艾利減弱爲一低壓區，所有熱帶氣旋警告信號於八月二十七日上午 4 時 10 分除下。

與艾利的殘餘相關的陰雨天氣在本月餘下時間持續影響華南沿岸。本港雨勢於八月二十九日最大，當日大嶼山及荃灣地區錄得約 200 毫米的雨量。

表 3.3.1-3.3.3 分別是艾利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 3.3.1-3.3.3 則分別是艾利的路徑圖、香港雨量分佈圖及衛星雲圖。

3.3 Typhoon Aere (0417) : 20 – 27 August 2004

Aere was the third tropical cyclone that necessitated the issuance of warning signals this year.

Aere developed as a tropical depression over the Pacific about 550 km north-northwest of Yap on the morning of 20 August. It moved northwards at first and intensified into a tropical storm that afternoon. Aere then adopted a northwest course and attained typhoon strength on 22 August. It turned westwards on 24 August and skirted the coast of northern Taiwan the following day. In Taiwan, Aere caused 24 deaths and left nine people missing. Water supply to 910 000 households was cut off, and power supply to 360 000 households was disrupted. The economic loss was estimated to be at least NT$ 400 million.

On 25 August, Aere crossed the Taiwan Strait and made landfall near Xiamen. Adopting a southwest course, it traversed the coastal areas of Fujian and weakened into a severe tropical storm early next morning. Aere weakened further into a tropical storm as it turned west towards Guangdong. It degenerated into an area of low pressure over central Guangdong on 27 August. During the passage of Aere, two people were killed in Fujian and about 47 000 hectares of farmland were ruined. The economic losses exceeded RMB$ 2 billion.

In Hong Kong, the Standby Signal No. 1 was issued at 10.15 a.m. on 26 August when Aere was about 330 km to the east-northeast. As Hong Kong came under the influence of Aere, local weather became unstable with squally showers. The lowest hourly sea-level pressure of 992.7 hPa was recorded at the Hong Kong Observatory Headquarters at 3 a.m. on 27 August. Aere came closest to Hong Kong an hour later when it was about 120 km to the north-northwest. All tropical cyclone warning signals were cancelled at 4.10 a.m. as Aere weakened into an area of low pressure.

Cloudy and rainy weather associated with the remnant of Aere continued to affect the south China coast for the rest of the month. Locally, rain was particularly heavy on 29 August. About 200 millimetres of rainfall were recorded on Lantau Island and in Tsuen Wan that day.

Information on wind, rainfall and tide during the passage of Aere is given in Tables 3.3.1-3.3.3. Figures 3.3.1-3.3.3 show the track of Aere, rainfall distribution in Hong Kong and cloud imagery respectively.

表 3.3.1　在艾利影響下，本港各站在熱帶氣旋警告信號生效時所錄得的最高陣風、最高每小時平均風速及風向

Table 3.3.1 Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations during the issuing of the tropical cyclone warning signal for Aere

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	西北偏北 NNW	34	26/8	13:03	西北 NW	12	26/8	11:00
中環廣場	Central Plaza	- -	63	26/8	15:54	- -	45	26/8	21:00
		- -	63	26/8	20:00				
香港國際機場	Hong Kong International Airport	西北偏北 NNW	49	26/8	12:43	西北 NW	25	26/8	15:00
長洲	Cheung Chau	西北偏北 NNW	68	26/8	13:03	西北偏北 NNW	38	26/8	13:00
長沙灣	Cheung Sha Wan	北 N	31	26/8	12:45	西南偏南 SSW	9	26/8	18:00
青洲	Green Island	西北偏西 WNW	38	27/8	03:14	西 W	22	27/8	04:00
啓德	Kai Tak	西北 NW	41	26/8	13:04	西北偏西 WNW	23	27/8	00:00
京士柏	King's Park	西 W	34	26/8	13:16	西北偏西 WNW	12	27/8	04:00
流浮山	Lau Fau Shan	西北偏西 WNW	47	26/8	14:17	西北 NW	31	27/8	03:00
北角	North Point	西 W	41	26/8	10:26	西 W	25	26/8	17:00
		西 W	41	26/8	17:08				
平洲	Ping Chau	西北偏西 WNW	41	26/8	13:06	西北偏西 WNW	16	26/8	14:00
西貢	Sai Kung	西北 NW	45	26/8	16:00	西北 NW	19	26/8	11:00
						西北 NW	19	26/8	12:00
沙螺灣	Sha Lo Wan	西南 SW	31	26/8	19:20	西南 SW	19	26/8	17:00
						西南 SW	19	26/8	18:00
沙田	Sha Tin	西南偏西 WSW	31	26/8	19:00	北 N	12	26/8	13:00
石崗	Shek Kong	西北偏西 WNW	27	26/8	12:44	西北偏西 WNW	12	27/8	03:00
		西北偏西 WNW	27	27/8	02:27				
九龍天星碼頭	Star Ferry, Kowloon	西 W	36	26/8	13:06	西 W	27	26/8	17:00
打鼓嶺	Ta Kwu Ling	西北 NW	31	26/8	12:00	西北 NW	12	26/8	13:00
大尾篤	Tai Mei Tuk	西 W	65	26/8	21:26	西北偏西 WNW	31	26/8	13:00
大帽山	Tai Mo Shan	西北 NW	70	26/8	14:46	西北 NW	52	26/8	16:00
塔門	Tap Mun	西 W	58	26/8	22:18	西北偏西 WNW	31	26/8	13:00
大老山	Tate's Cairn	西南偏西 WSW	65	26/8	22:18	西 W	38	26/8	23:00
鯽魚湖	Tsak Yue Wu	西北偏西 WNW	36	26/8	13:29	西北偏北 NNW	12	26/8	11:00
		西北偏西 WNW	36	26/8	15:39	西北 NW	12	26/8	16:00
將軍澳	Tseung Kwan O	西 W	31	26/8	15:28	西 W	12	26/8	19:00
青衣	Tsing Yi	西北 NW	45	26/8	11:49	西北偏西 WNW	20	27/8	00:00
						西北偏西 WNW	20	27/8	02:00
屯門	Tuen Mun	西北 NW	49	26/8	14:14	西北 NW	22	26/8	15:00
橫瀾島	Waglan Island	西北偏西 WNW	49	26/8	16:08	西北偏西 WNW	31	26/8	17:00
黃竹坑	Wong Chuk Hang	西北偏西 WNW	51	26/8	15:45	西北 NW	22	26/8	16:00

表 3.3.2　艾利影響香港期間，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 Aere

站 (參閱圖 3.3.2) Station (see Fig. 3.3.2)	八月 二十五日 25 Aug	八月 二十六日 26 Aug	八月 二十七日 27 Aug	八月 二十八日 28 Aug	八月 二十九日 29 Aug	八月 三十日 30 Aug	總雨量 Total
香港天文台 Hong Kong Observatory	0.0	12.0	5.7	21.8	114.7	14.3	168.5
K04　佐敦谷 Jordan Valley	0.0	6.5	13.0	[28.0]	109.0	[16.5]	[173.0]
K06　蘇屋邨 So Uk Estate	0.0	2.0	13.0	[19.0]	123.0	[16.5]	[173.5]
N05　粉嶺 Fanling	[0.0]	1.5	17.0	[12.5]	146.0	[17.0]	[194.0]
N06　葵涌 Kwai Chung	0.0	1.0	8.5	[22.0]	157.5	[16.5]	[205.5]
N09　沙田 Sha Tin	0.5	2.0	9.0	[15.0]	157.0	[13.0]	[196.5]
N13　糧船灣 High Island	0.0	1.0	9.0	[30.5]	95.5	[21.0]	[157.0]
N17　東涌 Tung Chung	0.0	19.5	10.0	[65.5]	206.5	[21.5]	[323.0]
R21　踏石角 Tap Shek Kok	0.0	7.5	3.0	[46.0]	167.5	[13.5]	[237.5]
R26　石崗 Shek Kong	0.0	4.5	18.5	[16.5]	118.5	[23.5]	[181.5]

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

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

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	2.22	27/8	4:10	0.10	26/8	11:05
大埔滘 Tai Po Kau	2.20	27/8	4:10	0.16	26/8	10:15
尖鼻咀 Tsim Bei Tsui	2.13	27/8	4:10	0.17	27/8	4:07
大廟灣 Tai Miu Wan	2.24	27/8	4:10	-0.01	27/8	2:05

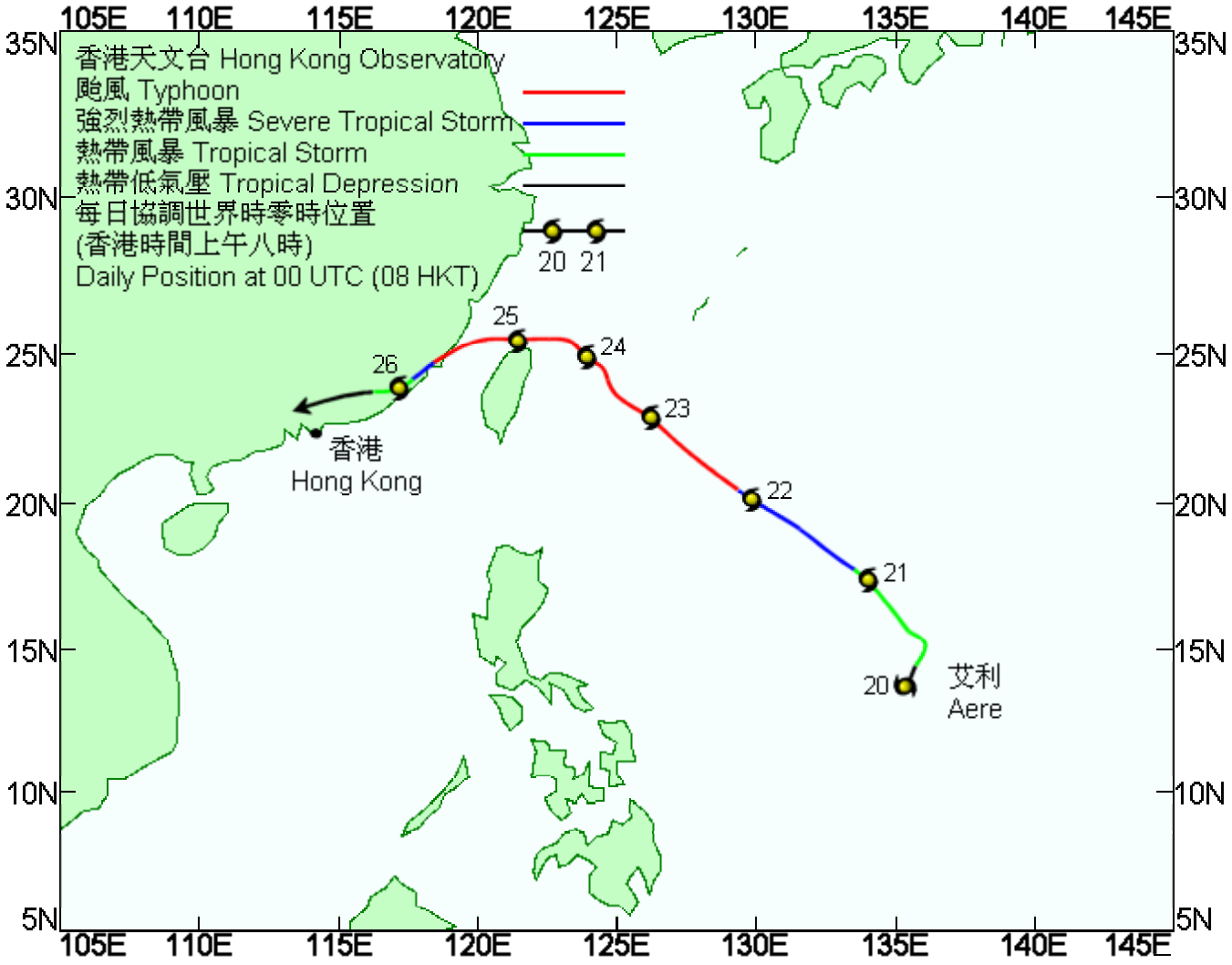

圖 3.3.1　　二零零四年八月二十日至二十七日艾利（0417）的路徑圖。
Figure 3.3.1　Track of Aere (0417) : 20 - 27 August 2004.

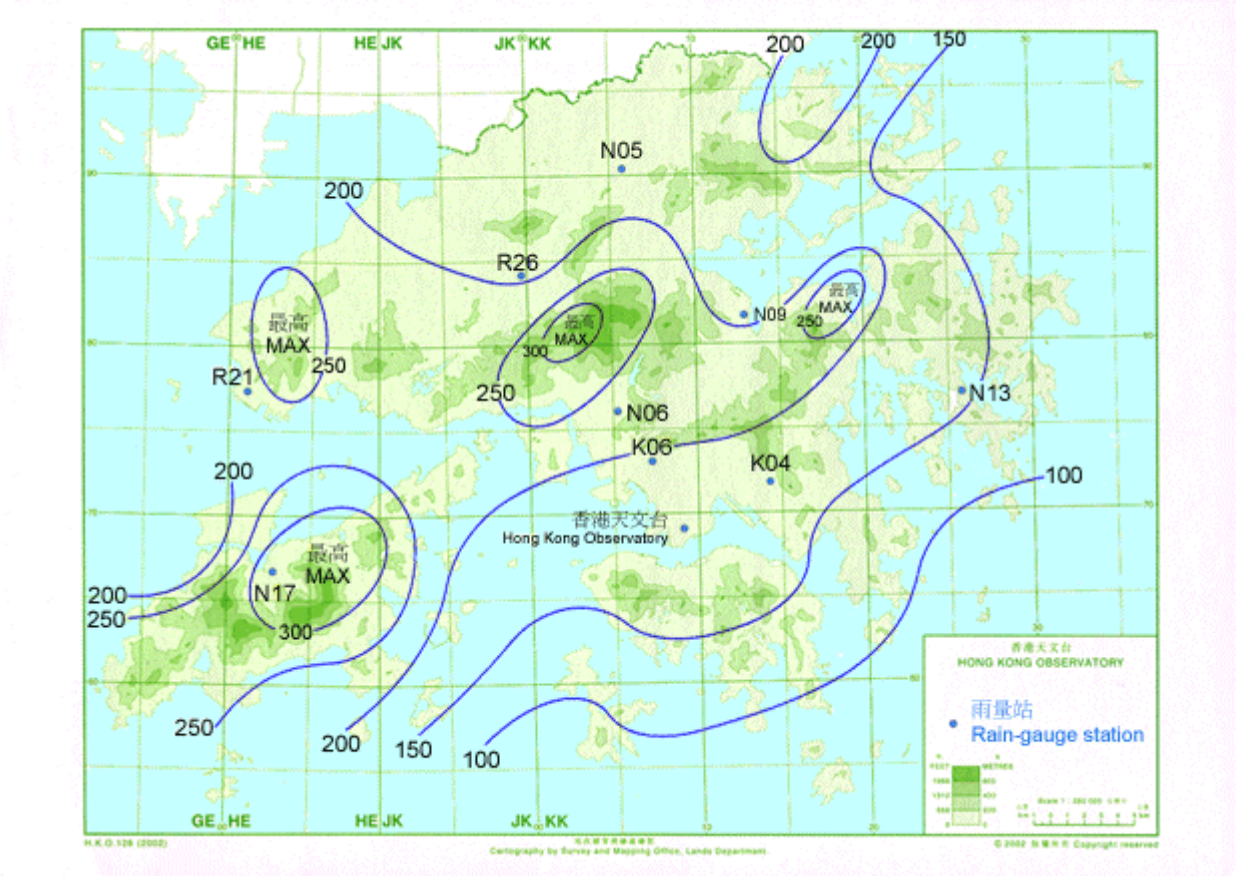

圖 3.3.2　　二零零四年八月二十五日至三十日的雨量分佈（等雨量線單位爲毫米）。
Figure 3.3.2　Rainfall distribution on 25-30 August 2004 (isohyets are in millimetres).

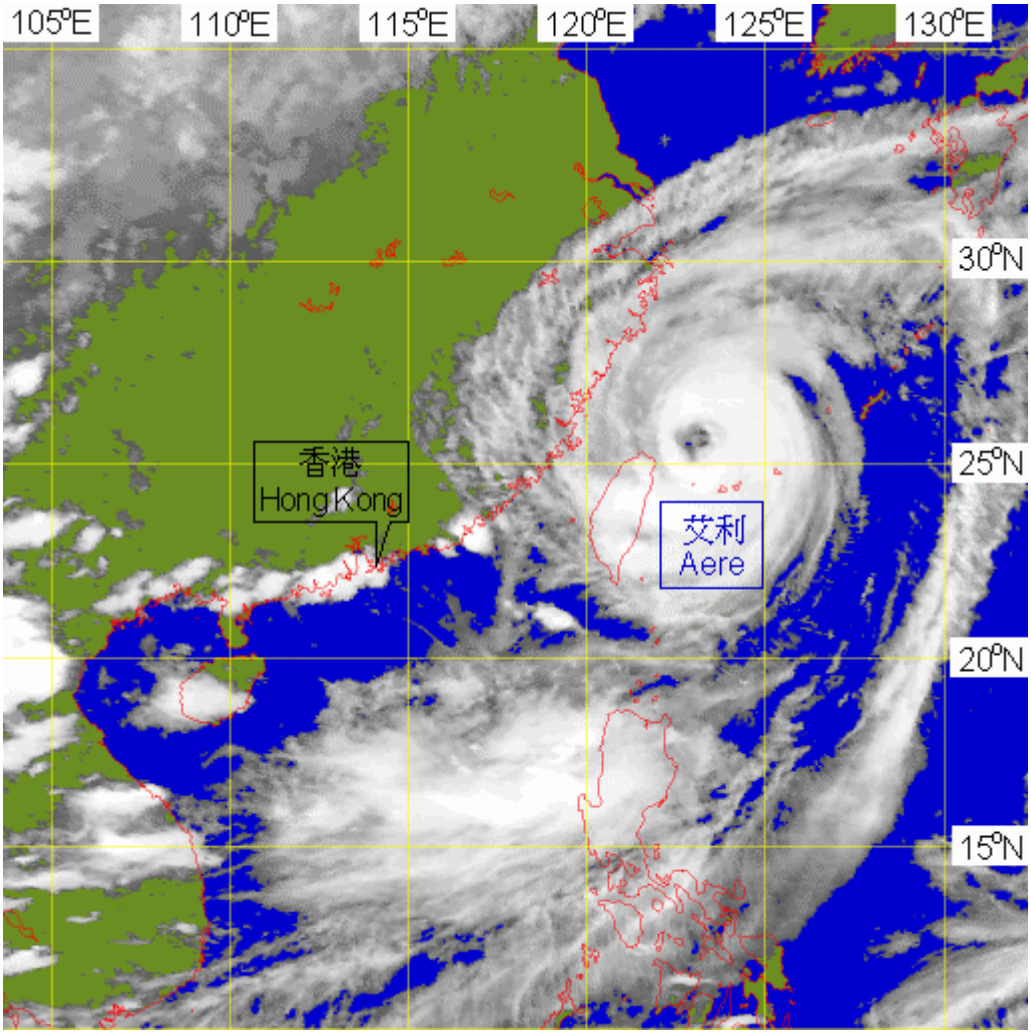

圖 3.3.3　颱風艾利在二零零四年八月二十四日約下午八時的紅外線衛星圖片。
[此衛星圖像接收自地球同步業務環境衛星(GOES-9)。GOES-9是日本氣象廳(JMA)和美國國家海洋及大氣管理局(NOAA)轄下的國家環境衛星數據及資訊服務處(NESDIS)合作下的成果]

Figure 3.3.3　Infra-red imagery at around 8 p.m. on 24 August 2004 of Typhoon Aere.
[The satellite imagery was originally captured with Geostationary Operational Environmental Satellite (GOES-9) which is operated by the joint effort of Japan Meteorological Agency (JMA) and National Environmental Satellite Data and Information Service (NESDIS) of US National Oceanic and Atmospheric Administration (NOAA)]

第四節

熱帶氣旋統計表

Section 4

TROPICAL CYCLONE STATISTICS AND TABLES

表4.1是二零零四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是天文台在二零零四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是二零零四年熱帶氣旋警告信號發出的次數及其時段的摘要。表內亦提供每次熱帶氣旋警告信號生效的時間和發出警報的次數。表內使用的時間爲香港時間。

表4.4是一九五六至二零零四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是一九五六至二零零四年間每年位於香港責任範圍內以及每年引致天文台需要發出熱帶氣旋警告信號的熱帶氣旋總數。

表4.6是一九五六至二零零四年間天文台發出各種熱帶氣旋警告信號的最長、最短及平均時段。

表4.7是二零零四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是二零零四年位於香港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二零零四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，天文台發出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是二零零四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是一九六零至二零零四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 2004 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 2004, the durations of these warnings and the times of issue of the first and last warnings for all tropical cyclones in Hong Kong's area of responsibility (i.e. the area bounded by 10°N, 30°N, 105°E and 125°E). Times are given in hours and minutes in UTC.

TABLE 4.3 presents a summary of the occasions/durations of the issuing of tropical cyclone warning signals in 2004. The sequence of the signals displayed and the number of tropical cyclone warning bulletins issued for each tropical cyclone are also given. Times are given in hours and minutes in Hong Kong Time.

TABLE 4.4 presents a summary of the occasions/durations of the issuing of tropical cyclone warning signals from 1956 to 2004 inclusive.

TABLE 4.5 gives the annual number of tropical cyclones in Hong Kong's area of responsibility between 1956 and 2004 and also the annual number of tropical cyclones necessitated the issuing of tropical cyclone warning signals in Hong Kong.

TABLE 4.6 shows the maximum, mean and minimum durations of the tropical cyclone warning signals issued during the period 1956-2004.

TABLE 4.7 is a summary of meteorological information for each tropical cyclone affecting Hong Kong in 2004. 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 2004.

TABLE 4.8.2 highlights the 10 wettest tropical cyclones in Hong Kong for the period 1884-1939 and 1947-2004.

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

TABLE 4.10 contains damage caused by tropical cyclones in 2004. 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 : 1960-2004. The information is based on reports from various government departments, public utility companies and local newspapers.

表 4.1　　二零零四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 2004

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	
熱帶低氣壓	Tropical Depression		14 / 2	0000	14.6	135.3	45	1002	16 / 2	0600	11.7	135.5	DISP
熱帶低氣壓	Tropical Depression		18 / 3	0600	10.4	130.0	55	998	22 / 3	0600	17.2	124.6	DISP
颱風蘇特	Typhoon Sudal	(0401)	04 / 4	1200	6.9	149.6	175	940	16 / 4	0600	28.5	150.8	XT
颱風妮妲	Typhoon Nida	(0402)	13 / 5	1800	7.9	132.0	195	925	21 / 5	0000	34.4	142.8	XT
熱帶低氣壓	Tropical Depression		16 / 5	0600	9.8	108.5	45	1000	17 / 5	0000	9.7	108.8	DISP
熱帶風暴奧麥斯	Tropical Storm Omais	(0403)	17 / 5	0600	7.3	139.7	75	990	22 / 5	0000	20.0	136.0	DISP
颱風康森	Typhoon Conson	(0404)	05 / 6	0600	15.1	116.3	130	965	11 / 6	0600	33.0	133.8	XT
強烈熱帶風暴燦都	Severe Tropical Storm Chanthu	(0405)	10 / 6	0600	11.6	119.1	110	975	13 / 6	0600	14.7	105.0	DISP
颱風電母	Typhoon Dianmu	(0406)	13 / 6	0600	8.4	136.2	220	915	21 / 6	1200	38.6	138.0	XT
颱風蒲公英	Typhoon Mindulle	(0407)	23 / 6	0600	15.9	144.0	165	945	04 / 7	0000	32.8	124.8	XT
颱風婷婷	Typhoon Tingting	(0408)	25 / 6	1200	11.6	152.2	150	955	03 / 7	1800	35.9	155.4	XT
熱帶風暴圓規	Tropical Storm Kompasu	(0409)	13 / 7	1800	20.6	125.9	75	985	16 / 7	1200	23.1	114.0	DISP
颱風南川	Typhoon Namtheun	(0410)	25 / 7	0000	22.0	150.6	165	945	01 / 8	0600	35.4	131.3	XT
熱帶低氣壓	Tropical Depression		26 / 7	1800	21.7	117.1	55	996	27 / 7	0600	23.3	115.7	DISP
熱帶風暴瑪瑙	Tropical Storm Malou	(0411)	04 / 8	0000	29.7	137.9	75	994	05 / 8	0000	37.5	134.9	XT
颱風莫蘭蒂	Typhoon Meranti	(0412)	04 / 8	0600	22.6	165.4	140	960	08 / 8	1800	37.9	172.1	XT
颱風雲娜	Typhoon Rananim	(0413)	08 / 8	0600	17.8	130.5	160	950	13 / 8	1200	28.8	116.7	DISP
熱帶風暴馬勒卡	Tropical Storm Malakas	(0414)	10 / 8	1200	23.8	155.6	75	990	13 / 8	1200	35.5	176.0	XT
颱風鮸魚	Typhoon Megi	(0415)	15 / 8	1800	18.1	132.1	120	970	20 / 8	0600	41.6	145.9	XT
颱風暹芭	Typhoon Chaba	(0416)	18 / 8	1800	11.9	162.9	220	910	31 / 8	0600	43.1	142.6	XT
颱風艾利	Typhoon Aere	(0417)	20 / 8	0000	13.7	135.4	150	955	26 / 8	1800	23.4	114.4	DISP
颱風桑達	Typhoon Songda	(0418)	27 / 8	1200	10.8	166.9	185	930	07 / 9	1800	41.6	139.3	XT
強烈熱帶風暴莎莉嘉	Severe Tropical Storm Sarika	(0419)	04 / 9	1200	16.6	151.7	100	980	08 / 9	0000	25.7	137.7	DISP
熱帶風暴海馬	Tropical Storm Haima	(0420)	11 / 9	0600	22.8	121.5	65	996	13 / 9	0600	28.1	120.8	DISP
颱風米雷	Typhoon Meari	(0421)	20 / 9	0000	12.8	145.2	175	940	30 / 9	0000	39.0	141.2	XT
颱風馬鞍	Typhoon Ma-On	(0422)	04 / 10	0600	16.5	134.5	185	935	09 / 10	1800	38.8	145.2	XT
颱風蝎虎	Typhoon Tokage	(0423)	12 / 10	1200	13.6	147.2	165	940	20 / 10	1800	35.9	139.9	XT
颱風洛坦	Typhoon Nock-Ten	(0424)	14 / 10	1200	11.8	161.7	160	950	26 / 10	0000	28.3	126.0	XT
颱風梅花	Typhoon Muifa	(0425)	14 / 11	0600	11.4	130.7	150	955	25 / 11	1200	8.7	100.7	DISP
熱帶低氣壓苗柏	Tropical Depression Merbok	(0426)	22 / 11	1200	15.2	122.1	55	998	23 / 11	0600	16.0	118.6	DISP
颱風南瑪都	Typhoon Nanmadol	(0427)	29 / 11	0000	6.3	147.7	165	945	04 / 12	0000	22.5	120.6	XT
熱帶風暴塔拉斯	Tropical Storm Talas	(0428)	11 / 12	0000	8.5	164.2	75	992	19 / 12	0600	18.3	131.0	DISP
熱帶風暴奧鹿	Tropical Storm Noru	(0429)	18 / 12	0000	13.7	150.9	85	988	21 / 12	1200	25.7	154.8	XT

+ 時間爲協調世界時　　+ Times are given in UTC

表 4.2　　二零零四年爲船舶發出的熱帶氣旋警告
TABLE 4.2　TROPICAL CYCLONE WARNINGS FOR SHIPPING ISSUED IN 2004

熱帶氣旋	Tropical cyclone	發出警告的次數 No. of warnings issued	發出的日期及時間 Date and time of issue of				時段 (小時) Duration (hours)
			首次警告 First warning		末次警告 Last warning		
			日期/月份 Date/Month	時間+ Time+	日期/月份 Date/Month	時間+ Time+	
熱帶低氣壓	Tropical Depression	16	20 / 3	1200	22 / 3	0900	45
颱風妮妲	Typhoon Nida	19	16 / 5	1800	19 / 5	0000	54
* 颱風康森	* Typhoon Conson	38	5 / 6	0600	9 / 6	2100	111
強烈熱帶風暴燦都	Severe Tropical Storm Chanthu	25	10 / 6	1200	13 / 6	0600	66
颱風蒲公英	Typhoon Mindulle	41	28 / 6	1200	3 / 7	0900	117
* 熱帶風暴圓規	* Tropical Storm Kompasu	21	14 / 7	0000	16 / 7	1200	60
熱帶低氣壓	Tropical Depression	5	26 / 7	1800	27 / 7	0600	12
颱風雲娜	Typhoon Rananim	12	11 / 8	1500	13 / 8	0000	33
* 颱風艾利	* Typhoon Aere	30	23 / 8	0900	26 / 8	1800	81
熱帶風暴海馬	Tropical Storm Haima	17	11 / 9	0600	13 / 9	0600	48
颱風米雷	Typhoon Meari	7	26 / 9	1800	27 / 9	0900	15
颱風洛坦	Typhoon Nock-Ten	15	24 / 10	0600	26 / 10	0000	42
颱風梅花	Typhoon Muifa	63	15 / 11	1800	23 / 11	0900	183
熱帶低氣壓苗柏	Tropical Depression Merbok	10	22 / 11	1200	23 / 11	1200	24
颱風南瑪都	Typhoon Nanmadol	18	2 / 12	0300	4 / 12	0600	51
	共 Total	337					942

* 這些熱帶氣旋引致天文台需要發出熱帶氣旋警告信號。

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

+ 時間爲協調世界時。

+ Times are given in UTC.

表 4.3　　二零零四年天文台所發出的熱帶氣旋警告信號及警報發出的次數
TABLE 4.3　TROPICAL CYCLONE WARNING SIGNALS ISSUED IN HONG KONG AND NUMBER OF WARNING BULLETINS ISSUED IN 2004

摘要 SUMMARY

信號 Signal	次數 No. of occasions	總時段 Total duration	
		時 h	分 min
1	3	62	30
3	2	7	30
8 西北 NW	1	2	0
8 西南 SW	1	2	35
8 東北 NE	1	3	0
8 東南 SE	-	-	
9	-	-	
10	-	-	
共 Total	8	77	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	發出 Issued 日期/月份 Date/Month	發出 Issued 時間* Time*	取消 Cancelled 日期/月份 Date/Month	取消 Cancelled 時間* Time*
颱風康森 Typhoon Conson	16	1	8 / 6	1415	9 / 6	0430
熱帶風暴圓規 Tropical Storm Kompasu	51	1	14 / 7	2255	16 / 7	0515
		3	16 / 7	0515	16 / 7	1145
		8 東北 NE	16 / 7	1145	16 / 7	1445
		8 西北 NW	16 / 7	1445	16 / 7	1645
		8 西南 SW	16 / 7	1645	16 / 7	1920
		3	16 / 7	1920	16 / 7	2020
颱風艾利 Typhoon Aere	20	1	26 / 8	1015	27 / 8	0410

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

表 4.4　　一九五六至二零零四年間每年各熱帶氣旋警告信號的發出次數及總時段

TABLE 4.4　FREQUENCY AND TOTAL DURATION OF DISPLAY OF TROPICAL CYCLONE WARNING SIGNALS : 1956-2004

信號 Signals / 年份 Year	1	3	8 西北 NW	8 西南 SW	8 東北 NE	8 東南 SE	9	10	總時段 Total duration 時 h	分 min
1956	5	4	0	0	0	0	0	0	191	25
1957	4	9	1	1	2	2	0	1	295	45
1958	4	5	0	0	1	0	0	0	214	5
1959	1	1	0	0	0	0	0	0	36	35
1960	11	7	0	2	2	2	1	1	432	35
1961	6	7	1	2	1	0	1	1	192	55
1962	4	3	0	1	1	0	1	1	158	10
1963	4	5	0	0	1	0	0	0	175	50
1964	11	14	1	3	5	3	3	2	570	15
1965	7	6	0	0	1	1	0	0	239	40
1966	6	5	0	0	2	2	0	0	284	40
1967	8	6	0	0	2	1	0	0	339	10
1968	7	7	0	1	1	0	1	1	290	10
1969	4	2	0	0	0	0	0	0	110	15
1970	6	8	2	1	2	0	0	0	286	45
1971	9	10	1	3	2	2	1	1	323	25
1972	8	6	0	0	1	1	0	0	288	20
1973	8	6	1	1	1	0	1	0	416	50
1974	12	10	0	0	2	1	1	0	525	20
1975	8	6	1	0	0	1	1	1	292	20
1976	6	6	0	0	1	2	0	0	351	30
1977	8	6	0	0	1	0	0	0	395	10
1978	8	9	1	1	3	2	0	0	462	10
1979	5	5	1	0	2	2	1	1	281	15
1980	10	8	0	0	1	1	0	0	414	5
1981	5	4	0	0	1	1	0	0	202	20
1982	7	4	0	0	0	0	0	0	247	35
1983	8	7	0	1	2	2	1	1	289	42
1984	6	6	0	0	1	0	0	0	280	2
1985	5	4	1	0	0	1	0	0	193	35
1986	6	7	0	1	1	0	0	0	305	0
1987	6	1	0	0	0	0	0	0	165	45
1988	6	4	0	0	0	0	0	0	204	10
1989	7	8	0	0	2	2	0	0	306	10
1990	6	4	0	0	0	0	0	0	245	10
1991	8	6	0	0	1	1	0	0	349	55
1992	5	5	0	0	1	1	0	0	167	5
1993	8	9	0	0	2	4	0	0	325	40
1994	4	3	0	0	0	0	0	0	138	10
1995	8	6	2	2	1	1	0	0	348	50
1996	7	2	0	0	0	1	0	0	189	0
1997	2	3	0	1	1	0	1	0	97	30
1998	5	2	0	0	0	0	0	0	188	35
1999	10	13	4	3	2	0	2	1	520	0
2000	7	3	0	0	0	0	0	0	329	5
2001	6	6	1	1	2	1	0	0	253	35
2002	3	2	0	0	0	1	0	0	144	25
2003	4	5	1	1	1	1	1	0	158	0
2004	3	2	1	1	1	0	0	0	77	35
共 Total	312	277	20	27	54	40	17	12	13295	34
平均 Mean	6.4	5.7	0.4	0.6	1.1	0.8	0.3	0.2	271	20

表 4.5 一九五六至二零零四年間每年位於香港責任範圍內以及每年引致天文台需要發出熱帶氣旋警告信號的熱帶氣旋總數

TABLE 4.5 ANNUAL NUMBER OF TROPICAL CYCLONES IN HONG KONG'S AREA OF RESPONSIBILITY AND THE NUMBER THAT NECESSITATED THE DISPLAY OF TROPICAL CYCLONE WARNING SIGNALS IN HONG KONG : 1956-2004

年份 Year	每年位於香港責任範圍內的熱帶氣旋總數 Annual number of tropical cyclones in Hong Kong's area of responsibility	每年引致天文台需要發出熱帶氣旋警告信號的熱帶氣旋總數 Annual number of tropical cyclones necessitating the display of signals in Hong Kong
1956	23	5
1957	12	6
1958	15	5
1959	18	2
1960	18	9
1961	24	6
1962	20	4
1963	13	4
1964	26	10
1965	16	6
1966	17	6
1967	17	8
1968	12	6
1969	11	4
1970	20	6
1971	20	9
1972	15	5
1973	17	9
1974	21	11
1975	12	7
1976	10	5
1977	10	8
1978	20	8
1979	18	6
1980	17	10
1981	15	5
1982	16	5
1983	15	7
1984	14	5
1985	15	5
1986	16	4
1987	12	5
1988	17	6
1989	17	7
1990	18	6
1991	14	6
1992	11	5
1993	14	9
1994	20	4
1995	17	8
1996	15	7
1997	10	2
1998	15	5
1999	12	8
2000	20	7
2001	14	6
2002	10	3
2003	12	4
2004	15	3
共 Total	776	297
平均 Mean	15.8	6.1

表 4.6　　一九五六至二零零四年間天文台發出熱帶氣旋警告信號的時段

TABLE 4.6　DURATION OF TROPICAL CYCLONE WARNING SIGNALS ISSUED IN HONG KONG : 1956-2004

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	309	43	2	161	0	4	30	271	20	570	15	36	35
三號或以上 3 or higher	207	30	26	124	15	4	30	128	35	306	35	17	15
八號或以上 8 or higher	72	15	23	66	50	2	40	22	36	100	55	0	0
8 西北 NW	20	6	1	15	45	1	30	2	27	18	0	0	0
8 西南 SW	27	4	55	10	45	2	30	2	42	16	10	0	0
8 東北 NE	54	8	4	35	35	2	35	8	53	40	20	0	0
8 東南 SE	40	7	20	21	45	0	20	5	59	31	15	0	0
九號或以上 9 or higher	18	7	1	12	25	2	0	2	35	19	25	0	0
10	12	6	34	11	0	2	30	1	36	12	10	0	0

表 4.7　　二零零四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 2004

熱帶氣旋名稱 Name of tropical cyclone	當最接近香港時 Nearest approach to Hong Kong							香港天文台錄得的最低海平面氣壓(百帕斯卡) Minimum M.S.L. pressure (hPa) at the Hong Kong Observatory				最大風暴潮(米) Maximum storm surge (metres)					
	月份 Month	日期 Date	時間* Hour*	方位 Direction	距離(公里) Distance (km)	移動方向及速度(公里每小時) Movement (km/h)	估計最低中心氣壓(百帕斯卡) Estimated minimum central pressure (hPa)	月份 Month	日期 Date	時間* Hour*	瞬時 Inst. / 每小時 Hourly	鰂魚涌 Quarry Bay	石壁 Shek Pik	大廟灣 Tai Miu Wan	大埔滘 Tai Po Kau	尖鼻咀 Tsim Bei Tsui	橫瀾島 Waglan Island
颱風康森 T. Conson	6	8	18	東南偏東 ESE	660	東北偏北 NNE 14	965	6	9	16:36	1007.2	0.27	-	-	0.38	0.22	-
								6	9	17:00	1007.4						
熱帶風暴圓規 T.S Kompasu	7	16	15	東 E	25	西北偏北 NNW 25	985	7	16	13:52 14:16-14:18 14:20-14:53 14:55-14:57 15:00 15:03-15:06	1000.5	0.35	-	-	0.62	0.42	-
								7	16	15:00	1000.5						
颱風艾利 T. Aere	8	27	4	西北偏北 WNW	120	西 W 31	955	8	27	02:34	992.4	0.10	-	-0.01	0.16	0.17	-
								8	27	03:00	992.7						

* 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	香港國際機場 Hong Kong International Airport	橫瀾島 Waglan Island	京士柏 King's Park	香港國際機場 Hong Kong International Airport	橫瀾島 Waglan Island	京士柏 King's Park	香港國際機場 Hong Kong International Airport	橫瀾島 Waglan Island
颱風康森 T. Conson	6	東 E 9	東南偏南 SSE 16	東南偏東 ESE 16	東 E 12	東南 SE 19	東南偏東 ESE 16	東 E 19	東南偏南 SSE 25	東南偏東, 東南 ESE, SE 20
熱帶風暴圓規 T.S Kompasu	7	西北偏北 NNW 27	西南 SW 52	西南 SW 88	西南偏南 SSW 31	西南 SW 59	西南 SW 92	西南偏南 SSW 70	西南偏西 WSW 73	西南 SW 106
颱風艾利 T. Aere	8	西北偏西 WNW 14	西北偏北 NNW 34	西北偏西 WNW 34	西北偏西 WNW 19	西北偏西 WNW 38	西北偏北 NNW 40	西 W 34	西北偏北 NNW 49	西北偏西 WNW 49

表 4.8.1　　二零零四年位於香港600公里範圍內的熱帶氣旋及其爲本港帶來的雨量期間，天文台錄得的雨量

TABLE 4.8.1　RAINFALL ASSOCIATED WITH EACH TROPICAL CYCLONE THAT CAME WITHIN 600 KM OF HONG KONG IN 2004

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)
熱帶風暴圓規 T.S. Kompasu	(T_1) 15 / 7 0400 - (T_2) 16 / 7 2000	61.4	60.5	60.5	79.6	141.0
熱帶低氣壓 # T.D. #	(T_1) 27 / 7 0200 - (T_2) 27 / 7 1400	0.0	1.0	100.5	102.7	102.7
颱風艾利 T. Aere	(T_1) 25 / 8 1900 - (T_2) 27 / 8 0200	12.0	5.7	32.6	146.4	158.4
颱風南瑪都 # T. Nanmadol #	(T_1) 3 / 12 1300 - (T_2) 4 / 12 0500	0.0	0.0	0.0	0.0	0.0
					共 Total	402.1

* 香港時間（協調世界時加八小時）

T_1 - 熱帶氣旋首次出現於香港600公里範圍內的時間。

T_2 - 熱帶氣旋在香港600公里範圍內消散或離開該範圍的時間。

\# 該熱帶氣旋並未導致天文台需要發出熱帶氣旋警告信號。

* Hong Kong Time （UTC + 8 hours）

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

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

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

表 4.8.2　一八八四至一九三九年及一九四七至二零零四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, 1947-2004)

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　　一九四六至二零零四年間引致天文台需要發出十號颶風信號的颱風

TABLE 4.9　TYPHOONS REQUIRING THE ISSUING OF THE HURRICANE SIGNAL NO. 10 DURING THE PERIOD 1946-2004

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	-
愛茜 Elsie	14 /10	1975	南 S	50	996.4	996.2	東北偏東 ENE	58	北 N	75	西北偏北 NNW	67	東北偏北 NNE	118	北 N	106	東北 NE	130	西北偏北 NNW	118	東北 NE	140	北 N	137	北 N	140	東北偏東 ENE	176	東北 NE	158	東北偏北 NNE	180	東北 NE	167
荷貝 Hope	2 / 8	1979	西北偏北 NNW	10	961.8	961.6	西 W	75	西北偏西 WNW	79	西 W	115	西南 SW	144	西南偏南 SSW	117	西北 NW	115	西 W	108	西 W	175	西北偏西 WNW	166	西北偏西 WNW	182	西南 SW	198	西南偏西 WSW	185	西北偏西 WNW	229	西 W	167
愛倫 Ellen	9 / 9	1983	西南 SW	45	983.9	983.1	東 E	92	東 E	88	東 E	112	東南偏東 ESE	169	東南偏東 ESE	171	東 E	126	南 S	137	東 E	185	東 E	167	東 E	203	東 E	227	東南偏南 SSE	238	東北偏東 ENE	218	南 S	220*
約克 York	16 / 9	1999	西南偏南 SSW	20	976.8	976.1	東 E	63	北 N	68	東北偏北 NNE	59	東北偏北 NNE	153	東北偏北 NNE	113	-		-		東 E	137	東北偏北 NNE	149	東北偏東 ENE	142	東北偏北 NNE	234	東北 NE	182	-		-	

* 估計，超出風速記錄圖的上限。
estimated, exceeding upper limit of anemogram

表 4.10　　二零零四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 2004

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
颱風艾利 T. Aere	8	-	道路: 1 處 road : 1 site	-	-	12 宗 12 cases	-	-	-	-	-	-

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　　一九六零至二零零四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 : 1960-2004

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
2002	15 / 8 - 20 / 8	S.T.S. Vongfong	黃蜂	0	0	2	0	0	1
	10 / 9 - 13 / 9	S.T.S. Hagupit	黑格比	0	0	32	0	0	3
2003	16 / 7 - 23 / 7	S.T.S. Koni	天鵝	0	0	15	0	0	0
	17 / 7 - 25 / 7	T. Imbudo	伊布都	1	0	45	0	2	8
	17 / 8 - 26 / 8	T. Krovanh	科羅旺	0	0	11	0	0	2
	29 / 8 - 3 / 9	T. Dujuan	杜鵑	0	4	24	0	1	4
2004	14 / 7 - 16 / 7	T.S. Kompasu	圓規	0	0	12	0	0	0

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

二零零四年熱帶氣旋的位置及強度數據

Section 5

TROPICAL CYCLONE POSITION AND INTENSITY DATA, 2004

以下是二零零四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 2004 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

熱帶低氣壓由二月十四日至十六日的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF THE TROPICAL DEPRESSION OF 14 -16 FEBRUARY

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
二月 Feb	14	0000	T.D.	1002	13	14.6	135.3
		0600	T.D.	1002	13	15.2	135.5
		1200	T.D.	1002	13	15.6	136.1
		1800	T.D.	1002	13	15.1	136.5
	15	0000	T.D.	1002	13	14.8	136.6
		0600	T.D.	1002	13	14.8	136.9
		1200	T.D.	1002	13	14.6	136.9
		1800	T.D.	1002	13	14.5	136.6
	16	0000	T.D.	1002	13	13.0	136.0
		0600	T.D.	1002	13	11.7	135.5
			消散 Dissipated				

熱帶低氣壓由三月十八日至二十二日的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF THE TROPICAL DEPRESSION OF 18 -22 MARCH

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
三月 Mar	18	0600	T.D.	1000	13	10.4	130.0
		1200	T.D.	998	16	10.6	129.5
		1800	T.D.	998	16	10.8	128.9
	19	0000	T.D.	998	16	11.1	128.3
		0600	T.D.	998	16	11.4	127.8
		1200	T.D.	998	16	11.7	127.3
		1800	T.D.	998	16	12.2	126.7
	20	0000	T.D.	998	16	12.7	126.5
		0600	T.D.	998	16	13.3	125.8
		1200	T.D.	998	16	14.1	124.9
		1800	T.D.	998	16	14.6	124.4
	21	0000	T.D.	998	16	15.1	124.2
		0600	T.D.	998	16	15.4	124.1
		1200	T.D.	998	16	16.0	124.5
		1800	T.D.	998	16	16.6	124.7
	22	0000	T.D.	1000	13	16.8	124.7
		0600	T.D.	1000	13	17.2	124.6
			消散 Dissipated				

颱風蘇特(0401)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON SUDAL (0401)

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
四月 Apr	4	1200	T.D.	1000	16	6.9	149.6
		1800	T.D.	1000	16	7.3	148.9
	5	0000	T.S.	996	18	8.3	149.0
		0600	T.S.	992	21	8.8	148.9
		1200	T.S.	992	21	9.3	148.6
		1800	T.S.	988	23	9.6	147.7
	6	0000	S.T.S.	984	26	9.3	147.0
		0600	S.T.S.	980	29	9.1	146.1
		1200	S.T.S.	980	29	9.5	145.4
		1800	S.T.S.	975	31	9.8	145.0
	7	0000	S.T.S.	975	31	10.1	144.4
		0600	T.	970	34	10.1	143.3
		1200	T.	965	36	9.8	142.3
		1800	T.	965	36	9.5	141.4
	8	0000	T.	960	39	9.2	140.6
		0600	T.	955	41	8.9	140.0
		1200	T.	950	44	8.8	139.1
		1800	T.	950	44	8.9	138.5
	9	0000	T.	950	44	9.1	138.1
		0600	T.	950	44	9.5	137.3
		1200	T.	950	44	9.9	136.3
		1800	T.	945	47	10.3	135.8
	10	0000	T.	940	49	10.8	135.1
		0600	T.	940	49	11.2	134.5
		1200	T.	940	49	11.8	133.6
		1800	T.	940	49	12.4	132.8
	11	0000	T.	940	49	13.0	132.3
		0600	T.	945	47	13.7	131.7
		1200	T.	945	47	14.3	131.5
		1800	T.	945	47	14.9	131.2
	12	0000	T.	945	47	15.4	131.0
		0600	T.	945	47	15.7	130.9
		1200	T.	945	47	16.1	131.0
		1800	T.	945	47	16.7	131.2
	13	0000	T.	945	47	17.2	131.6
		0600	T.	945	47	17.8	132.0
		1200	T.	945	47	18.6	132.5
		1800	T.	945	47	19.4	133.1
	14	0000	T.	950	44	20.5	134.0
		0600	T.	955	41	21.4	135.1
		1200	T.	955	41	22.3	136.3
		1800	T.	960	39	23.3	138.0
	15	0000	T.	965	36	23.8	139.0
		0600	S.T.S.	975	31	24.5	141.2
		1200	S.T.S.	980	29	25.2	143.2
		1800	S.T.S.	984	26	26.4	145.6
	16	0000	S.T.S.	984	26	27.6	148.1
		0600	T.S.	988	23	28.5	150.8

變爲溫帶氣旋
Became Extratropical

颱風妮妲(0402)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NIDA (0402)

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	13	1800	T.D.	1000	13	7.9	132.0
	14	0000	T.D.	998	16	8.2	131.7
		0600	T.S.	990	21	8.5	131.4
		1200	S.T.S.	980	26	8.9	131.0
		1800	S.T.S.	975	29	9.2	130.5
	15	0000	S.T.S.	970	31	9.5	129.8
		0600	T.	965	34	9.8	129.2
		1200	T.	955	39	10.2	128.5
		1800	T.	945	44	10.7	127.9
	16	0000	T.	940	47	11.2	127.2
		0600	T.	935	49	11.9	126.4
		1200	T.	930	52	12.6	125.6
		1800	T.	930	52	13.4	124.8
	17	0000	T.	930	52	14.0	124.2
		0600	T.	930	52	14.6	123.8
		1200	T.	930	52	15.3	123.7
		1800	T.	925	54	16.1	123.6
	18	0000	T.	925	54	16.9	123.5
		0600	T.	925	54	17.5	123.6
		1200	T.	930	52	18.2	123.9
		1800	T.	930	52	19.3	124.5
	19	0000	T.	935	49	20.1	125.2
		0600	T.	940	47	21.2	126.4
		1200	T.	945	44	22.5	127.9
		1800	T.	950	41	23.6	129.8
	20	0000	T.	955	39	25.1	131.5
		0600	T.	960	36	26.9	134.2
		1200	T.	960	36	28.3	137.3
		1800	S.T.S.	970	31	31.3	140.4
	21	0000	S.T.S.	980	26	34.4	142.8

變爲溫帶氣旋
Became Extratropical

熱帶低氣壓由五月十六日至十七日的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF THE TROPICAL DEPRESSION OF 16 - 17 MAY

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	16	0600	T.D.	1000	13	9.8	108.5
		1200	T.D.	1000	13	9.7	108.3
		1800	T.D.	1000	13	9.5	108.5
	17	0000	T.D.	1000	13	9.7	108.8
			消散 Dissipated				

熱帶風暴奧麥斯(0403)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM OMAIS (0403)

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	17	0600	T.D.	1000	13	7.3	139.7
		1200	T.D.	1000	13	7.7	139.4
		1800	T.D.	998	16	8.1	139.0
	18	0000	T.D.	998	16	8.5	138.5
		0600	T.D.	998	16	8.9	137.2
		1200	T.D.	998	16	9.4	136.2
		1800	T.D.	998	16	9.9	135.5
	19	0000	T.S.	994	18	10.2	135.0
		0600	T.S.	994	18	10.9	134.0
		1200	T.S.	990	21	11.5	133.2
		1800	T.S.	990	21	11.7	132.8
	20	0000	T.S.	990	21	11.9	132.5
		0600	T.S.	990	21	13.5	133.6
		1200	T.S.	990	21	14.3	133.9
		1800	T.S.	994	18	15.8	134.1
	21	0000	T.D.	998	16	16.4	134.4
		0600	T.D.	998	16	17.0	134.7
		1200	T.D.	998	16	17.5	134.8
		1800	T.D.	1000	13	19.0	135.4
	22	0000	T.D.	1000	13	20.0	136.0
			消散 Dissipated				

颱風康森(0404)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON CONSON (0404)

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	5	0600	T.D.	1002	13	15.1	116.3
		1200	T.D.	1002	13	14.8	116.8
		1800	T.D.	1002	13	14.9	117.3
	6	0000	T.D.	1000	16	15.1	117.8
		0600	T.S.	996	18	15.7	118.1
		1200	T.S.	992	21	16.1	118.3
		1800	T.S.	992	21	16.3	118.5
	7	0000	T.S.	992	21	16.5	118.7
		0600	T.S.	988	23	16.7	119.0
		1200	S.T.S.	984	26	17.3	119.2
		1800	S.T.S.	980	29	17.9	119.2
	8	0000	S.T.S.	975	31	18.6	119.4
		0600	T.	970	34	19.3	119.7
		1200	T.	965	36	20.0	120.0
		1800	T.	965	36	20.5	120.5
	9	0000	T.	965	36	21.1	121.4
		0600	T.	965	36	22.3	122.5
		1200	T.	965	36	23.5	123.7
		1800	T.	965	36	24.8	124.8
	10	0000	T.	965	36	25.9	126.2
		0600	T.	970	34	27.1	127.5
		1200	S.T.S.	975	31	28.5	129.0
		1800	S.T.S.	980	29	29.7	130.6
	11	0000	T.S.	988	23	31.0	132.0
		0600	T.S.	992	21	33.0	133.8

變爲溫帶氣旋
Became Extratropical

強烈熱帶風暴燦都(0405)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM CHANTHU(0405)

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	10	0600	T.D.	1002	13	11.6	119.1
		1200	T.D.	1000	16	12.0	118.5
		1800	T.S.	996	18	12.2	117.5
	11	0000	T.S.	992	21	12.4	116.2
		0600	T.S.	992	21	12.9	115.4
		1200	T.S.	988	23	13.3	114.2
		1800	S.T.S.	984	26	13.7	113.0
	12	0000	S.T.S.	980	29	14.0	111.6
		0600	S.T.S.	975	31	14.0	110.3
		1200	S.T.S.	980	29	13.9	108.7
		1800	T.S.	988	23	13.9	107.5
	13	0000	T.S.	992	21	14.2	106.0
		0600	T.D.	1000	16	14.7	105.0
			消散 Dissipated				

颱風電母(0406)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON DIANMU (0406)

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	13	0600	T.D.	1004	13	8.4	136.2
		1200	T.D.	1000	16	9.1	136.0
		1800	T.S.	996	18	9.6	135.9
	14	0000	T.S.	992	21	9.1	136.5
		0600	S.T.S.	984	26	9.5	136.6
		1200	S.T.S.	980	29	9.9	137.0
		1800	S.T.S.	975	31	10.6	137.4
	15	0000	T.	970	34	11.2	137.4
		0600	T.	960	39	11.9	137.2
		1200	T.	950	44	12.7	136.9
		1800	T.	940	49	13.4	136.8
	16	0000	T.	930	54	14.3	136.6
		0600	T.	920	59	15.1	136.0
		1200	T.	915	62	15.6	135.5
		1800	T.	915	62	16.4	135.1
	17	0000	T.	915	62	17.1	134.5
		0600	T.	915	62	17.5	133.7
		1200	T.	920	59	17.8	132.9
		1800	T.	925	57	18.0	132.1
	18	0000	T.	930	54	18.4	131.7
		0600	T.	925	57	19.3	131.3
		1200	T.	925	57	20.2	130.4
		1800	T.	930	54	21.1	129.8
	19	0000	T.	935	52	22.2	129.4
		0600	T.	940	49	23.3	129.0
		1200	T.	945	47	24.5	129.2
		1800	T.	950	44	25.6	129.3
	20	0000	T.	955	41	26.9	129.8
		0600	T.	960	39	28.1	130.6
		1200	T.	965	36	29.5	131.3
		1800	T.	970	34	31.0	132.1
	21	0000	T.	970	34	33.0	133.9
		0600	S.T.S.	980	29	35.6	135.4
		1200	T.S.	988	23	38.6	138.0

變爲溫帶氣旋
Became Extratropical

颱風蒲公英(0407)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MINDULLE (0407)

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	23	0600	T.D.	1000	16	15.9	144.0
		1200	T.S.	996	18	16.7	142.4
		1800	T.S.	992	21	16.9	141.0
	24	0000	T.S.	988	23	16.6	140.0
		0600	S.T.S.	984	26	16.6	139.0
		1200	S.T.S.	980	29	15.8	137.2
		1800	S.T.S.	980	29	15.2	135.6
	25	0000	S.T.S.	980	29	15.3	135.0
		0600	S.T.S.	980	29	15.0	133.9
		1200	S.T.S.	980	29	15.0	133.1
		1800	S.T.S.	980	29	15.0	132.4
	26	0000	S.T.S.	980	29	15.0	131.3
		0600	S.T.S.	980	29	14.8	130.4
		1200	S.T.S.	980	29	15.1	129.6
		1800	S.T.S.	980	29	15.7	129.2
	27	0000	S.T.S.	980	29	16.2	128.7
		0600	S.T.S.	975	31	16.9	128.1
		1200	T.	970	34	17.4	127.0
		1800	T.	965	36	17.7	126.4
	28	0000	T.	960	39	18.1	126.0
		0600	T.	955	41	18.4	125.6
		1200	T.	950	44	18.6	125.0
		1800	T.	945	47	18.7	124.5
	29	0000	T.	945	47	18.8	124.1
		0600	T.	945	47	18.9	123.6
		1200	T.	945	47	18.9	123.0
		1800	T.	950	44	19.0	122.7
	30	0000	T.	955	41	19.1	122.3
		0600	T.	955	41	19.3	121.9
		1200	T.	965	36	19.5	121.8
		1800	T.	970	34	20.7	121.9
七月 Jul	1	0000	S.T.S.	975	31	21.6	121.8
		0600	S.T.S.	975	31	22.3	121.6
		1200	S.T.S.	975	31	23.3	121.7
		1800	S.T.S.	980	29	24.1	121.6
	2	0000	S.T.S.	980	29	24.7	121.5
		0600	S.T.S.	984	26	25.4	121.2
		1200	S.T.S.	984	26	26.1	121.3
		1800	S.T.S.	984	26	26.9	121.2
	3	0000	T.S.	988	23	27.7	121.3
		0600	T.S.	988	23	29.3	122.0
		1200	T.S.	988	23	30.6	122.6
		1800	T.S.	988	23	31.7	123.3
	4	0000	T.S.	992	21	32.8	124.8

變爲溫帶氣旋
Became Extratropical

颱風婷婷(0408)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON TINGTING (0408)

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	25	1200	T.D.	1002	13	11.6	152.2
		1800	T.D.	1000	16	11.7	151.7
	26	0000	T.S.	996	18	11.8	151.2
		0600	T.S.	992	21	11.8	150.7
		1200	T.S.	988	23	12.2	150.4
		1800	S.T.S.	984	26	13.0	150.0
	27	0000	S.T.S.	984	26	13.5	148.8
		0600	S.T.S.	984	26	14.1	148.3
		1200	S.T.S.	984	26	14.7	147.9
		1800	S.T.S.	980	29	15.7	147.0
	28	0000	S.T.S.	980	29	16.3	146.4
		0600	S.T.S.	975	31	16.9	145.7
		1200	S.T.S.	975	31	17.6	144.9
		1800	T.	970	34	18.4	144.3
	29	0000	T.	970	34	18.9	143.6
		0600	T.	965	36	19.9	143.2
		1200	T.	965	36	21.0	143.0
		1800	T.	965	36	22.4	142.5
	30	0000	T.	960	39	23.7	142.4
		0600	T.	955	41	24.8	142.4
		1200	T.	955	41	26.2	142.5
		1800	T.	955	41	27.5	142.7
七月 Jul	1	0000	T.	960	39	28.3	143.3
		0600	T.	965	36	29.1	143.6
		1200	T.	970	34	29.9	144.5
		1800	S.T.S.	975	31	30.4	145.4
	2	0000	S.T.S.	975	31	31.1	146.0
		0600	S.T.S.	975	31	31.7	146.4
		1200	S.T.S.	980	29	32.3	147.4
		1800	S.T.S.	980	29	32.5	148.7
	3	0000	S.T.S.	984	26	33.3	150.0
		0600	S.T.S.	984	26	34.1	151.9
		1200	S.T.S.	984	26	34.9	153.4
		1800	T.S.	988	23	35.9	155.4

變爲溫帶氣旋
Became Extratropical

熱帶風暴圓規(0409)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM KOMPASU (0409)

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	13	1800	T.D.	1002	13	20.6	125.9
	14	0000	T.D.	998	16	21.0	124.8
		0600	T.S.	994	18	21.3	122.9
		1200	T.S.	990	21	20.7	121.5
		1800	T.S.	990	21	20.3	120.0
	15	0000	T.S.	990	21	20.3	118.9
		0600	T.S.	990	21	20.4	118.1
		1200	T.S.	990	21	20.6	117.1
		1800	T.S.	990	21	21.4	116.1
	16	0000	T.S.	985	23	21.8	115.0
		0600	T.S.	985	23	22.1	114.4
		1200	T.D.	998	16	23.1	114.0
			消散 Dissipated				

颱風南川(0410)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NAMTHEUN (0410)

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	25	0000	T.D.	1002	13	22.0	150.6
		0600	T.D.	1000	16	23.0	150.0
		1200	T.S.	992	21	23.6	149.4
		1800	T.S.	988	23	24.3	148.8
	26	0000	S.T.S.	975	31	24.8	148.4
		0600	T.	960	39	25.4	147.9
		1200	T.	950	44	26.0	147.1
		1800	T.	945	47	27.0	146.6
	27	0000	T.	945	47	27.7	146.0
		0600	T.	945	47	28.6	145.3
		1200	T.	950	44	29.6	144.6
		1800	T.	955	41	30.4	143.7
	28	0000	T.	955	41	30.8	142.7
		0600	T.	955	41	31.2	141.6
		1200	T.	960	39	31.3	140.8
		1800	T.	960	39	31.4	140.3
	29	0000	T.	960	39	31.5	139.8
		0600	T.	960	39	31.5	139.2
		1200	T.	960	39	31.4	138.8
		1800	T.	960	39	31.4	138.4
	30	0000	T.	960	39	31.5	138.0
		0600	T.	960	39	31.9	136.8
		1200	T.	965	36	32.0	136.1
		1800	T.	970	34	32.1	135.3
	31	0000	T.	970	34	32.5	134.4
		0600	S.T.S.	975	31	33.0	133.4
		1200	T.S.	988	23	34.1	132.3
		1800	T.S.	996	18	34.9	131.0
八月 Aug	01	0000	T.S.	996	18	35.1	131.2
		0600	T.S.	996	18	35.4	131.3

變爲溫帶氣旋
Became Extratropical

熱帶低氣壓在七月二十七日的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF THE TROPICAL DEPRESSION OF 27 JULY

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	1800	T.D.	1000	13	21.7	117.1
	27	0000	T.D.	996	16	22.6	116.6
		0600	T.D.	1000	13	23.3	115.7
			消散 Dissipated				

熱帶風暴瑪瑙(0411)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM MALOU (0411)

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	4	0000	T.D.	1002	13	29.7	137.9
		0600	T.S.	998	18	32.0	136.0
		1200	T.S.	994	21	33.3	134.8
		1800	T.S.	998	18	35.7	134.5
	5	0000	T.D.	1000	16	37.5	134.9

變爲溫帶氣旋
Became Extratropical

颱風莫蘭蒂(0412)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MERANTI (0412)

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	4	0600	T.D.	1000	16	22.6	165.4
		1200	T.S.	998	18	23.6	165.2
		1800	T.S.	994	21	24.6	165.4
	5	0000	T.S.	990	23	25.2	165.7
		0600	S.T.S.	980	29	26.1	166.1
		1200	T.	970	34	27.1	166.8
		1800	T.	960	39	28.0	167.4
	6	0000	T.	960	39	28.7	167.9
		0600	T.	960	39	29.4	168.7
		1200	T.	965	36	30.2	169.7
		1800	T.	970	34	31.2	170.4
	7	0000	S.T.S.	975	31	31.8	170.6
		0600	S.T.S.	980	29	32.6	171.6
		1200	S.T.S.	980	29	33.7	171.9
		1800	S.T.S.	985	26	34.9	171.8
	8	0000	T.S.	990	23	35.9	171.8
		0600	T.S.	990	23	36.9	172.0
		1200	T.S.	994	21	37.5	171.9
		1800	T.S.	994	21	37.9	172.1

變爲溫帶氣旋
Became Extratropical

颱風雲娜(0413)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON RANANIM (0413)

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	8	0600	T.D.	996	16	17.8	130.5
		1200	T.S.	994	18	18.2	130.3
		1800	T.S.	992	21	19.0	130.5
	9	0000	S.T.S.	984	26	19.5	130.3
		0600	S.T.S.	984	26	20.0	130.1
		1200	S.T.S.	984	26	20.5	129.8
		1800	S.T.S.	984	26	20.8	128.8
	10	0000	S.T.S.	980	29	21.3	128.2
		0600	S.T.S.	975	31	22.1	128.1
		1200	S.T.S.	975	31	22.4	127.7
		1800	T.	970	34	22.8	126.8
	11	0000	T.	965	36	23.2	126.3
		0600	T.	960	39	23.8	125.5
		1200	T.	955	41	24.5	125.1
		1800	T.	950	44	25.3	124.3
	12	0000	T.	950	44	26.4	123.8
		0600	T.	950	44	27.3	122.6
		1200	T.	950	44	28.2	121.5
		1800	T.	970	34	28.3	120.0
	13	0000	S.T.S.	984	26	28.7	118.9
		0600	T.S.	994	18	28.9	117.5
		1200	T.D.	998	13	28.8	116.7
			消散 Dissipated				

熱帶風暴馬勒卡(0414)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM MALAKAS (0414)

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	10	1200	T.D.	1000	13	23.8	155.6
		1800	T.D.	998	16	25.1	156.7
	11	0000	T.S.	994	18	26.7	158.5
		0600	T.S.	990	21	27.8	159.8
		1200	T.S.	990	21	29.4	161.0
		1800	T.S.	990	21	30.6	162.2
	12	0000	T.S.	990	21	31.6	163.4
		0600	T.S.	990	21	32.2	164.7
		1200	T.S.	990	21	32.8	166.6
		1800	T.S.	990	21	33.2	168.7
	13	0000	T.S.	990	21	33.6	170.8
		0600	T.S.	990	21	34.8	173.2
		1200	T.S.	994	18	35.5	176.0
			變爲溫帶氣旋 Became Extratropical				

颱風鮎魚(0415)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MEGI (0415)

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	15	1800	T.D.	1000	13	18.1	132.1
	16	0000	T.D.	998	16	18.4	131.6
		0600	T.S.	996	18	18.8	130.7
		1200	T.S.	992	21	19.7	129.5
		1800	T.S.	988	23	21.2	129.0
	17	0000	T.S.	988	23	23.3	127.8
		0600	T.S.	988	23	24.9	127.0
		1200	S.T.S.	980	29	26.5	126.3
		1800	S.T.S.	980	29	27.6	125.5
	18	0000	S.T.S.	975	31	28.5	125.3
		0600	T.	970	34	30.1	125.4
		1200	T.	970	34	31.2	126.2
		1800	T.	970	34	33.1	127.7
	19	0000	S.T.S.	975	31	35.6	129.6
		0600	S.T.S.	975	31	37.7	132.5
		1200	S.T.S.	975	31	39.8	135.9
		1800	S.T.S.	984	26	40.6	139.2
	20	0000	S.T.S.	984	26	41.3	143.2
		0600	T.S.	992	21	41.6	145.9

變爲溫帶氣旋
Became Extratropical

颱風暹芭(0416)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON CHABA (0416)

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	18	1800	T.D.	1000	13	11.9	162.9
	19	0000	T.D.	996	16	12.3	162.1
		0600	T.S.	992	18	12.8	161.5
		1200	T.S.	988	21	13.4	160.4
		1800	T.S.	984	23	13.4	159.1
	20	0000	T.S.	984	23	13.5	157.9
		0600	T.S.	984	23	14.3	156.9
		1200	S.T.S.	980	26	14.4	155.4
		1800	S.T.S.	980	26	14.6	154.2
	21	0000	S.T.S.	980	26	14.5	154.1
		0600	S.T.S.	975	29	14.4	151.8
		1200	S.T.S.	970	31	14.2	150.2
		1800	T.	960	36	14.3	148.7
	22	0000	T.	955	39	14.0	147.4
		0600	T.	950	41	14.4	146.4
		1200	T.	935	49	14.4	145.4
		1800	T.	920	57	14.8	144.8
	23	0000	T.	915	59	15.2	143.6
		0600	T.	915	59	15.5	142.9
		1200	T.	915	59	16.3	142.1
		1800	T.	915	59	16.9	141.1
	24	0000	T.	915	59	17.4	140.2
		0600	T.	910	62	18.0	139.6
		1200	T.	910	62	18.5	139.1
		1800	T.	910	62	19.4	138.6
	25	0000	T.	910	62	20.4	138.2
		0600	T.	910	62	21.2	137.6
		1200	T.	910	62	21.9	137.2
		1800	T.	910	62	22.5	136.7
	26	0000	T.	910	62	23.4	136.3
		0600	T.	915	59	24.1	135.6
		1200	T.	920	57	24.7	135.3
		1800	T.	925	54	25.5	135.1
	27	0000	T.	930	52	26.1	135.0
		0600	T.	930	52	26.5	134.5
		1200	T.	930	52	26.8	134.3
		1800	T.	930	52	27.1	134.2
	28	0000	T.	935	49	27.2	133.9
		0600	T.	935	49	27.4	133.6
		1200	T.	935	49	27.6	132.9
		1800	T.	935	49	27.8	132.1
	29	0000	T.	935	49	28.2	131.3
		0600	T.	935	49	28.8	130.5
		1200	T.	940	47	29.3	130.1
		1800	T.	945	44	30.2	129.8
	30	0000	T.	950	41	31.5	130.2
		0600	T.	955	39	33.5	131.1
		1200	T.	965	34	35.2	133.2
		1800	S.T.S.	970	31	37.5	136.1
	31	0000	S.T.S.	975	29	40.3	139.3
		0600	S.T.S.	980	26	43.1	142.6

變爲溫帶氣旋
Became Extratropical

颱風艾利(0417)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON AERE (0417)

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	20	0000	T.D.	998	16	13.7	135.4
		0600	T.S.	996	18	15.2	136.1
		1200	T.S.	992	21	15.6	135.5
		1800	T.S.	988	23	16.8	134.5
	21	0000	T.S.	988	23	17.5	134.0
		0600	S.T.S.	984	26	18.1	132.9
		1200	S.T.S.	980	29	19.1	131.7
		1800	S.T.S.	975	31	19.6	130.7
	22	0000	S.T.S.	975	31	20.2	129.8
		0600	T.	970	34	20.9	128.8
		1200	T.	965	36	21.5	127.9
		1800	T.	965	36	22.2	127.0
	23	0000	T.	965	36	22.9	126.2
		0600	T.	965	36	23.3	125.4
		1200	T.	965	36	23.7	124.9
		1800	T.	960	39	24.5	124.5
	24	0000	T.	960	39	24.9	123.9
		0600	T.	955	41	25.3	123.5
		1200	T.	955	41	25.5	123.1
		1800	T.	955	41	25.5	122.1
	25	0000	T.	955	41	25.4	121.4
		0600	T.	960	39	25.5	120.4
		1200	T.	970	34	25.0	119.0
		1800	S.T.S.	980	29	24.3	117.9
	26	0000	T.S.	985	23	23.8	117.2
		0600	T.S.	990	18	23.8	116.7
		1200	T.D.	992	16	23.7	115.8
		1800	T.D.	994	13	23.4	114.4
			消散 Dissipated				

颱風桑達(0418)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON SONGDA (0418)

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	27	1200	T.D.	1000	13	10.8	166.9
		1800	T.D.	996	16	11.1	165.7
	28	0000	T.S.	992	18	11.3	165.0
		0600	T.S.	988	21	11.9	164.2
		1200	S.T.S.	980	26	12.3	163.1
		1800	S.T.S.	980	26	12.8	161.6
	29	0000	S.T.S.	980	26	13.2	160.3
		0600	S.T.S.	975	29	13.7	158.8
		1200	S.T.S.	975	29	14.2	157.2
		1800	S.T.S.	975	29	14.6	155.8
	30	0000	S.T.S.	970	31	14.9	154.4
		0600	S.T.S.	970	31	15.4	152.8
		1200	T.	965	34	15.5	151.5
		1800	T.	955	39	16.0	150.5
	31	0000	T.	945	44	16.3	149.5
		0600	T.	935	49	16.7	148.5
		1200	T.	930	52	17.3	147.6
		1800	T.	930	52	17.7	146.7
九月 Sep	1	0000	T.	930	52	18.4	146.3
		0600	T.	930	52	19.6	145.3
		1200	T.	930	52	20.1	143.6
		1800	T.	930	52	20.7	142.3
	2	0000	T.	930	52	21.1	141.0
		0600	T.	935	49	21.6	139.8
		1200	T.	935	49	21.7	138.5
		1800	T.	935	49	21.8	137.4
	3	0000	T.	935	49	22.0	136.4
		0600	T.	935	49	22.3	135.2
		1200	T.	935	49	22.3	134.0
		1800	T.	935	49	22.6	133.2
	4	0000	T.	935	49	23.2	132.1
		0600	T.	935	49	24.0	131.2
		1200	T.	935	49	24.3	130.4
		1800	T.	935	49	25.0	129.7
	5	0000	T.	935	49	25.7	129.0
		0600	T.	935	49	26.4	128.2
		1200	T.	935	49	26.8	127.9
		1800	T.	940	47	27.7	127.2
	6	0000	T.	945	44	28.4	127.1
		0600	T.	945	44	29.3	126.9
		1200	T.	945	44	29.9	127.2
		1800	T.	950	42	31.1	127.9
	7	0000	T.	950	41	32.6	129.5
		0600	T.	950	41	35.3	132.2
		1200	T.	960	36	38.7	136.0
		1800	S.T.S.	975	29	41.6	139.3

變爲溫帶氣旋
Became Extratropical

強烈熱帶風暴莎莉嘉(0419)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF SEVERE TROPICAL STORM SARIKA (0419)

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	4	1200	T.D.	1002	13	16.6	151.7
		1800	T.D.	1000	16	16.7	150.3
	5	0000	T.S.	992	21	17.3	148.7
		0600	S.T.S.	984	26	18.1	147.3
		1200	S.T.S.	980	29	18.5	145.7
		1800	S.T.S.	980	29	19.0	144.2
	6	0000	S.T.S.	980	29	19.4	142.8
		0600	S.T.S.	980	29	19.7	141.3
		1200	S.T.S.	980	29	19.9	139.5
		1800	S.T.S.	980	29	20.4	138.8
	7	0000	S.T.S.	984	26	21.6	138.8
		0600	T.S.	992	21	22.9	137.9
		1200	T.S.	996	18	23.7	138.1
		1800	T.D.	1000	16	24.7	137.8
	8	0000	T.D.	1002	13	25.7	137.7
			消散 Dissipated				

熱帶風暴海馬(0420)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM HAIMA (0420)

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	11	0600	T.D.	1002	13	22.8	121.5
		1200	T.D.	1000	16	23.3	121.8
		1800	T.S.	996	18	24.4	122.1
	12	0000	T.S.	996	18	25.1	122.1
		0600	T.S.	996	18	25.4	122.1
		1200	T.S.	996	18	26.1	122.2
		1800	T.S.	996	18	26.7	121.9
	13	0000	T.S.	996	18	27.5	121.6
		0600	T.D.	1000	16	28.1	120.8
			消散 Dissipated				

颱風米雷(0421)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MEARI (0421)

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	20	0000	T.D.	1002	13	12.8	145.2
		0600	T.D.	1000	16	12.6	144.3
		1200	T.D.	1000	16	12.7	143.4
		1800	T.S.	996	18	12.9	142.5
	21	0000	T.S.	996	18	13.1	141.9
		0600	T.S.	992	21	13.5	141.4
		1200	T.S.	992	21	14.2	140.7
		1800	T.S.	988	23	14.5	140.2
	22	0000	T.S.	988	23	14.8	139.5
		0600	T.S.	988	23	15.5	139.0
		1200	S.T.S.	984	26	16.0	138.6
		1800	S.T.S.	980	29	16.5	138.1
	23	0000	S.T.S.	975	31	17.2	137.5
		0600	T.	965	36	17.9	136.7
		1200	T.	960	39	18.3	135.9
		1800	T.	955	41	18.8	135.1
	24	0000	T.	950	44	19.4	134.3
		0600	T.	945	47	20.0	133.3
		1200	T.	940	49	20.5	132.6
		1800	T.	940	49	21.3	131.9
	25	0000	T.	940	49	22.3	131.2
		0600	T.	945	47	23.6	130.2
		1200	T.	950	44	24.5	129.2
		1800	T.	950	44	25.2	127.9
	26	0000	T.	950	44	25.6	126.6
		0600	T.	950	44	25.7	125.6
		1200	T.	950	44	25.9	125.1
		1800	T.	950	44	25.9	124.8
	27	0000	T.	950	44	26.1	124.9
		0600	T.	950	44	26.3	125.0
		1200	T.	950	44	26.8	125.5
		1800	T.	955	41	27.3	126.0
	28	0000	T.	965	36	28.0	126.7
		0600	T.	965	36	28.9	127.1
		1200	T.	965	36	30.0	127.9
		1800	T.	970	34	30.9	129.0
	29	0000	S.T.S.	975	31	31.7	130.5
		0600	S.T.S.	980	29	32.9	132.8
		1200	S.T.S.	984	26	34.9	135.7
		1800	T.S.	988	23	37.0	137.7
	30	0000	T.S.	988	23	39.0	141.2

變爲溫帶氣旋
Became Extratropical

颱風馬鞍(0422)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MA-ON (0422)

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	0600	T.D.	1000	16	16.5	134.5
		1200	T.S.	996	18	16.7	134.3
		1800	T.S.	996	18	17.1	134.4
	5	0000	T.S.	996	18	18.0	134.3
		0600	T.S.	992	21	18.9	134.5
		1200	T.S.	992	21	19.8	134.7
		1800	T.S.	988	23	20.2	134.2
	6	0000	S.T.S.	984	26	20.5	133.5
		0600	S.T.S.	980	29	20.6	132.7
		1200	S.T.S.	975	31	20.9	132.2
		1800	T.	970	34	21.4	131.7
	7	0000	T.	965	36	21.8	131.0
		0600	T.	960	39	22.2	130.6
		1200	T.	950	44	22.7	130.7
		1800	T.	940	49	23.2	130.8
	8	0000	T.	940	49	23.9	131.4
		0600	T.	935	52	25.0	132.2
		1200	T.	935	52	27.0	133.2
		1800	T.	940	49	28.9	134.6
	9	0000	T.	945	47	31.6	136.1
		0600	T.	950	44	34.3	138.3
		1200	T.	970	34	36.8	141.5
		1800	S.T.S.	984	26	38.8	145.2

變爲溫帶氣旋
Became Extratropical

颱風蝎虎(0423)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON TOKAGE (0423)

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	1200	T.D.	1000	16	13.6	147.2
		1800	T.S.	995	18	14.0	145.4
	13	0000	T.S.	990	21	14.3	143.9
		0600	T.S.	985	23	14.3	142.0
		1200	S.T.S.	980	26	14.5	140.3
		1800	S.T.S.	975	29	14.3	139.0
	14	0000	S.T.S.	970	31	13.8	138.2
		0600	S.T.S.	970	31	13.7	137.6
		1200	T.	965	34	13.7	136.5
		1800	T.	960	36	14.3	136.1
	15	0000	T.	955	39	14.7	135.6
		0600	T.	955	39	15.2	134.7
		1200	T.	955	39	15.5	134.4
		1800	T.	955	39	15.9	134.0
	16	0000	T.	955	39	16.5	134.0
		0600	T.	950	41	17.6	134.0
		1200	T.	945	44	18.3	133.0
		1800	T.	940	47	18.7	132.5
	17	0000	T.	940	47	19.2	131.9
		0600	T.	940	47	19.8	130.8
		1200	T.	940	47	20.2	130.1
		1800	T.	940	47	21.0	129.0
	18	0000	T.	945	44	21.8	128.2
		0600	T.	950	41	22.2	127.4
		1200	T.	950	41	23.0	126.9
		1800	T.	950	41	23.7	127.0
	19	0000	T.	950	41	24.7	127.2
		0600	T.	950	41	26.0	127.9
		1200	T.	950	41	27.4	128.9
		1800	T.	950	41	29.0	130.4
	20	0000	T.	950	41	31.1	132.3
		0600	T.	955	39	33.4	133.8
		1200	S.T.S.	970	31	35.7	136.8
		1800	S.T.S.	980	26	35.9	139.9

變爲溫帶氣旋
Became Extratropical

颱風洛坦(0424)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NOCK-TEN (0424)

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	14	1200	T.D.	1002	13	11.8	161.7
		1800	T.D.	1002	13	11.7	161.1
	15	0000	T.D.	1000	16	11.6	160.5
		0600	T.D.	1000	16	11.5	159.8
		1200	T.D.	1000	16	11.6	159.2
		1800	T.D.	1000	16	11.7	158.7
	16	0000	T.D.	1000	16	11.4	157.9
		0600	T.D.	1000	16	11.2	156.5
		1200	T.S.	996	18	10.9	155.3
		1800	T.S.	992	21	10.4	154.9
	17	0000	T.S.	988	23	10.5	154.3
		0600	T.S.	988	23	10.7	153.9
		1200	T.S.	988	23	10.7	153.2
		1800	T.S.	988	23	10.6	152.8
	18	0000	T.S.	988	23	10.4	152.4
		0600	S.T.S.	980	29	10.2	151.8
		1200	T.	970	34	10.1	151.0
		1800	T.	965	36	10.1	149.9
	19	0000	T.	965	36	9.8	148.7
		0600	T.	965	36	9.6	148.0
		1200	T.	965	36	9.8	147.2
		1800	T.	965	36	10.2	146.0
	20	0000	T.	960	39	10.7	145.1
		0600	T.	960	39	11.5	144.0
		1200	T.	960	39	12.0	142.8
		1800	T.	960	39	12.5	141.9
	21	0000	T.	960	39	13.3	140.6
		0600	T.	960	39	13.8	139.1
		1200	T.	960	39	14.0	138.3
		1800	T.	960	39	14.6	137.3
	22	0000	T.	960	39	15.2	136.5
		0600	T.	955	41	15.8	135.7
		1200	T.	950	44	16.4	134.8
		1800	T.	950	44	16.9	133.8
	23	0000	T.	950	44	17.4	132.3
		0600	T.	950	44	18.0	130.9
		1200	T.	950	44	18.6	129.3
		1800	T.	950	44	19.3	127.7
	24	0000	T.	950	44	20.0	126.0
		0600	T.	950	44	20.7	124.5
		1200	T.	950	44	21.6	123.2
		1800	T.	955	41	22.7	122.4
	25	0000	T.	960	39	24.1	122.2
		0600	T.	965	36	25.4	121.7
		1200	S.T.S.	975	31	26.2	122.1
		1800	S.T.S.	984	26	27.5	123.3
	26	0000	S.T.S.	984	26	28.3	126.0

變爲溫帶氣旋
Became Extratropical

颱風梅花(0425)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON MUIFA (0425)

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	14	0600	T.D.	1000	16	11.4	130.7
		1200	T.S.	996	18	12.5	129.5
		1800	T.S.	996	18	12.8	127.2
	15	0000	T.S.	996	18	12.4	126.1
		0600	T.S.	996	18	13.2	125.7
		1200	T.S.	992	21	13.6	125.5
		1800	T.S.	992	21	13.8	125.0
	16	0000	T.S.	992	21	14.0	124.9
		0600	T.S.	988	23	14.6	124.6
		1200	S.T.S.	984	26	14.2	124.0
		1800	S.T.S.	984	26	14.3	123.8
	17	0000	S.T.S.	984	26	14.5	123.7
		0600	S.T.S.	984	26	14.6	123.6
		1200	S.T.S.	980	29	14.7	123.7
		1800	T.	970	34	15.3	123.7
	18	0000	T.	960	39	15.5	123.7
		0600	T.	955	41	15.7	123.8
		1200	T.	955	41	15.8	124.1
		1800	T.	960	39	15.8	124.3
	19	0000	T.	965	36	15.5	124.3
		0600	T.	965	36	14.8	124.1
		1200	T.	965	36	14.3	123.7
		1800	T.	970	34	13.7	122.6
	20	0000	S.T.S.	975	31	12.8	121.5
		0600	S.T.S.	975	31	12.4	120.3
		1200	S.T.S.	975	31	12.2	119.4
		1800	S.T.S.	975	31	12.2	118.4
	21	0000	S.T.S.	975	31	12.1	117.2
		0600	S.T.S.	975	31	11.9	116.1
		1200	T.	970	34	11.8	115.2
		1800	T.	970	34	11.7	114.4
	22	0000	T.	970	34	11.5	113.7
		0600	S.T.S.	975	31	11.1	113.0
		1200	S.T.S.	975	31	10.8	112.6
		1800	S.T.S.	975	31	10.5	112.2
	23	0000	S.T.S.	975	31	10.3	111.7
		0600	S.T.S.	975	31	10.0	111.2
		1200	S.T.S.	975	31	9.8	110.7
		1800	S.T.S.	980	29	9.6	110.2
	24	0000	S.T.S.	980	29	9.3	109.5
		0600	S.T.S.	984	26	8.9	108.7
		1200	T.S.	988	23	8.4	107.3
		1800	T.S.	992	21	8.3	105.6
	25	0000	T.S.	992	21	8.8	103.6
		0600	T.S.	996	18	8.6	101.9
		1200	T.D.	1000	16	8.7	100.7
			消散 Dissipated				

熱帶低氣壓苗柏(0426)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL DEPRESSION MERBOK (0426)

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	22	1200	T.D.	1000	13	15.2	122.1
		1800	T.D.	998	16	15.7	121.0
	23	0000	T.D.	998	16	15.9	119.8
		0600	T.D.	1000	13	16.0	118.6
			消散 Dissipated				

颱風南瑪都(0427)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TYPHOON NANMADOL (0427)

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	29	0000	T.D.	1000	16	6.3	147.7
		0600	T.S.	996	18	6.7	146.1
		1200	T.S.	992	21	7.1	144.3
		1800	T.S.	988	23	7.6	143.0
	30	0000	T.S.	988	23	8.6	141.0
		0600	S.T.S.	980	29	9.4	139.0
		1200	T.	970	34	10.0	137.1
		1800	T.	960	39	10.7	135.2
十二月 Dec	1	0000	T.	950	44	11.7	132.8
		0600	T.	945	47	12.4	130.5
		1200	T.	945	47	13.0	128.7
		1800	T.	945	47	13.7	126.8
	2	0000	T.	945	47	14.3	125.0
		0600	T.	950	44	14.9	123.4
		1200	T.	955	41	15.9	122.0
		1800	T.	960	39	17.3	120.0
	3	0000	T.	965	36	18.1	119.0
		0600	S.T.S.	975	31	19.2	118.6
		1200	S.T.S.	980	29	20.1	118.3
		1800	S.T.S.	984	26	21.7	119.1
	4	0000	S.T.S.	984	26	22.5	120.6

變爲溫帶氣旋
Became Extratropical

熱帶風暴塔拉斯(0428)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM TALAS (0428)

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	11	0000	T.D.	1000	16	8.5	164.2
		0600	T.S.	996	18	9.1	162.0
		1200	T.S.	996	18	9.5	159.4
		1800	T.S.	992	21	9.8	156.9
	12	0000	T.S.	992	21	9.9	155.5
		0600	T.S.	992	21	10.0	153.2
		1200	T.S.	992	21	10.0	151.1
		1800	T.S.	992	21	10.0	149.5
	13	0000	T.S.	992	21	9.9	147.4
		0600	T.S.	992	21	10.4	145.5
		1200	T.S.	992	21	10.6	143.9
		1800	T.S.	992	21	11.2	142.4
	14	0000	T.S.	992	21	11.3	140.8
		0600	T.S.	992	21	11.7	139.1
		1200	T.S.	992	21	12.2	137.9
		1800	T.S.	992	21	12.3	137.2
	15	0000	T.S.	996	18	12.1	136.4
		0600	T.S.	996	18	11.9	135.6
		1200	T.D.	1000	16	11.9	135.0
		1800	T.D.	1000	16	11.9	134.3
	16	0000	T.D.	1000	16	11.9	133.1
		0600	T.D.	1000	16	12.1	132.5
		1200	T.D.	1000	16	12.4	132.1
		1800	T.D.	1000	16	12.9	131.7
	17	0000	T.D.	1000	16	13.2	131.3
		0600	T.S.	996	18	13.7	131.5
		1200	T.S.	996	18	14.7	131.3
		1800	T.S.	996	18	15.7	130.9
	18	0000	T.S.	996	18	14.9	131.5
		0600	T.S.	996	18	15.2	131.0
		1200	T.S.	996	18	16.1	131.1
		1800	T.S.	996	18	16.8	131.1
	19	0000	T.S.	996	18	17.8	131.3
		0600	T.D.	1000	16	18.3	131.0
			消散 Dissipated				

熱帶風暴奧鹿(0429)的每六小時位置及強度
SIX-HOURLY POSITION AND INTENSITY DATA OF TROPICAL STORM NORU (0429)

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	18	0000	T.D.	1002	13	13.7	150.9
		0600	T.D.	1000	16	13.6	150.0
		1200	T.D.	1000	16	13.6	149.3
		1800	T.S.	996	18	13.4	148.4
	19	0000	T.S.	996	18	13.4	147.8
		0600	T.S.	996	18	13.8	147.3
		1200	T.S.	992	21	15.0	146.8
		1800	T.S.	988	23	16.4	146.3
	20	0000	T.S.	988	23	17.5	146.2
		0600	T.S.	988	23	18.8	146.3
		1200	T.S.	988	23	19.9	147.0
		1800	T.S.	988	23	21.0	148.0
	21	0000	T.S.	988	23	22.8	149.9
		0600	T.S.	988	23	24.5	153.0
		1200	T.S.	992	21	25.7	154.8
			變爲溫帶氣旋 Became Extratropical				