

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），最高風速估計約為每小時220公里，而最低中心氣壓則約為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為香港帶來的雨量（即該熱帶氣旋在出現於香港600公里範圍內至其消散或離開香港600公里範圍之後72小時期間天文台錄得的雨量）共為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為一個低壓區。

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為一個低壓區。

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，次日增強為一個熱帶風暴。蘇特在四月六日進一步增強為一個強烈熱帶風暴，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為一個強烈熱帶風暴。蘇特在四月十六日進一步減弱為一個熱帶風暴，同日變為一個溫帶氣旋。

五月

五月十四日清晨，**妮姐(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。同日它增強為一個強烈熱帶風暴，並於翌日進一步增強為一個颱風。妮姐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。妮姐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為一個強烈熱帶風暴，同日變為一個溫帶氣旋。

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，翌日減弱為一個低壓區。

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，五月十九日它增強為一個熱帶風暴。奧麥斯於五月二十日轉向東北偏北移動，翌日減弱為一個熱帶低氣壓，並於五月二十二日在太平洋上減弱為一個低壓區。

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為強烈熱帶風暴。

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為一強烈熱帶風暴。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，在當晚增強為一個熱帶風暴。馬鞍於翌日轉向西北移動，十月七日清晨增強為一個颱風，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，翌日清晨減弱為一強烈熱帶風暴，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為一個熱帶低氣壓，並向西移動。它於十月十四日增強為一個颱風，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，並在本州中部減弱為一強烈熱帶風暴。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。洛坦於當晚減弱為一強烈熱帶風暴，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新元台幣。

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，並在次日增強為一個颱風。梅花打了一圈後，於十一月十九日橫掃菲律賓中部，翌日減弱為一強烈熱帶風暴，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，經濟損失約為130萬美元。

梅花於十一月二十一日在南海中部再次增強為颱風，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為一低壓區。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為一個熱帶低氣壓。它向西北偏西移動，橫過呂宋，次日進入南海，並於同日下午變為一低壓區。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為一熱帶低氣壓，並向西北偏西移動。翌日南瑪都橫過雅蒲島，並增強為一個颱風。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，並減弱為一強烈熱帶風暴，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，同日下午增強為一熱帶風暴。塔拉斯於隨後數天向西推進，在十二月十六日減弱為一熱帶低氣壓，及轉向西北偏北移動。它於十二月十七日再次增強為一熱帶風暴，但移動緩慢。塔拉斯在十二月十九日減弱為一低壓區。

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。次日它增強為一熱帶風暴後，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 slowly, 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 Koshu 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.

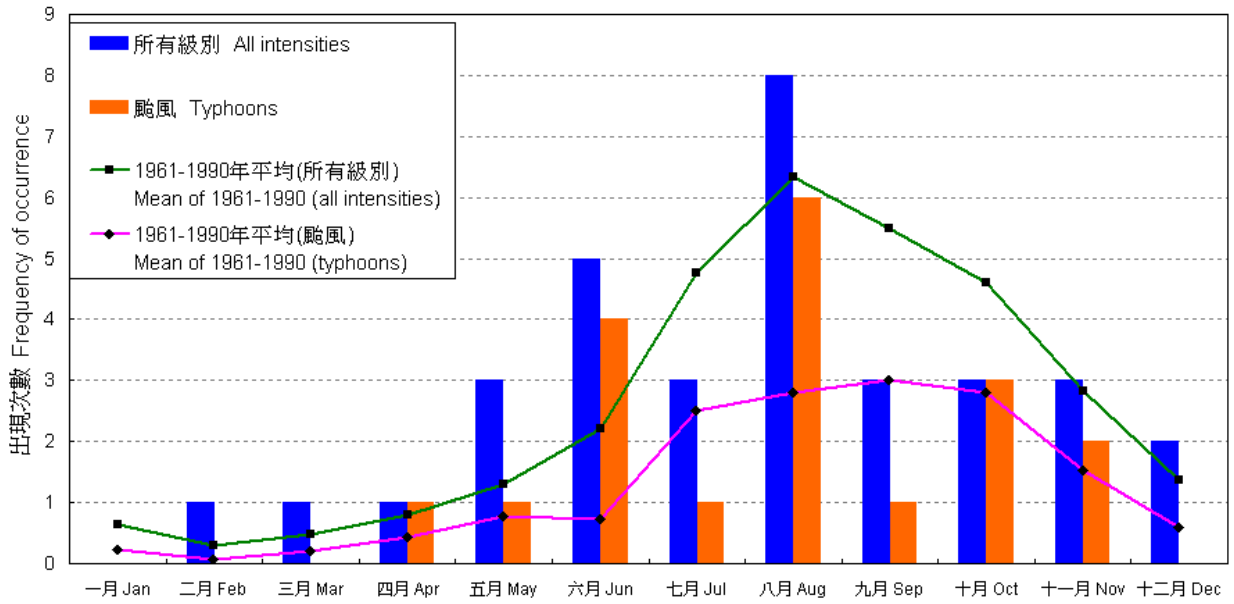


圖 2.1 二零零四年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈 (以熱帶氣旋在該月初次出現為準)。

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).

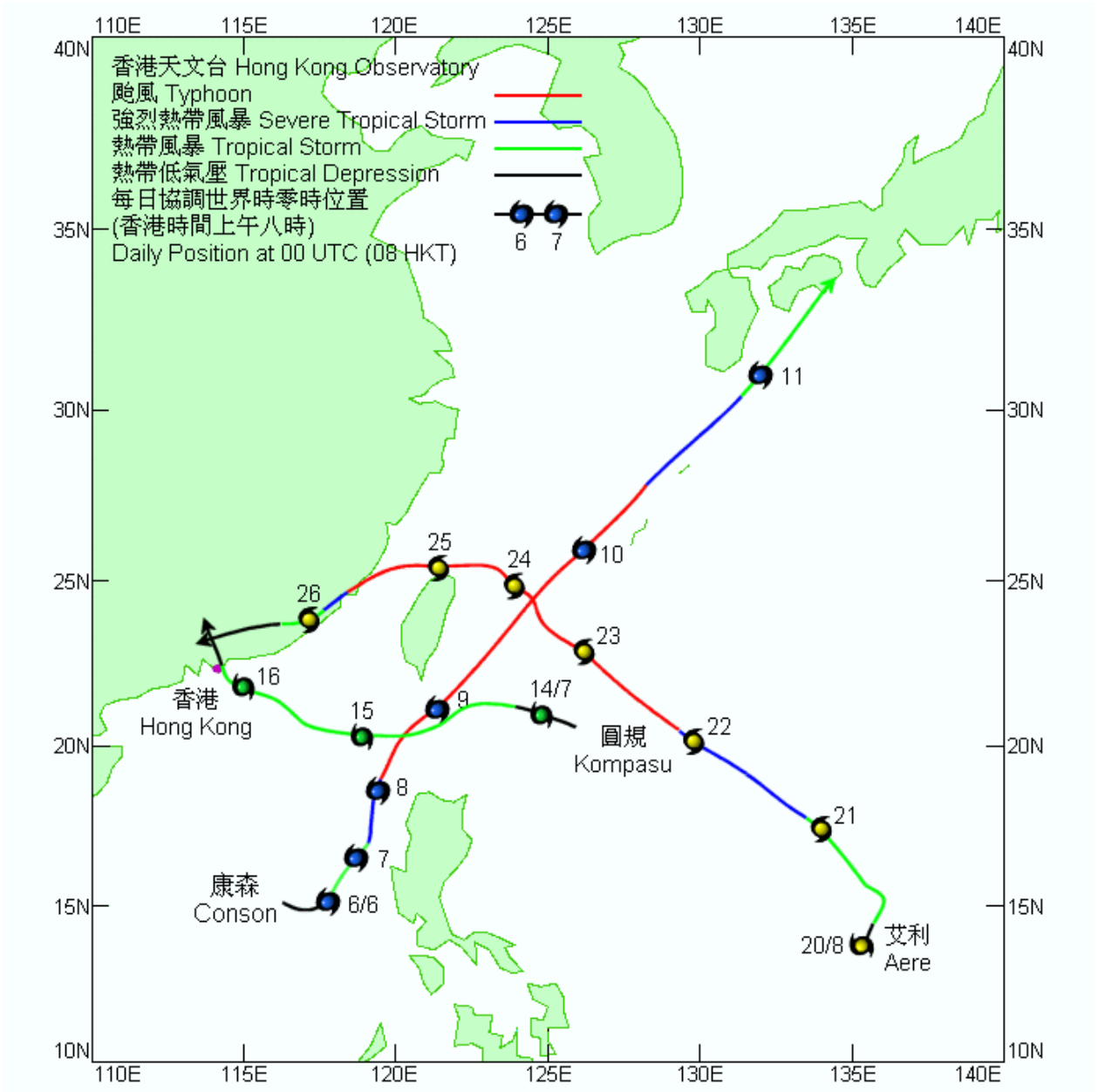


圖 2.2 二零零四年三個影響香港的熱帶氣旋的路徑圖。
 Figure 2.2 Tracks of the three tropical cyclones affecting Hong Kong in 2004.

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為準)

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

年份 Year	月份 Month												共 Total
	一月	二月	三月	四月	五月	六月	七月	八月	九月	十月	十一月	十二月	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1961					3	5	2	5	4	3	1	1	24
1962					3		4	5	4	1	3		20
1963						3	3	3	2			2	13
1964					1	1	5	3	6	3	6	1	26
1965	1				2	3	4	3	2		1		16
1966					2		5	2	3	2	2	1	17
1967			1	1		1	2	6	1	2	3		17
1968							2	4	2	1	3		12
1969							3	3	4	1			11
1970		1				2	2	3	4	5	3		20
1971				1	2	2	5	3	3	4			20
1972	1					3	2	4	2	1	1	1	15
1973							4	4	2	4	3		17
1974						3	2	4	2	4	4	2	21
1975	1					1		3	2	3	1	1	12
1976					1	1	1	4	1		1	1	10
1977						1	4	1	3		1		10
1978	1			1		2	2	4	5	4	1		20
1979				1	2	1	3	5	2	2	1	1	18
1980			1		3	1	5	2	3	1	1		17
1981						3	3	3	1	1	3	1	15
1982			2		1	1	3	3	3	1		2	16
1983						1	3	1	3	5	2		15
1984						2	2	4	2	2	2		14
1985						2	2	2	4	4	1		15
1986					1	1	1	4	1	3	3	2	16
1987						1	3	2	1	1	3	1	12
1988	1				1	3	1	1	2	5	2	1	17
1989					2	1	4	2	4	3	1		17
1990					1	4	2	3	3	3	2		18
1991				1	1	1	3	2	2	1	3		14
1992						2	3	2	2	2			11
1993						1	1	2	3	2	2	3	14
1994				1	1	2	6	5	2	2		1	20
1995						1	1	5	5	3	1	1	17
1996		1		1	2		3	3	2	1	2		15
1997					1		1	4	1	2	1		10
1998							1	3	4	3	3	1	15
1999				1		1	1	2	3	2	1	1	12
2000					2	1	3	5	3	3	2	1	20
2001					1	2	4	2	2	1	1	1	14
2002	1					1	3	2	3				10
2003				1	1	2	2	3	1	1	1		12
2004			1		1	3	2	2	2	1	2	1	15
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	二月	三月	四月	五月	六月	七月	八月	九月	十月	十一月	十二月	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1961					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		<p>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。</p> <p>A tropical cyclone is centred within about 800 kilometres (km) of Hong Kong and may later affect Hong Kong.</p>
強風 Strong Wind	3		<p>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。</p> <p>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.</p>
西北 烈風或暴風 NW'LY Gale or Storm	8 西北 NW		<p>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。</p>
西南 烈風或暴風 SW'LY Gale or Storm	8 西南 SW		<p>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.</p>
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		<p>烈風或暴風風力現正或將會顯著增強。</p> <p>Gale or storm force wind is increasing or expected to increase significantly in strength.</p>
颶風 Hurricane	10		<p>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。</p> <p>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.</p>