

第二節 二零一六年熱帶氣旋概述

2.1 二零一六年的熱帶氣旋回顧

2.1.1 北太平洋西部（包括南海區域）的熱帶氣旋

二零一六年有28個熱帶氣旋影響北太平洋西部及南海區域（即由赤道至北緯45度、東經100至180度所包括的範圍），少於1961-2010年約30個的長期年平均數目。全年有13個熱帶氣旋達到颱風或以上強度，少於1961-2010年約15個的長期年平均數目，其中有七個熱帶氣旋更達到超強颱風程度（中心附近最高持續風速達到每小時185公里或以上）。

圖2.1是二零一六年在北太平洋西部及南海區域熱帶氣旋數目之逐月分佈。

二零一六年內有九個熱帶氣旋在中國登陸，其中三個在香港300公里內的華南沿岸登陸。兩個熱帶氣旋橫過台灣，五個登陸日本，五個橫過菲律賓及五個登陸越南。九月的超強颱風莫蘭蒂(1614)（圖2.3）是二零一六年北太平洋西部及南海區域最強的熱帶氣旋，其中中心附近最高持續風速估計為每小時250公里，而最低海平面氣壓為890百帕斯卡（表4.1）。

2.1.2 香港責任範圍內的熱帶氣旋

在二零一六年的28個熱帶氣旋中，有15個出現在香港責任範圍（即北緯10至30度、東經105至125度），較1961-2010年約16個的長期年平均數目略少（表2.1），當中只有四個在香港責任範圍內形成。年內，香港天文台總共發出352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

二零一六年共有13個熱帶氣旋影響南海區域（即北緯10至25度、東經105至120度），較1961-2010年約12個的長期年平均數目略多，當中只有四個在南海上形成。

2.1.4 影響香港的熱帶氣旋

二零一六年香港的颱風季節始於五月二十六日，當天一個熱帶低氣壓在南海北部形成並靠近廣東西部沿岸，天文台發出一號戒備信號。十月二十一日熱帶風暴海馬(1622)移入內陸及減弱，二零一六年颱風季節隨著天文台當天取消所有熱帶氣旋警告信號而結束。

年內共有九個熱帶氣旋影響香港（圖2.2），多於1961-2010年約六個的長期年平均數目（表2.2），亦是一九九三年以來的最高紀錄。這九個熱帶氣旋分別為五月的熱帶低氣壓、七月的強烈熱帶風暴銀河(1603)及颱風妮妲(1604)、八月的熱帶風暴電母(1608)、九月的超強颱風莫蘭蒂(1614)及強颱風鮎魚(1617)、十月的熱帶風暴艾利(1619)、超強颱風莎莉嘉(1621)和海馬(1622)。天文台在妮妲及海馬影響香港期間曾發出八號烈風或暴風信號，是年內發出的最高熱帶氣旋警告信號。五月的熱帶低氣壓、電母及莎莉嘉吹襲期間天文台曾發出三號強風信號。銀河、莫蘭蒂、鮎魚及艾利則只需發出一號戒備信號。

二零一六年較多熱帶氣旋影響香港的主要因為菲律賓附近和南海北部的海面溫度比正常高，加上北太平洋西部的大氣狀況提供有利熱帶氣旋進入南海的引導氣流。

2.1.5 熱帶氣旋的雨量

二零一六年熱帶氣旋為香港帶來的雨量（即由熱帶氣旋出現於香港600公里範圍內至其消散或離開香港600公里範圍之後72小時期間天文台總部錄得的雨量）共為1033.9毫米（表4.8.1），約佔年內總雨量3026.8毫米的百分之34.2，比1961-2010年長期年平均值的728.8毫米多約42%。

超強颱風莎莉嘉(1621)為天文台總部帶來491.3毫米的雨量(表4.8.1)，是年內雨量最多的熱帶氣旋。

2.2 每月概述

這一節逐月介紹二零一六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及傷亡報告則詳述於第三節。

一月至四月

二零一六年一月至四月期間並無熱帶氣旋在北太平洋西部及南海區域上形成。

五月

熱帶低氣壓於五月二十六日晚上在南海北部形成後大致向西北偏北方向移動，靠近廣東西部沿岸，翌日轉向偏北方向移動，並稍為增強，達到最高強度時其中心附近最高持續風速估計為每小時55公里。該熱帶低氣壓於五月二十七日傍晚在廣東西部陽江市附近登陸，並於當晚減弱為一個低壓區。

根據報章報導，熱帶低氣壓為廣東西部帶來暴雨，有小橋遭洪水沖毀，一輛大巴墮河，兩人受傷。澳門外港碼頭發生撞船事故，兩名乘客受傷。

六月

二零一六年六月並無熱帶氣旋在北太平洋西部及南海區域上形成。

七月至八月

熱帶低氣壓尼伯特(1601)於七月三日在關島以南約560公里的北太平洋西部形成，向西北至西北偏西方向移動並逐漸增強。尼伯特於七月六日清晨增強為超強颱風，當天下午達到其最高強度，中心附近最高持續風力估計為每小時230公里。尼伯特於七月八日橫過台灣南部後減弱為颱風，進入台灣海峽後繼續減弱，翌日下午在福建沿岸登陸，最後於七月十日上午在福建內陸減弱為一個低壓區。

根據報章報導，尼伯特吹襲台灣期間造成最少五人死亡，逾400人受傷。尼伯特及其殘餘亦在福建、江西及廣東等地造成嚴重破壞，最少有69人死亡，近80萬人受災，直接經濟損失超過80億人民幣。

熱帶低氣壓盧碧(1602)於七月二十三日晚上在硫黃島之東北偏東約1 430公里的北太平洋西部形成，大致向東北偏北方向移動。盧碧於翌日增強為熱帶風暴，並達到其最高強度，中心附近最高持續風速估計為每小時75公里。其後盧碧轉向北至西北偏北方向移動，最後於七月二十五日清晨在日本以東海域演變為一股溫帶氣旋。

熱帶低氣壓銀河(1603)於七月二十五日晚上在西沙以東約300公里的南海中部上形成，向西北偏西方向移動，翌日早上增強為熱帶風暴。銀河當晚在海南島東部沿岸登陸，橫過海南島期間略為減弱，於七月二十七日早上進入北部灣後重新組織及再度發展。傍晚時分銀河進一步增強為強烈熱帶風暴並達到其最高強度，中心附近最高持續風速估計為每小時90公里。銀河當晚在越南北部沿岸登陸，並逐漸減弱，最後於七月二十八日傍晚在越南北部消散。根據報章報導，銀河吹襲越南期間造成最少一人死亡，五人受傷，多間房屋倒塌。

熱帶低氣壓妮妲(1604)於七月二十九日晚上在馬尼拉之東南偏東約750公里的北太平洋西部形成，初時向西北偏北方向移動。妮妲於翌日下午開始採取西北路徑移向呂宋海峽，並逐漸增強，於七月三十一日上午發展為強烈熱帶風暴，當日下午掠過呂宋北岸，晚上進入南海東北部，並採取西北偏西路徑趨向廣東沿岸。妮妲進一步增強為颱風，於八月一日下午達到其最高強度，中心附近最高持續風速為每小時130公里。妮妲於八月二日上午三時左右在大鵬半島附近登陸，橫過深圳，在香港以北掠過。妮妲繼續移入內陸及減弱，最後於八月三日清晨在廣西減弱為一個低壓區。根據報章報導，在妮妲吹襲期間，廣東、廣西、湖南、貴州及雲南約有50萬人受災，300多間房屋倒塌，直接經濟損失最少五億元人民幣。廣東有七市要停工停課，海陸空交通癱瘓。而深圳有逾一萬六千戶的電力供應受到影響。

熱帶低氣壓奧麥斯(1605)於八月四日下午在硫黃島之東南約1 010公里的北太平洋西部形成，大致向偏北方向移動，並逐漸增強。奧麥斯於八月六日發展為強烈熱帶風暴，達到其最高強度，中心附近最高持續風速為每小時105公里。隨後兩天奧麥斯繼續採取西北偏北路徑移向日本以東海域，並逐漸減弱，最後於八月十日清晨演變為一股溫帶氣旋。

熱帶低氣壓康森(1606)於八月八日下午在威克島之西南偏西約580公里的北太平洋西部形成，向西至西北偏西方向移動，並逐漸增強。康森於八月九日凌晨發展為熱帶風暴，當晚達到其最高強度，中心附近最高持續風速為每小時85公里。康森於八月十一日開始轉向東北偏北方向移動，兩日後再轉向西北偏北，最後於八月十四日晚上在日本以東海域演變為一股溫帶氣旋。

熱帶低氣壓燦都(1607)於八月十三日晚上在硫黃島以南約620公里的北太平洋西部形成，向東北偏北方向移動，當天早上增強為熱帶風暴。燦都於八月十五日清晨達到其最高強度，中心附近最高持續風速為每小時85公里。其後燦都轉向西北偏北移動，八月十七日早上掠過日本本州北部東岸，下午在北海道以南海域演變為一股溫帶氣旋。根據報章報導，燦都為日本東北地區帶來豪雨，約1 800戶家庭停電，海陸空交通受到影響。

熱帶低氣壓電母(1608)於八月十七日在香港之西南約220公里的南海北部形成，當天其移動緩慢，強度漸增，翌日早上增強為熱帶風暴。電母採取偏西路徑移動，於八月十八日下午在雷州半島登陸，當晚進入北部灣。電母在橫過北部灣期間再度發展，於八月十九日上午達到其最高強度，中心附近最高持續風速估計為每小時85公里。電母於當日下午在越南北部登陸，移入內陸並逐漸減弱，最後於八月二十日早上在緬甸北部減弱為一個低壓區。根據報章報導，受電母相關的暴雨影響，海南島多處地方出現水浸，約四萬人需要緊急疏散，海陸空交通受影響。電母吹襲越南期間，造成最少16人死亡，兩人失蹤及15人受傷。

與此同時，三個熱帶低氣壓在八月十九至二十日期間在北太平洋西部接踵而生：先有蒲公英(1609)於八月十九日上午在硫黃島以南約810公里形成，繼而獅子山(1610)及圓規(1611)於當晚先後在東京之東南偏南約350公里及東京之東南偏東約960公里形成。

圓規向西北移動，於八月二十日早上增強為熱帶風暴，達到其最高強度，中心附近最高持續風速估計為每小時65公里。圓規於八月二十一日在日本本州北部以東離岸海域轉向偏北方向移動，當晚在北海道東岸演變為一股溫帶氣旋。根據報章報導，圓規吹襲北海道期間造成至少一死三傷，超過130間房屋水浸。

蒲公英形成後大致向偏北方向移動，並於八月二十日早上增強為熱帶風暴，翌日進一步發展為強烈熱帶風暴，在八月二十二日早上達到其最高強度，中心附近最高持續風速估計為每小時110公里。蒲公英當天在東京以東登陸，並採取東北偏北路徑橫掃本州北部，最後於八月二十三日在北海道以北海域演變為一股溫帶氣旋。蒲公英是一星期內第三個吹襲日本東部的熱帶氣旋。根據報章報導，蒲公英為本州及北海道帶來狂風大雨，造成最少兩人死亡，超過60人受傷，海陸空交通受到影響。

八月份日本東部風暴連場，但最具破壞力的第六個風暴還要來臨。獅子山的生成位置相對於當時其他熱帶氣旋原是最接近日本，但受制於與圓規和蒲公英的互相影響，獅子山初時大致向西南移動遠離本州。八月二十一日早上獅子山的移動速度開始減慢，一度向東南漂移，於八月二十三日再回復向西南移動。在琉球群島以東海域徘徊的日子，獅子山繼續發展，在八月二十四日晚上增強為強颱風，翌日清晨達到其最高強度，中心附近最高持續風速為每小時175公里。八月二十六日獅子山移動路徑掉頭逆轉，開始朝東北方向走回頭路。八月二十九日下午獅子山減弱為颱風，並轉向西北偏北移動，直撲本州北部，翌日橫掃東北地區，最後於八月三十一日早上在日本海演變為一股溫帶氣旋。

根據報章報導，獅子山吹襲東北地區及北海道期間，造成最少12人死亡，五人失蹤，約180 000人需要疏散，多處地區出現水浸及山泥傾瀉，多間房屋損毀，海陸空交通癱瘓。

九月至十月

熱帶低氣壓南川(1612)於九月一日凌晨在沖繩島以南約370公里的北太平洋西部上形成，向東北方向移動並迅速增強。翌日南川轉向偏北路徑移動，並發展為強颱風，達到其最高強度，中心附近最高持續風速估計為每小時165公里。隨後南川開始減弱，掠過日本九州西岸後，於九月五日在日本海減弱為一個低壓區。根據報章報導，南川為九州帶來狂風暴雨，造成最少一人受傷，超過1 700人需要緊急疏散。

熱帶低氣壓瑪瑙(1613)於九月六日下午在沖繩島之西北偏西約100公里的北太平洋西部上形成，向東北移動，其中心附近最高持續風速估計為每小時55公里。瑪瑙於九月八日凌晨在日本以南海域演變為一股溫帶氣旋。

熱帶低氣壓莫蘭蒂(1614)於九月十日清晨在關島以西約390公里的北太平洋西部上形成，向西北偏西方向移動並迅速增強。莫蘭蒂於九月十二日發展為超強颱風，翌日達到其最高強度，中心附近最高持續風速估計為每小時250公里。莫蘭蒂於九月十三日晚上橫過呂宋海峽後，採取西北路徑經過台灣西南沿岸海域，移向福建並逐漸減弱。莫蘭蒂於九月十五日凌晨在廈門附近登陸並移入內陸，最後於九月十六日凌晨在江西減弱為一個低壓區。

根據報章報導，莫蘭蒂吹襲台灣期間，造成至少兩人死亡，63人受傷，超過100萬戶停水停電，海陸空交通癱瘓。莫蘭蒂亦在福建及江西等地造成嚴重破壞，最少有29人死亡、15人失蹤，約250萬人受災，約18 000間房屋倒塌，直接經濟損失超過117億元人民幣。

熱帶低氣壓雷伊(1615)於九月十二日早上在峴港之東南偏東約500公里的南海中部上形成，採取西北偏西路徑移向越南海岸，最高強度時其中心附近持續風速估計為每小時55公里。九月十三日凌晨雷伊登陸越南中部，下午於泰國消散。根據報章報導，雷伊為越南帶來暴雨，造成至少兩人死亡及33人受傷，多間房屋損毀。

熱帶低氣壓馬勒卡(1616)於九月十二日下午於關島以西約340公里的北太平洋西部上形成，採取西北偏西至西北路徑移向呂宋以東海域並逐漸增強。馬勒卡於九月十六日清晨發展為強颱風，轉向西北偏北方向橫過台灣以東海域。翌日馬勒卡達到其最高強度，中心附近最高持續風速估計為每小時175公里。馬勒卡於九月十八日轉向東北方向移動，九月十九日晚及翌日橫掃日本，其後在晚間於本州南部演變為一股溫帶氣旋。

根據報章報導，馬勒卡吹襲台灣期間，當地交通大受影響。馬勒卡亦為日本南部廣泛地區帶來狂風暴雨，造成最少兩人死亡，一人失蹤及42人受傷，近30萬人需要緊急疏散。九州有超過14萬戶停電。

熱帶低氣壓鮎魚(1617)於九月二十二日早上在關島之西南偏南約300公里的北太平洋西部上形成，初時大致向西北移動，翌日轉向西北偏西，並逐漸增強。鮎魚於九月二十六日凌晨在台灣以東海域發展為強颱風，翌日達到其最高強度，中心附近最高持續風速估計為每小時175公里。鮎魚在九月二十七日下午在花蓮附近登陸台灣及減弱，進入台灣海峽後繼續採取西北偏西路徑靠近福建一帶。鮎魚於九月二十八日早上在泉州附近再登陸進入福建內陸，最後於九月二十九日早上清晨在江西減弱為一個低壓區。

根據報章報導，鮎魚在台灣造成嚴重破壞，至少四人死亡，超過500人受傷。所有城市停工停課，海陸空交通癱瘓，農作物損失超過10億元新台幣。鮎魚亦為福建、浙江及江西帶來狂風暴雨，至少六人死亡，33人失蹤，超過600 000人需要緊急疏散，直接經濟損失超過25.8億元人民幣。

熱帶低氣壓暹芭(1618)於九月二十八日凌晨在關島之東北偏東約570公里的北太平洋西部上形成，初時以偏西路徑移動，九月三十日轉向西北偏北，移向琉球群島一帶並逐漸增強。暹芭於十月三日上午發展為超強颱風，當晚達到其最高強度，中心附近最高持續風速估計為每小時220公里。暹芭掠過琉球群島後採取偏北路徑橫過東海，趨向朝鮮半島南部，十月五日晚上在日本本州以北的海域演變為一股溫帶氣旋。

根據報章報導，暹芭吹襲沖繩島期間，海陸空交通大受影響。暹芭亦在韓國南部地區造成嚴重破壞，多處地區水浸，最少七人死亡，三人失蹤。濟州市約有25 000戶停電。

熱帶低氣壓艾利(1619)於十月五日下午在東沙以東約900公里的北太平洋西部上形成，向西至西北偏西移動，橫過呂宋海峽，翌日進入南海東北部，並增強為熱帶風暴。艾利在十月七日清晨掠過東沙以南海域後，移動轉為緩慢，並向偏北方向漂移，下午達到其最高強度，中心附近最高持續風速估計為每小時85公里。十月八日艾利向東北緩慢移動，翌日幾乎停留不動，並逐漸減弱。十月十日艾利開始加速轉向西南方移動，當晚在東沙附近減弱為一個低壓區。但與艾利相關的殘餘低壓區在隨後兩天繼續採取西南路徑移向西沙附近海域，於十月十三日早上在海南島以南再度增強為熱帶低氣壓，並轉向偏西方向移動，翌

日凌晨登陸越南中部後減弱為一個低壓區，進入內陸消散。根據報章報導，艾利的外圍環流為台灣南部帶來大雨，部分地區出現水浸，海陸交通受到影響。

熱帶低氣壓桑達(1620)於十月八日下午於硫黃島之東南偏東約1 600公里的北太平洋西部上形成，大致向西北移動，並逐漸增強。桑達於十月十日於硫黃島以東的海域發展為颱風，並轉向偏北方向移動。隨後兩天桑達加速轉向東北移動及增強為超強颱風，達到其最高強度，中心附近最高持續風速估計為每小時185公里，於十月十三日演變為一股溫帶氣旋。

熱帶低氣壓莎莉嘉(1621)於十月十三日早上在馬尼拉以東約1 060公里的北太平洋西部上形成，並採取西北偏西路徑移向菲律賓。莎莉嘉當晚已增強為熱帶風暴，翌日更迅速增強，於十月十五日晚上發展為超強颱風並達到其最高強度，中心附近最高持續風速估計為每小時185公里。莎莉嘉於十月十六日清晨橫過呂宋時減弱為颱風，進入南海後重新組織。十月十八日早上莎莉嘉在海南島登陸，其後轉向西北移動。十月十九日莎莉嘉橫過北部灣，當天稍後在廣西內陸消散。

根據報章報導，莎莉嘉吹襲菲律賓期間造成最少三人死亡，三人失蹤，多處出現山泥傾瀉，多間房屋倒塌。莎莉嘉吹襲廣東、廣西及海南期間，最少370萬人受災，直接經濟損失接近55億元人民幣。

熱帶低氣壓海馬(1622)於十月十四日下午在關島以南約710公里的北太平洋西部上形成，大致向西北移動，並逐漸增強。海馬於十月十七日晚上發展為超強颱風，並向西北偏西移動，翌日達到其最高強度，中心附近最高持續風速估計為每小時230公里。海馬於十月二十日凌晨橫過呂宋北部及減弱為颱風，日間採取西北路徑進入南海東北部。翌日海馬轉向偏北方向移動，下午在廣東東部汕尾附近登陸，晚間在江西減弱為一個低壓區。

根據報章報導，海馬在呂宋北部造成嚴重破壞，廣泛地區出現水浸及山泥傾瀉，多間房屋倒塌，最少八人死亡，逾9萬人需要緊急疏散。海馬亦為廣東及福建帶來狂風大雨，最少180萬人受災，約600間房屋倒塌，海陸空交通大受影響，直接經濟損失超過50億元人民幣。

十一月

熱帶低氣壓米雷(1623)於十一月二日凌晨在雅蒲島之東北偏北約230公里的北太平洋西部上形成，向西北偏北及偏北方向緩慢移動。米雷於十一月四日開始加速向東北移動，並逐漸增強。翌日米雷發展為颱風，達到其最高強度，中心附近最高持續風速估計為每小時140公里。米雷最後於十一月七日晚上在日本東南的西北太平洋海面演變為一股溫帶氣旋。

熱帶低氣壓馬鞍(1624)於十一月九日下午在關島以東約1 610公里的北太平洋西部上形成，大致向西北偏西移動。馬鞍於十一月十日下午增強為熱帶風暴，達到其最高強度，中心附近最高持續風速估計為每小時65公里。馬鞍隨後開始逐漸減弱，十一月十二日在硫黃島東南的海域上減弱為一個低壓區。

熱帶低氣壓蝎虎(1625)於十一月二十四日下午在馬尼拉之東南約830公里的海域上形成，以西北偏西或西北路徑橫過菲律賓。蝎虎於十一月二十六日進入南海及增強為強烈熱帶風暴，達到其最高強度，中心附近最高持續風速估計為每小時90公里。十一月二十七日蝎虎轉向東北緩慢移動，在呂宋以西海域徘徊，受到東北季候風影響，翌日迅速減弱及消散。

十二月

一個熱帶低氣壓於十二月十二日下午在越南南部沿岸海域胡志明市之東南偏東約370公里形成，向西北緩慢移動，其中心附近最高持續風力為每小時45公里。該熱帶低氣壓於翌日早上在越南南部登陸，日間在內陸消散。

熱帶低氣壓洛坦(1626)於十二月二十一日下午在雅蒲島之東南約490公里的北太平洋西部上形成，向西北移動，並迅速增強。洛坦於十二月二十四日發展為超強颱風及達到其最高強度，中心附近最高持續風速估計為每小時210公里。洛坦採取偏西路徑橫過菲律賓中部，於十二月二十六日下午進入南海。受到一股強烈東北季候風影響，洛坦翌日轉向西南移動並在南海中部消散。根據報章報導，洛坦吹襲菲律賓期間，造成最少六人死亡、八人失蹤，超過38萬人被迫撤離家園。

備註：人命傷亡及財物損毀數據是根據報章報導輯錄而成。

Section 2 TROPICAL CYCLONE OVERVIEW FOR 2016

2.1 Review of tropical cyclones in 2016

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

In 2016, a total of 28 tropical cyclones occurred over the western North Pacific (WNP) and the South China Sea (SCS) bounded by the Equator, 45°N, 100°E and 180°, less than the long-term (1961-2010) average figure of around 30. During the year, 13 of the tropical cyclones attained typhoon intensity or above, less than the long-term average (1961–2010) of about 15, with seven of them reaching super typhoon intensity (maximum 10-minute wind speed of 185 km/h or above near the centre).

Figure 2.1 shows the monthly frequencies of the occurrence of tropical cyclones in WNP and SCS in 2016.

During the year, nine tropical cyclones made landfall over China, with three of them crossing the south China coast within 300 km of Hong Kong. Two tropical cyclones crossed Taiwan, five made landfall over Japan, five traversed the Philippines and five made landfall over Vietnam. With an estimated maximum sustained wind speed of 250 km/h and a minimum sea-level pressure of 890 hPa near its centre (Table 4.1), Super Typhoon Meranti (1614) in September (Figure 2.3) was the most intense tropical cyclone over the western North Pacific and the South China Sea in 2016.

2.1.2 Tropical cyclones in Hong Kong's area of responsibility

Amongst the 28 tropical cyclones in 2016, 15 of them occurred inside Hong Kong's area of responsibility (i.e. the area bounded by 10°N, 30°N, 105°E and 125°E), slightly less than the long-term annual average figure of around 16 (Table 2.1). Only four of them developed within Hong Kong's area of responsibility. Altogether, 352 tropical cyclone warnings to ships and vessels were issued by the Hong Kong Observatory in 2016 (Table 4.2).

2.1.3 Tropical cyclones over the South China Sea

13 tropical cyclones affected SCS bounded by 10°N, 25°N, 105°E and 120°E in 2016, slightly more than the long-term annual average of around 12. Only four of them formed within SCS.

2.1.4 Tropical cyclones affecting Hong Kong

In 2016, the typhoon season in Hong Kong started on 26 May when a tropical depression formed in the northern part of the South China Sea and edged closer to the coast of western Guangdong, necessitating the issuance of the Standby Signal No. 1. The typhoon season ended with the cancellation of all tropical cyclone warning signals on 21 October as Tropical Storm Haima (1622) moved inland and weakened that day.

Nine tropical cyclones affected Hong Kong during 2016 (Figure 2.2), the highest since 1993 and more than the long-term (1961-2010) average of about six in a year (Table 2.2). They were Tropical Depression in May, Severe Tropical Storm Mirinae (1603) and Typhoon Nida (1604) in July, Tropical Storm Dianmu (1608) in August, Super Typhoon Meranti (1614) and Severe Typhoon Megi (1617) in September, Tropical Storm Aere (1619) and Super Typhoon Sarika (1621) and Haima (1622) in October. The No. 8 Gale or Storm Signal was issued during the passage of Nida and Haima, the highest tropical cyclone warning signal issued in 2016. The Strong Wind Signal No. 3 was issued during the passage of the Tropical Depression in May, Dianmu and Sarika.

Mirinae, Meranti, Megi and Aere only necessitated the issuance of Standby Signal No. 1 in Hong Kong.

Relatively more tropical cyclones affecting Hong Kong in 2016 was mainly due to warmer-than-normal sea surface temperature near the Philippines and over the northern part of the South China Sea, as well as favourable atmospheric patterns over the western North Pacific that provided favourable steering flow for tropical cyclones to move towards the South China Sea.

2.1.5 Tropical cyclone rainfall

Tropical cyclone rainfall (total rainfall recorded at the Hong Kong Observatory Headquarters from the time when a tropical cyclone comes within 600 km of Hong Kong to 72 hours after it has dissipated or moved more than 600 km away from Hong Kong) in 2016 was 1033.9 mm (Table 4.8.1). This accounted for approximately 34.2 % of the year's total rainfall of 3026.8 mm and was about 42 % above the 1961-2010 long-term average of 728.8 mm.

Super Typhoon Sarika (1621) brought 491.3 mm of rainfall to the Hong Kong Observatory Headquarters (Table 4.8.1) and was the wettest tropical cyclone in 2016.

2.2 Monthly overview

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

JANUARY TO APRIL

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

MAY

A Tropical Depression formed over the northern part of the South China Sea on the night of 26 May, it moved north-northwestwards and edged closer to the coast of western Guangdong. It took on a more northerly track the next day and slightly intensified, reaching peak intensity with an estimated sustained wind of 55 km/h near its centre. It made landfall near Yangjiang in western Guangdong on the evening of 27 May and soon degenerated into an area of low pressure that night.

According to press reports, the tropical depression brought rainstorms to western Guangdong. A bridge was destroyed by flood, causing a bus to plunge into the river and injuring two persons. At the Macao Maritime Ferry Terminal, two passengers were injured during an incident of vessel collision.

JUNE

No tropical cyclone formed over the western North Pacific and the South China Sea in June.

JULY TO AUGUST

Nepartak (1601) formed as a tropical depression over the western North Pacific about 560 km south of Guam on 3 July. It moved northwest to west-northwestwards and intensified gradually. Nepartak developed into a super typhoon in the small hours of 6 July and reached its peak intensity with an estimated sustained wind of 230 km/h near its centre in the afternoon. After

crossing the southern part of Taiwan on 8 July, Nepartak weakened into a typhoon. It continued to weaken as it entered the Taiwan Strait. Nepartak made landfall over the coast of Fujian on the afternoon of 9 July, and finally dissipated over inland Fujian on the morning of 10 July.

According to press reports, at least five people were killed and more than 400 injured in Taiwan during the passage of Nepartak. Nepartak and its remnant also brought severe damage to Fujian, Jiangxi and Guangdong. At least 69 people were killed and around 800 000 people affected, with direct economic loss exceeding 8 billion RMB.

Lupit (1602) formed as a tropical depression over the western North Pacific about 1 430 km east-northeast of Iwo Jima on the night of 23 July and tracked generally north-northeastwards. It intensified into a tropical storm the next day, reaching its peak intensity with an estimated sustained wind of 75 km/h near its centre. Lupit then turned north to north-northwestwards and finally transformed into an extratropical cyclone over the sea areas east of Japan in the small hours of 25 July.

Mirinae (1603) formed as a tropical depression over the central part of the South China Sea about 300 km east of Xisha on the night of 25 July. Moving west-northwestwards, it intensified into a tropical storm the next morning. Mirinae made landfall over the east coast of Hainan Island on the night of 26 July and weakened slightly while crossing Hainan Island. After entering Beibu Wan, Mirinae re-organized and re-intensified the next morning, becoming a severe tropical storm on the evening of 27 July and reaching peak intensity with an estimated sustained wind of 90 km/h near its centre. Mirinae made landfall over the coast of northern Vietnam that night and weakened gradually. It finally dissipated over northern Vietnam on the evening of 28 July. According to press reports, at least one person was killed, five were injured and many houses collapsed during the passage of Mirinae in Vietnam.

Nida (1604) formed as a tropical depression over the western North Pacific about 750 km east-southeast of Manila on the night of 29 July and moved north-northwestwards at first. Nida then took on a northwesterly track towards the Luzon Strait on the afternoon of 30 July and intensified gradually. After developing into a severe tropical storm on the morning of 31 July, it swept across the north coast of Luzon in the afternoon and entered the northeastern part of the South China Sea that night. Taking on a west-northwesterly track towards the coast of Guangdong, it further intensified into a typhoon and reached its peak intensity on the afternoon of 1 August with an estimated sustained wind of 130 km/h near its centre. Nida made landfall near Dapeng Peninsula around 3 a.m. on 2 August and moved across Shenzhen, passing just to the north of Hong Kong. It continued to weaken as it moved further inland, before finally degenerating into an area of low pressure over Guangxi early in the morning on 3 August.

According to press reports, about 500 000 people were affected and more than 300 houses collapsed in Guangdong, Guangxi, Hunan, Guizhou and Yunnan during the passage of Nida, with direct economic loss exceeding 500 million RMB. Business and schools were suspended in seven cities of Guangdong. Transportation services were paralyzed. Electricity supply to more than 16 000 households was affected in Shenzhen.

Omais (1605) formed as a tropical depression over the western North Pacific about 1 010 km southeast of Iwo Jima on the afternoon of 4 August. Tracking generally northwards, Omais intensified gradually and developed into a severe tropical storm on 6 August, reaching its peak intensity with an estimated sustained wind of 105 km/h near its centre. It continued to take a north-northwesterly track towards the sea areas east of Japan over the next two days and weakened gradually, before finally evolving into an extratropical cyclone early in the morning on 10 August.

Conson (1606) formed as a tropical depression over the western North Pacific about 580 km west-southwest of Wake Island on the afternoon of 8 August. Tracking west to west-

northwestwards, Conson intensified gradually and developed into a tropical storm in the small hours on 9 August, reaching its peak intensity that night with an estimated sustained wind of 85 km/h near its centre. It started to move north-northeastwards on 11 August and turned north-northwestwards two days later, before finally evolving into an extratropical cyclone over the sea areas east of Japan on the night of 14 August.

Chanthu (1607) formed as a tropical depression over the western North Pacific about 620 km south of Iwo Jima on the night of 13 August. Moving north-northeastwards, it intensified into a tropical storm that morning. Chanthu reached its peak intensity with an estimated sustained wind of 85 km/h near its centre early in the morning on 15 August and turned north-northwestwards. It skirted past the east coast of northern Honshu, Japan on the morning of 17 August, before evolving into an extratropical cyclone over the sea areas south of Hokkaido that afternoon. According to press reports, Chanthu brought torrential rain to the Tohoku region of Japan during its passage. Power supply to about 1 800 households was suspended, and transportation services were affected.

Tropical Depression Dianmu (1608) formed over the northern part of the South China Sea about 220 km southwest of Hong Kong on 17 August. It moved slowly that day and intensified gradually. Dianmu intensified into a tropical storm the next morning. Moving generally westwards, Dianmu made landfall over Leizhou Peninsula on the afternoon of 18 August and entered Beibu Wan that night. It re-intensified as it moved across Beibu Wan, reaching its peak intensity with an estimated sustained wind of 85 km/h on the morning of 19 August. After making landfall over the northern part of Vietnam in the afternoon, Dianmu moved inland and weakened gradually. It finally degenerated into an area of low pressure over the northern part of Myanmar on the morning of 20 August. According to press reports, there was flooding in many places in Hainan Island due to rainstorms brought by Dianmu. Around 40 000 people were evacuated and transportation services were affected. In Vietnam, a least 16 persons were killed, two were reported missing and another 15 were injured during the passage of Dianmu.

Meanwhile, three tropical depressions formed in quick succession over the western North Pacific on 19 – 20 August: Mindulle (1609) about 810 km south of Iwo Jima on the morning of 19 August, followed by Lionrock (1610) about 350 km south-southeast of Tokyo and Kompasu (1611) about 960 km east-southeast of Tokyo that night.

Kompasu tracked northwestwards and intensified into a tropical storm on the morning of 20 August, reaching its peak intensity with an estimated sustained wind of 65 km/h near its centre. Kompasu turned northwards on 21 August off the east coast of northern Honshu, Japan and evolved into an extratropical cyclone that night over the east coast of Hokkaido. According to press reports, at least one person was killed and three were injured in Hokkaido during the passage of Kompasu. Over 130 houses were flooded.

Tracking generally northwards after formation, Mindulle intensified into a tropical storm on the morning of 20 August and developed further into a severe tropical storm the next day, reaching its peak intensity on the morning of 22 August with an estimated sustained wind of 110 km/h near its centre. Mindulle made landfall east of Tokyo that day and swept across northern Honshu along a north-northeastward track. It finally evolved into an extratropical cyclone over the sea areas north of Hokkaido on 23 August.

Mindulle was the third tropical cyclone to strike eastern Japan in less than a week. According to press reports, Mindulle brought squalls and heavy rain to Honshu and Hokkaido during its passage. At least two persons were killed and over 60 were injured. Transportation services were affected.

But the sixth and most destructive cyclone to hit eastern Japan in a stormy August was yet to come. Though forming closest to Japan among its contemporaries, Lionrock initially tracked generally southwestwards away from Honshu due to its interaction with Kompas and Mindulle. It started to slow down on the morning of 21 August and after drifting southeastwards for a while, it resumed a southwestward track on 23 August. Lingering for days over the sea areas east of the Ryukyu Islands, Lionrock continued to intensify and became a severe typhoon on the night of 24 August, reaching its peak intensity with an estimated sustained wind of 175 km/h near its centre early next day. Making a sharp U-turn, it started to track northeastwards on 26 August and headed back towards where it came from. After weakening into a typhoon on the afternoon of 29 August, Lionrock turned to the north-northwest heading straight towards northern Honshu. It swept across the Tohoku region the next day before evolving into an extratropical cyclone over the Sea of Japan on the morning of 31 August.

According to press reports, at least 12 people were killed, another five were reported missing and around 180 000 people had to be evacuated in the Tohoku region and Hokkaido during the passage of Lionrock. There were extensive flooding and landslides, and many houses were damaged. Transportation services were paralyzed.

SEPTEMBER TO OCTOBER

Namtheun (1612) formed as a tropical depression over the western North Pacific about 370 km south of Okinawa on the early morning of 1 September. It moved northeastwards and intensified rapidly that day. Namtheun turned northward the next day and developed into a severe typhoon, reaching its peak intensity with an estimated sustained wind of 165 km/h. Namtheun subsequently started to weaken and after skirting the west coast of Kyushu, Japan, degenerated into an area of low pressure over the Sea of Japan on 5 September. According to press reports, Namtheun brought torrential rain and high winds to Kyushu. At least one person was injured and over 1 700 people were evacuated.

Malou (1613) formed as a tropical depression over the western North Pacific about 100 km west-northwest of Okinawa on the afternoon of 6 September, it moved northeastwards with an estimated sustained wind of 55 km/h. Malou evolved into an extratropical cyclone over the seas south of Japan early in the morning on 8 September.

Meranti (1614) formed as a tropical depression over the western North Pacific about 390 km west of Guam on the early morning of 10 September. It moved west-northwestward and intensified rapidly. Meranti developed into a super typhoon on 12 September and reached its peak intensity the next day with an estimated sustained wind of 250 km/h. After crossing the Luzon Strait on the night of 13 September, Meranti tracked northwestward and moved over the coastal waters of southwestern Taiwan the next day, heading towards Fujian and weakening gradually. Meranti made landfall near Xiamen on the early morning of 15 September and moved inland, before degenerating into an area of low pressure over Jiangxi early in the morning on 16 September.

According to press reports, at least two persons were killed and 63 were injured in Taiwan during the passage of Meranti. Electricity and water supply for over one million households were disrupted. Transportation services were paralyzed. Meranti also wreaked havoc in Fujian and Jiangxi, resulting in at least 29 deaths, 15 missing, and about 2.5 million people affected with the collapse of around 18 000 houses. Direct economic losses exceeded 11.7 billion RMB.

Rai (1615) formed as a tropical depression over the central part of the South China Sea about 500 km east-southeast of Da Nang on the morning of 12 September. It took on a west-northwesterly track towards the coast of Vietnam with an estimated sustained wind of 55 km/h near its centre at peak intensity. Rai made landfall over the central part of Vietnam on the early morning

of 13 September and dissipated over Thailand that afternoon. According to press reports, Rai brought torrential rain to Vietnam. At least two persons were killed and 33 people were injured. Many houses were damaged.

Malakas (1616) formed as a tropical depression over the western North Pacific about 340 km west of Guam on the afternoon of 12 September. Taking a west-northwesterly to northwesterly track across the sea areas east of Luzon, it intensified gradually. Malakas developed into a severe typhoon on the early morning of 16 September and turned north-northwestwards across the seas east of Taiwan during the day. Malakas reached its peak intensity the next day with an estimated sustained wind of 175 km/h near its centre. It turned northeastwards on 18 September and swept across Japan on the night of 19 September and the next day, before evolving into an extratropical cyclone over southern Honshu during the night.

According to press reports, transportation services were affected in Taiwan during the passage of Malakas. Malakas also brought torrential rain and high winds to extensive areas in southern Japan, resulting in at least two deaths, one missing, 42 injuries and evacuation of about 300 000 people. Electricity supply for over 140 000 households in Kyushu was disrupted.

Megi (1617) formed as a tropical depression over the western North Pacific about 300 km south-southwest of Guam on the morning of 22 September. Moving generally northwestwards at first, it turned to the west-northwest the next day and intensified gradually. Megi developed into a severe typhoon over the sea areas east of Taiwan on the small hours of 26 September, reaching its peak intensity the next day with an estimated sustained wind of 175 km/h near its centre. Megi made landfall near Hualien in Taiwan and weakened on the afternoon of 27 September. After entering the Taiwan Strait, it continued to track west-northwestward in the general direction of Fujian. It made landfall again near Quanzhou on the morning of 28 September and moved inland across Fujian, before finally degenerating into an area of low pressure over Jiangxi early in the morning on 29 September.

According to press reports, Megi wreaked havoc in Taiwan, resulting in at least four deaths and over 500 injuries. Business and schools were suspended in all cities and transportation services were paralyzed. Agricultural damage was estimated to exceed NT\$ 1 billion. Megi also brought torrential rain and ferocious winds to Fujian, Zhejiang and Jiangxi. At least six people were killed, 33 missing and over 600 000 people were evacuated. Direct economic losses exceeded 2.58 billion RMB.

Chaba (1618) formed as a tropical depression over the western North Pacific about 570 km east-northeast of Guam on the early morning of 28 September. Moving generally westward at first, it turned north-northwestwards on 30 September in the general direction of the Ryukyu Islands and intensified gradually. Chaba developed into a super typhoon on the early morning of 3 October, reaching its peak intensity at night with an estimated sustained wind of 220 km/h. After sweeping past the Ryukyu Islands, it moved across the East China Sea on a northerly track towards the southern part of the Korean Peninsula and finally evolved into an extratropical cyclone over the sea areas north of Honshu, Japan on the night of 5 October.

According to press reports, transportation services in Okinawa were seriously affected during the passage of Chaba. Chaba also wreaked havoc and caused extensive flooding in the southern part of the Republic of Korea, resulting in at least seven deaths with three others missing. Electricity supply to about 25 000 households in Jeju was interrupted.

Aere (1619) formed as a tropical depression over the western North Pacific about 900 km east of Dongsha on the afternoon of 5 October. Moving west to west-northwestwards, it moved across the Luzon Strait and entered the northeastern part of the South China Sea the next day while intensifying into a tropical storm. After crossing the sea areas south of Dongsha in the early

morning on 7 October, Aere slowed down and drifted northwards during the day, reaching its peak intensity in the afternoon with an estimated sustained wind of 85 km/h near its centre. Aere moved northeastwards slowly on 8 October and became almost stationary the next day as it weakened gradually. Aere picked up speed and turned to move southwestwards on 10 October, degenerating into an area of low pressure near Dongsha that night. However, its remnant low pressure area continued to track to the southwest towards the sea areas around Xisha over the next couple of days. It re-intensified into a tropical depression south of Hainan Island on the morning of 13 October and turned westwards. After making landfall over the central part of Vietnam early next morning, Aere weakened into an area of low pressure before dissipating further inland.

According to press reports, the outer circulation of Aere brought heavy rain to southern Taiwan and caused flooding in some areas. Land and sea transportation services were affected.

Songda (1620) formed as a tropical depression over the western North Pacific about 1 600 km east-southeast of Iwo Jima on the afternoon of 8 October. It moved generally northwestwards and intensified gradually. Songda developed into a typhoon over the sea areas east of Iwo Jima on the morning of 10 October and turned northwards. It picked up speed towards the northeast and intensified into a super typhoon over the next couple of days, reaching its peak intensity with an estimated sustained wind of 185 km/h near its centre before finally evolving into an extratropical cyclone on 13 October.

Sarika (1621) formed as a tropical depression over the western North Pacific about 1 060 km east of Manila on the morning of 13 October. Taking a west-northwesterly track towards the Philippines, it intensified into a tropical storm that night. Sarika further intensified rapidly the next day and developed into a super typhoon on the night of 15 October, reaching its peak intensity with an estimated sustained wind of 185 km/h near its centre. Sarika weakened into a typhoon while moving across Luzon in the early morning on 16 October. It re-organized after entering the South China Sea. Sarika made landfall over Hainan Island on the morning of 18 October and turned northwestwards. It moved across Beibu Wan on 19 October and dissipated over inland Guangxi later that day.

According to press reports, at least three persons were killed and three others were missing in the Philippines during the passage of Sarika. There were extensive landslides and many houses collapsed. In Guangdong, Guangxi and Hainan, at least 3.7 million people were affected with direct economic loss of around 5.5 billion RMB.

Haima (1622) formed as a tropical depression over the western North Pacific about 710 km south of Guam on the afternoon of 14 October. Moving generally northwestwards, Haima intensified gradually and developed into a super typhoon on the night of 17 October. Tracking to the west-northwest, it reached its peak intensity the next day with an estimated sustained wind of 230 km/h near its centre. Haima moved across northern Luzon on the early morning of 20 October and weakened into a typhoon. It then moved northwestwards and entered the northeastern part of the South China Sea during the day. Haima turned northwards on 21 October and made landfall near Shanwei in eastern Guangdong that afternoon, before finally degenerating into an area of low pressure over Jiangxi during the night.

According to press reports, Haima wreaked havoc in northern Luzon with extensive flooding and landslides as well as the collapse of many houses. At least eight people were killed and more than 90 000 people had to be evacuated. Haima also brought heavy rain and squalls to Guangdong and Fujian. At least 1.8 million people were affected and around 600 houses collapsed. Transportation services were seriously affected and the direct economic loss exceeded 5 billion RMB.

NOVEMBER

Meari (1623) formed as a tropical depression over the western North Pacific about 230 km north-northeast of Yap early in the morning on 2 November, and moved north-northwestwards and northwards slowly. Meari started to accelerate northeastwards and intensified gradually on 4 November. It developed into a typhoon the next day, reaching its peak intensity with an estimated wind of 140 km/h near its centre. Meari finally evolved into an extratropical cyclone over the western North Pacific southeast of Japan on the night of 7 November.

Ma-on (1624) formed as a tropical depression over the western North Pacific about 1 610 km east of Guam on the afternoon of 9 November and moved generally west-northwestwards. Ma-on intensified into a tropical storm on the afternoon of 10 November, reaching its peak intensity with an estimated wind of 65 km/h near its centre. It then started to weaken gradually and degenerated into an area of low pressure over the sea areas southeast of Iwo Jima on 12 November.

Tokage (1625) formed as a tropical depression about 830 km southeast of Manila on the afternoon of 24 November and moved across the Philippines on a west-northwestward to northwestward track. It entered the South China Sea on 26 November and intensified into a severe tropical storm, reaching its peak intensity with an estimated wind of 90 km/h near its centre. Tokage turned slowly to the northeast on 27 November and lingered over the sea areas west of Luzon. Affected by the northeast monsoon, Tokage weakened rapidly and dissipated the next day.

DECEMBER

A tropical depression formed off the coast of southern Vietnam about 370 km east-southeast of Ho Chi Minh City on the afternoon of 12 December. It moved northwest slowly with an estimated sustained wind of 45 km/h near its centre. The tropical depression made landfall over southern Vietnam the next morning and dissipated inland during the day.

Nock-ten (1626) formed as a tropical depression over the western North Pacific about 490 km southeast of Yap on the afternoon of 21 December. It moved northwestwards and intensified rapidly. Nock-ten developed into a super typhoon on 24 December, reaching its peak intensity with an estimated wind of 210 km/h near its centre. It took a westerly track across the central part of the Philippines and entered the South China Sea on the afternoon of 26 December. Affected by an intense northeast monsoon, Nock-ten turned southwestwards and dissipated over the central part of the South China Sea the next day. According to press reports, at least six people were killed and eight were missing in the Philippines during the passage of Nock-ten. Over 380 000 people were forced to leave their homes.

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

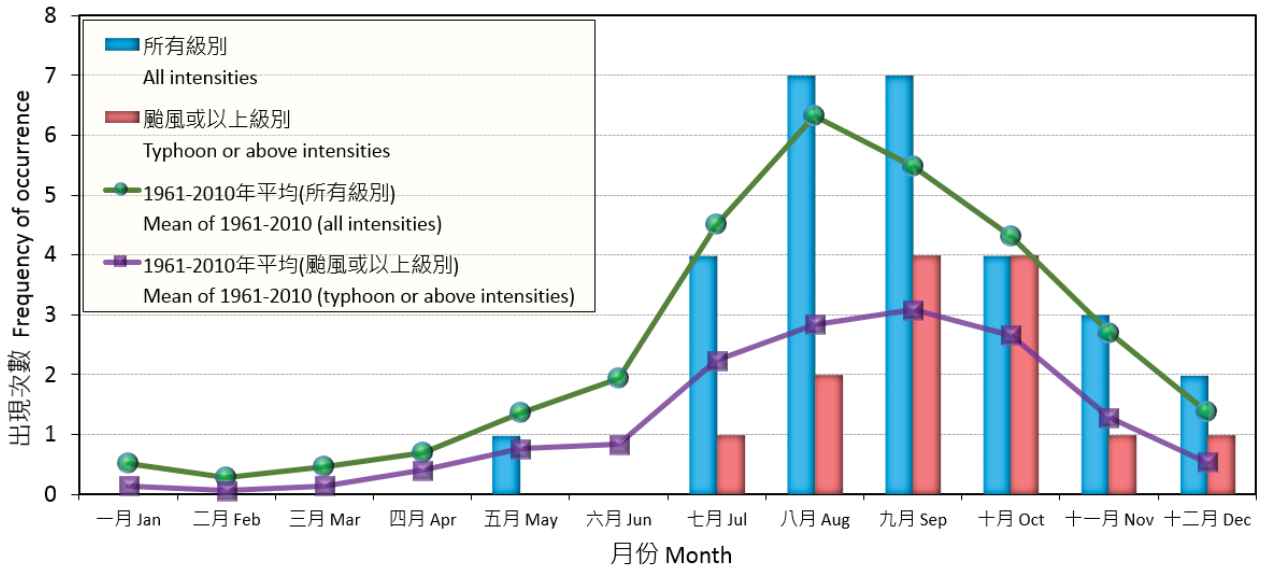


圖 2.1 二零一六年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈 (以熱帶氣旋在該月初次出現為準，假如一熱帶氣旋在九月形成並在十月首次增強為颱風或以上級別，它在「所有級別」及「颱風或以上級別」的統計數字將分別計算在九月及十月份內)。

Figure 2.1 Monthly frequencies of the occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2016 (based on the first occurrence of the tropical cyclone in the month; for example if a tropical cyclone forms in September and first intensifies into typhoon or above intensities in October, its related statistics for “all intensities” and “typhoon or above intensities” will be counted in September and October respectively).

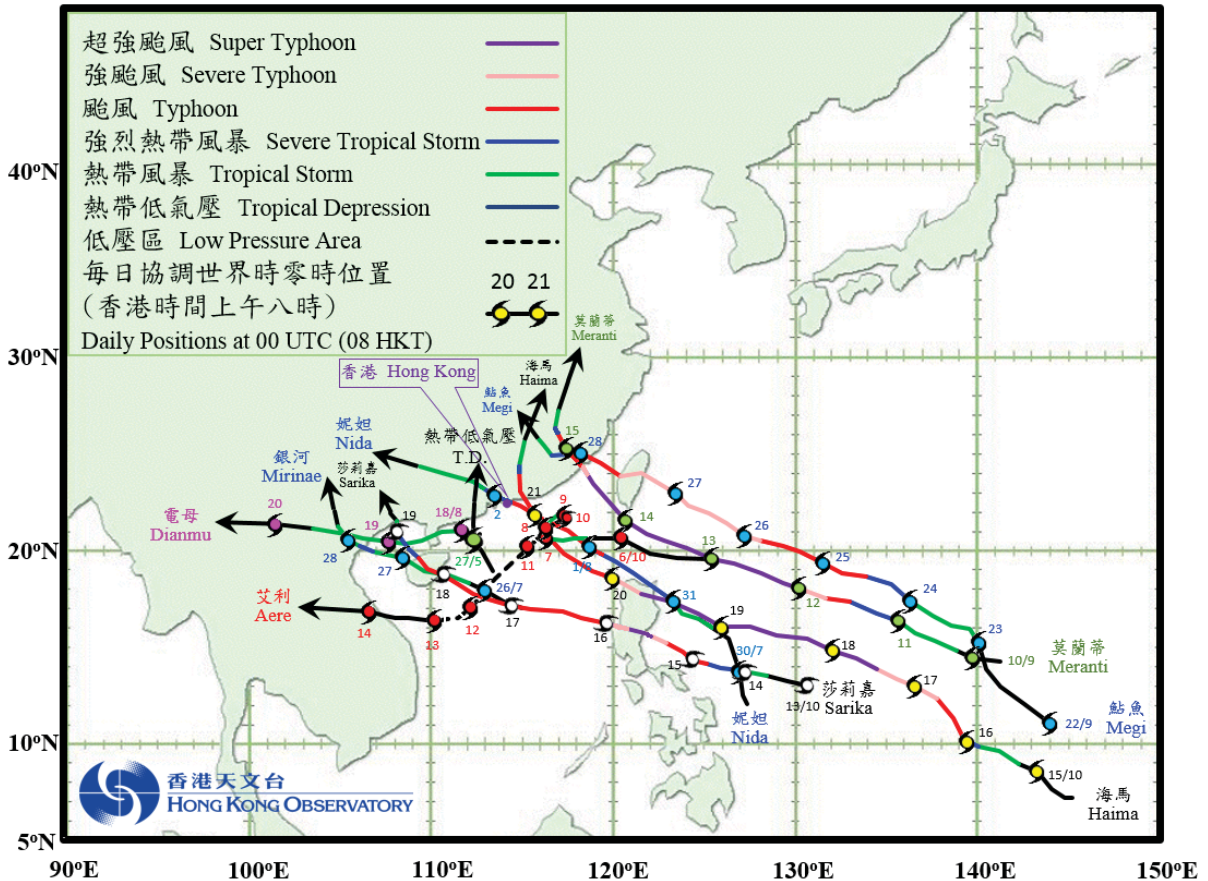


圖 2.2 二零一六年九個影響香港的熱帶氣旋的路徑圖。

Figure 2.2 Tracks of the nine tropical cyclones affecting Hong Kong in 2016.

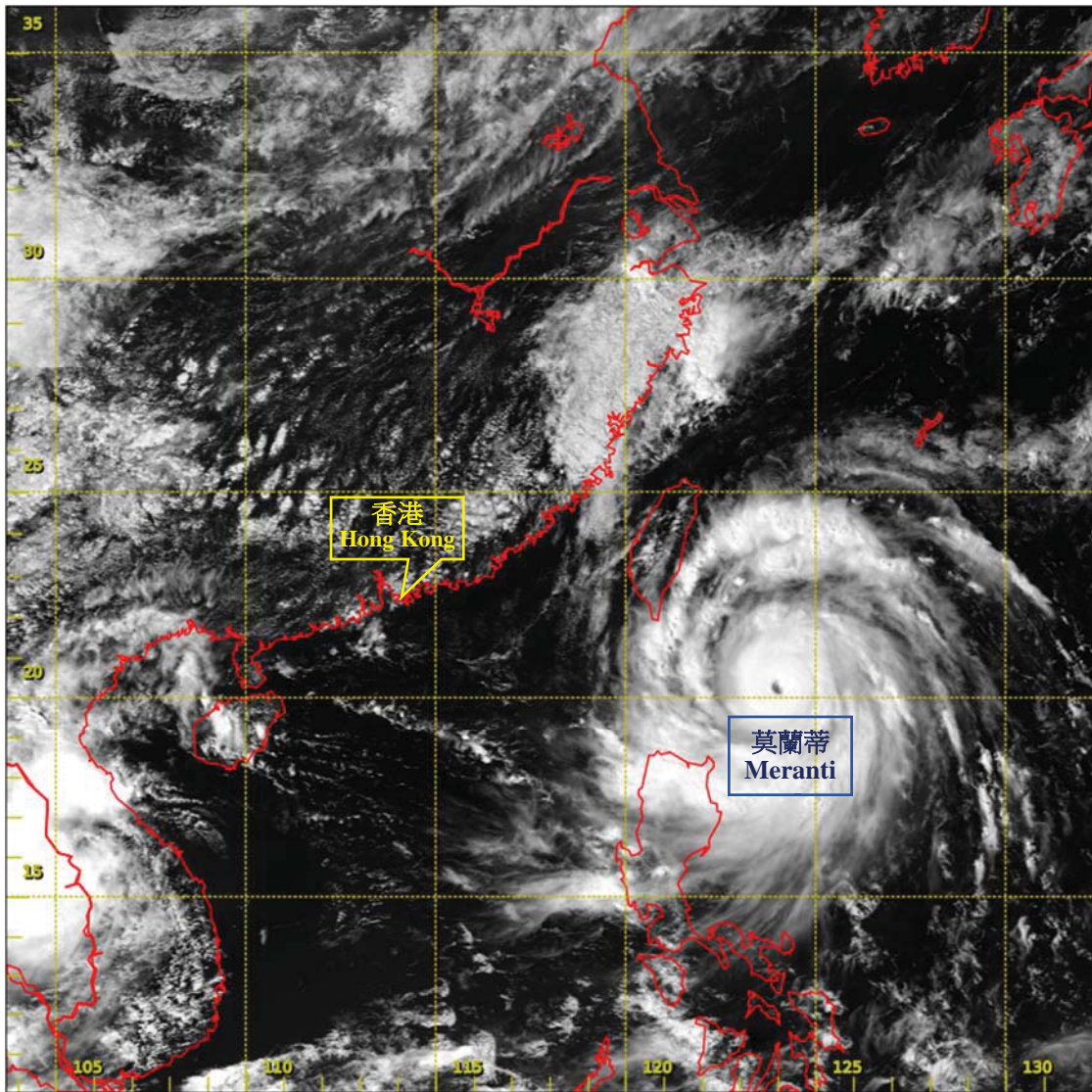


圖 2.3 二零一六年九月十三日下午2時超強颱風莫蘭蒂 (1614)的可見光衛星圖片。當時莫蘭蒂的最高風速估計為每小時250公里，而最低中心氣壓為890百帕斯卡。

Figure 2.3 Visible satellite imagery of Super Typhoon Meranti (1614) at peak intensity at 2 p.m. on 13 September 2016. The estimated maximum sustained wind and minimum sea-level pressure of Meranti were 250 km/h and 890 hPa respectively at that time.

[此衛星圖像接收自日本氣象廳的向日葵8號衛星。]

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

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

月份 Month 年份 Year	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	共 Total
1961					3	5	2	5	4	3	1	1	24
1962					3		4	5	4	1	3		20
1963						3	3	3	2			2	13
1964					1	1	5	3	6	3	6	1	26
1965	1				2	3	4	3	2		1		16
1966					2		5	2	3	2	2	1	17
1967			1	1		1	2	6	1	2	3		17
1968							2	4	2	1	3		12
1969							3	3	4	1			11
1970		1				2	2	3	4	5	3		20
1971				1	2	2	5	3	3	4			20
1972	1					3	2	4	2	1	1	1	15
1973							4	4	2	4	3		17
1974						3	2	4	2	4	4	2	21
1975	1					1		3	2	3	1	1	12
1976					1	1	1	4	1		1	1	10
1977						1	4	1	3		1		10
1978	1			1		2	2	4	5	4	1		20
1979				1	2	1	3	5	2	2	1	1	18
1980			1		3	1	5	2	3	1	1		17
1981						3	3	3	1	1	3	1	15
1982			2		1	1	3	3	3	1		2	16
1983						1	3	1	3	5	2		15
1984						2	2	4	2	2	2		14
1985						2	2	2	4	4	1		15
1986					1	1	1	4	1	3	3	2	16
1987						1	3	2	1	1	3	1	12
1988	1				1	3	1	1	2	5	2	1	17
1989					2	1	4	2	4	3	1		17
1990					1	4	2	3	3	3	2		18
1991				1	1	1	3	2	2	1	3		14
1992						2	3	2	2	2			11
1993						1	1	2	3	2	2	3	14
1994				1	1	2	6	5	2	2		1	20
1995						1	1	5	5	3	1	1	17
1996		1		1	2		3	3	2	1	2		15
1997					1		1	4	1	2	1		10
1998							1	3	4	3	3	1	15
1999				1		1	1	2	3	2	1	1	12
2000					2	1	3	5	3	3	2	1	20
2001					1	2	4	2	2	1	1	1	14
2002	1					1	3	2	3				10
2003				1	1	2	2	3	1	1	1		12
2004			1		1	3	2	2	2	1	2	1	15
2005			1				2	3	4	3	2		15
2006					1	1	3	3	4	1	2	1	16
2007							1	4	3	1	3		12
2008				1	2	1	2	3	5	1	2		17
2009					2	2	3	2	3	4	1		17
2010							3	4	2	2			11
2011					2	3	1	2	2	2			12
2012				1		3	2	3	1	2		2	14
2013						2	3	4	4	3	3		19
2014	1					1	2		3		1	2	10
2015	1			1	1	1	2	2	2	2		1	13
2016					1		3	1	4	3	1	2	15
平均 Average (1961-2010)	0.1	0.0	0.1	0.2	0.8	1.4	2.6	3.1	2.7	2.1	1.7	0.6	15.6

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

月份 Month [#] 年份 Year	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	共 Total
1961					1		3		2				6
1962							2	1		1			4
1963						1	1	1	1				4
1964					1	1		1	4	3			10
1965						1	2		2		1		6
1966					1		3	1	1				6
1967				1		1	1	3		1	1		8
1968							1	3	2				6
1969							1		2	1			4
1970							1	2	1	2			6
1971					1	2	3	1	1	1			9
1972						2	1	1			1		5
1973							2	3	2	2			9
1974						2	1		2	4	1	1	11
1975						1		1	2	3			7
1976						1	1	2	1				5
1977						1	3	1	3				8
1978				1			1	2	2	2			8
1979							2	2	2				6
1980					1	1	4	1	2	1			10
1981						1	2	1	1				5
1982						1	2		1	1			5
1983							3		2	2			7
1984						1	1	2	1				5
1985						1	1		2	1			5
1986							1	2		1			4
1987						1		2	1	1			5
1988					1	1	1		1	2			6
1989					1	1	2		1	2			7
1990					1	2	1	1	1				6
1991							3	1	2				6
1992						1	3	1					5
1993						1	1	2	3	1	1		9
1994						2		1	1				4
1995							1	4	2	1			8
1996							2	2	2	1			7
1997							1	1					2
1998								2	1	2			5
1999				1		1	1	1	3	1			8
2000						1	2	2	1		1		7
2001						2	2	1	1				6
2002								2	1				3
2003							2	1	1				4
2004						1	1	1					3
2005								1	2				3
2006					1	1		3	1	1			7
2007								1	1				2
2008				1		1		2	1	1			6
2009						2	2	1	3				8
2010							2	1	1	1			5
2011						2	1		1	1			5
2012						2	1	2					5
2013						2	1	2	1		1		7
2014						1	1		2				4
2015						1	1			1			3
2016					1		2	1	2	3			9
平均 Average (1961-2010)	0.0	0.0	0.0	0.1	0.2	0.7	1.5	1.3	1.5	0.9	0.1	0.0	6.0

[#] 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.