第二節　二零一四年熱帶氣旋概述

2.1　二零一四年的熱帶氣旋回顧

2.1.1　北太平洋西部（包括南海區域）的熱帶氣旋

二零一四年有24個熱帶氣旋影響北太平洋西部及南海區域（即由赤道至北緯45度、東經100至180度所包括的範圍），少於1961-2010年約30個的長期年平均數目。全年有11個熱帶氣旋達到颱風或以上強度，較1961-2010年的長期年平均數目(15個)為少，其中有八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)，是自二零零六年以來最多熱帶氣旋達到超強颱風程度的年份。

年內首個熱帶氣旋在一月形成，最後一個則在十二月形成。圖2.1是二零一四年在北太平洋西部及南海區域熱帶氣旋數目之逐月分佈。四月的熱帶風暴琵琶(1404)是本區域自二零零一年熱帶風暴畫眉(0126)以來最接近赤度生成的熱帶氣旋。

二零一四年八月沒有一個熱帶氣旋在北太平洋西部及南海區域生成，以八月而言是有記錄以來第一次。月內只有三個熱帶氣旋(包括來自北太平洋中部的吉納維芙)影響這個海域。八月份熱帶氣旋一般生成位置在菲律賓以東的海域。在正常情況下，跨越赤道氣流所產生的西南風會與副熱帶高壓脊南側的偏東風形成熱帶輻合帶，在適合的大氣條件下熱帶氣旋會在熱帶輻合帶內生成。但由於該股西南氣流在二零一四年八月明顯較正常弱，導致輻合效應降低。同時，副熱帶高壓脊位置偏南及偏強，與其相關的下沉氣流也抑制了雲團的發展。

二零一四年內有六個熱帶氣旋在中國大陸登陸，其中一個在香港300公里內的華南沿岸登陸。兩個熱帶氣旋橫過台灣，四個登陸日本，七個橫過菲律賓及兩個登陸越南。十月的超強颱風鸚鵡(1420)及十一月的超強颱風黑格比(1422)（圖2.3及2.4）是二零一四年北太平洋西部及南海區域最強的熱帶氣旋，兩者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905百帕斯卡（表4.1）。

2.1.2　香港責任範圍內的熱帶氣旋

在二零一四年的24個熱帶氣旋中，有十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少六個（表2.1），當中有八個在香港責任範圍內形成。

2.1.3　南海區域內的熱帶氣旋

二零一四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），較1961-2010年約12個的長期年平均數目為少，當中只有兩個在南海上形成。

七月十八日超強颱風威馬遜(1409)（圖3.2.3）的中心附近最高持續風速達每小時240公里，是1950年有記錄以來在南海區域內最強的颱風。

2.1.4 影響香港的熱帶氣旋

二零一四年香港的颱風季節於六月十四日開始，當天熱帶風暴海貝思(1407)緩慢地靠近廣東東部沿岸，天文台發出一號戒備信號。九月十七日颱風海鷗(1415)減弱為強烈熱帶風暴並進一步移入越南北部內陸，二零一四年颱風季節隨著天文台當天取消熱帶氣旋警告信號而結束。

年內共有四個熱帶氣旋影響香港（圖2.2），少於1961-2010年約六個的長期年平均數目(表2.2)。這四個熱帶氣旋分別為六月的熱帶風暴海貝思(1407)、七月的超強颱風威馬遜(1409)、九月的熱帶低氣壓及颱風海鷗(1415)。天文台在海鷗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。威馬遜吹襲期間天文台曾發出三號強風信號。海貝思及九月的熱帶低氣壓則只需發出一號戒備信號。

2.1.5 熱帶氣旋的雨量

二零一四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192.8毫米（表4.8.1），約佔年內總雨量2638.3毫米的百分之7.3，比1961-2010年的長期年平均值的728.8毫米少約74%。

颱風海鷗(1415)為天文台總部帶來77.2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及傷亡報告則詳述於第三節。

一月

熱帶低氣壓玲玲(1401)於一月十八日在馬尼拉之東南約890公里的北太平洋西部上空形成，並大致向偏南方向移動，橫過菲律賓南部以東海域，其中心附近的最高持續風速為每小時55公里。玲玲於一月二十日在菲律賓南部以東的海面上消散。

熱帶低氣壓劍魚(1402) 於一月三十一日在馬尼拉之東南偏東約1 300公里的北太平洋西部上空形成，並向西移動。劍魚於當日下午增強為熱帶風暴，及達到其最高強度，中心附近最高持續風速為每小時85公里。它於晚上橫過菲律賓中部，二月一日進入南海南部不久後消散。

二月至三月

熱帶低氣壓法茜(1403)於二月二十八日在關島之東南約650公里的北太平洋西部上空形成，初時移動緩慢。法茜於三月一日向偏北方向移動，並增強為熱帶風暴，兩天後再增強為強烈熱帶風暴，並加速向東北偏北移動。它於三月五日凌晨在關島東北的太平洋上進一步增強為颱風及達到其最高強度，中心附近最高持續風速為每小時130公里，並向東北移動。隨後法茜逐漸減弱，翌日在北太平洋西部上演變為溫帶氣旋。

四月至五月

熱帶低氣壓琵琶(1404)於四月三日在關島以南約1 310公里的北太平洋西部上形成，並大致向西北偏西方向移動，逐漸靠近菲律賓。它於兩日後增強為熱帶風暴及達到其最高強度，中心附近最高持續風速 為每小時65公里。琵琶在四月八日晚上減弱為熱帶低氣壓，翌日移動轉為緩慢，在菲律賓以東海域徘徊，於四月十日在海面上消散。

熱帶低氣壓塔巴(1405)於四月二十八日在關島之東南約270公里的北太平洋西部上形成，並大致向東北偏北方向移動。它在當日下午發展為熱帶風暴，翌日增強為強烈熱帶風暴及達到其最高強度，中心附近最高持續風速為每小時110公里。塔巴在四月三十日轉向西北方向移動，並開始減弱。它在五月一日早上減弱為熱帶風暴，晚上在硫黃島之東南的海面上消散。

六月

熱帶低氣壓米娜(1406)於六月十一日下午在沖繩島以南約250公里的北太平洋西部上形成，並向東北移動。其中心附近最高持續風速估計為每小時55公里。米娜於翌日上午在沖繩島以東的海面上演變為一股溫帶氣旋。

熱帶低氣壓海貝思(1407)於六月十四日早上在香港之東南約380公里的南海東北部上形成，向西北偏北方向漂移，在下午增強為熱帶風暴，並於晚上達到其最高強度，中心附近最高持續風速估計為每小時75公里。翌日凌晨海貝思開始穩定地向偏北方向移動，靠近廣東東部沿岸，於下午在汕頭市附近登陸，在晚上減弱為熱帶低氣壓。海貝思在六月十六日早上在廣東東部內陸進一步減弱，但與其相關的殘餘低壓區繼續橫過中國東南部，翌日進入東海後在下午再度增強為熱帶低氣壓，並向東北偏東方向移動，最後於六月十八日早上在日本以南海域演變為一股溫帶氣旋。與海貝思相關的大雨令廣東及福建部分地區出現嚴重水浸，陸空交通受阻，超過11 520公頃農田受災，經濟損失達5億7千萬元人民幣。

七月

熱帶低氣壓浣熊(1408)於七月三日在關島以南約470公里的北太平洋西部形成，並大致向西北方向移動。浣熊在隨後數天繼續發展，並於七月七日在沖繩島之東南偏南處增強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195公里。它於七月八日開始轉向偏北方向移動，橫過琉球群島並減弱為強颱風。浣熊翌日再度轉向，朝東北偏東方向移動，七月十日上午在鹿兒島縣沿岸登陸，並進一步減弱為熱帶風暴，掠過九州和本州南部海岸，翌日上午於本州以東海域演變為一股溫帶氣旋。

根據報章報導，浣熊橫掃日本期間，導致至少七人死亡，超過50人受傷，逾50萬人要撤離家園。沖繩縣至少有八萬六千戶停電，超過190班航班取消。

熱帶低氣壓威馬遜(1409)於七月十一日早上在關島之東南偏東約410公里的北太平洋西部形成，隨後數天穩定地向偏西方向移動，並逐漸增強，發展為強颱風後於七月十五和十六日期間轉向西北偏西方向移動，橫過菲律賓中部後進入南海。受到陸地影響威馬遜曾一度減弱，在南海重新組織，並於七月十八日增強為超強颱風，達到其最高強度，中心附近最高持續風速估計為每小時240公里。威馬遜採取一個西北路徑，當天稍後於海南島北部文昌市附近登陸，翌日早上橫過廣西海岸，在內陸減弱，七月二十日在雲南減弱為一個低壓區。

根據報章報導，威馬遜吹襲菲律賓期間造成最少98人死亡，五人失蹤，另外630人受傷。威馬遜在海南島、廣東西部及廣西等地亦造成嚴重破壞，最少有18人死亡，三萬七千間房屋倒塌，740萬人受災。

熱帶低氣壓麥德姆(1410)於七月十七日早上在雅蒲島之西北偏西約280公里的北太平洋西部形成，初時緩慢向西移動，七月十九日轉向西北方向移動，當天晚上增強為颱風。麥德姆隨後繼續增強，於七月二十二日早上達到其最高強度，中心附近最高持續風力估計為每小時140公里。麥德姆於七月二十三日早上橫過台灣，日間減弱為強烈熱帶風暴，傍晚在福建福清市附近登陸，翌日早上進一步減弱為熱帶風暴。麥德姆向北橫過華東，七月二十五日掠過山東半島南岸，晚間在黃海北部演變為一股溫帶氣旋。

根據報章報導，麥德姆吹襲台灣期間，海陸空交通癱瘓，超過30萬戶停水停電。一架民航機在麥德姆引發的惡劣天氣下於澎湖群島失事墜毀，48人死亡，另外有十人受傷。麥德姆亦為福建、山東及華東地區帶來暴雨，最少有30萬人受災。

熱帶低氣壓夏浪(1411)於七月二十九日早上在關島之東南偏東約440公里的北太平洋西部形成，向西北偏西方向移動，翌日上午增強為強烈熱帶風暴。夏浪在隨後數天維持偏西途徑移動，趨向菲律賓以東的海域。它於八月二日晚上增強為超強颱風，翌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230公里。夏浪於八月四日轉向偏北方向移動並減弱為強颱風，隨後數天掠過琉球群島以東海域。它於八月十日橫過日本西部，並進一步減弱為強烈熱帶風暴，翌日上午在日本海演變為一股溫帶氣旋。根據報章報導，夏浪吹襲日本期間，造成最少十人死亡，96人受傷，兩人失蹤，超過470班航班取消。

熱帶低氣壓娜基莉(1412)於七月二十九日下午在馬尼拉之東北偏東約930公里的北太平洋西部形成，大致以偏北途徑移動，並增強為熱帶風暴，於七月三十一日橫過琉球群島，向東海進發。娜基莉於八月一日上午進一步增強為強烈熱帶風暴，並達到其最高強度，最高持續風速估計為每小時105公里。它在隨後兩天橫過東海並逐漸減弱，於八月四日上午在黃海北部演變為一股溫帶氣旋。 根據報章報導，娜基莉為日本四國帶來暴雨，引發洪水和山泥傾瀉，約45萬人需要疏散。

八月

超強颱風吉納維芙(1413)在北太平洋東部上空形成，並向偏西方向移動，於八月七日橫過國際換日線進入北太平洋西部，翌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230公里，並轉向偏北方向移動。隨後數天吉納維芙向西北漂移，並逐漸減弱，於八月十二日上午在威克島以北的海面消散。

九月

一股熱帶低氣壓於九月七日早上在海口之東南偏東約340公里的南海北部上形成，並採取西北路徑移向廣東西部至雷州半島一帶。它於當日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55公里。九月八日下午熱帶低氣壓於湛江市附近登陸，晚上在雷州半島減弱為一個低壓區。

熱帶低氣壓風神(1414)於九月七日上午在沖繩島之東北偏東約210公里的北太平洋西部上形成，向東北偏東移動，當日下午發展為熱帶風暴。風神在翌日早上進一步增強為強烈

熱帶風暴，並達到其最高強度，中心附近最高持續風速為每小時105公里。風神繼續採取東北偏東路徑橫過日本以南海域，並逐漸減弱，於九月九日晚上演變為一股溫帶氣旋。

熱帶低氣壓海鷗(1415)於九月十二日早上在馬尼拉以東約1 430公里的北太平洋西部上空形成，向西北偏西方向移動，並逐漸增強為颱風。海鷗於九月十四日晚上橫過呂宋北部，翌日早上進入南海後繼續迅速移動。它在九月十六日上午於海南島東北部文昌市附近登陸前達到其最高強度，中心附近最高持續風速為每小時140公里。海鷗當日下午橫過北部灣，晚上於越南北部登陸，移入內陸及逐漸減弱，最後於九月十七日下午在雲南減弱為一個低壓區。

根據報章報導，海鷗在海南島、廣東西部及廣西等地造成嚴重破壞，最少有三人死亡、一人失蹤及大約600萬人受災，海陸空交通癱瘓。而海鷗引致的風暴潮亦令沿海地區出現海水倒灌，部分地區嚴重水浸，其中海口潮位是一九七三年有記錄以來最高。

熱帶低氣壓鳳凰(1416)於九月十七日下午在馬尼拉以東約1 340公里的北太平洋西部上空形成，大致向西北方向移動，翌日早上增強為熱帶風暴。鳳凰於九月十九日掠過呂宋北部後，採取偏北路徑橫過呂宋海峽，翌日早上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為每小時90公里。鳳凰於九月二十一日早上抵達台灣南部，沿著台灣東岸移動，翌日早上減弱為熱帶風暴。鳳凰於九月二十三日掠過中國東部沿岸後，隨後轉向東北偏東方向移動，翌日早上在朝鮮半島以南海域演變為一股溫帶氣旋。

根據報章報導，鳳凰吹襲菲律賓期間，造成最少17人死亡，數百間房屋被毀。而鳳凰為台灣帶來傾盆大雨，多處地方山洪暴發，至少導致四人遇難，逾百航班受阻。據初步統計，鳳凰在浙江省所造成的經濟損失約8億港元。

熱帶低氣壓北冕(1417)於九月二十四日晚上在關島之東北約920公里的北太平洋西部上形成，向西緩慢移動，翌日上午增強為熱帶風暴。北冕在九月二十六日上午開始採取西北偏北途徑移向日本以南海域，當晚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。北冕當晚轉向東北移動，於九月二十九日在日本以東海域演變為一股溫帶氣旋。

熱帶低氣壓巴蓬(1418)於九月二十九日早上在關島以東約810公里的北太平洋西部上形成，並採取西北路徑大致移向琉球群島及日本以南海域。隨後數天巴蓬逐步增強，於十月二日早上發展為強颱風，並於十月四日早上在沖繩島東南偏南約600公里處增強為超強颱風，達到其最高強度，中心附近最高持續風速為每小時185公里。巴蓬隨後開始減弱，並於十月五日轉向東北移動，掠過本州南部，最後於十月六日下午在日本以東海域演變為一股溫帶氣旋。根據報章報導，巴蓬吹襲日本期間造成最少九人死亡，超過320萬居民需要疏散，逾600班航班取消。

十月

熱帶低氣壓黃蜂(1419)於十月三日早上在關島之東南偏東約1 800公里的北太平洋西部上形成，隨後數天它穩定地向西北偏西方向移動及逐漸增強。黃蜂於十月七日晚上發展為超強颱風，並於翌日早上達到其最高強度，中心附近最高持續風速為每小時240公里。它於十月九日採取偏北路徑移向琉球群島，並開始逐漸減弱。黃蜂於十月十一日下午掠過琉球群島後，翌日晚上轉向東北移動，並減弱為強烈熱帶風暴。它於十月十三日先後橫過日本九州南部、四國南部及本州，最後於十月十四日在本州以東海域演變為一股溫帶氣旋。根

據報章報導，黃蜂橫掃日本期間造成至少三人死亡，約100人受傷。約660班航班取消。沖繩及九州至少有10萬戶停電。

熱帶低氣壓鸚鵡(1420)於十月三十一日早上在馬尼拉以東約1 770公里的北太平洋西部上形成，大致採取偏西路徑移動，當晚發展為熱帶風暴，翌日轉向西北偏北方向移動並繼續增強。鸚鵡於十一月二日晚上發展為超強颱風，翌日早上在硫黃島西南約1 210公里處達到其最高強度，中心附近最高持續風速為每小時250公里。隨後數天鸚鵡採取東北路徑橫過硫黃島西北的海面，並逐漸減弱，最後於十一月七日早上在日本以東海域演變為一股溫帶氣旋。

十一月

熱帶低氣壓森拉克(1421)於十一月二十七日早上在馬尼拉之東南偏南約650公里處形成，向西北偏西方向橫過菲律賓南部，翌日早上增強為熱帶風暴，橫過南海南部。森拉克於十一月二十九日在胡志明市之東北偏東約540公里處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為每小時90公里。森拉克於十一月三十日凌晨登陸越南南部，並逐漸減弱，最後於當晚在柬埔寨減弱為低壓區。

十二月

熱帶低氣壓黑格比(1422)於十二月一日早上在關島之東南約1 580公里的北太平洋西部上形成，向西北偏西移動，當日下午發展為熱帶風暴。隨後數天黑格比繼續增強，於十二月四日凌晨發展為超強颱風，在最高強度時中心附近最高持續風速估計為每小時250公里。隨後兩天黑格比轉向偏西方向移動和逐步減弱。十二月七日黑格比橫過菲律賓中部，翌日減弱為熱帶風暴。十二月九日黑格比進入南海中部後繼續採取偏西路徑移動，並於十二月十日晚上在南沙島之東北偏北約 370 公里處再度增強為強烈熱帶風暴。隨後黑格比轉向西南偏西移動和逐漸減弱，最後於十二月十二日早上靠近越南南部海岸時減弱為一個低壓區。

根據報章報導，黑格比吹襲菲律賓期間造成至少27人死亡，逾100萬人需要撤離家園，多處大規模停電，海空交通大受影響。

熱帶低氣壓薔薇(1423)於十二月二十七日晚上在馬尼拉之東南約1 350公里的北太平洋西部上形成，大致向西北偏西移動，橫過菲律賓南部，於十二月二十九日增強為熱帶風暴，達到其最高強度，中心附近最高持續風速估計為每小時75公里。十二月三十日薔薇向西南方漂移，翌日在蘇祿海減弱為一個低壓區。

根據報章報導，薔薇吹襲菲律賓期間造成至少21人死亡。

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 2014

2.1 Review of tropical cyclones in 2014

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

In 2014, a total of 24 tropical cyclones occurred over the western North Pacific and the South China Sea 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, 11 of the tropical cyclones attained typhoon intensity or above, less than the long term average (15) of 1961 – 2010. Eight of them reached super typhoon intensity (maximum 10-minute wind speed of 185 km/h or above near the centre), the highest since 2006.

The first tropical cyclone of the year formed in January and the last one in December. Figure 2.1 shows the monthly frequencies of the occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2014. Tropical Storm Peipah (1404) in April formed nearest to the Equator since Tropical Storm Vamei (0126) in 2001.

No tropical cyclone formed over the western North Pacific and the South China Sea in August 2014, the first time for August on records. Only three tropical cyclones (including Genevieve from the central North Pacific) affected the basin. In August, tropical cyclones normally form over the sea areas to the east of the Philippines where the southwesterly airstream generated by cross-equatorial flow converges with the easterly winds over the southern flank of the subtropical ridge, forming the Intertropical Convergence Zone where tropical cyclones may develop under favourable atmospheric conditions. However, the southwesterly airstream was significantly weaker than normal in August 2014, and hence leading to relatively weak convergence effect. Moreover, the subtropical ridge in August 2014 was stronger and located further to the south than normal. The related subsidence also hindered the development of cloud clusters.

During the year, six tropical cyclones made landfall over mainland China, with one of them making landfall over the south China coast within 300 km of Hong Kong. Two tropical cyclones crossed Taiwan, four made landfall over Japan, seven traversed the Philippines and two made landfall over Vietnam. Super Typhoon Nuri (1420) in October and Super Typhoon Hagupit (1422) in November (Figures 2.3 and 2.4) were the most intense tropical cyclones in 2014 over the western North Pacific and the South China Sea. Both had an estimated maximum sustained wind speed of 250 km/h and a minimum sea-level pressure of 905 hPa near their centres (Table 4.1).

2.1.2 Tropical cyclones in Hong Kong's area of responsibility

Amongst the 24 tropical cyclones in 2014, ten 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), less than the long term annual average figure of around 16 by six (Table 2.1). Eight of them developed within Hong Kong's area of responsibility. Altogether, 231 tropical cyclone warnings to ships and vessels were issued by the Hong Kong Observatory in 2014 (Table 4.2).

2.1.3 Tropical cyclones over the South China Sea

Eight tropical cyclones affected the South China Sea bounded by 10°N, 25°N, 105°E and 120°E in 2014, less than the long term annual average of around 12. Only two of them formed within the basin.

With an estimated maximum sustained wind 240 km/h near its centre on 18 July, Super Typhoon Rammasun (1409) (Figure 3.2.3) became the most intense typhoon to occur in the South China Sea since record began in 1950.

2.1.4 Tropical cyclones affecting Hong Kong

In 2014, the typhoon season in Hong Kong started on 14 June when Tropical Storm Hagibis (1407) slowly edged towards the coastal areas of eastern Guangdong, necessitating the issuance of the Standby Signal No. 1. The typhoon season ended with the cancellation of tropical cyclone warning signals on 17 September as Typhoon Kalmaegi (1415) weakened into a Severe Tropical Storm and moved further inland into the northern part of Vietnam.

Four tropical cyclones affected Hong Kong during 2014 (Figure 2.2), less than the long term (1961-2010) average figure of about six in a year (Table 2.2). They were Tropical Storm Hagibis (1407) in June, Super Typhoon Rammasun (1409) in July, Tropical Depression and Typhoon Kalmaegi (1415) in September. The No. 8 Gale or Storm Signal was issued during the passage of Kalmaegi, the highest tropical cyclone warning signal issued in 2014. The Strong Wind Signal No. 3 was issued during the passage of Rammasun. Hagibis and Tropical Depression only necessitated the issuance of Standby Signal No. 1 in Hong Kong.

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 2014 was 192.8 mm (Table 4.8.1). This accounted for approximately 7.3 % of the year's total rainfall of 2638.3 mm and was about 74 % below the 1961-2010 long term average of 728.8 mm.

Typhoon Kalmaegi (1415) brought 77.2 mm of rainfall to the Hong Kong Observatory Headquarters (Table 4.8.1) and was the wettest tropical cyclone in 2014.

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

Lingling (1401) formed as a tropical depression over the western North Pacific about 890 km southeast of Manila on 18 January and moved generally southwards across the seas east of the southern Philippines. The estimated maximum sustained winds near its centre was about 55 km/h. Lingling dissipated over the sea to the east of the southern Philippines on 20 January.

Kajiki (1402) formed as a tropical depression over the western North Pacific about 1 300 km east-southeast of Manila on 31 January and moved westwards. Kajiki intensified into a tropical storm in the afternoon, reaching its peak intensity with estimated sustained winds of 85 km/h near its centre. After crossing the central part of the Philippines that night, Kajiki soon dissipated after moving into the southern part of the South China Sea on 1 February.

FEBRUARY TO MARCH

Faxai (1403) formed as a tropical depression over the western North Pacific about 650 km southeast of Guam on 28 February and moved slowly initially. Faxai took on a northerly track on 1 March and intensified into a tropical storm. It intensified into a severe tropical storm two days later and speeded up towards the north-northeast. Moving northeastwards, Faxai intensified further into a typhoon over the Pacific to the northeast of Guam in the small hours on 5 March, reaching its peak intensity with estimated sustained winds of 130 km/h near its centre. It weakened gradually thereafter and became an extratropical cyclone over the western North Pacific the following day.

APRIL TO MAY

Peipah (1404) formed as a tropical depression over the western North Pacific about 1 310 km south of Guam on 3 April and generally moved west-northwestwards, edging closer to the Philippines. It intensified into a tropical storm two days later, reaching its peak intensity with estimated sustained winds of 65 km/h near its centre. Peipah weakened into a tropical depression on the night of 8 April. It became slow-moving and lingered over the sea areas east of the Philippines the next day, before dissipating over the seas on 10 April.

Tapah (1405) formed as a tropical depression over the western North Pacific about 270 km southeast of Guam on 28 April and generally moved north-northeastwards. It intensified into a tropical storm that afternoon and became a severe tropical storm the next day, reaching its peak intensity with estimated sustained winds of 110 km/h near its centre. Tapah turned northwestwards and started to weaken on 30 April. It weakened into a tropical storm on the morning of 1 May and dissipated over the seas southeast of Iwo Jima that night.

JUNE

Tropical depression Mitag (1406) formed over the western North Pacific about 250 km south of Okinawa on the afternoon of 11 June and moved northeastwards. The estimated maximum sustained winds near its centre was about 55 km/h. Mitag became an extratropical cyclone over the seas east of Okinawa on the morning of 12 June.

Hagibis (1407) formed as a tropical depression over the northeastern part of the South China Sea about 380 km southeast of Hong Kong on the morning of 14 June. Drifting north-northwestwards, it intensified into a tropical storm that afternoon and reached its peak intensity that night with an estimated sustained wind of 75 km/h near its centre. Hagibis started to move steadily northwards in the small hours on 15 June as it edged towards the coastal areas of eastern Guangdong. It made landfall near Shantou that afternoon and weakened into a tropical depression during the night. Hagibis weakened further over the inland areas of eastern Guangdong on the morning of 16 June. However, its remnant low pressure area continued to track across the southeastern part of China before entering the East China Sea the next day and re-intensifying into a tropical depression in the afternoon. Moving east-northeastwards, Hagibis finally evolved into an extratropical cyclone over the seas south of Japan on the morning of 18 June. Heavy rain associated with Hagibis led to severe flooding in parts of Guangdong and Fujian where land and sea traffic was disrupted. More than 11 520 hectares of farmland were affected, with economic losses reaching 570 million RMB.

JULY

Neoguri (1408) formed as a tropical depression over the western North Pacific about 470 km south of Guam on 3 July and generally moved northwestwards. It continued to develop in the next few days and intensified into a super typhoon on 7 July to the south-southeast of Okinawa, reaching its peak intensity with estimated sustained winds of 195 km/h near its centre. It turned northwards on 8 July, crossing the Ryukyu Islands and weakening into a severe typhoon. Following another turn to the east-northeast the next day, Neoguri finally made landfall over the coast of Kagoshima Prefecture on the morning of 10 July. Weakening further into a tropical storm, it skirted past the south coast of Kyushu and Honshu before becoming an extratropical cyclone over the seas east of Honshu the next morning.

According to press reports, at least seven people were killed, more than 50 injured and over 500 000 people evacuated in Japan during the passage of Neoguri. There were also interruptions of electricity supply to at least 86 000 households in Okinawa Prefecture. More than 190 flights were cancelled.

Rammasun (1409) formed as a tropical depression over the western North Pacific about 410 km east-southeast of Guam on the morning of 11 July. It intensified gradually and moved westwards steadily in the following few days. Rammasun developed into a severe typhoon and turned west-northwestwards on 15 and 16 July, moving across the central part of the Philippines and entering the South China Sea. After weakening over terrain, Rammasun re-organized over the South China Sea and intensified into a super typhoon on 18 July, reaching its peak intensity with an estimated sustained wind of 240 km/h near its centre. Tracking northwestwards, it made landfall near Wenchang over the northern part of Hainan Island later that day and crossed the coast of Guangxi the next morning. Rammasun weakened over land and became an area of low pressure over Yunnan on 20 July.

According to press reports, at least 98 people were killed, five were missing and 630 others were injured in the Philippines during the passage of Rammasun. It also wreaked havoc in Hainan Island, western Guangdong and Guangxi. At least 18 people were killed, 37 000 houses collapsed, with 7.4 million people affected.

Matmo (1410) formed as a tropical depression over the western North Pacific about 280 km west-northwest of Yap on the morning of 17 July. Moving slowly westwards initially, it turned northwestwards on 19 July and intensified into a typhoon that night. It continued to intensify and reached its peak intensity with estimated sustained winds of 140 km/h near its centre on the morning of 22 July. Matmo moved across Taiwan on the morning of 23 July and weakened into a severe tropical storm during the day. It made landfall near Fuqing of Fujian that evening and weakened further into a tropical storm the next morning. Tracking northwards across eastern China, Matmo skirted the south coast of Shandong Peninsula on 25 July and became an extratropical cyclone over the northern part of the Yellow Sea during the night.

According to press reports, all transportation services were suspended and there were interruptions of water and electricity supply to over 300 000 households in Taiwan during the passage of Matmo. A civilian aircraft crashed at the Penghu islands under severe weather triggered by Matmo, killing 48 people and injuring ten others. Matmo also brought rainstorms to Fujian, Shandong and eastern China, affecting at least 300 000 people.

Halong (1411) formed as a tropical depression over the western North Pacific about 440 km east-southeast of Guam on the morning of 29 July and moved west-northwestwards. It intensified into a severe tropical storm the next morning and continued to move generally westwards in the

direction of the sea areas east of the Philippines. Halong became a super typhoon on the night of 2 August and reached its peak intensity the next morning with estimated sustained winds of 230 km/h near its centre. Turning northwards on 4 August, Halong weakened into a severe typhoon as it moved over the seas east of Ryukyu Islands in the following few days. Halong crossed the western part of Japan on 10 August and further weakened into a severe tropical storm before becoming an extratropical cyclone over the Sea of Japan the next morning. According to press reports, at least ten people were killed, 96 injured and two reported missing in Japan during the passage of Halong. More than 470 flights were cancelled.

Nakri (1412) formed as a tropical depression over the western North Pacific about 930 km east-northeast of Manila on the afternoon of 29 July. Moving generally northwards and intensifying into a tropical storm, it swept past the Ryukyu Islands and headed towards the East China Sea on 31 July. Nakri intensified further into a severe tropical storm on the morning of 1 August, reaching its peak intensity with estimated sustained winds of 105 km/h. It moved across the East China Sea in the next couple of days and weakened gradually, before becoming an extratropical cyclone over the northern part of the Yellow Sea on the morning of 4 August. According to press reports, Nakri brought torrential rain to Shikoku of Japan, triggering flooding and landslides, and around 450 000 people had to be evacuated.

AUGUST

Having formed over the eastern North Pacific, Super Typhoon Genevieve (1413) tracked westwards crossing the International Date Line and entered the western North Pacific on 7 August. Genevieve reached its peak intensity the next morning with estimated sustained winds of 230 km/h near its centre and turned northwards. Drifting northwestwards and weakening gradually, Genevieve dissipated over the sea areas north of Wake Island on the morning of 12 August.

SEPTEMBER

A tropical depression formed over the northern part of the South China Sea about 340 km east-southeast of Haikou on the morning of 7 September. Taking a northwesterly track towards western Guangdong and the Leizhou Peninsula, it reached peak intensity that afternoon with an estimated sustained wind of 55 km/h near its centre. The tropical depression made landfall near Zhanjiang on the afternoon of 8 September and weakened into an area of low pressure over the Leizhou Peninsula that night.

Fengshen (1414) formed as tropical depression over the western North Pacific about 210 km east-northeast of Okinawa on the morning of 7 September. Drifting east-northeastwards, it developed into a tropical storm that afternoon. Fengshen intensified further into a severe tropical storm the next morning, reaching peak intensity with an estimated maximum sustained wind of 105 km/h near its centre. Maintaining an east-northeasterly track, Fengshen moved across the seas south of Japan and weakened gradually. It became an extratropical cyclone on the night of 9 September.

Kalmaegi (1415) formed as a tropical depression over the western North Pacific about 1 430 km east of Manila on the morning of 12 September. It moved west-northwestwards and intensified gradually into a typhoon. Kalmaegi moved across the northern part of Luzon on the night of 14 September and maintained a good pace after entering the South China Sea the next morning. It reached peak intensity with an estimated sustained wind of 140 km/h near its centre before making landfall near Wenchang over the northeastern part of Hainan Island on the morning of 16 September. After crossing Beibu Wan in the afternoon, Kalmaegi made landfall over the

northern part of Vietnam that night. Moving inland and weakening gradually, it finally became an area of low pressure over Yunnan on the afternoon of 17 September.

According to press reports, Kalmaegi wreaked havoc in Hainan Island, western Guangdong and Guangxi, resulting in at least three deaths, one missing and about 6 million people affected. Transportation services were suspended. Storm surge triggered by Kalmaegi caused backflow of sea water in coastal areas, resulting in severe flooding in some areas. Sea level at Haikou was the highest since record began in 1973.

Fung-wong (1416) formed as a tropical depression over the western North Pacific about 1 340 km east of Manila on the afternoon of 17 September. Moving northwestwards, Fung-wong intensified into a tropical storm the next morning. It skirted past the northern part of Luzon on 19 September and turned northwards across Luzon strait. It intensified into a severe tropical storm the next morning, reaching peak intensity with an estimated sustained wind of 90 km/h near its centre. Fung-wong reached the southern part of Taiwan on the morning of 21 September and moved along the east coast of Taiwan. It weakened into a tropical storm the next morning. After skirting past the coast of eastern China on 23 September, it turned east-northeastward and became an extratropical cyclone over the seas south of the Korean Peninsula the next morning.

According to press reports, at least 17 people were killed and several hundred houses were damaged in the Philippines during the passage of Fung-wong. Torrential rain associated with Fung-wong also triggered extensive landslides and flooding in Taiwan, causing at least four deaths and more than a hundred flights disrupted. According to preliminary estimates, economic losses in Zhejiang Province as a result of Fung-wong were around HK$800 million.

Kammuri (1417) formed as a tropical depression over the western North Pacific about 920 km northeast of Guam on the morning of 24 September and moved slowly westwards. It intensified into a tropical storm the next morning. Kammuri started to take a north-northwesterly track towards the seas south of Japan on the morning of 26 September and intensified into a severe tropical storm that night, reaching peak intensity with estimated sustained winds of 90 km/h near its centre. Kammuri turned northeastwards that night and became an extratropical cyclone over the seas east of Japan on 29 September.

Phanfone (1418) formed as a tropical depression over the western North Pacific about 810 km east of Guam on the morning of 29 September and tracked northwestwards in the general direction of Ryukyu Islands and the seas south of Japan. Phanfone intensified gradually in the following few days, developing into a severe typhoon on the morning of 2 October and becoming a super typhoon about 600 km south-southeast of Okinawa on the morning of 4 October. At peak intensity, maximum sustained wind reached 185 km/h near its centre. Phanfone then started to weaken and turn northeastwards on 5 October, skirting past the southern part of Honshu. It finally evolved into an extratropical cyclone over the seas east of Japan on the afternoon of 6 October. According to press reports, at least nine people were killed, more than 3.2 million people had to be evacuated and over 600 flights were cancelled in Japan during the passage of Phanfone.

OCTOBER

Vongfong (1419) formed as a tropical depression over the western North Pacific about 1 800 km east-southeast of Guam on the morning of 3 October. It intensified gradually and moved west-northwestwards steadily in the following few days. Vongfong developed into a super typhoon on the night of 7 October and reached peak intensity the next morning with an estimated maximum sustained wind of 240 km/h near its centre. It took on a northward course towards Ryukyu Islands

on 9 October and started to weaken gradually. After skirting past Ryukyu Islands on the afternoon of 11 October, Vongfong turned northeastwards and weakened into a severe tropical storm the following night. It swept across the southern part of Kyushu, the southern part of Shikoku and Honshu of Japan on 13 October and became an extratropical cyclone over the seas east of Honshu on 14 October. According to press reports, at least three people were killed and around 100 people were injured in Japan during the passage of Vongfong. About 660 flights were cancelled. Electricity supply to at least 100 000 households in Okinawa and Kyushu was interrupted.

Nuri (1420) formed as a tropical depression over the western North Pacific about 1 770 km east of Manila on the morning of 31 October and moved generally westwards. Developing into a tropical storm that night, Nuri turned north-northwestwards the following day and continued to intensify. It developed into a super typhoon about 1 210 km southwest of Iwo Jima on the night of 2 November and reached its peak intensity the next morning with an estimated sustained winds of 250 km/h near its centre. Tracking northeastwards, Nuri moved across the sea areas northwest of Iwo Jima and weakened gradually in the following few days. It finally evolved into an extratropical cyclone over the seas east of Japan on the morning of 7 November.

NOVEMBER

Sinlaku (1421) formed as a tropical depression about 650 km south-southeast of Manila on the morning of 27 November and moved west-northwestwards across the southern part of the Philippines. It intensified into a tropical storm the next morning and moved across the southern part of the South China Sea. Sinlaku further intensified into a severe tropical storm about 540 km east-northeast of Ho Chi Minh City on 29 November, reaching peak intensity with an estimated sustained winds of 90 km/h near its centre. Sinlaku made landfall over southern Vietnam in the small hours of 30 November and weakened gradually. It finally weakened into an area of low pressure over Cambodia that night.

DECEMBER

Hagupit (1422) formed as a tropical depression over the western North Pacific about 1 580 km southeast of Guam early on 1 December. It moved west-northwestwards, intensifying into a tropical storm that afternoon. It continued to intensify in the next few days and developed into a super typhoon in the small hours of 4 December, with an estimated sustained winds of 250 km/h near its centre at peak intensity. Hagupit turned westwards in the next two days and gradually weakened. It moved across the central part of the Philippines on 7 December and became a tropical storm the next day. Entering the central part of the South China Sea on 9 December, it continued on a westward track and re-intensified into a severe tropical storm about 370 km north-northeast of Nansha on the night of 10 December. Moving west-southwestwards and weakening gradually, Hagupit finally degenerated into an area of low pressure as it approached the coast of southern Vietnam on the morning of 12 December.

According to press reports, at least 27 people were killed and over a million people had to be evacuated in the Philippines during the passage of Hagupit. There were also reports of widespread power outages and disruption in sea and air traffic.

Jangmi (1423) formed as a tropical depression over the western North Pacific about 1 350 km southeast of Manila on the night of 27 December and generally followed a west-northwesterly track. Moving across the southern part of the Philippines, Jangmi intensified into a tropical storm on 29 December and reached its peak intensity with an estimated sustained

winds of 75 km/h near its centre. It drifted southwestwards on 30 December and weakened into an area of low pressure over the Sulu Sea the next day.

According to press reports, at least 21 people were killed in the Philippines during the passage of Jangmi.

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

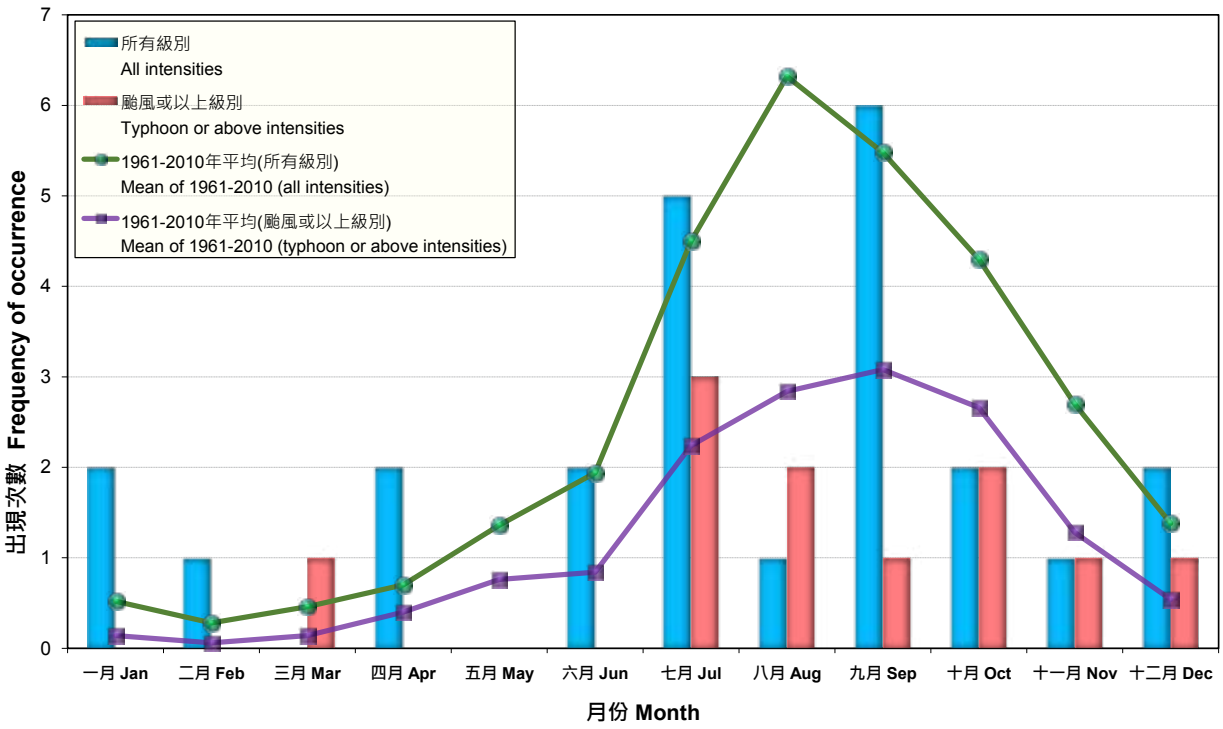

圖 2.1　二零一四年在北太平洋西部及南海區域的熱帶氣旋出現次數之每月分佈 (以熱帶氣旋在該月初次出現為準，假如一熱帶氣旋在九月形成並在十月首次增強為颱風或以上級別，它在「所有級別」及「颱風或以上級別」的統計數字將分別計算在九月及十月份內)。

Figure 2.1　Monthly frequencies of the occurrence of tropical cyclones in the western North Pacific and the South China Sea in 2014 (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　二零一四年四個影響香港的熱帶氣旋的路徑圖。

Figure 2.2　Tracks of the four tropical cyclones affecting Hong Kong in 2014.

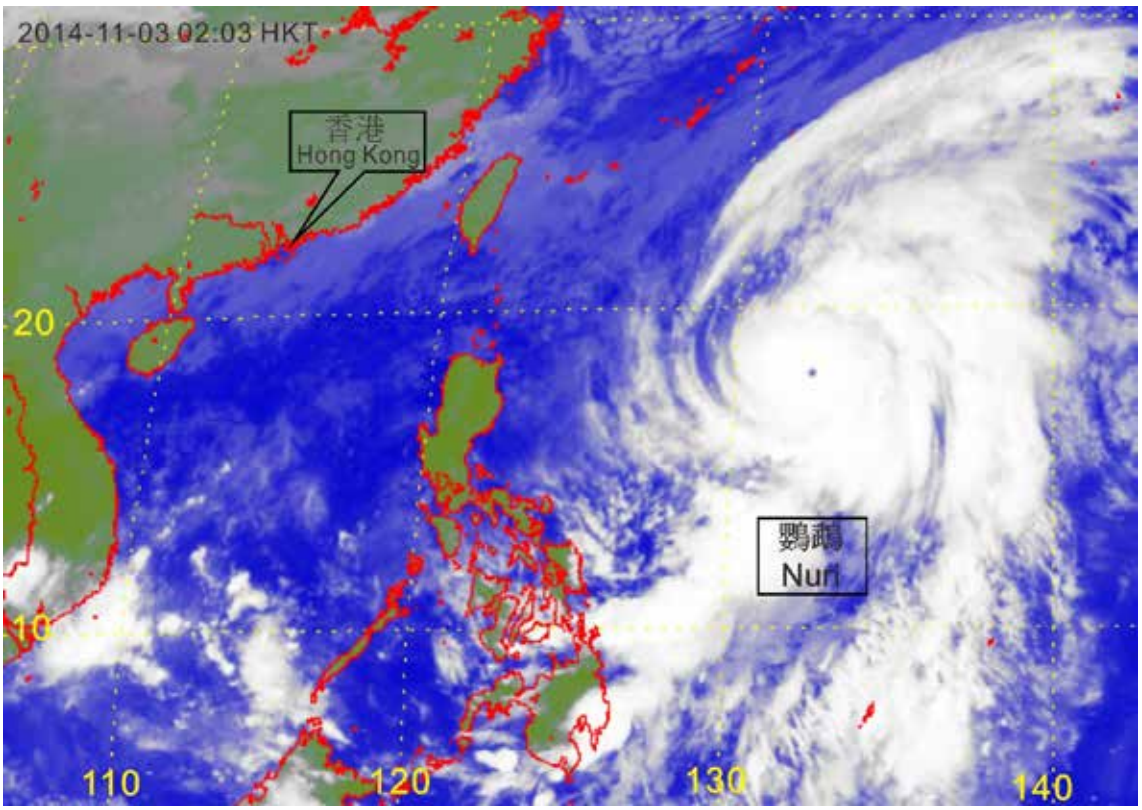

圖 2.3　超強颱風鸚鵡(1420)在二零一四年十一月三日上午2時的紅外線衛星圖片。當時鸚鵡位於馬尼拉之東北偏東約1 260公里的北太平洋西部上，最高風速估計為每小時250公里，而最低中心氣壓為905百帕斯卡。

Figure 2.3　Infra-red satellite imagery of Super Typhoon Nuri (1420) at peak intensity at 2 a.m. on 3 November 2014. Nuri was centred over the western North Pacific about 1 260 km east-northeast of Manila with an estimated maximum sustained wind of 250 km/h and a minimum sea-level pressure of 905 hPa at that time.

〔此衛星圖像接收自日本氣象廳的多用途輸送衛星-2。〕

[The satellite imagery was originally captured by the Multi-functional Transport Satellite (MTSAT-2) of Japan Meteorological Agency (JMA).]

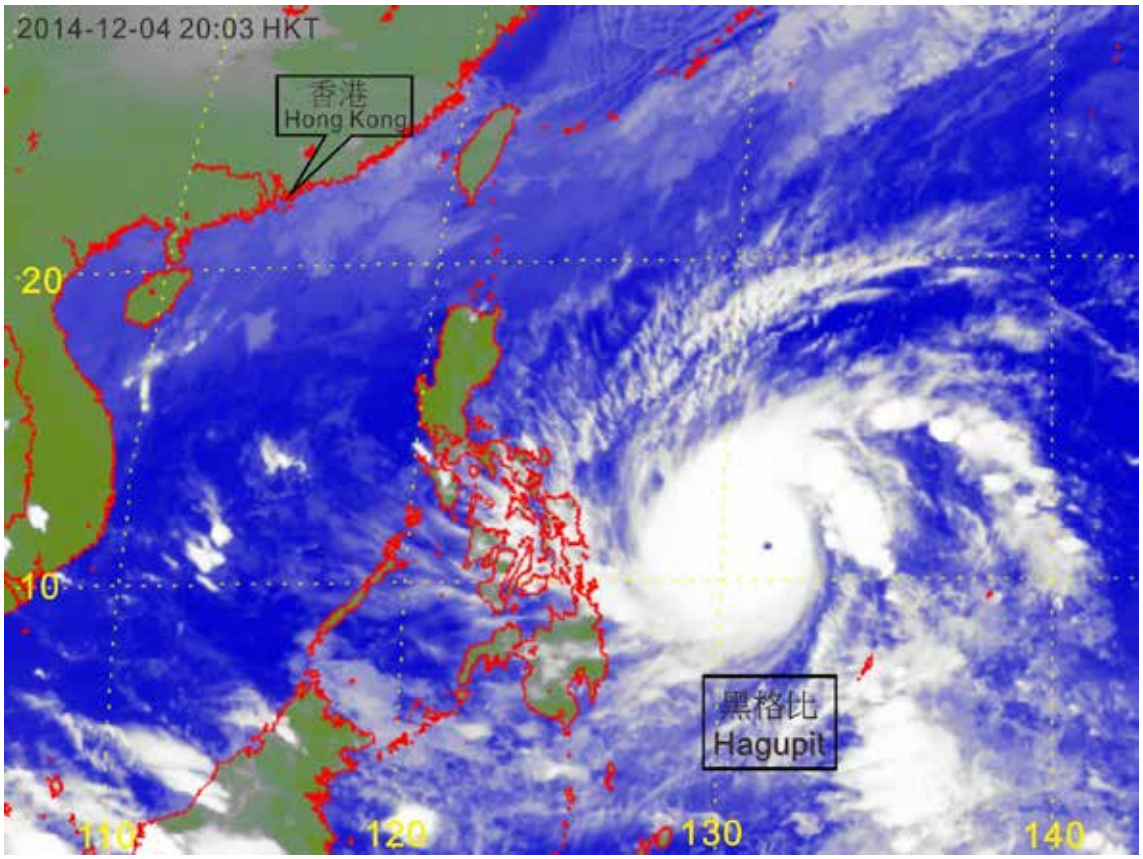

圖 2.4　超強颱風黑格比(1422)在二零一四年十二月四日下午8時的紅外線衛星圖片。當時黑格比位於馬尼拉之東南偏東約1 180公里的北太平洋西部上，最高風速估計為每小時250公里，而最低中心氣壓為905百帕斯卡。

Figure 2.4　Infra-red satellite imagery of Super Typhoon Hagupit (1422) at peak intensity at 8 p.m. on 4 December 2014. Hagupit was centred over the western North Pacific about 1 180 km east-southeast of Manila with an estimated maximum sustained wind of 250 km/h and a minimum sea-level pressure of 905 hPa at that time.

〔此衛星圖像接收自日本氣象廳的多用途輸送衛星-2。〕

[The satellite imagery was originally captured by the Multi-functional Transport Satellite (MTSAT-2) of Japan Meteorological Agency (JMA).]

表 2.1 在香港責任範圍內(10º-30ºN, 105º-125ºE)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 (10º - 30ºN, 105º - 125ºE), 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
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
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

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