# 每月天氣摘要 二零一三年九月

# Monthly Weather Summary September 2013

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#### 1. 二零一三年九月天氣回顧

受到月初幾場大雨及九月下旬熱帶氣旋天兔相關的降雨影響,二零一三年九月的雨量比正常多。本月總雨量為 454.2 毫米,較正常數值 327.6 毫米多約百分之 39。本年至今累積雨量為 2673.0 毫米,較同期正常數值 2233.1 毫米多約百分之 20。雖然本月整體比正常稍涼,但受天兔影響,本港於九月二十日及二十一日亦出現酷熱及高溫的天氣。

受南海北部的一道低壓槽影響,本月首三天大致多雲及有驟雨。隨著一股偏東氣流 與偏南氣流在珠江口一帶匯聚,本港於九月四日及五日天氣進一步轉差,間中有大雨及 有幾陣狂風雷暴。其中,九月五日兩勢較大,港島東部及九龍中部雨量超過150毫米。

受中國東南部的副熱帶高壓脊影響,本港於九月六日天氣逐漸好轉,部分時間有陽光。隨後六天本港天氣普遍晴朗及炎熱。一個位於南海北部的廣闊低壓區於九月十三日至十六日為本港帶來幾陣驟雨。受廣東沿岸地區的東北季候風影響,本港隨後三天風勢頗大及部分時間有陽光。

同時,位於菲律賓以東海域的熱帶氣旋天兔於九月十九日增強為超強颱風。受天兔的外圍下沉大陸氣流影響,九月二十日及二十一日本港天氣乾燥及酷熱,天文台於九月二十一日下午的最高氣溫升至34.7度,是自一九六九以來年九月份的最高氣溫。而天文台於九月二十一日錄得的平均氣溫亦高達31.2度,與二零零八年九月二十二日和二零一零年九月一日並列為自一八八四年以來九月份的最高紀錄。

天兔於九月二十一日橫過呂宋海峽,並於當晚減弱為強颱風。天兔於翌日向西北偏西移動,橫過南海東北部,並於晚上在汕尾附近登陸。天兔於九月二十三日凌晨在香港以北一百公里內掠過,並於下午進一步移入內陸及在廣西減弱為一個低壓區。隨著天兔靠近,本港風力於九月二十二日日間逐漸增強,天氣開始轉壞及有狂風驟雨。天兔於九月二十二日晚上至九月二十三日清晨期間最接近本港時,本港多處吹烈風及有狂風大驟雨。此外,天兔引致的風暴潮令本港部分低窪地區出現一些輕微水浸。隨著天兔遠離,本港日間風勢逐漸緩和及雨勢減弱。

受一股和緩至清勁的偏東氣流影響,九月二十四日及二十五日有幾陣驟雨。一道冷 鋒於九月二十五日早上在華南北部形成,並於翌日早上橫過廣東沿岸地區。在冷鋒隨後 的東北季候風影響下,本港於九月二十六日及二十七日大致天晴及天氣稍涼。

熱帶氣旋蝴蝶於九月二十六日至二十九日在呂宋以西發展及橫過南海中部,並於九月二十九日增強為強颱風。蝴蝶於九月三十日傍晚在越南中部沿岸登陸。本港方面,受與蝴蝶相關的雲雨帶影響,九月二十八日及二十九日多雲及有幾陣雨。在東北季候風與熱帶氣旋蝴蝶的共同影響下,本月最後一天風勢頗大及間中有雨。

本月有九個熱帶氣旋影響北太平洋西部及南海,有關報告刊登於第二節。

本月沒有航機因惡劣天氣須轉飛其他地方。表 1.1 載列本月發出及取消各種警告/ 信號的詳情。

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#### 1. The Weather of September 2013

Due to the heavy rain episodes in the early part of the month and the rainfall associated with tropical cyclone Usagi in late September, it was wetter than usual in September 2013. The total rainfall of the month was 454.2 millimetres, about 39 percent above the normal figure of 327.6 millimetres. The accumulated rainfall since 1 January was 2673.0 millimetres, about 20 percent above the normal figure of 2233.1 millimetres for the same period. While the month was overall slightly cooler than normal, the approach of Usagi also brought very hot conditions and high temperatures on 20 and 21 September.

Under the influence of a trough of low pressure over the northern part of the South China Sea, it was mainly cloudy and showery in Hong Kong on the first three days of the month. Local weather deteriorated further with occasional heavy rain and a few squally thunderstorms on 4 and 5 September as an easterly airstream converged with a southerly airstream in the vicinity of the Pearl River Estuary. The rain was particularly heavy on 5 September with more than 150 millimetres of rainfall over the eastern part of Hong Kong Island and the central part of Kowloon.

With a subtropical ridge establishing over southeastern China, local weather improved gradually with sunny periods on 6 September. It remained generally fine and hot for the ensuing six days. A broad area of low pressure over the northern part of the South China Sea brought a few showers to the territory from 13 to 16 September. Under the influence of the northeast monsoon over the coastal areas of Guangdong, the weather was windy with sunny periods for the next three days.

Meanwhile, tropical cyclone Usagi over the seas east of the Philippines intensified into a super typhoon on 19 September. Under the influence of the subsiding continental airstream associated with the outer circulation of Usagi, local weather became dry and very hot on 20 and 21 September. The temperatures at the Hong Kong Observatory rose to a maximum of 34.7 degrees on the afternoon of 21 September, the highest record for September since 1969. The daily mean temperature of 31.2 degrees recorded at the Hong Kong

Observatory on 21 September was also the highest record for September since 1884, tied with those set on 22 September 2008 and 1 September 2010.

Usagi passed the Luzon Strait on 21 September and weakened into a severe typhoon that night. Usagi tracked west-northwest and moved across the northeastern part of the South China Sea the next day, making landfall near Shanwei at night. Usagi skirted within 100 kilometres to the north of Hong Kong in the small hours of 23 September. It moved further inland afterwards and weakened into an area of low pressure over Guangxi in the afternoon. Locally, with the approach of Usagi, winds strengthened gradually and the weather deteriorated with squally showers during the day on 22 September. Winds reached gale force in many places of the territory with heavy squally showers on the night of 22 September and in the early morning of 23 September when Usagi came closest to Hong Kong. Moreover, the storm surge induced by Usagi caused minor flooding in some of the low lying areas in Hong Kong. As Usagi moved away, local winds moderated gradually and rain eased off during the day.

Affected by a moderate to fresh easterly airstream, there were a few showers on 24 and 25 September. A cold front formed over the northern part of southern China on the morning of 25 September and moved across the coastal areas of Guangdong on the next morning. Under the influence of the northeast monsoon behind the cold front, local weather became mainly fine and slightly cooler on 26 and 27 September.

Tropical cyclone Wutip developed to the west of Luzon moved across the central part of the South China Sea from 26 to 29 September and intensified into a severe typhoon on 29 September. Wutip made landfall over the coast of central part of Vietnam in the evening of 30 September. Locally, affected by a band of clouds and rain associated with Wutip, it was cloudy with a few rain patches on 28 and 29 September. Under the combined effect of the northeast monsoon and tropical cyclone Wutip, the weather was windy with occasional rain on the last day of the month.

Nine tropical cyclones occurred over the western North Pacific and the South China Sea in the month. An overview of these tropical cyclones is presented in Section 2.

During the month, no aircraft was diverted due to adverse weather. Details of the issuance and cancellation of various warnings/signals in the month are summarized in Table 1.1.

## 表 1.1 二零一三年九月發出的警告及信號

#### Table 1.1 Warnings and Signals issued in September 2013

#### 熱帶氣旋警告信號

**Tropical Cyclones Warning Signals** 

| Tropical Cyclones warning b | 8             | 1         |         |             |      |  |
|-----------------------------|---------------|-----------|---------|-------------|------|--|
|                             |               | 開始        | 時間      | 終結時間        |      |  |
| 熱帶氣旋名稱                      | 信號            | Beginni   | ng Time | Ending Time |      |  |
| Name of Tropical Cyclone    | Signal Number | 日/月       | 時       | 日/月         | 時    |  |
|                             |               | day/month | hour    | day/month   | hour |  |
|                             |               |           |         |             |      |  |
|                             | 1             | 21/9      | 1040    | 21/9        | 2340 |  |
| 天兔                          | 3             | 21/9      | 2340    | 22/9        | 1840 |  |
| USAGI                       | 8 NW          | 22/9      | 1840    | 23/9        | 0025 |  |
|                             | 8 SW          | 23/9      | 0025    | 23/9        | 0920 |  |
|                             | 3             | 23/9      | 0920    | 23/9        | 1025 |  |

#### 強烈季候風信號

Strong Monsoon Signal

|                  | 時間<br>ng Time | 終結<br>Ending            |              |  |  |  |
|------------------|---------------|-------------------------|--------------|--|--|--|
| 日/月<br>day/month | 時<br>hour     | 日/月 時<br>day/month hour |              |  |  |  |
| 17/9<br>30/9     | 17/9 0245     |                         | 0440<br>2145 |  |  |  |

#### 暴雨警告信號

Rainstorm Warnings

| 顏色       | 開始時間           |      |           | 時間     |
|----------|----------------|------|-----------|--------|
| Colour   | Beginning Time |      |           | g Time |
| Colour   | 日/月            | 時    | 日/月       | 時      |
|          | day/month      | hour | day/month | hour   |
| 黄色 Amber | 4/9            | 0730 | 4/9       | 1100   |

#### 雷暴警告

#### Thunderstorm Warning

| 開始時間<br>Beginning Time |      | 終結時間<br>Ending Time |      | 開始<br>Beginni | 時間<br>ng Time | 終結時間<br>Ending Time |      |
|------------------------|------|---------------------|------|---------------|---------------|---------------------|------|
| 日/月                    | 時    | 日/月                 | 時    | 日/月 時         |               | 日/月                 | 時    |
| day/month              | hour | day/month           | hour | day/month     | hour          | day/month           | hour |
|                        |      |                     |      |               |               |                     |      |
| 2/9                    | 1730 | 2/9                 | 2330 | 3/9           | 0650          | 3/9                 | 0830 |
| 4/9                    | 0305 | 4/9                 | 1330 | 5/9           | 0740          | 5/9                 | 1845 |
| 5/9                    | 2325 | 6/9                 | 0130 | 13/9          | 1210          | 13/9                | 1415 |
| 15/9                   | 1235 | 15/9                | 1930 | 16/9          | 0025          | 16/9                | 0330 |
| 23/9                   | 0655 | 23/9                | 1030 |               |               |                     |      |

#### 酷熱天氣警告

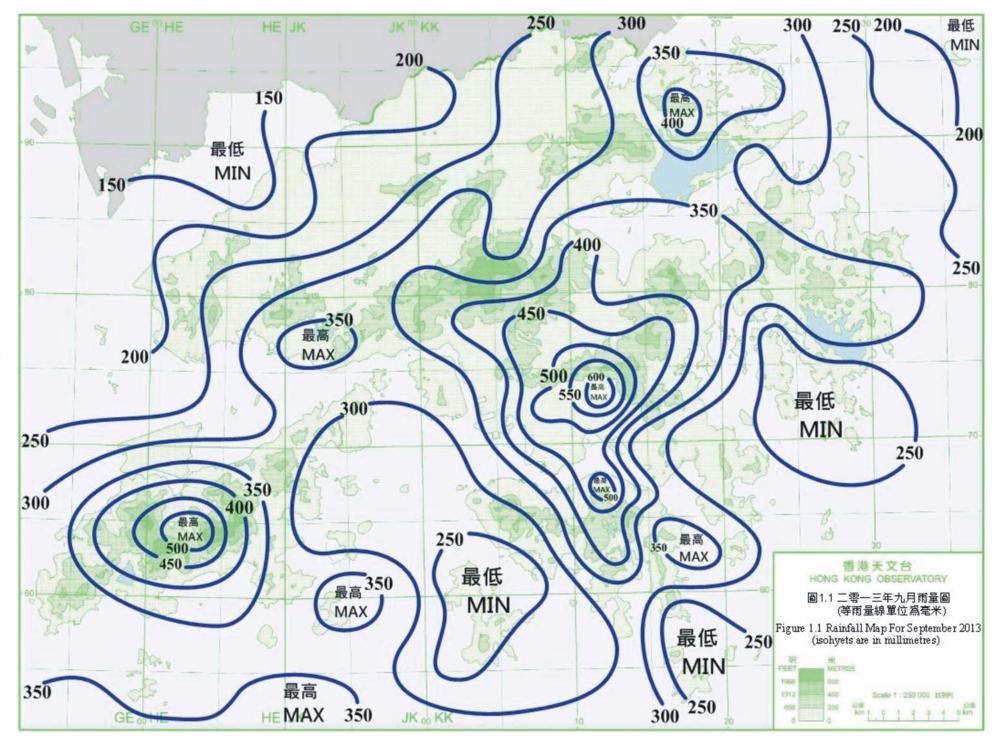
#### Very Hot Weather Warning

|                  | 時間<br>ng Time | 終結時間<br>Ending Time |           |  |
|------------------|---------------|---------------------|-----------|--|
| 日/月<br>day/month | 時<br>hour     | 日/月<br>day/month    | 時<br>hour |  |
| 20/9             | 0800          | 22/9                | 0600      |  |

#### 火災危險警告

#### Fire Danger Warnings

| 顔色        | 開始E       |      | 終結時間        |      |  |
|-----------|-----------|------|-------------|------|--|
| Colour    | Beginnin  |      | Ending Time |      |  |
| Coloui    | 日/月       | 時    | 日/月         | 時    |  |
|           | day/month | hour | day/month   | hour |  |
| 黃色 Yellow | 15/9      | 0600 | 15/9        | 1400 |  |
| 黃色 Yellow | 19/9      | 1200 | 21/9        | 2355 |  |



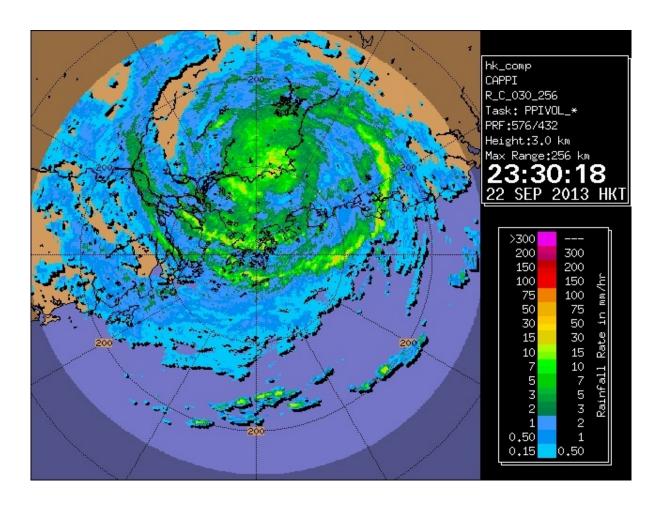


圖 1.2 雷達回波圖像顯示強颱風天兔於 2013 年 9 月 22 日晚上在香港以北一百公 里內掠過。

Figure 1.2 Radar echoes showing Severe Typhoon Usagi skirting within 100 kilometres to the north of Hong Kong on the night of 22 September 2013.

#### 2.1 二零一三年九月熱帶氣旋概述

二零一三年九月在北太平洋西部及南海區域出現了九個熱帶氣旋。月內,天兔引致 天文台需要發出熱帶氣旋警告信號。有關天兔的詳細描述記載於第2.2節。

熱帶低氣壓玉兔於九月一日在威克島東北偏北約1 660公里的北太平洋西部上空形成,並向東北緩慢移動。玉兔在日間增強為熱帶風暴,並達到其最高強度,中心附近最高持續風速為每小時65公里。其後兩天玉兔移動仍然緩慢,九月四日在海面上消散。

熱帶低氣壓桃芝於九月一日在台北東北偏東約210公里的海面上空形成,並大致向東北移動,翌日在沖繩島以西處增強為熱帶風暴,並達到其最高強度,中心附近最高持續風速為每小時75公里。桃芝於九月四日在日本九州南部登陸後逐漸演變為溫帶氣旋。根據報章報導,桃芝吹襲期間,日本西部地區出現水災,當局呼籲七千名民眾離開家園暫避。

熱帶低氣壓萬宜於九月十一日在關島之東北約820公里的北太平洋西部上空形成,並向西至西北偏西移動,翌日增強為熱帶風暴。萬宜於九月十四日採取西北途徑移動,翌日在日本以南的海面上轉向東北偏北移動,並進一步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90公里。萬宜於九月十六日早上在日本本州南部登陸,當日傍晚在日本以東海域演變為溫帶氣旋。萬宜吹襲期間,為日本廣泛地區帶來豪雨及水浸,造成最少三人死亡,四人失蹤、逾百人受傷及超過17000戶停電。

熱帶低氣壓天兔於九月十七日在馬尼拉東北偏東約1 240公里的北太平洋西部上空形成,並大致向西移動及逐漸增強,翌日成為颱風。天兔於九月十九日採取一個西北途徑移動,並在呂宋以東的太平洋上進一步增強為超強颱風,翌日達到其最高強度,中心附近最高持續風速為每小時205公里。天兔於九月二十一日向西北偏西移動,橫過呂宋海峽後進入南海及減弱為強颱風。它於九月二十二日橫過南海東北部,傍晚在廣東汕尾附近登陸,晚上橫過廣東沿岸地區,翌日在廣西內陸消散。

一熱帶低氣壓於九月十八日在峴港以東約320公里的南海中部上空形成,並向西至西北偏西移動,橫過海南島以南海域。其中心附近最高持續風速為每小時55公里。該熱帶低氣壓於翌日在越南中部登陸後消散。

熱帶低氣壓帕布於九月十九日在關島以東約400公里的北太平洋西部上空形成,並 向西移動,翌日轉向西北至西北偏北移動及增強為熱帶風暴。它於九月二十二日再增強 為強烈熱帶風暴,兩天後在硫黃島附近進一步增強為颱風,並達到其最高強度,中心附 近最高持續風速為每小時120公里。帕布於九月二十五日在日本以南的太平洋上轉向東 北移動,翌日在日本以東的北太平洋西部上演變為一個溫帶氣旋。 熱帶低氣壓蝴蝶於九月二十六日在西沙東南偏東約580公里的南海中部上空形成,並大致向西北移動,翌日增強為熱帶風暴。蝴蝶於九月二十八日採取偏西途徑移動,橫過西沙以東海域,並增強為強烈熱帶風暴。它於九月二十九日在西沙以南掠過,並逐漸增強為強颱風及達到其最高強度,中心附近最高持續風速為每小時155公里,但隨即於當晚減弱為颱風。蝴蝶於九月三十日在越南中部沿岸登陸,並減弱為強烈熱帶風暴。蝴蝶吹襲期間,三艘漁船在西沙海域上沉沒,導致四人死亡、58人失蹤。此外,蝴蝶在越南也導致三人死亡、35人受傷及95 000間房屋受損。

熱帶低氣壓聖帕於九月二十九日在硫黃島以東約970公里的北太平洋西部上空形成。它於該月最後兩天向西至西北偏西移動,橫過日本東南的太平洋。

熱帶低氣壓菲特於九月三十日在馬尼拉以東約1 250公里的北太平洋西部上空形成,並向西北偏北移動,橫過菲律賓以東的太平洋。

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#### 2.1 Overview of Tropical Cyclones in September 2013

Nine tropical cyclones occurred over the western North Pacific and the South China Sea in September 2013. Amongst them, Usagi necessitated the issuance of tropical cyclone warning signals by the Hong Kong Observatory during the month. The detailed report of Usagi is presented in Section 2.2.

Yutu formed as a tropical depression over the western North Pacific about 1 660 km north-northeast of Wake Island on 1 September and moved northeastwards slowly. It intensified into a tropical storm during the day, reaching its peak intensity with estimated sustained winds of 65 km/h near its centre. Yutu remained slow-moving for the following two days and dissipated over the sea on 4 September.

Toraji formed as a tropical depression over the sea areas about 210 km east-northeast of Taibei on 1 September and moved generally northeastwards. It intensified into a tropical storm west of Okinawa the next day, reaching its peak intensity with estimated sustained winds of 75 km/h near its centre. Toraji made landfall over southern Kyushu, Japan on 4 September and gradually evolved into an extratropical cyclone. According to

press reports, around 7 000 people in western Japan were advised to evacuate from their homes due to flooding caused by Toraji.

Man-yi formed as tropical depression over the western North Pacific about 820 km northeast of Guam on 11 September and moved west to west-northwestwards. It intensified into a tropical storm the next day. Moving along a northwesterly track on 14 September, it turned to the north-northeast the next day and intensified further into a severe tropical storm over the seas south of Japan, reaching its peak intensity with estimated sustained winds of 90 km/h near its centre. Man-yi made landfall over southern Honshu, Japan in the morning on 16 September and evolved into an extratropical cyclone over the seas east of Japan that evening. Man-yi brought heavy rain and flooding to widespread areas of Japan, where at least three people were killed, four were reported missing and over 100 people were injured. Electricity supply to over 17 000 households was disrupted.

Usagi formed as a tropical depression over the western North Pacific about 1 240 km east-northeast of Manila on 17 September. Moving generally westwards, it gradually intensified and became a typhoon the next day. Usagi took on a northwesterly track and intensified further into a super typhoon over the Pacific to the east of Luzon on 19 September, reaching its peak intensity with estimated sustained winds of 205 km/h near its centre the next day. Moving west-northwestwards, Usagi crossed the Luzon Strait on 21 September and entered the South China Sea, weakening into a severe typhoon. It moved across the northeastern part of the South China Sea on 22 September, made landfall near Shanwei, Guangdong that evening and moved across the coastal areas of Guangdong during the night. Usagi dissipated over the inland region of Guangxi the following day.

A tropical depression formed over the central part of the South China Sea about 320 km east of Danang on 18 September and moved west to west-northwestwards across the seas south of Hainan Island. The estimated maximum sustained winds near its centre was about 55 km/h. The tropical depression dissipated over land after making landfall over the central part of Vietnam the following day.

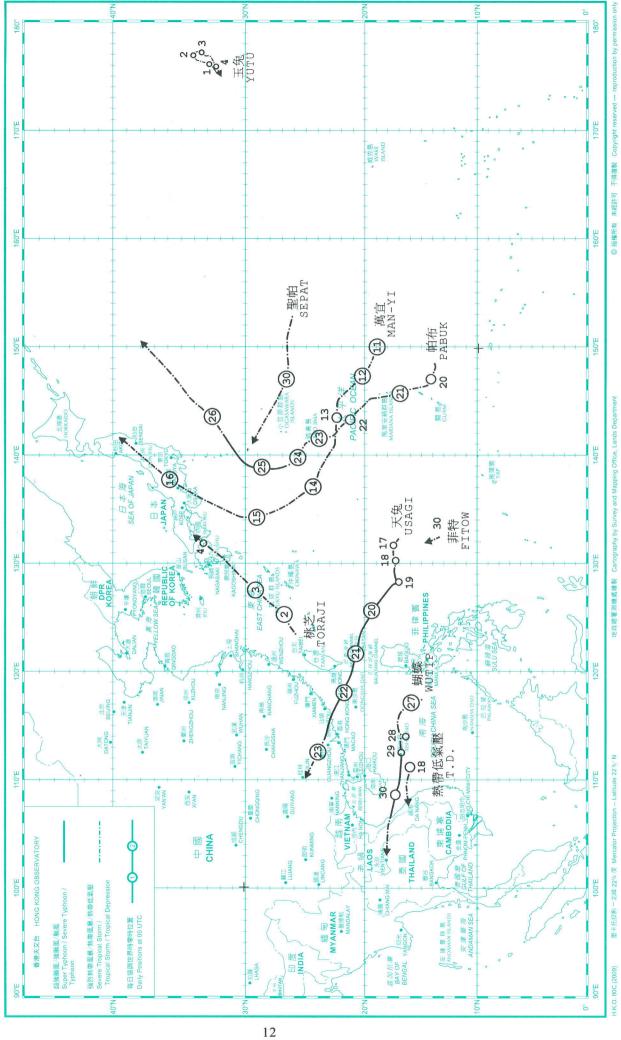
Pabuk formed as a tropical depression over the western north Pacific about 400 km east of Guam on 19 September and moved westwards generally. It turned northwest to north-northwestwards the following day and intensified into a tropical storm. Pabuk continued to intensify into a severe tropical storm on 22 September and became a typhoon near Iwo Jima two days later, reaching its peak intensity with estimated sustained winds of 120 km/h near its centre. It turned to move northeastwards over the Pacific to the south of

Japan on 25 September and became an extratropical cyclone to the east of Japan the following day.

Wutip formed as a tropical depression over the central part of the South China Sea about 580 km east-southeast of Xisha on 26 September and moved generally northwestwards. It intensified into a tropical storm the following day. Wutip took on a westerly track across the seas east of Xisha and intensified into a severe tropical storm on 28 September. It passed to the south of Xisha the following day and intensified gradually into a severe typhoon, reaching its peak intensity with estimated sustained winds of 155 km/h near its centre. Wutip weakened into a typhoon that night. It made landfall over the coast of central Vietnam on 30 September and weakened into a severe tropical storm. Three fishing boats sank over the waters near Xisha during the passage of Wutip. Four fishermen were killed and 58 others were reported missing. In Vietnam, three people were killed, 35 people were injured and 95 000 houses were destroyed.

Sepat formed as a tropical depression over the western North Pacific about 970 km east of Iwo Jima on 29 September. It moved west to west-northwestwards across the Pacific southeast of Japan during the last two days of the month.

Fitow formed as a tropical depression over the western North Pacific about 1 250 km east of Manila on 30 September and moved north-northwestwards across the Pacific east of the Philippines.



Track of tropical cyclones in September 2013 Figure 2.1.1

三年九月的熱帶氣旋路徑圖

圖 2.1.1 二零

#### 2.2 超強颱風天兔 (1319) 二零一三年九月十七日至二十三日

天兔是香港天文台在二零一三年第六個需要發出熱帶氣旋警告信號的熱帶氣旋, 也是今年第二個需要發出八號烈風或暴風信號的熱帶氣旋。天兔也是到目前為止今年 影響香港最強的熱帶氣旋。

熱帶低氣壓天兔於九月十七日在馬尼拉東北偏東約 1 240 公里的北太平洋西部上空形成,並大致向西移動,下午增強為熱帶風暴,翌日發展成為颱風。天兔於九月十九日採取西北途徑移動,並在呂宋以東的太平洋上逐漸增強為超強颱風,翌日達到其最高強度,中心附近最高持續風力為每小時 205 公里。天兔於九月二十一日向西北偏西方向移動,時速約 17 公里,橫過呂宋海峽。上午五時,呂宋海峽上巴旦島錄得的持續風速為每小時 137 公里,而海平面氣壓則在三小時後下降至 939.6 百帕斯卡。天兔於傍晚進入南海,並減弱為強颱風,於九月二十二日橫過南海東北部,時速約 20 公里,傍晚在香港東北偏東約 160 公里汕尾附近登陸,晚上橫過廣東沿岸地區。天兔於翌日早上迅速減弱為熱帶低氣壓,下午在廣西內陸消散。

根據報章報導,天兔吹襲廣東期間,造成29人死亡、一人失蹤、超過922萬人受災、直接經濟損失超過177億元人民幣。其中汕頭有海水倒灌,多處嚴重水浸,市內更有大樹倒塌。汕尾交通、通訊、供電和供水中斷,其中停電面積超過百分之六十五。廣東省東部有超過152000公頃農作物受災、14794間房屋倒塌,另32879間房屋嚴重受損。澳門內港則發生輕微海水倒灌。

香港天文台於九月二十一日上午 10 時 40 分發出一號戒備信號,當時天兔位於香港之東南偏東約 760 公里。當日本港吹和緩至清勁北至西北風,高地間中吹強風。隨着天兔穩定地移向廣東沿岸,天文台在晚上 11 時 40 分發出三號強風信號,當時天兔位於香港之東南偏東約 530 公里。九月二十二日早上高地風勢間中達烈風程度,而本港大部分地區則受到地形屏蔽。下午本港風勢增強,離岸吹強烈西北風,高地風勢達烈風程度。天文台在下午 6 時 40 分發出八號西北烈風或暴風信號,當時天兔位於香港之東北偏東約 160 公里。晚上維多利亞港及本港離岸海域吹烈風程度西至西北風,高地風勢間中達暴風至颶風程度。天兔於午夜左右最接近香港,並在香港天文台以北約 80 公里處掠過。九月二十三日凌晨本港轉吹西南風,天文台在凌晨 12 時 25 分改發八號西南烈風或暴風信號。黎明前香港南部海域及高地繼續吹烈風,隨後逐漸減弱。天文台在上午 9 時 20 分改發三號強風信號。隨著天兔在內陸顯著減弱及本港風勢進一步緩和,天文台於上午 10 時 25 分取消所有熱帶氣旋警告信號。

天兔吹襲期間,橫瀾島錄得的最高每小時平均風速為87公里,而長洲更錄得每小時128公里的最高陣風。最高潮位3.38米(海圖基準面以上)在尖鼻咀錄得,而最大風暴潮0.99米則在大埔滘錄得。各站錄得的最低瞬時海平面氣壓如下:一

| 站       | 最低瞬時海平面   | 日期/月份 | 時間        |
|---------|-----------|-------|-----------|
|         | 氣壓 (百帕斯卡) |       |           |
| 香港天文台總部 | 985.7     | 22/9  | 下午10時06分  |
| 長洲      | 985.6     | 22/9  | 下午 9時 19分 |
| 香港國際機場  | 987.5     | 22/9  | 下午10時54分  |
| 京士柏     | 985.1     | 22/9  | 下午10時16分  |
| 流浮山     | 984.8     | 22/9  | 下午11時22分  |
| 坪洲      | 985.0     | 22/9  | 下午10時07分  |
| 沙田      | 984.2     | 22/9  | 下午10時16分  |
| 打鼓嶺     | 983.3     | 22/9  | 下午11時07分  |
| 横瀾島     | 983.9     | 22/9  | 下午8時16分   |

九月二十一日本港天氣酷熱及乾燥,大部分地區氣溫上升至 34 度以上。翌日本港 多雲及有狂風驟雨,晚上雨勢頗大。九月二十三日早上本港有狂風大驟雨。隨著天兔 在內陸顯著減弱及遠離本港,日間雨勢減弱。這三天期間,本港大部分地區錄得超過 100 毫米的雨量,新界及大嶼山部分地區的雨量更超過 150 毫米。

天兔吹襲香港期間有 17 人受傷,另有 900 棵樹木倒塌及多宗高空墮物意外。屯門有一棵大樹塌下,一輛客貨車及兩部私家車受損。大埔有一住所屋頂的衞星天線和水喉疑被吹起的雜物擊中損毀,鄰近的三輛私家車亦受損。屯門及大角咀分別有大厦外牆維修工作台及外牆批盪墜下,前者導致七輛貨車損毀。天兔引致的風暴潮令本港部分低窪地區出現一些輕微水浸,包括流浮山、屯門、大埔及深水埗。一輛私家車在流浮山被洪水圍困,車上兩人需要消防員救出。屯門的水浸亦令到交通一度受阻。香港國際機場有 215 班航班取消和 472 班航班延誤。另外有四班前往澳門的航班需要轉飛其它地方。

## 2.2 Super Typhoon Usagi (1319)17 – 23 September 2013

Usagi was the sixth tropical cyclone necessitating the issuance of tropical cyclone warning signals by the Hong Kong Observatory in 2013. It is also the second tropical cyclone necessitating the issuance of No. 8 Gale or Storm Signal in the year. Usagi was the most intense tropical cyclone affecting Hong Kong so far this year.

Usagi formed as a tropical depression over the western North Pacific about 1 240 km east-northeast of Manila on 17 September. Moving generally westwards, it intensified into a tropical storm that afternoon and further strengthened into a typhoon the next day. It took on a northwesterly track and intensified further into a super typhoon over the Pacific to the east of Luzon on 19 September, reaching its peak intensity with estimated sustained winds of 205 km/h near its centre the next day. Usagi moved west-northwestwards at about 17 km/h across the Luzon Strait on 21 September. At 5 a.m. sustained wind of 137 km/h was reported at the island station of Batan over the Luzon Strait, with the mean sea-level pressure falling to 939.6 hPa three hours later. Usagi entered the South China Sea and weakened into a severe typhoon during the evening. It moved across the northeastern part of the South China Sea at about 20 km/h on 22 September, made landfall near Shanwei about 160 km east-northeast of Hong Kong that evening, and moved across the coastal areas of Guangdong during the night. Usagi weakened rapidly into a tropical depression the next morning and dissipated over the inland areas of Guangxi in the afternoon.

According to press reports, 29 people were killed, one person was reported missing and over 9.22 million people were affected in Guangdong during the passage of Usagi. The direct economic loss exceeded 17.7 billion RMB. Backflow of seawater occurred in Shantou with serious flooding in many places, and large trees were toppled in the city. In Shanwei, there were interruptions to traffic, telecommunication links, electricity and water supply, with over 65 percent of the area without electricity. Over 152 000 hectares of vegetation were damaged, 14 794 houses collapsed and another 32 879 houses were severely damaged in eastern Guangdong. In Macao, there was minor backflow of seawater inside the harbour.

The Hong Kong Observatory issued the Standby Signal No. 1 at 10:40 a.m. on 21 September when Usagi was about 760 km east-southeast of the territory. Local winds were moderate to fresh north to northwesterlies, occasionally strong on high ground that day. As Usagi edged steadily towards the coast of Guangdong, the Strong Wind Signal No. 3 was issued at 11:40 p.m. when Usagi was about 530 km to the east-southeast. Winds occasionally reached gale force on high ground in the morning on 22 September, but most of the territory remained relatively sheltered. Winds strengthened during the afternoon and

became strong northwesterlies offshore, reaching gale force on high ground. The No. 8 NW Gale or Storm Signal was issued at 6:40 p.m. when Usagi was about 160 km to the east-northeast of Hong Kong. West to northwesterly gales affected the Victoria Harbour and the offshore waters of Hong Kong that night, reaching storm to hurricane force on high ground at times. Usagi was closest to Hong Kong around midnight, passing about 80 km to the north of the Hong Kong Observatory. Winds turned to southwesterly in the small hours on 23 September and the No. 8 SW Gale or Storm Signal was issued at 12:25 a.m. Gale force winds persisted over the waters to the south of Hong Kong and on high ground before dawn. The gales gradually subsided in the morning and the Strong Wind Signal No. 3 was issued at 9:20 a.m. All signals were cancelled at 10:25 a.m. as Usagi weakened significantly inland and local winds subsided further.

During the passage of Usagi, a maximum hourly mean wind of 87 km/h was recorded at Waglan Island, while a maximum gust of 128 km/h was recorded at Cheung Chau. A maximum sea level of 3.38 m (above chart datum) was recorded at Tsim Bei Tsui, while a maximum storm surge of 0.99 m was recorded at Tai Po Kau. The lowest instantaneous mean sea-level pressures recorded at some selected stations are as follows:-

| Station                 | Lowest instantaneous | Date/Month | Time       |
|-------------------------|----------------------|------------|------------|
|                         | mean sea-level       |            |            |
|                         | pressure             |            |            |
|                         | (hPa)                |            |            |
| Hong Kong Observatory   | 985.7                | 22/9       | 10:06 p.m. |
| Headquarters            |                      |            |            |
| Cheung Chau             | 985.6                | 22/9       | 9:19 p.m.  |
| Hong Kong International | 987.5                | 22/9       | 10:54 p.m. |
| Airport                 |                      |            |            |
| King's Park             | 985.1                | 22/9       | 10:16 p.m. |
| Lau Fau Shan            | 984.8                | 22/9       | 11:22 p.m. |
| Peng Chau               | 985.0                | 22/9       | 10:07 p.m. |
| Sha Tin                 | 984.2                | 22/9       | 10:16 p.m. |
| Tai Kwu Ling            | 983.3                | 22/9       | 11:07 p.m. |
| Waglan Island           | 983.9                | 22/9       | 8:16 p.m.  |

The weather in Hong Kong on 21 September was very hot and dry with the maximum temperature exceeding 34 degrees over most parts of the territory. The weather turned cloudy the next day with squally showers, becoming heavy at night. Heavy squally showers continued to affect Hong Kong in the morning on 23 September. Rain eased off during the day as Usagi weakened significantly inland and moved away from the territory. More than 100 millimetres of rainfall were recorded over most parts of the territory during

the three-day period, with rainfall in parts of the New Territories and Lantau Island exceeding 150 millimetres.

In Hong Kong, 17 people were injured during the passage of Usagi, 900 trees were blown down and many incidents of fallen objects were reported. A van and two private vehicles were damaged by a fallen tree in Tuen Mun. In Tai Po, a satellite receiver dish and water pipe on the rooftop of a building were damaged by loose objects. Three vehicles nearby were also damaged during the incident. A maintenance workbench outside a building and wall plaster outside another building fell off in Tuen Mun and Tai Kok Tsui respectively, damaging seven lorries in the former incident. Storm surge induced by Usagi caused minor flooding in some low lying areas in Hong Kong, including Lau Fau Shan, Tuen Mun, Tai Po and Sham Shui Po. A private vehicle was trapped by flood waters in Lau Fau Shan, and two people inside the vehicle had to be rescued by firemen. Flood waters in Tuen Mun interrupted traffic for a period of time. At the Hong Kong International Airport, 215 flights were cancelled and 472 flights were delayed. Four flights bound for Macao were diverted to other places due to the passage of Usagi.

## 表 2.2.1 在天兔影響下,本港各站在熱帶氣旋警告信號生效時所錄得的最高陣風、最高每小時平均風速及風向

Table 2.2.1 Under the influence of Usagi, maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when tropical cyclone warning signals were in force

|  |                                       |        |           | 最高陣風         |                          |       | 最高每小時平均風速 |     |              |            |       |
|--|---------------------------------------|--------|-----------|--------------|--------------------------|-------|-----------|-----|--------------|------------|-------|
| 站<br>Station<br>( http://www.weather.gov.hk/ |                                       |        | Maximum G | ust          | Maximum Hourly Mean Wind |       |           |     |              |            |       |
|  |                                       | 風向     |           | 風速<br>(公里/時) | 日期/月份                    | 時間    | 風向        |     | 風速<br>(公里/時) | 日期/月份      | 時間    |
| informtc/sta                                 | tion2013_uc.htm)                      | Direct | ion       | Speed (km/h) | Date/Month               | Time  | Directi   | ion | Speed (km/h) | Date/Month | Time  |
| 中環碼頭   | Central Pier                          | 西      | W         | 94           | 22/9                     | 22:33 | 西         | W   | 51           | 22/9       | 22:00 |
| 長洲   | Cheung Chau                           | 西北偏西   | WNW       | 128          | 22/9                     | 21:34 | 西北偏西      | WNW | 83           | 22/9       | 22:00 |
| 長洲泳灘   | Cheung Chau<br>Beach                  | 西      | W         | 112          | 22/9                     | 21:34 | 西         | W   | 62           | 22/9       | 22:00 |
| 青洲   | Green Island                          | 西北     | NW        | 103          | 22/9                     | 22:07 | 西南偏西      | WSW | 72           | 23/9       | 02:00 |
| 香港國際<br>機場                                   | Hong Kong<br>International<br>Airport | 西南偏南   | SSW       | 87           | 23/9                     | 01:14 | 西         | W   | 65           | 22/9       | 23:00 |
| 啟德   | Kai Tak                               | 西南偏西   | WSW       | 83           | 22/9                     | 23:11 | 西         | W   | 47           | 22/9       | 21:00 |
| 京士柏  | King's Park                           | 西北偏西   | WNW       | 88           | 22/9                     | 23:25 | 西北偏西      | WNW | 34           | 22/9       | 23:00 |
| 流浮山  | Lau Fau Shan                          | 西北偏西   | WNW       | 110          | 22/9                     | 21:14 | 西北偏西      | WNW | 65           | 22/9       | 21:00 |
| 昂坪   | Ngong Ping                            | 西      | W         | 133          | 23/9                     | 00:03 | 西南偏西      | WSW | 83           | 23/9       | 02:00 |
| 北角   | North Point                           | 西南偏西   | WSW       | 99           | 22/9                     | 22:21 | 西         | W   | 63           | 22/9       | 23:00 |
| 坪洲   | Peng Chau                             | 西北偏西   | WNW       | 101          | 22/9                     | 21:02 | 西北        | NW  | 59           | 22/9       | 20:00 |
| 平洲   | Ping Chau                             | 西      | W         | 94           | 22/9                     | 22:12 | 西         | W   | 51           | 22/9       | 23:00 |
| 西貢   | Sai Kung                              | 西北偏西   | WNW       | 88           | 22/9                     | 18:58 | 西北        | NW  | 34           | 22/9       | 21:00 |
| 沙洲   | Sha Chau                              | 西南偏南   | SSW       | 90           | 23/9                     | 02:51 | 西南偏南      | SSW | 56           | 23/9       | 03:00 |
| 沙螺灣  | Sha Lo Wan                            | 西南     | SW        | 96           | 23/9                     | 01:07 | 西南偏西      | WSW | 41           | 23/9       | 00:00 |
| 沙田   | Sha Tin                               | 西南     | SW        | 68           | 23/9                     | 00:13 | 西南        | SW  | 31           | 23/9       | 01:00 |
| 石崗   | Shek Kong                             | 西南     | SW        | 62           | 22/9                     | 23:29 | 西南偏西      | WSW | 25           | 23/9       | 00:00 |
| 九龍天星<br>碼頭                                   | Star Ferry<br>(Kowloon)               | 西      | W         | 101          | 23/9                     | 01:48 | 西         | W   | 72           | 22/9       | 23:00 |
| 打鼓嶺  | Ta Kwu Ling                           | 西南偏西   | WSW       | 68           | 22/9                     | 23:23 | 西南偏西      | WSW | 31           | 23/9       | 00:00 |
| 大美督  | Tai Mei Tuk                           | 西南偏西   | WSW       | 121          | 22/9                     | 20:09 | 西         | W   | 62           | 22/9       | 23:00 |
| 大帽山  | Tai Mo Shan                           | 西      | W         | 155          | 22/9                     | 22:43 | 西         | W   | 118          | 22/9       | 23:00 |
| 大埔滘  | Tai Po Kau                            | 西北偏西   | WNW       | 103          | 22/9                     | 22:21 | 西         | W   | 52           | 22/9       | 23:00 |
| 塔門   | Tap Mun                               | 西      | W         | 115          | 22/9                     | 21:06 | 西         | W   | 68           | 22/9       | 22:00 |
| 大老山  | Tate's Cairn                          | 西北偏北   | NNW       | 140          | 22/9                     | 20:13 | 西北        | NW  | 79           | 22/9       | 21:00 |
| 將軍澳  | Tseung Kwan O                         | 西北     | NW        | 58           | 22/9                     | 18:43 | 西         | W   | 19           | 22/9       | 21:00 |
| 青衣島蜆<br>殼油庫                                  | Tsing Yi Shell<br>Oil Depot           | -      | -         | 90           | 22/9                     | 21:37 | -         | -   | 49           | 22/9       | 22:00 |
| 屯門政府<br>合署                                   | Tuen Mun<br>Government<br>Offices     | 西北     | NW        | 112          | 22/9                     | 22:05 | 西北偏西      | WNW | 40           | 22/9       | 23:00 |
| 横瀾島  | Waglan Island                         | 西南偏西   | WSW       | 110          | 22/9                     | 23:50 | 西南偏西      | WSW | 87           | 23/9       | 00:00 |
| 濕地公園   | Wetland Park                          | 西北偏西   | WNW       | 65           | 22/9                     | 22:23 | 西北        | NW  | 25           | 22/9       | 19:00 |
| 黄竹坑  | Wong Chuk<br>Hang                     | 西北偏西   | WNW       | 99           | 22/9                     | 21:11 | 西北偏西      | WNW | 34           | 22/9       | 22:00 |

黄麻角(赤柱) - 沒有資料

Bluff Head (Stanley) - data not available

- 表 2.2.2 在天兔影響下,熱帶氣旋警告信號系統的八個參考測風站錄得持續風力 達到強風及烈風程度的時段。
- Table 2.2.2 Periods during which sustained strong and gale force winds were attained at the eight reference anemometers in the tropical cyclone warning system when warning signals for Usagi were in force.

|   |                                       | 最初達到強風* 時間  |            | 最後達到強風*<br>時間                                 |            | 最初達到烈風#時間           |            | 最後達到烈風#<br>時間                                     |            |
|---|---------------------------------------|---|------------|---|------------|---------------------|------------|---|------------|
| 站<br>Station<br>(http://www.weather.gov.hk/informtc/station2013_uc.htm) |                                       | Start time when<br>strong wind speed*<br>was attained |            | End time when strong wind speed* was attained |            | Start time when     |            | End time when gale force wind speed# was attained |            |
|   |                                       | 日期/月份 Date/Month                                      | 時間<br>Time | 日期/月份<br>Date/Month                           | 時間<br>Time | 日期/月份<br>Date/Month | 時間<br>Time | 日期/月份<br>Date/Month                               | 時間<br>Time |
| 長洲  | Cheung Chau                           | 22/9  | 13:57      | 23/9  | 05:33      | 22/9                | 18:17      | 22/9  | 23:47      |
| 香港國際機場  | Hong Kong<br>International<br>Airport | 22/9  | 15:47      | 23/9  | 05:48      | 22/9                | 20:26      | 23/9  | 01:34      |
| 啟德  | Kai Tak                               | 22/9  | 17:08      | 22/9  | 23:20      | -                   |            |   |            |
| 流浮山   | Lau Fau Shan                          | 22/9  | 17:02      | 23/9  | 04:15      | 22/9                | 19:31      | 23/9  | 01:11      |
| 青衣島蜆殼<br>油庫   | Tsing Yi Shell<br>Oil Depot           | 22/9  | 20:03      | 23/9  | 00:39      |                     |            | -   |            |

西貢、沙田及打鼓嶺的持續風力未達到強風程度。

The sustained wind speed did not attain strong force at Sai Kung, Sha Tin and Ta Kwu Ling.

- 未達到指定的風力
- not attaining the specified wind speed
- \* 十分鐘平均風速達每小時 41-62 公里
- \* 10-minute mean wind speed of 41- 62 km/h
- # 十分鐘平均風力達每小時 63-87 公里
- # 10-minute mean wind speed of 63-87 km/h
- 註: 本表列出持續風力最初及最後達到強風及烈風程度的時間。其間,風力可能高於或低於指定的風力。

Note: The table gives the start and end time when strong or gale force winds were recorded. Note that the winds might fluctuate above or below the specified wind speeds in between the times indicated.

#### 表 2.2.3 天兔影響香港期間,香港天文台總部及其它各站所錄得的日雨量

Table 2.2.3 Daily rainfall amounts recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Usagi

| 站 (參閱                      | <b>園圖 2.2.2)</b>      | 九月二十一日 | 九月二十二日 | 九月二十三日 | 總雨量(毫米)             |
|----------------------------|-----------------------|--------|--------|--------|---------------------|
| Station (Se                | ee Fig. 2.2.2)        | 21 Sep | 22 Sep | 23 Sep | Total rainfall (mm) |
| 香港天文台<br>Hong Kong Obs     | ervatory              | 0.0    | 30.6   | 56.9   | 87.5                |
| 香港國際機場<br>Hong Kong Intern | ational Airport (HKA) | 0.0    | 17.6   | 88.5   | 106.1               |
| 長洲 Cheung Cl               | hau (CCH)             | 0.0    | 23.5   | 57.0   | 80.5                |
| H23 香港仔                    | Aberdeen              | 0.0    | 12.0   | 50.0   | 62.0                |
| N05 粉 嶺                    | Fanling               | 0.0    | 38.5   | 88.5   | 127.0               |
| N13 糧 船 灣                  | High Island           | 0.0    | 60.5   | 29.0   | 89.5                |
| K04 佐敦谷                    | Jordan Valley         | 0.0    | 49.5   | 66.5   | 116.0               |
| N06 葵 涌                    | Kwai Chung            | 0.0    | 66.0   | 108.0  | 174.0               |
| H12 半 山 區                  | Mid Levels            | 0.0    | 31.0   | 52.0   | 83.0                |
| N09 沙田                     | Sha Tin               | 0.0    | 56.5   | 94.0   | 150.5               |
| H19 筲 箕 灣                  | Shau Kei Wan          | 0.0    | 32.5   | 60.0   | 92.5                |
| SEK 石 崗                    | Shek Kong             | 0.0    | 45.5   | 56.0   | 101.5               |
| K06 蘇屋邨                    | So Uk Estate          | 0.0    | 53.0   | 71.5   | 124.5               |
| R31 大 美 督                  | Tai Mei Tuk           | 0.0    | 59.5   | 57.5   | 117.0               |
| R21 踏石角                    | Tap Shek Kok          | 0.0    | 21.5   | 52.5   | 74.0                |
| N17 東 涌                    | Tung Chung            | 0.0    | 29.5   | 124.0  | 153.5               |
| R27 元 朗                    | Yuen Long             | 0.0    | 39.0   | 72.0   | 111.0               |

#### 表 2.2.4 天兔影響香港期間,香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 2.2.4 Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Usagi

| 站<br>Station<br>(http://www.weather.gov.hk/<br>informtc/station2013_uc.htm) |               | 最高潮位 (海圖基準面以上) Maximum sea level      |            |       | 最大風暴潮 (天文潮高度以上) Maximum storm surge         |            |       |  |
|---|---------------|---------------------------------------|------------|-------|---|------------|-------|--|
|   |               | (above chart datum)<br>高度(米) 日期/月份 時間 |            |       | (above astronomical tide)<br>高度(米) 日期/月份 時間 |            |       |  |
|   |               | Height (m)                            | Date/Month | Time  | Height (m)                                  | Date/Month | Time  |  |
| 鰂魚涌   | Quarry Bay    | 2.81                                  | 22/9       | 22:58 | 0.62  | 22/9       | 22:58 |  |
| 石壁  | Shek Pik      | 2.78                                  | 22/9       | 23:24 | 0.53  | 22/9       | 11:53 |  |
| 大廟灣   | Tai Miu Wan   | 2.69                                  | 22/9       | 22:55 | 0.59  | 22/9       | 22:55 |  |
| 大埔滘   | Tai Po Kau    | 3.16                                  | 22/9       | 23:32 | 0.99  | 22/9       | 23:32 |  |
| 尖鼻咀   | Tsim Bei Tsui | 3.38                                  | 23/9       | 00:28 | 0.97  | 23/9       | 00:45 |  |
| 横瀾島   | Waglan Island | 2.91                                  | 22/9       | 22:56 | 0.65  | 22/9       | 22:56 |  |



圖 2.2.1a 二零一三年九月十七日至二十三日天兔(1319)的路徑圖。

Figure 2.2.1a Track of Usagi (1319) on 17 – 23 September 2013.

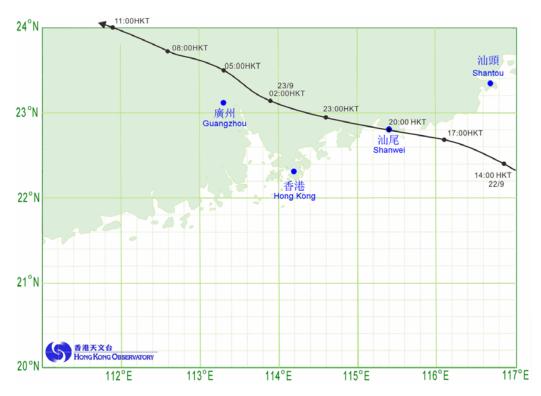


圖 2.2.1b 天兔(1319) 接近香港時的路徑圖。

Figure 2.2.1b Track of Usagi (1319) near Hong Kong.

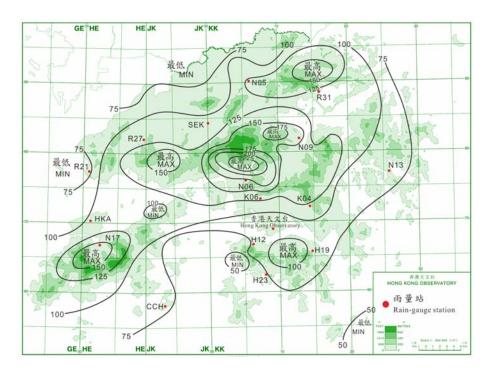


圖 2.2.2 二零一三年九月二十一日至二十三日的雨量分佈(等雨量線單位為毫米)。

Figure 2.2.2 Rainfall distribution for 21 - 23 September 2013 (isohyets are in millimetres).



圖 2.2.3 二零一三年九月二十二日下午 9 時香港各站錄得的風向和風速。

Figure 2.2.3 Winds recorded at various stations in Hong Kong at 9:00 p.m. on 22 September 2013.



:表示該站在維修中 Maintenance

:表示東風,風速每小時 18 公里 Easterly wind of 18 km/h :表示東風,風速每小時 90 公里 Easterly wind of 90 km/h

:表示該站位於離平均海平面500米以上的地方

Station higher than 500 metres above mean sea level

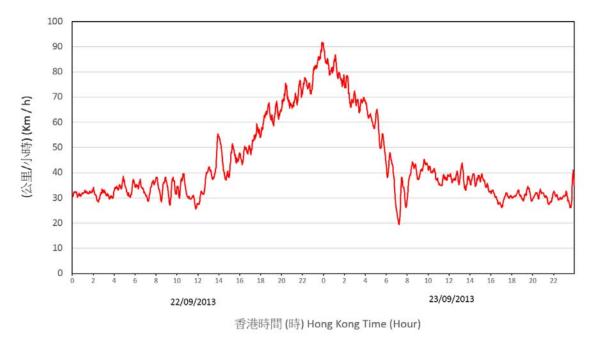


圖 2.2.4a 二零一三年九月二十二日至二十三日橫瀾島自動氣象站錄得的十分鐘 平均風速。

Figure 2.2.4a Trace of 10-minute mean wind speed recorded at Waglan Island automatic weather station on 22 – 23 September 2013.

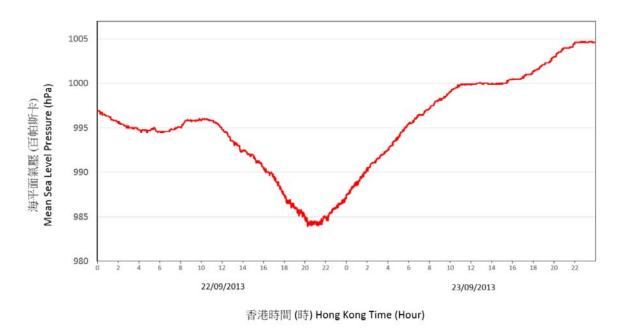


圖 2.2.4b 二零一三年九月二十二日至二十三日橫瀾島自動氣象站錄得的海平面 氣壓。

Figure 2.2.4b Trace of mean sea-level pressure recorded at Waglan Island automatic weather station on 22 - 23 September 2013.

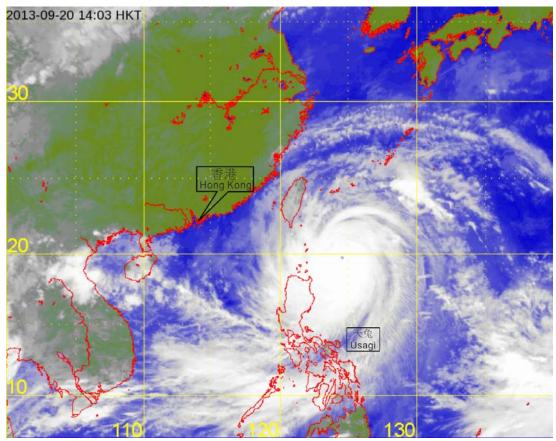


圖 2.2.5a 二零一三年九月二十日下午 2 時的紅外線衛星圖片,當時天兔 達到超強颱風強度,中心附近最高持續風速估計為每小時 205 公里。

Figure 2.2.5a Infra-red satellite imagery at 2 a.m. on 20 September 2013, as Usagi reached super typhoon intensity with estimated maximum sustained winds of 205 kilometres per hour near its centre.

〔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-2 (MTSAT-2) of Japan Meteorological Agency (JMA).]

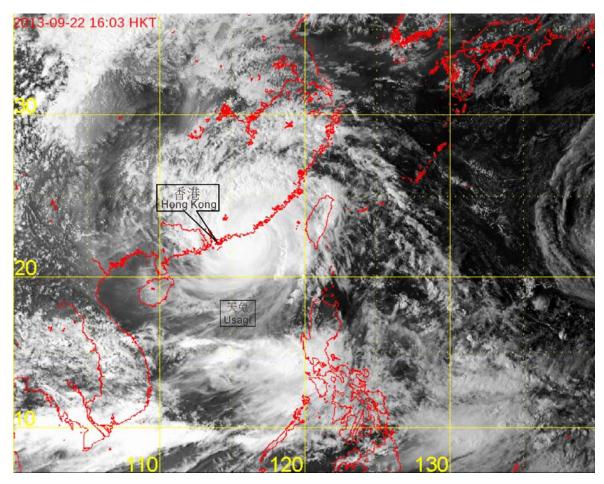


圖 2.2.5b 二零一三年九月二十二日下午 4 時的可見光衛星圖片,當時天 兔已減弱為強颱風,其中心正移近香港以東的廣東沿岸地區。

Figure 2.2.5b Visible satellite imagery at 4 p.m. on 22 September 2013 when Usagi had weakened into a severe typhoon and was approaching the coastal areas of Guangdong to the east of Hong Kong.

〔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-2

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

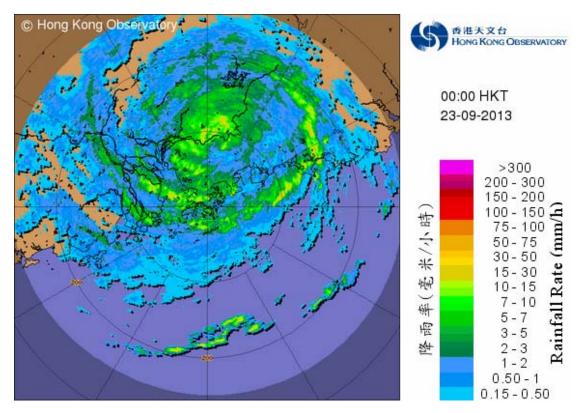
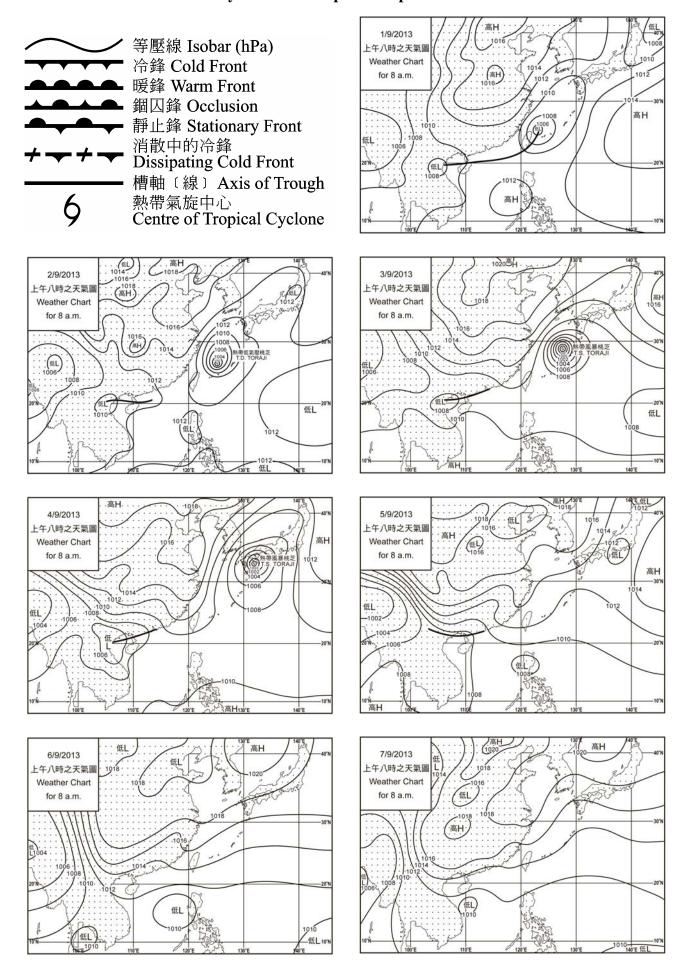


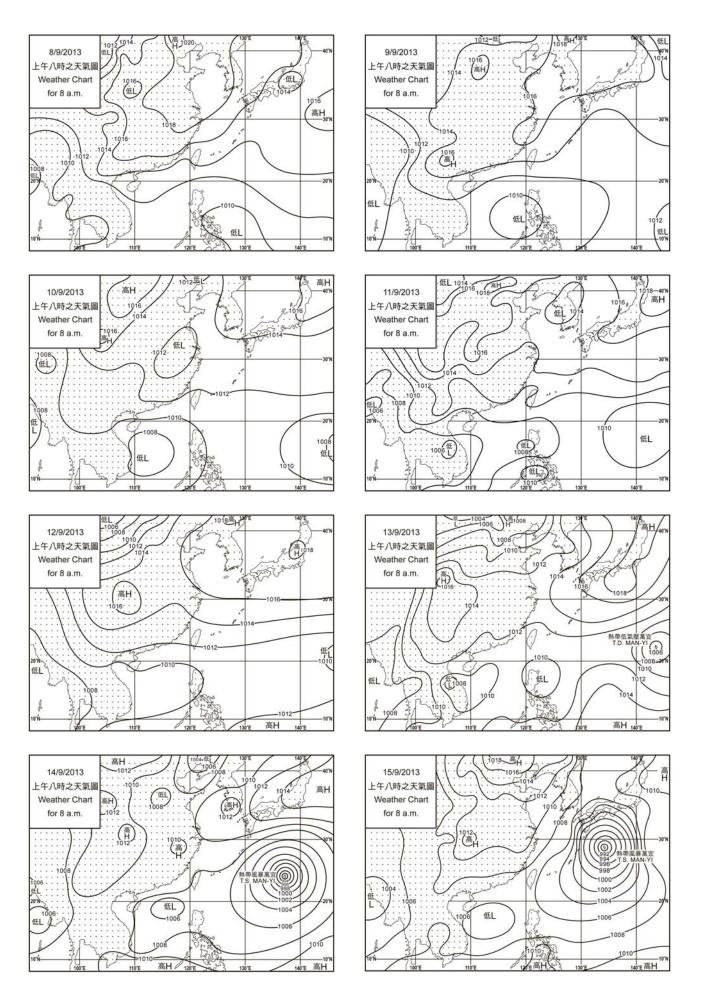
圖 2.2.6 二零一三年九月二十二日午夜時的雷達回波圖像,強颱風天兔最接近本港的一刻,其中心集結在香港天文台以北約80公里。

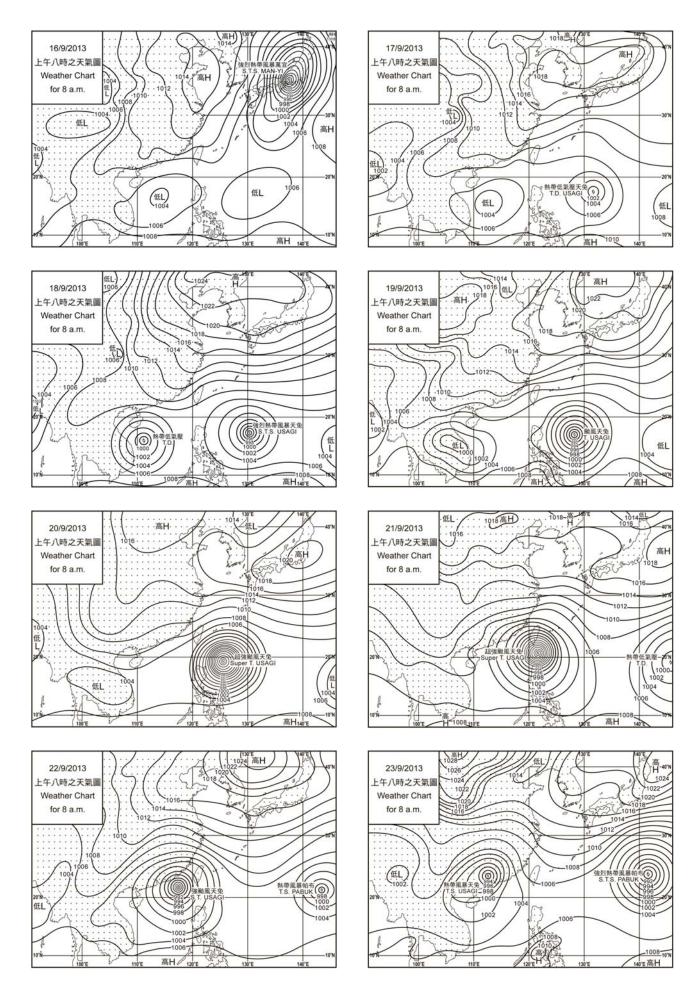
Figure 2.2.6 Image of radar echoes at midnight on 22 September 2013, when Severe Typhoon Usagi was closest to Hong Kong, with its centre about 80 km north of the Hong Kong Observatory.

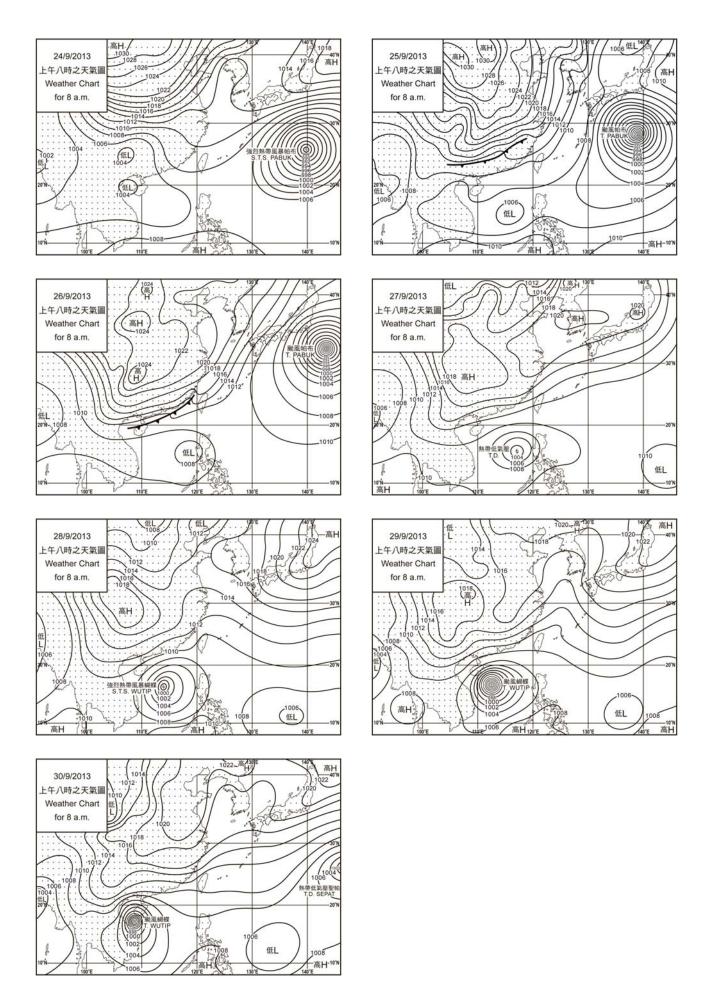
#### 3. 二零一三年九月每日天氣圖

#### 3. Daily Weather Maps for September 2013









#### 4.1.1 二零一三年九月香港氣象觀測摘錄(一)

#### 4.1.1 Extract of Meteorological Observations in Hong Kong (Part 1), September 2013

| 日 期<br>Date                | 平均氣壓             | 氣 溫<br>Air Temperature |              |                    | 平均<br>露點溫度                 | 平均<br>相對濕度                   | 平均雲量<br>Mean    | 總雨量               |
|----------------------------|------------------|------------------------|--------------|--------------------|----------------------------|------------------------------|-----------------|-------------------|
|                            | Mean<br>Pressure | 最高<br>Maximum          | 平均<br>Mean   | 最低<br>Minimum      | Mean Dew Point Temperature | Mean<br>Relative<br>Humidity | Amount of Cloud | Total<br>Rainfall |
| 九 月<br>September           | 百帕斯卡<br>hPa      | °C                     | °C           | °C                 | °C                         | %                            | %               | 毫米<br>mm          |
| 1                          | 1010.1           | 29.8                   | 27.2         | 25.1               | 23.6                       | 81                           | 77              | 1.0               |
| 2                          | 1010.4           | 30.4                   | 27.5         | 25.1               | 24.6                       | 84                           | 61              | 40.6              |
| 3                          | 1008.8           | 28.0                   | 26.0         | 25.0               | 24.8                       | 93                           | 83              | 5.0               |
| 4                          | 1009.2           | 26.4                   | 25.0         | 23.9               | 24.3                       | 96                           | 88              | 88.9              |
| 5                          | 1011.1           | 25.1                   | 24.1         | 23.6               | 23.8                       | 98                           | 89              | 197.7             |
| 6                          | 1013.2           | 29.5                   | 26.3         | 24.1               | 23.7                       | 86                           | 65              | 0.3               |
| 7                          | 1013.6           | 30.7                   | 27.5         | 25.4               | 23.6                       | 80                           | 35              | -                 |
| 8                          | 1013.9           | 31.1                   | 28.0         | 25.8               | 23.8                       | 78                           | 34              | -                 |
| 9                          | 1012.6           | 31.1                   | 28.2         | 26.3               | 24.0                       | 78                           | 54              | -                 |
| 10                         | 1010.6           | 31.8                   | 28.6         | 26.6               | 24.8                       | 81                           | 68              | -                 |
| 11                         | 1011.1           | 30.9                   | 28.4         | 27.1               | 25.1                       | 83                           | 66              | _                 |
| 12                         | 1011.5           | 31.7                   | 28.5         | 27.2               | 24.8                       | 81                           | 66              | _                 |
| 13                         | 1009.7           | 30.7                   | 27.8         | 26.8               | 24.4                       | 82                           | 76              | 0.2               |
| 14                         | 1006.8           | 31.5                   | 28.0         | 26.1               | 24.4                       | 81                           | 52              | -                 |
| 15                         | 1006.0           | 32.4                   | 28.2         | 25.9               | 24.9                       | 83                           | 47              | 15.2              |
| 16                         | 1007.5           | 30.8                   | 28.1         | 26.0               | 24.1                       | 79                           | 57              | 0.8               |
| 17                         | 1008.0           | 30.3                   | 27.8         | 26.7               | 22.2                       | 72                           | 55              | -                 |
| 18                         | 1008.3           | 30.2                   | 27.7         | 26.2               | 23.0                       | 76                           | 65              | Tr                |
| 19                         | 1007.9           | 31.4                   | 28.5         | 26.6               | 24.0                       | 77                           | 57              | -                 |
| 20                         | 1005.9           | 32.5                   | 29.2         | 27.2               | 24.8                       | 78                           | 61              | -                 |
| 21                         | 999.9            | 34.7                   | 31.2         | 28.3               | 22.4                       | 60                           | 63              | -                 |
| 22                         | 993.0            | 31.8                   | 28.0         | 25.2               | 23.4                       | 78                           | 88              | 30.6              |
| 23                         | 998.9            | 30.9                   | 27.9         | 24.8               | 25.6                       | 88                           | 92              | 56.9              |
| 24                         | 1006.7           | 30.6                   | 28.1         | 27.2               | 25.6                       | 86                           | 82              | 1.3               |
| 25                         | 1010.0           | 31.2                   | 28.2         | 26.8               | 24.1                       | 79                           | 60              | Tr                |
| 26                         | 1012.3           | 30.0                   | 27.5         | 25.2               | 23.0                       | 77                           | 62              | 0.1               |
| 27                         | 1011.7           | 29.7                   | 26.5         | 24.0               | 22.2                       | 77                           | 61              | 0.1               |
| 28                         | 1008.8           | 28.6                   | 26.5         | 24.6               | 23.0                       | 81                           | 80              | 2.6               |
| 29                         | 1008.0           | 27.1                   | 25.7         | 24.0               | 22.3                       | 82                           | 87              | 2.9               |
| 30                         | 1010.1           | 26.7                   | 25.3         | 23.8               | 23.9                       | 92                           | 88              | 10.0              |
| 平均/總值<br>Mean/Total<br>正常* | 1008.5<br>1008.9 | 30.3<br>30.1           | 27.5<br>27.7 | 25.7<br>25.8       | 23.9<br>23.4               | 82<br>78                     | 67<br>66        | 454.2<br>327.0    |
| Normal*<br>觀測站<br>Station  | 1000.7           | 30.1                   | 21.1         | 天文章<br>Hong Kong O |                            | ,0                           | 00              | 321.              |

天文台於九月二十二日 22 時 6 分錄得本月最低氣壓 985.7 百帕斯卡。

The minimum pressure recorded at the Hong Kong Observatory was 985.7 hectopascals at 2206 HKT on 22 September.

天文台於九月二十一日 14 時 22 分錄得本月最高氣溫 34.7°C。

The maximum air temperature recorded at the Hong Kong Observatory was 34.7 °C at 1422 HKT on 21 September.

天文台於九月五日 4 時 43 分錄得本月最低氣溫 23.6°C。

The minimum air temperature recorded at the Hong Kong Observatory was 23.6  $^{\circ}$  C at 0443 HKT on 5 September.

天文台於九月十五日 18 時 8 分錄得本月最高瞬時降雨率 232 毫米/小時。

The maximum instantaneous rate of rainfall recorded at the Hong Kong Observatory was 232 millimetres per hour at 1808 HKT on 15 September.

<sup>\* 1981-2010</sup> 氣候平均值 (除特別列明外) (http://www.hko.gov.hk/wxinfo/climat/normal/cnormal09.htm)

<sup>\* 1981-2010</sup> Climatological normal, unless otherwise specified (http://www.hko.gov.hk/wxinfo/climat/normal/enormal09.htm)

Tr - 微量 (降雨量少於 0.05 毫米)

 $<sup>\</sup>mbox{Tr}$  -  $\mbox{Trace}$  of rainfall (amount less than 0.05 mm)

#### 4.1.2 二零一三年九月香港氣象觀測摘錄(二)

#### 4.1.2 Extract of Meteorological Observations in Hong Kong (Part 2), September 2013

| 日期<br>Date                            | 出現低能見度的時數#<br>Number of hours of<br>Reduced Visibility# | 總日照<br>Total Bright<br>Sunshine | 每日太陽總輻射<br>Daily Global<br>Solar Radiation | 總蒸發量<br>Total<br>Evaporation | 盛行風向<br>Prevailing<br>Wind Direction | 平均風速<br>Mean<br>Wind Speed |  |
|---------------------------------------|---|---------------------------------|--|------------------------------|--------------------------------------|----------------------------|--|
| 九 月<br>September                      | 小時<br>hours   | 小時<br>hours                     | 兆焦耳/米 <sup>2</sup><br>MJ/m <sup>2</sup>    | 毫米<br>mm                     | 度<br>degrees                         | 公里/小時<br>km/h              |  |
| 1                                     | 1   | 6.9                             | 15.13                                      | 3.4                          | 230                                  | 11.8                       |  |
| 2                                     | 0   | 6.8                             | 16.95                                      | 2.5                          | 190                                  | 10.1                       |  |
| 3                                     | 0   | 0.3                             | 6.55                                       | 1.2                          | 030                                  | 6.9                        |  |
| 4                                     | 0   | -                               | 3.07                                       | 1.0                          | 090                                  | 22.1                       |  |
| 5                                     | 0   | -                               | 2.93                                       | 1.9                          | 090                                  | 28.0                       |  |
| 6                                     | 0   | 9.2                             | 22.48                                      | 2.5                          | 080                                  | 27.3                       |  |
| 7                                     | 0   | 10.4                            | 23.28                                      | 2.8                          | 070                                  | 21.2                       |  |
| 8                                     | 0   | 10.9                            | 24.11                                      | 6.3                          | 070                                  | 24.1                       |  |
| 9                                     | 0   | 10.1                            | 22.64                                      | 5.5                          | 070                                  | 27.0                       |  |
| 10                                    | 0   | 9.9                             | 23.75                                      | 5.9                          | 070                                  | 22.6                       |  |
| 11                                    | 0   | 8.4                             | 19.42                                      | 4.3                          | 070                                  | 22.0                       |  |
| 12                                    | 0   | 8.2                             | 22.24                                      | 5.8                          | 080                                  | 23.2                       |  |
| 13                                    | 0   | 6.4                             | 16.31                                      | 3.7                          | 060                                  | 21.1                       |  |
| 14                                    | 0   | 10.3                            | 19.90                                      | 4.5                          | 110                                  | 15.3                       |  |
| 15                                    | 1   | 5.6                             | 13.38                                      | 5.4                          | 110                                  | 9.5                        |  |
| 16                                    | 0   | 9.2                             | 21.84                                      | 6.6                          | 100                                  | 39.5                       |  |
| 17                                    | 0   | 6.9                             | 18.93                                      | 5.8                          | 090                                  | 49.3                       |  |
| 18                                    | 0   | 5.9                             | 18.40                                      | 4.8                          | 090                                  | 46.7                       |  |
| 19                                    | 0   | 8.1                             | 18.51                                      | 6.8                          | 100                                  | 30.4                       |  |
| 20                                    | 0   | 6.1                             | 14.50                                      | 3.5                          | 280                                  | 15.8                       |  |
| 21                                    | 0   | 10.5                            | 21.38                                      | 6.9                          | 020                                  | 24.9                       |  |
| 22                                    | 0   | -                               | 4.24                                       | 3.0                          | 010                                  | 45.1                       |  |
| 23                                    | 8   | 2.7                             | 11.44                                      | 3.8                          | 200                                  | 43.3                       |  |
| 24                                    | 0   | 4.0                             | 14.87                                      | 3.3                          | 100                                  | 30.1                       |  |
| 25                                    | 0   | 9.3                             | 21.49                                      | 5.9                          | 090                                  | 31.0                       |  |
| 26                                    | 0   | 6.7                             | 17.64                                      | 3.9                          | 070                                  | 34.1                       |  |
| 27                                    | 1   | 9.0                             | 20.86                                      | 5.3                          | 090                                  | 29.6                       |  |
| 28                                    | 2   | 3.3                             | 12.30                                      | 2.1                          | 050                                  | 31.0                       |  |
| 29                                    | 9   | 0.9                             | 8.26                                       | 1.7                          | 050                                  | 32.5                       |  |
| 30                                    | 4   | -                               | 2.46                                       | 6.2                          | 080                                  | 45.5                       |  |
| 平均/總值<br>Mean/Total<br>正常*<br>Normal* | 26<br>94.7 §  | 186.0<br>172.3                  | 15.98<br>14.61                             | 126.3<br>125.9               | 090<br>090                           | 27.4<br>22.6               |  |
| 觀測站<br>Station                        | 香港國際機場<br>Hong Kong<br>International Airport            | 京士柏<br>King's Park              |  |                              | 横瀾島<br>Waglan Island                 |                            |  |

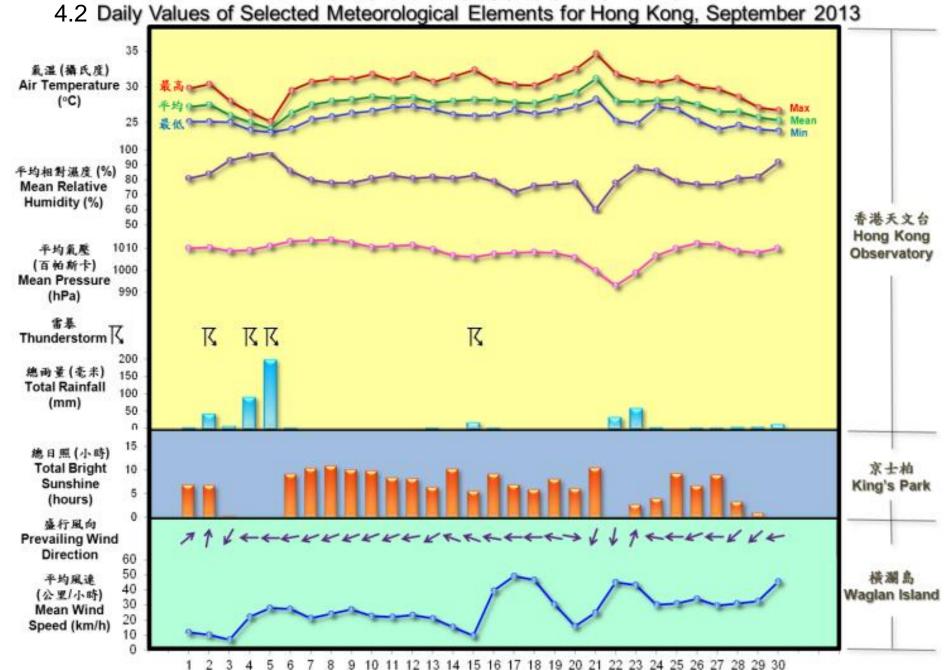
横瀾島於九月二十二日 23 時 50 分錄得本月最高陣風 110 公里/小時,風向 240 度。

The maximum gust peak speed recorded at Waglan Island was 110 kilometres per hour from 240 degrees at 2350 HKT on 22 September.

- # 低能見度是指能見度低於 8 公里,不包括出現霧、薄霧或降水。
- 在2004年及以前,香港國際機場的能見度讚數是基於專業氣象觀測員每小時的觀測數據。在2005年及以後,讚數是採用位於機場 南跑道中間的能見度儀表在每小時前10分鐘的平均數據。這與使用儀器觀測來改進能見度評估的國際趨勢是一致的。
- 在2007年10月10日前曾出現於此摘錄內香港國際機場2005年及以後的低能見度時數資料乃基於專業氣象觀測員每小時的觀測數據。 有關資料已於2007年10月10日起改爲以機場南跑道中間之能見度儀表在每小時前10分鐘的平均數據計算。
- # Reduced visibility refers to visibility below 8 kilometres when there is no fog, mist, or precipitation
  - The visibility readings at the Hong Kong International Airport are based on hourly observations by professional meteorological observers in 2004 and before, and average readings over the 10-minute period before the clock hour of the visibility meter near the middle of the south runway from 2005 onwards. The change of the data source in 2005 is an improvement of the visibility assessment using instrumented observations following the international trend
  - Before 10 October 2007, the number of hours of reduced visibility at the Hong Kong International Airport in 2005 and thereafter displayed in this summary was based on hourly visibility observations by professional meteorological observers. Since 10 October 2007, the data have been revised using the average visibility readings over the 10-minute period before the clock hour, as recorded by the visibility meter near the middle of the south runway
- \* 1981-2010 氣候平均値 (除特別列明外) (http://www.hko.gov.hk/wxinfo/climat/normal/cnormal09.htm)
- \* 1981-2010 Climatological normal, unless otherwise specified (http://www.hko.gov.hk/wxinfo/climat/normal/enormal/9.htm)
- § 1997-2012 平均値

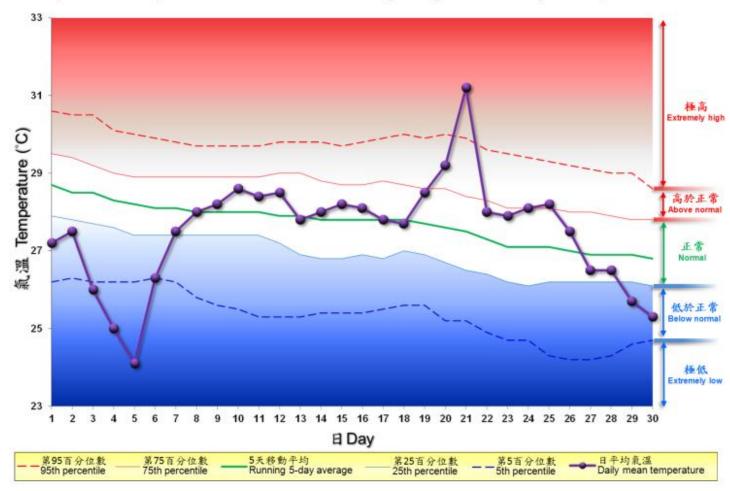
<sup>§ 1997-2012</sup> Mean value

4.2 2013年9月部分香港氣象要素的每日記錄



### 4.3 2013年9月香港天文台錄得的日平均氣溫

#### 4.3 Daily Mean Temperature recorded at the Hong Kong Observatory for September 2013



#### 備註:

極高: 高於第95百分位數

高於正常:介乎第75和第95百分位數之間 正常:介乎第25和第75百分位數之間 低於正常:介乎第5和第25百分位數之間

極低: 低於第5百分位數

百分位數值及5天移動平均值是基於1981至

2010 年的數據計算所得

#### Remarks:

Extremely high: above 95th percentile

Above normal: between 75th and 95th percentile Normal: between 25th and 75th percentile Below normal: between 5th and 25th percentile

Extremely low: below 5th percentile

Percentile and 5-day running average values are computed

based on the data from 1981 to 2010