

# 每月天氣摘要 二零二一年十二月

## Monthly Weather Summary December 2021



### 目錄

	<u>頁</u>
1. 二零二一年十二月天氣回顧	1
2. 二零二一年十二月影響北太平洋西部和南海的熱帶氣旋	6
3. 二零二一年十二月每日天氣圖	18
4. 二零二一年十二月氣象觀測資料	34
5. 二零二一年天氣概況	38

### Contents

	<u>Page</u>
1. Weather Review of December 2021	2
2. Tropical Cyclones over the western North Pacific and the South China Sea in December 2021	6
3. Daily Weather Maps for December 2021	18
4. Meteorological Observations for December 2021	34
5. The Year's Weather - 2021	44

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香港九龍彌敦道134A

1. 除特別列明外，所有時間均以協調世界時加八小時為準。
2. 除特別列明外，所有氣象要素數值均在香港天文台錄得。
3. 因惡劣天氣引致的人命傷亡及財物損毀數字是由各政府部門提供或根據報章報導輯錄。



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1. Unless otherwise stated, all times given are 8 hours ahead of Co-ordinated Universal Time (UTC).
2. Values of meteorological elements are those recorded at the Hong Kong Observatory, unless otherwise specified.
3. Figures of damage and casualties caused by weather phenomena are compiled from press reports and information provided by other government departments.

## 1. 二零二一年十二月天氣回顧

隨著熱帶氣旋雷伊影響南海北部並在香港以南掠過，天文台於二零二一年十二月二十日發出一號戒備信號。這是本港自一九四六年有記錄以來第二次需要在十二月發出熱帶氣旋警告信號。二零二一年十二月較正常溫暖，平均氣溫為 18.9 度，較正常值 18.2 度高 0.7 度 (或較 1981-2010 正常值高 1.0 度)。此外，由於年內有十一個月較正常溫暖，二零二一年是本港有記錄以來最暖的一年。全年平均氣溫 24.6 度、全年平均最高氣溫 27.5 度及全年平均最低氣溫 22.6 度全是自一八八四年有記錄以來最高。二零二一年十二月亦較正常少雨，總雨量為 19.5 毫米，較正常值 28.8 毫米少約百分之 32 (或較 1981-2010 正常值 26.8 毫米少百分之 27)。二零二一年總雨量為 2307.1 毫米，較正常值 2431.2 毫米少約百分之 5 (或較 1981-2010 正常值 2398.5 毫米少百分之 4)。

受一股乾燥的東北季候風及其後之補充所支配，本月首兩星期本港普遍天晴。十二月一日至四日本港天氣亦非常乾燥。隨著東北季候風緩和及一道雲帶覆蓋廣東沿岸及南海北部，十二月十四日晚上及翌日本港天氣轉為大致多雲及有幾陣微雨。除早上有幾陣雨外，十二月十六日日間相當溫暖及部分時間有陽光。當日天文台氣溫上升至全月最高的 25.8 度。受一股強烈東北季候風影響，十二月十七日及隨後兩天本港天氣顯著轉涼及乾燥。

與此同時，超強颱風雷伊在肆虐菲律賓後減弱為強颱風，並於十二月十七日繼續向西移動，進入南海南部。雷伊於十二月十八日再次增強為超強颱風，成為自一九六一年以來首個在十二月影響南海的超強颱風。雷伊於十二月十九日逐漸轉向北移動，移向南海北部並逐步減弱。隨著雷伊減弱為強烈熱帶風暴並向東北移動靠近廣東沿岸，天文台於十二月二十日早上發出一號戒備信號。這是自一九四六年以來年內最遲發出的熱帶氣旋警告信號，打破了艾瑪於一九七四年創下的紀錄。雷伊於十二月二十一日繼續向東北移動，橫過南海北部，並在南海北部逐步減弱為低壓區。

受與雷伊相關的雲雨帶影響，十二月二十日至二十一日本港有雨及天氣清涼。這兩天大嶼山及新界西北部錄得超過 20 毫米雨量。十二月二十二日至二十四日本港持續大致多雲及有幾陣雨。

一股強烈冬季季候風於十二月二十五日早上抵達廣東沿岸。當日本港大致多雲及日間部分時間有陽光，晚間天氣轉涼。受冬季季候風及高空擾動影響，十二月二十六日至二十八日本港多雲、天氣寒冷及有幾陣雨。天文台氣溫於十二月二十七日早上下降至全月最低的 9.9 度。隨著覆蓋廣東沿岸的雲層轉薄及受乾燥的東北季候風影響，本月餘下時間本港天氣轉為普遍天晴、乾燥及早上清涼。

本月有兩個熱帶氣旋影響南海及北太平洋西部。

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



## 1. The Weather of December 2021

With tropical cyclone Rai affecting the northern part of the South China Sea and skirting past to the south of Hong Kong, the Observatory issued the Standby Signal No. 1 on 20 December 2021. It was the second time in Hong Kong necessitating the issuance of tropical cyclone warning signal in December since 1946. December 2021 was warmer than usual with a mean temperature of 18.9 degrees, 0.7 degrees above the normal figure of 18.2 degrees (or 1.0 degree above the 1981-2010 normals). Moreover, with eleven out of the twelve months warmer than usual, 2021 was the warmest year on record in Hong Kong. The annual mean temperature of 24.6 degrees, annual mean maximum temperature of 27.5 degrees and annual mean minimum temperature of 22.6 degrees were all the highest since records began in 1884. December 2021 was also drier than usual with a total rainfall of 19.5 millimetres, about 32 percent below the normal of 28.8 millimetres (or 27 percent below the 1981-2010 normal of 26.8 millimetres). The annual total rainfall of 2307.1 millimetres in 2021 was about 5 percent below the annual normal of 2431.2 millimetres (or 4 percent below the 1981-2010 normal of 2398.5 millimetres).

Dominated by a dry northeast monsoon and the subsequent replenishment, the weather of Hong Kong was generally fine in the first two weeks of the month. The weather was also very dry on 1 – 4 December. With the moderation of the northeast monsoon and a cloud band covering the coast of Guangdong and the northern part of the South China Sea, local weather became mainly cloudy with a few light rain patches on the night of 14 December and the following day. Apart from a few rain patches in the morning, it was rather warm with sunny periods during the day on 16 December. The temperatures at the Observatory rose to a maximum of 25.8 degrees that day, the highest of the month. Under the influence of an intense northeast monsoon, the weather of Hong Kong became appreciably cooler and dry on 17 December and the next two days.

Meanwhile, after wreaking havoc in the Philippines, Super Typhoon Rai weakened into a severe typhoon and continued to move westwards entering the southern part of the South China Sea on 17 December. It re-intensified into a super typhoon on 18 December, making it the first super typhoon occurred in the South China Sea in December since 1961. Rai gradually turned to move north towards the northern part of the South China Sea on 19 December and weakened progressively. With Rai weakening into a severe tropical storm and tracking northeastwards towards the coast of Guangdong, the Observatory issued the Standby Signal No.1 on the morning of 20 December 2021. Breaking the record of Irma in 1974, Rai became the storm which necessitated the issuance of the



latest tropical cyclone warning signal in a year since 1946. Rai continued to move northeastwards across the northern part of the South China Sea and progressively weakened into an area of low pressure over the northern part of the South China Sea on 21 December.

Affected by the rain-bearing cloud band associated with Rai, it was rainy and cool in Hong Kong on 20 – 21 December. More than 20 millimeters of rainfall were recorded over Lantau Island and the northwestern part of the New Territories on these two days. Local weather remained mainly cloudy with a few rain patches on 22 – 24 December.

An intense winter monsoon reached the coast of Guangdong on the morning of 25 December. Locally, the weather was mainly cloudy with sunny periods during the day and became cool that night. Under the influence of the winter monsoon and an upper air disturbance, it was cloudy and cold with a few rain patches on 26 – 28 December. The temperatures at the Observatory plummeted to a minimum of 9.9 degrees on the morning of 27 December, the lowest of the month. With the prevalence of the dry northeast monsoon and thinning out of clouds covering the coast of Guangdong, the weather of Hong Kong turned generally fine and dry with cool mornings for the rest of the month.

Two tropical cyclones occurred over the South China Sea and the western North Pacific in December 2021.

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 二零二一年十二月發出的警告及信號

Table 1.1 Warnings and Signals issued in December 2021

熱帶氣旋警告信號

Tropical Cyclone Warning Signals

熱帶氣旋名稱 Name of Tropical Cyclone	信號 Signal Number	開始時間 Beginning Time		終結時間 Ending Time	
		日/月 day/month	時 hour	日/月 day/month	時 hour
		雷伊 RAI	1	20/12	1120

強烈季候風信號

Strong Monsoon Signal

開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour
30/11	0900	2/12	0145
8/12	0045	8/12	0845

火災危險警告

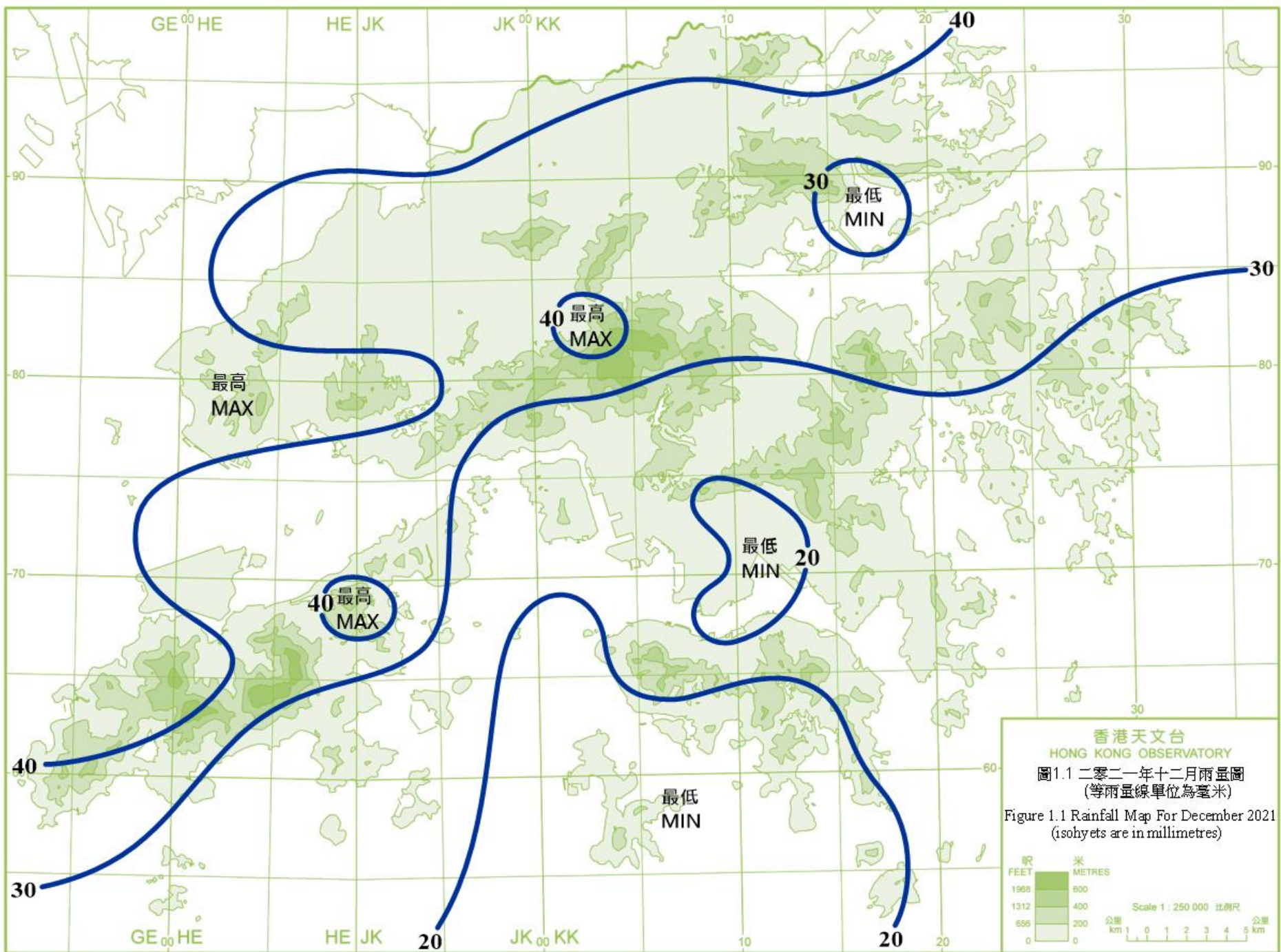
Fire Danger Warnings

顏色 Colour	開始時間 Beginning Time		終結時間 Ending Time	
	日/月 day/month	時 hour	日/月 day/month	時 hour
紅色 Red	30/11	0600	6/12	2145
黃色 Yellow	12/12	0600	12/12	1800
黃色 Yellow	18/12	0600	19/12	0745
紅色 Red	19/12	0745	19/12	2345

寒冷天氣警告

Cold Weather Warning

開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour
26/12	1100	28/12	1145



香港天文台  
HONG KONG OBSERVATORY  
圖1.1 二零二一年十二月雨量圖  
(等雨量線單位為毫米)

Figure 1.1 Rainfall Map For December 2021  
(isohyets are in millimetres)

## 2.1 二零二一年十二月的熱帶氣旋概述

二零二一年十二月在北太平洋西部及南海區域出現了兩個熱帶氣旋，當中雷伊引致香港天文台需要發出熱帶氣旋警告信號，是自一九四六年以來年內最遲發出的熱帶氣旋警告信號。

熱帶低氣壓妮亞圖於十一月三十日凌晨在雅蒲島之東北偏北約 360 公里的北太平洋西部上形成，向西北偏西方向移動，移向菲律賓以東海域並逐漸增強。妮亞圖於十二月一日早上增強為強烈熱帶風暴，隨後逐漸轉向東北方向移動，移向硫磺島一帶並持續增強。妮亞圖於十二月三日早上進一步增強為超強颱風並達到其最高強度，中心附近最高持續風速估計為每小時 185 公里。當晚妮亞圖減弱為強颱風，最後在硫磺島以東海域演變為一股溫帶氣旋。

熱帶低氣壓雷伊於十二月十二日晚上在馬尼拉之東南偏東約 2 640 公里的太平洋西部上形成，向西北偏西方向移動並逐漸增強。雷伊於十二月十五日開始迅速增強，翌日發展為超強颱風。雷伊橫過菲律賓後減弱為強颱風，十二月十七日向西移動，橫過南海南部。雷伊翌日再度增強為超強颱風，成為自一九六一年以來首個在十二月於南海出現的超強颱風。十二月十九日凌晨雷伊達到其最高強度，中心附近最高持續風速估計為每小時 205 公里。隨後兩日雷伊逐漸轉向東北方向移動，靠近廣東沿岸並迅速減弱，最後於十二月二十一日在香港以南海域減弱為一個低壓區。

根據報章報導，雷伊吹襲菲律賓期間造成最少 409 人死亡，超過十萬人需要撤離。有關雷伊的詳細資料及對香港的影響，請參閱它的熱帶氣旋報告。



## 2.1 Overview of Tropical Cyclone in December 2021

Two tropical cyclones occurred over the western North Pacific and the South China Sea in December 2021. Among them, Rai necessitated the issuance of the tropical cyclone warning signals by the Observatory, which was the latest tropical cyclone warning signal in a year since 1946.

Nyatoh formed as a tropical depression over the western North Pacific about 360 km north-northeast of Yap on the early morning of 30 November. It moved west-northwestwards towards the seas east of the Philippines and intensified gradually. Nyatoh intensified into a severe tropical storm on the morning of 1 December. It then turned gradually to move northeastwards towards the vicinity of Iwo Jima and continued to intensify. Nyatoh further intensified into a super typhoon on the

morning of 3 December and reached its peak intensity with an estimated maximum sustained wind of 185 km/h near its centre. Nyatoh weakened into a severe typhoon that night and finally evolved into an extratropical cyclone over the seas east of Iwo Jima.

Rai formed as a tropical depression over the western North Pacific about 2 640 km east-southeast of Manila on the night of 12 December. It moved west-northwestwards and intensified gradually. Rai started to intensify rapidly on 15 December and developed into a super typhoon on the next day. After sweeping across the Philippines, Rai weakened into a severe typhoon and moved westwards across the southern part of the South China Sea on 17 December. Rai re-intensified into a super typhoon the next day and became the first super typhoon over the South China Sea in December since 1961. It reached its peak intensity in the small hours on 19 December with an estimated maximum sustained wind of 205 km/h near its centre. Turning to move northeastwards gradually in the following two days, Rai edged closer to the coast of Guangdong and weakened rapidly. It finally degenerated into an area of low pressure over the seas south of Hong Kong on 21 December.

According to press reports, Rai left at least 409 deaths and over 100 000 people evacuated in the Philippines during its passage. For detailed information of Rai including its impact to Hong Kong, please refer to the Tropical Cyclone Report of Rai.

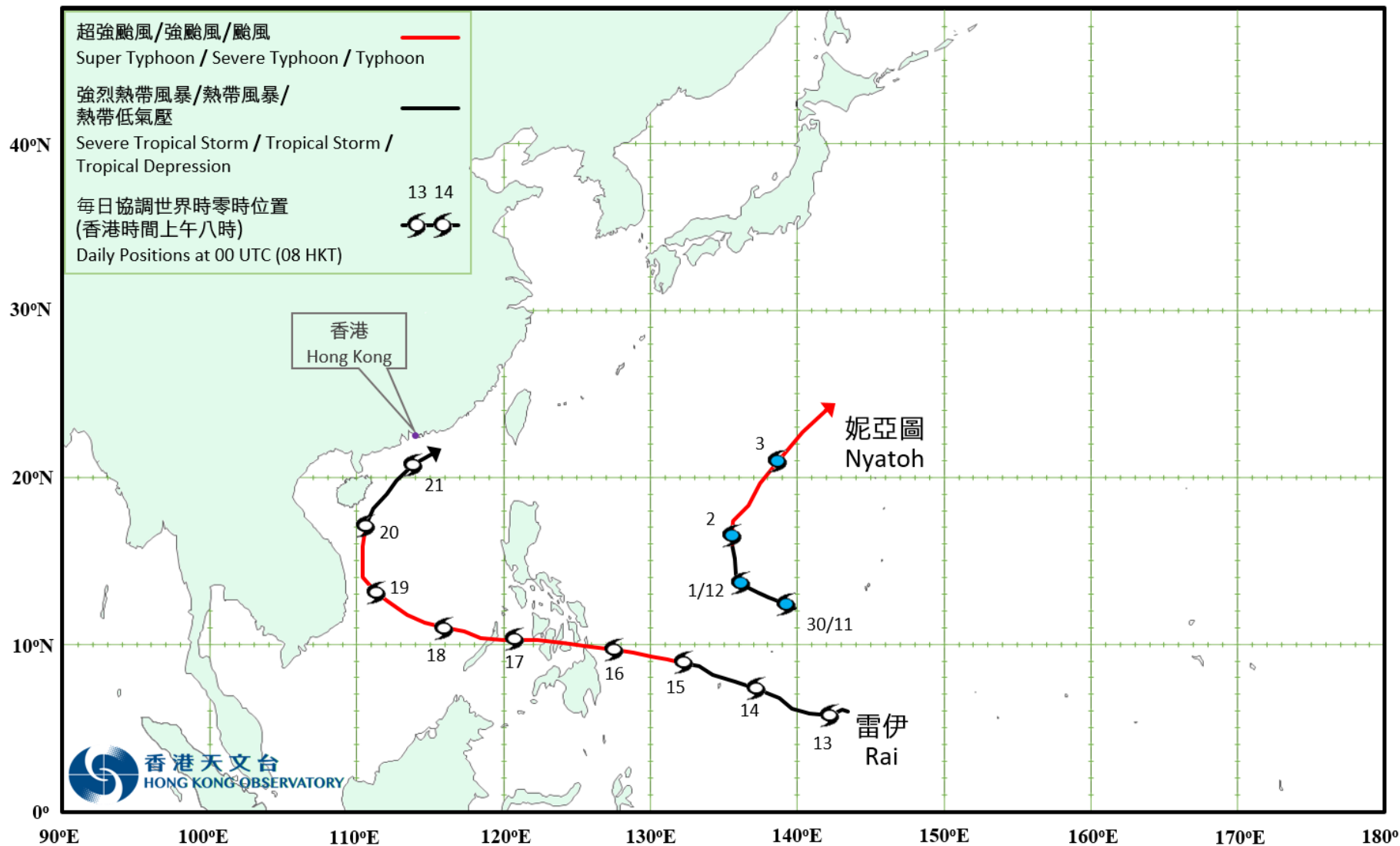


圖 2.1 二零二一年十二月的熱帶氣旋暫定路徑圖  
Fig. 2.1 Provisional Tropical Cyclone Tracks in December 2021

## 2.2 超強颱風雷伊(2122)

二零二一年十二月十二日至二十一日

雷伊是二零二一年第八個影響香港的熱帶氣旋。香港入冬後一般甚少受熱帶氣旋直接威脅，然而雷伊在十二月二十日逐漸靠近廣東沿岸，天文台需要發出一號戒備信號。這是自一九四六年以來年內最遲發出的熱帶氣旋警告信號，打破了艾瑪於一九七四年十二月初創下的紀錄。

熱帶低氣壓雷伊於十二月十二日晚上在馬尼拉之東南偏東約 2640 公里的太平洋西部上形成，向西北偏西方向移動並逐漸增強。雷伊於十二月十五日開始迅速增強，翌日發展為超強颱風。雷伊橫過菲律賓後減弱為強颱風，十二月十七日向西移動，橫過南海南部。雷伊翌日再度增強為超強颱風，成為自一九六一年以來首個在十二月於南海出現的超強颱風。十二月十九日凌晨雷伊達到其最高強度，中心附近最高持續風速估計為每小時 205 公里。隨後兩日雷伊逐漸轉向東北方向移動，靠近廣東沿岸並迅速減弱，最後於十二月二十一日正午過後在香港以南海域減弱為一個低壓區。

天文台在十二月二十日上午 11 時 20 分發出一號戒備信號，當時雷伊集結在香港之西南偏南約 630 公里。在雷伊及東北季候風的共同影響下，當日本港吹清勁東北風，離岸及高地間中吹強風。翌日雷伊加速向東北靠近廣東沿岸並迅速減弱。雷伊在十二月二十一日上午十一時左右最接近本港，其中心位於在本港之東南偏南約 140 公里。隨著雷伊正午過後在香港以南海域減弱為一個低壓區，天文台在當日下午 12 時 20 分取消所有熱帶氣旋警告信號。

在雷伊的影響下，尖鼻咀錄得最高潮位 2.93 米(海圖基準面以上)，而大廟灣則錄得最大風暴潮(天文潮高度以上)0.28 米。天文台總部於十二月二十一日上午 5 時 31 分錄得最低瞬時海平面氣壓 1011.9 百帕斯卡。

受東北季候風及與雷伊相關的雲雨帶影響，十二月二十日至二十一日本港天氣清涼及有雨。這兩天大嶼山及新界西北部錄得超過 25 毫米雨量。

雷伊吹襲香港期間並沒有造成嚴重破壞。根據報章報導，雷伊吹襲菲律賓期間造成最少 409 人死亡，超過十萬人需要撤離。

## **2.2 Super Typhoon Rai (2122) 12 - 21 December 2021**

Rai was the eighth tropical cyclone affecting Hong Kong in 2021. It is rare to have tropical cyclones directly threatening Hong Kong in winter. However, as Rai gradually edged closer to the coast of Guangdong, the Observatory issued the Standby Signal No. 1 on 20 December. This is the latest tropical cyclone warning signal in a year since 1946, breaking the record of Irma in early December 1974.

Rai formed as a tropical depression over the western North Pacific about 2 640 km east-southeast of Manila on the night of 12 December. It moved west-northwestwards and intensified gradually. Rai started to intensify rapidly on 15 December and developed into a super typhoon on the next day. After sweeping across the Philippines, Rai weakened into a severe typhoon and moved westwards across the southern part of the South China Sea on 17 December. Rai re-intensified into a super typhoon the next day and became the first super typhoon occurring over the South China Sea in December since 1961. It reached its peak intensity in the small hours on 19 December with an estimated maximum sustained wind of 205 km/h near its centre. Turning to move northeastwards gradually on the following two days, Rai edged closer to the coast of Guangdong and weakened rapidly. It finally degenerated into an area of low pressure over the seas south of Hong Kong shortly after noon on 21 December.

The Standby Signal No. 1 was issued at 11:20 am on 20 December when Rai was about 630 km south-southwest of Hong Kong. Under the combined effect of Rai and the northeast monsoon, local winds were fresh northeasterlies, occasionally reaching strong force offshore and on high ground on that day. Rai picked up speed to move northeastwards towards the coast of Guangdong and weakened rapidly the next day. It came closest to the territory around 11:00 a.m. on 21 December with its centre about 140 km south-southeast of Hong Kong. As Rai degenerated into an area of low pressure over the seas south of Hong Kong shortly after noon, all tropical cyclone warning signals were cancelled at 12:20 p.m. on that day.

Under the influence of Rai, a maximum sea level (above chart datum) of 2.93 m was recorded at Tsim Bei Tsui. A maximum storm surge of 0.28 m (above astronomical tide) was recorded at Tai Miu Wan. At the Observatory Headquarters, the lowest instantaneous mean sea-level pressure of 1011.9 hPa was recorded at 5:31 a.m. on 21 December.

Affected by the northeast monsoon and the rain-bearing cloud band associated with Rai, it was rainy and cool in Hong Kong on 20 – 21 December. More than 25 millimeters of rainfall were recorded over Lantau Island and the northwestern part of the New Territories on these two days.

Rai did not cause significant damage in Hong Kong. According to press reports, Rai



left at least 409 deaths and over 100 000 people were evacuated in the Philippines during its passage.

表 2.2.1 在雷伊影響下，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 Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when the tropical cyclone warning signals for Rai were in force

站 Station ( <a href="https://www.hko.gov.hk/te/informtc/station2021.html">https://www.hko.gov.hk/te/informtc/station2021.html</a> )		最高陣風 Maximum Gust					最高每小時平均風速 Maximum Hourly Mean Wind				
		風向 Direction		風速 (公里/時) Speed (km/h)	日期/月份 Date/Month	時間 Time	風向 Direction		風速 (公里/時) Speed (km/h)	日期/月份 Date/Month	時間 Time
中環碼頭	Central Pier	東	E	34	20/12	17:05	東南偏東	ESE	18	20/12	15:00
長洲	Cheung Chau	西北偏北	NNW	65	21/12	12:16	北	N	38	21/12	12:00
長洲泳灘	Cheung Chau Beach	東北	NE	60	21/12	11:47	東北偏北	NNE	33	21/12	02:00
青洲	Green Island	東北	NE	57	21/12	01:28	東北偏東	ENE	40	21/12	02:00
香港國際機場	Hong Kong International Airport	東北	NE	33	20/12	13:17	東北	NE	21	21/12	01:00
啟德	Kai Tak	東北偏東	ENE	39	20/12	14:31	西北偏西	WNW	14	21/12	11:00
京士柏	King's Park	東	E	41	20/12	20:44	東	E	17	20/12	22:00
南丫島	Lamma Island	西北	NW	48	21/12	12:16	西北	NW	34	21/12	12:00
流浮山	Lau Fau Shan	東北偏北	NNE	30	20/12	22:05	東	E	19	20/12	12:00
昂坪	Ngong Ping	東北偏東	ENE	60	20/12	19:40	東北偏東	ENE	46	20/12	20:00
		東北偏東	ENE	60	20/12	19:41					
北角	North Point	東	E	41	21/12	01:04	東	E	24	21/12	01:00
坪洲	Peng Chau	西北偏北	NNW	52	21/12	11:53	西北偏北	NNW	35	21/12	12:00
平洲	Ping Chau	東北	NE	30	20/12	22:18	西北	NW	8	21/12	06:00
							西北	NW	8	21/12	07:00
西貢	Sai Kung	東北偏北	NNE	48	21/12	11:23	北	N	22	21/12	12:00
沙洲	Sha Chau	北	N	45	21/12	02:35	北	N	35	20/12	20:00
沙螺灣	Sha Lo Wan	東北偏東	ENE	23	20/12	20:31	東北偏東	ENE	10	21/12	00:00
							東北	NE	10	21/12	01:00
沙田	Sha Tin	東北	NE	27	20/12	14:16	北	N	12	20/12	21:00
							北	N	12	21/12	03:00
九龍天星碼頭	Star Ferry (Kowloon)	東南偏東	ESE	30	20/12	14:36	東	E	17	20/12	12:00
打鼓嶺	Ta Kwu Ling	北	N	33	21/12	09:59	北	N	14	21/12	11:00
大美督	Tai Mei Tuk	東北偏北	NNE	53	21/12	01:31	東北偏北	NNE	31	21/12	03:00
		東北偏北	NNE	53	21/12	02:42					
大帽山	Tai Mo Shan	東南偏東	ESE	79	21/12	02:23	東	E	60	20/12	20:00
大埔滘	Tai Po Kau	西	W	30	21/12	10:11	西	W	19	21/12	11:00
塔門東	Tap Mun East	北	N	41	21/12	11:33	北	N	19	21/12	11:00
大老山	Tate's Cairn	東北	NE	66	21/12	01:14	東	E	48	20/12	21:00
將軍澳	Tseung Kwan O	東北偏北	NNE	34	21/12	02:32	東北偏東	ENE	12	21/12	10:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	西北	NW	23	21/12	07:20	西北	NW	9	21/12	05:00
		西北	NW	23	21/12	07:21					
屯門政府合署	Tuen Mun Government Offices	東北偏北	NNE	35	20/12	13:03	東北偏北	NNE	17	20/12	14:00
橫瀾島	Waglan Island	東北	NE	68	21/12	00:41	東北偏東	ENE	57	21/12	01:00
濕地公園	Wetland Park	東北偏東	ENE	23	20/12	11:35	東北偏東	ENE	10	20/12	12:00
黃竹坑	Wong Chuk Hang	北	N	53	20/12	22:19	東北偏東	ENE	21	21/12	02:00

黃麻角(赤柱)、石崗 - 沒有資料 Bluff Head (Stanley), Shek Kong - data not available

表 2.2.2 雷伊影響香港期間，香港天文台總部及其他各站所錄得的日雨量

Table 2.2.2 Daily rainfall amounts recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Rai

站 (參閱圖 2.2.2) Station (See Fig. 2.2.2)			十二月二十日 20 Dec	十二月二十一日 21 Dec	總雨量(毫米) Total rainfall (mm)
香港天文台 Hong Kong Observatory (HKO)			9.4	2.4	11.8
香港國際機場 Hong Kong International Airport (HKA)			15.5	12.8	28.3
長洲 Cheung Chau (CCH)			8.0	6.5	14.5
H23	香港仔	Aberdeen	5.5	1.0	6.5
N05	粉嶺	Fanling	12.5	9.0	21.5
N13	糧船灣	High Island	11.0	5.0	16.0
K04	佐敦谷	Jordan Valley	11.0	4.5	15.5
N06	葵涌	Kwai Chung	8.5	1.5	10.0
H12	半山區	Mid Levels	11.5	3.5	15.0
N09	沙田	Sha Tin	11.0	7.0	18.0
H19	筲箕灣	Shau Kei Wan	10.0	4.5	14.5
SEK	石崗	Shek Kong	12.5	6.5	19.0
K06	蘇屋邨	So Uk Estate	11.0	1.5	12.5
R31	大美督	Tai Mei Tuk	8.5	4.5	13.0
R21	踏石角	Tap Shek Kok	12.0	16.0	28.0
N17	東涌	Tung Chung	14.5	17.5	32.0
TMR	屯門水庫	Tuen Mun Reservoir	13.7	16.9	30.6

表 2.2.3 雷伊影響香港期間，香港各潮汐站所錄得的最高潮位及最大風暴潮

Table 2.2.3 Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Rai

站 Station ( <a href="https://www.hko.gov.hk/tc/informtc/station2021.html">https://www.hko.gov.hk/tc/informtc/station2021.html</a> )		最高潮位 (海圖基準面以上) Maximum sea level (above chart datum)			最大風暴潮 (天文潮高度以上) Maximum storm surge (above astronomical tide)		
		高度(米) Height (m)	日期/月份 Date/Month	時間 Time	高度(米) Height (m)	日期/月份 Date/Month	時間 Time
鰗魚涌	Quarry Bay	2.56	20/12	21:17	0.22	21/12	06:27
石壁	Shek Pik	2.68	20/12	21:00	0.25	21/12	03:37
大廟灣	Tai Miu Wan	2.53	20/12	21:05	0.28	21/12	06:08
大埔滘	Tai Po Kau	2.53	20/12	19:49	0.27	21/12	06:23
尖鼻咀	Tsim Bei Tsui	2.93	20/12	22:13	0.25	21/12	06:23

橫瀾島 - 沒有資料 Waglan Island - data not available

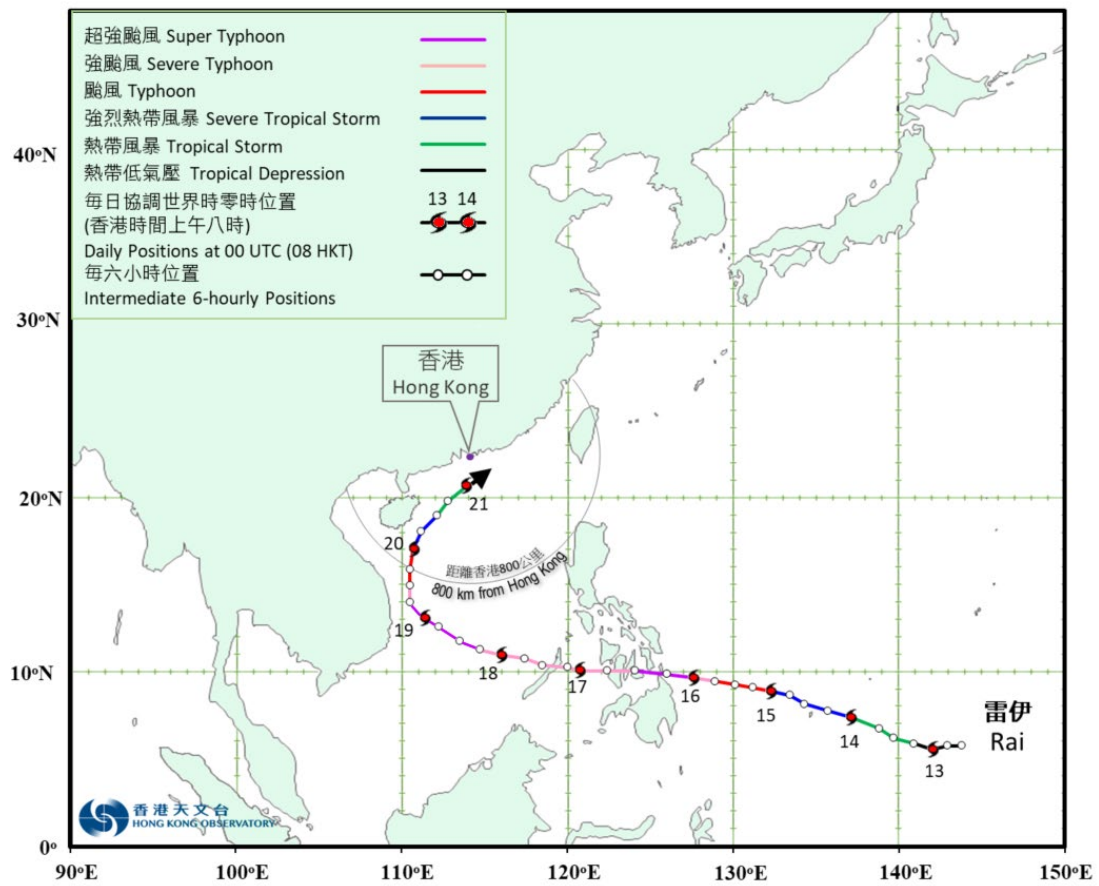


圖 2.2.1a 二零二一年十二月十二日至二十一日雷伊(2122)的暫定路徑圖。  
 Figure 2.2.1a Provisional track of Rai (2122): 12 - 21 December 2021.

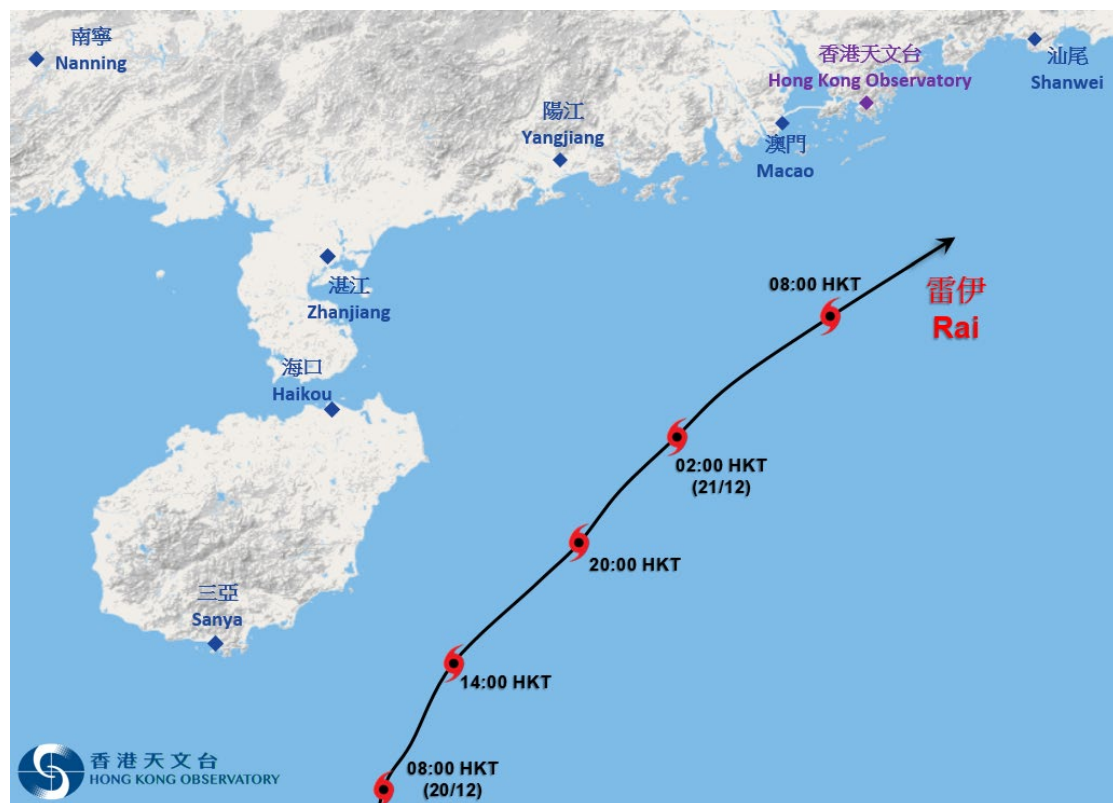


圖 2.2.1b 雷伊接近香港時的暫定路徑圖  
 Figure 2.2.1b Provisional Track of Rai near Hong Kong

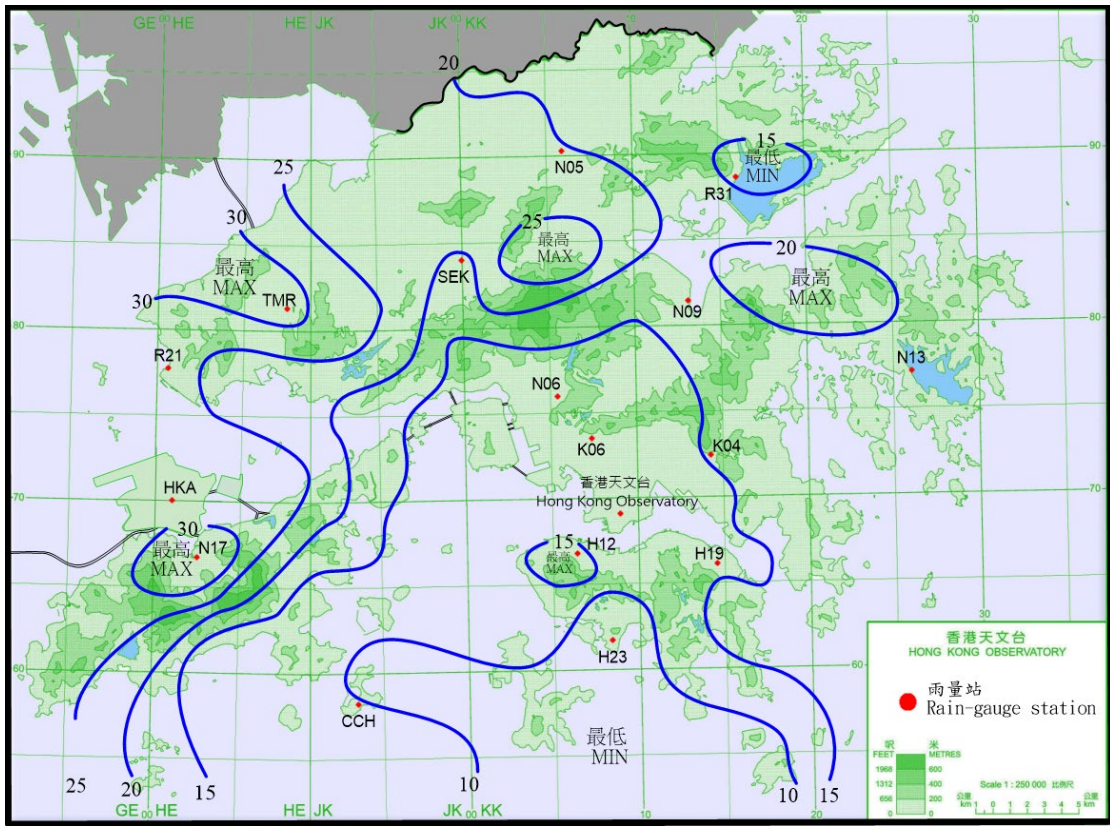


圖 2.2.2 二零二一年十二月二十日至二十一日之雨量分佈  
(等雨量線單位為毫米)。

Figure 2.2.2 Rainfall distribution on 20 – 21 December 2021  
(isohyets are in millimetres).

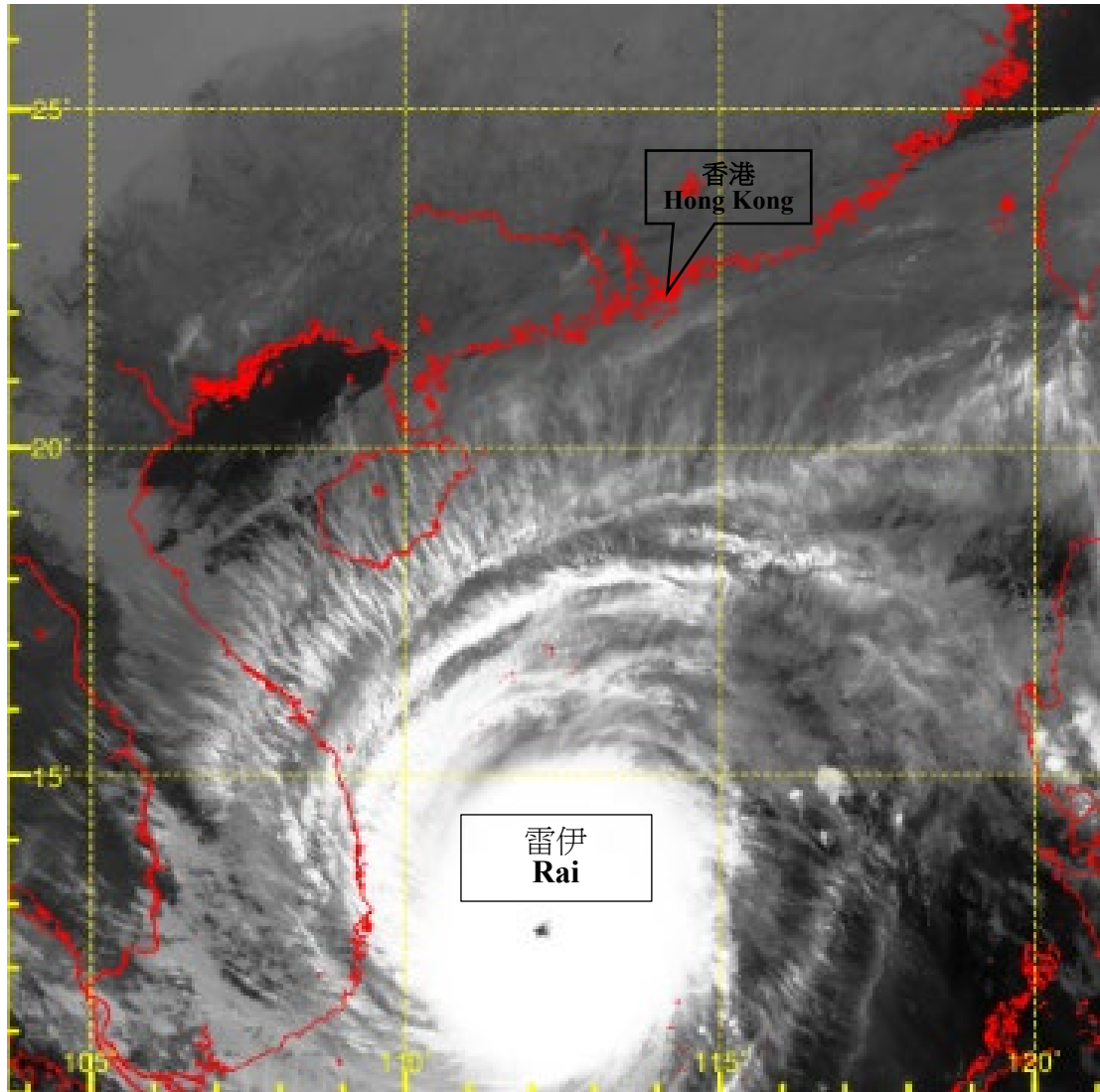


圖 2.2.3 二零二一年十二月十九日上午 2 時左右的紅外線衛星圖片，當時雷伊達到其最高強度，中心附近最高持續風速估計為每小時 205 公里。

Figure 2.2.3 Infra-red satellite imagery around 2 a.m. on 19 December 2021 when Rai was at its peak intensity with estimated maximum sustained winds of 205 km/h near its centre.

〔此衛星圖像接收自日本氣象廳的向日葵 8 號衛星。〕

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



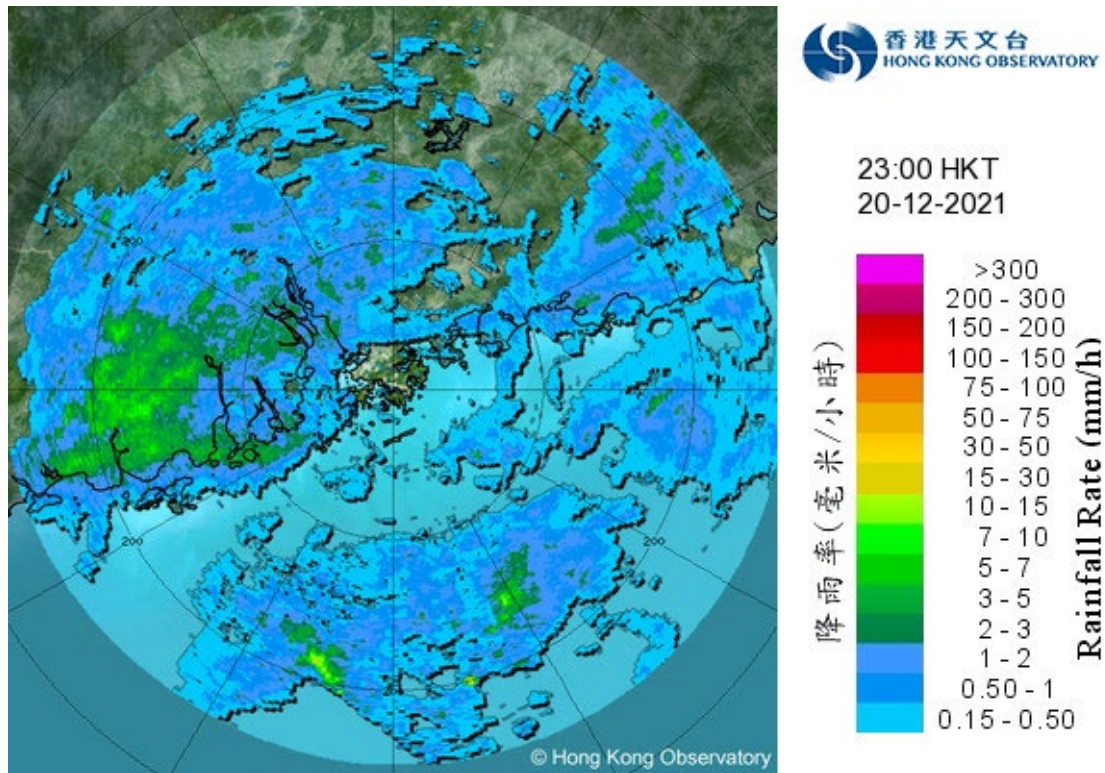


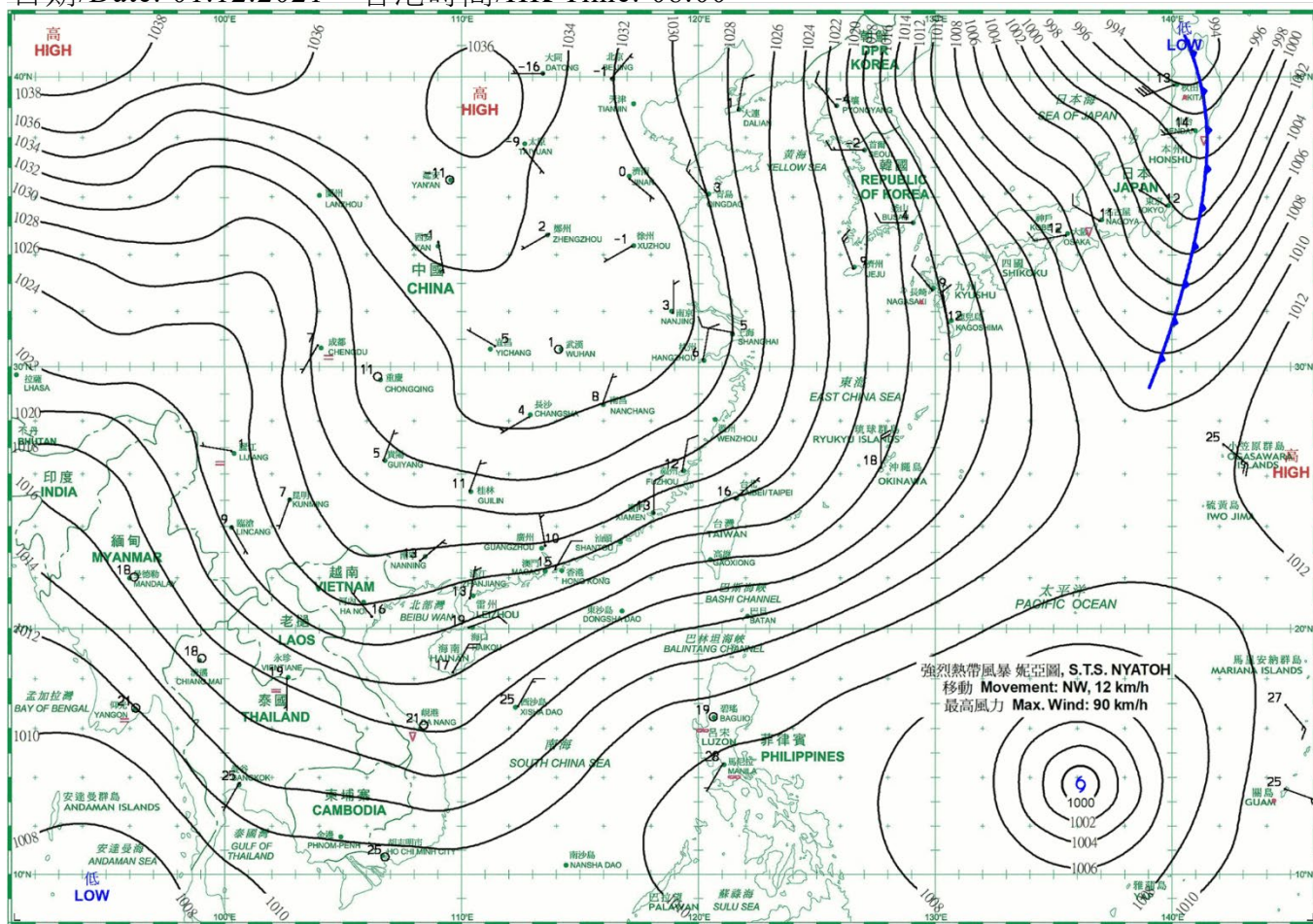
圖 2.2.4 二零二一年十二月二十日下午 11 時的雷達回波圖像，當時與雷伊相關的雨帶正影響廣東沿岸及南海北部。

Figure 2.2.4 Radar echoes captured at 11 p.m. on 20 December 2021 when the rainbands associated with Rai were affecting the coast of Guangdong and the northern part of the South China Sea.

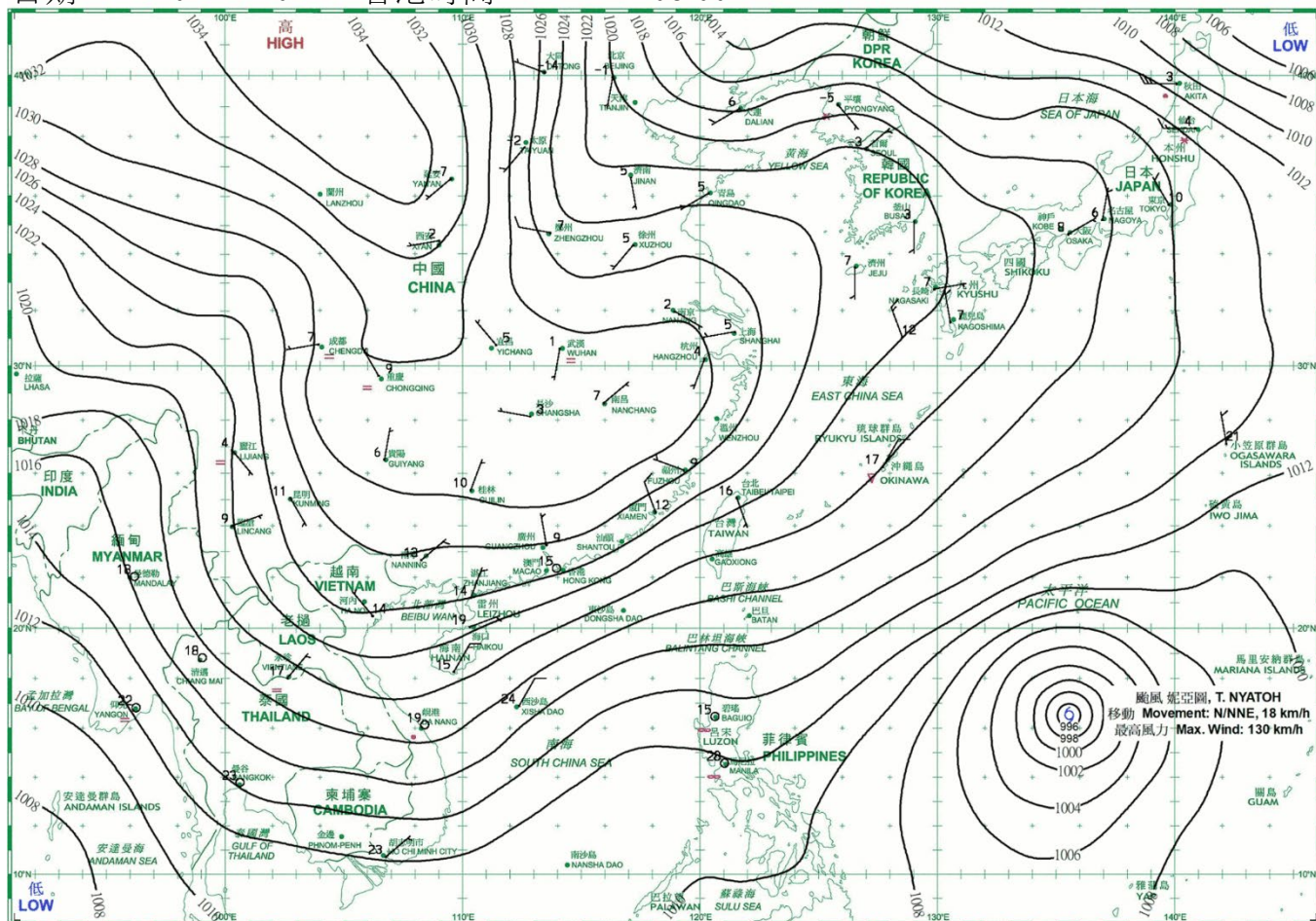


### 3. 二零二一年十二月每日天氣圖 Daily Weather Maps for December 2021

日期/Date: 01.12.2021 香港時間/HK Time: 08:00



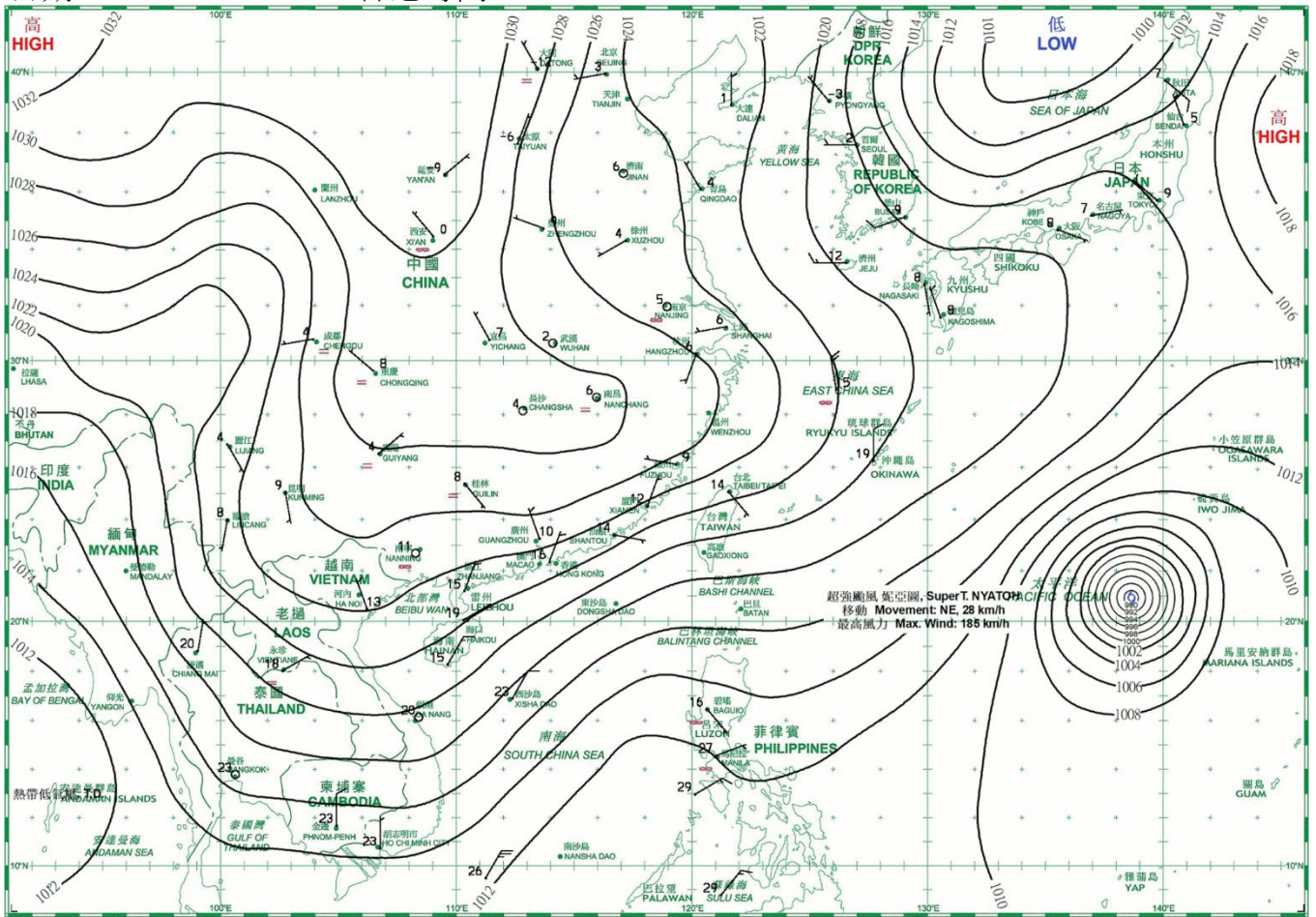
日期/Date: 02.12.2021 香港時間/HK Time: 08:00



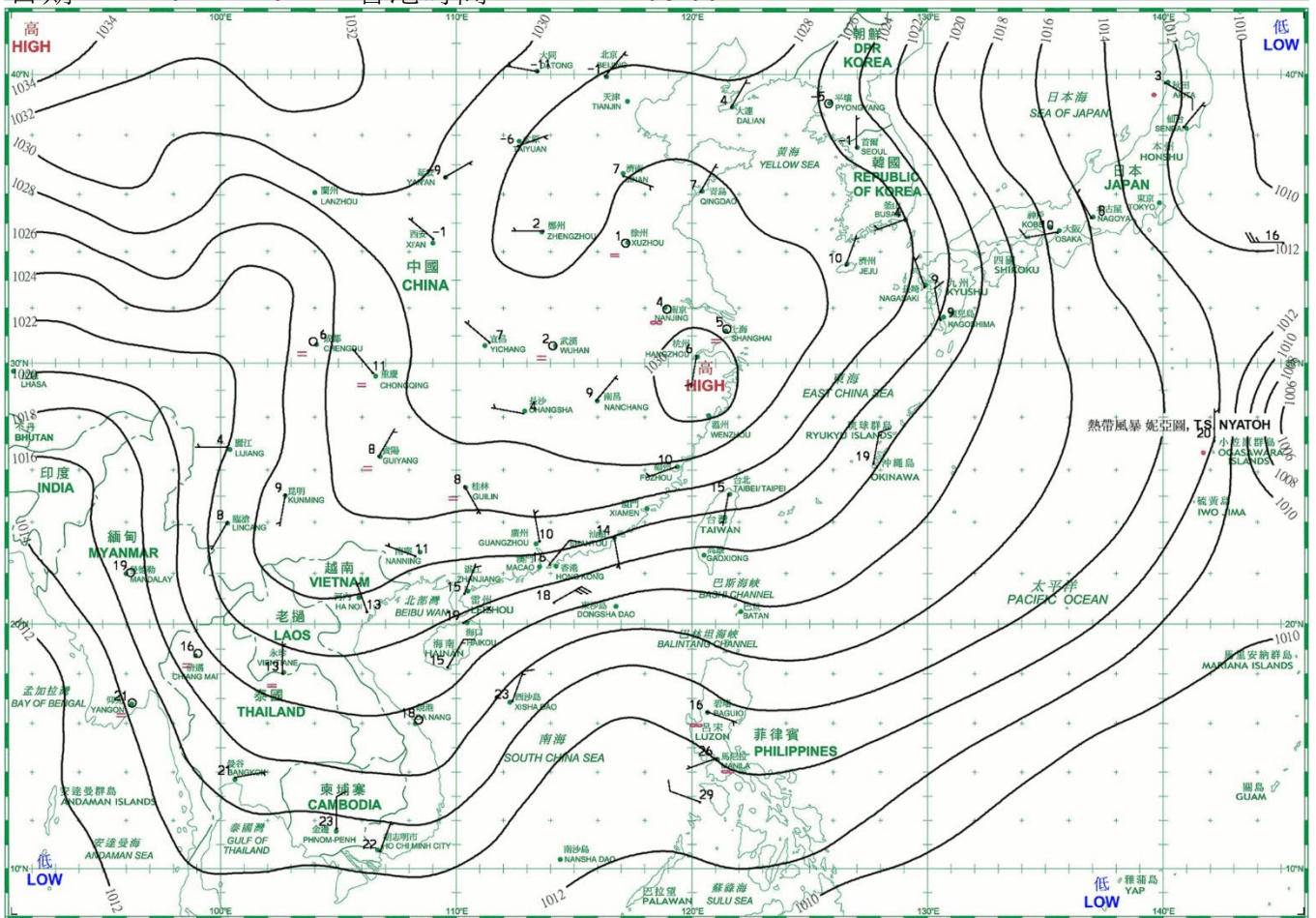
- 等壓線 Isobar(hPa)
- 暖鋒 Warm Front
- 靜止鋒 Stationary Front
- 消散中的冷鋒 Dissipating Cold Front
- 冷鋒 Cold Front
- 錮囚鋒 Occlusion
- 槽軸 (線) Axis of Trough
- 熱帶氣旋中心 Centre of Tropical Cyclone



日期/Date: 03.12.2021 香港時間/HK Time: 08:00

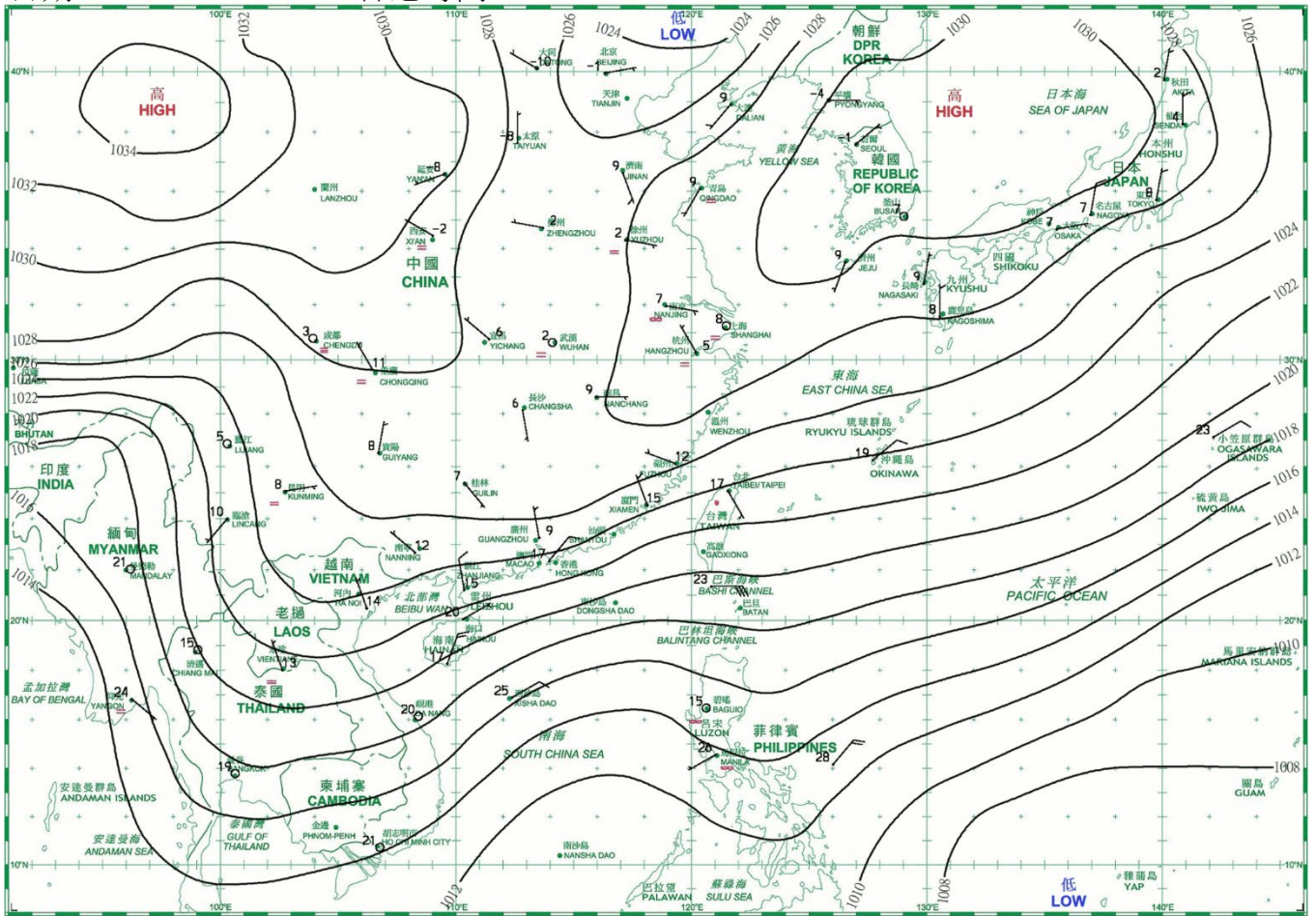


日期/Date: 04.12.2021 香港時間/HK Time: 08:00

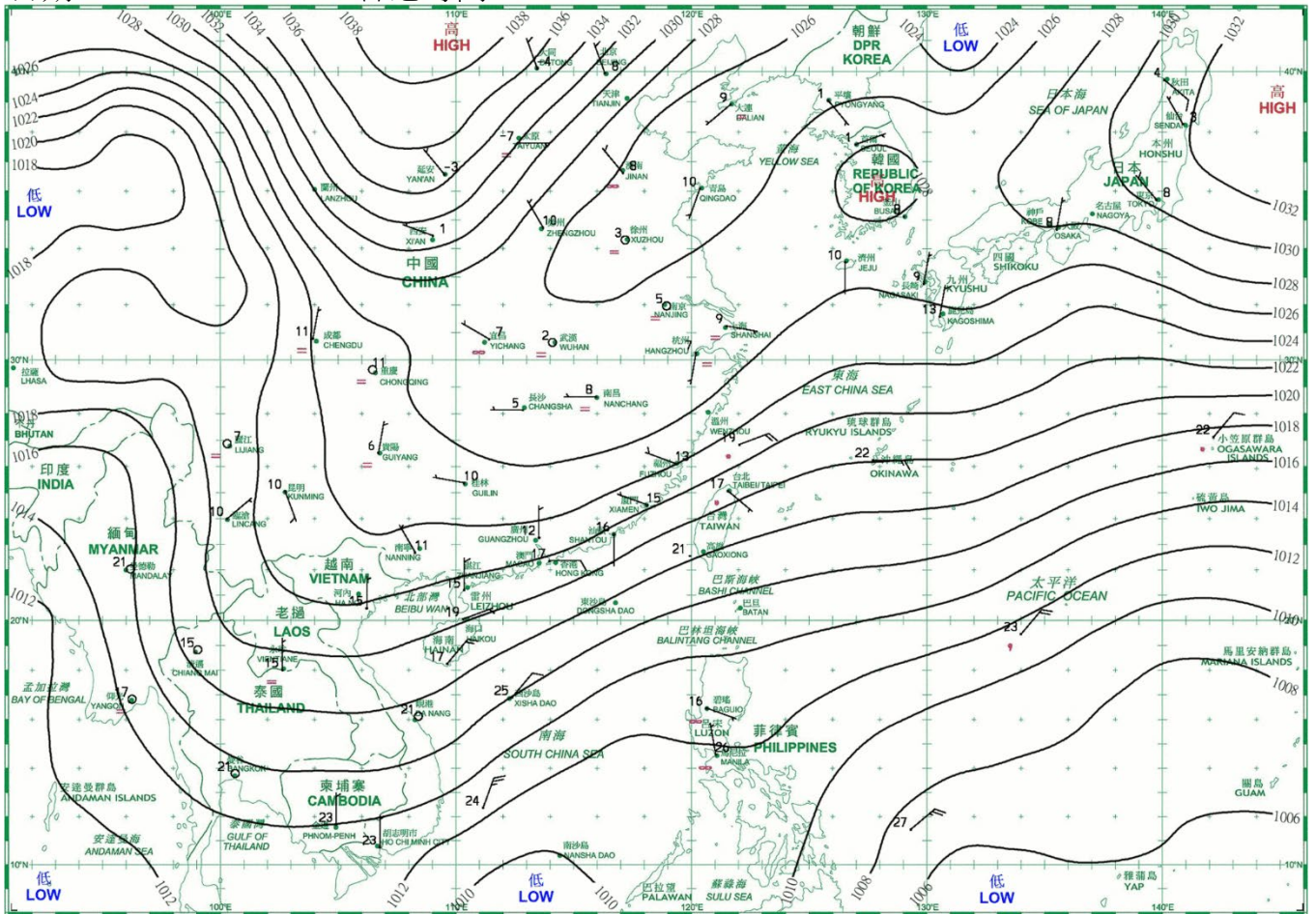




日期/Date: 05.12.2021 香港時間/HK Time: 08:00

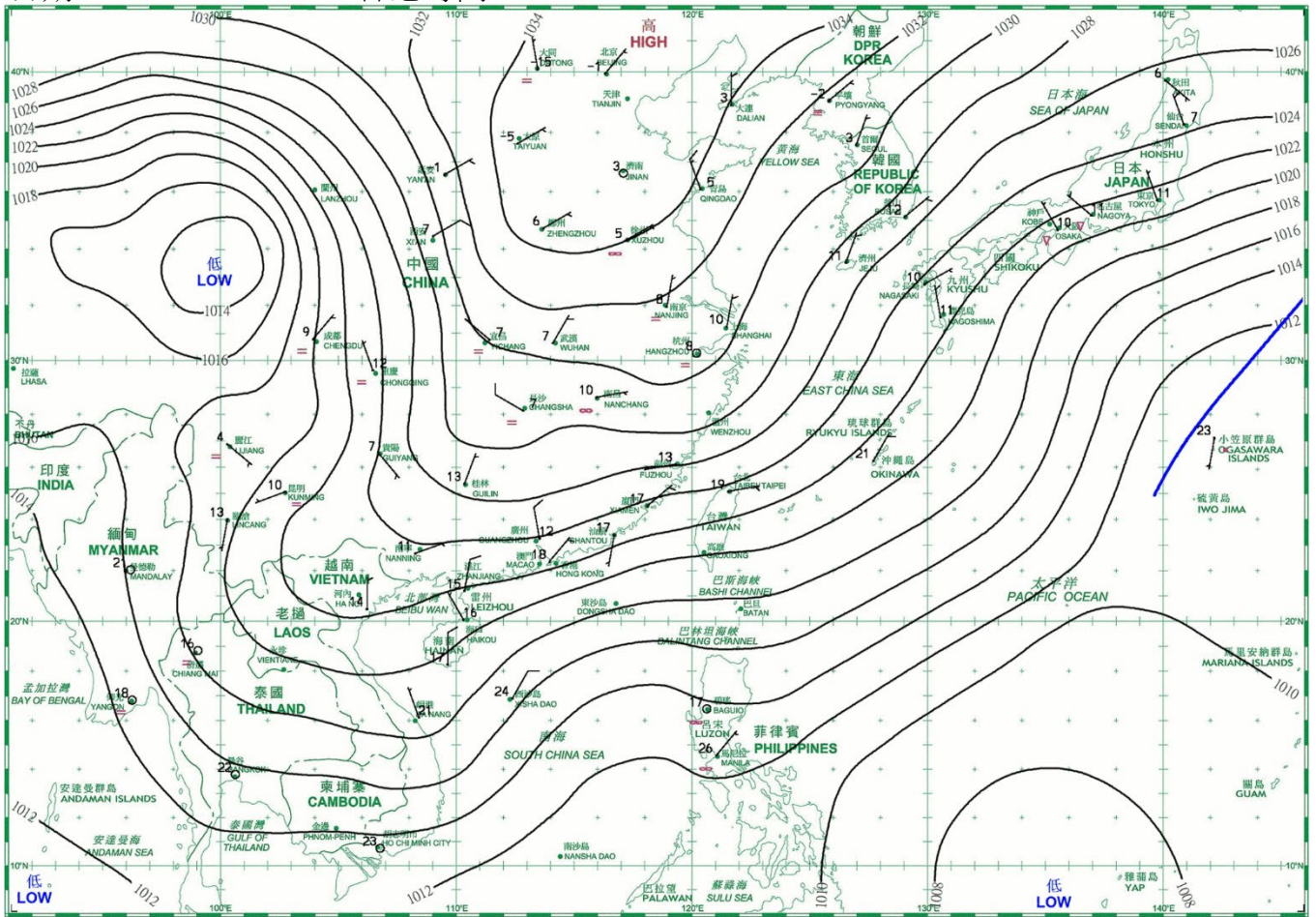


日期/Date: 06.12.2021 香港時間/HK Time: 08:00

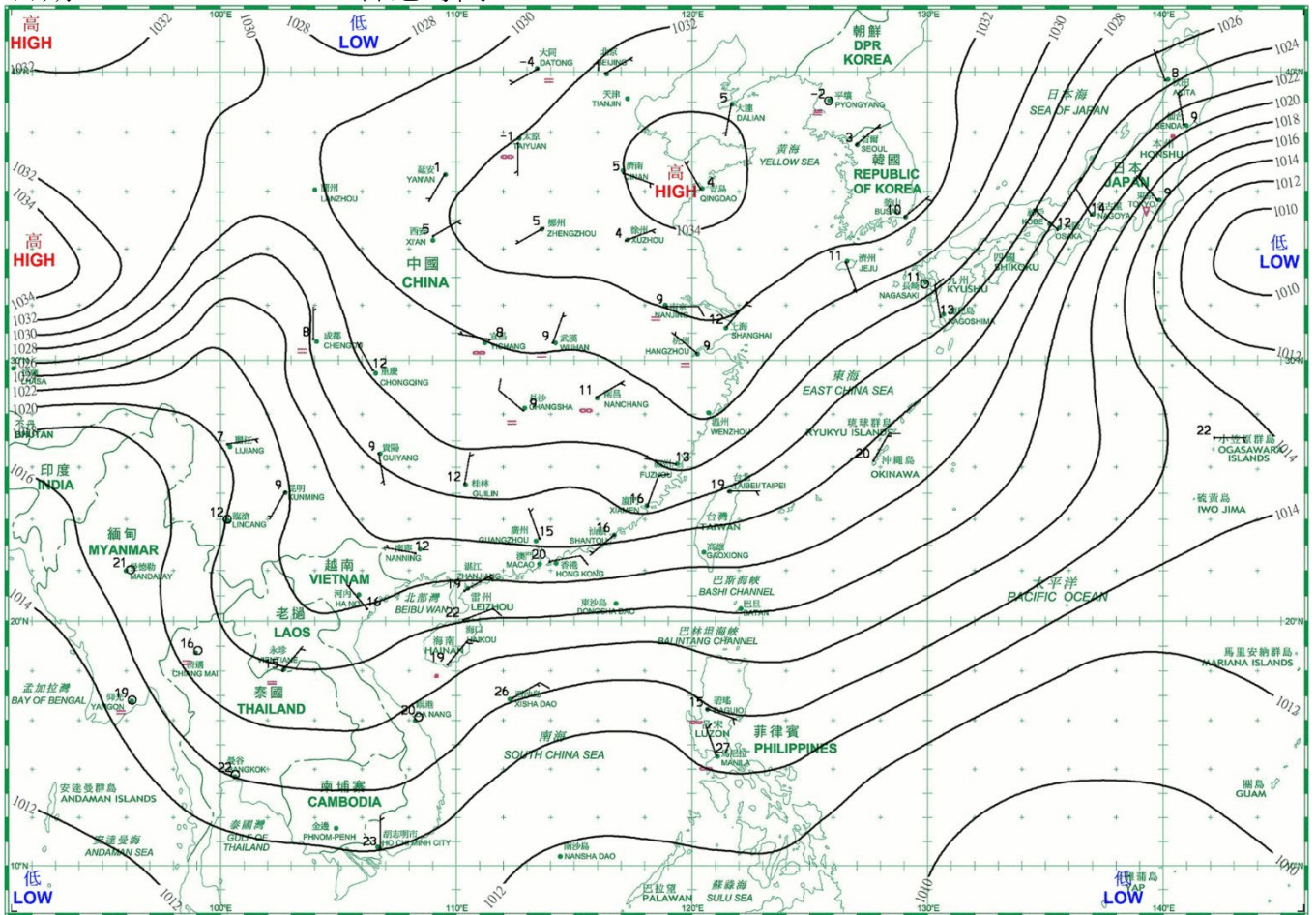




日期/Date: 07.12.2021 香港時間/HK Time: 08:00

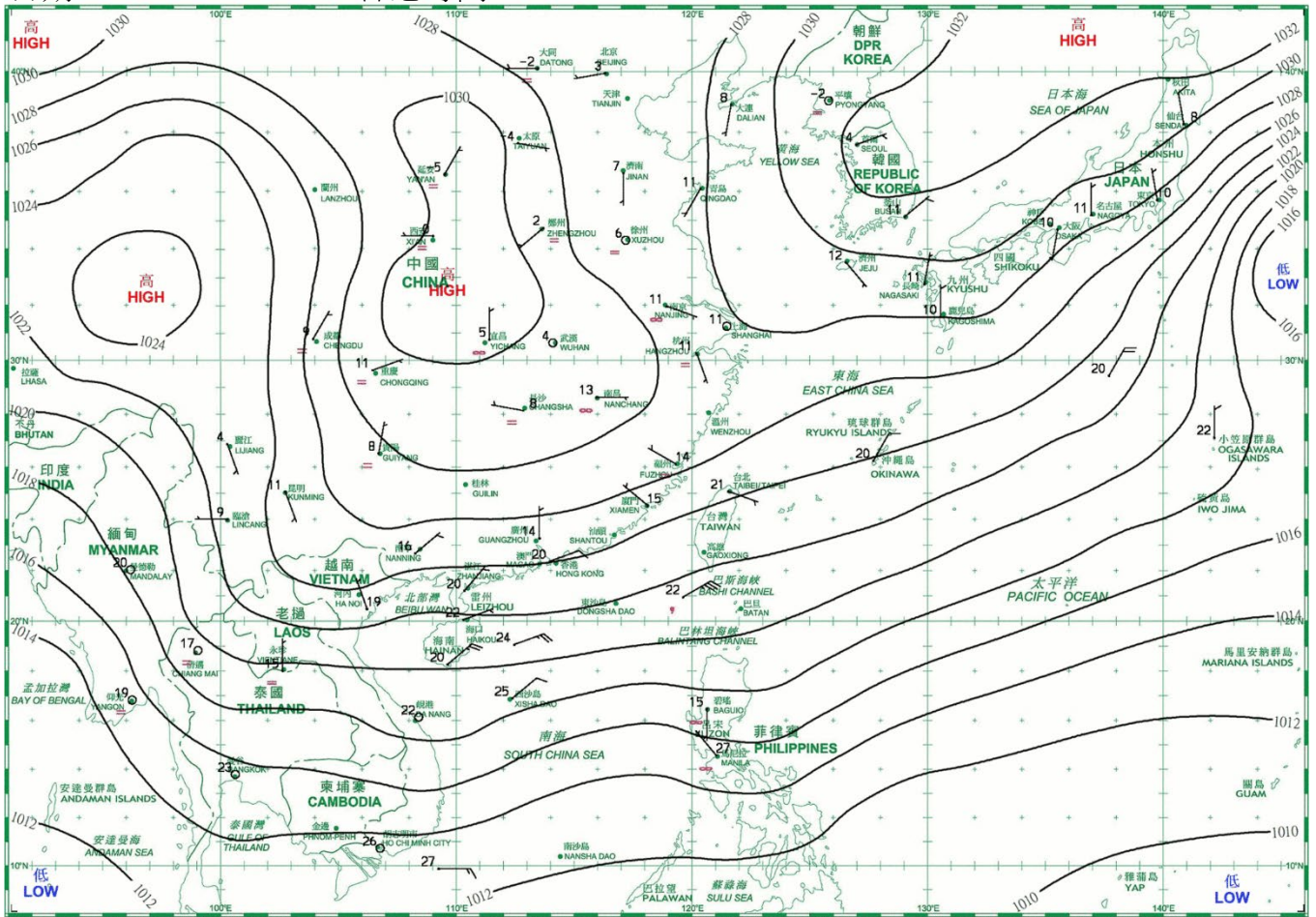


日期/Date: 08.12.2021 香港時間/HK Time: 08:00

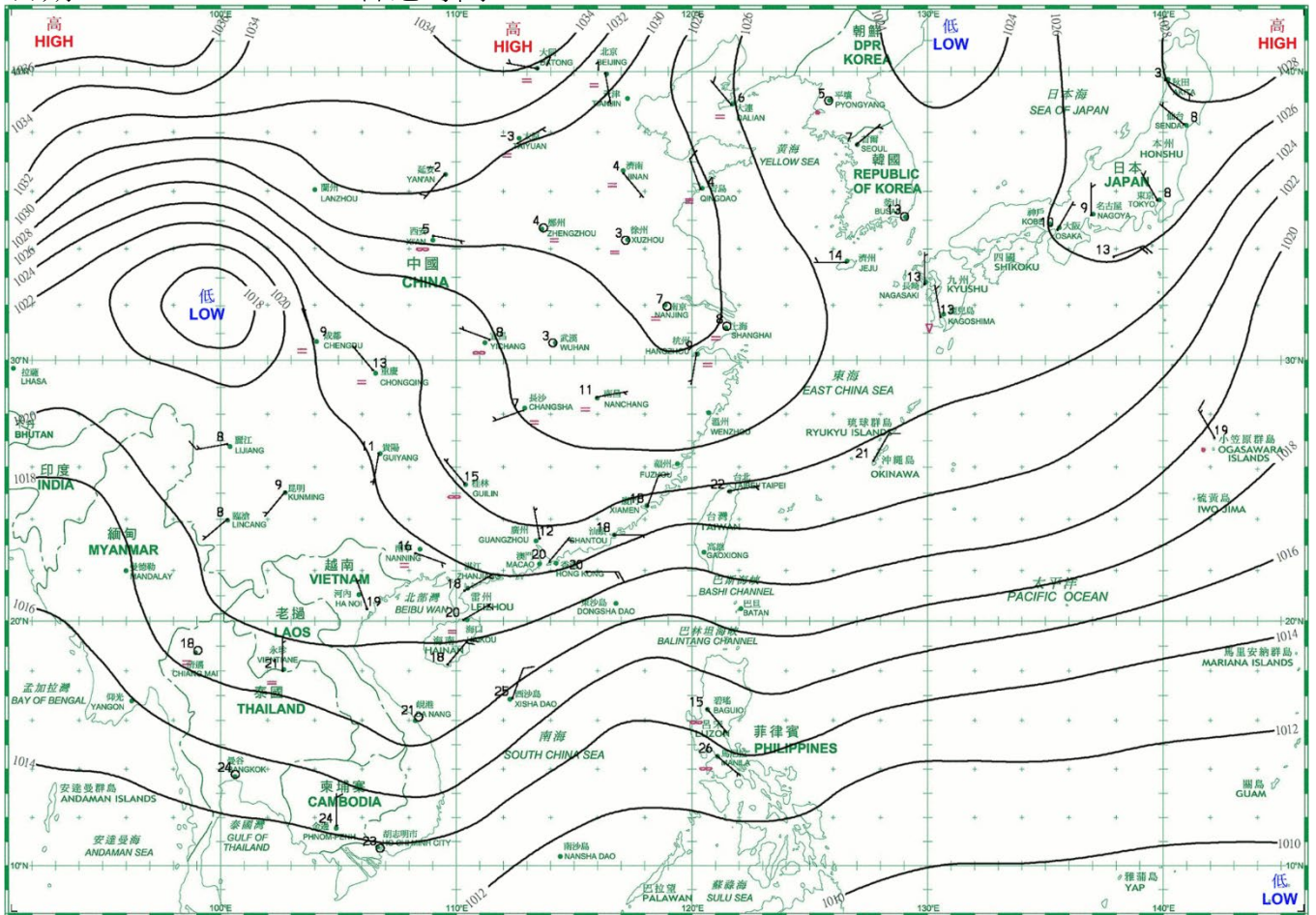




日期/Date: 09.12.2021 香港時間/HK Time: 08:00

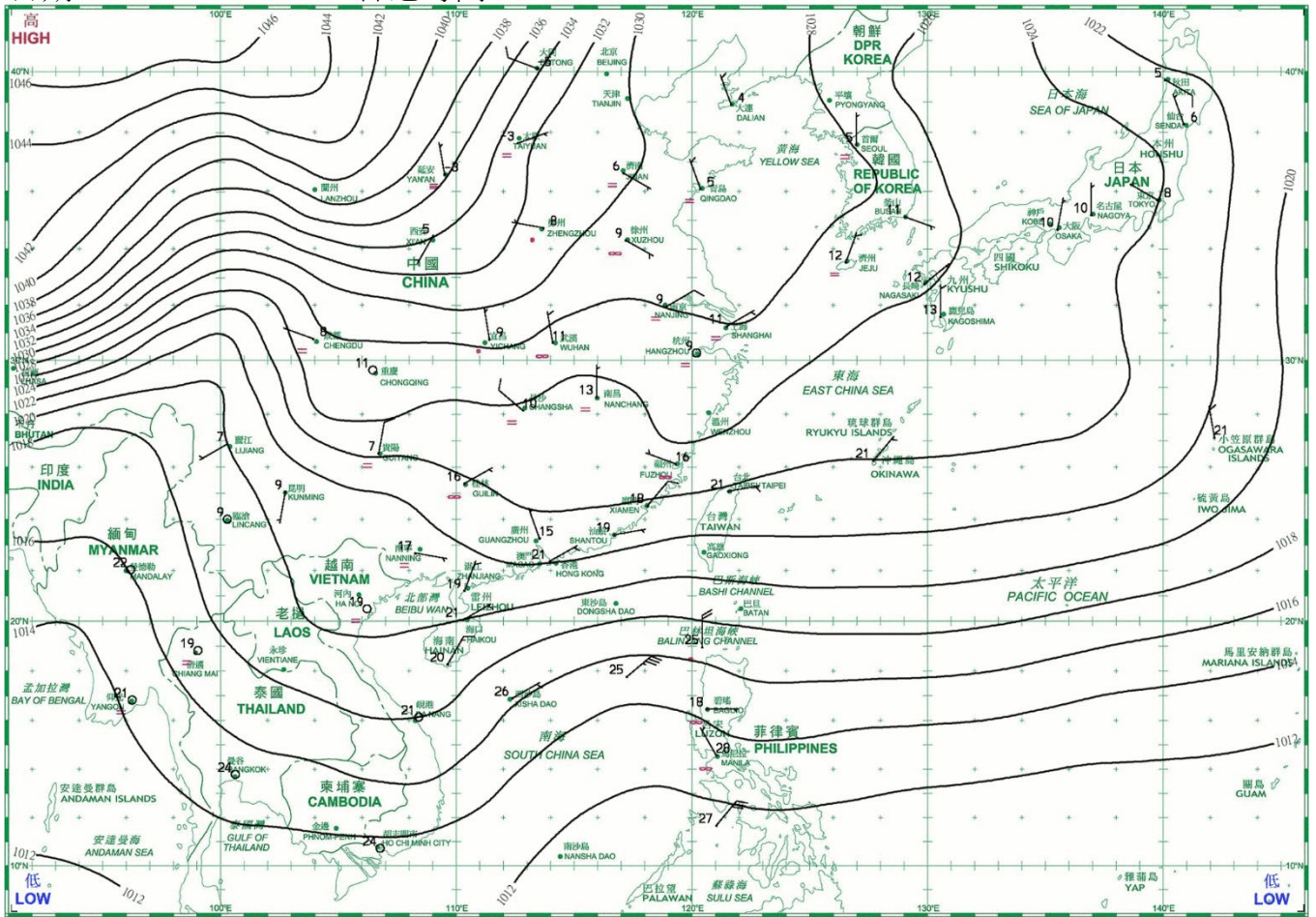


日期/Date: 10.12.2021 香港時間/HK Time: 08:00

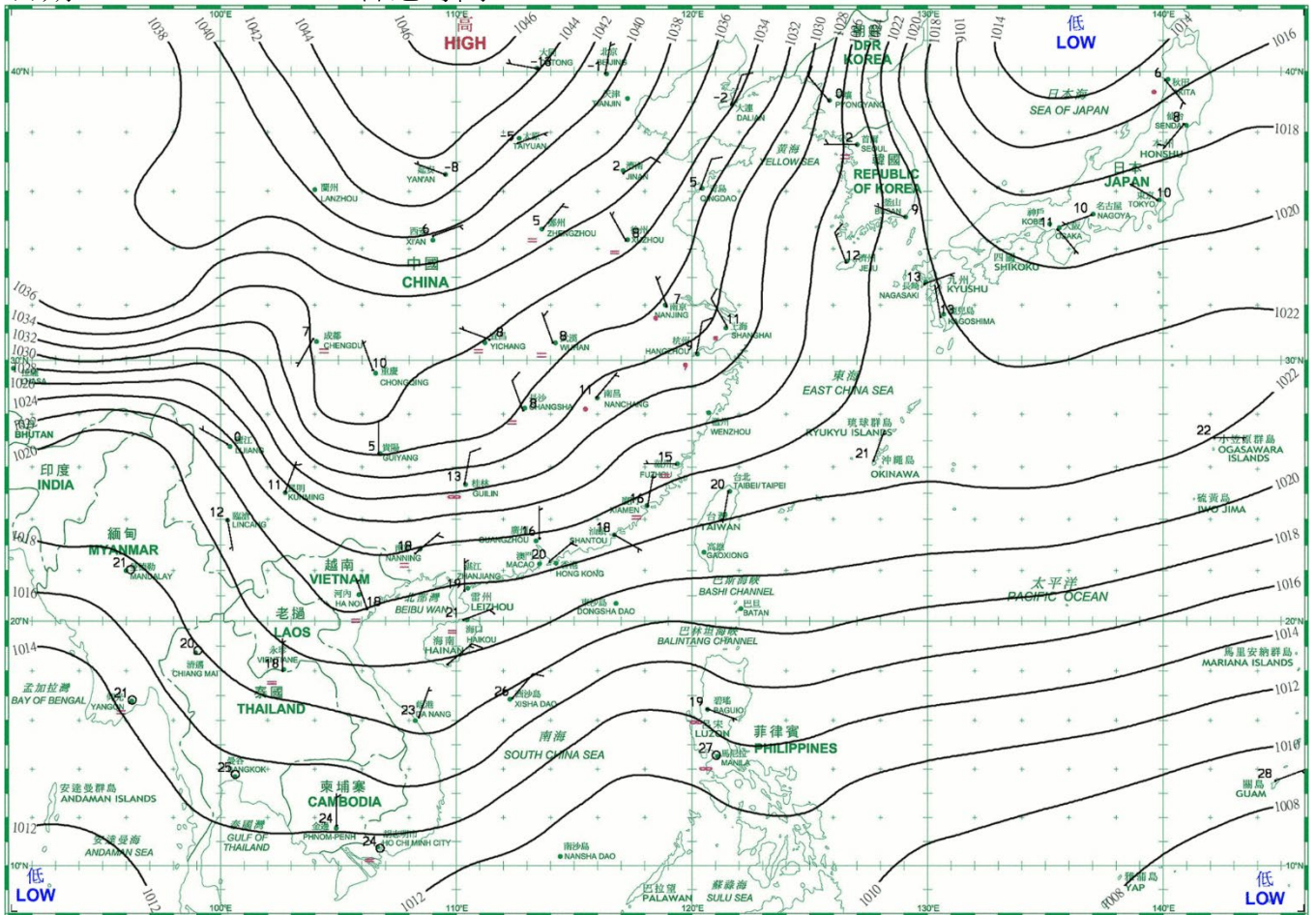




日期/Date: 11.12.2021 香港時間/HK Time: 08:00

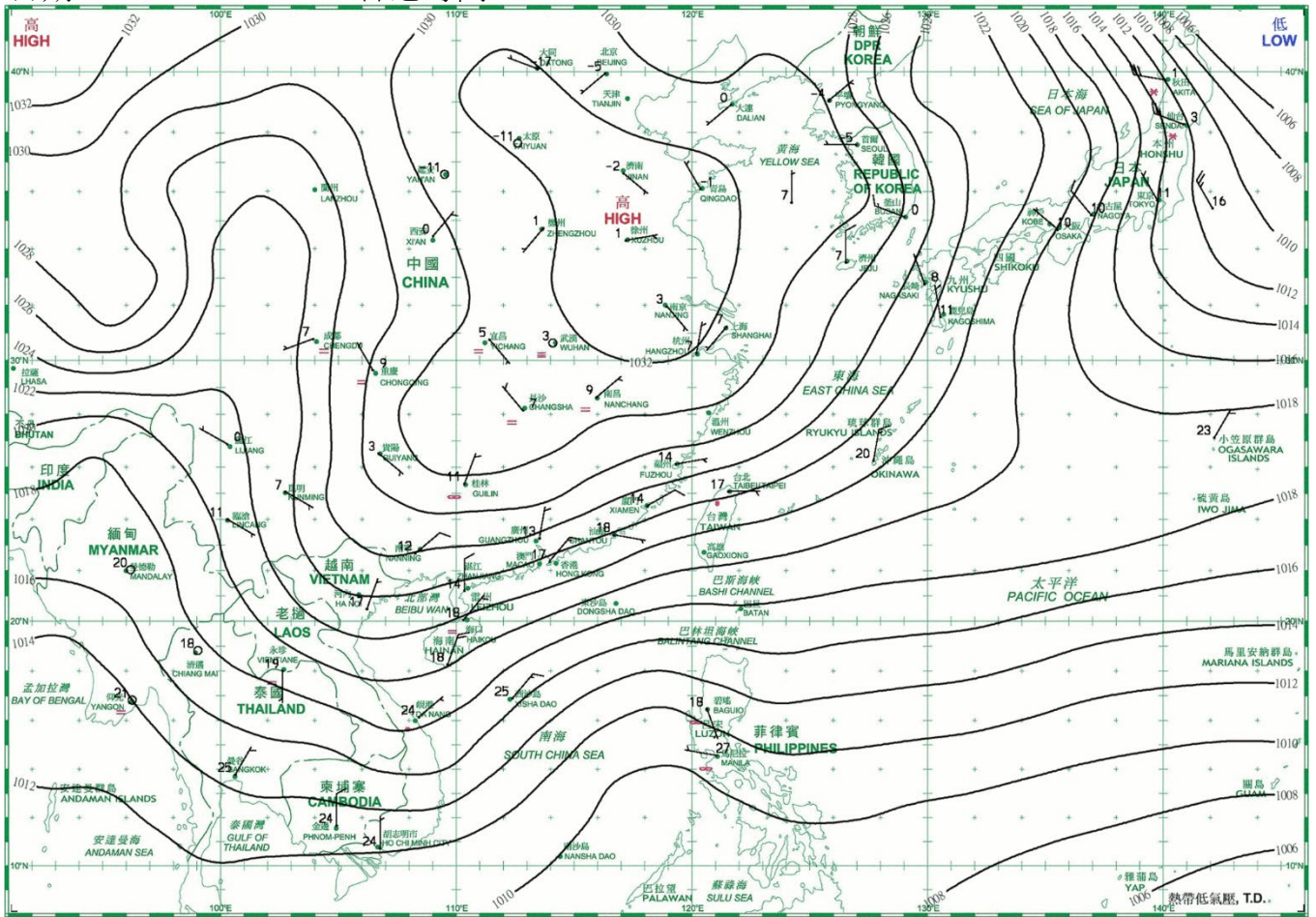


日期/Date: 12.12.2021 香港時間/HK Time: 08:00

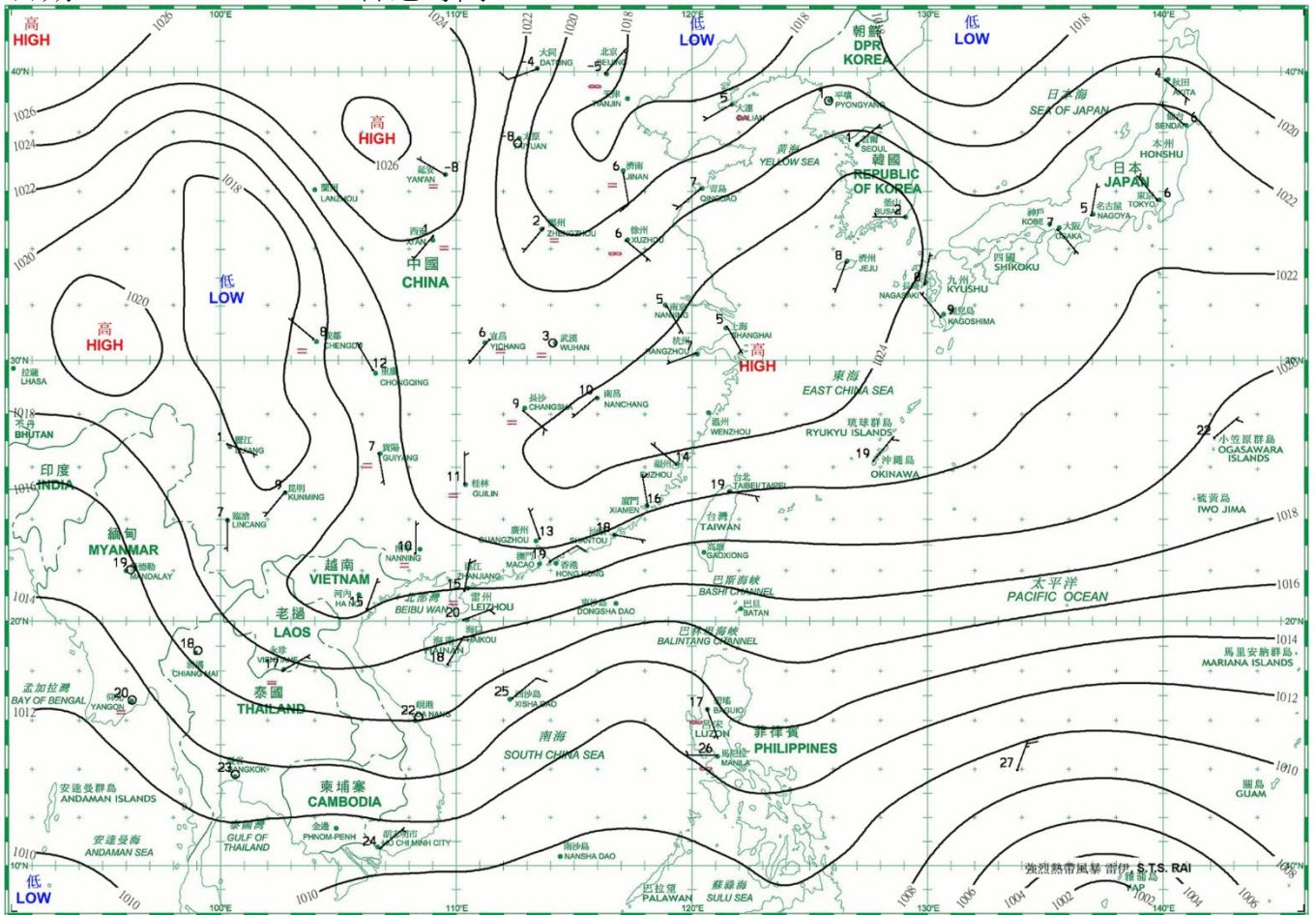




日期/Date: 13.12.2021 香港時間/HK Time: 08:00

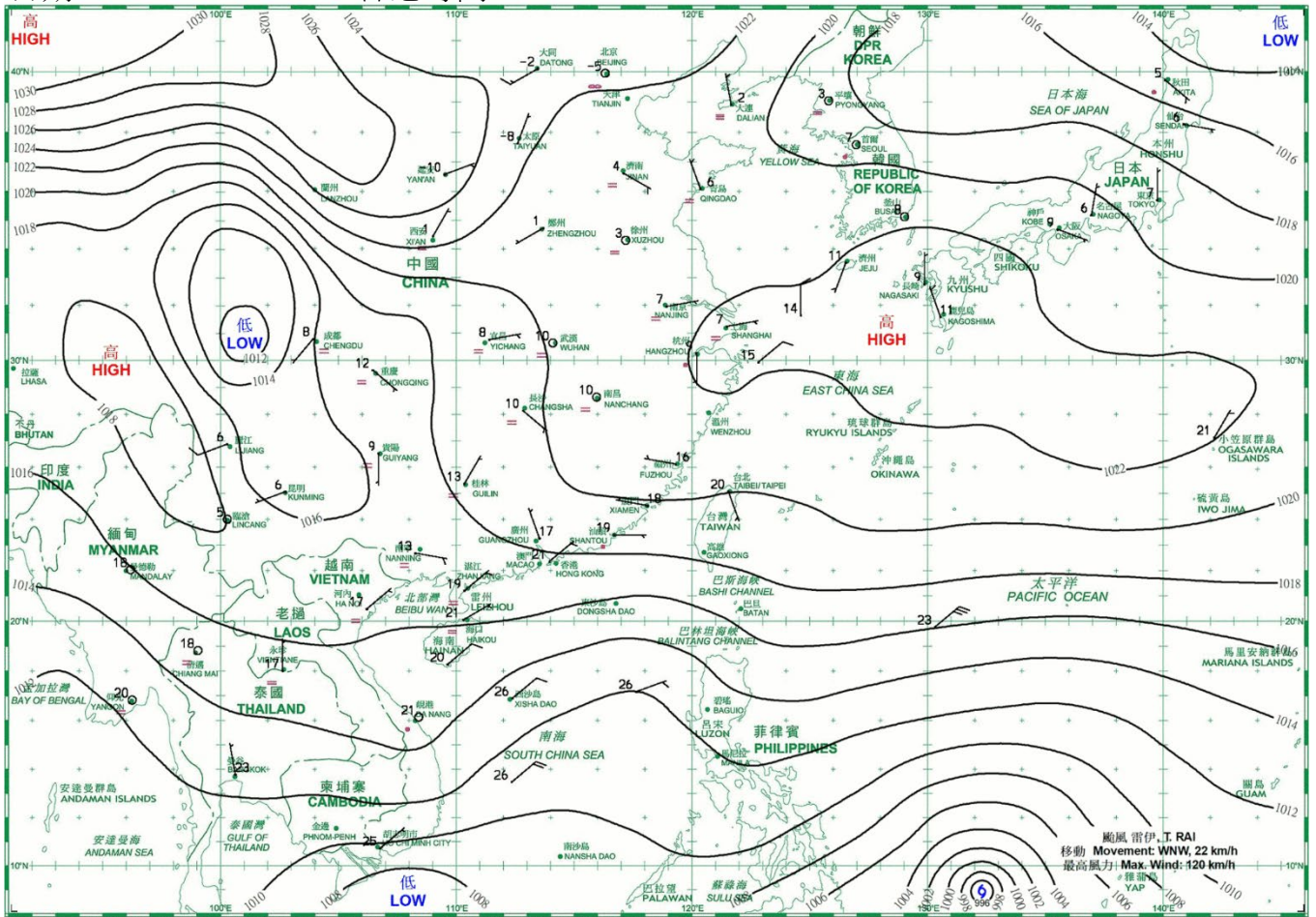


日期/Date: 14.12.2021 香港時間/HK Time: 08:00

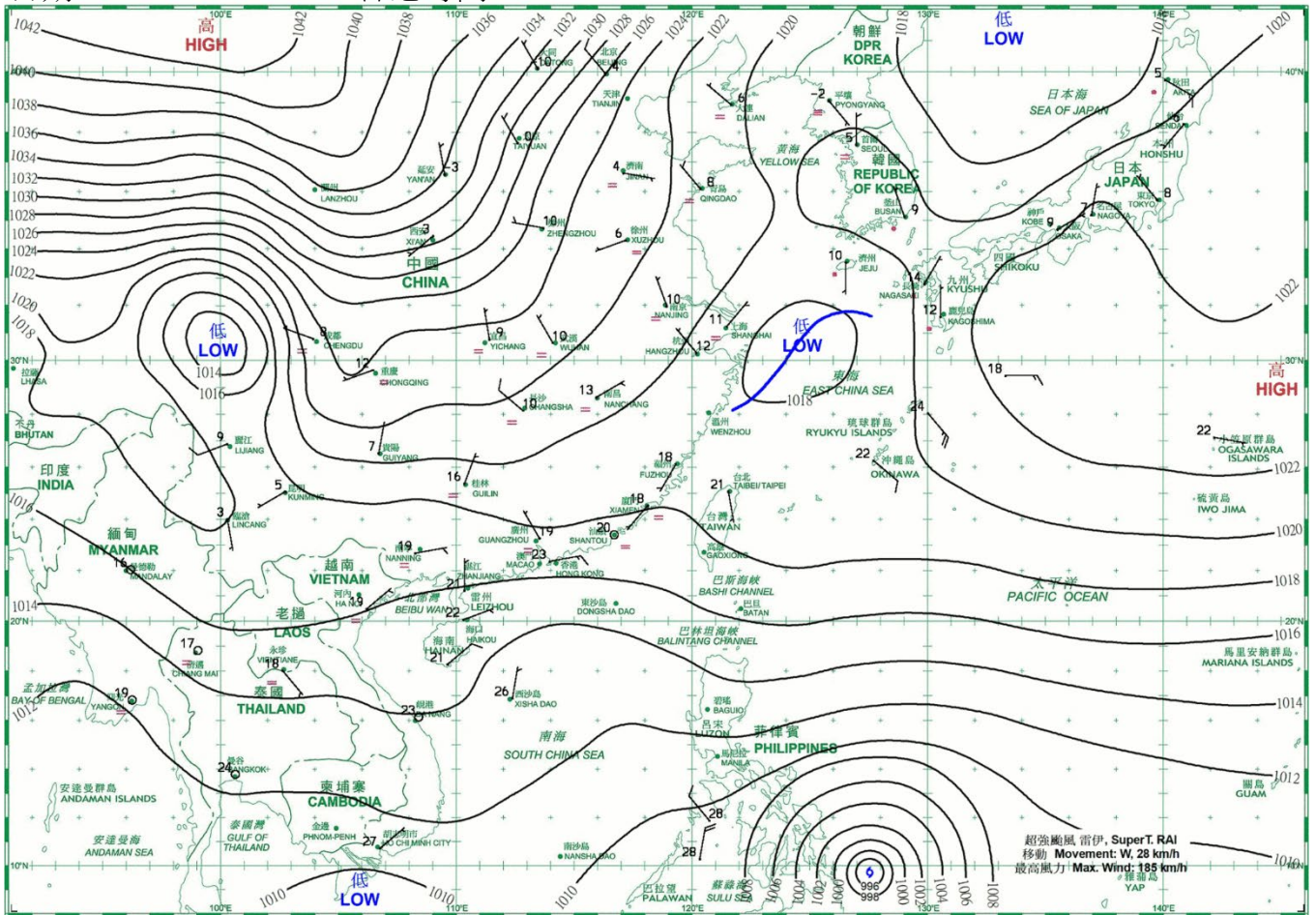




日期/Date: 15.12.2021 香港時間/HK Time: 08:00

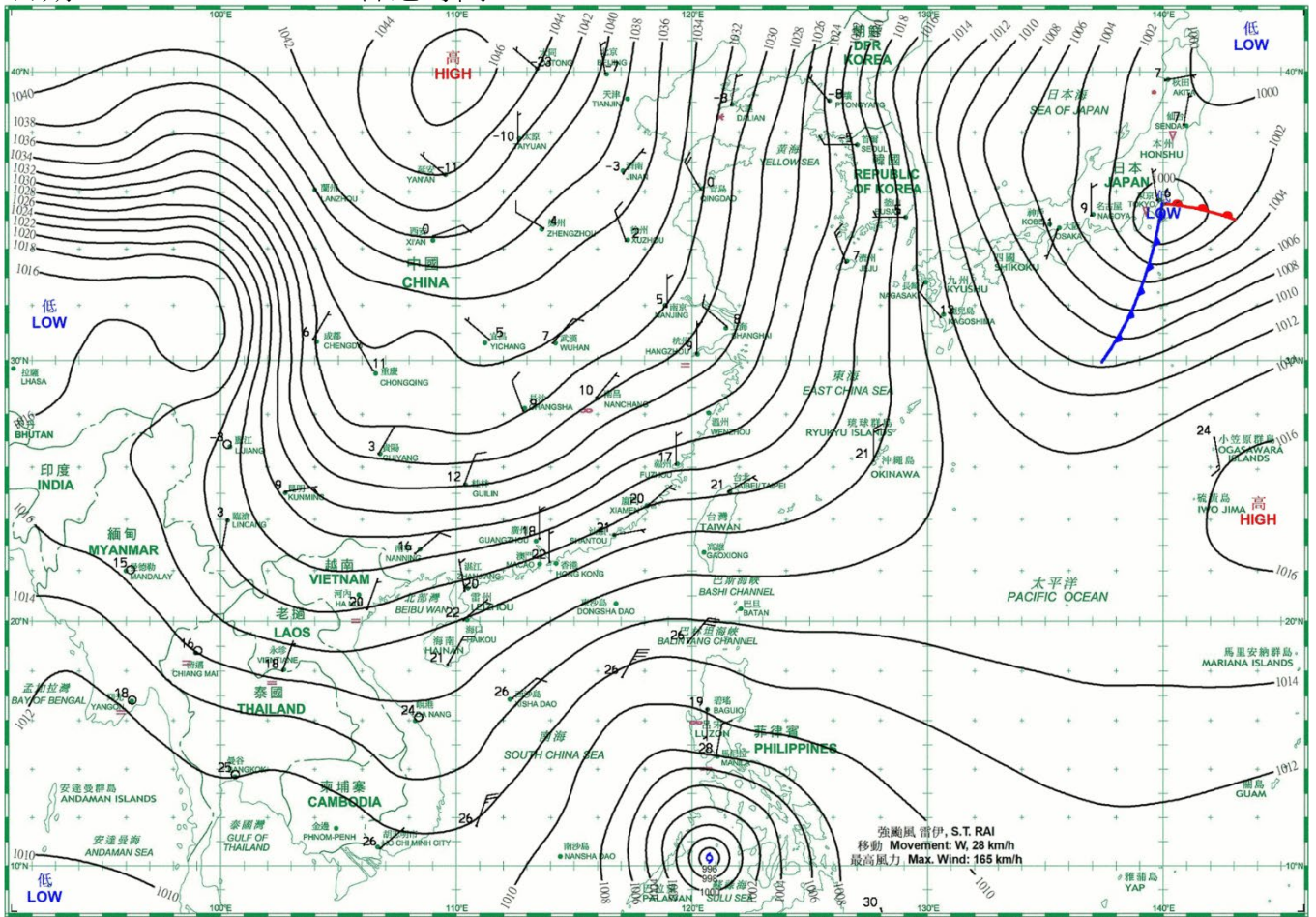


日期/Date: 16.12.2021 香港時間/HK Time: 08:00

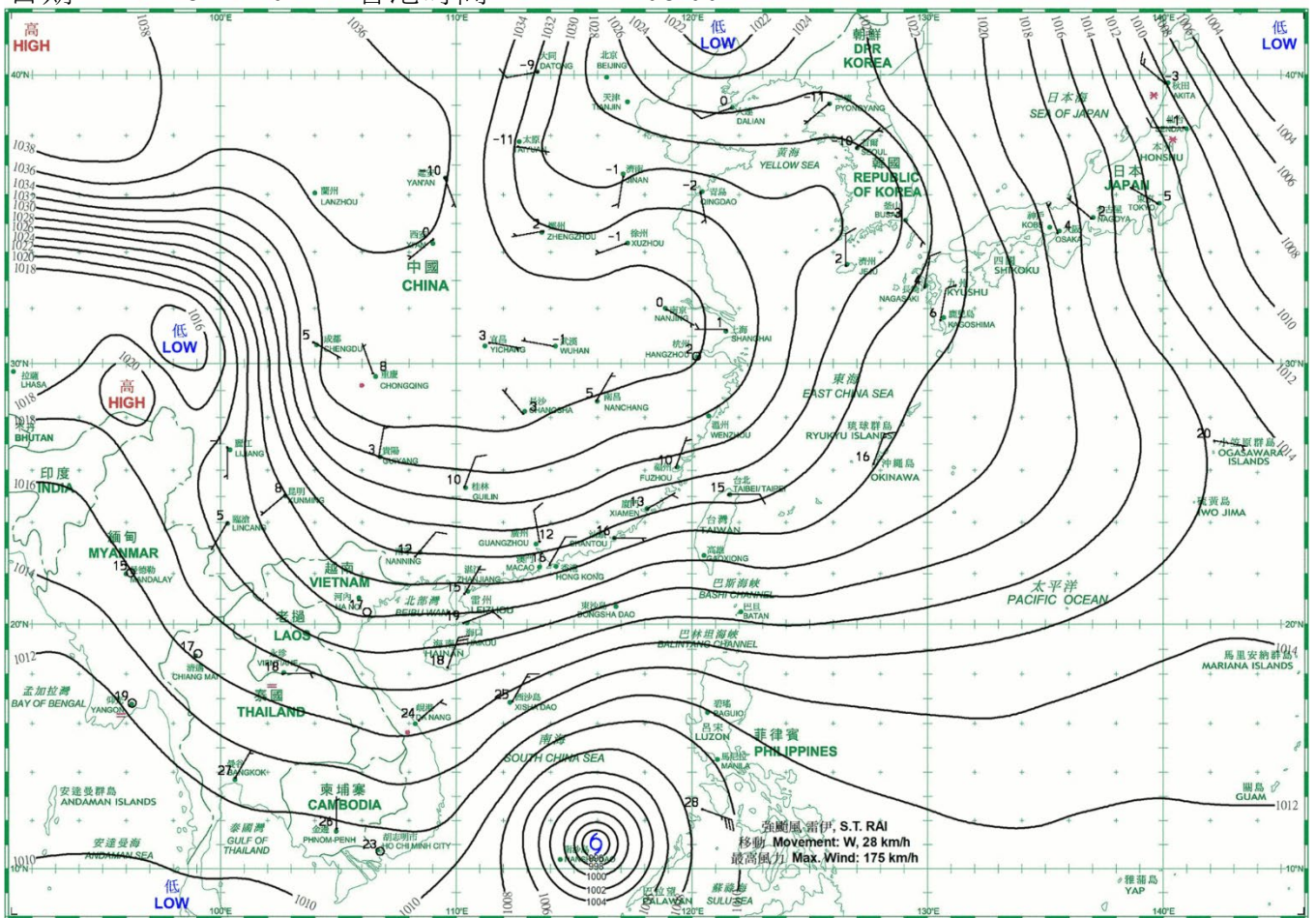




日期/Date: 17.12.2021 香港時間/HK Time: 08:00

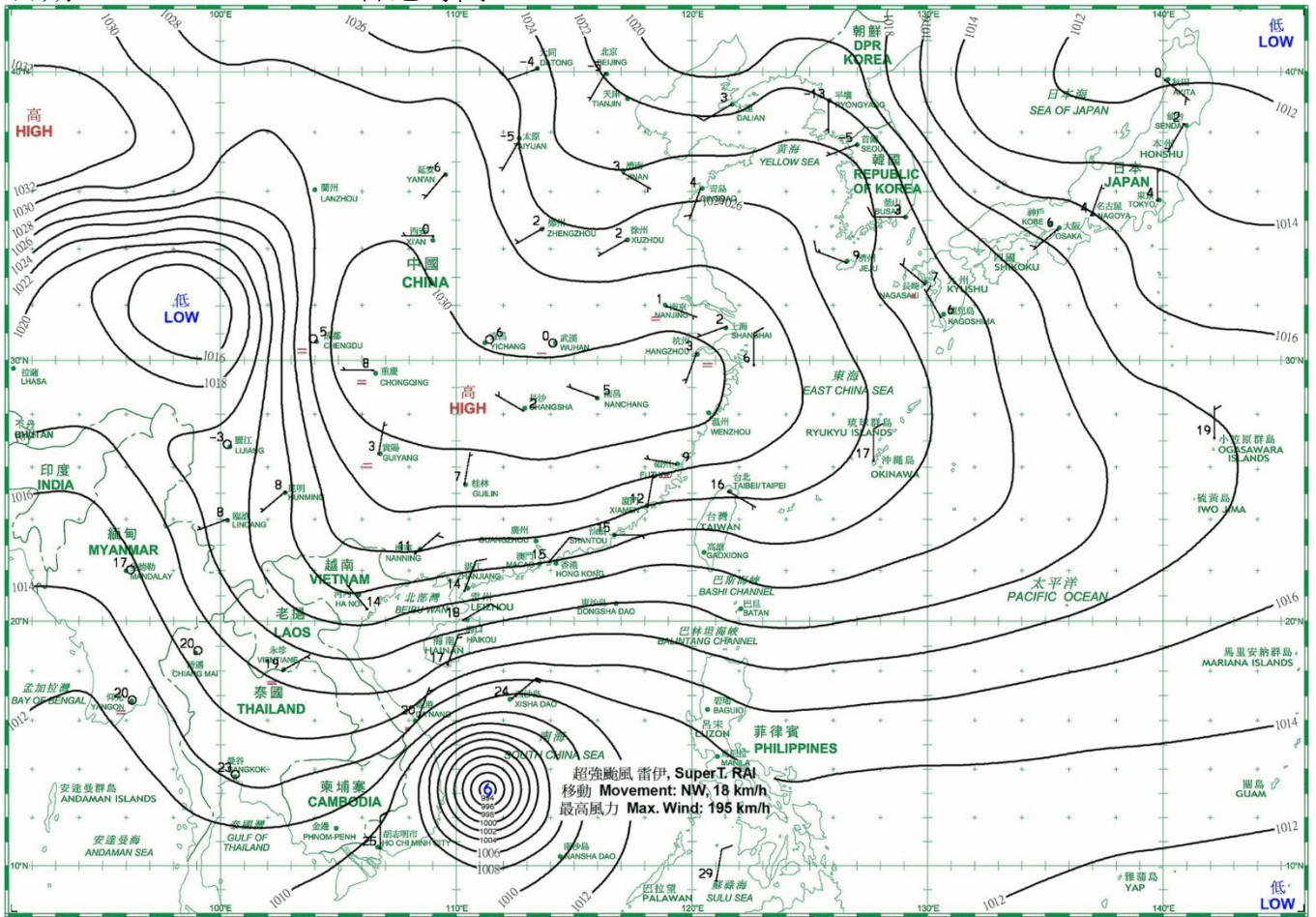


日期/Date: 18.12.2021 香港時間/HK Time: 08:00

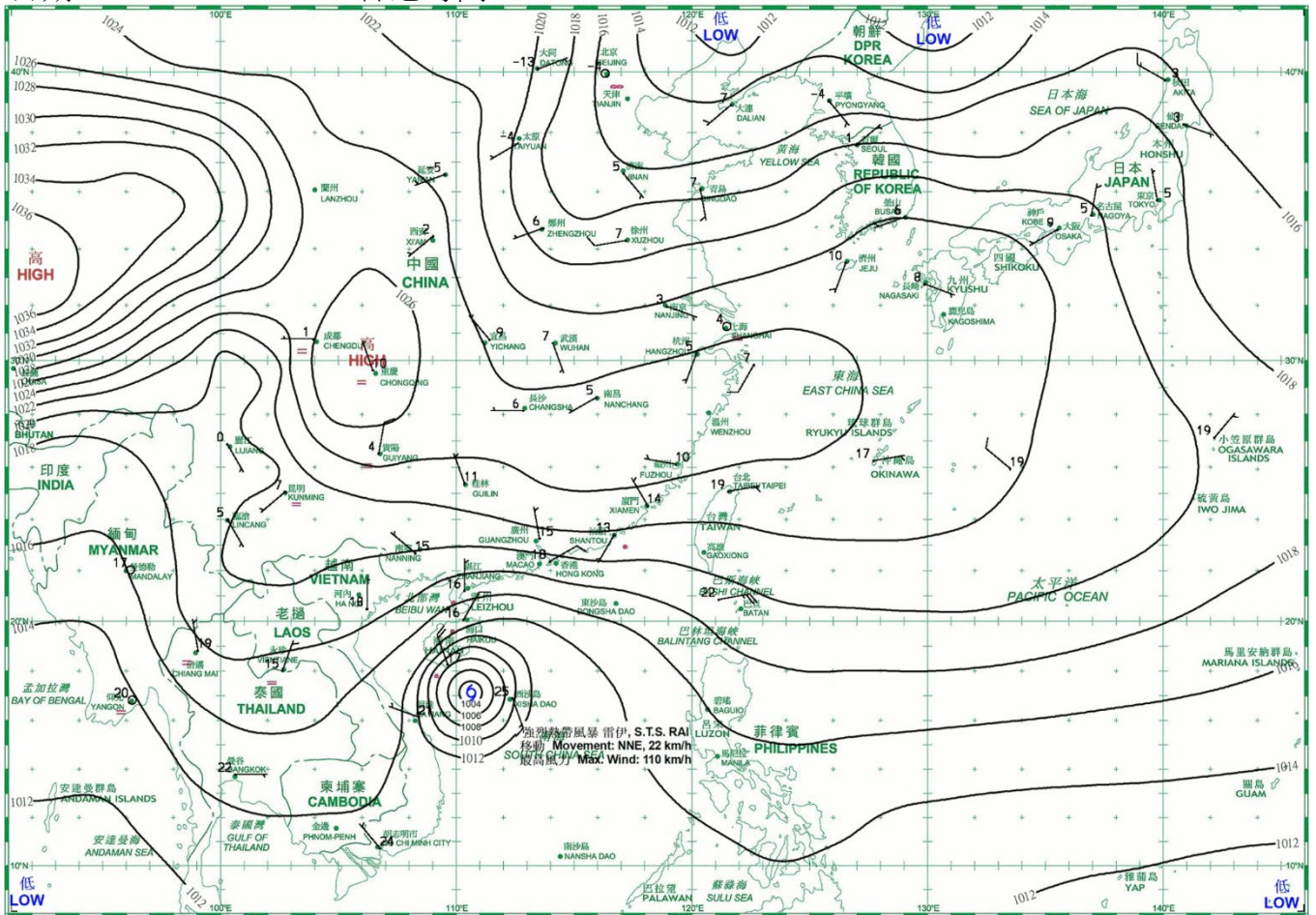




日期/Date: 19.12.2021 香港時間/HK Time: 08:00

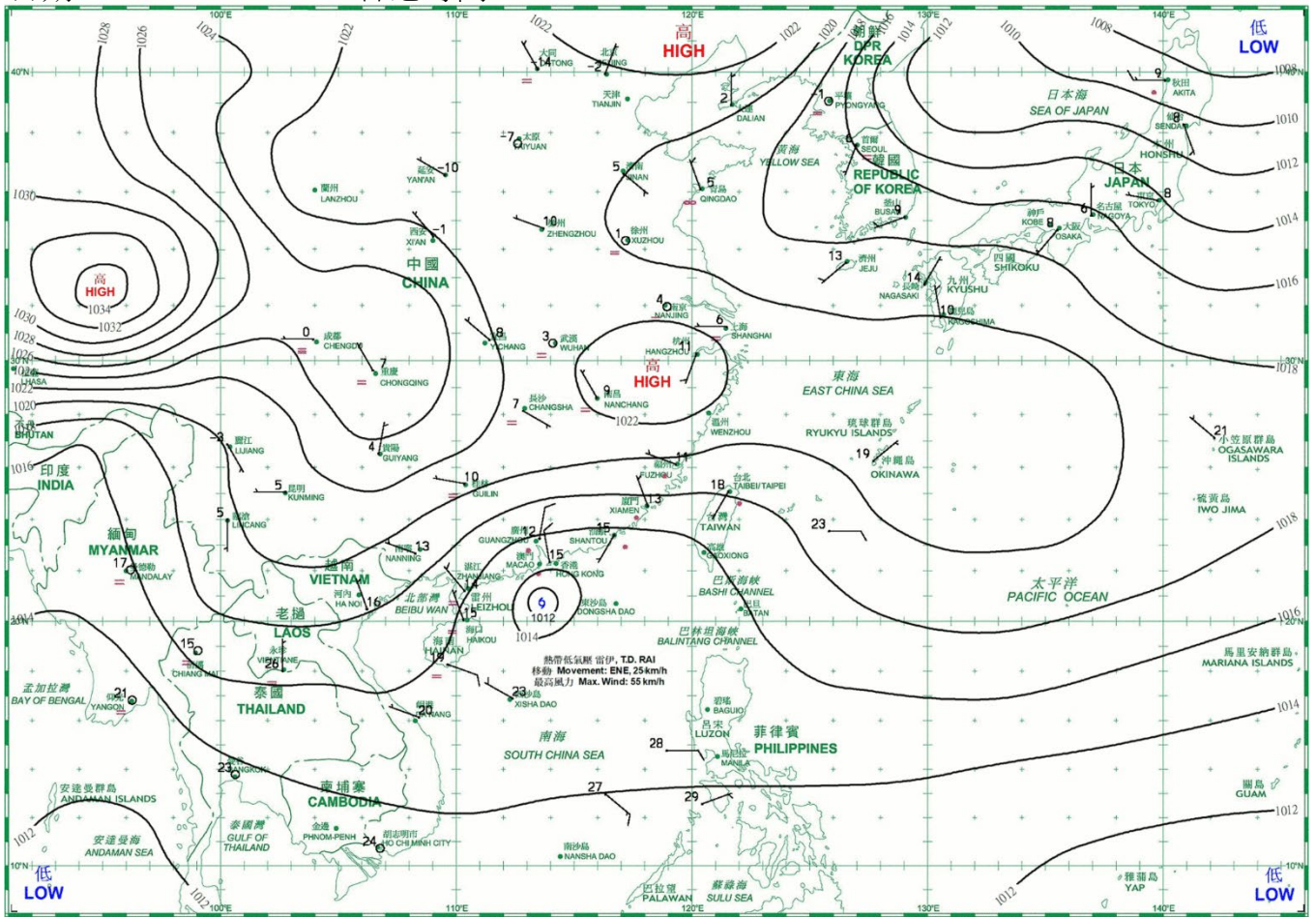


日期/Date: 20.12.2021 香港時間/HK Time: 08:00

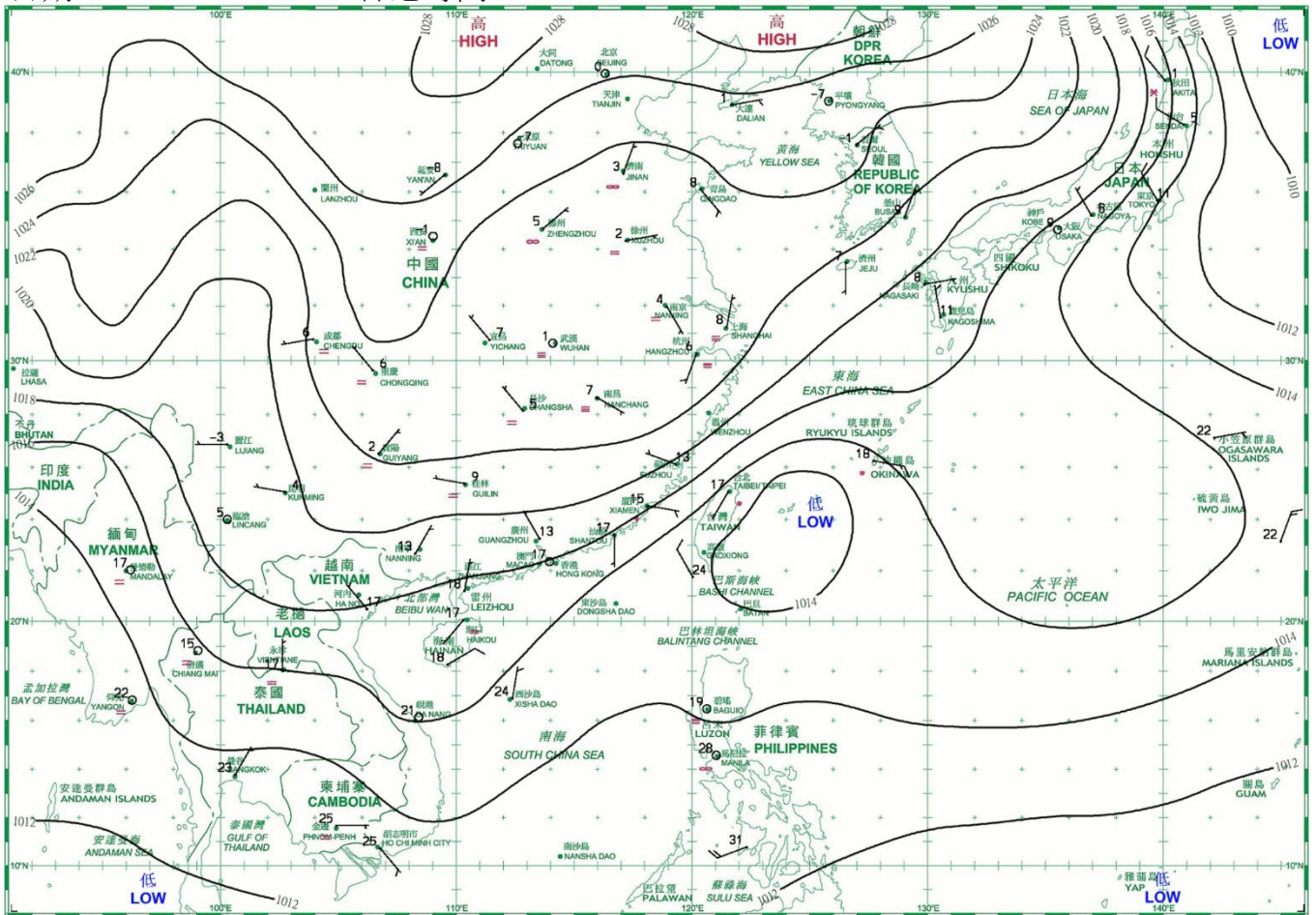




日期/Date: 21.12.2021 香港時間/HK Time: 08:00

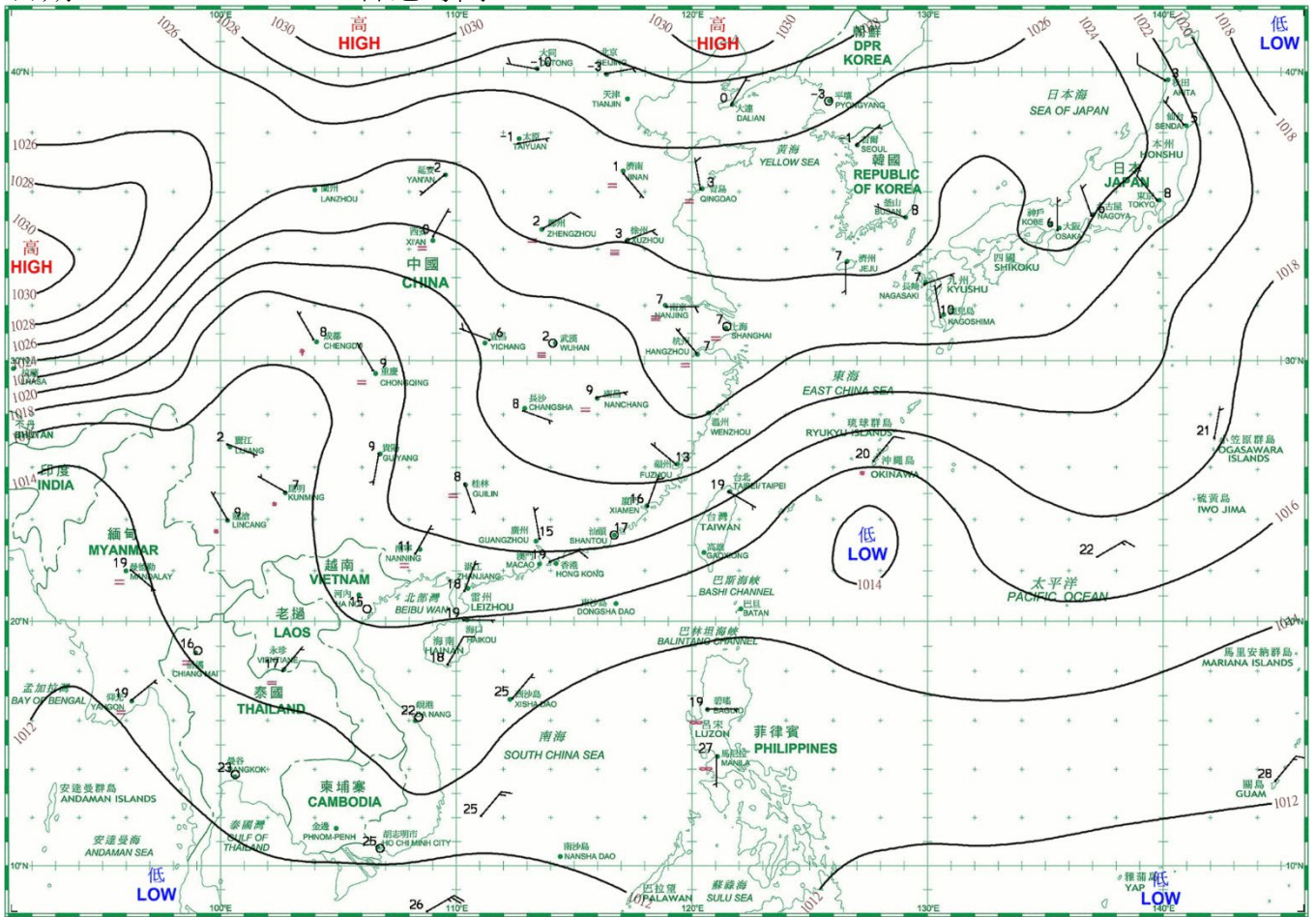


日期/Date: 22.12.2021 香港時間/HK Time: 08:00

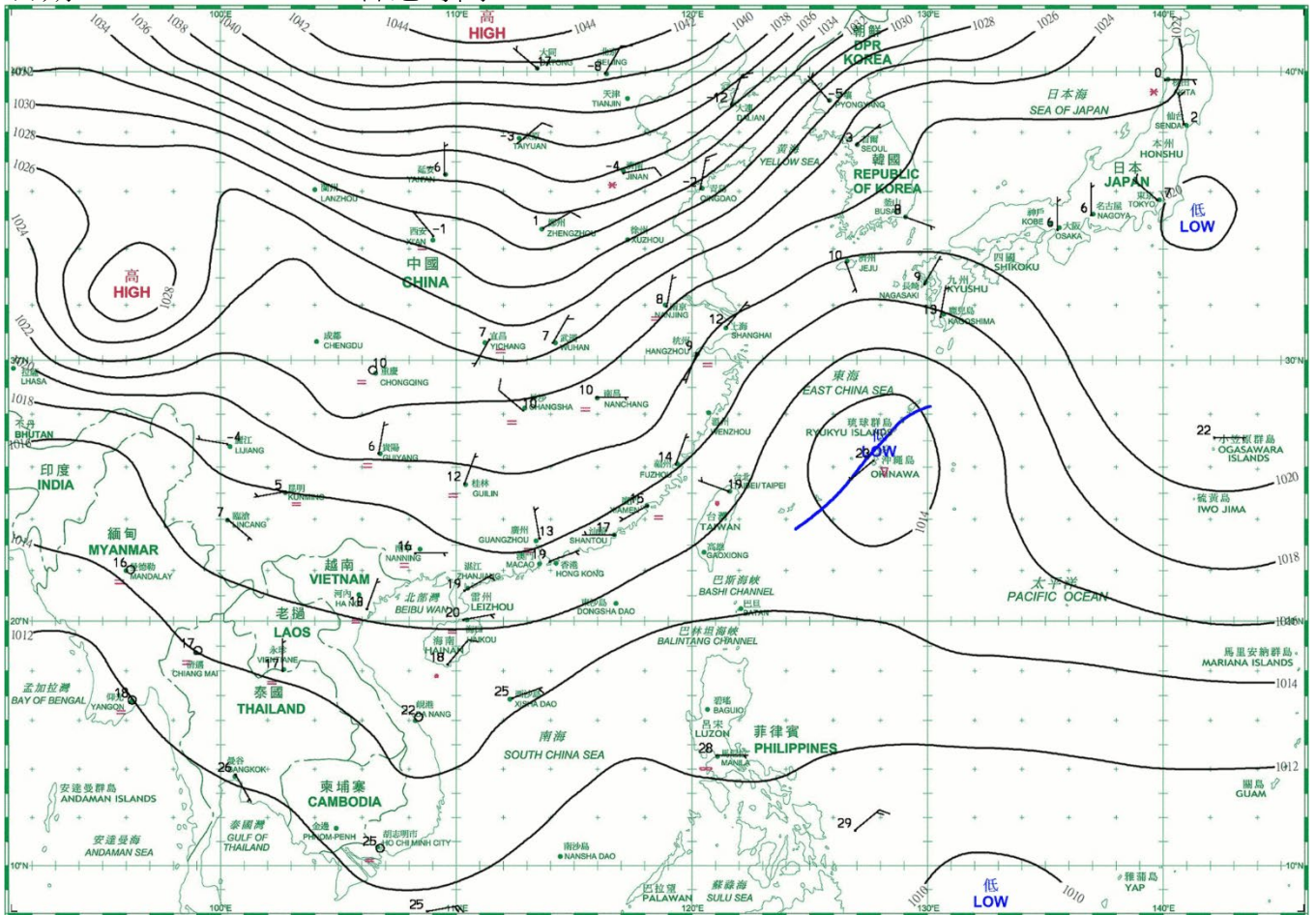




日期/Date: 23.12.2021 香港時間/HK Time: 08:00

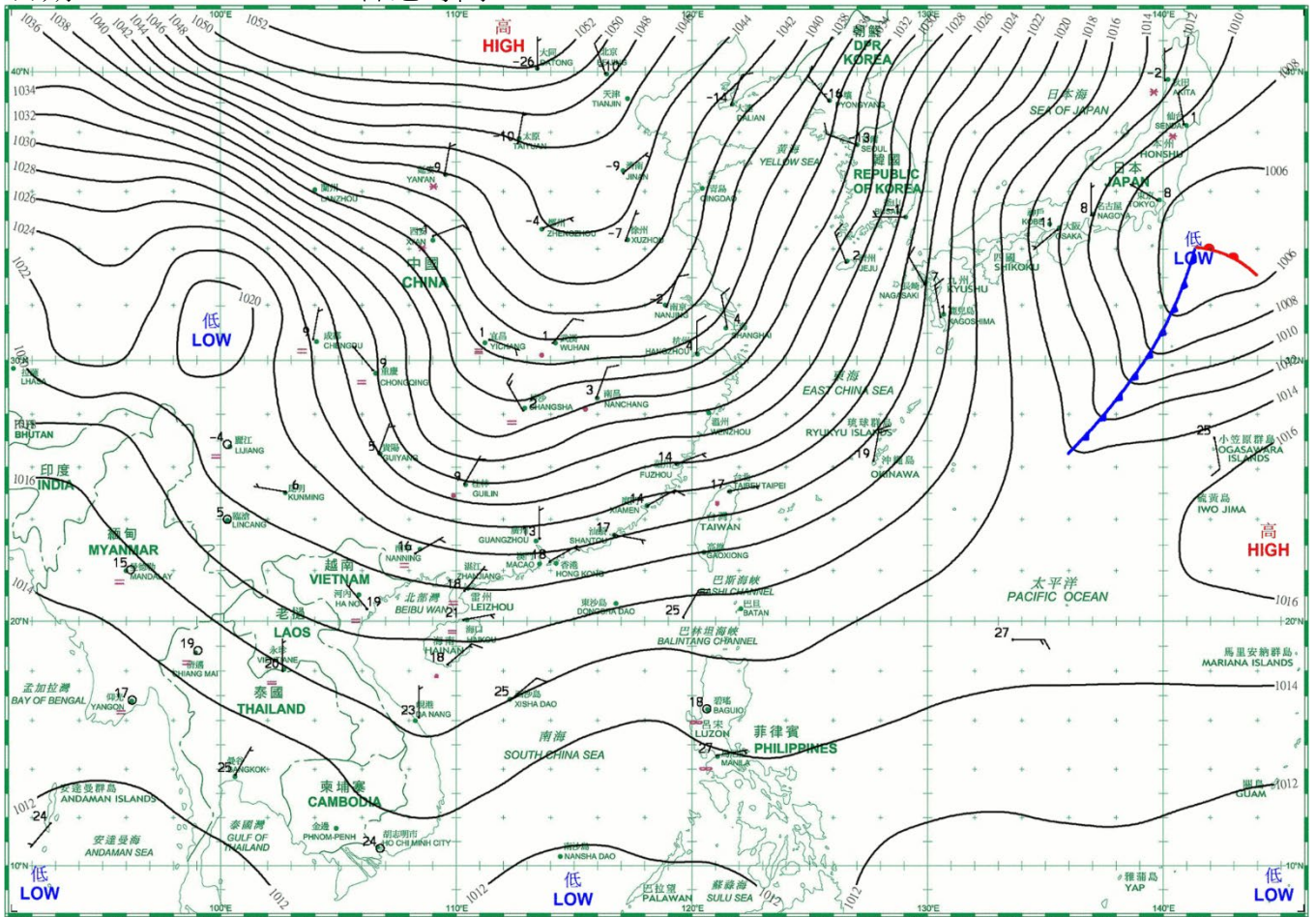


日期/Date: 24.12.2021 香港時間/HK Time: 08:00

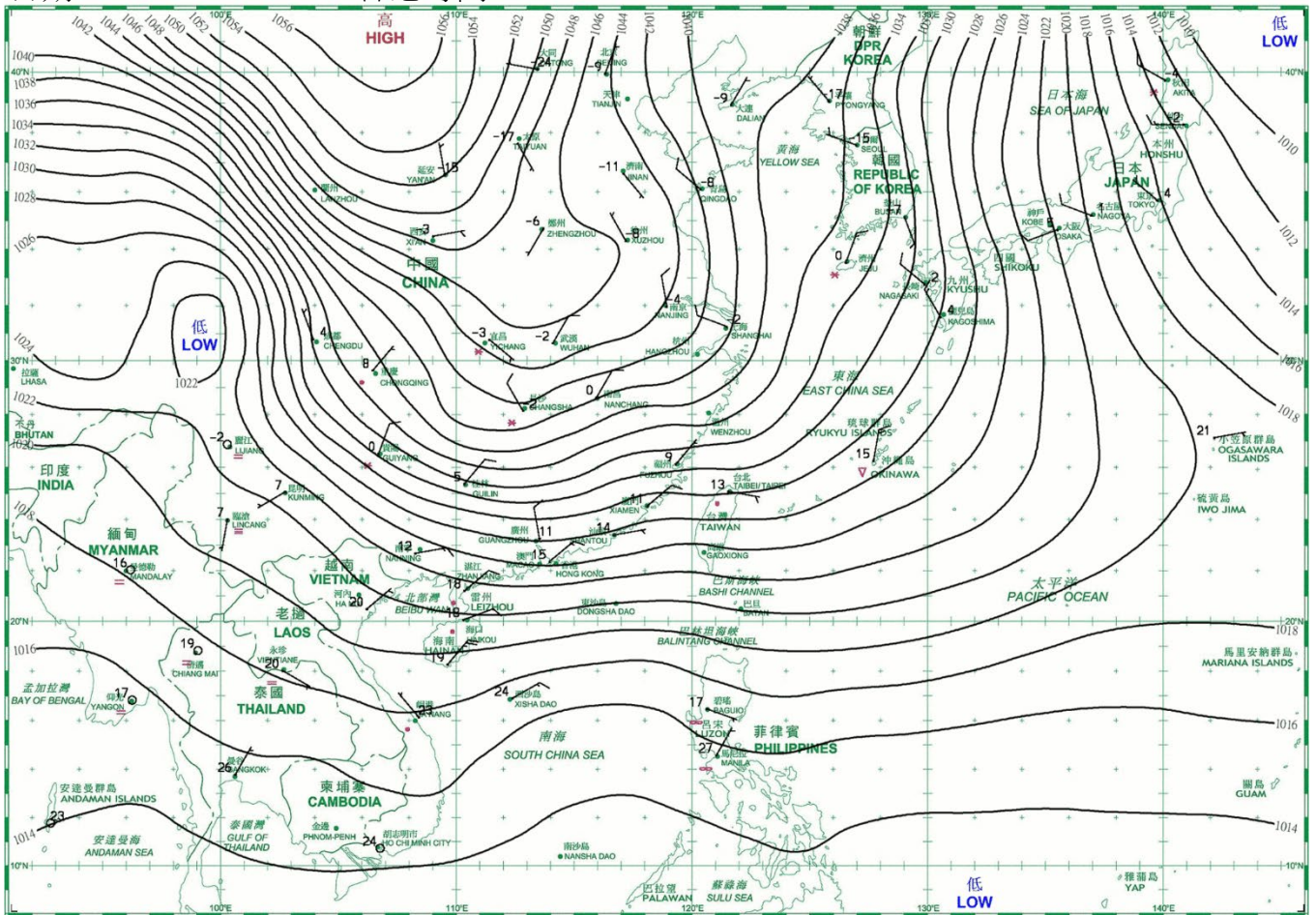




日期/Date: 25.12.2021 香港時間/HK Time: 08:00

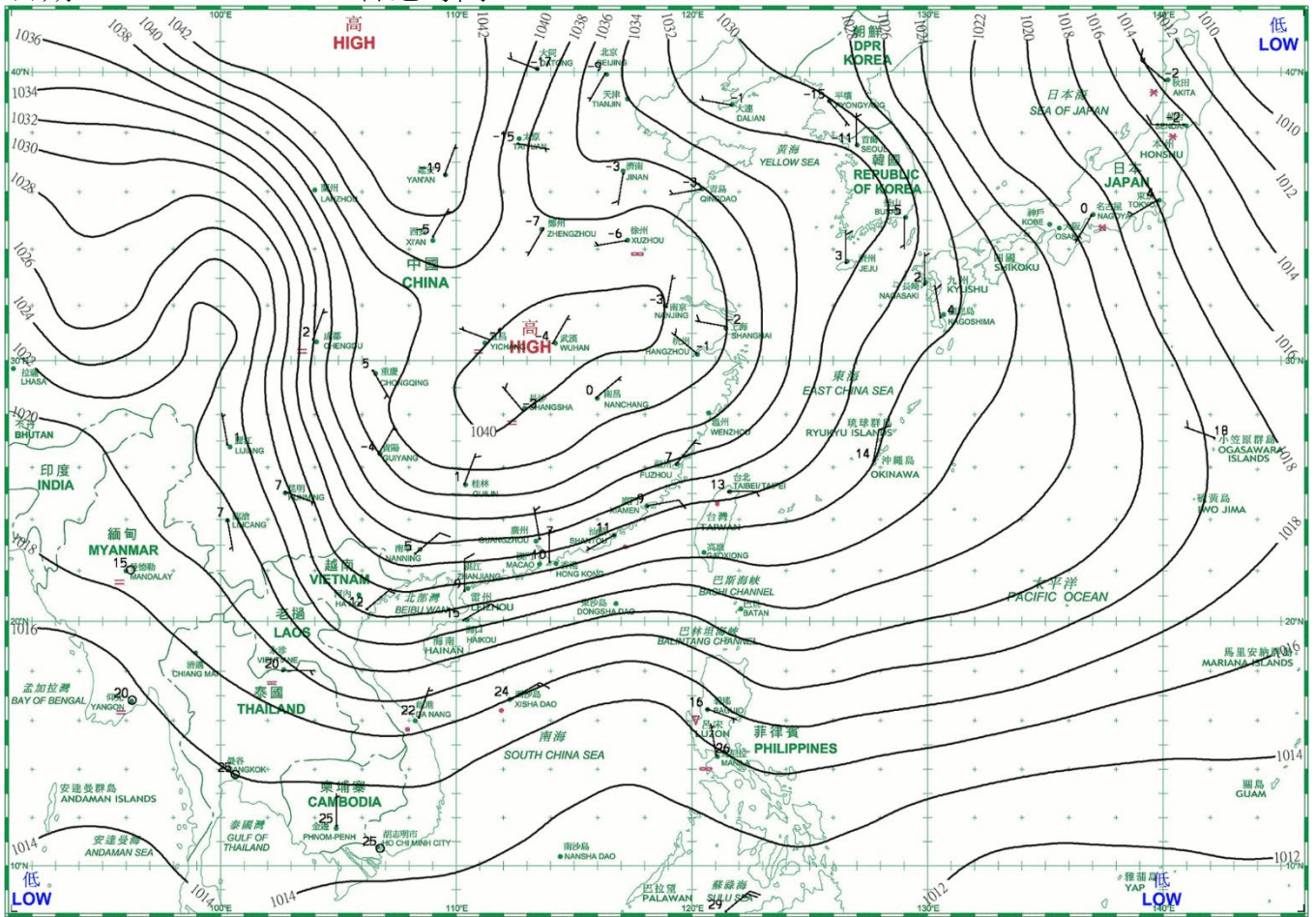


日期/Date: 26.12.2021 香港時間/HK Time: 08:00

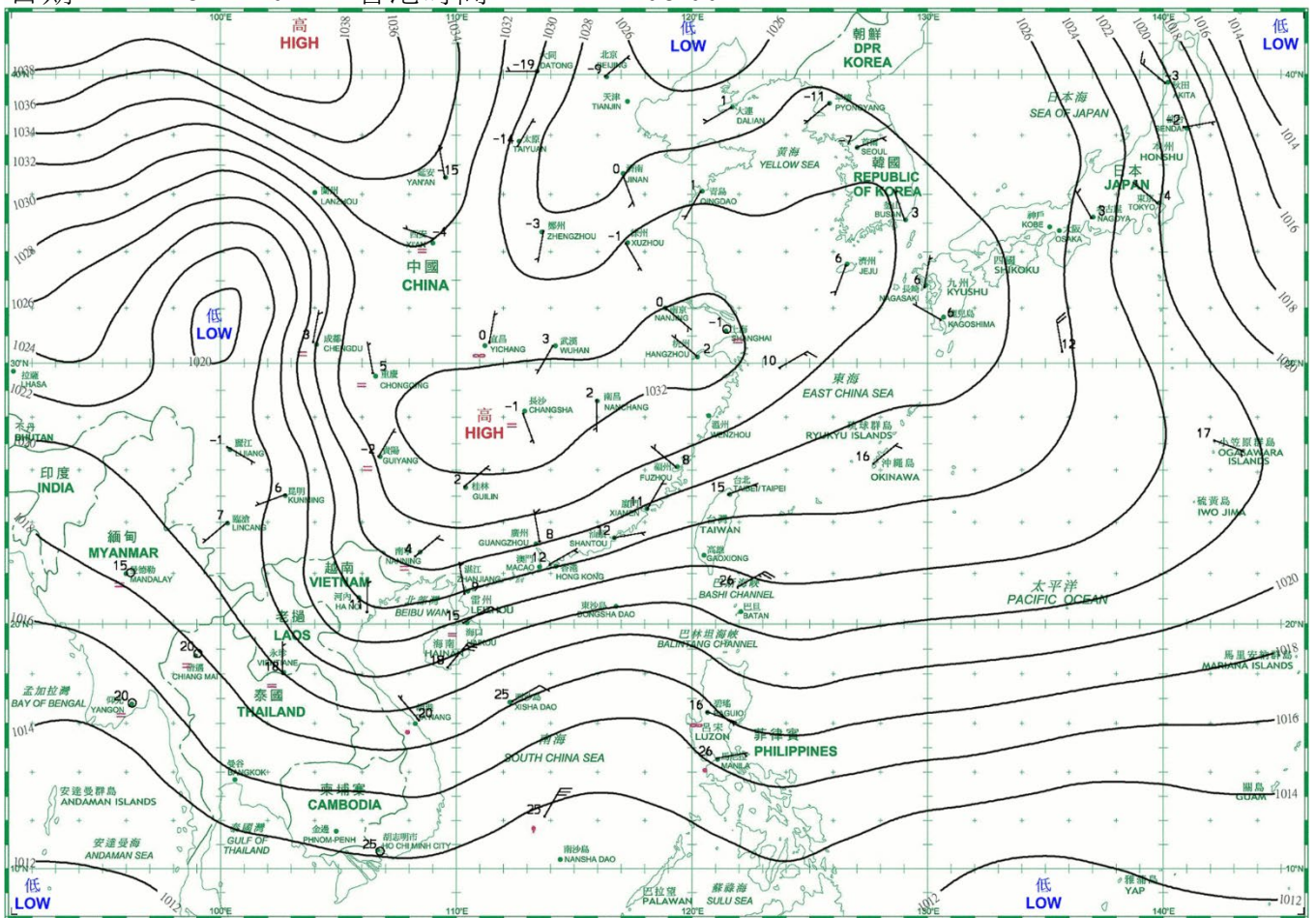




日期/Date: 27.12.2021 香港時間/HK Time: 08:00

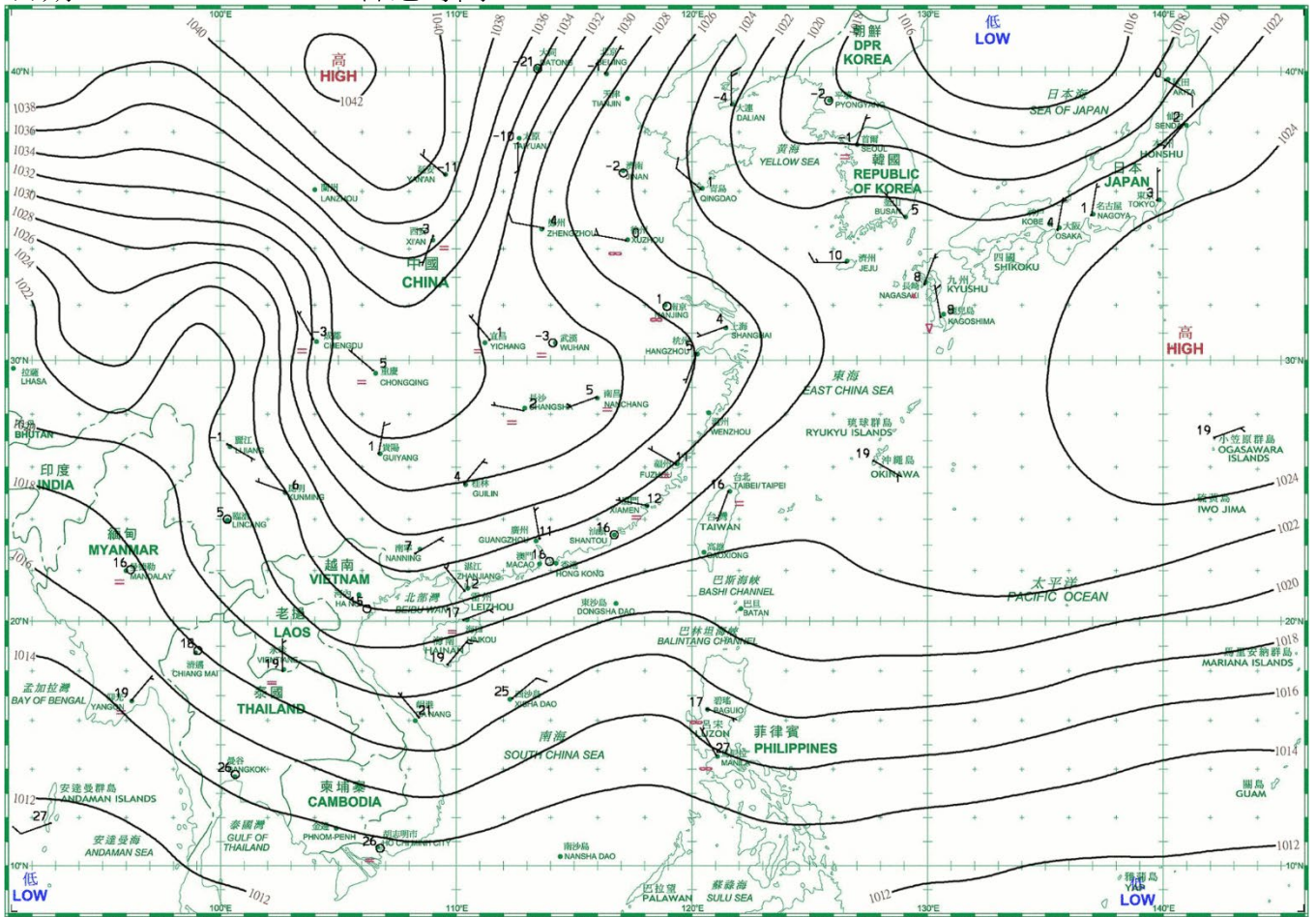


日期/Date: 28.12.2021 香港時間/HK Time: 08:00

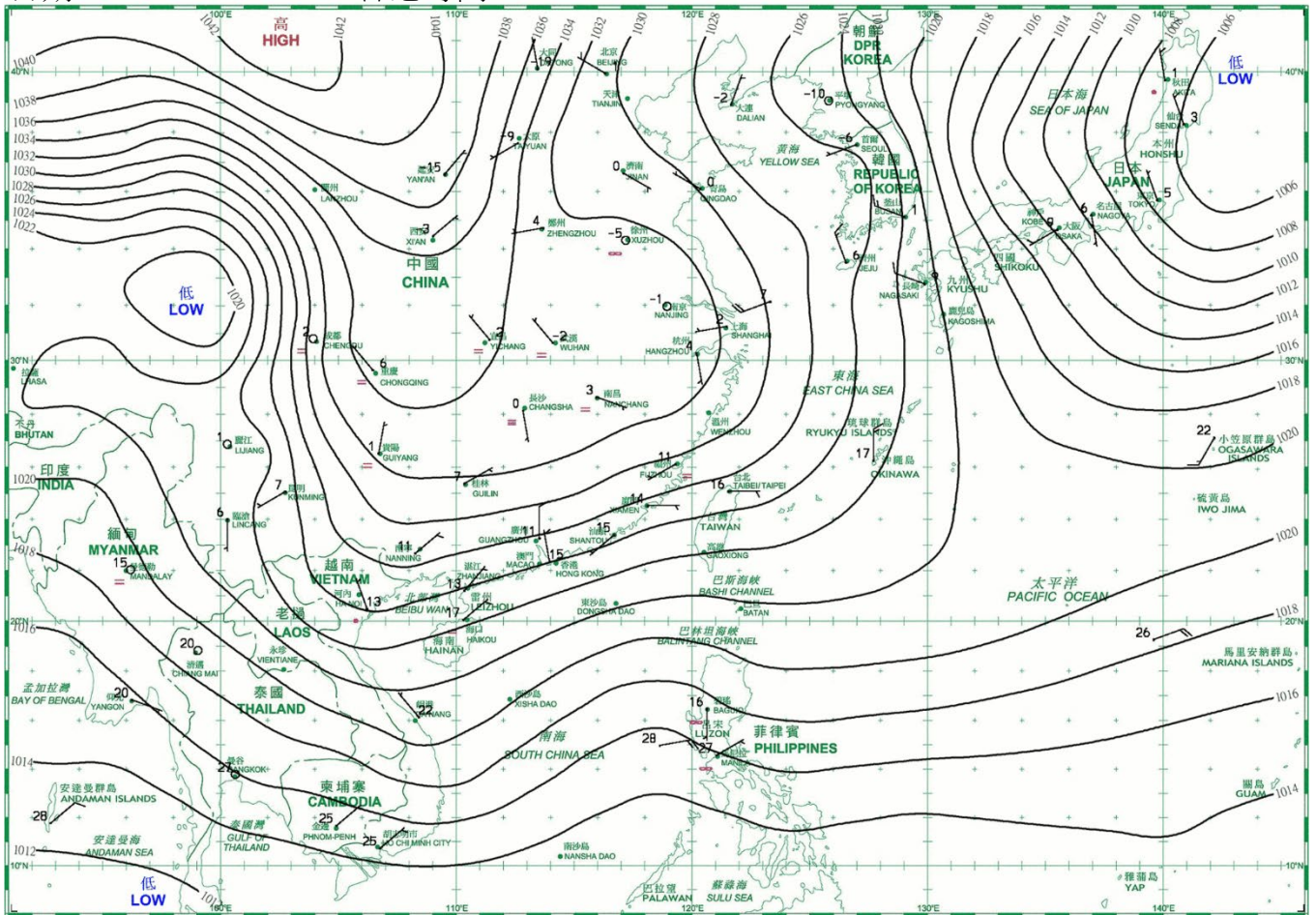




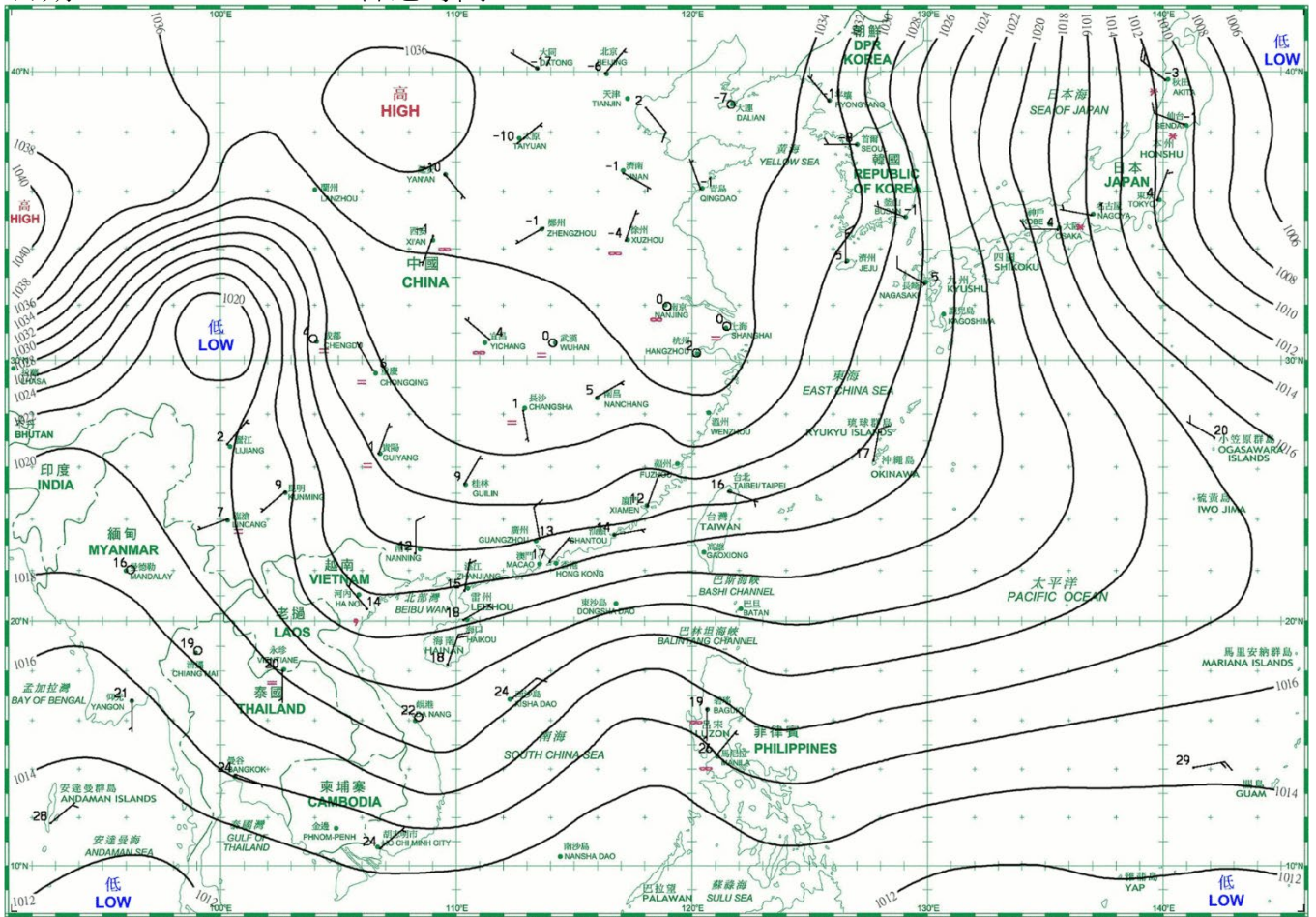
日期/Date: 29.12.2021 香港時間/HK Time: 08:00



日期/Date: 30.12.2021 香港時間/HK Time: 08:00







## 4.1.1 二零二一年十二月香港氣象觀測摘錄(一)

## 4.1.1 Extract of Meteorological Observations in Hong Kong (Part 1), December 2021

日期 Date	平均氣壓 Mean Pressure	氣 溫 Air Temperature			平均 露點溫度 Mean Dew Point Temperature	平均 相對濕度 Mean Relative Humidity	平均雲量 Mean Amount of Cloud	總雨量 Total Rainfall
		最高 Maximum	平均 Mean	最低 Minimum				
十二月 December	百帕斯卡 hPa	°C	°C	°C	°C	%	%	毫米 mm
1	1021.5	20.1	17.3	14.8	3.6	40	23	-
2	1021.8	20.4	17.4	14.6	4.1	42	11	-
3	1021.5	21.3	18.0	14.7	2.4	35	9	-
4	1022.2	20.6	18.1	15.3	6.2	46	37	-
5	1021.2	22.2	19.1	16.7	9.8	55	31	-
6	1020.3	22.2	19.2	16.4	10.7	59	7	-
7	1020.9	22.5	19.9	17.1	13.0	65	56	-
8	1022.3	22.2	20.1	18.4	13.6	67	19	-
9	1022.3	22.9	20.2	18.7	14.9	72	17	-
10	1020.7	23.7	20.9	18.6	15.8	73	30	-
11	1020.8	24.4	21.4	20.0	16.5	74	26	-
12	1021.0	24.7	21.5	19.2	16.7	75	20	-
13	1021.6	21.5	19.4	17.4	13.0	67	53	-
14	1018.6	23.6	20.5	18.7	15.3	72	71	Tr
15	1016.1	23.0	21.5	19.9	17.6	78	87	0.2
16	1015.8	25.8	23.2	21.7	19.8	81	69	Tr
17	1018.9	23.8	21.7	18.9	15.5	69	70	-
18	1022.8	20.0	18.1	16.3	9.7	58	88	-
19	1021.8	19.7	17.9	16.0	7.6	51	88	-
20	1017.6	19.3	17.2	15.7	13.0	78	91	9.4
21	1013.5	19.0	17.3	16.0	15.3	88	77	2.4
22	1016.5	21.7	19.3	17.1	15.7	80	89	Tr
23	1016.8	21.9	19.9	18.7	15.6	77	88	0.8
24	1017.2	21.8	19.9	18.2	17.0	84	84	1.7
25	1021.2	21.5	19.6	17.9	15.1	75	66	Tr
26	1025.5	18.5	15.0	11.7	11.1	78	92	3.5
27	1027.1	14.6	12.0	9.9	8.8	81	88	1.3
28	1024.4	17.5	15.3	12.2	10.7	74	89	0.2
29	1023.2	20.6	18.4	16.6	13.6	74	65	-
30	1024.6	21.4	18.1	16.2	14.0	77	51	-
31	1025.0	19.9	18.0	17.1	14.1	78	76	Tr
平均/總值 Mean/Total	1020.8	21.4	18.9	16.8	12.6	68	57	19.5
氣候平均值 Climatological normal (1991-2020)	1020.1	20.4	18.2	16.2	12.4	70	57	28.8
氣候平均值 Climatological normal (1981-2010)	1020.5	20.2	17.9	15.9	11.9	69	52	26.8
觀測站 Station	天文台 Hong Kong Observatory							

天文台於十二月二十一日 14 時 30 分錄得本月最低氣壓 1011.8 百帕斯卡。

The minimum pressure recorded at the Hong Kong Observatory was 1011.8 hectopascals at 1430 HKT on 21 December.

天文台於十二月十六日 13 時 15 分錄得本月最高氣溫 25.8 °C。

The maximum air temperature recorded at the Hong Kong Observatory was 25.8 °C at 1315 HKT on 16 December.

天文台於十二月二十七日 6 時 5 分錄得本月最低氣溫 9.9 °C。

The minimum air temperature recorded at the Hong Kong Observatory was 9.9 °C at 0605 HKT on 27 December.

京士柏於十二月二十日 18 時 49 分錄得本月最高1分鐘平均降雨率 20 毫米/小時。

The maximum 1-minute mean rainfall rate recorded at King's Park was 20 millimetres per hour at 1849 HKT on 20 December.

Tr - 微量 (降雨量少於 0.05 毫米)

Tr - Trace of rainfall (amount less than 0.05 mm)



## 4.1.2 二零二一年十二月香港氣象觀測摘錄(二)

## 4.1.2 Extract of Meteorological Observations in Hong Kong (Part 2), December 2021

日期 Date	出現低能見度的時數# Number of hours of Reduced Visibility#	總日照 Total Bright Sunshine	每日太陽總輻射 Daily Global Solar Radiation	總蒸發量 Total Evaporation	盛行風向 Prevailing Wind Direction	平均風速 Mean Wind Speed
十二月 December	小時 hours	小時 hours	兆焦耳/米 <sup>2</sup> MJ/m <sup>2</sup>	毫米 mm	度 degrees	公里/小時 km/h
1	0	9.7	18.12	4.7	010	41.0
2	0	9.6	17.81	4.1	010	25.2
3	0	9.7	18.32	4.3	360	26.8
4	0	9.6	17.57	3.1	070	29.8
5	0	9.5	17.04	3.6	060	27.2
6	0	9.6	17.46	3.1	010	21.4
7	0	6.2	12.44	3.2	070	32.3
8	0	9.6	17.18	4.2	080	42.5
9	0	9.6	16.29	2.9	070	25.5
10	0	9.5	17.06	3.3	070	29.8
11	0	9.6	16.91	2.8	070	27.7
12	0	9.5	16.23	3.8	060	19.4
13	8	6.6	12.65	2.8	010	23.5
14	7	7.0	13.78	2.9	070	21.8
15	1	2.7	8.38	2.3	070	26.3
16	0	4.1	11.64	2.8	050	23.8
17	0	0.9	8.21	5.5	010	33.0
18	0	6.1	12.25	4.9	010	32.2
19	0	1.2	9.16	3.2	070	36.0
20	0	-	2.35	1.0	050	45.5
21	0	0.1	3.26	1.1	360	35.0
22	0	2.0	8.72	2.1	360	15.8
23	1	2.9	9.99	2.1	080	25.4
24	14	1.0	6.69	1.7	040	9.5
25	3	3.7	10.66	3.2	070	32.3
26	7	0.5	3.34	2.6	010	35.0
27	0	1.4	9.00	1.4	010	31.3
28	11	0.4	7.67	1.5	030	21.8
29	8	6.9	13.56	2.8	360	12.6
30	5	8.7	14.67	2.5	080	19.7
31	1	4.2	9.34	2.3	080	30.1
平均/總值 Mean/Total	66	172.1	12.19	91.8	070	27.7
氣候平均值 Climatological normal (1991-2020)	193.6 §	161.6	10.91	80.9	010	26.4
氣候平均值 Climatological normal (1981-2010)	193.6 §	172.2	10.89	83.7	070	26.0
觀測站 Station	香港國際機場 Hong Kong International Airport		京士柏 King's Park		橫瀾島 <sup>^</sup> Waglan Island <sup>^</sup>	

橫瀾島於十二月一日 0 時 49 分錄得本月最高陣風 72 公里/小時，風向 010 度。

The maximum gust peak speed recorded at Waglan Island was 72 kilometres per hour from 010 degrees at 0049 HKT on 1 December.

# 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讀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，讀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日起改為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.

<sup>^</sup> 如橫瀾島未能提供數據，則以長洲或其他鄰近氣象站的數據作補充，以計算盛行風向和平均風速。

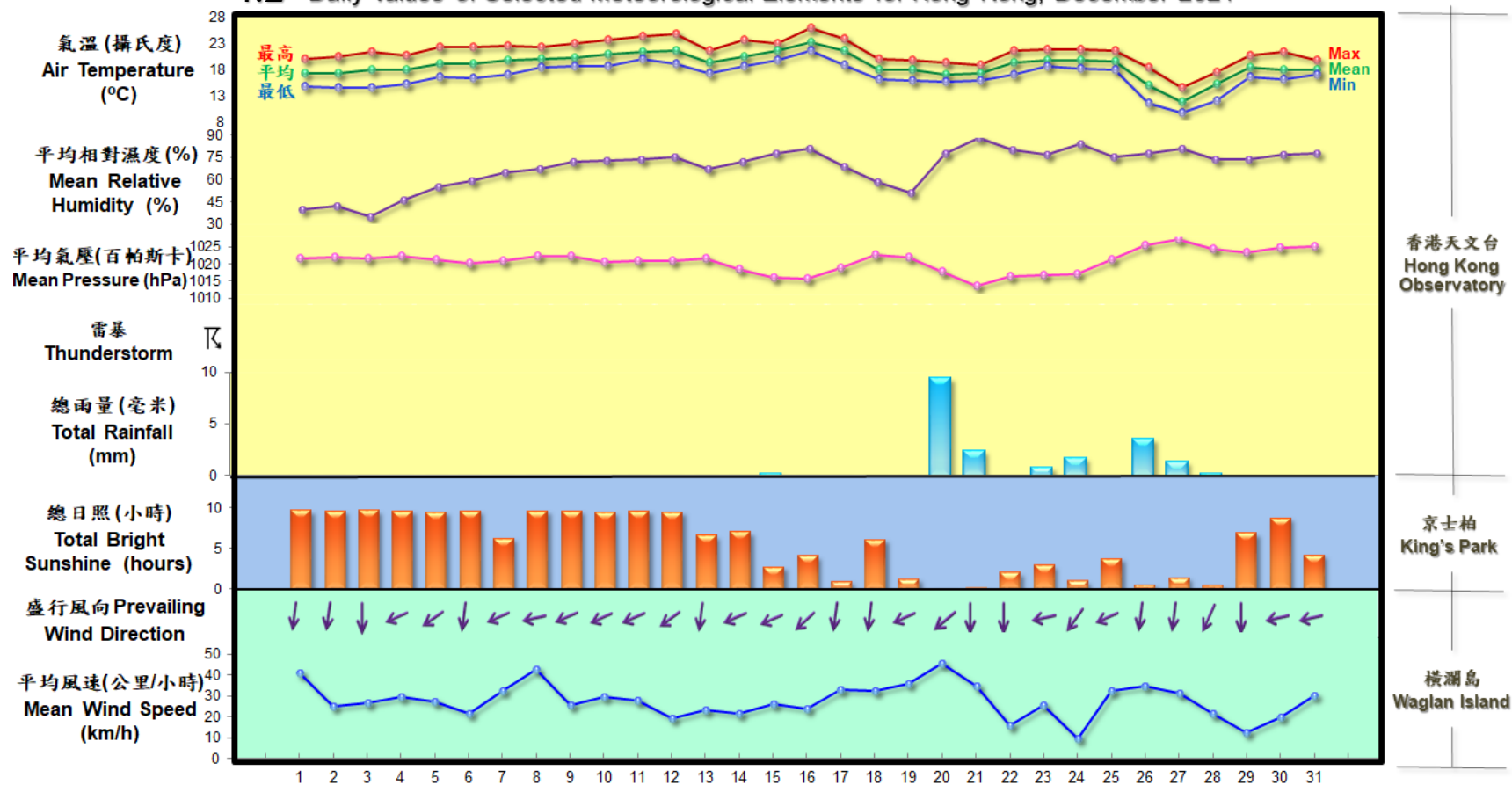
<sup>^</sup> In case the data are not available from Waglan Island, observations of Cheung Chau or other nearby weather stations will be incorporated in computing the Prevailing Wind Direction and Mean Wind Speed.

§ 1997-2020 平均值

§ 1997-2020 Mean value

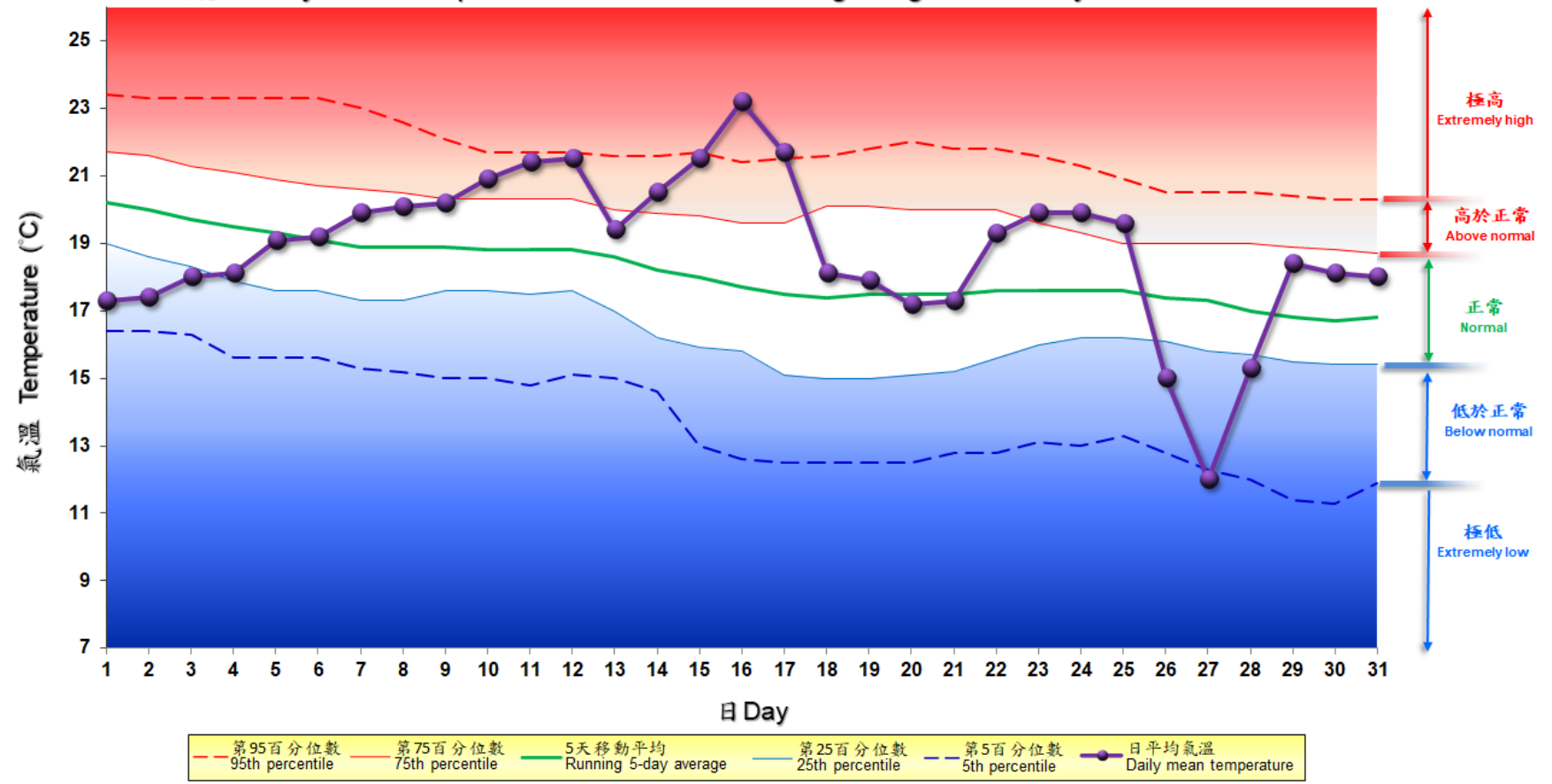
## 4.2 2021年12月部分香港氣象要素的每日記錄

### 4.2 Daily Values of Selected Meteorological Elements for Hong Kong, December 2021



### 4.3 2021年12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 December 2021



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

## 5. 二零二一年天氣概況

根據世界氣象組織的初步評估，2021 年可能是全球有記錄以來第五至第七暖的一年。2021 年全球平均海平面達有記錄以來的新高。2021 年各類極端天氣事件繼續在全球多處肆虐，當中包括北美洲西部、地中海地區和東歐的熱浪；美國中部多處地區、墨西哥北部、亞洲北部和歐洲的極端寒冷天氣；南美洲亞熱帶地區、北美洲西部、亞洲西南部和馬達加斯加南部的嚴重乾旱；極端降雨引致的嚴重水浸亦影響中國河南省、西歐、澳洲新南威爾士東部、阿富汗、地中海及黑海沿岸地區、南美洲北部、印度、巴基斯坦、孟加拉、尼泊爾和日本西部；以及熱帶氣旋在美國、委內瑞拉、印尼、東帝汶、澳洲、莫桑比克、南非、津巴布韋、斯威士蘭、馬達加斯加、印度、巴基斯坦、阿曼、伊朗和菲律賓帶來的嚴重破壞及重大傷亡。廣泛的乾旱及高溫天氣亦加劇了在美國加州北部、阿爾及利亞、土耳其南部、希臘、西伯利亞和巴西部分地區的山火災害。

一次短暫的拉尼娜事件於 2021 年 1 月形成，並於同年 3 月結束。赤道太平洋中部及東部水溫於春夏兩季維持正常，但該區水溫於 2021 年 10 月再次低於正常，並持續至年底，顯示另一拉尼娜事件正在發展。

本港方面，由於 3 月、5 月及 9 月的平均氣溫分別錄得破紀錄的 22.0 度、29.0 度及 29.7 度，2021 年是有記錄以來最暖的一年，全年平均氣溫為 24.6 度，較 1991-2020 正常值<sup>[1]</sup>高 1.1 度（或較 1981-2010 正常值高 1.3 度）。而全年平均最高氣溫 27.5 度及平均最低氣溫 22.6 度亦是有記錄以來最高。香港天文台於 5 月 23 日錄得全年最高氣溫 36.1 度，是有記錄以來其中一個第三高。2021 年的熱夜<sup>[2]</sup>數目為 61 天，而酷熱天氣<sup>[3]</sup>日數則為 54 天，兩者皆是有記錄以來最高，打破了 2020 年所創下的紀錄。

天文台於 1 月 8 日錄得全年最低氣溫 7.7 度。全年寒冷天氣<sup>[4]</sup>日數為 13 天，較 1991-2020 正常值少 2.2 天（或較 1981-2010 正常值少 4.1 天）。

2021 年本港的全年雨量為 2307.1 毫米，較 1991-2020 正常值 2431.2 毫米少百分之 5（或較 1981-2010 正常值 2398.5 毫米少百分之 4）。年內天文台曾發出六次紅色暴雨警告及兩次黑色暴雨警告。2021 年的雷暴日數為 41 天，較 1991-2020 正常值少 1 天（或較 1981-2010 正常值多 2 天）。

2021 年共有 27 個熱帶氣旋影響北太平洋西部及南海，較長期(1961-2010)平均的約 30 個為少。全年有 10 個熱帶氣旋達到颱風或以上強度<sup>[5]</sup>，低於長期平均的約 15 個，當中有 5 個熱帶氣旋達到超強颱風強度（中心附近最高十分鐘持續風速達到每小時 185 公里或以上）。本港方面，年內有 8 個熱帶氣旋令天文台需要發出熱帶氣旋警告信號，多於長期平均的約 6 個。天文台在 10 月獅子山和圓規吹襲本港期間曾發出八號烈風或暴風信號。

有關各月份的詳細天氣論述，可參考「每月天氣摘要」網頁：  
<https://www.weather.gov.hk/tc/wxinfo/pastwx/mws/mws.htm>。

2021 年本港發生的重要天氣事件扼述如下：

### **最暖的三月**

2021 年 3 月本港異常溫暖。3 月平均最高氣溫 24.8 度、平均氣溫 22.0 度及平均最低氣溫 20.2 度，較其各自 1991-2020 正常值高 2.9 度、2.5 度及 2.6 度（或較其各自 1981-2010 正常值高 3.4 度、2.9 度及 3.0 度），全是有記錄以來 3 月份的最高。

### **最熱的五月**

2021 年 5 月是本港有記錄以來最熱的 5 月。5 月平均氣溫 29.0 度及平均最低氣溫 27.0 度，較各自 1991-2020 正常值高 2.7 度及 2.5 度（或較各自 1981-2010 正常值高 3.1 度及 2.9 度），兩者皆是 5 月份最高紀錄。而 5 月平均最高氣溫 32.1 度則較 1991-2020 正常值高 3.3 度（或較 1981-2010 正常值高 3.7 度），是有記錄以來 5 月份的第二高。

### **最熱的九月**

2021 年本港經歷了有記錄以來最熱的 9 月。9 月平均最高氣溫 32.8 度、平均氣溫 29.7 度及平均最低氣溫 27.8 度，較其各自 1991-2020 正常值高 2.3 度、1.8 度及 1.7 度（或較其各自 1981-2010 正常值高 2.7 度、2.0 度及 2.0 度），全是 9 月份最高紀錄。

### **最暖的春季及上半年**

本港在 2021 年 3 月至 5 月期間經歷了有記錄以來最溫暖的春季。2021 年春季平均最高氣溫 28.0 度、平均氣溫 25.0 度及平均最低氣溫 23.2 度，全是有記錄以來春季的最高。此外，2021 年上半年異常溫暖，1 月至 6 月的平均最高氣溫 26.3 度、平均氣溫 23.3 度及平均最低氣溫 21.3 度，全是同期的最高紀錄。

### **破紀錄的熱夜數目及酷熱天氣日數**

由於 2021 年 5 月至 10 月中遠較正常炎熱，年內本港刷新了以下熱夜數目和酷熱天氣日數紀錄：

- 5 月熱夜數目為 14 天，是有記錄以來 5 月份最多；
- 由 5 月 16 日開始的連續 6 個熱夜，是有記錄以來 5 月份最長；
- 9 月熱夜數目為 11 天，而酷熱天氣日數則為 15 天，兩者皆是有記錄以來 9 月份最多；
- 10 月熱夜數目為 4 天，是有記錄以來 10 月份最多（與 2017 年 10 月並列最多）；
- 上半年(1 月至 6 月)熱夜數目為 22 天，是有記錄以來同期的最多；
- 全年熱夜數目為 61 天，而酷熱天氣日數則為 54 天，兩者皆是有記錄以來最多。

### **首五個月異常少雨**

由於 2021 年 3 月至 5 月的春季雨量遠較正常少，年內首五個月本港異常少雨，累積雨量只

有 163.1 毫米，較同期 1991-2020 正常值 590.9 毫米少約百分之 72 (或較 1981-2010 正常值 640.8 毫米少約百分之 75)，是有記錄以來同期的第二低。熱帶氣旋小熊、低壓槽及活躍的西南季候風於 2021 年 6 月為本港帶來充足的雨水，紓緩了雨量非常少的狀況。

### 六月二十八日的暴雨

受一股活躍的西南氣流影響，2021 年 6 月 28 日早上本港雨勢特別大及持續，並有狂風雷暴。傾盆大雨令天文台需要發出年內首個黑色暴雨警告信號。當日本港部分地區錄得超過 150 毫米雨量。

### 十月獅子山及圓規相繼襲港

在 2021 年 10 月 8 日至 14 日的一星期內，熱帶風暴獅子山及颱風圓規相繼影響本港。在熱帶氣旋和東北季候風的共同影響下，兩個熱帶氣旋均令天文台需要發出八號烈風或風暴信號，而兩個八號信號僅相距 60 小時 40 分鐘，是自 1946 年以來由兩個不同熱帶氣旋所引致的八號信號之時間相距最短的紀錄。

#### (a) 獅子山

獅子山於 2021 年 10 月 8 日至 10 日為本港帶來強風至烈風，以及狂風大驟雨。2021 年 10 月 9 日本港西南部的風力更間中達暴風程度。此外，2021 年 10 月 8 日的雨勢特別大而且持續，本港普遍錄得超過 200 毫米雨量，天文台需要發出年內第二個黑色暴雨警告。當日天文台錄得的雨量更達 329.7 毫米，是 10 月份月總雨量正常值 120.3 毫米的兩倍以上，亦是 10 月份日雨量的最高紀錄。

#### (b) 圓規

隨著圓規靠近，2021 年 10 月 12 日本港風力再次增強。2021 年 10 月 13 日本港普遍吹強風至烈風，而離岸風力達暴風程度，高地風力更達颶風程度。圓規的外圍雨帶於 2021 年 10 月 12 日至 13 日為本港帶來大驟雨，2021 年 10 月 13 日本港部分地區錄得超過 100 毫米雨量。此外，圓規引起的風暴潮在 2021 年 10 月 13 日早上令本港海水高度較正常潮水高度高出超過 1 米。由於適逢天文漲潮，兩者的疊加效應導致本港部分低窪地區出現水浸，當中包括大澳、城門河及鯉魚門。

### 極多雨的十月

由於熱帶氣旋獅子山及圓規帶來的大雨，2021 年 10 月本港遠較正常多雨，月總雨量達 631.1 毫米，是 10 月份 1991-2020 正常值 120.3 毫米的五倍以上 (或 1981-2010 正常值 100.9 毫米的六倍以上)，是有記錄以來 10 月份的第二高。

### 雷伊一破紀錄的十二月風暴

超強颱風雷伊在肆虐菲律賓後減弱為強颱風，並於 2021 年 12 月 17 日繼續向西移動，進入南海南部。雷伊於 2021 年 12 月 18 日再次增強為超強颱風，成為自 1961 年以來首個在 12 月影響南海的超強颱風。雷伊於 2021 年 12 月 19 日逐漸轉向北移動，移向南海北部並逐步減弱。隨著雷伊減弱為強烈熱帶風暴並向東北移動靠近廣東沿岸，天文台於 2021 年 12 月

20 日上午發出一號戒備信號，是自 1946 年以來年內最遲發出的熱帶氣旋警告信號，打破了艾瑪於 1974 年創下的紀錄。

附註：

[1] 1961-1990、1971-2000、1981-2010 及 1991-2020 氣候平均值，可參考：

<https://www.weather.gov.hk/tc/cis/normal.htm>。

除特別註明外，本文採用 1991-2020 氣候平均值。

[2] 熱夜指當日最低氣溫在 28.0 度或以上。

[3] 酷熱天氣指當日最高氣溫達 33.0 度或以上。

[4] 寒冷天氣指當日最低氣溫在 12.0 度或以下。

[5] 熱帶氣旋分級資料可參考：

<https://www.weather.gov.hk/tc/informtc/class.htm>。

表 5.1.1 2021 年破紀錄高溫天氣事件摘要

破紀錄事件 (自 1884 年有記錄以來)	日期 / 週期	新紀錄
1. 最高春分日最高氣溫	2021 年 3 月 20 日	29.7°C
2. 最高 3 月份日平均氣溫	2021 年 3 月 30 日	26.6°C
3. 最高 3 月份日最低氣溫	2021 年 3 月 30 日及 31 日	25.3°C
4. 最高 3 月份平均最高氣溫	2021 年 3 月	24.8°C
5. 最高 3 月份平均氣溫	2021 年 3 月	22.0°C
6. 最高 3 月份平均最低氣溫	2021 年 3 月	20.2°C
7. 最高佛誕日最低氣溫	2021 年 5 月 19 日	28.8°C
8. 最高 5 月份日最低氣溫	2021 年 5 月 21 日	29.5°C
9. 最高 5 月份日平均氣溫	2021 年 5 月 23 日	31.4°C
10. 最高 5 月份最高氣溫	2021 年 5 月 23 日	36.1°C
11. 最高 5 月份平均氣溫	2021 年 5 月	29.0°C
12. 最高 5 月份平均最低氣溫	2021 年 5 月	27.0°C
13. 最多 5 月連續熱夜數目	2021 年 5 月 16 日至 21 日	6 天
14. 最多 5 月熱夜數目	2021 年 5 月	14 天
15. 最高春季平均最高氣溫	2021 年 3 月至 5 月	28.0°C
16. 最高春季平均氣溫	2021 年 3 月至 5 月	25.0°C
17. 最高春季平均最低氣溫	2021 年 3 月至 5 月	23.2°C
18. 最高 6 月份日最低氣溫 (與 2019 年 6 月 21 日及 29 日並 列最高)	2021 年 6 月 19 日	29.5°C
19. 最高上半年平均最高氣溫	2021 年 1 月至 6 月	26.3°C
20. 最高上半年平均氣溫	2021 年 1 月至 6 月	23.3°C
21. 最高上半年平均最低氣溫 (與 2019 年並列最高)	2021 年 1 月至 6 月	21.3°C
22. 最多上半年熱夜數目	2021 年 1 月至 6 月	22 天
23. 最高 9 月份日平均氣溫 (與 2008 年 9 月 22 日、2010 年 9 月 1 日及 2013 年 9 月 21 日並列 最高)	2021 年 9 月 12 日	31.2°C
24. 最高 9 月份日最低氣溫 (與 1992 年 9 月 1 日並列最高)	2021 年 9 月 13 日	29.5°C
25. 最高中秋節翌日日最高氣溫	2021 年 9 月 22 日	34.0°C
26. 最高 9 月份絕對最低氣溫	2021 年 9 月	26.0°C
27. 最高 9 月份平均最高氣溫	2021 年 9 月	32.8°C
28. 最高 9 月份平均氣溫	2021 年 9 月	29.7°C



29. 最高 9 月份平均最低氣溫	2021 年 9 月	27.8°C
30. 最多 9 月酷熱天氣日數	2021 年 9 月	15 天
31. 最多 9 月熱夜數目	2021 年 9 月	11 天
32. 最高國慶日日最低氣溫	2021 年 10 月 1 日	28.8°C
33. 最高 10 月份日最低氣溫	2021 年 10 月 1 日	28.8°C
34. 最高 10 月份日平均氣溫 (與 2019 年 10 月 1 日並列最高)	2021 年 10 月 1 日	30.3°C
35. 最多 10 月熱夜數目 (與 2017 年 10 月並列最高)	2021 年 10 月	4 天
36. 最多全年酷熱天氣日數	2021 年	54 天
37. 最多全年熱夜數目	2021 年	61 天
38. 最高全年平均最高氣溫	2021 年	27.5°C
39. 最高全年平均氣溫	2021 年	24.6°C
40. 最高全年平均最低氣溫 (與 2019 年並列最高)	2021 年	22.6°C

表 5.1.2 2021 年其他破紀錄極端天氣事件摘要

破紀錄事件	日期 / 週期	新紀錄
1. 最高 10 月份日雨量	2021 年 10 月 8 日	329.7 毫米
2. 距離本港最遠而需要發出八號烈風或暴風信號的熱帶氣旋	2021 年 10 月 9 日 (獅子山)	490 公里
3. 由兩個不同熱帶氣旋所引致的八號烈風或暴風信號之最短相距時間	2021 年 10 月 10 日上午 4 時 40 分至 2021 年 10 月 12 日下午 5 時 20 分 (獅子山及圓規)	60 小時 40 分鐘
4. 年內最遲發出之熱帶氣旋警告信號	2021 年 12 月 20 日 (雷伊)	12 月 20 日

## 5. The Year's Weather – 2021

Globally, 2021 is likely to be between the fifth and seventh warmest year on record according to the World Meteorological Organization's preliminary assessment. Global mean sea level reached a new record high in 2021. In 2021, different parts of the world were ravaged by various extreme weather events, including heatwaves in western North America, Mediterranean region and eastern Europe; extreme cold events in many parts of the central United States, northern Mexico, northern Asia and Europe; severe drought in subtropical South America, western North America, southwest Asia and southern Madagascar; extreme rainfall triggered severe flooding in Henan Province of China, western Europe, eastern New South Wales in Australia, Afghanistan, the Mediterranean and Black Sea coasts, northern South America, India, Pakistan, Bangladesh, Nepal, and western Japan; and severe damages and heavy casualties brought by tropical cyclones in the United States, Venezuela, Indonesia, Timor-Leste, Australia, Mozambique, South Africa, Zimbabwe, Eswatini, Madagascar, India, Pakistan, Oman, Iran and the Philippines. Accentuated by widespread drought and high temperature weather, destructive wildfires wreaked havoc in northern California of the United States, Algeria, southern Turkey, Greece, Siberia and parts of Brazil.

A short-lived La Niña event was established in January 2021 and ended in March of that year. Sea surface temperatures of the central and eastern equatorial Pacific remained normal throughout spring and summer, but became below normal again in October 2021. The colder-than-normal sea surface temperatures persisted afterwards, indicating the development of another La Niña event.

In Hong Kong, with record breaking monthly mean temperatures of 22.0 degrees in March, 29.0 degrees in May and 29.7 degrees in September, 2021 was the warmest year on record with an annual mean temperature of 24.6 degrees, 1.1 degrees above the 1991-2020 normal<sup>[1]</sup> (or 1.3 degrees above than the 1981-2010 normal). The annual mean maximum temperature of 27.5 degrees and annual mean minimum temperature of 22.6 degrees were also the highest on record. The highest temperature recorded at the Hong Kong Observatory in the year was 36.1 degrees on 23 May, one of the third highest on record. There were 61 Hot Nights<sup>[2]</sup> and 54 Very Hot Days<sup>[3]</sup> in Hong Kong in 2021, both ranking the highest on record and breaking the previous records set in 2020.

The lowest temperature recorded at the Observatory in the year was 7.7 degrees on 8 January. The number of Cold Days<sup>[4]</sup> in the year was 13 days, 2.2 days less than the 1991-2020 normal (or 4.1 days less than the 1981-2010 normal).

The annual total rainfall in 2021 was 2307.1 millimetres, 5 percent below the 1991-2020 normal of 2431.2 millimetres (or 4 percent below the 1981-2010 normal of 2398.5 millimetres). Six red

rainstorm warnings and two black rainstorm warnings were issued by the Observatory in the year. The number of days with thunderstorms reported in Hong Kong was 41 days in 2021, about 1 day less than the 1991-2020 normal (or 2 days more than the 1981-2010 normal).

A total of 27 tropical cyclones occurred over the western North Pacific and the South China Sea in 2021, less than the long-term (1961-2010) average of about 30. There were 10 tropical cyclones reaching typhoon intensity<sup>[5]</sup> or above during the year, less than the long-term average of about 15, and 5 of them reached super typhoon intensity (with maximum 10-minute wind speed of 185 km/h or above near the centre). In Hong Kong, 8 tropical cyclones necessitated the issuance of tropical cyclone warning signals, more than the long-term average of about 6 in a year. The No. 8 Gale or Storm Signals were issued during the passages of Lionrock and Kompasu in October.

Detailed description of the weather for individual months is available on the Monthly Weather Summary webpage:

<https://www.weather.gov.hk/en/wxinfo/pastwx/mws/mws.htm>

Some significant weather events in Hong Kong in 2021 are highlighted below:

### **Warmest March**

March 2021 was exceptionally warm in Hong Kong. The monthly mean maximum temperature of 24.8 degrees, monthly mean temperature of 22.0 degrees and monthly mean minimum temperature of 20.2 degrees were 2.9 degrees, 2.5 degrees and 2.6 degrees above their corresponding 1991-2020 normals (or 3.4 degrees, 2.9 degrees and 3.0 degrees above their corresponding 1981-2010 normals). All of them were the highest on record for March.

### **Hottest May**

May 2021 was the hottest May in Hong Kong on record. The monthly mean temperature of 29.0 degrees and monthly mean minimum temperature of 27.0 degrees were 2.7 degrees and 2.5 degrees above their corresponding 1991-2020 normals (or 3.1 degree and 2.9 degrees above their corresponding 1981-2010 normals). Both were the highest on record for May. The mean maximum temperature of 32.1 degrees was 3.3 degrees above the 1991-2020 normal (or 3.7 degrees above the 1981-2010 normal) and the second highest on record for May.

### **Hottest September**

Hong Kong experienced the hottest September on record in 2021. The monthly mean maximum temperature of 32.8 degrees, monthly mean temperature of 29.7 degrees and monthly mean minimum temperature of 27.8 degrees were 2.3 degrees, 1.8 degrees and 1.7 degrees above their corresponding 1991-2020 normals (or 2.7 degrees, 2.0 degrees and 2.0 degrees above their corresponding 1981-2010 normals). All of them were the highest on record for September.

### **Warmest spring and first half-year**

Hong Kong experienced the warmest spring on record from March to May 2021. The mean maximum temperature of 28.0 degrees, mean temperature of 25.0 degrees and mean minimum temperature of 23.2 degrees were all the highest on record for spring. Moreover, the first half of 2021 from January to June was exceptionally warm. The mean maximum temperature of 26.3 degrees, mean temperature of 23.3 degrees and mean minimum temperature of 21.3 degrees were all the highest on record for the same period.

### **Record-breaking numbers of Hot Nights and Very Hot Days**

With much hotter than usual weather from May to mid-October in the year, 2021 saw the following record-breaking numbers of Hot Nights and Very Hot Days in Hong Kong:

- There were 14 hot nights in May 2021, the highest on record for May;
- The streak of 6 consecutive hot nights that started from 16 May 2021 was the longest on record for May;
- There were 11 hot nights and 15 very hot days in September 2021. Both were the highest on record for September;
- There were 4 hot nights in October 2021, the highest on record for October (on par with October 2017);
- There were 22 hot nights in the first half of the year (January to June), the highest on record for the same period;
- The total numbers of 61 hot nights and 54 very hot days in the year were both the highest annual numbers on record.

### **Exceptionally dry in the first five months**

Mainly attributing to the well below normal rainfall in spring from March to May 2021, the weather in Hong Kong was exceptionally dry in the first five months of the year. The accumulated rainfall recorded in those five months was only 163.1 millimetres, a deficit of 72 percent as compared to the 1991-2020 normal of 590.9 millimetres (or 75 percent below the 1981-2010 normal of 640.8 millimetres) and the second lowest on record for the same period. The very dry condition was alleviated by the abundant rainfall in June 2021 due to tropical cyclone Koguma, troughs of low pressure and the active southwest monsoon.

### **Rainstorm on 28 June**

Affected by an active southwesterly airstream, Hong Kong experienced heavy and persistent rain with squally thunderstorms on the morning of 28 June 2021. The incessant downpour necessitated the issuance of the first Black Rainstorm Warning in the year. More than 150 millimetres of rainfall were recorded over some parts of Hong Kong on that day.



### **Successive strikes of Lionrock and Kompasu in October**

Tropical Storm Lionrock and Typhoon Kompasu successively affected Hong Kong within a week from 8 October to 14 October 2021. Under the combined effect of the tropical cyclones and the northeast monsoon, the No. 8 Gale or Storm Signals were issued for both tropical cyclones with only a break of 60 hours and 40 minutes in between the two No. 8 signals, the shortest record for two different tropical cyclones since 1946.

#### **(a) Lionrock**

Lionrock brought strong to gale force winds and heavy squally showers to Hong Kong on 8 – 10 October 2021. Winds over the southwestern part of Hong Kong even occasionally reached storm force on 9 October 2021. Moreover, the rain was particularly heavy and persistent on 8 October 2021 with more than 200 millimetres of rainfall generally recorded over Hong Kong, necessitating the issuance of the second Black Rainstorm Warning in the year. The rainfall recorded at the Observatory on that day even reached 329.7 millimetres, more than two times of October's monthly total normal figure of 120.3 millimetres and the highest daily rainfall on record for October.

#### **(b) Kompasu**

With the approach of Kompasu, local winds strengthened again on 12 October 2021. Winds over Hong Kong were generally strong to gale force with winds reaching storm force offshore and even hurricane force on high ground on 13 October 2021. The outer rainbands of Kompasu brought heavy showers to Hong Kong on 12 – 13 October 2021 with over 100 millimetres of rainfall recorded in some parts of the territory on 13 October 2021. Moreover, the storm surge induced by Kompasu raised the water level in Hong Kong over 1 metre higher than the normal tide levels on the morning of 13 October 2021. Coincided with the astronomical high tide, the aggregated effect resulted in inundation of some low-lying areas in Hong Kong, including Tai O, Shing Mun River and Lei Yue Mun.

### **Extremely wet October**

Attributing to the heavy rain induced by tropical cyclones Lionrock and Kompasu, October 2021 was much wetter than usual in Hong Kong. The monthly rainfall of 631.1 millimetres was more than five times of the 1991-2020 normal figure of 120.3 millimetres (or more than six times of the 1981-2010 normal of 100.9 millimetres) and the second highest on record for October.

### **Rai – the record-breaking storm in December**

After wreaking havoc in the Philippines, Super Typhoon Rai weakened into a severe typhoon and continued to move westwards entering the southern part of the South China Sea on 17 December 2021. Rai re-intensified into a super typhoon on 18 December 2021, making it the first super typhoon occurred in the South China Sea in December since 1961. On 19 December 2021, Rai gradually turned to move north towards the northern part of the South China Sea and weakened progressively. With Rai weakening into a severe tropical storm and tracking northeastwards

towards the coast of Guangdong, the Observatory issued the Standby Signal No. 1 on the morning of 20 December 2021. Breaking the record of Irma in 1974, Rai became the storm which necessitated the issuance of the latest tropical cyclone warning signal in a year since 1946.

**Notes:**

- [1] Climatological normals for the reference period of 1961-1990, 1971-2000, 1981-2010 and 1991-2020 are available at: <https://www.weather.gov.hk/en/cis/normal.htm> Climatological normals of 1991-2020 are referenced in the text unless otherwise stated.
- [2] “Hot Night” refers to the condition with the daily minimum temperature equal to or higher than 28.0 degrees.
- [3] “Very Hot Day” refers to the condition with the daily maximum temperature equal to or higher than 33.0 degrees.
- [4] “Cold Day” refers to the condition with the daily minimum temperature equal to or lower than 12.0 degrees.
- [5] Information on the classification of Tropical Cyclones is available at: <https://www.weather.gov.hk/en/informtc/class.htm>

**Table 5.1.3 Summary of record-breaking high temperature events in 2021**

<b>Record-breaking Events (since records began in 1884)</b>	<b>Date / Period</b>	<b>New Record</b>
41. Highest Daily Maximum Temperature for Vernal Equinox	20 March 2021	29.7°C
42. Highest Daily Mean Temperature for March	30 March 2021	26.6°C
43. Highest Daily Minimum Temperature for March	30 and 31 March 2021	25.3°C
44. Highest Mean Maximum Temperature for March	March 2021	24.8°C
45. Highest Mean Temperature for March	March 2021	22.0°C
46. Highest Mean Minimum Temperature for March	March 2021	20.2°C
47. Highest Daily Minimum Temperature for Buddha's Birthday	19 May 2021	28.8°C
48. Highest Daily Minimum Temperature for May	21 May 2021	29.5°C
49. Highest Daily Mean Temperature for May	23 May 2021	31.4°C
50. Highest Maximum Temperature for May	23 May 2021	36.1°C
51. Highest Mean Temperature for May	May 2021	29.0°C
52. Highest Mean Minimum Temperature for May	May 2021	27.0°C
53. Highest Number of Consecutive Hot Nights for May	16 May to 21 May 2021	6 Days
54. Highest Number of Hot Nights for May	May 2021	14 Days
55. Highest Mean Maximum Temperature for spring	March to May 2021	28.0°C
56. Highest Mean Temperature for spring	March to May 2021	25.0°C
57. Highest Mean Minimum Temperature for spring	March to May 2021	23.2°C
58. Highest Daily Minimum Temperature for June (on par with 21 & 29 June 2019)	19 June 2021	29.5°C
59. Highest Mean Maximum Temperature for the first half-year	January to June 2021	26.3°C



60. Highest Mean Temperature for the first half-year	January to June 2021	23.3°C
61. Highest Mean Minimum Temperature for the first half-year (on par with 2019)	January to June 2021	21.3°C
62. Highest Number of Hot Nights for the first half-year	January to June 2021	22 Days
63. Highest Daily Mean Temperature for September (on par with 22 September 2008, 1 September 2010 & 21 September 2013)	12 September 2021	31.2°C
64. Highest Daily Minimum Temperature for September (on par with 1 September 1992)	13 September 2021	29.5°C
65. Highest Daily Maximum Temperature for the day following the Chinese Mid-Autumn Festival	22 September 2021	34.0°C
66. Highest Monthly Absolute Minimum Temperature for September	September 2021	26.0°C
67. Highest Mean Maximum Temperature for September	September 2021	32.8°C
68. Highest Mean Temperature for September	September 2021	29.7°C
69. Highest Mean Minimum Temperature for September	September 2021	27.8°C
70. Highest Number of Very Hot Days for September	September 2021	15 Days
71. Highest Number of Hot Nights for September	September 2021	11 Days
72. Highest Daily Minimum Temperature for National Day	1 October 2021	28.8°C
73. Highest Daily Minimum Temperature for October	1 October 2021	28.8°C
74. Highest Daily Mean Temperature for October (on par with 1 October 2019)	1 October 2021	30.3°C
75. Highest Number of Hot Nights for October (on par with October 2017)	October 2021	4 Days
76. Highest Annual Number of Very Hot Days	2021	54 Days
77. Highest Annual Number of Hot	2021	61 Days

Nights		
78. Highest Annual Mean Maximum Temperature	2021	27.5°C
79. Highest Annual Mean Temperature	2021	24.6°C
80. Highest Annual Mean Minimum Temperature (on par with 2019)	2021	22.6°C

**Table 5.1.4 Summary of other record-breaking extreme weather events in 2021**

<b>Record-breaking Events</b>	<b>Date / Period</b>	<b>New Record</b>
1. Highest Daily Rainfall for October	8 October 2021	329.7 mm
2. Farthest tropical cyclone necessitating the issuance of the No. 8 Gale or Storm Signal	9 October 2021 (Lionrock)	490 km
3. Shortest break between two No. 8 Gale or Storm Signals for two different tropical cyclones	04:40 10 October 2021 – 17:20 12 October 2021 (Lionrock and Kompasu)	60 hours and 40 minutes
4. Latest issuance of tropical cyclone warning signal in a year	20 December 2021 (Rai)	20 December

表 5.2.1 二零二一年香港氣象觀測摘要(一)

Table 5.2.1 Summary of Meteorological Observations in Hong Kong (Part1), 2021

月份 Month	平均氣壓 Mean Pressure	氣 溫 Air Temperature			平均 露點溫度 Mean Dew Point Temperature	平均 相對濕度 Mean Relative Humidity	平均雲量 Mean Amount of Cloud	總雨量 Total Rainfall
	百帕斯卡 hPa	°C	°C	°C	°C	%	%	毫米 mm
一月 January	1020.3	19.3	16.2	13.8	8.5	62	47	Tr
二月 February	1017.3	23.5	19.8	17.5	15.1	75	41	62.1
三月 March	1015.6	24.8	22.0	20.2	18.0	79	69	3.5
四月 April	1013.7	27.0	24.1	22.4	20.1	79	71	32.5
五月 May	1009.4	32.1	29.0	27.0	24.7	78	75	65.0
六月 June	1005.9	31.2	28.8	26.9	25.4	82	83	628.0
七月 July	1004.7	32.6	29.7	27.7	25.8	80	71	379.5
八月 August	1006.4	31.4	28.8	26.8	25.4	83	77	350.5
九月 September	1009.6	32.8	29.7	27.8	25.4	78	71	129.6
十月 October	1012.8	28.5	26.0	24.1	21.4	76	74	631.1
十一月 November	1016.9	25.4	22.4	20.3	15.8	67	50	5.8
十二月 December	1020.8	21.4	18.9	16.8	12.6	68	57	19.5
平均/總值 Mean/Total	1012.8	27.5	24.6	22.6	19.9	76	66	2307.1
氣候平均值 Climatological normal (1991-2020)	1012.9	26.0	23.5	21.6	19.3	78	68	2431.2
氣候平均值 Climatological normal (1981-2010)	1012.9	25.6	23.3	21.4	19.0	78	68	2398.5
觀測站 Station	天文台 Hong Kong Observatory							

香港天文台於八月四日 16 時 21 分錄得本年最低氣壓 993.0 百帕斯卡。

The annual minimum pressure recorded at the Hong Kong Observatory was 993.0 hectopascals at 1621 HKT on 4 August.

香港天文台於五月二十三日 13 時 46 分錄得本年最高氣溫 36.1 °C。

The annual maximum air temperature recorded at the Hong Kong Observatory was 36.1 °C at 1346 HKT on 23 May.

香港天文台於一月八日 5 時 59 分錄得本年最低氣溫 7.7 °C。

The annual minimum air temperature recorded at the Hong Kong Observatory was 7.7 °C at 0559 HKT on 8 January.

京士柏於十月十三日 14 時 54 分錄得本年最高1分鐘平均降雨率 190 毫米/小時。

The annual maximum 1-minute mean rainfall rate recorded at King's Park was 190 millimetres per hour at 1454 HKT on 13 October.

Tr - 微量 (降雨量少於 0.05 毫米)

Tr - Trace of rainfall (amount less than 0.05 mm)



表 5.2.2 二零二一年香港氣象觀測摘要(二)

Table 5.2.2 Summary of Meteorological Observations in Hong Kong (Part2), 2021

月份 Month	出現低能見度的時數# Number of hours of Reduced Visibility#		總日照 Total Bright Sunshine	平均每日 太陽總輻射 Mean Daily Global Solar Radiation	總蒸發量 Total Evaporation	盛行風向 Prevailing Wind Direction	平均風速 Mean Wind Speed
	小時 hours	小時 hours	小時 hours	兆焦耳/米 <sup>2</sup> MJ/m <sup>2</sup>	毫米 mm	度 degrees	公里/小時 km/h
一月 January	64	78	217.3	14.43	87.9	050	25.2
二月 February	2	6	205.1	15.80	84.2	060	21.1
三月 March	28	25	153.4	13.60	87.3	070	22.6
四月 April	47	2	131.4	14.42	95.8	070	24.4
五月 May	6	4	214.0	19.64	141.0	230	19.6
六月 June	5	1	122.2	14.81	99.6	230	23.1
七月 July	10	0	203.5	18.43	130.5	090	19.5
八月 August	22	2	160.0	15.38	101.1	230	16.5
九月 September	26	2	218.5	18.06	135.7	080	16.7
十月 October	14	1	149.1	12.58	101.9	080	34.4
十一月 November	1	0	233.3	15.54	109.3	080	24.9
十二月 December	33	66	172.1	12.19	91.8	070	27.7
平均/總值 Mean/Total	258	187	2179.9	15.41	1266.1	070	23.0
氣候平均值 Climatological normal (1991-2020)	825.8	1111.5 §	1829.3	13.23	1204.1	070	22.9
氣候平均值 Climatological normal (1981-2010)	692.3	1111.5 §	1835.6	12.85	1227.3	080	23.3
觀測站 Station	天文台 Hong Kong Observatory	香港國際機場 Hong Kong International Airport		京士柏 King's Park		橫瀾島 <sup>^</sup> Waglan Island <sup>^</sup>	

橫瀾島於十月十三日 4 時 37 分鐘得本年最高陣風 110 公里/小時，風向 050 度。

The annual maximum gust peak speed recorded at Waglan Island was 110 kilometres per hour from 050 degrees at 0437 HKT on 13 October.

# 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讀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，讀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日起改為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.

§ 1997-2020 平均值

§ 1997-2020 Mean value

<sup>^</sup> 如橫瀾島未能提供數據，則以長洲或其他鄰近氣象站的數據作補充，以計算盛行風向和平均風速

<sup>^</sup> In case the data are not available from Waglan Island, observations of Cheung Chau or other nearby weather stations will be incorporated in computing the Prevailing Wind Direction and Mean Wind Speed

表 5.2.3 二零二一年香港氣象觀測摘要(三)

Table 5.2.3 Summary of Meteorological Observations in Hong Kong (Part3),2021

月份 Month	酷熱天氣日數 Number of Very Hot days	熱夜日數 Number of Hot nights	寒冷天氣日數 Number of Cold days	雷暴日數 Number of days with Thunderstorm
一月 January	-	-	11	-
二月 February	-	-	-	-
三月 March	-	-	-	-
四月 April	-	-	-	-
五月 May	12	14	-	2
六月 June	4	8	-	8
七月 July	17	18	-	14
八月 August	5	6	-	12
九月 September	15	11	-	5
十月 October	1	4	-	-
十一月 November	-	-	-	-
十二月 December	-	-	2	-
平均/總值 Mean/Total	54	61	13	41
氣候平均值 Climatological normal (1991-2020)	17.5	23.6	15.2	42.3
氣候平均值 Climatological normal (1981-2010)	10.2	17.8	17.1	38.6
觀測站 Station	天文台 Hong Kong Observatory			

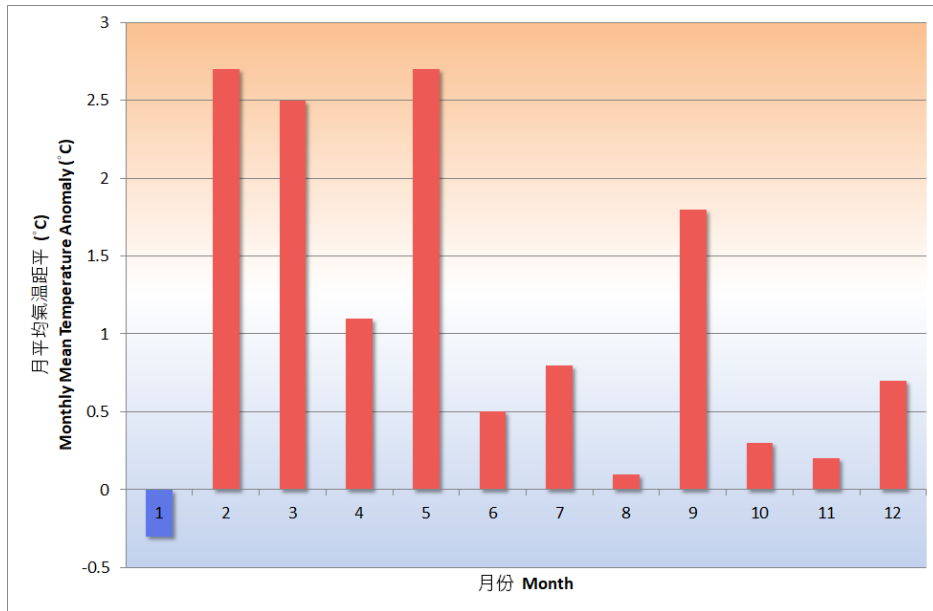


圖 5.1 2021 年香港月平均氣溫距平(與 1991-2020 正常值相比)

Fig. 5.1 Monthly mean temperature anomalies (against the 1991-2020 normal) in Hong Kong in 2021

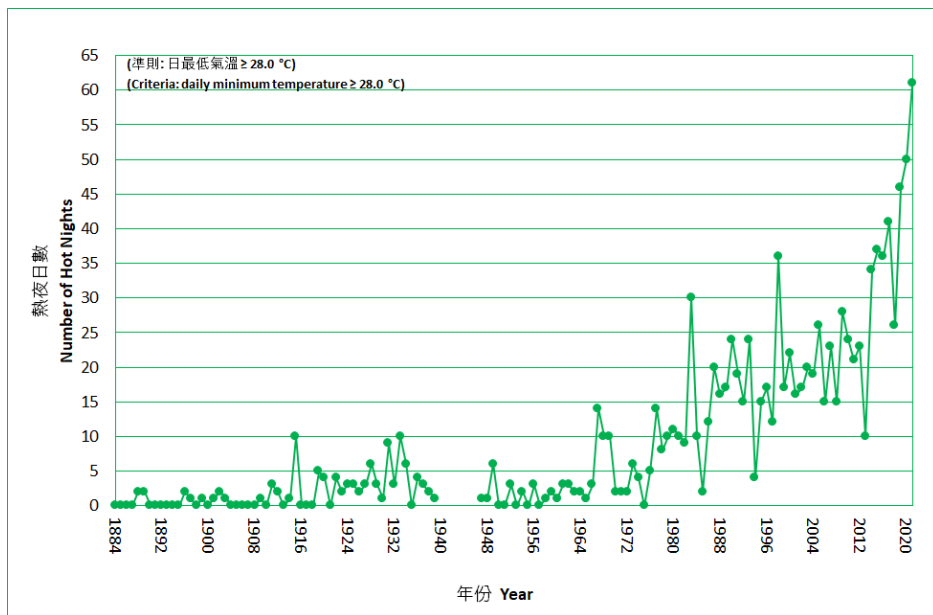


圖 5.2 香港全年熱夜數目的長期時間序列(1884-2021)

Fig. 5.2 Long-term time series of number of Hot Nights in Hong Kong 1884-2021



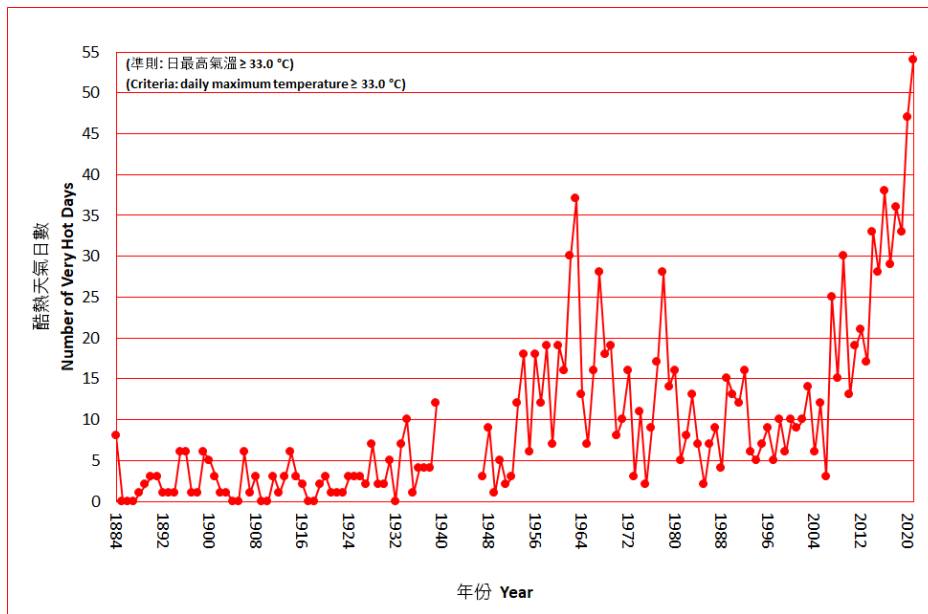


圖 5.3 香港全年酷熱天氣日數的長期時間序列(1884-2021)

Fig. 5.3 Long-term time series of number of Very Hot Days in Hong Kong 1884-2021

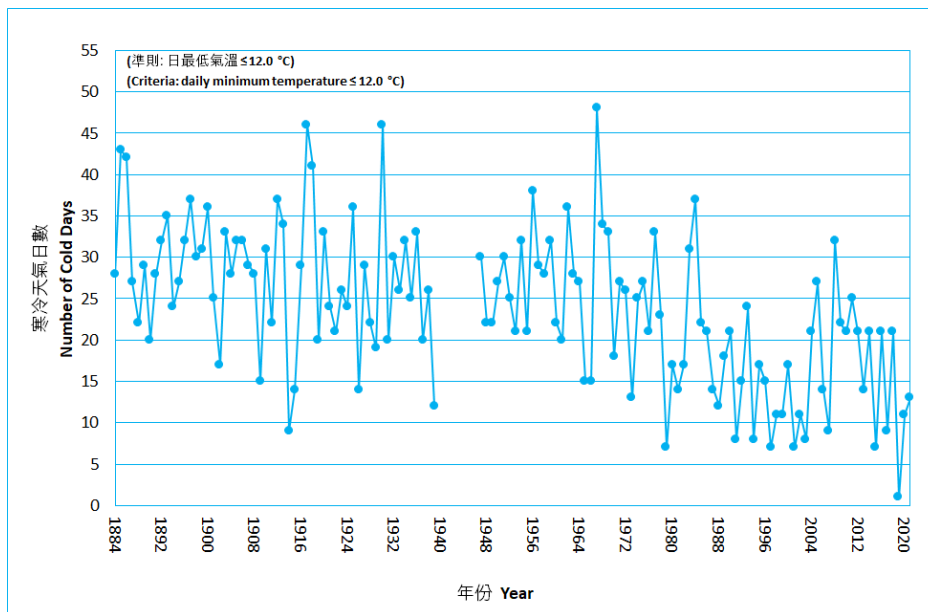


圖 5.4 香港全年寒冷天氣日數的長期時間序列(1884-2021)

Fig. 5.4 Long-term time series of number of Cold Days in Hong Kong 1884-2021

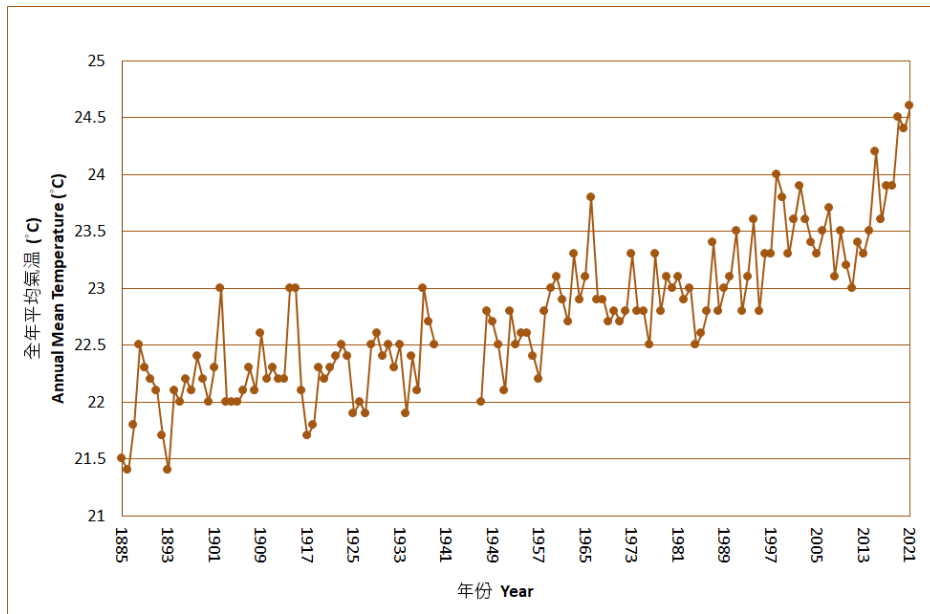


圖 5.5 香港全年平均氣溫的長期時間序列(1885-2021)

Fig. 5.5 Long-term time series of annual mean temperature in Hong Kong 1885-2021

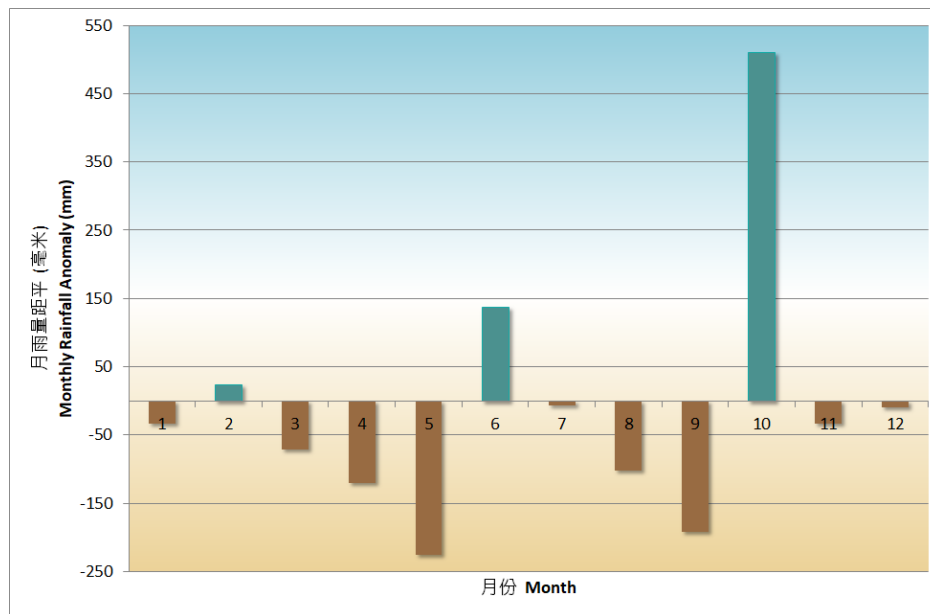


圖 5.6 2021 年香港月雨量距平(與 1991-2020 正常值相比)

Fig. 5.6 Monthly rainfall anomalies (against the 1991-2020 normal) in Hong Kong in 2021

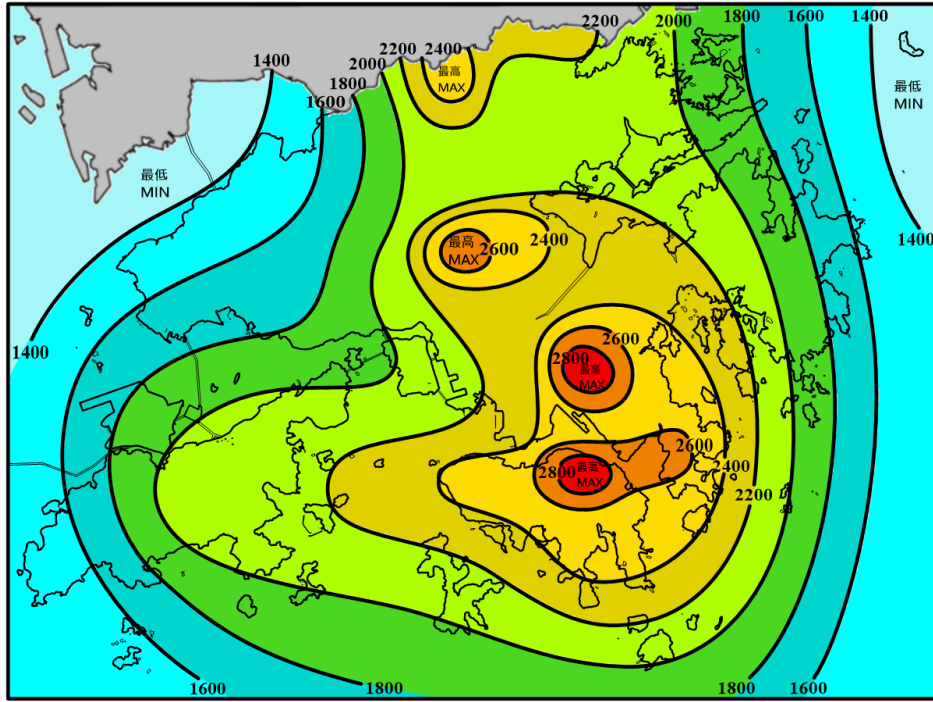


圖 5.7 2021 年香港年雨量分佈(毫米)

Fig. 5.7 Annual rainfall distribution in Hong Kong in 2021 (in millimetres)

2021 年 6 月 28 日的總雨量 (基於雨量計及雷達數據)

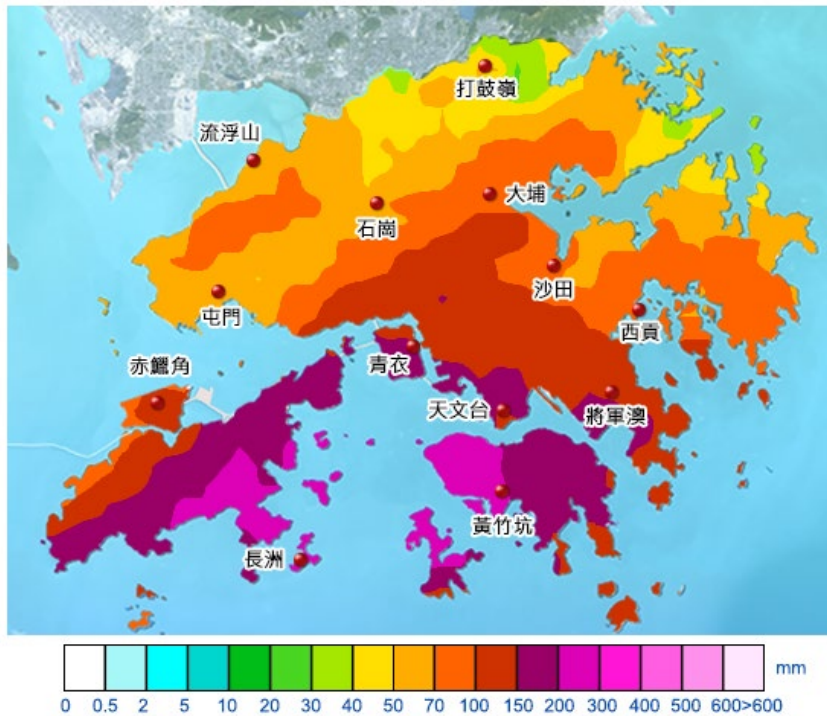


圖 5.8 2021 年 6 月 28 日香港日雨量分佈圖

Fig. 5.8 Daily rainfall distribution map of Hong Kong on 28 June 2021



2021年10月8日的總雨量(基於雨量計及雷達數據)

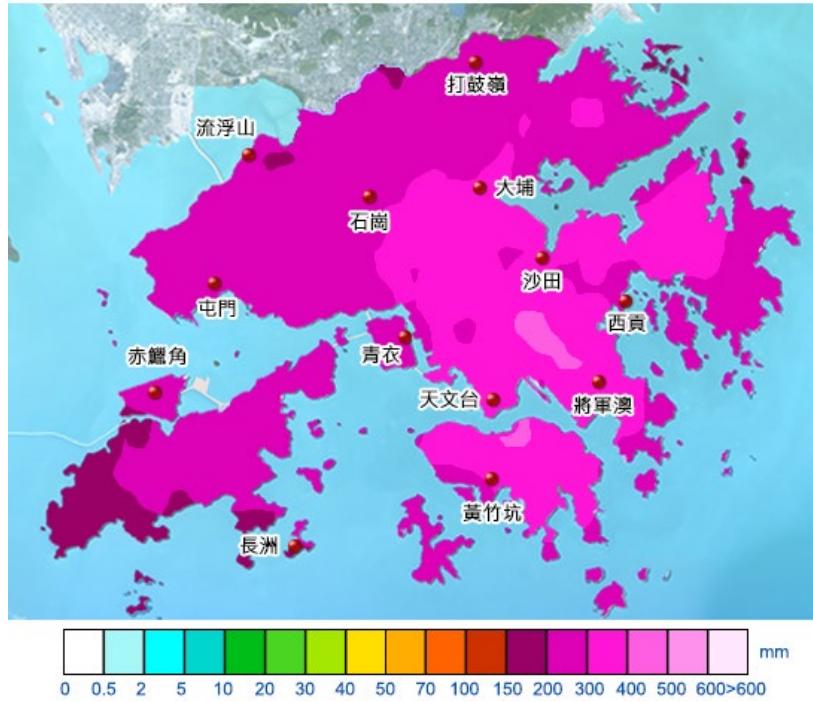


圖 5.9 2021 年 10 月 8 日香港日雨量分佈圖

Fig. 5.9 Daily rainfall distribution map of Hong Kong on 8 October 2021



圖 5.10 2021 年 10 月 8 日暴雨期間在維多利亞公園附近的嚴重水浸

(圖片由 Cyril Tong 提供)

Fig. 5.10 Serious flooding near Victoria Park during the rainstorm on 8 October 2021

(Courtesy of Cyril Tong)

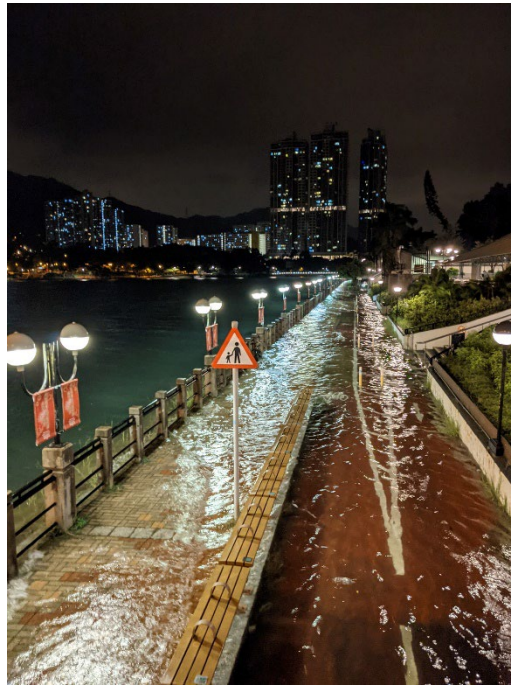


圖 5.11 2021 年 10 月 13 日凌晨圓規引起的風暴潮導致城門河出現水浸

(圖片由 Poon Chi Ming 提供)

Fig. 5.11 Flooding of Shing Mun River due to storm surge induced by Kompasu on the early morning of 13 October 2021 (Courtesy of Poon Chi Ming)

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