每月天氣摘要
二零二四年十二月

Monthly Weather Summary
December 2024

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目錄

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二零二五年一月出版

香港天文台編製
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。

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Published: January 2025

Prepared and published by : Hong Kong Observatory,
134A Nathan Road,
Kowloon,
Hong Kong.

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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.

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1. 二零二四年十二月天氣回顧

由於華南沿岸低層大氣中的水汽較少，二零二四年十二月香港遠較正常少雨，全月只錄得微量雨量，是自一八八四年有記錄以來，十一個僅錄得微量雨量十二月份的其中之一。二零二四年總雨量為 2 309.7 毫米，較全年正常值 2 431.2 毫米低約百分之 5。十二月平均氣溫為 18.5 度，較同月正常值 18.2 度高 0.3 度。

十二月首兩天本港天晴乾燥。受一股偏東氣流及隨後的東北季候風影響，除早晚部分時間多雲外，十二月三日至七日日間大致天晴。隨著季候風增強及一道雲帶覆蓋廣東沿岸，十二月八日至九日雲量增多及早上清涼。十二月十日至十一日東北季候風緩和，天氣回暖及部分時間有陽光。天文台氣溫於十二月十一日下午上升至全月最高的 25.2 度。

在一股乾燥的東北季候風影響下，十二月十二日至十七日本港部分時間有陽光及早上清涼。十二月十五日晚間亦有幾陣微雨。受一股冬季季候風補充影響，十二月十八日早上多雲，下午轉為天晴乾燥，並持續至隨後四天。天文台氣溫於十二月二十日早上下降至全月最低的 11.9 度。由於天朗氣清，十二月十九日至二十一日早上新界氣溫顯著較市區為低。

受與位於南海南部的熱帶低氣壓帕布相關的廣闊雲帶影響，十二月二十三日至二十七日本港天氣轉為大致多雲。十二月二十三日、二十五日及二十六日亦有幾陣微雨。受東北季候風補充影響，十二月二十八日本港初時多雲，日間轉為天晴乾燥，並持續至月底。隨著一股清勁的偏東氣流抵達，十二月三十一日稍後天氣轉為多雲及有幾陣微雨。

二零二四年十二月有一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/信號的詳情。

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1. The Weather of December 2024

With less moisture in the lower atmosphere over the coast of southern China, December 2024 was much drier than usual in Hong Kong. Only traces of rainfall were recorded in the month and it was one of eleven Decembers with just traces of rainfall since records began in 1884. The annual total rainfall of 2 309.7 millimetres was about 5 percent below the annual normal of 2 431.2 millimetres. The monthly mean temperature was 18.5 degrees, 0.3 degrees above the December normal of 18.2 degrees.

The weather of Hong Kong was fine and dry on the first two days of the month. Under the influence of an easterly airstream and the subsequent northeast monsoon, apart from cloudy periods in the morning and at night, it was mainly fine during the day on 3 – 7 December. With the strengthening of the monsoon and a band of clouds covering the coast of Guangdong, it became

cloudier with cool mornings on 8 – 9 December. The northeast monsoon moderated and the weather turned warmer with sunny periods on 10 – 11 December. The temperatures at the Observatory rose to a maximum of 25.2 degrees on the afternoon of 11 December, the highest of the month.

Under the influence of a dry northeast monsoon, there were sunny periods with cool mornings on 12 – 17 December. There were also a few light rain patches on the night of 15 December. Affected by a replenishment of the winter monsoon, while it was cloudy in the morning, the weather turned fine and dry on the afternoon of 18 December and remained so on the next four days. The temperatures at the Observatory dropped to a minimum of 11.9 degrees on the morning of 20 December, the lowest of the month. Under clear skies, the temperatures in the New Territories were significantly lower than those in the urban areas on the mornings of 19 – 21 December.

Under the influence of a broad band of clouds associated with tropical depression Pabuk over the southern part of the South China Sea, local weather turned mainly cloudy on 23 – 27 December. There were also a few light rain patches on 23, 25 – 26 December. Affected by a replenishment of the northeast monsoon, while it was cloudy at first, the weather turned fine and dry during the day on 28 December and remained so until the end of the month. With the setting in of a fresh easterly airstream, the weather turned cloudy with a few light rain patches later on 31 December.

One tropical cyclone occurred over the South China Sea and the western North Pacific in December 2024.

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　二零二四年十二月發出的警告及信號
Table 1.1　Warnings and Signals issued in December 2024

寒冷天氣警告
Cold Weather Warning

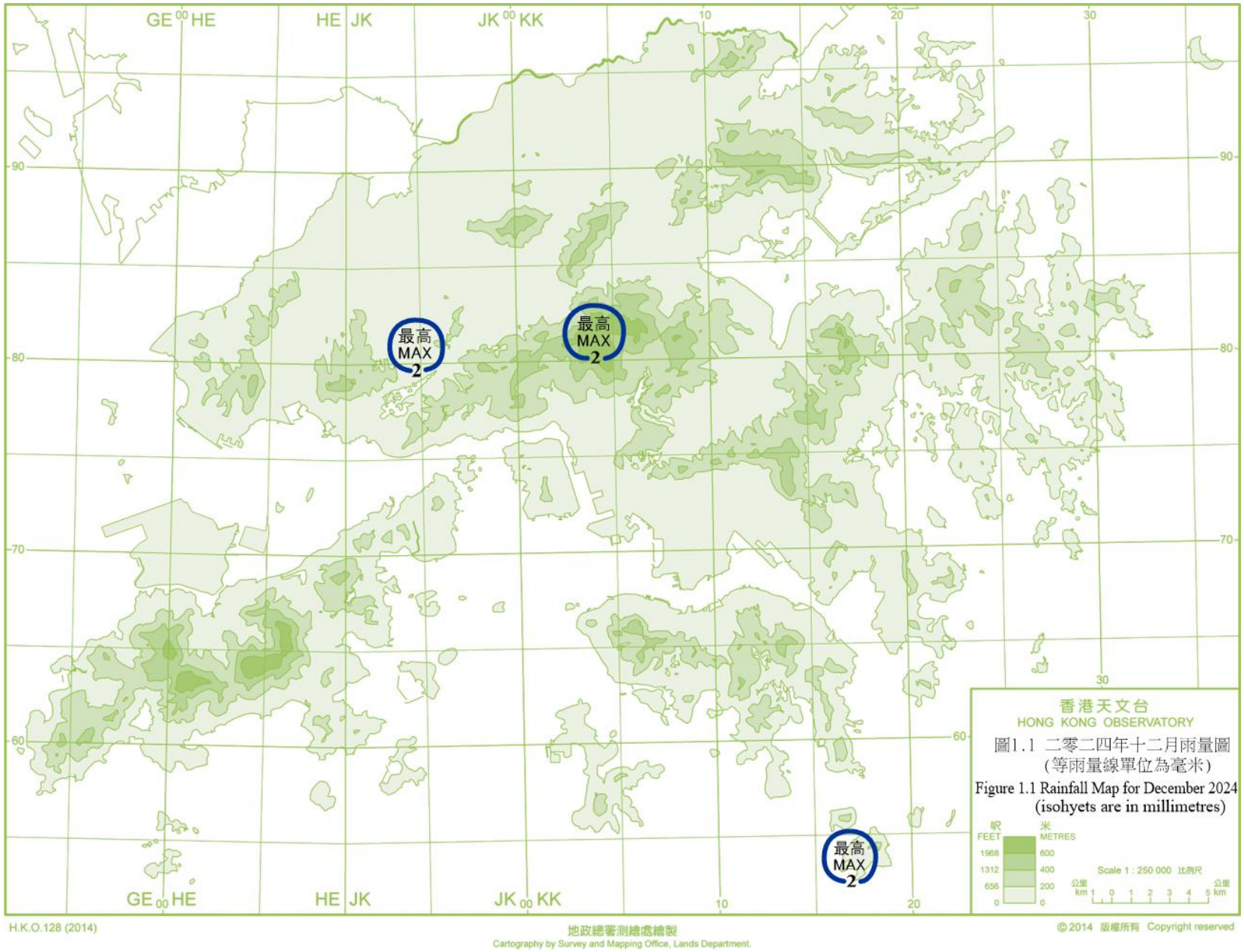
開始時間 Beginning Time		終結時間 Ending Time	
日/月 day/month	時 hour	日/月 day/month	時 hour
19/12	1620	20/12	1030
20/12	2230	21/12	0940
21/12	1620	22/12	0940

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
黃色 Yellow	1/12	0600	1/12	2030
黃色 Yellow	7/12	0600	8/12	2330
紅色 Red	14/12	0600	22/12	2315
黃色 Yellow	26/12	0945	26/12	1900
紅色 Red	28/12	0600	29/12	0600
黃色 Yellow	29/12	0600	29/12	2050
紅色 Red	31/12	0600	31/12	2145

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
14/12	0130	15/12	0745
28/12	0615	28/12	0915


GE 00 HE
HE JK
JK 00 KK
10
20
30
90
80
70
60
最高
MAX
2
香港天文台
HONG KONG OBSERVATORY
圖1.1 二零二四年十二月雨量圖
(等雨量線單位為毫米)
Figure 1.1 Rainfall Map for December 2024
(isohyets are in millimetres)
呎
FEET
1968
1312
656
0
米
METRES
600
400
200
0
Scale 1 : 250 000 比例尺
公里
km 1 0 1 2 3 4 5 km
H.K.O.128 (2014)
地政總署測繪處繪製
Cartography by Survey and Mapping Office, Lands Department.
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2.1. 二零二四年十二月的熱帶氣旋概述

二零二四年十二月在南海區域出現了一個熱帶氣旋。

熱帶低氣壓帕布於十二月二十二日晚上在胡志明市以東約 750 公里的南海南部上形成，向西北或西北偏西移動。十二月二十三日早上帕布達到其最高強度，中心附近最高持續風速估計為每小時 55 公里。帕布於當晚至翌日早上逐漸轉向西南移動。最後帕布於十二月二十五日逐漸減弱，並於傍晚在越南東南海域減弱為低壓區。

根據報章報道，與帕布相關的低壓區為菲律賓西部帶來暴雨，造成三人死亡，超過八萬人受災。

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2.1. Overview of Tropical Cyclone in December 2024

One tropical cyclone occurred over the South China Sea in December 2024.

Pabuk formed as a tropical depression over the southern part of the South China Sea about 750 km east of Ho Chi Minh City on the night of 22 December, and moved northwestwards or west-northwestwards. On the morning of 23 December, Pabuk attained its peak intensity with an estimated maximum sustained wind of 55 km/h near its centre. It gradually turned to move southwestwards that night and the next morning. Pabuk gradually weakened on 25 December, and finally degenerated into an area of low pressure over the seas southeast of Vietnam that evening.

According to press reports, the area of low pressure associated with Pabuk brought torrential rain to the western part of the Philippines, causing three deaths and more than 80 000 people affected.

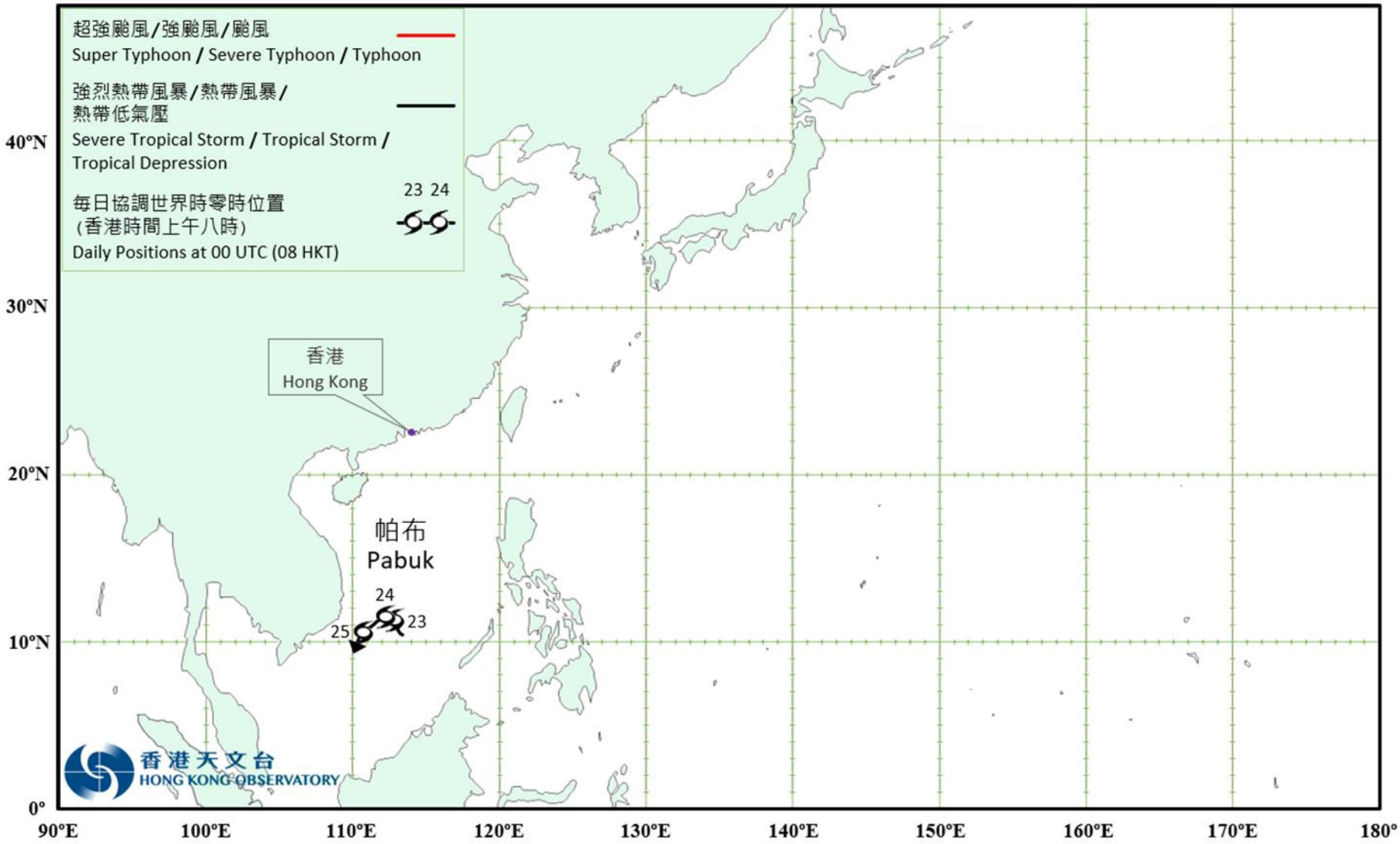
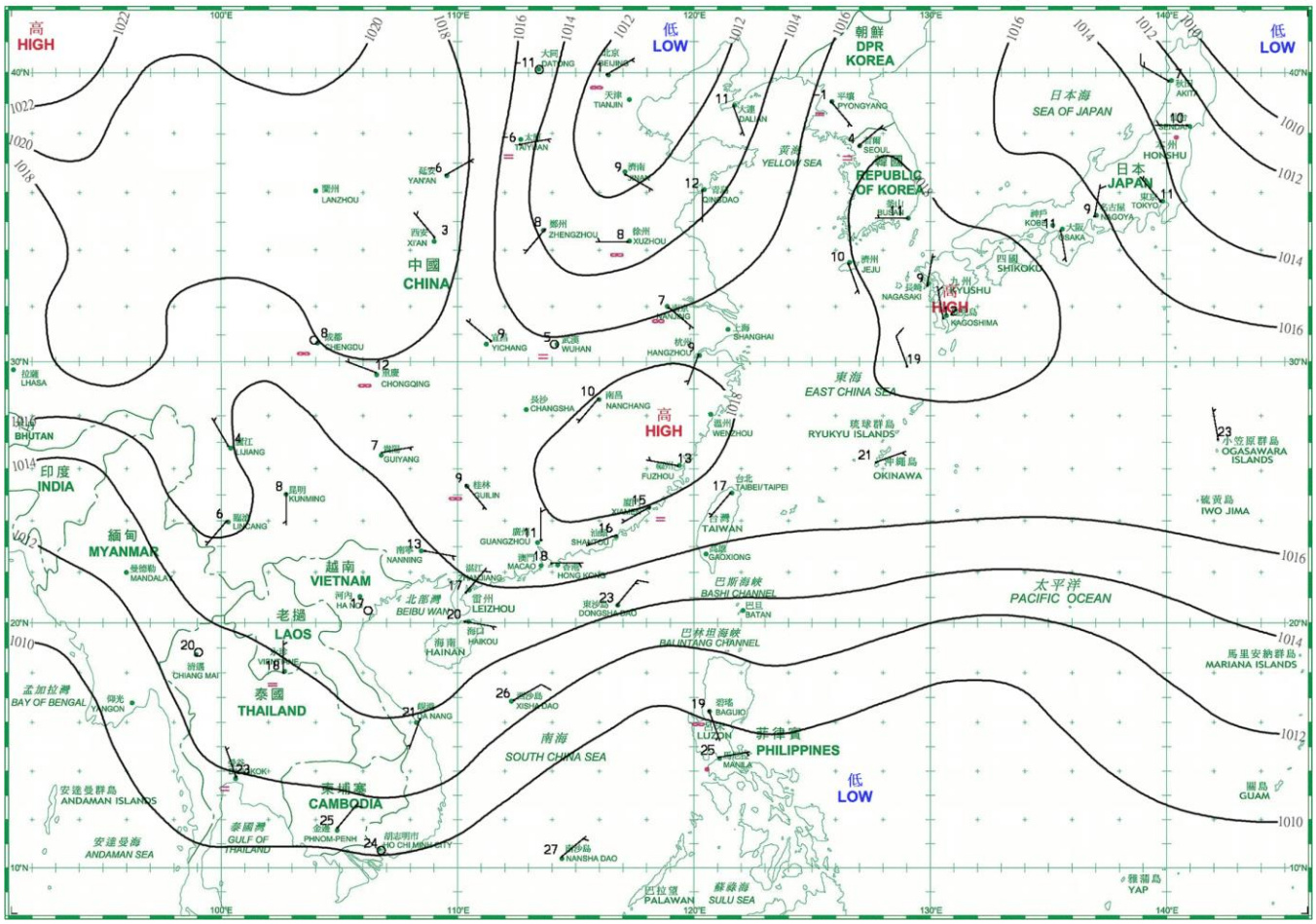


圖 2.1.1
Figure 2.1.1

二零二四年十二月的熱帶氣旋暫定路徑圖
Provisional Tropical Cyclone Tracks in December 2024

日期/Date: 01.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



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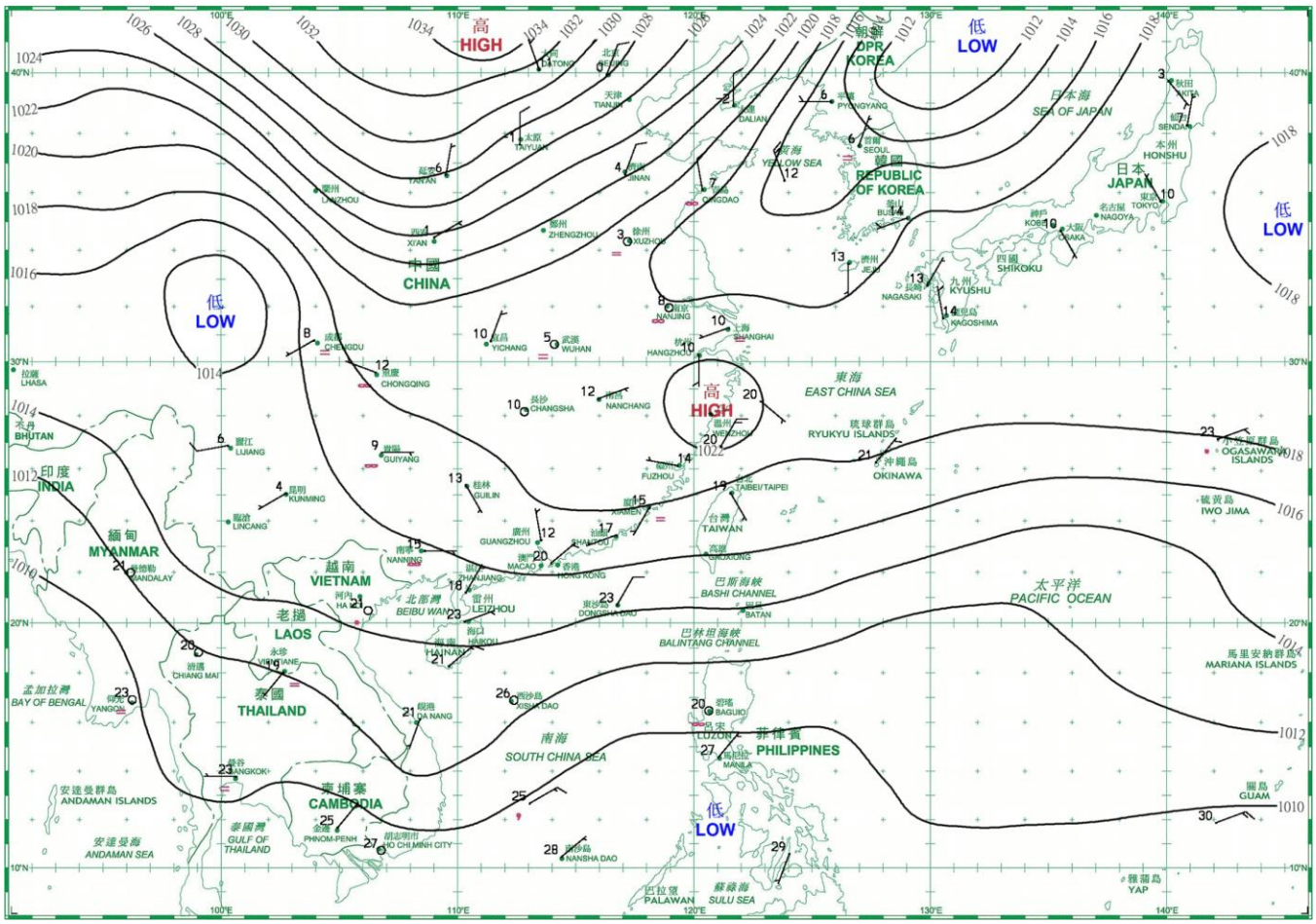
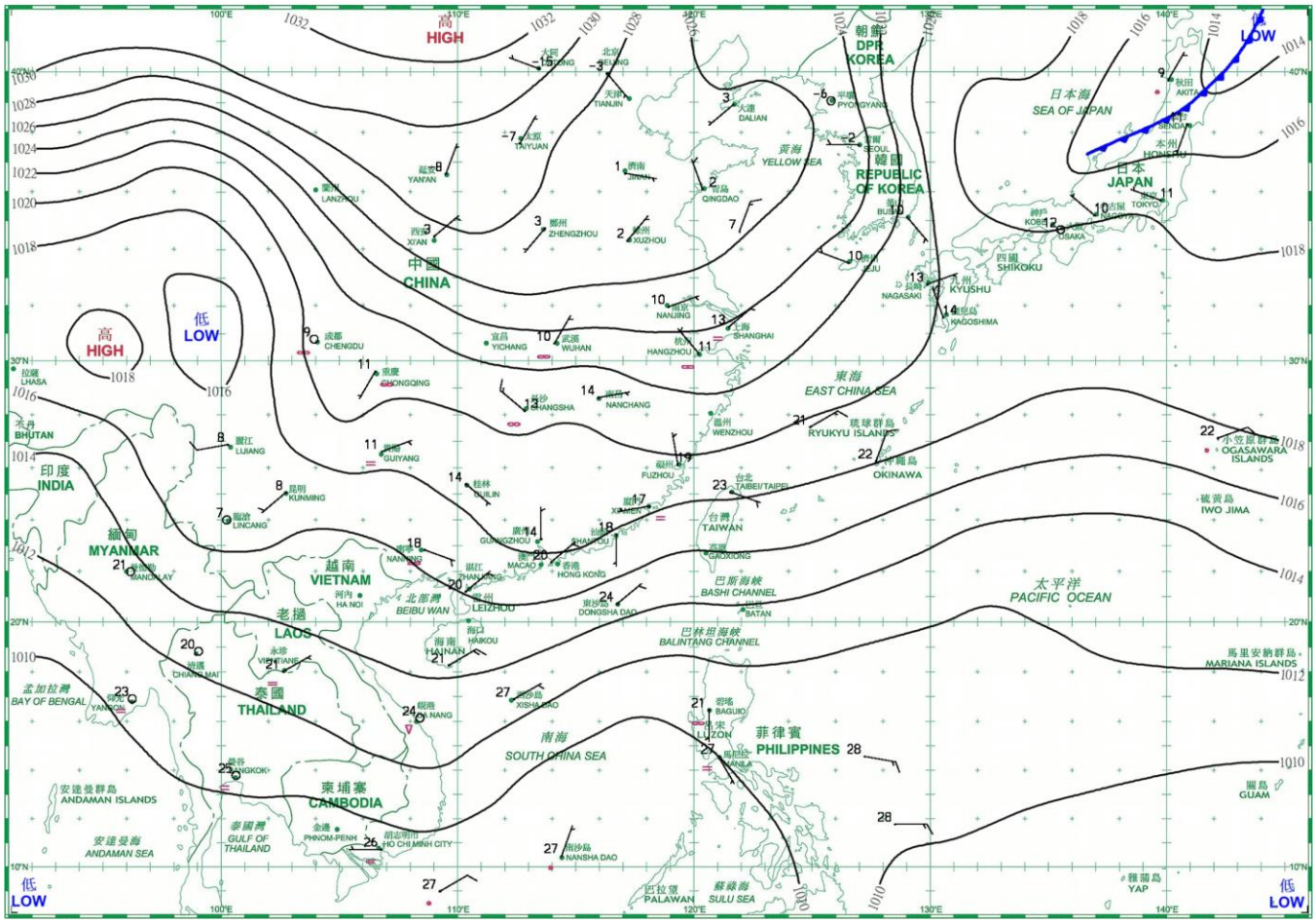


等壓線 Isobar(hPa) 暖鋒 Warm Front 靜止鋒 Stationary Front 消散中的冷鋒 Dissipating Cold Front

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: 03.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



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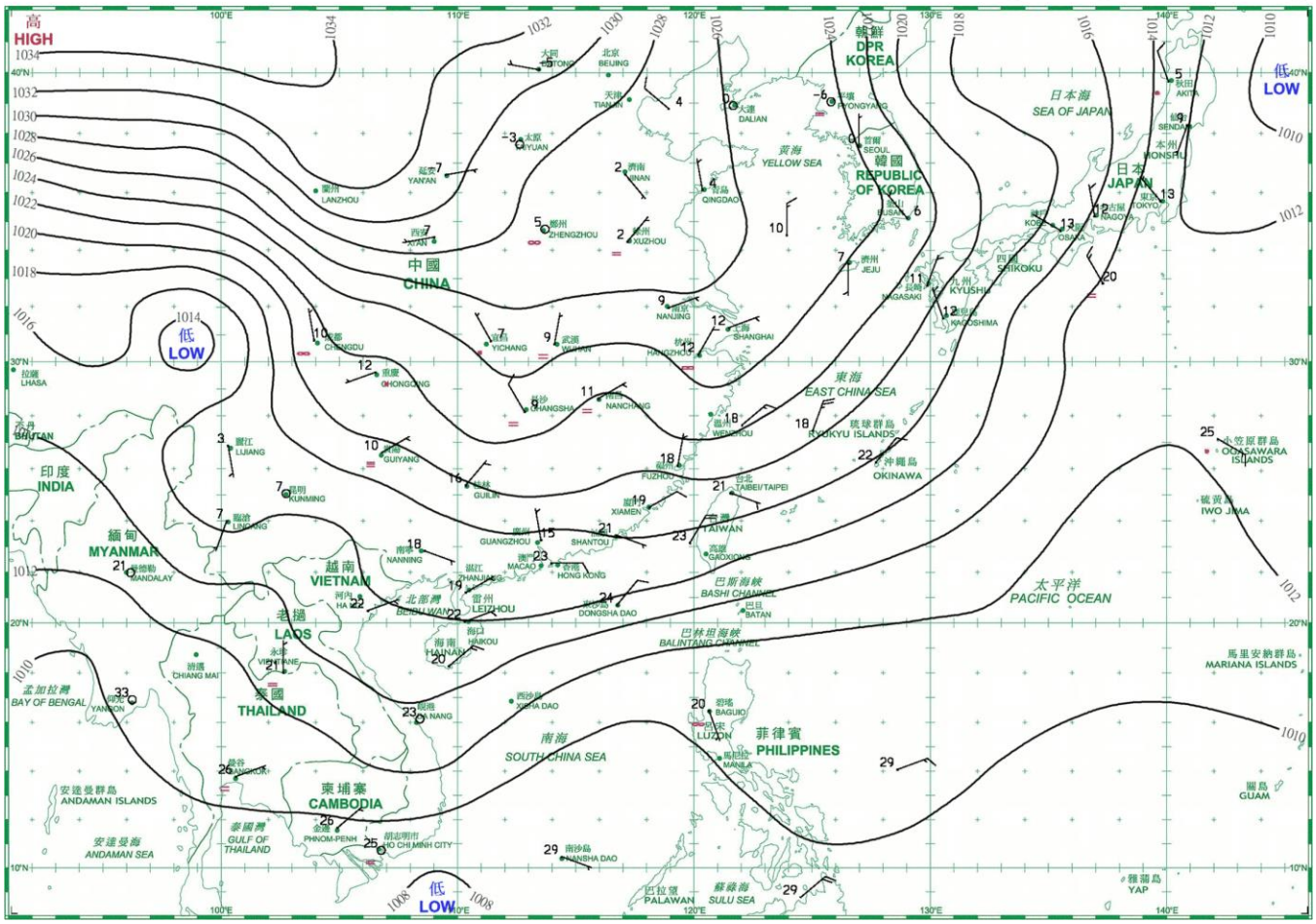

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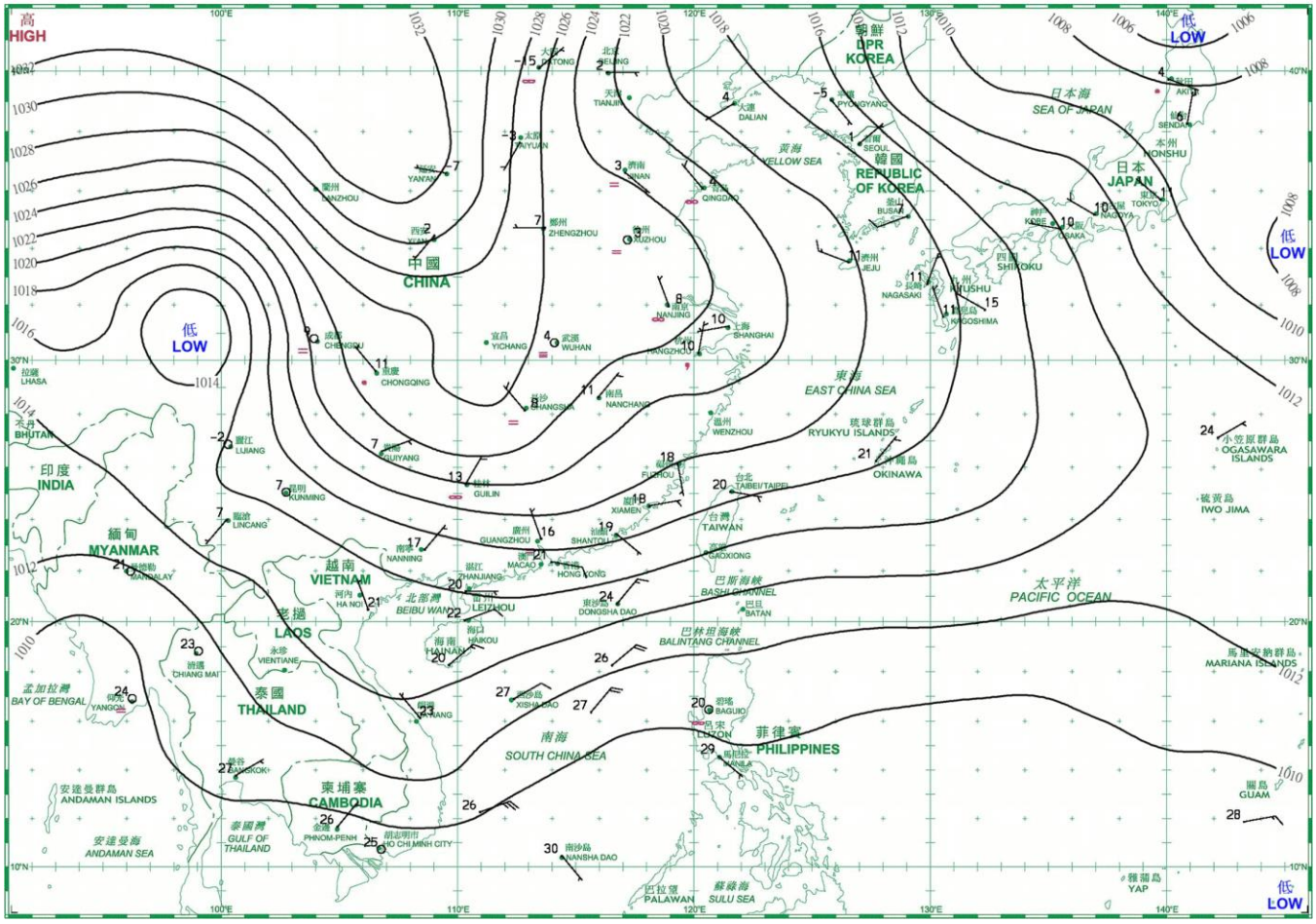

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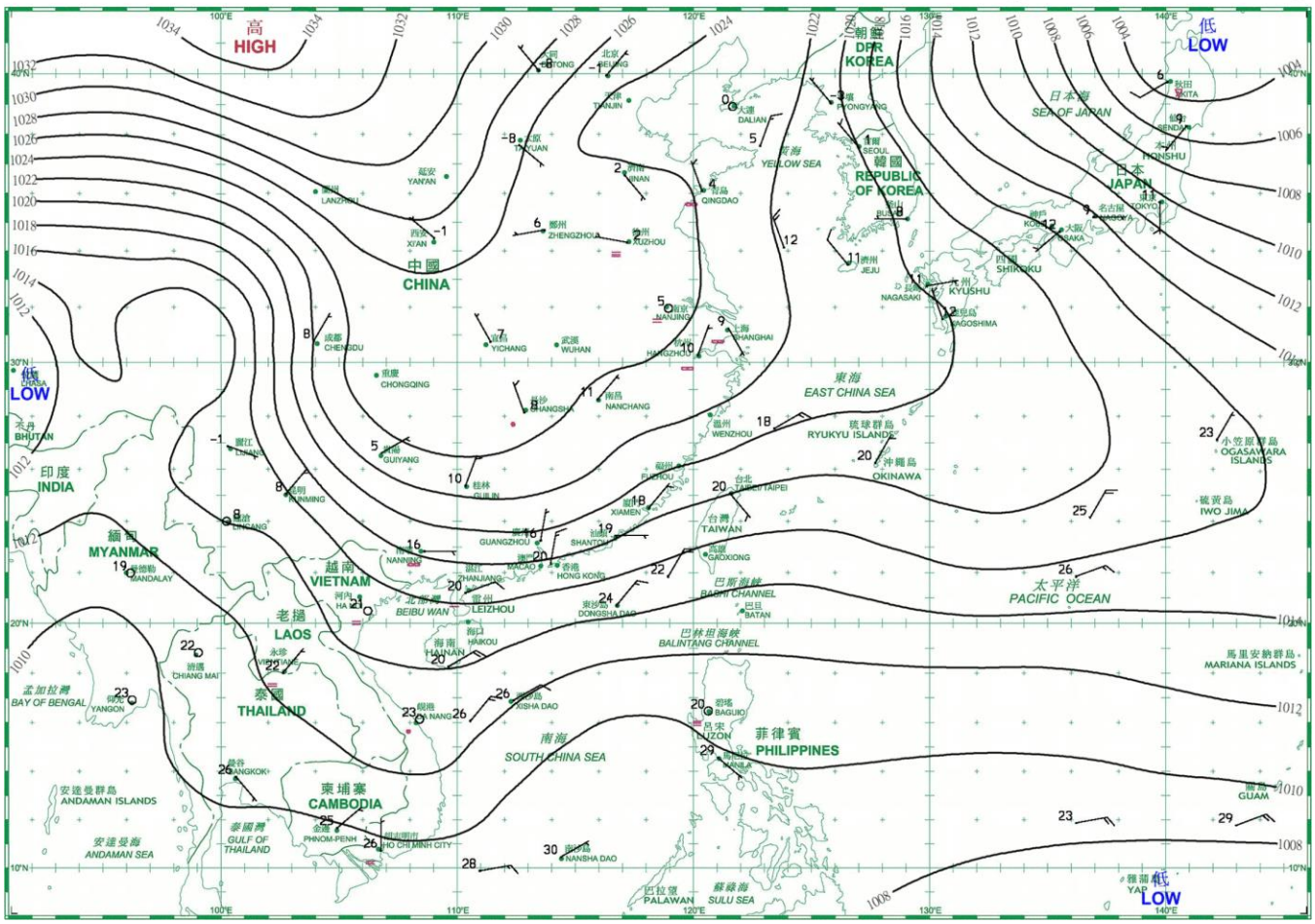

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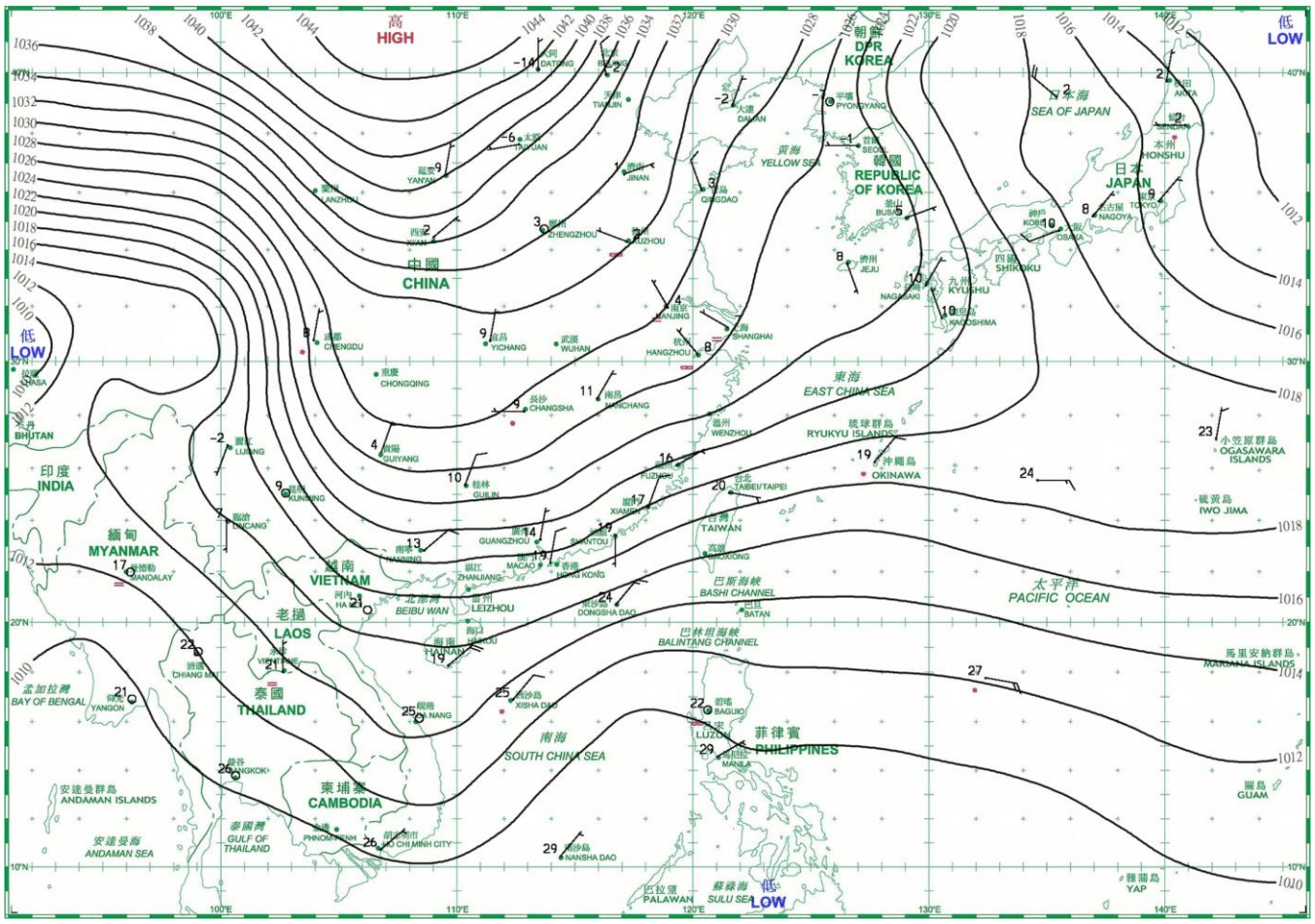

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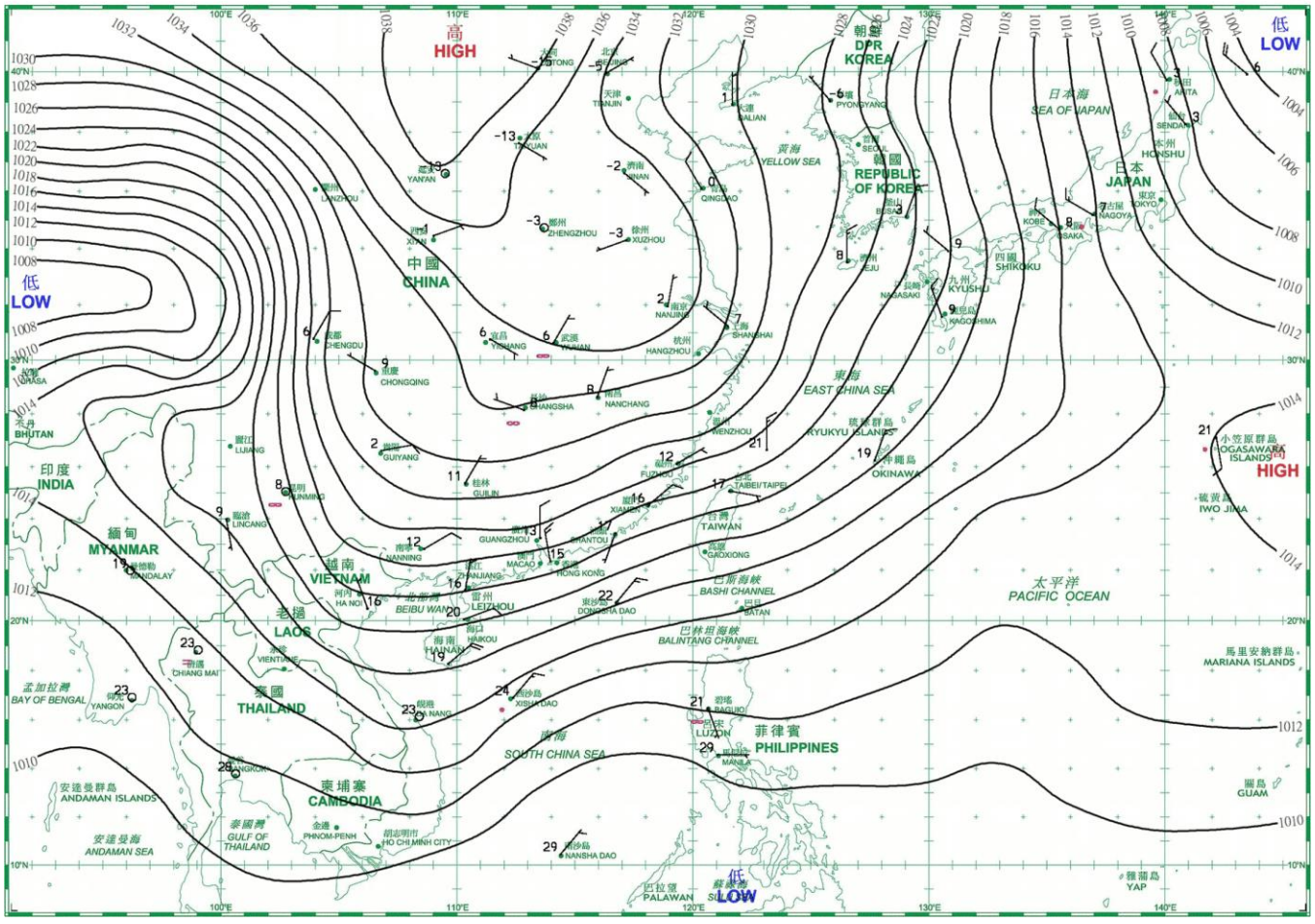

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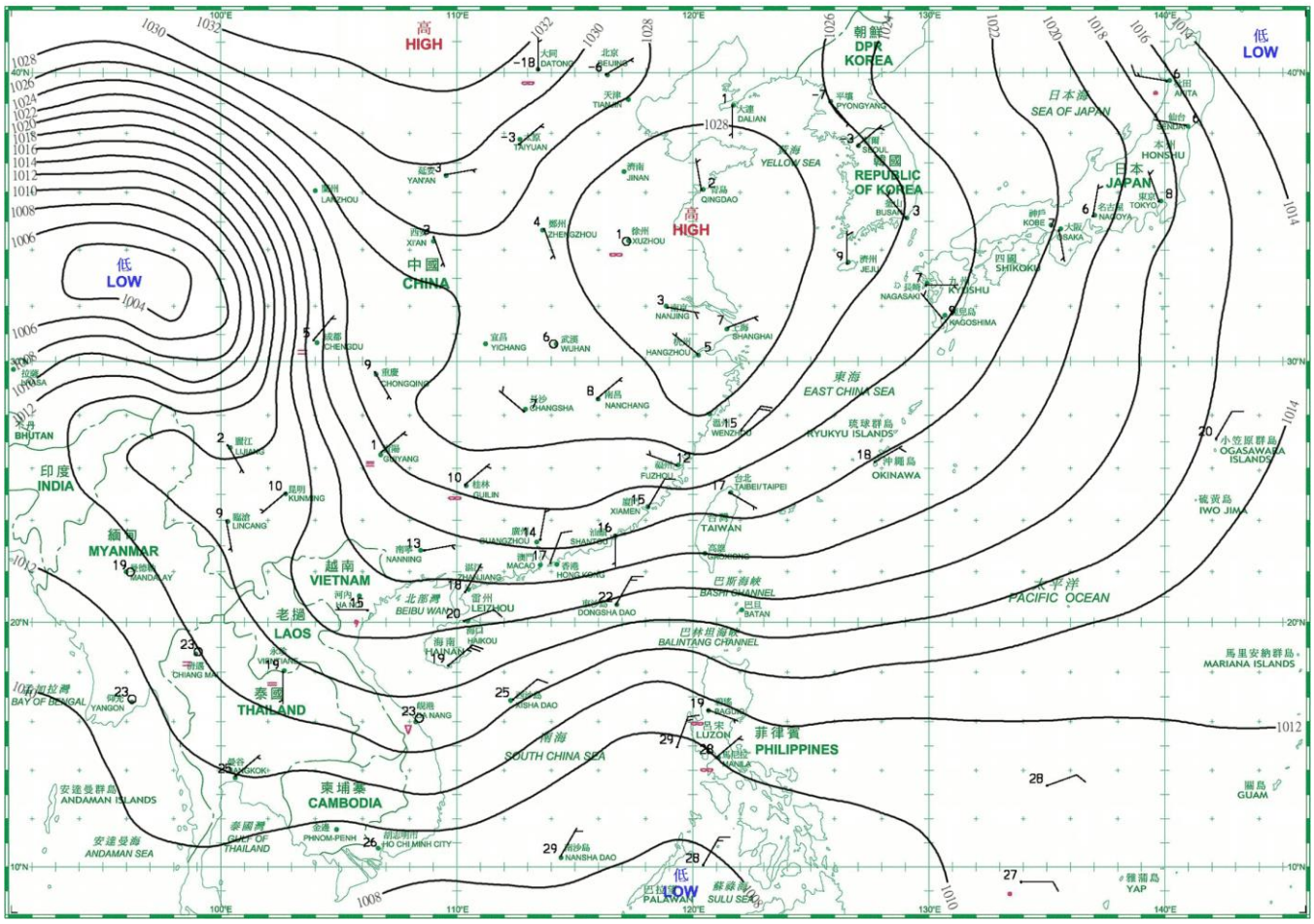

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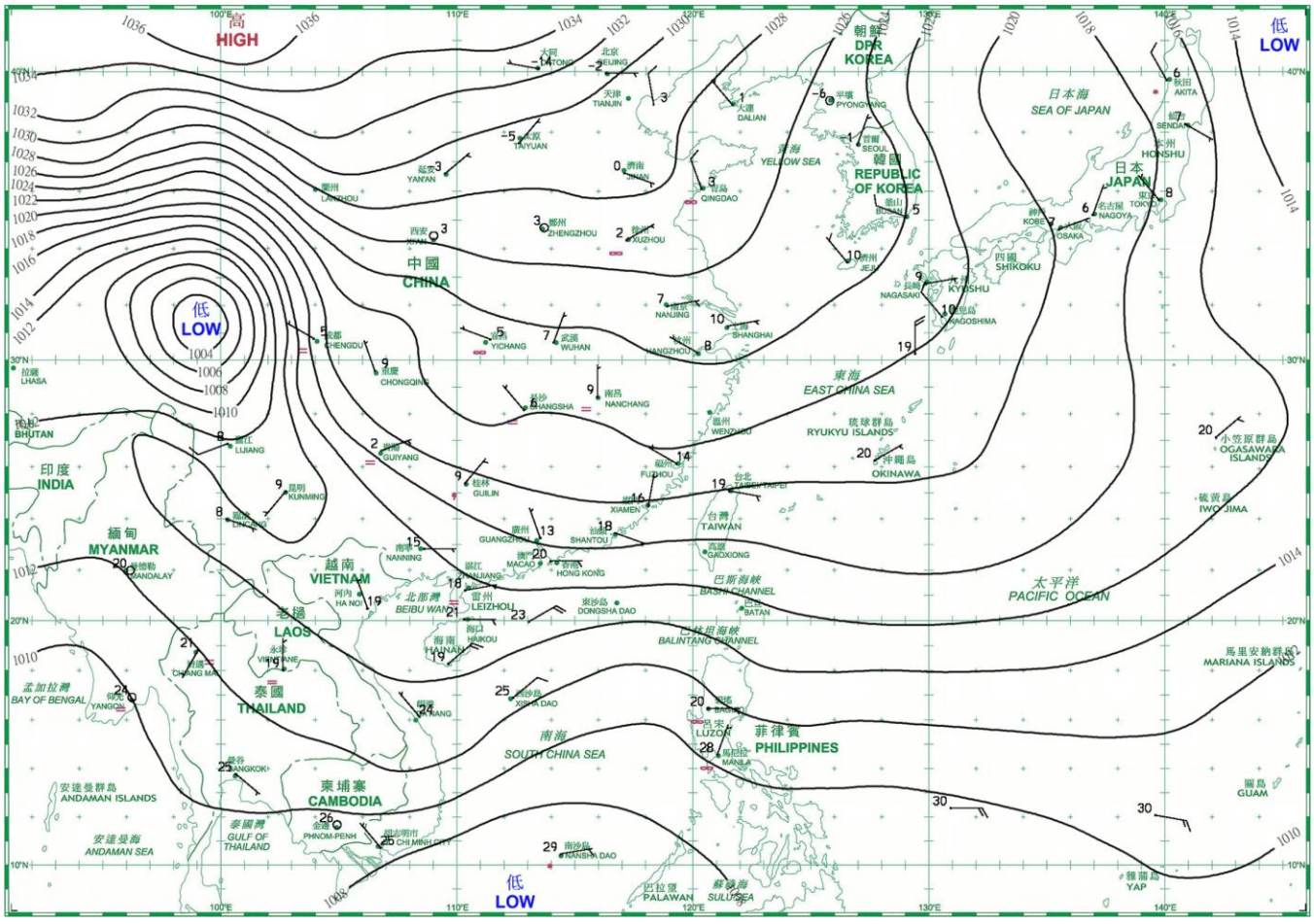

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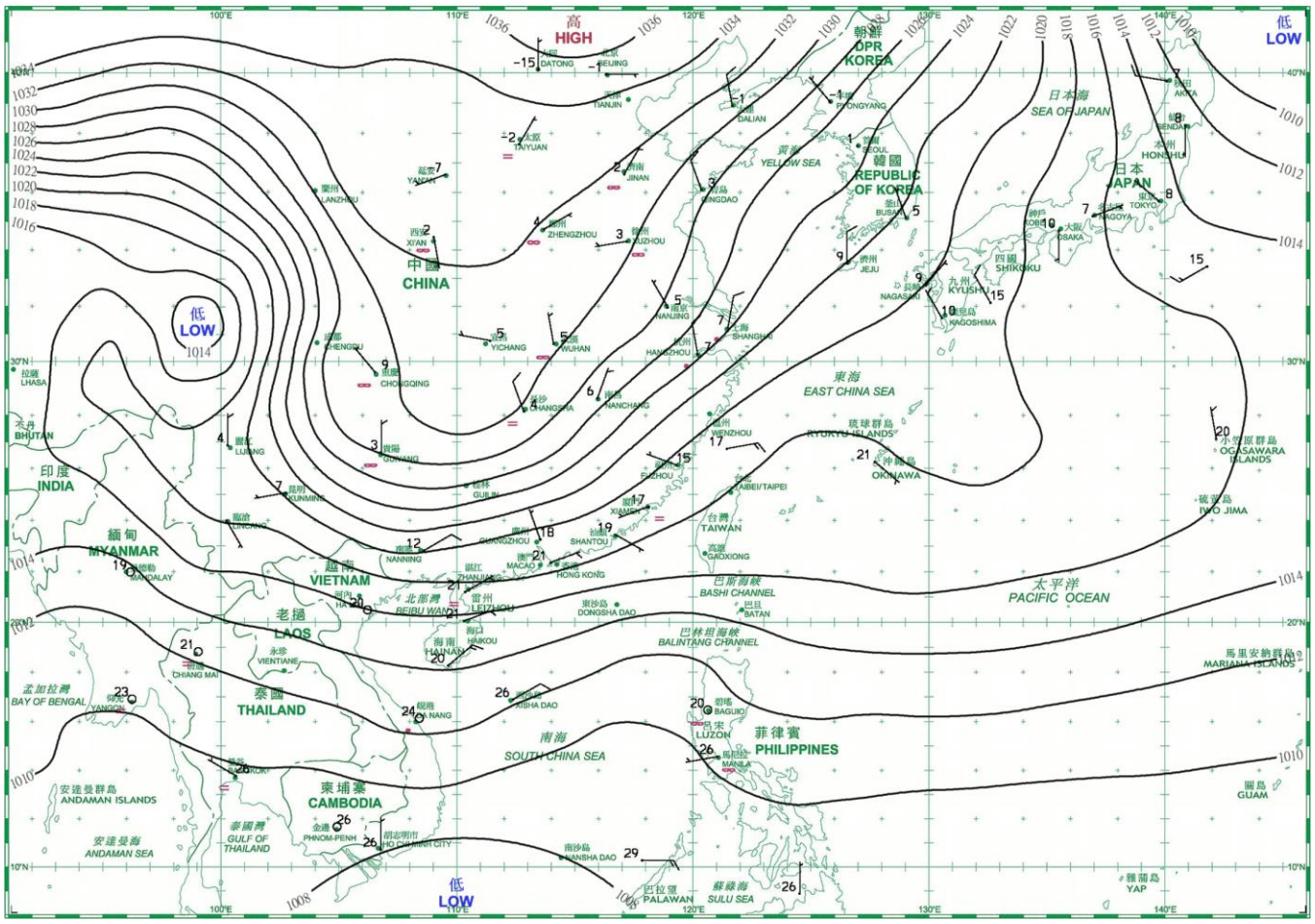

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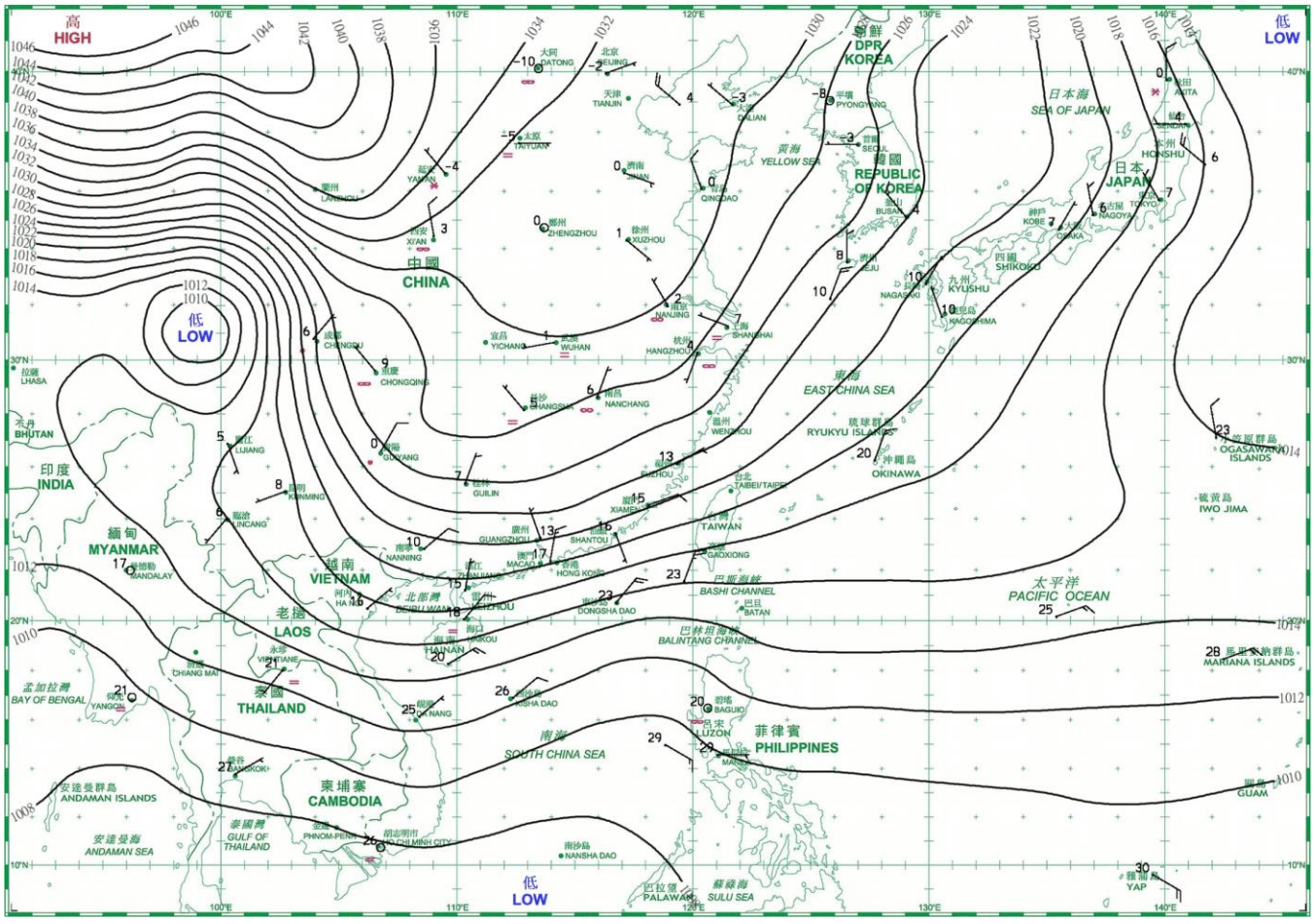

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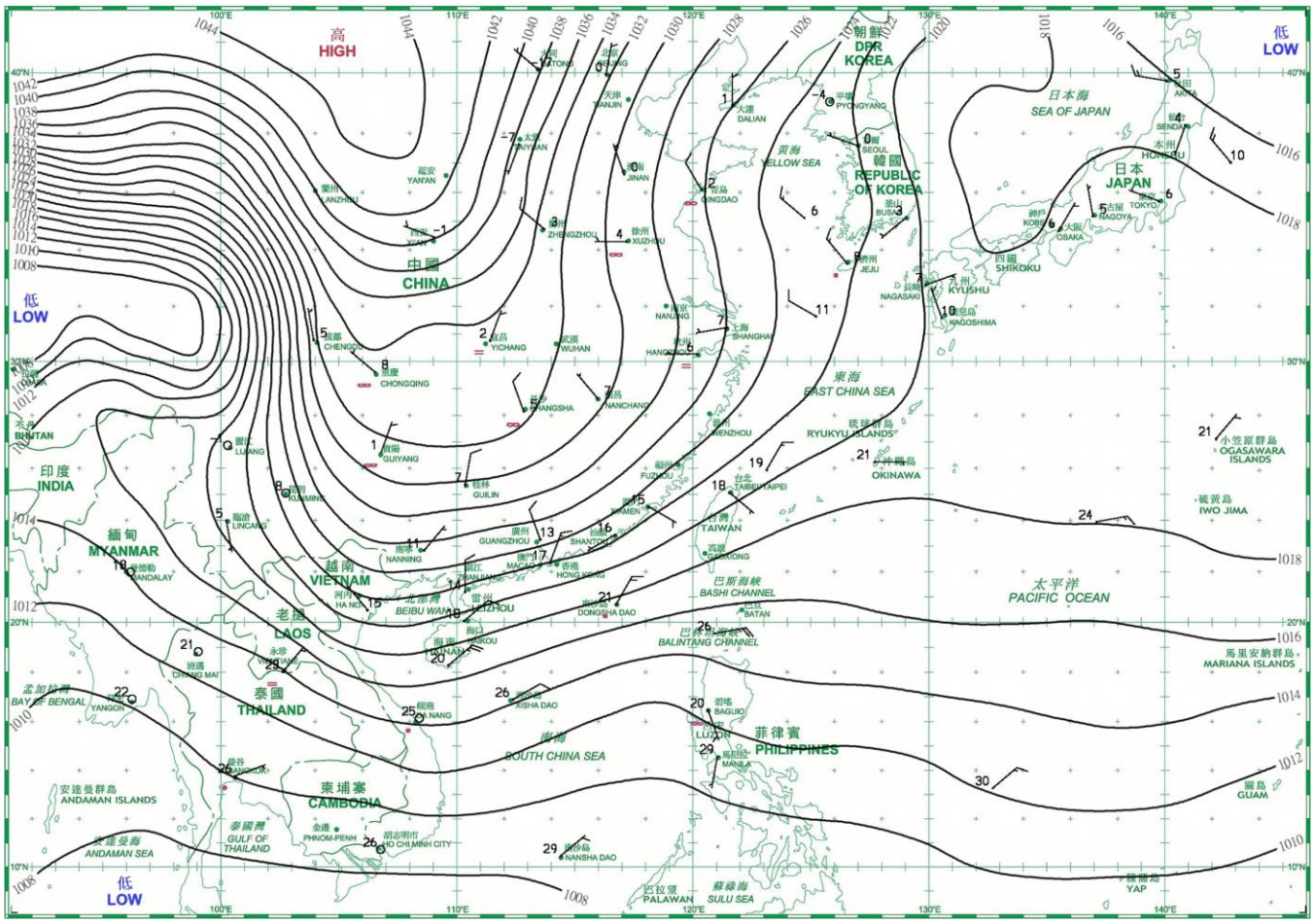

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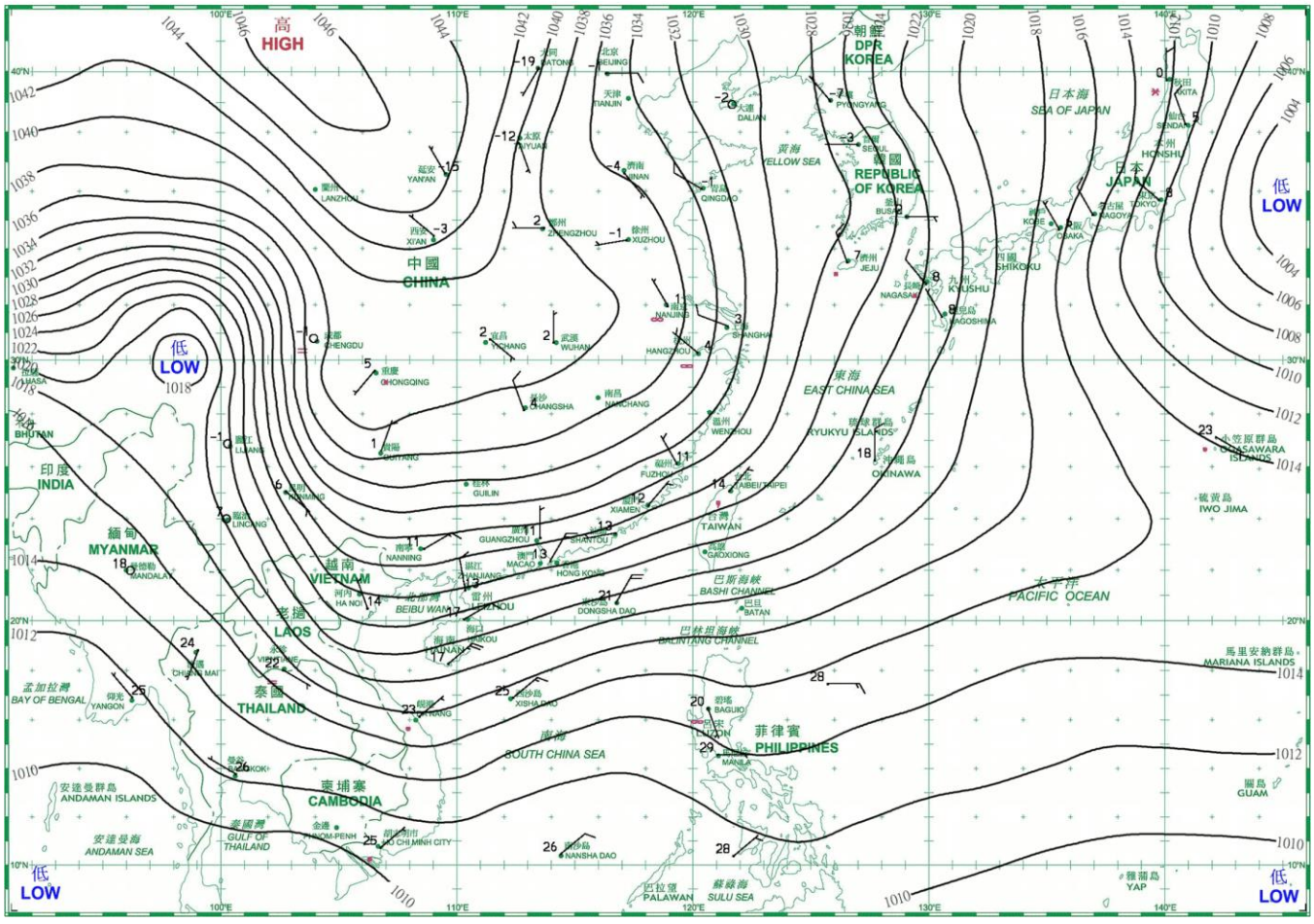

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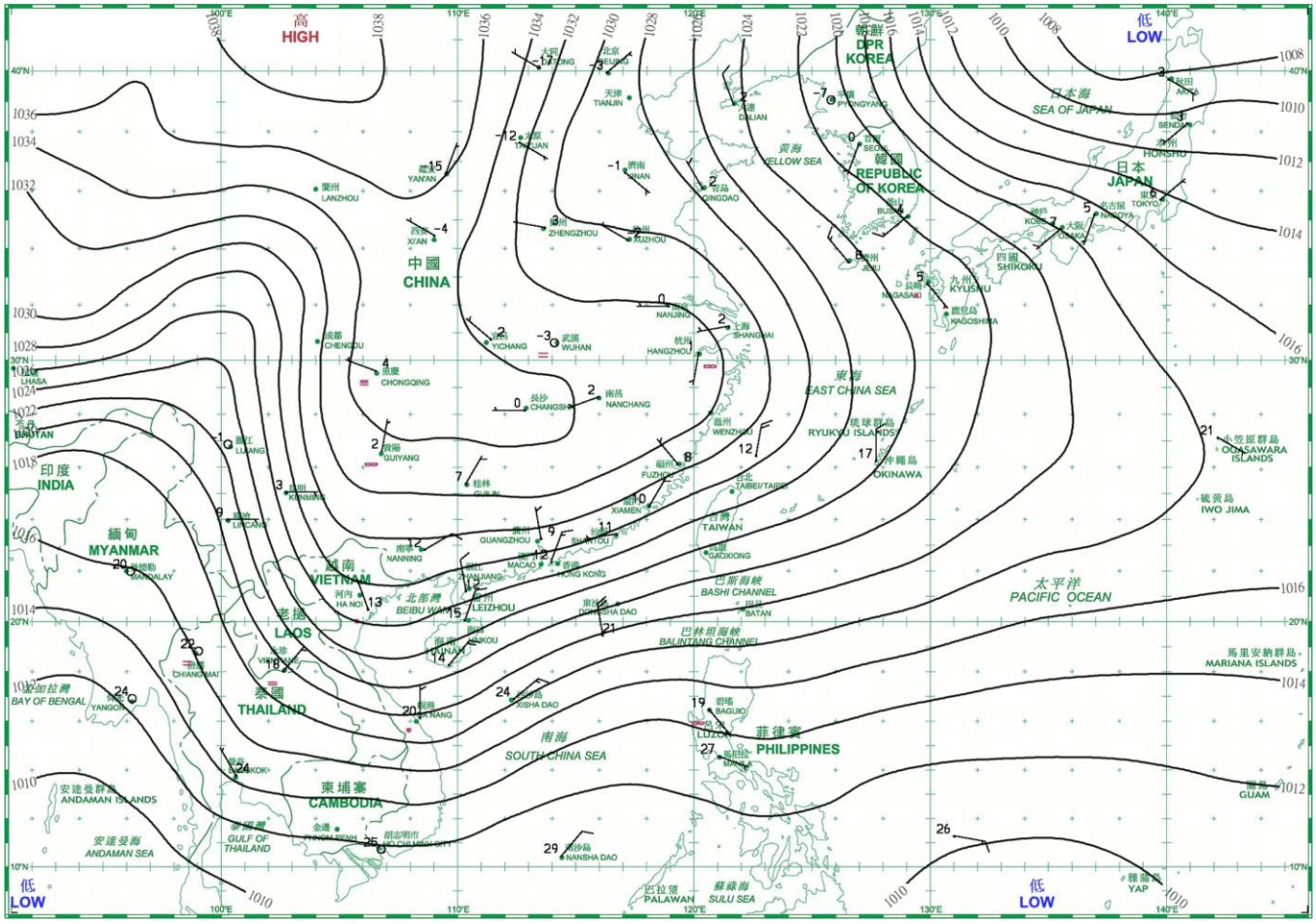

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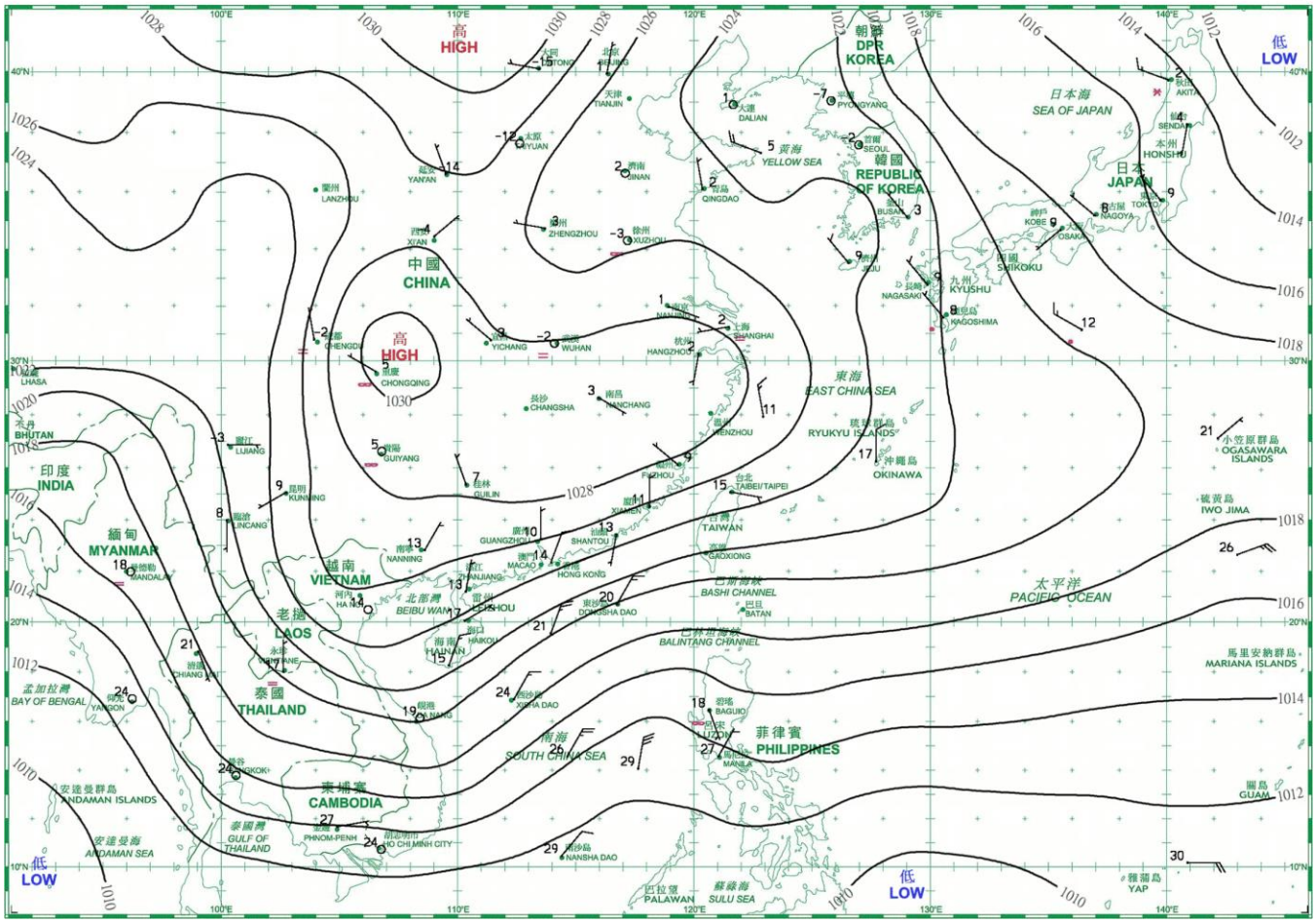
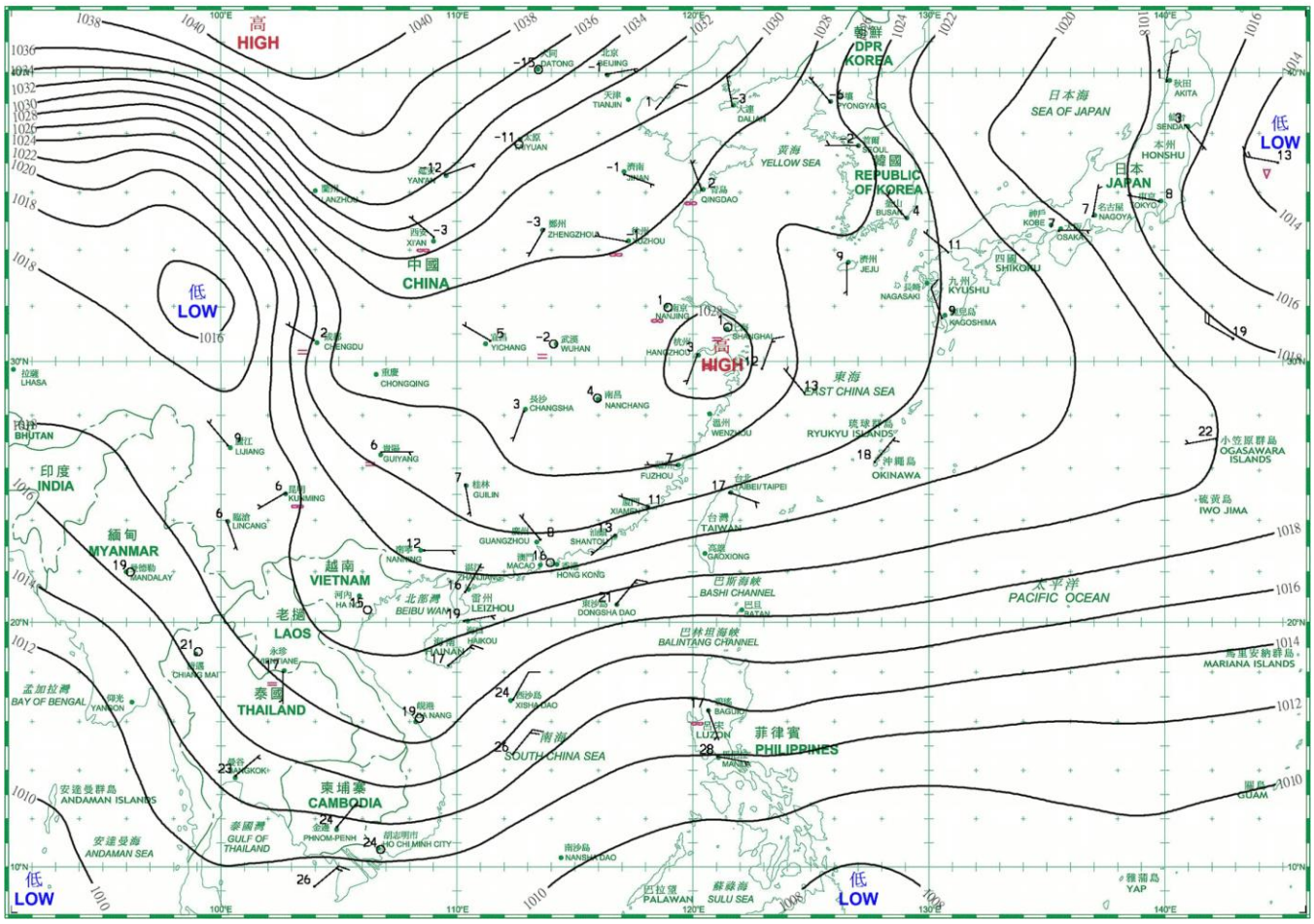
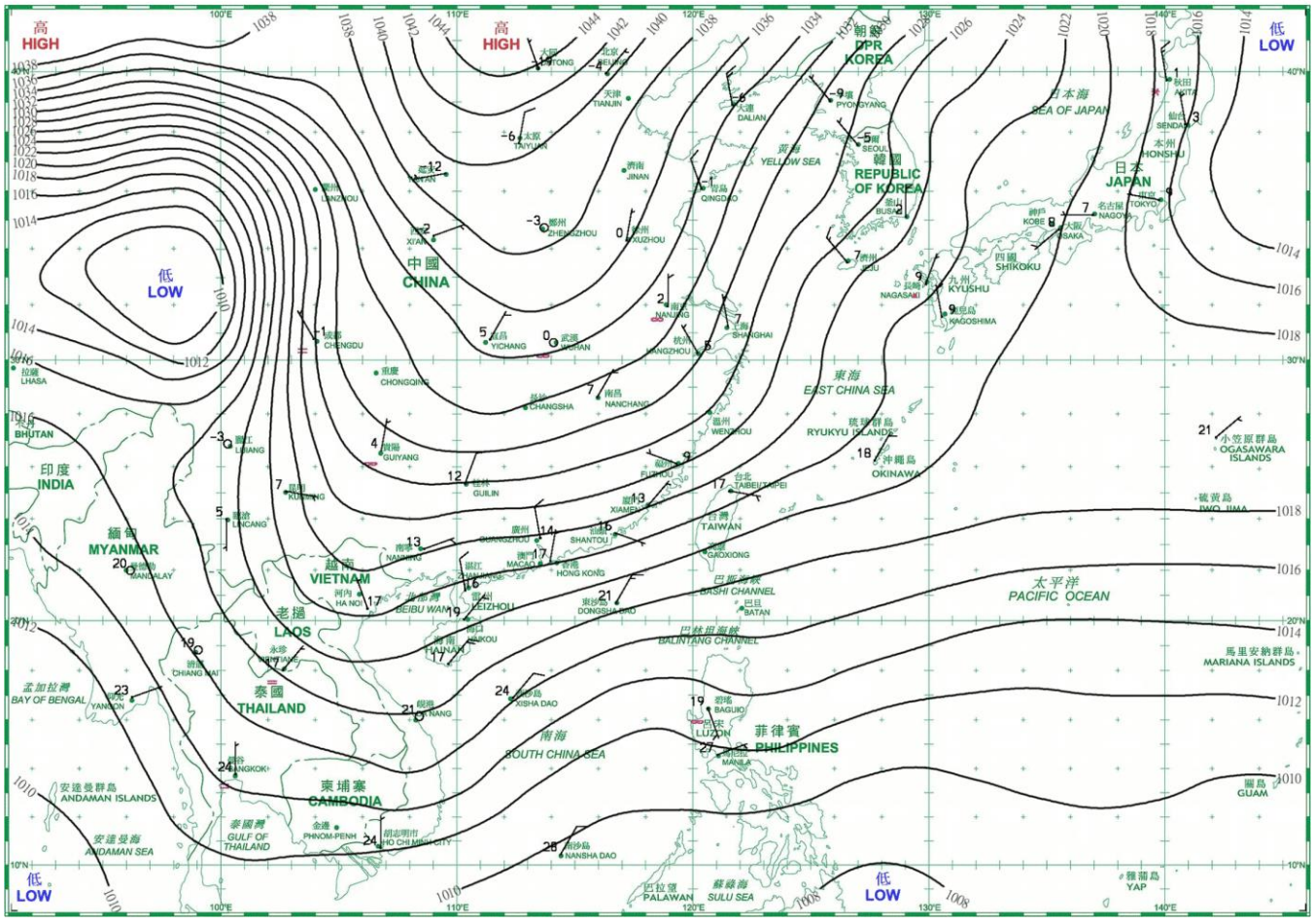


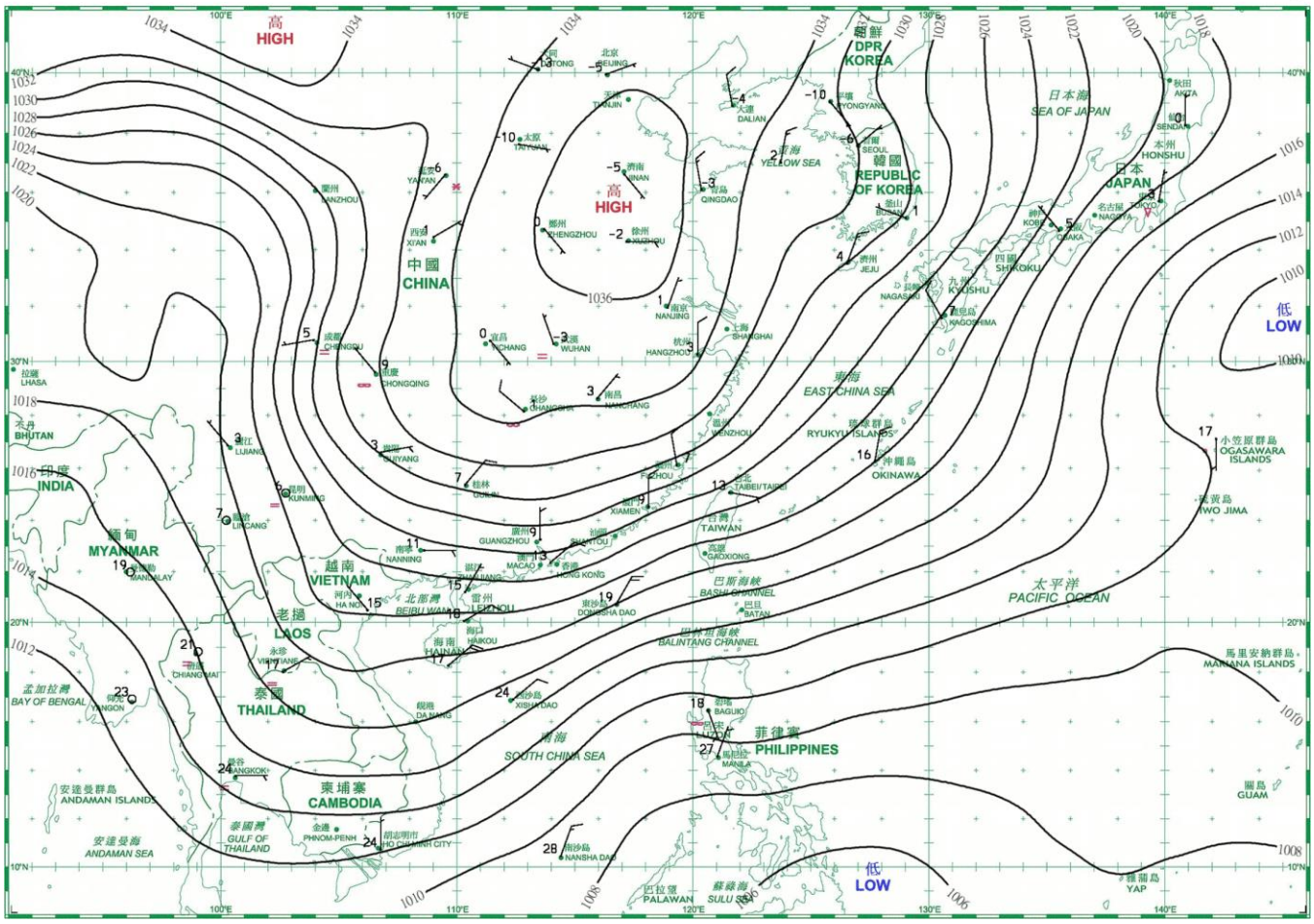
日期/Date: 17.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



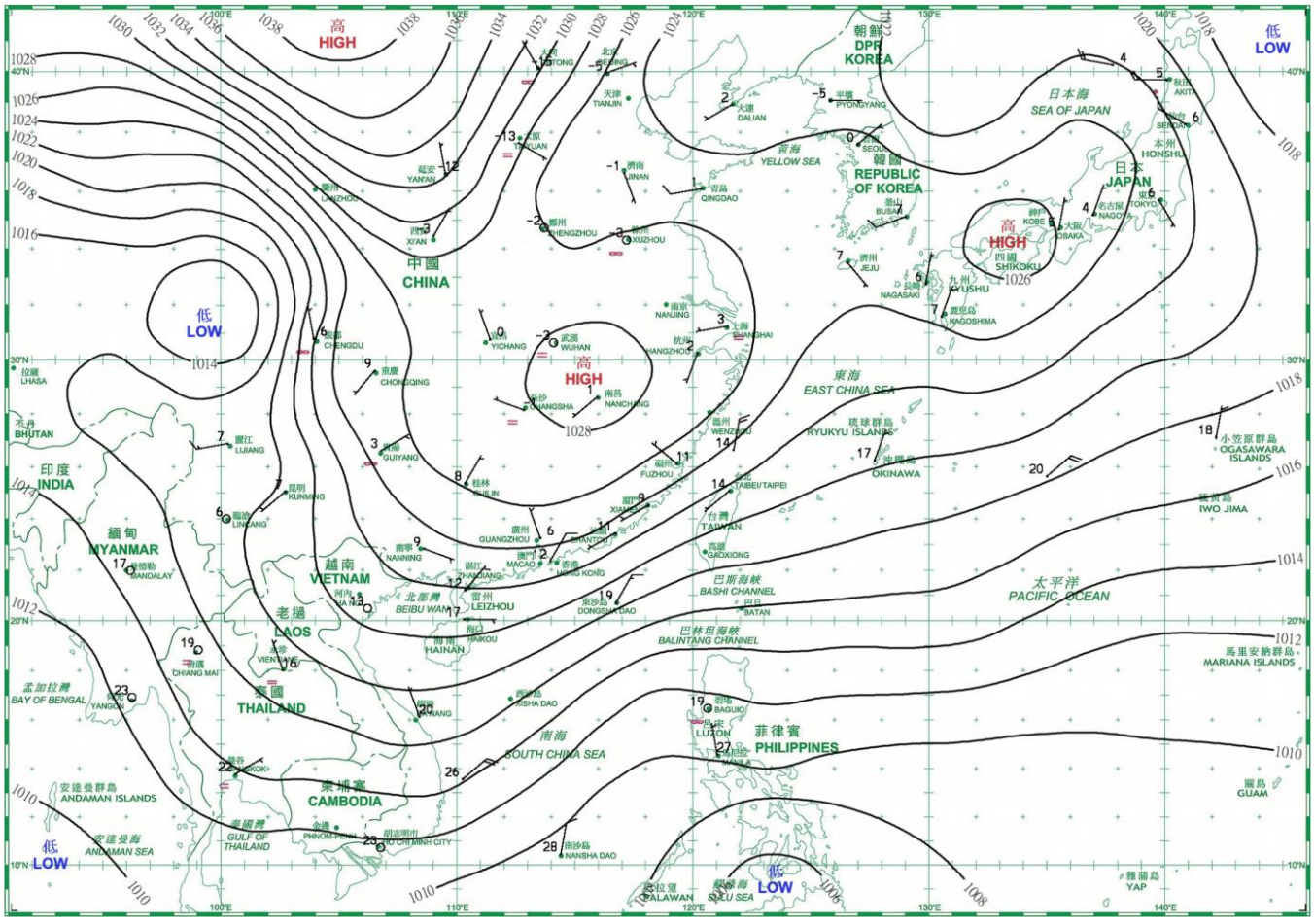
日期/Date: 18.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



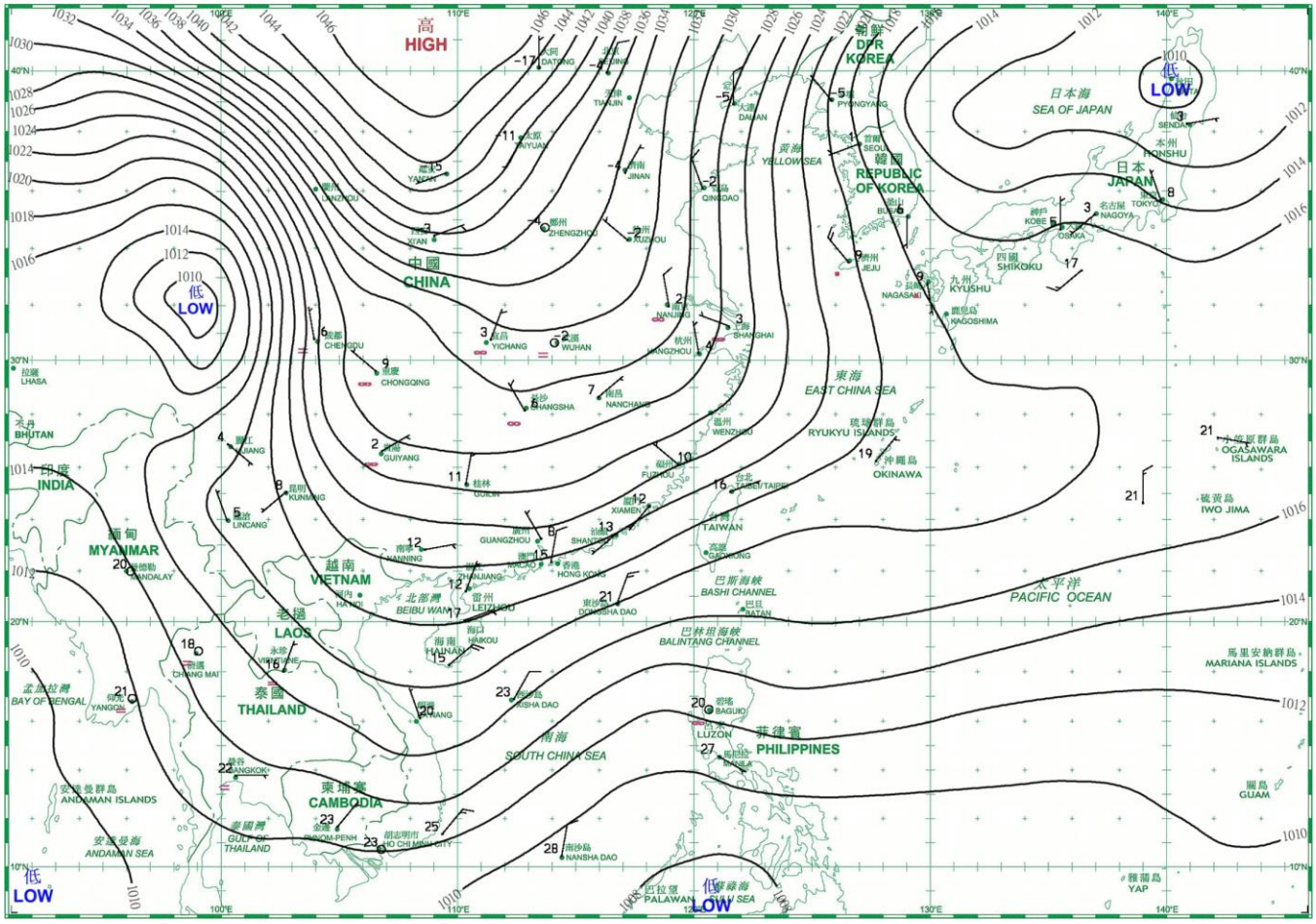
日期/Date: 19.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



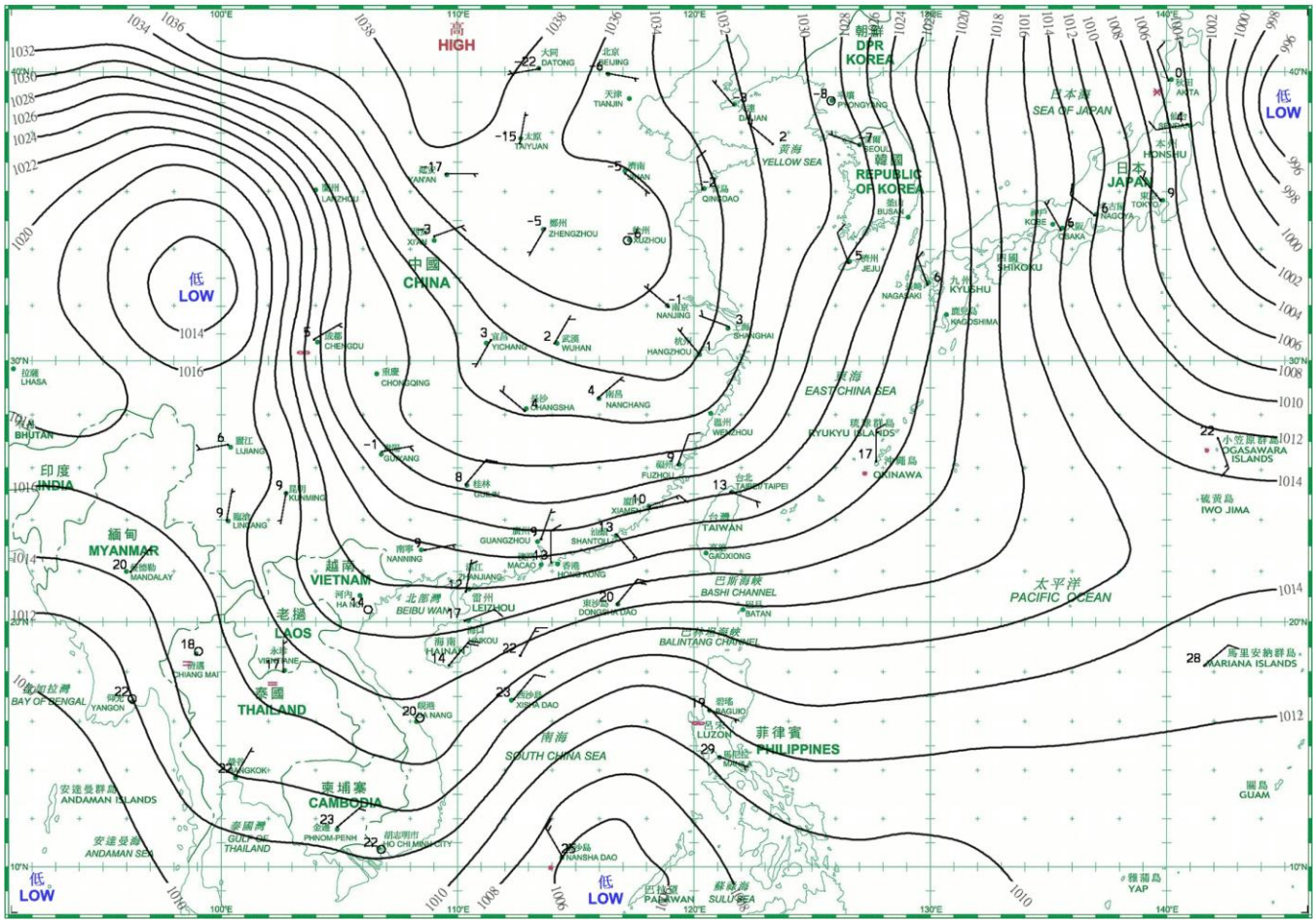
日期/Date: 20.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



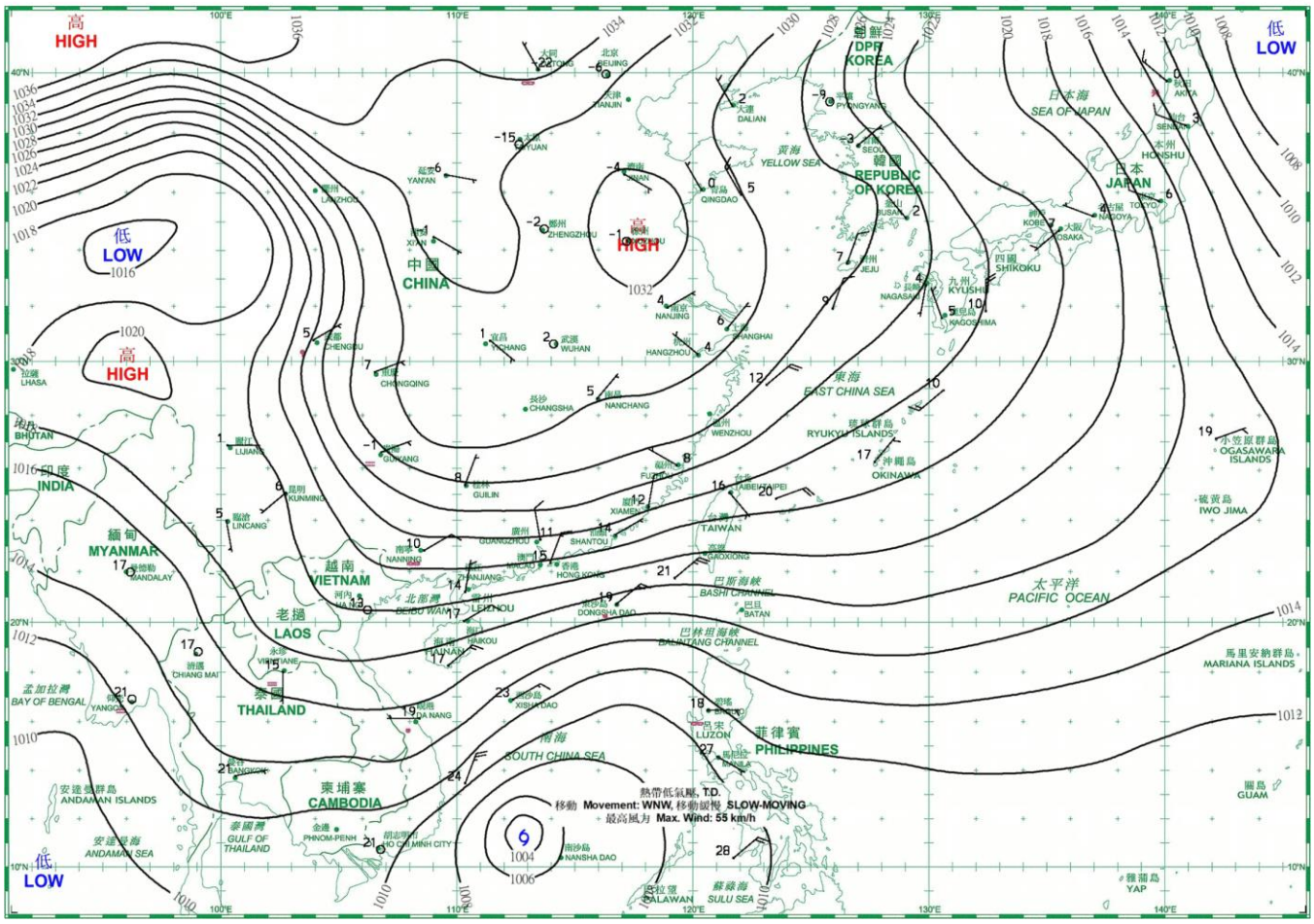
日期/Date: 21.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



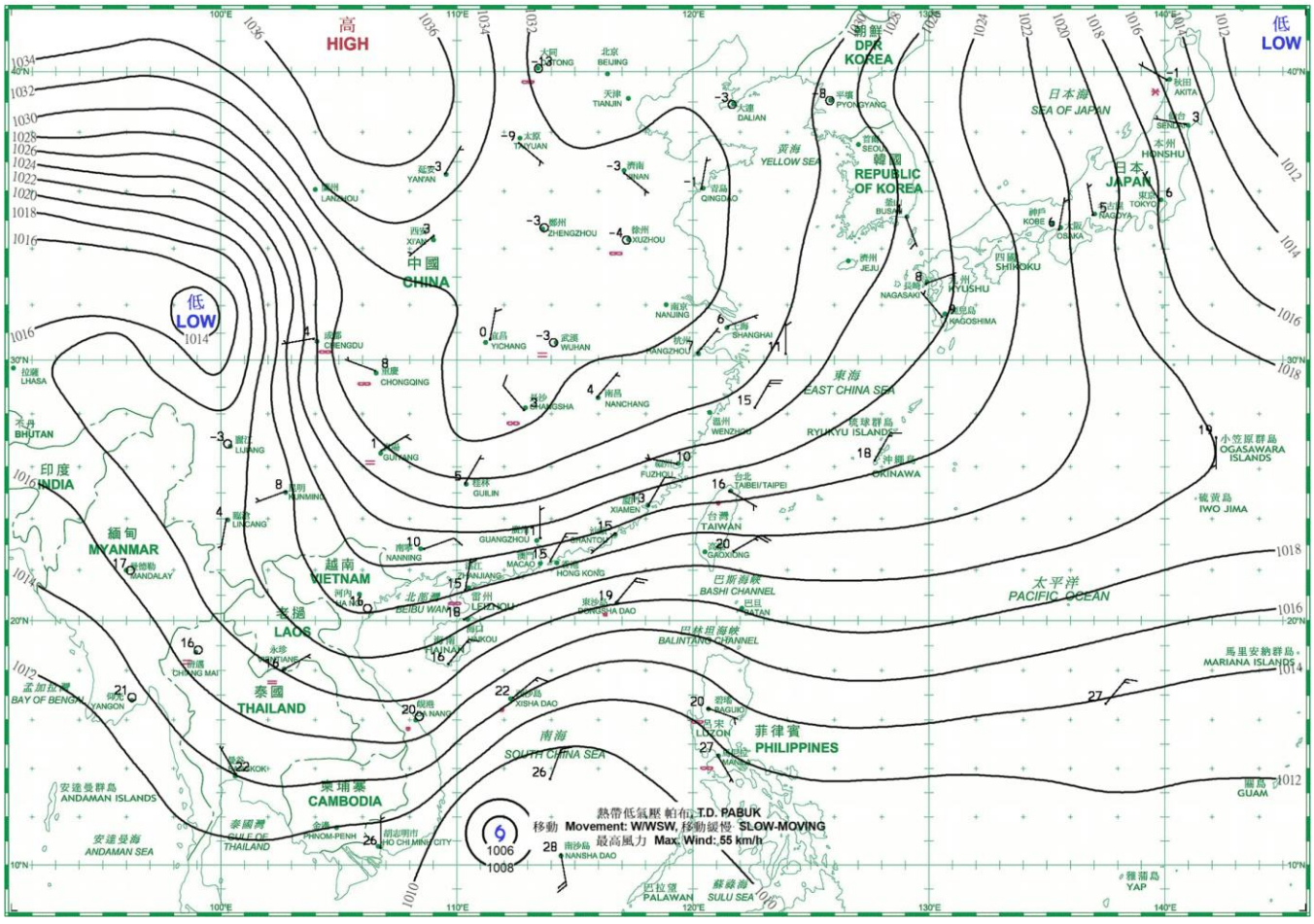
日期/Date: 22.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



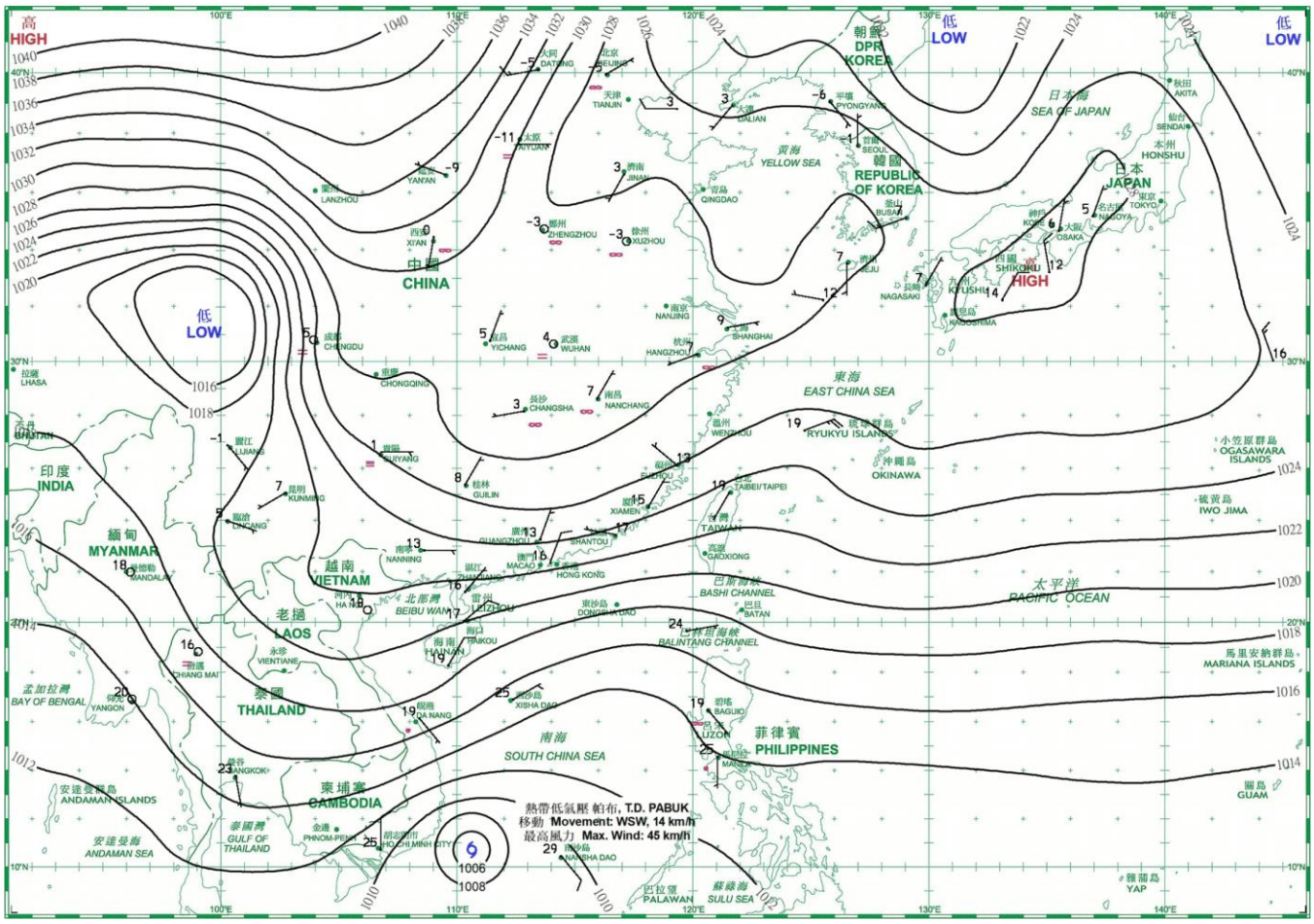
日期/Date: 23.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



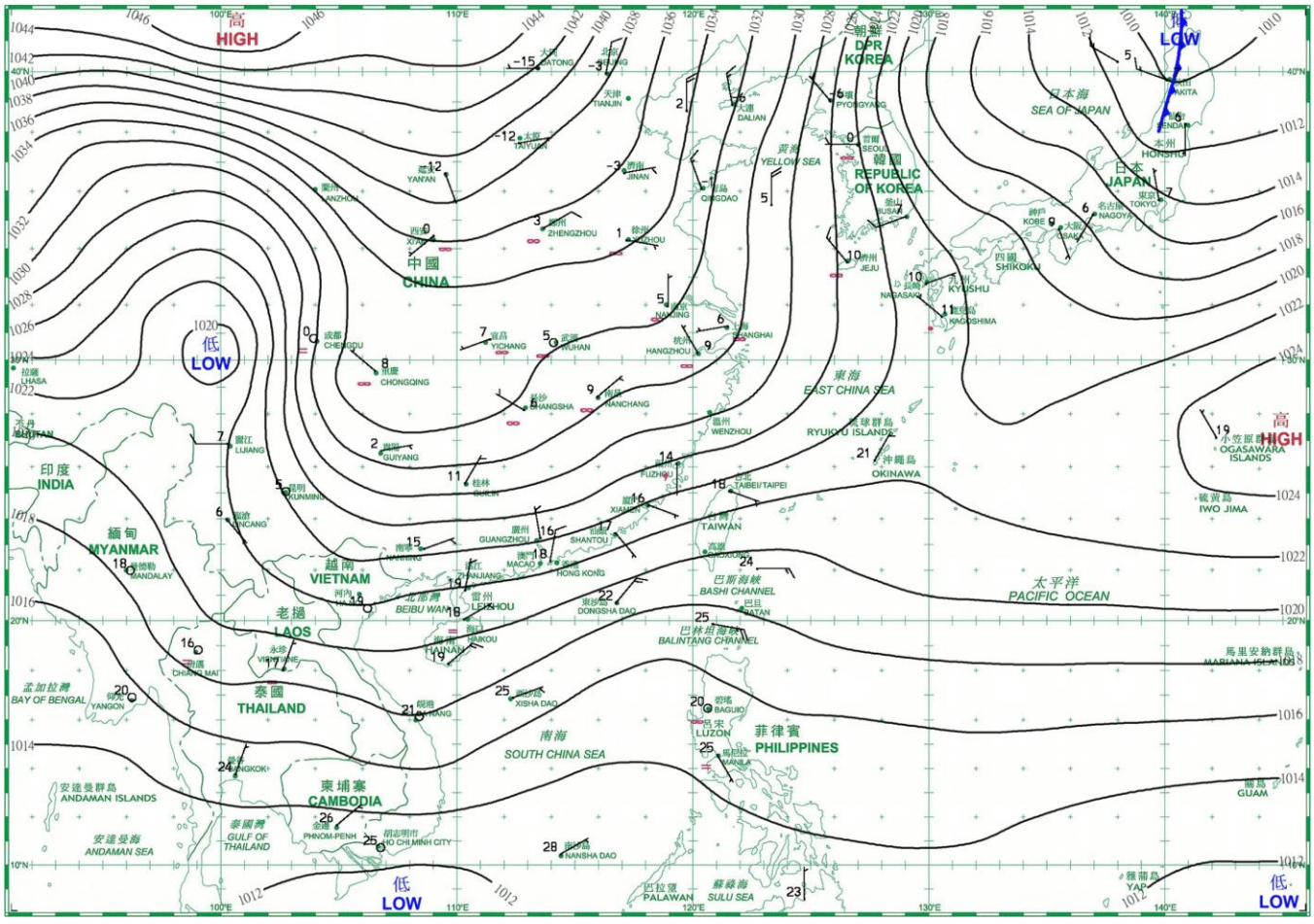
日期/Date: 24.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



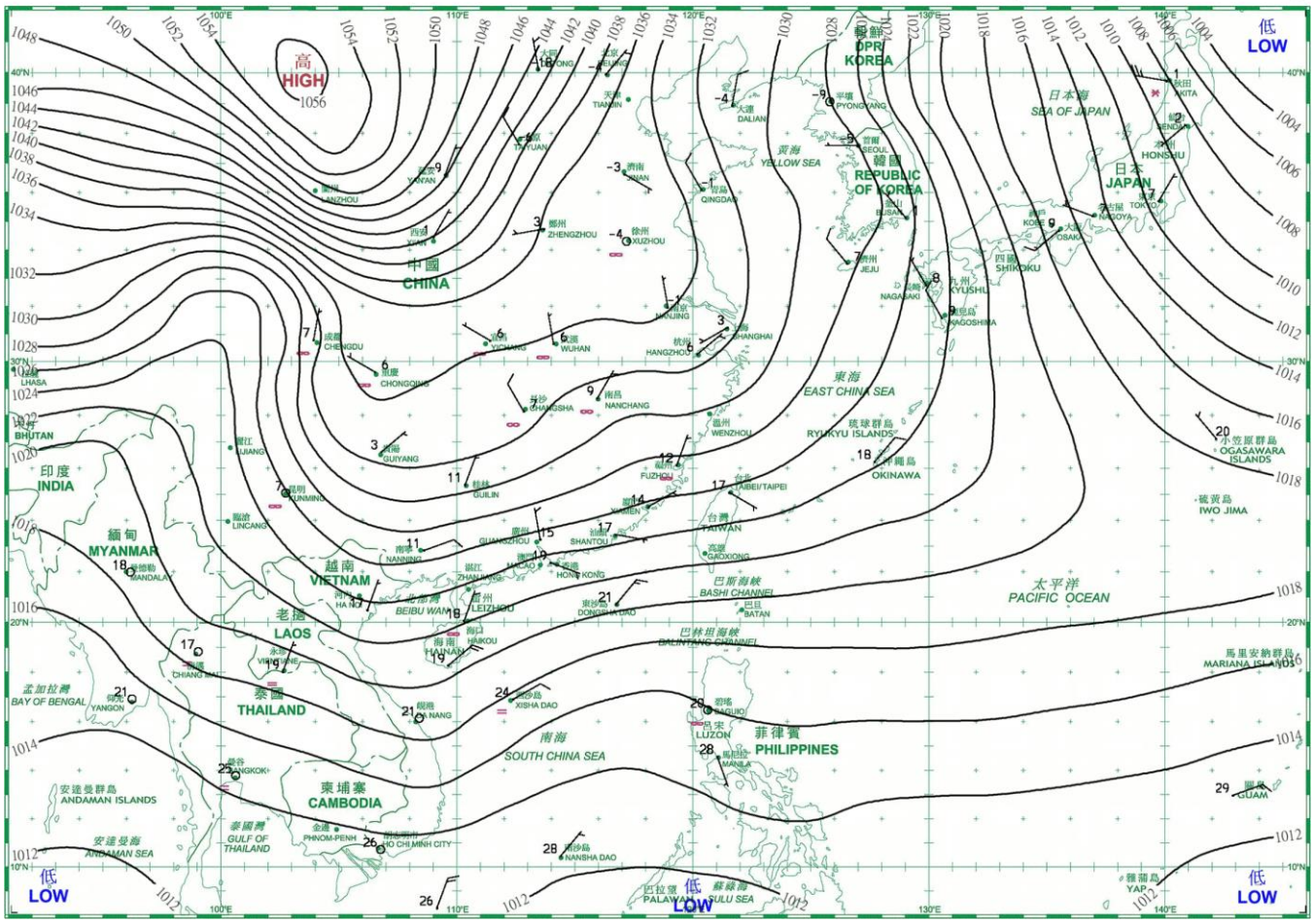
日期/Date: 25.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



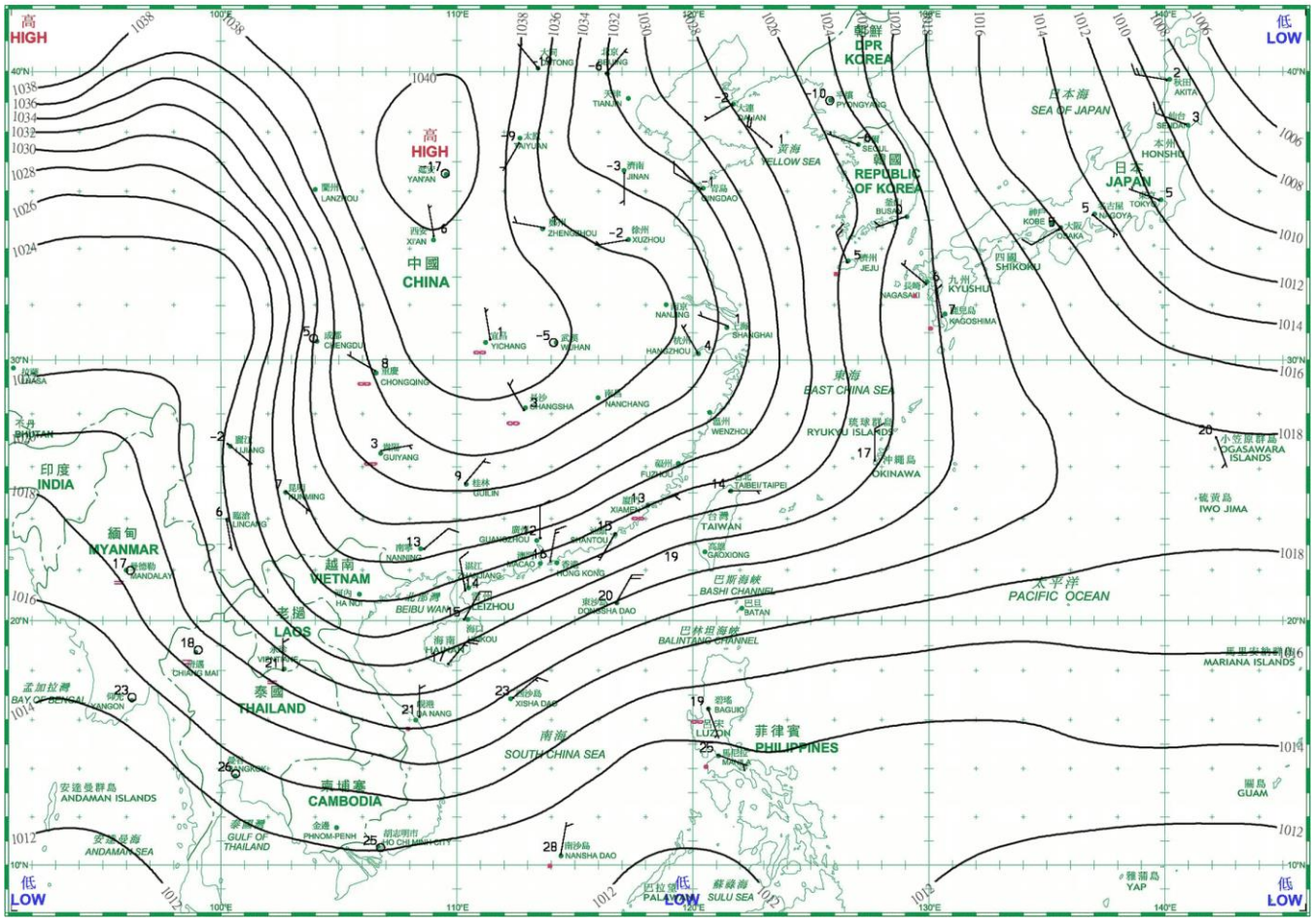
日期/Date: 26.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



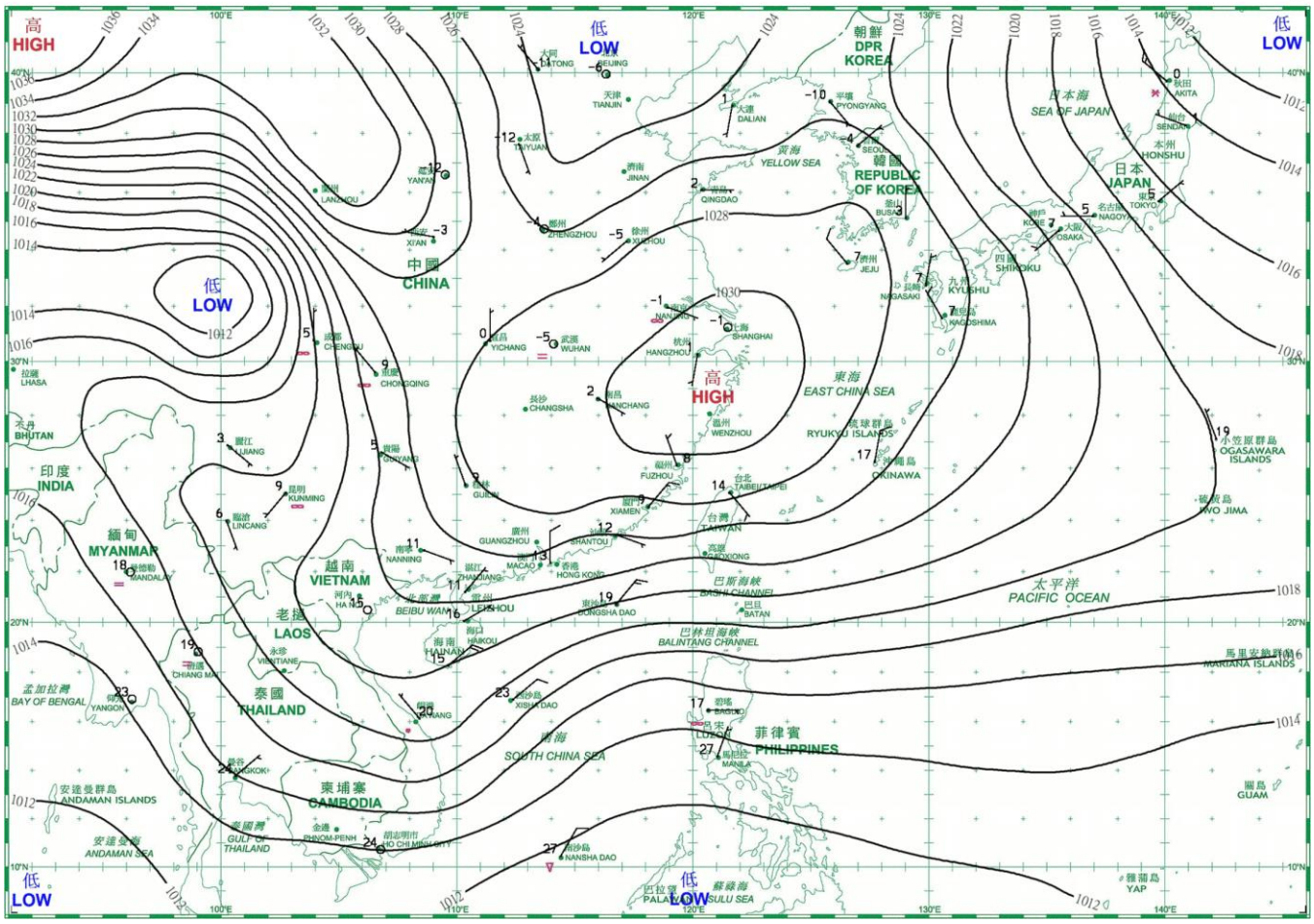
日期/Date: 27.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



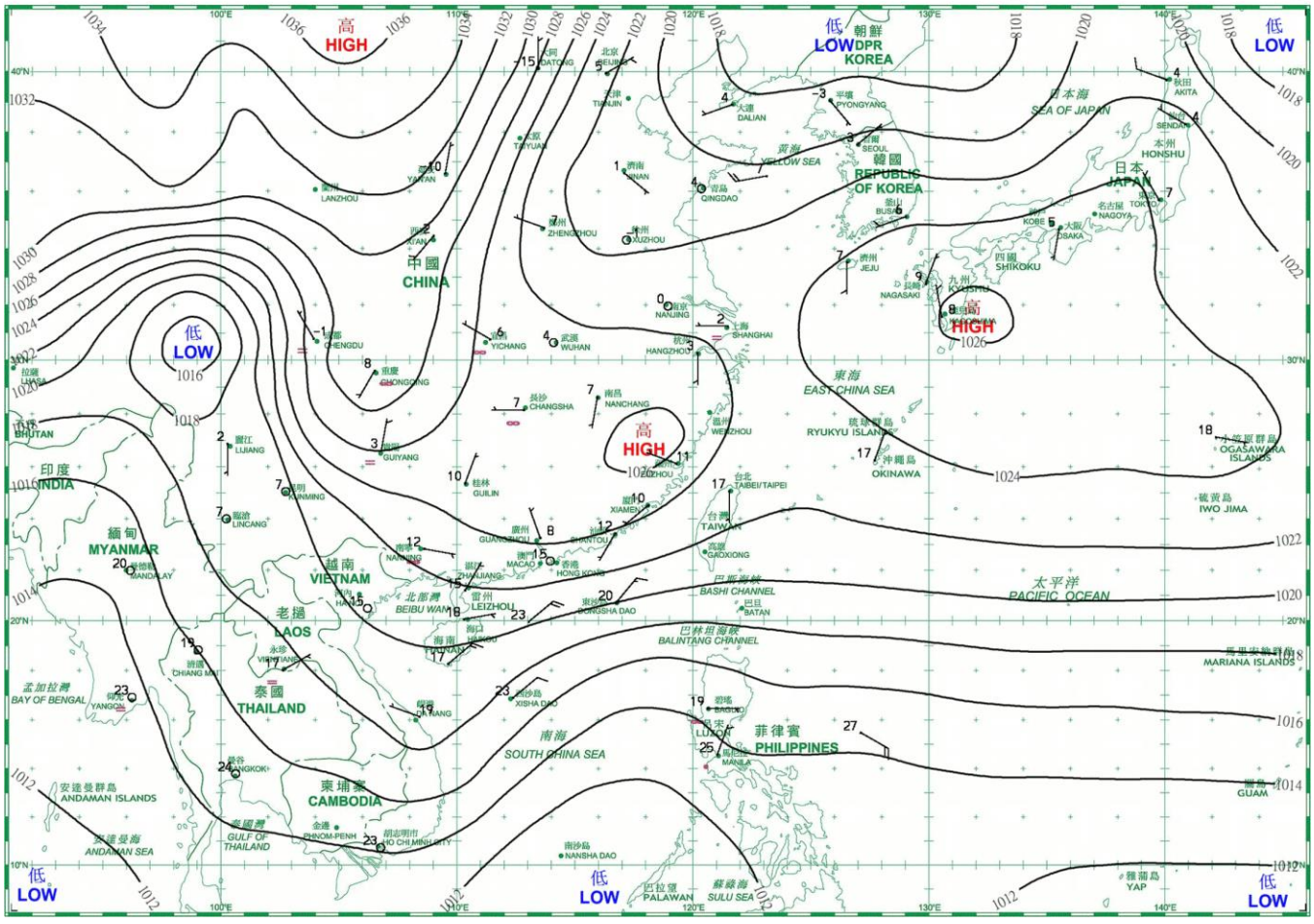
日期/Date: 28.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



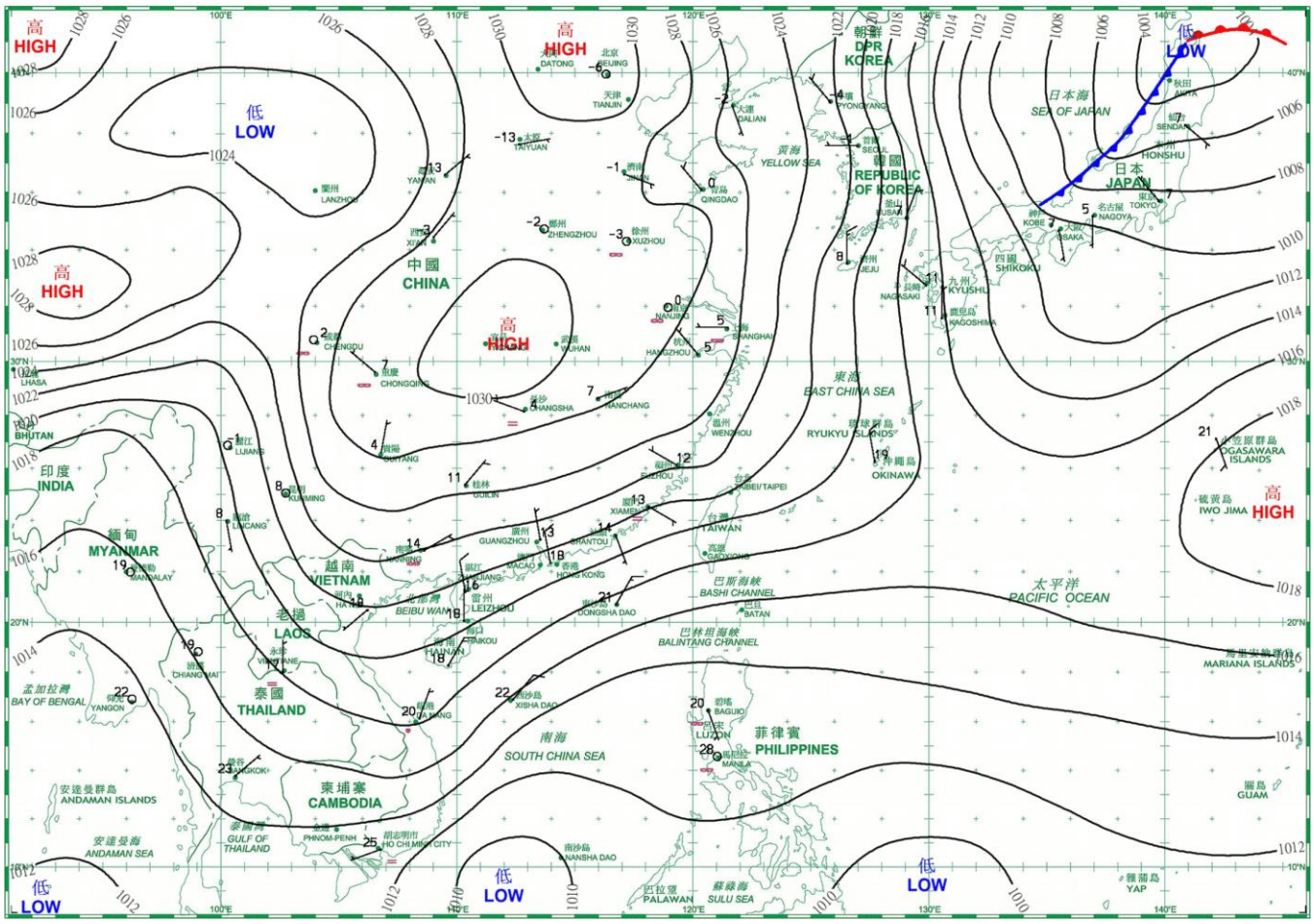
日期/Date: 29.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



日期/Date: 30.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



日期/Date: 31.12.2024 香港時間/HK Time: 08:00 香港天文台 Hong Kong Observatory



4.1.1 二零二四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 2024

日期 Date	平均氣壓 Mean Pressure	氣溫 Air Temperature 最高 Maximum	氣溫 Air Temperature 平均 Mean	氣溫 Air Temperature 最低 Minimum	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
十二月 December	百帕斯卡 hPa	°C	°C	°C	°C	%	%	毫米 mm
1	1015.0	22.7	19.7	17.6	13.7	69	54	-
2	1015.1	23.8	21.0	18.8	14.6	68	34	-
3	1015.7	24.9	21.9	19.7	17.1	74	32	-
4	1016.3	23.9	22.2	21.4	17.0	73	59	-
5	1016.4	23.3	21.7	20.7	17.3	76	54	-
6	1016.6	23.3	21.4	20.2	15.8	71	52	-
7	1018.2	23.3	20.7	17.9	14.1	66	29	-
8	1020.9	21.6	18.3	16.0	11.7	65	54	-
9	1019.6	20.2	18.7	17.1	13.0	70	75	-
10	1016.5	22.4	20.6	19.2	15.6	73	85	-
11	1016.4	25.2	22.3	20.0	16.9	72	68	-
12	1018.3	22.0	19.5	17.1	12.7	65	67	-
13	1020.2	20.7	18.5	15.6	10.3	59	67	-
14	1024.7	17.3	15.5	13.8	4.8	49	81	-
15	1025.2	17.0	14.8	13.0	1.3	40	87	Tr
16	1022.7	18.7	16.3	14.4	3.8	44	67	-
17	1021.0	20.4	17.9	15.5	9.2	58	27	-
18	1021.0	20.9	18.6	16.6	6.2	45	58	-
19	1022.7	18.1	15.6	13.7	2.1	40	8	-
20	1020.6	17.7	14.9	11.9	2.9	45	6	-
21	1020.0	20.2	16.9	13.9	3.8	42	14	-
22	1021.4	18.0	15.8	13.5	4.9	48	67	-
23	1020.6	17.5	16.5	15.1	7.8	57	88	-
24	1021.2	19.1	17.4	15.6	8.2	55	88	-
25	1021.1	20.6	18.5	16.6	13.0	71	88	Tr
26	1021.6	22.9	20.1	18.0	15.2	74	86	-
27	1023.1	20.9	19.2	18.1	14.6	75	68	-
28	1024.9	18.8	16.9	15.1	4.3	43	31	-
29	1023.4	17.4	15.4	13.3	6.9	57	15	-
30	1021.2	20.4	17.7	14.3	10.4	63	13	-
31	1019.1	22.6	19.8	17.6	10.3	55	54	Tr
平均/總值 Mean/Total	1020.0	20.8	18.5	16.5	10.3	60	54	Tr
正常* Normal*	1020.1	20.4	18.2	16.2	12.4	70	57	28.8
觀測站 Station	天文台 Hong Kong Observatory							

天文台於十二月一日 15 時 37 分錄得本月最低氣壓 1012.6 百帕斯卡。

The minimum pressure recorded at the Hong Kong Observatory was 1012.6 hectopascals at 1537 HKT on 1 December.

天文台於十二月十一日 12 時 48 分錄得本月最高氣溫 25.2 o C。

The maximum air temperature recorded at the Hong Kong Observatory was 25.2 o C at 1248 HKT on 11 December.

天文台於十二月二十日 6 時 57 分錄得本月最低氣溫 11.9 o C。

The minimum air temperature recorded at the Hong Kong Observatory was 11.9 o C at 0657 HKT on 20 December.

天文台於十二月三十一日 16 時 15 分錄得本月最高1分鐘平均降雨率 8 毫米/小時。

The maximum 1-minute mean rainfall rate recorded at the Hong Kong Observatory was 8 millimetres per hour at 1615 HKT on 31 December.

* 1991-2020 氣候平均值（除特別列明外） *(http://www.hko.gov.hk/tc/cis/normal/1991_2020/normals.htm)*

* 1991-2020 Climatological normal, unless otherwise specified *(http://www.hko.gov.hk/en/cis/normal/1991_2020/normals.htm)*

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 二零二四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 2024

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^2 MJ/m^2	毫米 mm	度 degrees	公里/小時 km/h
1	0	9.7	16.60	2.5	070	13.6
2	0	9.7	17.08	2.8	040	16.3
3	0	9.4	16.95	3.0	050	21.1
4	0	8.7	16.62	3.2	070	35.1
5	0	4.2	9.56	1.8	070	23.0
6	1	6.2	12.20	2.5	070	19.1
7	0	9.5	14.99	3.4	360	25.5
8	0	6.6	13.86	3.1	360	29.7
9	0	2.3	7.40	1.8	020	21.5
10	0	6.0	13.63	2.5	070	27.1
11	0	5.6	12.68	2.8	060	17.9
12	0	7.8	14.94	3.6	360	25.1
13	0	4.7	12.87	4.3	360	32.9
14	0	7.7	14.30	4.5	360	40.5
15	0	3.9	11.49	2.9	360	28.7
16	0	4.9	10.95	0.9	360	19.2
17	0	9.5	16.12	3.1	060	16.5
18	0	4.5	12.27	4.8	360	21.5
19	0	9.3	15.91	3.9	360	28.3
20	0	9.4	16.62	3.3	360	17.8
21	0	9.4	16.86	5.0	360	24.6
22	0	7.8	14.82	3.4	360	26.9
23	0	-	5.40	3.0	060	26.9
24	0	1.4	9.08	2.8	040	26.0
25	3	4.0	12.15	2.4	010	23.2
26	0	2.6	9.98	2.6	010	15.5
27	0	1.4	8.27	3.5	070	25.1
28	0	7.7	15.27	4.6	360	33.7
29	0	8.6	15.27	2.5	070	27.6
30	2	9.3	15.83	2.7	040	10.6
31	2	7.7	14.99	3.4	350	14.8
平均/總值 Mean/Total	8	199.5	13.39	96.6	360	23.7
正常* Normal*	176.1 §	161.6	10.91	80.9	010	26.4
觀測站 Station	香港國際機場 Hong Kong International Airport		京士柏 King's Park		橫瀾島^ Waglan Island^	

橫瀾島於十二月十四日 1 時 17 分錄得本月最高陣風 60 公里/小時，風向 010 度。

The maximum gust peak speed recorded at Waglan Island was 60 kilometres per hour from 005 degrees at 0117 HKT on 14 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.

^ 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。

^ 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.

* 1991-2020 氣候平均值 (除特別列明外) (http://www.hko.gov.hk/tc/cis/normal/1991_2020/normals.htm)

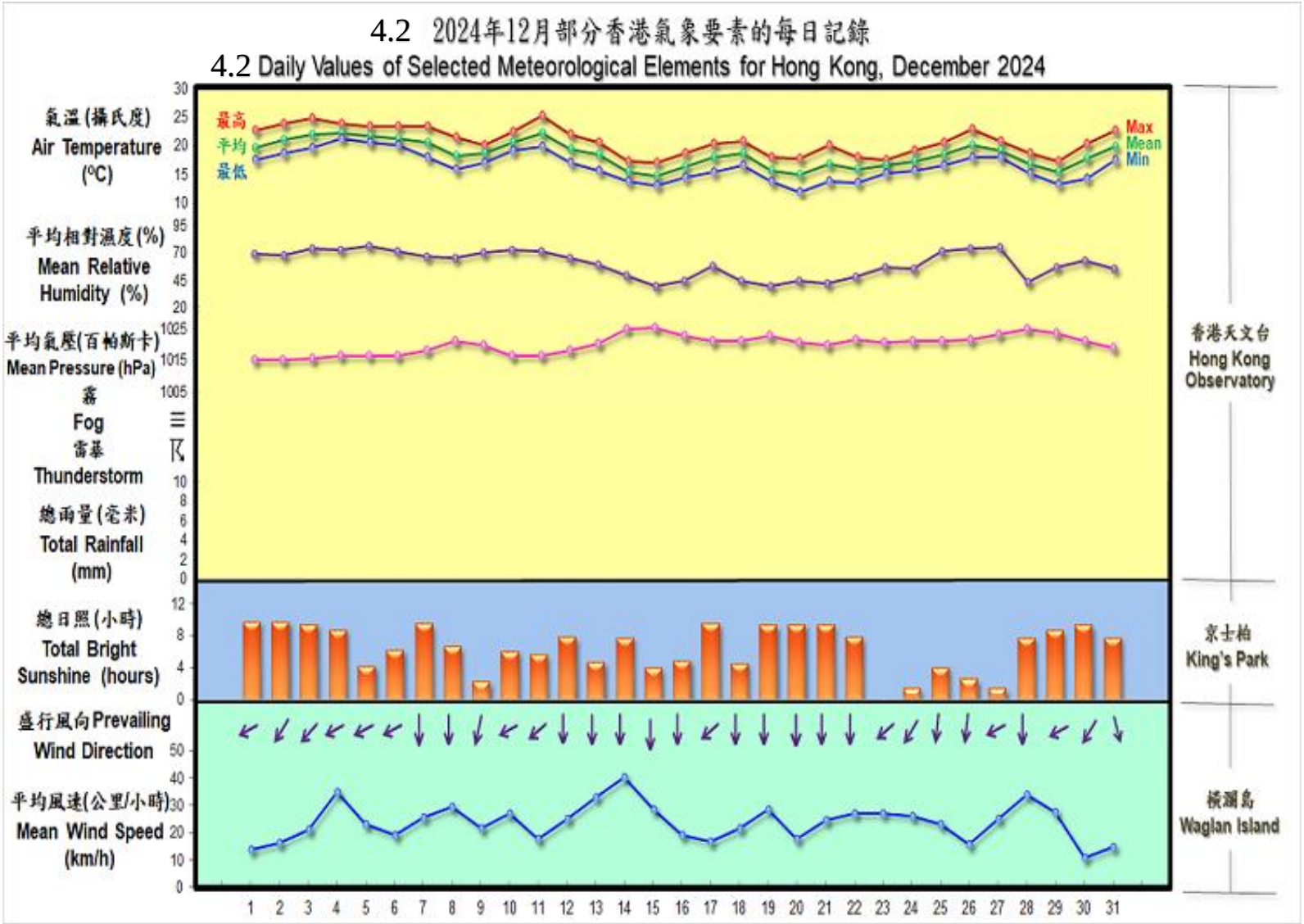
* 1991-2020 Climatological normal, unless otherwise specified (http://www.hko.gov.hk/en/cis/normal/1991_2020/normals.htm)

§ 1997-2023 平均值

§ 1997-2023 Mean value

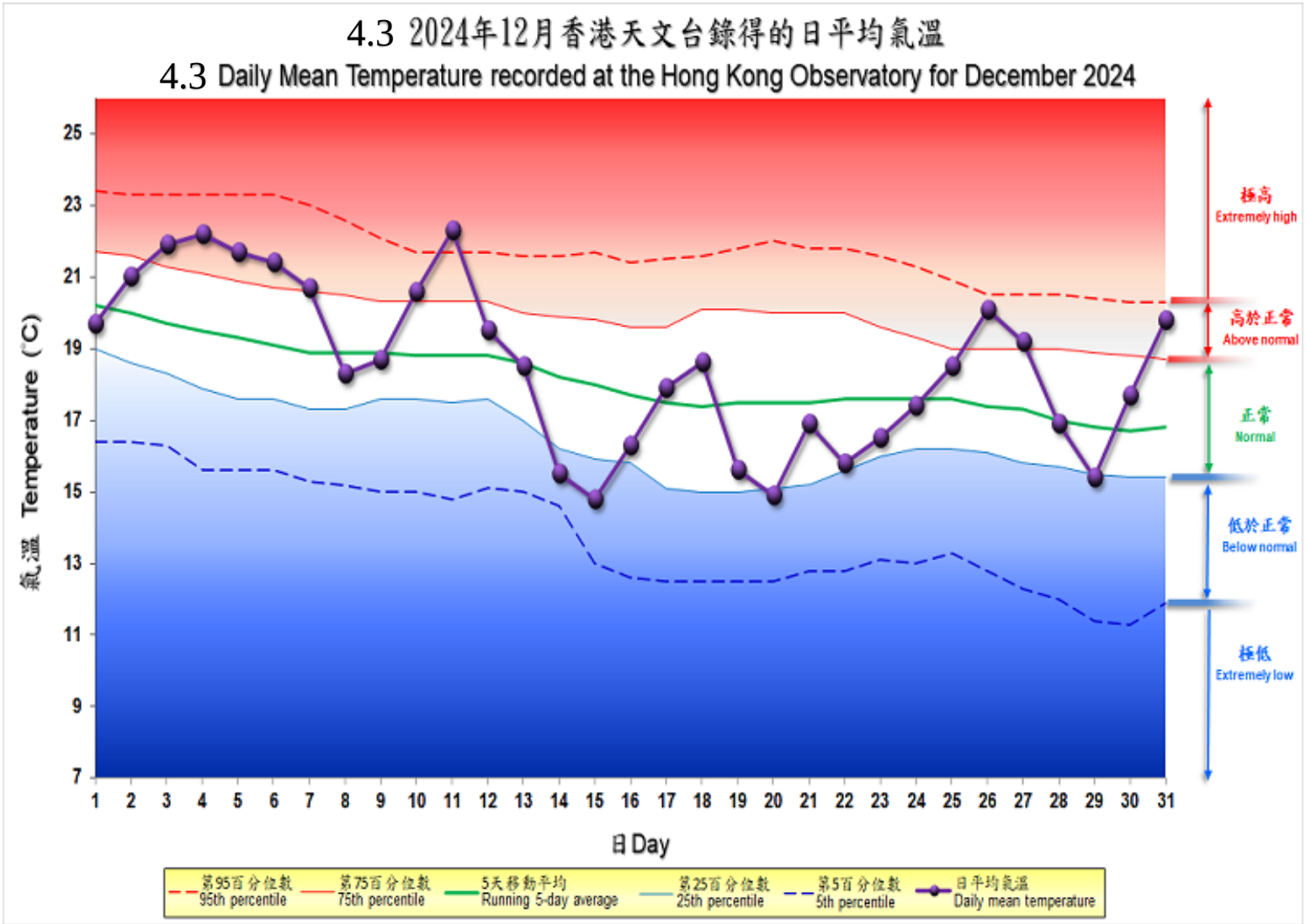
4.2 2024年12月部分香港氣象要素的每日記錄

4.2 Daily Values of Selected Meteorological Elements for Hong Kong, December 2024



4.3 2024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 2024



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. 2024 年天氣概況

2024 年為最暖的一年

世界氣象組織確認 2024 年是全球有紀錄以來最暖的一年[1]。全球平均海平面於 2024 年繼續上升。年內南極及北極的海冰覆蓋範圍持續遠低於平均水平，全年最低值分別是衛星紀錄的第二低及第七低。2024 年各類極端天氣事件影響全球多處，包括東亞、歐洲東南部、中東、東南亞、中美洲及非洲多處的熱浪；美洲及非洲多處的嚴重乾旱；極端降雨引致的嚴重水浸亦影響歐洲中部、非洲薩赫勒、巴西南部、阿富汗及東非；南韓的暴風雪；以及超強颱風摩羯及其殘餘在菲律賓、中國、越南、老撾、泰國及緬甸帶來的嚴重破壞及重大傷亡。多個強烈颶風亦為美國和加勒比地區帶來嚴重影響。山火亦肆虐智利、加拿大及美國西部。

2023 年的厄爾尼諾事件持續至 2024 年 4 月。根據世界氣象組織，該事件是有記錄以來其中一個第五強。赤道太平洋中部及東部海面溫度在 2024 年 5 月回復正常，並持續至年底。

本港方面，由於全年 11 個月較正常溫暖，當中 4 月及 10 月更出現破紀錄的月平均氣溫，2024 年為有記錄以來最暖的一年，全年平均氣溫達 24.8 度，較 1991-2020 年正常值[2]高 1.3 度。而全年平均最低氣溫 22.8 度及平均最高氣溫 27.3 度分別為自 1884 年有記錄以來最高及第二高。當中，秋季(9 月至 11 月)的平均氣溫達 26.5 度，是有記錄以來最高。香港天文台於 9 月 17 日錄得全年最高氣溫 35.7 度，是有記錄以來其中一個第八高。2024 年的酷熱天氣[3]日數、熱夜[4]數目及極端酷熱天氣[5]日數分別為 52 天、50 天及兩天，是有記錄以來其中一個第三多、其中一個第四多及其中一個第八多。

天文台於 1 月 23 日錄得全年最低氣溫 6.3 度。全年寒冷天氣[6]日數為 11 天，較 1991-2020 年正常值少 4.2 天。

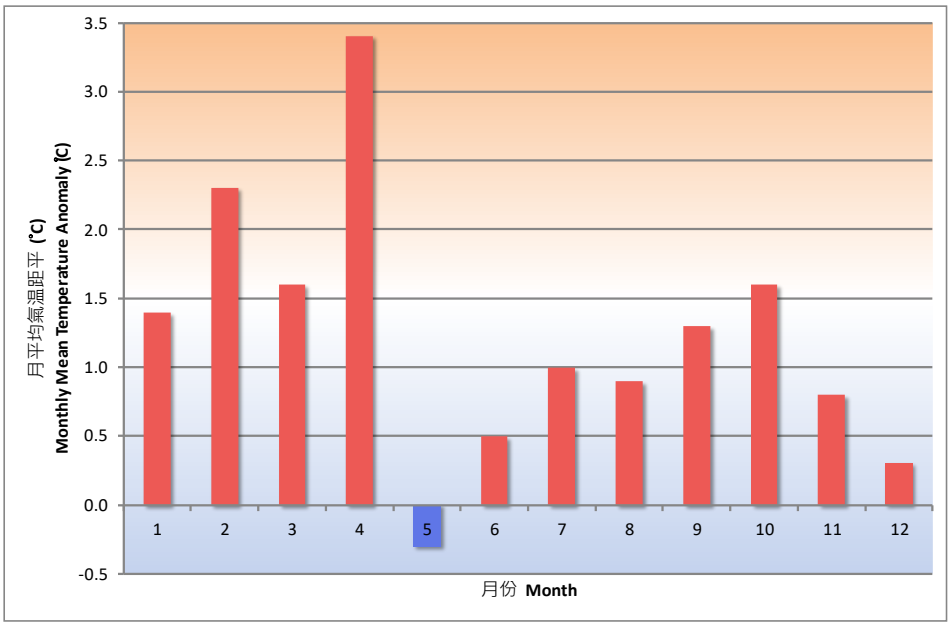


圖 5.1　2024 年香港月平均氣溫距平(與 1991-2020 年正常值相比)

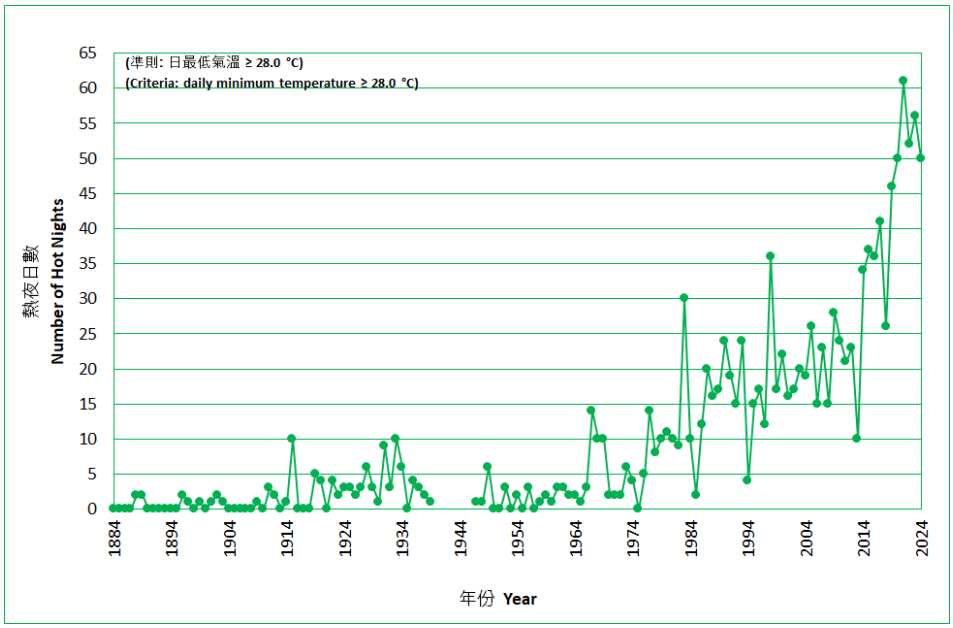


圖 5.2　香港全年熱夜數目的長期時間序列(1884-2024)

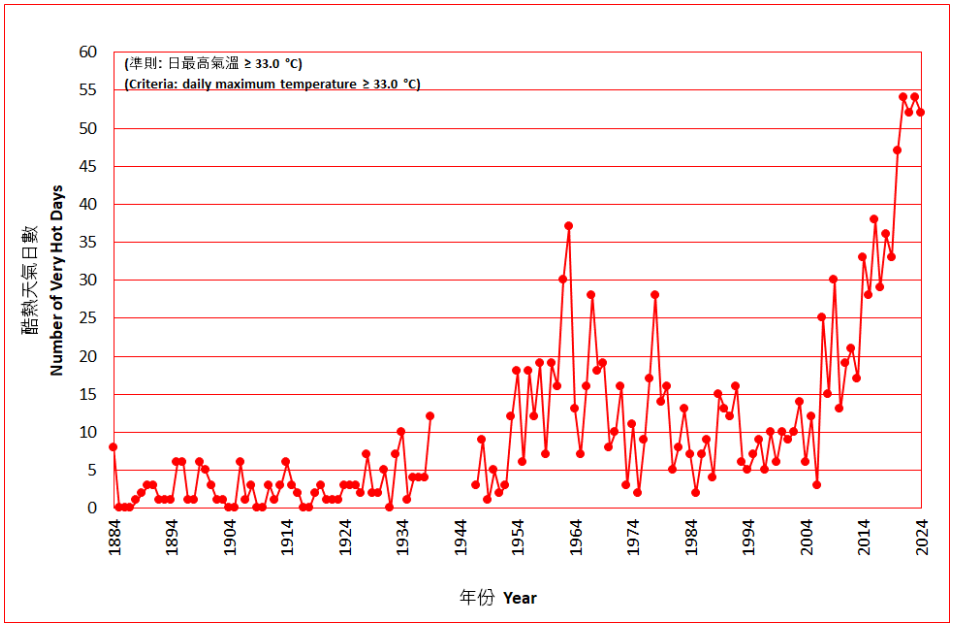


圖 5.3　香港全年酷熱天氣日數的長期時間序列(1884-2024)

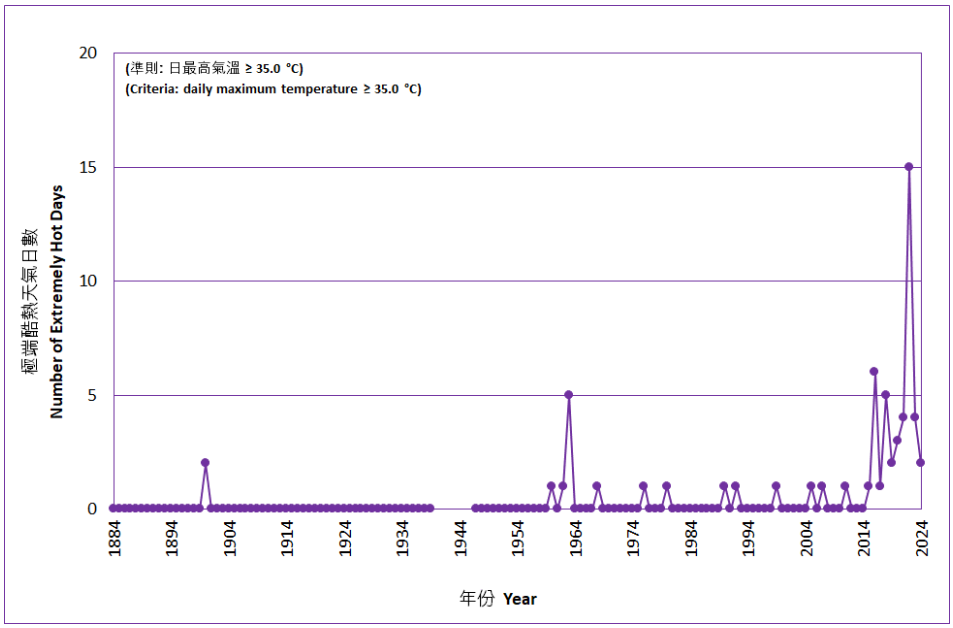


圖 5.4　香港全年極端酷熱天氣日數的長期時間序列(1884-2024)

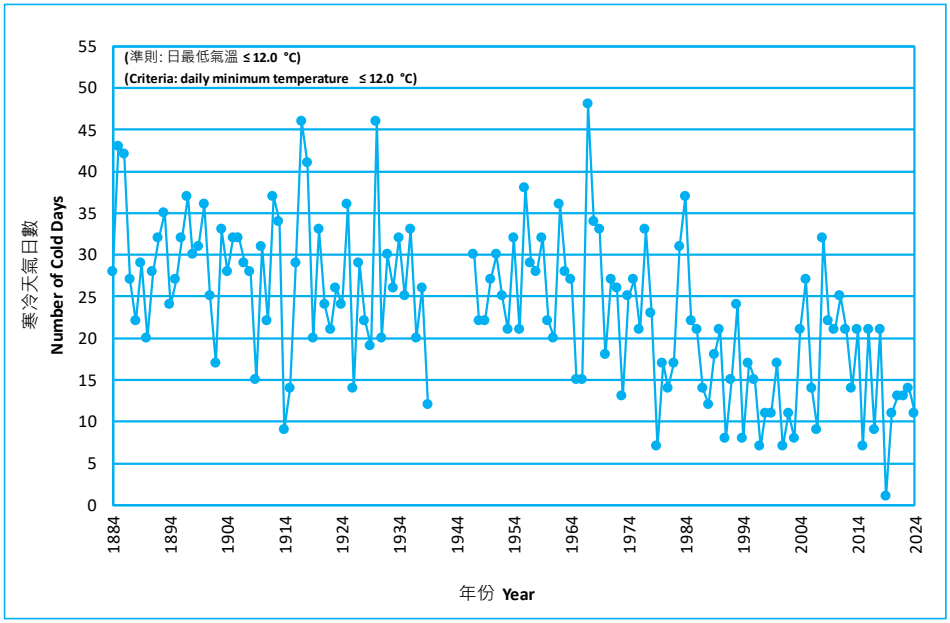


圖 5.5　香港全年寒冷天氣日數的長期時間序列(1884-2024)

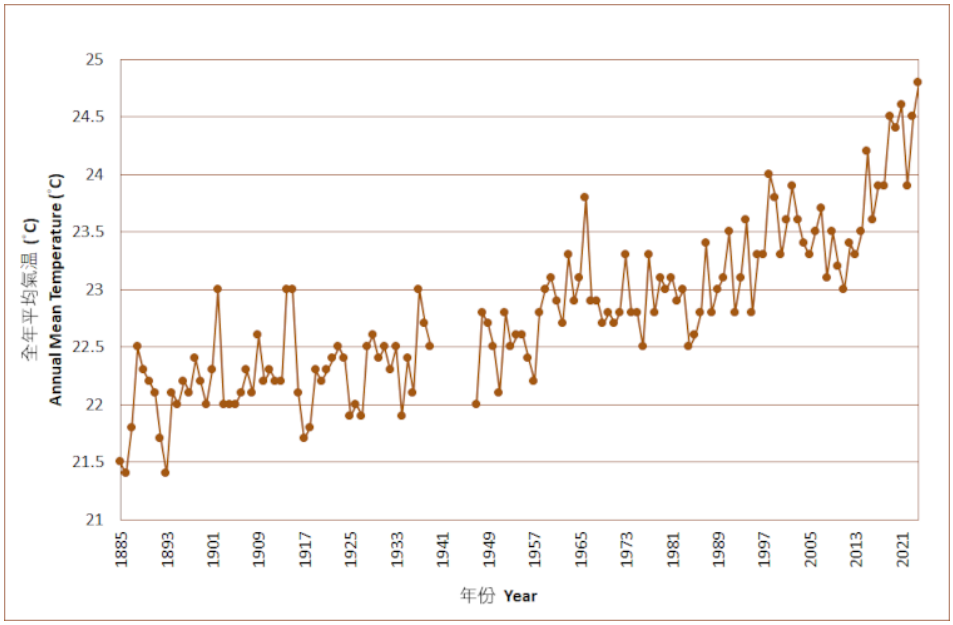


圖 5.6　香港全年平均氣溫的長期時間序列(1885-2024)

2024 年本港的全年雨量為 2,309.7 毫米，較 1991-2020 年正常值 2,431.2 毫米少約百分之 5。年內天文台曾發出四次紅色暴雨警告。2024 年的雷暴日數為 54 天，較 1991-2020 年正常值多約 12 天。

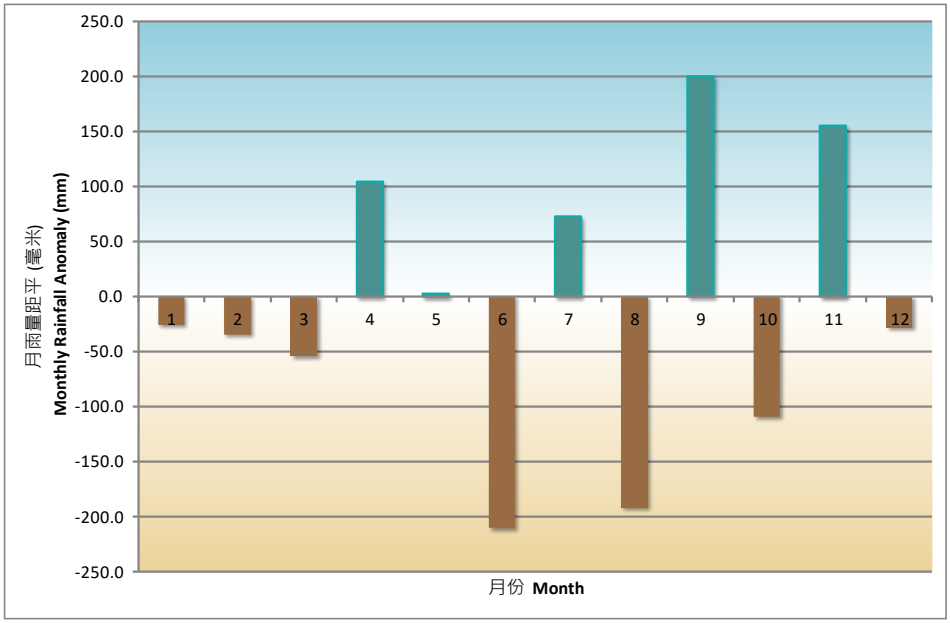


圖 5.7　2024 年香港月雨量距平(與 1991-2020 年正常值相比)

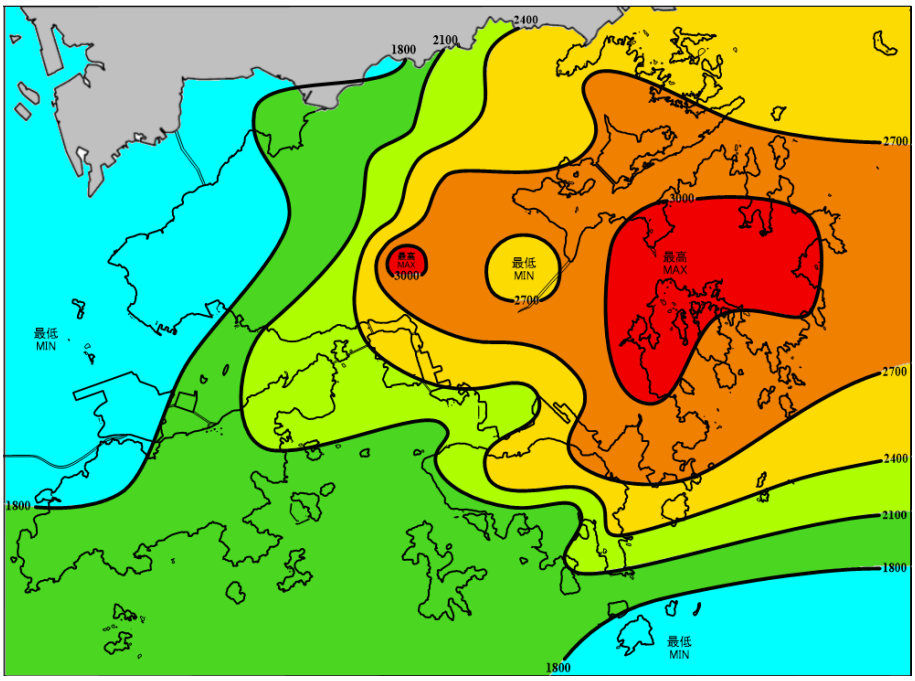


圖 5.8　2024 年香港年雨量分佈(毫米)

2024 年共有 29 個熱帶氣旋影響北太平洋西部及南海，接近長期(1961-2020 年)平均的約 30 個。全年有 13 個熱帶氣旋達到颱風或以上強度[7]，略少於長期平均的約 15 個，當中有八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，年內有七個熱帶氣旋令天文台需要發出熱帶氣旋警告信號，略多於長期年平均的約六個。天文台在 9 月摩羯及 11 月桃芝影響本港期間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

2024 年本港發生的重要天氣事件扼述如下：

破紀錄高溫天氣事件

2024 年本港出現多個破紀錄高溫天氣事件：

- 天文台在 3 月 24 日錄得最高氣溫 31.5 度，是有記錄以來 3 月份絕對最高氣溫的最高紀錄。

- 主要由於南海北部的海面溫度較正常暖及低層偏南氣流較正常強，本港經歷了有記錄以來最暖的 4 月。該月平均最高氣溫 28.9 度、平均氣溫 26.4 度及平均最低氣溫 24.5 度，較其各自正常值高 3.3 度、3.4 度及 3.4 度，全部皆是有記錄以來 4 月份的最高。

- 2024 年 1 月至 6 月的上半年為本港有記錄以來最暖，平均最低氣溫 21.4 度、平均氣溫 23.3 度及平均最高氣溫 25.8 度，分別是有記錄以來同期的最高、其中一個最高及第二高。

- 2024 年 8 月共錄得 18 個熱夜，是有記錄以來 8 月份的最多。

- 主要由於影響華南的東北季候風較正常弱，本港經歷了有記錄以來最暖的 10 月。該月平均最高氣溫 30.3 度、平均氣溫 27.3 度及平均最低氣溫 25.4 度，分別較其正常值高 2.2 度、1.6 度及 1.5 度，全部皆是有記錄以來 10 月份的最高。該月的酷熱天氣日數為三天，是 10 月份的其中一個最多。

- 本港在 2024 年 9 月至 11 月經歷了有記錄以來最暖的秋季。期間平均氣溫 26.5 度及平均最低氣溫 24.5 度皆是有記錄以來同期的最高。此外，平均最高氣溫 29.2 度是有記錄以來同期的其中一個最高。

五月四日本港東部的特大暴雨

與南支西風槽相關的高空擾動於 2024 年 5 月 4 日影響華南，加上顯著的低層輻合及高層輻散，當日雷雨持續影響珠江口一帶，而香港亦有大驟雨及強烈狂風雷暴。本港多處地區錄得超過 100 毫米雨量，而將軍澳部分地區的雨量更超過 400 毫米。當日早上香港東部部分地區有特大暴雨，將軍澳錄得 145.5 毫米的一小時雨量。大雨亦令天文台需要發出年內首個紅色暴雨警告。此外，當日下午長洲泳灘曾錄得每小時約 110 公里的猛烈陣風。根據初步資料，香港有 16 宗水浸報告，當中西貢及將軍澳有 12 宗，而西貢區有 15 宗山泥傾瀉報告。

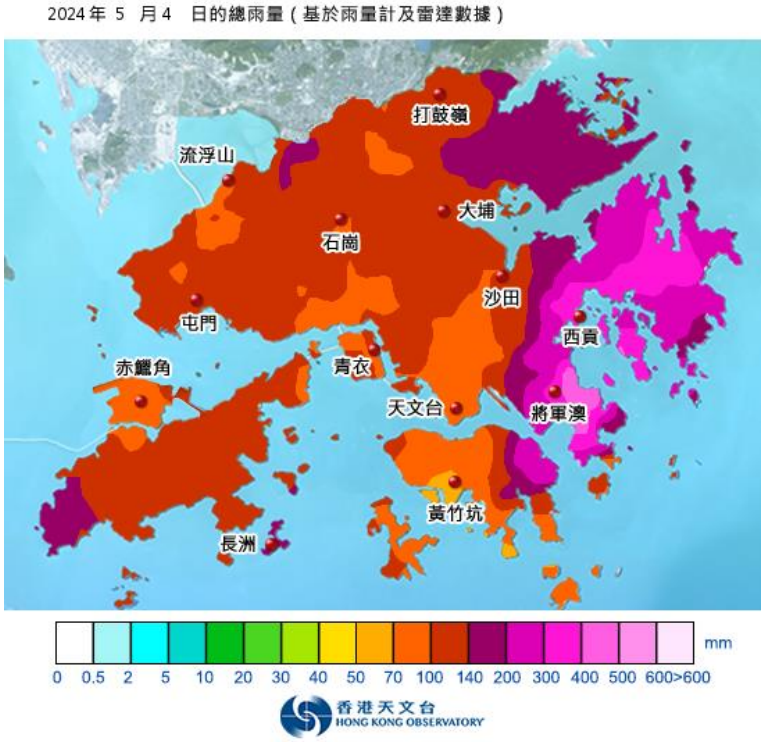


圖 5.9　2024 年 5 月 4 日的雨量分佈圖

圖 5.10　2024 年 5 月 4 日暴雨期間將軍澳出現水浸 (鳴謝：坑口鄉事委員會)

圖 5.11　2024 年 5 月 4 日暴雨期間清水灣道有山泥傾瀉 (鳴謝：坑口鄉事委員會)

<u>九月五日至六日超強颱風摩羯襲港</u>

經過 2024 年 8 月南海熱帶氣旋活動的平靜期後，熱帶氣旋摩羯於 9 月 3 日進入南海北部。摩羯在橫過南海北部期間，在 24 小時內由強烈熱帶風暴迅速增強為超強颱風。摩羯於 9 月 6 日達到其最高強度，中心附近最高持續風速估計為每小時 230 公里，是天文台自 1950 年有記錄以來南海區域內第二強的熱帶氣旋，僅次於 2014 年的超強颱風威馬遜，與 2023 年的超強颱風蘇拉並列。

隨著摩羯靠近，9 月 5 日稍後香港天氣轉壞，天文台發出年內首個八號烈風或暴風信號。9 月 5 日稍後及 9 月 6 日初時香港普遍受強風至烈風影響，高地間中吹暴風。摩羯的外圍雨帶於 9 月 5 日晚上及隨後兩天為香港帶來大驟雨、猛烈陣風及雷暴。9 月 5 日晚上中環碼頭曾錄得約每小時 139 公里的猛烈陣風，僅次於該站在 2018 年超強颱風山竹及 2023 年超強颱風蘇拉襲港期間錄得的紀錄。9 月 5 日至 7 日本港大部分地區錄得超過 100 毫米雨量，而新界東北部的雨量更超過 200 毫米。

維多利亞港首現水龍捲

受高空擾動影響，2024 年 9 月 28 日香港天氣不穩定，早上雖然有陽光，但溫度上升令大氣變得不穩定，有利強對流天氣發展。當日初時維港吹西風，但一股偏東氣流在日間由東向西逐漸影響香港，造成局部地區的水平風切變。最後，紅磡對出海面在下午 12 時 30 分前短暫出現水龍捲，是天文台自 1959 年接獲報告以來首次在維多利亞港內出現水龍捲。

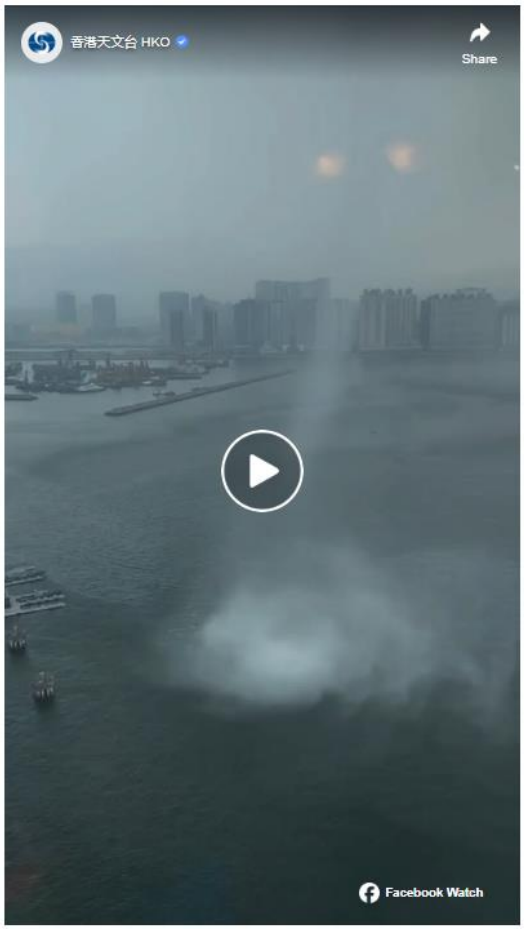


圖 5.12(a) 及 (b) 2024 年 9 月 28 日維多利亞港內出現水龍捲
(鳴謝：Kathie Wong (a) 及 政府飛行服務隊 (b))

三度受熱帶氣旋影響的十一月

2024 年 11 月熱帶氣旋銀杏、桃芝及萬宜在風季尾段接二連三影響本港，導致天文台自 1946 年以來首次在 11 月需要三度發出熱帶氣旋警告信號。

超強颱風銀杏先於 11 月 8 日至 10 日影響本港並為多處地區帶來強風。在取消銀杏所有熱帶氣旋警告後相隔僅僅 31 小時，隨著颱風桃芝靠近，天文台發出一號戒備信號。由於預料桃芝會相當接近本港，其烈風區對本港構成威脅，天文台於 11 月 13 日晚上發出八號烈風或暴風信號，是自 1946 年以來年內最遲發出的八號烈風或暴風信號。11 月 14 日初時本港大部分地區吹強風至烈風程度東北風。當日桃芝的外圍雨帶亦為本港帶來狂風驟雨。

超強颱風萬宜為第三個於 2024 年 11 月影響本港的熱帶氣旋。萬宜在 11 月 18 日至 19 日橫過南海北部。受天文大潮、東北季候風及萬宜的共同影響，11 月 18 日晚上本港水位特別高。鰂魚涌、大澳及大埔滘的水位分別上升至

海圖基準面以上 3.36、3.36 及 3.52 米，全部皆是有記錄以來 11 月份的最高。部分低窪地區，包括城門河兩旁、鯉魚門、大澳及沙頭角，出現輕微水浸。

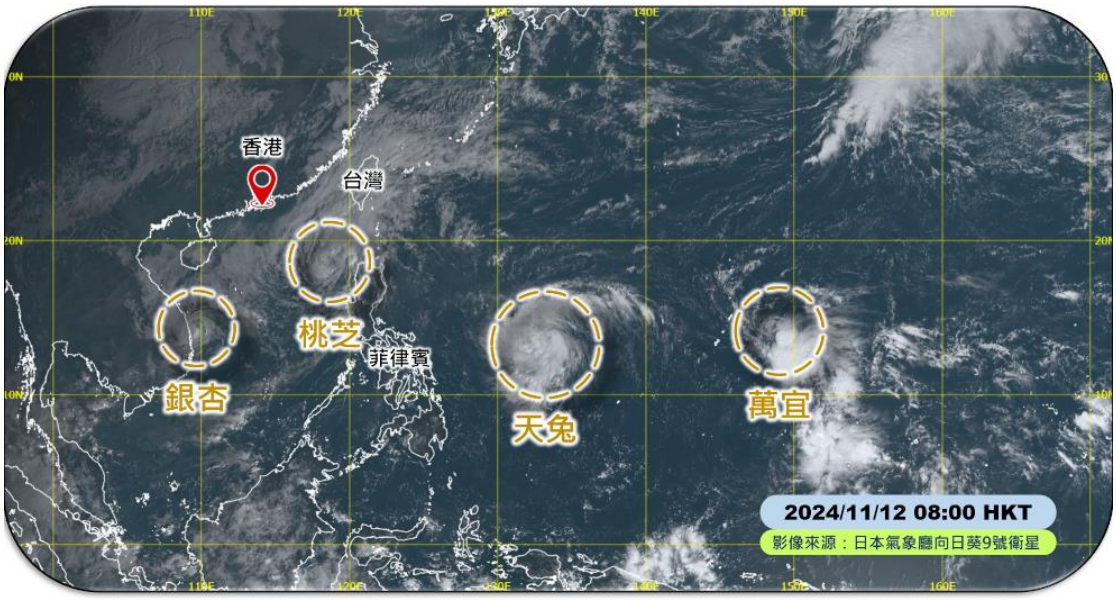


圖 5.13　本港時間 2024 年 11 月 12 日上午 8 時的衛星雲圖，顯示北太平洋西部及南海自 1961 年以來首次在 11 月同時出現四個熱帶氣旋

圖 5.14　2024 年 11 月 18 日晚間城門河旁的單車徑出現輕微水浸
(鳴謝：岳人 Geo Trekker)

圖 5.15　2024 年 11 月 18 日晚間大澳出現輕微水浸 (鳴謝：離島民政事務處)

附註：

[1] 世界氣象組織確認 2024 年是有紀錄以來最暖的一年，全球表面平均溫度較工業化前水平高出約 1.55 度，是首次超越 1.5 度水平的年份。雖然個別年份超越 1.5 度水平並不代表無法達成巴黎協定的長期溫度目標，但全球必須盡快及顯著地減少碳排放，才可避免氣候變化影響進一步惡化。

[2] 1961-1990 年、1971-2000 年、1981-2010 年及 1991-2020 年氣候平均值，可參考：https://www.weather.gov.hk/tc/cis/normal.htm。除特別註明外，本文採用 1991-2020 年氣候平均值。

[3] 酷熱天氣指當日最高氣溫達 33.0 度或以上。

[4] 熱夜指當日最低氣溫在 28.0 度或以上。

[5] 極端酷熱天氣指當日最高氣溫達 35.0 度或以上。

[6] 寒冷天氣指當日最低氣溫在 12.0 度或以下。

[7] 熱帶氣旋分級資料可參考：https://www.weather.gov.hk/tc/informtc/class.htm。

表 5.1　2024 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. 最高冬季絕對最高氣溫(與 1953/54 年冬季並列最高)	2023 年 12 月至 2024 年 2 月	28.7°C
2. 最高 3 月份最高氣溫	2024 年 3 月 24 日	31.5°C
3. 最高 3 月份日平均氣溫	2024 年 3 月 31 日	27.1°C
4. 最高 3 月份日最低氣溫	2024 年 3 月 31 日	26.0°C
5. 最高清明節日平均氣溫	2024 年 4 月 4 日	27.2°C
6. 最高清明節日最低氣溫	2024 年 4 月 4 日	26.5°C
7. 最高 4 月份日平均氣溫	2024 年 4 月 27 日	28.8°C
8. 最高 4 月份日最低氣溫	2024 年 4 月 27 日	27.7°C
9. 最高 4 月份絕對最低氣溫	2024 年 4 月	21.5°C
10. 最高 4 月份月平均最高氣溫	2024 年 4 月	28.9°C
11. 最高 4 月份月平均氣溫	2024 年 4 月	26.4°C
12. 最高 4 月份月平均最低氣溫	2024 年 4 月	24.5°C
13. 最高夏至日最高氣溫(與 1980 年 6 月 21 日並列最高)	2024 年 6 月 21 日	34.0°C
14. 最高夏至日平均氣溫(與 2019 年 6 月 21 日並列最高)	2024 年 6 月 21 日	30.8°C
15. 最高 6 月份日最低氣溫(與 2019 年 6 月 21 日、2019 年 6 月 29 日及 2021 年 6 月 19 日並列最高)	2024 年 6 月 22 日	29.5°C
16. 最多 6 月份連續酷熱天氣日數(與 2016 年 6 月 19 日至 27 日並列最多)	2024 年 6 月 20 日至 28 日	9 天
17. 最高上半年平均氣溫(與 2021 年上半年並列最高)	2024 年 1 月至 6 月	23.3°C
18. 最高上半年平均最低氣溫	2024 年 1 月至 6 月	21.4°C
19. 最高小暑日平均氣溫	2024 年 7 月 6 日	30.8°C
20. 最高小暑日最低氣溫	2024 年 7 月 6 日	29.2°C
21. 最高小暑日最高氣溫(與 2016 年 7 月 7 日並列最高)	2024 年 7 月 6 日	34.0°C
22. 最多 8 月份熱夜數目	2024 年 8 月	18 天
23. 最高中秋節日最高氣溫	2024 年 9 月 17 日	35.7°C
24. 最高國慶日日最高氣溫(與 1890 年 10 月 1 日並列最多)	2024 年 10 月 1 日	34.2°C
25. 最高 10 月份日平均氣溫	2024 年 10 月 1 日	30.9°C
26. 年內最遲出現酷熱天氣日子	2024 年 10 月 19 日	10 月 19 日
27. 最多 10 月份酷熱天氣日數(與 2023 年 10 月	2024 年 10 月	3 天

並列最多)		
28. 最高 10 月份月平均最高氣溫	2024 年 10 月	30.3℃
29. 最高 10 月份月平均氣溫	2024 年 10 月	27.3℃
30. 最高 10 月份月平均最低氣溫	2024 年 10 月	25.4℃
31. 最高秋季平均最高氣溫(與 2022 年 9 月至 11 月並列最高)	2024 年 9 月至 11 月	29.2℃
32. 最高秋季平均氣溫	2024 年 9 月至 11 月	26.5℃
33. 最高秋季平均最低氣溫	2024 年 9 月至 11 月	24.5℃
34. 最高年平均氣溫	2024 年	24.8℃
35. 最高年平均最低氣溫	2024 年	22.8℃

表 5.2(a)　　2024 年香港氣象觀測摘要

月　份	平均氣壓(百帕斯卡)	氣　溫			平均露點(攝氏度)	平均相對濕度(%)	平均雲量(%)	總雨量(毫米)
		平均日最高(攝氏度)	平均(攝氏度)	平均日最低(攝氏度)				
1 月	1021.4	20.5	17.9	15.9	12.5	72	62	6.7
2 月	1019.4	21.9	19.4	17.6	15.7	80	75	4.1
3 月	1016.5	23.9	21.1	19.1	16.9	78	77	21.6
4 月	1010.2	28.9	26.4	24.5	23.1	82	81	257.1
5 月	1010.2	28.3	26.0	24.5	22.5	82	83	292.6
6 月	1007.5	31.0	28.8	26.8	25.5	83	86	281.3
7 月	1006.0	32.4	29.9	28.0	26.2	81	78	458.5
8 月	1006.5	32.3	29.6	27.7	25.9	81	74	261.5
9 月	1006.1	32.0	29.2	26.8	25.2	80	74	520.9
10 月	1012.2	30.3	27.3	25.4	20.0	65	69	11.3
11 月	1016.4	25.3	23.0	21.3	16.8	70	71	194.1
12 月	1020.0	20.8	18.5	16.5	10.3	60	54	微量
平均/總值	1012.7	27.3	24.8	22.8	20.1	76	74	2309.7
正常值(1991-2020)	1012.9	26.0	23.5	21.6	19.3	78	68	2431.2
觀測站	香港天文台							

微量表示雨量少於 0.05 毫米

表 5.2(b)　　2024 年香港氣象觀測摘要

月　份	出現低能見度的時數# (小時)		總日照 (小時)	平均每日太陽總輻射 (兆焦耳/平方米)	總蒸發量 (毫米)	盛行風向 (度)	平均風速 (公里/小時)
1 月	71	52	169.8	12.42	74.4	060	23.3
2 月	53	5	107.4	11.19	63.8	060	18.1
3 月	66	25	122.8	12.39	73.1	070	21.1
4 月	40	3	87.5	10.27	66.4	160	18.1
5 月	13	10	97.6	12.48	84.4	070	22.6
6 月	12	0	116.3	14.14	80.3	210	21.4
7 月	0	0	178.3	17.00	113.6	090	18.5
8 月	2	0	197.3	17.51	123.6	240	15.7
9 月	15	0	190.5	15.80	100.3	080	17.2
10 月	0	3	209.1	15.91	139.3	080	26.6
11 月	1	0	138.0	11.36	80.7	360	26.8
12 月	13	8	199.5	13.39	96.6	360	23.7
平均/總值	286	106	1814.1	13.66	1096.5	070	21.1
正常值 (1991-2020)	825.8	1006.4§	1829.3	13.23	1204.1	070	22.9
觀測站	香港天文台	香港國際機場	京士柏			橫瀾島	

在沒有霧、薄霧或降雨情況下能見度低於 8 公里

§ 1997-2023 平均值

表 5.2(c)　　2024 年香港氣象觀測摘要

月　份	極端酷熱天氣日數	酷熱天氣日數	熱夜數目	寒冷天氣日數	雷暴日數
1 月	-	-	-	5	-
2 月	-	-	-	3	-
3 月	-	-	-	2	-
4 月	-	-	-	-	10
5 月	-	-	-	-	7
6 月	-	9	10	-	9
7 月	-	14	16	-	11
8 月	1	15	18	-	9
9 月	1	11	6	-	8
10 月	-	3	-	-	-
11 月	-	-	-	-	-
12 月	-	-	-	1	-
總值	2	52	50	11	54
正常值 (1991-2020)	0.8	17.5	23.6	15.2	42.3
觀測站	香港天文台				

5. The Year's Weather – 2024

2024 was the warmest year

The World Meteorological Organization confirmed that 2024 was the warmest year on record[1]. The global mean sea level continued to rise in 2024. Over the Antarctica and Arctic, sea-ice extent remained well below average during the year and the minimum sea-ice extents were respectively the second and seventh lowest in satellite records. In 2024, various extreme weather events affected many parts of the world, including heatwaves in East Asia, Southeast Europe, the Middle East, Southeast Asia, Central America and many parts of Africa; severe drought in many parts of the Americas and Africa; extreme rainfall that triggered severe flooding in Central Europe, the Sahel of Africa, southern Brazil, Afghanistan and East Africa; blizzards in South Korea; severe damages and heavy casualties inflicted by Super Typhoon Yagi and its remnant in the Philippines, China, Vietnam, Lao PDR, Thailand and Myanmar. A number of major hurricanes also brought severe impacts to the United States and the Caribbean. Rampant wildfires also wreaked havoc in Chile, Canada and the western United States.

The El Niño event of 2023 lasted till April 2024. According to the World Meteorological Organization, this event is one of the five strongest on record. Sea surface temperatures of the central and eastern equatorial Pacific returned to normal in May 2024 and remained normal until the end of the year.

In Hong Kong, with 11 months warmer than usual including the record-breaking monthly mean temperatures in April and October, 2024 was the warmest year on record with the annual mean temperature reaching 24.8 degrees, 1.3 degrees above the 1991-2020 normal[2]. The annual mean minimum temperature of 22.8 degrees and annual mean maximum temperature of 27.3 degrees were respectively the highest and second highest since records began in 1884. In particular, the mean temperature for autumn (September to November) reached 26.5 degrees, the highest on record. The highest temperature recorded at the Hong Kong Observatory in the year was 35.7 degrees on 17 September, one of the eighth highest on record. There were 52 Very Hot Days[3], 50 Hot Nights[4] and two Extremely Hot Days[5] in Hong Kong in 2024, respectively ranking one of the third highest, one of the fourth highest and one of the eighth highest on record.

The lowest temperature recorded at the Observatory in the year was 6.3 degrees on 23 January. The number of Cold Days[6] in the year was 11 days, 4.2 days less than the 1991-2020 normal.

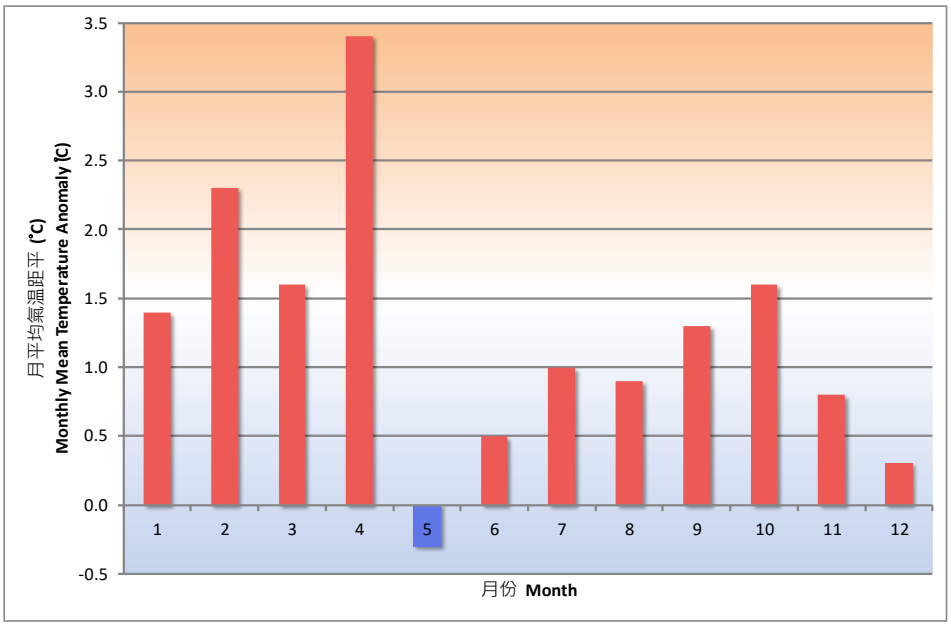


Fig. 5.1 Monthly mean temperature anomalies (against the 1991-2020 normal) in Hong Kong in 2024

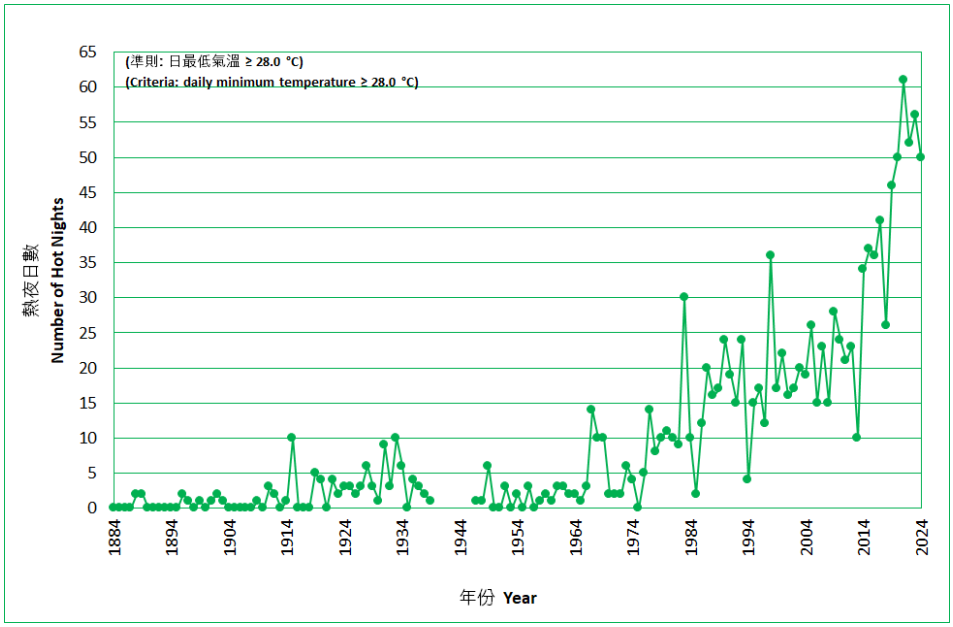


Fig. 5.2 Long-term time series of number of Hot Nights in Hong Kong (1884-2024)

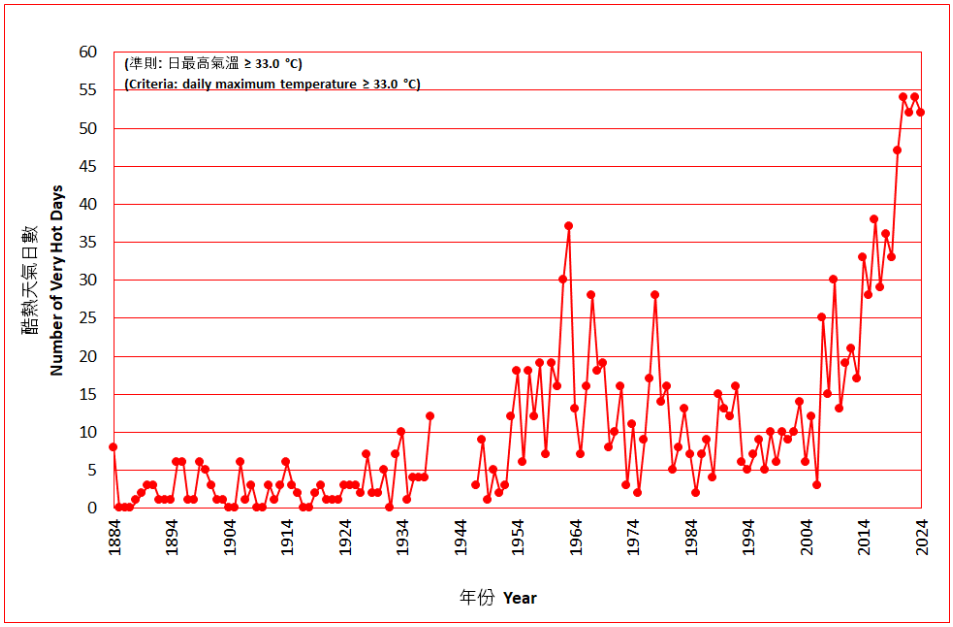


Fig. 5.3 Long-term time series of number of Very Hot Days in Hong Kong (1884-2024)

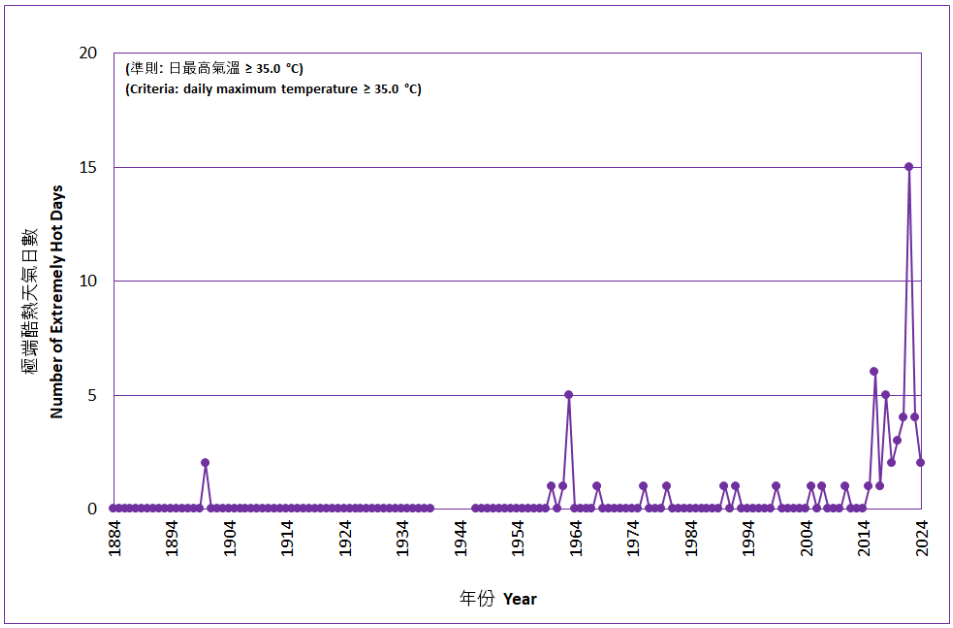


Fig. 5.4 Long-term time series of number of Extremely Hot Days in Hong Kong (1884-2024)

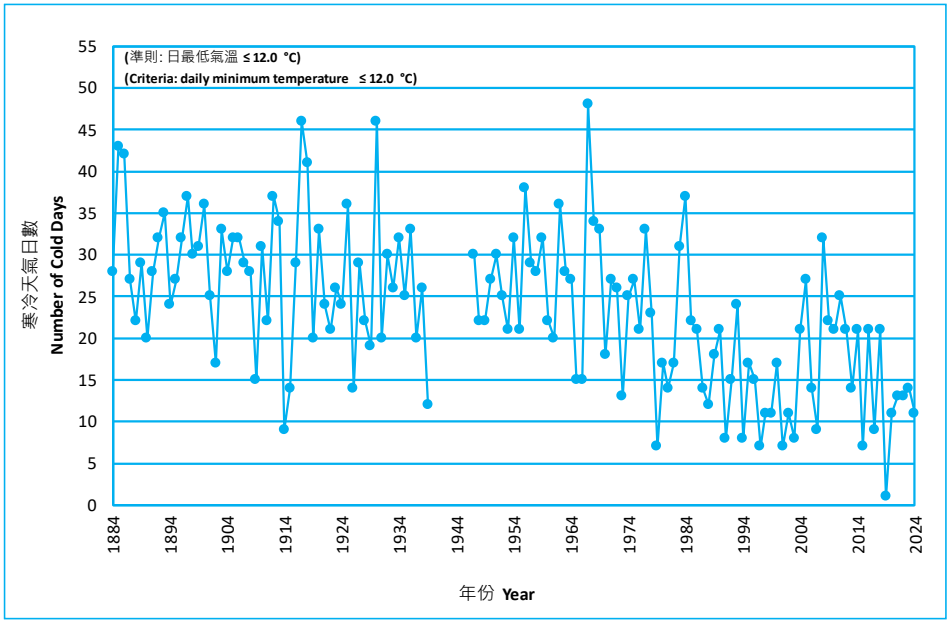


Fig. 5.5 Long-term time series of number of Cold Days in Hong Kong (1884-2024)

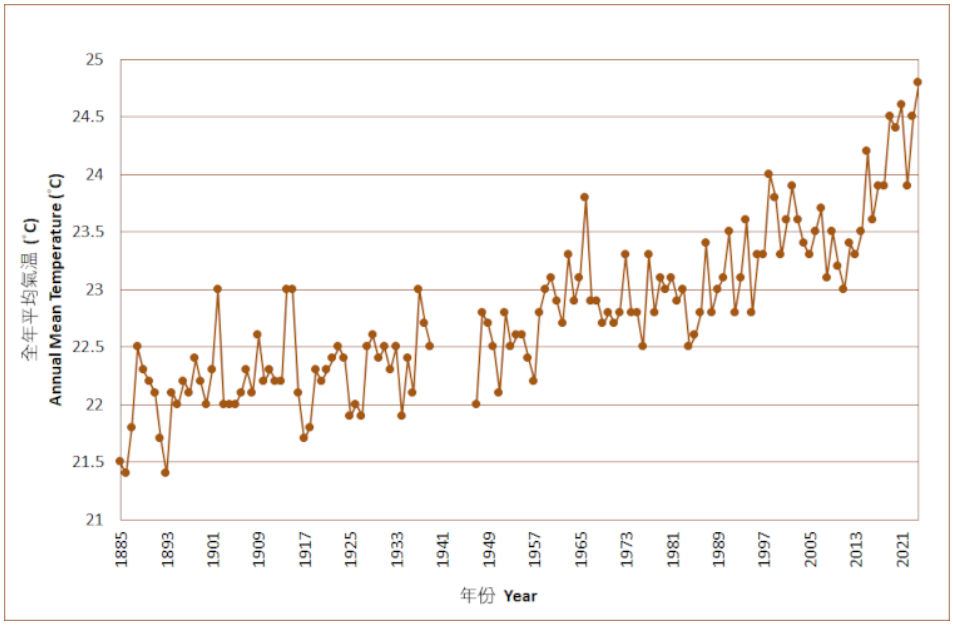


Fig. 5.6 Long-term time series of annual mean temperature in Hong Kong (1885-2024)

The annual total rainfall in 2024 was 2,309.7 millimetres, about 5 percent below the 1991-2020 normal of 2,431.2 millimetres. Four red rainstorm warnings were issued by the Observatory in the year. The number of days with thunderstorms reported in Hong Kong was 54 days in 2024, about 12 days more than the 1991-2020 normal.

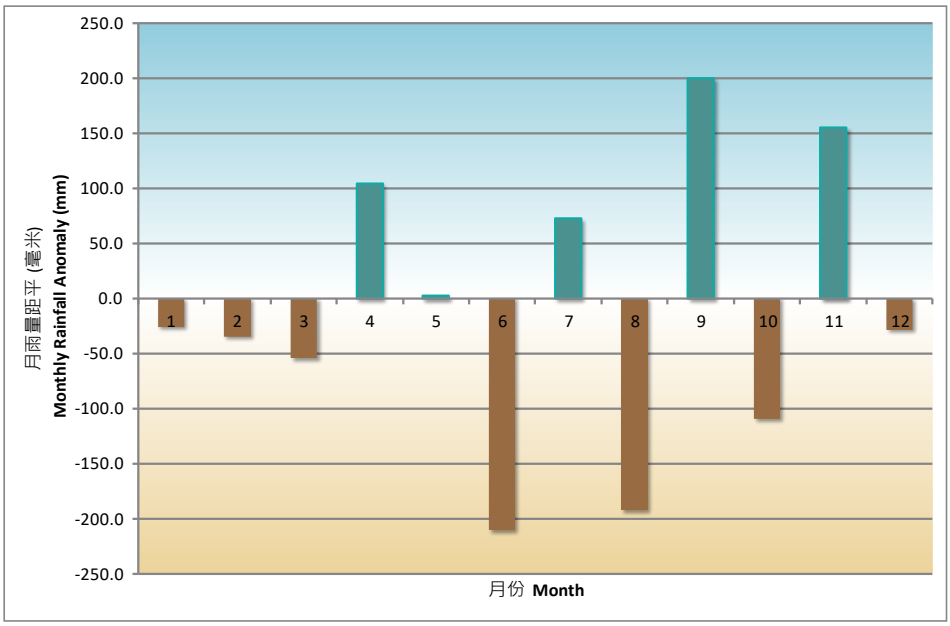


Fig. 5.7 Monthly rainfall anomalies (against the 1991-2020 normal) in Hong Kong in 2024

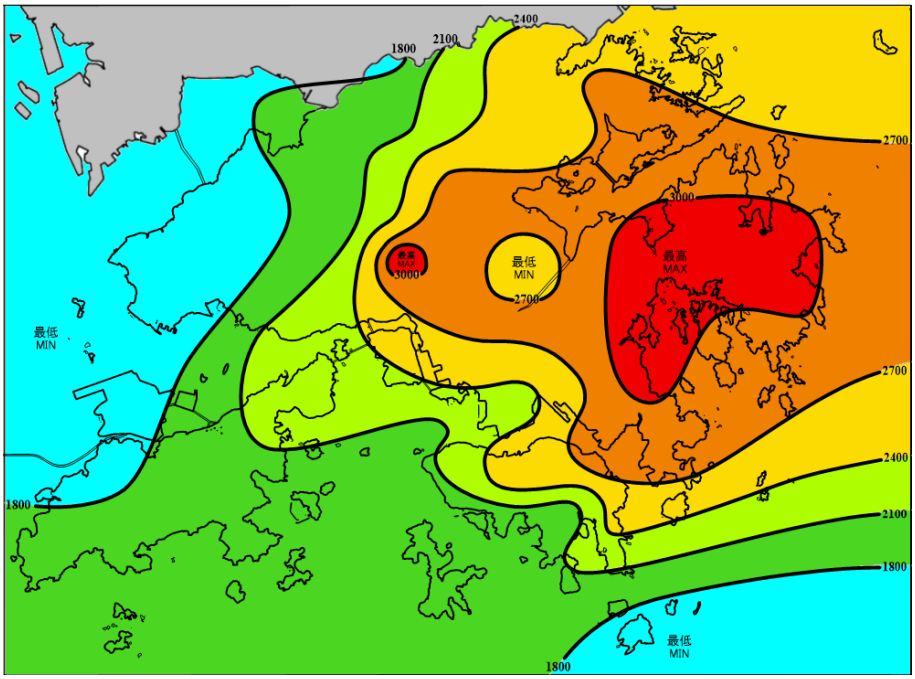


Fig. 5.8 Annual rainfall distribution in Hong Kong in 2024 (in millimetres)

A total of 29 tropical cyclones occurred over the western North Pacific and the South China Sea in 2024, near the long-term (1961-2020) average of about 30. There were 13 tropical cyclones reaching typhoon intensity[7] or above during the year, slightly less than the long-term average of about 15, and eight of them reached super typhoon intensity (with maximum 10-minute wind speed of 185 km/h or above near the centre). In Hong Kong, seven tropical cyclones necessitated the issuance of tropical cyclone warning signals, slightly more than the long-term average of about six in a year. The No. 8 Gale or Storm Signals No. 8 were issued during the

passage of Yagi in September and Toraji in November.

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 2024 are highlighted below:

Record-breaking high temperature events

There were a number of record-breaking high temperature events in 2024:

- The maximum temperature recorded at the Observatory reached 31.5 degrees on 24 March, the highest absolute maximum temperature on record for March.

- Mainly attributing to the warmer than normal sea surface temperature and stronger than usual southerly flow in the lower atmosphere over the northern part of the South China Sea, Hong Kong experienced the warmest April on record. The monthly mean maximum temperature of 28.9 degrees, monthly mean temperature of 26.4 degrees and monthly mean minimum temperature of 24.5 degrees were 3.3 degrees, 3.4 degrees and 3.4 degrees above their corresponding normals and all of them were the highest on record for April.

- It was the warmest first half year on record in Hong Kong. The mean minimum temperature of 21.4 degrees, mean temperature of 23.3 degrees and mean maximum temperature of 25.8 degrees were respectively the highest, one of the highest and the second highest on record for the same period.

- There were 18 hot nights in August 2024, the highest on record for August.

- Mainly attributed to the weaker northeast monsoon over southern China, Hong Kong experienced the warmest October on record. The monthly mean maximum temperature of 30.3 degrees, monthly mean temperature of 27.3 degrees and monthly mean minimum temperature of 25.4 degrees were 2.2 degrees, 1.6 degrees and 1.5 degrees above their corresponding normals and all of them were the highest on record for October. Moreover, there were three very hot days in the month, one of the highest on record for October.

- Hong Kong experienced the warmest autumn on record from September to November 2024. The mean temperature of 26.5 degrees and mean minimum temperature of 24.5

degrees were both the highest on record for the same period. Moreover, the mean maximum temperature of 29.2 degrees was one of the highest on record for the same period.

Exceptionally severe rainstorm over the eastern part of the territory on 4 May

The upper-air disturbances associated with the southern branch of a westerly trough affected southern China on 4 May 2024. Coupled with significant low-level convergence and upper-level divergence, persistent thundery showers affected the vicinity of the Pearl River Estuary on that day, and there were also heavy showers and severe squally thunderstorms in Hong Kong. More than 100 millimetres of rainfall were recorded over many places and rainfall even exceeded 400 millimetres over parts of Tseung Kwan O. There was exceptionally severe rainstorm over some areas in the eastern part of the territory in the morning with an hourly rainfall of 145.5 millimetres recorded at Tseung Kwan O. The heavy rain also necessitated the issuance of the first Red Rainstorm Warning of the year. Besides, violent gusts of about 110 kilometres per hour were once recorded at Cheung Chau Beach on that afternoon. According to preliminary reports, there were 16 reports of flooding including 12 cases in Sai Kung and Tseung Kwan O and 15 reports of landslides in Sai Kung area.

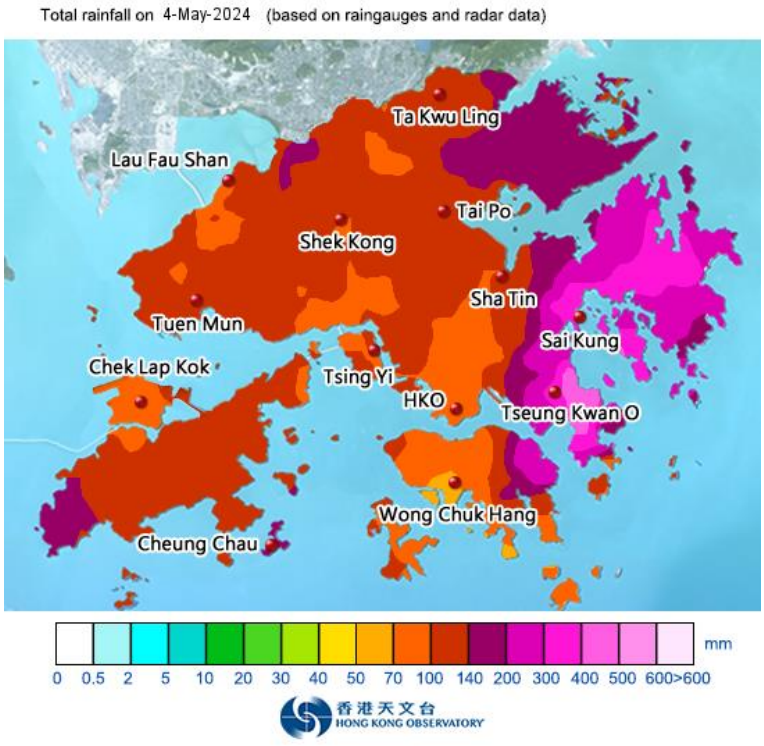


Fig. 5.9 Rainfall distribution map on 4 May 2024

Fig. 5.10 Flooding in Tseung Kwan O during the rainstorm on 4 May 2024 (Courtesy of Hang Hau Rural Committee)

Fig. 5.11 Landslide on Clear Water Bay Road during the rainstorm on 4 May 2024 (Courtesy of Hang Hau Rural Committee)

The passage of Super Typhoon Yagi on 5 – 6 September

After a quiet period of tropical cyclone activities over the South China Sea in August 2024, tropical cyclone Yagi entered the northern part of the South China Sea on 3 September. While moving across the northern part of the South China Sea, Yagi rapidly intensified from a severe tropical storm to a super typhoon in just 24 hours. Yagi attained its peak intensity with an estimated maximum sustained wind of 230 kilometres per hour near its centre on 6 September,

making it the second strongest tropical cyclone in the South China Sea since the Observatory's records began in 1950, second only to Super Typhoon Rammasun in 2014 and on par with Super Typhoon Saola in 2023.

With the approach of Yagi, the weather of Hong Kong deteriorated later on 5 September and the Observatory issued the first No. 8 Gale or Storm Signal in the year. Strong to gale force winds generally affected the territory with occasional storm force winds on high ground later on 5 September and at first on 6 September. The outer rainbands of Yagi brought heavy showers, violent gusts and thunderstorms to Hong Kong on the night of 5 September and the next two days. Violent gusts of around 139 kilometres per hour were once recorded at Central Pier on the night of 5 September, second only to the records made during the passage of Super Typhoon Mangkhut in 2018 and that of Super Typhoon Saola in 2023. More than 100 millimetres of rainfall were recorded over most parts of Hong Kong on 5 – 7 September and rainfall even exceeded 200 millimetres over the northeastern part of the New Territories.

Waterspout occurring over Victoria Harbour for the first time

Affected by an upper-air disturbance, the weather of Hong Kong was unsettled on 28 September 2024. With sunshine in the morning, temperature rise increased atmospheric instability and favoured the development of severe convective weather. While westerly winds prevailed over Victoria Harbour at first, an easterly airstream set in from east to west gradually during the day, resulting in localized horizontal wind shear. Finally, a waterspout briefly appeared over the sea area off Hung Hom before 12:30 p.m., the first occurrence over Victoria Harbour according to reports received by the Observatory since 1959.

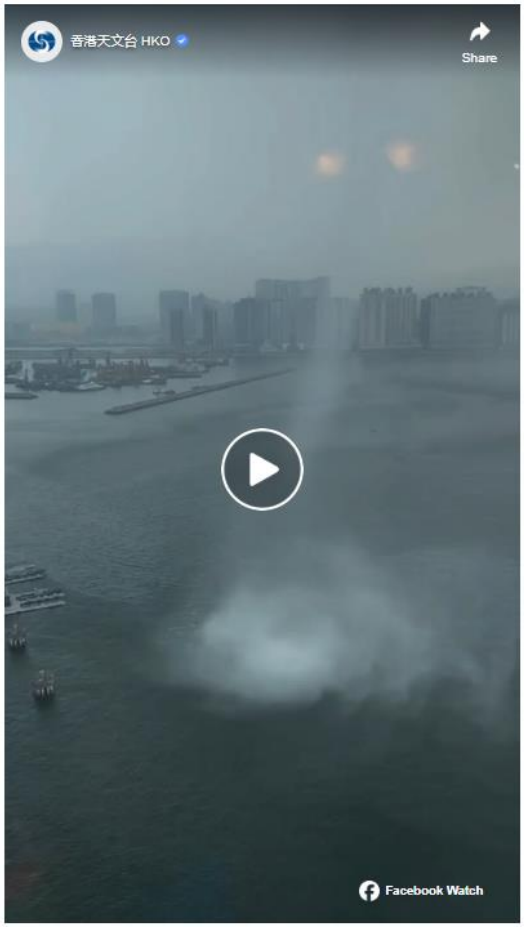

香港天文台 HKO
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Fig. 5.12(a) and (b) Waterspout inside Victoria Harbour on 28 September 2024
(Courtesy of Kathie Wong (a) and
the Government Flying Service (b))

November with three tropical cyclone episodes

November 2024 was characterized by the successive strikes of tropical cyclones Yinxing, Toraji and Man-yi at the end of the typhoon season of Hong Kong, necessitating the issuance of tropical cyclone warning signals for these three episodes, the first time in November since 1946.

Super Typhoon Yinxing first affected Hong Kong on 8 – 10 November and brought strong winds to many places of the territory. After the cancellation of all tropical cyclone warning signals of Yinxing, the Observatory issued No. 1 Standby Signal just 31 hours later with the approach of Typhoon Toraji. As Toraji was expected to come rather close to Hong Kong with its associated gale force winds posing a threat to the territory, the Observatory issued the No. 8 Gale or Storm Signal on the night of 13 November, the latest issuance of No. 8 Gale or Storm Signal in a year since 1946. Strong to gale force northeasterly winds affected most parts of the territory at first on 14 November. The outer rainbands of Toraji also brought squally showers to Hong Kong on that day.

Super Typhoon Man-yi, the third tropical cyclone that affected Hong Kong in November 2024, tracked across the northern part of the South China Sea on 18 – 19 November. Under the combined effects of a spring tide, northeast monsoon and Man-yi, water levels in Hong Kong were particularly high on the night of 18 November. The water levels of Quarry Bay, Tai O and Tai Po Kau reached 3.36, 3.36 and 3.52 metres above the Chart Datum respectively and they were all the highest on record for November. Minor flooding occurred in some low-lying areas including the banks of Shing Mun River, Lei Yue Mun, Tai O and Sha Tau Kok.

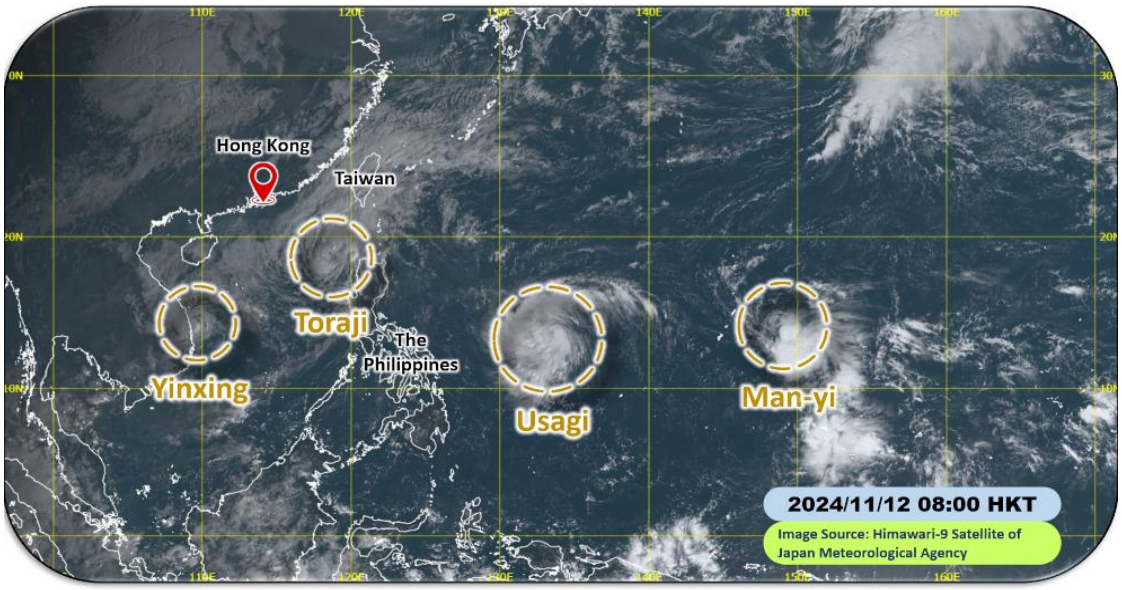

Fig. 5.13 Satellite image at 8 a.m. (Hong Kong Time) on 12 November 2024, showing that four tropical cyclones occurred concurrently over the western North Pacific and the South China Sea, the first time in November since 1961

Fig. 5.14 Minor flooding over the cycle tracks near Shing Mun River on the night of 18 November 2024
(Courtesy of 岳人 Geo Trekker)

Fig. 5.15 Minor flooding in Tai O on the night of 18 November 2024 (Courtesy of Islands District Office)

Notes:

[1] The World Meteorological Organization confirmed that 2024 was the warmest year on record, with the annual average global temperature 1.55 degrees above pre-industrial levels, marking it the first year to exceed the 1.5 degrees level. Although an individual year surpassing the 1.5 degrees level does not mean that the long-term temperature goals of the Paris Agreement are not achievable, it indicates the urgent need for a significant reduction in global carbon emissions to avoid the further worsening of climate change impacts.

[2] 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.

[3] "Very Hot Day" refers to the condition with the daily maximum temperature equal to or higher than 33.0 degrees.

[4] "Hot Night" refers to the condition with the daily minimum temperature equal to or higher than 28.0 degrees.

[5] "Extremely Hot Day" refers to the condition with the daily maximum temperature equal to or higher than 35.0 degrees.

[6] "Cold Day" refers to the condition with the daily minimum temperature equal to or lower than 12.0 degrees.

[7] Information on the classification of Tropical Cyclones is available at: https://www.weather.gov.hk/en/informtc/class.htm

Table 5.1 Summary of record-breaking high temperature events in 2024

Record-breaking Events (since records began in 1884)	Date / Period	New Record
1. Highest Seasonal Absolute Maximum Temperature for Winter (on par with 1953/54 winter)	December 2023 to February 2024	28.7°C
2. Highest Maximum Temperature for March	24 March 2024	31.5°C
3. Highest Daily Mean Temperature for March	31 March 2024	27.1°C
4. Highest Daily Minimum Temperature for March	31 March 2024	26.0°C
5. Highest Daily Mean Temperature for Ching Ming Festival	4 April 2024	27.2°C
6. Highest Daily Minimum Temperature for Ching Ming Festival	4 April 2024	26.5°C
7. Highest Daily Mean Temperature for April	27 April 2024	28.8°C
8. Highest Daily Minimum Temperature for April	27 April 2024	27.7°C
9. Highest Monthly Absolute Minimum Temperature for April	April 2024	21.5°C
10. Highest Monthly Mean Maximum Temperature for April	April 2024	28.9°C
11. Highest Monthly Mean Temperature for April	April 2024	26.4°C
12. Highest Monthly Mean Minimum Temperature for April	April 2024	24.5°C
13. Highest Daily Maximum Temperature for Summer Solstice (on par with 21 June 1980)	21 June 2024	34.0°C
14. Highest Daily Mean Temperature for Summer Solstice (on par with 21 June 2019)	21 June 2024	30.8°C
15. Highest Daily Minimum Temperature for June (on par with 21 June 2019, 29 June 2019 and 19 June 2021)	22 June 2024	29.5°C
16. Highest Number of Consecutive Very Hot Days for June (on par with 19 – 27 June 2016)	20 – 28 June 2024	9 Days
17. Highest Mean Temperature for the First Half of the Year (on par with the first half of 2021)	January to June 2024	23.3°C
18. Highest Mean Minimum Temperature for the First Half of the Year	January to June 2024	21.4°C
19. Highest Daily Mean Temperature for Moderate Heat	6 July 2024	30.8°C
20. Highest Daily Minimum Temperature for Moderate Heat	6 July 2024	29.2°C
21. Highest Daily Maximum Temperature for Moderate Heat (on par with 7 July 2016)	6 July 2024	34.0°C

22. Highest Number of Hot Nights for August	August 2024	18 Days
23. Highest Daily Maximum Temperature for Mid-Autumn Festival	17 September 2024	35.7°C
24. Highest Daily Maximum Temperature for National Day (on par with 1 October 1890)	1 October 2024	34.2°C
25. Highest Daily Mean Temperature for October	1 October 2024	30.9°C
26. Latest Very Hot Day in a Year	19 October 2024	19 October
27. Highest Number of Very Hot Days for October (on par with October 2023)	October 2024	3 Days
28. Highest Monthly Mean Maximum Temperature for October	October 2024	30.3°C
29. Highest Monthly Mean Temperature for October	October 2024	27.3°C
30. Highest Monthly Mean Minimum Temperature for October	October 2024	25.4°C
31. Highest Seasonal Mean Maximum Temperature for Autumn (on par with September to November 2022)	September to November 2024	29.2°C
32. Highest Seasonal Mean Temperature for Autumn	September to November 2024	26.5°C
33. Highest Seasonal Mean Minimum Temperature for Autumn	September to November 2024	24.5°C
34. Highest Annual Mean Temperature	2024	24.8°C
35. Highest Annual Mean Minimum Temperature	2024	22.8°C

Table 5.2(a) Summary of meteorological observations in Hong Kong, 2024

Month	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)
		Mean Daily Maximum (deg. C)	Mean (deg. C)	Mean Daily Minimum (deg. C)				
January	1021.4	20.5	17.9	15.9	12.5	72	62	6.7
February	1019.4	21.9	19.4	17.6	15.7	80	75	4.1
March	1016.5	23.9	21.1	19.1	16.9	78	77	21.6
April	1010.2	28.9	26.4	24.5	23.1	82	81	257.1
May	1010.2	28.3	26.0	24.5	22.5	82	83	292.6
June	1007.5	31.0	28.8	26.8	25.5	83	86	281.3
July	1006.0	32.4	29.9	28.0	26.2	81	78	458.5
August	1006.5	32.3	29.6	27.7	25.9	81	74	261.5
September	1006.1	32.0	29.2	26.8	25.2	80	74	520.9
October	1012.2	30.3	27.3	25.4	20.0	65	69	11.3
November	1016.4	25.3	23.0	21.3	16.8	70	71	194.1
December	1020.0	20.8	18.5	16.5	10.3	60	54	Trace
Mean/Total	1012.7	27.3	24.8	22.8	20.1	76	74	2309.7
Normal (1991-2020)	1012.9	26.0	23.5	21.6	19.3	78	68	2431.2
Station	Hong Kong Observatory							

Trace means rainfall less than 0.05 mm

Table 5.2(b) Summary of meteorological observations in Hong Kong, 2024

Month	Number of Hours of Reduced Visibility# (hours)		Total Bright Sunshine (hours)	Mean Daily Global Solar Radiation (MJ/m^2)	Total Evaporation (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
January	71	52	169.8	12.42	74.4	060	23.3
February	53	5	107.4	11.19	63.8	060	18.1
March	66	25	122.8	12.39	73.1	070	21.1
April	40	3	87.5	10.27	66.4	160	18.1
May	13	10	97.6	12.48	84.4	070	22.6
June	12	0	116.3	14.14	80.3	210	21.4
July	0	0	178.3	17.00	113.6	090	18.5
August	2	0	197.3	17.51	123.6	240	15.7
September	15	0	190.5	15.80	100.3	080	17.2
October	0	3	209.1	15.91	139.3	080	26.6
November	1	0	138.0	11.36	80.7	360	26.8
December	13	8	199.5	13.39	96.6	360	23.7
Mean/Total	286	106	1814.1	13.66	1096.5	070	21.1
Normal (1991-2020)	825.8	1006.4§	1829.3	13.23	1204.1	070	22.9
Station	Hong Kong Observatory	Hong Kong International Airport	King's Park			Waglan Island	

Visibility below 8 km when there is no fog, mist, or precipitation

§ 1997-2023 Mean value

Table 5.2(c) Summary of meteorological observations in Hong Kong, 2024

Month	Number of Extremely Hot Days	Number of Very Hot Days	Number of Hot Nights	Number of Cold Days	Number of Days with Thunderstorms
January	-	-	-	5	-
February	-	-	-	3	-
March	-	-	-	2	-
April	-	-	-	-	10
May	-	-	-	-	7
June	-	9	10	-	9
July	-	14	16	-	11
August	1	15	18	-	9
September	1	11	6	-	8
October	-	3	-	-	-
November	-	-	-	-	-
December	-	-	-	1	-
Total	2	52	50	11	54
Normal (1991-2020)	0.8	17.5	23.6	15.2	42.3
Station	Hong Kong Observatory				