Speech by Dr CHAN Pak-wai, Director of the Hong Kong Observatory

18 March 2025

Very happy to meet all of you at this annual press briefing. Before reporting on the latest services in the Hong Kong Observatory, let me first introduce my Assistant Directors. They are:

(1) Mr LEE Lap-shun, Assistant Director responsible for radiation monitoring and instruments,

(2) Ms SONG Man-kuen, Assistant Director responsible for climate and geophysical services,

(3) Mr CHAN Sai-tick, Assistant Director responsible for aviation weather services, and

(4) Mr Cheng Yuen-chung, Assistant Director responsible for public weather services.

23 March is the World Meteorological Day, with the theme “Closing the Early Warning Gap Together” this year, echoing the United Nations’ “Early Warnings for All” initiative. It is hoped that everyone can be protected by early warning systems and beware of any upcoming extreme weather, thus minimising the impact brought by the increasingly severe natural disasters such as floods, heatwaves, and storms.

According to the assessment of the World Meteorological Organization, 2024 was the warmest year on record globally[1]. The past ten years (2015 to 2024) were also the ten warmest years on record globally. Locally, with a total of 11 months

[1] The annual average global temperature in 2024 was 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.

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. 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 on record.

Looking ahead to 2025, the sea surface temperatures over the central and eastern equatorial Pacific are expected to increase gradually in the next few months and return to near normal[2] in the coming summer. In Hong Kong, taking into consideration a number of factors including the developments of El Niño/La Niña, climate model predictions and objective guidance, the tropical cyclone season in Hong Kong is expected to start in June or earlier and cease in October or later this year. There will likely be about five to eight tropical cyclones coming within 500 kilometres of Hong Kong during the year, which is normal to above normal. As the climate warming continues, the annual mean temperature in Hong Kong is expected to be above normal this year. The annual rainfall in Hong Kong is expected to be near normal, ranging from 2100 millimetres to 2700 millimetres. However, Hong Kong would still be affected by rainstorms and localised heavy rain. Members of the public are reminded to be prepared for the rain and tropical cyclone seasons.

Now, let me introduce the continual enhancement of the Observatory's various services. With the rainy season approaching, the radar and satellite imagery services on the Observatory's website and "MyObservatory" mobile application will be enhanced. The update frequency of radar images covering 128 km and 256 km ranges will be increased from the current 12 minutes to every 6 minutes. In addition to the

[2] Normal : Sea temperature anomaly with the range of +/- 0.5°C

current rainfall rate imagery at 3 km above sea level for the 64 km range, a new imagery at 2 km height will be added, allowing the public to better grasp the rainfall situation in the lower atmosphere. Furthermore, the update frequency of the Fengyun-4B satellite images covering western Asia will be increased from hourly to every 15 minutes. “All-day Visible” satellite imagery and aerosol optical depth imagery from Korea's GK-2B satellite will also be introduced to enhance the monitoring of weather and visibility conditions over southern China and the northern part of the South China Sea.

To strengthen dissemination of weather information to enable the public to prepare for weather changes in advance, the HKO will add graphical rainfall information for various districts in Hong Kong and will, on a trial basis, use video in which forecasters will explain future weather changes on camera this year. The graphical rainfall information will be launched on the “MyObservatory” mobile application and website in the next couple of months, while videos of forecasters explaining future weather changes will be provided in some of the Weather Notes articles published in the second half of this year.

Moreover, weather information for the Guangdong-Hong Kong-Macao Greater Bay Area was launched at the end of last year on the “MyObservatory” mobile application to assist citizens with traveling in the area to obtain the latest official weather information. Meanwhile, the "Dr. Tin" chatbot also supports a voice function on the “MyObservatory” mobile application. Members of the public may update to the latest version to enjoy the new features.

With the rapid development of AI, the HKO added the forecasting products of two AI-powered models as well as upper-air forecast charts on the “Earth Weather”

webpage last year. The HKO will continue to enhance the “Earth Weather” webpage this year with the addition of more computer model forecast products, including the forecasting of chances of thunderstorms, to enable the public to understand the weather changes more comprehensively.

23 March is the World Meteorological Day. You may see the venue set up for the Observatory’s open day, which take place on this Saturday (March 22) and this Sunday (March 23) with the theme of World Meteorological Day “Closing the Early Warning Gap Together”. The Open Day exhibitions will provide a brief overview of the long-standing collaboration between the Observatory and meteorological authorities around the world over the years. The HKO will also showcase how it applies the latest technology to provide various services, enhancing the public’s understanding and awareness of climate change and extreme weather. The public responded to this event enthusiastically and successful applicants are reminded to arrive at the Observatory headquarters at the registered slot with the electronic tickets. Do not feel disappointed if you cannot visit the Observatory in person. You are welcome to visit the virtual tour on the “Hong Kong Observatory Open Day 2025” webpage to be launched on this Saturday (March 22), to understand the Observatory’s work and services.

Let me pause here. If you have questions, my Assistant Directors and I will try our best to answer. Thank you!

香港天文台開放日2025
HONG KONG OBSERVATORY OPEN DAY

香港天文台
HONG KONG OBSERVATORY

攜手縮小預警差距

Closing the Early Warning Gap Together

2024年是全球有記錄以來最暖的一年。

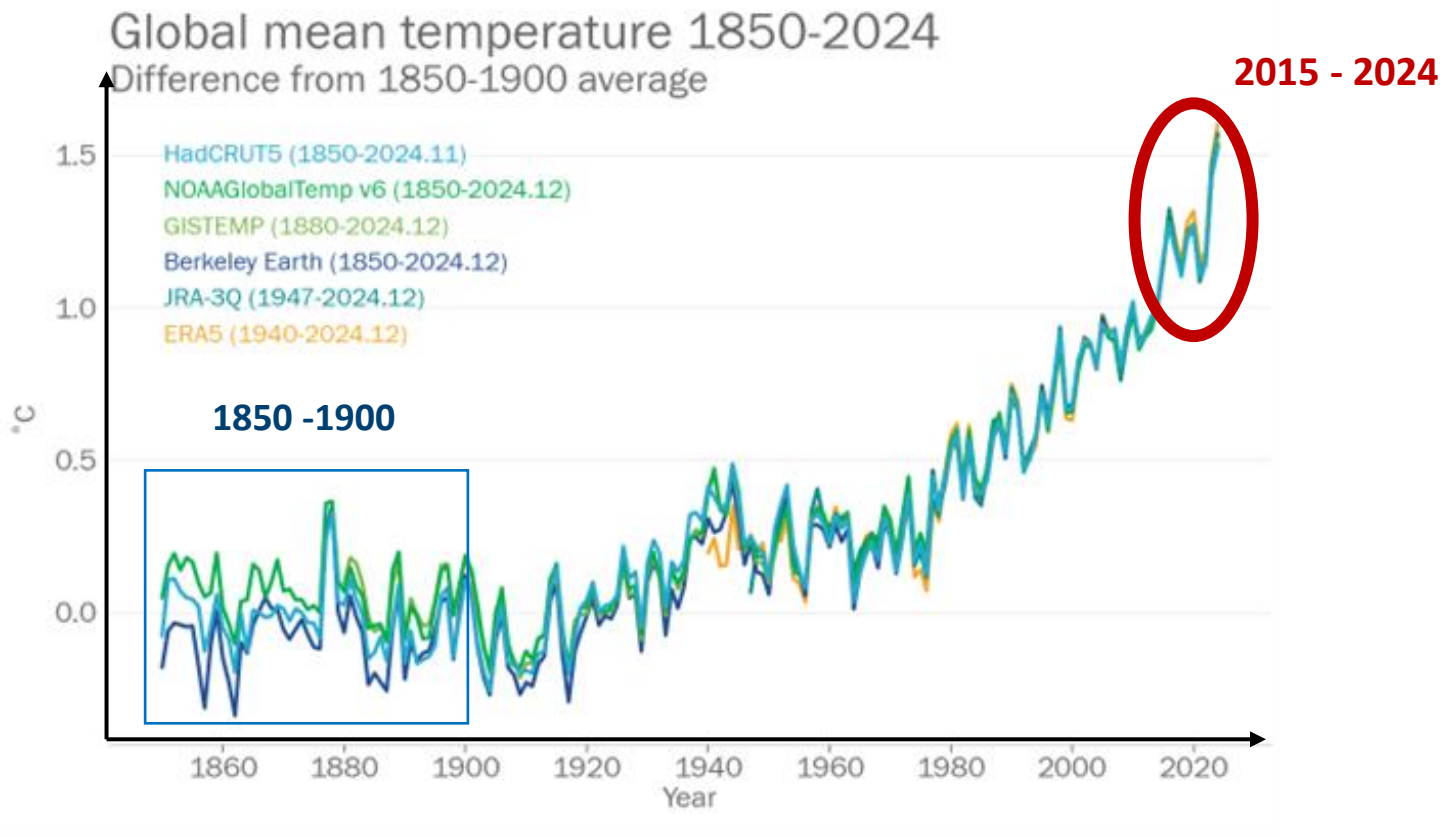
2024 was the warmest year on record globally.

過去十年（2015-2024）是全球有記錄以來最暖的十年

The past ten years (2015-2024) are the ten warmest years on record globally.

全球表面平均溫度相對於1850-1900年平均的變化

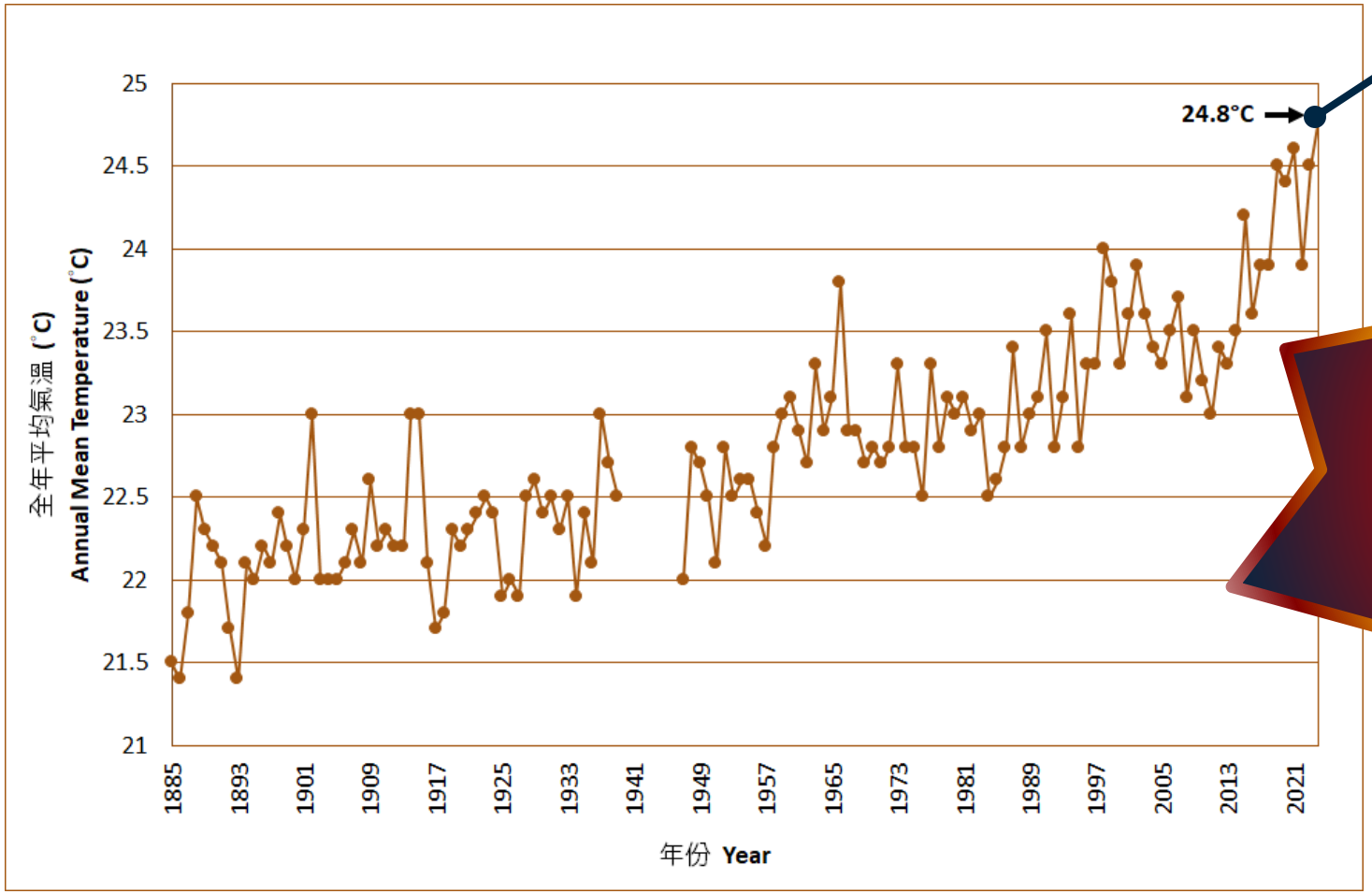
Global mean surface temperature change compared to 1850-1900 average



來源:世界氣象組織

Source: World Meteorological Organization

香港全年平均氣溫
ANNUAL MEAN TEMPERATURE IN HONG KONG (1885-2024)



2024: 24.8°C

較正常值高1.3度
1.3 degree above normal

2024年:
有記錄以來最暖的一年
2024: The warmest year on record

香港全年平均最低及最高氣溫
ANNUAL MEAN MINIMUM AND MAXIMUM TEMPERATURE IN HONG KONG

排名 Ranking	年份 Year	最高年平均最低氣溫 (°C) Highest Annual Mean Minimum Temperature (°C)
1	**2024**	**22.8**
2	2019	22.6
2	2021	22.6
2	2023	22.6
5	2020	22.5

排名 Ranking	年份 Year	最高年平均最高氣溫 (°C) Highest Annual Mean Maximum Temperature (°C)
1	2021	27.5
2	**2024**	**27.3**
3	2020	27.2
3	2023	27.2
5	2019	27.1

*自1884年有記錄以來香港天文台總部紀錄 Recorded at HKO Headquarters since records began in 1884

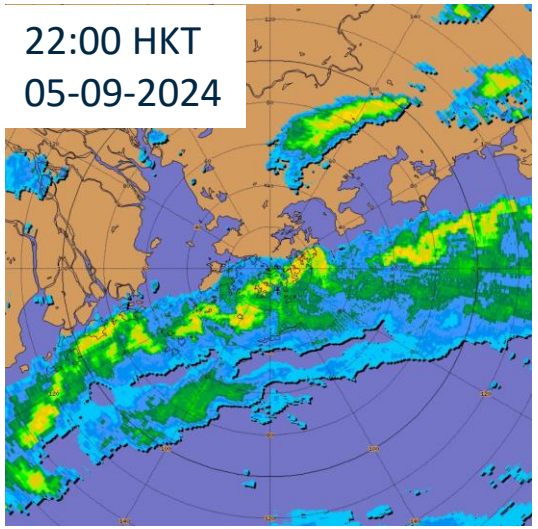
2025年全年展望
ANNUAL OUTLOOK FOR 2025

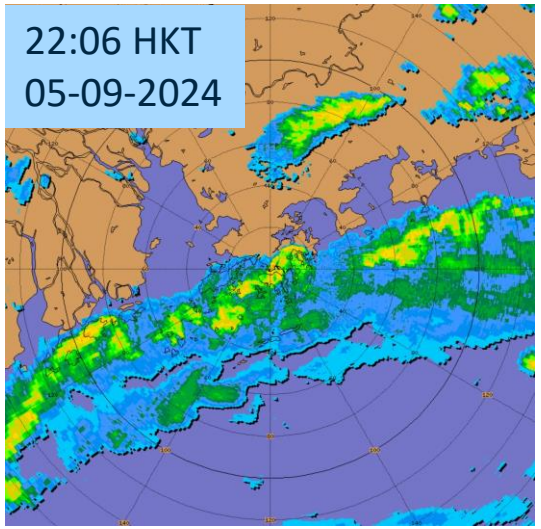
風季開始 Onset of tropical cyclone season	6月或之前 June or earlier
風季結束 End of tropical cyclone season	10月或之後 October or later
進入香港500公里範圍內的熱帶氣旋數目 Number of tropical cyclones entering 500 km of Hong Kong	正常至偏多 5至8個 Normal to above normal 5 to 8

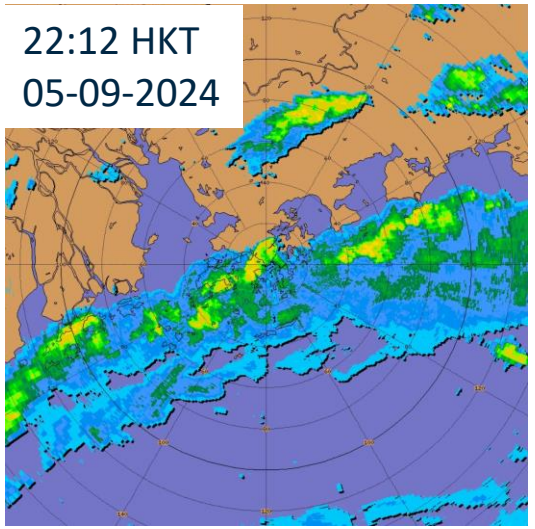
2025年全年展望
ANNUAL OUTLOOK FOR 2025

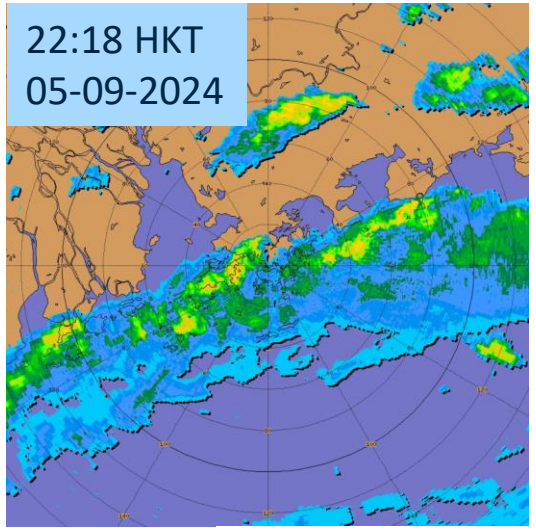
全年平均氣溫 **Annual mean temperature** 	較正常高 Above normal
全年總雨量 **Annual rainfall** 	接近正常 介乎2100至2700毫米 Near normal between 2100 and 2700 mm

加強雷達及衛星圖像服務
ENHANCED RADAR AND SATELLITE IMAGERY SERVICE



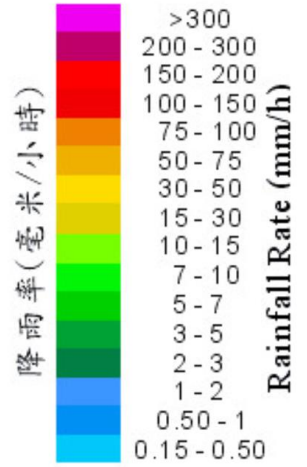






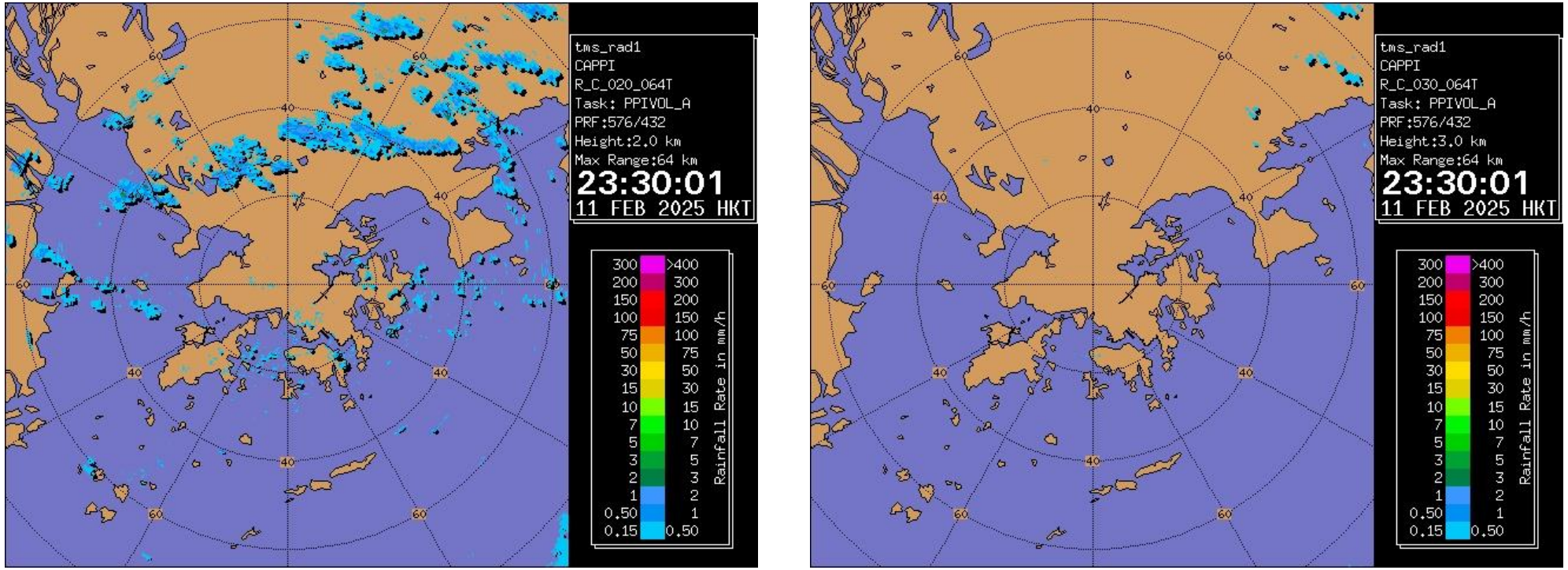
128 及 256 公里範圍的雷達圖像更新頻率會由現時每 12 分鐘加密至每 6 分鐘一次

Update frequency of radar images covering 128 km and 256 km ranges will be increased from 12 minutes to every 6 minutes



香港天文台
HONG KONG OBSERVATORY

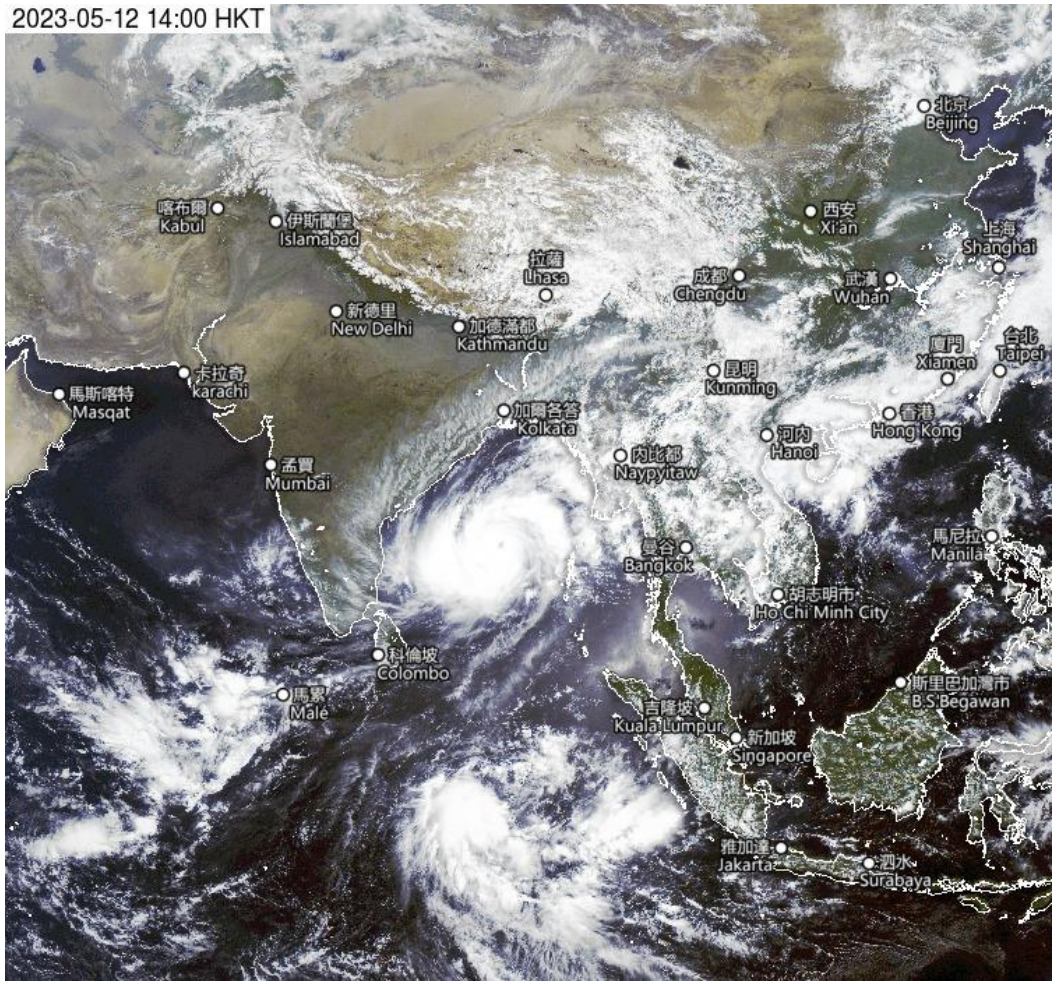
加強雷達及衛星圖像服務
ENHANCED RADAR AND SATELLITE IMAGERY SERVICE



2025年2月11日晚上的天氣雷達圖像，當中離海平面2公里高的圖像（左圖）比3公里的圖像（右圖）顯示更多雷達回波，更清楚地反映大氣低層的雨區發展情況

Weather radar images on the evening of 11 February 2025. Image at 2 km above sea level (left) displays more radar echoes compared to the 3 km image (right), providing clearer representation of rain area development in the lower atmosphere

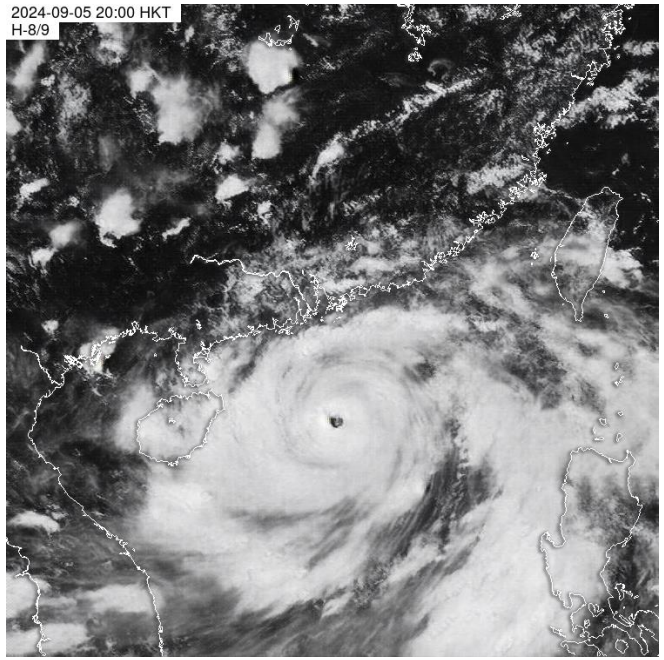
加強雷達及衛星圖像服務
ENHANCED RADAR AND SATELLITE IMAGERY SERVICE



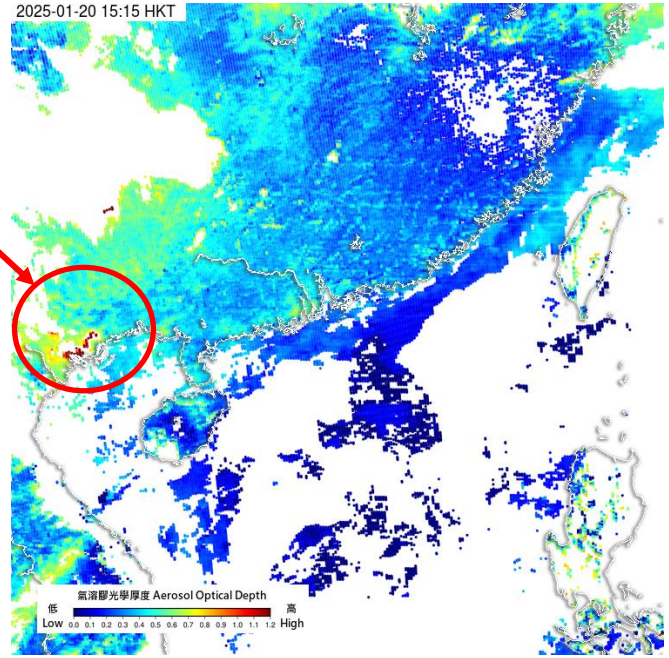
覆蓋亞洲西部的風雲-4B衛星圖像更新頻率會由現時每小時加密至每15分鐘更新一次

Update frequency of Fengyun-4B satellite images covering Western Asia will be increased from hourly to every 15 minutes

加強雷達及衛星圖像服務
ENHANCED RADAR AND SATELLITE IMAGERY SERVICE



紅圈顯示氣溶膠光學厚度值偏高的區域
the red circle highlights those regions with high aerosol optical depth values.



利用深度學習模型生成「全日可見光」圖像，以加強夜間天氣的監測。圖中顯示2024年9月5日晚上8時超強颱風摩羯的「全日可見光」圖像，傳統可見光衛星圖像在夜間是無法獲得的

Using deep learning model, “All-day Visible” images are generated to enhance weather monitoring particularly during nighttime. Figure shows the “All-day Visible” image during Super Typhoon Yagi at 8 p.m. on 5 September 2024, when conventional satellite visible image is not available at nighttime

新增韓國GK-2B衛星的氣溶膠光學厚度圖像可加強監測華南及南海北部的能見度

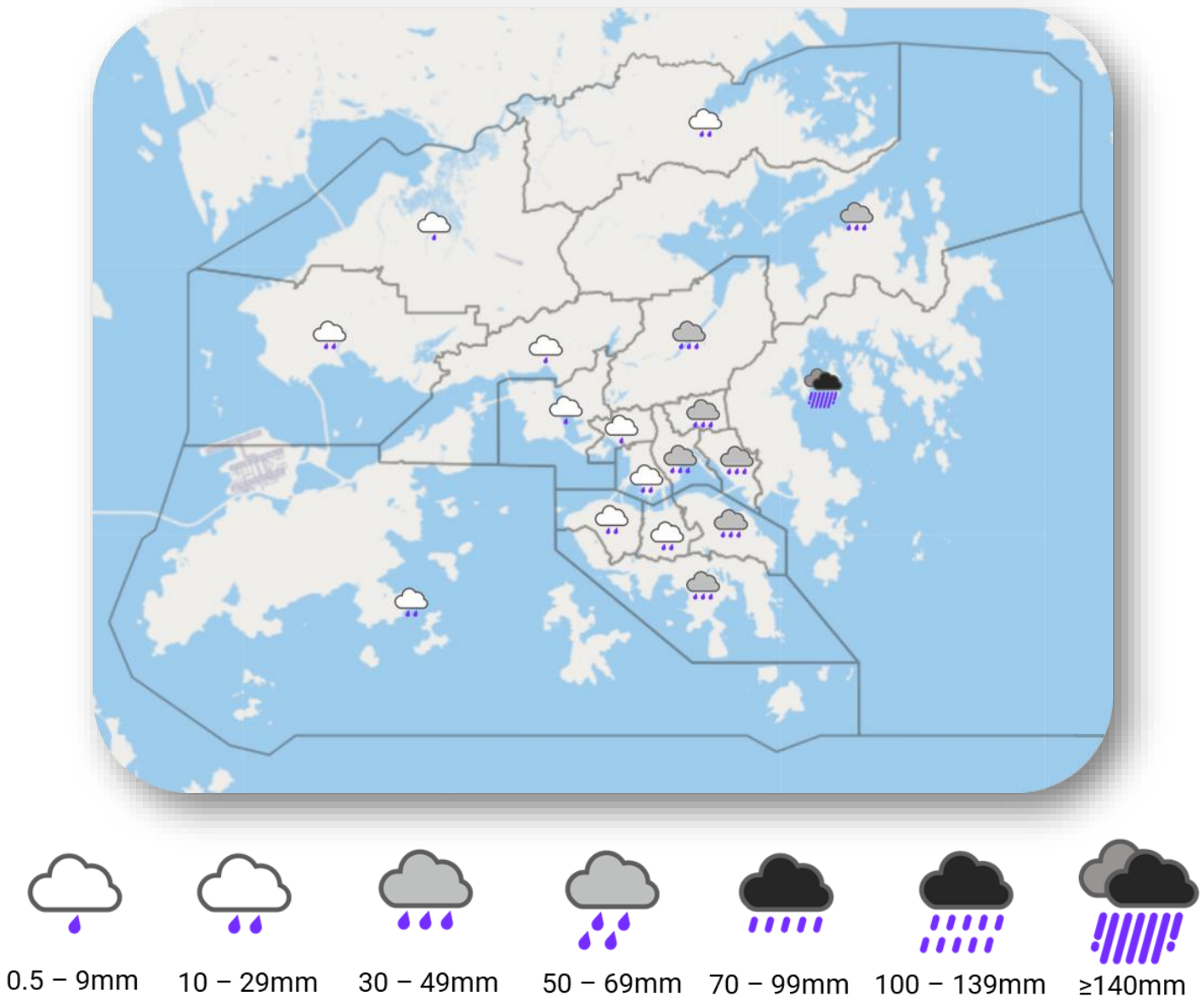
Addition of aerosol optical depth imagery from the Republic of Korea's GK-2B satellite can enhance monitoring of visibility over southern China and northern part of the South China Sea

加強雨量資訊發放
STRENGTHENING THE DISSEMINATION OF RAINFALL INFORMATION

天文台今年會在天文台網站和「我的天文台」，新增以圖像形式顯示本港各區雨量資訊，讓市民更易掌握受大雨所影響的地區。

The Observatory will add graphical rainfall information for various districts in Hong Kong on the HKO website and the “MyObservatory” to enable members of the public to better appreciate districts affected by heavy rain.

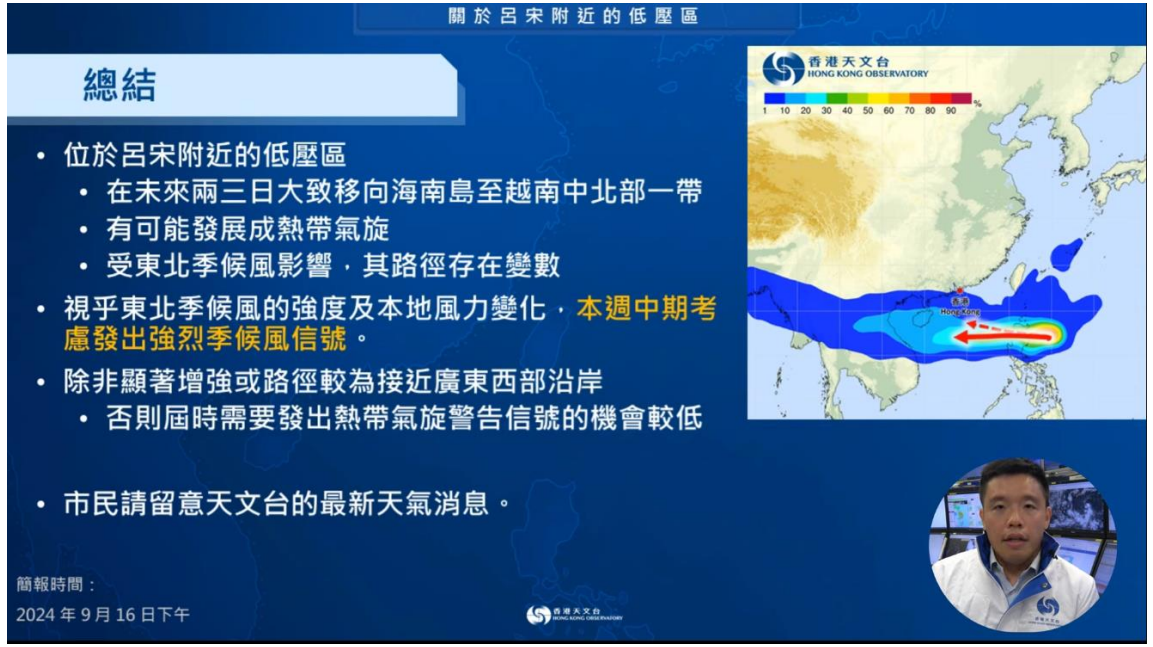
各區在2024年5月4日07:30-08:30錄得的最高雨量紀錄

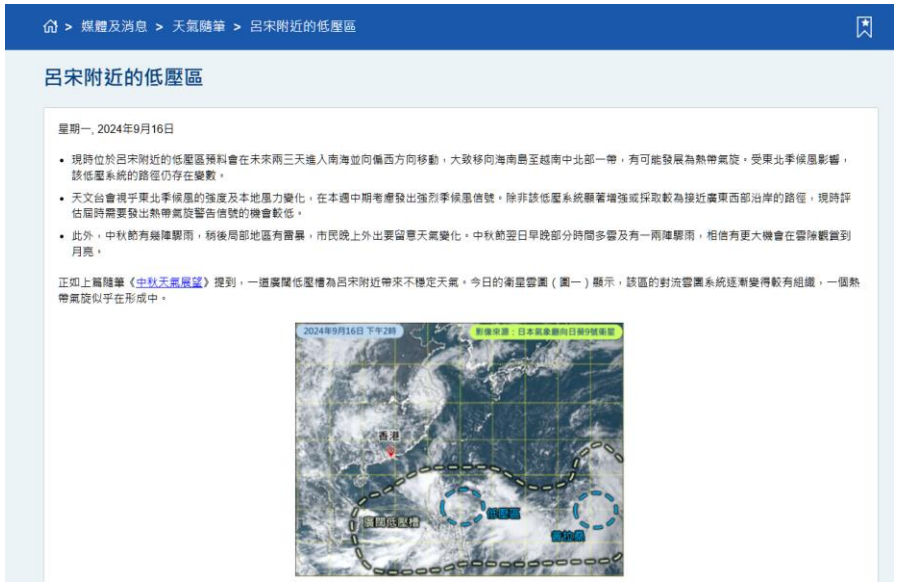


加強天氣資訊發放
STRENGTHENING THE DISSEMINATION OF WEATHER INFORMATION

天文台會試行預報員透過短片親自講解未來的天氣變化，預計在今年下半年於部分「天氣隨筆」文章內提供。

The Observatory will use video in which forecasters will explain future weather changes on camera on a trial basis later this year. It is expected to be provided in some Weather Notes articles published in the second half of this year.





「我的天文台」新增大灣區天氣資訊
ADDING WEATHER INFORMATION FOR THE GREATER BAY AREA ON “MYOBSERVATORY”

「我的天文台」已在去年底推出更新，加入大灣區的天氣資訊，方便穿梭該區的市民獲取最新官方天氣資訊。

The “MyObservatory” was launched with an update at the end of last year, adding weather information of the Greater Bay Area to facilitate citizens travelling around the Area to obtain the latest official weather information.

「度天隊長」支援語音功能
“DR TIN” SUPPORTS VOICE FUNCTION

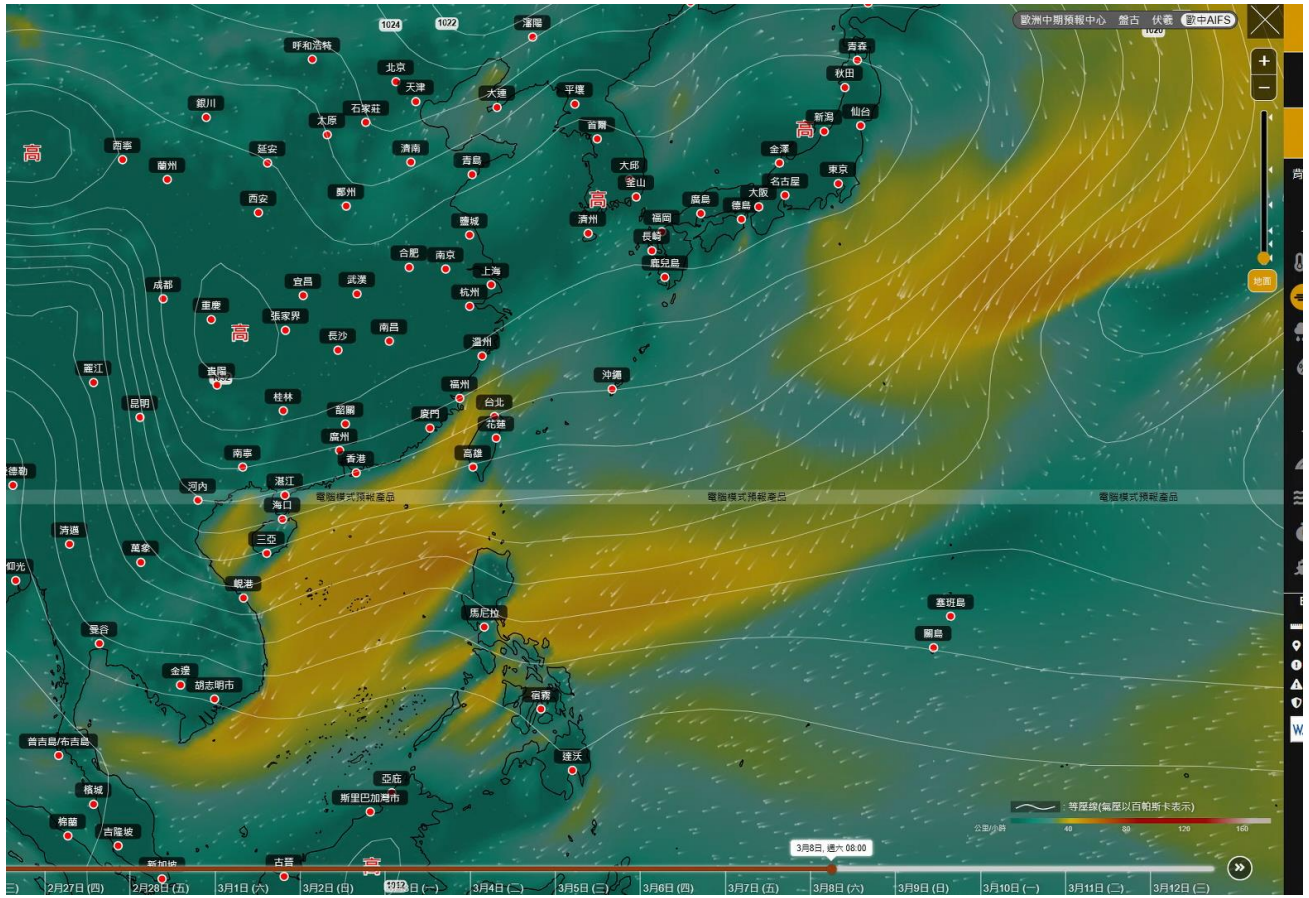
「度天隊長」聊天機械人在「我的天文台」支援語音功能。

“Dr. Tin” chatbot supports voice function on the “MyObservatory”.

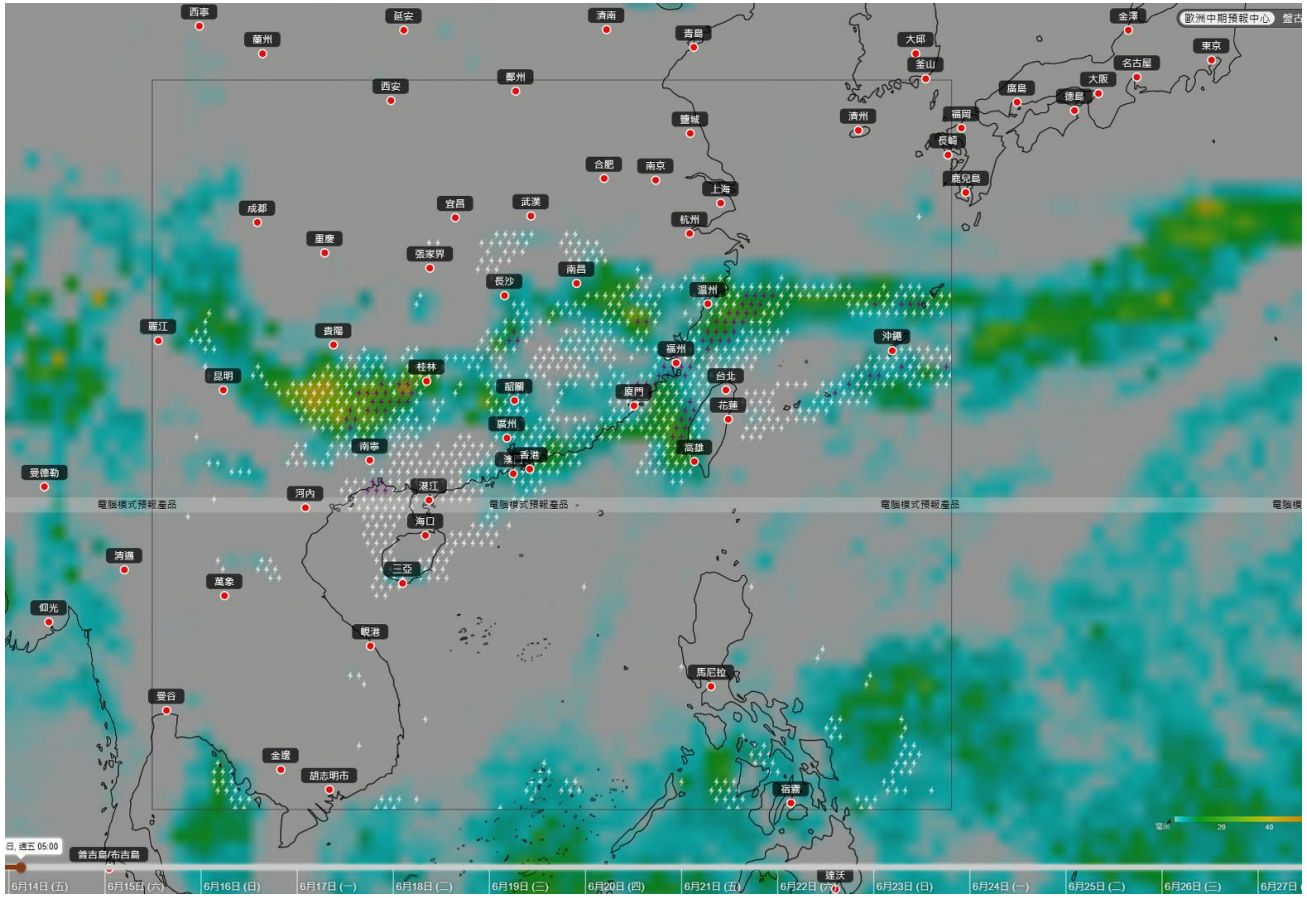
「地球天氣」— 人工智能模式預報
"EARTH WEATHER" - AI MODEL FORECAST

天文台於去年在「地球天氣」網頁加入兩個人工智能預報產品，並提供各電腦模式的高空預報圖。

The HKO added forecast products of two AI-powered models as well as upper-air forecast charts in the "Earth Weather" webpage last year.



「地球天氣」— 雷暴可能性預報
“EARTH WEATHER” - FORECASTS OF THUNDERSTORM POTENTIAL



天文台今年繼續加強「地球天氣」網頁，推出更多電腦模式預報產品，包括雷暴可能性的預報，方便市民更全面了解天氣形勢變化。

The HKO will continue to enhance the “Earth Weather” webpage this year with the addition of more computer model forecast products, including the forecast of chance of thunderstorms to facilitate the public to enable the public to understand the weather changes more comprehensively.

「香港天文台開放日2025」
"HONG KONG OBSERVATORY OPEN DAY 2025"

實體開放日 On-site Open Day

記得憑電子入場券，按預約時段抵達天文台總部

Remember to arrive the Observatory Headquarters at the registered slot with the electronic tickets

「香港天文台網上開放日2025」
Hong Kong Observatory Online Open Day 2025

3月22日推出
Launch on 22 Mar