

# WEATHER ON WINGS



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## Secretary for Commerce and Economic Development visited the Observatory

### Editorial Board

On 24 February, the Secretary for Commerce and Economic Development, Mrs Rita Lau, JP, accompanied by the Deputy Secretaries Mr Christopher Wong and Ms Annie Choi, and the Commissioner for Tourism Miss Margaret Fong, visited the Hong Kong Observatory, for the first time since she took up the new post in July 2008.

Mrs Lau and her entourage were taken to a tour by the former Director Mr Lam Chiu-ying to learn more about the Observatory's work in public and aviation weather services, radiation monitoring, climate, earthquake and time service. Mrs Lau also visited the Observatory's studio and demonstrated her talent as a TV weather presenter. Mrs Lau praised the achievements made by the Observatory and attributed them to the dedication and team spirit of all staff. She also praised the concept of 'Happy Business' which helps colleagues keep a good work-life balance.



Mrs Lau (2nd right) having a video conference with the duty forecaster in the Airport Meteorological Office.



Mrs Lau showing her talent as a TV weather presenter in the Observatory studio.

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Editorial Board : TAI Sai-choi WU Man-chi MA Lap-yin CHU Suet-ying

## The Award-Winning Website

The Hong Kong Observatory website won the Google's "Top ten most popular searched website" and for the second consecutive year the "The Yahoo! BUZZ Award". Besides, the Observatory website was named one of the ten most meritorious websites in 2008 by the Television and Entertainment Licensing Authority.

The Observatory also received four Hong Kong Information and Communication Technology (ICT) Awards:

1. The Location-Specific Lightning Alert Service - Silver Award in the "Best Lifestyle Award (Home Life and Healthy Living) Award" category;
2. The Airport Thunderstorm and Lightning Alerting System - Silver Award in the "Best Public Service Application (Small Scale Project) Award" category;
3. The Weather Wizard - Bronze Award in the "Best Public Service Application (Most Favoured) Award" category;
4. Weather Service for the 2008 Olympic and Paralympic Equestrian Events - Bronze Award in the "Best Public Service Application (Small Scale Project) Award" category.

LIU Wai-ping



Colleagues of the Observatory won four awards in the Hong Kong Information and Communication Technology Awards Contest

## Review and Outlook - Meeting the Media

### Editorial Board



Former Director Mr Lam Chiu-ying (middle) talked about the Observatory's work in the press conference.

Every year around the World Meteorological Day on 23 March, the Director of the Hong Kong Observatory meets the media to review the work of the Observatory in the past year and highlight developments in the coming year. This year the press conference was held on the afternoon of 18 March. Around 30 reporters attended and the conference was broadcast live on TV.

The former Director Mr Lam Chiu-ying first introduced the theme of the World Meteorological Day this year - Weather, Climate and the Air We Breathe. "Plants and animals including human beings share one treasure in common. It is the air we breathe, that is, the atmosphere in which we experience weather and climate. The theme of the World Meteorological Day this year reminds us that air is not to be taken for granted. If we mishandle it, weather and climate would change. The consequences could be serious, impacting on the survival of numerous species including human beings," Mr Lam said.

Mr Lam then announced that a German version would be added to the World Weather Information Service (WWIS) website on World Meteorological Day. The website is developed and operated by the Observatory under the auspices of the World Meteorological Organisation. Mr Lam said, "The website won the prestigious Stockholm Challenge Award last year. It is currently presented in six languages - Chinese, English, Arabic, French, Portuguese and Spanish. The addition of the German version reflects that the work of the Hong Kong Observatory is highly recognised by the world meteorological community."

Reviewing 2008, Mr Lam said the work for the Beijing Olympics was his most pleasant memory. "The Observatory's nowcasting system had an outstanding performance in Beijing during the period, and in fact outperformed other systems from advanced countries in several aspects," Mr Lam said, adding that the system had been put into the public weather service in Hong Kong. Starting this rain season, people can check the forecast rainfall in the next two hours for the Pearl River Delta region on the Observatory website.

Talking about the work in 2009, Mr Lam said, "We have reviewed our operations during the typhoon season last year, and concluded that we should improve the delivery of storm surge information. Starting this year, we will send Short Message Service (SMS) to representatives of Tai O residents and colleagues of relevant departments to warn of imminent storm surges if the situation warrants." He also announced that starting this year the Observatory would further categorise 'Typhoon' into 'Typhoon', 'Severe Typhoon' and 'Super Typhoon' to heighten people's alertness of stronger typhoons. He predicted that the number of tropical cyclones affecting Hong Kong this year would be near normal, that is, five to six, while the annual rainfall would be below normal.

Hong Kong will host the East Asian Games this December. Mr Lam introduced the Observatory's preparatory work to support the Games such as the installation of a weather buoy at Tai Tam Bay. "We shall maintain close communication with the organizers and supply essential meteorological services covering the various game venues," Mr Lam said.



Reporters actively filming and asking questions.

Regarding climate, the Observatory has re-assessed the trend of rainfall in Hong Kong in the 21st century based on the latest data from the Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report published in 2007. "We forecast that the rainfall in Hong Kong will rise in the latter half of this century. The number of extremely wet and extremely dry years will also increase," Mr Lam said.

Reporters actively asked questions after the speech, mostly focusing on the details of the new typhoon classification and the rainfall trend in Hong Kong in the 21st century. The press conference was widely covered in newspapers the next day.

# Hong Kong Observatory Open Day

## Editorial Board

Every year, the Observatory organizes an open day to celebrate the World Meteorological Day on 23 March. This year, the open day was held on 21 and 22 March. Around 10,000 people of all ages visited the Observatory headquarters.

The theme of the open day this year is "High Tech for the Community". Cutting-edge equipment developed or adopted by the Observatory were exhibited. These included the Automatic Upper-air Sounding System, the lightning sensor and the Windshear and Turbulence Warning System for the airport. The game booths and eco-tour also attracted crowds of visitors. A visitor Mr Pang said, "The open day lets me understand more of the Observatory's equipment

and services. The eco-tour and games were suitable for all ages."

The former Director of Hong Kong Observatory, Mr Lam Chiu-ying, autographed for the new book "Weathering the Storms" during the open day. Many people queued for his autograph and pictured with him. Apart from Observatory staff, more than sixty "Friends of the Observatory" members volunteered to man the open day this year and enjoyed a happy weekend with the visitors.

This year we for the first time conducted a survey to find out how the visitors think of the open day. More than 80% of the respondents found it "Satisfactory" or "Very Satisfactory".



An Observatory staff explaining the operation of the instruments to the visitors.



A young visitor playing the 'Know the Weather Warnings' game.



A 'Friends of the Observatory' Goodwill Ambassador listening attentively to a visitor's comments.

## Products & Services

### CHAN Kin-yu



Director of the Hong Kong Observatory, Dr Lee Boon-ying (2nd right), officiating at the opening ceremony of the exhibition.

The "CLIMATE IS CHANGING, ACT NOW!" exhibition jointly organised by the Hong Kong Observatory, the Guangdong Meteorological Bureau, the Macao Meteorological and Geophysical Bureau and the Hongkong and Shanghai Banking Corporation Ltd (HSBC), was staged at the HSBC Main Building in the Central from 16 to 28 December 2008. It was the first time meteorological services in Guangdong, Hong Kong and Macao joined force to stage an exhibition, signifying a milestone in the cooperation of the three meteorological services in promoting public education on climate change.

Director of the Macao Meteorological and Geophysical Bureau, Dr Fong Soi-kun; Director of the Hong Kong Observatory, Dr Lee Boon-ying; Deputy Counsel-Director of the Guangdong Meteorological Bureau, Mr Zhu Hui-ming; and Head of Corporate Sustainability, Asia-Pacific Region of the HSBC, Ms Teresa Au Pui-ye officiated at the opening ceremony of the exhibition.

The exhibition attracted enthusiastic visitors of all ages. Feedback and comments on the exhibition were warm and positive. Visitors found the

exhibition an excellent platform for enhancing their understanding of climate change. Many of them pledged to take actions to mitigate the effects of climate change and said they would use the gift stickers given out by the organizers to replace wrapping papers to help mitigate global warming.

# "Weathering the Storms" Now on Sale

## Editorial Board

The essay collection "Weathering the Storms" to commemorate the 125th anniversary of the Hong Kong Observatory, was put on sale on 22 January.

The book comprises over 40 Chinese and English articles written by serving and retired Observatory staff, including four directors of different generations. Through the authors' real-life stories and more than 100 precious pictures, the evolution of the Observatory and Hong Kong society over the decades is vividly revealed. The book is highly recommended for those interested in weather and the history of the Observatory.

At \$88 a copy, the book can be obtained at major bookstores in Hong Kong. It is also available at the Hong Kong Observatory Resource Centre, the Publications Sales Unit of the Information Services Department, General Post Office, Tsim Sha Tsui Post Office, Tuen Mun Central Post Office and Sha Tin Central Post Office, and the on-line government bookstore at <http://www.bookstore.gov.hk>.



Front cover of 'Weathering the Storms'

## The Observatory's Environmental Radiation Exhibition Gets a Facelift

YEUNG Siu-wai



The author introducing the renovated environmental radiation exhibits to students

The Observatory has renovated the environmental radiation exhibits in its Exhibition Hall at the headquarters. Apart from updating the existing exhibits, new topics including non-ionizing radiation, health effects of radiation and latest applications of radiation were added. So far, more than 40 organizations have visited the renovated exhibits. Interested Schools or organizations may call 2926 8244 to arrange a visit to the Exhibition Hall.

The Observatory's Virtual Exhibition Hall website was also updated : [http://www.weather.gov.hk/education/cyber\\_exh\\_hall/eng/exh\\_hall\\_eng.htm](http://www.weather.gov.hk/education/cyber_exh_hall/eng/exh_hall_eng.htm)

## Global Solar Radiation Shown in New Unit

YU Mei-fung

The Observatory updated the global solar radiation display on the regional weather webpage ([http://www.weather.gov.hk/wxinfo/ts/display\\_element\\_solar\\_e.htm](http://www.weather.gov.hk/wxinfo/ts/display_element_solar_e.htm)) on 2 March. The unit of global solar radiation was changed from the 1-minute total solar energy expressed in kilojoules per square metre ( $\text{kJ m}^{-2}$ ) to the more commonly used 1-minute average solar radiant power expressed in watts per square metre ( $\text{W m}^{-2}$ ).

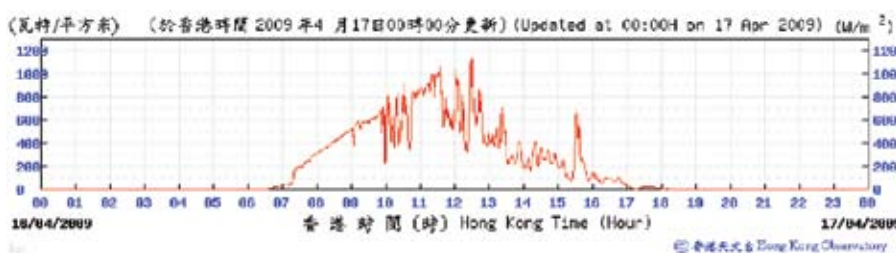


Figure 1: Time series of Global Solar Radiation expressed in current unit



Figure 2: Solar radiation meters installed at King's Park Meteorological Station

# More Schools Join the Hong Kong Co-WIN

YUNG Chung-hoi

The "Hong Kong Community Weather Information Network" (HK Co-WIN) continues to grow. The number of members has increased from 35 when the network was first established in 2007 to 57 at 30 April (Figure 1). More than 30 members are now providing real-time weather information to the HK Co-WIN website (Figure 2). The website is also linked to the Observatory's homepage at <http://www.weather.gov.hk/contente.htm>.

The HK Co-WIN is a collaborative effort of the Hong Kong Observatory, the Department of Applied Physics of the Hong Kong Polytechnic University and the Hong Kong Joint-school Meteorological Association. It aims to gather weather information collected by weather stations in schools and organizations and make it available on the Internet for use by the public after carrying out appropriate data quality assurance. All schools and organizations are welcome to join the network.



Figure 1 Distribution of Members of HK Co-WIN (up to 30 April 2009)



Figure 2 More than 30 members provide real-time weather information to the HK Co-WIN website

## New Feature on Lightning Location Information Webpage

LEE Lap-shun

The Observatory launched a new version of the "Lightning Location Information Webpage" in February. One can choose to display lightning locations over a detailed map, an aerial imagery or a terrain map. The new version can help people identify more easily the location of lightning strokes. Please try it out at [www.weather.gov.hk/wxinfo/llis/index.htm](http://www.weather.gov.hk/wxinfo/llis/index.htm) and provide your valuable feedback to us.

The popular "Location-specific Lightning Alert Webpage" ([www.weather.gov.hk/wxinfo/llis/alert\\_index.htm](http://www.weather.gov.hk/wxinfo/llis/alert_index.htm)) launched in May 2008 continues to operate. This free service is the first of its kind in the world. The author recently presented a paper about this service in the 89<sup>th</sup> Annual Meeting of the American Meteorological Society. Many fellow meteorologists in the audience showed interest in the service and found it innovative and practical.



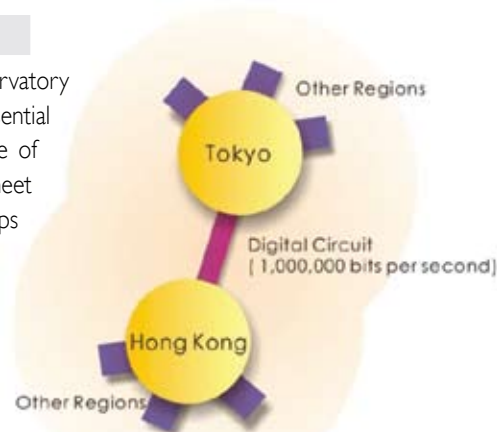
New version of the "Lightning Location Information Webpage"

## Hong Kong-Tokyo Meteorological Data Line Speeded Up 16 Times

PAN Chi-kin

The Hong Kong-Tokyo meteorological data line is one of the main trunks connecting the Observatory to the World Meteorological Organisation's Global Telecommunication Network. It provides essential support to the exchange of meteorological data between Hong Kong and Japan. The volume of meteorological data exchanged via the data line has gradually increased in the past few years to meet the needs of weather research and forecasting. The original data line with a bandwidth of 64Kbps (64 thousand bits per second) was approaching its maximum capacity and not capable of meeting the future needs.

With the joint effort of the Observatory and the Japanese experts, the Hong Kong-Tokyo meteorological data line was successfully upgraded on 17 February. The new circuit has a bandwidth of 1Mbps (1 million bits per second), which is 16 times faster than the original one. It provides ample bandwidth capacity for meteorological data exchange in future. Operational systems were also successfully connected and meteorological data are now exchanged in real time via the new circuit.



# Automatic Weather Station for the Wong Tai Sin District

CHOW Siu-wing



Former Director of the Hong Kong Observatory, Mr Lam Chiu-ying (2nd right), officiating at the opening ceremony of the automatic weather station for Wong Tai Sin District.

The automatic weather station for the Wong Tai Sin District was officially opened on 27 March. The new weather station at the Nan Lian Garden, Diamond Hill, provides the latest temperature readings round-the-clock for the Wong Tai Sin District. Officiating at the opening that day were Chairman of the Wong Tai Sin District Council, Mr Li Tak-hong; former Director of the Hong Kong Observatory, Mr Lam Chiu-ying; District Officer of the Wong Tai Sin District, Mrs Teresa Wong; and District Leisure Manager of the Leisure and Cultural Services Department, Ms Yau Lai-sze.

The Wong Tai Sin District has a population of more than 420,000 with many cultural and scenic places such as the Wong Tai Sin Temple and the Nan Lian Garden. The temperature information from the new weather station enables citizens to keep abreast of the latest weather conditions in the district. People can access the information from the Observatory's "Regional Weather" webpage at ([http://www.weather.gov.hk/wxinfo/ts/display\\_graph\\_e.htm?wts&menu=otherwxi&rxw&addbar](http://www.weather.gov.hk/wxinfo/ts/display_graph_e.htm?wts&menu=otherwxi&rxw&addbar)) or PDA webpage at ([http://pda.hko.gov.hk/regione\\_wts.htm](http://pda.hko.gov.hk/regione_wts.htm)).

It is also available at the Observatory's "Dial-a-Weather" hotline at 187 8200.

## World Weather Information Service adds New Members

LI Wai-ching

It is an encouraging start for 2009 as more and more National Meteorological Services of the World Meteorological Organization (WMO) joined the World Weather Information Service (WWIS). In February, the Iraqi Meteorological Organization and the Afghan Meteorological Authority became the 120th and the 121st members of WWIS respectively. Altogether the two members provide official weather forecasts for 8 cities.

The WWIS website (<http://worldweather.wmo.int>) is the world's first and only website for official city forecasts. The website is currently presented in seven languages including German which was added on 23 March. Currently, official weather forecasts for over 1,300 cities are available in the WWIS from 121 WMO members. The website also provides climate information of the cities, which is particularly useful for travel planning.

## Seminar on Lightning Alert Service for Swimming Pool Operators

LEUNG Wai-hung

The Observatory organized a seminar on 25 March to publicize the new lightning information service. There were over 80 participants from property management companies as well as operators of swimming pools and beaches under the Leisure and Cultural Services Department. The seminar introduced the location-specific lightning alert service and its applications, basic knowledge of the science of lightning and protective measures against lightning.

A representative from one of the property management companies, Mr. Hung, shared his experience in using the lightning alert service. He commended that the service was very useful as it made the opening or suspension of swimming pools and outdoor recreational facilities more flexible. Also, Ms. Li, Assistant Leisure Manager of the Leisure and Cultural Services Department, said that the service had enabled swimming pool operators to have an overall picture of how far away the thunderstorms were, thus enhancing the safe operation of swimming pools.



Participants pictured at the Observatory lawn



Scientific Officer Mr. Leung Wai-hung introducing the use of the lightning alert service

# On-site Calibration Service for Radiation Monitoring Equipment

WONG Chi-wai



The author (right) explaining the operation of the food/water radiation contamination monitoring system to a colleague of the Agriculture, Fisheries and Conservation Department

Radiation can enter and affect the human body through food or water which is contaminated by radioactive substances. Although the nuclear power stations at Daya Bay have implemented many protective measures, to further ensure the safety of the Hong Kong people, various government departments work together to constantly monitor the radiation level of food and water. Among them, the Food and Environmental Hygiene Department, the Agriculture, Fisheries and Conservation Department and the Water Supplies Department have installed over 20 units of radiation contamination monitoring systems at boundary food control stations, wholesale markets and water treatment works to monitor the radiation level in food and water. When abnormal level of radiation is found in the sample, they will immediately inform the Observatory to carry out further analysis. To ensure smooth operation and accuracy of the monitoring equipment, the Observatory regularly checks the systems of the above departments through a computer network, and performs on-site calibration of the equipment annually to correct deviations.

## Observatory Receives Compliment from the International Olympic Committee

Editorial Board

The Observatory rendered support to last year's Beijing Olympics with a variety of meteorological services. In Beijing, the nowcasting system 'SWIRLS' developed by the Observatory had outstanding performance. In Hong Kong, we provided real-time weather information and site-specific forecasts for the equestrian events. In Qingdao, we offered tailored meteorological support to the Hong Kong windsurfing team. The International Olympic Committee and the Beijing Organizing Committee for the Games of the XXIX Olympiad presented a certificate to the Hong Kong Observatory in recognition of our contribution to the success of the games.

Although the Beijing Olympics is now over, the technology developed for the games has been deployed to support Hong Kong's own public weather service. For example, people may now see the SWIRLS's predicted rainfall pattern in the Pearl River Estuary on the Observatory website.



The certificate presented to the Hong Kong Observatory by the International Olympic Committee and the Beijing Organizing Committee for the Games of the XXIX Olympiad.

## Salvage the Earth, Keep It Below 16°C

Editorial Board

The pace of climate change has accelerated in recent years, posing an imminent threat to the ecological system and all living beings including mankind. Everyone on Earth, to certain extent, is responsible for this phenomenon. We must act immediately to save the Earth and keep the Earth's temperature below 16°C.

The above message is the theme of the climate change educational programme "Salvage the Earth, Keep It Below 16°C" produced by RoadShow, with the support of the Hong Kong Observatory and WWF Hong Kong. Public showing of the programme started on the World Meteorological Day on 23 March.

As the name of the programme suggests, we must do everything possible to prevent the earth's surface mean temperature from rising to 16°C. This indicator was first adopted by the European Union in 1996, which proposed that the target global average temperature rise should be set to less than 2°C above the pre-industrial level. This translates into a maximum global mean temperature of around 16°C.

The global average temperature is now 14.5°C and is rising at a rate of 0.2°C per decade. We are getting very close to the critical 16°C. If we fail to slow down the rising trend, many ecosystems including the human kind will be seriously wrecked. We must act NOW!



Former Director Mr Lam Chiu-ying (2nd left) officiating at the launch ceremony of "Salvage the Earth, Keep It Below 16°C"

# Close Collaboration with Aviation Partners

CHOY Boon-leung



Representatives of the aviation community with Mr. Lam Chiu-ying (former Director, middle of front row) and Observatory staff

The 31st meeting of the Liaison Group on Aviation Weather Services was held on 20 January at the Hong Kong Observatory headquarters. Fifteen representatives of airlines, pilots' association and other sectors of the aviation community participated the meeting. In addition to operational matters, the meeting also discussed the future development of aviation weather products and services to further enhance aviation safety and efficiency to cope with aviation business development in Hong Kong and the Pearl River Delta region in the coming years.

This meeting was particularly memorable as it was the former Director of the Observatory Mr. Lam Chiu-ying's last participation in the liaison group meeting before his retirement in April. Being one of the founder members, Mr. Lam gave his special thanks to all members of the liaison group for their contribution to the aviation meteorological services in Hong Kong.

## Funds Approved to Upgrade Airport Meteorological Facilities

CHOY Boon-leung

Safety and efficiency are of utmost importance to the further development of Hong Kong as the aviation hub of Asia Pacific. Since the existing meteorological facilities have been in operation for years, the Observatory submitted funding application to replace and upgrade the meteorological facilities for the Hong Kong International Airport to maintain efficiency, to cope with future increase in air traffic and to satisfy the demand of enhancing the quality of aviation weather services (Figure 1). Funds of 154 million dollars were approved by the Legislative Council Finance Committee in February.

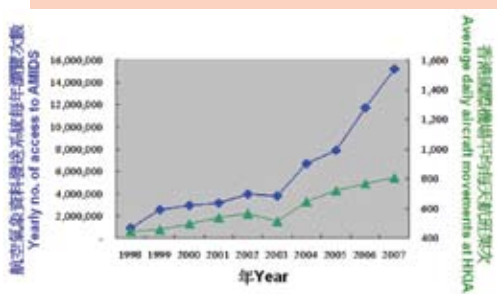


Figure 1: The aviation community has strong demand on aviation weather services. Its increase (blue line) in the past decade is even faster than the growth in air traffic.

Apart from replacing and upgrading relevant meteorological and infrastructural facilities, the Terminal Doppler Weather Radar which has been in service for more than a decade will also be replaced. New facilities will also be deployed for the development of more accurate, reliable and sophisticated aviation specific meteorological information and services (Figure 2) in the coming years to satisfy the increasing user needs, and to integrate at the information technology level with the Civil Aviation Department's replacement Air Traffic Control System. The project is expected to complete in 2015.



Figure 2: Prototype of one of the aviation specific weather products which gives short-term prediction on thunderstorm activities in Hong Kong and the surrounding air space

## Observatory Passed ICAO Safety Audit

CHOY Boon-leung

The International Civil Aviation Organization (ICAO) established the Universal Safety Oversight Audit Program (USOAP) in 1999 with an aim to promote global aviation safety through auditing Contracting States on a regular basis to determine the States' capability for safety oversight. After auditing some 100 States, the ICAO audit team came to audit Hong Kong from 26 February to 6 March.

As the Meteorological Authority of Hong Kong and the organization to provide meteorological services and facilities, the Hong Kong Observatory was the responsible party for the implementation of ICAO Annex 3 - Meteorological Service for International Air Navigation and the corresponding audit coordinated by the Civil Aviation Department. The audit was completed successfully on 2 March. The Observatory's capability on safety oversight on aviation meteorological services was appreciated by the audit team.



Mr. Shun Chi-ming, Assistant Director of the Hong Kong Observatory (8th right, 2nd row), Mr. Norman Lo, Director General of Civil Aviation (6th right, front row), Mr. Dhiraj Ramdoyal, Lead Auditor of the ICAO audit team (5th right, front row) photographed with Observatory and CAD staff participating in the audit



# Observatory Staff Visited Cathay Pacific Airways Operations Centre

Cheung Ping



Mr Gary Greenfield, Cathay's Integrated Operations Centre Manager (1st left) explaining the operation of the Centre.

Colleagues from the Aviation Weather Services Branch of the Observatory visited the Integrated Operations Centre (IOC) of the Cathay Pacific Airways (CPA) on 16 March. Mr Gary Greenfield, IOC Manager, and Captain Neil Phillips, Line Operations Manager of CPA, briefed us on the roles and operations of the Centre. During high impact weather, particularly tropical cyclones, the management of Cathay Pacific will call special meetings at the IOC to discuss and plan flight operation arrangements, taking into account the latest weather information provided by the Observatory's Airport Meteorological Office and other factors. They indicated satisfaction with the Observatory's weather services provided during the passage of tropical cyclones last year, and complimented on our prompt actions in response to their suggestions.

Through the meeting, we gained more understanding on the needs and expectations of the airlines on weather information and how they utilize and interpret our forecasts for the airport. Views and ideas on future development of aviation weather services such as the provision of probability forecast were also exchanged.

## New Satellite Weather Product for Aviation

"Please return to your seats and fasten your seat belts" - this is the broadcast we often hear when we travel by air. This is the safety measure to be carried out by passengers when the pilot anticipates encounter with turbulence, which would result in bumpy rides and even post a threat to flight safety. Intense convective activities such as thunderstorms can bring severe turbulence. It is of utmost importance to monitor convective activities in the vicinity of flight routes.

In view of this, the Observatory recently developed a weather product based on satellite data to facilitate monitoring of intense convective activities over the Asian region by aviation forecasters, pilots and other aviation

SO Chi-kuen

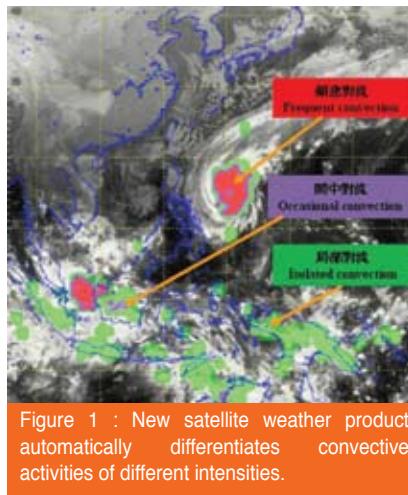


Figure 1 : New satellite weather product automatically differentiates convective activities of different intensities.

users. Making use of image processing techniques, cloud areas with different intensities of convective activities can be differentiated automatically. Figure 1 is a sample satellite image showing areas with different intensities of convective activities in different colours: "frequent" in red, "occasional" in purple and "isolated" in green. Available every hour, the product enables aviation forecasters to closely monitor the development of intense convective activities round-the-clock. It also increases pilots' awareness of the likely occurrence of convective activities along the flight routes, enabling them to get prepared.

## Brilliant Performance of the Observatory's Airport Thunderstorm and Lightning Alerting System

LI Ping-wah

The new Airport Thunderstorm and Lightning Alerting System (ATLAS) developed by the Hong Kong Observatory was put into parallel operation early last year with the Airport Authority's lightning warning system, which has been in operation for a few years. The new system (i.e., ATLAS) monitors lightning activity in and around the Hong Kong International Airport (HKIA) and issues Red or Amber lightning alerts automatically. It also disseminates graphical and textual alert messages to the Airport Authority to trigger the warning lights and sirens over the airport area. After a full year of operation, ATLAS's performance was brilliant and proven to be superior to the Authority's lightning warning system in terms of higher hit rate, lower false alarm rate and shorter alert duration. As such, the Airport Authority decided to decommission the old system and adopt ATLAS for issuing the lightning warnings at HKIA from February this year.

ATLAS also won the Best Public Service Application (Small Scale Project) Silver Award in the Information and Communication Technology (ICT) Award Scheme 2008. The Judging Panel pointed out that "The complicated computation algorithm developed by

the Observatory is the key for producing one of the first automatic lightning prediction systems in the world with lightning detection and forecasting capability. The system improves the detection efficiency and shortens the latency in issuing lightning warning signals. With these good features, the system has proven to be able to assure the safety of passengers and airport personnel while minimizing disruption to airport operations. Moreover, the system has a good potential to be applied to other lightning sensitive areas by tuning the computation algorithm, and exported to other places."



Dr Yeung King-kay (2nd to the right) and his ATLAS R&D team receiving the ICT Award.

# An Unseasonably Warm February

LI Kin-wai

February 2009 was the warmest February since records began in 1884. The monthly mean temperature of 20.5 degrees recorded at the Hong Kong Observatory was 4.2 degrees higher than the mean for the years 1971 to 2000. The temperature of 28.3 degrees recorded on February 25 was also the highest temperature for February.

The unusually warm February was attributed to a weak northeast monsoon. The cold air from the north seldom reached southern China. In Hong Kong, the occurrence of the warmer southerly winds from the ocean was about two times more frequent than normal. The record-breaking temperature reflects to some extent the long-term warming trend in Hong Kong. During the past 50 years (1960-2009), the monthly mean February temperature at the Hong Kong Observatory has shown a rising trend of about 0.4 degrees per decade (see Figure).



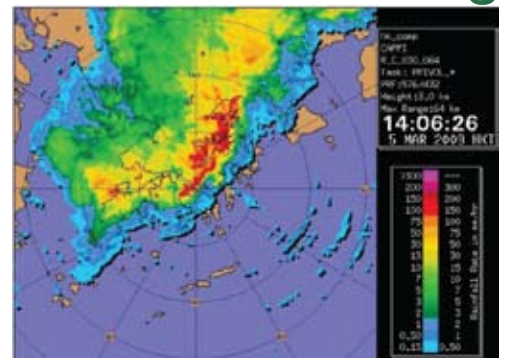
Trend of the monthly mean temperature of February recorded at the Hong Kong Observatory Headquarters in the past 50 years (1960-2009)

## Abnormal Climate : The Earliest Amber

LO Chi-hung

## Rainstorm Warning

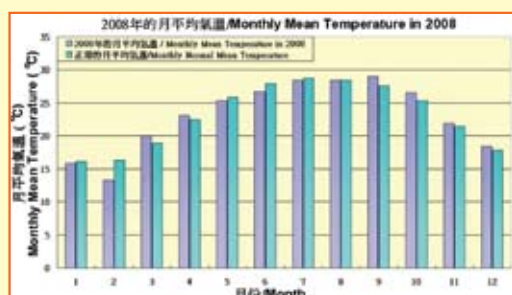
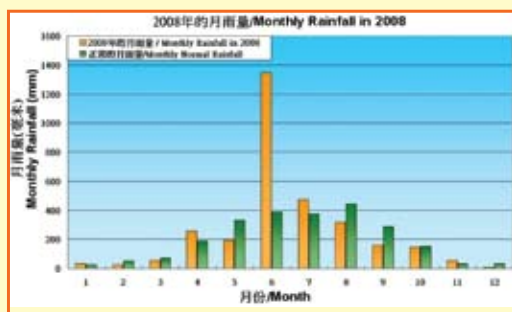
Heavy rain came early this year in March although climatologically March in Hong Kong is usually dominated by light rain. On 5 March, a cold front brought periods of widespread heavy rain to Hong Kong and the Amber Rainstorm Warning was issued for the first time this year. It broke the record of the earliest warning since the existing Rainstorm Warning System started operation in 1998. The previous record was set on 23 March 2002. Besides the early occurrence of heavy rain this year, the number of days with heavy rain also showed an increasing trend in recent years. For the past 60 years or so, the number of days with hourly rainfall exceeding 30 mm at the Observatory has shown an average rising trend of about 0.5 day per decade. This reflects to some extent the long-term trend of the global climate change.



Radar image showing an intense rain band affecting Hong Kong on the afternoon of 5 March

## 2008, the Record-breaking Year

WONG Tak-kan



2008 was a record breaking year. It had the longest cold spell in 40 years and the warmest autumn since record. Affected by an intense northeast monsoon, the minimum temperature stayed below 12 degrees for 24 consecutive days from 24 January to 16 February. The mean temperature of September, October and November was 25.8 °C, which equaled the record set in 2005 and was one of the warmest autumns.

June 2008 registered the new records of the maximum hourly and maximum monthly rainfall. Under the influence of an active trough of low pressure, the hourly rainfall of 145.5 millimetres recorded on 7 June between 8 and 9 a.m. was the highest since record. The monthly total of 1346.1 millimetres was also a record high among all months since 1884.

On tropical cyclones, the year 2008 had the earliest No.3 and more-than-normal No.8 signals. The No.3 signal issued at 8:40 p.m., 18 April due to Typhoon Neoguri was the earliest since record. Altogether six tropical cyclones affected Hong Kong, four of which necessitated the issue of No. 8 or higher signals, making 2008 the year with the most No. 8 Signals since 1999.

# Updated Projections for Rainfall in Hong Kong in the 21st Century

LEE Tsz-cheung, GINN Wing-lui

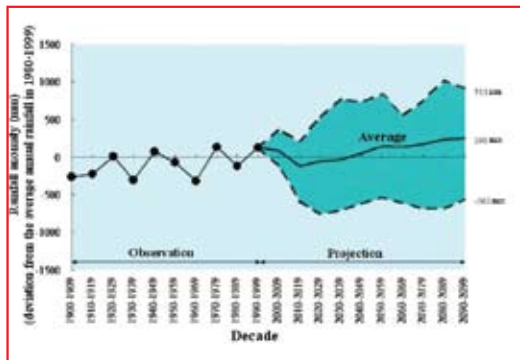
In the light of the latest global climate projections in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) published in 2007, the Hong Kong Observatory has updated its projections for the rainfall in Hong Kong in the 21st century. This is a follow-up to the initial study carried out in 2005, based on the projections presented in the Third Assessment Report of IPCC.

The study of rainfall projections for Hong Kong by the Observatory is based on the results of computer simulations of future climate made by major climate centres around the world. Simulations of the future climate, including rainfall, using global climate models under different greenhouse gas emission scenarios were carried out by major centres from Australia, Britain, Canada, France, Germany, Japan, Norway, Russia, the Republic of Korea and the United States.

When doing the computer simulations, the experts have considered several greenhouse gas emission scenarios that reflect different assumptions on the future population, economy, technology, energy and land use patterns of the world. They range from sustainable development scenarios involving emission controls to rapid economic growth with intensive fossil fuel usage.

Projections of future rainfall changes in Hong Kong were carried out combining results of the computer simulations and the observed rainfall in Hong Kong and southern China through a technique called statistical downscaling.

The updated rainfall projections indicated that, under the influence of global climate change, the average annual rainfall in Hong Kong will increase during the latter half of the 21st century.



Past and Projected change of annual rainfall in Hong Kong

Period	Extremely dry years	Extremely wet years
	1885-2008	2
21st Century	4	10

Number of extremely dry and extremely wet years

It is expected that, in the last 10 years of this century (2090-2099), the average annual rainfall recorded at the Hong Kong Observatory Headquarters will reach 2572 mm, 248 mm higher than the 1980-1999 average of 2324 mm. The number of heavy rain days and the year-to-year variability in rainfall would also increase in the 21st century. The number of extremely wet years will increase significantly from 3 during 1885-2008 to 10 in the 21st century. The corresponding figure for extremely dry year is also expected to increase from 2 to 4.

## The New 3-tier Typhoon Classification

The Observatory implements a 3-tier typhoon classification in 2009. The typhoon category is sub-divided into three levels, namely typhoon, severe typhoon and super typhoon. Under the new classification, there will be six classes of tropical cyclones according to their maximum sustained wind speeds near the centre:

Tropical cyclone classes	Maximum sustained winds near the centre (km/h)
Tropical Depression	62 or below
Tropical Storm	63-87
Severe Tropical Storm	88-117
Typhoon	118-149
Severe Typhoon	150-184
Super Typhoon	185 or above

The new typhoon classification aims to prompt people to be extra vigilant on the approach of more intense typhoons. It has taken into account the intensity and frequency of occurrence of typhoons in the Asia Pacific region and is basically the same as that used in the Mainland to make it easier for people to understand tropical cyclone information from the Observatory and the Mainland meteorological authority.

The new typhoon classification provides more information on the tropical cyclone intensity but does not affect the Observatory's tropical cyclone warning system and the associated contingency measures. This is because the issue of tropical cyclone warning signal depends on the general wind conditions over Hong Kong, and this in turn depends on

LEUNG Yin-kong, Hilda LAM

both the intensity of the tropical cyclone and its distance from Hong Kong. Therefore, the Tropical Cyclone Signal No.10 remains the highest warning signal and activates the highest level of alert and preparedness in Hong Kong. Irrespective of whether it is a typhoon, severe typhoon or super typhoon, the full set of precautionary measures should be taken by the public and all organizations when the Signal No.10 is issued.

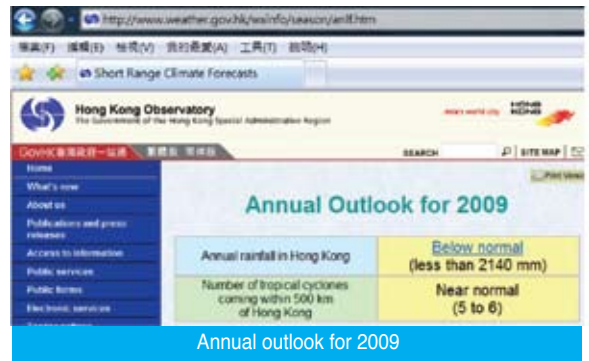
The table below shows the highest signal to be issued when the various classes of tropical cyclone make a direct hit at Hong Kong :

Tropical cyclone classes	Highest tropical cyclone signal in case of a direct hit at Hong Kong
Tropical Depression	No.3
Tropical Storm	No.8
Severe Tropical Storm	No.9
Typhoon	No.10
Severe Typhoon	No.10
Super Typhoon	No.10

In the 59 years from 1950 to 2008, 12 tropical cyclones passed close to Hong Kong and necessitated the issue of Signal No.10. Four of them belonged to the super typhoon category (Wanda in 1962; Ruby in 1964; Rose in 1971 and Hope in 1979) while two belonged to the severe typhoon category (Gloria in 1957 and in Ellen 1983). Super Typhoon Wanda, Rose and Hope caused 130, 110 (including 88 deaths in a Hong Kong Macau Ferry) and 12 deaths respectively.

Every year in March, around the World Meteorological Day, the Director of the Hong Kong Observatory meets the media to review the work and achievement of the Observatory in the past year and highlight developments in the coming year. During these occasions, the two most frequently raised questions are: Will Hong Kong be wetter or drier than normal? How many tropical cyclones will affect Hong Kong this year?

On 18 March, the Director gave the annual outlook for 2009 at the media conference as usual (<http://www.weather.gov.hk/wxinfo/season/anlf.htm>). However, a subtle difference was made this year. Instead of the traditional statistical approach in formulating the annual rainfall forecast, a new approach making use of a dynamical climate model was used. A new method was also adopted to forecast tropical cyclone activities: a statistical model incorporating sea surface temperature was used to forecast the number of tropical cyclones affecting Hong Kong. The two new methods have certain skills.



## The Director Visited the China Meteorological Administration

Former Director of the Hong Kong Observatory Mr Lam Chiu-ying and Assistant Director Mr Wai Hon-gor visited the China Meteorological Administration (CMA) in Beijing during 17-18 December 2008. They met with the Administrator Dr. Zheng Guoguang, Deputy Administrator Mrs Jiao Meiyuan, Director of the Department of Forecasting Services and Disaster Mitigation Dr Zhai Panmao, Director of the Department of International Cooperation Mr Yu Jixin and Director of the National Meteorological Centre Dr Duan Yihong to review the cooperation between the Administration and the Observatory over the past two years and discuss the direction for future cooperation.

The same weather systems affect Hong Kong and the Mainland all year round. The Observatory and CMA have been working hand in hand in weather forecasting for over thirty years. The cooperation became even closer after an "Arrangement on Long Term Cooperation" was signed in 2001. Under the "Arrangement", senior management of both services would meet once every two years to review the cooperation and make plans for the future.

In this senior level meeting, both sides were very pleased with the cooperation in data sharing, forecasting techniques and services, climate change etc in the past two years and agreed to strengthen the cooperation and exchanges in the years to come.

Mr Lam and Mr Wai also took the opportunity to visit the National Meteorological Centre and the Beijing Meteorological Bureau to study the operations of the national weather forecasting service and meteorological support provided to 2008 Beijing Olympic Game.

WAI Hon-gor



Former Director Mr Lam Chiu-ying and Assistant Director Mr Wai Hon-gor (1st and 2nd left) listening to Dr Duan Yihong (1st right), Director of the National Meteorological Centre explaining the operation of the Centre.

## Delegates of National Meteorological Centre Visited the Observatory

LEUNG Yin-kong



Delegates from the National Meteorological Centre briefed Observatory staffs on their work.

Six delegates from the National Meteorological Centre (NMC), China Meteorological Administration headed by Yang Ruilin (Director of the Department of Human Resources and Education) visited the Observatory during 3 - 6 March, to exchange knowledge and experience in weather forecasting and warning services, marine weather forecasting, applied meteorology and training of forecasters.

Apart from visiting various facilities of the Observatory, the delegates also experienced shift duties together with the Observatory's forecasters. Mr. Yang Ruilin commended the Observatory for its advanced facilities and user-friendly forecasting tools. He also spoke highly of the Observatory's weather forecasting and warning services that could well meet the needs of the public. Staff of the Observatory also benefited a lot from the briefing by the delegation on NMC's work and the interaction with the Mainland counterparts.

## The Director Visited China's

SHUN Chi-ming

## Civil Aviation Administration

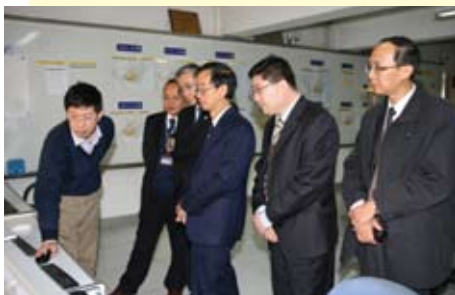


Former Director Mr Lam Chiu-ying (left) and the Deputy Director-General of ATMB, CAAC Mr Zhou Yizhou reviewed cooperation and discussed outlook for the future.

Former Director Mr Lam Chiu-ying and Assistant Director Mr Shun Chi-ming visited the Air Traffic Management Bureau (ATMB) of the Civil Aviation Administration of China (CAAC) in Beijing on 5 March. They met with Mr Zhou Yizhou, Deputy Director-General of ATMB, Messrs Chen Bao and Xu Jianliang, Director and Deputy Director of the Meteorological Division of ATMB, Ms Zhou Jianhua and Dr Zhang Zhongfeng, Deputy Director-General of the Civil Aviation Meteorological Centre. Together they reviewed the cooperation between the two aviation meteorological services over the past two years and discussed the direction for future cooperation.

The Hong Kong Observatory and ATMB, CAAC signed a "Memorandum on Long Term Technical Cooperation in Aviation Meteorological Services" in 1999 to promote aviation meteorological development and exchanges in both places. Under the Memorandum, senior management of both services would meet once every two years to review the cooperation and make plans for the future. At this high level meeting, both sides agreed to strengthen further the sharing of meteorological data and technological exchange activities. A cooperation mechanism was also established to jointly study aviation meteorological subjects relevant to the Pearl River Delta. The Observatory also accepted an invitation to support ATMB's work in establishing low-level windshear alerting systems and numerical weather prediction system in the Mainland.

Messrs Lam and Shun also visited the North China Regional ATMB Meteorological Centre, Weather Radar Station of Beijing Airport and Beijing Area Control Centre to appreciate the operations and future development of aviation meteorological services in the Mainland. Mr Lam was particularly interested in the specialized weather services provided by the forecaster at the Area Control Centre.



Messrs Lam Chiu-ying (3rd right) and Shun Chi-ming (3rd left) being briefed by the forecaster at the North China Regional ATMB Meteorological Centre.

## Workshop on Climate Change and Climate Prediction in the Pearl River Delta Region

LEE Tsz-cheung

The "Workshop on Climate Change and Climate Prediction in the Pearl River Delta Region", the first of its kind in the region, was jointly organised by the Observatory, the Guangdong Meteorological Bureau (GMB) and the Macao Meteorological and Geophysical Bureau (SMG) on 15 and 16 December 2008 at the Observatory Headquarters. During the workshop, 13 experts from the Observatory, GMB, SMG, local universities and the business sector gave presentations on topics related to climate change, trends of extreme weather, climate prediction and climate change outreaching initiatives in the Pearl River Delta Region. The workshop attracted about 120 participants from non-governmental organizations, local universities, the business sector and various bureaus and departments of the Hong Kong government. The feedback was very positive and encouraging. Participants found the workshop an excellent platform for experience sharing on climate change research in the Pearl River Delta Region and promoting mutual understanding between researchers and various stakeholders.



Participants of the Workshop

## HKO Organises Training Course on City Forecasts

Eight meteorologists from Bangladesh, Mainland China, Kazakhstan, Mongolia, Nepal, Oman, Vietnam and Yemen, attended a training course on city weather forecasts organised by the Hong Kong Observatory on 1-5 December 2008.

This is the 11th professional training course organised by the Observatory for the World Meteorological Organization (WMO). The objective of the present course is to enhance the capability of trainees in formulating weather forecasts through the use of city-specific Numerical Weather Prediction (NWP) products. Participants are expected to contribute to the development and enhancement of their own forecasting methodology upon return to their home countries.

City-specific forecast time series products provided by Hong Kong, Japan and the Republic of Korea have been made available on their respective websites since January 2006, covering 160 cities.

YEUNG Pui-yi



# Cooperation with Guangdong and Macao Meteorological Authorities



Mr. LAM Chiu-ying, former Director of the Hong Kong Observatory (1st left) reviewed in the meeting the history and success of cooperation among the three parties.

## LI Yuet-sim

The 14th Guangdong-Hong Kong-Macao annual cooperation meeting and the 23rd Guangdong-Hong Kong-Macao Seminar on Meteorological Science and Technology were held in Macao on 18-20 February. The annual cooperation meeting discussed cooperation on meteorological monitoring and services, data sharing, forecasting techniques and climate change assessment, etc., in the Pearl River Delta region and its neighbouring areas. The meeting established the direction for future development achieving synergy through the cooperation.

In the 2-day seminar on Meteorological Science and Technology, experience and techniques on monitoring and forecasting tropical cyclones, severe weather and extreme temperatures were exchanged. The most discussed were the review of Typhoon Hagupit and the diagnosis of the cold weather persisted in southern China last year. The meeting and the seminar were beneficial to all three parties in both technological development and operational matters.

## The Hong Kong Observatory Strategic Advisory Committee

### LEUNG Wing-mo



Former Director of the Observatory, Mr Lam Chiu-ying (in white coat) chaired the first meeting of the Hong Kong Observatory Advisory Committee

The Hong Kong Observatory invited 6 renowned scholars as members of the Hong Kong Observatory Strategic Advisory Committee. They are respectively Prof Johnny Chan Chung-leung of the Department of Physics and Materials Science of the City University of Hong Kong, Dr Hung Ching-tin, a famous critic, Prof Ko Jan-ming, Vice President of the Hong Kong Polytechnic University, Prof K E Kuah-Pearce, Department of Sociology of the University of Hong Kong, Prof Lam Kin-che of the Department of Geography & Resource Management of the Chinese University of Hong Kong, and Prof Tao Lai Po-wa, Julia, Department of Public and Social Administration of the City University of Hong Kong. They had a meeting with the Observatory's directorates in March to discuss a number of issues including tropical cyclones, public weather service, aviation weather service and TV weather programme. They offered their expert opinions from both the scientific and social perspectives.

## “Dialogue Experiment” - LAM Chiu-ying vs HUNG Ching-tin

Mr. LAM Chiu-ying, former Director of the Observatory, and Dr. HUNG Ching-tin performed a “Dialogue Experiment” at the Observatory on 8 December 2008. The topic of the dialogue was “Astronomy and Hongkongology - Professionalism (people), Civil Service (servants), Universal Science and Political Climate”. It was an experiment on presenting ideas in an innovative style.

Dr. Hung is the Honorary Research Fellow of the Centre of Asian Studies of the University of Hong Kong. He is also a well-known current affairs commentator and his commentaries often appear in local newspapers. Dr. Hung is keen to study the unique culture of Hong Kong and has written a series of articles on Hongkongology. Mr. Lam is an expert in meteorology. He is also an enthusiast in viewing birds, paying special attention to the climatic influence on ecology and the environment.

The two renowned experts shared their different points of view on “Astronomy and Hongkongology” in the dialogue. Their wit and insight deeply inspired the audience.

### CHIU Hung-yu



Mr. LAM Chiu-ying (right) and Dr. HUNG Chin-tin experimenting the ‘dialogue’ approach of discussion in the Observatory

# Australian and Japanese Experts Lectured on “Quantitative Precipitation Forecast”

YEUNG Hon-yin



Dr. Kazuo Saito from Japan lecturing on the latest developments in non-hydrostatic atmospheric models.

Division of JMA.

Meteorological personnel from the China Meteorological Administration and the Macao Meteorological and Geophysical Bureau were also in the workshop. In only 3 days, the forecast experts actively discussed and exchanged views on many hot topics, including the quantitative analysis of radar rainfall, nowcasting algorithms, non-hydrostatic atmospheric modeling and mesoscale ensemble prediction. At the end of the workshop, Mr. Hai-lin Gui from the National Meteorological Centre aptly concluded the achievements of the workshop, “Very glad to have visited Hong Kong and participated in the workshop. We indeed derived many benefits from the informative lectures and stimulating tutorials delivered by the three experts. We are also deeply impressed by the pioneering technological developments undergoing in the Observatory. We sincerely hope that there will be more such academic exchanges in the future, allowing us to progress in tandem.”

The Observatory held a training workshop on Quantitative Precipitation Forecast (QPF) on 9-11 February. The workshop covered application of two cutting-edge forecast techniques in QPF, namely nowcasting and numerical weather prediction modelling. Three overseas experts were invited to lecture in the workshop : Dr. Alan Seed from the Centre for Australian Climate and Weather Research, Dr. Kazuo Saito from the Meteorological Research Institute of the Japan Meteorological Agency (JMA) and Mr. Yuki Honda from the Numerical Prediction



Participants in the workshop. The middle four figures in the front row are (from left) Mr. Yuki Honda, Dr. Kazuo Saito, Dr. Lee Boon-ying (Director of the Observatory) and Dr. Alan Seed.



Dr. Alan Seed from Australia conducting his tutorial on radar rainfall.

## Climate Change Expert Professor Ding Yihui Visited the Observatory



Former Director of the Hong Kong Observatory, Mr Lam Chiu-ying (right), presenting a souvenir to Professor Ding Yihui

LEE Tsz-cheung

Professor Ding Yihui, scientific advisor of the Observatory, visited Hong Kong on 13-21 February. During his stay, Professor Ding delivered a series of six enlightening lectures on climate change and seasonal forecasting to colleagues of the Observatory and participants from other government departments, local universities and various non-government organizations. He also gave a popular science lecture entitled “Climatic Challenge of China in Past, Present and Future” at the Science Museum and shared his in-depth knowledge on the subject with the public.

Professor Ding is the special consultant of the China Meteorological Administration on Climate Change and an Academician of the Chinese Academy of Engineering. He is an internationally renowned scientist and has made important contributions in many international programs and organizations, including the past four Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC). Professor Ding is currently the scientific advisor of the Observatory and his long association with us dated back to the early 1980s. He is also an expert on Asian monsoon and tropical cyclones and has lectured on these subjects at the Observatory in the past.



Professor Ding lecturing at the Hong Kong Observatory

Observatory colleagues also took the opportunity to discuss with Professor Ding the future development of climate related research. Professor Ding spoke highly of the Observatory’s work on climate change and seasonal forecasting in recent years and indicated that we are moving in a right direction. His comments much encouraged those working in these fields at the Observatory.

# VISITS TO BEIJING AND ZHEJIANG

**LEE Kwok-lun, CHEE Shiu-chung**



Delegates from the Observatory having exciting discussions and sharing experience with colleagues of the Hangzhou Meteorological Bureau.

The Observatory arranges trips for its staff to the Mainland for familiarization every year. On 23-28 February this year, five of us visited the China Meteorological Administration in Beijing, the Zhejiang Meteorological Observatory, Hangzhou Meteorological Bureau and the Chunan Meteorological Bureau in Hangzhou, Zhejiang. During the visits, we shared experience in daily operation, instrument development, research techniques and public weather services.

During the exchange with the Mainland meteorological counterparts, we were deeply impressed by their humanistic approach in delivering their public weather services, which are receiving more and more attention. What interested us most were the services provided through the so-called meteorological coordinators in rural districts organized by the Zhejiang Meteorological Observatory. Reputable local residents are solicited to serve as meteorological coordinators to help disseminate severe weather information in

remote districts by way of hitting gongs and broadcasting via loudspeakers. There are now about 8,000 meteorological coordinators serving in the Zhejiang Province. To promote meteorological knowledge to the public, the Mainland meteorological services also organize open days and volunteer activities.

Weather news and information are gaining more attention from the news media in the Mainland. The Hangzhou Meteorological Bureau has a well equipped studio for producing weather programmes. They are now facing new challenges from the media. For instance, the weather was unstable with thunderstorms and hails during our visit in Hangzhou. Our flight from Beijing to Hangzhou was delayed for two hours due to the inclement weather. The director of the Zhejiang Meteorological Observatory, Mr Huang Zhenming, who accompanied us during our visit, had to answer telephone enquiries from time to time, even during the lunch hour. While we were having lunch with another director of the Zhejiang

Meteorological Observatory, Mr Zhou Fu, the TV news was showing him in the interview.

Interestingly, the normal February rainfall in Hangzhou should not be too much. However, it had been raining for more than a week before we arrived at Hangzhou. The accumulated rainfall amount this February in the city already broke the record. The Mainland meteorologists forecast that the rain episode would continue until early March. Just wonder if it was due to "Climate Change".

## Hong Kong Voluntary Observing Ships Commended

**WONG Chi-fai**

Meteorological observations are vital to accurate weather forecasting. Since weather observations at sea are sparse, meteorological reports made by deck officers are particularly valuable. Apart from for the preparation of routine weather bulletins, ship weather reports are also used in climatology and other atmospheric and oceanographic research.

The Hong Kong Observatory participates in the Voluntary Observing Ships scheme of the World Meteorological Organization and maintains a fleet of about 40 Hong Kong-based voluntary weather observing vessels. The deck officers take weather reports at regular intervals during their voyages. This information is helpful to forecasters to prepare effective marine weather bulletins. The Observatory awarded certificates of appreciation to shipmasters of six Hong Kong Voluntary Observing Ships to express the gratitude to deck officers' contributions to marine weather observations in 2008. Ships receiving the commendation are listed below :



Captain D. R. Llewellyn (right) of Hong Kong voluntary observing ship "OOCL Hamburg" receiving the certificate of appreciation

Maersk Gairloch	OOCL Hamburg
OOCL Netherlands	OOCL Ningbo
OOCL Long Beach	Star Pisces



# Anemometer Design Competition Activity - Visit to the Tai Mo Shan Automatic Weather Station

CHIU Chiu-yee

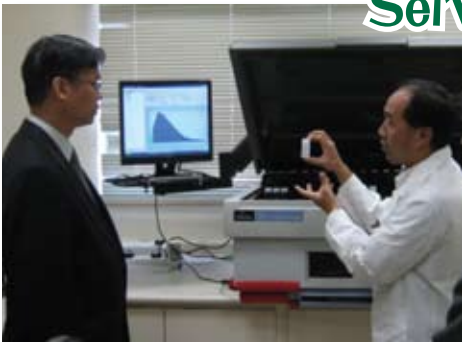


Observatory staff explaining the operation of an anemometer

The Observatory and the Faculty of Engineering of the University of Hong Kong jointly organize an anemometer design competition for primary and secondary school students. Since the competition's kick-off in September 2008, a number of activities including seminars, visits and workshops have been held. On 7 March, the Observatory arranged a visit to the Tai Mo Shan automatic weather station for more than 50 participants to introduce the meteorological instruments there. The students were very excited on arrival at this weather station on the highest peak of Hong Kong. Their attention was soon drawn to the Observatory staff who explained the operation of the meteorological instruments. The activity enabled the students to get a better understanding of various types of the meteorological instruments and the adjudication criteria of the competition. This would be very useful for the design and production of their entries.

The competition will continue until July 2009. For updated information and details of the competition, please visit: <http://www.cs.hku.hk/~wind/English/index.html>

## Officers of the Electrical & Mechanical Services Department Visited the Observatory



Mr. LAI Hon-chung (1st left), Chief Engineer of EMSD, seeing how the radioactivity of a sample was measured.

LEE Lap-shun

The Electrical & Mechanical Services Department (EMSD) has been collaborating with the Hong Kong Observatory for a long time on radiological emergency response in connection with the Daya Bay Contingency Plan. Officers from their Electricity Legislation Division and Nuclear & Utility Safety Sub-division visited the Observatory on 3 February to learn more about the facilities of radiological emergency response, monitoring and measurement. The two sides also explored opportunities for further cooperation on aspects such as drills and training with a view to strengthening the capacity of radiological emergency response.

For more information about the work of the Observatory and the EMSD in radiological emergency response and nuclear safety, please visit the following websites: <http://www.weather.gov.hk/education/dbcp/menu/eng/emenu.htm> and [http://www.emsd.gov.hk/emsd/eng/pps/oa\\_ns.shtml](http://www.emsd.gov.hk/emsd/eng/pps/oa_ns.shtml).

## My Days in the Observatory



Miss Yu (left) using mobile phone to demonstrate her product.

YU Wing-kwan

I am an information engineering graduate from the Electrical and Mechanical Services Department. I attended a six-week internship at the Satellite and Radar Meteorology Division of the Hong Kong Observatory from December 2008 to February 2009. The first time I stepped into the Observatory's headquarters, I was deeply attracted to her tranquil environment, green vegetation and serene footpaths. How wonderful is it to have such a quiet place in this bustling city. While it took quite an effort to walk up the slope to the office every day, it was after all a good exercise for me.

The work of each division in the Observatory is all very interesting. The internship enabled me to gain better understanding of satellite meteorology as well as operation and maintenance of the weather radar systems. Furthermore, my internship project was on the design of a system to facilitate remotely monitoring the operation of outdoor facilities via mobile phone. This involved design of electronic circuit boards, computer programming, system testing and so on. Through this project, I have gained valuable real-life experience.

# VISITS · COURSES · TALKS



World-famous "Fung Shui" master Mr Choi Pak-lai(left) visited the Observatory on 11 December 2008.



Dr Lilian Pun, Associate Head of the Department of Land Surveying & Geo-Informatics of HKPU gave a talk at the Observatory on 14 January.



Delegation of Shenzhen Metrological Bureau visited the Observatory on 25 February. Scientific Officer Mr Leung Yin-Kong introduced to them the Observatory's weather services.



The Observatory conducted a public course on "Interpretation of Radar and Satellite Images" at its headquarters on 28 February and 7 March. Scientific Officers Ms Lee Shuk-ming and Mr So Chi-kuen introduced the basics of radar and satellite, use and interpretation of radar and satellite images, and identification of severe weather.



A public talk on "Hong Kong Community Weather Information Network (HK Co-WIN)" was given by Scientific Officer Mr Tam Kwong-hung on 18 April to introduce the weather information provided on the Co-WIN website, future development of network and how schools and organizations may become a member.





A public talk on "Earthquake and Tsunami" was given by Scientific Officer Mr Woo Wang-chun on 28 February. The causes, monitoring and contingency measures of earthquake and tsunami were explained.



A public talk on "Nowcasting at a glance - forecasting severe weather a few hours ahead" was given by Scientific Officer Mr Yeung Hon-yin on 7 March to introduce an in-house developed nowcasting system SWIRLS and its applications in support of the Beijing 2008 Olympic Games. He also demonstrated a recently launched web product "Rainfall Nowcast for the Pearl River Delta Region".



## The Director, Mr Lam Chiu-ying, Retires

LEUNG Wing-mo

After serving at the Hong Kong Observatory for 35 years, the Director Mr Lam Chiu-ying began his pre-retirement leave on 6 April. Mr Lam's association with the Observatory started well before he was employed as a Scientific Officer. He recalled that during the Advanced Level examination, physics was the only subject he failed to get a distinction grade. But he decided to study physics in the University all the same. This was partly because of the influence of the motto of the Chinese aesthetics maestro Zhu Guangqian "to challenge the largest difficulties", but mostly because it was Mr Lam's aspiration to start his career in meteorology, of which physics is a prerequisite.

Reviewing his life in the Observatory, Mr Lam said that he probably enjoyed most when he analysed a weather chart using a piece of pencil, because in that way, he derived happiness when he got intimately connected with the atmosphere. He joked that he would love to volunteer to analyse weather charts in his retirement. Of the many new weather services he introduced in his career, he was particularly proud of the Cold Weather Warning which was a milestone in bringing a caring culture to the work of the Observatory.

On his last working day on 3 April, the Observatory staff threw a party for Mr Lam. His boss, the Permanent Secretary for Commerce and Economic Development, Miss Yvonne Choi also came to the party to bid him farewell. In the party, Mr Lam recited a Chinese poem he wrote for his Observatory colleagues, translated below with an inevitable loss of the original artistic flavour:

**Impossible to fathom the mystery of the atmosphere;  
Passionate for the love of science and literature;  
Rejoicing over the toil of managing the Observatory;  
Sunshine always comes after the wind and rain.**

In the original Chinese poem, the first word of each line together form the term "Observatory people". This was Mr Lam's way of showing his gratitude to those people he has been working with for so long. He even printed the poem onto a folding fan, which he gave as a gift to all colleagues and guests. On the other side of the fan wrote the words "To serve and protect life through science" - a wish of Mr Lam to his successors to further develop the Observatory's core value.



The Permanent Secretary for Commerce and Economic Development, Miss Yvonne Choi, presented a retirement souvenir to the outgoing Director (right).

# MR SHUN CHI-MING PROMOTED TO ASSISTANT DIRECTOR

CHOI Siu-chuen



Mr Shun Chi-ming was promoted to Assistant Director of the Hong Kong Observatory on 1 December last year to fill a vacancy due to the retirement of another Assistant Director. Before promotion, Mr Shun was a Senior Scientific Officer and Acting Assistant Director responsible for aviation weather services for many years. He also contributed substantially to the international community as Vice-president of the Commission for Aeronautical Meteorology of the World Meteorological Organization. Mr Shun still oversees the aviation weather services and continues to serve the public and the aviation sector with his expertise and many years of experience.

Mr Shun (right) receiving the promotion letter from the former Director

## New Scientific Assistants Celebrate Graduation

LEUNG Kwan-kit

On 3 April, the eight recently recruited Student Scientific Assistants gathered and celebrated their graduation with the Director. After 10 weeks of hard work, they successfully completed the Initial Training Course and have been posted to different sections for on-the-job training.

Student Scientific Assistants receiving graduation certificates from the former Director (1st right)



## Observatory Staff Receiving Praise

Staff of the Observatory who received words of thanks and commendation from the public or organizations during January-April 2009:

Mr LAM Chiu-ying	Former Director
Ms LAM Ching-chi	Senior Scientific Officer
Mr CHAN Pak-wai	Scientific Officer
Mr LI Ping-wah	Scientific Officer
Mr LI Luen-on	Chief Experimental Officer
Mr HONG Chi-yuen	Chief Experimental Officer

## Outstanding Observatory Staff Commended by the Director

CHOI Siu-chuen

To promote the culture of "Appreciation", the Observatory gives commendation to those colleagues with substantial contribution towards the department or exceptionally meritorious performance. Nominations from all divisions would be assessed by an independent departmental committee before submitting a recommendation to the Director.

In 2008, 21 colleagues were commended by the Director for their exceptionally meritorious performance and another 25 colleagues with outstanding performance were awarded an appreciation letter. The presentation ceremony was held at the last Christmas Party and the Director has personally presented the awards to the recipients.

Let us applaud and share the success of our colleagues who won the awards. The full list of these colleagues can be found at [http://www.weather.gov.hk/outstanding\\_officers/outstand\\_2008\\_e.htm](http://www.weather.gov.hk/outstanding_officers/outstand_2008_e.htm)

## Best TV Weather Program Presenter

1st Quarter 2009

Ms SONG Man-kuen, Sandy

## Visit to the Printing Materials Testing & Analytic Centre

CHIU Hung-yu



Photo of the Observatory colleagues, officer-in-charge and experts of the PMTAC

The Happy Business Working Group arranged a visit to the Printing Materials Testing & Analytic Centre (PMTAC) for colleagues on 16 January. The PMTAC was established in 1996 and is sponsored by the Innovation and Technology Commission. The centre is well equipped with 16 major testing instruments and some auxiliary apparatus. It can provide more than 30 examination items on industrial or international standard to help improve the quality and efficiency of the printing industry. The PMTAC experts introduced in detail their service, the development of printing industry and various types of printing technology, and demonstrated the operation of their facilities to our colleagues.

## Volunteer Ambassador Programme: Visit to Elderly home

CHOW Chi-kin

The Observatory Volunteer Team (HKOVT) always spares no effort in participating in community services. To echo the Volunteer Ambassador Programme initiated by the Social Welfare Department, HKOVT has organized a scarf-knitting activity and arranged a visit to an elderly home in the last season of 2008. The activity aroused great enthusiasm from colleagues, in particular female staff in the Administration Division who are skilful in knitting. They spent almost all their spare time in knitting just to meet the target of completing 50 scarves before the Christmas holidays. We also received donations from our kind Director and other colleagues. All these are really strong inspiration to us.



Volunteers taking photo with the elderly

Everything was ready on 17 January. Carrying the souvenir packs with a caring heart, the volunteers started their journey to the "Jordan Elderly Home" under glorious sunshine. The visit was warmed up with games and songs, as an early greeting to the elderly for the Lunar New Year. Then we started to distribute our elegant scarves to the elderly with love and care. The volunteers, senior citizens and nurses all enjoyed a very pleasant afternoon together, marking a successful ending to the activity.

## 'Le tour de Taiwan' Charity Ride

Editorial Board



Scientific officer Chan Siu-wai, Wallace on the charity ride

In line with the Observatory's spirit of caring for the community, Wallace Chan, a scientific officer of the Observatory, took on a 10-day charity ride in Taiwan to raise fund for the HK Unison during the 2008 Christmas holidays. In his cycle tour around Taiwan with a teammate, Wallace had the chance to meet indigenous people in central and eastern Taiwan, experience their culture and to promote cross-racial understanding and communications.

To complete the journey in 10 days, Wallace had to cover 100 km per day and surmount the highest mountain passage in Taiwan at over 3000 metres above mean sea level. 'Although the trip was harsh, I met various tribal people and enjoyed every moment of it. Some of them have since become my friends.' Wallace recalled.

# Visit to Government Flying Service

**CHAN Pak-wai**

On 17 March, a group of five Observatory staff led by Assistant Director Mr. Shun Chi-ming visited the Government Flying Service (GFS) and met with the Controller, Captain Michael Chan and his staff. The visit discussed strengthening collaboration between the two departments and enhancement of the Observatory's provision of aviation weather services. The Observatory is now working with GFS to upgrade the meteorological equipment on a fixed-wing aircraft for further improving windshear and turbulence alerting.



Observatory staff visited the GFS hangar.

## Indoor Rowing Charity Rowathon 2009

**LI Wai-ching**

On 15 March, a team of Observatory staff took part in the Indoor Rowing Charity Rowathon 2009 organized by the Hong Kong, China Rowing Association. The six Observatory athletes turned up punctually in the training room of the race venue. There we warmed up and discussed the racing strategy. At the last roll call, all participating teams gathered at the entrance, including the muscular discipline forces, young post-secondary students and us the physically-veiled white-collar workers. We looked around to boost our self-confidence and kept reminding ourselves that at least we had the courage to join.

In the hall, 14 indoor rowing machines were lined up in two rows. A plasma TV was set up in front of each pair of machines to show the calculated positions of the two teams. The race started when the gong hit,

and all the athletes rowed at their maximum strength. When the gong was hit again 3 minutes later, it was the turn of the next athlete to row. The cycle repeated and each team was required to row for 30 minutes totally. The distance covered by each team was shown on the TV. It appeared that we were really not rowing fast enough.

As for the result, we finished only 6839 meters which turned out to be the least. When compared with the champion's 9118 meters, we were definitely far behind. Yet we were not disappointed at all because we enjoyed the race. If you are interested in the result, please visit [http://www.rowing.org.hk/imglib/resultdl/251\\_a.pdf](http://www.rowing.org.hk/imglib/resultdl/251_a.pdf)



The Observatory's six athletes

## Observatory Awarded the

# “Caring Organisation” Title



### CHOI Siu-chuen

The Observatory has, for four consecutive years, been awarded the “Caring Organisation” title in 2008/09. The award signifies the recognition to the Observatory’s achievements in supporting and providing assistance to employee volunteering through the HKO Volunteers, providing a family-friendly environment for employees through a series of family-oriented policies and activities, offering employment and vocational training opportunities to the vulnerable groups, promoting awareness and initiatives on environmental protection, and encouraging donation in cash and in kind to social service organisations.

The “Caring Organisation” Certificate

## Renovation of King’s Park Meteorological Station Completed

### CHOW Chi-hung

The Hong Kong Observatory commemorated the completion of its recent renovation of the King’s Park Meteorological Office with a celebration at the station on the 3 March. Honored guests from the Architectural Services Department and the Government Laboratory enjoyed refreshments and fellowship with around 50 Observatory staff and admired the new “cyber look” of the station office. Mr Lam Chiu-ying, former Director of the Observatory, inaugurated the celebration with a welcome speech followed by the cutting of a roast pig.



Cutting the roast pig



New “cyber look” of the King’s Park Meteorological Station

### LEI Chi-lap

The annual Christmas Party was successfully held in the Conference Hall of HKO Headquarters on 24 December last year. During the party, awards such as the Long and Meritorious Service Award, Departmental Commendation Letter Scheme, Staff Suggestion Scheme and Clarity System Development Campaign were presented to those who have been outshining in the different areas last year.

Thanks to the fine dishes and entertaining games, joyfulness filled up the venue quickly. The atmosphere turned tense when it came to the grand finale which is the lucky draw. Our former Director again contributed a generous \$8000 dollars worth of travel coupons as the prize. Our colleague Ms. Christina Yeung was lucky enough to take home those coupons.

As spoken with Christina, she is going to spend the trip with her family in Egypt. Let’s wish Christina and her family a happy vacation there.



Ms Christina Yeung receiving the coupons cheerfully

## Mailing Address

# Observatory Staff Took Part in Green Power Hike

MA Lap-yin

Wallace (left) and I at the starting point, Peak Galleria, before we set off.



On 28 February, my colleague Mr. Wallace Chan and I teamed up to take part in the 16<sup>th</sup> Green Power Hike to raise funds for a greener future. Although I already had some experience in similar activities such as the Oxfam Trailwalker, the Sowers Action's Challenging 12 hours and the Green Power Hike several years ago, this kind of competition was a new try for Wallace. As an enthusiast in outdoor activities, he often took part in canoeing, scuba-diving, cycling and ball games, but seldom had a hand in trekking. I admired his courage to try different things!

In fact, before the competition we only had two training sessions on different segments of the Hong Kong Trail (the venue for this event) in the previous two weekends. Gratefully, we met our target of finishing the full 50-km Hong Kong Trail course within 10 hours. The result was not bad for Wallace, considering he was a novice in such events! It proved that his frequent participation in outdoor activities had kept him physically fit.

Of course, the nice weather also helped. The air temperature was in the range of 19-23°C and the average relative humidity was 85% at the Hong Kong Observatory Headquarters in Tsim Sha Tsui, with a trace amount of rainfall. Although it was cloudy and the ground was slightly slippery in the morning, the temperature at the Peak (lower than that in the urban area by 2-3°C) was indeed quite suitable for trekking.

We certainly have to pay tribute to our generous colleagues whose donations have supported the environmental education work of Green Power and helped push forward the corresponding programmes in local secondary, primary school and kindergartens. This made our sweating trek worthwhile.



Pictured at the finishing point Big Wave Bay after trekking the full Hong Kong Trail course