

WEATHER ON WINGS



香港天文台
HONG KONG OBSERVATORY

September 2011

Dial-a-Weather: 1878 200

Home page: <http://www.hko.gov.hk>, <http://www.weather.gov.hk>

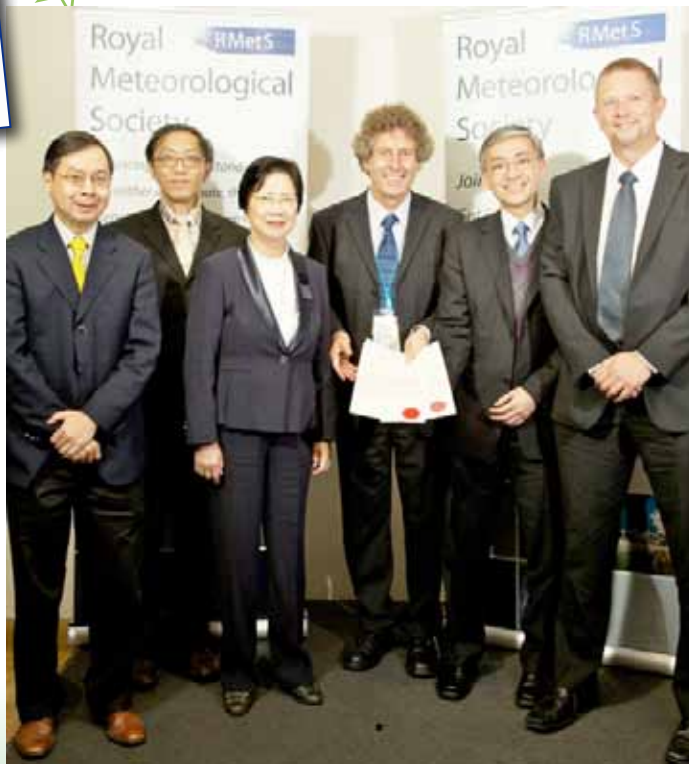


▲ 2010 Vaisala Award

Mr SHUN Chi-ming, Director of the Hong Kong Observatory (HKO), and Professor Helen CHAN, Head of the Department of Applied Physics of Hong Kong Polytechnic University (Poly U), were cordially invited to the Royal Meteorological Society (RMetS) Conference on 29 June (UK time) in Exeter, UK to receive the prestigious 2010 Vaisala Award for Weather Observing and Instrumentation for the Community Weather Information Network (Co-WIN).

Community Weather Information Network Wins Royal Meteorological Society Award

CHAN Siu-wai, Wallace



▲ Group photo (from left to right) of Dr LEE Boon-ying, former Director of HKO, Dr ONG Chung-wo and Professor Helen CHAN of Poly U, Professor Tim PALMER, the President of RMetS, Mr SHUN Chi-ming, the Director of HKO and Mr David BULLOCK, the representative from Vaisala.

The Vaisala Award, presented every two years, was conferred to the HKO and Poly U in recognition of their joint effort in raising community awareness toward weather and climate through the establishment of Co-WIN in Hong Kong. In the citation of the award, the RMetS highlighted Co-WIN's success in enabling people of all ages, in particular schoolchildren, to appreciate the elements through hands-on activities in running weather stations. They also recognised Co-WIN's achievement in demonstrating how groups can work together to deliver high-quality community education on weather and climate for the benefit of all.

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THE OBSERVATORY AND THE WORLD METEOROLOGICAL ORGANIZATION PROVIDE CITY WEATHER FORECASTS AND RELATED TRAINING TO DEVELOPING COUNTRIES IN ASIA

LI Yuet-sim

The project of the World Meteorological Organization (WMO) in providing city weather forecasts to developing countries in Asia was officially launched on 7 July. The project was developed by the Hong Kong Observatory (HKO) in association with the Japan Meteorological Agency (JMA) and the Korea Meteorological Administration (KMA). The aim is to offer an affordable means for developing countries to access and apply numerical weather prediction (NWP) products to improve their public weather services. This is accomplished through the generation of city forecasts by meteorological centres in Hong Kong, Japan and Korea for some 210 cities via the Internet twice daily, covering various weather elements for the next few days. At present, 21 WMO members in Asia are participating in the project.



▲ Dr Tokiyoshi Toya (2nd left), Director of Regional Office for Asia and the South-West Pacific of WMO; Dr CHENG Cho-ming (2nd right), Acting Assistant Director of HKO; Mr Masakazu Higaki (1st left), Scientific Officer of JMA; and Mr Hyun Cheol Shin (1st right), Senior Researcher of KMA, attending the launching ceremony of the project.



▲ Participants and lecturers of the training workshop on severe weather forecasting and warning services discussing the weather situation at the Central Forecasting Office.

In addition, the HKO and the WMO hosted a training workshop on severe weather forecasting and warning services from 4 to 15 July to strengthen the capacities of several Southeast Asian countries in applying NWP products to severe weather forecasting and public weather services. Representatives from national meteorological services and disaster management authorities of five Asian countries, namely Cambodia, Laos, Thailand, Vietnam and the Philippines, attended the workshop. Lectures were given by experts from the WMO, China, Japan, Kenya, Vietnam and Hong Kong.



The Observatory Wins ICT Awards

The Observatory has won five awards in the Hong Kong Information and Communication Technology (ICT) Award 2011. They are:

CHENG Yuen-chung

| Award Category | Award | Award Project |
|--|----------------------|---------------------------------------|
| Best Public Service Application (Small Scale project) | Gold | MyObservatory |
| Best Public Service Application (Public Services Web Site) | Silver | World Weather Information Service |
| Best Ubiquitous Networking (Mobile Infotainment) | Silver | MyObservatory |
| Best Lifestyle (Green, Healthy & Creative Living) | Certificate of Merit | Digital Weather Forecast Webpage |
| Best Collaboration (Service) | Certificate of Merit | Community Weather Information Network |

In particular, "MyObservatory" won the Gold and Silver awards in two different categories.

"MyObservatory" is a personalized weather service developed in-house. Making use of the positioning function of smartphone to estimate the user's location, the app automatically displays the latest weather information from the weather station closest to the user. The judging panel commented that "MyObservatory" really has moved government services from desktop computers to mobile devices for members of the public who are on the move and set up a good role model for other government or commercial services to follow.

"MyObservatory" is available in mobile app on iPhone and Android platforms. It also has a webpage version for mobile and desktop computers.



▲ The Observatory's winning teams at the awards presentation ceremony

My Little Observatory

HONG Chi-yuen

The new website "My Little Observatory" has been launched. Designed specifically for kids, the website provides many interesting weather tips as well as interactive games for children and interested parties, please visit the site at: <http://kids.weather.gov.hk>.

► "My Little Observatory" website



Observatory to Enhance Earthquake Information Release

LAU Dick-shum, Dickson

Starting from the end of May, the Observatory issues Strong Earthquake Reports for earthquakes of magnitude 6.0 or above worldwide and Locally Felt Earth Tremor Reports for earth tremors felt in Hong Kong, replacing the decade-long practice of issuing earthquake press releases. When a strong earthquake occurs far away, the Observatory uses its new seismic analysis system to acquire data from seismographs worldwide and to compute the earthquake's parameters, thus expediting the release of earthquake information.

Details of new arrangement for issuance of earthquake information release can be found in the following website:

<http://www.weather.gov.hk/press/D4/2011/pre20110524e.htm>



▲ Trial version of Quick Earthquake Messages on Twitter



Besides, the Observatory launched a trial version of Quick Earthquake Messages (QEM) on its QEM Twitter account since the end of March. The service was well received. Starting from August, earthquake messages are also included in the Observatory's Weibo and Twitter accounts. Nowadays, apps for Twitter and Weibo are available on most smart phones and mobile devices with some featuring message

notification that alerts users to get earthquake messages almost immediately.

To learn more about QEM on Twitter and Weibo, please visit the following websites:

HKO QEM Twitter account: <http://twitter.com/HKOQEMCE>

HKO Twitter account: <http://twitter.com/observatoryhk>

HKO Weibo account: <http://t.sina.com.cn/observatoryhk>

Analogue Long-Period Seismograph Decommissioned

CHAU Ming-shum

The Observatory installed the first set of analogue long period seismographs back in 1921, starting the era of instrumental earthquake monitoring in Hong Kong. The photo shows a Lamont-Doherty analogue long-period seismograph that had operated since 1958. After service of over half a century, it was retired in May this year and has since become a heritage item. For information regarding the replacement seismograph, please refer to <http://www.hko.gov.hk/press/D4/pre20100218e.htm>.



Launch of New Version 1.1 of "MyObservatory" for Android

CHENG Yuen-chung



▲ Sample displays of the of version 1.1 of "MyObservatory" on Android

The personalized weather service "MyObservatory" has enjoyed increasing popularity since its launch in March 2010. The total number of page visits has already exceeded 1,000 million.

To further enhance the weather service for people on the move, the Observatory launched on a new version of "MyObservatory" on 17 May. Version 1.1 contains the following new features:

- Rainfall distribution map
- Radar map overlaid with lightning location information
- Observatory's blog
- Links to HKO's Twitter and Weibo accounts

The new version can be downloaded from the following link:
https://market.android.com/details?id=hko.MyObservatory_v1_0

The Observatory Launches Web Clock for iPhone/iPad (Trial)

WOO Wang-chun



The web clock of the Observatory has gained immense popularity since its operation in October 2009. It has already served over 1.7 million time checks to date.

To facilitate users of iPhone and iPad, the Observatory launches the HTML version of web clock for trial operation. Adopting the latest HTML5 technology, this version of web clock can be used on iPhone/iPad as well as major browsers directly, without pre-installing Flash Player.

The web address of the HTML version web clock is:
http://www.hko.gov.hk/gts/time/clock_e.html

The Observatory Enhances Information Delivery on

WEIBO AND TWITTER

TONG Yu-fai



To enhance information delivery to alert the public about hazardous weather, the

Observatory recently disseminates imminent heavy rain alert, as well as intense gust information associated with thunderstorms via the Weibo and Twitter websites. In addition, reports of hail, waterspout and tornado will also be disseminated on these two websites, as appropriate.

The Observatory also delivers real-time weather warnings and its latest news via the two websites. By following the Observatory's official accounts on Weibo and Twitter, you will be kept posted of the latest weather information. The official Weibo and Twitter accounts of the Observatory are <http://t.sina.com.cn/observatoryhk> and <http://twitter.com/observatoryhk> respectively.

The Observatory's New Radiological Survey Vehicle Officially Launched

CHAN Kin-yu

A new radiological survey vehicle, replacing the old vehicle which was in service for 12 years, has been officially deployed for carrying out tasks such as sampling and in-situ radiation monitoring over various parts of Hong Kong under the "Environmental Radiation Monitoring Programme".



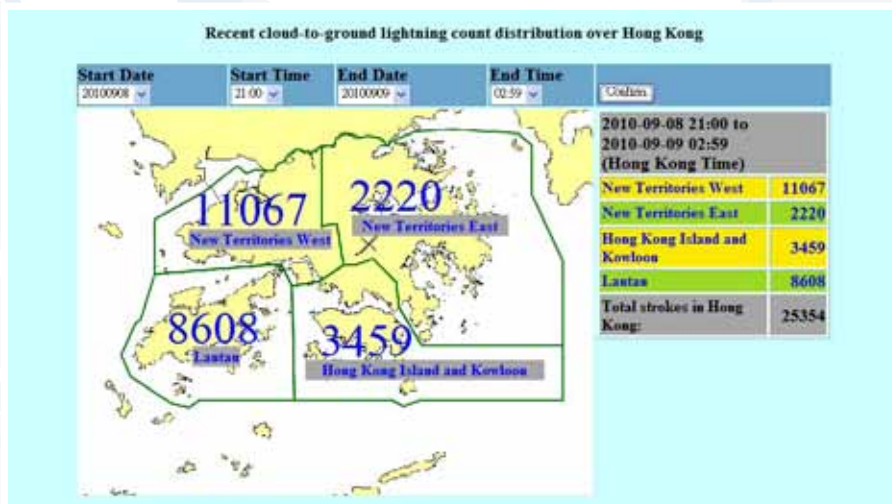
▲ The new radiological survey vehicle, with new meteorological instruments installed on its top, can collect both radiation monitoring data and weather information at the same time.

The new radiological survey vehicle, like its predecessor, is equipped with various portable radiation monitoring instruments and sampling tools. At the same time, supporting facilities of the vehicle have been enhanced. One of the new features is the installation of meteorological instruments on top of the vehicle for the collection of weather data. Using a data transmission system developed in-house, both weather and radiation monitoring data can be processed and transmitted back to the Observatory Headquarters for analysis via mobile telephone networks in real-time.

Subsequent to the nuclear accident at Fukushima, Japan, the new radiological survey vehicle performed its first routine radiation monitoring task in April and the environmental radiation levels measured were all found to be normal.

HONG Chi-yuen

The Observatory launches "Regional Lightning Counts" webpages

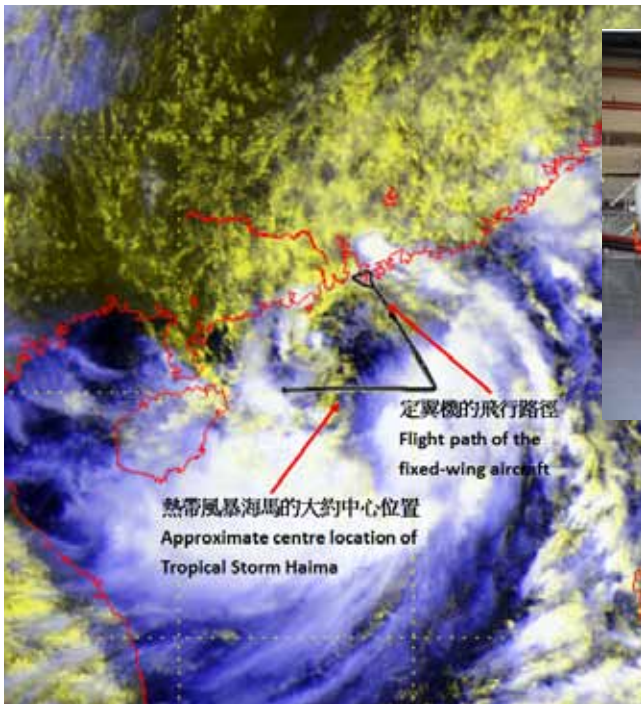


From 27 July, regional lightning counts are available on the Observatory website. Through this new service, user can obtain the latest information on the distribution of lightning activities in four regions of Hong Kong. Users may also obtain the number of lightning strokes in a user-specified period of time within the past three days.

You are invited to visit:

http://www.weather.gov.hk/wxinfo/llis/gm_index.htm

▲ Past 6 hours regional lightning counts at 3 am on 9 September 2010



▲ The flight path of the fixed-wing aircraft on 22 June (black lines), overlaid on the visible satellite imagery at 11 a.m. on that day. It could be seen that the aircraft had once flown very close to the centre of Tropical Storm Haima.



▲ The meteorological measuring system installed on the fixed-wing aircraft, with the inset showing the air data probe.

The Observatory collaborates with the Government Flying Service (GFS) to use its fixed-wing aircraft for collecting meteorological data in the vicinity of Hong Kong. On 22 June when Tropical Storm Haima affected the northern part of the South China Sea, for the first time the fixed-wing aircraft flew near the centre of the storm, collecting unique data including wind and pressure up to 20 readings

per second. Such data are helpful in determining the strength of the storm and supporting decision-making in the provision of public weather service.

Captain Eric LEUNG who took part in the flight said, "We are proud to be part of the team in investigating the intensity of the tropical cyclone. We are pleased to learn that the collected data had been useful to the Observatory in formulating the weather forecast".

The Observatory will continue to collaborate with GFS to collect meteorological data over the northern part of the South China Sea using aircraft, in order to fill in the data void in this region.

Visiting Middle South Regional Air Traffic Management Bureau, Civil Aviation Administration of China

CHAN Pak-wai

Mr SHUN Chi-ming, Director of the Observatory, accompanied by Mr CHAN Pak-wai, Senior Scientific Officer, visited the Middle South Regional Air Traffic Management Bureau, Civil Aviation Administration of China in Guangzhou on 14 June. They met with Mr ZHANG Jian, the Director of the Bureau, and discussed with Mr CHEN Suijun, Head of Meteorology Division, and his colleagues, reviewing the work progress of the Pearl River Delta Aviation Meteorology Working Group and exchanging views on future collaboration in such areas as numerical weather prediction and meteorological instrumentation. They also visited the Meteorological Centre of the Middle South Regional Air Traffic Management Bureau located at the Baiyun Airport to understand its daily operation.



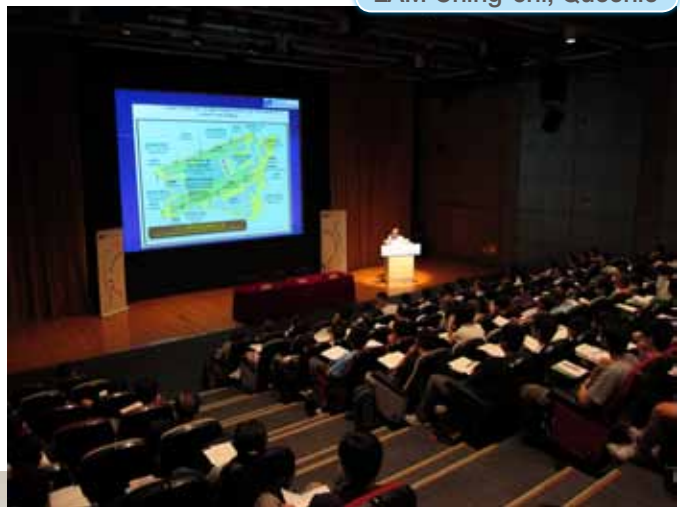
▲ The Director (left) offered souvenir to Mr ZHANG (right)



“General Education Lectures on Aviation Weather”

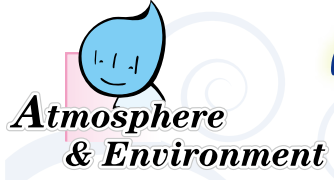
LAM Ching-chi, Queenie

Around 200 participants attended the "General Education Lectures on Aviation Weather" held for the first time by the Observatory for the public at the Hong Kong Science Museum on 13 July. It was a public educational initiative from the Observatory's Liaison Group on Weather Information for General Aviation. The lectures covered the impact of weather on aviation, weather observation and measurement, interpretation of aviation weather reports and forecasts, as well as the Observatory's aviation weather services. In addition to the lecturers from the Observatory, representatives from the Scout Association of Hong Kong and the Hong Kong Air Cadet Corps were guest speakers of the event. Captain Victor LAU Wing-tao, Flight Lieutenant (specialist) of the Hong Kong Air Cadet Corps shared his flying experience in Hong Kong and the use of weather information in flight planning. Another guest speaker, Mr Francis CHIN Yiu-cheong, Q.S., J.P., Leader of Venture Air Scouts of the 1064th Kowloon Group and a long distance cross-country record flying aviator, briefed the audience on the meteorology for air scouting and his exciting cross-country flying experience.



▲ Mr Paul HO, Senior Experimental Officer, lectured on weather observation and measurement during the event.

▶ (From left to right) Captain Victor LAU Wing-tao of the Hong Kong Air Cadet Corps, Ms Queenie LAM Ching-chi of the Observatory, and Mr Francis CHIN Yiu-cheong, Q.S., J.P. of the Scout Association of Hong Kong, responding to participants' questions at the end of the lectures.



New Tropical Cyclone Names for 2011

LUI Wing-hong

Since the year 2000, the Observatory has adopted a new set of 140 tropical cyclone names, contributed by 14 member countries and territories of the Typhoon Committee*. Tropical cyclone names with regional characteristics, such as "Kai-tak" and "Choi-wan" contributed by Hong Kong, are intended to raise the awareness of members of the local community to impending tropical cyclone hazards. According to the convention of the Typhoon Committee, the country or region which has suffered serious human casualties and economic losses from a tropical cyclone may propose to remove its name from the name list.

Three new names were endorsed by the Typhoon Committee at its 43rd Session in January 2011. These names have been adopted in the name list for tropical cyclones in the western North Pacific and the South China Sea for 2011. The meaning of the new tropical cyclone names and the contributing countries/regions are as follows:

| Name | Meaning | Contributing country / region | Old names to be replaced |
|--------|--------------------------------|-------------------------------|--------------------------|
| Atsani | Lightning flash | Thailand | Morakot |
| Champi | Waxy flower with a sweet scent | Lao PDR | Ketsana |
| In-fa | Fireworks | Macau, China | Parma |



The Chinese translations for the tropical cyclone names are jointly determined by China Meteorological Administration, Hong Kong Observatory and Macau Meteorological and Geophysical Bureau.

Please refer to <http://www.weather.gov.hk/informtc/sound/tcname2011e.htm> for the updated list of tropical cyclone names.

* Typhoon Committee is under the joint auspices of the United Nations Economic and Social Commission for Asia and Pacific and the World Meteorological Organisation

Climate Change FAQ

KOK Mang-hin

Through a question and answer approach, the Climate Change FAQs will explain some basic knowledge and facts of climate change in layman terms in order to enhance the public's understanding of the causes of climate change, its impacts and what we can do to mitigate its effects.

Q. Can the warming of the 20th century be explained by natural factors?

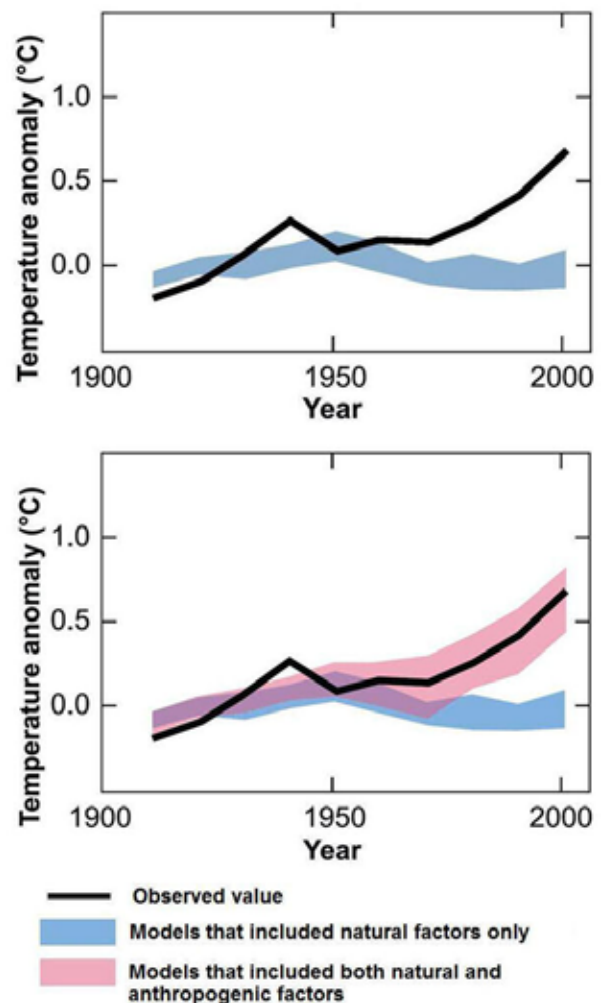
A. The natural factors affecting climate include solar activity, volcanic activity, the Earth's orbital variation, etc.

Solar activity causes changes in solar energy output and affects the Earth's energy balance and climate.

Recent satellite observations confirmed solar irradiance has an 11-year cycle related to sunspots. However, there is no increasing trend in solar irradiance in the last few decades, while global temperatures have increased significantly. Therefore, solar activity is not the main cause of the climate warming in the 20th century. Actually since the Industrial Revolution, increased man-made greenhouse gases have far more impact on the climate change than the variation of the Sun's irradiance.

Volcanic eruptions eject large amount of dust and suspended particulates high into the atmosphere, temporarily shielding the Earth, reflecting sunlight back to space. This will decrease the solar energy received by the Earth's surface, causing short-term climate cooling.

The Earth's orbital variation brings itself closer or further away from the sun in periods of hundreds of thousands of years, which could be related to the past ice-ages and very-long-term changes in the climate. However, they do not have much impact on the climate change observed over the centennial time scale in the past century.



▲ Modeling result of global temperature change by considering natural and anthropogenic factors. (relative to the corresponding average for 1901-1950) (Source: IPCC, 2007)

Climate models cannot reproduce the warming observed in recent decades when only natural factors are considered. According to model simulation, we should have observed a decreasing trend in the global average temperature in the last few decades if only natural factors are considered, but we have observed a significant increasing trend in the global temperature. On the other hand, models can simulate the observed temperature changes in the 20th century when human factors, such as greenhouse gas emissions, are included. Therefore, it is very unlikely that the 20th century warming can be explained only by natural causes. Climate modeling results show that most of the global warming observed over the last 50 years is very likely due to human activities.

“Understanding Radiation” Series - Where does radiation come from?

Editorial Board

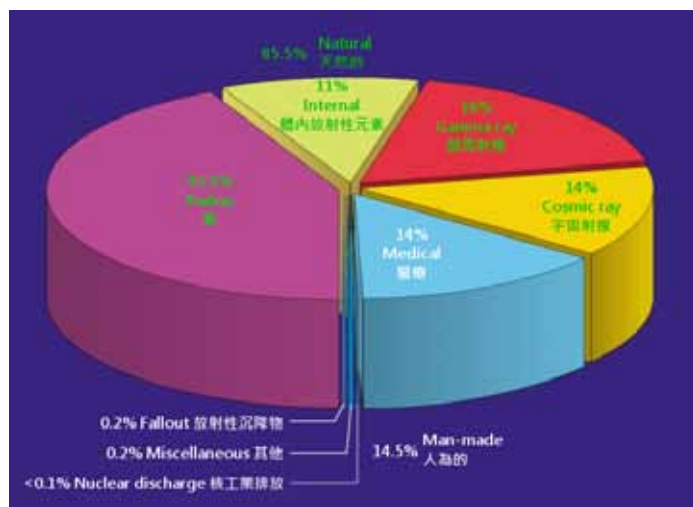
In general, there are two kinds of radiation according to its origin: natural radiation and artificial radiation.

Natural radiation

Natural radiation comes from cosmic rays from outer space and naturally occurring radioactive materials that exist in food, air and our natural habitat. 85.5% of radiation dose in our daily life is from natural radiation (see attached diagram). Please visit http://www.hko.gov.hk/education/dbcp/radiation/eng/r13_1.htm for details.

Artificial radiation

Exposure in medical practice, mostly due to diagnostic x-rays, probably contributes the largest fraction of human's exposure to artificial radiation. Fallout of radioactive substances resulting from atmospheric nuclear weapon testing, luminous watches, ionization chambers, smoke detectors, etc. make up the balance. For details, please visit <http://www.hko.gov.hk/education/dbcp/radiation/eng/r13.htm>.



Percentage of different types of radiation dose in daily life

“Clouds in Hong Kong” Series -

CHIU Hung-yu

The forms and features of medium clouds

The base of medium clouds is 2 kilometres or more above the ground. In the tropics, the top of medium clouds can reach 8 kilometres high. The lower portion of medium clouds is generally water droplets, whereas the upper portion is composed of super-cooled water droplets and ice crystals.

Medium clouds are categorized into altocumulus and altostratus. Alto is derived from the Latin word *altus*, meaning "high". Cumulus means "heap" or "pile", and "stratus" means to "stretch" or "extend".

Altocumulus clouds have a fragmented layout, and are white, greyish, or greyish white in colour (Figure 1). The clouds often take the form of lumps, sometimes appearing as pieces or groups of thin cracked tiles (Figure 2) or cracked bricks (Figures 3 and 5). Altocumulus can also appear in the form of successive rows of long waves (Figure 4). They sometimes come with shading (Figure 5) as a result of scattered diffused sunlight. For regularly arranged lumps of altocumulus, they usually have an apparent width in visual angle of between one and five degrees.

Altostratus is greyish or faintly bluish. It appears in the form of layer clouds or sheets of clouds, covering all or part of the sky. Thin (but not too thin) altostratus is like ground glass. While sunlight may pass through, much of it is diffused. The sun's appearance is vague with a fairly blurred outline (Figure 6), even though the sun's position can still be determined. An object's shadow cast on ground does not have a clear outline. Unlike cirrostratus which is high clouds that contain ice crystals, altostratus is largely made up of water droplets and super-cooled water droplets and hence does not give rise to halo.



Figure 1: Altocumulus



Figure 2: Altocumulus



Figure 3: Altocumulus
(Courtesy of Ms M.Y. MAK)



Figure 4: Altocumulus
(Courtesy of Mr S.T. CHOW)



Figure 5: Altocumulus
(Courtesy of Mr C.H. CHOW)



Figure 6: Altostratus
(Courtesy of Mr C.H. CHOW)

Astronomical Photo Album

WONG Wai-kwong

Globular Cluster, M13

M13 is the largest globular cluster in the northern celestial sphere. It houses about one million of stars, and is much more crowded than the vicinity of the Sun. If the solar system were born in this cluster, we would be dazzled by the brilliant stars all over the sky which never turns dark.



▲ (Courtesy of Hong Kong Space Museum)

Jupiter

Jupiter is the largest planet in the Solar System. In its rich atmosphere, complex belts and zones are formed by the convection of different types of gases. In the southern hemisphere of Jupiter, there is a red oval region called the Great Red Spot (shown by blue circle). It is in fact a gigantic storm big enough to hold three Earths. The storm has been found blowing for more than three centuries, and shows no signs of subsidence.



▲ (Courtesy of Hong Kong Space Museum)

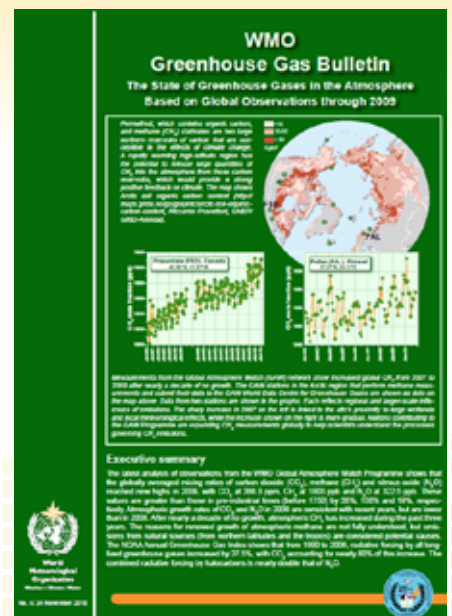
The Observatory contributes more data for climate change studies

CHAN Siu-wai, Wallace

In support of the Global Atmospheric Watch (GAW) programme of the World Meteorological Organization (WMO) to study climate change and other atmospheric subjects, the Observatory has been providing ozone data recorded at its King's Park Meteorological Station to WMO since January 1996.

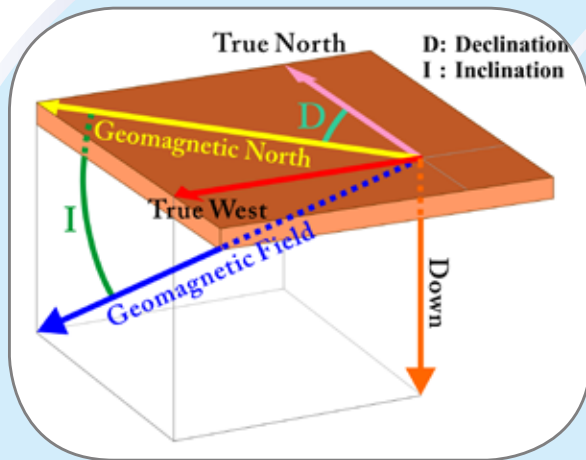
With the rapid increase of greenhouse gases in the atmosphere in recent decades, there is a growing concern of their impact on the global climate. The Observatory further supported the GAW programme by starting measurement of carbon dioxide (CO₂) concentration at King's Park at Kowloon since May 2009 and at the Background Air Monitoring Station of the Hong Kong Polytechnic University at Hok Tsui in the southern part of Hong Kong Island since October 2010. Preliminary analyses of the CO₂ data measured at King's Park and Hok Tsui have been carried out. In general, the CO₂ levels at the city station at King's Park are roughly about 10 ppm (parts per million) higher than those at the background station at Hok Tsui. CO₂ levels recorded at Hok Tsui are generally compatible with those measured elsewhere in the world.

The Observatory's contribution to the GAW endeavour is already reflected in the annual WMO Greenhouse Gas Bulletin. Daily CO₂ data recorded at King's Park and Hok Tsui are displayed in the website of the World Data Centre for Greenhouse Gases (WDCGG) of GAW (<http://gaw.kishou.go.jp/wdccc/introduction.html>).



▲ The annual WMO Greenhouse Gas Bulletin

Is geomagnetic direction same as geographical direction?



▲ Geomagnetic declination and inclination

The north indicated on a compass (magnetic north) differs from the "north" in the geographical sense (true north). The difference is known as geomagnetic declination. Besides, the angle between the geomagnetic field and the horizontal plane is known as geomagnetic inclination. The variation of geomagnetic declination on the Earth surface is not regular. For example, the reading is about -3 degrees in Gaoxiong, and about -6 degrees in Beijing (negative readings mean a westerly variation from true north). The declination is also varying with time. The declination reading at the Hong Kong International Airport in 2007 was -2 degrees 12 minutes, while in 2010 the reading was -2 degrees 19 minutes.

Navigation instruments on aircraft are based on magnetic north, therefore accurate readings of geomagnetic declination are very important to air navigation.

Isolated Showers under a Weather Camera

CHOW Siu-wing



Figure 1 Weather photo taken by the Observatory's camera at Wetland Park at around 2 p.m. on 8 June 2011.



Figure 2 Radar imagery taken at 2:12 p.m. on 8 June 2011. Red, orange, yellow and green circles mark the shower development areas near Tuen Mun, Tin Shui Wai, Fanling and Tap Mun, respectively.

Isolated showers are commonly observed over Hong Kong in summer. At around 2 p.m. on 8 June this year, isolated showers occurred over the northwestern part of the New Territories which were successfully captured by the Observatory's network camera at Wetland Park (Figure 1).

Under the influence of a southerly airstream, it was hot and humid over Hong Kong that day. Daytime solar heating caused air temperatures to rise and triggered the showery weather. Based on radar imagery at 2:12 p.m. that day, there were four different development areas near Tin Shui Wai, Tuen Mun, Fanling and Tap Mun.

Showers primarily affect areas a few kilometers wide. As a result, it is interesting to observe from Figure 1 that visitors were enjoying the scene inside Wetland Park while it was already raining heavily not far away. The Observatory has installed network cameras at various locations in Hong Kong to provide real-time weather photos for different places. Members of the public can browse the webpage at http://www.weather.gov.hk/wxinfo/ts/index_e_webcam.htm or access "My Observatory" via mobile phone application programs to know more about the latest weather conditions over various parts of Hong Kong, and to observe more interesting weather phenomena.

Measurement of Sea Current

CHAN Ying-wa

at Tai Tam Bay

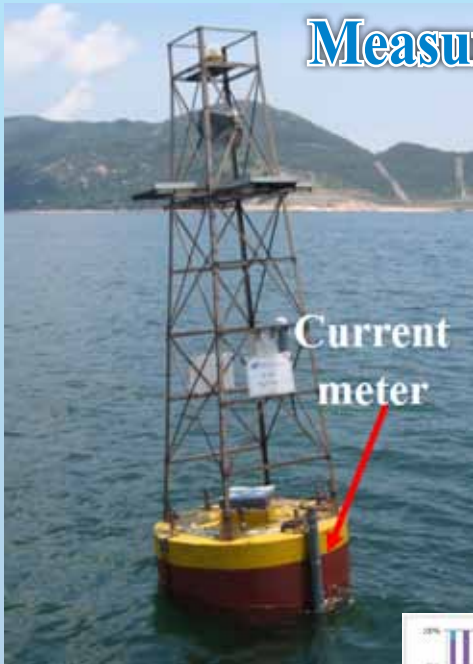


Figure 1 The Observatory's fiberglass buoy equipped with current meters at Tai Tam Bay.

To support the 2009 East Asian Games, the Observatory installed an automatic weather station at the Hong Kong Sea School in Tai Tam Bay to provide weather information including air temperatures, relative humidity, wind direction and wind speed, etc. In addition, a tailor-made fiberglass buoy mounted with current meters was placed at Tai Tam Bay to measure the sea surface current there (Figure 1).

Figure 2 shows the distribution of sea current speed based on data collected from 9 May to 10 July 2009. There was a sharp increase of the sea current in early June and speed exceeding 0.3 knot was often recorded in June and July.

The southwest monsoon starts to affect Hong Kong in June while over the sea, it is gradually dominated by the "Southwesterly Current". Due to topographic effect, current from the southwest can enter Tai Tam Bay more easily, increasing the current

speed there. This "Southwesterly Current" brings warm sea water that may contain many marine organisms from the central and southern parts of the South China Sea to the coast of Guangdong. Those interested in hooking squid overnight can consider going out to the sea to try their luck from June to August when the "Southwesterly Current" prevails.

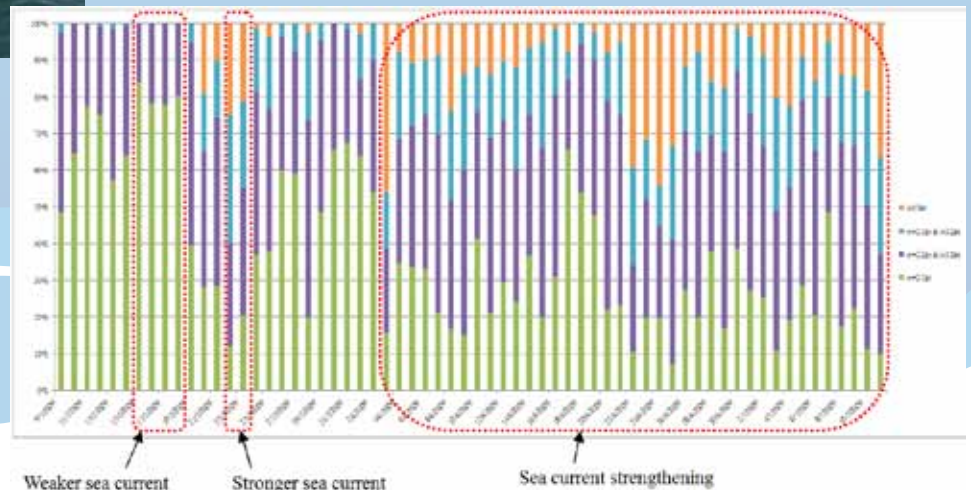


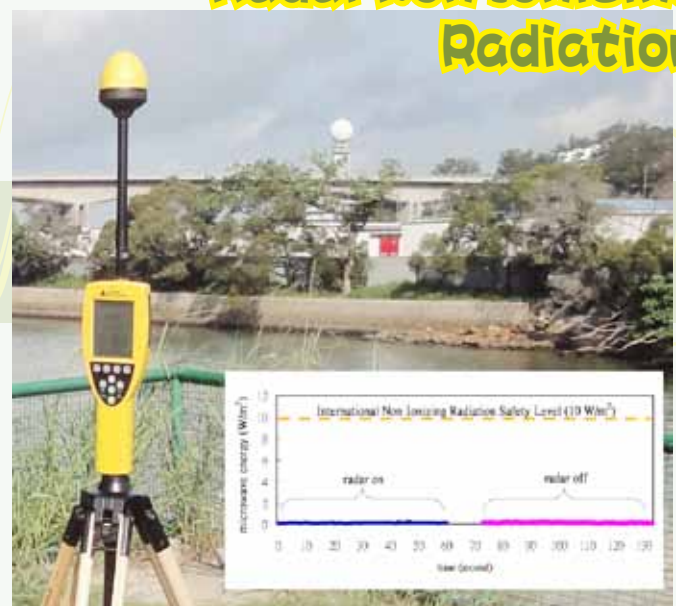
Figure 2 Distribution of sea current at Tai Tam Bay based on data from 9 May to 10 July 2009 (green denotes speed 0.1 knot; purple denotes speed >0.1 and ≤ 0.2 knot; blue denotes speed >0.2 and ≤ 0.3 knot; orange denotes speed >0.3 knot).

Weather radars emit microwave and measure the wave reflected from raindrops in the sky so as to monitor the movement and development of these raindrops. The data obtained are used in weather alerting services on rainstorm, flooding, landslip and windshear contributing to the safety of members of the public. The microwave emitted by weather radars is known as Non-Ionizing Radiation and is only beamed towards the sky. Hence, it will not cause any significant impact on the radiation levels near the radars. In spite of these, the Hong Kong Observatory considers it prudent to routinely monitor the radiation levels around the radar stations. All the measurement results indicated that irrespective whether the radar was "on" or "off", the radiation levels near the radar stations were very low with little difference, confirming that the radiation levels were within the international safety level.

- The Observatory uses instrument to measure the microwave radiation level near the weather radar on a routine basis. The white ball far away in the figure is the Terminal Doppler Weather Radar at Tai Lam Chung.

Monitoring Radar Non-Ionizing Radiation

LI Ping-wah



Liaison Group for the Shipping Community Met to Prepare for the Typhoon Season



▲ Participants of the second meeting of the Liaison Group for the Shipping Community of the Hong Kong Observatory

This summer is the first typhoon season since the Hong Kong Observatory Liaison Group for the Shipping Community was established late last year. Representatives from shipping companies, container terminal operators, the Hong Kong Pilots Association, the Marine Department and the Observatory attended the second meeting of the group on 9 May to prepare for the upcoming typhoon season. In addition to tropical cyclone warning services and development of new weather services of the Observatory,

the group also discussed about enhancement of tsunami preparedness in the shipping community. All participants agreed that the group provided a forum for direct exchange of views among stakeholders and would facilitate the enhancement of weather services to better suit the needs of the local shipping community.

Hong Kong Observatory's Presence in the World Meteorological Congress

Mr SHUN Chi-ming, Director of the Observatory, and Mr LEE Lap-shun, Senior Scientific Officer, attended the 16th World Meteorological Congress in Geneva, Switzerland, during 16 to 27 May. The Congress is the supreme body of the World Meteorological Organization (WMO) and holds meeting every four years to determine the direction and the strategy of meteorological work worldwide.

During the Congress, Hong Kong, China made a number of presentations and interventions during discussions of various WMO programmes, including aeronautical meteorology, public weather services, disaster risk reduction and tropical cyclone. In the capacity of the president of the Commission for Aeronautical Meteorology, Mr SHUN briefed the Congress on the major thrusts on aeronautical meteorology in the next four years. At the conclusion of the meeting, the Congress decided to make aeronautical meteorology a high-priority programme of WMO that should be suitably resourced to help its members meet the increasing needs of the aviation sector.



▲ The Director (on screen) presenting at the World Meteorological Congress the latest developments of the World Weather Information Service operated by the Observatory

Director Visiting Our Counterparts in

Editorial Board

Neighboring Areas

Mr SHUN Chi-ming, Director of the Observatory, visited Guangdong Meteorological Bureau and Earthquake Administration of Guangdong on 7 and 8 June respectively. They shared experience and discussed about future collaboration.

The Director also visited Macao Meteorological and Geophysical Bureau and Zhuhai Meteorological Bureau on 21 and 22 July respectively, to exchange views on ways to strengthen collaboration with each other.



▲ The Director (left) offered souvenir to Mr XU Yong-guo (right), Director-General of Guangdong Meteorological Bureau



▲ The Director (left) shared experience with Mr LIANG Gan (right), Deputy Director-General of Earthquake Administration of Guangdong Province on seismic monitoring work



▲ The Director (3rd left) photographed with Dr FONG Soi-kun (3rd right), Director of the Macao Meteorological and Geophysical Bureau, and other representatives.



▲ The Director (right) offered souvenir to Mr HE Qing-ming, Deputy Secretary General of Zhuhai Municipal People's Government.

A Celebration Gathering with Volunteers of the

Editorial Board

Friends of the Observatory



A celebration was held in the evening on 6 May 2011 to thank volunteers of the Friends of the Observatory for their assistance rendered during the 2011 Open Day. Awards of Outstanding Volunteers and Docents were presented. More than 40 volunteers joined the happy occasion. Our new Director, Mr SHUN Chi-ming and the volunteers also exchanged their ideas on the future development of the Friends of the Observatory.

◀ The Friends of the Observatory volunteers photographed with the Director of the Observatory (middle, 2nd row)

Results of Public opinion survey, April 2011

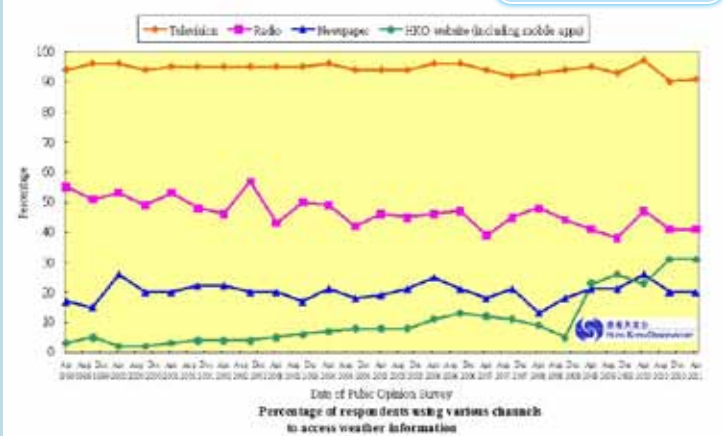
Editorial Board

The Observatory commissions an independent consultant to conduct public opinion surveys twice a year to gauge the public perception of the accuracy of weather forecasts and warnings and the level of public satisfaction with its overall service.

The results of the latest survey conducted in April this year indicate that on average, the public consider 79.1% of the weather forecasts issued by the Observatory are accurate and give a score of 7.8 (out of 10) to its overall service. These are comparable to results in the past few years.

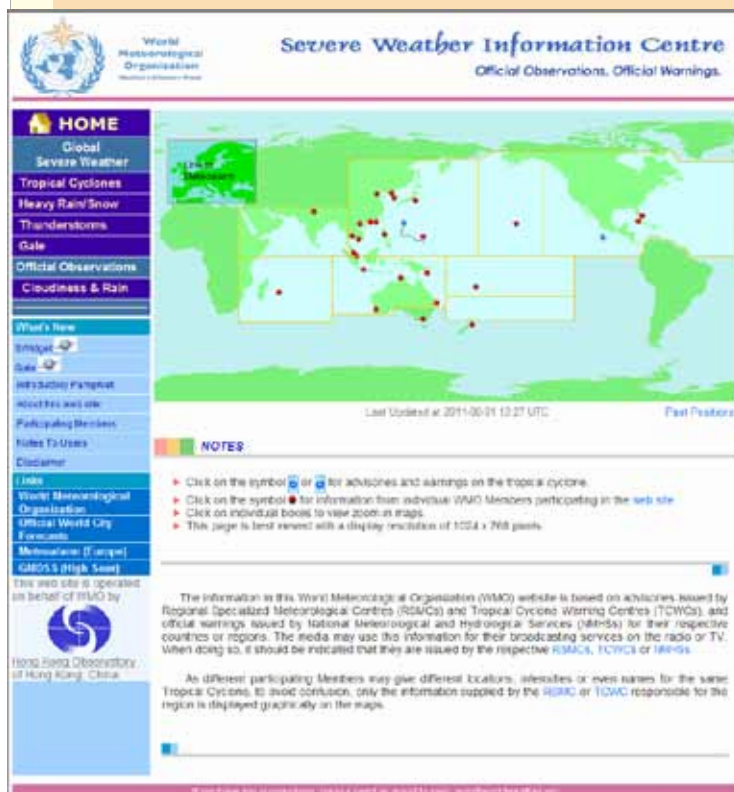
Regarding the accuracy of tropical cyclone warning services, about 96% of the respondents consider that the services nowadays are better or about the same as compared with past few years.

It is particularly noteworthy that the result of the survey on public access of weather information (see attached diagram) shows that television remains the most popular channel, used by up to 91% of the respondents. The second most popular channel is radio but its popularity is on a decreasing trend. The use of Observatory's website and smartphone apps to obtain weather information has a growing trend recently, surpassing that of newspaper as indicated in the latest couple of surveys.



"Severe Weather Information Centre" Website Selected as One of the China's Entries into the World Summit Award

CHENG Yuen-chung



▲ The "Severe Weather Information Centre" website

The "Severe Weather Information Centre" (SWIC) website (<http://severe.worldweather.wmo.int/>), developed and operated by the Observatory on behalf of the United Nation's World Meteorological Organization, was selected in a national contest in 2011 as China's entry into the World Summit Award under the e-Government & Institution Category.

The World Summit Award is a global contest held every two years to select best practice in e-Content and innovative Information & Communication Technology (ICT) applications. SWIC website is the only Hong Kong entry selected this year to join the global contest.

SWIC integrates activities and enhances regional cooperation to reduce loss of life and damages due to severe weather. The website makes use of ICT to provide one-stop tropical cyclone information originated from official weather services in different regions of the world. Apart from tropical cyclones, the website also provides official observation data for severe weather including gales, heavy rain and thunderstorm.

Close Connection Rain or Shine -

LEE Kwok-lun

The Observatory and Hong Kong International Terminals



▲ Mr Perry PANG of HIT (first right) briefed HKO's forecasters on the operations of the terminal during tropical cyclone situations.



▲ Mrs Hilda LAM, Assistant Director of HKO, was interviewed by the HIT News on the outlook of tropical cyclone activities in 2011.

Whenever a typhoon affects the territory, various communities and the general public of Hong Kong will take vigilant watch and appropriate precautions to prevent unnecessary property damage and casualties. The container handling industry, as compared to other industries, is more susceptible to the influence of tropical cyclone in general. This is not only because of the high winds and waves that hinder the mooring of vessels at the piers for operation, but also the safety of staff working in the container terminals, as well as the traffic issues induced by the trunks on roads nearby before the closure and after reopening of the container terminals. Hence, effective weather service is vital to the container handling industry for making advance arrangements in response to the changing weather conditions. In view of this, the Observatory always maintains close liaison with the container handling industry.

A team of duty managers of the Hong Kong International Container Terminal (HIT) visited HKO on 14 April to understand the processes of weather forecasting. Subsequently, the Observatory's forecasting team paid a return visit to HIT on 14 June to learn about the operations of the Terminal. Mr Perry PANG, Duty Manager of HIT, in his briefing to HKO colleagues indicated that safety is their prime consideration and thus it is necessary to prepare

well before the approach of a typhoon. The precautionary actions will include loading and unloading the containers of those trucks that are already in the terminal, placing laden containers on top of empty ones, bridge fitting to prevent movement between containers, lashing of container stacks and anchoring different cranes. Since appreciable time is required to complete various procedures, HKO and HIT will be in close contact during typhoon situations. HKO will provide the latest movement of tropical cyclone, forecast track, chance of signal changes, and other possible variables for reference by the terminal operators to facilitate them in formulating the most appropriate and safe response strategies. Over the years, HKO has established good communication and understanding with HIT and other terminal operators, providing accurate and timely services for the container handling industry.

(For the detailed arrangements of HIT during tropical cyclone situations and an account on the work of the Observatory in forecasting tropical cyclones, please refer to the HIT News Summer 2011: http://www.hit.com.hk/3new/pub_news.asp)



▲ Container stacks should be lashed properly well before the approach of a storm (photo provided by HIT)



▲ Cranes anchored with steel wire (photo provided by HIT)

17 March 2011



Miss Sharon LAU Sum-yee (2nd left), Assistant Director, and Mr SHAM Fu-cheung (2nd right), Chief Experimental Officer, took part in the Aircraft Pull event, a key celebration activity for the 100th anniversary of aviation development in Hong Kong. The event created new Guinness World Records.

Visits • Courses • Talks • Meetings

2 April 2011



Mr FUNG Kwok-chu (standing), Senior Scientific Assistant, delivered a lecture to the public about the major weather event happened after Year 2000.

1 April 2011



Mr Henry WU (2nd left), member of Guangdong Daya Bay Nuclear Power Station / Ling Ao Nuclear Power Station Nuclear Safety Consultative Committee, visited the Observatory. Mr SHUM Chi-ming (1st left), the Director, and Dr LEE Boon-ying (2nd right), ex-Director, briefed him on the development of the Observatory.

28 April 2011



Dr William LAU Ka-ming (standing), a renowned climate scientist, Chief of the Laboratory for Atmospheres of National Aeronautics and Space Administration Goddard Space Flight Center and Scientific Advisor of the Observatory, gave a talk at the Observatory.

16 May 2011



Dr Walter Dabberdt (standing), former President of the American Meteorological Society, delivered a talk to Observatory staff on Climate Change.

12 May 2011 and
16 to 18 June 2011



Two Assistant Directors, Mrs Hilda LAM (4th left of front row, left figure) and Mr LEUNG Wing-mo (standing, right figure), were invited by World Meteorological Organization Regional Training Centre in Nanjing, China to give lectures there.



Visits • Courses • Talks • Meetings

18 June 2011



Mr TAM Kwong-hung (standing), Scientific Officer, delivered a public lecture on emergency radiation monitoring.

21 June 2011



Mr HUI Tai-wai, Scientific Officer (3rd right, front row), introduced the Observatory work to the fishing industry representatives.

24 June 2011



Professor Jeffrey CHEUNG Tai-kin (right), the Visiting Professor of the Department of Physics in the Hong Kong Baptist University, shared his experience of "Creative Learning and Innovative Thinking".

25 June 2011



Mr SHAM Fu-cheung, Chief Experimental Officer, introduced the aviation weather services in Hong Kong during the event of "Dragonair Youth Aviation Academy – Aviation Insights".

2 July 2011



Mr WOO Wang-chun (standing), Scientific Officer, lectured on a theme "Century Earthquake" with an introduction on the monitoring of earthquake and tsunami.

9 July 2011



A group of tertiary students interested in developing a career in the aviation industry visited the Airport Meteorological Office to gain a better understanding of the observation and forecasting of aviation weather.

Staff Promotion: Mr CHAN Sai-tick



▲ Mr CHAN Sai-tick (right) was promoted to Senior Scientific Officer on 1 April.

Staff Retirements: Mr CHAN Chik-cheung Mr CHOI Siu-chuen Mr HO Man-wai



◀ Mr CHAN Chik-cheung (left), Senior Scientific Officer.



◀ Mr CHOI Siu-chuen (right), Departmental Secretary.



▲ Mr HO Man-wai (3rd left), Supplies Officer.



1st & 2nd Quarter, 2011

Best TV Weather Programme Presenters



▲ Winner of 1st Quarter, 2011: Mr CHAN Sai-tick



▲ Winner of 2nd Quarter, 2011: Mr CHAN Pak-wai

Colleagues Receiving Praises

Colleagues who received words of thanks and commendation from the public or organizations during May to August 2011:

Mr SHUN Chi-ming

(Director)

Mr WONG Tak-kan

(Experimental Officer)

Mr LEUNG Wing-mo

(Assistant Director)

Mr CHENG Sheung-tak

(Scientific Assistant)

Mr MA Wai-man

(Senior Scientific Officer)

Miss CHU Suet-ying

(Scientific Assistant)

Mr CHEUNG Sze-yuen

(Experimental Officer)

Mr KEUNG Kwok-ye

(Property Attendant)

OGCIO Chief Systems Manager speaking on Knowledge and Change Management

CHIU Hung-yu

Mr Dominic KWONG Kam-keung, Chief Systems Manager of the Office of the Government Chief Information Officer (OGCIO), was the guest speaker at the Observatory's management forum on 17 June. He presented a talk on knowledge and change management in the implementation of various initiatives at OGCIO. Since 2003, OGCIO has established more than ten "Communities of Practice" to foster a knowledge sharing culture among colleagues and to facilitate enhanced collaboration through the use of information technology.

For the series of in-house management forum regularly held at the Observatory, professionals from different sectors were occasionally invited to share their management insight and experience in their respective fields. Outside perspectives on similar management challenges often help stimulate new thinking within the Observatory.



▲ Mr SHUN Chi-ming, the Director, presenting a souvenir to Mr Dominic KWONG (right).

The Observatory's Commitment towards the Environment

LEE Lap-chi

The Observatory attaches great importance to environmental protection and sustainable development. To achieve our commitment to environment protection, the Observatory has been working hard to reduce carbon emission and to use renewable energy in our daily operation. In the past six months, the Observatory undertook and joined many green activities, such as the "Earth Hour 2011", eco-tours by Friends of the Earth, installation of solar powered street lamps (picture at the right), Green Day 2011 by the Community Chest. We also participated in the Hong Kong Awards for Environmental Excellence (HKAEE) 2011. The Observatory was awarded a Certificate of Merit in HKAEE 2010 in recognition of our overall performance towards environmental excellence and our efforts in environmental protection. The Observatory will continue to dedicate to green management.





Hong Kong Observatory was commended for its provision of quality public services

Editorial Board

The Observatory was commended for its provision of quality public services. Mr LEUNG Wing-mo, Assistant Director, received a trophy (Category Award of Government Departments and Related Organizations) on 29 June in the Next Top Service Awards 2011 presentation ceremony organized by the Next Magazine. He thanked the public for their support of the Observatory, and also expressed his appreciation to the Observatory staff for their perseverance in serving through science. The result of the award was determined by public voting, representing the public's recognition of the Observatory's services.

▲ Mr LEUNG Wing-mo (right), accepting the "Top Service Award 2011" trophy in the presentation ceremony on 29 June (Photo: Courtesy of Next Magazine)



Farewell Party for Dr LEE Boon-ying cum Celebration Party

LEE Lap-chi

Dr LEE Boon-ying, former Director of the Observatory, proceeded on pre-retirement leave on 14 April after 32 years of service with the Observatory. A farewell party was held for Dr LEE, and the winning of recent awards by the Observatory was also celebrated on the same occasion. At the party, Dr LEE shared with colleagues about his days in the Observatory and his work experience. Moreover, guests from different organizations came to bid farewell to Dr LEE, namely the Senior Citizen Home Safety Association, the Hong Kong Radiation Protection Association, the Community Weather Information Network (Co-WIN), the "Science in the Public Service", the Government Laboratory, the Liaison Group on Aviation Weather Services, the Liaison Group on Weather Information for General Aviation, the Liaison Group for Shipping Community and the Tsim Sha Tsui Kai Fong Welfare Association (in no particular order). The party concluded with good memories for everyone. We wish Dr LEE a happy retirement!



Charity Book Bazaar by Former Director

LEE Lap-chi

Before retirement as the Director of the Observatory, Dr LEE Boon-ying donated from his valuable personal collection nearly one hundred books on a wide range of topics. A charity bazaar was held on 8 April at the Hong Kong Observatory Headquarters for sale of these books. With full support from all colleagues, fund raised from the bazaar was donated to the ORBIS Hong Kong to light up hopes of recovery for patients with eye illnesses. We will uphold the spirit of charity in the Observatory and continue to organize different charity activities for colleagues under the theme of "Happy Business".



Participation in the "Earth Hour 2011"

LEE Lap-chi

"Earth Hour 2011" organized by the World Wide Fund for Nature (WWF) was held on 26 March (Saturday). The Observatory answered the appeal from WWF by signing up for the event early this year. The HKO Lights-off Day for the month of March was also arranged to be held on the same day. As in previous years, lights at the Headquarters and the King's Park Meteorological Station were switched off for one hour from 8:30 pm to 9:30 pm. We also encouraged colleagues to join the event at home to support WWF's call for action on climate change. In 2010, more than 2.5 million people of Hong Kong, 2,500 buildings and companies, over 230 schools and youth organizations and all universities participated in Earth Hour to show the determination to preserve the future of our planet.



Mailing Address

Hong Kong Observatory Staff Competed at the Jubilee Basketball Competition Organized by the Government Employees Association

Staff Association

To celebrate its 25 years of establishment, the Government Employees Association organized a Jubilee Basketball Competition between June and August for Government Departments. Mr LEUNG Wing-mo, Assistant Director of the Observatory, led over 15 Observatory staff to compete at the event. They went through several hard matches against teams from the Customs and Exercise Department, Immigration Department and the Electrical and Mechanical Services Department. Though the Observatory's team did not manage to win the Championship, participating staff had won invaluable friendship and competition experience from the games.

