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Public Education and Outreaching Activities on Climate Change:  
the Hong Kong Observatory Experience

W. H. Leung, T. C. Lee and W. M. Leung

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# **Public Education and Outreach Activities on Climate Change: the Hong Kong Observatory Experience**

W. H. Leung, T. C. Lee and W. M. Leung  
Hong Kong Observatory

## **Abstract**

The Hong Kong Observatory (HKO) has been actively promoting public understanding and awareness of climate change in recent years. Apart from engaging the media, this is also done by partnering with non-governmental organizations (NGOs) and different stakeholders to broaden the reach of its publicity activities on climate change. Examples include participating in the “No Air-conditioning Day” campaign organized by the Footprint, the Solar Cart Race organized by the Friends of the Earth, the Climateers Programme of the World Wild Fund, etc. To engage school children on the subject, HKO produced an educational package on climate change for free distribution to schools and libraries, and developed a webpage on climate change in 2007. In the same year, a team of professional meteorologists from HKO was formed to deliver talks on climate change for school children and other organizations. Looking ahead, HKO will continue to promote the public’s understanding about the basic causes of climate change, its potential impacts and what we can do to reduce climate change; and to actively engage various sectors of the society to broaden the reach of publicity campaigns. This paper describes the experience of HKO in reaching out to the community and in collaborating with other organizations in promoting public awareness of climate change.

## **Introduction**

In recent years, climate change has become a hot topic of discussion globally. In 2007, the Intergovernmental Panel on Climate Change (IPCC) and former Vice President of the United States, Albert Arnold Gore were awarded of the Nobel Peace Prize for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change. In Hong Kong, different sectors of the community, including government

departments, non-governmental organizations (NGOs) and private sectors, have been working actively to raise the awareness of the public on climate change issues. The Hong Kong Observatory (HKO) has been working proactively to keep all sectors of the public informed about the changes that are taking place in the local climate. Efforts have also been made to help the public to understand the scientific basis of such changes and what an individual or organization can do to combat climate change. Details about the work of HKO in this endeavour are described below.

## **Climate Change Science for the Layman**

According to the Fourth Assessment Report (AR4) published by the IPCC in 2007, warming of the climate system is unequivocal [IPCC, 2007]. Over the years, HKO has carried out scientific studies to evaluate the observed climate trends in Hong Kong due to global warming and urbanization effects [Wong *et al.*, 2003, Leung *et al.*, 2004; Lam, 2006; Yeung, 2006; Wu *et al.*, 2008]. To project into the future, starting in 2004, HKO has conducted studies on the possible future trends of temperature and rainfall in Hong Kong up to the end of the 21st century based on the latest IPCC assessments of global climate change [Leung *et al.*, 2004; Wu *et al.*, 2006; Leung *et al.*, 2007]. In the light of the revised global projections in AR4 of IPCC, HKO has updated its projections for the temperature in Hong Kong in the 21st century. This update has taken into account various greenhouse gas emission scenarios and the effect of urbanization in Hong Kong. Salient results of the updated projections were announced by the Director of the Hong Kong Observatory, Mr. Lam Chiu-ying, during HKO's annual media briefing in March 2008 (Figure 1).

In order to facilitate the public to understand the scientific findings of different climate change studies, HKO packaged those findings into messages that struck a chord with the layman. The key was to relate the scientific findings to the everyday experience of the ordinary people [Lam, 2007].

This was well demonstrated in the use of the “No Winter” message while briefing the media on the temperature projections for Hong Kong in the 21<sup>st</sup> century. The prediction that “*a 3.0 to 6.8 °C rise in temperature by the end of 21<sup>st</sup> century and the number of cold days with temperature falling below 12°C would drop on average to less than one day per winter around*

2030-2039 in Hong Kong” (Figure 2), while scientifically precise, may be difficult for most people to comprehend. However, when we described the results as “*winter will disappear some 30 years later in Hong Kong*”, it became a punchy message which a man in the street could easily understand and remember [Lam, 2008]. This particular message was well covered by the press and widely cited by many NGOs as a key impact of climate change on Hong Kong.

## **Stakeholder Engagement**

The scope of climate change education and outreach in Hong Kong has been gradually expanding in the last decade, thanks to the effort by some NGOs and the private sector, amongst others. These bodies have become the key proponents of action against climate change. Their endeavour complement government programmes/policies to educate industries and the public regarding climate change. The unique role of HKO as the government department responsible for studying the scientific basis of climate change has lent itself to building a partnership with these stakeholders in climate change education, providing an authoritative voice and synergy for promoting public awareness and understanding on this important topic.

To encourage students to reduce their carbon footprints, HKO has been one of the supporting organizations for the “No Air-conditioning Day (無冷氣日)” campaign organized by Footprint since 2005. HKO also joined the Solar Cart Race organized by the Friends of the Earth (FoE) to raise public interest on weather and climate. The name of the cart, “Solar Wind” (Figure 3), was chosen because apart from its implication of speed and power, both the “sun” and “wind” are also sources of renewable energy.

The Director of the Hong Kong Observatory, Mr. Lam Chiu-ying, was invited as one of the models in the catwalk of the energy saving campaign on air-conditioning “Don't be Cold, be Cool!” organized by FoE (Figure 4). The campaign aims at raising public attention to a bizarre habit in Hong Kong where people turn down the air-conditioner and dress up for the artificial cold weather.

In May 2007, HKO provided support to the four professional engineering institutions of Hong Kong in the organization of the International Conference

on Climate Change. It was the first large-scale international conference on climate change ever held in Hong Kong, demonstrating the increasing awareness of Hong Kong on the importance of global climate change.

Moreover, HKO has been collaborating with the WWF Hong Kong and the HSBC Climate Partnership in promoting public awareness on climate change, such as the Climateers Programme.

### **Mobilizing the Media**

Media is an essential channel for HKO to deliver information to the public [Lam, 1997]. HKO officers proactively engage the media to promulgate information on climate change to the public via press conferences and feature interviews in newspapers and radio/TV programmes. From 2003 to present, nine press releases, several press conferences, and numerous face-to-face as well as telephone interviews were conducted by HKO regarding climate change.

### **School and Public Education**

With a view to enabling the younger generation to have a better understanding of climate change, HKO has produced an educational package on climate change for free distribution to schools and libraries in Hong Kong (Figure 5). Presented in Chinese and English, the educational package consists of a DVD containing an animated cartoon, a cartoon booklet, a CD-ROM containing PowerPoint presentations and a collection of publications and press releases on climate change, as well as another DVD containing the Oscar Award winning documentary "An Inconvenient Truth". The PowerPoint presentations, with different versions for primary and secondary schools, are intended to provide teachers with a ready tool for explaining to students the basic science of climate change, its impacts and the mitigation actions individuals could take. Brief notes are also provided to help teachers to make the presentation. The animated cartoon and cartoon booklet present climate change to young people in a medium with which they are familiar. It is hoped that the more lively approach will help drive home the message to students, in particular the responsibility of individuals in the mitigation of climate change. The package was very well received by schools, NGOs, and academic institutions. Over 2000 copies of the package

have been distributed so far.

Nowadays, the Internet has become an important communication channel. On the Internet, HKO launched a one-stop climate change webpage in its website for public access in August 2007 ([http://www.weather.gov.hk/climate\\_change/climate\\_change\\_e.htm](http://www.weather.gov.hk/climate_change/climate_change_e.htm)). The webpage serves to provide the public with a one-stop-shop for information on climate change, including the latest status of climate change both globally and locally in Hong Kong, resources such as related press releases and scientific reports, and suggestions on how we as an individual can help to reduce global warming. The webpage has become a popular online educational resource of climate change after its launch, receiving near 100,000 page hit per month.

It is important for the younger generation to have a proper understanding of climate change. A team of professional meteorologists from HKO was formed to deliver talks on climate change for schools and to give popular lectures on other public occasions. An Internet webpage for "Talks on Climate Change for Schools" is set up to provide a convenient channel for schools' to arrange such talks ([http://www.weather.gov.hk/climate\\_change/talk\\_on\\_climate\\_change\\_e.htm](http://www.weather.gov.hk/climate_change/talk_on_climate_change_e.htm)). From September 2007 to October 2008, the HKO Speaker Team on Climate Change delivered more than 80 talks. The feedback is most encouraging.

Through the "Science in the Public Service" campaign (<http://www.science.gov.hk>), the "Climate Change - What can we do?" Student Project Competition was organized in 2008 to enhance students' understanding of climate change and its effects. More than 100 teams participated in the competition and many of the projects were of very high standard.

Besides public lectures given by HKO's staff, world-renowned climatologists were also invited to give talks in Hong Kong. For example, in 2003, Professor Lau Ngar-cheung of Geophysical Fluid Dynamics Laboratory, Princeton University, and Professor Ding Yihui, Vice Chair of IPCC Working Group 1, amongst others, were invited by HKO to speak to a full house in the Science Museum Lecture Hall in the occasion of HKO's 120<sup>th</sup> anniversary.

## **Future Work**

HKO will continue to reach out to the Hong Kong public on the science of climate change, its potential impacts and what we can do to reduce the impacts of climate change. The key messages which HKO will emphasize are:

- (i) the climate change problem is real and imminent, it is incorrect to think that climate change is only a problem in the distant future; and
- (ii) each and everyone contribute to climate change and it is our moral obligation to take action to stop it.

As more and more scientific data are becoming available, scientific study on climate change is an on-going process. HKO will closely keep track of the latest findings, especially the deliberations of IPCC, and will keep the public informed accordingly. HKO will also proactively engage with various sectors of the society and cooperate with NGOs and other organizations to promote the understanding and awareness of climate change.

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Figure 1 The Director of Hong Kong Observatory, Mr. Lam Chiu-ying, announced the updated projection for the temperature trend in Hong Kong in the 21st century at the Observatory's annual media briefing on 12 March 2008.

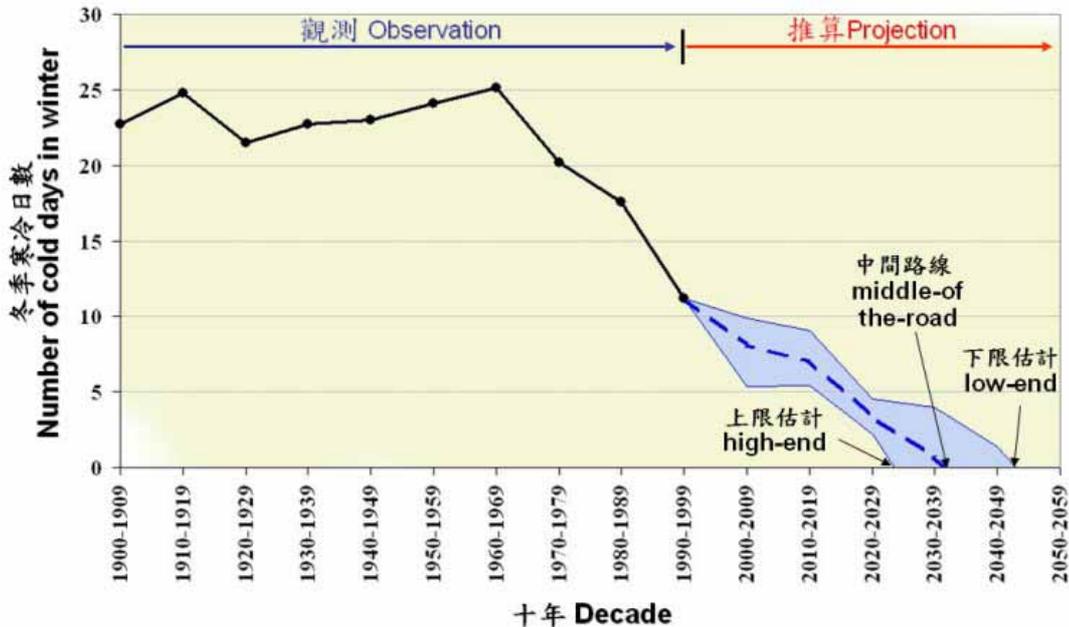


Figure 2 Past and projected annual number of cold days in winter for Hong Kong (Leung *et al.*, 2008).



Figure 3 The Hong Kong Observatory participated in the Solar Cart Race organized by the Friends of the Earth.



Figure 4 The Director of Hong Kong Observatory, Mr. Lam Chiu-ying, go on catwalk to demonstrate how to dress down for a hot summer



Figure 5 The educational package on climate change produced by the Hong Kong Observatory