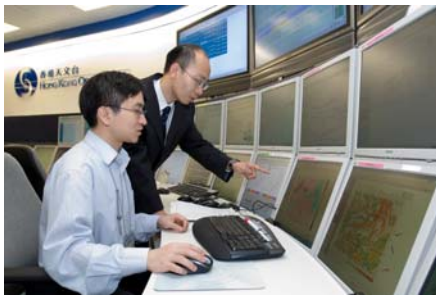


# HONG KONG : THE FACTS

## Hong Kong Observatory

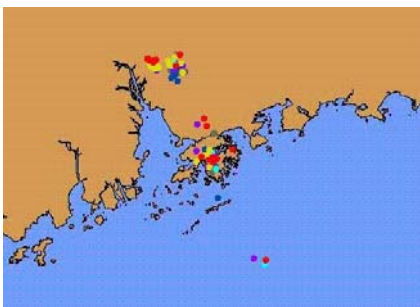
The Hong Kong Observatory is a government department responsible for forecasting weather and issuing warnings on weather-related hazards. The Observatory also monitors and assesses radiation levels in Hong Kong, and provides other meteorological and geophysical services to meet the needs of the public and the shipping, aviation, industrial and engineering sectors.

**Weather Services:** The Observatory provides weather services to the public, fishermen, shipping community, the aviation sector, as well as other special users. Through special arrangements, it also provides tailored meteorological support for major activities such as fireworks display and sporting events.



Hong Kong Meteorological Centre

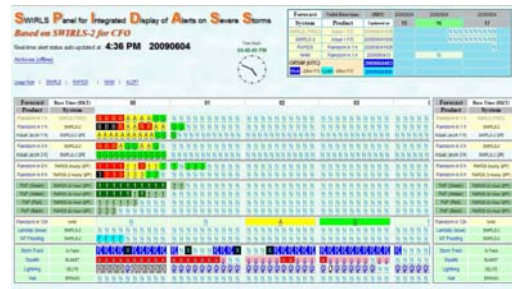
The Observatory operates a range of weather monitoring equipment, including a territory-wide network of automatic weather stations for measuring wind, pressure, temperature, humidity and rainfall, a network of cameras and visibility meters for providing real-time weather photos and visibility information, a lightning location network for detecting lightning and two Doppler weather radars for detecting the intensity and movement of rain areas. The Observatory also exchanges real-time data with other meteorological centres worldwide and receives cloud pictures from a variety of weather satellites.



Cloud-to-ground lightning as detected by the lightning location network

The Observatory uses computer models to simulate and predict the evolution of weather systems over East Asia and the western North Pacific, and uses that as a basis for forecasting the weather in Hong Kong and the adjacent seas, as

well as providing the public with weather forecasts in fine resolution. The Observatory has developed and is operating a nowcasting system called SWIRLS (Short-range Warning of Intense Rainstorms in Localized Systems) to predict rapidly developing rainstorms. Using data, including those from radars, raingauges and lightning sensors, together with the results of computer simulation, SWIRLS provides forecasts of rainstorms and its associated inclement weather over Hong Kong up to 6 hours ahead. The forecast is updated every six minutes to support the issuance of warnings for heavy rain in Hong Kong. SWIRLS has also been deployed out of Hong Kong to provide operational support to a number of international events, including the 2008 Beijing Olympics, 2010 Shanghai World Expo and New Delhi Commonwealth Games.



Rainstorm combined warning panel

Weather information, forecasts and warnings on hazardous weather for the public are issued and broadcast through a variety of dissemination channels, including the Observatory's website (<http://www.weather.gov.hk/> and <http://www.hko.gov.hk/>), Twitter and Weibo websites, the 187 8200 Dial-a-weather service, press, radio and television stations. A location-based weather service is provided via the 'MyObservatory' webpage. Television weather programmes are produced and presented daily by professional meteorologists of the Observatory for television broadcast. Radio interviews are also conducted by forecasters and weather service officers of the Observatory on the latest weather situation. A corporate website is available on YouTube to facilitate the sharing of videos produced or co-produced by the Observatory.



Television weather programme presentation by professional meteorologist of the Observatory

The Observatory provides meteorological services required by international air navigation to the Hong Kong International Airport (HKIA) and for the Hong Kong Flight Information Region through its Airport Meteorological Office. In particular, the Observatory operates a sophisticated network of weather sensors, including a Doppler weather radar, two LIDAR (Light Detection And Ranging) systems and five weather buoys, as well as in-house developed meteorological systems for automatic alerting of windshear, turbulence, lightning and other severe weather at the HKIA. Weather information required by the aviation community, including the flight documentation required for departing flights from HKIA, is provided through a web-based Aviation Meteorological Information Dissemination System.

The Observatory promotes public awareness of and community preparedness on natural disasters by regularly conducting public talks, providing media interviews, organizing training courses as well as producing publicity materials on hazardous weather phenomena.



Seminar on lightning alert service

**Radiation Monitoring and Assessment:** The Observatory monitors the ambient radiation levels in Hong Kong and conducts radiological measurements on samples of air, soil, water and food.

In the unlikely event of a nuclear emergency at the nuclear power stations at Daya Bay, the Observatory will immediately step up radiation monitoring, assess the radiological consequences and provide advice to the government regarding the appropriate protective actions to take.



Observatory staff installing the aerial radiation monitoring system onboard a Government Flying Service's helicopter

**Time Standard, Geophysical and Climatological Services:** The Observatory maintains a caesium beam atomic clock as the Hong Kong time standard. Time checking services are provided through network time service, the web clock, the Dial-a-weather System and local radio channels. The Observatory uses a high accuracy time transfer system based on the Global Positioning System to provide time information of its atomic clock to the International Bureau of Weights and Measures (BIPM) in France, thereby

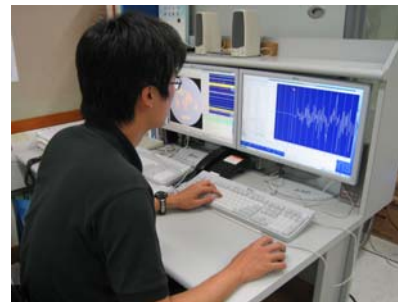
contributing to the determination of the co-ordinated universal time (UTC).



Observatory staff inspecting the operation of the caesium beam atomic clock

The Observatory operates a network of short-period and broadband seismograph stations to monitor earthquake activities. It also issues tsunami warnings in case a tsunami may affect Hong Kong.

A network of tide gauges operated by the Observatory provides information on tides, mean sea levels and storm surges.



Observatory staff performing seismic analysis

The Observatory provides a climatological information service to meet the needs of local engineering projects, town planning, litigation, etc.

The Observatory makes and issues a prediction of the annual rainfall and the total number of tropical cyclones affecting Hong Kong in a year. It also issues seasonal forecasts of temperature and rainfall of Hong Kong on the Observatory's website.

The Observatory conducts research on climate change in Hong Kong, as well as its impacts to the society. Outreach activities, including public and school talks, exhibitions, production of educational packages, etc. are conducted regularly to promote the public's understanding of the science of climate change.



A girl signing to pledge fighting against global warming at the Observatory's open day