

### LCQ13: Weather information

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Following is a written reply by the Secretary for Commerce and Economic Development, Mrs Rita Lau, to a question by the Hon Frederick Fung Kin-kee in the Legislative Council today (November 5):

#### Question:

It is learnt that often there are significant discrepancies between the weather information such as temperature and relative humidity recorded at the headquarters of the Hong Kong Observatory ("HKOH") and that recorded at district weather stations. Members of the public had told me that high temperatures at 33°C or above were recorded by a number of district weather stations at around noon on September 22 while the temperature recorded at HKOH was apparently lower. The Hong Kong Observatory ("HKO") issued the Very Hot Weather Warning only at around 3 pm that day. In this connection, will the Government inform this Council:

(a) how the figures of average temperature and relative humidity recorded at HKOH compare with those recorded at district weather stations over the past three years, and the reasons for such discrepancies;

(b) whether, in considering the temperature and relative humidity for deciding if the Very Hot Weather Warning should be issued, HKO takes into account the figures recorded at HKOH only; if so, whether it has reviewed if the Very Hot Weather Warning can reflect the actual current weather conditions in different districts; if it has, of the results; if not, the reasons for that; whether it will consider issuing the district-based Very Hot Weather Warning; and

(c) whether it has assessed the effectiveness of the meteorological observing system for assessing the weather stress index adopted by HKO during the staging of the Olympic and Paralympic Equestrian Events in Hong Kong; whether it will consider publishing weather reports through that system; if it will, of the implementation timetable; if not, the reasons for that?

Reply:

President,

(a) The Annex gives figures showing the average temperature and relative humidity recorded at the Hong Kong Observatory Headquarters (HKOH) and the various districts over the past three years. The differences in temperature and relative humidity across districts are largely due to the topography of each district and their proximity to the sea. The differences we see in Hong Kong are consistent with those of coastal cities in general;

(b) At present, the Hong Kong Observatory (HKO) decides whether to issue the Very Hot Weather Warning on the basis of the temperature, relative humidity and wind speed recorded at HKOH.

HKO has no plan at the moment to go for a district-based Very Hot Weather Warning system. There are currently 10 types of weather warning in Hong Kong, all applicable to the entire territory. Whilst Hong Kong is small in terms of size, we have a relatively large number of administrative districts. When this is taken together with the variability of weather conditions, we reckon that issuing the Very Hot Weather Warning on a district basis could easily cause confusion to the public.

To help keep the public informed of the changing weather conditions in different districts, HKO disseminates (through its website, the media and a telephone enquiry service) the weather data captured by its weather stations located across the territory, including temperature and/or relative humidity; and

(c) The weather information services provided by HKO for the Olympic and Paralympic Equestrian Events, including the use of a heat stress index called the "Wet Bulb Globe Temperature" (WBGT), received positive comments from the International Equestrian Federation and the Equestrian Company.

In developing and applying the WBGT technology, HKO has been focusing mainly on the tolerance level of competing horses but not human beings. Further research will be required if we are to apply the

technology to general weather services. At present, a universal index relating to heat stress does not exist. Different countries use different indices, and adopt different reference data, calculation methodologies and standards. For example, Australia uses the WBGT; USA uses the "Heat Index"; whilst Canada adopts its own "Humidex" and so on. The World Meteorological Organization plans to release in 2009 guidelines that may form the basis for an international standard on the subject. When such an international standard is available, HKO will consider whether to apply the WBGT or a similar index to its general weather services.

Ends/Wednesday, November 5, 2008

## Annex

### **Average temperature, relative humidity and wind speed as recorded by the automatic weather stations of the Hong Kong Observatory (HKO) (2005-2007)**

<b>Region</b>	<b>Temperature (°C)</b>	<b>Relative humidity (%)</b>	<b>Wind Speed (km/hour)</b>
HKO Headquarters	23.5	79	9.7
Cheung Chau	22.7	83	17.6
Tsing Yi	23.3	75	7.9
Wong Chuk Hang	23.5	77	9.0
Tseung Kwan O	22.7	80	6.5
Shek Kong	23.3	82	5.4
Sai Kung	22.9	79	10.1
Ta Kwu Ling	22.7	78	7.2
Tai Po	23.0	79	11.5
Tuen Mun	23.7	75	8.6
Hong Kong International Airport	24.2	71	16.9
Lau Fau Shan	23.0	77	12.2
Sha Tin	23.2	76	8.3

Note: HKO now measures temperature readings in 25 districts. The weather information captured by some of HKO's weather stations is not reflected in the above table because:

- (a) individual weather stations have been operating for less than 3 years;
- (b) individual weather stations are not equipped with instruments for measuring relative humidity or wind speed; or
- (c) some weather stations are being operated at atypical locations (e.g. high altitude).