

# Tropical Cyclone Warning Signal

## Meaning of Warning Signals and Precautionary Measures

### **T1 Standby Signal No.1**

A tropical cyclone is centred within about 800 kilometres (km) of Hong Kong and may affect the territory.

#### **Action**

Precautions should be taken. If you are planning an outing, remember that the tropical cyclone may affect your trips. Beware that strong winds may occur over offshore waters. Beware of possible swells. Listen to radio, watch TV or browse the Observatory's website and mobile app for latest information of the tropical cyclone.

### **L3 Strong Wind Signal No.3**

Strong wind is blowing or expected to blow generally in Hong Kong near sea level, with a sustained speed of 41-62 kilometres per hour (km/h), and gusts which may exceed 110 km/h, and the wind condition is expected to persist.

#### **Action**

Make sure objects likely to be blown away are securely fastened or taken indoors. Overhanging facilities and temporary structures outdoors should be securely fastened or placed on the ground. Drains should be cleared of leaves and rubbish. People in low-lying areas should take precautions against flooding. Stay away from the shoreline and not to engage in water sports. Small vessels should seek shelter without delay. Listen to radio, watch TV or browse the Observatory's website and mobile app for further information about the tropical cyclone.

### **Gale or Storm Signal No. 8**

Gale or storm force wind is blowing or expected to blow generally in Hong Kong near sea level, with a sustained wind speed of 63-117 km/h from the quarter indicated and gusts which may exceed 180 km/h, and the wind condition is expected to persist.

#### **Action**

Complete all precautions now before gales commence. Lock all windows and doors, insert reinforced shutters and gates if they are available. Adhesive tape fixed to large window-panes in exposed positions will reduce damage and injury by broken glass.

Do not stand near windows on the exposed side of your home. Make sure you have a safe place to shelter, should windows be broken.

Owners of neon signs should switch off the electricity supply to the signs.

Park your car where it is safe.

Owing to storm surge, low-lying areas may have serious flooding or backflow of seawater. Avoid going to likely affected low-lying areas and stay away from dangerous places.

Avoid staying in the street. Return home as soon as possible if conditions so permit.

## **9 Increasing Gale or Storm Signal No. 9**

Gale or storm force wind is increasing or expected to increase significantly in strength.

### **Action**

Stay indoors. If you are reasonably protected, stay where you are. Do not touch electric cables that have been blown loose.

Stay away from exposed windows and doors because glass, already under strain from wind pressure, will shatter easily if hit by a flying object. Make sure you have a safe place to shelter. You should only fix broken windows and doors when there is no danger in doing so.

People outdoors should find a safe place now and remain there until the danger is over.

## **10 Hurricane Signal No. 10**

Hurricane force wind is blowing or expected to blow with sustained speed reaching 118 km/h or above and gusts that may exceed 220 km/h.

### **Action**

The same precautions as above apply.

If the eye of the tropical cyclone passes directly over Hong Kong, there may be a temporary lull lasting from a few minutes to several hours. This will be followed by a sudden resumption of violent winds from a different direction. Remain where you are if protected and be prepared for destructive winds and the change in wind directions.

## Reference for the Issue of No.3 and No.8 Signals

Since 2007, the Hong Kong Observatory makes reference to the wind data recorded from a network of eight near-sea level reference anemometers covering the whole of Hong Kong when considering the issuance of Tropical Cyclone Warning Signals, No.3 and No.8. The figure below depicts the network of reference anemometers.



Network of reference anemometers in the tropical cyclone warning system

The reference anemometers were selected on account of their good exposure and geographical distribution, taking into account the natural separation by Hong Kong mountain ranges. Together, they provide a broad picture of the wind condition in Hong Kong.

The No.3 or No.8 signal, as the case may be, will be issued when half or more anemometers in the reference network register or are expected to register sustained winds within prescribed wind speed ranges and the wind condition is expected to persist. The wind speed range of the No.3 signal is 41-62 km/h and that of the No.8 signal is 63-117 km/h.

When a tropical cyclone is located relatively far from Hong Kong, its outer rainband might occasionally sweep across the territory, bringing squalls to Hong Kong and causing transient winds at four or more of the reference anemometers exceeding the prescribed lower thresholds for the issuance of No.3 or No.8 signals. As the wind condition is not expected to persist after the passage of the rainband, the Observatory generally would not issue the respective signal.

[Note: Lau Fau Shan station has replaced the nearby Wetland Park station as a reference anemometer station starting from 2013. The anemometer at Chek Lap Kok has moved from the Centre Runway to the North Runway since 2024.]

## **Regional Wind Information**

Due to local topography and the built environment, wind condition in different parts of Hong Kong can vary appreciably. A numbered tropical cyclone signal can provide a general warning for the public, but it has an inherent limitation in communicating varying wind speeds at different locations. The public should take note of the regional wind condition and take appropriate response actions.

Currently, the Observatory provides information on regional wind condition on its website (<https://www.weather.gov.hk> or <https://www.hko.gov.hk>) and through the Dial-a-Weather service (telephone: 1878200). It also has special arrangements with individual sectors, such as the marine and aviation sectors, to meet their specific needs. Starting from 2007, the Observatory further enhances the dissemination of regional wind information by highlighting in media broadcast of its tropical cyclone bulletins those areas with wind speeds significantly higher than the general wind condition of Hong Kong. A webpage showing the regional distribution of wind strength was also added to the Observatory website with strong and gale force winds presented in an easily comprehensible graphical form. A description of how winds of different forces manifest themselves on land and over the sea is also available on the webpage ([https://www.weather.gov.hk/en/wxinfo/ts/wind\\_gale.htm](https://www.weather.gov.hk/en/wxinfo/ts/wind_gale.htm)).

Considering that aircraft operations at Chek Lap Kok are mainly affected by crosswinds (i.e. winds blowing towards the aircraft from the side) and the associated windshear and turbulence rather than wind speed per se, in situations when the wind conditions likely to cause significant disruptions to air traffic are expected, the Observatory will add an advisory to its tropical cyclone bulletin that the traveling public check with airlines before departing for the airport commencing 2007. The public should listen to the radio or TV broadcasts or browse the Observatory website for information on the tropical cyclone bulletins.