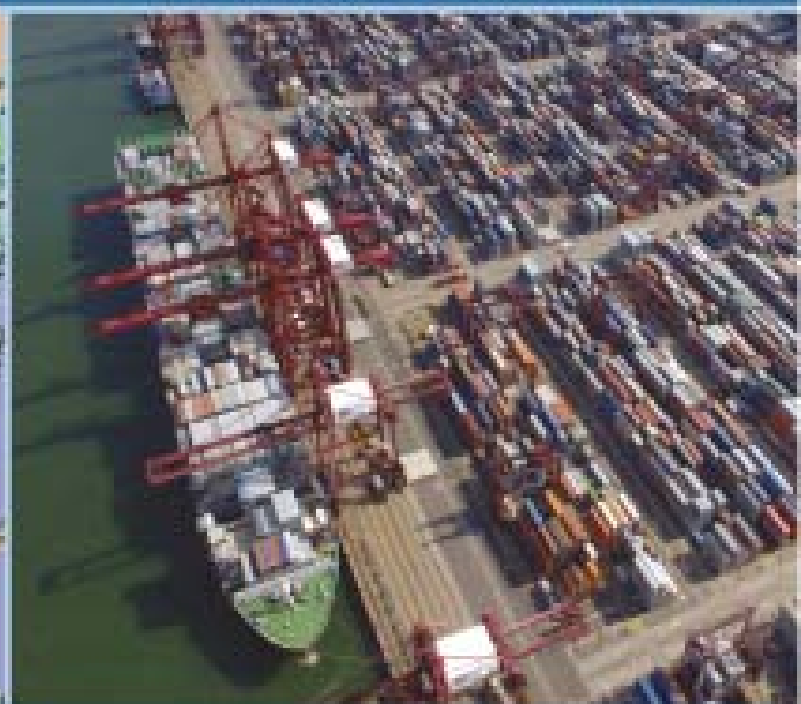
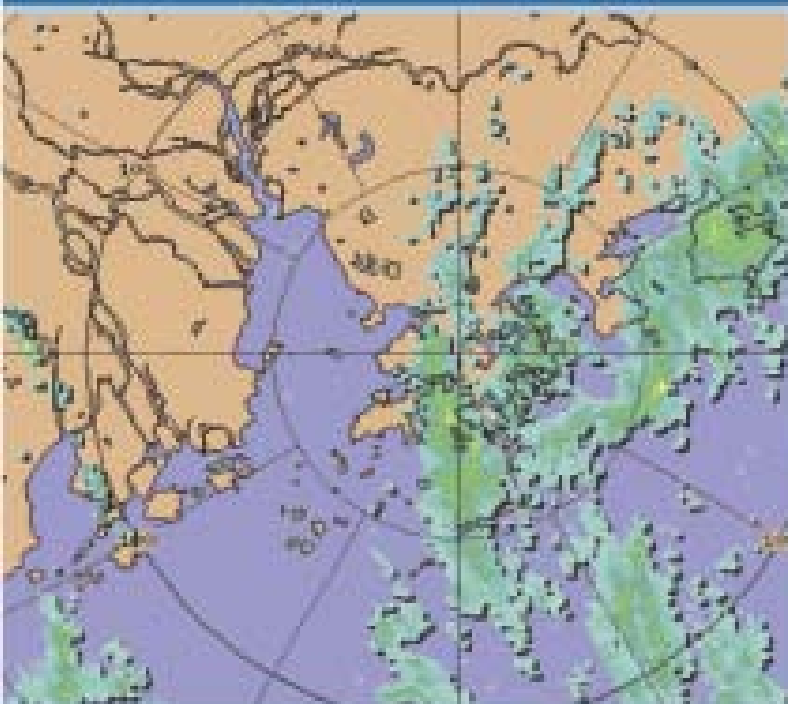


HONG KONG WEATHER SERVICES FOR SHIPPING



香港天文台
HONG KONG OBSERVATORY

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1 INTRODUCTION

The main purpose of this publication is to provide under one cover information on the weather services provided by the Hong Kong Observatory for mariners at sea and in the harbour of Hong Kong. Target readers include crew of ocean-going ships, operators of ship companies, and professionals and other members of the public engaged in offshore and onshore marine activities.

2 WEATHER SERVICES FOR SHIPS IN THE CHINA SEAS AND THE WESTERN NORTH PACIFIC

2.1 Meteorological Messages for the Global Maritime Distress and Safety System

The Global Maritime Distress and Safety System (GMDSS) is a worldwide network of automated communication for ships at sea. With the use of terrestrial and satellite technology and ship-board radio-systems, GMDSS disseminates Maritime Safety Information (MSI) that includes meteorological forecasts and warnings, navigational warnings, and search and rescue information to ships. All ocean-going passenger ships and cargo ships of over 300 gross tonnages engaged on international voyages are required to be fitted with suitable communication equipment for receiving MSI.

Under the GMDSS, the Hong Kong Observatory prepares meteorological forecasts and warnings in routine messages and urgent messages covering the sea area within Equator to 30°N, and 100° to 125°E which is Hong Kong's Area of Responsibility (AOR). All these messages are broadcast via SafetyNET, a satellite-based worldwide broadcast service for disseminating MSI via Inmarsat-C to ships in high seas. Routine messages are issued four times daily at six-hour intervals and uplinked via the Beijing Coast Earth Station (CES) and Yamaguchi CES for SafetyNET broadcast. Urgent messages are issued in between the routine messages when a tropical cyclone comes within Hong Kong's Area of Responsibility and uplinked via the Yamaguchi CES for SafetyNET broadcast. Broadcast schedules of these messages are given in Appendix II.

Each GMDSS message prepared by the Hong Kong Observatory consists of two parts of meteorological information:

- (a) warnings of gale force winds or above; and
- (b) a short synopsis (including any tropical cyclone information) as well as 24-hour forecast on significant swell and seas, severe weather and reduced visibility for various areas within Hong Kong's AOR.

2.2 Marine Weather Forecasts

The Hong Kong Observatory issues marine weather forecast bulletins twice daily for ships cruising in the China Seas and the western North Pacific. The bulletin contains warnings of gale force winds or above, a synopsis of significant weather system within the sea area within 10° to 30°N and 105° to 125°E, and 24-hour weather forecasts for ten marine areas. The warnings, whenever issued, are classified according to the expected wind strength during the forecast period as follows:

Class of Warning	Beaufort Scale	Sustained Wind Speed	
		knots	km/h
Gale	8 – 9	34 – 47	63 – 87
Storm	10 – 11	48 – 63	88 – 117
Hurricane	12	64 or above	118 or above

The marine weather forecast bulletins are broadcast via NAVTEX which is a co-ordinated broadcast and automatic reception on 518 kHz by means of narrow-band direct-printing telegraphy. In Hong Kong, NAVTEX broadcast is provided by the Marine Department with a broadcast range of about 700 km. Details of broadcast schedules and delineation of forecast areas are given in Appendix II and Appendix III respectively.

2.3 Weather Information for South China Coastal Waters

The Hong Kong Observatory issues weather information for the waters along the coast of south China seven times daily. The bulletin contains warnings of widespread fog and high winds (force 6 or higher), a description of the general weather situation (including significant low pressure systems or tropical cyclones that may affect the forecast area), 24-hour forecasts of winds, significant weather,

and sea state, as well as an outlook for the next 48 hours for seven fishing areas. The delineation of the seven areas is shown in Appendix IV.

This bulletin together with the latest weather reports from selected coastal weather stations in south China coastal areas are broadcast through local radio stations as well as single sideband radiotelephony (Appendix II).

2.4 Tropical Cyclone Warnings for Shipping

When a tropical cyclone is located within the area 10° to 30°N and 105° to 125°E, the Hong Kong Observatory issues warning bulletins every three hours at 0200, 0500, 0800, 1100, 1400, 1700, 2000 and 2300 UTC and broadcasts to ships via NAVTEX (Appendix II). Each warning bulletin contains information in the following order:

- (a) Date and time of observation;
- (b) Intensity classification of the tropical cyclone;
- (c) Name and sequence number of the tropical cyclone, if available;
- (d) Latitude and longitude of the centre of the tropical cyclone;
- (e) Direction and speed of movement of the centre of the tropical cyclone;
- (f) Maximum sustained wind speed and minimum pressure near the centre;
- (g) Wind and wave distribution around the tropical cyclone;
- (h) Other available information such as reports from ships near the centre of the tropical cyclone;
- (i) 24-hour forecast position of the centre of the tropical cyclone and the maximum sustained wind speed near the centre;
- (j) 48-hour forecast position of the centre of the tropical cyclone and the maximum sustained wind speed near the centre; and
- (k) 72-hour forecast position of the centre of the tropical cyclone and the maximum sustained wind speed near the centre.

Tropical cyclones are classified according to the maximum sustained wind speed (taken as the maximum 10-minute mean wind speed) near their centres as follows:

Tropical Cyclone Classification	Maximum Sustained Wind Speed	
	Knots	km/h
Tropical Depression	Up to 33	Up to 62
Tropical Storm	34 – 47	63 – 87
Severe Tropical Storm	48 – 63	88 – 117
Typhoon	64 – 80	118 – 148
Severe Typhoon	81 – 99	149 – 184
Super Typhoon	≥ 100	≥ 185

3 WEATHER SERVICES FOR SHIPS IN THE HARBOUR

3.1 Local Weather Forecasts and Warnings

The Central Forecasting Office of the Hong Kong Observatory keeps a close watch on the changing weather situation in the Hong Kong area round the clock. Warnings of tropical cyclones and the occurrence or impending occurrence (normally within 4 hours) of severe weather such as thunderstorms, rainstorms or landslips are issued and updated as and when required. A list of local weather warnings is given in Appendix V. Weather forecasts issued are constantly reviewed in the light of new developments and are updated if necessary.

Each local weather bulletin consists of a general description of the current weather situation and as appropriate information on tropical cyclones, a weather forecast for the Hong Kong area covering the rest of the day and/or the next day depending on the time of issue of the forecast, a weather outlook and the latest readings of temperature and relative humidity at selected locations in Hong Kong.

Local weather bulletins are broadcast by radio and television stations from time to time. The frequencies and languages used by the radio stations are listed in Appendix VI. The bulletin is also available through the Dial-a-Weather service of the Hong Kong Observatory at telephone number (852) 1878 200 and on the Hong Kong Observatory website:

<http://www.hko.gov.hk/wxinfo/currwx/flw.htm>

Extended local weather forecasts up to 7 days ahead are available through the Dial-a-Weather service of the Hong Kong Observatory at telephone number (852) 1878 200 and on the Hong Kong Observatory website:

<http://www.hko.gov.hk/wxinfo/currwx/f7d.htm>

3.2 Visibility Reports for Hong Kong Harbour and Approaches

The Hong Kong Observatory keeps a visibility watch at the Hong Kong Observatory Headquarters in Kowloon and the Hong Kong International Airport at Lantau. The Marine Department keeps a visibility watch of the coastal waters of Hong Kong covering the following ten areas: East Lamma Channel, Kowloon Bay, Ma Wan, South Lantau, Tathong Point, Urmston Road, Victoria Harbour, Waglan & Po Toi Islands, West Lamma Channel & Cheung Chau, and Western Anchorage (Appendix VII).

Whenever the visibility in Victoria Harbour or its approaches is restricted by fog, mist or haze to less than 3.7 km (2 nautical miles), hourly visibility reports will be broadcast by the Hong Kong Vessel Traffic Centre operated by the Marine Department on VHF on the hour until the visibility improves to more than 3.7 km. These visibility reports and the visibility reports at the Hong Kong Observatory Headquarters, Central District and the Hong Kong International Airport will be shown on the visibility map on the Hong Kong Observatory website:

http://www.hko.gov.hk/vis/vis_index.shtml

3.3 Weather Bulletins for Hong Kong Waters

When there is no tropical cyclone warning signal in effect, special weather bulletins for the Hong Kong waters are issued eight times a day on Saturdays, and nine times a day on Sundays and other general holidays. The bulletins, broadcast in English only, contain the following information:

- (a) winds at Cheung Chau, Waglan Island, Green Island, Kai Tak and Star Ferry Kowloon;
- (b) sea state and visibility at Waglan Island; and
- (c) sea surface temperature and tides in Victoria Harbour.

3.4 Tropical Cyclone Warnings

Whenever a tropical cyclone is centred within about 800 km of Hong Kong and may affect the territory, local tropical cyclone warnings are issued (Appendix VIII). These warnings include the latest position and expected movement of the centre of the tropical cyclone, information on local winds, rainfall, rise in sea level and advice on precautionary measures.

When tropical cyclone warning signals are issued, warning bulletins are despatched to the government's Information Services Department for dissemination to the press as well as local radio and television stations regularly. Members of the public can obtain the latest information through the emergency hotline (852) 2835 1473 of the Home Affairs Department, the Dial-a-Weather service of the Hong Kong Observatory (852) 1878 200 and the Hong Kong Observatory website:

<http://www.hko.gov.hk/wxinfo/currwx/tc.htm>

3.5 Strong Monsoon Warnings

The Strong Monsoon Signal is issued when winds associated with the summer or winter monsoon are blowing in excess of or are expected to exceed 40 km/h near sea level anywhere in Hong Kong. Winter monsoon normally blows from the north or the east while summer monsoon typically blows from the south or the southwest.

The warning bulletins are broadcast by local radio and television stations. The public can also obtain such information through the Hong Kong Observatory's Dial-a-Weather service at (852) 1878 200 and the Hong Kong Observatory website:

<http://www.hko.gov.hk/wxinfo/currwx/current.htm>

3.6 Tidal Information

The Hong Kong Observatory operates a network of six tide gauges located at Quarry Bay, Shek Pik, Tai Miu Wan, Tai Po Kau, Tsim Bei Tsui and Waglan Island. The Airport Authority operates a tide gauge at the Hong Kong International Airport at Lantau and the Marine Department operates four tide gauges at Cheung Chau, Ma Wan, Kwai Chung and Ko Lau Wan. Every year, the

Hong Kong Observatory prepares predictions of astronomical tides for the Hong Kong waters and publishes the “Tide Tables for Hong Kong”.

Tidal predictions and real-time tidal information at various locations in Hong Kong are available on the Hong Kong Observatory website:

http://www.hko.gov.hk/tide/etide_main.htm

3.7 Tsunami Warnings

Tsunamis are long wavelength ocean waves that may accompany the occurrences of intense submarine earthquakes. Most tsunamis are not severe enough to cause any damage but there were cases that resulted in heavy casualties and extensive damages. In Hong Kong, only two notable cases of tsunami have so far been recorded. On both occasions, the sea level in Hong Kong was found to be only about 0.3 metre above the normal tide level.

The first arrival times of earthquake waves recorded at the Hong Kong Observatory Headquarters are sent in near real-time to the Pacific Tsunami Warning Centre (PTWC) in Honolulu, Hawaii. In return, the Hong Kong Observatory receives warnings of possible tsunamis caused by earthquakes in the Pacific. When a tsunami alert is received, the Hong Kong Observatory closely monitors the situation including the sea water levels recorded by the network of tide gauges in Hong Kong. If the situation warrants, the Hong Kong Observatory would issue a tsunami warning to the public.

Ships in dockyard and alongside wharves are vulnerable to damage by tsunamis and masters of ships are advised that, should a tsunami warning be received, a fluctuation in the sea water level in the harbour is to be expected. The rise in level may be great enough to flood wharves and part mooring wires. Masters should take precautions to guard against these eventualities.

4 HONG KONG PORT METEOROLOGICAL SERVICES

4.1 Hong Kong Voluntary Observing Ships

Under the Voluntary Observing Ships scheme of the World Meteorological Organization (WMO), a fleet of locally based Hong Kong Voluntary Observing Ships (HKVOS) are equipped by the Hong Kong Observatory with instruments and publications such as barometers, barographs,

meteorological logbooks, weather code cards and monthly weather summaries. These ships make weather observations regularly and transmit weather reports by radiotelex or via satellite to meteorological centres during their voyages. Masters of vessels calling Hong Kong and plying regularly in the Far East are encouraged to participate in this scheme. For further details, please contact the Port Meteorological Officer (PMO) of the Hong Kong Observatory (Appendix IX).

4.2 Port Meteorological Officer

The PMO of the Hong Kong Observatory is responsible for recruiting voluntary observing ships and acts as a focus for the provision of meteorological services to the marine community. Through regular visits to the voluntary observing ships, the PMO gives guidance to marine observers on making weather reports and checks the accuracy of the meteorological instruments on board to ensure the highest standard of weather observation. Information on the port meteorological services provided by the Hong Kong Observatory can be found on the Hong Kong Observatory website:

http://www.hko.gov.hk/wservice/tsheet/pms/index_e.htm

4.3 Ship Weather Reports

HKVOS are requested to send their weather reports to Hong Kong via satellite when they are plying in the South China Sea and the western North Pacific.

(a) Code

The code form to be used when transmitting an observation is shown in details in the "Hong Kong Weather Code Card for Ships" published by the Hong Kong Observatory. A brief explanation of this code is given in Appendix X.

(b) Time of report

In general, weather reports should be made at 0000, 0600, 1200 and 1800 UTC. When the presence of a tropical cyclone is known or suspected, ships in the area concerned may be requested to make additional weather reports at 0300, 0900, 1500 and 2100 UTC. Weather reports should be transmitted within one hour of the observation time if possible but late reports are still of considerable value.

(c) Transmission of report

Ships equipped with Inmarsat facilities can transmit their weather reports free-of-charge to meteorological centres via Coast Earth Stations (CES) using two-digit service code 41. Methods of transmitting ship weather reports to the Hong Kong Observatory via satellite and a list of Inmarsat-C CES are shown in Appendices XI and XII respectively.

4.4 Checking Instruments

Meteorological instruments of HKVOS are checked regularly on board by the PMO during ship visits. Ships recruited by other nations can also obtain this service by contacting the PMO of the Hong Kong Observatory. Ship barometers can be checked in Hong Kong by:

- (a) calling (852) 2926 8473 (24-hour) to obtain a reading of the atmospheric pressure at the Hong Kong Observatory Headquarters; and
- (b) bringing the barometers directly to the Hong Kong Observatory Headquarters for comparison. Arrangements can be made by contacting the PMO.

4.5 Miscellaneous Meteorological Publications

Request for a fax copy of the daily weather map can be made by dialling the Hong Kong Observatory's Dial-a-Weather service at (852) 1878 200. Alternatively, users can download the daily weather map from the Hong Kong Observatory website:

<http://www.hko.gov.hk/wxinfo/currwx/wxcht.htm>

Copies of weather code card for ships, blank weather charts and other publications of the Hong Kong Observatory are supplied to Voluntary Observing Ships on request through the PMO.

5 OTHER USEFUL INFORMATION FOR SHIPS

5.1 World Weather Information Service

The Hong Kong Observatory has developed and is operating on behalf of WMO a website called World Weather Information Service (WWIS) for the international media and for people everywhere to obtain official weather forecasts and climatological information issued by national meteorological and hydrological services for cities around the world. The address of this website is:

<http://www.worldweather.org/>

5.2 Severe Weather Information Centre

The Hong Kong Observatory has developed and is operating on behalf of WMO a website called Severe Weather Information Centre (SWIC) for the international media and for people everywhere to obtain official information on severe weather around the world. The SWIC website provides tropical cyclone information and warnings for all ocean basins affected by tropical cyclones as well as charts showing the global distribution of severe weather information such as heavy rain/snow issued by regional specialized meteorological centres and national meteorological and hydrological services. The address of this website is:

<http://severe.worldweather.org/>

5.3 Satellite Imageries

The Hong Kong Observatory operates ground reception systems to receive cloud images from geostationary and polar orbiting meteorological satellites of China, Japan and the USA. Images received are posted on the Hong Kong Observatory website:

http://www.hko.gov.hk/wxinfo/intersat/satpic_s.shtml

5.4 Doppler Weather Radar Imageries

The Hong Kong Observatory operates a Doppler weather radar on Tai Mo Shan for weather surveillance. Real-time radar images are displayed on the Hong Kong Observatory website:

<http://www.hko.gov.hk/wxinfo/radars/radar.htm>

5.5 Meteorological Broadcasts for Aircraft

Weather observations, aerodrome forecasts and warnings for the Hong Kong International Airport including any tropical cyclone warnings are prepared by the Hong Kong Observatory for the safety and efficiency of international aircraft operations. These messages are broadcast in plain language on specified radio channels round the clock. This may be used by ships calling Hong Kong as a reference for the weather conditions experienced or expected in Hong Kong. Details of these broadcasts are listed in Appendix XIII.

BEAUFORT SCALE OF WIND FORCE*

<i>Beaufort scale number</i>	<i>Descriptive term</i>	<i>Velocity equivalent at a standard height of 10 metres above open flat ground</i>			<i>Sea criterion</i>	<i>Probable height of waves in metres #</i>	<i>Probable Maximum height of waves in metres #</i>
		<i>Mean velocity in knots</i>	<i>m/s</i>	<i>km/h</i>			
0	Calm	<1	<0.5	<2	Sea like a mirror.	-	-
1	Light air	1-3	0.5-1.5	2-6	Ripples with the appearance of scales are formed, but without foam crests.	0.1	0.1
2	Light breeze	4-6	2.0-3.0	7-12	Small wavelets, still short but more pronounced; crests have a glassy appearance and do not break.	0.2	0.3
3	Gentle breeze	7-10	3.5-5.0	13-19	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	0.6	1.0
4	Moderate breeze	11-16	5.5-8.0	20-30	Small waves; becoming longer; fairly frequent white horses.	1.0	1.5
5	Fresh breeze	17-21	8.5-11.0	31-40	Moderate waves, taking a more pronounced long form; many white horses are formed. (chance of some spray)	2.0	2.5
6	Strong breeze	22-27	11.5-14.0	41-51	Large waves begin to form; the white foam crests are more extensive everywhere. (probably some spray)	3.0	4.0
7	Near gale	28-33	14.5-17.0	52-62	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	4.0	5.5
8	Gale	34-40	17.5-20.5	63-75	Moderately high waves of greater length; edges of crests begin to break into the spindrift; the foam is blown in well-marked streaks along the direction of the wind.	5.5	7.5
9	Strong gale	41-47	21.0-24.0	76-87	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may affect visibility.	7.0	10.0
10	Storm	48-55	24.5-28.5	88-103	Very high waves with long overhanging crests; the resulting foam, in great patches, is blown in dense white streaks along the direction of the wind; on the whole, the surface of the sea takes on a white appearance; the tumbling of the sea becomes heavy and shocklike; visibility affected.	9.0	12.5
11	Violent storm	56-63	29.0-32.5	104-117	Exceptionally high waves (small and medium-sized ships might be for a time lost to view behind the waves); the sea is completely covered with long white patches of foam lying along the direction of the wind; everywhere the edges of the wave crests are blown into froth; visibility affected.	11.5	16.0
12	Hurricane	64 and over	33.0 and over	118 and over	The air is filled with foam and spray; sea completely white with driving spray; visibility very seriously affected.	14	-

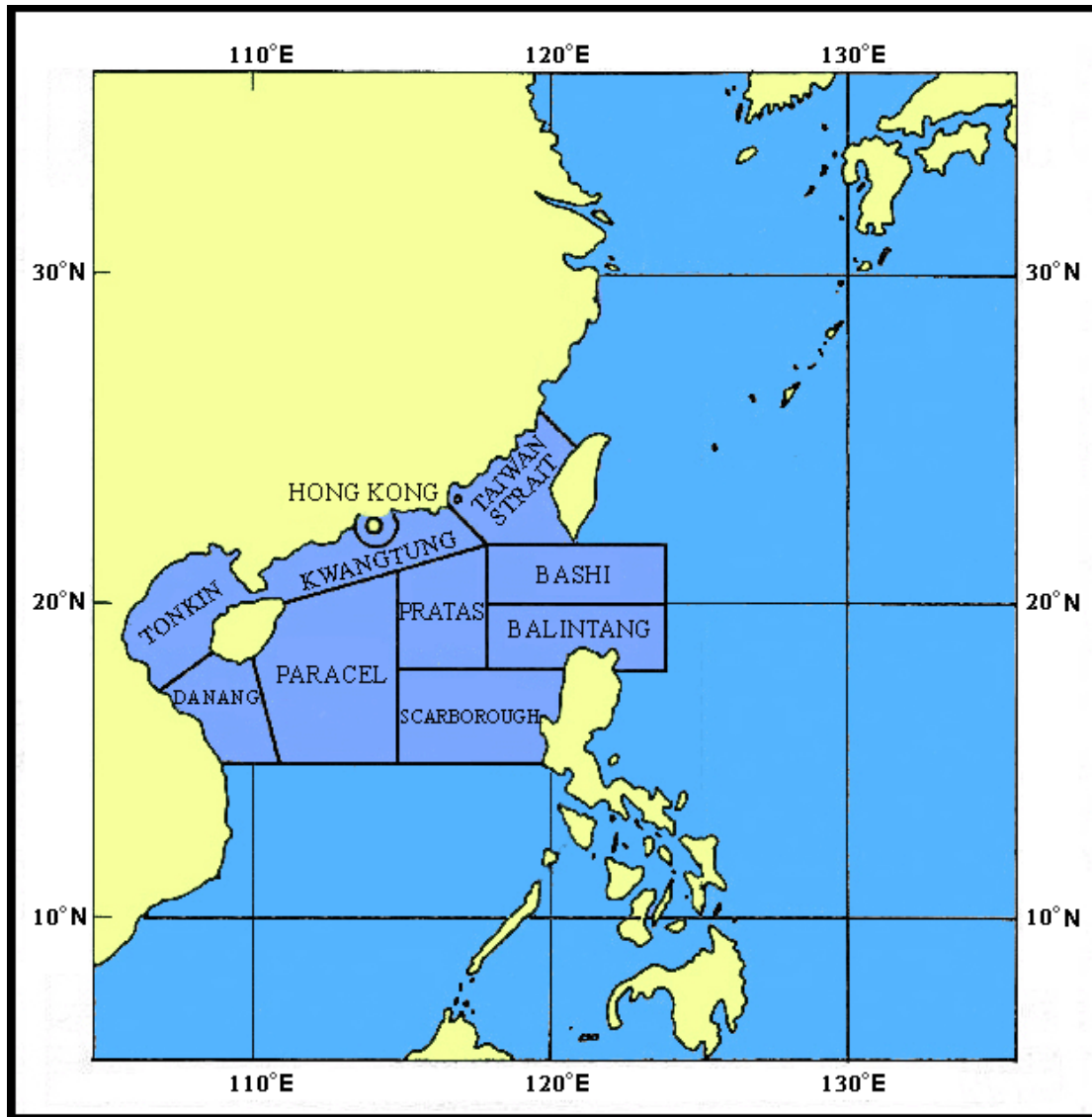
* Due to local metrication preference, the wind velocity in metric units as specified in this table corresponding to each category of the Beaufort scale of wind force may differ slightly from those adopted by other publications.

These columns are added as a guide to show roughly what may be expected in the open sea, remote from land. In enclosed waters, or when near land with an off-shore wind, wave height will be smaller and the waves steeper.

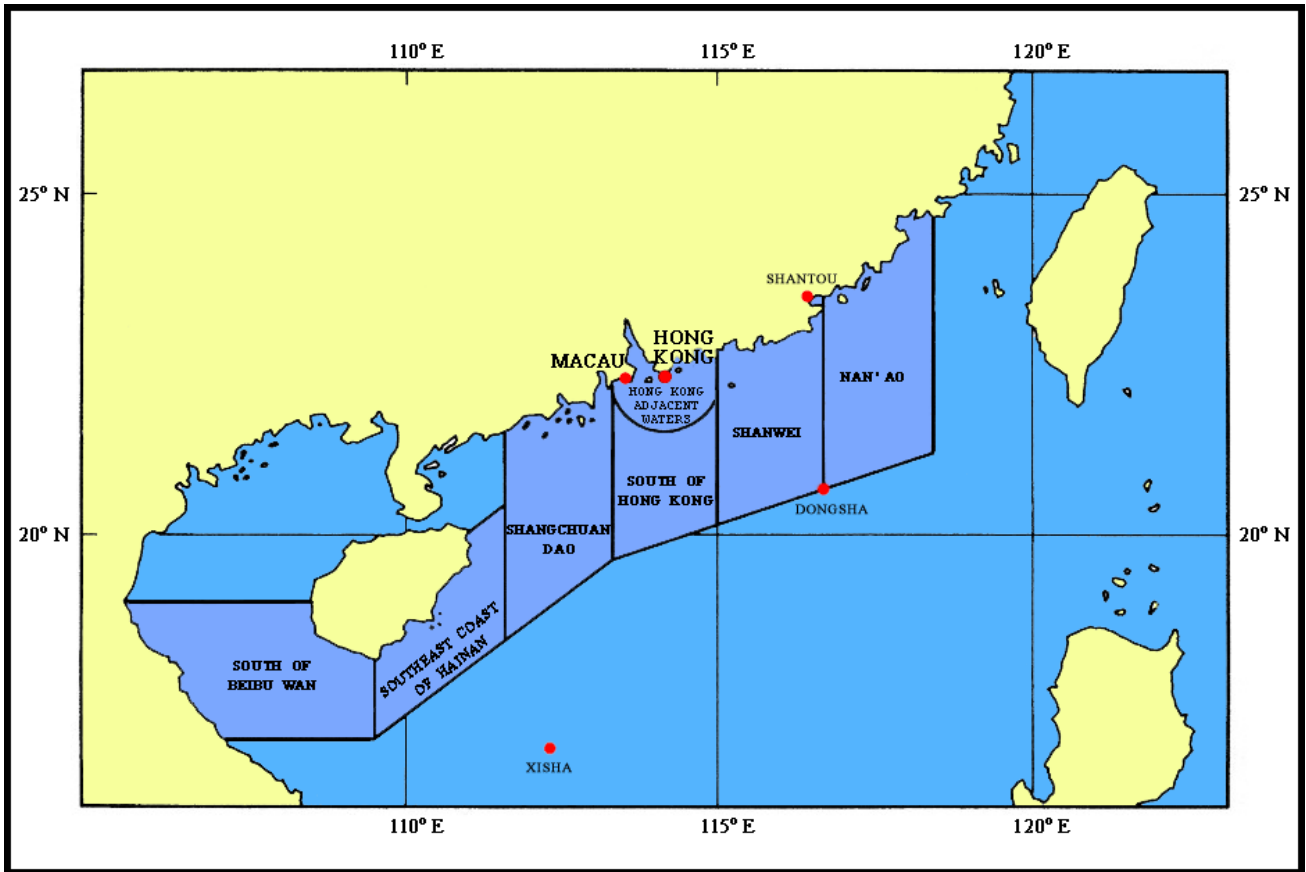
SUMMARY OF HONG KONG WEATHER BULLETINS FOR SHIPPING

<i>Weather bulletin</i>	<i>Covering area</i>	<i>Broadcast medium/schedule</i>
Marine Weather Forecasts	10 areas in the South China Sea	- NAVTEX via Marine Department on 518 kHz (broadcast 6 times daily at 0150, 0550, 0950, 1350, 1750 & 2150 UTC) - Internet: http://www.hko.gov.hk/wxinfo/currwx/fmar.htm
Weather Information for South China Coastal Waters	7 fishing areas off the coast of south China	- Commercial Radio 1 (broadcast in Cantonese 7 times daily around 0400, 0600, 1100, 1300, 1700, 2000 & 2400 HKT) - Radio Television Hong Kong (broadcast 7 times daily around 0400, 0600, 1030, 1300, 1700, 2000 & 2400 HKT on Cantonese channel and 2 times daily around 0600 & 2400 HKT on English channel) - Single Sideband Radiotelephony via Marine Department on 8812 kHz (broadcast 4 times daily at 2233, 0203, 0533 & 0933 UTC; additional broadcast at 1333 UTC if the tropical cyclone warning is in effect) - Internet: http://www.hko.gov.hk/wxinfo/currwx/ffish.htm
Tropical Cyclone Warnings for Shipping	10°N – 30°N, 105°E – 125°E	- NAVTEX via Marine Department on 518 kHz (broadcast on receipt of warnings issued at 0200, 0500, 0800, 1100, 1400, 1700, 2000 & 2300 UTC; repeat at 0150, 0550, 0950, 1350, 1750 & 2150 UTC) - Internet: http://www.hko.gov.hk/wxinfo/currwx/tcswarn.htm
Global Maritime Distress and Safety System (GMDSS) Routine Messages	Equator – 30°N, 100°E – 125°E	- SafetyNET via Beijing Coast Earth Station (broadcast 4 times daily at 0330, 1015, 1530 & 2215 UTC) - SafetyNET via Yamaguchi Coast Earth Station (broadcast 4 times daily at 0230, 0830, 1430 & 2030 UTC)
GMDSS Urgent Messages	Equator – 30°N, 100°E – 125°E	- SafetyNET via Yamaguchi Coast Earth Station (broadcast on receipt of messages issued at 0500, 1100, 1700 & 2300 UTC)
Local Weather Forecasts	local areas of Hong Kong	- local radio and television stations (broadcast before or after news programmes) - Internet: http://www.hko.gov.hk/wxinfo/currwx/flw.htm
7-Day Weather Forecasts	local areas of Hong Kong	- Internet: http://www.hko.gov.hk/wxinfo/currwx/f7d.htm
Visibility Report for Hong Kong Harbour and Approaches	10 areas in Victoria Harbour & its approaches	- Vessel Traffic Services of the Marine Department on VHF Channel 12, 14 & 67 (broadcast on the hour when the visibility is less than 3.7 km) - Internet: http://www.hko.gov.hk/vis/vis_index.shtml
Weather Bulletins for Hong Kong Waters	local waters of Hong Kong	Radio Television Hong Kong – Radio 3 (broadcast at 0530, 0615, 0815, 1115, 1315, 1415, 1715 & 2015 HKT on Saturday and at 0530, 0615, 0715, 0815, 1115, 1315, 1415, 1715 & 2015 HKT on Sunday & general holidays)
Tropical Cyclone Warnings	within 800 km of Hong Kong	- local radio and television stations (broadcast frequently when the warning is in effect) - Internet: http://www.hko.gov.hk/wxinfo/currwx/tc.htm
Strong Monsoon Warnings	local areas of Hong Kong	- local radio and television stations (broadcast frequently when the warning is in effect) - Internet: http://www.hko.gov.hk/wxinfo/currwx/current.htm

MAP OF FORECAST AREAS REFERRED TO IN THE MARINE WEATHER FORECASTS



MAP OF FORECAST AREAS REFERRED TO IN THE WEATHER INFORMATION FOR SOUTH CHINA COASTAL WATERS



LOCAL WEATHER WARNINGS

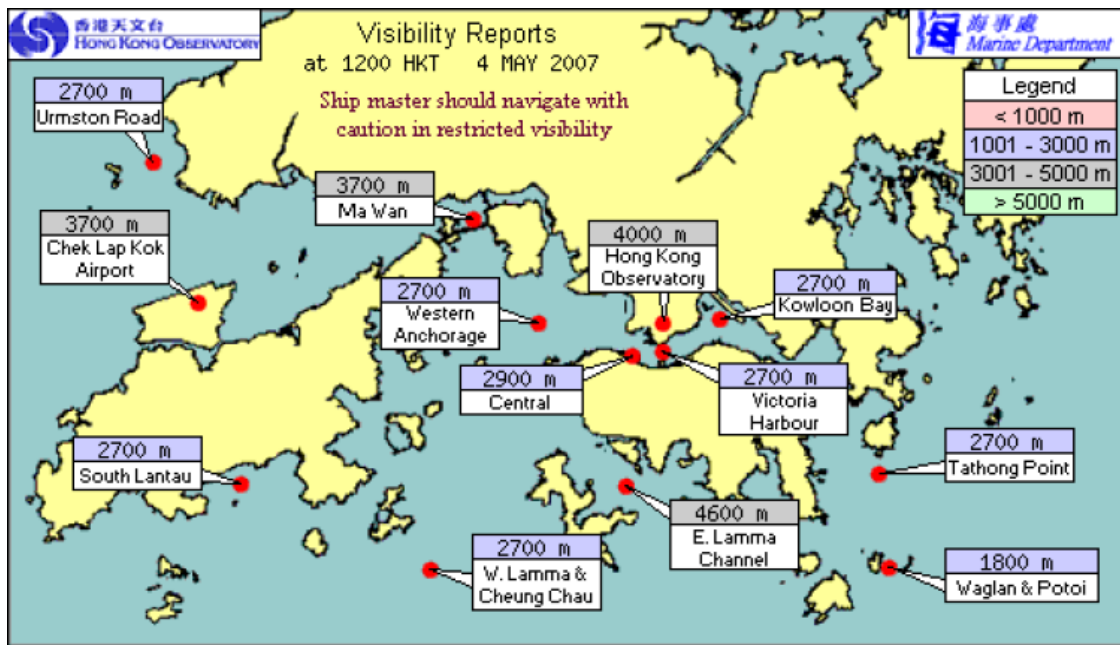
<i>Weather bulletin</i>	<i>Contents</i>
Tropical Cyclone Warnings	Please refer to Section 3.4 and Appendix VIII
Rainstorm Warning	<p>The Amber Rainstorm Warning Signal gives alert about potential heavy rain that may develop into Red or Black Rainstorm Warning Signal situations (see below). It also signifies possible flooding in some low-lying and poorly drained areas.</p> <p>The Red Rainstorm Warning Signal warns the public of heavy rain which could cause serious road flooding and traffic congestion, and may affect schools and public examinations.</p> <p>The Black Rainstorm Warning Signal indicates there are major disruptions and inclement weather. People should stay home or take shelter in a safe place.</p>
Special Announcement on Flooding in the Northern New Territories	This announcement is issued whenever heavy rain affects the area and flooding is expected to occur or is occurring in the low-lying plains of the northern New Territories.
Landslip Warning	A warning of landslips due to heavy rain is issued in consultation with the Geotechnical Engineering Office whenever heavy rain has occurred and is expected to continue in the next few hours such that landslips are considered to be likely.
Thunderstorm Warning	This warning is intended to give short term (4 hours or less) notice of the likelihood of thunderstorms affecting any part of Hong Kong and is issued irrespective of whether the thunderstorms are widespread or isolated.
Strong Monsoon Warning	Please refer to Section 3.5 and Appendix VIII.
Very Hot Weather Warning	When very hot and fine weather is expected, this warning is issued to warn people, particularly those engaging in outdoor activities, the risk of heatstroke and sunburn.
Cold Weather Warning	This warning is issued whenever cold weather is expected in Hong Kong to warn people to beware of low body temperature.
Frost Warning	This warning is issued whenever ground frost is expected to occur on high ground or inland in the New Territories.
Fire Danger Warning	This warning service is operated in co-operation with the Agriculture, Fisheries and Conservation Department to warn the public of the likelihood of fires. A fire danger warning is issued whenever the relative humidity of the atmosphere is below certain criteria and when the vegetation is dry. A yellow fire danger warning indicates that the fire risk is high while a red fire danger warning indicates that the fire risk is extreme.

LOCAL WEATHER BROADCASTS FOR HONG KONG

<i>Name of station</i>	<i>Language used</i>	<i>Frequency*</i>
Commercial Radio Hong Kong	English	AM 864 kHz
Commercial Radio 1	Cantonese	FM 88.1 - 89.5 MHz
Commercial Radio 2	Cantonese	FM 90.3 - 92.1 MHz
Radio Television Hong Kong (Radio 1)	Cantonese	FM 92.6 - 94.4 MHz
Radio Television Hong Kong (Radio 2)	Cantonese	FM 94.8 - 96.9 MHz
Radio Television Hong Kong (Radio 3)	English	AM 567 kHz
Radio Television Hong Kong (Radio 4)	English/Cantonese	FM 97.6 - 98.9 MHz
Radio Television Hong Kong (Radio 5)	Cantonese	AM 783 kHz
Radio Television Hong Kong (Putonghua)	Putonghua	AM 621 kHz
Metro Radio (Metro Showbiz)	Cantonese	FM 99.7 - 102.1 MHz
Metro Radio (Metro Finance)	Cantonese	FM 102.4 - 106.3 MHz
Metro Radio (Metro Plus)	English	AM 1044 kHz

* AM - Amplitude Modulation
FM - Frequency Modulation

LOCATION MAP FOR HOURLY VISIBILITY REPORTS



**TROPICAL CYCLONE WARNING SIGNALS
AND STRONG MONSOON SIGNAL USED IN HONG KONG**

<i>Signal</i>		<i>Sustained wind speed expected or blowing (km/h)</i>	<i>Maximum gust expected (km/h)</i>	<i>Meaning of the signal</i>
Standby	1	-	-	A tropical cyclone is centred within about 800 km of Hong Kong and may affect the territory.
Strong Wind	3	41 – 62	110	Strong wind is expected or blowing generally in Hong Kong near sea level, with a sustained speed of 41 – 62 km/h, and gusts which may exceed 110 km/h, and the wind condition is expected to persist.
Northwesterly Gale or Storm	8 NW	63 – 117	180	Gale or storm force wind is expected or blowing 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.
Southwesterly Gale or Storm	8 SW			
Northeasterly Gale or Storm	8 NE			
Southeasterly Gale or Storm	8 SE			
Increasing Gale or Storm	9	-	-	Gale or storm force wind is increasing or expected to increase significantly in strength.
Hurricane	10	≥118	220	Hurricane force wind is expected or blowing with sustained wind speed reaching upwards from 118 km/h and gusts that may exceed 220 km/h.
Strong Monsoon		>40	-	It is issued when winds associated with the summer or winter monsoon are blowing in excess of or are expected to exceed 40 km/h near sea level anywhere in Hong Kong. Winter monsoon normally blows from the north or from the east while summer monsoon typically blows from the southwest. In very exposed places, monsoon winds may exceed 70 km/h.

USEFUL TELEPHONE NUMBERS

<i>Description</i>	<i>Telephone number</i>
Port Meteorological Officer (PMO)*	(852) 2926 3113
Dial-a-Weather (Local weather forecasts and warnings, time check, marine and tidal information)	(852) 1878 200
Calibration of barometer	(852) 2926 8473
Publication enquiries	(852) 2926 8247
Official documents for litigation	(852) 2926 8448
Climatology	(852) 2926 8444

* The PMO can also be contacted by email at: hkopmo@hko.gov.hk

CODE FOR SHIP WEATHER REPORTS

Code format

BBXX	CALLSIGN				
YYGGi _w	99L _a L _a L _a	Q _c L _o L _o L _o L _o	4i _x hVV	Nddff	1s _n TTT
	2s _n T _d T _d T _d	4PPPP	5appp	7wwW ₁ W ₂	8N _h C _L C _M C _H
	222D _s V _s	0s _s T _w T _w T _w	2P _w P _w H _w H _w	3d _{w1} d _{w1} //	
	4P _{w1} P _{w1} H _{w1} H _{w1}	6I _s E _s E _s R _s	8s _w T _b T _b T _b	ICE	c _i S _i b _i D _i Z _i

Meanings of each group:

BBXX:		-	Identifier of a ship weather report
CALLSIGN :		-	Call sign of the ship
YYGGi _w :	YY	-	Day of month (UTC)
	GG	-	Time of observation to nearest hour (UTC)
	i _w	-	Wind speed indicator
99L _a L _a L _a :	99	-	Indicator for sea station position groups
	L _a L _a L _a	-	Latitude, degrees and tenths
Q _c L _o L _o L _o L _o :	Q _c	-	Quadrant of the globe
	L _o L _o L _o L _o	-	Longitude, degrees and tenths
4i _x hVV :	4	-	Indicates that precipitation group is omitted
	i _x	-	Indicator for weather group
	h	-	Height of base of the lowest cloud
	VV	-	Horizontal visibility
Nddff :	N	-	Total cloud amount
	dd	-	Direction of surface winds (true direction, in tens of degrees)
	ff	-	Speed of surface winds
1s _n TTT :	1	-	Group indicator for air temperature
	s _n	-	Sign of temperature (0 for 0° C or above, 1 for below 0° C)
	TTT	-	Air temperature in whole degrees and tenths
2s _n T _d T _d T _d :	2	-	Group indicator for dew-point temperature
	s _n	-	Sign of temperature (0 for 0° C or above, 1 for below 0° C)
	T _d T _d T _d	-	Temperature of dew-point in whole degrees and tenths
4PPPP :	4	-	Group indicator for pressure
	PPPP	-	Mean sea level pressure in hectopascal and tenths, thousands digit omitted
5appp :	5	-	Group indicator for pressure change
	a	-	Characteristic changes in atmospheric pressure in last 3 hours
	ppp	-	Change of pressure in tenths of hectopascal during last 3 hours
7wwW ₁ W ₂ :	7	-	Group indicator for weather
	ww	-	Present weather
	W ₁ W ₂	-	Past weather during the preceding 6 hours

8N _h C _L C _M C _H :	8	-	Group indicator for clouds
	N _h	-	Total amount of low clouds (or medium clouds, if no low clouds)
	C _L	-	Type of low clouds: Cu, Cb, Sc, St
	C _M	-	Type of medium clouds: Ac, As, Ns
	C _H	-	Type of high clouds: Ci, Cs, Cc
222D _s V _s :	222	-	Section indicator for maritime data
	D _s	-	Ship's course made good during the past 3 hours
	V _s	-	Ship's average speed during the past 3 hours
0S _s T _w T _w T _w :	0	-	Group indicator for sea surface temperature
	S _s	-	Sign and type of measurement of sea surface temperature
	T _w T _w T _w	-	Sea surface temperature in whole degrees and tenths
2P _w P _w H _w H _w :	2	-	Group indicator for wind waves
	P _w P _w	-	Period of wind waves in seconds
	H _w H _w	-	Height of wind waves in units of half metre
3d _{w1} d _{w1} // :	3	-	Group indicator for swell directions
	d _{w1} d _{w1}	-	Direction in tens of degrees from which the predominant swell is coming
4P _{w1} P _{w1} H _{w1} H _{w1} :	4	-	Group indicator for period and height of the predominant swell
	P _{w1} P _{w1}	-	Period of the first (predominant) swell in seconds
	H _{w1} H _{w1}	-	Height of the first (predominant) swell in units of half metre
6I _s E _s E _s R _s :	6	-	Group indicator for ice accretion
	I _s	-	Type of ice accretion
	E _s E _s	-	Thickness of ice in cm
	R _s	-	Rate of ice accretion
8S _w T _b T _b T _b :	8	-	Group indicator for wet bulb temperature
	S _w	-	Sign and type of wet bulb temperature
	T _b T _b T _b	-	Wet bulb temperature in whole degrees and tenths
ICE :		-	Indicator, ice group follows
c _i S _i b _i D _i z _i :	c _i	-	Concentration or arrangement of sea ice
	S _i	-	State of development
	b _i	-	Ice of land origin
	D _i	-	Bearing of principal ice edge
	z _i	-	Ice situation and trend over proceeding 3 hours

**TRANSMISSION METHODS FOR SHIP WEATHER REPORTS
TO THE HONG KONG OBSERVATORY VIA SATELLITE**

- (1) Select telex mode
- (2) Select routine priority
- (3) Enter the Coast Earth Station (CES) identity code
- (4) Enter 802 54777 (Hong Kong Observatory telex number)
- (5) Start sending the weather report (free of charge to ships)

<i>Inmarsat</i>	<i>Coast Earth Station (CES)</i>	<i>CES Identity Code</i>		<i>Transmission Code</i>
		<i>Pacific Ocean Region</i>	<i>Indian Ocean Region</i>	
C	Singapore	210	328	802 54777 (Hong Kong Observatory telex number)

LIST OF INMARSAT-C COAST EARTH STATIONS

Atlantic Ocean Region-East

<i>Country</i>	<i>Station name</i>	<i>Identity code</i>
France	Aussaguel	121
Greece	Thermopylae	120
Netherlands	Station 12	112
UK	Goonhilly	102
USA	Southbury	104

Atlantic Ocean Region-West

<i>Country</i>	<i>Station name</i>	<i>Identity code</i>
Netherlands	Station 12	012
UK	Goonhilly	002
USA	Southbury	004

Indian Ocean Region

<i>Country</i>	<i>Station name</i>	<i>Identity code</i>
France	Aussaguel	321
Greece	Thermopylae	305
Japan	Yamaguchi	303
Netherlands	Station 12	312
Singapore	Sentosa	328
USA	Eik (Oslo)	304

Pacific Ocean Region

<i>Country</i>	<i>Station name</i>	<i>Identity code</i>
Japan	Yamaguchi	203
Netherlands	Station 12	212
Singapore	Sentosa	210
USA	Santa Paula	204

SCHEDULES AND RADIO FREQUENCIES OF BROADCASTS FOR AIRCRAFT

VOLMET BROADCAST

<i>Call sign</i>	<i>Frequency</i>	<i>Time of broadcast</i>	<i>Time of observation</i>	<i>Type of message</i>	<i>Contents of message</i>
Hong Kong HKG (Morse Code)	338 kHz	HH+15 HH+45	HH HH+30	Aviation weather report, forecast and warning	Surface weather reports and/or trend type landing forecasts at the airport in Guangzhou, Naha, Taibei, Gaoxiong, Manila and Mactan when available. Forecasts for Hong Kong International Airport. Warnings of weather hazardous to aircraft (SIGMET) within the Hong Kong airspace.
Hong Kong Radio	6 679 kHz 8 828 kHz 13 282 kHz				

ATIS BROADCAST

<i>Call sign</i>	<i>Frequency</i>	<i>Time of broadcast</i>	<i>Type of message</i>	<i>Contents of message</i>
Hong Kong International Airport Arrival Information	128.20 MHz	Continuous	Current and routine information to arriving aircraft	Those relevant to weather information at Hong Kong International Airport includes surface wind, visibility, temperature, QNH and other significant meteorological information as appropriate.
Hong Kong International Airport Departure Information	127.05 MHz		Current and routine information to departing aircraft	