

**ROYAL OBSERVATORY  
HONG KONG**

**SUMMARY OF METEOROLOGICAL  
OBSERVATIONS IN HONG KONG**

**1993**



**CROWN COPYRIGHT RESERVED**

Published      December 1994

Prepared by:

Royal Observatory  
134A Nathan Road  
Kowloon  
Hong Kong

This publication is prepared and disseminated in the interest of promoting the exchange of information. The Government of Hong Kong (including its servants and agents) makes no warranty, statement or representation, express or implied, with respect to the accuracy, completeness, or usefulness of the information contained herein or in so far as permitted by law, shall not have any legal liability or responsibility (including liability for negligence) for any loss, damage, or injury (including death) which may result whether directly or indirectly, from the supply or use of such information.

Permission to reproduce any part of this publication should be obtained from the Royal Observatory.

This publication is available from:

Government Publications Sales Centre  
Ground Floor  
Queensway Government Offices  
66 Queensway  
Hong Kong

551.506.1(512.317)

## CONTENTS

	<i>Page</i>
1. Introduction	7
2. Meteorological Stations in Hong Kong	7
Manned Weather Stations Operated by the Royal Observatory	7
Automatic Weather Stations	7
Rainfall Stations	8
Upper-air Station	8
3. Instruments and Methods of Observation	8
Surface Observations	9
Atmospheric Pressure	9
Air Temperature, Wet-bulb Temperature, Dew Point, Vapour Pressure and Relative Humidity	9
Amount of Cloud	9
Wind	9
Duration of Sunshine	10
Global Solar Radiation	10
Grass Minimum and Soil Temperature	10
Evaporation	10
Potential Evapotranspiration	10
Visibility, Lightning and Thunderstorm	10
Sea Surface Temperature	10
Rainfall	10
Upper-air Observation	11
4. Data Presentation	11

## FIGURES

	<i>Page</i>
Fig. 1. Locations of Manned Weather Stations and Automatic Weather Stations as at 31 December 1993	12
Fig. 2. Locations of Meteorological Instruments at the Royal Observatory Headquarters	13
Fig. 3. Locations of Meteorological Instruments at King's Park Meteorological Station	14
Fig. 4. Annual Wind Roses for King's Park, Hong Kong International Airport, the Royal Observatory and Waglan Island in 1993	15
Fig. 5. Monthly Wind Roses for Waglan Island from January to June in 1993	16
Fig. 6. Monthly Wind Roses for Waglan Island from July to December in 1993	17
Fig. 7–9. Annual Wind Roses for Automatic Weather Stations in 1993	18–20
Fig. 10. Monthly Temperatures at Selected Stations in 1993	21
Fig. 11. Annual Rainfall Map for 1993	22
Fig. 12. Monthly Mean Vector Wind at Standard Levels in 1993	23
Fig. 13. Monthly Normals of Vector Wind at Standard Levels (1961–1990)	24

## TABLES

	<i>Page</i>
Table 1–12. Monthly Values of Meteorological Elements in 1993	25–36
Table 13. Annual Values of Meteorological Elements in 1993	37
Table 14. Values of Evaporation, Potential Evapotranspiration, Grass Minimum Temperature and Soil Temperature in 1993	38
Table 15. Monthly Sea Surface Temperature at North Point Fire Station in 1993	39
Table 16. Number of Days with Specified Rainfall Amounts in 1993	39
Table 17. Monthly Percentage Frequency of Visibility below Specified Values, Number of Days with Lightning and Number of Days with Thunder Observed at the Royal Observatory in 1993	40
Table 18. Monthly and Annual Rainfall Recorded at Manned Rainfall Stations in 1993	41
Table 19. Monthly and Annual Rainfall Recorded at Rainfall Data Acquisition System Stations in 1993	43
Table 20. Monthly Normals (1961–1990) and Extreme Values (1884–1939 and 1947–1993) of Meteorological Elements for Hong Kong	44
Table 21. Monthly Means of Selected Meteorological Parameters for Hong Kong	45
Table 22. Summary of Upper-air Data in 1993	46
Table 23. Normals of Upper-air Data (1961–1990)	48

## 1. INTRODUCTION

Records of surface meteorological observations made at stations in Hong Kong, mostly on an hourly basis, were published since 1884 in annual volumes of "Meteorological Results Part I—Surface Observations". Commencing 1969, meteorological data were compiled by computer with the assistance of the then Government Data Processing Agency. Details of the computerization procedures are described in "Royal Observatory Technical Note (Local) No. 17". In 1987, this publication was re-named "Surface Observations in Hong Kong". In 1988, a new computerization scheme was adopted. Since then, processing of meteorological data was performed using Royal Observatory computers. Major changes in presentation are introduced starting from this issue (1993). The rationale is to prepare a condensed publication containing only summarized information and in graphical form as far as possible so as to improve readability. Both surface and upper-air data are now included in this revised publication entitled "Summary of Meteorological Observations in Hong Kong 1993". Accordingly, "Surface Observations in Hong Kong" and "Summary of Radiosonde-Radiowind Ascents" are now made obsolete.

The time used in this publication is Hong Kong Time which is 8 hours ahead of Co-ordinated Universal Time (UTC). For most practical purposes, Co-ordinated Universal Time is the same as Greenwich Mean Time (GMT).

Climatological normals refer to those computed from data collected during the 30-year period 1961–1990. Extreme weather records are compared against the data recorded in the periods 1884–1939 and 1947–1993 for the Royal Observatory Headquarters.

## 2. METEOROLOGICAL STATIONS IN HONG KONG

Royal Observatory Headquarters had been the synoptic reporting station for Hong Kong since 1884 until 1 July 1992 when it was replaced by King's Park Meteorological Station. Locations of these and other operating stations as at 31 December 1993 are shown in Figure 1. Station details are briefly described in the following paragraphs.

### MANNED WEATHER STATIONS OPERATED BY THE ROYAL OBSERVATORY

Details on the station site, elevation above mean sea-level of station ground near the thermometer screen and station barometer are tabulated below.

Station	Position		Elevation above mean sea-level (metres)	
	Latitude N	Longitude E	barometer	ground
Royal Observatory (RO)	22° 18'	114° 10'	62	32
King's Park (KP)	22° 19'	114° 10'	66	65
Hong Kong International Airport (HKIA)	22° 20'	114° 11'	24	4

Observations of wind, visibility, weather condition, atmospheric pressure, dry-bulb and wet-bulb temperatures, rainfall amount, cloud type and height of cloud base are normally taken at hourly or more frequent intervals. Climatological data and analyses for these stations are available on request from the Royal Observatory.

### AUTOMATIC WEATHER STATIONS

Automatic weather stations were set up in Hong Kong to meet increasing demands for regional meteorological data for engineering projects in areas under development and to improve weather services. Five new automatic weather stations were set up during the year, namely Ping Chau, Kat O, Tai Mei Tuk, Sha Lo Wan and Tap Mun. The automatic weather station at Sai Kung was relocated to Tui Min Hoi from Sung Tsun Secondary School on 3 March 1993. As at 31 December 1993, there were 18 such stations in operation (see Figure 1). Details of the position and elevation above mean sea-level of the ground near the thermometer screen of these stations are listed in the table below.

Station	Position		Elevation of ground above mean sea-level (metres)	Date of first operation
	Latitude N	Longitude E		
Royal Observatory	22°18'	114°10'	32	10 Jul 1984
Sha Tin	22°24'	114°12'	7	1 Oct 1984
Huangmao Zhou	21°49'	113°57'	60	10 Jul 1985
Lau Fau Shan	22°28'	113°59'	34	16 Sep 1985
Ta Kwu Ling	22°32'	114°09'	12	14 Oct 1985
Tuen Mun	22°24'	113°58'	62	23 Oct 1987
Wong Chuk Hang	22°15'	114°10'	5	1 Aug 1989
Waglan Island	22°11'	114°18'	57	22 Aug 1989
Tai Po Kau	22°27'	114°11'	4	22 Aug 1990
Sai Kung (old)*	22°23'	114°16'	30	17 Dec 1990
Sai Kung (new)	22°23'	114°16'	5	3 Mar 1993
Tseung Kwan O	22°19'	114°15'	33	1 Dec 1991
Cheung Chau	22°12'	114°01'	72	30 Mar 1992
King's Park	22°19'	114°10'	65	1 Jul 1992
Ping Chau	22°33'	114°26'	29	1 Jan 1993
Kat O	22°32'	114°18'	10	1 Jan 1993
Tai Mei Tuk	22°29'	114°14'	55‡	1 Jan 1993
Sha Lo Wan	22°18'	113°54'	58	25 Feb 1993
Tap Mun	22°28'	114°21'	24‡	15 Sep 1993

† Station ceased operation on 19 March 1993.

‡ Height of ground near radiological monitoring equipment.

At the automatic weather stations, measurements of wind, air temperature, dew point, relative humidity, atmospheric pressure and rainfall are recorded by automatic instruments and data are transmitted to the Royal Observatory at one-minute intervals via telephone circuits. The station in Huangmao Zhou was installed in co-operation with the Guangdong Meteorological Bureau and data are transmitted to the Royal Observatory at half-hourly intervals by UHF radio and leased telephone circuit.

Wind data from nine other anemometer stations, namely, Shell and Ching Pak House on Tsing Yi Island, Tai Mo Shan, Tate's Cairn, Central Plaza, Tsim Sha Tsui, Cheung Sha Wan and Green Island, are also transmitted in real-time to the Royal Observatory.

#### RAINFALL STATIONS

There are two types of rainfall stations operated by the Royal Observatory. A network of manned rainfall stations, made possible by co-operation of voluntary observers, has been in operation since the early 1950's.

Starting from 1983, automatic rainfall stations were set up in Hong Kong to provide real-time rainfall information for the operation of rainstorm, flood and landslip warnings.

#### UPPER-AIR STATION

King's Park is the only upper-air station in Hong Kong. Located about one kilometre north of the Royal Observatory, it was inaugurated in June 1951. It is situated on the flat top of a hill about 65 metres above the mean sea-level. The same location has also been made the surface synoptic station for Hong Kong since 1 July 1992.

### 3. INSTRUMENTS AND METHODS OF OBSERVATION

Instruments and methods of observation used at the Royal Observatory since 1884 are described in Royal Observatory Technical Memoir No. 5 "Hong Kong Meteorological Records and Climatological Notes" published in 1952 with a supplement printed later in 1963.

Figures 2 and 3 are sketch maps of the Royal Observatory Headquarters and King's Park Meteorological Station respectively. Locations of the instruments as at 31 December 1993 are clearly shown. Procedures adopted for measuring various meteorological elements are described in the following paragraphs.

## SURFACE OBSERVATIONS

### *Atmospheric Pressure*

The Kew-pattern barometer No. S3495/46/54/56, manufactured by F. Darton Co. Ltd., has been used since 1 July 1977 to measure atmospheric pressure at the **Royal Observatory**. Correction for index error, adjustment of the readings to the standard temperature of 0°C and the standard gravity of 9.80665 m/s<sup>2</sup>, and reduction to mean sea-level were carried out using the methods described in "World Meteorological Organization (WMO) publication No. 8, Guide to Meteorological Instruments and Observing Practices".

Kew-pattern barometer No. S3478/46/70, also manufactured by F. Darton Co. Ltd., was used at **King's Park** for taking observation four times daily. Hourly observations of atmospheric pressure have been made using digital pressure gauge Model 370 by Setra System Inc. since 1 July 1992.

### *Air Temperature, Wet-bulb Temperature, Dew Point, Vapour Pressure and Relative Humidity*

Surface observations of air temperature (dry-bulb temperature), wet-bulb temperature, dew point, vapour pressure and relative humidity were taken or computed at the Royal Observatory and King's Park every hour. All temperatures are in degrees Celsius.

At the **Royal Observatory** dry-bulb and wet-bulb temperatures were read from the digital display of a microprocessor-based system connected to platinum resistance thermometers placed about 1.2 metres above ground level in an open shed with a roof made of two separate layers of matting. The open shed arrangement is more satisfactory than a Stevenson screen which is liable to overheat in hot calm weather. A comparison between temperatures measured in the shed and in the screen was made in 1978 and the results were published in "Royal Observatory Technical Note No. 49".

In 1988, a computer program was developed to compute vapour pressure, relative humidity and dew-point temperature from readings of dry-bulb and wet-bulb temperatures using the modified Hooper's method described by G.P. Sargent of the British Meteorological Office in the "Meteorological Magazine, No. 1297, volume 109" in 1980.

Digital recording systems of maximum and minimum temperatures have been used since May 1982 at the Royal Observatory using the same platinum resistance thermometers. Readings were taken three times daily at 08 hours, 20 hours and midnight, and re-setting was done each time. Conventional mercury-in-glass maximum and minimum thermometers were similarly exposed in the open shed as back-up.

A Casella bimetallic thermograph, Model B.S. 3231, Serial No. 8652 was also installed in the shed. Autographic records of the dry-bulb and wet-bulb temperatures were kept. These records were used for quality control of the air temperature data.

At **King's Park**, platinum resistance thermometers exposed about 1.2 metres above ground level in a Stevenson screen were used. Starting July 1992, hourly readings were computed from a microprocessor-based system connected to these platinum resistance thermometers.

### *Amount of Cloud*

Hourly observations of cloud amount were made at the Royal Observatory and half-hourly at the Airport. Visual observations of cloud type and amount, and estimates of the height of cloud base were made.

### *Wind*

Winds recorded by a R.W. Munro Mk 4 cup-generator anemometer and vane mounted on a mast on the roof of the **Royal Observatory** Centenary Building (location B in Figure 2) are compiled. The cup centre is 8.6 metres above the roof and is 73.8 metres above mean sea-level. Starting 1 January 1991, the prevailing wind directions and mean speeds tabulated are values for the 60 minutes ending on each hour. Previously, the figures were calculated for the 60 minutes centred on the hour. Wind directions are given in tens of degrees.

Pervailing wind directions, whether daily or monthly are obtained from the frequency distribution of wind direction by applying a 5-term binomial weighting factor (1-4-6-4-1). The results are not necessarily the modal directions. Starting from 1988, constancy of winds is also available.

At **King's Park**, a R.W. Munro Mk 4 cup-generator anemometer vane was mounted on a mast on the roof of the main office building about 13 metres above ground. Hourly wind observations for King's Park refer to the 10-minute period ending on the hour as required in synoptic reports.

Since **Waglan Island** is better exposed geographically and not directly affected by urbanization, the wind recorded there is more representative of the general wind flow over Hong Kong. The Teledyne Geotech WS-201 Wind System has been in use since 14 August 1989. The wind sensor is 10.4 metres above the roof of the instrument room annexed to the signal tower and is 74.8 metres above mean sea-level. A new mast was erected in 1993 and a Teledyne anemometer about 82.1 metres above mean sea-level has been used as the station anemometer since April 1993. Wind data are processed in the same way as for the Royal Observatory.

Sets of Teledyne Geotech WS-201 and R.W. Munro Mk 4 cup-generator anemometer and vane are used to measure winds at automatic weather stations.

#### *Duration of Sunshine*

Duration of sunshine was recorded by a Campbell-Stokes recorder on the roof of the Radiation Laboratory at King's Park. The recorder is 6.1 metres above ground or 70.9 metres above mean sea-level. Record of sunshine duration refers to the duration in the 60-minute interval centred on the hour in apparent solar time.

#### *Global Solar Radiation*

Since December 1978, hourly values of global solar radiation have been available from a thermo-electric pyranometer (sealed thermo-pile dome solarimeter), manufactured by Kipp & Zonen of Holland, together with an integrating counter. The pyranometer was installed on the roof of the Radiation Laboratory at King's Park close to the sunshine recorder. Installed on the same roof was a bimetallic actinograph, British Meteorological Office Mk 3, which was used as a back-up instrument for global solar radiation measurement. The values of hourly global solar radiation were estimated from the actinograph whenever they were not available from the pyranometer.

The pyranometer was last calibrated against the Eppley Angstrom pyrheliometer No. 17864 on 25 November 1992. It was confirmed that the factor 0.004696 used since 1 November 1984 in the conversion of the pyranometer readings in mV to global solar radiation units in  $\text{MJm}^{-2}$  continued to be applicable. The latest comparison was made in November 1992 between readings from the actinograph and the pyranometer. The factor 0.738736 used since 1 November 1984 in the conversion of actinograph readings from units of chart area in  $\text{cm}^2$  to global solar radiation units in  $\text{MJm}^{-2}$  was also found to be applicable.

#### *Grass Minimum and Soil Temperatures*

Observations of grass minimum and soil temperatures are made at the Royal Observatory and King's Park. The grass minimum thermometers were read daily at 08 hours. The readings represent the overnight grass minimum temperature since 19 hours on the previous day. Observations of the soil temperature were made twice daily at 07 hours and 19 hours at depths of 0.05 m, 0.1 m, 0.2 m, 0.5 m, 1.0 m, 1.5 m and 3.0 m.

#### *Evaporation*

Evaporation measurements were made daily at King's Park using two U.S. Weather Bureau Class 'A' evaporation pans. Readings from pan No. 1 are used to compile annual extract.

#### *Potential Evapotranspiration*

Measurements of potential evapotranspiration were made for three turfed plots at King's Park each day at 08 hours. On occasions of heavy rainfall, high values of potential evapotranspiration are sometimes recorded, followed by negative values on the following days. These anomalous values are caused by delayed run-off and have therefore not been excluded from the computation of the monthly means. More information on potential evapotranspiration can be found in "Royal Observatory Technical Note No. 42".

#### *Visibility, Lightning and Thunderstorm*

Estimates of horizontal visibility were made hourly at the Royal Observatory and half-hourly at the Airport by trained observers who also report occasions of lightning and thunderstorms in their observations.

#### *Sea Surface Temperature*

Sea surface temperatures were taken at the fire boat pier of North Point Fire Station twice daily at 07 hours and 14 hours by voluntary observers. The mean depth of water there is about 6.5 metres.

#### *Rainfall*

Hourly observations of rainfall were made at the **Royal Observatory** with a 203-mm rain-gauge. These observations were checked against the records of a Dines tilting-siphon rain-gauge located next to it.

Hourly rainfall observations for King's Park were measured by a  $400 \text{ cm}^2$  automatic tipping bucket rain-gauge. During the compilation of rainfall statistics, they were checked against readings from an ordinary 203-mm rain-gauge and a tilting siphon rain-gauge installed close to the site.

Rain-gauges operated by voluntary observers are either ordinary 203-mm rain-gauges which are manually measured or autographic gauges with chart records which can be either tilting-siphon type or tipping-bucket type. Readings from the ordinary rain-gauges were taken once a day at 15 hours.

With the advance of microcomputer technology, electrical signals from tipping-bucket gauges at outstations can be readily telemetered to the Observatory Headquarters, greatly facilitating the operation of the rainstorm and flood warnings as well as increasing the volume of data for hydrometeorological analysis. A network of such rain-gauges under the Rainfall Data Acquisition System has been developed and maintained by the Royal Observatory. The Geotechnical Engineering Office also operates a network of remote rain-gauges which can be accessed by the Royal Observatory. Rainfall readings at 5-minute intervals are now available from different locations in the territory.

#### UPPER-AIR OBSERVATION

In July 1993, the MicroCORA system by Vaisala was replaced by a new sounding system, the DigiCORA, to probe the upper atmosphere. During sounding, the radiosonde receives VLF (very low frequency) signals from the world-wide Omega navigational network and relays them to the ground station at King's Park so as to determine the location of the radiosonde. The upper-air winds are computed from the radiosonde's tracking using a cross correlation algorithm. The sensors for pressure, temperature and humidity in the RS80-15N radiosonde are the aneroid barometer, capacitive bead and humicap thin film capacitor respectively. Upper-air soundings are made four times a day. The Vaisala Type RS80-15N radiosonde was used in the 0000 UTC and 1200 UTC ascents to obtain upper winds, pressure, temperature and humidity data while Vaisala Type WS80-15N windsonde was used to measure upper winds in the 0600 UTC and 1800 UTC ascents.

#### 4. DATA PRESENTATION

The paragraphs underneath give a brief account of the meteorological and climatological data in this publication.

Annual wind roses for King's Park, Hong Kong International Airport, the Royal Observatory and Waglan Island in 1993 are shown in Figure 4. As winds at Waglan Island are more representative of the general wind flow in Hong Kong, the monthly wind roses for Waglan Island are also presented in Figures 5 and 6.

Annual wind roses for automatic stations in Hong Kong are also shown in Figures 7 to 9. It should be noted that these data may include periods of incomplete data through loss in transmission from station sites to the Royal Observatory.

Graphs showing monthly maximum and minimum temperatures at selected stations are displayed in Figure 10.

Monthly and annual rainfall recorded at rainfall stations manned by voluntary observers are computed from daily readings taken manually at approximately 15 hours. Monthly sums are reckoned as beginning from 15 hours on the last day of the previous month and ending at 15 hours on the last day of the month specified. The annual figures based on these data are plotted in Figure 11 with isohyets drawn to show the spatial distribution of rainfall over Hong Kong.

Figure 12 presents the monthly mean upper-air wind of Hong Kong at standard levels in 1993 while Figure 13 shows the monthly normals (1961–1990).

Monthly and annual values of meteorological elements at various locations in Hong Kong are printed in Tables 1 to 13. Values of evaporation, potential evapotranspiration, grass minimum temperature and soil temperature are shown in Table 14 and sea surface temperature in Table 15.

Some preliminary analyses were performed on the climatological data in 1993. The results are tabulated in Tables 16 and 17. In Table 16, number of days with specified rainfall amounts in 1993 recorded at the Royal Observatory are shown. Monthly percentage frequency of visibility below specified values together with number of days with lightning and number of days with thunder observed at the Royal Observatory in 1993 are presented in Table 17.

Monthly and annual rainfall figures at rainfall stations in 1993 are printed in Tables 18 and 19. Values from rain-gauges under the Rainfall Data Acquisition System are computed from hourly readings. Rainfall statistics derived should be treated with care as such data are subject to loss through transmission.

Monthly normals (1961–1990) and extreme values (1884–1939 and 1947–1993) of meteorological elements for Hong Kong are displayed in Table 20 and monthly means of selected meteorological parameters for Hong Kong are displayed in Table 21.

The monthly mean values in 1993 and normals (1961–1990) of upper wind, air temperature, dew point and geopotential height recorded at standard levels are tabulated in Table 22 and Table 23 respectively. These figures are based on the data collected from the ascents released at King's Park at 0000 UTC each day.

Only monthly summaries of meteorological data are printed in this publication. Hourly surface meteorological data, upper-air radiosonde data at 0000 and 1200 UTC and upper-air wind data at 0600 and 1800 UTC are available in ASCII format on floppy diskettes at cost upon request. Requests for such data and other analyses should be addressed to the Director of the Royal Observatory at the following address:

134A Nathan Road  
Kowloon  
Hong Kong  
(Attn: Data Provision)

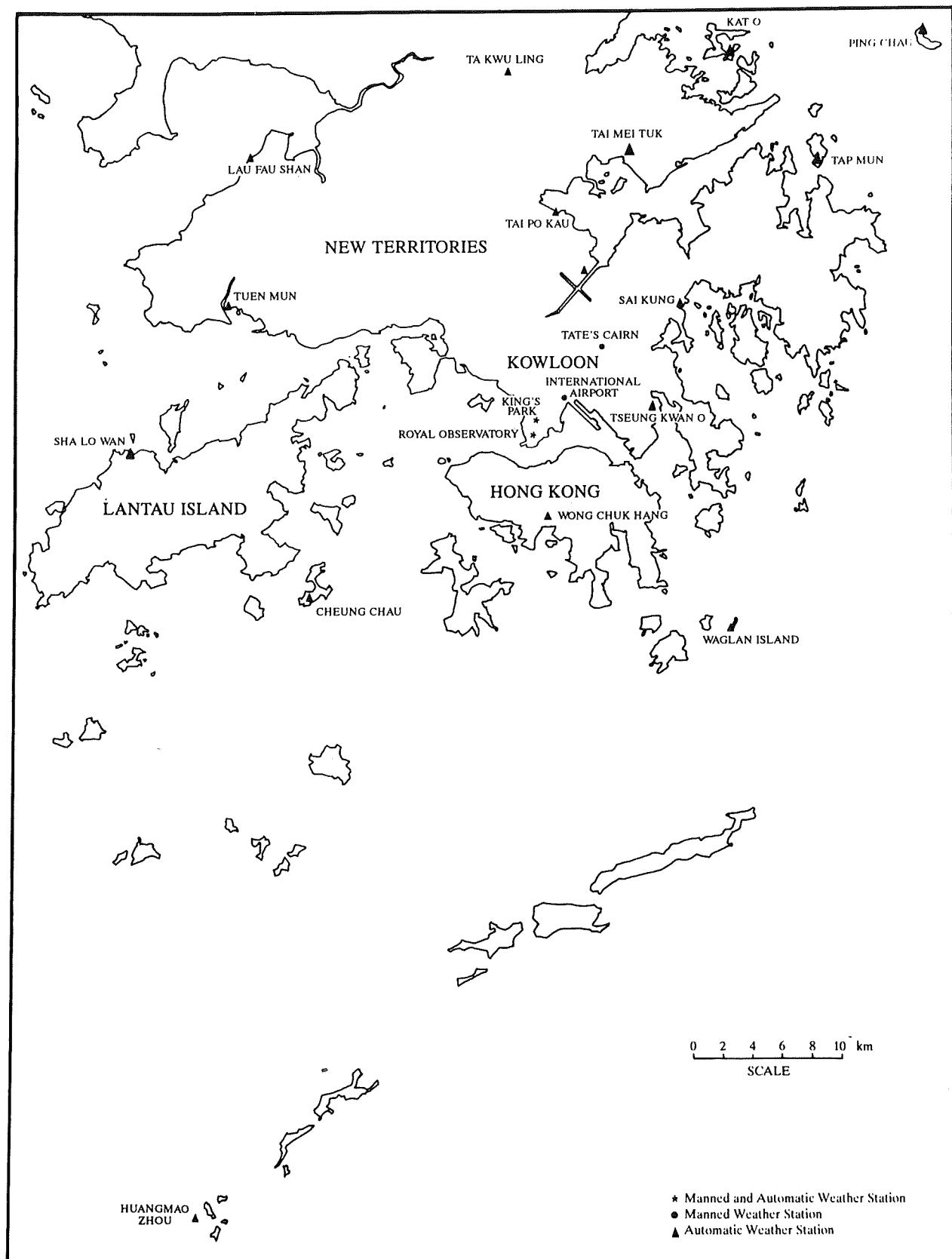


Figure 1. Locations of manned weather stations and automatic weather stations as at 31 December 1993.

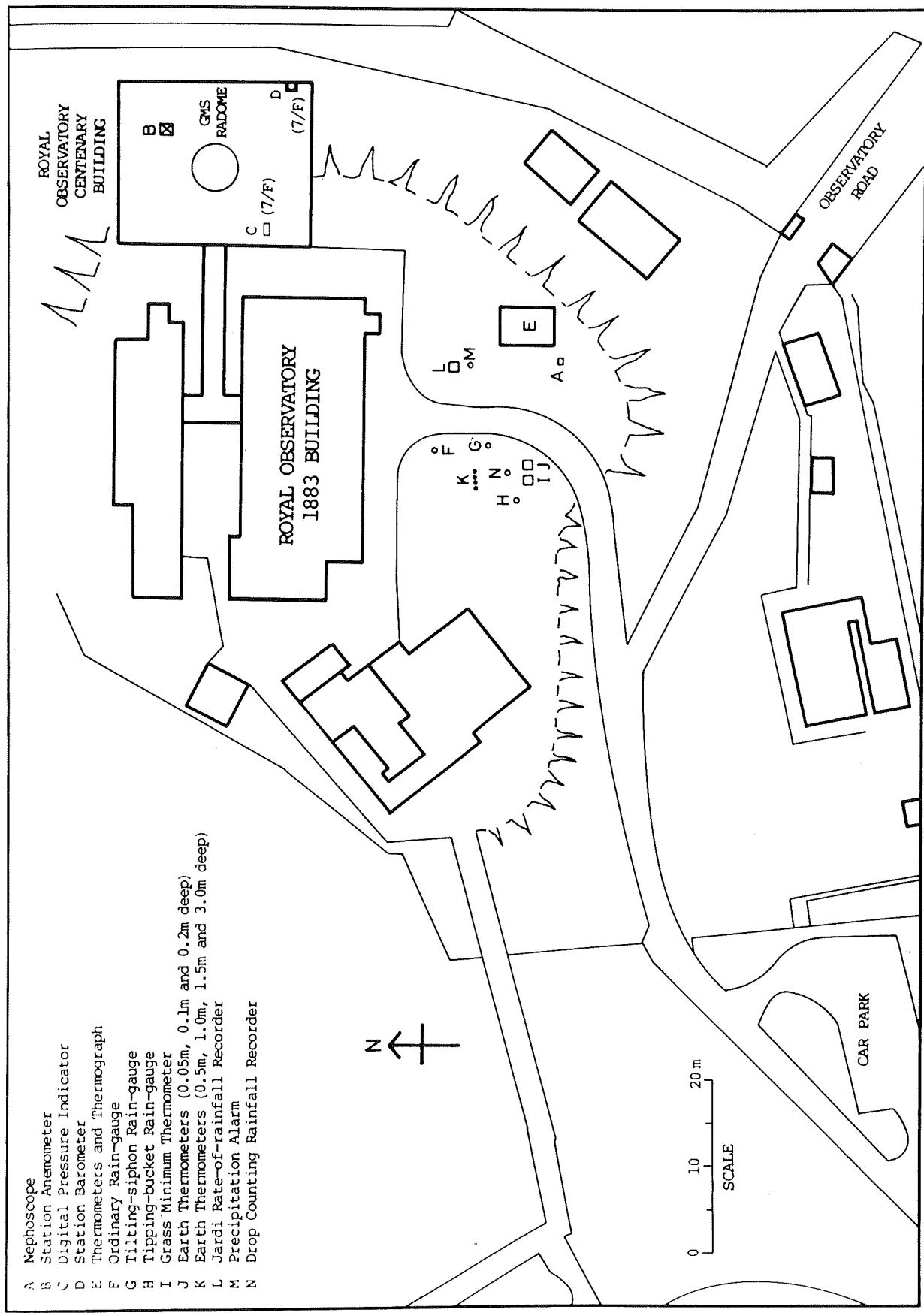


Figure 2. Locations of Meteorological Instruments at the Royal Observatory Headquarters.

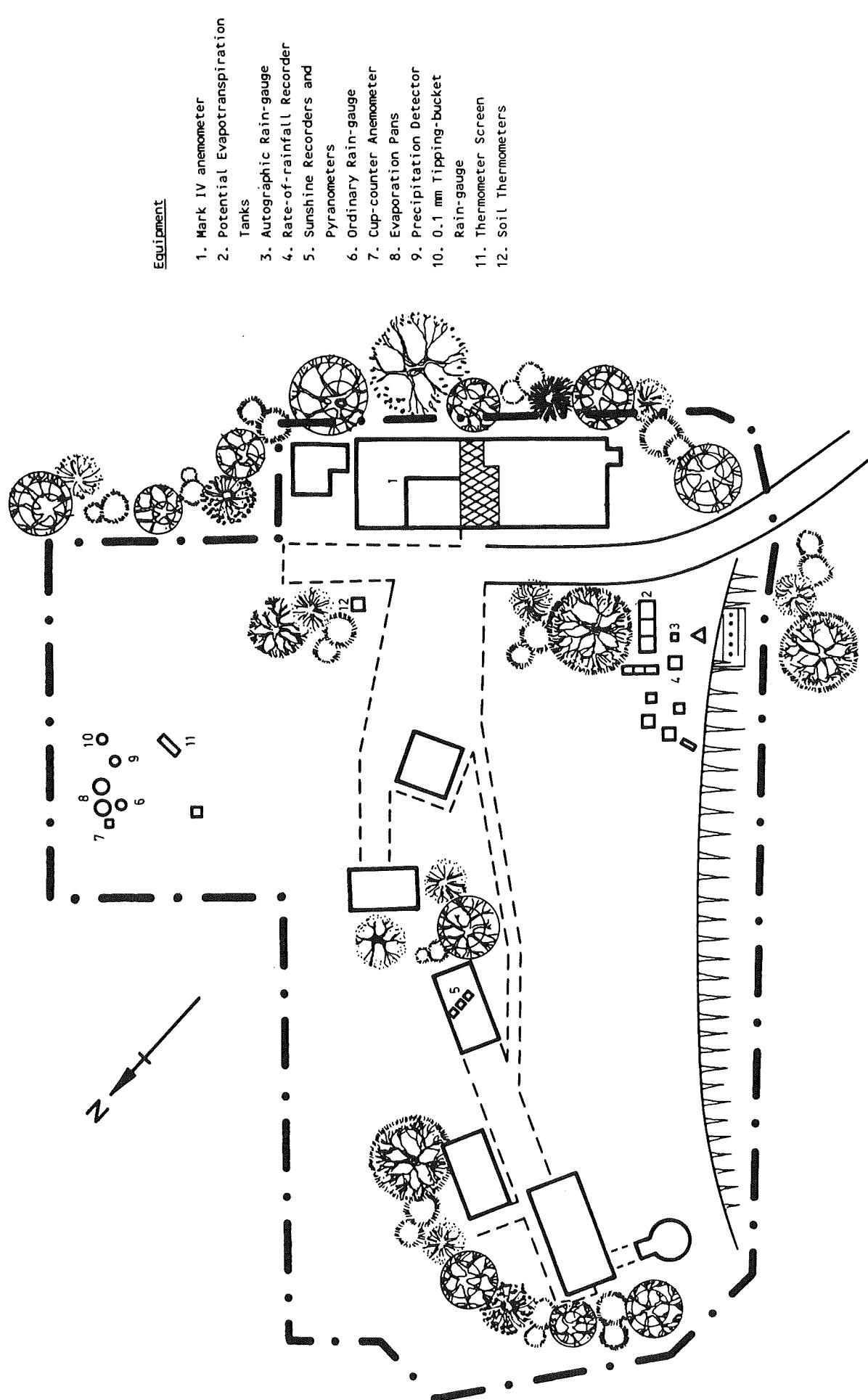


Figure 3. Locations of Meteorological Instruments at King's Park Meteorological Station.

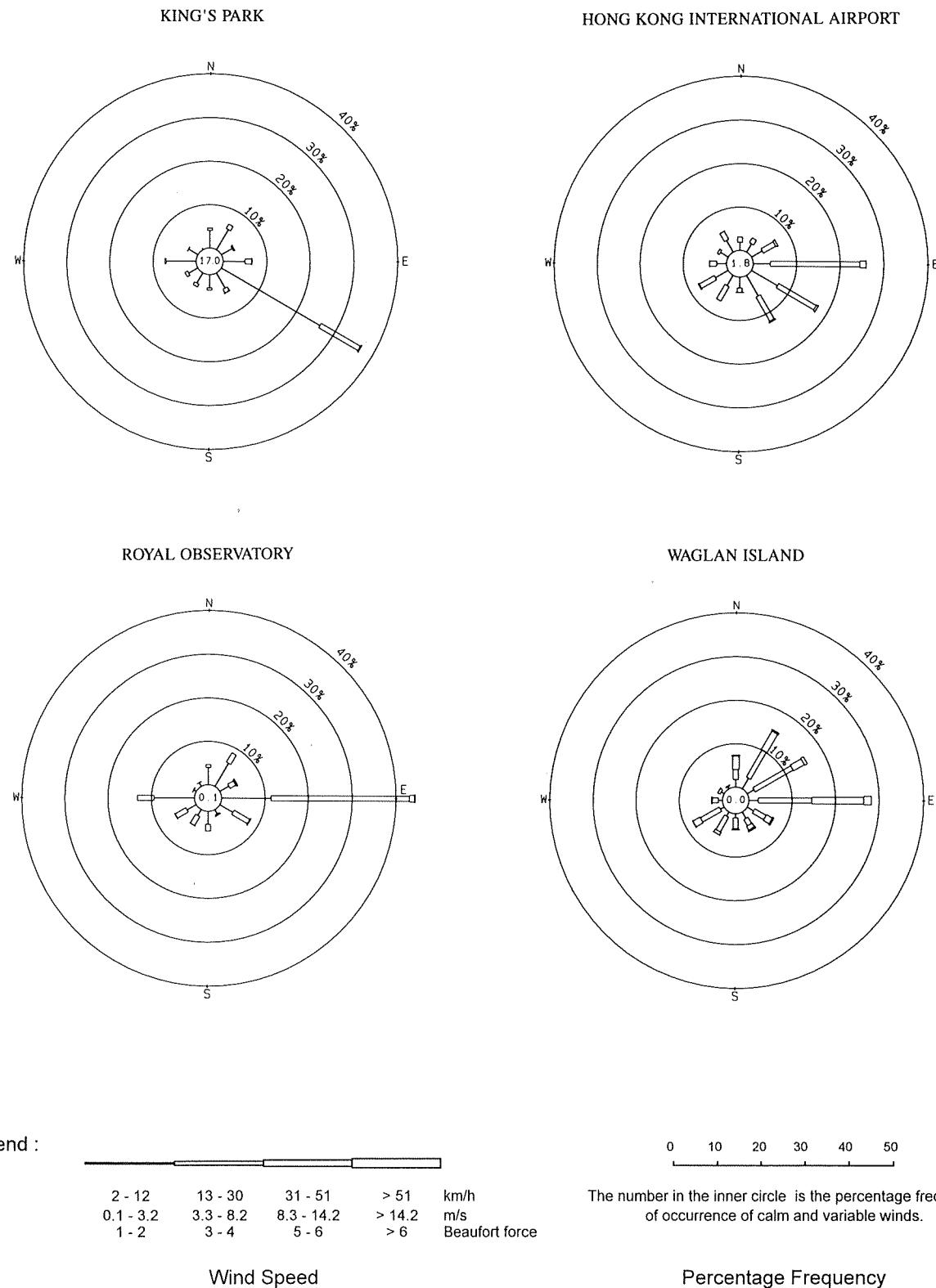


Figure 4. Annual Wind Roses for King's Park, Hong Kong International Airport, the Royal Observatory and Waglan Island in 1993.

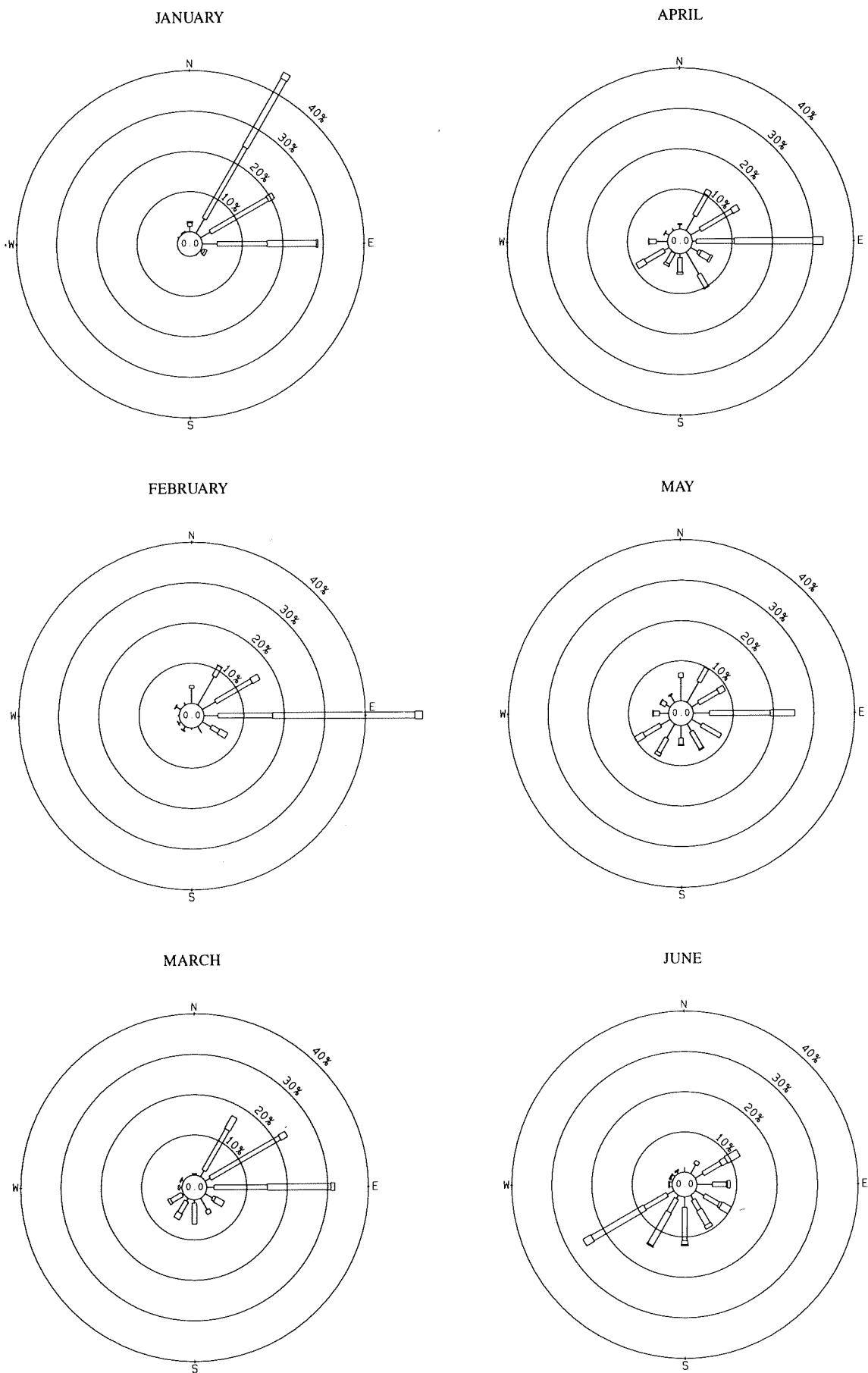


Figure 5. Monthly Wind Roses for Waglan Island from January to June in 1993.

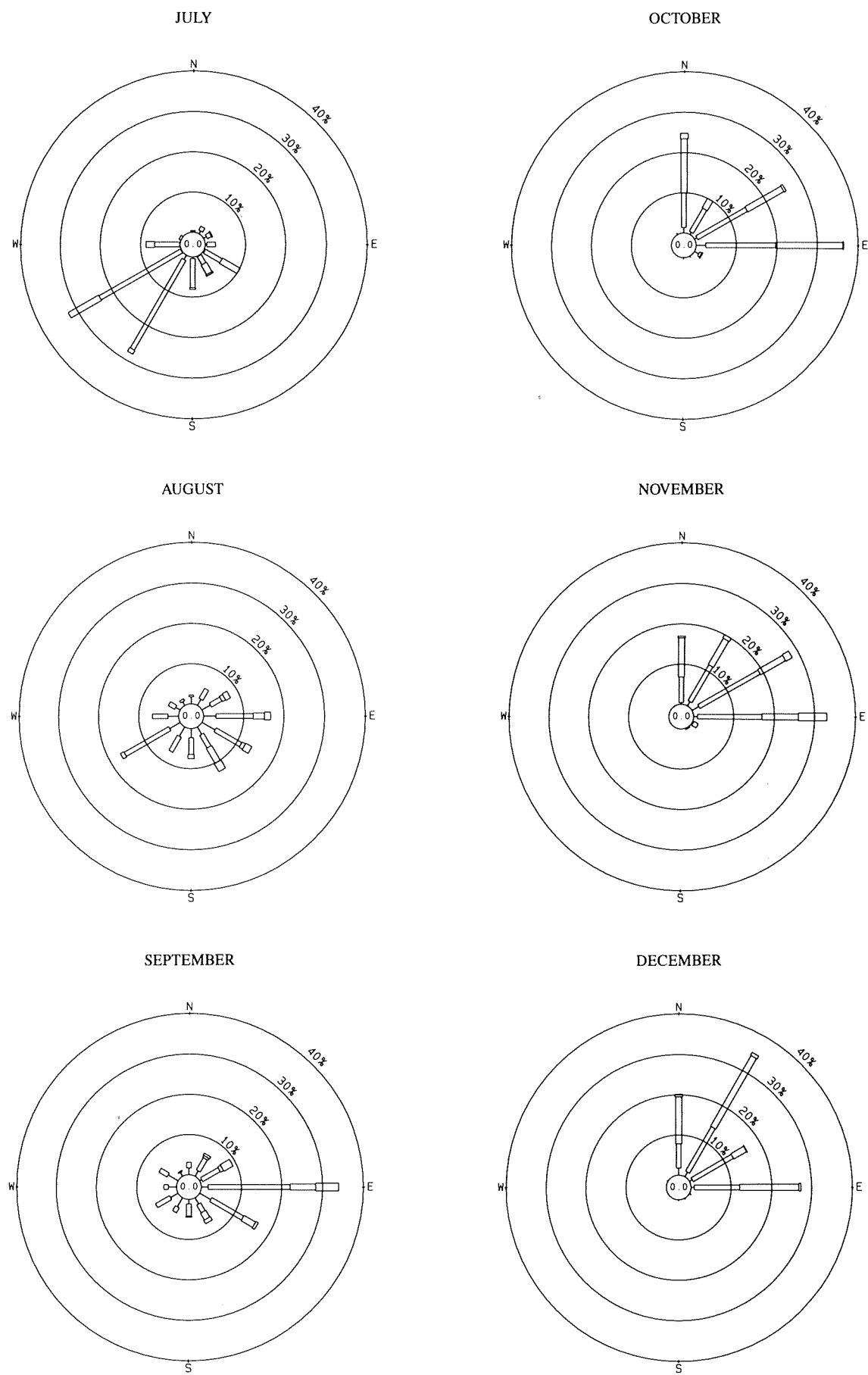


Figure 6. Monthly Wind Roses for Waglan Island from July to December in 1993.

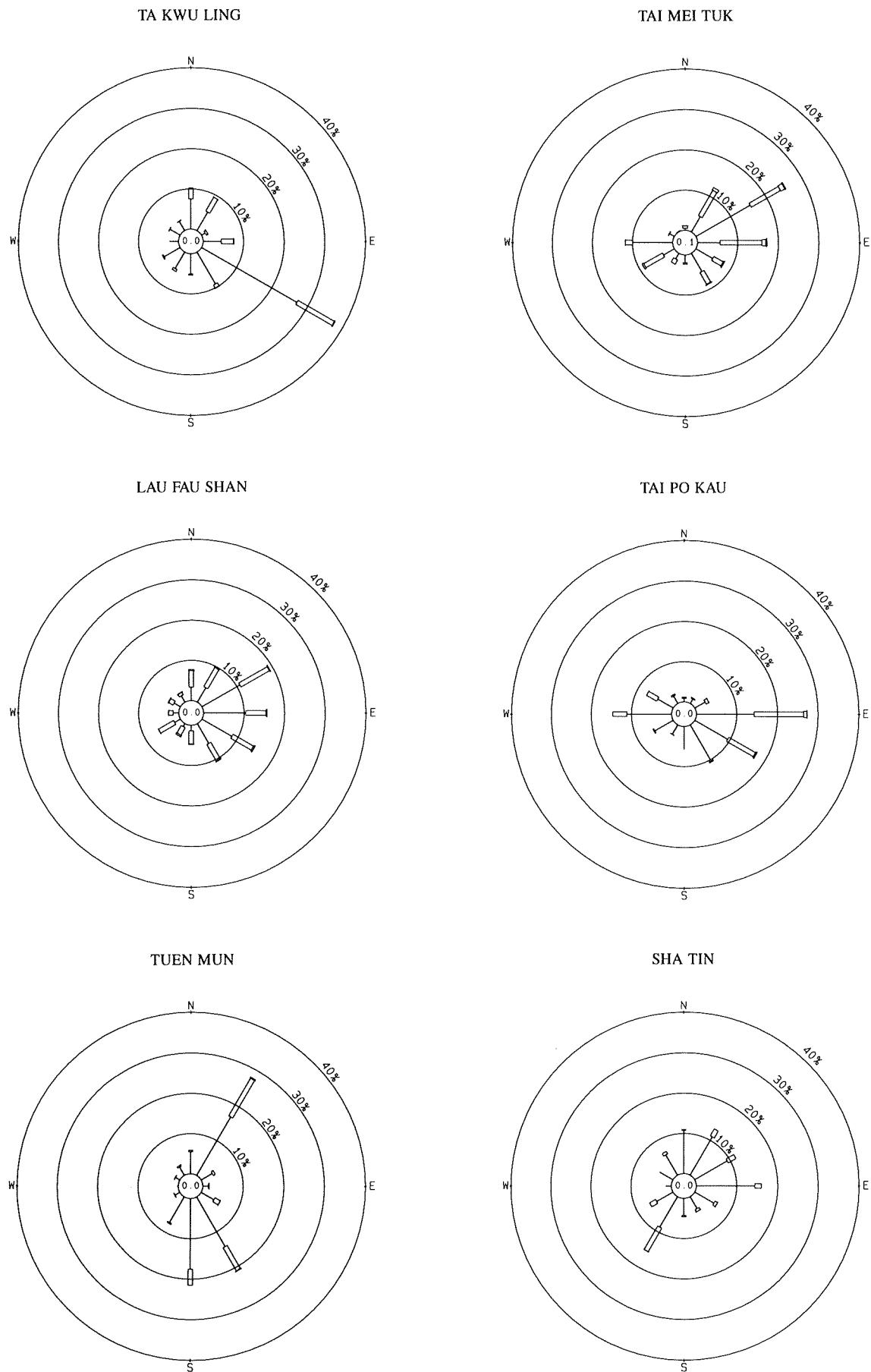


Figure 7. Annual Wind Roses for Automatic Weather Stations in 1993.

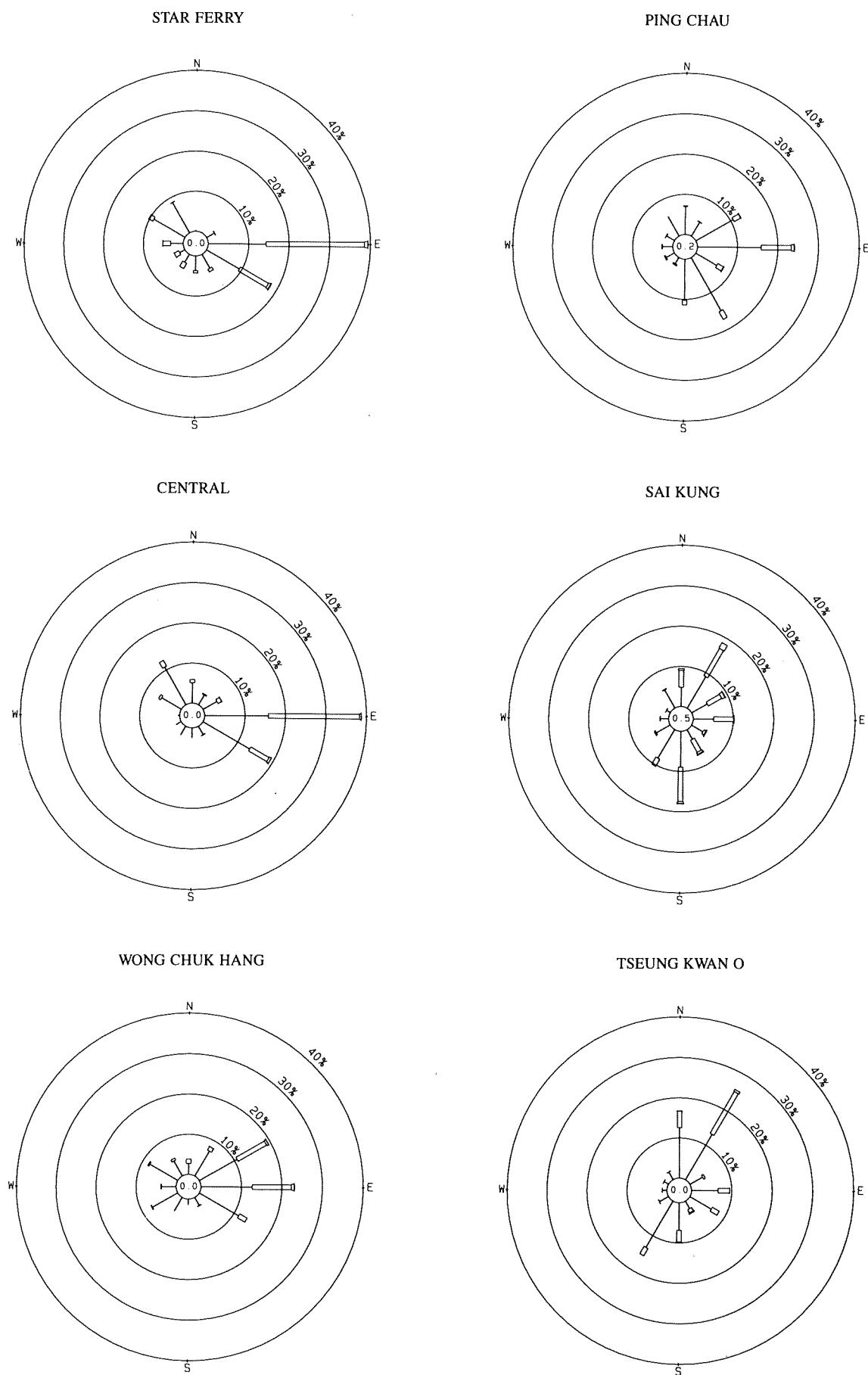


Figure 8. Annual Wind Roses for Automatic Weather Stations in 1993.

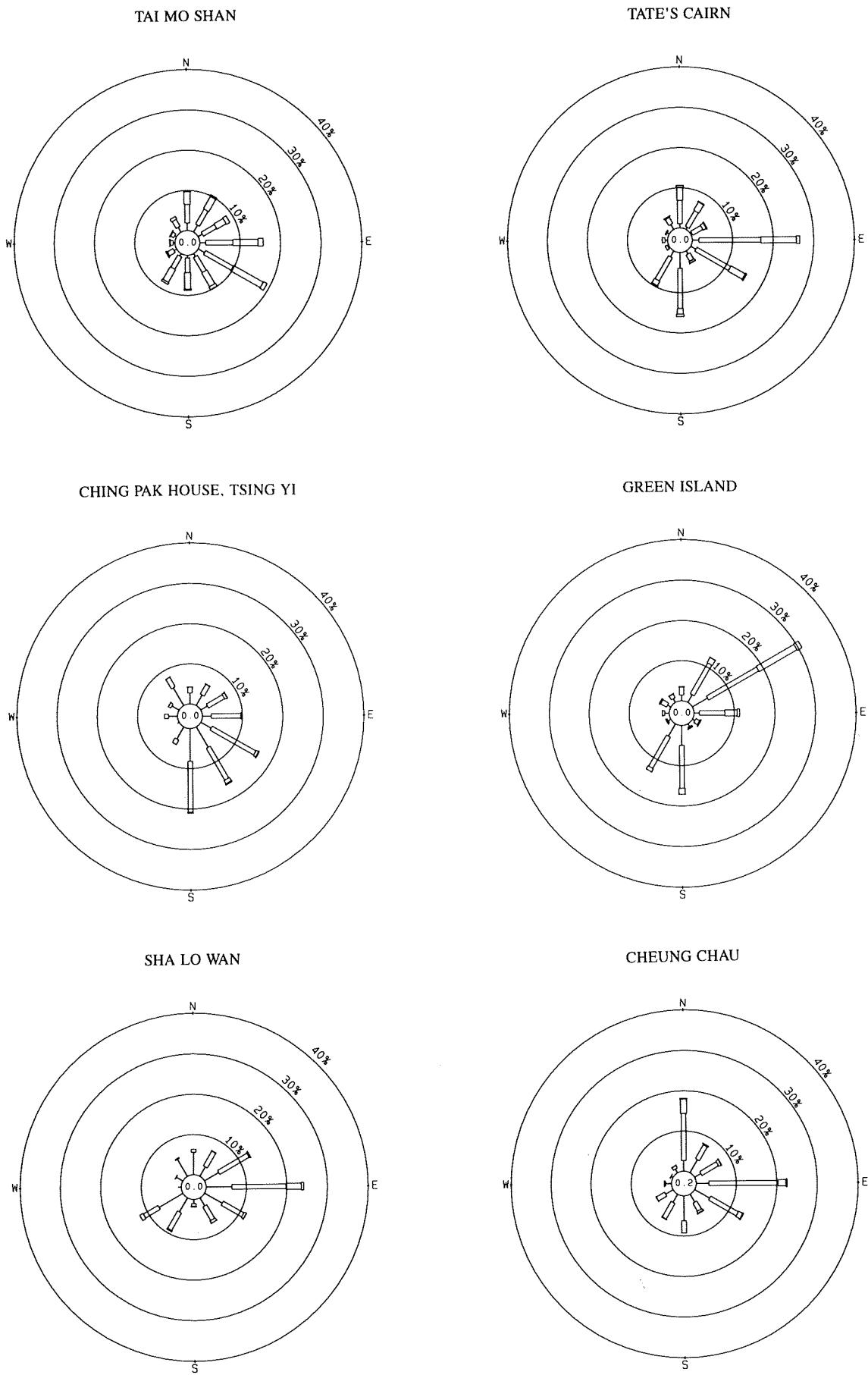


Figure 9. Annual Wind Roses for Automatic Weather Stations in 1993.

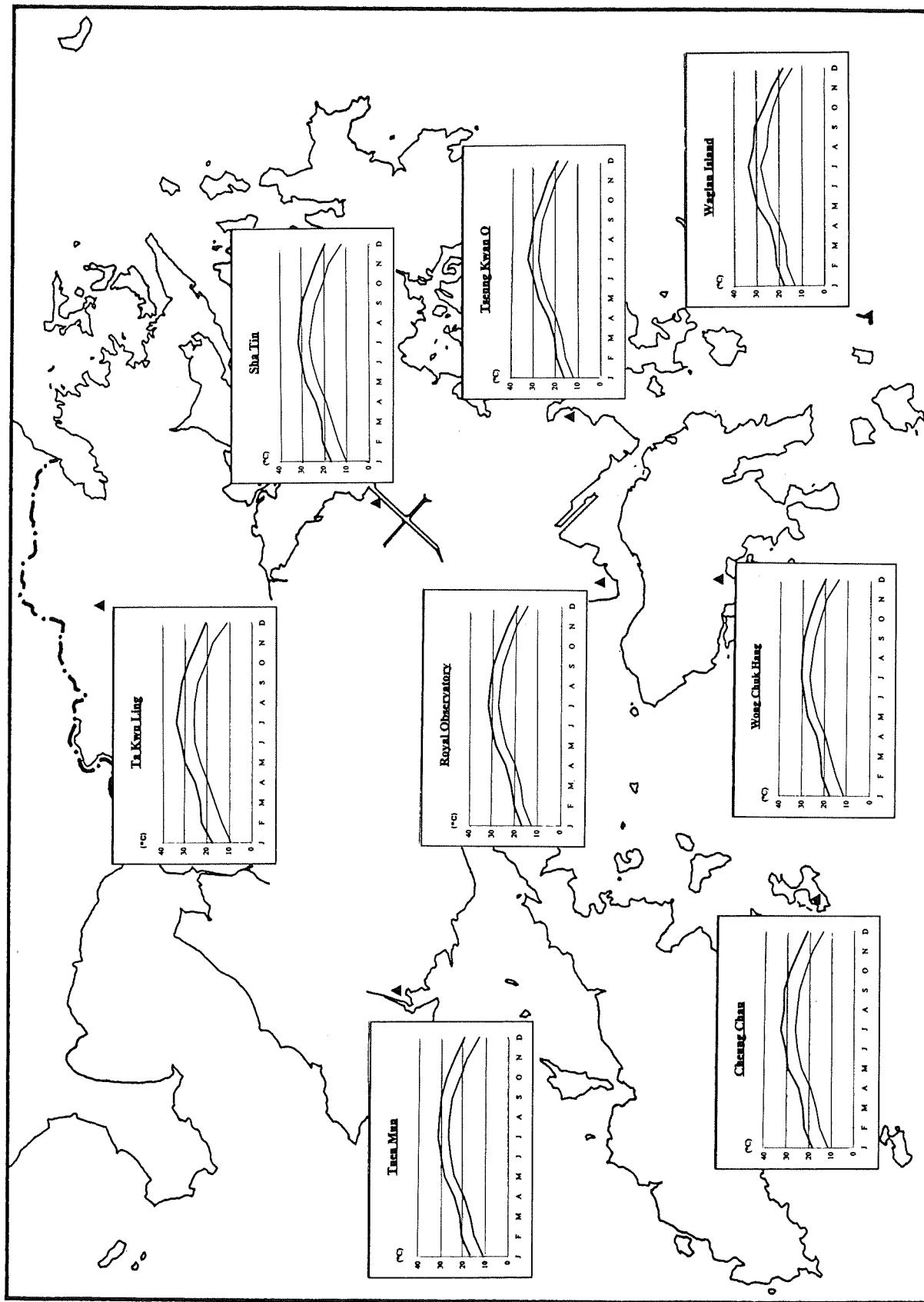


Figure 10. Monthly Temperatures at Selected Stations in 1993.

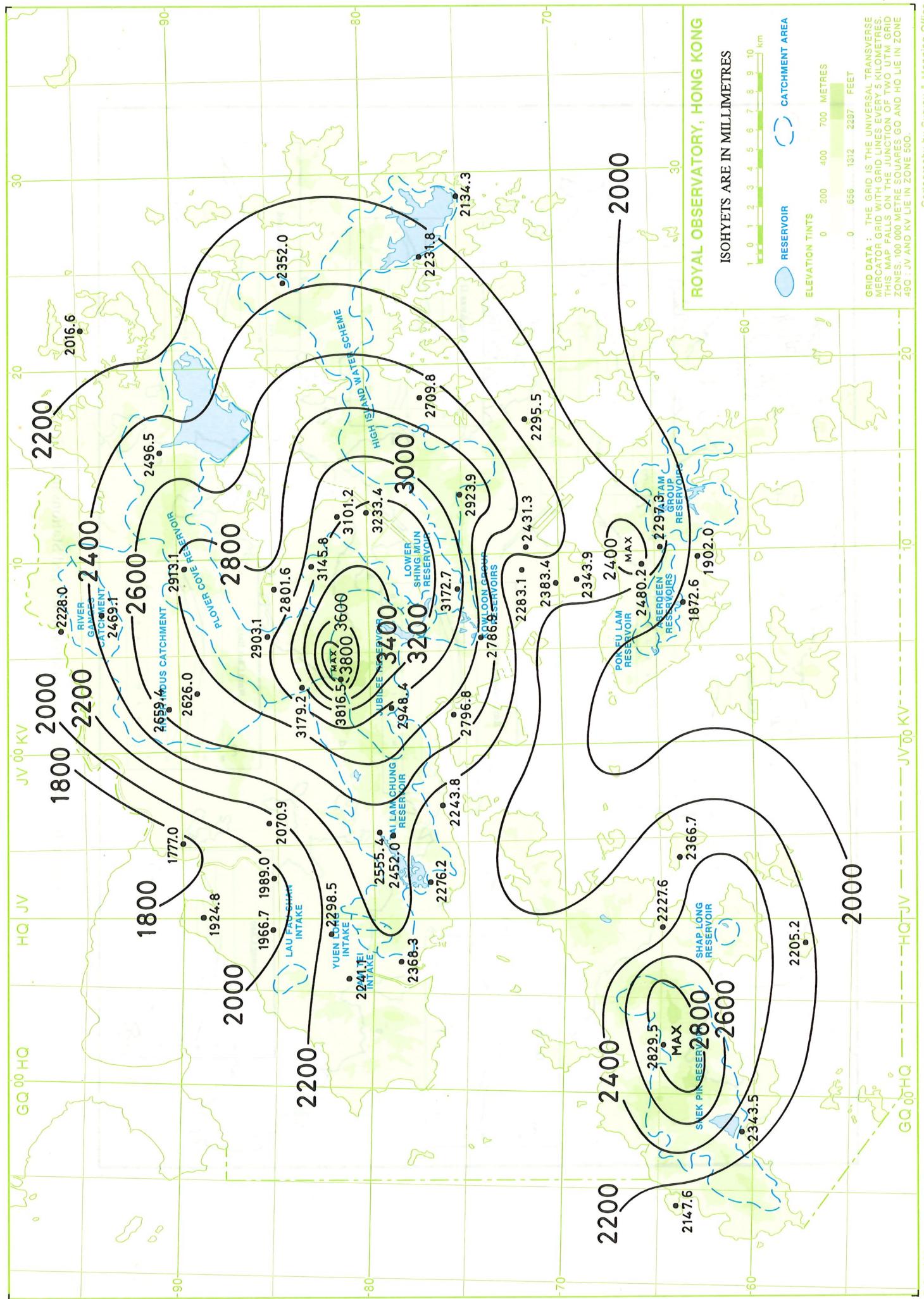


Figure 11. Annual Rainfall Map for 1993.

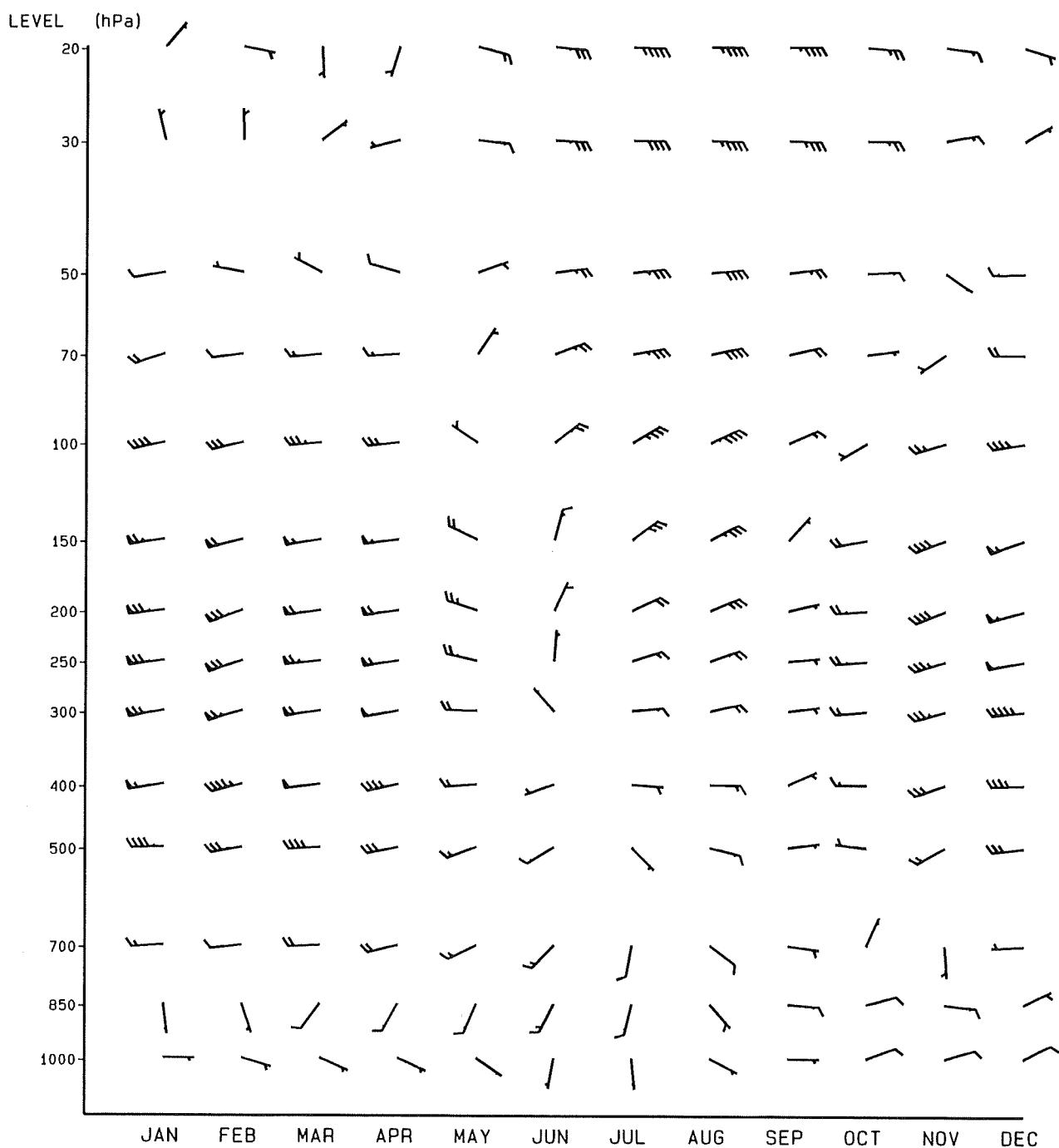


Figure 12. Monthly mean vector wind at standard levels in 1993.

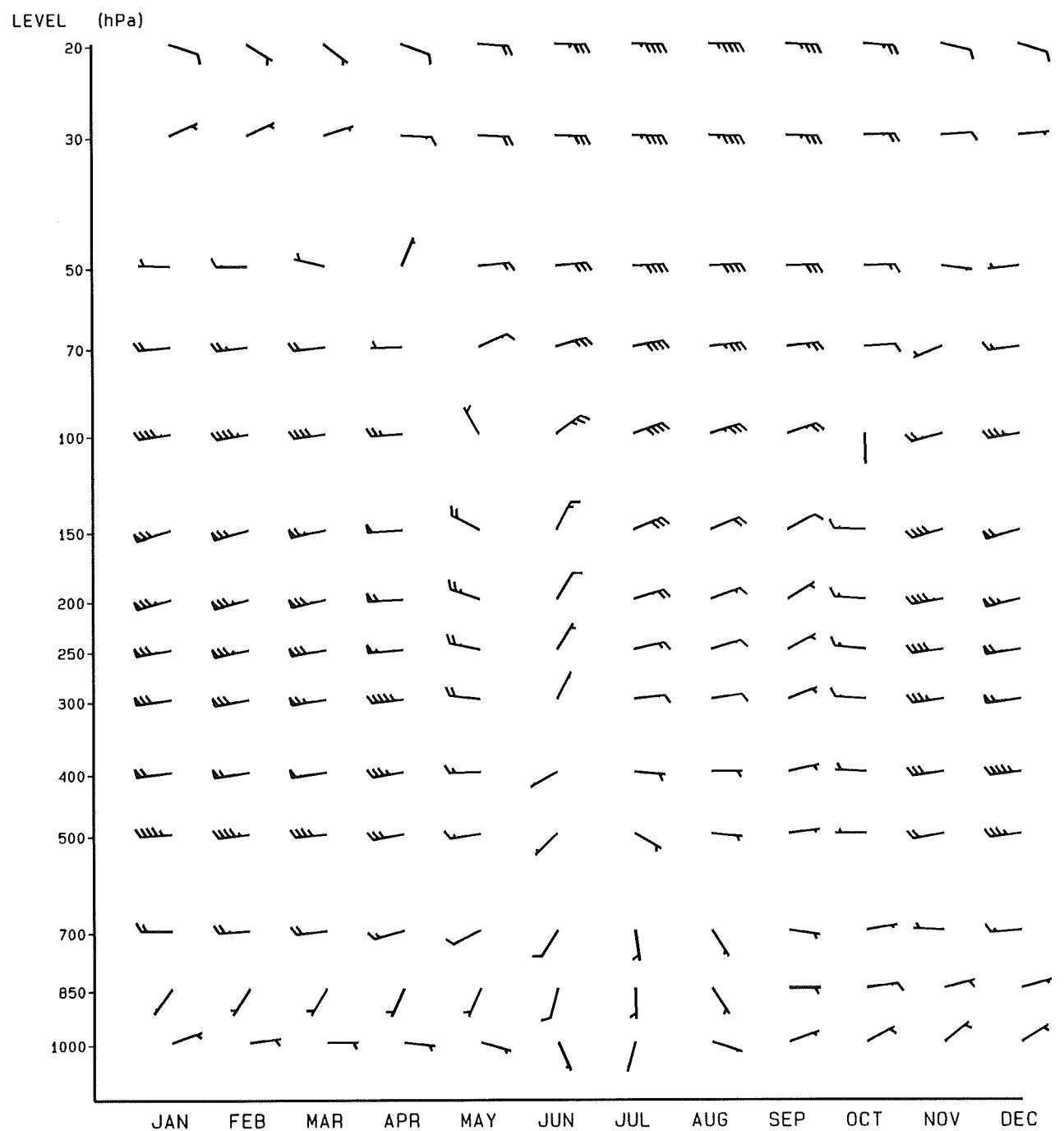


Figure 13. Monthly normals of vector wind at standard levels (1961–1990).

**Table 1.** Monthly Values of Meteorological Elements in January 1993

Station	Wind	Air Temperature			Wet Bulb	Dew Point	Relative Humidity	Pressure	Rainfall	Cloud Amount	Sunshine	Solar Radiation
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean °C	Mean °C	Mean %	Mean hPa	Total mm	Mean %	Total hours	Mean MJ/m <sup>2</sup>
King's Park	120	1.9	17.9	14.4	11.9	11.8	8.7	72	1021.5	26.1	-	-
Royal Observatory	100	2.9	16.9	14.6	12.6	12.2	9.6	74	1021.3	33.5	61	132.8
HKIA	090	3.7	18.2 #	15.1	12.5 #	12.0	8.4	67	1021.3	25.0	59	9.64
Ta Kwu Ling	010	2.4	17.4	13.0	9.2	10.1	6.5	68	1021.5	-	-	-
Lau Fau Shan	070	3.5	16.5	12.9	9.9	11.0	8.9	78	1022.0	27.5	-	-
Sha Tin	340	1.8	16.7	13.2	10.1	10.8	8.0	73	1021.9	-	-	27.5
Cheung Chau	360	5.5	18.6	14.3	11.6	12.0	9.4	75	1021.0	4.5	-	-
Waglan Island	030 *	7.6 *	17.8	15.0	13.1	12.8	10.5	76	1021.3	8.0	-	-
Ping Chau	-	-	17.6 *	13.7	10.8 *	11.4	8.7	74	-	32.0 *	-	-
Tai Mei Tuk	050	3.0	17.7	13.6	10.7	11.3	8.5	75	-	42.5	-	-
Tap Mun	-	-	-	-	-	-	-	-	-	-	-	-
Tai Po Kau	280	2.9	16.2	13.0	10.3	11.1	9.0	78	-	-	-	-
Tuen Mun	030	2.6	16.6	13.4	10.8	10.4	6.5	66	-	-	-	-
Sai Kung	250	2.7	16.6	13.4	11.0	10.8	7.7	71	-	-	-	-
Tseung Kwan O	030	3.0	16.1	13.9	11.9	11.1	7.7	69	-	26.0	-	-
Sha Lo Wan	-	-	-	-	-	-	-	-	-	-	-	-
Wong Chuk Hang	310	2.3	17.6	14.1	11.5	12.0	9.8	77	-	-	-	-
Kat O	-	-	16.5	14.0	11.4	12.0	9.7	77	-	15.5	-	-
Tai Mo Shan	110	6.8	-	-	-	-	-	-	-	-	-	-
Tate's Cairn	100	6.5	-	-	-	-	-	-	-	-	-	-
Ching Pak House	340	3.6	-	-	-	-	-	-	-	-	-	-
Shell	-	-	-	-	-	-	-	-	-	-	-	-
Mobil Oil Depot	330	2.8	-	-	-	-	-	-	-	-	-	-
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-	-	-
Star Ferry, Kowloon	100	-	-	-	-	-	-	-	-	-	-	-
Green Island	070	6.1	-	-	-	-	-	-	-	-	-	-
Central	100	2.4	-	-	-	-	-	-	-	-	-	-
Central Plaza	-	-	-	-	-	-	-	-	-	-	-	-

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 90%

- means number of available observations &lt; 50%

# mean of afternoon maximum/ morning minimum

**Table 2.** Monthly Values of Meteorological Elements in February 1993

Station	Wind Prevailing Direction degrees	Wind Mean Speed m/s	Air Temperature Mean Maximum °C	Air Temperature Mean Minimum °C	Wet Bulb Mean °C	Dew Point Mean °C	Relative Humidity %	Pressure Mean hPa	Rainfall Total mm	Cloud Amount Mean %	Sunshine Total hours	Solar Radiation Mean MJ/m <sup>2</sup>
King's Park	120	2.2	21.4	17.8	15.5	13.6	77	1019.4	0.9	126.7	60	11.60
Royal Observatory	100	3.8	20.3	18.0	16.3	13.9	78	1019.1	1.0	126.7	60	
HKIA	090	4.3	22.0 #	18.5	15.6 #	13.1	72	1019.2	Trace	60		
Ta Kwu Ling	120	2.3	22.4	17.4	13.3	14.2	11.6	70	1017.8 *	-	2.5 *	
Lau Fau Shan	080	2.9	21.2	17.2	14.0	15.0	13.2	78	1019.5	0.0		
Sha Tin	090	1.6	20.7	16.9	13.6	14.5	12.6	77	1019.6	2.0		
Cheung Chau	090	4.2	22.4	18.1	15.4	16.0	14.4	80	1018.9	0.0		
Waglan Island	090 *	6.8 *	21.2	18.4	16.6	16.4	14.8	81	1019.3	0.5		
Ping Chau	-	-	21.3 *	17.2	14.3 *	15.0	13.4	79	-	1.5 *		
Tai Mei Tuk	060	3.1	21.9	17.2	14.3	14.9	13.1	78	-	2.0		
Tap Mun	-	-	-	-	-	-	-	-	-	-	-	
Tai Po Kau	100	2.6	20.3	17.0	14.2	15.1	13.6	81	-	-	-	
Tuen Mun	170	1.8	20.7	17.9	15.1	14.8	12.3	71	-	-	-	
Sai Kung	230	1.6	20.1	16.9	14.4	14.5	12.4	76	-	-	-	
Tseung Kwan O	020	2.2	19.4	17.4	15.5	14.9	12.8	75	-	-	-	
Sha Lo Wan	080 *	3.5 *	18.6 *	15.6 *	13.4 *	14.5 *	13.6 *	88 *	-	0.0	0.0	
Wong Chuk Hang	070	2.4	21.2	17.8	14.9	15.9	14.5	82	-	-	-	
Kat O	-	-	19.6 *	16.8 *	14.3 *	15.0 *	13.6 *	83 *	-	3.0	-	
Tai Mo Shan	110	7.2	-	-	-	-	-	-	-	-	-	
Tate's Cairn	100	6.2	-	-	-	-	-	-	-	-	-	
Ching Pak House	130	3.6	-	-	-	-	-	-	-	-	-	
Shell	-	-	-	-	-	-	-	-	-	-	-	
Mobil Oil Depot	060	3.1	-	-	-	-	-	-	-	-	-	
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-	-	
Star Ferry, Kowloon	100	3.7	-	-	-	-	-	-	-	-	-	
Green Island	070	6.1	-	-	-	-	-	-	-	-	-	
Central	100	3.1	-	-	-	-	-	-	-	-	-	
Central Plaza	-	-	-	-	-	-	-	-	-	-	-	

values in italics means number of available observations < 100%

\* means number of available observations < 90%

- means number of available observations < 50%

# mean of afternoon maximum/ morning minimum

Table 3. Monthly Values of Meteorological Elements in March 1993

Station	Wind	Air Temperature			Wet Bulb	Relative Humidity	Pressure	Rainfall	Cloud Amount	Sunshine	Solar Radiation
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean Minimum °C	Mean °C	Mean %	Mean hPa	Total mm	Mean %	Total hours MJ/m <sup>2</sup>
King's Park Royal Observatory HKIA	120 090 090	2.3 3.8 4.3	22.1 21.7 22.5 #	19.1 19.4 19.7	17.0 17.5 17.6 #	17.3 17.5 17.3	16.1 16.2 15.7	83 82 78	1017.0 1016.8 1016.9	52.0 49.0 59.0	77.3 87 85
Ta Kwu Ling	120	2.5	22.9	19.1	16.4	16.5	14.5	75	1016.5	32.0 *	
Lau Fau Shan	070	3.7	22.4	19.0	16.4	17.2	16.0	83	1017.0	30.0	
Sha Tin	090	2.2	21.1	18.6	16.4	16.6	15.1	81	1017.2	48.5	
Cheung Chau	090	4.4	23.0	19.2	17.0	17.8	16.9	87	1016.5	-	
Waglan Island	080 *	6.9 *	21.9	19.0	17.1	17.7	16.8	88	1017.1	49.5	
Ping Chau	080 *	2.3 *	21.6 *	18.2	16.0 *	16.8	15.7	86	68.0 *		
Tai Mei Tuk	060	3.4	22.0	18.4	16.2	16.8	15.7	84	59.0		
Tap Mun	-	-	-	-	-	-	-	-	-	-	
Tai Po Kau	100	2.8	21.1	18.5	16.5	16.9	15.8	85			
Tuen Mun	170	2.6	21.5	19.0	16.9	16.5	14.7	76			
Sai Kung	190	2.7	20.6	18.5	16.8	17.2	16.2	87			
Tseung Kwan O	090	2.5	20.4	18.6	17.0	16.6	15.2	81			
Sha Lo Wan	080	4.6	21.9	19.1	17.0	17.2	15.9	82		16.5	
Wong Chuk Hang	070	2.4	21.8	19.4	17.4	18.1	17.2	88			
Kat O	-	-	20.4	18.2	16.5	16.8	15.7	86			
Tai Mo Shan	130	8.2									
Tate's Cairn	100	6.9									
Ching Pak House	130	3.8									
Shell	-	-									
Mobil Oil Depot	080 *	3.2 *									
Cheung Sha Wan	-	-									
Star Ferry, Kowloon	100	3.3									
Green Island	070 *	6.5									
Central	090	2.9									
Central Plaza	-	-									

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 90%

- means number of available observations &lt; 50%

# mean of afternoon maximum/ morning minimum

**Table 4.** Monthly Values of Meteorological Elements in April 1993

Station	Wind Prevailing Direction degrees	Mean Speed m/s	Air Temperature Mean Maximum °C	Air Temperature Mean Minimum °C	Wet Bulb Point	Relative Humidity Mean % °C	Rainfall Pressure mm hPa	Cloud Amount Total hours %	Sunshine Duration hours	Solar Radiation Mean MJ/m <sup>2</sup>
King's Park	120	2.4	24.3	21.5	19.4	20.1	19.3	88	1014.2	119.8
Royal Observatory	090	4.1	24.2	21.8	19.9	20.2	19.3	86	1013.9	136.3
HKIA	100	4.1	25.0 #	22.2	20.3 #	20.2	19.0	83	1014.1	115.5
Ta Kiu Ling	120	2.4	25.2	21.8	19.4	19.5	18.2	87	1013.6	114.0
Lau Fau Shan	130	3.7	25.0	21.8	19.3	20.4	19.7	88	1014.0	137.5
Sha Tin	090	2.2	23.8	21.2	19.1	19.5	18.5	85	1014.2	139.0
Cheung Chau	090	4.5	24.9	21.5	19.5	20.6	20.0	91	1013.7	-
Waglan Island	090 *	5.9 *	24.1	21.8	20.0	20.8	20.2	97	1014.1	89.0
Ping Chau	080 *	2.2 *	23.6 *	20.7	18.7 *	19.7	19.2	97	1013.5 *	132.5 *
Tai Mei Tuk	060 *	3.2 *	24.2	20.9	18.7	19.8	19.2	97	1013.5	173.5
Tap Mun	-	-	-	-	-	-	-	-	-	-
Tai Po Kau	100	2.7	23.4	21.1	19.1	19.8	19.0	88	1014.0	140.0
Tuen Mun	170	2.2	24.0	21.7	19.7	19.5	18.2	87	1013.6	137.5
Sai Kung	190	2.2	22.9	20.9	19.2	19.8	19.1	90	1014.2	139.0
Tseung Kwan O	030	2.2	23.0	21.2	19.6	19.5	18.5	85	1013.7	-
Sha Lo Wan	090	4.3	25.0	22.0	19.4	20.3	19.3	84	1014.1	89.0
Wong Chuk Hang	080	2.4	23.6	21.6	19.7	20.7	20.2	92	1013.5 *	132.5 *
Kat O	-	-	21.7 *	19.8 *	18.5 *	18.7 *	18.0 *	89 *	1013.6	137.5
Tai Mo Shan	170	7.3	6.8	3.8	-	-	-	-	-	-
Tate's Cairn	110	6.8	-	-	-	-	-	-	-	-
Ching Pak House	130	3.8	-	-	-	-	-	-	-	-
Shell	-	-	-	-	-	-	-	-	-	-
Mobil Oil Depot	090	2.9	-	-	-	-	-	-	-	-
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-
Star Ferry, Kowloon	100	3.5	-	-	-	-	-	-	-	-
Green Island	070 *	6.1	-	-	-	-	-	-	-	-
Central	090	3.0	-	-	-	-	-	-	-	-
Central Plaza	-	-	-	-	-	-	-	-	-	-

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 90%

- means number of available observations &lt; 50%

# mean of afternoon maximum/ morning minimum

**Table 5. Monthly Values of Meteorological Elements in May 1993**

Station	Prevailing Direction degrees	Mean Speed m/s	Wind Mean Maximum °C	Air Temperature Mean °C	Wet Bulb Mean °C	Dew Point Mean °C	Relative Humidity %	Pressure hPa	Rainfall mm	Cloud Amount %	Sunshine Total hours	Solar Radiation Mean MJ/m <sup>2</sup>
King's Park	110	1.9	28.7	25.9	23.7	22.7	84	1010.6	280.7	-	-	14.56
Royal Observatory	090	3.3	28.6	26.0	24.1	23.0	84	1010.3	338.4	73	162.8	-
HKIA	130	3.5	29.7 #	26.6	24.4 #	23.8	22.5	80	1010.5	349.5	73	-
Ta Kwu Ling	120	2.1	29.7	25.8	22.9	23.2	22.0	81	1010.0	-	269.5	-
Lau Fau Shan	130	3.4	29.4	25.8	23.1	24.0	23.1	86	1010.5	-	276.5	-
Sha Tin	220	1.8	28.3	25.3	22.8	23.1	22.1	83	1010.6	-	522.5	-
Cheung Chau	100	3.7	29.8	25.9	23.7	24.6	24.0	90	1010.3	-	217.0	*
Waglan Island	090 *	4.7 *	29.6	26.3	24.3	24.8	24.1	89	1010.6	-	193.5	-
Ping Chau	080 *	1.8 *	28.1 *	24.8	22.8 *	23.5	22.9	90	1010.6	-	271.0	*
Tai Mei Tuk	080	3.0	28.9	25.1	22.8	23.7	23.0	89	1010.6	-	279.5	-
Tap Mun	-	-	-	-	-	-	-	-	-	-	-	-
Tai Po Kau	100	2.5	28.1	25.3	23.1	23.5	22.6	86	1010.6	-	269.5	-
Tuen Mun	170	2.3	28.4	26.1	24.0	23.1	21.5	77	1010.5	-	276.5	-
Sai Kung	180	2.0	27.9	25.4	23.3	23.8	23.0	87	1010.6	-	522.5	-
Tseung Kwan O	190	1.8	27.4	25.4	23.6	23.4	22.5	85	1010.3	-	217.0	*
Sha Lo Wan	220	3.9	29.1	26.0	23.5	23.6	22.5	81	1010.6	-	193.5	-
Wong Chuk Hang	110	1.9	27.7	25.4	23.5	24.3 *	23.8 *	91 *	1010.6	-	279.5	-
Kat O	-	-	-	-	-	-	-	-	-	-	-	-
Tai Mo Shan	190	7.5	-	-	-	-	-	-	-	-	-	-
Tate's Cairn	-	-	-	-	-	-	-	-	-	-	-	-
Ching Pak House	140	3.6 *	-	-	-	-	-	-	-	-	-	-
Shell	-	-	-	-	-	-	-	-	-	-	-	-
Mobil Oil Depot	130	2.8	-	-	-	-	-	-	-	-	-	-
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-	-	-
Star Ferry, Kowloon	100	2.7	-	-	-	-	-	-	-	-	-	-
Green Island	070 *	4.7	-	-	-	-	-	-	-	-	-	-
Central	090	2.3	-	-	-	-	-	-	-	-	-	-
Central Plaza	-	-	-	-	-	-	-	-	-	-	-	-

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 90%

- means number of available observations &lt; 50%

# mean of afternoon maximum/ morning minimum

**Table 6. Monthly Values of Meteorological Elements in June 1993**

Station	Wind	Air			Pressure			Rainfall	Cloud Amount	Sunshine	Solar Radiation
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean Minimum °C	Bulb °C	Wet Point °C	Relative Humidity %	Mean hPa	Total mm	Mean %
King's Park	120	2.5	30.3	27.9	26.0	25.9	25.0	84	1006.6	454.8	139.5
Royal Observatory	220	3.8	30.6	28.3	26.2	26.1	25.2	84	1006.2	485.2	84
HKIA	210	4.0	31.6 #	28.7	26.9 #	26.1	25.1	81	1006.3	488.5	82
Ta Kwu Ling	120 *	2.0 *	31.4 *	28.1 *	25.4 *	25.5 *	24.5 *	81 *	1006.0	508.0	
Lau Fau Shan	140	4.3	30.8	27.7	25.1	26.2	25.6	89	1006.4	269.5 *	
Sha Tin	220	2.7	30.1	27.6	25.4	25.5	24.6	84	1006.5	835.0	
Cheung Chau	190	4.6	30.9	27.8	25.6	26.9	26.6	94	1006.1	369.0	
Waglan Island	-	-	-	-	-	-	-	-	-	-	
Ping Chau	160 *	2.4 *	29.5 *	27.0 *	24.9 *	26.1 *	25.7 *	93 *	-	327.0 *	
Tai Mei Tuk	240 *	4.0 *	30.1	27.1	24.9	25.9	25.4	91	-	-	
Tap Mun	-	-	-	-	-	-	-	-	-	-	
Tai Po Kau	110 *	2.2 *	30.1 *	27.6 *	25.4 *	25.7 *	24.9 *	86 *	-	-	
Tuen Mun	170	2.6	30.1	27.9	25.7	25.2	24.1	80	-	-	
Sai Kung	190	3.3	30.4	27.9	25.8	26.3	25.6	87	-	-	
Tseung Kwan O	210	2.4	29.7	27.8	26.1	25.8	25.0	85	-	563.5	
Sha Lo Wan	050 *	5.0 *	29.8 *	28.0 *	25.9 *	25.8 *	24.8 *	83 *	-	221.5 *	
Wong Chuk Hang	090	2.1	29.1	27.4	25.7	26.4	26.1	93	-	-	
Kat O	-	-	-	-	-	-	-	-	-	-	
Tai Mo Shan	-	-	-	-	-	-	-	-	-	-	
Tate's Cairn	190 *	6.8 *	-	-	-	-	-	-	-	-	
Ching Pak House	180	4.7	-	-	-	-	-	-	-	-	
Shell	-	-	-	-	-	-	-	-	-	-	
Mobil Oil Depot	180	3.2	-	-	-	-	-	-	-	-	
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-	
Star Ferry, Kowloon	100	3.2	-	-	-	-	-	-	-	-	
Green Island	190	6.2	-	-	-	-	-	-	-	-	
Central	110	2.2	-	-	-	-	-	-	-	-	
Central Plaza	-	-	-	-	-	-	-	-	-	-	

values in italics means number of available observations < 100%

\* means number of available observations < 90%

- means number of available observations < 50%

# mean of afternoon maximum/ morning minimum

Table 7. Monthly Values of Meteorological Elements in July 1993

Station	Wind			Air Temperature			Relative Humidity			Pressure			Rainfall			Cloud Amount			Sunshine		
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean °C	Minimum °C	Mean °C	Mean %	Mean hPa	Mean %	Total mm	Mean mm	%	Total hours	Duration hours	Total	Mean hours	Mean MJ/m <sup>2</sup>			
King's Park	270	2.1	31.5	28.9	26.8	26.2	25.1	80	1006.3	155.1											
Royal Observatory	250	3.3	32.0	29.4	27.6	26.5	25.3	79	1005.9	123.7	75										
HKIA	250	3.7	32.9	29.8	27.5	26.5	25.2	77	1006.0	216.0	67										
Ta Kuu Ling	120	1.6	33.6	29.2	25.7	26.1	24.8	78	1005.7	130.5											
Lau Fau Shan	150	3.6	32.7	29.1	26.3	26.9	26.1	84	1006.2	107.0											
Sha Tin	220	2.7	31.7	28.8	26.7	25.8	24.6	78	1006.1	191.5											
Cheung Chau	190	4.4	33.1	29.1	26.6	27.5	26.9	88	1005.9	65.5											
Waglan Island	240	6.6	33.6 *	30.2 *	28.2 *	27.6 *	26.6 *	82 *	-	-											
Ping Chau	-	-	-	28.1 *	-	26.7 *	26.1 *	89 *	-	-											
Tai Mei Tuk	240 *	3.5 *	32.9	28.9	26.3	26.5	25.6	83	92.0												
Tap Mun	-	-	-	-	-	-	-	-	-	-											
Tai Po Kau	130	1.8	32.8	29.3	26.7	26.1	24.8	78													
Tuen Mun	160	2.4	31.6	29.1	26.8	25.8	24.4	76													
Sai Kung	190	3.0	32.7	29.6	27.0	26.9	25.8	81													
Tseung Kwan O	210	2.5	32.3	29.6	27.5	26.5	25.3	78	128.5												
Sha Lo Wan	230 *	3.8	31.6	28.9	26.7	26.0	24.7	79		165.5											
Wong Chuk Hang	230	2.0	30.6	28.6	26.8	26.8	26.1	87													
Kat O	-	-	32.7 *	29.3 *	26.7 *	26.8 *	25.8 *	82 *	90.5 *												
Tai Mo Shan	-	-	-	-	-	-	-	-	-	-											
Tate's Cairn	190	5.3																			
Ching Pak House	180	4.3																			
Shell	-	-																			
Mobil Oil Depot	180	3.2																			
Cheung Sha Wan	-	-																			
Star Ferry, Kowloon	110	2.8																			
Green Island	200	5.3																			
Central	110	1.7																			
Central Plaza	-	-																			

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 90%

- means number of available observations &lt; 50%

**Table 8.** Monthly Values of Meteorological Elements in August 1993

Station	Wind	Air Temperature			Wet Bulb	Relative Pressure	Rainfall	Cloud Amount	Sunshine Duration hours	Solar Radiation
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean Minimum °C	Mean °C	Mean %	Mean %	Total hours	Mean MJ/m <sup>2</sup>
King's Park	120	2.0	31.1	28.1	26.1	25.7	24.6	82	1006.5	171.0
Royal Observatory	090	3.4	31.2	28.6	26.8	26.1	25.1	82	1006.1	182.8
HKIA	130	3.9	32.2	29.2	26.8	26.0	24.7	78	1006.2	167.0
Ta Kwu Ling	110	2.0	32.4	28.3	25.5	25.5	24.3	79	1006.0	249.0
Lau Fau Shan	130	3.5	31.5	28.2	25.9	26.1	25.2	84	1006.5	171.0
Sha Tin	220	1.9	30.9	27.9	25.6	25.3	24.2	81	1006.5	236.5
Cheung Chau	120	4.4	31.7	28.1	25.8	26.7	26.2	90	1006.0	159.5
Waglan Island	090 *	6.7 *	31.4 *	27.7 *	25.4 *	25.5 *	24.7 *	84 *	1006.9 *	-
Ping Chau	080 *	1.9 *	30.6 *	27.5 *	25.3 *	26.0 *	25.4 *	89 *	1006.9 *	102.5 *
Tai Mei Tuk	080 *	3.4 *	31.8	27.9	25.7	26.1	25.4	87	1006.0	149.0
Tap Mun	-	-	-	-	-	-	-	-	-	-
Tai Po Kau	130	2.6	31.1	28.1	25.8	25.7	24.7	82	1006.0	171.0
Tuen Mun	160	2.3	31.0	28.5	26.3	25.4	24.0	77	1006.0	182.8
Sai Kung	170	3.2	31.0	28.5	26.4	26.2	25.3	84	1006.5	171.0
Tseung Kwan O	210 *	2.3 *	30.7 *	28.4 *	26.8 *	25.8 *	24.7 *	81 *	1006.5	161.0 *
Sha Lo Wan	230 *	3.6 *	31.2 *	28.2 *	26.3 *	25.6 *	24.4 *	80 *	1006.0	189.5 *
Wong Chuk Hang	100	2.2	30.2	27.9	25.8	26.0	25.2	86	1006.0	171.0
Kat O	-	-	30.9 *	28.1 *	26.1 *	26.1 *	25.3 *	85 *	1006.0	182.8
Tai Mo Shan	-	-	-	-	-	-	-	-	-	-
Tate's Cairn	180	5.7	-	-	-	-	-	-	-	-
Ching Pak House	150	4.1	-	-	-	-	-	-	-	-
Shell	-	-	-	-	-	-	-	-	-	-
Mobil Oil Depot	-	-	-	-	-	-	-	-	-	-
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-
Star Ferry, Kowloon	100	3.0	-	-	-	-	-	-	-	-
Green Island	190	5.0	-	-	-	-	-	-	-	-
Central	100	2.2	-	-	-	-	-	-	-	-
Central Plaza	-	-	-	-	-	-	-	-	-	-

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 90%

- means number of available observations &lt; 50%

**Table 9.** Monthly Values of Meteorological Elements in September 1993

Station	Wind			Air Temperature			Wet Bulb Mean °C	Relative Humidity %	Pressure hPa	Rainfall Total mm	Cloud Amount %	Sunshine Total hours	Solar Radiation Mean MJ/m <sup>2</sup>
	Precipitation mm	Mean Speed m/s	Mean Maximum °C	Mean Minimum °C	Mean °C								
King's Park	120	2.3	30.1	27.1	25.0	24.3	22.9	79	1009.8	547.4	172.8	13.80	
Royal Observatory	090	3.9	30.0	27.5	25.7	24.8	23.5	79	1009.4	655.9	59		
HKIA	090	3.9	31.4	28.4	26.0	24.7	23.0	74	1009.5	658.5	58		
Ta Kwu Ling	110 *	2.1 *	31.3	27.2	24.1	24.0	22.5	77	1009.4	676.5			
Lau Fau Shan	060	3.4	30.4	27.1	24.4	24.5	23.2	81	1010.1	380.5			
Sha Tin	090	1.8	30.1	26.8	24.1	23.9	22.6	79	1009.9	691.5			
Cheung Chau	110 *	4.6 *	31.7 *	27.3 *	24.8 *	25.3 *	24.5 *	85 *	1008.9 *	261.5 *			
Waglan Island	090 *	6.8 *	30.9	27.0	24.8	24.4	23.3	81	1009.7		-		
Ping Chau	080 *	2.2 *	30.1 *	26.4 *	24.2 *	24.6 *	23.7 *	86 *	1009.7	268.5 *			
Tai Mei Tuk	050 *	3.8 *	31.1	26.9	24.4	24.9	24.1	85	1009.7	516.5			
Tap Mun	-	-	-	-	-	-	-	-	1009.7	-	-		
Tai Po Kau	080 *	2.8 *	29.9 *	26.9 *	24.5 *	24.1 *	22.8 *	80 *	1009.7	-	-		
Tuen Mun	030	2.3	30.1	27.4	25.0	24.1	22.6	76	1009.7	-	-		
Sai Kung	030	3.3	29.7	27.2	25.1	24.7	23.6	82	1009.7	-	-		
Tseung Kwan O	020	2.6	29.6	27.3	25.7	24.5	23.2	78	1009.7	568.0			
Sha Lo Wan	090	4.1	30.1	27.2	24.8	24.1 *	22.2 *	72 *	1009.7	497.5			
Wong Chuk Hang	080	2.7	29.4	26.9	24.6	24.7	23.8	84	1009.7	-	-		
Kat O	-	-	30.0 *	27.3 *	25.3 *	24.6 *	23.4 *	80 *	1009.7	360.5 *			
Tai Mo Shan	110	8.0											
Tate's Cairn	100	6.1											
Ching Pak House	140	4.6											
Shell	-	-											
Mobil Oil Depot	-	-											
Cheung Sha Wan	-	-											
Star Ferry, Kowloon	100	3.4											
Green Island	070 *	5.6											
Central	090	2.9											
Central Plaza	-	-											

values in italics means number of available observations < 100%

\* means number of available observations < 90%

- means number of available observations < 50%

**Table 10.** Monthly Values of Meteorological Elements in October 1993

Station	Wind Prevaling Direction degrees	Mean Speed m/s	Air Temperature Mean Maximum °C	Air Temperature Mean Minimum °C	Wet Bulb Point	Relative Humidity Mean %	Pressure Mean hPa	Rainfall Total mm	Sunshine Duration hours	Solar Radiation Mean MJ/m <sup>2</sup>
King's Park	120	2.2	27.8	24.3	22.1	20.1	17.2	66	1016.5	77.9
Royal Observatory	090	3.7	27.0	24.6	22.8	20.7	18.3	69	1016.2	87.8
HKIA	090	3.7	28.7	25.5	23.0	20.6	17.5	63	1016.3	93.5
Ta Kwu Ling	120	2.2	28.3	23.9	20.3	20.3	18.0	72	1016.3	77.5
Lau Fau Shan	050	3.4	27.7	23.9	21.0	20.8	19.0	75	1017.0	60.0
Sha Tin	030	1.9	27.0	23.7	20.7	19.8	17.2	69	1016.7	94.0
Cheung Chau	090	5.4	29.0	24.5	22.1	21.2	19.1	73	1016.6 *	39.0
Waglan Island	080	7.9 *	26.8 *	24.2 *	22.7 *	20.6 *	18.4 *	71 *	1015.9 *	21.5 *
Ping Chau	-	-	27.9	23.7	21.0	20.6	18.7	75	35.0 *	-
Tai Mei Tuk	040 *	4.0 *	28.1	23.9	21.3	20.0 *	17.5 *	70 *	68.5	-
Tap Mun	360 *	3.7 *	27.7 *	24.0	21.2 *	20.5 *	18.3 *	72 *	43.0 *	-
Tai Po Kau	090	2.5	26.9	23.8	21.2	20.4	18.2	72	-	-
Tuen Mun	030	2.6	27.6	24.3	21.6	19.8	16.7	64	-	-
Sai Kung	020	3.9	26.3	24.1	22.1	20.4	18.0	70	-	-
Tseung Kwan O	020	3.2	26.3	24.4	22.7	20.0	17.1	66	115.0	-
Sha Lo Wan	090 *	3.7 *	27.3 *	24.1 *	21.9 *	20.4 *	18.0 *	70 *	67.5 *	-
Wong Chuk Hang	070	2.9	27.1	24.4	22.1	21.0	18.9	73	-	-
Kat O	-	-	26.8	24.3	22.2	20.8	18.6	72	-	-
Tai Mo Shan	030	7.2	-	-	-	-	-	-	-	-
Tate's Cairn	100	6.7	-	-	-	-	-	-	-	-
Ching Pak House	040	3.7	-	-	-	-	-	-	-	-
Shell	-	-	-	-	-	-	-	-	-	-
Mobil Oil Depot	-	-	-	-	-	-	-	-	-	-
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-
Star Ferry, Kowloon	100	2.8	-	-	-	-	-	-	-	-
Green Island	070	6.2	-	-	-	-	-	-	-	-
Central	100	2.9	-	-	-	-	-	-	-	-
Central Plaza	070	5.0	-	-	-	-	-	-	-	-

values in italics means number of available observations &lt; 100%

\* means number of available observations &lt; 50%

- means number of available observations &lt; 50%

**Table 11.** Monthly Values of Meteorological Elements in November 1993

Station	Wind			Air Temperature			Mean Relative Humidity %	Pressure Mean hPa	Rainfall Total mm	Cloud Amount %	Sunshine Total hours	Solar Radiation Mean MJ/m <sup>2</sup>
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean Minimum °C	Mean °C						
King's Park	120	2.3	24.4	21.4	19.1	18.4	16.2	74	1017.3	119.8	131.2	10.34
Royal Observatory	090	4.0	23.7	21.7	19.9	18.9	16.9	76	1016.9	144.6	66	
HKIA	090	4.0	25.5	22.6	20.1	18.8	16.1	68	1017.0	132.5	66	
Ta Kwu Ling	110	2.3	24.4	20.6	17.5	17.9	16.1	77	1017.2	150.0		
Lau Fau Shan	070	3.2	23.9	20.6	17.7	18.3	16.8	80	1017.9	293.0		
Sha Tin	020	2.0	23.8	20.9	18.1	17.9	15.8	74	1017.6	135.5		
Cheung Chau	360	6.2	25.2	21.3	19.0	19.0	17.4	79	1016.7	220.0		
Waglan Island	080 *	8.2 *	23.2 *	21.2 *	19.5 *	18.9 *	17.4 *	80 *	1016.6 *	-		
Ping Chau	-	-	24.5	20.7	18.1	18.4	16.8	80	1017.9	60.5 *		
Tai Mei Tuk	050 *	4.1 *	24.6	20.8	18.1	18.4	16.7	79	1017.6	104.5		
Tap Mun	350 *	4.1 *	24.0 *	20.4	17.7 *	18.1	16.3	79	1017.7	90.0 *		
Tai Po Kau	090	3.0	23.4	20.6	18.1	18.2	16.4	78	1017.2	150.0		
Tuen Mun	030	2.8	23.9	21.0	18.3	17.6	15.1	70	1017.9	293.0		
Sai Kung	020	3.7	23.4	21.1	19.0	18.5	16.6	77	1017.6	135.5		
Tseung Kwan O	020	3.2	23.4	21.5	19.7	18.1	15.5	70	1017.7	140.0		
Sha Lo Wan	090	4.2	23.5	20.9	18.5	18.2	16.3	76	1017.9	516.0		
Wong Chuk Hang	070	3.2	24.2	21.7	19.4	19.0	17.2	77	1017.6	104.5		
Kat O	-	-	23.4	21.0	19.0	18.6	16.9	78	1017.7	90.0 *		
Tai Mo Shan	080	9.3										
Tate's Cairn	100	7.7										
Ching Pak House	050 *	4.3 *										
Shell	-	-										
Mobil Oil Depot	-	-										
Cheung Sha Wan	-	-										
Star Ferry, Kowloon	100	3.4										
Green Island	080	7.5										
Central	100	3.4										
Central Plaza	060	5.8										

values in italics means number of available observations < 100%

\* means number of available observations < 90%

- means number of available observations < 50%

**Table 12.** Monthly Values of Meteorological Elements in December 1993

Station	Wind			Air Temperature			Wet Bulb			Relative Humidity			Rainfall			Cloud Amount		Sunshine Duration		Solar Radiation	
	Prevailing Direction degrees	Mean Speed m/s	Mean Maximum °C	Mean °C	Mean Minimum °C	Mean °C	Mean °C	Mean °C	Mean °C	Mean %	Mean hPa	Mean %	Total mm	Mean mm	%	Total hours	Mean hours	Total MJ/m <sup>2</sup>	Mean MJ/m <sup>2</sup>		
King's Park	020	1.9	20.6	16.8	14.1	13.1	9.2	63	1021.9	11.1											
Royal Observatory	090	3.0	19.4	17.1	15.0	13.7	10.5	67	1021.5	15.7											
HKIA	100	3.2	21.5	17.9	14.9	13.7	9.6	60	1021.5	6.0											
Ta Kwu Ling	020	2.4	20.6	15.6	11.2	12.4	9.1	68	1021.8	3.5											
Lau Fau Shan	040	2.9	19.4	15.7	12.4	13.1	10.6	73	1022.9	7.0											
Sha Tin	050	1.9	19.7	15.9	12.4	12.6	9.3	67	1022.2	15.0											
Cheung Chau	360	5.4	21.2	16.9	14.0	13.9	11.1	71	1021.2	8.0											
Waglan Island	010 *	7.7 *	18.4 *	16.3 *	14.3 *	13.2 *	10.2 *	69 *	1021.1 *	14.5 *											
Ping Chau	360 *	1.7 *	20.8	16.0	12.7	13.5	11.1	74		17.5 *											
Tai Mei Tuk	050 *	3.1 *	20.9	16.2	12.9	13.2	10.2	70		11.5											
Tap Mun	350 *	3.9 *	19.9 *	15.5 *	12.0 *	12.7 *	9.7 *	71 *		23.5 *											
Tai Po Kau	270	2.4	19.2	15.7	12.6	13.0	10.3	72													
Tuen Mun	030	2.8	19.7	16.1	13.1	12.5	8.8	63													
Sai Kung	020	3.8	18.6	16.1	13.6	13.1	10.1	69													
Tseung Kwan O	020	3.4	18.9	16.8	14.5	12.7	8.2	60		24.0											
Sha Lo Wan	090	3.4	19.2	16.2	13.6	13.0	9.8	68		14.0											
Wong Chuk Hang	080	2.3	20.0	16.8	14.0	13.9	11.2	71													
Kat O	-	-	18.7	16.3	13.8	13.3	10.4	69		9.0											
Tai Mo Shan	360	7.4																			
Tate's Cairn	010	7.2																			
Ching Pak House	340 *	3.3																			
Shell	-	-																			
Mobil Oil Depot	-	-																			
Cheung Sha Wan	-	-																			
Star Ferry, Kowloon	110	2.2																			
Green Island	070 *	5.8 *																			
Central	100	2.4																			
Central Plaza	010	4.3																			

values in italics means number of available observations < 100%

\* means number of available observations < 90%

- means number of available observations < 50%

**Table 13. Annual Values of Meteorological Elements in 1993**

Station	Prevailing Direction degrees	Wind			Air Temperature			Relative Humidity %	Pressure hPa	Rainfall mm	Cloud Amount %	Sunshine hours	Solar Radiation MJ/m <sup>2</sup>
		Mean Speed m/s	Mean Maximum °C	Mean °C	Mean Minimum °C	Mean °C	Mean °C						
King's Park	120	2.2	25.8	22.8	20.5	20.2	18.4	78	1014.0	2016.6	1859.9	12.79	
Royal Observatory	090	3.6	25.5	23.1	21.2	20.5	18.9	78	1013.6	2343.9	68		
HKIA	100	3.9	26.8	23.7	21.3	20.4	18.3	73	1013.7	2311.0	66		
Ta Kwu Ling	120	2.2	26.6	22.5	19.2	19.6	17.6	75	1013.4	-			
Lau Fau Shan	070	3.4	25.9	22.4	19.6	20.2	18.9	81	1014.1	1759.5			
Sha Tin	220	2.0	25.3	22.2	19.5	19.6	17.8	77	1014.0	2938.5			
Cheung Chau	090	4.8	26.7	22.8	20.4	20.9	19.7	83	1013.4	-			
Waglan Island	-	-	-	-	-	-	-	-	-	-			
Ping Chau	-	-	-	-	22.0	-	20.1	18.9	83	1364.0			
Tai Mei Tuk	050	3.5	26.1	22.2	19.6	20.1	18.7	81	1013.4	1567.5			
Tap Mun	-	-	-	-	-	-	-	-	-	-			
Tai Po Kau	100	2.6	25.2	22.2	19.7	19.9	18.5	80	1013.4	1567.5			
Tuen Mun	170	2.4	25.4	22.7	20.2	19.5	17.4	73	1013.4	1567.5			
Sai Kung	180	3.1	26.3	23.9	21.8	21.6	20.3	81	1013.4	1567.5			
Tseung Kwan O	020	2.6	24.7	22.6	20.8	19.9	17.9	76	1013.4	1567.5			
Sha Lo Wan	-	-	-	-	-	-	-	-	-	-			
Wong Chuk Hang	080	2.4	25.2	22.6	20.4	20.7	19.5	83	1013.4	1567.5			
Kat O	-	-	-	-	-	-	-	-	-	-			
Tai Mo Shan	-	-	-	-	-	-	-	-	-	-			
Tate's Cairn	-	-	-	-	-	-	-	-	-	-			
Ching Pak House	170	4.0	-	-	-	-	-	-	-	-			
Shell	-	-	-	-	-	-	-	-	-	-			
Mobil Oil Depot	-	-	-	-	-	-	-	-	-	-			
Cheung Sha Wan	-	-	-	-	-	-	-	-	-	-			
Star Ferry, Kowloon	100	3.1	-	-	-	-	-	-	-	-			
Green Island	070	5.9	-	-	-	-	-	-	-	-			
Central	100	2.6	-	-	-	-	-	-	-	-			
Central Plaza	-	-	-	-	-	-	-	-	-	-			

Please refer to Tables 1 - 12 for information on availability of data from automatic weather stations

**Table 14. Values of Evaporation, Potential Evapotranspiration  
Grass Minimum Temperature and Soil Temperature in 1993**

Month	Station	Wind Movement	Pan-water Temperature						Soil Temperature													
			Maximum Mean Minimum			Evaporation	Potential Evapotranspiration	Grass Minimum Temperature	At depth of 0.05 m		At depth of 0.1 m		At depth of 0.2 m		At depth of 0.5 m		At depth of 1.0 m		At depth of 1.5 m			
			km	°C	°C				mm	mm	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	
Jan	KP	45	19.3	14.5	9.7	1.9	1.3	9.9	16.0	17.6	16.7	17.9	17.5	17.9	19.1	18.9	21.3	21.2	(23.3) (23.2)	25.2	25.2	
	RO	51	23.5	18.3	13.0	2.3	1.5	12.8	18.3	20.5	18.8	20.4	19.2	19.8	19.5	19.5	20.1	20.2	(21.2) (21.3)	23.8	23.8	
Feb	KP	51	23.5	18.3	13.0	2.3	1.5	13.7	15.3	16.9	15.6	17.1	16.0	16.8	17.7	17.7	18.2	18.3	(19.2) 19.2	22.3	22.2	
	RO	53	24.0	19.6	15.1	2.2	1.8	(16.3)	19.7	21.5	20.1	21.4	20.4	20.8	21.0	21.0	21.4	21.4	(21.9) (21.8)	23.2	23.2	
Mar	KP	49	27.3	22.6	18.0	2.2	2.3	19.2	21.8	23.4	(22.1) (23.3)	22.2	22.7	22.8	22.8	22.6	22.6	(22.6) (22.6)	23.2	23.2	23.2	
	RO	53	32.9	27.4	21.8	3.6	2.4	(22.9)	25.6	27.7	25.7	27.4	25.8	26.4	26.3	26.2	25.5	25.5	24.5	23.9	23.9	
Apr	KP	60	33.4	28.8	24.2	3.2	3.0	(25.2)	27.4	29.1	27.4	28.8	27.5	28.1	28.0	28.0	27.2	27.3	(26.3) (26.4)	24.9	24.9	
	RO	60	36.8	30.9	24.9	4.9	4.7	(25.6)	27.3	29.5	27.4	29.4	27.6	29.1	28.8	28.7	(27.5) (27.5)	(26.7) (26.7)	24.8	(24.8)	24.9	
May	KP	40	35.7	(30.0)	(24.2)	4.0	3.3	(25.4)	27.5	(29.2)	27.3	(28.8)	27.5	(29.1)	27.9	(28.8)	28.2	(28.3)	28.2	(28.3)	23.3	23.3
	RO	48	33.0	(27.8)	(22.6)	3.5	(2.5)	23.8	28.9	31.3	27.2	28.8	31.3	29.5	31.0	30.2	30.2	29.1	29.1	28.2	28.2	25.9
Jun	KP	40	30.8	24.8	18.9	4.0	(2.7)	19.6	24.5	26.0	24.8	25.9	25.3	25.6	26.2	26.1	(26.6) (26.6)	26.6	26.9	27.3	27.3	
	RO	42	30.8	24.8	18.9	4.0	(2.7)	21.1	22.2	23.0	22.7	23.5	23.6	23.9	26.7	26.6	27.1	27.1	27.5	27.6	27.6	
Jul	KP	48	36.8	30.9	24.9	4.9	4.7	25.8	28.9	31.3	28.9	30.9	29.1	30.0	29.9	29.8	28.8	28.8	27.6	(25.6) 25.6	23.9	
	RO	52	36.8	30.9	24.9	4.9	4.7	26.4	28.3	31.3	28.8	31.6	29.5	31.0	30.2	30.2	29.1	29.1	28.2	28.2	25.9	25.9
Aug	KP	40	30.8	24.8	18.9	4.0	3.3	(25.4)	28.8	30.6	28.9	30.3	29.2	29.7	30.0	29.9	29.4	29.4	28.5	28.5	26.5	
	RO	42	33.0	(27.8)	(22.6)	3.5	(2.5)	23.8	27.2	28.8	27.4	28.6	27.8	28.1	28.8	28.6	28.6	28.6	28.4	27.0	27.0	
Sep	KP	34	30.8	24.8	18.9	4.0	(2.7)	19.6	24.5	26.0	24.8	25.9	25.3	25.6	26.2	26.1	(26.6) (26.6)	26.6	26.9	27.3	27.3	
	RO	42	30.8	24.8	18.9	4.0	(2.7)	21.1	22.2	23.0	22.7	23.5	23.6	23.9	26.7	26.6	27.1	27.1	27.5	27.6	27.6	
Oct	KP	52	26.5	21.6	16.6	2.7	1.9	17.9	22.3	23.3	22.5	23.4	22.9	23.4	24.3	24.2	25.3	25.3	25.8	26.8	26.7	
	RO	45	21.3	16.3	11.3	2.3	1.5	12.2	18.0	19.3	18.4	19.4	19.2	19.5	20.7	20.6	(22.7) (22.6)	24.1	24.1	26.1	26.1	
Nov	KP	47	28.7	23.6	19.1	3.1	2.4	20.1	23.2	24.9	23.5	24.8	23.8	24.3	24.7	24.6	25.0	25.0	25.1	25.3	25.3	
	RO	52	21.6	16.3	11.3	2.3	1.5	13.1	15.3	16.3	16.0	16.7	17.0	17.3	19.6	19.5	21.8	21.7	23.3	(25.5) (25.5)	24.9	
Dec	KP	47	28.7	23.6	19.1	3.1	2.4	19.9	21.6	23.1	22.0	23.5	22.7	23.4	24.5	24.5	24.7	24.7	24.8	24.8	24.9	
	RO	47	28.7	23.6	19.1	3.1	2.4	20.1	23.2	24.9	23.5	24.8	23.8	24.3	24.7	24.6	25.0	25.0	25.1	25.3	25.3	

Note : ( ) = Incomplete data

**Table 15. Monthly Sea Surface Temperature at North Point Fire Station in 1993**

Month	Mean at 0700 HKT	Mean at 1400 HKT	Maximum	Minimum
January	17.7	17.8	20.0	15.0
February	17.4	17.8	18.5	16.0
March	18.0	18.3	20.0	17.0
April	19.9	20.5	22.5	19.0
May	23.9	24.5	27.5	21.5
June	24.8	25.5	27.0	24.0
July	26.2	27.0	28.5	24.5
August	25.4	26.4	28.0	24.5
September	26.8	27.4	28.5	25.0
October	(25.8)	(26.3)	27.5	23.0
November	23.3	23.6	25.5	21.0
December	19.4	19.6	23.0	16.5

Figures in ( ) were computed from incomplete data set.

**Table 16. Number of Days With Specified Rainfall Amounts in 1993**  
**(Royal Observatory)**

Trace	Number of days with rainfall greater than or equal to							
	0.1 mm	1.0 mm	2.5 mm	5.0 mm	10.0 mm	25.0 mm	50.0 mm	100.0 mm
January	12	7	6	4	4	1	-	-
February	9	3	-	-	-	-	-	-
March	15	11	8	4	2	2	-	-
April	23	13	10	8	8	5	1	-
May	19	15	11	8	8	7	3	-
June	29	26	19	16	15	9	3	2
July	23	12	6	6	6	3	1	-
August	21	17	13	11	11	8	1	-
September	17	15	10	10	9	8	7	2
October	8	5	3	3	2	1	1	-
November	15	12	4	3	3	2	1	-
December	9	6	4	3	-	-	-	-
Year	200	142	94	76	68	52	25	4

Table 17. Monthly Percentage Frequency of Visibility below Specified Values,

Number of Days with Lightning and Number of Days with Thunder Observed at the Royal Observatory in 1993

Month	Percentage Frequency of Visibility below Specified Values										Number of Days with Lightning			Number of Days with Thunder		
	0.1 km	0.2 km	0.5 km	1.0 km	1.5 km	3.0 km	5.0 km	8.0 km	10.0 km	15.0 km	20.0 km	25.0 km	km	km	km	km
January	-	-	-	-	-	0.4	1.7	7.0	12.5	64.7	91.7	97.8	-	-	-	-
February	-	-	0.1	0.1	0.1	2.5	9.2	29.5	44.9	82.0	95.2	100.0	-	-	-	-
March	-	-	-	-	-	1.7	6.9	19.1	30.0	79.2	96.8	98.8	2	2	2	2
April	-	-	-	0.3	0.4	3.6	8.8	27.1	40.6	74.3	93.1	98.2	8	7	7	7
May	-	-	0.3	0.5	0.7	1.9	5.5	16.3	21.6	48.8	72.3	84.4	9	8	8	8
June	-	-	-	-	-	0.4	1.5	5.4	9.6	31.1	52.5	65.7	20	14	14	14
July	-	-	-	-	0.1	0.3	1.1	2.6	3.8	7.5	21.6	33.3	7	6	6	6
August	-	-	-	-	-	-	2.8	6.9	9.1	27.0	47.4	64.4	5	3	3	3
September	-	-	-	-	-	1.0	4.2	18.5	31.8	62.8	87.4	92.6	6	5	5	5
October	-	-	-	-	-	0.0	0.1	1.5	4.6	52.4	82.1	90.2	-	-	-	-
November	-	-	-	-	-	-	2.6	8.3	13.3	45.0	81.9	96.4	2	2	2	2
December	-	-	-	-	-	0.3	3.1	8.8	14.6	57.8	86.9	96.5	-	-	-	-
Year	-	-	-	0.1	0.1	1.0	3.9	12.4	19.5	52.4	75.5	84.7	59	47	47	47

Table 18.

## Monthly and Annual Rainfall Recorded at Manned Stations in 1993

Location	Ref. on Universal Transverse Mercator Grid	Height above Mean Sea Level	January	February	March	April	May	June	July	August	September	October	November	December	Year
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
ABERDEEN LOWER RESERVOIR	KV 072638	85	(20.5)	NIL	(40.8)	120.7	334.8	456.3	157.8	201.5	(343.7)	64.4	(119.1)	13.0	(1872.6)
ABERDEEN TREATMENT WORKS	KV 070638	75	(9.5)	NIL	44.0	125.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(179.0)
AIRPORT METEOROLOGICAL OFFICE	KV 104719	5	24.8	TRACE	68.7	121.9	374.4	501.4	212.4	179.4	711.0	94.1	135.6	7.6	2431.3
AIA TAU FOND FISH FARM	KV 963658	5	32.6	0.4	13.4	138.4	(244.8)	509.8	120.0	206.1	(445.0)	107.6	147.6	5.8	(2070.9)
CAPE COLLINSON CORRECTIONAL INSTITUTION	KV 167632	40	(14.0)	NIL	N/A	114.8	(244.8)	N/A	(87.0)	110.4	N/A	N/A	N/A	N/A	(571.0)
CASTLE PEAK FARM	KV 057815	10	(31.5)	5.3	22.7	(110.9)	(171.2)	511.5	100.7	296.9	533.1	56.1	401.2	N/A	(2241.1)
CHINESE UNIVERSITY OF HONG KONG	KV 128118	25	(33.0)	2.5	59.0	(150.6)	(510.6)	766.3	190.7	278.2	834.0	100.1	155.7	20.9	(3101.2)
CHUEN LUNG COUNTRY PARK MANAGEMENT C.	KV 023791	330	25.5	NIL	59.5	(134.0)	458.0	816.0	207.0	214.0	662.8	139.5	210.5	21.6	(2948.4)
* CHUNG MEI	KV 158910	20	58.5	0.1	81.6	144.5	355.6	636.5	118.8	187.7	626.7	65.7	147.4	13.4	2496.5
CLEARWATER BAY GOLF AND COUNTRY CLUB	KV 214656	75	N/A	N/A	N/A	N/A	(51.5)	81.0	214.8	(353.1)	132.7	(94.3)	N/A	N/A	(947.4)
COBR (U), NM WAN	HQ 030830	20	25.0	NIL	20.8	134.7	248.0	475.7	119.0	(128.5)	(2.0)	(14.0)	(93.1)	9.5	(1270.3)
DEEP WATER BAY ROYAL HONG KONG GOLF CLUB	KV 098630	5	22.6	0.6	48.8	118.6	304.0	437.9	174.1	210.3	(355.2)	63.1	150.5	16.3	(1902.0)
DISCOVERY BAY WATER TREATMENT WORKS	HQ 911683	75	(21.0)	1.1	42.7	(134.6)	(256.6)	353.9	133.0	150.2	(356.2)	34.4	205.6	8.6	(1856.1)
FANLING ROYAL HONG KONG GOLF CLUB	KV 022908	10	25.9	0.9	35.0	114.3	306.5	695.6	149.7	311.7	700.8	109.2	205.6	4.2	2659.4
# HAPPY VALLEY RACE COURSE	KV 092659	35	26.8	TRACE	40.6	133.6	342.0	428.3	239.4	266.9	716.4	76.3	189.2	20.7	2480.2
HAVEN OF HOPE HOSPITAL	KV 1722705	25	(17.4)	NIL	56.4	144.8	405.2	522.0	132.5	213.6	595.9	(115.8)	(134.3)	(22.2)	(2359.8)
HEI LING CHAI ADDICTION TREATMENT CENTRE	JV 940643	10	24.0	NIL	71.6	(125.5)	(338.6)	575.0	164.0	216.0	556.5	43.3	(243.0)	9.2	(2366.7)
HIGH ISLAND EAST	KV 290753	125	19.1	NIL	54.2	145.2	(292.8)	642.1	153.3	159.6	436.1	78.7	86.7	26.5	(2134.3)
HIGH ISLAND WEST	KV 257773	85	16.0	NIL	(36.7)	(346.2)	670.0	235.8	216.0	248.3	47.9	78.6	21.6	(2231.8)	
HOI HA COUNTRY PARK MANAGEMENT CENTRE	KV 278484	120	22.9	(1.0)	49.8	154.9	401.2	831.0	135.7	211.0	410.7	(41.3)	(67.9)	24.6	(2352.0)
* HOK TAU	KV 097897	115	69.3	1.0	64.0	139.1	379.7	771.5	159.9	234.2	832.7	104.1	146.2	11.4	2913.1
JUNK BAY DEVELOPMENT OFFICE	KV 170717	10	29.9	0.6	59.3	160.2	414.0	437.1	123.5	213.6	595.9	(115.8)	(134.3)	(22.2)	(2359.8)
KADOURIE EXPERIMENTAL & EXTENSION FARM	KV 034838	305	43.4	3.5	53.1	149.6	375.9	802.7	147.9	266.7	932.8	127.4	259.7	17.1	3179.2
KAT O FISHERIES RESEARCH SUB-STATION	KV 222949	10	19.8	4.2	67.7	(135.5)	(316.9)	482.5	113.1	329.0	413.0	41.5	(83.0)	10.4	(2016.6)
KING LAM SCHOOL	KV 281878	10	(8.8)	NIL	42.8	(21.2)	(286.6)	865.3	(74.1)	N/A	N/A	N/A	N/A	N/A	(1428.3)
KING S PARK METEOROLOGICAL STATION	KV 085703	65	33.5	0.9	61.4	130.5	332.0	511.6	181.0	211.9	664.1	97.9	145.4	13.2	2838.4
LAMPA POLICE STATION	KV 026602	40	(13.5)	NIL	(19.0)	134.6	(259.0)	N/A	N/A	N/A	644.0	(N/A)	151.0	11.6	(1232.7)
LING YING PUBLIC SCHOOL	KV 057953	10	19.7	1.4	32.1	(100.1)	(492.1)	609.0	83.8	136.1	608.8	139.4	113.2	29.5	2295.5
KV 058956	5	53.9	NIL	25.7	324.1	662.2	140.4	295.1	147.9	266.7	932.8	127.4	259.7	17.1	3179.2
KV 933925	50	21.2	NIL	(31.4)	104.4	(150.5)	(107.5)	63.5	169.8	(502.5)	N/A	170.2	4.8	(1325.8)	
JV 954901	0	24.6	NIL	63.0	27.8	96.7	408.8	307.9	(475.5)	94.0	(147.1)	(147.1)	(1777.0)	(1777.0)	
KV 093721	45	(16.8)	NIL	63.0	126.5	(319.8)	537.9	(121.2)	(639.4)	95.5	(113.5)	111.2	(283.1)	(283.1)	
MARYKNOLL CONVENT SCHOOL	KV 102649	95	29.8	0.1	44.4	131.5	333.0	456.9	(160.0)	271.5	(622.1)	65.0	(159.0)	24.0	(2397.3)
MARYKNOLL SECONDARY SCHOOL	KV 152798	130	27.0	NIL	60.2	104.7	440.7	830.5	160.0	450.6	(49.0)	(60.7)	15.0	(2331.4)	
* MOI TSZ LAM	KV 024818	15	101.5	NIL	25.8	122.3	262.4	460.7	92.1	219.5	548.6	51.0	427.3	1.6	(1970.5)
* NM WAN	KV 056560	400	(12.2)	(N/A)	(21.0)	(142.0)	(232.0)	111.0	(209.0)	710.0	75.0	173.5	(16.3)	(1734.2)	
PENK POLICE STATION	JV 952672	5	(18.4)	NIL	0.6	(10.4)	117.5	287.6	327.0	(54.0)	N/A	(307.6)	(28.0)	7.7	(1338.1)
PENG CHAU PUMPING STATION	KV 046652	175	24.8	N/A	(29.1)	(110.4)	300.6	428.7	91.7	182.5	(366.4)	77.5	162.5	20.9	(1795.1)
POKEFLAM RESERVOIR	KV 1033668	15	N/A	TRACE	(41.9)	N/A	298.7	N/A	N/A	N/A	(764.5)	87.1	163.9	N/A	(1356.1)
QUEEN'S COLLEGE	KV 066652	30	33.5	1.0	48.7	136.6	338.4	485.2	203.9	192.6	655.3	88.4	144.6	15.7	2343.9
ROYAL OBSERVATORY	KV 183773	45	27.0	NIL	52.3	(157.0)	457.5	891.0	233.0	210.0	542.4	(76.0)	(42.0)	(21.6)	(2709.8)
* SAI KUNG FARM	JV 9171766	5	(25.7)	NIL	(44.8)	(119.2)	(244.3)	632.0	(155.6)	149.4	589.9	65.3	211.6	(6.0)	(2243.8)

Monthly rainfall totals are reckoned from 1500 hours on the last day of the previous month except those marked with # which are reckoned from 0900 hours on the last day of the previous month.

( ) indicates that the figure is obtained from an incomplete series of records.

\* Monthly gauge

N/A Record not available

Table 18 (cont'd). Monthly and Annual Rainfall Recorded at Manned Stations in 1993

Location	Ref. on Universal Transverse Mercator Grid	Height above Mean Sea Level		January	February	March	April	May	June	July	August	September	October	November	December	Year
				m	m	m	m	m	m	m	m	m	m	m	m	m
# SHA TAU KOK POLICE STATION	KV 129952	35	(TRACE)	1.4	66.9	(96.4)	(216.0)	(487.5)	(31.8)	302.2	(141.5)	(0.2)	N/A	(0.3)	(1344.2)	
SHA TIN RACE COURSE	KV 124803	10	29.4	1.9	54.6	151.6	563.6	808.9	210.5	279.7	845.4	110.1	159.2	323.3	4	
SHA TIN TREATMENT WORKS	KV 082756	30	26.3	(NIL)	45.4	156.1	(491.5)	870.0	186.0	(301.8)	761.2	140.0	187.7	16.7	(3127.7)	
SHEK KONG VILLAGE	KV 024827	185	43.0	7.0	56.5	(110.0)	(306.0)	790.0	206.0	260.0	(41.0)	158.4	(213.8)	25.2	(2216.9)	
SHEK KWU CHAU REHABILITATION CENTRE	HQ 05975	75	22.8	0.5	47.7	127.2	(33.9)	394.1	122.9	(447.9)	121.9	311.2	679.2	105.5	12.7	
SHEK LEE PUI SERVICE RESERVOIR	KV 057744	125	(28.1)	1.5	44.5	152.7	(454.8)	653.2	182.1	(39.9)	149.8	149.8	149.8	14.3	(2786.9)	
SHEK PIK RESERVOIR	GQ 981607	5	(10.5)	0.4	64.0	165.6	282.4	370.8	155.4	158.0	465.1	42.9	622.1	5.3	(2343.5)	
* SHUTI MO	KV 039851	90	(34.0)	(1.0)	(47.0)	(104.0)	(N/A)	(83.0)	(90.0)	(49.0)	(72.0)	(44.0)	(70.5)	(48.0)	5.0	
# SHUNG YEE PUBLIC PRIMARY SCHOOL	JV 9158592	15	(9.0)	NIL	22.2	(91.2)	(112.9)	566.6	94.7	(88.8)	457.5	(70.5)	403.8	7.6	(1924.8)	
SILVER MINE BAY TREATMENT WORKS	HQ 087751	60	(26.3)	(NIL)	(36.3)	(91.5)	(163.7)	363.7	142.5	(211.4)	606.3	38.0	535.0	7.9	(2222.6)	
ST. MARK'S SCHOOL	KV 143663	25	N/A	NIL	49.5	(129.9)	(349.3)	(524.4)	N/A	N/A	(524.4)	113.2	121.8	31.1	(1310.2)	
ST. STEPHEN'S COLLEGE	KV 128595	30	N/A	N/A	72.2	(131.5)	(275.0)	(103.8)	(68.1)	196.8	(440.7)	48.5	(111.9)	(N/A)	(1448.5)	
# STANLEY SATELLITE EARTH STATION	KV 133575	120	(16.6)	(0.6)	N/A	(104.8)	(156.8)	(314.2)	(100.4)	205.6	(147.2)	(1.6)	(N/A)	(N/A)	(1087.8)	
SUNG TSUN SECONDARY SCHOOL	KV 185779	30	(1.2)	TRACE	50.8	155.9	(259.2)	683.3	N/A	N/A	73.5	99.7	22.2	22.2	(653.3)	
TA KWU LING BIG BREEDING CENTRE	KV 072843	15	25.7	2.4	40.6	(116.4)	(259.2)	124.5	276.5	595.2	82.3	157.8	5.2	(2469.1)		
TA KWU LING POLICE STATION	KV 065357	5	(10.2)	0.9	34.0	(117.6)	328.9	(547.1)	153.2	317.4	(480.4)	89.9	140.7	7.7	(2228.0)	
TAI LAM CHUNG RESERVOIR	JV 930773	45	(28.0)	3.0	51.0	152.0	292.0	529.0	182.5	180.0	171.5	54.5	342.0	10.7	(2276.2)	
TAI LAM COUNTRY PARK COMPARTMENT 39	JV 954791	100	(NIL)	1.0	56.1	144.8	(327.4)	652.5	216.0	204.1	(539.7)	56.0	(260.5)	13.7	(2452.0)	
TAI LAM COUNTRY PARK MANAGEMENT CENTRE	JV 9587199	95	33.8	1.6	55.3	145.4	(316.2)	648.5	216.0	204.1	600.3	61.0	259.6	13.6	(2555.4)	
TAI LUNG FARM	KV 032293	35	(21.9)	NIL	(48.3)	(142.7)	(270.6)	747.3	180.3	268.8	(627.7)	105.7	208.1	(4.6)	(2626.0)	
# TAI MEI TUK PUMPING STATION	KV 157786	10	32.9	2.0	47.4	99.0	(218.0)	N/A	(30.4)	159.8	459.8	67.8	144.1	11.7	(1272.9)	
TAI MO SHAN NO. 1	KV 036518	830	41.1	4.8	77.6	196.4	452.0	766.3	233.1	346.7	1208.4	156.1	315.9	18.1	(3816.5)	
TAI MO SHAN NO. 2	KV 073114	950	(43.2)	(2.7)	67.5	(189.2)	(459.7)	955.9	(187.3)	338.0	(904.3)	(114.1)	(242.9)	(20.0)	(3524.8)	
TAI O NAVY COAST WATCH STATION	GQ 938642	90	(15.8)	(NIL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(15.8)	
TAI O PUBLIC PRIMARY SCHOOL	GQ 942443	10	32.5	NIL	28.8	171.8	241.1	369.1	(117.2)	199.0	518.0	(327.7)	70.2	17.2	(2147.6)	
TAI PO KAU COUNTRY PARK MANAGEMENT C.	KV 096833	130	41.4	1.2	64.3	(146.4)	492.4	813.8	168.7	270.2	(851.1)	96.3	177.8	22.2	(3145.8)	
TAI PO TAU TREATMENT WORKS	KV 063858	105	(39.3)	TRACE	48.6	(142.1)	347.8	786.8	180.3	239.0	106.4	106.4	183.1	16.1	(2903.1)	
TAI TAM RESERVOIR	KV 123642	155	(10.6)	NIL	52.2	(66.2)	(245.3)	(599.3)	113.2	(125.9)	554.6	(7.5)	(110.6)	(15.7)	(1861.1)	
TAI TAM TUK RESERVOIR	KV 134427	55	(9.8)	NIL	61.4	(70.2)	(244.2)	(593.3)	116.8	147.6	604.2	(6.9)	(117.4)	17.6	(1989.4)	
TAI TAU'S CALM WEATHER RADAR STATION	KV 130753	575	37.9	4.7	60.2	162.7	558.1	694.9	181.5	470.5	157.5	218.3	(2923.9)	21.8	(2452.0)	
TATHONG POINT LIGHTHOUSE	KV 202619	15	21.3	TRACE	(61.4)	N/A	N/A	N/A	(82.7)							
TIN SHUI WAI	HQ 085355	10	27.6	NIL	13.4	(116.0)	(195.6)	481.7	105.7	226.0	(348.5)	76.8	369.8	5.6	(1966.7)	
TSIAK YOE WU UPPER	KV 051757	60	48.8	0.6	19.3	121.0	342.5	337.9	105.4	(84.1)	(173.2)	20.0	59.5	1339.2	(1339.2)	
TSING XI DEVELOPMENT NGA YING CHAU	KV 016757	6	27.2	1.1	51.6	171.0	532.6	705.8	182.6	232.3	631.7	84.7	153.9	12.3	(2796.8)	
TSUEN WAN R.G. FILTERS	KV 041773	120	27.8	0.4	60.5	(137.4)	(405.7)	(676.5)	151.1	217.9	586.7	92.4	N/A	9.7	(2366.1)	
TSZ OI ESTATE, TSZ WAN SHAN	KV 115746	200	37.0	(0.5)	50.6	(131.0)	(401.5)	637.8	(180.0)	282.0	776.4	N/A	N/A	(0.5)	(2557.3)	
TUEN MUN NEW TOWN C.R.E. OFFICE	HQ 067787	5	29.3	NIL	33.8	(132.5)	252.7	486.7	173.4	231.5	474.7	69.2	473.9	10.6	(2368.3)	
TUNG CHUNG AU COUNTRY PARK MANAGEMENT C.	HQ 062650	70	43.0	NIL	(48.2)	(165.8)	405.3	445.5	211.0	(241.5)	576.0	83.0	610.7	29.5	(2829.5)	
WONG SHIU CHI MIDDLE SCHOOL	KV 086851	25	33.9	NIL	45.8	(148.2)	364.4	810.3	166.7	(228.2)	749.2	88.6	156.0	(10.3)	(2801.6)	
YUEN LONG DISTRICT OFFICE	JV 938854	45	26.6	NIL	12.3	(122.7)	235.4	489.2	98.1	(166.5)	91.2	257.4	7.6	(1989.0)	(1989.0)	
YUEN LONG R.G. FILTERS	HQ 082825	90	(29.2)	NIL	18.4	(139.6)	250.8	493.1	128.0	279.1	489.3	78.8	383.3	8.9	(2298.5)	

Monthly rainfall totals are reckoned from 1500 hours on the last day of the previous month except those marked with # which are reckoned from 0900 hours on the last day of the previous month.

( ) indicates that the figure is obtained from an incomplete series of records.

N/A Record not available

**Table 19. Monthly and Annual Rainfall Recorded at Rainfall Data Acquisition System Stations in 1993**

Location	Ref. on Universal Transverse Mercator Grid	Height above Mean Sea Level	Year												
			January	February	March	April	May	June	July	August	September	October	November	December	
NGONG PING TEA GARDEN	GQ 994642	44.0	44.0	1.5	52.0	(153.0)	(218.0)	(135.5)	(165.0)	(280.0)	(167.5)	(69.5)	(684.5)	(26.0)	(1996.5)
DISCOVERY BAY WATER TREATMENT WORKS	JV 915683	75	29.5	1.0	49.0	144.5	352.5	(364.5)	(121.0)	(180.0)	(472.5)	(37.0)	(385.0)	(9.0)	(2145.5)
LAMMA POLICE STATION	KV 026602	40	16.5	NIL	(5.0)	129.0	327.5	(366.5)	(102.5)	(182.5)	(534.5)	(46.5)	(144.0)	(14.5)	(1869.0)
CAPE D'AGUILAR B.F. TRANSMITTING STATION	KV 163988	50	24.0	NIL	81.0	(99.0)	(250.0)	(126.0)	(136.5)	(183.5)	(621.0)	(47.5)	(117.5)	(29.0)	(1715.0)
GREEN ISLAND LIGHTHOUSE	KV 023674	75	25.0	1.5	40.5	121.0	(85.0)	(337.0)	N/A	(1.5)	(484.5)	(75.0)	(149.5)	(10.5)	(1331.0)
SAM YUK MIDDLE SCHOOL	KV 202696	105	(5.5)	NIL	(34.5)	(97.0)	(103.5)	(125.5)	(103.0)	(180.5)	(140.0)	(118.5)	(119.0)	(34.0)	(1061.0)
QUARRY BAY TIDE GAUGE HOUSE	KV 125679	10	27.5	NIL	40.5	150.5	353.5	(443.0)	(193.0)	(194.0)	(617.0)	(124.0)	(94.5)	(17.5)	(2255.0)
TAP SHEK NOK POWER STATION	HQ 003776	25	28.5	NIL	32.0	141.0	220.0	(336.0)	(198.5)	(229.0)	(54.5)	(50.0)	(495.5)	(8.0)	(2283.0)
TSIM BET TSUI SEISMOMETER STATION	JV 908899	5	25.5	NIL	23.5	(104.5)	(186.0)	(161.0)	(74.0)	(164.0)	(381.5)	(108.5)	(10.5)	(4.0)	(1223.0)
WONG SEU CHI MIDDLE SCHOOL	KV 086851	25	36.5	0.5	47.0	140.0	352.0	(697.0)	(147.5)	(198.0)	(632.5)	(81.0)	(119.0)	(14.5)	(2225.5)
SEA TAU KOK POLICE STATION	KV 129952	35	21.0	3.5	(25.5)	131.5	343.5	(415.0)	(108.0)	(275.0)	(712.5)	(41.0)	(18.5)	(8.0)	(2103.0)
PAK TAM AU C/P MGT. CENTRE	KV 252822	105	(0.0)	(2.0)	54.5	(123.0)	(6.0)	(227.5)	(146.0)	(269.0)	(503.0)	(78.0)	(128.0)	(36.5)	(1573.5)
SHEK KONG RAF AIRFIELD	JV 994843	10	30.0	NIL	44.0	(52.0)	317.0	(600.0)	(148.0)	(197.5)	(512.5)	(123.0)	(220.5)	(8.5)	(2253.0)
YUEN LONG R.G. FILTERS	HQ 082825	90	31.0	NIL	24.5	129.0	(159.0)	N/A	(128.5)	(228.0)	(458.5)	(55.0)	(242.5)	(8.5)	(164.5)
AU TAU POND FISH FARM	JV 963858	5	33.0	0.5	16.0	128.5	(236.0)	(172.0)	(125.0)	(183.0)	(409.5)	(97.0)	(177.0)	(5.5)	(1583.0)
LOK MA CHAU POLICE STATION	JV 993925	50	23.0	NIL	(27.5)	112.5	281.5	(384.5)	(102.0)	(152.5)	(54.0)	(79.5)	(152.0)	(4.5)	(1873.5)
KAT O FISHERIES RESEARCH SUB-STATION	KV 222949	10	(0.5)	(0.0)	(46.0)	(53.5)	(273.5)	(219.0)	(20.5)	(194.0)	(127.0)	(43.5)	(127.5)	(1.5)	(1156.5)
TAI MEI TUK PUMPING STATION	KV 157886	10	32.5	2.0	45.0	133.5	340.5	(632.0)	(118.0)	(168.5)	(428.0)	(61.0)	(129.5)	(12.5)	(2103.0)
LEUNG SHUN WAN PUBLIC SCHOOL	KV 271744	10	14.5	NIL	63.5	158.5	(68.5)	(256.0)	(198.0)	(182.0)	(447.5)	(69.5)	(72.0)	(22.5)	(1552.5)
TAI O PUBLIC PRIMARY SCHOOL	GQ 942443	10	-	-	-	-	-	-	-	-	-	(77.0)	(465.5)	(18.0)	(560.5)
PAT HEUNG FIRE SERVICES TRAINING SCHOOL	KV 011866	10	36.0	NIL	48.0	133.0	(248.5)	(549.5)	(146.5)	(204.0)	(717.5)	(125.0)	(271.0)	(10.0)	(2489.0)

( ) indicates that the figure is obtained from an incomplete series of records  
N/A Record not available

Table 20. Monthly Normals (1961-1990) and Extreme Values (1884-1939 and 1947-1993)  
of Meteorological Elements for Hong Kong

MONTH	ATMOSPHERIC PRESSURE			AIR TEMPERATURE			RELATIVE HUMIDITY			RAINFALL			BRIGHT SUNSHINE			WIND													
	Absolute Maximum Mean	Absolute Minimum Mean	Absolute Daily Range Mean	Absolute Maximum Mean	Absolute Minimum Mean	Absolute Daily Range Mean	Absolute Maximum Mean	Absolute Minimum Mean	Absolute Daily Range Mean	Total	DURATION	Number of Days with 50.0 mm or more	Number of Days with 25.0 mm or more	Number of Days with 0.1 mm or more	Percentage of Possible Duration	Prevailing Direction	Mean Speed km/h	Maximum Gust km/h											
January	1035.4	1020.2	1003.1	4.1	26.9	18.6	15.8	13.6	0.0	13.0	10.2	13.1	71	58	23.4	41	5.63	0.10	0.00	21.8	99.8	214.3	45	070	24.0	103			
February	1032.7	1018.7	998.3	4.1	27.8	18.6	15.9	13.9	2.4	13.8	11.8	14.5	78	82	70	13	73	48.0	69	8.93	0.43	0.03	31.9	86.1	241.0	45	070	23.8	110
March	1032.4	1016.2	1001.9	4.2	30.1	21.3	18.5	16.5	4.8	16.5	15.0	17.6	81	85	73	16	76	66.9	89	10.07	0.60	0.27	50.1	126.4	428.0	46	070	22.1	103
April	1028.4	1013.1	999.9	3.8	33.4	24.9	22.2	20.2	9.9	20.2	19.0	22.4	83	88	75	22	78	161.5	82	11.13	2.20	0.97	92.4	190.2	492.2	48	080	19.7	135
May	1020.2	1009.1	981.1	3.4	35.5	28.7	25.9	23.9	15.4	23.7	22.6	27.7	83	87	76	23	74	316.7	92	14.93	3.40	1.93	109.9	520.6	1241.1	48	090	19.2	140
June	1014.4	1006.0	973.8	3.0	35.6	30.3	27.8	25.9	19.2	25.4	24.4	30.7	82	86	76	29	75	376.0	86	19.23	4.23	1.97	108.2	382.6	962.9	48	090	21.6	194
July	1014.8	1005.3	975.8	3.4	35.7	31.5	28.8	26.6	21.7	26.0	24.9	31.6	80	85	73	43	65	323.5	67	17.47	3.93	1.97	100.7	534.1	763.8	48	230	20.0	158
August	1016.3	1005.1	961.6	3.5	36.1	31.3	28.4	26.3	21.6	25.9	24.8	31.4	81	86	74	41	66	391.4	73	17.30	4.70	2.17	82.1	334.2	872.2	48	090	18.5	209
September	1016.2	1008.8	953.2	3.6	35.2	30.3	27.6	25.5	18.4	24.6	23.3	28.8	78	83	71	26	63	299.7	68	14.37	3.57	1.63	84.0	325.5	844.2	48	090	21.9	230
October	1024.5	1014.0	977.3	3.6	34.3	27.9	25.2	23.1	13.5	21.8	19.8	23.6	73	78	66	21	56	144.8	48	8.60	1.50	0.87	71.6	292.2	718.4	54	090	27.6	184
November	1033.2	1017.9	974.9	3.8	31.8	24.2	21.4	19.2	6.5	17.9	15.2	18.0	69	74	61	17	53	35.1	37	5.87	0.40	0.10	44.2	149.2	224.2	55	080	27.2	175
December	1033.5	1020.2	1004.6	4.0	28.7	20.5	17.6	15.4	4.3	14.3	11.2	14.1	68	73	59	14	49	27.3	31	3.87	0.23	0.10	51.7	177.3	206.9	54	080	25.5	104
Year	1035.4	1012.9	953.2	3.7	36.1	25.7	23.0	20.9	0.0	20.3	18.6	22.8	77	82	70	10	65	2214.3	782	137.40	25.30	12.00	109.9	534.1	1241.1	44	080	22.6	230
6 January 1903																													
1 September 1962																													
16 January 1959																													
19 August 1900																													
18 January 1893																													
19 July 1926																													
8 May 1992																													
5 September 1964																													
May 1889																													
16 January 1959																													
6 January 1903																													
Observed at																													
Royal Observatory																													
King's Park																													
Wagian Island																													

**Table 21. Monthly Means of Selected Meteorological Parameters for Hong Kong**

MONTH	THUNDERSTORM ACTIVITY	WIND		SOIL TEMPERATURE				SEA SURFACE TEMPERATURE				NUMBER OF DAYS WITH TROPICAL CYCLONE WARNING SIGNAL										
		Mean Speed	Maximum Gust	0.5 m	1.0 m	1.5 m	Time (hours) #	0700	1400	0700 or 1100	1400 or 1700	0700	1400	0700	17.3	No. 9 and / or No. 10	No. 8 and / or No. 7	No. 3 and / or No. 1 and / or Higher	No. 2 and / or Higher	No. 10 and / or Strong Monsoon Signal		
January	0.17	0.10	0.43	0.90	11.2	9.6	19.0	20.6	20.6	21.8	21.8	11.63	97.5	73.2	17.2	17.4	17.1	17.3	-	-	2.77	
February	0.63	0.60	1.27	0.90	11.9	10.3	18.9	19.0	20.0	20.9	20.9	10.69	79.0	66.3	16.5	16.7	16.3	16.4	-	-	3.17	
March	1.93	2.37	0.90	12.6	10.8	20.4	20.5	20.8	20.8	21.2	21.2	11.24	92.2	77.0	17.6	17.9	17.3	17.5	-	-	2.60	
April	4.40	4.00	1.67	0.90	11.7	10.6	23.1	23.3	22.6	22.4	22.5	13.14	106.9	92.0	20.5	20.8	20.3	20.5	0.17	-	2.37	
May	6.30	4.80	0.13	0.90	10.6	16.6	26.5	26.6	25.5	24.8	24.8	16.12	137.7	115.0	24.3	24.7	24.5	24.8	0.70	0.50	0.03	
June	7.27	5.20	-	0.90	10.4	19.1	28.4	28.6	27.5	27.6	26.8	16.55	143.9	126.6	26.3	26.7	26.6	26.9	1.97	0.93	0.13	
July	7.10	5.03	-	0.90	10.1	15.1	30.0	30.0	29.1	29.1	28.3	28.4	19.15	171.6	150.5	26.8	27.3	27.4	27.7	4.57	2.93	0.67
August	10.17	6.93	-	0.90	9.4	22.4	30.1	30.2	29.5	29.6	29.1	29.1	17.61	156.9	135.8	26.6	27.1	27.3	27.6	3.33	1.70	0.53
September	6.63	3.93	-	0.90	10.7	25.9	29.6	29.7	29.5	29.5	29.2	29.2	16.49	150.3	120.6	27.3	27.6	27.4	27.7	4.50	2.50	0.57
October	1.23	0.87	-	0.90	12.2	17.5	27.6	27.7	28.1	28.1	28.3	28.3	15.46	152.2	112.8	26.3	26.6	26.3	26.5	3.37	2.40	0.30
November	0.17	0.17	-	0.90	11.0	15.5	24.4	24.4	25.7	25.7	26.4	26.4	13.39	129.1	88.8	23.2	23.4	23.4	23.5	0.50	0.30	0.07
December	-	-	-	0.90	10.5	10.4	20.6	20.7	22.5	22.5	23.7	23.8	12.03	111.5	76.7	19.5	19.7	19.7	0.07	-	-	
Year	46.00	33.47	5.87	0.90	11.0	25.9	24.9	25.0	25.1	25.2	25.2	14.46	1528.8	1235.0	22.7	23.0	22.8	23.0	19.17	11.33	2.40	
Period of Record	1961-1990		*	1967-1993				1961-1990				1975-1993				1961 - 1990						
Observed at	Royal Observatory				King's Park				North Point				Waglan Island									

# Times indicated refer to Hong Kong Time, i.e. Co-ordinated Universal Time + 8 hours

\* 1911 - 1939 and April 1947 - 1993

Table 22. Summary of Upper-air Data in Hong Kong 1993

	1000 hPa	925 hPa	850 hPa	700 hPa	500 hPa	400 hPa	300 hPa	250 hPa
JANUARY	091 1.9 31 12.7 31 6.1 31 183 31	102 3.0 31 10.9 31 4.1 31 835 31	173 1.1 31 8.8 31 0.1 31 1539 31	266 7.5 31 3.0 31 -16.9 31 3129 31	268 21.0 31 -6.6 31 -42.0 31 5801 31	261 28.3 31 -16.9 31 -48.0 31 7510 31	259 34.1 31 -32.0 31 -57.0 31 9603 31	262 35.7 31 -41.8 31 -63.1 31 10863 31
FEBRUARY	107 2.5 28 16.0 28 11.2 28 167 28	117 3.4 28 14.3 28 8.4 28 828 28	161 2.0 28 11.2 28 3.6 28 1539 28	263 5.1 28 4.3 28 -12.4 28 3141 28	259 15.7 27 -9.2 27 -37.7 27 5812 27	256 23.4 28 -20.5 28 -44.9 28 7497 28	253 31.9 28 -33.6 28 -56.5 28 9569 28	251 35.2 28 -42.7 28 -63.8 28 10822 28
MARCH	114 1.8 31 17.4 31 14.5 31 150 31	168 3.6 31 15.2 31 13.2 31 814 31	216 4.9 31 13.5 31 10.9 31 1531 31	267 9.5 31 5.5 31 -1.4 31 3148 31	266 19.2 31 -7.8 31 -30.7 31 5831 31	263 24.5 31 -19.0 31 -39.7 31 7528 31	261 30.0 31 -32.7 31 -55.2 31 9611 31	263 31.7 31 -42.0 31 -65.3 31 10869 31
APRIL	115 2.2 30 20.2 30 17.9 30 126 30	175 3.8 29 18.3 30 16.2 30 798 30	209 5.5 29 15.6 30 12.8 30 1522 30	256 9.8 29 8.1 30 1.7 30 3153 30	258 14.5 29 -6.9 30 -26.4 30 5852 30	258 19.3 29 -18.1 30 -34.4 30 7556 30	260 26.0 29 -32.4 30 -46.0 30 9643 30	261 29.0 29 -41.9 30 -56.3 30 10903 30
MAY	125 0.8 27 25.0 27 21.7 27 97 31	187 4.1 29 21.3 31 18.3 31 780 31	203 5.8 30 18.0 31 13.8 31 1511 31	244 7.5 29 9.7 31 3.6 31 3152 31	250 8.4 28 -5.2 31 -15.0 31 5869 31	266 9.2 28 -15.8 31 -25.2 31 7587 31	272 9.7 28 -30.5 31 -40.9 31 9693 31	283 11.3 29 -40.6 31 -52.2 31 10962 31
JUNE	190 1.8 15 27.6 15 24.9 15 61 30	203 6.3 27 23.5 30 21.4 30 752 30	207 8.1 29 19.4 30 16.8 30 1488 30	224 8.3 29 11.2 30 6.2 30 3139 30	239 5.5 28 -4.0 30 -8.0 30 5874 30	251 2.5 27 -13.4 30 -20.0 30 7605 30	319 1.1 27 -27.6 30 -36.8 30 9734 30	004 1.6 27 -37.4 30 -47.1 30 11019 30
JULY	174 1.1 15 28.4 15 24.8 15 69 21	194 5.0 31 23.2 31 20.8 31 748 31	193 6.0 31 19.2 31 16.2 31 1484 31	190 4.9 31 11.8 31 3.1 31 3136 31	135 2.3 31 -3.3 31 -14.9 31 5875 31	094 4.4 31 -13.1 31 -27.7 31 7607 31	084 6.4 31 -27.5 31 -43.5 31 9739 31	072 8.1 31 -37.3 31 -53.4 31 11024 31
AUGUST	117 1.7 16 27.3 16 23.4 16 86 16	134 3.1 30 23.3 31 19.7 31 748 31	139 3.6 30 19.2 31 15.0 31 1483 31	126 4.5 30 11.3 31 4.4 31 3134 31	104 5.9 31 -3.3 31 -14.7 31 5872 31	091 7.6 31 -13.6 31 -25.3 31 7603 31	077 8.6 31 -28.1 31 -43.4 31 9729 31	070 11.3 31 -38.0 31 -52.4 31 11011 31
SEPTEMBER	091 2.3 29 26.5 29 21.7 29 90 29	085 5.4 28 22.0 30 18.1 30 771 30	094 5.5 28 18.0 30 13.7 30 1503 30	098 3.5 28 10.0 30 3.2 30 3144 30	082 2.3 28 -4.2 30 -16.7 30 5873 30	065 3.0 27 -14.5 30 -28.2 30 7598 30	082 3.0 28 -29.4 30 -46.4 30 9716 30	084 3.2 30 -39.7 30 -53.6 30 10989 30
OCTOBER	069 4.8 31 22.8 31 14.6 31 148 31	075 6.3 31 18.4 31 12.1 31 822 31	075 4.5 31 14.8 31 8.4 31 1544 31	025 1.4 31 8.7 31 -5.5 31 3170 31	277 4.0 31 -5.8 31 -20.4 31 5881 31	271 6.7 31 -15.8 31 -35.6 31 7595 31	265 9.4 31 -30.5 31 -51.4 31 9702 31	265 10.7 31 -40.7 31 -60.0 31 10969 31
NOVEMBER	073 5.4 30 19.8 30 13.6 30 153 30	079 7.6 29 16.6 30 12.7 30 821 30	096 5.9 30 14.7 30 9.2 30 1541 30	176 3.2 30 7.8 30 -3.0 30 3165 30	241 9.2 30 -6.5 30 -26.2 30 5867 30	251 13.9 30 -16.4 30 -39.5 30 7578 30	254 17.0 30 -31.1 30 -52.5 30 9679 30	252 18.0 30 -40.9 30 -61.3 30 10944 30
DECEMBER	063 5.0 31 14.6 31 6.1 31 187 31	067 6.1 31 12.4 31 5.1 31 843 31	064 3.8 31 11.9 31 0.7 31 1552 31	267 3.3 30 6.3 31 -13.0 31 3162 31	263 14.0 31 -5.9 31 -39.8 31 5859 31	268 19.3 31 -16.5 31 -44.4 31 7569 31	264 23.5 31 -30.9 31 -57.1 31 9669 31	259 25.6 31 -40.7 31 -64.2 31 10936 31
YEAR	092 2.2 314 21.5 314 16.7 314 126 339	125 3.0 355 18.3 365 14.2 365 797 365	163 2.7 359 15.4 365 10.1 365 1520 365	240 3.9 357 8.1 365 -2.5 365 3148 365	257 8.4 356 -5.8 364 -24.5 364 5856 364	260 11.0 355 -16.2 365 -34.5 365 7570 365	260 13.6 356 -30.6 365 -49.0 365 9674 365	261 14.4 359 -40.4 365 -57.8 365 10943 365

Legend : wind direction and speed (deg,m/s) nn  
 temperature (deg C) nn  
 dew-point (deg C) nn  
 geopotential height (gpm) nn

Note : nn = number of observations for the month for the meteorological parameter.  
 The summary is made using data obtained from radiosonde ascents made at 00 UTC.

Table 22. (Cont.) Summary of Upper-air Data in Hong Kong 1993

200 hPa	150 hPa	100 hPa	70 hPa	50 hPa	30 hPa	20 hPa	Tropopause
262 36.3 31 -53.5 31 -73.0 31 12337 31	261 32.0 31 -65.9 31 -85.4 31 14129 31	257 20.2 31 -75.9 31 -96.2 31 16522 31	251 10.1 30 -72.8 30 -93.7 30 18583 31	260 5.2 29 -65.5 29 -91.9 28 20589 30	347 2.6 27 -56.5 27 -87.6 24 23763 27	040 1.6 22 -52.4 22 -85.2 20 26362 25	256 20.9 31 -77.8 31 -96.6 31 16541 31
249 35.6 28 -53.2 28 -75.2 28 12294 28	255 30.1 28 -64.9 28 -85.8 28 14094 28	256 15.0 27 -74.9 27 -95.1 27 16502 27	262 4.9 27 -72.2 27 -93.2 27 18572 27	281 3.3 26 -66.3 26 -91.7 26 20577 27	359 3.0 23 -57.9 23 -88.4 21 23736 24	102 4.1 16 -54.2 16 -86.8 12 26309 19	253 15.8 26 -77.1 27 -96.4 27 16594 27
261 31.0 31 -53.4 31 -74.5 31 12342 31	260 27.6 31 -66.5 31 -85.9 31 14134 31	264 17.3 31 -77.4 31 -95.6 31 16510 31	264 7.5 30 -74.1 30 -92.8 30 18558 31	298 4.1 30 -67.3 30 -90.9 30 20554 30	052 1.6 25 -57.7 26 -87.6 25 23703 28	177 2.7 18 -51.7 18 -82.1 16 26292 25	263 17.8 31 -79.1 31 -97.1 31 16504 31
261 30.5 27 -53.2 30 -68.3 30 12377 30	262 27.0 28 -65.9 29 -81.2 29 14175 29	263 14.0 28 -77.4 28 -92.7 28 16560 28	266 7.2 26 -77.4 28 -92.8 28 18592 28	286 6.3 28 -66.7 28 -86.0 28 20573 28	255 2.7 22 -54.2 22 -83.1 22 23760 24	197 3.5 19 -48.0 19 -80.3 19 26394 21	260 13.2 27 -80.2 28 -95.2 28 17027 28
288 13.4 30 -52.5 31 -64.3 31 12442 31	295 10.5 31 -65.7 31 -77.5 31 14241 31	304 4.0 31 -77.6 31 -90.4 31 16625 31	034 2.7 29 -76.1 29 -89.2 29 18664 30	070 3.5 26 -66.5 26 -80.5 26 20649 28	097 5.9 23 -53.4 23 -78.2 23 23857 25	106 9.0 15 -47.8 15 -77.8 15 26508 18	320 3.0 29 -79.0 29 -92.0 29 16962 29
026 3.5 28 -50.1 30 -59.3 30 12519 30	015 7.2 29 -65.4 30 -75.5 30 14331 30	052 11.1 29 -78.5 30 -89.8 30 16708 30	069 12.1 29 -75.2 30 -86.8 30 18743 30	082 12.0 29 -63.7 30 -78.4 30 20749 30	093 15.5 25 -53.9 27 -75.7 25 23958 29	096 15.9 15 -48.0 15 -73.5 13 26599 21	055 11.8 29 -80.6 30 -92.0 30 17035 30
065 10.3 30 -49.8 31 -63.4 31 12524 31	053 14.4 29 -64.7 30 -77.2 30 14341 31	058 17.6 30 -78.8 30 -91.5 30 16719 30	079 17.4 29 -72.7 29 -86.5 29 18760 30	083 17.1 29 -63.9 29 -85.4 29 20781 29	091 20.4 26 -54.5 28 -85.8 28 23988 29	092 23.7 22 -49.2 22 -82.5 22 26618 23	059 18.1 30 -80.2 30 -92.9 30 16816 30
067 13.5 31 -50.2 31 -63.0 31 12506 31	062 16.6 31 -64.6 31 -77.5 31 14321 31	064 21.0 31 -77.7 31 -90.3 31 16704 31	078 19.5 30 -73.1 30 -87.1 30 18758 30	084 20.3 28 -64.2 28 -85.5 28 20773 28	092 22.6 26 -55.2 26 -86.0 26 23972 26	090 23.4 23 -49.1 23 -82.9 23 26597 23	065 20.8 29 -78.9 29 -91.6 29 16791 29
076 1.8 30 -52.0 30 -64.4 30 12473 30	042 2.2 30 -66.4 30 -79.2 30 14273 30	066 8.2 30 -77.6 30 -90.7 30 16641 30	077 10.4 30 -71.9 30 -85.5 30 18702 30	082 11.8 30 -63.2 30 -81.2 30 20729 30	092 18.0 25 -54.7 25 -82.9 25 23931 25	089 21.5 21 -49.0 21 -80.9 21 26558 21	063 7.3 30 -78.8 30 -91.9 30 16406 30
266 10.8 31 -52.9 31 -70.8 31 12447 31	259 9.5 31 -66.8 31 -83.5 31 14242 31	239 3.7 31 -79.2 31 -95.8 31 16605 31	082 1.7 30 -72.9 31 -89.4 31 18650 31	087 5.8 30 -64.0 30 -84.8 30 20670 30	091 12.2 29 -55.5 29 -86.3 29 23862 29	095 13.1 28 -50.5 28 -82.7 28 26474 28	248 3.3 31 -80.4 31 -97.1 31 16674 31
248 19.7 30 -52.5 30 -71.6 30 12423 30	249 19.5 30 -66.3 30 -84.1 30 14220 30	253 12.5 29 -78.9 29 -96.8 29 16582 29	235 3.5 27 -76.7 28 -93.8 28 18607 29	124 1.0 23 -65.9 24 -86.3 23 20601 24	079 6.5 20 -56.4 20 -84.6 19 23784 20	098 7.4 18 -51.1 18 -82.5 17 26391 18	246 12.6 25 -81.0 26 -98.8 26 16708 26
254 27.4 30 -52.2 31 -73.1 31 12416 31	250 27.5 30 -66.5 31 -85.3 31 14214 31	260 18.8 27 -79.6 30 -98.4 30 16572 30	271 10.3 28 -78.0 30 -96.4 30 18596 30	268 5.8 25 -66.8 28 -87.5 28 20570 28	059 1.7 22 -57.0 25 -87.0 25 23731 25	108 4.3 21 -53.3 24 -85.3 24 26319 24	259 20.4 27 -81.2 30 -99.9 30 16529 30
262 14.6 357 -52.2 365 -68.5 365 12425 365	266 12.4 359 -65.9 363 -81.6 363 14226 364	281 4.5 355 -77.9 359 -93.7 359 16604 359	062 1.8 345 -74.5 352 -90.7 352 18649 357	076 4.0 333 -65.4 338 -85.9 336 20651 342	088 8.4 293 -55.7 301 -84.5 292 23837 311	097 10.2 238 -50.5 241 -82.0 230 26452 266	277 4.4 345 -79.5 352 -95.1 352 16715 352

Table 23. Normals (1961-90) of Upper-air Data

	1000 hPa			850 hPa			700 hPa			500 hPa			400 hPa			300 hPa			250 hPa		
JANUARY	070	3.2	763	216	0.7	914	270	9.2	908	266	22.7	893	263	29.7	893	262	34.6	892	260	36.2	886
	13.4	771		9.4	926		3.7	919		-8.4	851		-17.9	927		-32.1	927		-41.5	925	
	8.9	764		2.9	919		-9.8	890		-33.2	924		-41.8	919		-51.2	593		-64.5	308	
	175	772		1534	927		3128	927		5805	927		7506	927		9597	927		10859	925	
FEBRUARY	082	3.5	696	213	3.3	834	266	10.9	827	263	22.4	818	262	29.1	818	260	35.2	820	258	36.9	822
	13.8	700		10.5	842		4.1	835		-8.6	796		-18.5	842		-32.4	842		-41.6	841	
	10.4	700		6.2	835		-5.8	792		-30.1	840		-39.8	832		-49.9	546		-62.6	280	
	163	703		1527	843		3125	843		5806	843		7504	842		9592	842		10854	841	
MARCH	089	3.8	749	211	4.3	898	263	10.4	900	264	18.9	900	262	26.0	901	261	32.7	900	260	35.1	899
	16.7	769		12.9	926		6.0	926		-8.5	844		-18.6	927		-32.5	927		-41.4	926	
	13.8	768		8.5	920		-2.3	875		-28.2	924		-37.9	918		-48.3	642		-61.8	307	
	145	772		1523	926		3139	927		5822	927		7520	927		9607	927		10867	926	
APRIL	097	3.1	711	205	4.3	851	254	8.3	847	259	13.7	843	261	18.1	844	263	23.9	843	265	26.7	840
	20.6	728		15.3	896		8.2	896		-7.4	832		-17.8	895		-32.5	893		-41.8	893	
	18.0	727		10.8	886		0.1	852		-21.0	888		-31.9	888		-44.4	711		-56.2	293	
	119	746		1514	896		3144	896		5842	895		7547	895		9636	893		10897	893	
MAY	107	2.2	614	204	4.3	888	243	6.1	875	261	7.1	853	268	8.1	848	277	9.9	846	282	10.9	839
	24.3	620		17.3	925		9.8	925		-4.4	801		-15.1	922		-29.7	922		-39.5	918	
	21.7	620		13.4	925		3.1	911		-13.8	906		-25.3	920		-40.2	788		-51.7	305	
	85	772		1496	925		3136	925		5857	925		7579	923		9694	922		10968	920	
JUNE	156	1.6	318	195	4.9	844	212	5.0	827	226	2.4	820	241	0.7	810	027	1.3	811	032	2.8	810
	26.6	322		18.4	883		11.0	884		-3.1	768		-13.6	882		-28.0	880		-37.9	877	
	24.1	322		15.1	881		4.7	870		-12.6	836		-23.8	877		-38.9	753		-50.5	295	
	58	731		1477	883		3123	884		5859	886		7590	883		9718	880		11001	878	
JULY	195	1.3	307	178	4.1	894	172	3.9	891	120	3.0	883	095	4.3	876	083	6.4	868	077	8.0	870
	27.6	308		19.0	903		11.4	903		-3.2	779		-13.9	900		-28.3	897		-38.1	896	
	24.8	309		15.0	903		3.6	892		-14.3	873		-25.4	899		-40.2	762		-52.0	296	
	53	741		1474	903		3123	903		5859	903		7590	900		9715	898		10996	896	
AUGUST	109	1.0	218	147	2.7	914	148	2.4	911	096	2.5	902	088	3.5	896	081	4.6	896	073	5.6	897
	24.7	217		18.9	914		11.0	914		-3.2	789		-13.9	912		-28.3	911		-38.1	908	
	22.4	217		15.1	911		4.4	890		-13.2	875		-24.0	908		-38.5	768		-50.1	291	
	48	756		1471	914		3119	914		5855	913		7585	912		9700	911		10992	908	
SEPTEMBER	070	2.1	578	090	4.4	877	099	2.5	869	082	2.3	867	077	2.7	860	068	2.8	855	061	2.6	848
	26.0	583		17.9	895		10.3	895		-3.8	776		-14.7	894		-29.4	893		-39.3	889	
	22.4	583		13.9	893		3.2	867		-14.2	878		-26.1	894		-41.2	764		-53.5	298	
	85	745		1499	895		3141	895		5869	896		7594	894		9712	893		10988	889	
OCTOBER	062	3.7	749	082	5.7	921	080	1.6	917	271	2.2	911	273	4.0	907	274	5.8	902	276	6.7	899
	23.2	751		15.7	928		9.1	928		-5.0	805		-15.8	927		-30.8	924		-40.5	922	
	18.1	751		10.8	925		0.2	903		-17.2	921		-29.7	924		-44.6	762		-58.1	305	
	128	774		1529	928		3161	928		5877	928		7594	927		9701	924		10969	923	
NOVEMBER	051	3.7	742	076	3.9	891	273	2.7	882	259	10.2	878	262	14.6	876	262	18.4	872	262	19.9	870
	18.9	747		13.2	899		6.9	899		-6.4	786		-16.9	899		-31.5	899		-41.1	898	
	12.9	746		6.2	892		-3.5	835		-23.9	897		-34.7	895		-47.0	682		-60.5	298	
	162	749		1543	899		3160	899		5861	899		7571	899		9670	899		10935	898	
DECEMBER	058	3.4	765	074	1.5	917	265	6.8	913	262	18.2	909	263	24.0	907	262	29.4	902	261	31.2	898
	15.0	773		10.4	928		4.8	913		-7.9	859		-18.0	928		-32.4	928		-41.9	927	
	9.1	760		2.4	915		-9.2	861		-30.2	927		-39.6	922		-49.7	653		-62.9	305	
	178	773		1542	928		3143	928		5831	928		7533	928		9624	928		10884	928	
YEAR	082	2.3	7210	162	2.1	10643	250	4.4	10567	261	9.2	10477	262	12.0	10436	263	14.6	10407	264	15.4	10378
	21.0	7289		14.9	10865		8.0	10837		-6.5	9686		-16.2	10855		-30.6	10843		-40.2	10820	
	17.3	7267		10.0	10805		-0.9	10438		-21.0	10689		-31.7	10796		-44.5	8424		-57.0	3581	
	117	9034		1511	10867		3137	10869		5845	10870		7559	10857		9664	10844		10934	10825	

Legend : wind direction and speed (deg.m/s) nn  
 temperature (deg C) nn  
 dew-point (deg C) nn  
 geopotential height (gpm) nn

Note : nn = number of observations for the month for the meteorological parameter.  
 The normals were calculated base on data obtained from ascents made at 00 UTC.

Table 23. (Cont.)

Normals (1961-90) of Upper-air Data

200 hPa				'150 hPa				100 hPa				70 hPa				50 hPa				30 hPa				20 hPa				Tropopause											
254	36.8	873	252	33.6	844	261	21.0	801	264	10.1	722	272	4.4	583	066	3.2	410	109	5.0	216	260	17.8	261	-52.8	923	-65.7	907	-77.8	888	-72.9	799	-65.3	659	-52.5	452	-51.5	238	-76.5	804
-74.1	307		-86.0	303		-96.9	299		-94.8	275		-87.9	258		-83.7	216		-81.1	127		-89.7	261	12336	924	14136	912	16520	893	17941	811	20559	709	22177	523	26369	347	16059	803	
255	37.2	819	254	34.0	795	260	22.0	760	263	11.6	672	270	5.6	566	065	2.6	368	122	3.8	179	259	19.2	237	-52.8	839	-65.7	832	-77.7	817	-73.1	733	-65.3	636	-50.3	401	-50.8	209	-76.6	744
-73.1	279		-85.4	277		-96.3	273		-86.6	245		-80.5	230		-75.9	174		-73.8	91		-89.4	239	12330	840	14131	833	16514	827	17935	746	20551	672	22159	490	26336	321	16063	744	
257	35.9	895	258	32.2	878	262	20.3	831	263	10.3	761	284	4.2	635	072	2.2	438	128	3.1	238	261	17.7	261	-52.8	925	-65.5	920	-77.4	898	-73.0	827	-65.0	689	-49.8	491	-50.1	266	-76.4	825
-72.0	307		-83.9	307		-95.2	303		-86.3	266		-80.0	256		-75.7	206		-73.2	124		-88.7	263	12344	926	14145	922	16533	908	17955	847	20573	732	22184	565	26406	382	16186	824	
267	28.7	832	266	25.3	821	266	13.4	792	268	4.3	715	023	1.5	604	093	6.0	405	111	4.9	221	264	12.8	253	-52.8	890	-65.0	878	-76.6	863	-72.5	788	-64.5	674	-50.4	445	-45.7	253	-75.8	787
-68.0	293		-81.0	290		-92.7	288		-84.0	253		-78.0	236		-74.3	195		-70.8	126		-86.4	252	12373	892	14133	882	16555	872	17998	802	20625	715	22247	519	25427	350	16237	787	
289	11.7	840	297	10.4	830	331	4.1	801	066	5.9	695	084	8.8	615	093	10.1	413	095	9.5	226	323	3.5	257	-51.1	916	-64.7	905	-77.6	882	-72.8	774	-63.9	683	-49.8	450	-45.1	257	-76.5	785
-63.9	304		-77.9	303		-90.7	299		-81.3	252		-76.5	240		-73.5	200		-70.3	133		-84.2	258	12457	917	14268	908	16658	893	18073	795	20704	720	23119	528	25514	362	16296	785	
032	5.0	806	028	8.0	795	054	12.5	764	074	13.7	670	084	15.4	576	092	15.8	408	092	17.2	202	057	11.9	250	-50.2	876	-64.5	866	-77.6	839	-71.3	723	-63.4	620	-49.6	446	-45.5	223	-76.4	747
-62.2	295		-77.0	295		-90.9	292		-80.7	247		-77.0	230		-73.2	190		-71.2	115		-84.5	248	12499	876	14316	867	16704	859	18128	752	20772	653	22398	512	26638	325	16240	747	
073	10.7	867	068	14.8	861	070	19.7	811	080	19.8	742	087	21.2	622	092	22.4	437	092	22.1	205	072	17.4	248	-50.0	895	-64.2	890	-76.9	852	-70.8	785	-62.7	661	-50.3	471	-48.0	235	-78.0	808
-63.5	293		-77.6	291		-90.0	285		-87.7	246		-77.1	231		-73.8	178		-72.3	110		-83.0	249	12494	896	14313	892	16704	874	18777	795	20812	701	23220	528	26689	324	16560	808	
070	7.1	895	068	10.0	887	072	16.5	856	083	18.4	765	087	20.3	620	092	21.6	430	091	23.0	239	069	15.0	279	-50.0	908	-64.2	899	-76.6	879	-69.6	791	-62.2	646	-48.4	450	-46.4	250	-77.6	827
-62.4	290		-76.5	288		-89.5	287		-84.9	276		-84.4	256		-81.0	224		-70.5	150		-90.3	277	12490	908	14308	900	16700	891	18780	813	20824	691	22447	523	25637	345	16461	827	
058	3.0	844	062	5.0	834	071	10.5	815	083	12.8	737	088	14.8	610	092	16.9	423	093	17.6	208	070	10.2	286	-51.1	887	-64.7	876	-77.3	862	-70.7	785	-62.8	652	-48.3	449	-46.6	219	-78.4	807
-65.0	296		-79.7	294		-91.7	290		-86.3	281		-85.7	251		-82.2	216		-80.7	131		-92.6	285	12478	888	14290	881	16680	869	18748	810	20783	709	22406	525	25591	322	16593	807	
274	7.1	896	272	5.7	886	178	1.0	857	086	5.1	781	088	7.9	657	088	11.3	441	095	11.7	220	096	1.4	290	-51.9	921	-65.5	911	-78.6	890	-72.1	823	-63.1	687	-50.4	466	-46.6	234	-80.0	842
-69.5	303		-82.5	302		-95.3	301		-88.9	288		-86.9	274		-83.7	239		-81.8	138		-96.6	289	12452	922	14258	913	16636	905	18688	851	20716	730	22340	553	26574	342	16681	842	
259	20.8	867	253	19.6	851	254	11.3	818	247	2.9	741	098	1.3	642	086	5.4	439	104	5.3	232	254	10.7	285	-52.6	898	-66.1	886	-78.8	861	-73.9	790	-64.1	683	-49.2	487	-49.5	249	-80.4	804
-70.9	297		-84.1	295		-97.2	294		-91.9	285		-88.0	276		-84.1	242		-82.0	138		-98.4	284	12414	898	14214	889	16587	875	18627	810	20640	706	21467	554	26482	373	16684	804	
256	32.5	895	253	30.9	885	260	18.4	842	262	8.2	778	263	3.3	648	084	2.4	439	108	4.5	224	259	17.8	301	-53.2	927	-66.3	920	-78.0	896	-74.8	843	-64.3	723	-53.7	478	-50.1	245	-79.6	847
-73.0	305		-86.1	305		-97.5	301		-94.5	300		-88.8	289		-85.2	248		-82.5	150		-99.2	299	12359	927	14155	921	16533	909	18576	853	20582	765	22983	577	26420	360	16624	848	
262	15.4	10329	263	12.9	10167	279	4.4	9748	075	2.5	8779	085	6.2	7378	090	11.1	5051	097	11.0	2610	279	3.7	3208	-51.8	10805	-65.2	10690	-77.6	10427	-73.5	9461	-63.9	8013	-54.9	5486	-49.0	2878	-79.1	9627
-68.1	3569		-81.5	3550		-93.7	3512		-90.9	3214		-86.6	3027		-82.8	2528		-80.3	1533		-95.8	3204	12419	10814	14222	10720	16610	10575	18663	9685	20678	8503	23881	6397	26527	4153	16685	9626	