

Head 168 — HONG KONG OBSERVATORY

Controlling officer: the Director of the Hong Kong Observatory will account for expenditure under this Head.

Estimate 2001–02	\$225.7m
Establishment ceiling 2001–02 (notional annual mid-point salary value) representing an estimated 325 non-directorate posts at 31 March 2001 and at 31 March 2002.....	\$122.8m
In addition there will be an estimated five directorate posts at 31 March 2001 and at 31 March 2002.	
Capital Account commitment balance	\$1.8m

Controlling Officer's Report

Programmes

Programme (1) Weather Services	This programme contributes to Policy Area 7: Public Safety (Secretary for Economic Services).
Programme (2) Radiation Monitoring and Assessment	This programme contributes to Policy Area 9: Internal Security (Secretary for Security).
Programme (3) Time Standard and Geophysical Services	This programme contributes to Policy Area 7: Public Safety (Secretary for Economic Services).

Detail

Programme (1): Weather Services

	1999–2000 (Actual)	2000–01 (Approved)	2000–01 (Revised)	2001–02 (Estimate)
Financial provision (\$m)	187.0	189.4 (+1.3%)	191.2 (+1.0%)	192.4 (+0.6%)

Aim

2 The aim is to provide weather forecasts and issue warnings to the public, special users, the shipping community, aircraft and aviation groups in order to reduce loss of life and damage to property, and minimise disruption to economic activities during hazardous weather.

Brief Description

3 The Hong Kong Observatory's Central Forecasting Office and Airport Meteorological Office are responsible for the preparation and issue of weather information, forecasts and various warnings on hazardous weather to the public, shipping community and aviation groups. The Hong Kong Observatory also promotes public awareness of, and community preparedness on, natural disasters. This work involves:

- operating a network of mostly automated weather stations;
- carrying out real-time exchange of data with meteorological centres in the world;
- receiving meteorological satellite imageries and operating weather radar systems;
- analysing meteorological data and computing future weather by numerical modelling;
- disseminating weather information by a diversity of means;
- issuing warnings on hazardous weather such as tropical cyclones, storm surges, heavy rainstorms, landslips, flooding, thunderstorms, windshear, fire danger and extreme hot and cold conditions; and
- conducting public talks and interviews and producing publicity material on hazardous weather phenomena.

4 In 2000, the Hong Kong Observatory fulfilled its performance pledge of issuing at least one bulletin every hour of the day, disseminating the bulletins within ten minutes after each hour, and maintaining an average score of 85% or more accurate forecasts. A high-resolution numerical weather prediction model was put into operation. The weather forecast for the public was extended from a four-day forecast to a five-day forecast. A resource centre was opened for use by the general public. A computer server commenced operation to support weather-sensitive operations of government bureaux and departments. The expanded capacity of the Observatory's website allowed it to cope with a vast surge in the number of hits from the public. Aviation meteorological documents for departing flights were disseminated at least two hours before departure. Additional meteorological facilities for the back-up air traffic control centre at the Hong Kong International Airport were commissioned in early 2000.

5 The key performance measures in respect of weather services are:

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Targets

	Target	1999 (Actual)	2000 (Actual)	2001 (Plan)
% of forecast accuracy as perceived by the public	75	76	77	77
% of accurate public forecasts as verified by objective means	85	85	89	89
% of accurate forecasts as assessed by ship captains	over 90	93	93	over 90
% of accurate forecasts as assessed by airline operators	over 95	97	98	over 95

Indicators

	1999 (Actual)	2000 (Actual)	2001 (Estimate)
no. of calls answered by Dial-a-Weather system.....	24 900 000	22 900 000	23 000 000
no. of telephone enquiries answered manually	8 700	9 200	9 000
no. of enquiries answered by computerised telephone system.....	1 245 000	1 025 000	1 000 000
no. of visits to Observatory homepages by the public	23 000 000	49 000 000	60 000 000
no. of companies and organisations subscribing to special weather and warning services	39	44	44
total revenue from above subscribers (\$m)	1.3	1.3	1.3
no. of media interviews and public lectures/talks on weather.	1 277	1 100	1 100
no. of meteorological documents for flights departing Hong Kong	89 609	94 071	97 000
no. of visits to the aviation weather information system.....	2 500 000	2 900 000	3 000 000

Matters Requiring Special Attention in 2001–02

6 During 2001–02, the department will:

- enhance the contents and the delivery of weather services through the website, including accessibility to mobile phone users and the visually impaired, expansion of official weather information on overseas cities for the travelling public and radar-based weather images;
- promote public awareness and preparedness regarding natural disasters;
- make preparations for the next generation of numerical weather prediction model with emphasis on forecasting heavy rain;
- implement facilities for receiving cloud pictures from polar-orbiting satellites as a measure to back-up reception from the geostationary meteorological satellites;
- continue to enhance the aviation weather services making use of current technology to meet the needs of users;
- install equipment to detect windshear and turbulence under fine weather condition;
- complete evaluation of the windshear and turbulence warning system and further improve its performance; and
- carry out a pilot study for seasonal weather forecast.

Programme (2): Radiation Monitoring and Assessment

	1999–2000 (Actual)	2000–01 (Approved)	2000–01 (Revised)	2001–02 (Estimate)
Financial provision (\$m)	25.2	23.9 (–5.2%)	23.8 (–0.4%)	24.1 (+1.3%)

Aim

7 The aim is to provide information on environmental radiation levels in Hong Kong and advise Government on the protective action that may be necessary during nuclear emergencies.

Brief Description

8 The Hong Kong Observatory monitors ambient radiation levels in Hong Kong and conducts radiological measurements on air, soil, water and food samples. In the event of a nuclear emergency, the Hong Kong Observatory will provide notification and advice to Government on the possible consequences in Hong Kong and recommend

protective action. The Hong Kong Observatory also organises training and exercises on radiation monitoring for other government departments involved in the Hong Kong contingency plan for nuclear emergencies. This work involves:

- operating a network of radiation monitoring stations, an aerial monitoring system, a radiological survey vehicle, a radiation laboratory and an emergency radiation data management system;
- keeping abreast of the latest development on the methodology for nuclear accident consequence assessment; and
- planning and participating in exercises and drills in response to nuclear emergencies.

9 In 2000, all radiation monitoring and assessment work in this programme was carried out satisfactorily. All equipment was maintained in a state of readiness.

10 Key indicators of performance are:

- the ability to maintain round-the-clock operation of a network of radiation monitoring stations in order to give an early indication of abnormal radiation increase that may affect Hong Kong;
- the ability to maintain readiness of all radiation monitoring equipment of the department for timely response to nuclear emergencies;
- the training of a sufficient number of staff ready for immediate deployment in the event of nuclear emergencies; and
- the ability to provide professional advice to Government on protective action that may be necessary during nuclear emergencies.

Matters Requiring Special Attention in 2001–02

11 During 2001–02, the department will continue to:

- implement the agreed arrangements between Hong Kong and Guangdong on radiation monitoring and assessment;
- conduct in conjunction with other departments drills and exercises on emergency response; and
- organise training on radiation monitoring and assessment.

Programme (3): Time Standard and Geophysical Services

	1999–2000 (Actual)	2000–01 (Approved)	2000–01 (Revised)	2001–02 (Estimate)
Financial provision (\$m)	8.8	9.0 (+2.3%)	8.8 (–2.2%)	9.2 (+4.5%)

Aim

12 The aim is to maintain the Hong Kong time standard and provide geophysical, oceanographical, astronomical and climatological information to the user community.

Brief Description

13 The Hong Kong Observatory maintains the Hong Kong time standard and provides time signals for radio broadcasts. It prepares, collates and provides geophysical, oceanographical and climatological information required for engineering planning, design and environmental impact assessments. It also keeps abreast of research and development on international issues such as global climate effects and advises Government on likely implications. This work involves:

- maintaining a caesium beam clock as the Hong Kong time standard and providing time signals for radio broadcasts and internet services;
- operating seismological, tide and water level monitoring networks and conducting data analyses;
- compiling climatological and other data; and
- providing updates on the effects of El Niño and other longer term weather phenomena on Hong Kong.

14 In 2000, the objectives and targets of this programme were generally met.

15 The key performance measures in respect of time standard and geophysical services are:

Targets

	Target	1999 (Actual)	2000 (Actual)	2001 (Plan)
time standard accuracy (microseconds per day).....	0.1	0.1	0.1	0.1

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	Target	1999 (Actual)	2000 (Actual)	2001 (Plan)
geophysical, meteorological and oceanographical data capture rate(%)	95	95	96	96

Indicators

	1999 (Actual)	2000 (Actual)	2001 (Estimate)
no. of visits to the Observatory Internet time service.....	15 000 000	58 000 000	50 000 000
no. of requests for geophysical, climatological and oceanographical information and advice.....	1 310	1 270	1 200

Matters Requiring Special Attention in 2001–02

16 During 2001–02, the department will:

- continue to provide information and data to users efficiently and through user-friendly means; and
- keep abreast of earthquake risk assessment in the region.

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ANALYSIS OF FINANCIAL PROVISION

Programme	1999–2000 (Actual) (\$m)	2000–01 (Approved) (\$m)	2000–01 (Revised) (\$m)	2001–02 (Estimate) (\$m)
(1) Weather Services	187.0	189.4	191.2	192.4
(2) Radiation Monitoring and Assessment	25.2	23.9	23.8	24.1
(3) Time Standard and Geophysical Services ...	8.8	9.0	8.8	9.2
	<u>221.0</u>	<u>222.3</u> (+0.6%)	<u>223.8</u> (+0.7%)	<u>225.7</u> (+0.8%)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2001–02 is \$1.2 million (0.6%) higher than the revised estimate for 2000–01. This is mainly due to salary increments for existing staff and the increased requirement for non-recurrent items in 2001–02 for the conduct of trials on aviation weather data exchange under the satellite-based Communications, Navigation, Surveillance and Air Traffic Management Systems and promotion of public awareness and preparedness on natural disasters, partly offset by decreased expenditure on general departmental expenses and reduced payments to PCCW-HKT International Limited under the Technical Services Agreement as a result of the Enhanced Productivity Programme.

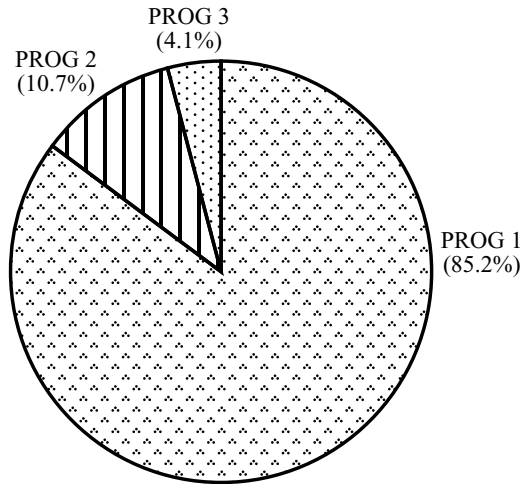
Programme (2)

Provision for 2001–02 is \$0.3 million (1.3%) higher than the revised estimate for 2000–01. This is mainly due to salary increments for existing staff.

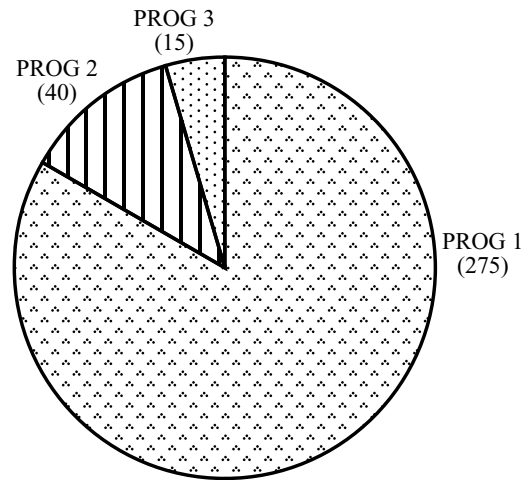
Programme (3)

Provision for 2001–02 is \$0.4 million (4.5%) higher than the revised estimate for 2000–01. This is mainly due to salary increments for existing staff and the one-off provision in 2001–02 for replacement of the tube of the caesium beam clock, partly offset by decreased expenditure on general departmental expenses.

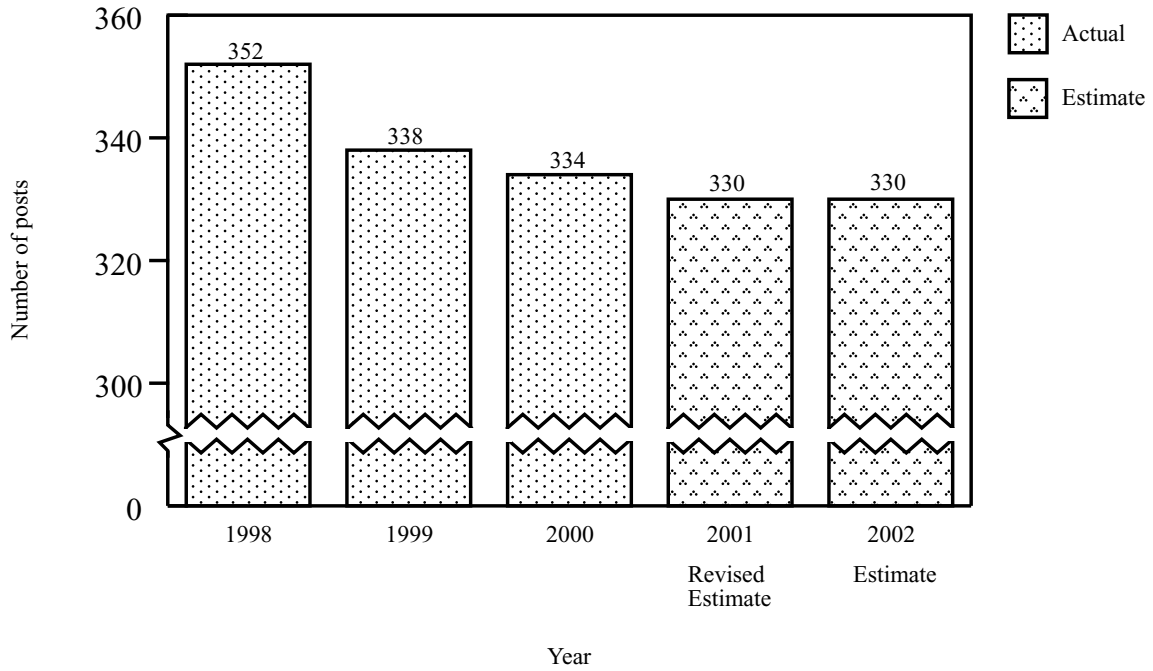
Allocation of provision to programmes (2001-02)



Staff by programme (as at 31 March 2002)



Changes in the size of the establishment (as at 31 March)



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Sub-head (Code)	Actual expenditure 1999–2000	Approved estimate 2000–01	Revised estimate 2000–01	Estimate 2001–02	
	\$' 000	\$' 000	\$' 000	\$'000	
Recurrent Account					
I — Personal Emoluments					
001	Salaries	139,047	140,318	141,550	144,738
002	Allowances	2,755	2,971	2,078	2,104
007	Job-related allowances	543	629	629	648
	Total, Personal Emoluments	<u>142,345</u>	<u>143,918</u>	<u>144,257</u>	<u>147,490</u>
III — Departmental Expenses					
102	Technical Services Agreement	9,490	9,876	6,300	4,000
149	General departmental expenses	64,536	68,091	70,747	70,704
	Total, Departmental Expenses	<u>74,026</u>	<u>77,967</u>	<u>77,047</u>	<u>74,704</u>
V — Subventions					
463	World Meteorological Organisation	64	84	84	84
	Total, Subventions	<u>64</u>	<u>84</u>	<u>84</u>	<u>84</u>
	Total, Recurrent Account	<u>216,435</u>	<u>221,969</u>	<u>221,388</u>	<u>222,278</u>
Capital Account					
I — Plant, Equipment and Works					
661	Minor plant, vehicles and equipment (block vote)	4,517	300	1,990	2,230
	Total, Plant, Equipment and Works	<u>4,517</u>	<u>300</u>	<u>1,990</u>	<u>2,230</u>
II — Other Non-Recurrent					
700	General other non-recurrent	—	—	400	1,200
	Total, Other Non-Recurrent	<u>—</u>	<u>—</u>	<u>400</u>	<u>1,200</u>
	Total, Capital Account	<u>4,517</u>	<u>300</u>	<u>2,390</u>	<u>3,430</u>
	Total Expenditure	<u><u>220,952</u></u>	<u><u>222,269</u></u>	<u><u>223,778</u></u>	<u><u>225,708</u></u>

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Details of Expenditure by Subhead

The estimate of the amount required in 2001–02 for the salaries and expenses of the Hong Kong Observatory is \$225,708,000. This represents an increase of \$1,930,000 over the revised estimate for 2000–01 and of \$4,756,000 over actual expenditure in 1999–2000.

Recurrent Account

Personal Emoluments

2 Provision of \$147,490,000 for personal emoluments represents an increase of \$3,233,000 over the revised estimate for 2000–01.

3 The establishment at 31 March 2001 will be 330 permanent posts. No change in establishment is expected by 31 March 2002.

4 Subject to certain conditions, the controlling officer may under delegated powers create or delete non-directorate posts during 2001–02, but the notional annual mid-point salary value of all such posts must not exceed \$122,830,000.

5 Provision of \$2,104,000 under *Subhead 002 Allowances* is for standard allowances.

6 Provision of \$648,000 under *Subhead 007 Job-related allowances* represents an increase of \$19,000 (3.0%) over the revised estimate for 2000–01. This is mainly due to the increased requirement for Extraneous Duties and On-call Duty allowances.

Departmental Expenses

7 Provision of \$4,000,000 under *Subhead 102 Technical Services Agreement (TSA)* is for payments to PCCW-HKT International Limited for the provision of services under the TSA. The decrease of \$2,300,000 (36.5%) against the revised estimate for 2000–01 is mainly due to reduction in the requirement for TSA services as a result of the Enhanced Productivity Programme.

Subventions

8 Provision of \$84,000 under *Subhead 463 World Meteorological Organisation* is to meet the annual contribution to the World Meteorological Organisation, based on an agreed share of the Organisation's running expenses. Through membership of the Organisation, Hong Kong receives timely meteorological data and prognostic information essential for the forecasting operations and warning services of the Observatory. Other benefits are assistance on state-of-the-art techniques in operational weather forecasting, and publications regarding international standards in meteorological services and the latest scientific development.

Capital Account

Plant, Equipment and Works

9 Provision of \$2,230,000 under *Subhead 661 Minor plant, vehicles and equipment (block vote)* represents an increase of \$240,000 (12.1%) over the revised estimate for 2000–01. This is mainly due to the need to procure new and replacement equipment in 2001–02.

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Capital Account

Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2000	Revised estimated expenditure for 2000-01	Balance
			\$ 000	\$ 000	\$ 000	\$ 000
700		<i>General other non-recurrent</i>				
	246	Hiring of international experts to review the windshear facilities and services at the Hong Kong International Airport.....	972	—	400	572
	247	To promote public awareness and preparedness regarding natural disasters.....	1,200	—	—	1,200
		Total	<u>2,172</u>	<u>—</u>	<u>400</u>	<u>1,772</u>