

Head 168 — HONG KONG OBSERVATORY

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

Estimate 2002–03	\$227.3m
Establishment ceiling 2002–03 (notional annual mid-point salary value) representing an estimated 323 non-directorate posts at 31 March 2002 reducing by three posts to 320 posts at 31 March 2003	\$126.5m
In addition there will be an estimated five directorate posts at 31 March 2002 and at 31 March 2003.	
Capital Account commitment balance	\$1.3m

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

	2000–01 (Actual)	2001–02 (Approved)	2001–02 (Revised)	2002–03 (Estimate)
Financial provision (\$m)	185.8	192.4 (+3.6%)	194.2 (+0.9%)	193.2 (–0.5%)

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 2001, 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. The capacity of the Observatory's website was expanded significantly to cope with the strong surge in demand especially during typhoon passages. An audio version of the website was introduced to facilitate access by the visually handicapped. A Wireless Application Protocol (WAP) version was also implemented to allow access by mobile phones using the appropriate protocol. The contents of the website were continually enriched, including radar-based weather images. A six-part television series was produced and screened to promote public preparedness for natural disasters. Facilities for receiving cloud pictures from polar-orbiting satellites were installed. Aviation meteorological documents for departing flights were disseminated at least two hours before take-off. Broadband access was made available to users of the Observatory's web-based aviation weather information system.

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The windshear and turbulence alerting service had been evaluated and further improved. Installation of equipment to detect windshear and turbulence under fine weather will start in early 2002.

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

Targets

	Target	2000 (Actual)	2001 (Actual)	2002 (Plan)
% of forecast accuracy as perceived by the public	75	77	77	77
% of accurate public forecasts as verified by objective means	85	89	85	85
% of accurate forecasts as assessed by ship captains	over 90	93	93	over 90
% of accurate forecasts as assessed by airline operators	over 95	98	98	over 95

Indicators

	2000 (Actual)	2001 (Actual)	2002 (Estimate)
no. of calls answered by Dial-a-Weather system	22 900 000	23 000 000	23 000 000
no. of telephone enquiries answered manually	9 200	55 000 [^]	55 000
no. of enquiries answered by computerised telephone system	1 025 000	981 000	1 000 000
no. of visits to Observatory homepages by the public	49 000 000	113 000 000	160 000 000
no. of companies and organisations subscribing to special weather and warning services	44	43	43
total revenue from above subscribers (\$m)	1.3	1.4 ⁺	1.4
no. of media interviews and public lectures/talks on weather.	1 100	1 063	1 100
no. of meteorological documents for flights departing Hong Kong	94 071	102 229	102 000
no. of visits to the aviation weather information system	2 900 000	3 200 000	3 200 000

[^] The number of telephone enquiries increased mainly because there were a greater number of tropical cyclones in 2001.

⁺ The revenue per subscription was higher in 2001 due to wider scope of service.

Matters Requiring Special Attention in 2002–03

6 During 2002–03, the department will:

- enhance the contents of the Observatory website and further develop the delivery of weather services through the internet, including expansion of official weather information on overseas cities for the travelling public, and enhancement of the weather satellite information service;
- make preparations for the next generation of numerical weather prediction model with emphasis on forecasting heavy rain;
- continue to promote public awareness and preparedness regarding natural disasters;
- continue to enhance the aviation weather services making use of current technology to meet users' needs;
- complete installation of equipment to detect windshear and turbulence under fine weather conditions;
- start implementation of ISO standards in aviation weather service; and
- complete a pilot study on seasonal weather forecasting.

Programme (2): Radiation Monitoring and Assessment

	2000–01 (Actual)	2001–02 (Approved)	2001–02 (Revised)	2002–03 (Estimate)
Financial provision (\$m)	23.5	24.1 (+2.6%)	24.6 (+2.1%)	24.9 (+1.2%)

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 2001, 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 the Government on protective action that may be necessary during nuclear emergencies.

Matters Requiring Special Attention in 2002–03

11 During 2002–03, the department will:

- continue to implement the agreed arrangements between Hong Kong and Guangdong on radiation monitoring and assessment;
- continue to conduct in conjunction with other departments drills and exercises on emergency response;
- continue to organise training on radiation monitoring and assessment; and
- produce a public education video and a webpage on nuclear emergency preparedness in Hong Kong.

Programme (3): Time Standard and Geophysical Services

	2000–01 (Actual)	2001–02 (Approved)	2001–02 (Revised)	2002–03 (Estimate)
Financial provision (\$m)	8.9	9.2 (+3.4%)	9.5 (+3.3%)	9.2 (–3.2%)

Aim

12 The aim is to maintain the Hong Kong time standard and to 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 change and advises the 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, automatic telephone answering 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 2001, the objectives and targets of this programme were generally met.

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

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Targets

	Target	2000 (Actual)	2001 (Actual)	2002 (Plan)
time standard accuracy (microseconds per day).....	0.1	0.1	0.1	0.1
geophysical, meteorological and oceanographical data capture rate (%)....	95	96	98	96

Indicators

	2000 (Actual)	2001 (Actual)	2002 (Estimate)
no. of visits to the Observatory internet time service.....	58 000 000	127 000 000	150 000 000
no. of requests for geophysical, climatological and oceanographical information and advice.....	1 270	1 181	1 100

Matters Requiring Special Attention in 2002–03

16 During 2002–03, 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	2000-01 (Actual) (\$m)	2001-02 (Approved) (\$m)	2001-02 (Revised) (\$m)	2002-03 (Estimate) (\$m)
(1) Weather Services	185.8	192.4	194.2	193.2
(2) Radiation Monitoring and Assessment.....	23.5	24.1	24.6	24.9
(3) Time Standard and Geophysical Services ..	8.9	9.2	9.5	9.2
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	218.2	225.7 (+3.4%)	228.3 (+1.2%)	227.3 (-0.4%)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2002-03 is \$1.0 million (0.5%) lower than the revised estimate for 2001-02. This is mainly due to a reduction in requirements for non-recurrent items.

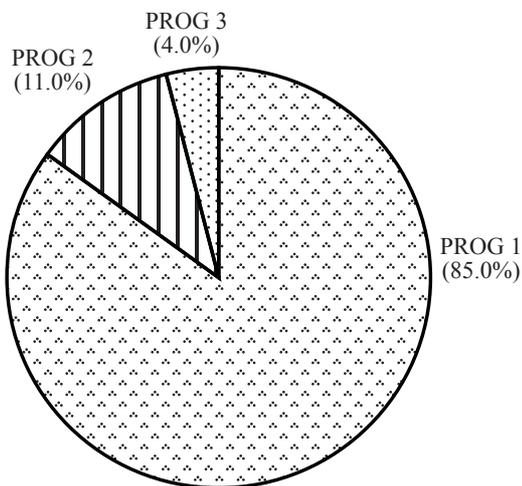
Programme (2)

Provision for 2002-03 is \$0.3 million (1.2%) higher than the revised estimate for 2001-02. This is mainly due to salary increments for staff.

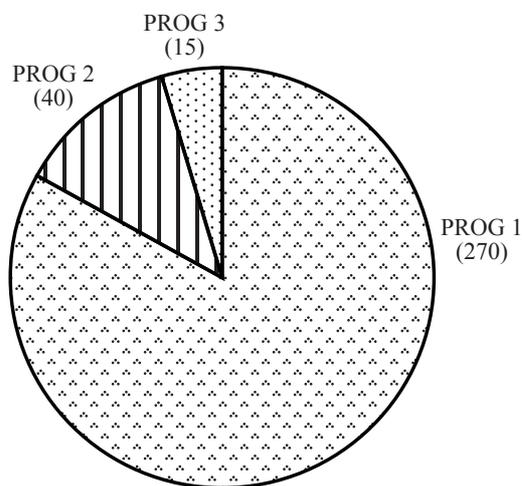
Programme (3)

Provision for 2002-03 is \$0.3 million (3.2%) lower than the revised estimate for 2001-02. This is mainly due to reduced requirements for replacement of worn-out equipment.

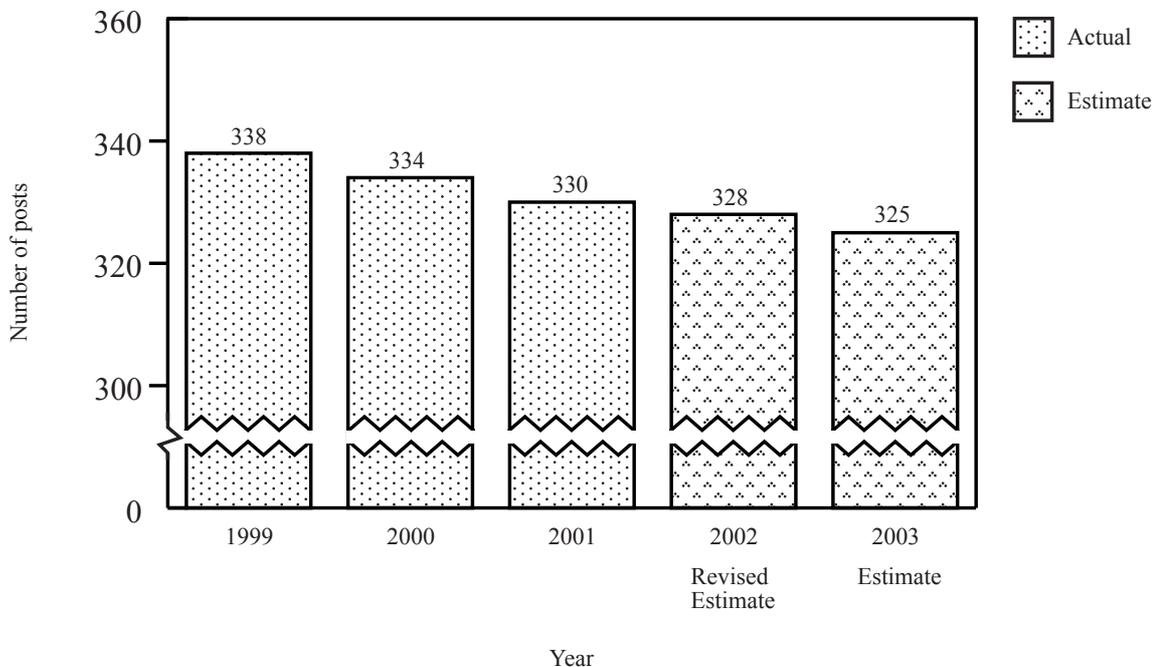
Allocation of provision to programmes (2002-03)



Staff by programme (as at 31 March 2003)



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



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Sub-head (Code)	Actual expenditure 2000-01	Approved estimate 2001-02	Revised estimate 2001-02	Estimate 2002-03	
	\$'000	\$'000	\$'000	\$'000	
Recurrent Account					
I — Personal Emoluments					
001	Salaries	141,857	144,738	149,428	151,326
002	Allowances	1,354	2,104	2,163	2,323
007	Job-related allowances	491	648	511	530
	Total, Personal Emoluments	<u>143,702</u>	<u>147,490</u>	<u>152,102</u>	<u>154,179</u>
III — Departmental Expenses					
102	Technical Services Agreement	5,544	4,000	3,000	3,000
149	General departmental expenses	66,566	70,704	67,917	68,798
	Total, Departmental Expenses	<u>72,110</u>	<u>74,704</u>	<u>70,917</u>	<u>71,798</u>
V — Subventions					
463	World Meteorological Organisation	59	84	84	84
	Total, Subventions	<u>59</u>	<u>84</u>	<u>84</u>	<u>84</u>
	Total, Recurrent Account	<u>215,871</u>	<u>222,278</u>	<u>223,103</u>	<u>226,061</u>
Capital Account					
I — Plant, Equipment and Works					
	Minor plant, vehicles and equipment (block vote)	1,978	2,230	3,690	—
	Total, Plant, Equipment and Works	<u>1,978</u>	<u>2,230</u>	<u>3,690</u>	<u>—</u>
II — Other Non-Recurrent					
700	General other non-recurrent	337	1,200	1,500	1,280
	Total, Other Non-Recurrent	<u>337</u>	<u>1,200</u>	<u>1,500</u>	<u>1,280</u>
	Total, Capital Account	<u>2,315</u>	<u>3,430</u>	<u>5,190</u>	<u>1,280</u>
	Total Expenditure	<u><u>218,186</u></u>	<u><u>225,708</u></u>	<u><u>228,293</u></u>	<u><u>227,341</u></u>

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Details of Expenditure by Subhead

The estimate of the amount required in 2002–03 for the salaries and expenses of the Hong Kong Observatory is \$227,341,000. This represents a decrease of \$952,000 against the revised estimate for 2001–02 and an increase of \$9,155,000 over actual expenditure in 2000–01.

Recurrent Account

Personal Emoluments

2 Provision of \$154,179,000 for personal emoluments represents an increase of \$2,077,000 over the revised estimate for 2001–02.

3 The establishment at 31 March 2002 will be 328 permanent posts. It is expected that three time-limited posts will be deleted in 2002–03.

4 Subject to certain conditions, the controlling officer may under delegated powers create or delete non-directorate posts during 2002–03, but the notional annual mid-point salary value of all such posts must not exceed \$126,466,000.

5 Provision of \$2,323,000 under *Subhead 002 Allowances* represents an increase of \$160,000 (7.4%) over the revised estimate for 2001–02. This is mainly due to an increased requirement for acting allowance associated with the filling of vacant posts.

6 Provision of \$530,000 under *Subhead 007 Job-related allowances* is for standard job-related allowances.

Departmental Expenses

7 Provision of \$3,000,000 under *Subhead 102 Technical Services Agreement (TSA)* is for payments to Reach Networks Hong Kong Limited for the provision of services under the TSA.

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.

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Capital Account

Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2001	Revised estimated expenditure for 2001-02	Balance
			\$'000	\$'000	\$'000	\$'000
700		<i>General other non-recurrent</i>				
	248	Replacement of TV Weather Graphics System	490	—	—	490
	249	Production of a bilingual book to commemorate the 120 th Anniversary of the Hong Kong Observatory	1,090	—	300	790
		Total.....	<u>1,580</u>	<u>—</u>	<u>300</u>	<u>1,280</u>