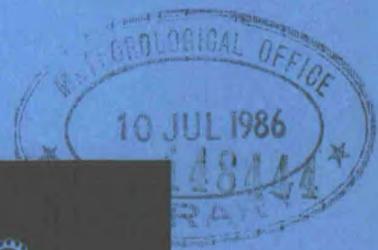


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London Road, Bracknell  
Berkshire RG12 2SZ

METEOROLOGICAL OFFICE

ANNUAL REPORT  
1985

STATISTICS

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TABLE I — NUMBER OF OFFICES OF VARIOUS TYPES STAFFED BY THE METEOROLOGICAL OFFICE AND OPERATING ON 31 DECEMBER 1985

	Within UK	Overseas
Principal Forecasting Offices <sup>1</sup> associated with the RAF .....	1	—
Main Meteorological Offices <sup>2</sup> associated with the RAF .....	3	2
Area Meteorological Offices <sup>3</sup> associated with the RAF .....	2	1
Subsidiary offices <sup>4</sup> associated with the RAF .....	25	5
Subsidiary offices associated with the Army .....	3	1
Subsidiary offices associated with MOD(PE) .....	6	—
Observing offices <sup>5</sup> associated with the RAF .....	5	1
Observing offices associated with MOD(PE) .....	3	—
Principal Forecasting Offices associated with civil aviation .....	1	—
Main Meteorological Offices associated with civil aviation/ public services .....	6	—
Subsidiary offices associated with civil aviation/ public services .....	10	—
Observing offices associated with civil aviation .....	13	—
Upper-air observing offices <sup>6</sup> .....	8	1
CRDF offices <sup>7</sup> .....	4	1
Port Meteorological Offices <sup>8</sup> .....	7	—
Offices associated with the Agricultural Development and Advisory Service, MAFF .....	6	—
Other offices <sup>9</sup> .....	10	—

*Notes*

1. A Principal Forecasting Office (PFO) meets the needs of aircraft flying over long distances. A PFO operates throughout the 24 hours and provides technical guidance for Main, Area and Subsidiary Meteorological Offices.
2. A Main Meteorological Office operates throughout the 24 hours for the benefit of aviation and public services and normally supervises the work of subsidiary offices.
3. An Area Meteorological Office operates throughout the 24 hours for the benefit of military aviation and normally provides a forecasting and warning service for Defence locations where there is no Meteorological Office presence.
4. A Subsidiary Meteorological Office is open for that part of the day necessary to meet local requirements.
5. At an observing office no forecaster is available.
6. An upper-air office may be located with an office of another type if this allows common supporting resources to be used.
7. Cathode Ray Direction Finding (CRDF) offices form the network for thunderstorm location.
8. Port Meteorological Offices are maintained at the bigger ports.
9. Other offices, outside Bracknell, include climatological offices in Edinburgh and Belfast and offices collocated with research establishments.

TABLE II — OCEAN WEATHER SHIPS

To meet the United Kingdom obligations under the WMO Agreement for the Joint Financing of the North Atlantic Ocean Stations (NAOS), the Office operated one ocean weather ship. This was employed to man ocean station 'L' (57°00'N, 20°00'W), one of the four stations of the network, together with the Netherlands' ocean weather ship, each ship spending an average 30 and 26 days respectively on station each voyage. The station was manned for a total of 192½ days by the UK ocean weather ship in 1985 which was also on passage for 35 days. Two ships from France, one from Norway and five from the USSR served at the other three stations.

TABLE III — MERCHANT SHIPS AND SEA STATIONS

A total of about 7750 ships of the merchant navies of the world make and transmit meteorological reports to the appropriate meteorological centres ashore under arrangements co-ordinated by the World Meteorological Organization. Most of them, including British ships, do this on a voluntary basis. Ships which report in full at four specified times daily are known as 'selected ships'; those which report at the same time daily, but in a less complete form, are known as 'supplementary ships'. A number of coasting vessels, lightships, distant-water trawlers, 'auxiliary ships', platforms, rigs and buoys also make and transmit meteorological observations.

On 31 December 1985 the numbers of British ships reporting were:

Selected ships .....	416
Supplementary ships (including 1 trawler) .....	9
Coasting vessels .....	54
Lightships (including 1 light-tower) .....	10
Auxiliary ships .....	4
Oil rigs and platforms .....	28
Total .....	521

The British Voluntary Observing Fleet includes ships of many shipping companies, and the numbers on the various routes are as follows:

UK to Australasia .....	14
UK to Far East .....	25
UK to Persian Gulf .....	8
UK to South Africa .....	8
UK to West Indies .....	11
UK to Atlantic coast of North America .....	31
UK to Pacific coast of North America .....	3
UK to South America .....	6
UK to European ports .....	59
UK to Falkland Islands and Antarctica .....	1
World-wide trading and miscellaneous .....	318

During a typical 5-day period in June, the average daily numbers of reports from ships and sea stations received at Bracknell were as follows:

	Reports	
	1984	1985
Direct reception from:		
British ships .....	175	203
Foreign ships .....	162	173
Rigs, platforms, buoys .....	92	180
Total .....	429	556

Total number of reports received by geographical location:

Eastern North Atlantic .....	918	916
Western North Atlantic .....	653	723
Mediterranean .....	115	134
North Sea .....	329	479
Arctic Ocean .....	95	104
North Pacific .....	1055	1330
All other waters .....	578	670
Total .....	3743	4356

TABLE IV — CLASSIFICATION OF STATIONS SUPPLYING CLIMATOLOGICAL INFORMATION

For climatological purposes, data are obtained not only from official sources but also from very many stations which are not part of the Meteorological Office. This table shows the distribution on 31 December 1985 of stations which supply climatological information, classified under the following headings:

- Met O Synoptic — stations manned by professional meteorologists.
- Auxiliary Synoptic — stations manned by non-Meteorological Office staff whose observations are used primarily in weather forecasting.
- Climatological — stations run by individuals or organizations co-operating voluntarily with the Meteorological Office and fulfilling the minimum requirements of reporting extreme temperatures and rainfall.
- Agrometeorological — climatological stations at establishments primarily concerned with agriculture.
- Holiday Resorts — stations participating in a scheme whereby information is sent daily to the Meteorological Office for communication to the Press.
- SAWS — Synoptic Automatic Weather Stations.

The areas and titles of the districts are those used in the *Monthly Weather Report*.

	STATIONS SUPPLYING RETURNS					STATIONS SUPPLYING AUTOGRAPHIC RECORDS				
	<i>Met O Synoptic</i>	<i>Auxiliary Synoptic</i>	<i>Climatological</i>	<i>Agrometeorological</i>	<i>Holiday Resorts</i>	<i>Rainfall</i> *	<i>Sunshine</i>	<i>Rainfall</i>	<i>Wind</i>	<i>SAWS</i>
Scotland, north .....	8	11	30	0	0	315	25	16	17	2
Scotland, east .....	5	9	46	9	1	429	33	20	15	0
Scotland, west .....	5	11	45	2	0	472	24	24	16	2
England, east and north-east ...	9	4	13	6	4	459	18	14	14	1
East Anglia .....	10	0	15	12	4	413	28	22	11	2
Midland Counties .....	10	8	33	15	1	644	39	24	21	3
England, south-east and central southern .....	18	8	26	20	13	697	55	27	24	1
England, south-west .....	8	10	23	6	12	586	37	19	12	1
England, north-west .....	6	5	14	1	2	416	27	23	13	4
Isle of Man .....	1	1	0	0	1	17	3	1	3	0
Wales, north .....	1	4	12	2	2	160	10	5	4	1
Wales, south .....	6	6	13	5	1	172	14	14	5	1
Channel Islands .....	2	0	1	0	22	17	5	2	2	0
Northern Ireland .....	2	6	47	10	0	257	27	52	10	2
Total .....	91	83	318	88	43	5054	345	264	167	20

\* Includes stations in earlier columns.

TABLE V — HEIGHTS REACHED IN UPPER-AIR ASCENTS

The following table shows the number of upper-air ascents giving observations of (a) temperature, pressure and humidity and (b) wind, which have reached specified heights, and the height performance of the largest balloons.

	Number of Observations	Percentage of all balloons reaching				Percentage of largest balloons reaching
		100 mb (16 000 m approx.)	50 mb (20 000 m approx.)	30 mb (24 000 m approx.)	10 mb (30 000 m approx.)	10 mb (30 000 m approx.)
<i>(a) Temperature, pressure and humidity:</i>						
8 stations in the UK .....	5 814	97.75	93.88	80.20	20.24	50.69
1 station overseas .....	727	98.76	95.60	84.18	48.01	62.68
1 Ocean Weather Ship .....	847	98.47	94.69	88.55	25.27	—
<i>(b) Wind:</i>						
8 stations in the UK .....	11 582	98.98	94.43	70.95	9.41	46.18
1 station overseas .....	1 458	98.77	96.36	80.38	22.43	57.86
1 Ocean Weather Ship .....	847	97.52	93.27	86.07	19.83	—

TABLE VI — THUNDERSTORM LOCATION

Number of thunderstorm positions reported by CRDF network in 1985 ..... 19 205

TABLE VII — METEOROLOGICAL COMMUNICATION TRAFFIC

National and international exchanges of meteorological information are effected over land-line, satellite, and radio links.

Observational and processed data provided by major analysis and forecast centres and carried as characters in coded messages have for many years comprised the greater part of the traffic. However, 1985 has seen a significant increase in data exchanged in coded messages (GRIB) using a binary transmission and also the exchange of 'pictorial' information in a binary form (picture files, radar information). Although these newer types of message do not allow a true calculation of characters per message, the number of 8 bit bytes (or octets) have been calculated to give some equivalence to number of characters. Using this premise, the average content of a message is 810 characters — though message lengths vary considerably.

A considerable amount of pictorial information is exchanged by facsimile. Analogue transmission methods are still used for radio facsimile and the majority of land-line facsimile broadcasts but the number of multiplexed links using digital methods has increased.

The following figures are taken from an analysis of the traffic handled by the Meteorological Telecommunication Centre, Bracknell, on a typical day (24 hours) in November 1985. Corresponding totals for 1984 are also shown.

	Number of messages/products in one day			Total in 1984
	In	Out	Total	
<b>Coded messages:</b>				
Radio transmission .....		1 124	1 124	2 540
All other transmission methods .....	43 837	163 796	207 633	185 844
<b>Facsimile products (pictorial format):</b>				
Radio transmission .....	40	140	180	171
All other transmission methods .....	253	1 361	1 614	1 489

*Notes*

1. The increase in the total for land-line teleprinter and data transmission messages is mainly due to the introduction of many new numeric model products in GRID or GRIB codes.

2. This increase in large bulletins of processed products has resulted in an increase of the average message length from 710 to 810 characters.

3. The procedures used for transmission of meteorological information continue to increase in variety and complexity. A slight change in presentation of the results above has been introduced this year. 'Radio transmission' is taken to mean only the coded messages output to the GFL RTT broadcast or the facsimile products output to the GFA and GFE radio facsimile broadcasts.

TABLE VIII — SPECIAL SEASONAL FORECASTS

There is a need for forecasts of a special type at certain seasons. Services for local authority road maintenance have expanded considerably for winter 1985/86 with many recipients taking more than one service and showing an increasing preference for routine forecasts over road danger warnings. The numbers of customers receiving specialized seasonal services are as follows:

	Year	Number of customers	Year	Number of customers
Consultancy services to farmers and growers (including lamb wind chill) .....	1984	375	1985	798
Weekend temperature forecasts (a winter service primarily for industrialists) .....	1984/85	77	1985/86	78
Winter road danger warnings .....	1984/85	319	1985/86	240
Consultancy or forecast services (concerning road conditions) ...	1984/85	130	1985/86	292

TABLE IX — FORECASTS FOR AVIATION

Forecasting for aviation constitutes the primary function of many meteorological offices.

The following figures indicate the number of forecasts issued for aviation and the numbers of meteorological briefings that took place during 1984 and 1985. These do not include the numerical forecasts for civil aviation issued direct to RAFCs at Washington, Paris and Frankfurt, or those to British Airways, Scandinavian Airline System, JAL, PAA, SITA, ARINC, the CAA APOLLO computer unit and Eurocontrol Maastricht. Warnings and routine general forecasts are not included.

	1984	1985
Number of meteorological briefings for aviation in the United Kingdom .....	303 641	247 468
aviation at overseas stations .....	51 237	52 939
Number of aviation forecasts issued for aviation in the United Kingdom .....	2 021 749	2 084 542
aviation at overseas stations .....	275 340	280 163

TABLE X — NON-AVIATION ENQUIRIES

Non-aviation enquiries are handled by 16 Public Service Offices comprising ten Weather Centres, four offices attached to civil airfields, one office based at an RAF station and a specialized unit operating from Sella Ness. Further limited support comes from stations mainly dedicated to Defence or civil aviation needs. The main task in Public Services involves answering requests for forecasts and other weather information from the general public, Press, public corporations, commercial firms, etc. These enquiries, most of which refer to current or future weather, are listed below according to the purpose of the enquiry.

	1984	1985
Total number of non-aviation inquiries	1 642 230	1 451 215
Percentage relating to:		
agriculture .....	10.0	11.1
building .....	3.2	3.3
commerce, industry .....	5.8	6.5
holidays .....	11.6	10.6
marine matters .....	15.7	11.8
Press .....	18.1	20.7
public utilities .....	10.7	11.8
road transport .....	4.3	5.3
other known purposes .....	10.2	5.9
unknown purposes .....	10.4	13.0

TABLE XI — FLASH WEATHER MESSAGES

FLASH weather messages are passed to the BBC and to most independent broadcasting companies for inclusion in their programs at a convenient break. They are, effectively, warnings of the actual occurrence of weather conditions which might cause considerable inconvenience to a large number of people. The following table shows the kind of weather and areas for which FLASH messages are broadcast and the number issued in 1985.

	Dense fog	Moderate or heavy snow	Heavy rain	Glazed frost and icy roads	Severe inland gales	Blizzards	Strong winds
Edinburgh and south-east							
Scotland .....	—	—	2	—	—	—	—
Glasgow and south-west							
Scotland .....	—	1	—	—	—	—	—
Belfast and Northern							
Ireland .....	2	—	1	1	—	—	—
Industrial north-east							
England .....	—	—	—	—	—	—	—
Industrial Lancashire and							
Merseyside .....	2	1	—	—	—	—	—
Industrial Midlands .....	—	1	—	—	—	—	—
Bristol and Bath .....	—	—	—	2	—	—	—
South Wales .....	—	—	—	—	—	—	—
London and south-east							
England .....	—	1	1	—	—	—	—
Plymouth and south-west							
England .....	—	—	—	1	—	—	—
Yorkshire .....	1	—	—	—	—	—	—
Southampton and							
Portsmouth .....	—	—	—	—	—	—	—
Warnings covering more than one area or blizzards outside industrial areas .....	1	2	4	1	—	1	—
Total .....	6	6	8	5	0	1	0

TABLE XII — 'WEATHERLINE' FORECASTS

This table will be published separately. The figures were not available at the time of assembly.

TABLE XIII — CLIMATOLOGICAL ENQUIRIES

Met O 3 (including Belfast and Edinburgh) and Met O 1 receive enquiries relating to past weather, to climatology and to the application of meteorological data to agricultural and marine activities. The following figures give the total number of enquiries and the percentages of this number in the various categories.

	1984	1985
Total number of enquiries	54 600	57 894
Percentages relating to:		
Agriculture .....	32.2	30.0
Building and construction .....	8.8	9.7
Commerce, industrial and manufacturing .....	8.7	10.3
Design and planning .....	0.6	1.5
Drainage, flooding and water supplies .....	6.1	5.4
Education .....	6.3	4.5
Energy .....	0.6	1.4
Holidays, sports, hobbies and leisure .....	1.3	1.2
Legal, insurance and loss adjustment .....	11.2	12.8
Marine .....	0.1	0.3
Medical and health .....	0.4	0.4
Press, information centres and media items .....	3.5	4.9
Research .....	3.5	3.8
Telecommunications .....	0.0+	0.1
Transport .....	0.5	0.7
Ventilation and heating .....	1.6	0.7
Videotex .....	0.0+	0.0+
Miscellaneous — purpose known .....	8.6	6.8
Miscellaneous — purpose unknown .....	5.9	5.4

TABLE XIV — DATA PROCESSING

	1984	1985
Computer installations:		
Number of jobs run on the 3081A processor .....	579 611	458 598
Number of jobs run on the 370/158 <sup>1</sup> processor .....	114 807	44 031
Number of jobs run on the 3081B <sup>2</sup> processor .....	—	313 404
Number of jobs run on the Cyber 205 processor .....	99 587	104 073
Number of tasks run on the terminal system .....	229 991	273 919
Processor-controlled keying system:		
Number of characters keyed .....	41 925 000	37 120 00
Punched-card installation:		
Number of computer cards punched .....	62 468	7 877

1 Removed 10 June 1985

2 Installed and accepted by 27 June 1985

TABLE XV — INSTRUMENT CALIBRATION AND ACCEPTANCE TESTING

	Tests/Calibrations
General meteorological instruments:	
Wind measuring .....	586
Pressure measuring .....	1 426
Humidity measuring .....	59
Precipitation measuring .....	399
Radiation measuring .....	210
Sunshine recording .....	67
Temperature measuring .....	5 395
Balloons .....	4 700*
Miscellaneous .....	59 524*
Electrical/electronic instruments:	
Instruments and systems .....	1 278
Components .....	488
Radiosonde instruments:	
Components accepted .....	10 104*
Humidity elements skinned and seasoned .....	900
Pressure elements .....	10 750
Reference elements .....	10 300
Temperature elements .....	1 570
Balloons .....	27 525*
Radar reflectors .....	16 442*
Parachutes .....	20 570*
String unwinders .....	1 050*
Recovered sonde transmitters .....	1 940

\* Sample tested only

TABLE XVI — LIBRARY, ARCHIVES AND GRAPHICS SECTION

*Library*

Items received:

Daily Weather Reports .....	7 469
Books, journals, etc. ....	7 481
Films, slides, photographs, etc. ....	2 193
Entries in MOLARS data base .....	12 574

Loans:

Daily Weather Reports .....	9 752
Books, journals, etc. ....	17 103
Books, slides, photographs, etc. (436 occasions) .....	9 395
Number of exchange agreements with other institutions .....	290
Pages translated by MOD linguistic services .....	406

*Archives*

Items received from Headquarters Branches:

Charts for permanent retention .....	21 000
Charts for limited retention .....	30 000
Ships' logbooks .....	1 049
Rainfall cards (3 years) station sets .....	11 500
Climatological returns (1 year) station sets .....	400
Climatological returns (yearly) 1902-82 .....	108 volumes 23 boxes
Rainfall 'ten year books' 1677-1940 .....	237 volumes
CFO forecasts (1 year) .....	110 pieces

Items received from outstations:

Registers of observations .....	1 400 books
Autographic records (station months) .....	5 200
Charts from Ascension Island .....	1 000
Loans (comprising 2000 charts and 200 other pieces) .....	239
Photocopies of charts and data .....	2 500 sheets
Estimate of charts persued in Reading Room .....	30 000 or more

*Graphics Section*

Number of diagrams, maps and charts completed .....	4 472
Number of reprographic jobs .....	500

TABLE XVII — TRAINING

The following figures give details of courses completed during 1985 at the Meteorological Office training establishments at Shinfield Park and Beaufort Park.

	Number of courses	Length in weeks	Met O staff	Others	Total
Scientific Officers Part II (1984)	1	6	7	0	7
Scientific Officers Part I (1985)	1	20	13	3	16
Applied Meteorology Part II (Forecasters) (1984).....	1	8	2	6	8
(Prep) (1985) .....	1	2	20	5	25
Applied Meteorology Part I (1985)	1	10	27	5	32
Applied Meteorology Part II (Support Scientists) (1985).....	1	1	23	0	23
Initial Forecasting (Prep)	1	2	10	6	16
Initial Forecasting	1	16	17	6	23
Advanced Forecasting	1	7	12	0	12
Forecaster Refresher	2	1	20	0	20
Extension	3	4	28	0	28
Further Extension	1	3	8	0	8
Senior Meteorologists	1	3	21	1	22
Meteorological Statistics	1	4	2	0	2
Initial Programmers	4	4	41	0	41
COSMOS Programmers	1	2	9	0	9
COSMOS Users	4	1	35	0	35
Basic Assistants	2	4	20	0	20
Initial Assistants	5	4	64	0	64
Advanced Assistants	4	4	32	4	36
Extension Assistants	3	4	27	1	28
Initial Supervisors	3	3	37	0	37
Auxiliary Observers	5	1	0	66	66
Co-operating Observers	4	1	0	58	58
Air Traffic Control Observers	3	1	0	40	40
Introduction to Meteorology for non-Met staff .....	2	1	25	0	25
Summer School	1	1	33	41	74
Public Services Meteorology	1	1	12	0	12
CDC Cyber	2	1	18	0	18
IBM/JCL	6	1	55	0	55
ASO to R(M)T Conversion	1	56	4	0	4
Instrument Maintenance	1	16	0	12	12
Basic Electronics	1	94	0	12	12
British Petroleum Masters	1	1	0	5	5
British Antarctic Survey	1	1	0	4	4
MODLE 3	1	1	7	0	7
Micro-CORA	1	1	0	1	1
OBOE (AWS)	1	1	6	0	6
CARD II and RDAS (AWS)	1	1	6	0	6
Radiosonde Officers-in-Charge	1	1	8	0	8
Mk V Wind System	1	1	6	0	6
Radio/Radar	1	2	4	0	4
Totals .....			659	276	935

Training in the United Kingdom during 1985 under the Voluntary Co-operation Programme of the World Meteorological Organization.

Institute	Training	Duration	Country
Polytechnic of the South Bank	B Eng Electrical and Electronic	3 years	Tanzania
University of Newcastle-upon-Tyne	MSc Computer Science	1 year	Uganda
University of Reading	MSc Agrometeorology	2 years	Bahamas
University of Reading	MSc Meteorology	1 year	Ethiopia
University of Reading	MSc Meteorology	2 years	Costa Rica
University of Reading	MSc Meteorology	2 years	Burma
University of Reading	MSc Meteorology	2 years	Kenya
Reading College of Technology and Meteorological Office	BEC	18 months	Sudan
Reading College of Technology and Meteorological Office	BEC	18 months	Jordan
Reading College of Technology and Meteorological Office	BEC	18 months	Tanzania
Reading College of Technology and Meteorological Office	BEC	18 months	Botswana
Reading College of Technology and Meteorological Office	BEC	18 months	Zambia (2)
Reading College of Technology and Meteorological Office	BEC	18 months	Barbados
Reading College of Technology and Meteorological Office	BEC	18 months	Kenya (2)
Reading College of Technology and Meteorological Office	BEC	18 months	Ethiopia
Farnborough College of Technology and Meteorological Office	IMC	4 months	Uganda
Farnborough College of Technology and Meteorological Office	IMC	4 months	Barbados
Farnborough College of Technology and Meteorological Office	IMC	4 months	Turkey
Farnborough College of Technology and Meteorological Office	IMC	4 months	Zambia
Meteorological Office	AMC and OJT	3 months	Mauritius
Meteorological Office	AMC	3 months	Kenya
Meteorological Office	IFC	4 months	Lesotho
Meteorological Office	OJT	2 years	China

BEC = Basic Electronics Course

IMC = Instrument Maintenance Course (non-electronic)

AMC = Applied Meteorology Course

OJT = On-the-job training

External training — academic year 1984/85

	Number of students
<b>Full time:</b>	
First Degree .....	12
Higher Degree .....	1
<b>Part time:</b>	
Higher Degree .....	4
First Degree .....	0
Block release HNC.....	27
Other HNC/HTEC.....	21
ONC/A-level/HSCE.....	25
Miscellaneous .....	3
<b>Further education:</b>	
Open University.....	23
Others .....	3
Field study courses.....	5

## PERSONNEL

### *Staff numbers*

At the end of the year 1985 the total number of posts, of all grades, was 2587, a decrease of 127 over the year. The actual strength at the end of the year was:

Deputy Secretary .....	1
Under Secretary .....	1
<b>Science Group</b>	
Chief Scientific Officer .....	2
Deputy Chief Scientific Officer .....	5
Senior Principal Scientific Officer .....	26
Principal Scientific Officer .....	108
Senior Scientific Officer .....	292
Higher Scientific Officer .....	435
Scientific Officer .....	446
Assistant Scientific Officer .....	644
<b>Administrative Group</b>	
Assistant Secretary .....	1
Principal .....	1
Senior Executive Officer .....	4
Higher Executive Officer .....	8
Executive Officer .....	19
Clerical Officer .....	51
Clerical Assistant .....	51
<b>Professional and Engineering Group (including Marine Superintendent staff)</b>	
Superintending Engineer .....	1
Principal Professional and Technology Officer .....	3
Professional and Technology Officer Grade I .....	5
Professional and Technology Officer Grade II .....	17
Professional and Technology Officer Grade III .....	4
Professional and Technology Officer Grade IV .....	3
<b>Telecommunications Staff</b>	
Telecommunications Technical Officer Grade A .....	1
Telecommunications Technical Officer Grade I .....	9
Telecommunications Technical Officer Grade II .....	29
Telecommunications Technical Officer Grade III .....	60
Radio (Meteorological) Technician .....	30
<b>Signals grades .....</b>	<b>39</b>
<b>Teleprinter grades .....</b>	<b>50</b>
<b>Typing and miscellaneous non-industrial grades .....</b>	<b>127</b>
<b>Security Officers .....</b>	<b>11</b>
<b>Ocean Weather Service .....</b>	<b>2</b>
<b>Industrial employees .....</b>	<b>46</b>
<b>Locally entered staff and employees overseas .....</b>	<b>52</b>

### *International co-operation*

The following staff were released during 1985 for service with international and other organizations:

Mr P. Goldsmith	CSO	European Space Agency
Dr R.E.W. Pettifer	SPSO	Vaisala UK
Mr W.M. Longworth	SSO	Vanuatu Government
Mr M.J. Boyd	SSO	European Centre for Medium Range Weather Forecasts
Mr D.R. Roskilly	SSO	European Centre for Medium Range Weather Forecasts
Mr J.M. Malcolm	SSO	International Aeradio Ltd
Mr J. Fretwell	HSO	International Aeradio Ltd
Mr M.E. Adkin	SO	International Aeradio Ltd
Mr I.P. Brownston	SO	International Aeradio Ltd
Mr K. F. Silvester	SO	European Centre for Medium Range Weather Forecasts

Staff returning from international and other secondment appointments were:

Mr J. Austin	SSO	National Aeronautics and Space Administration
Mr P. Framingham	HSO	International Aeradio Ltd
Mr R. Dunn	SO	International Aeradio Ltd
Mr R.J. Stretch	SO	International Aeradio Ltd
Mr S.R. Lefevre	SO	European Centre for Medium Range Weather Forecasts
Mr G.D. Frost	TTO 1	World Meteorological Organization

## FINANCE

On a fully cost-accounted basis, the total cost of the Office in 1984/85 was £68.4 million compared with £63 million in 1983/84. The net cost after earnings from services was £47.5 million compared with £44 million in 1983/84. Over the last five years, apart from the cost of Meteosat (the development and early operations of which were paid for by the Department of Trade and Industry), the gross cost of the Office has fallen by about 4 per cent in real terms and the income from repayment services (other than the Civil Aviation Authority (CAA)) has risen by 100 per cent.

The Office's voted expenditure is borne on the Defence Budget to which all receipts from repayment services are credited. Details are shown in the *Annual Statement of Defence Estimates*. However, for costing purposes, a fully cost-accounted Memorandum Operating and Trading Account is also maintained and the details shown in the tables are drawn from this. These figures include non-Voted costs that are not shown in Defence Votes in Parliamentary Estimates, such as pension contributions, notional insurance provision, interest on capital and depreciation. By the same token, the cost of major items of equipment, which appears in Defence Votes for the year of acquisition, is excluded from the tables, being covered by annual interest and depreciation charges in the usual commercial accounting manner.

The tables include figures for the previous year 1983/84, for comparison, shown on the same basis as the current year figures. Charges for repayment services were increased by 5 per cent on 1 April 1985.

**STATEMENT OF THE COST OF METEOROLOGICAL SERVICES FOR THE YEAR ENDED  
31 MARCH 1985**

	1984/85		1983/84	
	£000	£000	£000	£000
<b>Total meteorological services (cost accounted)</b>		<b>68 415</b>		<b>63 021</b>
<b>Receipts</b>				
Training and secondments	160		230	
Exchequer departments	747		859	
Non-Exchequer bodies	17 381		15 641	
Industry and commerce	2 592		2 159	
General public	38		40	
		<b>20 918</b>		<b>18 929</b>
<b>Net expenditure</b>				
Defence and other Exchequer departments	27 818		29 619	
General public services and international	19 679		14 473	
		<b>47 497</b>		<b>44 092</b>

**METEOROLOGICAL OFFICE RECEIPTS 1984/85 (CASH RECOVERABLE)**

	1984/85 £000	1983/84 £000
<b>Services to:</b>		
Ministry of Agriculture, Fisheries and Food.....	596	728
Other Exchequer departments..... (Department of Environment etc.)	151	131
Civil Aviation Authority.....	15 427	14 264
Other non-Exchequer departments.....	256	29
European Economic Community.....	119	117
Public and Local Authorities.....	565	209
Meteorological Office College..... (training of meteorologists)	144	187
Secondments to outside bodies.....	16	43
Comprehensive forecasting for the offshore oil industry.....	1 203	1 314
<b>Forecasting and climatological services tailored to meet users' special needs:</b>		
Ship Routeing Service.....	106	81
Gas Boards.....	219	185
Central Electricity Generating Board.....	169	170
British Rail.....	39	26
Independent Broadcasting Authority.....	518	293
British Broadcasting Corporation.....	340	275
Press.....	73	70
Other customers' special services.....	711	568
Automatic Telephone Weather Services (British Telecom).....	266	239
	<b>20 918</b>	<b>18 929</b>

STATEMENT OF OPERATING EXPENSES FOR THE METEOROLOGICAL OFFICE FOR THE YEAR 31 MARCH 1985

(1) Expenditure	(2) Defence services	(3) Exchequer departments non-repayment £000	(4) Public services £000	(5) Inter-national. £000	(6) CAA £000	(7) 1984/85 Total £000	(8) 1983/84 Total £000
Customer activity costs							
General Meteorological Office core activity costs:							
Research .....	8 655		5 736	1 229	4 727	20 347	20 428
Administration and personnel .....	3 143		2 946		1 619	7 708	8 049
Central Forecasting Office .....						2 652	3 188
Computing .....						3 020	2 346
Maintenance .....						744	512
Observations .....	15 413		14 449		8 670	19 358	14 041
Technical support .....						2 657	3 877
Telecommunications .....						4 146	5 193
Training .....						2 094	1 540
Others .....						1 960	913
Total Meteorological Office management costs	27 211		24 360		15 016	66 587	61 303
Full cost items:							
Share of MOD HQ costs .....						632	508
Insurance .....						81	74
Interest on capital:					411		
Fixed .....				686		874	917
Working .....						241	219
Total Meteorological Office costs .....	27 942		25 046		15 427	68 415	63 021