

24:7:365

By understanding the weather and the environment we help to : deliver public weather forecasts on television, on radio and online : keep our roads and railways open : improve the safety and efficiency of airlines : support medical staff caring for vulnerable patients : keep our Armed Forces and allied personnel safe in the field : prevent coastal flooding : keep people safe at sea : protect the environment from pollution : respond to natural disasters : promote awareness of the weather : share important developments in meteorology with other countries : deliver global forecasting systems : protect lives and property around the world : monitor and analyse climate change : provide advice to the UK Government : predict demand for UK businesses : inform people's everyday decisions : make a difference around the clock. Worldwide.

Met Office

An Executive Agency of the Ministry of Defence

Annual Report and Accounts 2004/5

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75%

Three-quarters of the world's natural disasters are related to weather, climate, water and their extremes.



We responded to calls for assistance from the Maldives and Seychelles following the south-east Asian earthquake-tsunami in December 2004, helping to replace vital meteorological equipment that had been lost or damaged in the disaster.

Introduction

Our objectives

The Met Office is a world-leading provider of environmental and weather-related services in the UK and around the world.

Our core objective is to create value for taxpayers, customers and stakeholders by using our assets and capabilities to deliver benefits to the public, the Government, the economy and the environment.

It is our job to understand the science behind the weather and the environment; and to use our expertise to provide forecasts and information which allow the public, Government and business to make informed decisions about how best to capitalise on, or mitigate, the impacts of the weather.

This year, we have been refining and refocusing our objectives. For 2005–2010, these will focus on delivering value-for-money services for all our customers and on advancing our world-class performance as a meteorological organisation.

We work to:	
<ul style="list-style-type: none">• Provide the public with daily forecasts relating to the weather and the environment• Provide timely, high-visibility warnings of high-impact weather• Progressively improve the quality and use of our forecasts• Promote understanding about weather, climate change and the potential impacts	<ul style="list-style-type: none">• Support a safe and efficient transport system• Sustain a world-class weather and climate prediction capability• Maintain an up-to-date climatological record, National Meteorological Library and Archive for the benefit of the UK• Sustain and strengthen links with the academic community
<ul style="list-style-type: none">• Provide products, services and advice to the UK and allied Armed Forces• Provide information and warnings services for use in the management of civil contingencies and emergency responses	<ul style="list-style-type: none">• Represent the UK within the worldwide meteorological community• Demonstrate organisational excellence

Introduction from the Chair of the Met Office Board



Clay Brendish CBE
Chairman

As you read through the pages of this Annual Report and Accounts, I hope you will pick up at least three important messages.

The first is that the Met Office is not just about the weather. It is about weather information. The Met Office is passionate about using its skills and understanding in the science of meteorology to improve the quality of life of the general public in as many ways as possible. The cross-section of activities outlined here will give you an idea of the variety of initiatives and programmes currently being undertaken by the Met Office in pursuit of contributing to a safer, healthier environment for us all. You will also notice that the majority of these programmes have been undertaken with partners from many disciplines and countries. This enables the Met Office to add value in many different activities where the weather has a direct or indirect impact.

The second message reveals that the Met Office is very good at what it does. The quality of our forecasts and exceptional scientific capability puts us in great demand by governments, organisations and academia throughout the world.

The investment in technology plays a great part in this achievement, but it is the third message that is perhaps the most significant and that's the quality of Met Office staff.

In particular, I should like to pay tribute to Dr. David Rogers, whose vision and leadership have helped shape the future of the Met Office. As a legacy, David leaves behind him a strong public sector agency that is committed to saving lives through science.

As we venture into new fields, it will be important to build on the strengths of Met Office staff who are dedicated to their chosen fields. We must also ensure that we have the correct mix of skills to deliver our objectives to the Government and the public in general in the most efficient way possible.

I hope to see the Met Office continuing to prosper under the direction of a new Chief Executive in 2005/6 and beyond, and wish David well for the future.

Chief Executive's overview



Dr. David Rogers
Chief Executive

Our direction

The Met Office is a world-leading organisation that continues to push the boundaries of meteorological science. It has been a great privilege to lead this truly 21st century public sector agency in its work to understand the weather and the environment. In doing so, we can help everyone — from individuals and families, to the Government and businesses — decide how best to respond to the effects of everyday weather and climate change.

With more than 80 per cent of our funding coming from the public sector, we work in close partnership with different government departments and agencies to ensure that the public is not only warned that severe weather is on the way, but knows what to do when it arrives. In August 2004, for instance, we issued over 140 flash warnings on behalf of the Government in response to an exceptional number of rainfall events, so helping to safeguard lives and property in the UK. In recognition of our position

as a key government agency we changed our website address this year to www.metoffice.gov.uk.

With 2004 the fourth warmest year globally since records began, our Hadley Centre continued to provide climate change advice enabling Government and businesses to plan for an increasingly challenging future. In February 2005, we hosted a three-day conference on Avoiding Dangerous Climate Change, on behalf of the Department of Environment, Food and Rural Affairs. This highly successful event — attended by more than 200 international scientists and experts — stressed the importance of leadership by the world's governments in moving to a lower carbon economy.

Events such as those at Boscastle in Cornwall, on 16 August 2004, when parts of the village were washed away by a rapid and dramatic flood, remain a challenge to our operational forecasting capability, because of their swift onset and small geographical scale. We worked with the police, the emergency services, search and rescue and the Environment Agency to help them co-ordinate the response and recovery processes following the flood. In its aftermath, we brought forward a move towards a finer, 4 km grid resolution to improve the forecasting of high-impact weather and to predict localised storms.

We are working closely with other meteorological organisations throughout the world to provide more accurate, high-impact weather forecasting and early warnings systems to reduce and mitigate weather-related disasters. With three-quarters of all natural disasters related to weather, climate, water and their extremes, our work enables UK citizens abroad and affected societies — particularly those in the least developed countries — to consider appropriate action.

Our experience in developing rapidly deployable crisis area models for use by the military in Iraq and Afghanistan this year, enabled us to respond quickly to one of the worst natural disasters in recent history — the Boxing Day tsunami in south-east Asia. By providing information on the weather conditions in the worst-hit areas, we helped the Department for International Development respond to the situation; while our aviation forecasts supported relief flights in the region.

We also continued to provide services for a wide range of private sector customers — particularly in the aviation, rail, retail, energy and marine sectors. This year, we introduced two new mobile services and enhanced our web capacity so that more tailored products could be made available. Having good scientific information at their fingertips allows companies to make commercial judgements on matters affected by the weather — helping them to manage risk, increase operational efficiency and fulfil consumer demand.

Overall, the Met Office is a knowledge-based organisation that values diversity and places a high priority on continuous learning and development. From the people who work behind the scenes, to those on the front line, our staff are the best in their chosen fields. I leave behind me an organisation that is working hard to address the most pressing weather and climate issues of our age, with a focus on delivering an excellent key public service at the heart of everything it does.

Management structures

Met Office Owner's Council

Strategic oversight on behalf of our Owner, the Secretary of State for Defence, is provided by the Met Office Owner's Council which replaced UK Met Board in July 2004.

Met Office Board (as pictured)

Our strategic and operational performance is directed by the Met Office Board.

Executive⁴

In January 2005, the Executive Directors formed the Executive, which meets weekly. The Executive is responsible for the strategic and corporate management of the Met Office on a day-to-day basis. It is accountable to the Met Office Board.

National Met Programme Commissioning Group (NMPCG)

The NMPCG represents all customers of the Met Office in endorsing the requirement for NMP, as well as determining its focus and content. The NMP maintains and develops the underpinning meteorological capability for the UK.

Prospect

With over 70 years experience in the public sector, Prospect is the only recognised Trade Union for Met Office staff. Current membership is in excess of 70% of employees.

1. As of June 2004

2. As of February 2005

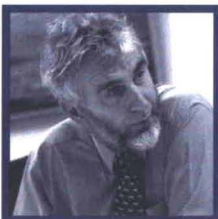
3. As of April 2005

4. As at March 2005 — previously the Executive and Executive Council existed as separate bodies

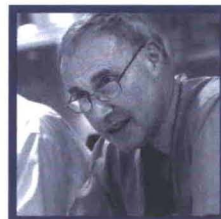
Executive Directors



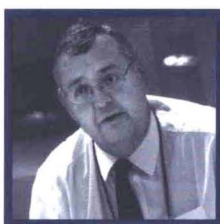
Dr. David Rogers
Chief Executive¹



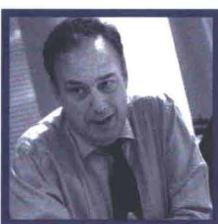
Prof. John Mitchell
Chief Scientist



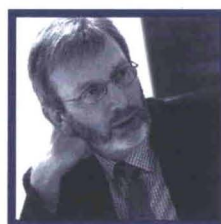
Roger Hunt
Chief Operations Officer



Stephen Penfold
Company Secretary / HR
Director



Mark Hutchinson
Chief Finance Officer²



Steve Noyes
Chief Technology Officer

Non-Executive Directors



Clay Brendish
Chairman



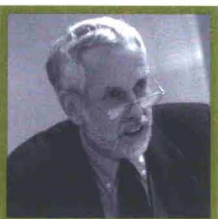
James May
Non-Executive Director



Anabel Gammidge
Non-Executive Director



Denise Harker
Non-Executive Director³



Prof. Brian Hoskins
Non-Executive Director

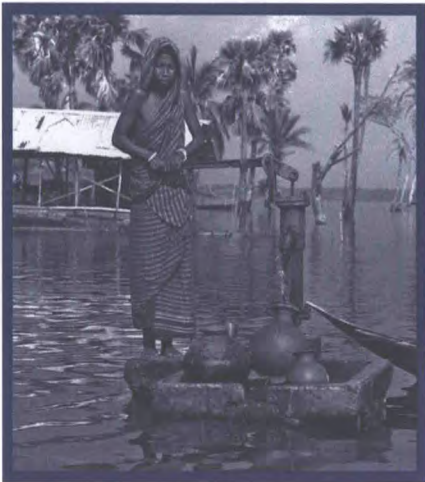
Met Office Owner's Council	Met Office Board	Executive ⁴	Executive Council ⁴	NMPCG	
					<i>Membership at 31 March 2005</i>
•	•	•	•	■	Dr. David Rogers Chief Executive
	•	•	•		Prof. John Mitchell OBE FRS Chief Scientist
	•	•	•		Roger Hunt Chief Operations Officer
	•	•	•		Stephen Penfold Company Secretary/HR Director
*	•	•	•		Mark Hutchinson Chief Finance Officer (replaced Philip Mabe in February 2005)
	•	•	•		Steve Noyes Chief Technology Officer
•	•				Clay Brendish CBE Chairman
	•				James May Non-Executive Director
	•				Anabel Gammidge Non-Executive Director
	•				Prof. Brian Hoskins CBE FRS Non-Executive Director
	•				Denise Harker Non-Executive Director
*	*				Mark Preston Director of Business Delivery, Ministry of Defence
	*				Jim Cooper Prospect
			•		Ian Carlson Group Head Finance
	*		•		Jo Brigham Advisor to Chairman
			•		Dr. Dave Griggs Director Climate Research
			•		Alan Radford Programme Manager
			•		Alan Douglas Group Head Observations
			•		Dr. Jim Caughey Director International
			•		John Ponting Chief Information Officer
			•		Dr. Alan Dickinson Director NWP
•				•	Ivor Caplin MP Under Secretary of State for Defence — Chair
•					Ian Andrews CBE TD 2nd Permanent Under Secretary, Ministry of Defence
•			•		Dr. Gwynneth Flower FIEE Chair of the National Met. Programme Commissioning Group
•					Peter Schofield Shareholder Executive
•					Prof. Roy Anderson FRS Chief Scientific Advisor, Ministry of Defence
•					David Filkin CBE Non-Executive Director (Advisor on Public Met. Service)
•					David McMillan Department for Transport
•					Dr. Valerie Caton Foreign & Commonwealth Office
•					Dr. Colin Church Department for Environment, Food and Rural Affairs
			•		Dr. Bruce Callander Ministry of Defence
			•		Cpt. Joe Collins Maritime and Coastguard Agency
			•		Philip Hopwood Ministry of Defence
			•		Andrew Lane BBC
			•		David Richardson Department for Environment, Food and Rural Affairs
			•		Gp. Cpt. Nick Seward Royal Air Force

24,000 ft

The Met Office is responsible for providing information on weather conditions above 24,000 feet to the worldwide aviation community.



Our global forecasts of upper winds and temperatures help to ensure the safety of plane, crew and passengers on all flights throughout the world. We are one of only two World Area Forecast Centres to provide this service.



HIGHLIGHT 2004/5

We provided vital weather forecasts and data to help the governments, agencies and charities involved in relief operations in the aftermath of the Indian Ocean tsunami.

Forecasting for a safer future

Being prepared — whatever the weather

24 hours a day, 7 days a week, 365 days a year, the weather and the environment affects everyone in the UK and overseas. The core role of the Met Office is to provide day-to-day forecasts and information, helping all of our customers to be prepared — whatever the weather.

Our information helps people to make everyday decisions on what type of outdoor activities to undertake — be it gardening, sailing or organising a barbecue — to planning holidays and weekend breaks away.

Saving lives through science

The public needs plenty of warning when high-impact weather is on the way, as well as advice about what to do when it arrives. We work with the Government and its agencies to ensure that the UK is prepared for high-impact weather, and we help other countries respond to environmental events.

At some times, the impact of the weather can be more serious than at others and may threaten the safety of life and property. When this type of event is expected, the key focus is on providing timely and high-visibility warnings and advice so that people can take appropriate mitigating action.

What to do in high-impact weather

Working with the Highways Agency, the Environment Agency, the Departments of Health and Transport and the Building Research Establishment, this year we published online advice about what people can do to protect themselves and their property from the effects of high-impact weather.

Our timely advice also helps Government and business to reduce the cost, and other social and economic effects, of high-impact weather.

Tsunami relief

Following one of the worst natural disasters in recent history — the Boxing Day tsunami in south-east Asia — the Met Office responded to requests for assistance from the meteorological services of the Maldives and the Seychelles; helping them replace vital meteorological equipment that had

been lost or damaged. In 2005/6 the Met Office will support further projects to enhance the capability of this region's meteorological services to provide warnings in the event of future natural hazards.

Our crisis area model forecasts provided additional meteorological advice which helped the Department for International Development to respond to the situation. The forecasts provided included weather conditions within the worst-hit areas, and high- and medium-level aviation forecasts in support of relief flights in the region. This vital weather information was also made available on our website to other organisations — such as relief charities — to help them plan operations and distribute urgently-needed supplies.

Our experience in developing rapidly deployable crisis area models for use by the military in Iraq and Afghanistan enabled us to develop quickly this post-tsunami disaster service. The forecast was provided in the months following the tsunami to aid recovery efforts.

Protecting against floods

Accurate forecasts from the Met Office are the first link in the forecast and warning chain to allow mitigating action to be taken against flooding. We are working to develop the effectiveness of early warning systems in close partnership with the Environment Agency, which has the responsibility for issuing flood warnings in England and Wales.

Improving accuracy

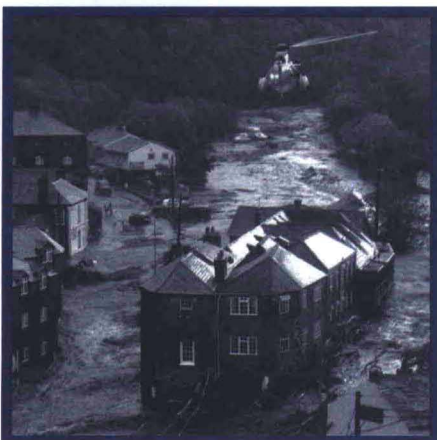
Events such as those at Boscastle in Cornwall on 16 August 2004, when parts of the village were washed away by a rapid and dramatic flood, remain a challenge to our operational forecasting capability, because of their very rapid onset and small geographical scale. The flood at Boscastle was caused by a series of thunderstorms which developed in a narrow line near the north coast of Cornwall, causing vast quantities of water to thunder down river valleys into the village, with little or no warning. The flow rate, at the time, has been estimated to be double that of the Thames as it flows

through central London. At nearby Otterham, for instance, a rain gauge recorded 200.4 mm (eight inches) during those 24 hours — almost twice its monthly average rainfall, with most of it falling during the afternoon of 16 August.

In order to forecast such geographically concentrated and dramatic events, we have been undertaking trials of a new, more detailed (4 km as opposed to 12 km) version of our Numerical Weather Prediction (NWP) model, which can resolve individual thunderstorms, such as those that occurred at Boscastle. Early results have shown that, subject to further investment in computing power, in future it may be possible to predict such events several hours in advance using these new, high-resolution NWP models.

As well as working towards increasing the resolution of our NWP models, we are working with Department for Environment Food and Rural Affairs to identify the conditions under which extreme floods may occur, that would overtop river defences and threaten people and their property.

Many of the water utilities companies used our high-impact weather warnings to plan their responses to the various storms that occurred over the UK in 2004.



HIGHLIGHT 2004/5

We worked with the police, the emergency services, search and rescue and the Environment Agency to help them co-ordinate the response and recovery processes at Boscastle in Cornwall, in the aftermath of an exceptional storm.



HIGHLIGHT 2004/5

We created the National Centre for Ocean Forecasting as a UK centre of excellence for collaborations with leading marine institutions.

In addition, we successfully launched a new web-based service, called EnviroMet, which uses Geographical Information Systems technology to help customers respond effectively to storm events as they happen — enabling real-time assessments of the impacts of the weather on their networks and catchments.

Increasing numbers of customers are realising the benefits of using high resolution radar data to assess the potential impacts of storm events on their hydrological networks. This will ultimately lead to improved network designs which will help to alleviate problems such as sewer flooding.

Improving our rainfall forecasts

Improvements to the radar network are ongoing and form a key component of the National Severe Weather Warning Services available from the Met Office. A new-generation radar soon to be installed at Maidstone, Kent, will improve the advance warning of floods in south-east England — as part of our joint ten-year radar network investment plan with the Environment Agency.

Forecasting the oceans

The safety of people at sea, the protection of the environment from pollution, and the prevention of coastal flooding are helped by the National Centre for Ocean Forecasting (NCOF) based at the Met Office headquarters in Exeter.

Rough seas and strong currents can make any work at sea difficult or even dangerous and high waves or storm surges can lead to coastal flooding. By delivering ocean forecasts, via the Met Office, to users in Government, commerce and research, the National Centre for Ocean Forecasting helps to protect the lives and property of people at sea and in coastal areas.

Work at NCOF focuses on the production of short-range predictions of surface waves, storm surges, sea ice, ocean temperatures, salinities and currents, as well as ecosystems in the deep oceans and inshore waters.

Accurate and timely ocean forecasts can aid responses to oil slicks and other pollution incidents, as well as search and rescue operations. They can also help with the management of water quality, fisheries, wind farms, the offshore oil industry and shipping.

The NCOF operational forecasting capability has been enhanced during 2004/5 with the introduction of new high-resolution ocean forecast models of the North Atlantic, the Mediterranean and the UK continental shelf.

In addition, ocean forecasts feed back into our climate and weather forecasting models and, in particular, help us to track hurricanes which are often affected by near-surface sea temperatures. Met Office computer forecasts contribute to the hurricane predictions made by the National Hurricane Centre in Miami.

NCOF was officially launched on 4 March 2005. The project is a partnership between the Met Office, Proudman Oceanographic Laboratory, Plymouth Marine Laboratory, National Oceanography Centre, Southampton and Environmental System Science Centre.

Predicting when shellfish will be toxic

In collaboration with the Plymouth Marine Laboratory and the Proudman Oceanographic Laboratory, we have developed a range of new ocean forecasting models.

In addition to temperature, salinity, current and water level, the new models include data on nutrients, phytoplankton and zooplankton. This enables us to forecast when blooms of plankton – which are dependent on weather conditions such as heat, light and cloud cover – are likely to occur. Some of these algae are poisonous and can enter the food chain through fish; especially shellfish.

The improved forecasts of ocean ecosystems will also help the fisheries industry manage its operations, while the Environment Agency will be able to use the forecasts in its management of water quality.

Trials of a five-day forecast with daily updates are now being run to establish the value and effectiveness of an operational ocean forecasting service.

Collaborating in environmental research

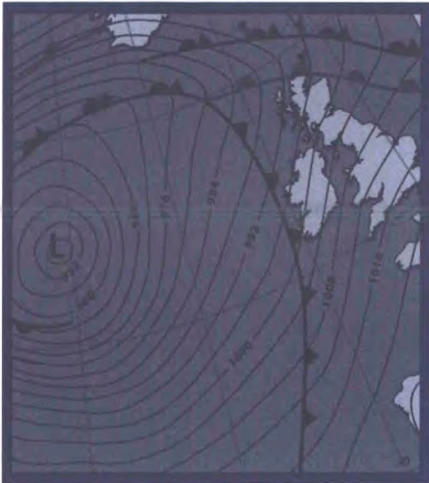
The ocean forecasting capabilities of the Met Office are also contributing to international projects that are designed to improve understanding of the marine environment.

The Mersea Integrated Project is a four-year European Commission Framework 6 initiative which started work in April 2004. It draws together the expertise of leading European forecasting and oceanographic institutions, with 50 per cent of funding coming from the European Commission. The project aims to create a European-wide ocean forecasting and monitoring system and, within this, the UK will take responsibility for the delivery of products and services using higher resolution nested models for the north-east Atlantic.

The information will form the deep oceanic component of the Global Monitoring for Environment and Security (GMES) initiative: the other components being the atmosphere and the land. GMES is a joint initiative between the European Commission and the European Space Agency, comprising a number of funded projects which will deliver operational environmental services to Europe by 2008.

Closer ties with the United Kingdom Hydrographic Office (UKHO)

The UKHO – also a Trading Fund within the Ministry of Defence – is a sister-agency of the Met Office. Together, we have set up a working group to discuss ways of improving our co-operation and to identify business developments that may be mutually beneficial. We are also looking at ways we can improve efficiency – for example, through the joint training of staff – to take advantage of the proximity of our respective headquarters in Taunton and Exeter.



HIGHLIGHT 2004/5

We improved our forecast accuracy for the northern hemisphere by around 11%, which compares with an historic improvement across all modelling centres of around 3% per year.



HIGHLIGHT 2004/5

We enabled the Department of Health, National Health Service and other social care bodies to deliver better anticipatory care by predicting when vulnerable patients will be at increased risk.

Forecasting the nation's health

This year, we ran a health forecast scheme which predicted when and where vulnerable people were at risk of falling ill, helping medical staff to take preventative action against illness and death, and NHS organisations to manage resources.

A key part of the scheme involved twice-weekly risk forecasts of chronic obstructive pulmonary disease (COPD) — a serious respiratory condition affecting more than 1.5 million people in the UK.

To create the COPD forecasts, we took into account temperature and humidity, the level of infections in the local area, seasonal patterns, and data from GP out-of-hours visits and hospitals. Each health authority involved employed a 'service developer', to work with the Met

Office, whose role was to facilitate action triggered by the forecast through talking to GPs and alerting medical staff to any increased risk for their COPD patients — who are particularly vulnerable in cold weather.

By warning Primary Care Trusts when people in their region were most at risk, we made it possible to deliver effective preventative care. This could simply be a nurse telephoning or visiting a patient to assess their condition and then enabling a range of medical and non-medical interventions if required. Overall, the service helped pilot sites to improve patient care, prevent hospital admissions and deliver improvements to patients' quality of life.

We also tested a twice-weekly forecast of admissions for 24 hospitals this year, to predict the level of respiratory and cardiac problems as well as admissions of children and the over 75s. The scheme enabled managers to make better

decisions about the resources they needed at any given time, including changes to patient discharge decisions, elective surgery policy and when to take on extra nursing staff.

The COPD service was delivered to eight Primary Care Trusts and the Hospital Admissions service to seven Strategic Health Authorities across the UK, and ran between November 2004 and March 2005. Working alongside our team, which includes a medical doctor, were the eight service developers who were all NHS staff, to create a careful balance of weather and medical expertise.

Both schemes are currently being independently assessed by the London School of Hygiene and Tropical Medicine, which will present its full findings in May 2005. Interim reports were very positive and next year we hope to expand the schemes into a more developed service, available to health authorities across the UK.



€2,500

At a cost of €500 – €2,500 per plane for de-icing, getting the timing right using the new Met Office service can make considerable savings.

Vital information for aviation

The Met Office offers a range of weather and environmental services for the aviation industry, tailored to the requirements of private pilots right through to the largest global airlines. Our aim is to help improve the safety and efficiency of flight operations at home and abroad.

Helping airlines plan for cold weather

In 2004/5, the Met Office launched a service that offers airlines a customised de-icing weather forecast. This pioneering new product gives advance notice covering a 24-hour period with detailed guidance on timing and severity of icing.

It is unsafe for planes to take off unless every part is ice-free: from wing tips to tailfin. To do this, airlines use special de-icing equipment and chemicals, which is an expensive operation and difficult to get right. If airlines de-ice too early they might have to do it again before take off; while leaving it too late could cause expensive delays. The timings of de-icing vary according to the precise weather conditions with snow, hail and frost

having very different impacts on an airline's operations. Our service gives detailed time windows between de-icing to predict when an aircraft must be airborne or de-iced again, as well as an indication of the likelihood of de-icing events over the next five days to help in resource planning.

World Area Forecasting

The Met Office is one of two World Area Forecasting Centres responsible for providing information on weather conditions above 24,000 feet to the worldwide aviation community (the other is WAFC Washington, USA). This service helps ensure the safety of plane, crew and passengers and allows airlines to operate more economically.

As forecasts in chart form are superseded by new digital formats, we have been helping our partners around the world to adapt, providing two training workshops in the Far East in January 2005: the first, in Beijing for around 70 delegates and the second in Bangkok for delegates from 13 countries. We also ran a training work-shop in Lima for 25 delegates from 10 countries.

Pre-flight briefing

We have recently strengthened our partnership with SITA — one of the largest pre-flight briefing companies in the UK — and are working with it to improve the weather information which helps airlines to plan their routes and schedules.

Together, we intend to improve the way that we deliver this information to airlines in future; making better weather information available that is easier to interpret, for example, by overlaying it on airline predicted flight routes. In this way, we can help pilots to avoid hazards and plot the best, most economical route — taking the least time and using less fuel — so that they can improve their flight planning.

Warning aircraft of volcanic ash

The Met Office acts as the Volcanic Ash Advisory Centre for the UK, North Sea, Scandinavia and Iceland. Volcanic ash can stop all the engines on a jet aircraft simultaneously, so if a volcano erupts and sends ash up to 30,000 feet, the airlines need to be warned urgently about it.

In November 2004, the Grímsvötn volcano in Iceland erupted, sending ash high into the atmosphere. We provided vital warnings to airlines — and even pilots in the air — by issuing Volcanic Ash Advisory Messages and through the Sigmet (en route hazardous weather warning) messaging system.

SADIS

The SADIS (satellite distribution system) is used to distribute meteorological data to the aeronautical community in 85 countries. It provides critical flight safety information for many developing countries that do not have advanced forecasting capabilities. A new generation of the SADIS system was introduced in September 2004. This new service ensures that SADIS remains current with advances in satellite technology and user expectations. It runs on standard off-the-shelf hardware, representing for users a 40 per cent saving in equipment costs.

Real-time information for pilots

We are also part of FLYSAFE, a four-year European Commission Framework 6 project with 36 European partners, which is investigating ways of sending data to cockpits while the plane is in flight. The intention is to make near-real-time meteorological data available to pilots in the cockpit, with the ultimate aim of making flying safer.

Keeping the country moving

Our forecasts help people plan their journeys — keeping the travelling public safe and the country moving.

During late February and early March 2005, widespread snow and ice affected many parts of England and Wales. In this period, the combination of early warnings, high-profile public relations, and our close working relationships with the Cabinet Office, Highways Agency, the BBC and other media ensured an effective message went out to both the public and to key decision-makers, helping to alleviate the worst of the impact on the UK's infrastructure.

Working with the Highways Agency

As part of work by the Highways Agency to ensure drivers receive better information about weather conditions affecting England's motorways and trunk roads, a team of Met Office forecasters was attached to the Highways Agency's National Traffic Control Centre, near Birmingham, for part of the year. Working alongside Agency traffic experts, our forecasters provided daily updates on the impacts of the weather on the road network, helping the Agency to provide more accurate and timely information to all road users and the media. The aim is

to help people make better-informed decisions about when to travel, particularly in severe weather, as part of the Agency's programme to improve the safety and reliability of the trunk road network in England.

The trial ran from 1 November 2004 to 31 March 2005 and, following a formal review in April 2005 by the project team, will be used to develop our relationship with the Highways Agency.

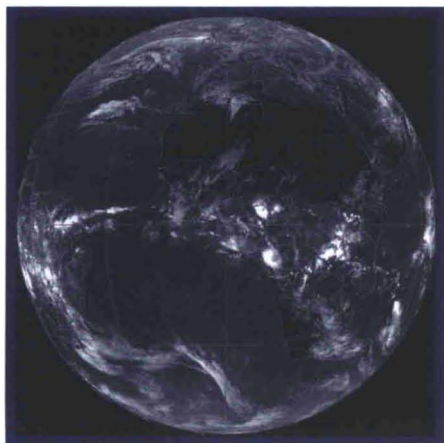
Probability forecasts for local authorities

We also continue to develop our services for other organisations that maintain our roads. In December 2004, we started a trial of probability forecasts for Lancashire County Council, providing 3–10 day forecasts designed to help it plan for severe weather — such as when to send out gritting lorries and when to bring in more staff.

We have also been working with Surrey County Council, looking into the potential for 'footway forecasts' which would help the authority keep pavements clear of snow and ice — a serious winter hazard.

New services for Network Rail

By creating specific forecasts for snow and ice, coastal flooding and slippery tracks, we are helping Network Rail to manage its operations — whatever the weather.



85 countries

The SADIS satellite system is used to distribute meteorological data to the aeronautical community in 85 countries.

36 countries

The Met Office is part of FLYSAFE, a four-year European Commission Framework 6 project with 36 partner countries.



2%

On average, local authorities spend 2% of their winter maintenance budget on their weather forecast service.

During the winter of 2004/5, we carried out trials of a new snow forecast for Network Rail that looked specifically at high mountain passes in Scotland. Our work aims to map the vulnerability to snow falls of the entire rail network.

Another trial, for ice forecasting, is designed to predict the temperature of the electricity conductor rails so that maintenance crews know when to treat them with de-icing chemicals. We hope to have this available as a fully operational service by next winter.

We have also been forecasting coastal flooding in parts of Scotland this year, where rail lines run close to the sea.

The number of occasions that a train passes a red stop signal rises at certain times of the year because of weather-

related factors such as leaves, light rain and dew and puts lives at risk. We are helping Network Rail to understand these problems and predict when it needs to take action.

Improving services for Maritime and Coastguard Agency

In Summer 2004, we created a marine centre of excellence at our regional office in Aberdeen from where we provide all of our maritime services, which include the Shipping Forecast and Gale Warning services.

Work started with the Maritime and Coastguard Agency in 2004/5 to develop enhanced forecasts for specific geographical areas and sporting events, with a trial of these forecasts planned to take place in Summer 2005.

Working alongside the Armed Forces

The Met Office has a long tradition of providing services to the Armed Forces. Our forecasts help them to develop the strategic and tactical advantages that keep British and allied personnel safe in the field.

Creating a single view of the battlefield

Throughout the year we have worked closely with the Ministry of Defence to develop the Future Defence Environmental Capability (FDEC), which combines environmental information from a number of sources to create a single view of the battlefield environment.

FDEC works by layering information from the Met Office, UK Hydrographic Office, the Defence Geospatial and Intelligence Imagery Agency and the Aeronautical Information Distribution Unit to create a single digital environmental map of the area. This, in turn, assists better decision-making by senior military commanders and thus more effective military action.

When operational, the FDEC will also ensure that reliable environmental information is delivered to our Armed Forces wherever they are — be it a helicopter pilot on the front line or a senior officer at HQ — with dynamic meteorological information provided by our Joint Environmental Dynamic Data Server (JEDDS).

An initial operating capability will be developed during 2005/6. It is intended to have JEDDS fully operational by 2007/8.

Dust and sand forecasting

This year, we have been working to improve our forecasting capabilities in relation to dust and sand, which present unique challenges for the Armed Forces. For example, targeting sensors and

systems are seriously affected by dust suspended in the air, even if it is invisible to the naked eye. Preliminary work has been taking place, leading to a five-year development project which begins in 2005/6.

We have also adapted de-icing warning systems developed for commercial airlines to help military planners. We carried out further work on tactical decision aids in 2004/5 and made improvements to the way that weather information is relayed to artillery software programmes.

Mobile Met. Unit

The Mobile Met. Unit (MMU) — our Sponsored Reserve Unit of the RAF — works alongside the UK Armed Forces and has supported British and allied troops throughout the world in 2004/5.

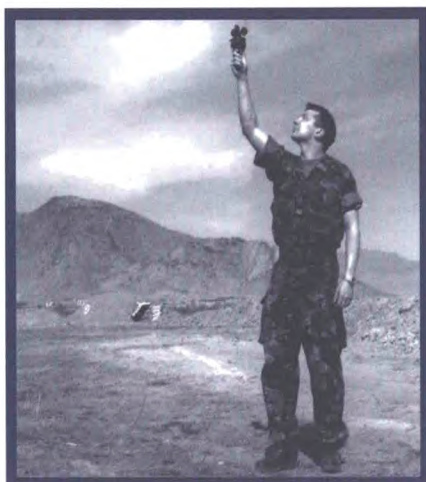
As well as the teams in Basra, Iraq, and Al Udeid, Qatar — which are part of Operation Telic — the MMU has, this year, been operating in the Balkans and Afghanistan among UN stabilisation forces, and in Lithuania as part of a NATO exercise.

The detachment at Basra has also been working in the background to assist the Iraqi Meteorological Organisation in the re-opening of its office at the airport.

Meeting the future needs of the Armed Forces

A report on the Future Military Met. Requirement was produced in Spring 2005, following a review of the way our services are delivered. The report — which involved all of the Armed Forces — will help us to align our meteorological support with their changing requirements.

This year, we have also run a trial of a joint service with the Royal Navy. Forecasters from the two organisations have been working in teams at RAF Cottesmore and RAF Wittering. Combining meteorological and military expertise in this way has helped us to provide better information to the RAF and Royal Navy pilots who operate out of these bases.



HIGHLIGHT 2004/5

We deployed our Mobile Met. Unit with the Armed Forces in Iraq and Afghanistan.

960

aircrew

960 military aircrew were trained by Met Office staff in 2004/5.

15 million

The Met Office website receives around 15 million hits per month, or between 300,000 and 400,000 hits per day.



At some times, the impact of the weather can be more serious than at others and may threaten the safety of life and property. Our online advice helps people to mitigate the effects of high-impact weather.



HIGHLIGHT 2004/5

We competed for and won a new three-year contract to provide ITV national and regional weather forecasts for England, Wales and Northern Ireland.

Delivering for our customers

New services, new contracts

In 2004/5, we continued to maintain close links with television and radio networks — winning a renewed and larger contract with ITV, while continuing our successful relationship with the BBC. Weather forecasts and information are also made available to our customers online and via the Met Office Customer Centre; with the importance of meteorology and its impact on people's daily lives highlighted in *Barometer* — the new quarterly magazine from the Met Office.

A new contract with ITV

This year, we competed for and won a new contract with ITV, to provide forecasts for the national and regional weather broadcasts for another three years. Following extensive viewer research, new graphics and fresh presentation techniques were introduced at the beginning of February 2005. Production is from two specialist media units of the Met Office in London and at Yorkshire TV.

To ensure a clear, modern approach to weather broadcasts, our London media

unit moved from the South Bank to ITN in Grays Inn Road in Spring 2005. This brings the media unit into the heart of the ITN Newsroom, enabling us to work with news teams on breaking topical weather stories. The weather sits within the recently formed 'ITV News Group' and is sponsored by Powergen.

BBC

In 2004/5 we continued our successful relationship with the BBC. In particular, the year saw the retirement of Michael Fish from the Met Office — Britain's longest-serving TV weather forecaster. He was appointed a Member of the Order of the British Empire (MBE) in the 2004 Queen's Birthday Honours List in recognition of his services to weather forecasting.

Met Office online

The Met Office website receives around 15 million hits per month — between 300,000 and 400,000 per day — with 24 February 2005 receiving the highest ever recorded hits — 1.55 million. To reflect our role as a key government agency, this year we changed our domain name to www.metoffice.gov.uk.

In Summer 2004, we introduced several functional improvements to the home page, providing easier access to a range of output such as radar and satellite data, shipping forecasts and the solar UV index.

Recognising that weather can have a high impact on people's lives and property, work began this year to refocus the website to provide more prominent and focused information during these events.

In response to customer feedback we also removed all advertising from the website.

Customer Centre

The Met Office Customer Centre continues to process a large volume of enquiries from across our key customer groups.

More than 100,000 calls were made to the Customer Centre in 2004/5, along with nearly 50,000 emails and 17,000 faxes. Enquiries ranged from simple questions about the likelihood of summer thunderstorms, to concerns about the possibility of heavy rainfall overtopping rivers and leading to localised flooding.

Barometer

Our new, quarterly corporate magazine — *Barometer* — was launched in January 2005.

Its aim is to inform all of our business partners, research associates, Government colleagues and customers of the impact of meteorology on people's lives. It replaces a number of diverse publications we produced for a variety of readers. The first issue of *Barometer* was warmly welcomed and generated positive feedback on the professionalism of the Met Office and the value of our work.

Promoting awareness of the weather

In partnership with the Department for Education and Skills (DfES), we are helping to teach schoolchildren about the impacts of weather and climate change by providing a range of teaching resources for schools.

These have included an interactive climate change CD aimed at Key Stage 4 and above; and a weather presentation kit for Key Stages 2–4 which teaches children in a fun way about forecasting the weather. Educational material on our website, including real-time data which can be used in school weather projects, has been updated and enhanced this year.

With support from DfES, we also provide an enquiry service for teachers and pupils, regularly arrange school visits to our Exeter HQ and send speakers out to educational establishments.

Public sector research

Market research was begun in 2004/5 to measure the general public's perception of the Public Met. Service (PMS) so that we can gauge whether our investment in products and services is delivering value-for-money and meeting our obligations as the UK's National Meteorological Service.

This long-term project aims to identify how members of the public access our weather information and factor it into their lives, including in a business context. By understanding the needs of different end users we can generate new PMS products and services, and develop a method of measuring their value through public reaction.

Eight focus groups were held during October 2004, as the first stage in the research process, and the results were

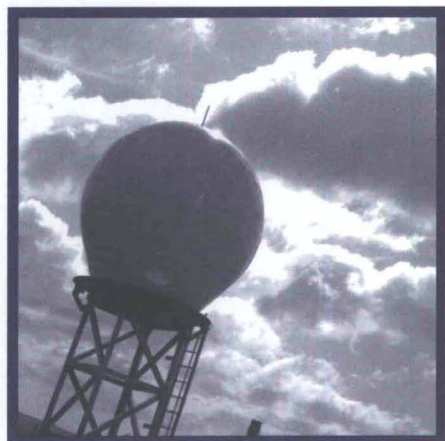
published in February 2005. The groups provided us with invaluable information, including the range of sources that are used by the public to gain weather information — with TV and radio the most popular media choices. The groups also told us that our weather information is applied in a wide variety of ways — from the casual interest of the man in the street, to the proactive decision-making of major UK businesses. The level of interest in the weather also fluctuated throughout the year depending on where an individual lived and what time of year it was.

Above all, we found that the public — particularly leisure users — perceived our severe weather warnings to be of critical importance. Significantly, the accuracy of our daily weather forecasts was considered to be improving.



£4.5 billion

Analysis of UK retail sales, conducted by Datamonitor for the Met Office, has concluded that £4.5 billion-worth of sales each year are sensitive to the weather.



5-15 minutes

12 weather radars currently keep the Met Office updated with vital weather information every 5-15 minutes.

Creating value

We continue to look at new ways of providing innovative services to private companies and the public.

In 2004/5, we added to our portfolio of Short Messaging Service (SMS), fax and telephone services with the introduction of two new mobile services via Wireless Application Protocol (WAP) and the multi-media messaging service (MMS). Using text, images and sound clips, these new services allow greater content of information while extending the range of channels and locations through which our customers can access forecasts — whether at sea, inshore or on land.

Both services have been produced in conjunction with iTouch UK Ltd, and sit alongside our Weathercall and Marinecall services.

Online services

We have also invested in new servers — Oracle Application Server and Oracle i-Store e-commerce module — helping the Met Office to be more responsive to changing market needs and quicker to market with web-based information for consumers and businesses alike.

Our enhanced web capability will enable us to expand and relaunch our MetWEB and aviation briefing services — both set to re-launch in 2005/6. With more than 40,000 registered users, our aviation briefing service is a comprehensive briefing tool that helps general aviators to stay safe in the skies, plan ahead and make the best use of their flying time; whilst MetWEB is aimed at small and medium-sized enterprises (SMEs) and marine and leisure enthusiasts to enable safe sailing, travelling and outdoor pursuits. The new products are being

redesigned following customer feedback and, once re-launched, will include online purchasing capability, greater usability and more tailored products.

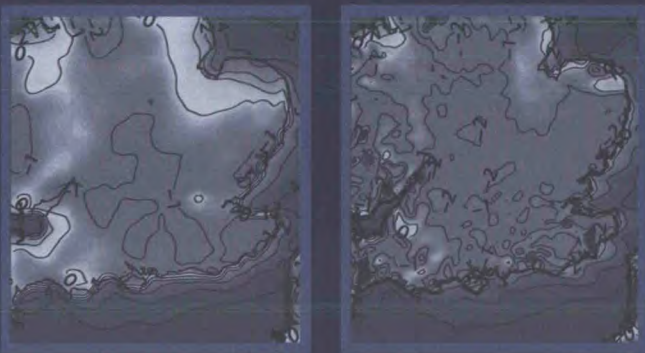
Renewed retail contract

Analysis of UK retail sales, conducted by Datamonitor for the Met Office, has concluded that £4.5 billion-worth of sales each year are sensitive to the weather.

This year, we renewed our contract with one of the UK's leading supermarket chains. The information it receives enables it to anticipate changes in consumer demand, maximise product on-shelf availability, improve timings of promotional campaigns and plan stock management up to 10 days ahead.

4 km

This year, we introduced a 4 km grid resolution to help forecast severe and high-impact weather in the UK.



Each grid in our model is like a pixel in a digital photograph, so the smaller the scale, the more weather information we can see. In the coming decade, more powerful supercomputers will help us run 1 km scale models so we can look at local weather in even greater detail.



HIGHLIGHT 2004/5

We issued more than 140 warnings of severe weather, on behalf of the Government, during Summer 2004, which was exceptionally wet with rainfall records broken across the UK.

The future forecast

National Meteorological Programme

Set up in April 2004, the National Meteorological Programme (NMP) was an important step forward in improving the governance and accountability of the Met Office. A publicly-funded programme, it is overseen by the NMP Commissioning Group (NMPCG) and tasked with overseeing and developing our underpinning capability on behalf of all customers.

The Commissioners have defined a customer requirement for the core capability out to 2010. This focuses NMP research and development priorities on improvements in the accuracy and detail of forecasts for severe weather, both in the UK and overseas on a value-for-money basis; thus helping to save lives, safeguard property and minimise disruption.

A closer focus on high-impact weather

To improve the forecasting of high-impact weather, we need to represent the processes that occur in the atmosphere more accurately. With our current 12 km grid over the UK it is not possible to forecast precisely events such as last year’s Boscastle flood, where torrential rain fell in a very small area.

Running a 4 km grid resolution post-Boscastle showed that we could have delivered better information at the time — had it been in operation. In light of this, we decided to bring forward implementation of the 4 km grid resolution model to Spring 2005.

Trials of this model are part of the development of a convective scale Numerical Weather Prediction (NWP) system, designed to help predict localised storms. While the results with a 4 km grid are encouraging, analysis has shown that a 1 km grid will be needed to forecast convective storms in sufficient detail in future.

Convective scale (1 km) models await next generation supercomputers, in the coming decade, before they can run routinely. Targeted use of such models over small domains when severe weather is likely, could be achieved with a modest increase in computer resources.

Predicting wind and fog

High-resolution models also help us to predict wind-flow over cities, and would allow us to provide vital information to the emergency services and central government departments in the event of a major chemical incident or terrorist attack.

The models further enable us to predict the severity and location of fog — a hazard to aviation, road users and the public. It does this through the better representation of individual hills on the wind and temperature — major factors in fog development.

Ensemble forecasts

Ensemble forecasts, from the European Centre for Medium-Range Weather Forecasts, involve running our computer model many times from slightly different starting conditions. Initial differences are tiny, but the chaotic nature of the atmosphere means that the subsequent forecasts can vary to a significant degree. These forecasts can be compared and combined to calculate a probability for a particular forecast, or to assess the risks associated with users’ decisions.

The current ensemble is used for forecasts 3–10 days ahead, and our forecasters can calculate the probability of severe weather occurring and issue warnings up to five days ahead for different regions of the UK. The Government, businesses and many individuals rely on these probability forecasts to plan for different weather conditions.

We are now developing higher resolution ensembles for short-range forecasts, i.e. 1–2 days ahead to provide supporting information to those involved in managing weather-related risks.

Upgrading the observations network

To improve the defence and civil aviation forecasts produced by the Met Office, we continue to upgrade our upper-air wind profiler network. The new Tropospheric Wind Profiler installed on South Uist has now become fully operational. Data processing techniques developed for use in this new system are now being used in our four Boundary Layer Wind Profilers located across the UK.

To improve the quality of very short-range forecasting systems, we are upgrading the capability of our weather radar network to measure wind speed and direction as well as precipitation.

For more than a year, we have also been field-testing a new design of the Stevenson thermometer screen at three sites in the UK. The new screens, first introduced in 2002, are made of plastic to ensure they are resilient to severe weather. Although made out of this modern, hard-wearing material, we are testing the new screens alongside the traditional wooden variety, to ensure their durability and suitability for eventual deployment across the whole of our observing network.

Delivering value

We are constantly investigating ways to increase our efficiency and have already implemented a number of improvements.

Upgrading our IT infrastructure

We increased our computing power by installing a new NEC SX-6 in June 2004, achieving six times the computing power of its immediate predecessor, the Cray T3E.

The new computer system has enabled a number of changes in the way our forecasts are prepared. First, it has allowed a huge increase in the number of satellite observations going into the model. Second, the increased processing speed has greatly improved the quality of data assimilation.

4D-Var

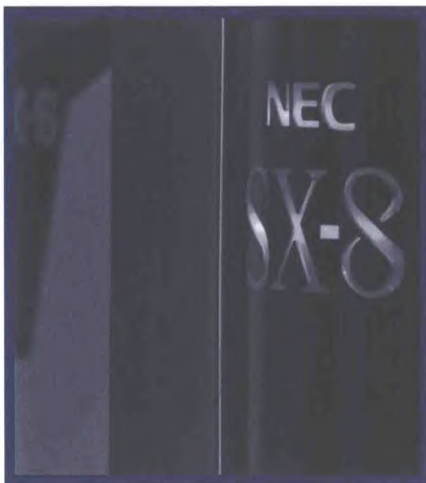
In particular, the new NEC SX-6 has enabled us to introduce a new system called four dimensional variational data assimilation (or 4D-Var). The process now takes into account time in the assimilation process as well as the three dimensions

16 operational positions

16 functional forecast and operational positions were manned 24:7:365 in our Operations Centre during 2004/5 by 115 highly trained staff.

HIGHLIGHT 2004/5

We completed the first full case study using the new global Ensemble Prediction System, as a step towards producing improved forecasts of high-impact weather systems developing in the North Atlantic and Europe.



HIGHLIGHT 2004/5

We installed an NEC SX-8 supercomputer – a world first – doubling our computing power.

of space. This is particularly useful, for example, for assimilating the continuous stream of data from the polar-orbiting satellite radiometers.

NEC SX-8

Following this initial phase, we installed the NEC SX-8 – the world's first installation – doubling our computing power again. The system was up and running at the Met Office in Exeter by 21 February 2005.

We have begun testing, with the intention of having the NEC SX-8 fully operational later in 2005. Future software upgrades could deliver further performance improvements of up to 10 per cent.

Upgrades to our mainframe computers

Upgrades to our IBM mainframe computer – used to take data from the supercomputer and turn it into forecasts

and other products – became fully operational on 26 October 2004.

The capacity of the IBM mainframe has been increased five-fold; an essential upgrade if we are to take advantage of the increased capability and data processing powers of the new supercomputer. It also enables us to take advantage of improvements in Numerical Weather Prediction (NWP).

The parallel suite

Our new computing arrangements, with mirrored systems running in separate halls, has allowed us to create a 'parallel suite' for testing changes to our models. This new system has helped us to introduce operational changes with minimal impact to operations and to maintain a more consistent NWP index – both a core responsibility and an important performance measure.

Realising potential

The Met Office is a knowledge-based organisation and places a high priority on continuous organisational and skill-based learning and development.

Learning and development

In Summer 2004, the process for selecting staff for promotion to the first step towards senior management was revised with the introduction of Selection and Development Centres. This two-part process ensures there is a strong development follow-up to the selection process, with mentors and management training being made available to candidates. There is also a renewed focus within the Met Office on the development of staff in the management role. Additionally, a new staff review process with a greater emphasis on delivery and business impact is being piloted for introduction from April 2006.



HIGHLIGHT 2004/5

We warned of heavy rainfall that resulted in severe flooding in Carlisle, so that the public, the Environment Agency and Local Authorities could take action to mitigate the worst effects.

Diversity Council
A diverse organisation is one which values difference. It is one which recognises that people with different backgrounds, skills, attitudes and experiences bring fresh ideas and perspectives. The Met Office is committed to diversity and a Diversity Council was established in 2004/5. The Chief Executive sits on the Council as Diversity Champion, along with elected representatives from all parts of the Office. The Council seeks to raise awareness and provide guidance to the Met Office on diversity issues and policies.

Business requirements
We are in the process of reviewing our remuneration strategy and grading structure to ensure it fully aligns with our business aims. Policy development and implementation ensures that the Met Office is compliant with legislation, public sector policy and best practice.

The planned improvements to our electronic HR capabilities include enhanced facilities for reporting and recording absences; linked to a revision of our policies on attendance management. Staff numbers reduced further this year from 1,822 (at 31 March 2004) to 1,767 (at 31 March 2005). This reflects continuing efficiency gains and changes in overall requirement; particularly towards greater specialist knowledge in many areas of the business.

Staff recruited during 2004/5

Male	Female	Total
58	39	97

Staff are recruited under the terms of the Civil Service Commissioners' Recruitment Code. Individual appointments are made on the basis of fair and open competition. No applications for permitted exceptions to the code were made in this year.

Policy advice for Ministers and senior department officials
In 2004, we established a Chief Advisor post, based in London, to work with Government policy-makers and ensure that the Met Office is closely aligned with the priorities of our public sector customers and stakeholders.

The Chief Advisor provides scientific advice and support to government departments, Parliamentary Select Committees and other bodies connected with the Government including, for example this year, the G8 Advisory Group. In 2004/5, the Chief Advisor worked closely with senior officials and Ministers in the Cabinet Office, the Office of the Deputy Prime Minister, the Department



36 inquiries

We have received 36 inquiries since the Freedom of Information Act 2000 was introduced in January 2005.

for Environment, Food and Rural Affairs, the Department for Transport, the Department for Trade and Industry, the Department for Education and Skills and the Department for International Development providing support, in particular, to the Government's G8 preparatory work on climate change and Africa; on improving the UK's resilience to severe weather; and on improving the capabilities that underpin new Civil Contingencies Act.

In addition, the Chief Advisor has provided evidence and support to a number of Select Committees and Parliamentary Groups, and continues to proactively promote areas in which Government can develop consistent weather-related policies and Spending Review objectives.

Ready for the new rules

As part of the Ministry of Defence, the Met Office was ready for the full introduction, in January 2005, of the

Freedom of Information Act 2000 and the Environmental Information Regulations 2004. By 31 March 2005, we had received 36 inquiries, and were able to deal with these within the timescales set down by the legislation. All were answered in full, except where the legislation allowed for some information to be withheld — for example, personal information to which the Data Protection Act 1998 needed to be applied.

The Met Office is also committed to reducing, as far as possible, the administrative burden on people who reuse public sector information. We received accreditation in 2004/5 under the Information Fair Trader Scheme of Her Majesty's Stationery Office; making a commitment to trading information fairly, and to meet five key principles — openness, transparency, fairness, compliance and challenge. In principle, the aim is to meet the needs of anyone who applies for a licence to reuse information provided by the Met Office.

More responsive services

Further changes have been made across our services, throughout the year, to make us a more responsive organisation. In March 2005, we created a centre of excellence for the Public Met. Service in the Operations Centre at Exeter. This provides a focus for our Public Met. Service activities and coordinates our response to severe and high-impact weather events.

Major improvements were simultaneously made to our contingency arrangements to ensure round-the-clock supply of data and services to the aviation community. Online graphical guidance for forecasters was introduced this year, allowing the Chief Forecaster to comment on the latest weather situation and ensure that all forecasters in the Met Office provide consistent weather advice to customers.

10 out of 13

All of the ten warmest years globally since 1861 have occurred in the past 13 years, including every year since 1997.



The 2003 heatwave was the hottest since the global instrument records began and is likely to have been the hottest since at least 1500. We predict that, by the 2040s, more than half of all European summers are likely to be warmer than that of 2003, and by the 2060s a 2003-type summer would be unusually cool.

Helping the global community

Towards a global weather forecasting system

International collaboration continues to help meteorological science and forecasting to evolve worldwide. Work is underway to deliver global weather forecasting systems, and the Met Office is playing a leading role in these projects.

Earth observations – a global effort

At present, 53 countries – including the UK which is represented by the Met Office – participate in the Group on Earth Observations (GEO), along with the European Commission and 33 international organisations. The aim is to develop a comprehensive, co-ordinated and sustained earth observation system, which will ultimately lead to the Global Earth Observation System of Systems (GEOSS); and an

initial 10-year Implementation Plan was endorsed by the UK Government at a meeting in Brussels on 16 February 2005.

GEOSS will help countries to identify and address existing and new global environmental and economic challenges, such as climate change and natural disasters.

THORPEX

We are also working in collaboration with partners around the world to develop a global, integrated and interactive forecasting system – THORPEX (The Observing System Research and Predictability Experiment). The idea is to combine forecasts from meteorological organisations overseas to create a ‘system of systems’.

The intention is to target observations where they are needed most to improve the accuracy of forecasts, especially of weather systems that are particularly difficult to track. In one of the first steps taken this year, the Met Office, with

counterparts in the USA and Canada, agreed to collaborate on the creation of a multi-model multi-national ensemble, which will eventually enable us to extend our forecasts out to two weeks for the first time.

The North Atlantic THORPEX Regional Campaign (TReC) could change forever the way that weather is observed and forecast. This multi-model ensemble system is expected to evolve into the operational arm of THORPEX.

Sponsored by the World Meteorological Organization (WMO), THORPEX is a ten-year international research programme and a key research component of the Natural Disaster Reduction and Mitigation Programme. The ultimate aim is to have a global forecasting system which can be made available to every country in the world; making a significant contribution to the WMO’s goal of halving the number of deaths due to natural disasters of meteorological, hydrological and climatic origin over the next 15 years.

**Working more closely
across Europe**

By sharing knowledge and working more closely with each other, national meteorological services across Europe have joined forces to improve services and help member countries prepare for high-impact weather.

**Collaborating on Numerical Weather
Prediction**

International collaboration to develop Numerical Weather Prediction (NWP) techniques has been one of the most important developments in meteorology in recent years. By working closely with other national meteorological services (NMSs), researchers and scientists around the world, we have been able to improve significantly the utility of our forecasts.

We freely share data and forecasts with many other NMSs, including those in the USA, Germany, Japan and France. By verifying each other's data we are able to advance our science and forecasting techniques. Collaboration also takes place

through conferences, visits, joint projects and reports, and by publishing findings in scientific journals.

NWP vision for Europe

The Met Office is taking the lead in defining the shape of European core service provision for the coming decades, built around a more coordinated approach to NWP. A vision paper was drafted in 2004/5, which was well received across Europe and will form the basis for future discussions as the ideas within it are further developed. The vision is of cooperative meteorological services which combine their various skills and capabilities to ensure that all within Europe are provided with the best forecasts possible, and relies upon supporting technology to enable multiple, geographically separated centres to generate a timely and reliant ensemble products. Such an approach will increase the effectiveness of advanced warnings of high-impact weather and enable governments, societies and economic sectors to better realise the benefit of weather-related information in critical decision-making.

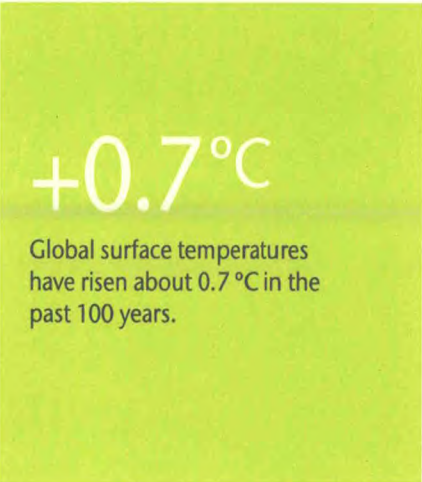
EUMETNET

The Met Office is one of the key organisations behind a European meteorological network — EUMETNET — which involves 19 NMSs. It provides the framework in which to organise co-operative programmes in basic meteorological activities such as observing, data processing, forecasting, research and development, and training.

This year, the heads of the 19 member services decided to move towards the creation of a more formal organisation, within the structure of ECOMET — the Economic Interest Grouping of the national meteorological services of the European Economic Area — that was set up in 1995 to ensure fair competition in the field of meteorology.

Improved European monitoring

Throughout the year, the Met Office continued to be actively involved in GMES (Global Monitoring for Environment and Security) — a joint European Space Agency and European Commission initiative. GMES projects are designed to improve environmental services, products and scientific understanding in a range of



150 experts

The Hadley Centre for Climate Prediction and Research employs more than 150 scientific and technical experts.

meteorological, oceanographic and climate-related areas.

We are a partner in several GMES projects, including the Global and regional Earth-system Monitoring using Satellite and in-situ data (GEMS), and EURORISK PREVIEW, the European Risk Management Prevention Information and Early Warning initiative which relates to windstorms, forest fires, plain floods and flash floods, earthquake and volcanic risks, landslides and industrial accidents.

Making use of improved satellite data

Observations from space form a vital part of our forecasting activities and climate research. The Met Office began to use Meteosat Second Generation data in its operations in late August 2004. A project is underway to develop products that use the enhanced capability of the Second Generation better, including improved imagery and image products for forecasters, such as 15-minute time sequences.

A safer world

In 2004/5, we strengthened our international position as a key Government agency and, through this, our ability to help protect lives and property around the world.

Natural disaster mitigation

We participated in the World Conference on Disaster Reduction (WCDR) held in Kobe, Japan in January 2005 as part of the UK delegation led by the Department for International Development, and also supported the WMO Public Forum Workshop at the conference. The conference outcome (the Hyogo Framework for Action) recognised the need to build on global meteorological warning systems already in place in developing early warning systems for other natural hazards.

We are also taking an active role in the Natural Hazard Working Group set up by the Government Chief Scientific Adviser, Sir David King, to advise on the mechanisms that could and should

be established for the detection and early warning of global physical natural hazards.

Work in developing countries

We continued our active participation in the WMO Voluntary Cooperation Programme (VCP), which aims to enhance meteorological services in developing countries. Highlights in 2004/5 include the provision of media systems to the Maldives and Sri Lanka to help these NMSs to provide public weather warnings; assisting the NMSs in countries emerging from conflict — such as Iraq and Afghanistan; and continued support to climate observations at remote island locations in the Atlantic, Indian and South Pacific Oceans.

Closer links with Algeria

We have been working closely with the Algerian national meteorological service to help it understand the causes of severe flooding in 2001, which struck the city of Algiers. This work forms part of a World Bank project, set up in Algeria following the deaths of 800 people in the floods, which aims to develop an early warning system to protect the country in future.

Leading research into climate change

The Hadley Centre for Climate Prediction and Research at the Met Office monitors and analyses climate change — one of the most important and controversial issues facing the world today. The Centre provides advice on a regional and global scale, which helps the Government, businesses and society make better informed decisions on the control of harmful emissions and how to adapt to the effects of climate change.

Our new model, HadGEM1 (Hadley Global Environmental Model 1) is now fully operational and takes advantage of the increased computing power made available to us by our new NEC SX-8 supercomputer.

The Hadley Centre is now starting to run ensemble climate models to gain a better understanding of the uncertainty inherent in climate prediction. We are also adding more factors to our climate models, such as the effects of the carbon cycle and biochemistry. These climate

models will inform both the UK Climate Impact Programme report and the Intergovernmental Panel on Climate Change assessment to be published in early 2007.

We are also starting to run regional climate models to predict the effects of climate change here in the UK. This research will help people to understand what climate change will mean for them and how it will affect their lives. It will also help the Government and businesses to prepare for these changes.

Heatwaves to become more frequent

Human activity — mainly the burning of fossil fuels — has increased greenhouse gases in the atmosphere and more than doubled the risk of record-breaking hot European summers, like that of 2003.

This heatwave was the hottest since the global instrument records began and it is likely to have been the hottest since at least 1500.

In the future, such extreme heatwaves are likely to become more frequent because of continued man-made climate change. We predict that, by the 2040s, more than half of all European summers are likely to be warmer than that of 2003, and by the 2060s a 2003-type summer would be unusually cool.

Climate change signals not affected by urban heat islands

Temperatures over large urban areas sometimes exceed those in the surrounding countryside, due, for instance, to differences in how much light the ground absorbs, heat storage, different amounts of available surface moisture, and locally produced heat in urban areas.

This is the urban heat island effect, and has led to concerns that urbanisation near weather stations may have affected temperature measurements, possibly explaining some of the findings on global warming. This year, the Hadley Centre used one of the characteristics of urban heat islands — that they mainly occur at night at times when winds are calm — to investigate whether this concern is valid.

We found that the rate of warming is the same during calm and windy periods, indicating that urban heat island effects have not introduced significant biases into estimates of recent global warming trends.

International collaboration

We continue to strengthen our collaboration with climate researchers and scientists around the world. Running climate models requires a huge amount of computer time, so sharing information and models allows the scientific community to make best use of the resources available.



HIGHLIGHT 2004/5

We hosted a three-day conference on Avoiding Dangerous Climate Change, with the Department for Environment Food and Rural Affairs, which was attended by more than 200 international scientists and experts.



10%

The UK is committed to increasing the amount of electricity it generates through renewable sources to 10% by 2010.

Universities in the UK are already using the new HadGEM1 model on their own computers to carry out research. We are also cooperating closely with researchers in Japan, where higher resolution versions of HadGEM1 have been run on the Earth Simulator.

Hosting a climate change conference

In February 2005, the Met Office hosted a three-day conference on Avoiding Dangerous Climate Change — attended by more than 200 international scientists and experts. The conference, organised by the Department for Environment, Food and Rural Affairs, was designed to advance the scientific understanding of the long-term implications of climate change.

Radical changes in how the world generates and uses energy will be needed to combat the global challenge of climate change, the conference concluded. This requires an international approach as no single country can solve the problem by acting alone. Science must underpin the serious debate to understand how much different levels of climate change may affect the world, specific regions and particular sectors. The conference also stressed the importance of government leadership in sending signals to the market to stimulate investments in new technology by industry and investors to begin the move to a lower carbon economy.

Services for the energy sector

It is energy that helps people travel and heat their homes, and which powers UK businesses. People expect energy to be available whenever they want it, to be affordable, safe and environmentally sustainable. Customer demand for electricity or gas changes from hour to hour and day to day, but as the world's reserves of oil, coal and gas begin to be eroded, energy systems across the globe face new challenges.

Temperature, humidity, wind-speed and direction are the primary drivers for estimating consumer demand for power and heating from electricity and gas. Additionally, rainfall and cloud cover predictions help to estimate the need for lighting. The Met Office provides specific services to help predict these drivers and has a significant contract for the supply of weather information to National Grid Transco — which operates the primary high-voltage electricity system in England and Wales — as well as the majority of energy generators, distributors and suppliers.

Wind and wave energy

The UK energy industry is increasingly using renewable, environmentally-friendly sources — such as wind farms, solar power plants and offshore tidal and wave generating stations — and relies heavily on our weather services to operate these successfully.

This year, we have developed our forecasting capability for the wind energy sector. We provide historic and real-time observations to wind power companies, to help them plan where to site a wind farm and to inform its construction and equipment maintenance. We have also developed new higher resolution and site specific forecasts, to aid power output prediction — crucial for the variable resource that is wind energy.

In addition, we are actively involved at the very start of work to define the best sites for future wave energy generation.

Performance

Operating and financial review

Description of the business

The Met Office is a world-leading provider of environmental and weather-related services in the UK and around the world.

Aims and objectives

The overall objective of the Met Office is to deliver value to the UK taxpayer, by using its assets and capabilities to the benefit of Government, the economy, the environment and society in general.

As a Trading Fund, the Met Office is required to charge for the services it provides, in line with the Government's pricing policy. The objectives of the Met Office are set out on page 3.

Operating review

Key Performance Targets are agreed each year between our Owner, the Under Secretary of State for Defence, and the Chief Executive. These financial and non-financial targets are the means of measuring the performance of our business. Further information regarding our performance against the Key Performance Targets for 2004/5 is shown on page 36.

Turnover increased by 3.0% from £160.8 million in 2003/4 to £165.6 million. The growth in revenue is largely attributable to increased funding of core activities within the National Meteorological Programme (formerly known as the Core Programme) and growth in funding of research from Defra and the Ministry of Defence. Our commercial services revenue remained static at £20.4 million.

Operating profit for the year amounted to £9.5 million compared to an operating loss of £9.2 million for 2003/4. This is mainly due to the reduction in costs associated with the relocation from Bracknell to Exeter. The average number of staff employed has decreased from 1,829 to 1,799.

Profit on ordinary activities for the year was £13.0 million compared to £2.7 million for 2003/4. During the year, a profit on disposal of fixed assets of £4.0 million was made, primarily in respect of the sales of two freehold sites in Bracknell, which became non-operational following the relocation to Exeter.

A dividend of £6.0 million, payable to our Owner, has been proposed.

Investment

Capital expenditure in 2004/5 was £22.1 million, of which £18.0 million related to investment in the Meteosat Second Generation satellites. Freehold land and buildings (which had become non-operational following relocation) with an original cost of £13.0 million were disposed of during the year.

Future strategic direction

As detailed in the Foreword to the Accounts on page 40, a major review of the purpose and strategic direction of the Met Office took place during the year. This has been incorporated into the Corporate Plan 2005/6 to 2009/10. The review has resulted in a change to a matrix-managed organisation. It is anticipated that managing our business in this manner will deliver a number of benefits in terms of service, performance, efficiency levels and customer focus and satisfaction.

Details regarding the risk management process in place at the Met Office are contained within the statement on the system of internal control on page 42.

Financial review

Treasury policy

Certain payments to international bodies in respect of international subscriptions, and contributions to satellite programmes are paid in foreign currency. To manage the foreign exchange risk, the Met Office policy is to buy forward foreign currency to meet these payments in accordance with anticipated payment profiles.

The Met Office follows Treasury rules by investing all surplus funds on deposit with HM Treasury. Up to 17 January 2005 surplus funds were deposited in the National Loans Fund. Since this date, surplus funds have been deposited with the UK Debt Management Office.

The Met Office does not have any exposure to liquidity risk as it has no borrowings.

Cashflows and liquidity

Cash balances totalled £20.7 million as at 31 March 2005, an increase of £1.6 million when compared to 31 March 2004. Net cash inflow from operating activities for 2004/5 was £24.9 million (2003/04, £23.6 million). The sale proceeds relating to the disposal of our sites at London Road and Beaufort Park, Bracknell, resulted in a cash inflow of £12.4 million during 2004/5. Additional amounts are due to be received in 2005/6 in respect of the sale of Shinfield Park. These receipts are being spread over the years 2003/4, 2004/5 and 2005/6 in line with the sale agreement.

Total debtor balances decreased by £5.3 million compared to 2003/4. Average debtor days fell from 52 days at 31 March 2004 to 44 days at 31 March 2005. Total creditor balances decreased by £17.7 million compared to 2003/4. This is largely a result of the settlement of deferred payments in respect of international subscriptions, payments to the construction contractor for the Exeter HQ building and payments made in respect of finance leases.

Key Performance Targets 2004/5

Each year, the Chief Executive and the Under Secretary of State for Defence agree our Key Performance Targets (KPTs). These are the means of measuring the performance of our business and are intended to be demanding. The table on page 38 shows the values of the Targets set and the results for 2004/5. This has been a challenging year – we have met three out of six of our Key Targets.

<div>GROWTH</div> <div>4.1%</div> <div>Direct services revenue growth This measures revenue growth in direct services, i.e. excluding National Met Programme and most of Public Services, therefore covering approximately half of all Met Office revenue. The target required growth of 4.1% (compared to the 03/04 baseline) in revenue from both Government and non-Government sources, while maintaining overall profitability (as a percentage of cost). Difficult trading conditions, especially in our commercial services, caused us to miss the non-Government element of the target, although we achieved 4.0% growth overall and maintained profitability.</div>	<div>FINANCIAL – PROFIT</div> <div>£15.5m</div> <div>Profit before strategic investments We have increased our profit before strategic investments for the third successive year, once again exceeding the target. Our strategic investments were within the required target range of £5.8m–6.8m.</div>	<div>FORECAST ACCURACY</div> <div>1.4 NWP Index</div> <div>An increase in NWP Index by 31 March 2005 The accuracy of our published forecasts is heavily dependent on the accuracy of our NWP models, which are run twice a day on a global scale and four times on a local scale for the UK. Our NWP Index monitors this performance on a rolling three-year basis. During 2004/5, the NWP Index continued to increase, but missed its target narrowly. All forecast accuracy measures are, to a greater or lesser extent, sensitive to changes in the weather patterns. The NWP index removes these effects as far as possible, but it can be affected by high levels of atmospheric persistence. From December 2004 to February 2005 these types of weather conditions occurred over the UK, causing the UK element of the index to decline. In contrast, a comparison of our global forecasts with those made by other major national met. services over this same period showed that the Met Office continued to improve the relative accuracy of its predictions.</div>
<div>EFFICIENCY</div> <div>Target for FY04/05</div> <div>Develop a new efficiency measure This was not achieved. A measure was developed but the Executive recognised there are difficulties inherent in any measure based on efficiency alone and that a measure of value might be more appropriate. Work continues to define such a target for FY05/06.</div>	<div>FREEDOM OF INFORMATION</div> <div>01.01.2005</div> <div>Ready for full introduction This was a one-off target to ensure we have the procedures in place to deal with Freedom of Information requests from 1 January 2005. We met this target, conducted a post-implementation review and found that procedures were working successfully.</div>	
	<div>FINANCIAL – RETURN ON CAPITAL</div> <div>3.5%</div> <div>Return on Capital Employed (ROCE) 2004/5 marks the start of a new five year period of ROCE measurement. Our KPT for the year was 3.5% supporting a target of an average of 3.5% over the whole five year period. ROCE was 7.6%, exceeding the target comfortably.</div>	

Key Performance Targets 2005/6

The following Key Performance Targets (KPTs) have been set for the Chief Executive of the Met Office and announced in Parliament for the financial year (FY) 05/6. The targets are designed to drive change to create an environment for growth, whilst delivering value-for-money.

<div><div>EFFICIENCY</div><div><div>Target for FY05/06</div><div>Supporting wider government goals Improving efficiency is fundamental for the future success of the Met Office. This KPT forms the basis for delivering future efficiencies by: defining — in costed-output terms — the services to be provided to key central government departments and agreeing formal customer-supplier contracts with each such department. It also includes work with MoD to pilot a new incentive pricing mechanism which allows the benefits of cost-reductions to be shared between both organisations.</div></div></div>	<div><div>FORECAST ACCURACY</div><div><div>3 capability and accuracy measures</div><div>Services to the public The core role of the Met Office is to deliver the UK's National Meteorological Service, which comprises two elements: the Public Meteorological Service (PMS) and the National Meteorological Programme (NMP). This KPT continues to build our underpinning capability and improve the accuracy of our forecasts to the public. The Met Office will achieve this through:<ul style="list-style-type: none">• an increase of at least 1.2 (to 114.9) in the value for the Numerical Weather Prediction Index (measuring forecasting skill);• at least 83% on accuracy for maximum temperature within 2°C of forecast, and at least 78% on accuracy for minimum temperature within 2°C of forecast (36-month rolling mean) for the next-day 11 cities' forecast; and• a positively orientated Brier Score of at least 0.855 for probability of precipitation (36-month rolling mean) for the next-day 11 cities' forecast.</div></div></div>	<div><div>FINANCIAL – PROFIT</div><div><div>£2.8m</div><div>Services provided on a commercial basis The Met Office is to maximise the return to the taxpayer by drawing in profitable revenue from sources not directly funded by the Exchequer, including local government organisations, public bodies overseas and private sector customers. By achieving this KPT the Met Office will show a profit of £2.8m from services provided on a commercial basis.</div></div></div>
<div><div>FINANCIAL – RETURN ON CAPITAL</div><div><div>3.5%</div><div>Creating value The overall objective of the Met Office is to deliver value to the UK taxpayer, by using its assets and capabilities to the benefit of the Government, the economy, the environment and society in general. This KPT delivers at least 3.5% Return on Capital Employed.</div></div></div>		<div><div>STAFF SATISFACTION</div><div><div>Target for FY05/06</div><div>Organisational excellence In delivering the main customer driven objectives, the Government requires the Met Office to demonstrate organisational excellence. This KPT will create a benchmark to demonstrate future improvement in the leadership and implementation of the Corporate Plan.</div></div></div>

Performance against Key Ministerial Targets

	2002/3		2003/4		2004/5		2005/6
	Target	Achieved	Target	Achieved	Target	Achieved	Target
Forecast Accuracy							
1a. NWP Index (1)	109.5	110.0	111.8	112.5	113.9	113.7	114.9
1b. Maximum temperature accuracy (5)	n/a	n/a	n/a	n/a	n/a	n/a	83%
1c. Minimum temperature accuracy (5)	n/a	n/a	n/a	n/a	n/a	n/a	78%
1d. Precipitation accuracy (6)	n/a	n/a	n/a	n/a	n/a	n/a	0.855
Financial							
2a. Profit before strategic investments	£13.3m	£13.8m	£14.0m	£14.8m	£15.5m	£15.9m	n/a
2b. Strategic investments	£17.9m to £20.9m	£18.9m	n/a	n/a	£5.8m to £6.8m	£6.4m	n/a
3. Return on Capital Employed (2)	>0%	-3.4%	Support long term target of average of 4% April 02 – March 07	1.4%	3.5% in support of long term target of 3.5% April 04 – March 09	7.6%	3.5% in support of long term target of 3.5% April 04 – March 09
4. Direct Services Revenue Growth	n/a	n/a	n/a	n/a	Government 4.1% Non-Government 4.1% Maintain Profitability at 7.9%	5.7% 0.0% 10.6%	n/a n/a n/a
5. Commercial Activities Contribution	£3.8m	£3.65m	£4.0m	£4.5m	n/a	n/a	n/a
6. Profit on commercial services (7)	n/a	n/a	n/a	n/a	n/a	n/a	£2.8m
Other Performance							
7. Freedom of Information	n/a	n/a	n/a	n/a	Set up procedures for 1 Jan 05	✓	n/a
9. Efficiency							
9a. CSA – central government customers (8)	n/a	n/a	n/a	n/a	n/a	n/a	Create
9b. CSA – central government customers (8)	n/a	n/a	n/a	n/a	n/a	n/a	Agree
9c. Pricing mechanism for defence	n/a	n/a	n/a	n/a	n/a	n/a	Establish
8. Develop Efficiency Measure	n/a	n/a	n/a	n/a	Develop	x	n/a
10. Staff Skills Index	n/a	n/a	107.5	105.1	n/a	n/a	n/a
11. Operational at Exeter	n/a	n/a	September 03	August 03	n/a	n/a	n/a
12. Efficiency Index (3)	120.5	118.4	120.1	121.0	n/a	n/a	n/a
13. Service Quality Index (4)	115.4	130.3	120.1	149.3	n/a	n/a	n/a
14. Staff satisfaction benchmark	n/a	n/a	n/a	n/a	n/a	n/a	Establish

(1) The baseline for the NWP Index is 100.0 as at 31 March 2000.

(2) See also note 2 to the accounts on page 52.

(3) The baseline for the Efficiency Index is 100.0 as at 31 March 2000.

(4) The baseline for the Service Quality Index is 100.0 as at 31 March 1997.

(5) Next-day maximum/minimum temperature forecast (within 2 °C) for 11 cities.

(6) Probability of next-day precipitation forecast for 11 cities. 1= perfect score.

(7) Profit from services provided on a commercial basis.

(8) CSA = Customer Service Agreement

Report by the Comptroller and Auditor General on the Met Office's Statement of Performance against 2004/5 Key Performance Targets

The Chief Executive of the Met Office has asked me to validate performance against the 2004/5 Key Targets.

Respective responsibility of the Met Office, the Chief Executive and the Auditor

The Met Office and Chief Executive are responsible for the measurement and reporting of the Trading Fund's performance against the Key Targets.

I examine and conclude on whether the Trading Fund has met its requirements under the Cabinet Office's guidance

(January 2003) on Next Steps Agencies Annual Reports to:

- provide full details of performance against all the Met Office's Key Targets;
- ensure that all performance information is reliable and fairly presented.

Basis of conclusion

The validation includes an examination, on a test basis, of evidence relevant to the amounts and disclosures of the outturns and achievements included within the Statement. It also includes an assessment of the significant judgements and methodologies made by the Met Office and the Chief Executive in the Statement's preparation.

Conclusion

The Statement of Performance above includes all the Met Office's 2004/5 Key Targets. It reliably and fairly presents the Agency's performance against Key Targets. I have no observations to make on this Statement.

John Bourn

Comptroller and Auditor General
14 July 2005

Accounts

Foreword to the accounts

These accounts have been prepared following the Direction given by HM Treasury on 16 February 2005 in line with section 4(6)(a) of the Government Trading Funds Act 1973.

History
The Met Office was set up as the Meteorological Department of the Board of Trade in 1854. Separate meteorological branches for each of the Armed Forces were created in 1914. We became part of the Air Ministry in 1920 and then part of the Ministry of Defence in 1964. We became an Executive Agency in 1990 and started operating as a trading fund in 1996, following Statutory Instrument SI 1996/774.

Review of activities
Our principal activities are set out on page 3, in 'Our objectives'.

Governance
During 2003/4 the Met Office reviewed its corporate governance structure. In July 2004 the Met Office Owner's Council replaced the UK Meteorological Board. The Met Office Owner's Council assists and advises our owner, the Secretary of State for Defence, to determine and articulate the Government's meteorological strategy. The Owner's Council meets biannually and is chaired by the Under Secretary of State for Defence. The Owner's Council is attended by senior representatives from Defra, DTI,

FCO and the Met Office Chief Executive. Further details of the Owner's Council members can be found on page 6/7.

The Met Office Board meets monthly – more detail on the Board members can be found on page 7. The purpose of the Met Office Board is to oversee and scrutinise the Office's plans and performance, on behalf of the Owner.

During 2004/5 monthly Executive Council meetings (formerly Executive Committee until August 2004) assisted with the day-to-day operational management of the Office. Following the review of the governance structure, the Executive Council was disbanded in April 2005 and replaced with weekly Executive meetings attended by the Chief Executive and the Executive Directors. The Audit Committee also forms part of the corporate governance structure ensuring that appropriate financial risk management procedures are in place, following the Code of Best Practice from the Cadbury Committee on Financial Aspects of Corporate Governance. The Reward and Recognition Committee (which reports to the Met Office Board) considers pay and bonus proposals for staff employed within the Met Office.

Register of Interests
The Met Office maintains a public Register of Interests which details company directorships and other significant interests held by Board Members which

may conflict with their management responsibilities. Persons wishing to view the Register should apply in writing to the Human Resources Director, Met Office, FitzRoy Road, Exeter, EX1 3PB.

Major initiatives during 2004/5
During the year, a major review of the purpose and strategic direction of the Met Office was undertaken. This has been incorporated into the Met Office Corporate Plan 2005/6 to 2009/10, approved by the Under Secretary of State for Defence on 12 July 2005. The review has resulted in a change to a programmed organisation. There are 14 business programmes ranging from Health, Marine, Road & Rail to Climate and International. There are also 11 functional programmes which deal with areas such as Corporate Services, Facilities and Technology Research & Development. Each programme has been assigned two Executive Directors, one to act as a Performance Director and the other as a mentor.

Alongside the review of the purpose and strategic direction of the Office, improvements have been made to the corporate governance of the Met Office. Each body, from the Met Office Owner's Council to the Executive, has a clear purpose and the relationship between each body and how they relate to the management structure of the Met Office is now better defined.

Results for the year and appropriations

The profit for the financial year was £12.3 million (2003/4, £1.9 million). A proposed dividend of £6.0 million will be paid to the Ministry of Defence for the year. A retained profit of £6.3 million (2003/4, £1.9 million) has been transferred to the general reserve.

A financial review commentary is provided within the operating and financial review on page 34/35.

Details regarding the performance against key financial targets for 2004/5 are contained within Note 2 to the Accounts. Further details are contained in the Annual Report.

Fixed assets

The Beaufort Park and London Road, Bracknell freehold sites, which became non-operational during 2003/4, were sold during the year. Details regarding the profit on disposal are contained in Note 6 to the Accounts.

Payment policy

We pay suppliers directly from the Met Office. Our policy is to pay within contracted payment terms or, without specifically agreed terms, within 30 days of either receiving a valid invoice (see Better Payment Practice Code) or of the delivery date, if later. In 2004/05, we paid 98.73% of our bills on time (2003/04, 99.79%).

Audit services and costs

In addition to undertaking the audit of the financial statements required under the Government Trading Funds Act 1973, at a cost of £62,000, the Comptroller and Auditor General has also performed an audit of the key performance indicators, at a cost of £18,000.

Research and development

We carry out a programme of applied research and development in support of our operational services. Under a contract with the Department for Environment, Food and Rural Affairs we also carry out additional research and development to provide forecasts to assess the man-made impact on climate change.

Employee involvement

The Met Office Functional Whitley Committee and its sub-committees provide the formal mechanisms for consultation with staff. We regard the health, safety and welfare of our employees and others working on our behalf, to be of paramount importance. We employ a full-time Health and Safety Officer to ensure that everyone is fully aware of new and existing requirements and of their responsibilities. Employees can be involved through the Health and Safety sub-committee of the Functional Whitley Committee. In addition, we consult the Trades Unions on a range of

staff related issues, including our Investor in People accreditation. We inform staff of new developments in the Met Office through monthly corporate briefings and Q&A sessions, on the intranet and various forums for dialogue between all grades of staff.

During 2004/5 the Met Office established a Diversity Council to raise awareness and provide guidance on diversity issues and policies. The Chief Executive is a member of the Council, together with elected representatives from all parts of the Office.

Disabled persons

We are committed to a policy of Equal Opportunity, recognised in 1999 through 'Positive about Disabled People' accreditation, including a Guaranteed Interview Scheme for applicants with disability who meet the criteria for advertised vacancies. The only test we apply for recruitment, retention or advancement is the ability to do the job.



Dr. David Rogers
Chief Executive
12 July 2005

Statement on the system of internal control

1. Scope of responsibility

As Accounting Officer, I have responsibility for maintaining a sound system of internal control that supports the achievement of the Met Office's policies, aims and objectives, whilst safeguarding the Met Office funds and assets for which I am personally responsible in accordance with the responsibilities assigned to me in Government Accounting.

The Met Office is a Trading Fund within the Ministry of Defence and, as such, is accountable to the Secretary of State for Defence. The Met Office Owner's Council (MOOC), which is chaired by the Under Secretary of State and which acts as the representative of our owner, convenes bi-annually (or as required) to review the performance of the Met Office against its key performance targets and business plan objectives that are agreed by Parliament. The MOOC also advises me on the management of major strategic risks. In addition, the Audit Committee comprising non-executive members of both the MOOC and the Met Office Board, and which reports to the Met Office Board, supports me in my Accounting Officer role.

2. The purpose of the system of internal control

The system of internal control is designed to manage risk to a reasonable level rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable and not absolute assurance of effectiveness.

The system of internal control is based on an ongoing process designed to identify

the principal risks to the achievement of Met Office policies, aims and objectives; to evaluate the likelihood of those risks being realised; the impact should they be realised; and to manage them efficiently, effectively and economically. The system of internal control has been in place in the Met Office for the year ended 31 March 2005 and up to the date of approval of the annual report and accounts, and accords with Treasury guidance.

3. Capacity to handle risk

A corporate risk management process is one of the key processes of the Met Office's ISO9001 Business Management System. This process provides guidance to all staff involved in risk management activities and includes best practice guidance on managing risk in all Met Office activities but especially project, programme and corporate risk. The Met Office Board and the Audit Committee have endorsed this process. All Directors and Senior Managers have the authority to manage risks as part of their responsibilities.

4. The risk and control framework

In the Met Office the major corporate risks are continually identified and refined through workshops and structured interviews with Directors and Senior Managers. These risks are recorded in the Corporate Risk Register. This is maintained by the Corporate Risk Co-ordinator who ensures that the risks are regularly reviewed.

The assigned risk owner, in conjunction with the Corporate Risk Co-ordinator, assesses the risks and identifies potential risk mitigation activities for agreement by the Met Office Board. The Board is also

responsible for determining the Met Office's appetite for risk. This is carried out as an on-going process dictated by current circumstances. The Audit Committee reviews the risk management strategy adopted by the Met Office and, in particular, assesses the adequacy of the internal controls operating within all key processes in relation to risk identification, assessment, response and monitoring. It also reviews the Corporate Risk Register on a regular basis.

During the course of the year I instituted a change in strategic direction to align us more closely, through our owner, with the interests of Her Majesty's Government and international partners in providing a public service to protect lives and property. As a result of this change, and the implementation of a programme-based matrix management structure, the governance framework, and the risk management process are being revised through a combination of changing roles and responsibilities, updating underlying systems, and modifying the strategic risk framework. Once completed, this work will ensure that any weaknesses arising from the interaction of the individual components of the governance framework are minimised.

A high level workshop identified the key strategic risks associated with our new course, and out of this work a new strategic risk register has been developed. Underpinning this is the operational risk register, which will in turn be supported by a set of programme risk registers to enable risk management to be embedded at all levels in the Met Office.

A Programme Office will support the matrix programme structure, in conjunction with the Executive and the Corporate Risk Co-ordinator, ensuring that risks arising from the programmes and from elsewhere are identified, integrated, escalated, and managed as appropriate. The Met Office College will assist the Programme Office in training and advising programme and project managers on risk management.

5. Review of effectiveness

As Accounting Officer, I also have responsibility for reviewing the effectiveness of the system of internal control. My review of the effectiveness of the system of internal control is informed by the work of the internal auditors and the executive managers within the Met Office who have responsibility for the development and maintenance of the internal control framework, and comments made by the external auditors in their management letter and other reports. I have been advised on the implications of the result of my review of the effectiveness of the system of internal control by the Board, the Audit Committee. A plan to address weaknesses and ensure continuous improvement of the system is in place.

The Met Office Board is responsible for defining Met Office strategy. The Executive Council is responsible for managing the implementation of Met Office strategy. The Met Office Board monitors the strategic performance of the Met Office and the associated strategic risks. The Executive Council reviews the day-to-day business

performance of the Met Office, including the achievement of our business plan objectives and the associated operational risks. The system of internal control is enhanced further through the Investment Appraisal Committee (capital and other investments), the Bid Appraisal Committee (major sales bids), which reports to the Executive Council, and the Audit Committee, which has full oversight of the internal control framework, and advises the Met Office Board of its effectiveness.

The Met Office's internal audit function was carried out during 2004/5 by PKF, an independent firm of accountants and business advisors, to the standards defined in the Government Internal Audit Manual. The internal audit plans are informed by the Met Office's risk profile, and by the work of other review mechanisms. These plans are continuously reviewed for effectiveness and synergy with other audit activity. In addition to the planned audit reviews, a number of additional reviews have been carried out in areas identified as being potentially high risk. The Audit Committee approves the Internal Audit programme, which includes the review of business continuity plans.

The Met Office Business Management System contains clearly defined processes for our key business activities, as demanded as part of our ISO9001 certification. These processes, including the Risk Management Process, are subject to regular Management Review and internal process audit to check for conformance and to identify opportunities for continuous improvement.

6. Significant issues associated with risk and control

Although all the major elements of the internal control structure appear to be properly constituted and generally working well when considered in isolation, this has not prevented the following situation arising. During 2004/5, certain financial decisions were taken in circumstances which involved the potential to give rise to conflicts of interest and which, with the benefit of hindsight, may not have been in the best financial interests of the Met Office. The changes to the governance framework outlined above are being introduced to address potential conflicts of interest and ensure that any future investments of this nature will be subject to best practice governance. These changes should be fully operational during 2005/6.

As a result of the ongoing revisions to overall governance during 2004/5, there were instances when some individual controls were not fully operational, but I am satisfied that sufficient level of internal control was exercised over Met Office activities at the corporate level throughout this period.



Dr. David Rogers
Chief Executive
12 July 2005

Statement of the responsibilities of the Agency and the Chief Executive

Under section 4(6)a of the Government Trading Funds Act 1973, HM Treasury has directed the Met Office to prepare a statement of accounts for the 2004/5 financial year in the form and on the basis set out in the Accounts Direction issued on 16 February 2005. The accounts are prepared on an accruals basis and give a true and fair view of the Met Office's state of affairs at the year-end and of its income and expenditure, total recognised gains and losses and cash flows for the financial year.

In preparing the accounts, the Agency is required to:

- observe the Accounts Direction issued by HM Treasury, including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis;
- make judgements and estimates on a reasonable basis;
- state whether applicable accounting standards have been followed, and disclose and explain any material departures in the financial statements;
- prepare the financial statements on the 'going concern' basis, unless it is inappropriate to presume that the Agency will continue in operation.

HM Treasury has appointed the Chief Executive of the Met Office as the Accounting Officer for the trading fund. His relevant responsibilities as Accounting Officer, including responsibility for the propriety and regularity of the public finances and for the keeping of proper records, are set out in the Accounting Officer's Memorandum, issued by HM Treasury and published in Government Accounting.

The Certificate and Report of the Comptroller and Auditor General to the Houses of Parliament

I certify that I have audited the financial statements on pages 46 to 69 under the Government Trading Funds Act 1973. These financial statements have been prepared under the historical cost convention as modified by the revaluation of certain fixed assets and the accounting policies set out on pages 50-52.

Respective responsibilities of the Met Office, the Chief Executive and Auditor
As described on page 44, the Met Office and Chief Executive are responsible for the preparation of the financial statements in accordance with the Government Trading Funds Act 1973 and Treasury directions made thereunder and for ensuring the regularity of financial transactions. The Met Office and the Chief Executive are also responsible for the preparation of the other contents of the Annual Report. My responsibilities, as independent auditor, are established by statute and I have regard to the standards and guidance issued by the Auditing Practices Board and the ethical guidance applicable to the auditing profession.

I report my opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the Government Trading Funds Act 1973 and Treasury directions made thereunder, and whether in all material respects the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them. I also report if, in my opinion, the Foreword is not consistent with the financial statements, if the Accounting Officer has not kept proper accounting records, or if I have not received all the information and explanations I require for my audit.

I read the other information contained in the Annual Report and consider whether it is consistent with the audited financial statements. I consider the implications for my certificate if I become aware of any apparent misstatements or material inconsistencies with the financial statements.

I review whether the statement on pages 42-43 reflects the Met Office's compliance with Treasury's guidance on the Statement on Internal Control. I report if it does not meet the requirements specified by Treasury, or if the statement is misleading or inconsistent with other information I am aware of from my audit of the financial statements. I am not required to consider, nor have I considered whether the Accounting Officer's Statement on Internal Control covers all risks and controls. I am also not required to form an opinion on the effectiveness of the Met Office's corporate governance procedures or its risk and control procedures.

Basis of audit opinion

I conducted my audit in accordance with United Kingdom Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts, disclosures and regularity of financial transactions included in the financial statements. It also includes an assessment of the significant estimates and judgements made by the Met Office and Chief Executive in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Met Office's circumstances, consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations which I considered necessary in order to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by error, or by fraud or other irregularity and that, in all material respects, the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them. In forming my opinion I have also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In my opinion:

- the financial statements give a true and fair view of the state of affairs of the Met Office at 31 March 2005 and of the profit, total recognised gains and losses and cash flows for the year then ended and have been properly prepared in accordance with the Government Trading Funds Act 1973 and directions made thereunder by Treasury; and
- in all material respects the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

I have no observations to make on these financial statements.

John Bourn

Comptroller and Auditor General
14 July 2005
National Audit Office
157–197 Buckingham Palace Road
Victoria
London SW1W 9SP

Profit and loss account

for the year ended 31 March 2005

	Notes	2004/5 £ 000	2003/4 £ 000
Turnover	3	165,580	160,775
Cost of sales	4, 6, 8	(126,933)	(131,496)
Gross profit		38,647	29,279
Selling and distribution costs	4, 8	(8,755)	(9,313)
Administrative expenses	4, 8	(20,039)	(30,754)
Other operating (expense) / income	5	(329)	1,581
Operating profit / (loss)	6	9,524	(9,207)
Profit / (loss) on disposal of fixed assets	6	3,975	24,528
Exceptional items	6	(463)	(12,599)
Profit / (loss) on ordinary activities		13,036	2,722
Interest receivable		1,051	695
Interest payable	7	(1,811)	(1,526)
Profit for the financial year		12,276	1,891
Dividend proposed		(5,998)	—
Retained profit / (loss)		6,278	1,891
Return on capital employed (ROCE)	2	7.6%	1.4%

The notes on pages 50 to 69 form part of these accounts.
The movement on the General Reserve is set out at note 17 on page 64.

Balance sheet

as at 31 March 2005

	Notes	31 March 2005		31 March 2004	
		£ 000	£ 000	£ 000	£ 000
Fixed assets					
Tangible assets	9		191,457		198,547
Investments	10		1,533		1,200
			192,990		199,747
Current assets					
Stocks	11	559		874	
Debtors and prepayments	12	56,631		50,189	
Cash on deposit	13	20,500		18,800	
Cash at bank and in hand	13	226		300	
		77,916		70,163	
Creditors: amounts falling due within one year					
	14	(68,987)		(68,872)	
Net current assets			8,929		1,291
Debtors: amounts falling due after more than one year					
	12		—		11,700
Creditors: amounts falling due after more than one year					
	14		(11,674)		(29,522)
Total assets less liabilities			190,245		183,216
Financed by:					
Provisions for liabilities and charges	15		14,492		15,641
Capital and reserves					
Public dividend capital		58,867		58,867	
Revaluation Reserve	16	12,314		15,807	
General Reserve	17	104,572		92,901	
Government funds			175,753		167,575
Total			190,245		183,216



Dr. David Rogers
Chief Executive
12 July 2005

The notes on pages 50 to 69 form part of these accounts.

Cash flow statement

for the year ended 31 March 2005

	Notes	2004/5 £ 000	2003/4 £ 000
Reconciliation of operating profit to net cash inflow from operating activities			
Operating profit / (loss)		9,524	(9,207)
Exceptional items included in operating profit / (loss)	6	—	739
Depreciation charges	9	22,586	22,201
Provisions for liabilities and charges		1,038	645
Provisions utilised in year	15	(125)	(778)
(Increase) / decrease in stocks		315	231
(Increase) / decrease in debtors		2,256	(892)
Increase / (decrease) in creditors		(10,741)	10,699
Net cash inflow / (outflow) from operating activities		24,853	23,638
Cash flow statement			
Net cash inflow / (outflow) from operating activities		24,853	23,638
Payments for exceptional items	20	(3,427)	(4,713)
Returns on investments and servicing of finance	20	739	44
Net capital expenditure	20	(13,029)	(20,707)
Acquisitions and disposals	10, 20	(333)	—
Management of liquid resources	20	(1,700)	1,906
Increase / (decrease) in financing	20	(7,177)	(224)
Increase / (decrease) in cash		(74)	(56)
Reconciliation of net cash flow to movement in net debt			
Increase / (decrease) in cash	20	(74)	(56)
Increase / (decrease) in cash on deposit	20	1,700	(1,906)
Other movements	20	7,177	(20,392)
Increase / (decrease) in net funds		8,803	(22,354)
Net funds at 1 April	20	(2,218)	20,136
Net funds at 31 March		6,585	(2,218)

The notes on pages 50 to 69 form part of these accounts.

Statement of total recognised gains and losses

for the year ended 31 March 2005

	Notes	2004/5 £ 000	2003/4 £ 000
Profit / (loss) for the financial year		6,278	1,891
Movement on revaluation of fixed assets charged to the Revaluation Reserve	16	(3,493)	5,438
Total recognised gains and losses relating to the year		2,785	7,329
Reconciliation of movements in Government funds			
Government funds at 1 April		167,575	159,498
Total recognised gains and losses relating to the year		2,785	7,329
Movements in long-term loans		—	—
Transfer to General Reserve		5,393	748
Net movement in Government funds		8,178	8,077
Balance at 31 March		175,753	167,575

The notes on pages 50 to 69 form part of these accounts.

Notes to the accounts

1 Accounting policies

(a) Basis of accounting

These accounts have been prepared in compliance with an Accounts Direction dated 16 February 2005 issued by HM Treasury in accordance with Section 4(6)(a) of the Government Trading Funds Act 1973. They follow the accruals concept and the historical cost convention, modified to include revaluations of fixed assets and stocks. They comply with the accounting and disclosure requirements of the Companies Act 1985, the Accounting Standards Board and all applicable accounting standards where appropriate.

(b) Exceptional items

Items are treated as exceptional if they derive from events or transactions that fall within ordinary operating activities and which individually, or if of a similar type in aggregate, need to be disclosed, by virtue of their size or incidence, for the financial statements to give a true and fair view.

(c) Turnover

Turnover comprises the invoiced value of services (net of VAT) supplied to the private sector, Government departments and the wider public sector.

(d) Research and development

An amendment to the 'Trading Funds Accounts Guidance' for 2001/2 removed the option under which entities could choose whether or not to capitalise development expenditure. Now, providing development expenditure meets the criteria in SSAP13, capitalisation is mandatory. As there is no expenditure meeting SSAP13 capitalisation criteria, all development expenditure has been charged to the Profit and Loss Account.

(e) Tangible fixed assets

Valuation

Freehold land and buildings in continuing use are revalued by qualified valuers every five years, in accordance with the Practice Statements and Guidance Notes set out in the Appraisal and Valuation Manual of the Royal Institution of Chartered Surveyors. Valuations are based on open market values for existing use, except that a specialised building has been valued on the basis of depreciated replacement cost.

Plant, equipment and informational technology equipment is capitalised where the useful life exceeds three years and the cost of acquisition and installation exceeds £5,000 (excluding VAT). From 31 March 1996, networked minor computers and related equipment, which individually do not meet the criteria, have also been capitalised. Major items are revalued annually using the Gross Domestic Product Deflator Index.

Certain meteorological equipment installed in commercial aircraft or at sea is not capitalised as it is outside the direct control of the Met Office and has an uncertain operational life.

Funding received under collaborative arrangements for the capital installation of rainfall radar systems is credited as deferred income within creditors until tangible fixed assets are acquired.

The Met Office, on behalf of the UK, is a member of EUMETSAT and, as such, contributes to the cost of its satellite programmes. The Met Office and its customers benefit from the data and services resulting from these programmes. Expenditure other than research and development on programmes to date is capitalised and revalued annually using the Aerospace Combined Input Cost Index published by the Office for National Statistics.

Fixtures and fittings include improvements to leasehold buildings and are depreciated over five to 25 years.

Depreciation

Freehold land is not depreciated. Depreciation on buildings is calculated to write off the cost, or value, by equal instalments over the asset's estimated useful life (not exceeding 50 years). Plant and equipment and information technology assets are depreciated by the straight-line method at a rate calculated to write off the cost, or value, over the asset's estimated useful life. Currently policy is to write off plant and equipment over three to ten years and information technology equipment over three to five years. Satellite assets are depreciated using the straight-line method, based on the total cost of the programme (including future planned expenditure) and the expected operational life, currently 15 years.

(f) Leased assets

Assets held under finance leases are included in the balance sheet as tangible fixed assets at their equivalent capital value and are depreciated over their estimated economic lives or the finance lease period, whichever is shorter. The corresponding liability is recorded as a creditor. The interest element of the rental costs is charged against profits, using the actuarial method, over the period of the lease. Both a general purpose computing server and a supercomputer are held under finance leases. Rents for those leasehold properties and vehicles which are held under operating leases are charged against profits.

(g) Stocks

Stocks are valued at the lower of cost, or net current replacement cost if materially different, and net realisable value.

(h) Insurance

The Met Office reviews its risk exposures and ensures that appropriate insurance is provided.

(i) Pensions

Pension benefits are provided through the Civil Service pension arrangements. From 1 October 2002, Met Office staff, as civil servants, may be in one of three statutory based 'final salary' defined benefit schemes (Classic, Premium, and Classic Plus). New entrants after 1 October 2002 may choose between membership of Premium or joining a good quality 'money purchase' stakeholder based arrangement with a significant employer contribution (partnership pension account).

Classic Scheme

Benefits accrue at the rate of 1/80th of pensionable salary for each year of service. In addition, a lump sum equivalent to three years' pension is payable on retirement. Members pay contributions of 1.5 per cent of pensionable earnings. On death, pensions are payable to the surviving spouse at a rate of half the member's pension. On death in service, the scheme pays a lump sum benefit of twice pensionable pay and also provides a service enhancement on computing the spouse's pension. The enhancement depends on length of service and cannot exceed ten years. Medical retirement is possible in the event of serious ill health. In this case, pensions are brought into payment immediately without actuarial reduction and with service enhanced as for widow(er) pensions.

Premium Scheme

Benefits accrue at the rate of 1/60th of final pensionable earnings for each year of service. Unlike Classic, there is no automatic lump sum, but members may commute some of their pension to provide a lump sum up to a maximum of 3/80ths of final pensionable earnings for each year of service or 2.25 times pension if greater (the commutation rate is £12 of lump sum for each £1 of pension given up). For the purposes of pension disclosure the tables assume maximum commutation. Members pay contributions of 3.5 per cent of pensionable earnings. On death, pensions are payable to the surviving spouse or eligible partner at a rate of 3/8ths the member's pension (before any commutation). On death in service, the scheme pays a lump-sum benefit of three times pensionable earnings and also provides a service enhancement on computing the spouse's pension. The enhancement depends on length of service and cannot exceed ten years. Medical retirement is possible in the event of serious ill health. In this case, pensions are brought into payment immediately without actuarial reduction. Where the member's ill health is such that it permanently prevents them undertaking any gainful employment, service is enhanced to what they would have accrued at age 60.

Classic Plus Scheme

This is essentially a variation of Premium, but with benefits in respect of service before 1 October 2002 calculated broadly as per Classic.

Pensions payable under Classic, Premium, and Classic Plus are increased in line with the Retail Prices Index.

Partnership Pension Account

This is a stakeholder-type arrangement where the employer pays a basic contribution of between 3% and 12.5% (depending on the age of the member) into a stakeholder pension product. The employee does not have to contribute but where they do make contributions, these will be matched by the employer up to a limit of 3% (in addition to the employer's basic contribution). Employers also contribute a further 0.8% of pensionable salary to cover the cost of risk benefit cover (death in service and ill health retirement). The member may retire at any time between the ages of 50 and 75 and use the accumulated fund to purchase a pension. The member may choose to take up to 25% of the fund as a lump sum.

(j) Cash

Cash includes cash in hand and deposits payable on demand with any qualifying institution, less overdrafts from any qualifying institution repayable on demand.

(k) Financial instruments

Currency risk

In order to manage foreign exchange risk the Met Office policy is to buy forward foreign currency for payments to international bodies as soon as amounts can be reliably estimated. The payments are in respect of annual subscriptions and contributions including payments for satellite programmes. In this case, payments are accounted for in sterling at the forward purchase rate. All other foreign currency payments are accounted for at the sterling equivalent at the exchange rate ruling on the day the payment is made.

Interest rate risk

The Met Office follows the Treasury rules by investing all surplus funds with HM Treasury. Up to 17 January 2005 surplus funds were deposited in the National Loan Fund. Since this date surplus funds have been deposited with the UK Debt Management Office.

Liquidity risk

The Met Office has no exposure to liquidity risk as it has no borrowings. Short term debtors and creditors are excluded from financial instruments.

(l) Consolidated accounts

The Met Office has no subsidiaries, associates or joint ventures which require the production of group accounts.

2 Key financial targets

The Met Office’s key financial targets for 2004/5, as announced in Hansard (15 June 2004, column 27WS), were:

- (a) To deliver an operating profit before strategic investments of at least £15.5 million in 2004/5, whilst making strategic investments of between £5.8 million and £6.8 million.
- (b) To achieve a return on capital employed of at least 3.5 per cent in support of a longer term target to average 3.5 per cent over the five year period commencing 1 April 2004.
- (c) To achieve direct services growth in both Government and non-Government revenue of at least 4.1% in 2004/5 from the 2003/4 baseline, whilst maintaining direct services operating profit.

Results

(a) Operating profit and strategic investments

	2004/5 £ 000	2003/4 £ 000
Operating profit before strategic investments		
Actual	15,945	14,848
Target	15,500	14,000
Strategic investments		
Actual	6,422	24,055
Target	5,800 to 6,800	n/a

(b) Return on capital employed (ROCE)

ROCE is a measure of how effectively an organisation is using its capital. It is calculated as the surplus on ordinary activities before interest and dividends, expressed as a percentage of average capital employed. Capital employed equates to the capital and reserves.

The table below shows the in-year and averaged ROCE over the period from the beginning of the current target period (1 April 2004) to 31 March 2005. The comparative figures for 2003/4 show the in-year and averaged ROCE over the period from the beginning of the the previous target period (1 April 2002) to 31 March 2004.

	2004/5	2003/4
Actual	7.6%	9.5%
Actual – restated	—	1.4%
Target – in year	3.5%	n/a
Target – 5 year average	3.5%	4.0%
Average (1 April 2004 to 31 March 2005)	7.6%	n/a
Average – as previously stated (1 April 2002 to 31 March 2004)	—	3.1%
Average – restated (1 April 2002 to 31 March 2004)	—	-1.7%

Note that the target of 4% averaged over the period 1 April 2002 to 31 March 2007 was replaced from 1 April 2004. A ROCE target has been agreed with HM Treasury – a return of at least 3.5%, averaged over the period 1 April 2004 to 31 March 2009.

It has been necessary to restate the ROCE in respect of 2003/4 in accordance with the Treasury Minute dated 31 March 2003. The ROCE % as published in the 2003/4 accounts was calculated as operating profit(after the disposal of fixed assets but before any exceptional items) as a percentage of the average of government funds employed in the business at the beginning and end of the year (as stated in note 2 to the 2003/4 accounts). The Minute calculates ROCE as a surplus on ordinary activities before interest (payable and receivable) and dividends expressed as a percentage of average capital employed. Capital employed is defined as total assets less total current liabilities.

This restatement has no impact on the Met Office’s performance against its KPTs for 2003/4 as ROCE was not a KPT for the year.

(c) Growth

This measures revenue growth in direct services, i.e. excluding core and public services, covering approximately half of all Met Office revenue. The target requires growth of 4.1% (compared to the 2003/4 baseline) in revenue from both Government and non-Government sources, while maintaining overall profitability (as a percentage of cost).

	2004/5	2003/4
Overall		
Actual	4.0%	n/a
Target	4.1%	n/a
Government		
Actual	5.7%	n/a
Target	4.1%	n/a
Non-Government		
Actual	0.0%	n/a
Target	4.1%	n/a
Profitability		
Actual	10.6%	n/a
Target	7.9%	n/a

3 Turnover and segmental analysis

		2004/5			2003/4		
		£ 000	£ 000	£ 000	£ 000	£ 000	£ 000
	Main customer	NMP	Direct services	Total	Core	Direct services	Total
Defence	MoD	44,131	33,581	77,712	27,693	32,218	59,911
Civil aviation	CAA	16,845	9,222	26,067	16,269	9,315	25,584
Civil departments		12,565	9,809	22,374	27,672	9,775	37,447
Climate research	Defra	—	11,817	11,817	—	10,525	10,525
Commercial		—	20,370	20,370	—	20,380	20,380
Government met. research and other		1,703	5,537	7,240	1,762	5,166	6,928
Total turnover		75,244	90,336	165,580	73,396	87,379	160,775

Notes

- (i) All turnover relates to the same class of business, the provision of meteorological and related services. There were no acquisitions or discontinued operations.
- (ii) NMP, the National Meteorological Programme, (previously referred to as ‘Core’) represents the programme of work necessary to generate, and make available centrally, the underpinning environmental forecasts and climatological services that are the basis for specified ‘Direct Services’ to customers. Following the formation of the National Meteorological Programme Commissioning Group (NMPCG) the NMP funding previously received from Civil Departments was received via the Ministry of Defence. During 2004/5 funding of £15.7 million was transferred from Civil Departments to the Defence funding line.
- (iii) ‘Commercial’ contracts are subject to open competition.
- (iv) The share of net assets relating to each class of turnover is not identifiable.

4 Cost of sales, selling and distribution and administrative charges

Cost of sales is defined as that expenditure which is directly related to a service or product being supplied to a specific third-party customer or market. This includes direct materials and labour, development costs and fixed and variable overheads to the extent that these relate specifically to production.

Selling and distribution includes costs relating to marketing and market research, the Customer Centre, and the costs associated with maintaining the Met Office website.

Administrative expenses includes all costs relating to the general management of the business, training, technical support, and any research and development costs not included under cost of sales. It also includes the costs of strategic investment projects and the National Meteorological Library.

Administrative expenses includes relocation costs of £3.0m (2003/4, £16.0m). Also included within administrative expenses are general administrative costs of £13.1m (2003/4, £9.7m). General administrative costs in 2004/5 include costs associated with the Met Office College of £2.3m (2003/4, £2.2 million) which were not previously included under this heading.

Cost of sales includes additional exceptional items totalling £Nil (2003/4, £739,000), which are not related to relocation and represent rents and other costs of leasehold properties which were non-operational at 31 March 2004 and early retirement and severance costs.

The costs are further analysed by expenditure type as follows:

	Note	2004/5 £ 000	2003/4 £ 000
Staff costs (excluding exceptional items)	8	73,151	77,640
Early retirement costs		1,289	306
Relocation – staff accommodation, travel and subsistence		2,570	11,469
Other travel and subsistence		5,274	4,296
Equipment and services		26,964	28,392
Accommodation		8,289	10,141
Operating leases – plant and machinery		1,180	1,194
Operating leases – other		1,169	2,448
Depreciation – on owned assets		18,237	20,459
– on assets held under finance leases		4,349	1,742
International services and subscriptions		11,604	11,589
Other administrative expenses		1,651	1,887
Total		155,727	171,563

Notes

- (i) The early retirement cost excludes relocation early retirement costs which are shown as an exceptional item.
- (ii) Accommodation includes £2.1 million (2003/4, £2.0 million) operating lease rentals of property.
- (iii) International services and subscriptions include £2.2m (2003/4, £2.3m) to the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) (excluding amounts capitalised as satellite assets), £2.0m (2003/4, £2.0m) to the British National Space Centre, £4.4m (2003/4, £4.2m) to the European Centre for Medium-Range Weather Forecasts (ECMWF), £1.6m (2003/4, £1.6m) to the World Meteorological Organization (WMO) and £0.3m (2003/4, £0.3m) to the Network of European Meteorological Services Composite Observing System (EUCOS).
Membership of these organisations enables the Met Office, on behalf of the UK, to engage in and benefit from the European meteorological satellite programme and to receive support in its provision of medium-range weather forecasts and associated research. Membership also enables the Met Office, on behalf of the UK, to promote and benefit from co-operations between members in the exchange of observational data and forecasts, together with a widening range of environmental programmes.
- (iv) Other administrative expenses include an audit fee of £62,000 (2003/4, £68,000) and a fee of £18,000 (2003/4, £18,000) for the review of key performance indicators.
- (v) The total cost of research and development, which was funded by customers including the Department for Environment, Food and Rural Affairs, was £30.2m (2003/4, £28.5m).
- (vi) Relocation travel and subsistence relates to the costs of housing removal, temporary accommodation and travel between Bracknell and Exeter, for those staff who relocated to, or are in the process of relocating to, Exeter.

5 Other operating (expense) / income

	2004/5 £ 000	2003/4 £ 000
Foreign exchange rate differences	329	(1,581)

6 Exceptional items

	2004/5 £ 000	2003/4 £ 000
Early retirement and severance costs	463	4,433
Leaseholds provision	—	8,166
Net profit on disposal of fixed assets	(3,975)	(24,528)
Total	(3,512)	(11,929)

Exceptional items are principally as a result of the relocation of the Met Office from Bracknell to Exeter. The early retirement and severance costs relate to staff who left the Met Office during the year, primarily as a result of relocation. The leasehold provision relates to rents and other costs of leasehold properties which were non-operational. The Met Office's freehold sites at Beaufort Park and London Road, Bracknell were sold during 2004/5 and the profits on disposal are included above. The operating profit / (loss) in the profit and loss account is stated after charging additional exceptional items totalling £Nil (2003/4, £739,000) as part of cost of sales. These exceptional items are not related to relocation and represent rents and other costs of leasehold properties which were non-operational at 31 March 2004, and early retirement and severance costs.

7 Interest payable and similar charges

	2004/5 £ 000	2003/4 £ 000
On amounts wholly repayable within five years	1,270	992
On finance leases wholly repayable within five years	33	47
Discounting of provisions	508	487
Total interest payable and similar charges	1,811	1,526

8 Staff**(a) Staff costs**

	Note	2004/5 £ 000	2003/4 £ 000
Salaries, bonuses and allowances		60,102	64,169
Early retirement costs	6	1,752	4,739
Social security		5,182	5,432
Pension contributions		7,867	8,039
Total staff costs		74,903	82,379

The Principal Civil Service Pension Scheme (PCSPS) is an unfunded multi-employer defined benefit scheme. The Met Office is unable to identify its share of the underlying assets and liabilities. A full actuarial valuation was carried out as at 31 March 2003. Details can be found in the resource accounts of the Cabinet Office: Civil Superannuation (www.civilservice-pensions.gov.uk).

For 2004/5, pursuant to the Superannuation Act 1972, employer's contributions of £7.9m were payable to the PCSPS (2003/4, £8.0m) at one of four rates in the range 12% to 18.5% of pensionable pay, based on salary bands. From 2005/6, the salary bands will be revised and the rates will be in a range between 16.2% and 24.6%. Employer contributions are to be reviewed every four years following a full scheme valuation by the Government Actuary. The contribution rates reflect benefits as they are accrued, not when the costs are actually incurred, and reflect past experience of the scheme.

Employees joining after 1 October 2002 can opt to open a partnership pension account, a stakeholder pension with an employer contribution. Employer's contributions, paid to appointed stakeholder pension providers, and also to the Principal Civil Service Pension Scheme to cover the cost of the future provision of lump sum benefits on death in service and ill health retirement of these employees, were immaterial.

Staff costs include exceptional items in respect of early retirement of £463,000 (2003/4, £4,433,000).

(b) Average staff numbers

	2004/5 number	2003/4 number
Senior Management	9	9
Scientific, managerial, technical	1,371	1,398
Support	400	403
Locally engaged civilians overseas	19	19
Monthly average staff numbers (all UK Government Civil Servants except locally engaged civilians)	1,799	1,829

There were 1,767 staff employed at 31 March 2005 compared with 1,822 at 31 March 2004; both figures expressed as full-time equivalents.

(c) Directors’ remuneration

(i) Salaries and benefits

Salaries and benefits are reviewed annually. Basic salaries for members of the Senior Civil Service were increased with effect from 1 April 2004. The pay award was dependent on performance and ranged from 0% to 9.0%.

(ii) Performance-related bonuses

These are calculated in accordance with a fixed formula which measures performance against the Met Office’s key performance targets. They are paid to Board members on the recommendation of the Remuneration Committee.

(iii) Pensions

See Note 8(a) above.

(iv) Directors’ emoluments

The table below shows emoluments and pension data for Executive Board Directors:

	2004/5						2003/4
Name	Salary, including performance pay £ 000	Real increase in pension and related lump sum at age 60 £ 000	Total accrued pension at age 60 at 31 March 2005 and related lump sum £ 000	Cash Equivalent Transfer Value at 31 March 2004 nearest £ 000	Cash Equivalent Transfer Value at 31 March 2005 nearest £ 000	Real increase in Cash Equivalent Transfer Value nearest £ 000	Salary, including performance pay £ 000
DP Rogers	100–105	Note (b)	Note (b)	—	16	13	—
PD Ewins	35–40	0–2.5 plus 0–2.5 lump sum	50–55 plus 115–160 lump sum	Nil	Nil	Nil	110–115
JFB Mitchell	75–80	0–2.5 plus 2.5–5 lump sum	25–30 plus 85–90 lump sum	476	516	18	75–80
M Hutchinson	5–10	0–2.5 plus 0–2.5 lump sum	15–20 plus 55–60 lump sum	n/a	302	2	—
P Mabe	Consent to disclosure withheld						
RD Hunt	70–75	0–2.5 plus 0–2.5 lump sum	30–35 plus 90–95 lump sum	503	541	14	65–70
S Noyes	75–80	0–2.5 plus 2.5–5 lump sum	20–25 plus 70–75 lump sum	285	315	11	70–75
S Penfold	65–70	0–2.5	35–40	495	537	13	10–15

Notes

- (a) Real increase in Cash Equivalent Transfer Values are shown after adjustment for inflation and changes in market investment factors.
- (b) The Chief Executive, David Rogers (appointed 14 June 2004), received emoluments comprising a basic salary and a performance bonus and pension. As the minimum qualifying service of two years has not yet been reached there is currently no accrued pension or lump sum entitlement.

- (c) PD Ewins retired on 30 June 2004. The total accrued pension and related lump sum is at the date of retirement. Under PCSPS rules there is no Cash Equivalent Transfer Value at age 60 or above.
- (d) P Mabe left the Met Office on 31 January 2005.
- (e) M Hutchinson was appointed Chief Financial Officer on 7 February 2005. The real increase in the Cash Equivalent Transfer Value is for the period 7 February 2005 to 31 March 2005.
- (f) All Directors, with the exception of S Penfold, have chosen the 'Classic' option of the new Principal Civil Service Pension Scheme. S Penfold has chosen the 'Premium' option. With the 'Premium' option, lump sums cannot be commuted and are thus not shown. Further details of the new arrangements are disclosed at Note 1.
No Director opted for a Partnership Pension Account.
- (g) Members of the pension scheme have the option to pay Additional Voluntary Contributions (AVCs). Any AVCs made are not included in the table above.
- (h) In the calculation of the real increase in pension an assumption of 3.1% inflation has been made.
- (i) Real increase in pension at age 60 and total accrued pension at age 60 at 31 March 2005, together with related lump sums, may in part be based on membership of the Principal Civil Service Pension Scheme prior to Met Office employment.
- (j) No director received any benefits in kind in either 2004/5 or 2003/4.

(d) Payments to Non-Executive Directors

Met Office Non-Executive Directors are not Met Office employees and are not members of the Principal Civil Service Pension Scheme.

Fees paid to Non-Executive Directors were as follows:

	2004/5 £ 000
C Brendish	20–25
J May	10–15
B Hoskins	0–5
A Gammidge	0–5

(e) Early retirement

	2004/5 £ 000	2003/4 £ 000
Expenditure incurred in current year	1,942	2,076
Expenditure to be incurred within one year	—	—
Expenditure to be incurred in later years	—	—
Total early retirement expenditure	1,942	2,076

This represents payments made in year to employees who have been granted early retirement.

9 Tangible fixed assets

The movements in each class of assets were:

	Satellite programme £ 000	Land and buildings £ 000	Fixtures and fittings £ 000	Plant and equipment £ 000	Information technology £ 000	Total tangible £ 000
Cost or valuation:						
At 1 April 2004	151,292	71,176	6,625	48,733	74,049	351,875
Additions	17,954	7	358	782	3,006	22,107
Disposals	—	(12,856)	(148)	(932)	(19,779)	(33,715)
Transfers	—	—	—	—	—	—
Revaluation	5,077	—	—	380	—	5,457
At 31 March 2005	174,323	58,327	6,835	48,963	57,276	345,724
Depreciation:						
At 1 April 2004	98,899	4,835	1,361	7,361	40,872	153,328
Charged during year	10,598	1,062	732	2,166	8,028	22,586
Disposals	—	(4,466)	(76)	(900)	(19,762)	(25,204)
Revaluation	3,325	—	—	232	—	3,557
At 31 March 2005	112,822	1,431	2,017	8,859	29,138	154,267
Net book value:						
At 1 April 2004	52,393	66,341	5,264	41,372	33,177	198,547
At 31 March 2005	61,501	56,896	4,818	40,104	28,138	191,457

Assets held under finance leases included above:

	Satellite programme £ 000	Land and buildings £ 000	Fixtures and fittings £ 000	Plant and equipment £ 000	Information technology £ 000	Total tangible £ 000
Cost:						
At 31 March 2005	—	—	—	—	21,596	21,596
Depreciation:						
Charge for year	—	—	—	—	4,349	4,349
Depreciation:						
At 31 March 2005	—	—	—	—	6,008	6,008

Notes

- (i) All land and buildings are held as freehold. The net book value of freehold land and buildings includes £7.8 million of freehold land (1 April 2004, £11.7m) which has not been depreciated. Freehold buildings are depreciated in full over their estimated life (not exceeding 50 years).
- (ii) Fixtures and fittings include improvements to leasehold buildings and are depreciated over five to 25 years.
- (iii) As at 1 April 2004, information technology assets (comprising computing equipment and the supercomputer) were reclassified from plant and equipment into a separate class of asset. The cost of the assets transferred was £74.1 million with accumulated depreciation of £40.9 million as at 1 April 2004.
- (iv) Three freehold sites were disposed of during 2004/5 (the Bracknell HQ, Beaufort Park and Stornoway).
- (v) Assets held under finance leases comprise a supercomputer and equipment providing a general purpose computing service.

10 Investment

The Met Office has an investment in weatherXchange Limited, an entity governed by UK law. The Met Office holds 4990 Class ‘A’ Shares (this equates to 35.0% of the authorised ordinary share capital) in weatherXchange Limited. The entire consideration for the shares was paid in cash. The Met Office also holds 700,000 £1 Preference Shares and 655 £0.10 New Preference Shares. In 2001/2 a loan facility was provided; this has now been terminated and no amounts are outstanding. Tranches of 200,000 and 500,000 £1 preference shares were acquired on 12 December 2002 and 31 March 2003, respectively. Tranches of 328 and 327 £0.10 New Preference Shares were acquired on 15 October 2004 and 15 February 2005, respectively. The nature of the business is providing weather data and derivatives trading. The financial year end of weatherXchange Limited is 31 March. Met Office revenue includes £53,000 in respect of services provided to weatherXchange Limited in 2004/5. In the 2003/4 year, weatherXchange Limited had an operating loss of £235,000. At 31 March 2004, weatherXchange Ltd had capital and reserves of £226,000.

	Investment £ 000
Cost:	
At 1 April 2004	1,200
Additions	333
At 31 March 2005	1,533

11 Stocks

	Note	31 March 2005 £ 000	31 March 2004 £ 000
Meteorological equipment		383	690
Reserve equipment		135	130
Consumable stores		41	54
Total stock		559	874

12 Debtors

	Note	31 March 2005 £ 000	31 March 2004 £ 000
Trade debtors		16,827	22,458
Other debtors		24,036	12,463
Prepayments and accrued income		15,768	15,268
Total amounts falling due within one year		56,631	50,189
Other debtors		—	11,700
Total amounts falling due after more than one year		—	11,700
Total debtors		56,631	61,889

Trade debtors include £10.6 million due from central Government bodies and £2.5 million due from public corporations and other trading funds.

13 Analysis of changes in cash at bank and in hand

	Note	31 March 2005 £ 000	31 March 2004 £ 000
Balance at 1 April		300	356
Net cash inflow / (outflow)	20	(74)	(56)
Balance at 31 March		226	300

The Met Office holds three Euro bank accounts, in which there were amounts totalling £1,702,000 at 31 March 2005 belonging to third parties (31 March 2004, £636,000).

Cash surplus to immediate requirements at 31 March 2005 amounted to £20.5 million and is held in short-term interest-bearing accounts (31 March 2004, £18.8 million) with the UK Debt Management Office at HM Treasury.

14 Creditors

Operating expenditure amounts falling due within one year:

	Note	31 March 2005 £ 000	31 March 2004 £ 000
Trade creditors		22,165	25,653
Taxation and social security		6,514	6,754
Accruals		13,558	15,984
Dividend – proposed		5,998	–
Deferred income		13,695	13,371
Obligations under finance leases		7,057	7,110
Total amounts falling due within one year		68,987	68,872
Obligations under finance leases		7,084	14,208
Trade creditors		4,590	15,314
Total amounts falling due after more than one year		11,674	29,522
Total creditors		80,661	98,394

15 Provisions for liabilities and charges

	Early retirement £ 000	Dilapidations £ 000	Leaseholds £ 000	Relocation £ 000	Total £ 000
Balance at 1 April 2004	4,040	2,347	9,128	126	15,641
Transferred from Profit and Loss Account	1,654	–	–	–	1,654
Unwinding of discount	235	86	581	–	902
Utilised in year	(1,942)	(6)	(1,489)	(119)	(3,556)
Released to Profit and Loss Account in year	(6)	(29)	(107)	(7)	(149)
Balance at 31 March 2005	3,981	2,398	8,113	–	14,492

Notes

- (i) The Early Retirement Provision represents the pension costs associated with 119 staff who had been offered early retirement as at 31 March 2005 and comprises the full cost of meeting each individual's pension payments to normal retirement age. The gross amount provided for, before discounting, is £4.1m (2003/4, £4.4m). After discounting at 3.5% a net amount of £4.0m (2003/4, £4.1m) is provided.
- (ii) The Dilapidations Provision relates to contractual future costs of making good leasehold properties when they are vacated. Discounting has been applied where payments are due in more than one year.
- (iii) The Leaseholds Provision is principally in respect of future cost of leasehold properties which became surplus to requirements on relocation to Exeter. The gross amount provided, before discounting, is £9.1m (2003/4, £10.8m). After discounting at 3.5% a net amount of £8.1m (2003/4, £9.2m) is provided.

(iv) The Relocation Provision represents non-staff related costs associated with the move from Bracknell to Exeter and has not been discounted as it is all expected to be expensed within one year.

The commitments provided for fall due in the following periods:

	Early retirement £ 000	Dilapidations £ 000	Leaseholds £ 000	Relocation £ 000	Total £ 000
Amounts payable within:					
Under one year	1,487	372	1,344	—	3,203
One to five years	2,230	746	4,633	—	7,609
Over five years	264	1,280	2,136	—	3,680
Total	3,981	2,398	8,113	—	14,492

16 Revaluation Reserve

	31 March 2005 £ 000	31 March 2004 £ 000
Revaluation Reserve at 1 April	15,807	10,369
Revaluation of satellite assets	1,752	1,495
Revaluation of land, buildings, plant and equipment	148	4,691
Transfer to General Reserve	(5,393)	(748)
	(3,493)	5,438
Revaluation Reserve at 31 March	12,314	15,807

17 General Reserve

	31 March 2005 £ 000	31 March 2004 £ 000
General Reserve at 1 April	92,901	90,262
Transfer from Revaluation Reserve	5,393	748
Retained profit / (loss)	6,278	1,891
General Reserve at 31 March	104,572	92,901

18 Obligations under finance leases

Repayable:	2004/5 £ 000	2003/4 £ 000
After five years	—	—
Between two and five years	—	7,083
Between one and two years	7,084	7,125
Falling due after more than one year	7,084	14,208
Falling due within one year	7,057	7,110
Total	14,141	21,318

The total obligation at 31 March 2005 relates to a supercomputer and general purpose computing service equipment, each of which is held under a finance lease at implicit lease interest rates of nil% and 6.25% respectively. The obligation at 31 March 2004 also relates to a supercomputer and general purpose computing service equipment.

19 Related parties

The Ministry of Defence (MoD) is regarded as a related party. During the year, the Met Office had material transactions with this Department and with other entities for which MoD is regarded as the parent department. In addition, the Met Office had material transactions with a number of other public bodies, Government departments and their agencies, principally the Civil Aviation Authority, the Department for Transport, Local Government and the Regions, the Home Office and the Department for Environment, Food and Rural Affairs. None of the Met Office Board members, key managerial staff or other related parties undertook any material transactions with the Met Office during the year.

Investment in weatherXchange Ltd

Met Office Director R Hunt (appointed 28 June 2002) and senior manager P Hardaker were Directors of weatherXchange Ltd at 31 March 2005. Former Met Office Directors P Mabe (appointed prior to 1 April 2002) and P Ewins (appointed as non-voting Chairman on 26 July 2002) were Directors of weatherXchange Limited as at 31 March 2005.

Joint venture with EcoConnect Limited

Met Office Director Steve Noyes is a director of EcoConnect Limited, a company incorporated in New Zealand. EcoConnect Limited is a joint venture between the Met Office and the National Institute of Water and Atmospheric Research Limited (NIWA).

20 Cash flow statement

(a) Gross cash flows

	31 March 2005		31 March 2004	
	£ 000	£ 000	£ 000	£ 000
Payments for exceptional items				
Early retirement	(1,940)		(4,056)	
Leaseholds	(1,487)		(657)	
		(3,427)		(4,713)
Returns on investments and servicing of finance				
Interest received	1,036		703	
Interest paid	(264)		(612)	
Interest element of finance lease rentals	(33)		(47)	
		739		44
Capital expenditure				
Payments to acquire satellite assets	(9,459)		—	
Payments to acquire plant and machinery, land and buildings	(16,056)		(25,404)	
Receipts from / (costs of) sales of tangible fixed assets	12,486		4,697	
		(13,029)		(20,707)
(Acquisitions) / Disposals				
Investment in Joint Venture	(333)		—	
		(333)		—
Management of liquid resources				
Net receipts from National Loans Fund deposit account	(1,700)		1,906	
		(1,700)		1,906
Financing				
Finance lease	(7,177)		(224)	
		(7,177)		(224)

(b) Analysis of changes in net funds

	At 1 April 2004 £ 000	Cash flows £ 000	Other changes £ 000	At 31 March 2005 £ 000
Cash at bank and in hand	300	(74)	–	226
Cash on deposit	18,800	1,700	–	20,500
Sub-total	19,100	1,626	–	20,726
Finance lease obligations	(21,318)	7,177	–	(14,141)
Debt due within one year	–	–	–	–
Debt due after one year	–	–	–	–
Total	(2,218)	8,803	–	6,585

21 Operating leases

	Land and Buildings		Other	
	2004/5 £ 000	2003/4 £ 000	2004/5 £ 000	2003/4 £ 000
Annual commitments are as follows:				
Leases expiring within:				
Under one year	56	160	–	73
One to five years	1,178	705	464	934
Over five years	846	1,122	940	–
Total	2,080	1,987	1,404	1,007

22 Capital commitments

	2004/5 £ 000	2003/4 £ 000
Contracted for but not provided for:		
Other	714	21,912
Contribution for Satellite Programme	7,422	7,296
Total	8,136	29,208

The commitment for the Satellite Programme represents the unpaid portion of the UK approved contribution to EUMETSAT programmes for the current calendar year. Future payments are subject to annual approval by the EUMETSAT Council.

A finance lease to provide a new supercomputer was signed during 2002/3. The first of 12 quarterly fixed lease rentals totalling £20.6m (included above) was paid during April 2004.

23 Losses and special payments

There were no additional costs in respect of provisions relating to rents and other costs of leasehold properties which were non-operational at 31 March 2005 (31 March 2004, £8,667,000).

24 Derivatives

The Met Office makes significant foreign currency payments for subscriptions and contributions to international meteorological organisations. These costs are recovered from customers of Core services on fixed-price contracts. To manage the risk of currency movements, the Met Office has a policy of buying forward foreign currency.

Five-year financial summary

	2004/5 £ 000	2003/4 £ 000	2002/3 £ 000	2001/2 £ 000	2000/1 £ 000
Profit and loss account					
Turnover	165,580	160,775	157,398	154,759	154,413
Gross profit / (loss)	38,647	29,279	29,634	31,803	31,762
Operating profit / (loss)	9,524	(9,207)	(5,058)	3,378	4,021
Retained profit / (loss)	6,278	1,891	(7,351)	5,404	6,155
Capital expenditure					
Tangible fixed assets additions	22,107	57,600	48,856	47,846	14,266
Balance sheet					
Fixed assets	192,990	199,747	162,230	134,341	104,151
Net current assets	8,929	1,291	4,631	33,718	57,736
Non-current assets	—	11,700	—	—	—
Non-current liabilities	26,166	45,163	7,363	2,211	2,710
Number of employees					
Average for year	1,799	1,829	2,097	2,076	2,177

Other Met Office publications

Relocation report

The relocation of the Met Office from Bracknell to Exeter was a large and complex undertaking. This report records how we used strong project management to achieve our transfer – of many hundreds of staff, as well as vital IT equipment – smoothly and without affecting the continuity of our services. The move was spread over four years and completed in early 2004, ahead of schedule and within controlled costs.

Barometer

Our new, quarterly corporate magazine – Barometer – was launched in January 2005. It replaced a number of diverse publications that were produced for a wide variety of readers. Barometer aims to inform all of our business partners, research associates, Government colleagues and customers of the impact of meteorology on people's lives.

NWP Gazette

This online newsletter is published three times a year and reports on new developments in Numerical Weather Prediction (NWP). The Gazette is aimed at an audience that is trained in meteorology but which may not be familiar with the NWP subject area. To access the latest copy of the Gazette, go to: http://www.metoffice.gov.uk/research/nwp/publications/nwp_gazette/index.html

Uncertainty, risk and dangerous climate change

Recent research on climate change science from the Hadley Centre

The Hadley Centre for Climate Prediction and Research is part of the Met Office and focuses on the scientific issues associated with climate change. In this report, the Centre looks at uncertainty in climate model predictions and discusses several aspects of climate change, including the state of the climate during 2003 and 2004.

Stabilising climate to avoid dangerous climate change

A summary of relevant research at the Hadley Centre

In February 2005, the Met Office hosted three-day conference on Avoiding Dangerous Climate Change on behalf of the Department for Environment, Food and Rural Affairs. This report, published at the time of the conference, shows the possible results of rapid changes in the components of the climate system. It also discusses some of the uncertainties in deducing tolerable concentrations and emissions of greenhouse gases and how these might be managed.

Environmental Prediction Science and Technology in the Met Office

As well as a wide variety of forecasts, the Met Office provides predictions for the oceans, the dispersion of pollution, rainfall run-off, climate change and other environmental parameters. This report reviews the spectrum of science and technology in the Met Office and is updated year to year.

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