

# On the move

*Annual Report and Accounts*  
*2002/3*



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# met office... on the move

An Executive Agency of the Ministry of Defence

## **Annual Report and Accounts 2002/3**

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## *Vision*

Through unrivalled know-how, to enable individuals, society and enterprises everywhere to make the most of the weather and the natural environment

## *Goals*

- To lead the world in advice on the weather and the natural environment
- To make the Met Office a source of pride to our staff, our owner and the public



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From the cockpit of an RAF Hawk jet, the distant horizon is reflected in the pilot's visor. Whatever you do, wherever you are, keep your goals in sight and we will help you achieve them, by using the weather to your advantage.







# Moving introduction

## Met Office

We are rightly a familiar and important part of our nation's daily life. As the country's national meteorological service, we play a leading role in the international exchange of meteorological data, on which all modern weather forecasts depend.

Throughout our long history, we have established an unrivalled, world-class reputation for the quality of our science and forecast accuracy. We were formed in 1854 as a small department within the Board of Trade, before being taken under the wing of the Air Ministry after the First World War. We later moved into the Ministry of Defence (MoD) and became an Executive Agency in 1990, operating as a trading fund since 1996.

We provide a wide range of meteorological and environmental services to customers throughout the world. These include UK armed forces, government departments, civil aviation, industry, commerce and the general public. When our customers need flexibility and responsiveness, we meet those needs with innovative and value-for-money solutions.

We employ around 2,100 people, over 70% of them scientists. Some 950 staff are based at more than 80 locations around the UK and overseas. By September 2003, we shall have moved to our new Headquarters and Operations Centre in purpose-built premises in Exeter, Devon.

While our *Annual Report and Accounts* is primarily produced for our owner, the Ministry of Defence and Parliament, we hope that it will also be of interest to our many customers and the general public. We also produce a related publication — the *Scientific and Technical Review 2002/3* — which informs the worldwide scientific community about our scientific and technical programmes. For a copy, please contact our Customer Centre — see inside back cover for details. Alternatively, you can view these documents on our web site at [www.metoffice.com](http://www.metoffice.com)

### **Judith Rhodes, Forecaster, RAF Shawbury**

*"I am at the Met Office's front line. I work alongside RAF pilots and air traffic controllers every day. The forecasts and local advice that I provide are needed to make the most of available flying time and to ensure safety. This is especially important at a training station, where weather-sensitive and inexperienced pilots need clear and detailed information."*

# introduction





## Highlights of 2002/3

- Exceeded Numerical Weather Prediction Index target by 0.5 points
- Exceeded Service Quality Index target by 14.9 points
- Supported UK and coalition forces in Afghanistan and Iraq
- Achieved £18.9 million of strategic investment
- New Operations Centre building in Exeter structurally complete
- Achieved ISO 9001 registration with the British Standards Institution
- Quinquennial Review Stage 1 endorsed success of trading fund

## Weather in 2002/3

2002/3 has been an exceptionally challenging and successful year for the Met Office in terms of our ability to predict major weather events. We provided accurate and timely forecasts for rainfall and exceptionally strong winds, which caused extensive flooding and damage.

After a dry spring, thunderstorms and rain dominated the summer in the UK and elsewhere. Some of the most severe storms occurred in July and August. We successfully predicted the change from very hot weather to severe thunderstorms, which caused floods in parts of Scotland, Northern Ireland and northern England.

Over central and eastern Europe, heavy rainfall in August led to widespread and severe flooding, with some areas receiving three times the monthly average rainfall in just three days.

October was very stormy, with two separate major weather events followed by some wet days that led to more widespread flooding. The first storm system struck the UK on 16 October, and our forecasts accurately identified the areas at greatest risk. The second period of exceptional weather occurred on 27 October, causing considerable disruption with gusts of wind up to 80 m.p.h. and heavy rain. These strong winds led to several deaths and massive power cuts.

*Keeping our country's roads open: despite our accurate forecasts of snow, the ensuing traffic chaos on roads such as the M11 gave us concern that our guidance was not used to best effect.*



Our forecasts of this event were exceptionally good, and we received congratulations on the quality of this forecast from our owner, the Ministry of Defence.

There was very wet weather again in the run up to Christmas. By the end of December, flooding was once more a problem, with some of the highest rainfall totals occurring in Surrey. The River Thames burst its banks, flooding scores of roads and homes. These events were also well forecast, and our new close relationship with the Environment Agency worked very well.

In January, we provided excellent forecasts to the public and emergency authorities, with warnings of snow issued several days in advance. Despite our guidance to customers via our OpenRoad service, the ensuing traffic chaos in some areas gave us concern that the accurate weather forecasts were not used to best effect. We will be working with other government departments to try to ensure that our advice is used more effectively by planners and emergency authorities. We are already developing impacts models that will help our customers, such as power companies and highways engineers, to identify more precisely what level of damage can be expected and where.

*“Warnings received helped us to prepare for the severe storm that hit us, and to clear up over 90% of problems within the first 24 hours.”*

*Robert Symons, Chief Executive, Western Power Distribution*







# Moving in high places

## Chief Executive's Overview

### *Success in the front line*

As I write this brief overview for 2002/3, the Met Office is fully engaged in supporting UK and coalition forces in Iraq. Staff from our Mobile Met. Unit (MMU) are in uniform, based in Kuwait or at the front line, serving in very difficult conditions. Preparing forecasts while being constantly interrupted by air-raid warnings is difficult enough, but, with the added threat of gas or chemical attacks, the task becomes truly daunting. I thank them for all that they are doing and acknowledge the disruption and concern it causes their families.

Of course, success in the front line requires the support of many other teams across the Met Office, including developers, forecasters, support staff and communication staff. Together they have delivered the goods and have considerably enhanced the Met Office's reputation within the Ministry of Defence, the armed forces and the wider coalition community. This is the Met Office at its best, and I offer my congratulations to everyone involved.

### *Making the most of the weather*

Turning to the weather in 2002/3, the winter months again saw floods, road chaos and storm damage to businesses and domestic properties. Even though we successfully forecast these events well in advance, there were still fatalities and substantial losses to business. We are now working with a range of customers to see what measures can be taken to mitigate the worst effects of the weather and to manage the residual risk. Our overall aim remains to enable our many customers to make the most of the weather and achieve their desired outcomes.

### *A challenging year*


The past year has been a difficult trading year for the Met Office, and the signs are that 2003/4 will be just as difficult. While we have made further substantial improvements in our forecasting accuracy and in the quality of the services we provide to our customers, we have not had the same success in reducing our operating costs and increasing our revenue. For the first time

#### **Peter Ewins, Chief Executive**

*"I am privileged to lead the Met Office, especially at a time of great opportunity and change. Our strategy is one of investment and growth — investment in R&D and in infrastructure, and growth in our revenue and the range of products and services we offer our customers. I am determined we shall continue to be Europe's premier national meteorological service."*

high places





since we became a trading fund, we will miss our annual efficiency target, although we remain well ahead of our long-term target. We will, therefore, revisit our plans to ensure we still achieve our medium-term cost reduction targets. We have also failed to achieve the expected growth in revenue, and revised plans are already in place to reinvigorate our sales and marketing strategy.

Our commercial contribution, which is a measure of the extent to which our non-government business has helped to offset the cost to the taxpayer, has risen by 12% in 2002/3 compared to 2001/2. In the current economic climate, this is an excellent performance and it is a pity that we have missed the formal target by just £150,000.

### ***Investing in the future***

2002/3 has been a year of major investment in our future. We have signed the contract for a new supercomputer — one of Europe's fastest — that will allow us to achieve more-detailed and more-accurate numerical weather prediction, greatly enhancing our weather forecasting and climate prediction capability. Our new Headquarters and Operations Centre at Exeter has already grown from a muddy field a year ago to an increasingly attractive set of buildings. The first computer links have been established and the first of our staff are at work in Exeter, getting everything ready for the rest of us to move, on schedule, later in 2003.

Investment in research and development has continued, with a new formulation for the numerical modelling of the dynamics of the atmosphere coming to successful conclusion and implementation.

All these investments will help to ensure that we continue to be the world leader in weather forecasting and the benchmark for national met. services in Europe.

### ***Moving forward***

The theme for this year's *Annual Report and Accounts* is 'Met Office on the move'. This is not only about our move to Exeter later in the year, important as that is, but it is also about all the other ways in which we are moving forward: into new fields of research, advancing our knowledge of

*We have invested in a new supercomputer — one of Europe's fastest — which will allow us to achieve more-detailed and more-accurate numerical weather prediction.*



meteorology and the environment, developing new markets, forging new relationships and leading the development of met. services, not only in the UK but also worldwide.

I hope you will be able to take the time to at least browse through our *Annual Report*, and that you will pass it on to others who might be interested.

“ 2002/3 has been a year of major investment to help ensure that we continue to be the world leader in weather forecasting and the benchmark for national met. services in Europe. ”

*Peter Ewins, Chief Executive, Met Office*

high places







# Moving as a team

Our operations were overseen by the Defence Meteorological Board, which advises the Secretary of State for Defence, our owner (from 1 April 2003, the Defence Met. Board was replaced by the UK Met. Board, with new members from the Department of Transport, Department for Environment, Food and Rural Affairs, and Cabinet Office). We managed our organisation through quarterly meetings of the Met Office Board and monthly meetings of the Executive Board.

Met Office Board members at 31 March 2003 were:

Peter Ewins, Chief Executive	John Mitchell, Chief Scientist (replaced
Roger Hunt, Operations Director	Paul Mason who retired in January 2003)
Colin Flood, Director Special Projects	Philip Mabe, Finance Director
Steve Noyes, Business Director	Martin Sands, Company Secretary

External members at 31 March 2003 were:

James May, Director-General, UK Offshore Operators Association  
Anabel Gammidge, AMEC Border Wind

The Executive Board comprised Met Office Board members (excluding external members).

## Defence Board

The Defence Meteorological Board advises the Secretary of State for Defence, owner of the Met Office. The Board comprises members with relevant scientific and commercial experience, and normally meets four times a year.

Members of the Defence Meteorological Board at 31 March 2003 were:

Ian CF Andrews CBE TD, Second Permanent Under Secretary, MoD  
Prof. Sir Keith O’Nions, Chief Scientific Adviser, MoD  
Richard Hadfield CBE, Personnel Director, MoD  
Air Vice Marshal Peter Walker CBE, ACDS (Ops)  
Peter Ewins CB FREng FRAeS, Chief Executive, Met Office

### *Non-executive members*

Sir Brian Fender CMG  
Clayton Brendish CBE  
David Filkin

*Clockwise from bottom right: Peter Ewins, Roger Hunt, John Mitchell, Philip Mabe, Martin Sands, Colin Flood and Steve Noyes (centre).*





# Moving across Europe

With our long-established track record and our reputation for forward thinking, we are leading the development of meteorology, especially in Europe, and helping to ensure the wider availability of data and products. We have major involvement in all European meteorological organisations — in particular, with EUMETSAT, which exploits meteorological satellites, and EUMETNET, which develops the core activities of European national met. services.

## Rising stars in space

Our Chief Executive, Peter Ewins, was elected Chairman of the Council for EUMETSAT. This is a great honour and an opportunity to take a leading role in the exciting field of studying the environment from space.

Space offers a unique vantage point for observation of our global environment. We routinely use satellite data from all over the world as input to our weather prediction models. In our forecast offices, up-to-date satellite imagery provides vital information on active weather systems, improving the scope and accuracy of the products that we can offer to our customers.

On 28 August, we saw a major event in the history of meteorological observations — the first of the new series of Meteosat Second Generation (MSG) satellites was successfully launched from French Guiana by the European Space Agency (ESA). Compared with the first Meteosats, which have served us since 1978, MSG is a major advance in terms of its accuracy, frequency of coverage and resolution. The series will give us greatly improved products until at least 2014, including the monitoring of severe storms and fog, and tracking of volcanic ash.

## Leading in observing

We won a bid for managing the EUMETNET Composite Observing System (EUCOS) programme in January 2003. This international programme was set up to operate and improve the European weather observing network, with funding from 18 western European meteorological services. Work has already started in testing the benefit of more-frequent temperature and wind profiles from commercial aircraft, and putting more drifting buoys in climatologically sensitive areas of the Atlantic Ocean.

### *John Harmer, Space and Spectrum Co-ordinator*

*"Meteorological satellite data are critical to the business of the Met Office. I balance the views of Met Office and UK scientific, technical, financial and political experts to obtain those data at best value for money — through the national and international space programmes and initiatives of EUMETSAT, ESA and the British National Space Centre."*

europe





By co-operating with other European meteorological services, we have moved three of our seven lightning detection ground stations away from the UK. We now have stations in Iceland, Germany and Finland. These moves improve our network geometry, giving greater accuracy and better detection efficiency.

## Developing European forecasting

Peter Ewins also provided a very strong lead at the World Meteorological Organization's (WMO's) Regional Association meeting in May 2002, attended by the directors of European meteorological services. We are now at centre stage in Europe, presenting our leading capability, credibility and capacity to move forward the science and business of meteorology in Europe.

In December we introduced our new regional European forecast model, covering the North Atlantic as well as Europe in more detail — a 'first' in Europe. This is still very much in the development stage, but timely work now allows products to be developed more quickly for business opportunities in Europe.

Our Nimrod system can now provide short-range forecasts of rain, lightning, visibility, cloud and temperature over most of Europe (with coverage including Iceland, Norway, Portugal, Italy and Greece). We can now demonstrate to customers the importance of weather information both in the UK and in other European countries.

## Flood forecasting in Poland

Following the devastating floods of 1997 in Poland, Nimrod was chosen by the Polish national met. service to form part of their Emergency Flood Recovery Project. Nimrod now provides a unique fully automated system for producing analyses and forecasts of rainfall, helping to provide advance warning of future severe flood events.

## Modelling in Norway

In August we signed an agreement with the Norwegian Meteorological Institute to jointly develop an improved regional weather prediction model. This helps us to widen our research funding base and increases our pool of expertise and numerical modelling capability.

*Meteosat Second Generation (MSG) launch seen from the ESA control room in French Guiana — a major event in the history of meteorological observations.*



## Benefiting Ireland

We have introduced a new system for analysing UK climate information using the ESRI Arcview geographical information system — a range of products and maps are placed on our web site. This system has been adapted for use in Ireland and is now being successfully used by Met Éireann, the Irish met. service.

## Researching climate for the British–Irish Council

The Met Office's Hadley Centre for Climate Prediction and Research has been awarded a contract by the Department for Environment, Food and Rural Affairs to develop climate change scenarios for the British–Irish Council (BIC) administrations. Because the BIC area includes Jersey, Guernsey, Isle of Man, Hebrides, Orkney and Shetland, which are too small to be identified even in the 50 km resolution regional climate model, we will produce model predictions at a higher 25 km resolution for the first time.

“Your responsiveness and willingness to help us in times of need is inspiring.”

*Lt Col Carolyn Vadnais, US Air Forces in Europe*







# Moving around the world

Many of our activities rely heavily on international co-operation; for example, gathering observations and providing forecasts to defence and aviation customers. We now lead the world in standardising methods for making and exchanging observations and engaging internationally in research, education, training and resource sharing.

## Serving in Afghanistan

Vital meteorological support continued throughout the year to UK and coalition forces' commanders as part of Operation Veritas, the Ministry of Defence response to the events of 11 September 2001.

When UK forces were first based in Afghanistan, our Mobile Meteorological Unit (MMU) teams were sent to the country to provide on-site meteorological advice to commanders. (The MMU is a sponsored Reserve Unit of the Royal Air Force, staffed by Met Office volunteers.) As the emphasis changed from military to humanitarian support, we set up a web site with real-time weather information for Afghanistan, which is still helping many relief agencies, including the UK's Department for International Development and the United Nations.

This has been a great Met Office team effort, but we shouldn't forget the teamwork between the Met Office and other agencies. Our climate briefs were supplied to both the US Navy and Air Force (USAF), and we received data in return. We loaned equipment to USAF and shared data with our long-standing partners, the US Air Forces in Europe (USAFE).

## Backing the 'Earth summit' in South Africa

The World Summit on Sustainable Development in Johannesburg was attended by some 45,000 international delegates, including our own team of experts, and discussed natural disasters, pollution and climate change. We were also asked specifically to provide the details on world weather over the duration of the two-week summit, working closely with the South African Weather Service.

world

### **Hazel Smith, PC Desktop IT Specialist and voluntary MMU member**

*"I joined the MMU just over three years ago and completed military training at RAF Halton. Since then I've deployed several times to the Gulf as support staff, providing round-the-clock observations and weather information to RAF and allied aircrews. I enjoy the opportunity for a change of scenery, new challenges and working in very different environments."*





## Keeping the world flying

We are one of only two World Area Forecast Centres (WAFC), responsible for issuing all high-level forecasts for civil aviation around the world (the other WAFC is in Kansas City, USA). Our aviation and production managers met in Kansas City in December to agree on procedures that will provide a higher degree of resilience for WAFC products. It is very important that the two WAFCs develop services in parallel and are able to support each other in case of an outage at either centre.

We now have new internet-based services that provide more cost-effective and safer gate-to-gate operations. The best examples of this are our services for the terminal area and the airport. Often, air traffic controllers (ATCs) find out about adverse weather conditions from the pilots when they are directed into it. This can lead to significant increases in workload for ATCs, and air traffic delays can quickly build up. Weather-related delays will never be entirely eradicated but, with these new meteorological services, ATCs can make decisions that will reduce aircraft delays.

In collaboration with Oxford Aviation Training, we have launched a major new product to assist in aviation meteorology training for student and qualified pilots. A comprehensive, interactive CD-ROM has been produced, with over 15 hours of aviation meteorology tutorials and questions for all levels of JAA and FAA pilot licence exams. Combined with our new 'Met. for Aviators' course, we provide the aviation community with an extensive range of training material covering all aspects of aviation meteorology.

## Assessing climate change impacts

Our Hadley Centre for Climate Prediction and Research has shown that the damage already done to the climate by man's greenhouse gas emissions will affect us for the next 1,000 years. A new report, published for the United Nations Framework Convention on Climate Change (FCCC), says that, even if atmospheric greenhouse gas concentrations were stabilised immediately, the effects would still be with us for a very long time. This stabilisation is an unrealistic possibility that would require emissions around the world to be more than halved.

*Research by the Met Office will help developing countries assess the impacts of climate change on their resources, land use and water supplies.*



The Hadley Centre won the tender from the Department for Environment, Food and Rural Affairs to host the Technical Support Unit for Working Group II of the Intergovernmental Panel on Climate Change. This is a strategically important role that will promote our abilities on a global scale in the climate change impacts arena.

Our innovative 'PRECIS' (Providing Regional Climates for Impacts Studies) system was showcased at the UN FCCC meeting in New Delhi. This is a new portable climate-modelling system, which will help developing countries to assess the impacts of climate change. It can be run on a PC and applied easily to any area of the globe.

### Assisting developing countries

We have developed a lower-cost TV broadcast system for meteorologists in Africa as part of the WMO Voluntary Co-operation Programme (VCP). The VCP improves the network of observations across the globe by providing training and equipment to less well-developed national met. services. The new affordable TV equipment will help prevent African communities from losing vital crops each year because they don't have access to basic weather forecasts.

“Across Government, we are aware of your contribution to Operation Veritas in Afghanistan and we recognise how crucial your information was.”

*Rt Hon Geoffrey Hoon, Secretary of State for Defence*

world







# Moving services

## Keeping insurers informed

Our collaboration with loss-adjusting specialists, GAB Robins, has produced an innovative new claims-management system for the insurance industry. The WeatherEYE system was recently named as the Technology Initiative of the Year at the Insurance Times Awards. The weather is the cause of a significant number of claims, and insurers are faced with increasing competition, tightening margins, excessive claims leakage and fraud. WeatherEYE enables insurers to make quick and informed decisions to validate genuine claims.

## Appearing on TV

Our long-standing relationship with the BBC continues to grow, and we now have a solid platform for developing joint services in the future. We have reached a three-year co-operative agreement with the BBC to be the provider of their weather services on national and regional television and via the radio and new media, including the BBC web site.

## Launching global marine services

A key innovation in 2002 was the introduction of our new Marine Production System (MPS) in the global offshore marketplace. MPS is a platform for more-flexible, more-focused and competitive marine weather services. It is part of a range of new products introduced over the past year that will allow our customers to assess the weather risk during all phases of major offshore projects.

## Helping sales and savings

Other major successes have been the renewal by Safeways and Sainsbury's of their contracts with us. We provide these supermarkets with detailed regional 10-day forecasts delivered over the internet, updated every day. Our forecasts save them over £4 million a year in stock planning. On the mobile phone front, in a new marketing partnership with the RAC, we launched a new weather forecast service for motorists — in its first week of operation, this service received over 3,000 calls.

### *Richard Bennett, Account Manager, Retail and Manufacturing*

*"I work with supermarkets and other retailers to understand how their business and supply chains are impacted by weather. Our solutions ensure that they consistently have the right products on the shelf to meet their customers' demands. I feel proud when I go into a shop and there are ample supplies of fresh salad in a sudden hot spell — I helped to get it there!"*







# Moving beyond weather

## Forecasting the nation's health

We have successfully completed a project in collaboration with the Department of Health to help predict fluctuations in workload within the National Health Service. This work can be used in supporting more-effective targeting and delivery of healthcare services. Because many ailments, such as respiratory disease, heart attacks and strokes are related in part to the weather, it is possible for us to forecast hospital workloads. One particular hospital described the forecasts as 'alarmingly accurate'.

## Building up energy

Weather plays a vital part in the management and operation of the gas and electricity industries. Not only does it have a direct impact on the safe and efficient operation of the infrastructure, but also on consumer demand and the industry's ability to meet those demands. We are now working with the industry to develop new services that will help them swiftly mitigate against the impacts of severe weather.

In response to requirements for a more environment-friendly economy, pressure has been growing for greater use of renewable sources for the generation of electricity. In co-operation and partnership with power companies, we have looked at the development of services for wind farms — their siting, operation, maintenance and as aids to the trading of output. We are also increasingly interested in other renewable sources, such as solar and tidal energy.


## Diving into oceanography

For those working at sea or living near the coast, our forecasts of wave height, ocean currents or storm surges are just as vital as forecasts of the weather. We routinely run high-resolution ocean models that predict the temperatures and currents below the surface to depths of several thousand metres. These ocean forecasts help organisations such as ferry operators, oil companies and the Royal Navy to plan their operations at sea.

### **Noel Nelson, Senior Air Quality Consultant**

*"I deal with air quality issues, assessing impacts for customers including government departments and local authorities. I was part of the Forecasting the nation's health initiative — a service helping hospitals to save money and plan resources. Over the years, I've worked in meteorology, pollution dispersion, climate change and health forecasting — there's no other organisation that could offer me this range of applications!"*





We are also trying to understand more about ‘rogue’ waves — ocean waves of exceptional height and steepness — which cause loss of life and substantial damage to ships and offshore structures every year. As part of project MAXWAVE, we are collaborating with five European organisations to study rogue waves. This research will help in the future design of ships and offshore structures to make them safer, and in providing better warnings to mariners.

We manage the UK contribution to ‘Argo’, an international project to set up a global array of instrumented floats that will provide significant benefits for seasonal forecasting, climate prediction and operational oceanography. During 2002, over 35 floats were deployed around the world and, by 2006, Argo will have established an array of 3,000 floats globally. These floats submerge to a depth of 2,000 m and surface at regular intervals to broadcast data.

## Hydrology

We introduced ‘Deluge’, a new service providing urban drainage modellers with accurate, short-period rainfall data from across the UK. Deluge provides for longer-term planning by including expected changes in rainfall patterns due to climate change, and this is the first time that such data have been available on a single, easy-to-use, quality-controlled CD.

Results of our two-year study on climate change impacts on drainage systems were presented to the main UK water companies at a UK Water Industry Research (UKWIR) meeting in January. These results were well received and will be communicated by UKWIR to the water industry regulators, Ofwat, and the Environment Agency.

## Severe weather impacts

The National Severe Weather Warning Service (NSWWS) was tested frequently this year with the timely issue of many Flash and Early Warnings. Flood forecasts and weather warnings to the public have greatly benefited from a closer working relationship between the Met Office, the BBC and the Environment Agency.

Although very topical, heavy rainfall is just one element for which the NSWWS delivers specialised warnings to emergency planners — warnings

*New services from the Met Office are helping hydrologists and UK water companies to take into account the effects of climate change in their long-term planning.*



are also issued for freezing rain, blizzards, fog and high winds. Warnings for winds are particularly important because of the immense cost of the resulting damage. This can be demonstrated by comparing the costs of flooding events to those of severe windstorms — the Christmas/New Year floods cost around £9 million, yet the severe gales in October 2002 cost a staggering £500 million, with damage to power supplies in eastern England and eight deaths.

As the political and financial effects of severe weather grow, we see an increasing need for the Met Office to take on a greater role in risk management and impact mitigation.

Our newly developed Severe Weather Impacts Model (SWIM) can be used to forecast and assess the economic and social impacts of severe weather. It was used recently to provide reports to the Department of Trade and Industry in October and for the Department for Transport after the snow in January caused chaos on the roads.

*“ We aim to provide the highest standards of customer service to our 3.6 million home insurance customers, and I believe you will help us to achieve this. ”*

*Charles Crawford, Executive Director, Churchill Insurance*







# Moving into the future

## Cutting the cost of production

Forecast and service production forms a very significant part of our total costs; reducing them is now one of our strategic aims.

Taking recommendations from last year's 'Unlocking Potential' projects, the re-engineering programme began in late 2002. This programme, together with other initiatives, aims to make substantial savings by the end of 2005. This will simplify our processes, and products will be delivered to the marketplace much more quickly. But this is not just a cost-saving exercise or a technical project, it's also about our people, processes and technology. It's about aligning our capability, not just within our own business, but also with our customers' businesses. It's about changing the way we do things — delivering a change of culture, structures, policy and behaviours throughout the entire organisation. Most of all, it is about delivering the flexibility our organisation needs to move towards achieving its vision and goals.

## Planning for a new supercomputer

Our new supercomputer is absolutely vital to our future, maintaining our position as a world-leading provider of weather-related products and research and advice on climate change. By March 2004, this new NEC machine will be running at our Headquarters and Operations Centre in Exeter. Made up of 30 NEC SX-6 nodes, it will deliver six times the combined power of our two current Cray T3E computers. More nodes will be added later in the year, taking the total power up to twelve and a half times the current system.

The extra power will benefit both weather forecasts — by improving detail, increasing accuracy and allowing greater automation — and climate prediction — through an increased number of more-complex model runs. We'll be able to develop more-specific products, such as basin hydrographic models, or improved forecasts of severe weather by using data available from new generations of satellites.

future

### **Steve Murray, Project Manager, NEC Supercomputer Implementation**

*"Our customers want improved forecast accuracy and more-comprehensive models at higher resolution for climate research. My role is to bring together our suppliers and internal users to provide a supercomputer service at Exeter that meets our specific needs and delivers the benefits."*





## Introducing New Dynamics

We've introduced the 'New Dynamics' on our existing supercomputer. This version of our numerical model uses the more complete set of prediction equations, known as the 'non-hydrostatic' equations, that are necessary for very high-resolution modelling and producing more-detailed forecasts.

These revisions have already led to significant improvements in our forecasts, and we expect to see further improvements in the coming years as we build on this new approach.

## Creating a National Met. Programme

We have been working with our customers to develop a National Met. Programme (NMP) and an NMP Commissioning Group, which will replace the current Core programme and Core Customer Group next year. The concept of Met Office 'Core' activities was established in 1996 when we became a trading fund, and a Core Customer Group was formed to become the 'customer' for our underpinning weather forecasting capability. In July 2002, Professor David Westbury, from the University of Birmingham, completed a comprehensive review of this concept, its funding and our relationship with our Core customers.

## Automating our observations

By increasing the use of automated systems in our observing networks, we've made considerable cost savings. Changes to some systems were also made this year to improve on recent performance, especially in harsh weather conditions. For example, we have introduced a new type of cloud-base recorder that significantly improves estimates of cloud cover and height, even in the most challenging weather conditions. Automated systems are now used to measure upper-air weather, and more than 30 UK observing sites can now report precipitation with automatic systems.

## Getting value for money

The Quinquennial Review Stage 1 Report is now complete and recognises our achievements, particularly our international reputation, and the quality and range of our services. It also notes the benefits of recent investment

*Climate change will affect everyone, everywhere. With our new supercomputer, we'll be able to develop improved forecasts of severe weather and more-detailed climate change predictions.*



programmes, overall improvements in efficiency and that we represent 'good value for money' for the UK taxpayer. More importantly, it recognises the value of keeping our 'integrated' service, where all our activities — such as numerical weather prediction, climate research, observing, services to both public and private sectors — are under one 'roof'. It concludes that we are best placed to carry out these activities as a trading fund, giving us a sound endorsement of our present structure and management and a firm basis on which to plan for the future.

### Accessing our information

We have a new Library Management System, Unicorn, which will offer improved search facilities for customers and staff. Our National Meteorological Library and Archive forms one of the most comprehensive collections of information on meteorology, climatology and related subjects held anywhere in the world. This material is a record of the nation's weather and the development of the science of meteorology, essential for Met Office staff, researchers and members of the public. Our new catalogue will be available on the internet in 2003, offering quicker access to the latest scientific literature.

*“ We can't predict the weather ourselves — so, who better to supply the forecasts than the Met Office? ”*

*Mike Hales, Communications Director,  
Manchester 2002 Commonwealth Games*

future







# Moving people

## Changing how we work

April 2002 saw the introduction of a new management structure. We moved away from being a 'functionally managed' organisation to a 'process-managed' business. This change enables senior managers to take real control of the operational business and to do so from a customer perspective. Directors can focus on strategy, business development and performance management. This change ties in with the strategy for our move to Exeter and with our approach to ISO 9001 accreditation, both of which have their emphasis on 'process' rather than 'function'.

## Setting the standard

After three years of hard work by everyone in the Met Office, we were registered to ISO9001:2000 and TickIT by the British Standards Institution (BSI). This is a major achievement, considering the range and complexity of our organisation. ISO 9001 is the international standard for designing and implementing business management systems. Many influential customers demand that their suppliers are registered to ISO 9001 because this gives them assurance that the products and services supplied will meet their requirements. The MoD requires such assurance, and the International Civil Aviation Organization has decided on a similar policy.

## Getting better training

We now have nationally recognised awards for our forecasters and observers. In a joint initiative between the Royal Meteorological Society, the Royal Navy and private weather companies, we have developed two new National Vocational Qualifications: one in forecasting and one in observing. These are accredited standards for forecasters and observers to aspire to, and professional qualifications that will set standards for anyone involved in weather forecasting. The Met Office College became the first centre licensed to award these qualifications and, to date, we have had seven successful candidates, with a further 26 working towards the award.

### *Richard Allam, Quality Improvement Manager*

*"We gained our ISO9001:2000 and TickIT certification after a three-year project to define and improve our business processes. This focus on 'what we do' has been really helpful for our relocation. One of the biggest challenges for me was helping staff at all levels to recognise the benefits of ISO, both for them and for our customers – excellent result!"*

people





## Producing better managers

The newly introduced Assessment and Development Centres, Promotion Preparation Centres and Competency Development Centres have all contributed to the development of our future senior managers. This year, 49 candidates attended Assessment Centres, with a 63% pass rate (improving on 2001) for promotion to the first level of senior management. We also introduced a new Foundation Management Course for our front-line managers, to further our plan to produce better managers. Our managers and staff are evermore aware of competencies and the training needs they require.

## Getting ready to move

Our Human Resources team has been very busy supporting relocation. They have introduced a confidential support and advice service for all staff, maintaining morale through the relocation phase and beyond. We have also developed Employee Assistance, Redeployment, Employment Break and Approved Early Retirement programmes — all crucial to support relocation.

## Rewarding staff

This year we negotiated a staff pay deal covering the annual pay award for 2002, 2003 and 2004. This was the first time we have proposed this kind of multi-year deal, and the Trade Union ballot showed a resounding acceptance from staff. The deal provides the opportunity to bring in new elements to the current pay system, representing significant improvements to the existing scheme. It also allows staff to see their future earnings potential over the next three years and is especially useful in providing long-term stability during relocation.

## Bringing in new people

Staff numbers have remained stable over the year. Continuous recruitment campaigns were extremely successful and filled all IT, Security and Customer Centre vacancies. We have suspended continuous recruitment but it can be reinstated if recruitment needs increase.

*Met Office College instructors, Margaret Rudd and Wayne Elliott, were instrumental in developing two new National Vocational Qualifications, which will set standards for everyone involved in weather forecasting.*



To maintain our lead in the fields of meteorology and environmental sciences, most of our new entrants hold graduate qualifications in mathematics, physics or computing, as in previous years. We also recruited staff with specialist qualifications for roles in human resources, marketing and sales, purchasing and finance.

Staff recruited during 2002/3

	Male	Female	Total	Ethnic minority*	Disabled people*
TOTAL	102	73	175	5	2

\*All entrants were surveyed, but some chose not to respond

We recruit staff according to the Civil Service Commissioners’ Recruitment Code 2001. Individual appointments are made on the basis of fair and open competition. We have made two permitted exceptions to the code this year.

“The health forecasts were alarmingly accurate. When they said there was a risk of strokes, more stroke cases presented.”

Heather Bunce, Royal Berkshire and Battle Hospital







# Moving home

## Reshaping our future

Moving the centre of our operations from Bracknell to Exeter is the biggest investment programme ever undertaken by the Met Office and is arguably the largest IT facility move ever attempted in Europe!

Since moving to custom-built accommodation in Bracknell over 40 years ago, the organisation has expanded and the current headquarters and operations centre has become less suitable. We need state-of-the-art accommodation if we are to continue being at the forefront of weather prediction.

Refurbishing our existing buildings in Bracknell was not viable. After months of fact-finding and consultations, Exeter was found to offer the best long-term business benefits for the Met Office and our customers. The design of the new building will enhance our image as a world-leading scientific organisation and reinforce our reputation as a leading provider of first-class environmental services.

How are we doing that? One of the criteria for the design of the building is to achieve BREEAM (Building Research Establishment Environmental Assessment Method) excellence. Many of the materials being used in construction are from sustainable sources, and we will recycle energy and consumable materials; for example, wastewater and rainwater. We will have a combined heat and power plant, which will reduce the use of non-renewable energy to provide the heating, hot water, cooling, lighting, power and ventilation.

The new building will provide us with modern, environmentally friendly accommodation, enabling us to bring most of our existing offices from Bracknell together under one roof. This will help us to improve the effectiveness of our operations, reduce our running costs and encourage the development of innovative products and services.

Facilities in the £80 million, three-storey building will include almost 13,000 square metres of office space, an interactive innovation centre, a media centre, the Library, conference facilities, a restaurant and a sports and recreation area. There will be an observations trial site to develop and test

home

### *Lindsey Smith, Design Co-ordination Team, Relocation Programme*

*"I am co-ordinating the furniture and the workspace design for the new HQ and Operations Centre. This is vital to ensure that users' needs are met, and that we achieve a value-for-money solution enabling us to operate ergonomically and efficiently in Exeter. Everyday on-site, the building is taking shape, giving us a spacious and innovative working environment."*





new systems. Plus, the surrounding land on the 31,400 square-metre site will be landscaped to encourage flora and fauna.

The modern IT infrastructure at Exeter will allow us to further improve the way we handle the huge amounts of weather data and customer information we use every day. By building in significant back-up facilities to our major IT systems from day one — two power grids, two IT halls, two supercomputers — we can ensure an even better service for customers, 24 hours a day, every day.

The new building has grown from the shell of one block to the effective completion of external work, with IT systems installed and running, all ahead of schedule. Over 200 staff have already moved to new homes in the Exeter area, and a similar number are involved in different stages of house purchasing. More staff are now expected to move than we first anticipated — this is a positive reaction to the move and shows great confidence in our future.

### **Working in London and Nottingham**

But relocation is not just about Exeter! Some of our Engineering Service team will be moving to an existing Met Office site at Watnall, near Nottingham, and we are exploring the possibility of running a small office in London.

### **Studying at the Met Office College**

Although the majority of Met Office staff won't be moving to the new site in Exeter for some months, the Met Office College team has already relocated to Torquay, prior to joining us in the new building in October 2003. Based in temporary, newly refurbished accommodation at South Devon College, this team is continuing to teach meteorology, and related courses, to Met Office staff and students from other national met. services around the world.

We are completing the commercial sale of the old Met Office College site at Shinfield and have started preparations for the disposal of the two Bracknell freehold sites. The sale of these sites will help to pay for the new building in Exeter.

*Aerial view of the new Met Office Headquarters and Operations Centre in Exeter, March 2003.*



## Keeping our heritage

The National Met. Library is scheduled to move to Exeter during November 2003. Our Archive will become a shared enterprise with Devon County Council in their new building at Great Moor House, very close to our site in Exeter. The Archive will be the last of the facilities to leave Bracknell, and the move is scheduled to be completed by May 2005. We are now making important decisions about what material will be retained in the new facilities.

## Maintaining quality

We decided to find a strategic partner for our Quality Assurance Laboratory and Stores functions. We wanted to expand our environmental equipment calibration business, thus exploiting our brand. Dowding and Mills Ltd in Camberley, Surrey, an international organisation with a strong reputation, has been awarded a five-year contract to host this facility and increase our customer base.

*“ By taking the weather into account, we can accurately predict customer demand, which means making the most out of sales and reducing waste. ”*

**Mark Aylwin, Supply Chain Operations Director, Safeway**







## Moving performance

Since the Met Office became a trading fund in 1996, it has achieved significant improvements in efficiency and service quality. However, as a consequence of the 'cost-plus' charging structure on which most services to the public sector are based, along with ongoing efficiency programmes, revenues have steadily declined. Clearly, this decline cannot be sustained in the long term, so we are adopting a strategy that seeks wider investment and growth.

Recently, the investment element of this strategy has dominated activities, focusing on significantly improving capability and strengthening our infrastructure. At the heart of this lies our relocation to Exeter, which will be completed during 2003/4 and will provide an environment where the business can flourish. In support of our investment plans — £15 million in 2001/2 and £18.9 million in 2002/3 — the MoD has waived the payment of a dividend.

Our results over recent years have, however, shown that halting the steady decline in our income and delivering real growth has proved more difficult than anticipated, although, with corresponding reductions in our cost base, our underlying financial position has remained good. That said, our 2002/3 accounts report an operating loss of £5.1 million. This is due to a market-driven delay in the disposal of a site at Shinfield Park, Reading, which was planned to offset expected high levels of expenditure in support of the relocation programme. Nevertheless, the Met Office retains a solid cash flow position, which is expected to be maintained throughout 2003/4, despite continued high levels of relocation expenditure.

Having secured our capability and infrastructure, our future strategy now focuses on exploiting them to deliver growth. To do this, we will need to focus on understanding customer need and delivering the right services. In addition, to provide increasing value for money and to free resources for future investment, we will be seeking significant cost reductions. In particular, we are looking to streamline our production process to provide a more flexible and scalable production platform to support future business needs.

The Met Office is an organisation with world-class capabilities, products and services, supported by excellent staff, and continues to raise expectations about the growth potential that these qualities offer. Realising our potential remains our major challenge, and we must strive to maintain and develop our position in line with customer demands while keeping a firm control on our cost base.

**Tim Ormerod, Product Marketing Manager, Retail and Insurance**

*"Weather affects just about every aspect of business. I find out what businesses need, now and in the future, and work out ways to meet that. I'm helping companies discover where the impact is greatest and then manage it. I get a real kick when the customer says we've helped them — for me that's what it's all about."*

# performance



## Performance against key targets 2002/3

The 2002/3 targets for the Met Office's key performance indicators (KPIs), having been agreed by the Chief Executive and the Secretary of State for Defence, were announced in Parliament on 23 May 2002. These KPIs are the tools we use to measure the performance of our business and the targets set for them are intended to be challenging but achievable. The values of the targets set and the results achieved against them are shown in the table on page 44.

### *Forecast accuracy*

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 2002/3, the NWP Index benefited from model changes implemented in-year and also continued to benefit from the previous year's major upgrades. This target has been exceeded.

### *Quality*

The Service Quality Index covers a representative range of services provided to defence, civil aviation, public and commercial users. Each year, the target level is derived from specific customer requirements for the accuracy and timeliness of these services.

2002/3 saw outstanding performance from the OpenRoad service in particular, with Terminal Aerodrome Forecasts for civil aviation also performing well. All components contributed to an end result that was well above the target.

### *Efficiency*

Our Efficiency Index measures the change in outputs in relation to the costs for three major areas of our activities — core services, defence services and civil aviation services. A three-year target of 111.6 had originally been set in 2000 and this was exceeded within the first two years. A level of 118.4 was achieved during 2002/3, representing an 18.4% rise in efficiency over the three years. However, as a result of the excellent results in the first two years, a stretching in-year target of 120.5 had been set, and this was missed. The main reason for this was the top priority given to preparing for continuity of services during our transition to Exeter and the amount of necessary preparation and support provided to Middle East operations.

### *Financial*

#### **Return on capital employed (ROCE)**

Achievement of the target level of ROCE was dependent on the sale of our Shinfield site during 2002/3. The sale of Shinfield was still under negotiation at 31 March and, consequently, a ROCE of -3.4% has been delivered, which is below the target level. However, the operating profit element of this target was achieved.



## Strategic investments

£18.9 million has been invested in projects to support our future growth, thereby meeting this target.

## Commercial activities contribution

This indicator measures the financial contribution to core and central services from our commercial activity. While commercial contribution has risen by 12% since last year, this has not been sufficient to meet the target, the final figure falling short by just £150,000.

## Other performance

The Staff Skills Index takes the average of the competency markings awarded to all employees in their annual appraisals and compares it to the competency level in March 2001. These data are only collected on an annual basis, so no interim targets have been set towards the overall March 2004 target.

## Targets for 2003/4

The following key performance targets for 2003/4 were announced in Parliament on 11 June 2003:

- To achieve a value for the Numerical Weather Prediction Index of at least 111.8 on 31 March 2004, from a baseline of 100.0 on 31 March 2000
- To achieve a value for the Service Quality Index of at least 120.1 on 31 March 2004, from a baseline of 100.0 on 31 March 1997, in line with customer requirements
- To achieve a value for the Efficiency Index at 31 March 2004 of at least 120.1
- To deliver an operating profit before strategic investments of at least £14 million in FY 2003/4. This is in support of a long-term target to achieve a return on capital employed, averaged over the period from 1 April 2002 to 31 March 2007, of at least 4%
- To transfer our Bracknell-based weather forecasting operations to our new Operations Centre in Exeter by 30 September 2003
- To achieve a total contribution from commercial activities in FY 2003/4 of at least £4.0 million
- To achieve a value for the Staff Skills Index of at least 107.5 by 31 March 2004, from a baseline of 100.0 as at 31 March 2001



## Performance against key ministerial targets

Key ministerial targets		Targets, outturns, achievements			Targets
		2000/1	2001/2	2002/3	2003/4
Efficiency					
1. Efficiency Index <sup>(1)</sup>	Target	103.7	111.0	120.5	120.1
	Outturn	109.6	120.1	118.4	
Quality					
2. Service Quality Index <sup>(2)</sup>	Target	107.1	107.8	115.4	120.1
	Outturn	120.5	134.7	130.3	
Financial					
3a. Return on capital employed <sup>(3)</sup>	Target	0.0%	>0.0%	>0.0%	Average ≥4% in period April'02–March'07
	Outturn	2.8%	2.1%	-3.4%	
3b. Profit before strategic investments	Target	£13.7m	£17.6m	£13.3m	£14.0m
	Outturn	£14.4m	£18.5m	£13.8m	
4. Strategic investments <sup>(3)</sup>	Target	£13.5m	£15.9m	£19.4m	n/a
			±£1.5m	±£1.5m	
	Outturn	£13.6m	£15.1m	£18.9m	
5. Commercial activities contribution <sup>(3)</sup>	Target	£3.57m	£4.4m	£3.8m	£4.0m
	Outturn	£2.67m	£3.3m	£3.65m	
Forecast accuracy					
6. NWP Index <sup>(4)</sup>	Target	101.6	105.2	109.5	111.8
	Outturn	103.2	107.5	110.0	
Other performance					
7. Staff Skills Index <sup>(5)</sup>	Target	n/a	n/a	n/a	107.5
	Outturn	100.0	101.5	— <sup>(5)</sup>	

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

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

(3) See also note 2 to the accounts on page 61.

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

(5) Due to the nature of this measure, interim targets have not been set. The outturn for 2002/3 was not available at the time of going to print. This key target has therefore not been subject to audit by the National Audit Office and so is not covered by the audit certificate on page 45.



## **Report by the Comptroller and Auditor General on the Met Office's statement of performance against 2002/3 key targets**

The Chief Executive of the Met Office has asked me to validate performance against the 2002/3 key targets.

### **Respective responsibility of the Met Office, the Chief Executive and 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 (April 2002) 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 2002/3 key targets. It reliably and fairly presents the Agency's performance against key targets 1–6. I have no observations to make on this statement.

John Bourn  
Comptroller and Auditor General  
20 May 2003







# Accounts

## Foreword to the accounts

### **Statutory background**

These accounts have been prepared following the Direction given by HM Treasury on 25 February 2003 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 2, in our vision and goals.

### **Board members**

During 2002/3, our operations were overseen by the Defence Met. Board (UK Meteorological Board from 1 April 2003), which advises the Secretary of State for Defence, our owner. We are managed through quarterly meetings of the Met Office Board and monthly meetings of the Executive Board (see page 13). An audit committee ensures 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. Also, a remuneration committee considers executive and 'incentivised' remuneration matters for the Met Office on behalf of the UK Meteorological Board.

### **Major initiatives during 2002/3**

The relocation programme and transfer of operations to Exeter continue to progress as planned, with over 1,000 staff and 130 IT system and function projects to be relocated. A redeployment and employee assistance programme is in operation for those staff that have chosen not to relocate.

All staff have been kept abreast of developments through interactive seminars and the opportunity to visit our new accommodation throughout the construction phase.

Comprehensive and detailed planning will ensure a smooth and uninterrupted handover from Bracknell to Exeter.

### **Payment policy**

We pay suppliers direct from the Met Office. Our policy is to pay within contracted payment terms or, without specifically agreed terms, within 30 days of receiving a valid invoice (see Better Payment Practice Code) or of the delivery date, if later. This year, we paid 99.76% of our bills on time (31 March 2002, 99.6%).

### **Peter Williams, Financial Accountant**

*"Financial accounting is vital in the overall management process, since the accounts show our state of affairs at any given date. I ensure that our accounts comply with statutes and Financial Reporting Standards, and I also help develop new accounting policies as new business activities evolve. I enjoy the intellectual challenge of bringing a business and financial perspective to management decisions."*

accounts





### **Results and appropriations**

Our turnover for the year was £157 million (2001/2, £155 million). Total expenditure, before exceptional items and interest, was £162.5 million (2001/2, £151.4 million) and operating loss was £5.1 million (2001/2, £3.4 million profit). Exceptional items of £2.8 million were provided in respect of retirement costs of staff whose early retirements were approved as part of the overall relocation strategy and non staff-related relocation costs. Net assets as at 31 March 2003 were £166.2 million (31 March 2002, £168.1 million). The positive return on capital employed (ROCE) key target was not met. Loss after interest and exceptional items was £7.4 million (2001/2, £5.4 million profit). As explained on page 41, no dividend is to be paid in respect of 2002/3.

### **Market value of land**

It is expected that there will be a significant difference between the market value and the book value of land, but it is not being disclosed on the grounds of commercial confidentiality.

### **Research and development**

We carry out a programme of applied research and development in support of our operational services. We also carry out additional research and development in man-made climate change, under contract to the Department for Environment, Food and Rural Affairs.

### **Disabled persons**

We are committed to a policy of Equal Opportunity, recognised in 1999 through 'Positive about Disabled People' accreditation. The only test we apply for recruitment, retention or advancement is the ability to do the job.

### **Employee involvement**

The Met Office Functional Whitley Committee and its sub-committees and local committees undertake formal consultation with staff. We regard the health, safety and welfare of our employees (and others) as 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 special issues, including *Investors in People*. We inform staff of new developments in the Met Office through monthly briefings, an intranet and a staff magazine, *Mercury*.

PD Ewins  
Chief Executive  
16 May 2003

*As part of the Air Ministry since 1920 and the Ministry of Defence since 1964, we've served our armed forces on land, sea and in the air, in times of both peace and conflict, for over 100 years.*



## Statement on the system of internal control

### *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, while safeguarding the Met Office funds and assets, for which I am personally responsible. I carry this out 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 UK Met. Board, as representative of our owners, convenes quarterly to review the performance of the Met Office against its key performance targets and business plan objectives that are agreed by Parliament. The UK Met. Board also advises me on the management of our major risks. In addition, my Audit Committee, comprising non-executive members of both the UK Met. Board and the Met Office Board, supports me in this role.

### *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 2003 and up to the date of approval of the *Annual Report and Accounts*, and accords with Treasury guidance.

### *Capacity to handle risk*

A corporate risk management process is one of the key processes of the Met Office's ISO 9001 Business Management System. This process provides guidance to all staff involved in risk management activities and includes best-practice guidance on managing project, programme and corporate risk. The Met Office Board and the Audit Committee have endorsed this process. All Directors and Senior Managers are given the authority to manage risks as part of their responsibilities.

### *The risk environment*

In the Met Office, the major corporate risks have been identified through workshops and structured interviews with Directors and Senior Managers. The risks are recorded in the Corporate Risk Register. 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 Board. The Board is also responsible for determining the Met Office's appetite for risk. This is carried out as an ongoing process dictated by current circumstances. The Audit Committee also reviews the Corporate Risk Register.





The Corporate Risk Register is supported by a set of local risk registers to enable risk management to be embedded at all levels in the Met Office. These are managed by a group of Local Risk Co-ordinators whose roles are to advise local managers on risk management. The Local Risk Co-ordinators also work with the Corporate Risk Co-ordinator to ensure that potential corporate risks are identified at an early stage and escalated to the Corporate Risk Register for assessment where appropriate.

**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.

In April 2002 the Corporate Management and Board Structure was revised. The Met Office Board is responsible for defining Met Office Strategy. The Executive Board 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 Board 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 several sub-committees. These include the Investment Appraisal Committee (capital and other strategic investments) and the Bid Appraisal Committee (major sales bids).

The Met Office’s internal audit function was carried out during 2002/3 by PKF, a firm of accountants and business advisors, to the standards defined in the Government Internal Audit Manual. The work of the internal audit team is informed by an analysis of the risk to which the Met Office is exposed, and the annual internal audit plans are based on this analysis. The internal audit plans are continuously reviewed and, in addition to the planned audit reviews, a number of additional reviews have been carried out, at my request, in areas identified as being potentially high risk. The Audit Committee approves the Internal Audit programme.

During the year, we achieved ISO 9001 certification for our Business Management System. This system contains clearly defined processes for our key business activities. These processes, including the Risk Management Process, are subject to regular Management Review and internal process audit to check for compliance and to identify opportunities for continuous improvement.

PD Ewins  
Chief Executive  
16 May 2003

*The annual internal audit plans are based on an analysis of the risk to which the Met Office is exposed.*



## 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 2002/3 financial year in the form and on the basis set out in the Accounts Direction issued on 25 February 2003. 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*.





## **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 54 to 76 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 58 to 60.

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

As described on page 51, 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 guided by the Auditing Practices Board and the auditing profession's ethical guidance.

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 49 to 50 reflects the Met Office's compliance with Treasury's guidance *Corporate governance: statement on the system of internal financial 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.

### ***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.

*The Met Office and the Chief Executive are responsible for the preparation of the financial statements and for ensuring the regularity of financial transactions.*



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 2003 and of the profit or loss, 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

20 May 2003

National Audit Office

157–197 Buckingham Palace Road

Victoria

London SW1W 9SP



## *Profit and Loss Account for the year ended 31 March 2003*

		2002/3	2001/2 restated
	Note	£ '000	£ '000
Turnover	3	157,398	154,759
Cost of sales	4, 7	(127,764)	(122,956)
Gross profit		29,634	31,803
Selling and distribution costs	4, 7	(9,342)	(8,480)
Administrative expenses	4, 7	(25,350)	(19,945)
Operating profit/(loss)		(5,058)	3,378
Exceptional items	5	(2,805)	–
Profit/(loss) on disposal of fixed assets		(291)	(324)
Profit/(loss) on ordinary activities		(8,154)	3,054
Interest receivable		858	2,350
Interest payable	6	(55)	–
Retained profit/(loss)		(7,351)	5,404
There were no material acquisitions or disposals in the period			
Return on capital employed (ROCE)	2	-3.4%	2.1%

The notes on pages 58 to 76 form part of these accounts.

The movement on the General Reserve is set out at note 16 on page 73.



## Balance Sheet as at 31 March 2003

	Note	31 March 2003		31 March 2002	
		£ '000	£ '000	£ '000	£ '000
Fixed assets					
Tangible assets	8		161,030		133,841
Investments	9		1,200		500
			162,230		134,341
Current assets					
Stocks	10	1,105		1,736	
Debtors and prepayments	11	31,978		33,048	
Cash on deposit	12	20,706		33,200	
Cash at bank and in hand	12	356		678	
		54,145		68,662	
Creditors: amounts falling due within one year	13	(49,514)		(34,944)	
Net current assets			4,631		33,718
Creditors: amounts falling due after more than one year	13		(702)		—
Total assets less current liabilities			166,159		168,059
Financed by:					
Provisions for liabilities and charges	14		6,661		2,211
Capital and reserves					
Public dividend capital		58,867		58,867	
Revaluation Reserve	15	10,369		10,213	
General Reserve	16	90,262		96,768	
Government funds			159,498		165,848
			166,159		168,059

The notes on pages 58 to 76 form part of these accounts.



PD Ewins, Chief Executive, 16 May 2003



## Cash Flow Statement for the year ended 31 March 2003

		2002/3	2001/2
	Note	£ '000	£ '000
<b>Reconciliation of operating profit to net cash inflow from operating activities</b>			
Operating profit/(loss)		(5,058)	3,378
Depreciation charges	4, 8	22,086	19,036
Provisions for liabilities and charges		2,786	320
Provisions utilised in year	14	(1,141)	(819)
(Increase)/decrease in stocks		631	(255)
(Increase)/decrease in debtors		1,070	(4,937)
Increase/(decrease) in creditors		3,078	8,283
Net cash inflow/(outflow) from operating activities		23,452	25,006
<b>Cash Flow Statement</b>			
Net cash inflow/(outflow) from operating activities		23,452	25,006
Returns on investments and servicing of finance	19	803	2,438
Capital expenditure	19	(37,297)	(47,215)
Acquisitions and disposals	9, 19	(700)	(500)
Management of liquid resources	19	12,494	20,200
Increase/(decrease) in financing	19	926	–
Increase/(decrease) in cash		(322)	(71)
<b>Reconciliation of net cash flow to movement in net debt</b>			
Increase/(decrease) in cash	19	(322)	(71)
Increase/(decrease) in cash on deposit	19	(12,494)	(20,200)
Other movements	19	(926)	–
Increase/(decrease) in net funds		(13,742)	(20,271)
Net funds at 1 April	19	33,878	54,149
Net funds at 31 March		20,136	33,878

The notes on pages 58 to 76 form part of these accounts.



# Statement of Total Recognised Gains and Losses for the year ended 31 March 2003

		2002/3	2001/2
	Note	£ '000	£ '000
Profit/(loss) for the year		(7,351)	5,404
Movement on revaluation of fixed assets charged to the Revaluation Reserve	15	156	(1,464)
Total Recognised Gains and Losses relating to the year		(7,195)	3,940

## Reconciliation of movements in Government funds

Government funds at 1 April	165,848	159,177
Total Recognised Gains and Losses relating to the year	(7,195)	3,940
Movements in long-term loans	—	—
Transfer to General Reserve	845	2,731
Net movement in Government funds	(6,350)	6,671
Balance at 31 March	159,498	165,848

The notes on pages 58 to 76 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 25 February 2003, 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.

The exceptional items (2002/3, £2.805 million; 2001/2, nil) relate to providing for approved early retirement and relocation costs and have no effect on cash flow. They are therefore not disclosed in the Cash Flow Statement.

### *(b) Turnover*

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

### *(c) 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.

### *(d) Tangible fixed assets*

#### **Valuation**

Freehold land and buildings are revalued by qualified valuers every five years. In light of the forthcoming relocation to Exeter, due to be completed by November 2003, the value of the Bracknell buildings will be fully written off by that date.

Plant and equipment, including computers, are 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.

The Met Office 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.

#### **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). As a consequence of relocation to Exeter, accelerated depreciation charges are being applied to write off fully the values of the London Road Bracknell HQ and the Beaufort Park Bracknell buildings by Autumn 2003.



Computers, plant and equipment 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 computers, plant and equipment over three to ten 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 12 years.

***(e) 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. Rents for those leasehold properties and vehicles that are held under operating leases are charged against profits.

***(f) Stocks***

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

***(g) Insurance***

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

***(h) 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 the premium scheme 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% 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 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 the classic scheme, 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% 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 the premium scheme, but with benefits in respect of service before 1 October 2002 calculated broadly as per the classic scheme.

Pensions payable under the classic, premium, and classic plus schemes 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.

### ***(i) Cash***

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

### ***(j) 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 in the National Loans Fund (NLF).

#### **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.

### ***(k) Consolidated accounts***

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



## 2. Key financial targets

### *The Met Office's key financial targets for 2002/3*

(as announced in Hansard — 23 May 2002, column 477W)

- (a) To ensure a positive return on capital employed in 2002/3, while returning an operating profit of at least £13.3 million before strategic investments.
- (b) To achieve strategic investment in 2002/3 of £19.4 million ± £1.5 million.
- (c) To achieve a total contribution from commercial activities in 2002/3 of at least £3.8 million.

### Results

#### (a) Return on capital employed (ROCE)

ROCE is calculated as operating profit/loss after profit/loss on disposal of fixed assets and after allowing for exceptional items, as a percentage of the average of Government funds employed in the business at the beginning and end of the year. This definition has been applied for the first time with effect from 2002/3 and brings the methodology into line with current Treasury guidance. In prior years, average Government funds had been taken exclusive of any unrealised revaluation reserve.

The table below shows the in-year and averaged ROCE over the period from the beginning of the trading fund to 31 March 2003.

Results are shown after application of the new calculation methodology across all years and, as a comparison, results to 31 March 2002 are also shown using the old methodology.

	1996/7	1997/8	1998/9	1999/2000	2000/1	2001/2	2002/3
ROCE (new)	21.7%	20.3%	6.2%	3.4%	2.7%	1.9%	-3.4%
ROCE target	–	–	–	2.9%	0.0%	>0.0%	>0.0%
Average ROCE to date (new)	21.7%	21.0%	16.0%	12.9%	10.8%	9.3%	7.5%
ROCE (old)	21.8%	20.6%	6.3%	3.5%	2.8%	2.1%	–
Average ROCE to date (old)	21.8%	21.2%	16.3%	13.1%	11.0%	9.5%	–

In addition to the in-year target for 2002/3, a longer-term ROCE target — a return of at least 4.0%, averaged over the period 1 April 2002 to 31 March 2007 as a whole — has also been agreed with HM Treasury.

	2002/3	2003/4	2004/5	2005/6	2006/7
ROCE in-year	-3.4%				
Average ROCE period to date	-3.4%				
HM Treasury average ROCE target					4.0%



**(b) Strategic investments**

Strategic investment is defined as the total of profit and loss account expenditure on Corporate Projects and Corporate Investment Fund Projects. For 2002/3, these projects included HQ relocation and polar satellite development.

	2002/3	2001/2
	£ '000	£ '000
HQ relocation	12,776	6,320
Polar satellite development	5,038	7,236
Other strategic investments	1,039	1,525
Total strategic investment	18,853	15,081
Strategic investments target	19,400 (±1,500)	15,900 (±1,500)

**(c) Commercial activities contribution**

Commercial activities contribution represents the contribution made towards the Met Office's non-commercial operations as a result of its participation in competitive markets. The cost basis used attributes only those costs to commercial activities which would no longer be borne by the Met Office should commercial activities cease.

	2002/3	2001/2
	£ '000	£ '000
Commercial activities revenue	22,267	21,547
Commercial activities costs	(18,620)	(18,285)
Commercial activities contribution	3,647	3,262
Commercial activities contribution target	3,800	4,400



### 3. Turnover and segmental analysis

		2002/3			2001/2		
Main customer		£ '000	£ '000	£ '000	£ '000	£ '000	£ '000
		Core	Direct Services	Total	Core	Direct Services	Total
Defence	MoD	27,739	30,797	58,536	27,200	29,790	56,990
Civil Aviation	CAA	17,043	9,102	26,145	16,711	9,642	26,353
Civil Departments		27,740	9,836	37,576	27,200	9,919	37,119
Climate Research	Defra	–	7,849	7,849	–	7,758	7,758
Commercial		–	22,267	22,267	–	21,547	21,547
Government met. research and other		–	5,025	5,025	–	4,992	4,992
Total turnover		72,522	84,876	157,398	71,111	83,648	154,759

- (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) ‘Core’ is the programme of work necessary to generate, and make available centrally, the underpinning weather forecasts and climatological services, which are the basis for specified ‘Direct services’ to Core customers.
- (iii) ‘Commercial’ contracts are subject to open competition.



#### 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 web site.

Administrative expenses include 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, the National Meteorological Library and projects such as ISO 9001 accreditation.

In light of the move on 1 April 2002 from a divisional to a process-based organisational structure, an enhanced methodology has been adopted for computing cost of sales, which has resulted in a reallocation of some costs previously classified as administrative to cost of sales and selling and distribution. Restatement of 2001/2 costs yields a reduction in gross profit of £1.0 million but has no effect on operating profit.

Administrative expenses include relocation costs of £13.1 million (2001/2, £4.6 million). Also included within administrative expenses are general administrative costs of £9.3 million — down £0.1 million compared to 2001/2.

The costs are further analysed by expenditure type as follows.

		2002/3	2001/2
	Note	£ '000	£ '000
Staff costs	7	76,741	73,205
Early retirement costs		314	344
Relocation — staff accommodation, travel and subsistence		4,684	—
Other travel and subsistence		4,332	4,389
Equipment and services		26,691	26,797
Accommodation		9,433	7,672
Operating leases — plant and machinery		1,282	1,363
Operating leases — other		2,702	2,579
Depreciation — on owned assets		22,001	19,036
Depreciation — on assets held under finance leases		85	—
International services and subscriptions		11,407	13,864
Other administrative expenses		2,784	2,132
Total		162,456	151,381



- (i) The early retirement cost is the full cost of providing for all staff who have been granted early retirement as at 31 March 2003, excluding relocation early retirement costs, which are shown as an exceptional item.
- (ii) Accommodation includes £1.9 million (2001/2, £1.6 million) operating lease rentals of property.
- (iii) Depreciation contains the extra charge resulting from reducing the life of assets in consequence of the relocation to Exeter.
- (iv) International services and subscriptions include £5.8 million (2001/2, £8.3 million) to the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) (excluding amounts capitalised as satellite assets), £3.3 million (2001/2, £3.2 million) to the European Centre for Medium-range Weather Forecasts (ECMWF), £1.4 million (2001/2, £1.4 million) to the World Meteorological Organization (WMO) and £0.3 million (2001/2, nil) to the Network of European Meteorological Services Composite Observing System (EUCOS).

Membership of these organisations enables the Met Office to engage in and benefit from, the European meteorological satellite programme, to receive support in its provision of medium-range weather forecasts and associated research, and both 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.

- (v) Other administrative expenses include an audit fee of £52,500 (2001/2, £50,000) and a fee of £15,000 (2001/2, £10,000) for the review of Performance Indicators.
- (vi) Total cost of research and development, which was funded by customers including the Department for Environment, Food and Rural Affairs, was £25.8 million (2001/2, £23.5 million).
- (vii) Relocation travel and subsistence relates to the costs of housing removal, temporary accommodation and travel between Bracknell and Exeter for those staff who are relocating to Exeter.



## 5. Exceptional items

	2002/3	2001/2
	£ '000	£ '000
Early retirement costs	1,901	—
Relocation	904	—
	2,805	—

In conjunction with relocating the Office to Exeter, certain staff have been offered early retirement in accordance with a defined scheme, and the full cost (£1.901 million) has been provided. A further provision (£904,000) relating to relocation costs has also been made.

## 6. Interest payable and similar charges

	2002/3	2001/2
	£ '000	£ '000
On loans wholly repayable within five years	41	—
On finance leases wholly repayable within five years	14	—
Total interest payable and similar charges	55	—

## 7. Staff

### (a) Staff costs

	Note	2002/3	2001/2
		£ '000	£ '000
Salaries, bonuses and allowances		63,733	60,650
Early retirement costs		2,215	344
Social security		5,374	4,842
Pension contributions		7,634	7,713
Total staff costs		78,956	73,549

The Principal Civil Service Pension Scheme (PCSPS) is an unfunded multi-employer-defined benefit scheme, but 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](http://www.civilservice-pensions.gov.uk)).

For 2002/3, pursuant to the Superannuation Act 1972, employers' contributions of £7.6 million were payable to the PCSPS (2001/2, £7.7 million) at one of four rates in the range 12% to 18.5% of pensionable pay, based on salary bands. Rates will remain the same next year, subject to revalorisation of the salary bands. Employers' 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 could opt to open a partnership pension account — a stakeholder pension with an employer contribution. Employers' contributions paid to appointed stakeholder pension providers, and also to the PCSPS 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.

***(b) Average staff numbers***

	2002/3	2001/2
	number	number
Senior management	11	12
Scientific, managerial, technical	1,535	1,552
Support	532	493
Locally engaged civilians overseas	19	19
Monthly average staff numbers	2,097	2,076

There were 2,081 staff employed at 31 March 2003 compared with 2,096 at 31 March 2002, 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 2002. The pay award was dependent on performance and ranged from 4.5% to 10.0%.

**(ii) Performance-related bonuses**

These are calculated in accordance with a fixed formula that 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 7(a) above.



(iv) Directors’ emoluments

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

Name	Age	2002/3			2001/2		
		Emoluments	Real increase	Total accrued	Emoluments	Real increase	Total accrued
		2002/3	in pension at	pension at 60	2001/2	in pension	pension at 60
		£ '000	at 60	at 31 March 2003	£ '000	at 60	at 31 March 2002
PD Ewins	60	105-110	2.5-5	45-50	100-105	2.5-5	45-50
PJ Mason	57	75-80	0-2.5	35-40	85-90	0-2.5	35-40
JFB Mitchell	54	20-25	2.5-5	20-25	n/a	n/a	n/a
CR Flood	59	65-70	0-2.5	30-35	65-70	0-2.5	25-30
P Mabe	44	85-90	0-2.5	10-15	85-90	0-2.5	10-15
RD Hunt	54	65-70	2.5-5	25-30	60-65	0-2.5	25-30
M Sands	54	70-75	0-2.5	25-30	70-75	2.5-5	25-30
S Noyes	43	65-70	2.5-5	15-20	60-65	0-2.5	15-20

Members of the pension scheme have the option to pay Additional Voluntary Contributions (AVCs); any AVCs made are not included in the table above.

In the calculation of the real increase in pension, an assumption of 1.7% inflation has been made.

Notes

- (a) The Chief Executive, Peter Ewins, received emoluments comprising a basic salary and a performance bonus and pension.
- (b) Paul Mason retired as Chief Scientist and left office on 31 January 2003. Under the approved early retirement scheme, payments of £72,000 have been made and a further £48,000 has been provided in respect of annual compensation payments (see Note 14).
- (c) John Mitchell was appointed as Chief Scientist effective from 1 December 2002. The emoluments shown are from 1 December 2002 to 31 March 2003.
- (d) All Directors have chosen the ‘Classic’ option of the new PCSPS. Further details of the new arrangements are disclosed at Note 1(h).

(v) Early retirement

Note	2002/3	2001/2
	£ '000	£ '000
Expenditure incurred in year	542	819
Total early retirement expenditure	542	819

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



## 8. Tangible fixed assets

The movements in each class of assets were:

	Satellite programme	Land and buildings	Assets in course of construction	Fixtures and fittings	Plant and equipment	Total
	£ '000	£ '000	£ '000	£ '000	£ '000	£ '000
<b>Cost or valuation:</b>						
At 1 April 2002	138,517	22,908	29,962	–	61,382	252,769
Reclassifications of leasehold fixtures and fittings	–	(1,567)	–	1,567	–	–
Additions	229	24	44,285	148	4,170	48,856
Disposals	–	–	(302)	–	(1,945)	(2,247)
Transfers	–	–	(799)	–	799	–
Revaluation	1,872	–	–	–	277	2,149
At 31 March 2003	140,618	21,365	73,146	1,715	64,683	301,527
<b>Depreciation:</b>						
At 1 April 2002	75,295	4,249	–	–	39,384	118,928
Reclassifications of leasehold fixtures and fittings	–	(516)	–	516	–	–
Charged during year	9,969	3,421	–	116	8,580	22,086
Disposals	–	–	–	–	(1,665)	(1,665)
Revaluation	1,017	–	–	–	131	1,148
At 31 March 2003	86,281	7,154	–	632	46,430	140,497
<b>Net book value:</b>						
At 1 April 2002	63,222	18,659	29,962	–	21,998	133,841
At 31 March 2003	54,337	14,211	73,146	1,083	18,253	161,030

Assets held under finance leases included above:

Cost: At 31 March 2003	–	–	–	980	980
Depreciation: Charge for year	–	–	–	85	85
Depreciation: At 31 March 2003	–	–	–	85	85

- (i) All land and buildings are held as freehold. The net book value of freehold land and buildings includes £12.9 million of freehold land (1 April 2002, £13.2 million), which has not been depreciated. Freehold buildings are depreciated in full over their estimated lives (not exceeding 50 years). However, in light of the relocation to Exeter, the lives of the Bracknell buildings was reassessed, yielding an increase in depreciation charge of £1.3 million.



- (ii) Fixtures and fittings are improvements to leasehold buildings, which are depreciated over five or 19 years.
- (iii) The net book value of plant and equipment is based on a valuation at 14 December 1995 by Grimley J R Eve (Chartered Surveyors), updated by appropriate indices. Plant and equipment includes computers and the supercomputer. These are depreciated over three to ten years. The supercomputer life was extended by six months to reflect its expected operational availability to 31 March 2004. This resulted in reduced depreciation of £0.7 million.
- (iv) Land and buildings were valued by Chesterton (Chartered Surveyors) on 2 November 1999, in accordance with the Practice Statements and Guidance Notes set out in the Appraisal and Valuation Manual of the Royal Institution of Chartered Surveyors, on the basis of open market values for existing use, except that a specialised building has been valued on the basis of depreciated replacement cost.
- (v) Costs of £34.4 million directly attributable to the construction of the new Met Office headquarters have been capitalised and are included within assets in the course of construction.
- (vi) The Accounting Officer is aware of a material change in the value of land and buildings, but this has not been reflected in the financial statements because of its commercial sensitivity due to the proximity of the forthcoming relocation.
- (vii) Assets held under finance leases comprise commissioned equipment providing a general-purpose computer service.

## 9. Investment

The Met Office holds 499 Class ‘A’ Shares (this equates to 49.9%) in a joint venture, weatherXchange Ltd, an entity governed by UK law. The entire consideration for the shares was paid in cash. The Met Office also holds 700,000 £1 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. The registered head office of weatherXchange Ltd is 4th Floor, 127 Clerkenwell Road, London, EC1R 5LP. The date of incorporation was 11 May 2001. The nature of the business is providing weather data and derivatives trading. The financial year-end of weatherXchange Ltd is 31 March. Published accounts for 2001/2 have been deposited at Companies House. weatherXchange Ltd has made no contribution to the turnover and operating profit to date. In 2002/3, the Met Office provided, but did not recharge, services to weatherXchange Ltd totalling £106,000. In 2001/2, weatherXchange Ltd had a turnover of £91,000 and an operating loss of £698,000. At 31 March 2002, weatherXchange Ltd had capital and reserves of £564,000.

Investment	
£ '000	
Cost or valuation:	
At 1 April 2002	500
Additions	700
At 31 March 2003	1,200

## 10. Stocks

	31 March 2003	31 March 2002
	£ '000	£ '000
Meteorological equipment	722	1,172
Reserve equipment	323	483
Consumable stores	60	81
Total stock	1,105	1,736

## 11. Debtors

	31 March 2003	31 March 2002
	£ '000	£ '000
Trade debtors	23,211	23,313
Other debtors	935	872
Prepayments and accrued income	7,832	8,863
Total debtors	31,978	33,048

## 12. Analysis of changes in cash at bank and in hand

		31 March 2003	31 March 2002
	Note	£ '000	£ '000
Balance at 1 April		678	749
Net cash inflow/(outflow)	19	(322)	(71)
Balance at 31 March		356	678

The Met Office holds a Euro bank account, in which there is an amount of £nil belonging to third parties (31 March 2002, £571,000).

Cash surplus to immediate requirements at 31 March 2003 amounted to £20.706 million and is held in short-term interest-bearing accounts (31 March 2002, £33.2 million) with the National Loans Fund.



### 13. Creditors

	31 March 2003	31 March 2002
	£ '000	£ '000
Operating expenditure amounts falling due within one year:		
Trade creditors	9,250	2,560
Taxation and social security	5,834	4,860
Accruals	19,908	15,214
Deferred income	14,298	12,310
Obligations under finance leases	224	—
Total amounts falling due within one year	49,514	34,944
Obligations under finance leases	702	—
Total amounts falling due after more than one year	702	0
Total creditors	50,216	34,944

### 14. Provisions for liabilities and charges

	Early retirement	Dilapidations	Reorganisation	Relocation	Total
	£ '000	£ '000	£ '000	£ '000	£ '000
Balance at 1 April 2002	1,065	835	311	—	2,211
Transferred from Profit and Loss Account	2,629	1,973	710	904	6,216
Unwinding of discount	64	36	19	—	119
Utilised in-year	(542)	(359)	(240)	—	(1,141)
Released to Profit and Loss Account in-year	(478)	(125)	(141)	—	(744)
Balance at 31 March 2003	2,738	2,360	659	904	6,661

- (i) The early retirement provision represents the pension costs associated with 88 staff who had been offered early retirement as at 31 March 2003, and comprises the full cost of meeting each individual's pension payments to normal retirement age. The gross amount provided for, before discounting and in-year payments, is £4.0 million. After discounting at 6%, a net amount of £3.4 million 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 in respect of future cost of leasehold properties that will be surplus to requirements following relocation to Exeter. The gross amount provided, before discounting, is £0.3 million. After discounting at 6%, a net amount of £0.2 million is provided.

- (iv) Included in the amount transferred from Profit and Loss Account to the Early Retirement Provision is an amount of £120,000 (2001/2, nil) in respect of P Mason, representing early retirement capital lump sum and annual compensation payments.
- (v) 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	Dilapidations	Reorganisation	Relocation	Total
	£ '000	£ '000	£ '000	£ '000	£ '000
Amounts payable within:					
Under one year	538	1,462	161	904	3,065
One to five years	1,940	789	413	–	3,142
Over five years	260	109	85	–	454
	2,738	2,360	659	904	6,661

### 15. Revaluation Reserve

	31 March 2003		31 March 2002	
	£ '000	£ '000	£ '000	£ '000
Revaluation Reserve at 1 April		10,213		11,677
Revaluation of satellite assets	855		1,226	
Revaluation of plant and equipment	146		41	
Transfer to General Reserve	(845)		(2,731)	
		156		(1,464)
Revaluation Reserve at 31 March		10,369		10,213

### 16. General Reserve

	31 March 2003	31 March 2002
	£ '000	£ '000
General Reserve at 1 April	96,768	88,633
Transfer from Revaluation Reserve	845	2,731
Retained profit/(loss)	(7,351)	5,404
General Reserve at 31 March	90,262	96,768



## 17. Obligations under finance leases

	2002/3	2001/2
	£ '000	£ '000
Repayable:		
After five years	0	—
Between two and five years	464	—
Between one and two years	238	—
Falling due after more than one year	702	—
Falling due within one year	224	—
	926	—

This obligation relates to general-purpose computing service equipment held under a finance lease. The implicit lease interest rate is 6.25%.

## 18. 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.

### *Joint venture with weatherXchange Ltd*

Met Office Directors P Mabe (appointed prior to 1 April 2002) and R Hunt (appointed 28 June 2002) and senior manager P Hardaker were Directors of weatherXchange Ltd at 31 March 2003. P Ewins was appointed as non-voting Chairman on 26 July 2002.

## 19. Cash Flow Statement

### a) Gross cash flows

	31 March 2003		31 March 2002	
	£ '000	£ '000	£ '000	£ '000
<b>Returns on investments and servicing of finance</b>				
Interest received	858		2,438	
Interest paid	(55)		—	
		803		2,438
<b>Capital expenditure</b>				
Payments to acquire satellite assets	(229)		(6,955)	
Payments to acquire plant and machinery, land and buildings	(37,069)		(40,323)	
Receipts from/(costs of) sales of tangible fixed assets	1		63	
		(37,297)		(47,215)
<b>(Acquisitions)/disposals</b>				
Investment in joint venture	(700)		(500)	
		(700)		(500)
<b>Management of liquid resources</b>				
Net receipts from NLF	12,494		20,200	
		12,494		20,200
<b>Financing</b>				
Finance lease	926		—	
		926		—

### b) Analysis of changes in net funds

	At 1 April 2002	Cash flows	At 31 March 2003
	£ '000	£ '000	£ '000
Cash at bank and in hand	678	(322)	356
Cash on deposit	33,200	(12,494)	20,706
	33,878	(12,816)	21,062
Finance lease obligations	—	(926)	(926)
Debt due within one year	—	—	—
Debt due after one year	—	—	—
<b>Total</b>	<b>33,878</b>	<b>(13,742)</b>	<b>20,136</b>



## 20. Operating leases

	2002/3	2001/2	2002/3	2001/2
	£ '000	£ '000	£ '000	£ '000
	Land and buildings		Vehicles and aircraft	

Annual commitments are as follows:

Leases expiring within:

Under one year	49	155	86	44
One to five years	126	171	1,145	1,154
Over five years	1,742	1,568	–	–
	1,917	1,894	1,231	1,198

## 21. Capital commitments

	2002/3	2001/2
	£ '000	£ '000
Contracted for but not provided for:		
Relocation	21,066	54,309
Other (including supercomputer lease rental payments)	20,955	1,207
Contribution for satellite programme	3,618	2,710
Total at 31 March 2003	45,639	58,226

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. Subject to timely delivery of the system by the supplier, fixed lease rentals totalling £20.6 million (included above) will be paid, starting in December 2003. The final rental is due in December 2006.

## 22. Losses and special payments

There was a cost of £129,000 in respect of retention of an empty property (31 March 2002, £112,000).

## 23. 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.



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The *Annual Report and Accounts 2002/3* and the *Scientific and Technical Review 2002/3* can also be accessed from our web site at

**[www.metoffice.com](http://www.metoffice.com)**

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