



*The knowledge  
beneath your wings*





Your aviation weather  
services portfolio

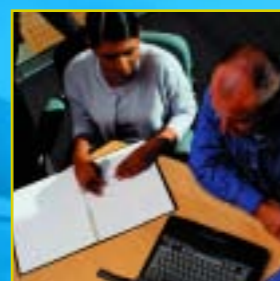
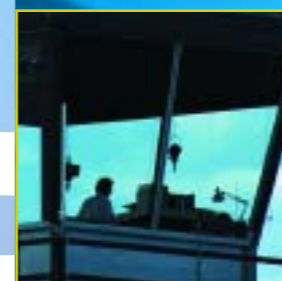
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## Contents

<i>introduction</i> <small>Page 1</small>	<i>international commercial airlines &amp; carriers</i> <small>Page 2</small>	
<i>air traffic management</i> <small>Page 3</small>	<i>airports</i> <small>Page 4</small>	
<i>national carriers &amp; commercial enterprises</i> <small>Page 5</small>	<i>sport &amp; recreation</i> <small>Page 6</small>	
<i>research &amp; development</i> <small>Page 7</small>	<i>consultancy</i> <small>Page 8</small>	
	<i>training</i> <small>Page 8</small>	





# Widening your horizons

## Consultancy

### Helping you with our knowledge:

We have been offering advice and consultancy across the entire aviation industry since 1912 including:

- All aspects of operational weather sensitivity
- Expert witness in legal cases
- International standards and conventions (such as cost recovery)
- Best practice in service delivery
- Achieving optimal outcomes

### A meeting of minds

Why choose the Met Office for your consultancy requirements? Take a look at the people we work with and our unique status.

- We are contracted on behalf of the Air Accident Investigation Board (AAIB) to investigate mandatory occurrence reports (MORs)
- As the UK's Met. Service provider, we are distinct from the Met. Authority (which is the CAA). We can therefore represent the needs of our customers and lobby the CAA, ICAO and WMO to progress and update the provision of met. services, both nationally and internationally
- We provide unrivalled forecasting, analytical abilities and archiving which can help you in the development of new products or services and supply data on meteorological conditions anywhere in the world
- We work closely with ICAO, WMO and IATA on cost recovery methods
- We provide advice on MOR or aircraft investigations including route wind anomalies during flights

With this pedigree, nobody is better equipped to provide accurate, timely and cost-effective consultancy on any aspect of aviation meteorology.

## Training

### Helping you with our knowledge:

Whether you are a National Meteorological Service (NMS) forecaster or a trainee pilot, the Met Office can help by delivering comprehensive aviation meteorological training right in line with your needs. Through this training you can:

- Learn all you need to know about aviation meteorology
- Pass professional airline pilot exams (NPPL to ATPL)
- Receive training that is JAA accredited
- Undertake recognised observer training, including use of semi-automatic observing equipment

### You're in safe hands

The Met Office has been delivering meteorological training since before WW2 and today provides observer training for all the main UK airports.

We are contracted by the Met. Authority (CAA) to train all airfield observers, be they from the Met Office, the military or private companies.

With the CAA, we have been tasked by ICAO, WMO and ASECNA in establishing training seminars to enable SADIS users to utilise GRIB (gridded binary) and BUFR (binary universal form for the representation of meteorological data) encoded products\*.

Training can be conducted either at the Met Office College (where our dedicated team have an unrivalled background in terms of both forecasting and observing), or on-site (choose the time and place to suit you), or by self-teach CD-ROM (a fully interactive learning tool for both individual pilots and training organisations that is fast, effective and great value for money).

\* GRIB and BUFR will replace the current T4 facsimile formatted products.

# Inspiring you to go further

- Helping you save on fuel costs
- Assisting with your route planning
- Reducing airport downtime
- Training in line with your needs
- Consultancy on any aspect of aviation meteorology
- Bespoke services to suit your exact commercial requirements

In the aviation arena, you need to make safety-critical and operational decisions every day as a matter of routine. You trust your judgement to get these decisions right, so that your safety record is intact and your costs are controlled.

With these high stakes, you need information from the best source available. Information you can rely on, come rain or shine. That's why the Met Office's global coverage and accurate, up-to-the-minute advice gives you real peace of mind.

Tap into Met Office services and you can rest assured that, in an uncertain world, you have the very best meteorological knowledge under your wings.

You can be confident that we understand your needs, as we advise customers ranging from the largest international airlines and air traffic control service providers to offshore helicopter operators and those who fly simply for recreation.

As well as safety-critical decisions, our services can help you to fine tune your business in many ways. And if you are flying for pleasure, you can be sure we will help you maximise the enjoyment of your leisure time.

In short, the Met Office is your key to creating a better climate for the whole world of aviation.

# Creating a better business climate



## International Commercial Airlines & Carriers

### Helping you with our knowledge:

The Met Office's bespoke terminal weather services can bring you significant benefits. These include:

- Advance planning of ground staffing needs
- More efficient gate/ramp usage
- Reduction of time on the ground
- Reduction of the number of missed take-off slots
- Increased passenger satisfaction



### Why choose the Met Office?

Internationally renowned for its meticulous standards of weather data collection and research, the Met Office provides help and guidance to some of the biggest names in aviation.

For example, since 1984 the International Civil Aviation Organisation (ICAO), through the Civil Aviation Authority (CAA) has contracted the Met Office to be one of only two World Area Forecast Centres. In this capacity, we provide commercial airlines and carriers with high level weather information for the entire globe, including:

- Global forecasts of upper winds
- Temperatures
- Significant weather charts
- Operational meteorology (OPMET); TAFs, METARs & SIGMETs

These services aid optimisation of fuel consumption and aircraft safety.

In addition we operate the ICAO aviation meteorological satellite distribution (SADIS) system, enabling us to distribute data to more than 120 countries and a number of commercial airlines.

The Met Office is also a volcanic ash advisory centre (VAAC). Ash plumes have the potential to severely disrupt flight patterns and can cause damage to aircraft. Our improved detection and monitoring systems - combined with effective warnings - further enhance flight safety.

## Air Traffic Management



### Helping you with our knowledge:

The Met Office can provide real-time and forecast weather directly into air traffic control centres, which means:

- Increased efficiency due to reduced delays from hold and runway changes
- Earlier responses to forecast weather conditions in the terminal control area
- Increased airfield capacity through better mitigation of weather effects
- Reduced reliance on information from pilots about the location and severity of convective cells in the terminal control area

### All the support you need

In the demanding world of air traffic management, reliable meteorological information and in-depth knowledge of variables caused by aircraft movement are the touchstones of operational efficiency. The Met Office has experience in providing integrated air traffic weather forecasting systems and:

- NATS - when replacing their pilot display system - detailed the Met Office as the meteorological provider to be used by whichever company was awarded the contract
- We are one of 9 volcanic ash advisory centres (VAACs). Our information helps the safe routing of aircraft along transatlantic routes
- We are contracted by Eurocontrol to help monitor reduced vertical separation minima (RVSM) routing by providing height monitoring services
- We are contracted by London Air Traffic Control Centre to provide a web-based weather visualisation service for their control room
- We continue to develop tools that enable better visualisation of wake turbulence, noise, footprints and convective cell development and movement

With such an extensive range of top level services for air traffic management, you can count on the Met Office to keep your business ahead.

# Putting you in control



## Airports

### Helping you with our knowledge:

The Met Office specialises in weather advice for all airport operations, enabling you to make a proactive response to weather conditions and enjoy significant savings in time and money. For instance, you can:

- Reduce costs by preventing unnecessary treatment of surfaces (such as when icing is not forecast)
- Increase efficiency by better planning of staff requirements
- Complete cost-effective and timely runway and taxiway maintenance
- Achieve more efficient ramp selection

What's more, airports setting up or upgrading meteorological facilities can benefit from our specialist airport consultancy services. These facilitate:

- Rapid upgrading of your infrastructure
- Compliance with the standards required by the ICAO



### Our track record says it all

Deal with the Met Office and you're dealing with people who understand the workings of airports of all sizes. This intrinsic knowledge has been gained through years of practical experience in the field:

- We issue weather information to no less than 7 BAA run airports and many others in the UK
- Each year, we inspect and certify the meteorological observations at 52 aerodromes in the UK

We can advise on the procurement and installation of semi-automated meteorological observing systems (SAMOS), runway visible range (RVR) systems and radio equipment.

We can train or supply observers to meet ICAO requirements, and we pride ourselves on having the flexibility to tailor observing and forecasting services to individual airport requirements.

In fact, we offer professional guidance on all meteorological matters central to airport efficiency.



## National Carriers & Other Commercial Enterprises

### Helping you with our knowledge:

Our accurate and reliable information is the knowledge beneath the wings of a host of national carriers:

- We can help your pilots to make informed decisions on the best options for safe flying – both at the planning stage and in the air
- By making the most of weather information, we can improve route planning and thus streamline your fuel costs



### Information at your fingertips

Our broad range of experience in aviation forecasting – from local observing staff and forecasters through to national and international services – gives us an unrivalled ability to supply bespoke forecasting products and services in line with your business needs.

The Met Office is contracted by the CAA to provide all the aviation meteorology requirements for pre-flight briefing, including essentials such as:

- TAFs
- METARs
- F214 & F215
- Low level wind-shear warnings
- AIRMETs
- Aerodrome warnings
- Landing forecasts (TRENDS)
- Temperature inversion warnings

For your convenience, this information is available through a variety of distribution methods:

- Via the Internet ([www.metoffice.com/aviation](http://www.metoffice.com/aviation))
- By phone (direct access to aviation weather forecasters for the provision of specific advice)
- By fax
- Via direct line services providing regular data over dedicated phone lines

Simply choose the method which best suits the way your business operates.



# Breaking new ground



## Sport & Recreation

### Helping you with our knowledge:

Our global and national aviation weather services have been harnessed by recreational flyers since the beginning of the last century. We can help you to:

- Access accurate weather information easily, wherever you are in the UK
- Find out before leaving home if you will be able to fly
- Self-brief before take-off
- Plan safe and enjoyable flying sorties
- Anticipate changing weather conditions en route
- Maximise your valuable leisure time



### Guiding your decisions

The Met Office prides itself on the ability to generate the most accurate and comprehensive range of products currently available to those who fly for fun.

What's more, being contracted by the CAA to provide national aviation products means we are able to offer pre-flight briefing products to the recreational sector free of charge, primarily through our web site ([www.metoffice.com/aviation](http://www.metoffice.com/aviation)).

- We provide daily specific forecasts for balloonists, and competition forecasts for glider pilots
- Our free booklet 'GET MET', contains a wealth of useful tips on how to source the necessary aviation meteorology for pre-flight briefings, as well as highlighting important safety information
- We can clarify pre-flight briefing material for pilots who have self-briefed but require further advice

On an ongoing basis, the Met Office undertakes lobbying of the Met. Authority for new services on behalf of the GA community.

To get your Met Office forecast, you can either log on to the web site listed below or phone for direct access to our aviation weather forecasters for specific advice (see back cover for phone numbers).



## Research & Development

### Helping you with our knowledge:

Contracted annually by the CAA to conduct ongoing research and development projects, the Met Office continues to pioneer advances in forecasting techniques and accuracy, which ultimately lead to:

- Improved flight safety
- Minimised ground delays
- Reduced costs



### The trailblazers

The Met Office is internationally recognised by the World Meteorological Organization (WMO) as a provider of the highest quality meteorological research and development.

We are actively involved in a number of specialist projects, helping to develop solutions, systems and products that open new possibilities to aviation businesses.

In 2003/04, these projects include:

- **Turbulence diagnosis and short-range prediction**  
Clear air turbulence is a significant problem for aircraft at cruising levels. Improved forecasting of its occurrence may facilitate avoidance of trouble spots
  - **Upgrade of volcanic ash detection and eruption detection products**  
The Met Office is a volcanic ash advisory centre (VAAC). Our improved detection and monitoring systems, twinned with effective warnings, aim at improving flight safety
  - **WAFAGE (Winds Analysed and Forecast for Tactical Aircraft Guidance over Europe) covariance optimisation (wake vortices)**  
Research into wake vortices will allow reduced spacing of aircraft on take-off and landing as the dissipation rate of the vortices directly correlates to the meteorological conditions. We are contracted by Eurocontrol to consult on wake vortices
  - **Icing**  
Better understanding of icing and how it forms will enable better advice to be given to pilots, resulting in safer routing
- The Met Office is happy to investigate aviation R & D projects no matter how small or large. In our experience, that's how great breakthroughs are made.