

# An under-valued service?



It is estimated that the October storms of 2002 cost the country around £1.5 billion. Less than 1% of the potential losses were avoided, mostly because of a lack of response to the warnings and because the companies that did respond did not take effective action early enough.

A recent Met Office survey of companies, including road, industrial and residential construction companies, found that:

- nearly 60% of firms said the weather had a serious impact on their business, but only 17% took weather into account as a vital part of planning; 25% did not take it into account at all!
- 58% use weather information during a project, but not at the planning stage. 50% allow a time contingency in programming for weather-related delays, but the majority estimate or guess the time they should allow. Less than 50% of those who estimate the time use weather information for this purpose;
- 25% of those surveyed experienced problems, such as concrete being ruined by frost, up to five times a year; one in 10 encountered problems up to 100 times a year; and one in 20 more than 100 times in the past 12 months. The average across the industry is 26 weather-related problems a year;
- 21% lost 11–20 work days as a result of weather-related delays in the past 12 months, and a further 16% lost up to 50 days;
- only 25% recognised the benefits of forecast information to help minimise the adverse impact of weather on their business, despite the fact that they are worried about weather conditions; and two-thirds of those questioned say their use of weather information will not change.

So, as the world's leading forecaster, what can the Met Office do to change the way people think about the weather?

Our very existence, as an Executive Agency of the Ministry of Defence, stems from the fact that the defence sector has realised for decades that weather information is a vital component of its planning and operational work. During the recent conflict in Iraq the Met Office's Mobile Met Unit (MMU) provided vital information to the Armed Forces. At a moment's notice, it can go wherever needed.

Like the defence sector, the aviation community has long recognised the importance of using reliable weather information. When you board your plane, you know that the pilot has undertaken all the safety checks, and one of those is ensuring he knows what the weather conditions are going to be for the whole flight. Without the Met Office, airlines would not be able to get their aircraft off the runway. We are one of only two designated World Area Forecast Centres (the other being in America) and have been providing forecasts for international aviation since 1984.

Perhaps the most vivid image people have of the Met Office is what they see on television. Indeed, all of the BBC weather forecasts and many of those on the regional and independent channels are generated by the Met Office, and the majority are presented by Met Office staff.

As the UK's national meteorological service we are required to provide public safety information, but that

means more than just providing a television or radio forecast. Through our National Severe Weather Warning Service we are able to warn the public at large of severe weather which causes widespread disruption to communications and possible loss of life. For example, we send forecasts and warnings to the operators of the Thames Barrier, and it is as a direct result of our forecasts that the decision is taken to close the barrier, or not. Further thought is being given to decision support – advice on what to do under the particular circumstances of the severe weather.

Flooding is a major issue for everyone. As the climate scientists at our Hadley Centre predict, we will see more severe weather events resulting in more flooding, so mitigating measures are becoming more important. Such measures are proposed by our experts in hydrology who work closely with urban drainage modellers, as well as specialists in water supply, quality and distribution and waste-water treatment. Co-operation with the water industry has been going on for a long time, but last year the Met Office launched a new software tool called Deluge. Deluge provides access to data from tipping-bucket rain gauges, which record rainfall of as little as 0.2 mm. Using this data Deluge allows the designer to access a high-resolution time-series of rainfall and to analyse the levels of intensity within individual events. The end result is better-designed pipes and

sewers more able to cope with the changing conditions we are facing.

In the leisure industry, too, companies realise that having access to good weather information and, importantly, using it, can have a massive impact on their revenue.

Supermarket chains Safeway and Sainsbury both buy demand-based services from the Met Office, to help predict which products customers will want to buy and when. Weather information helps them plan stock levels, special offers and weather-sensitive product promotions. Shopping is highly weather-sensitive. For example, in hot weather the sales of leg wax leap by 1400%, and in icy weather the sales of cat litter go up because people use it to grit their driveways!

There is no doubt that the climate is changing and our weather is going to become more severe, but there is no reason why companies cannot be better prepared to deal with the resulting impacts. Accurate weather information helps industry plan, mitigate and insure against the weather. And the residual risk? Even that can be dealt with. Firms can now hedge against the impacts of weather, through our joint venture with weather derivative experts weatherXchange.

Just hoping for the best is no longer an acceptable strategy. Smart people use weather information as part of their planning process to go one step ahead of the rest, whether it is saving lives or increasing profits.

