

Weather forecasts: Can you rely on them?

We all rely on weather forecasts for passage planning and safety, but how reliable are they? And how can we get a better weather picture? Wil Bailey reviews his own recent experiences – and looks for some answers

Corbis

Rain drove in sheets across St Peter Port harbour. In the half-light of dawn the marina RIB nudged alongside a bedraggled 34-footer, just in. Two red-suited figures from the RIB clambered aboard and took over the helm from the exhausted skipper. His face blood-streaked from deep cuts on his forehead, the skipper pointed below. 'Could you check out my crew? He's broken a bone or two. We've had a bit of a pasting coming over...'

In the harbour office later, the skipper, his cuts stitched, explained what had happened to them.

'We left Brixham yesterday afternoon, heading for the Brest Festival, and sailed in a north-easterly Force 3, just as forecast. After dark the wind suddenly backed to north-west and increased – a lot.

'I was up at the mast, fighting to reef the mainsail, when we were hit by a massive gust and a cross-sea. We crash-gybed. I got these,' pointing to his cuts, 'and my crew got thrown across the cockpit, collecting a

broken wrist and a bust rib... At least we had a fast passage over here.'

'Didn't you have a forecast?' queried the harbour master.

'Oh, yes,' replied the skipper, 'here it is – Shipping and Inshore Waters Forecasts, Extended Outlook – printed out before we left. No mention of this gale.'

'There is here,' said the harbour master, tapping his sheaf of bulletins from Jersey Met. 'We've had a gale warning since yesterday lunchtime...'

Washed out summer

In August this year, skippers from half-a-dozen English yachts sheltering in the Trieux River from a stream of depressions peered glumly at the afternoon Météo France bulletin. They'd been stuck for days and all were trying to spot a gap in the weather to make a break back home across the Channel.

'Never-ending Sixes and Sevens,' grumbled one. 'Every time the forecast says we've got a break and we poke our noses out, the wind gets up again, so we

come back in. It's just so unreliable. The Shipping Forecast flatly contradicts this,' waving at the bulletin in the window, 'and the Inshore Waters Forecast is about as much use to me as a chocolate teapot.'

Others nodded agreement. 'We came over from Jersey expecting a south-easterly, Force 2-3, off the land. Instead, we got a Force 6. Then that eased and we got sea fog. Scary!

'Now we're trapped here until the weekend, until someone works out where this "Hurricane Bill" is headed. There's no way to tell if the various forecast tracks are any better than guesswork – and who's guess is accurate? The Met Office? Météo France? The American NOAA? We daren't risk the gamble.'

They wandered glumly back to the restaurant for another café-cognac, resigned to a dinner of moules, chips and muscadet and another expensive night in the marina.

But one pair of seasoned sailors from an elderly Holman headed back to their boat. They'd learned more than the



basics, looked a bit deeper at the forecasts, and had other ideas. Later, while the others were gathering in the bar, they slipped their lines and pattered away down the river, heading for sea.

More grumbles

Boat owners around Britain have been grumbling about inaccurate forecasts this summer, the washed-out weekends, the ruined holidays.

'I've had to cancel nearly one-third of my charters,' revealed one sea-angling boat skipper, in a quayside café in Weymouth, 'through unexpected bad weather, and give them their money back. That's after looking at the Inshore Waters Forecast the night before and they'd travelled down from Oxford or Reading on my say-so. They think it's my fault. I can't afford to keep losing customers like this.' Around him, heads nodded.

'I've been running this boat out of here for more than 15 years, and nobody's telling me these forecasters are getting any better! Someone needs to ask some serious questions about these bleedin' forecasts...'

The author, waiting for the ferry, decided to do just that.

Who's in charge?

In Britain the Maritime and Coastguard Agency (MCA) is responsible for delivery of the Maritime Safety Information Service (MSI) under SOLAS V. While acknowledging that on any summer weekend there may be thousands of boating Britons on the water, the MCA's focus has traditionally been on shipping.

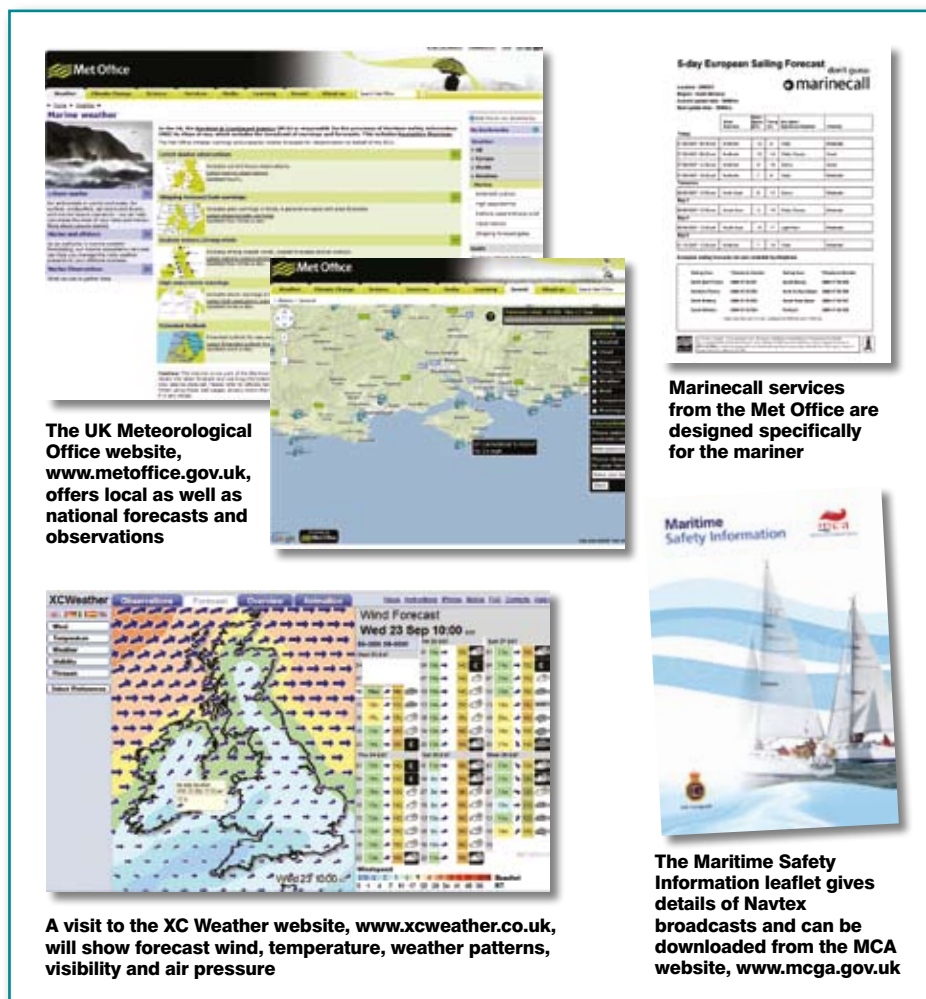
They'd prefer every boat owner to fit dual-frequency Navtex, but recognise that most rely on hearing the Shipping and Inshore Waters Forecasts via BBC and Coastguard radio broadcasts.

There are tight limits on what can be squeezed into those broadcasts – 350 words for the whole Shipping Forecast – so every word is loaded with specific meaning. Many listeners fail to interpret the full meanings or hear the warnings.

'We strive to provide all we can from our limited MSI resources,' said an MCA spokesperson. 'We keep our task under review and listen to our monitoring team, the MSI Group, which has delegates from interested organisations – Trinity House, the Royal Institute of Navigation, BBC, OfCom, the RYA and many others.'

'We've changed some forecast areas around the Hebrides and Shetlands, and now include some Channel Islands weather. The feedback from our MSI Group, which includes some well-known yachtsmen, is that they seem currently satisfied with the service, so we don't envisage much change.'

'If you want to know about the reliability of forecasts you'll have to ask the Met Office,' the spokesperson said. 'They're responsible for accuracy and tell us that what they send out is as good as it gets. We have no proof of that – we simply accept what they tell us.'



The UK Meteorological Office website, www.metoffice.gov.uk, offers local as well as national forecasts and observations

Marinecall services from the Met Office are designed specifically for the mariner

A visit to the XC Weather website, www.xcweather.co.uk, will show forecast wind, temperature, weather patterns, visibility and air pressure

The Maritime Safety Information leaflet gives details of Navtex broadcasts and can be downloaded from the MCA website, www.mcga.gov.uk

The business of weather

The Met Office, a Ministry of Defence 'Trading Fund', is a commercial organisation specialising in forecasts and consultation. Weather forecasting is global business, and the Met Office profitability runs high – over £14 million, up 60%, in the last published accounts.

The MCA pays around £4.1 million for Met Office services, a figure dwarfed by the Civil Aviation Authority's £18 million spend. Reliable forecasts are a 'safety of life' service to airline pilots who do not tolerate unreliable forecasts – there's too much at stake.

Who checks reliability?

Maritime Safety Information forecasts are derived, like most of the Met Office's 'product', from supercomputers using Numerical Weather Prediction models of the atmosphere. These are evaluated against other computer runs, and a score of sorts is established.

But don't the Met Office make comparisons between forecasts and what actually happens in the real world using, for example, the 'Actuals' reports?

'Well, no, we don't,' was the answer. 'We're quite happy with what the computer tells us. We produce what customers say they want; if any are unhappy, they'll probably tell us. We have all the data – we'll produce what they ask us for...'

For credible climate models the Met Office's own website tells us that scientists are able to produce estimates of uncertainty as probabilities. Three-dimensional models of the climate are verified against observed changes before being used to make future climate projections – so why don't they do that for weather forecasts?

There are no plans to publish any evaluation of the likely accuracy and reliability of the MSI forecasts on which so many of us rely. Neither the MSI Group nor the Met Office's PWS Customer Group produces one.

A new supercomputer may soon be able to provide much more detailed forecasts. Whether that will lead to more accurate, reliable MSI forecasts remains to be seen. Until there is published verification of improvement, the conclusions of PBO's 1996 analysis of forecasts accuracy remains valid: 'One might prudently expect a wind from anywhere in a 90° sector around the forecast direction, and a wind speed of at least one Beaufort Force either side of forecast-strength range.'

Improving the service

Both the Met Office and the MCA say they are responsive to 'evidence based' complaints, suggestions and concerns. Whatever changes we might want in the MSI 'safety at sea' broadcasts in the years

ahead, it is clear we need to tell them.

■ Sea schools running practical courses, diving and sea-angling charter operations could ask their client-groups to maintain a weather log of forecasts used and the actual conditions, forwarding results to the MCA with appropriate comment.

■ Perhaps marine users should request a civil-aviation style 'VolMet-like' facility, broadcasting continuous and detailed MSI weather and warnings information on dedicated VHF frequencies, from existing HMCG antennae. That could exploit the Met Office's latest 1.5km grid capability. The infrastructure, which is owned by the MCA, already exists, but not the will to make it happen.

■ We might want regular publication of a 'verification metric' where forecast accuracy is regularly checked against some real-world measure and published, just like the Met Office's other targets, which we could confidently use to improve our 'safety of life at sea' passage-making decisions. That is, after all, the purpose of the MSI Service.

■ Or we might be content with things as they are. Readers are welcome to make comment and suggestion via the MCA website: www.mcga.gov.uk

Making more of the information we've got

For everyday forecasts most people use BBC TV forecasts and are quite satisfied, according to NOP surveys. A growing number use the internet for more detailed weather information, in particular the Met Office website www.metoffice.gov.uk.

By following the 'Weather > Marine' tab-menu, yachtsmen can access recent Shipping and Coastal Waters Forecasts, Extended Outlook, and 48-station Marine Observations – some of which require a 'note of caution'. Gale and Strong Wind Warnings are depicted clearly as soon as they are issued.

Many of us would get more from existing services by ensuring we have the latest available forecasts, and that we fully understand what they mean.

Short of recruiting a spare airline pilot or meteorologist into the crew, weather guru Frank Singleton's The Weather Window website (weather.mailasail.com) is among the finest of learning resources. Consider also Simon Keeling's Weather School (www.weatherweb.net/weatherschool.htm), and his new *WeatherWhys* DVD.

Back at the Trieux River

Our veteran pair on their Holman had dropped down to the end of the river and picked up an empty mooring. They tucked away an evening meal, prepared themselves for sea, and waited. They already knew the zone of lighter breeze they expected had reached Roscoff just to their west by checking out some instrumented surf webcams. Finally, they noted the lifting cloud base, the quieter flapping of burgees, the change of wind direction and visibility – and the barometer.



Tools of the trade

How does our Holman crew access all this information from their boat?

'I do much as I did when flying – I phone up and ask! We use a cheap laptop which pulls in all the charts, warnings, GRIB files, forecasts and comments I could want. We have a couple of RSS feeds which send us warnings and summaries on the mobile phone.'



'We've traded up to an iPhone, from a choice of several, and this makes looking at a range of weather sites just so much faster and easier – we use it to access and compare the likes of XC Weather, MailaSail, WindGuru, WeatherOnline and WindFinder, for detailed windfields at 3-hour intervals and, crucially, for instrumented webcams showing Met Actuals of what's going on right now – in the Scilly Isles, say, or Roscoff. The phone is also ideal when we want to know what's happening on the other side of a big headland. I simply call the National Coastwatch Institution* station there and ask them direct. They're really keen on us doing that.'

'Next I look at the local area forecast, and those adjacent. That's where the Inshore Waters Forecasts come in – and any Strong Wind Warnings for our area.'

We usually interpret and verify all this ourselves from 'Met Actual' reports and our own observations. Where there's uncertainty, we're quite happy phoning a forecaster, either at the Met Office, or at Simon Keeling's WeatherWeb site www.weatherweb.net. If it's likely to be complex, I'll send an email query saying when I'll phone them. That helps us both, and it's a lot cheaper than another night in Lézardrieux.'

* For more on the National Coastwatch Institution see page 52 in this issue.

PBO COPY SERVICE

For an in-depth look at weather on the web see Ben Meakin's article in PBO August 2009. You can buy copies online from www.pbo.co.uk/boatreports