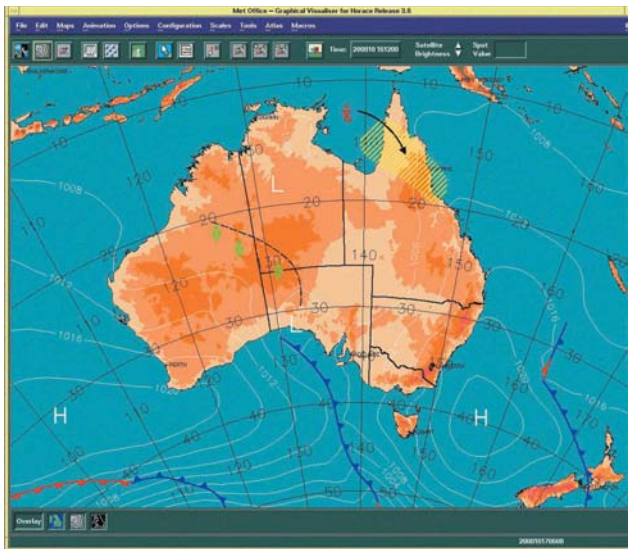
Horace – The *forecaster's* choice

Improving the productivity of professional forecasters

Met Office

High-quality visualisation and forecast production for professional meteorologists

Horace is an easy-to-use, robust and flexible computer graphics system designed by the Met Office for professional meteorologists. It visualises all types of meteorological information and enables users to create analysis and forecast charts in order to distribute the most effective forecast products.

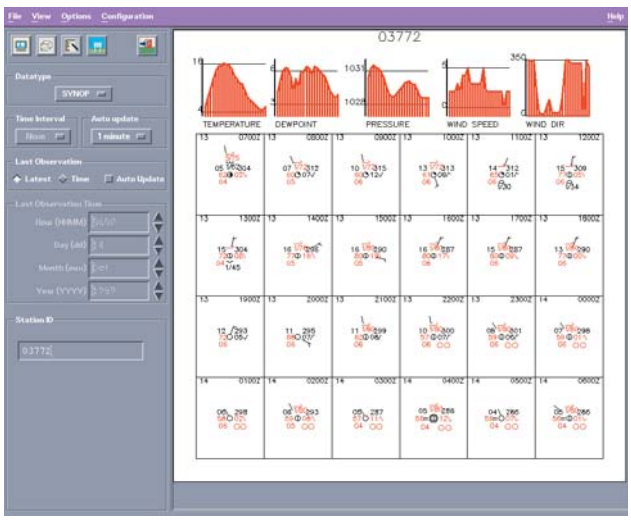


Product creation in the Graphic Visualiser

Simple and powerful

With its friendly, graphical interface, Horace is easy to set up and learn. Simple keyboard commands and mouse clicks enable users to gather observations, text and numerical fields, combine them as required, and produce tailor-made outputs for different requirements.

Horace frees forecasters from unproductive tasks. It enables them to focus their expertise on the manipulation of inputs and the creation of the most effective products. By simplifying the process of data acquisition, visualisation, manipulation and dissemination, it gives professionals more time to use their expertise and deliver products that are more effective, professional and reliable.



Observation sequence application

What makes Horace the *forecaster's* choice?

Designed by forecasters for forecasters

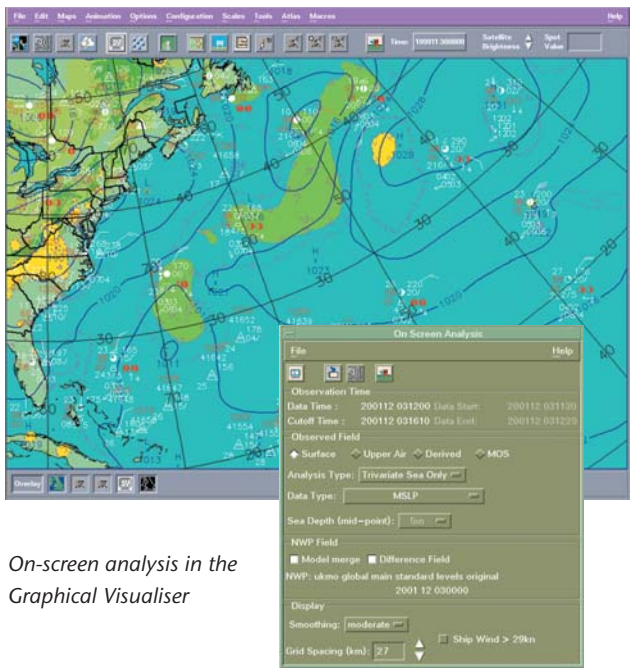
Horace has been developed with forecasters in mind from the start — they have been involved in what gets done and how it gets done, so that Horace does exactly what you require working in an operational environment.

As a result of this 'forecaster design', emphasis has been given to the two tasks that forecasters carry out most often — **analysing current observations** (creating analysis charts) and **forecasting future weather** (creating forecast charts).

Two unique applications

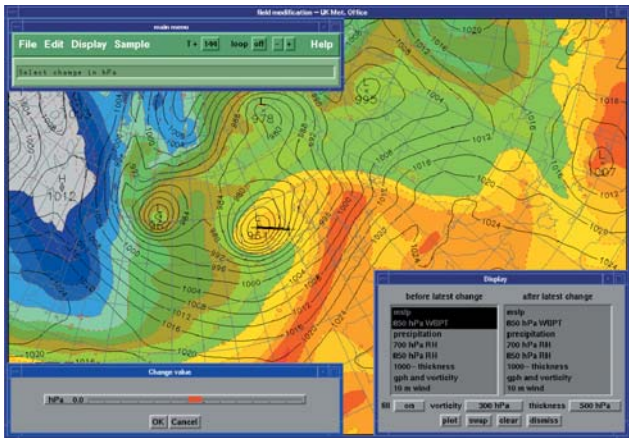
1. **On-screen analysis (OSA)** – This function sits within the Horace Graphical Visualiser (GV) application, and thus has the ability to display multiple layers of data, such as imagery, NWP and observations.

- Analyse scattered observations across any area of the globe, at any standard level of the atmosphere or ocean
- Analyse more than 40 different observational parameters, and intelligently merge with model data where no observations exist
- Highlight areas where observations differ from the model with colour-filled 'difference' fields



On-screen analysis in the Graphical Visualiser

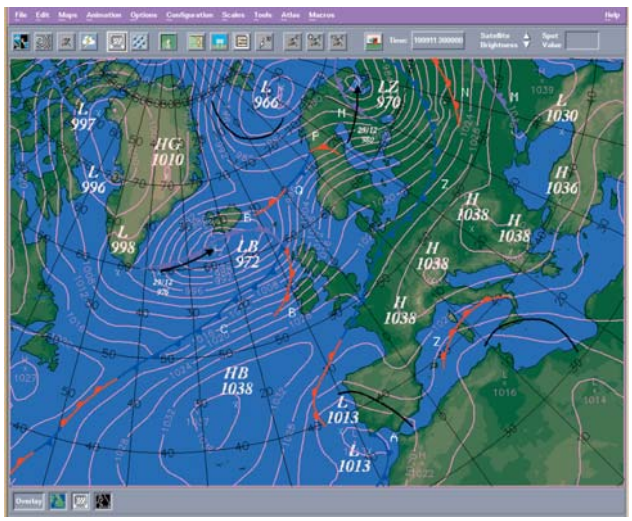
- Manipulate analyses by changing data (correcting or rejecting observed values) or by adding data ('bogusing' pseudo observations)
- Draw fronts on-screen using a mouse



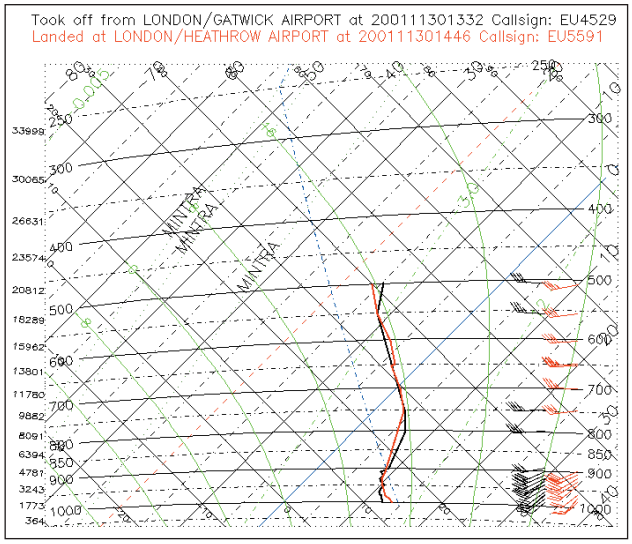
On-screen field modification in progress on a MSLP field (850 hPa wet-bulb potential temperature also shown)

2. **On-screen field modification (OSFM)** – This incredibly powerful application enables the forecaster to modify forecast model fields (atmospheric or oceanic) in a meteorologically consistent way in three dimensions (technique based on distortion of potential vorticity).

- 'Time-link' modifications to other forecast periods, for a consistent evolution through time
- Reposition and change the intensity of synoptic features such as fronts and depressions



Forecast chart in the Graphical Visualiser



New AMDAR profiler

- Make modifications for up to two days ahead as a response to an analysis error in the model highlighted by OSA
- Make modifications beyond three days ahead as a response to guidance from other models
- Save dynamically balanced sets of modified grid-point data in standard GRIB format
- Create forecast charts by displaying modified fields in the GV, where fronts and other features may be added

Powerful output methods

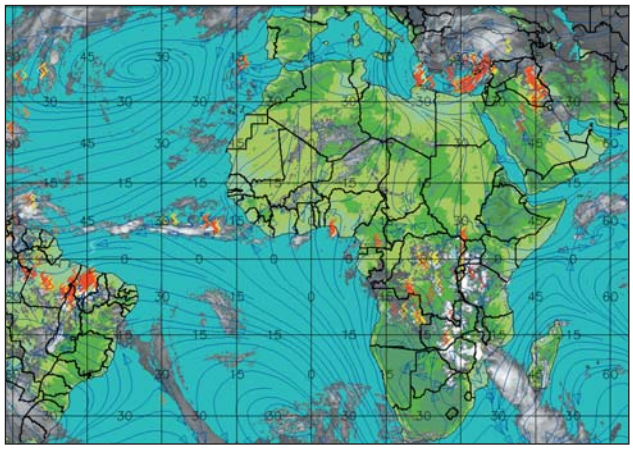
Hard copy — All analysis and forecast charts may be printed in black and white or colour, to A3/A4 from the GV or on paper up to A0 from the Chart Manager application. Chart Manager outputs large, high-quality charts capable of displaying observations in fine detail. NWP and OSA fields and fronts drawn in the GV may be superimposed on these charts, enabling **a complete record of observations and forecaster analysis**. Such charts can be archived and may be printed automatically in a queue. A3/A4 charts are suitable for fax purposes.

Soft copy — All charts may be saved in black and white or colour formats (gif, tif, jpg, png, ps, etc.) and disseminated directly to customers or copied to a web site. It is possible to **automatically populate an entire web site**, by using a time-based trigger application to start up the GV, load in the desired data layers (through a Macro function), and save the output.

Numerical output — Grid-point data from OSA and OSFM can be used to **drive the whole forecast process**. Products created from NWP data can be driven directly from OSFM output so that they are fully consistent with the guidance from the forecast charts. For example, the winds in shipping forecasts and the rainfall in media forecasts could be directly fed from OSFM.

Easy to install

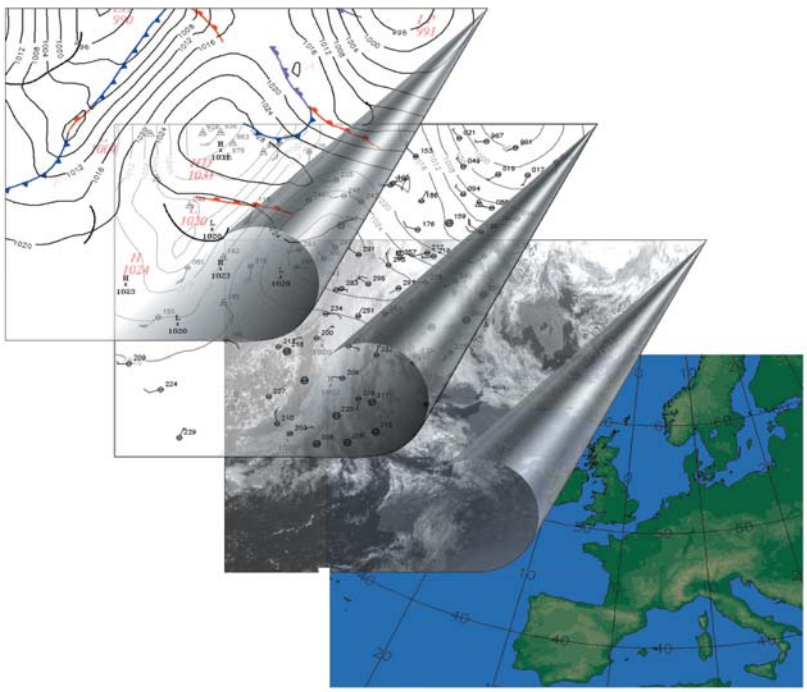
Because it is designed for industry-standard hardware, Horace can be implemented by a customer team. However, the Met Office offers an expert 'turnkey' configuration and installation service which is an attractive alternative when customers prefer to keep key IT and forecasting staff focused on their core functions.



Streamlines, satellite imagery and lightning data

Horace at a glance...

- Global coverage — visualises all types of meteorological data
- Expert — designed by Met Office meteorologists for forecasters around the world. Allows users to select and collate the best inputs for every requirement
- Productive — less labour-intensive, improves working practices, stimulates efficiency and productivity
- Flexible — can cope with increasing data volumes and changing customer requirements, data streams and networks
- Consistent — software support and development centralised at the Met Office
- Fast response — gives staff more time to spend on analysis and the generation of more-accurate forecasts
- Visual interface — all meteorological data are presented in an easy-to-follow graphical format, further streamlining the forecasting process
- User-friendly — short learning curve and intuitive operations ensure that Horace performs productively in minimum time
- Robust — based on proven, industry-standard languages and hardware platforms



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