



# ISIS by Halcrow – an overview

## Software for flood risk analysis



**Cost-effective integrated modelling solutions.**

ISIS provides engineers, environmental scientists, planners and managers with a flexible and cost-effective range of tools for proactive decision making to help manage our environment.

It is a suite of modular software solutions used for simulating water flow, hydrology, water quality changes and sediment transport in rivers, floodplains, canals, estuaries, catchments and urban areas.

ISIS is suitable for a wide range of engineering and environmental applications, from calculating simple backwater profiles to modelling entire catchments.

It is used throughout the world by government bodies, environmental regulators, local authorities, water companies, drainage boards, insurance companies, universities and consultants.

We provide a start-up product that's free to download and easy to use, as well as a comprehensive set of modules for more complex projects.

### ISIS suite applications

ISIS is used extensively, around the world, for:

- flood risk assessment
- developing catchment management plans
- flood alleviation scheme design
- river engineering and irrigation schemes

- environmental impact assessment
- water pollution management
- flood risk mapping
- integrated modelling
- surface water management plans
- catchment and floodplain development

### The ISIS suite

The ISIS suite includes:

- ISIS Free
- ISIS Professional
- ISIS 2D
- ISIS Mapper
- ISIS FAST

Software products that link to ISIS include:

- TUFLOW
- FloodViewer

All of the above software packages (except ISIS Free) can be networked together. A number of add-ons are available, such as the ISIS-TUFLOW Link and TVD Solver, as well as modules dealing with water quality and sediment transport.

ISIS is owned, developed, maintained and supported by Halcrow. The software is under continual development to meet the changing requirements of users and to incorporate the latest technological advances in computing hardware and software, data capture and processing, and scientific understanding.

## Proven and robust technology

ISIS has been applied extensively on some of the most complex rivers in the world, such as the River Thames in the UK and the Mekong River in Asia.

These rivers are often highly regulated, with complex floodplains and catchments that are under continual pressure from development and environmental pressures.

The ISIS suite of software has been developed to the highest standards: the ISIS code has benefitted from over 30 years of continual development. Over this time, experienced users and developers of the software have put the software through extensive testing and comparisons with other hydraulic models, to create a product in which our clients can have full confidence.

## Support and maintenance

Our technical support team has experts in software development, user support and the application of ISIS to real-world problems. We provide advice on software installation, model running and software functionality. See below for contact details.

At [www.isisuser.com](http://www.isisuser.com), the home of the ISIS user community, users can access manuals, support forums, videos, knowledge bases, downloads and other productivity tools.

Users who also buy a support and maintenance contract receive all software upgrades during the term of their contract, at no further charge.

The annual ISIS user conference is free to organisations with a support and maintenance contract. The conference provides informative sessions and the opportunity to learn from the experiences of other modellers, network with fellow professionals in the industry and help direct the future developments of ISIS.

## Technical training

We offer a wide range of training courses covering the theory and practice of hydrology, hydraulics and flood risk management, as well as the use of GIS. Our training courses are run by experts in the development and application of the ISIS suite. For additional information, visit [www.halcrow.com/training](http://www.halcrow.com/training).

## ISIS Free

ISIS Free really is completely free to use – the only restriction is the size of model that can be run.

It is an integrated one-dimensional and two-dimensional modelling software tool, incorporating elements of ISIS Professional and ISIS 2D.

This enables you to confidently model smaller projects, tackling a range of hydraulic conditions. This could include flood risk assessments, flood mapping and flood risk management design projects.

The ISIS graphical user interface and ISIS Mapper are also included within ISIS Free and can be used to build hydraulic models, analyse results and visualise model outputs.

ISIS Free can be downloaded from [www.halcrow.com/isis](http://www.halcrow.com/isis), and installed on as many computers as you need.

## Features of the ISIS suite

Features	ISIS Free	ISIS Professional	ISIS 2D	ISIS Mapper	ISIS FAST
250 1D node limit	✓				
1,000 1D node limit		✓			
Unlimited nodes (add on)		✓			
2,500 2D cell limit	✓				
Unlimited 2D cells			✓		
1D steady hydraulics	✓	✓			
1D unsteady hydraulics	✓	✓			
1D-2D linking		✓	✓		
2D ADI Solver	✓		✓		
2D TVD Solver (add on)			✓		
2D FAST Solver (add on)			✓		✓
Hydrology	✓	✓			
Flood mapping or viewing	✓			✓	
DEM data extraction	✓			✓	

## Contact us

- **Vijay Jain**, ISIS and TUFLOW sales manager  
tel +44 (0)845 094 7990
- **ISIS and TUFLOW technical support**  
tel +44 (0)845 094 7994

email [isis@halcrow.com](mailto:isis@halcrow.com) or [tuflow@halcrow.com](mailto:tuflow@halcrow.com)  
web [www.isisuser.com](http://www.isisuser.com)