



# ISIS 2D

## Two-dimensional flood modelling



### Cost-effective integrated modelling solutions.

ISIS 2D is ideal for use in surface water management plans, flood risk assessments, and flood management studies. It enables flood risk and flood hazard to be confidently understood and the impacts on people, property and the environment to be assessed, and mitigation options to be tested.

Applications include:

- dam breaches
- embankment and asset failure
- surface water and urban flooding
- estuarine and coastal flows
- rapidly varying flow around structures
- flood warning
- local and catchment scale assessments

### Key features

ISIS 2D has a fully hydrodynamic computational engine designed to work alone or with ISIS Professional, enabling dynamic interaction between 1D and 2D models.

At the core of ISIS 2D are three integrated numerical solvers, used on projects throughout the world for various hydraulic and environmental studies: ADI (alternating direction implicit), TVD (total variation diminishing) and FAST.

These solvers have been developed to tackle different types of hydraulic conditions within urban environments, rivers, estuaries and floodplains.

The ISIS 2D solvers have been tested and independently benchmarked and shown to be robust and accurate for a wide range of applications and conditions. They are widely used by government organisations, consultants and research establishments.

- a simple and user-friendly interface
- choice of ADI, TVD or FAST solvers – pick the best for your particular application
- TVD solver allows complex hydraulics to be calculated more accurately – especially useful with dam breaks and breaches in defences
- increased stability provided by TVD solutions
- FAST solver provides results up to 1,000 times quicker when compared to traditional two-dimensional solvers – allowing you to test many different many different options or probabilities
- flexibility to use many GIS systems to generate input files, including ISIS Mapper
- licensing linked with ISIS Professional
- dynamic linking with the ISIS one-dimensional engine using a range of mechanisms
- OpenMI compliant enabling links to other one-dimensional compliant models
- available as part of ISIS Free, with a limited domain size – ideal for smaller studies or to try before you buy

