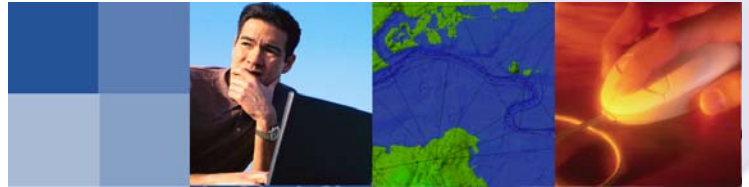


Themis

Rapid assessment of potential flooding incidents



Themis is a software interface to manage the data input, running simulations and results processing of hydrodynamic river models. It enables rapid assessment of potential flooding incidents by generating real-time flood extent forecasts.

In 'on-line' mode, Themis facilitates the generation of new model simulations, tailored to real time conditions, by users with minimal modelling experience.

In 'off-line' mode, Themis enables the generation of data to investigate the effects of a wide range of different 'what-if' flooding scenarios, which can then be archived for future reference.

The software currently supports the running of simulations generated from the following modelling packages:

Themis provides strong links to other software including:

- ISIS
- ISIS-TUFLOW
- MDSF
- DeltaMapper
- ESRI products
- Microsoft Office

Recent projects using Themis include:

- Thames Embayments Inundation

ISIS 1D

Editable model conditions:

- Upstream boundary flows
- Downstream boundary tide pattern
- Tidal barrier operations
- Wind conditions

ISIS 2D Flood Cells

Editable model conditions:

- Upstream boundary flows
- Downstream boundary tide pattern
- Addition of breaches to flood defences
- Tidal barrier operations
- Wind conditions

ISIS-TUFLOW

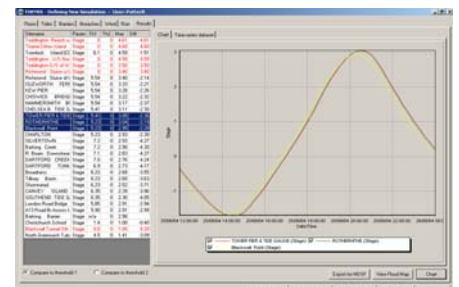
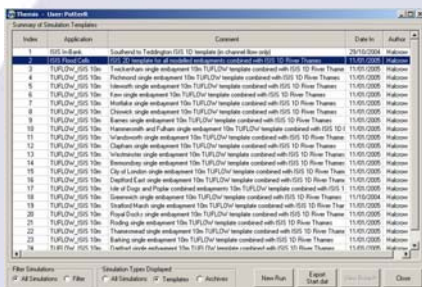
A range of model grid sizes can be handled by Themis to ensure models of appropriate resolution and run time are available.

Editable model conditions:

- Upstream boundary flows
- Downstream boundary tide pattern
- Addition of breaches to flood defences
- Tidal barrier operations
- Wind conditions

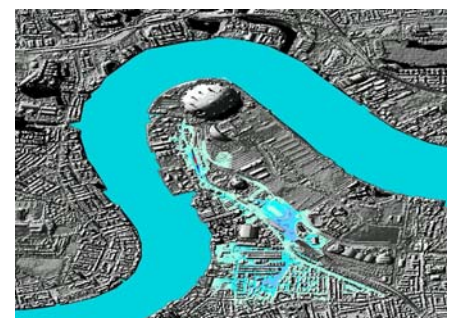


Model simulations are defined in Themis with a combination of user entered tabular and spatial data. Flood defence breaches can be added by drawing directly onto a map view of the modelled region.



Time series results are automatically processed during a simulation and can be displayed in Themis or exported to other applications, e.g. for use in reports. Spatial results, such as flood extents, are produced via a direct link to the DeltaMapper software.

Themis has been developed to meet the needs of the Thames Tidal Defences team at the UK Environment Agency. It has been developed using open data transfer formats and can easily be customised to provide a flexible but easy to use tool for use in other floodplains. Themis uses XML to transfer real time data from other systems.



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Innovative software solutions for smarter working

