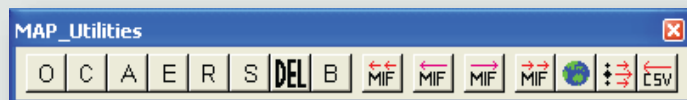


MapInfo and TUFLOW Productivity Utilities (miTools)

The MapInfo and TUFLOW Productivity Utilities (miTools) have been developed specifically to improve the efficiency of setting up and reviewing TUFLOW® models, as well as improving the day to day ease of using MapInfo Professional (MI Pro). The suite of utilities enables 'automation' of many of the common repetitive tasks, saving valuable time and therefore money. The utilities also allow the efficient creation and visualisation of key TUFLOW model inputs/outputs within the MapInfo environment. Other tools provide data checking and quality assurance functionality, thus helping to minimise modelling errors.

The 2009 release of miTools includes many new utilities and significant enhancements to earlier utilities. There are new TUFLOW utility interfaces, batch processing of cross-sections from DEMs, as well as TUFLOW layer styles. miTools 2009 has also been updated to be compatible with MapInfo Professional Version 10.

A description of some of the many miTools capabilities follows.



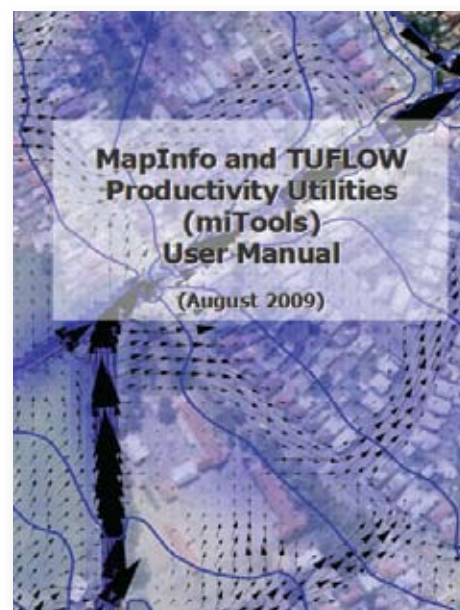
MapInfo Utilities Toolbar



WBM Utilities Toolbar



Automatically generated TUFLOW Water Level Lines (WLL) using the "TUFLOW_WLL_Tool" Utility

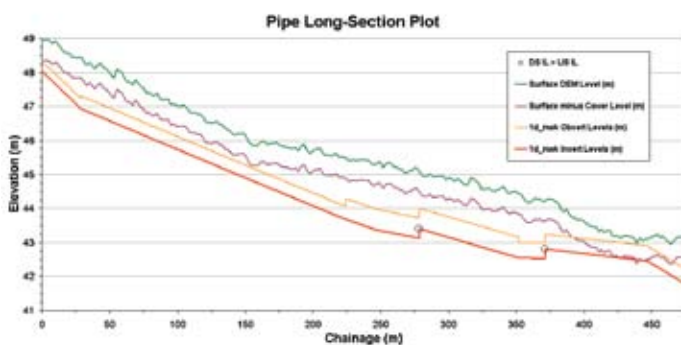


Comprehensive User Manual

MapInfo and TUFLOW Productivity Utilities (miTools)

Capabilities (General MapInfo)

- Efficiently manipulate MapInfo's Layer Control without having to scroll through countless layers. Based on selected object(s), switch the layer off, make it editable, make it non-selectable, close it or open the table in a browser window. Filter the Layer Control to remove unused layers and/or close unused TAB files
- Delete selected objects without having to make the layer editable
- Batch import MID/MIF files and automatically add them to Layer Control
- Import a MID/MIF file and automatically add it to the Layer Control as the top-layer and set it to editable. If it is a TUFLOW layer, apply the user defined default object styles
- Batch export MID/MIF files, as well as prompt for packing, saving edits, etc



Sample Long Section Plot

Capabilities (Other)

- A cross-section editor to view and edit CSV format cross-sections. The utility includes a data management tool that tracks changes to the cross-section properties, as well saving backup files following each subsequent change
- A range of ISIS-TUFLOW related utilities (especially for UK customers) including a utility to extract cross-sections from an ISIS DAT format file into individual ESTRY format CSV files and a utility to name ISIS 1d_nwk channels the same as the upstream node ID

Capabilities (TUFLOW)

- MapInfo interfaces for common TUFLOW utilities TUFLOW_to_GIS and ASC_to_ASC
- MapInfo interface to run TUFLOW, create and run TUFLOW batch files, and to test and package models
- Automatically apply predefined MapInfo object styles to TUFLOW layers
- Enhanced single and batch MIF import and export utilities
- Automatically create and trim TUFLOW Water Level Lines (WLL), as well as cross-section (XS) lines. The 2009 release includes significant enhancements including new WLL creation and overlap removal methods
- Extract multiple TUFLOW CSV format cross-sections from a Vertical Mapper DEM, and automatically assign roughness's from a materials or Manning's table.
- CSV Cross-section editor with inbuilt version and edit tracking
- Automatically draw, attribute and snap TUFLOW CN Lines
- Batch split a polyline, such as a river centreline, using a table of cross-sections. The utility is extremely useful for quickly setting up 1d networks where existing cross-section and river centreline/long-section data are available
- Graph the TUFLOW MID/MIF time-series (TS) results data for selected TS objects within MapInfo. Summarise the maximum and minimum of the saved TS values for the active TS Graph window. Filter the graphs - i.e. to display only a sub-set of all the TS objects selected, such as the flows (Q) only
- Plot TUFLOW CSV format cross-sections within MapInfo. Include TUFLOW water level results if required
- Create long-section plots within MapInfo. Plot pipe obvert levels, minimum cover levels and highlight pits where the outlet level is higher than the lowest inlet(s), i.e. an error in the data
- Region/polygon editing tools to speed up snapping, trimming and splitting region objects while also ensuring the resulting objects are truly snapped together
- 'Increment' the selected TUFLOW layer: The utility assists to ensure TUFLOW MI layers are correctly renamed and setup for editing in an efficient manner
- Label selected TUFLOW layer with associated elevation or invert data, to user specified formats with the click of a single button. The user can customise the number of decimal places displayed, the label styles (colour, options, size, font), as well as the visibility options for the labels (eg the zoom display range)
- Filter TUFLOW layers: a utility to assist in dealing with large and complicated TUFLOW models. The utility will turn on or off specific layer types, as well as DEMs and images. The utility also has an option to group and sort TUFLOW layers in the current map window, based on the file type order specified in a customisable .ini file
- Quickly turn off the borders of thematically mapped grid cells

MapInfo and TUFLOW Productivity Utilities (miTools)

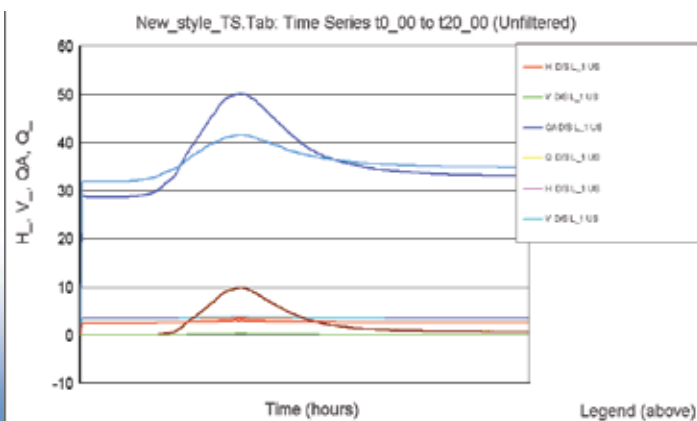
Training

To help gain the full benefits of the efficiencies that can be derived from using the utilities, training options and costs can be provided upon request. The utilities also come with a comprehensive manual

Custom Applications

As an additional service, custom applications (eg. for streamlining working with LiDAR/ALS DEMs, data and model conversion, data and model QA/QC, custom interfaces, etc) can be developed.

For more information, please contact mitools@tuflow.com

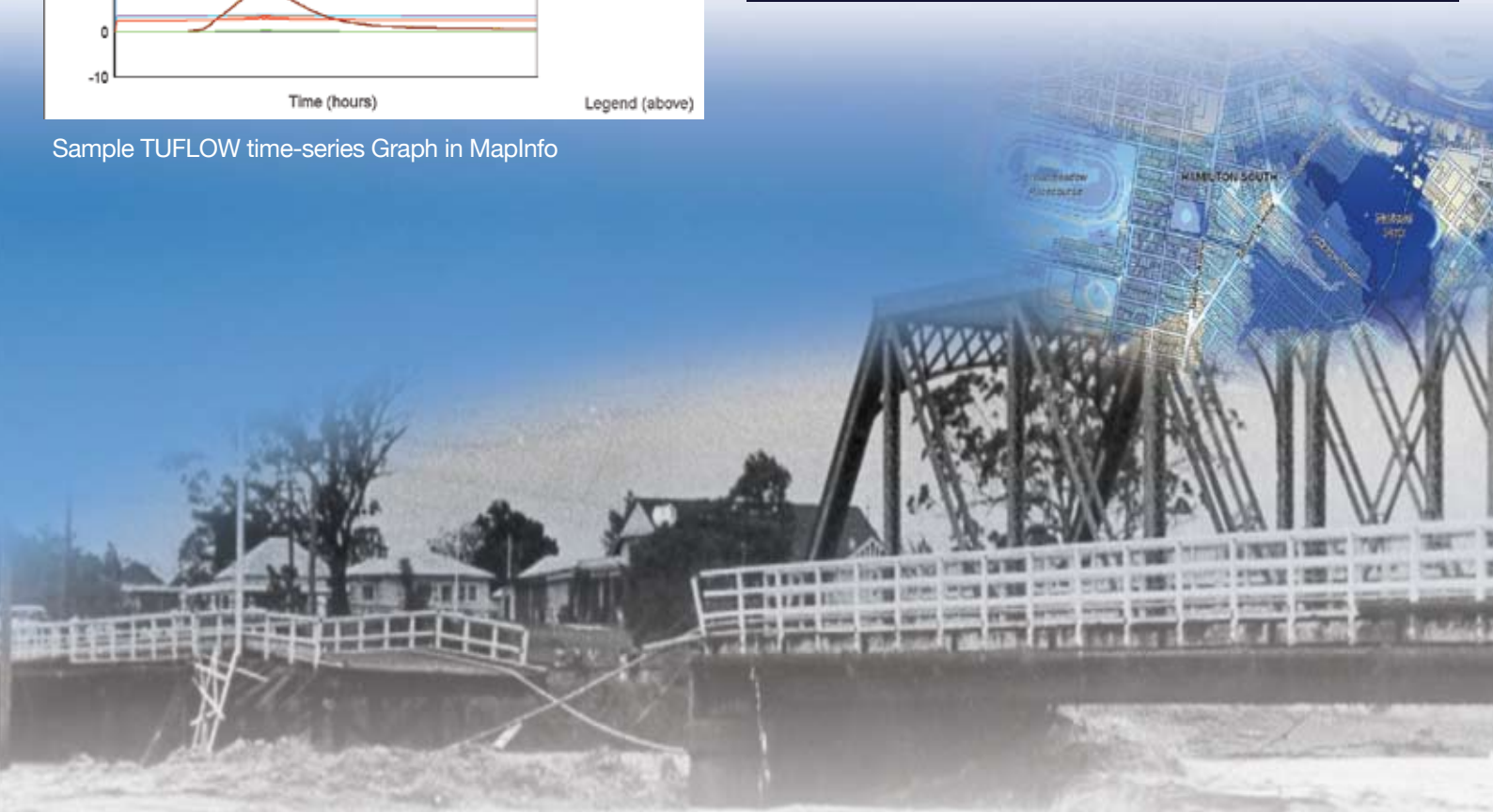


Sample TUFLOW time-series Graph in MapInfo

Future Releases

Currently planned future releases include:

- A utility to check the integrity of TUFLOW Zline layers: check and repair snapping, remove duplicate points of same elevation, flag duplicate points of different elevation, etc
- A utility to modify 'approximate' ridge and gully lines so that they 'trace' the true high and low features in the DEM (especially useful for LiDAR/ALS DEM). The utility also updates the elevation of existing points, or can create the points and assign elevation data automatically
- A range of data proofing, interrogation and conditioning utilities
- A range of new initiatives driven by user requests
- An annual software upgrade and support fee will entitle users to future utility updates



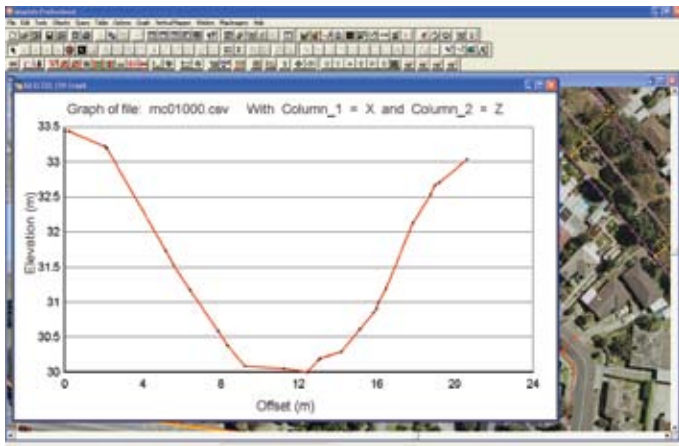
Licensing, Sales and Enquiries

Since commercialisation of the miTools in August 2008, significant ongoing enhancement of the tools has occurred. During this time the adoption of the miTools has spread to local, state and federal government agencies, as well as consultancies throughout Australia and the United Kingdom.

miTools licensing allows organisations to purchase organisational-wide licences that provide unlimited installation of, and access to, the tools across the organisation. The only requirement is that the user's machine has access to one of the organisation's TUFLOW dongles when starting the miTools.

miTools terms of use and pricing information can be obtained from the TUFLOW license agreement and price list on the TUFLOW homepage (<http://www.tuflow.com/Prices.htm>)

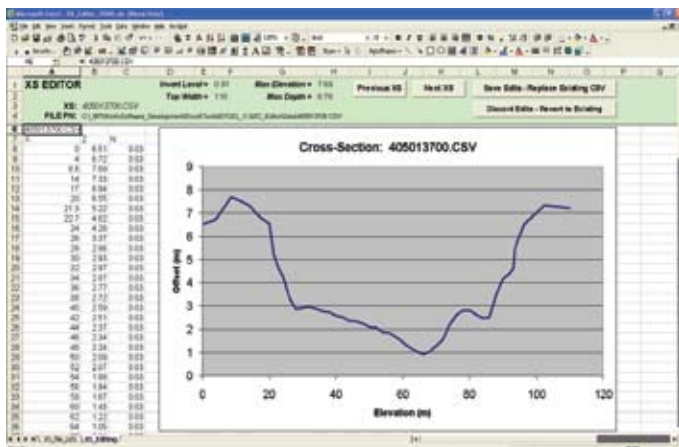
To arrange for a free 30 day evaluation license, or for further enquiries, please contact mitools@tuflow.com



Plot TUFLOW CSV format cross-sections within MapInfo



Group similar files in the layer control, and switch on and off selected layer types using the 'TUFLOW_Map_Filter' Utility



TUFLOW Cross-Section Viewer, Editor and Data Management Tool