

# Release Notes 2025

# MIKE 3

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## Introduction

Welcome to MIKE 3 2025

In this Release Note, you will find information about new features of MIKE 3, and what you need to know in order to install and get started with Release 2025.

MIKE 3 is a complete 3D modelling package for estuaries, coastal areas, and seas. It covers a wide range of hydrodynamic, environmental and sediment transport processes.

## System requirements

### Operating systems

Fully supported Windows operating systems *	Windows 11 Pro, version 24H2 (64-bit) Windows 11 Pro, version 23H2 (64-bit) Windows 10 Pro, version 22H2 (64-bit) Windows Server 2022 Standard, version 21H2
Non-supported but partially tested operating systems **	Windows Server 2019 Standard, version 1809
Supported Linux distributions***	Red Hat Enterprise Linux (RHEL) 8 and 9 (all 64-bit) Ubuntu 22.04 and 20.04 (all 64-bit)

\* Fully supported operating systems are systems that have been tested in accordance with the MIKE Powered by DHI Quality Assurance procedures and where warranty and software maintenance agreement conditions apply.

\*\* Non-supported but partially tested operating systems are systems that have only undergone limited testing and so are not officially supported for running MIKE software products. The MIKE software warranty and software maintenance agreement conditions do not apply for non-supported operating systems. DHI is under no obligation to provide assistance or troubleshooting for cases where the software is being used on a non-supported operating system.

\*\*\* Supported Linux distributions are the Linux distributions used for building and testing MIKE Zero for Linux 2025. Other distributions may or may not work and are not recommended. However, MIKE Zero for Linux has been successfully installed on several other Linux distributions, including Ubuntu Kylin, Galaxy Kylin (V10), AlmaLinux and Debian (all 64-bit).

**Please note** when running a fully supported operating system as a 'guest operating system' on a virtualization platform, it is automatically downgraded to a non-supported operating system under the conditions provided above.

### Minimum hardware/software requirements

Processor	compatible with x64 instruction set, 2.2 GHz or higher
Memory (RAM)	4 GB or higher *
Storage	64 GB or higher *
Display	resolution 1024 x 720 (High-Definition) or higher, 24-bit color (true color)
Graphics adapter	64 MB RAM (256 MB RAM or higher recommended), 32-bit true color **
Software requirements	Microsoft .NET Framework 4.7.2 or higher

\* The actual required amount of memory and disk space depend on the usage (application, model setup, size of data files etc.)

\*\* MIKE 3 Flow Model FM utilizing GPU requires a Nvidia graphics card with compute capability 6.0 or higher. Please note that some of these graphics' cards have varying performance in single compared to double precision calculations. The GPU functionality is based on version 12.5 of the Nvidia® CUDA® Toolkit.

## Installation

To install MIKE 3, please go to the MIKE Zero product folder and execute the setup.exe file either on the MIKE 2025 USB or from the downloaded, un-zipped installation files. Press the 'Install' button to begin installation.

The setup program will automatically install all necessary files and folders on your computer. Additionally, an entry is created in the Start Menu for MIKE Zero.

**Important information:** Please be aware that all MIKE software on the same computer must be installed with the same service pack. This is due to the dependencies between MIKE software products and the ability for the software to use the latest features and systems updates.

**Please note** that a separate installation guide, including system requirements, for MIKE Zero for Linux is available [here](#).

## License file and dongle

**Please Note** that when using the local or network license option, which require a license file and a dongle, then

- The DHI License Manager must be installed separately.
- All licensed applications included in MIKE 2025 require a 2025 version of the DHI License Manager.
- A new license file format (file extension dhilic2) has been introduced with MIKE 2022 and these license files can only be used together with a DHI License Manager 2022 or newer.

To use MIKE software in licensed mode, please refer to the [DHI License Manager Release Notes](#).

## Product invocation

Launch 'MIKE Zero' from the Windows Start menu. Then you can select MIKE 3 from within the MIKE Zero Shell.

Starting any MIKE Zero application without a DHI configured hardware key and valid license files will cause the program to run in demo mode. If this happens, a message box will inform you during program initialization. When running in demo mode, the MIKE Zero installation supplies full access to all editors, computational engines and editing facilities. However, restrictions apply to the setups that can be executed as a model simulation.

## Support

For general support, please refer to our [Customer Care Portal](#).

If you experience any difficulties, or if you have questions, please contact our Customer Care team at [mike@dhigroup.com](mailto:mike@dhigroup.com).

You can also contact your local Customer Care team for support in your local language. A list can be accessed from [here](#).

## New features and fixed issues

Every new release of MIKE 3 consists of new modules, new features and/or corrections to problems or significant inconsistencies discovered in previous releases. Please find below short descriptions of the most significant news

### Release 2025

#### New features and improvements

Module/type	New feature
MIKE FM	Resuspension of muds due to vessel propeller wash has been included in the Mud Transport module.
MIKE FM	Inundation output has been added to MIKE 3 Wave Model FM.
MIKE FM	The performance of MIKE 3 Wave Model FM and the non-hydrostatic version of MIKE 3 Flow Model FM (Navier-Stokes equations) has been improved. The performance improvement is related to the linear equation solver and has largest effect for larger model setups.
MIKE FM	The calculation of the QH-relation tables for Culvert structures has been updated to improve alignment with MIKE 1D.
MIKE FM	Improved sand transport calculations when helical flow is applied. This is due to improved calculation of fluxes from a 2D flow field. This improvement may lead to differences in outputs over Release 2024.
MIKE FM	Extended option for specifying the wind forcing in the hydrodynamic module. Wind speed, wind direction, and wind speed components can now be specified for all three relevant formats. When wind forcing is specified as a 2D map (time-varying), it is possible to specify if the effect of pressure should be included or not included. See <a href="#">Figure 1</a> .
MIKE FM	Performance of sediment transport rate calculations using sediment transport tables has been improved. In the Sand Transport module, the speedup is approximately a factor of 2, and in the Mud Transport module the speedup is approximately a factor of 3.

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MIKE FM	Output of horizontal plane for field type '3D' in all modules (HD, TR, ST, MT, EL and PT) in the MIKE FM modelling system.
MIKE FM	Possibility to save 2D and 3D structured overlays as DFSU output files in all modules (HD, TR, ST, MT, EL and PT) in the MIKE FM modelling system. This feature unlocks the usage of all FM-based tools on gridded datasets.
MIKE FM	Size of table for Point series locations in the Output specification page has been increased. See Figure 2.
MIKE ECO Lab	<p>First release of MIKE ECO Lab 2.0:</p> <ul style="list-style-type: none"> <li>• MIKE ECO Lab is now available in either "Classic" or "Version 2.0" modes.</li> <li>• MIKE ECO Lab version 2.0 is only supported by the MIKE FM engines.</li> <li>• The settling &amp; buoyancy scheme has been updated to prevent mass balance problems.</li> <li>• Improved (OpenMP) parallelisation.</li> <li>• Updated plugin API.</li> <li>• In future releases, the classic version will only receive important bug fixes. It will be marked as deprecated and may be removed in later releases.</li> <li>• Feature updates and further development will be restricted to MIKE ECO Lab Version 2.0.</li> </ul> <p>See Figure 3.</p>
MIKE Zero	<p>Significant refactoring and improvements in the Data Extraction FM tool:</p> <ul style="list-style-type: none"> <li>• Improved performance using OpenMP parallelization</li> <li>• View button for the input data file</li> <li>• Validation of input data file</li> <li>• Align output file selection with approach used in the MIKE 21/3 input editors</li> <li>• Bathymetry can be shown in the Geographical View</li> <li>• Possibility to save 2D and 3D structured overlays as DFSU output files in all modules (HD, TR, ST, MT, EL and PT)</li> <li>• Output of horizontal plane for field type '3D' in all module outputs (HD, TR, ST, MT, EL and PT)</li> </ul> <p>See Figure 4.</p>
MIKE Zero	<p>Two new tools have been added to the Statistics group in the MIKE Zero Toolbox tools</p> <ul style="list-style-type: none"> <li>• DFSU Statistics</li> <li>• DFSU Vertical Statistics</li> </ul> <p>See Figure 5.</p>
MIKE Zero	The Mesh Manager tool has been extended such that local refinement can now be specified using element area. See Figure 6.
MIKE Zero	Improved the Graphical Overview tab such that gate control points are now visible in the overview. See Figure 7.
MIKE Zero	<p>The Properties dialogs for Time Series Plot and Profile Plot have been made resizable (for example, in Data Viewer and Plot Composer). Additionally, the following improvements have been made to the properties tables:</p> <ul style="list-style-type: none"> <li>• Tool tips have been added to show full field information (for example, file name and path).</li> <li>• Double click on header field will resize that column to fit the data.</li> <li>• Double click on index field will resize all columns in the table to fit the data.</li> </ul> <p>See Figure 8.</p>
MIKE Zero	Data Viewer has been improved to properly handle visualisation of transects.
MIKE Zero	The Engineering Unit Management (EUM) system has been updated to include water chemistry, carbon emission and pollutant load parameters.

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MIKE Zero	The ability to reproject mesh files from within Data Viewer has been added. See Figure 9.
MIKE Zero	The ability to save and load polygon selection areas in Data Viewer to easily repeat manual post-processing operations has been added. See Figure 10.
MIKE Zero	The ability to view area of each element selected within a polygon in Data Viewer for improved post-processing operations has been included. See Figure 10.
MIKE Zero	The ability to save and load time series point locations in Data Viewer, and further visual improvements, have been added.
MIKE Zero	Keyword handling for map projections has been improved.
MIKE Zero	Performance of the MIKE Zero Data Utility has been improved.
MIKE Zero	It is now possible to compare two files side-by-side in the Results Viewer using the slider-based 'Split View Compare Files...' function. See Figure 11.
MIKE Zero	Possibility to configure the maximum time passed with no engine progress before the automatic cancellation of a MIKE Cloud simulation.
Future of single precision MIKE FM engine	The single precision MIKE FM engine is planned to be removed from the installation package in the near future. The time for removal will be approximately 12-months from the release date of MIKE 2025 (this release).

## Fixed issues

Module/type	Error/Inconvenience
MIKE FM	A correction has been made in the HLLC Riemann solver in the z-level domain. This correction may lead to differences in outputs over Release 2024, for both CPU and GPU versions.
MIKE FM	An error has been corrected in the MIKE 3 Wave Model FM when using horizontal eddy.
MIKE FM	Fixed error in connection with the use of depth correction in MIKE 3 Flow Model FM and MIKE 3 Wave Model FM, when sigma/z-level is used for the vertical discretisation.
MIKE FM	The calculation of disposal in the Mud Transport module for MIKE 3 Flow Model FM has been improved for situations where very highly concentrated disposals are located in shallow waters.
MIKE FM	Fixed error in the calculation of orifice coefficients for culvert structures.
MIKE FM	Fixed a small error in AD calculations when using sigma/z-level and higher-order scheme.
MIKE FM	Improved stability and corrections in the Mud Transport module calculation of deposition and erosion values (related to the vertical convection due to the fall velocity).
MIKE FM	Addressed incorrect handling of spatially varying input (DFS2/U) files with rotated geographical coordinates.
MIKE FM	Validation checks for broad-crested weir structures have been improved.
MIKE FM	In the GPU version, discharge calculations might be incorrect if the discharge line contains only one face. This has been corrected.

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MIKE FM	Fixed an issue when using depth correction with no change may produce abnormal results.
MIKE Zero	An issue in Data Extraction FM has been rectified where the position of horizontal layers is not correct when extracting from LONG/LAT outputs.
MIKE Zero	In Cloud Explorer and Simulation Launcher, the upload of files from network drives has been fixed.

## Figures

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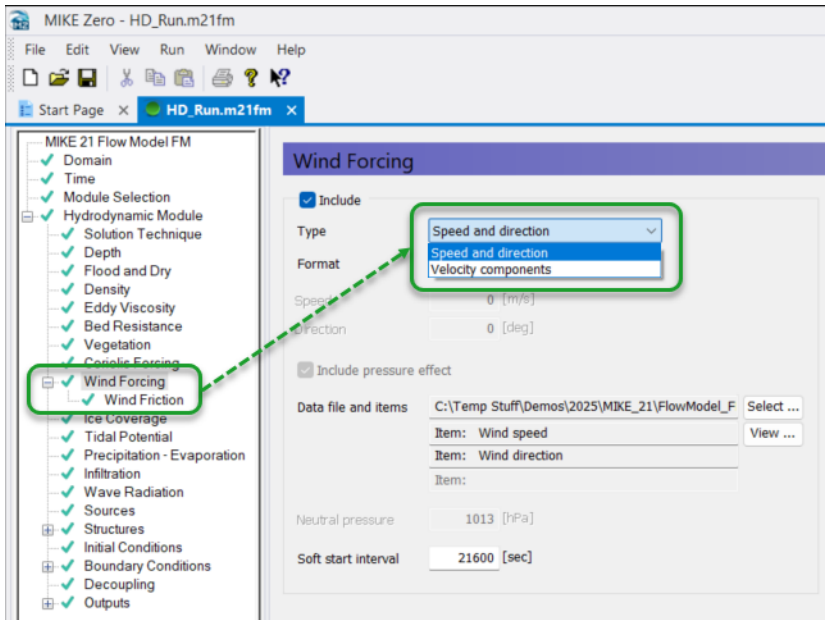


Figure 1 – Extended option for specifying the wind forcing in the hydrodynamic module



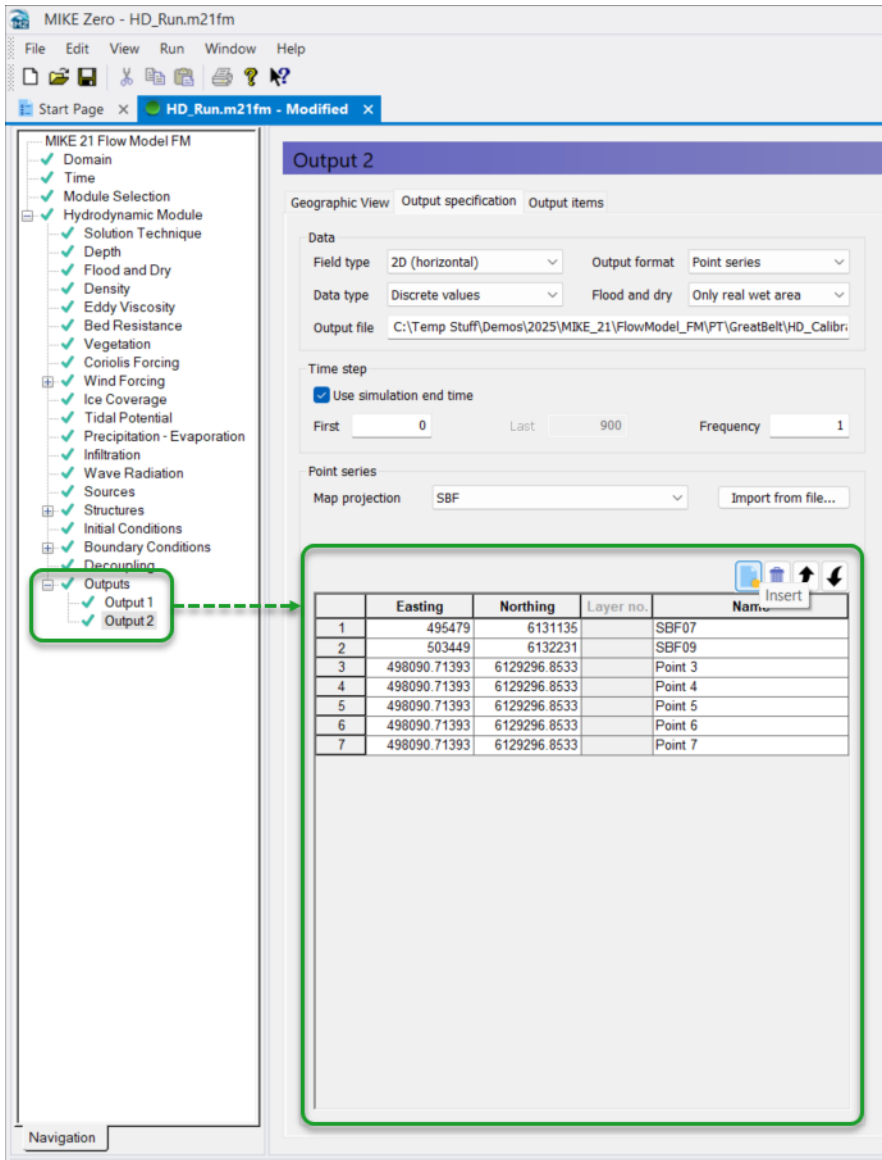


Figure 2 – Size of table for Point series locations in the Output specification page has been increased

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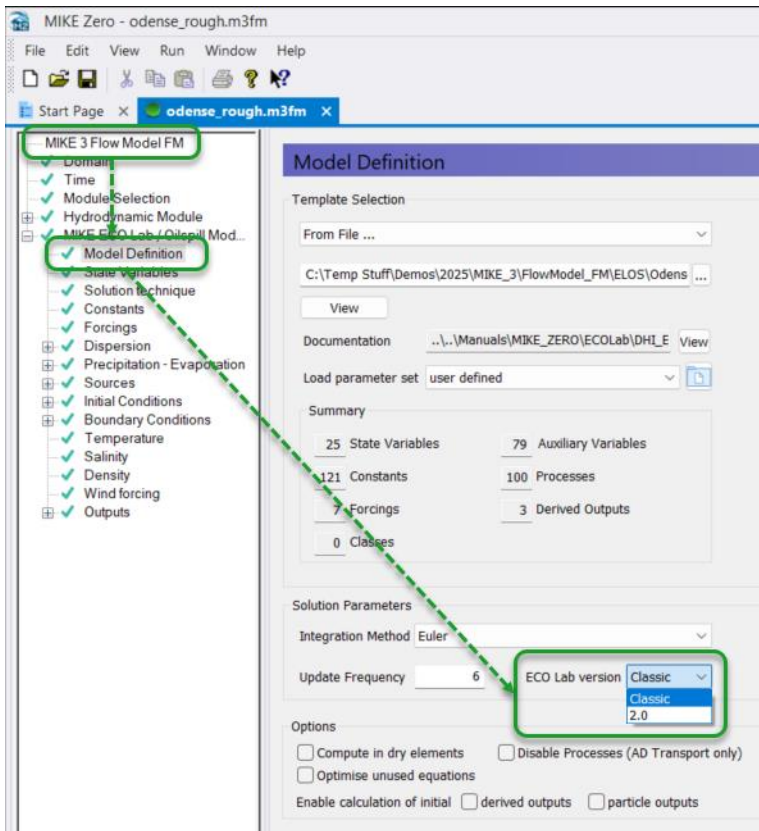


Figure 3 – How to enable MIKE ECO Lab 2.0

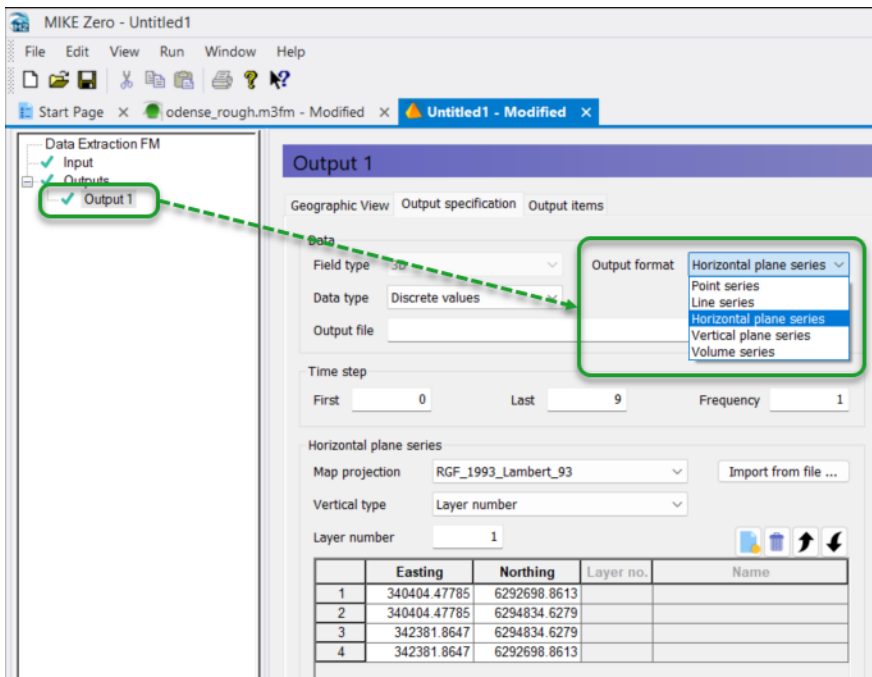


Figure 4 – Output of horizontal plane for field type '3D' and more in the Data Extraction FM tool

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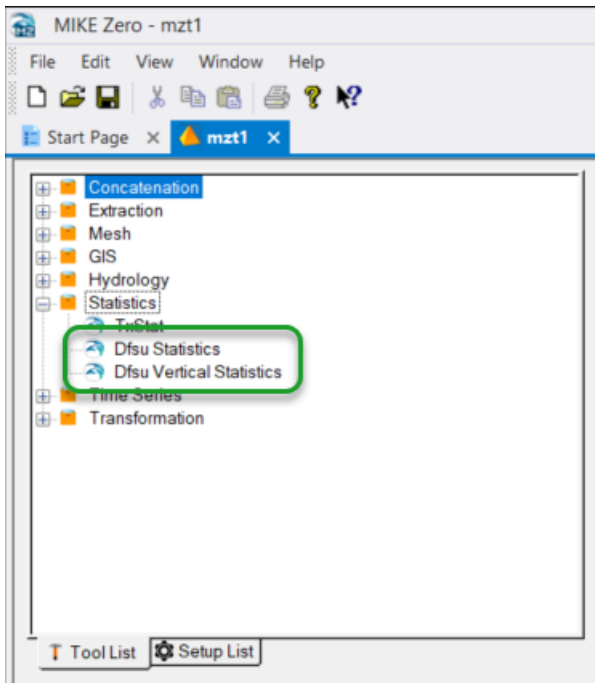


Figure 5 – How to find Dfsu Statistics and Dfsu Vertical Statistics

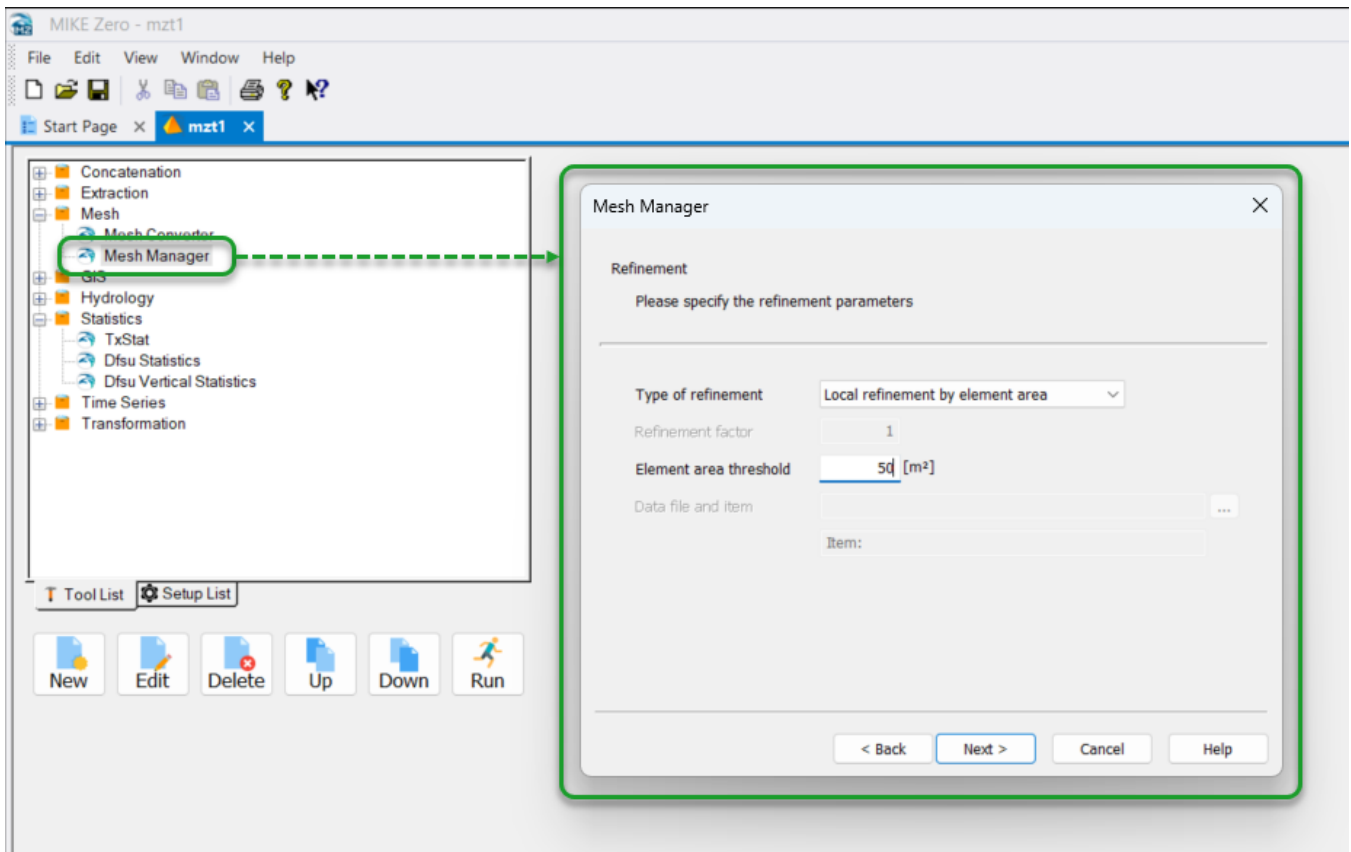


Figure 6 – Local refinement of meshes using element area in Mesh Manager tool

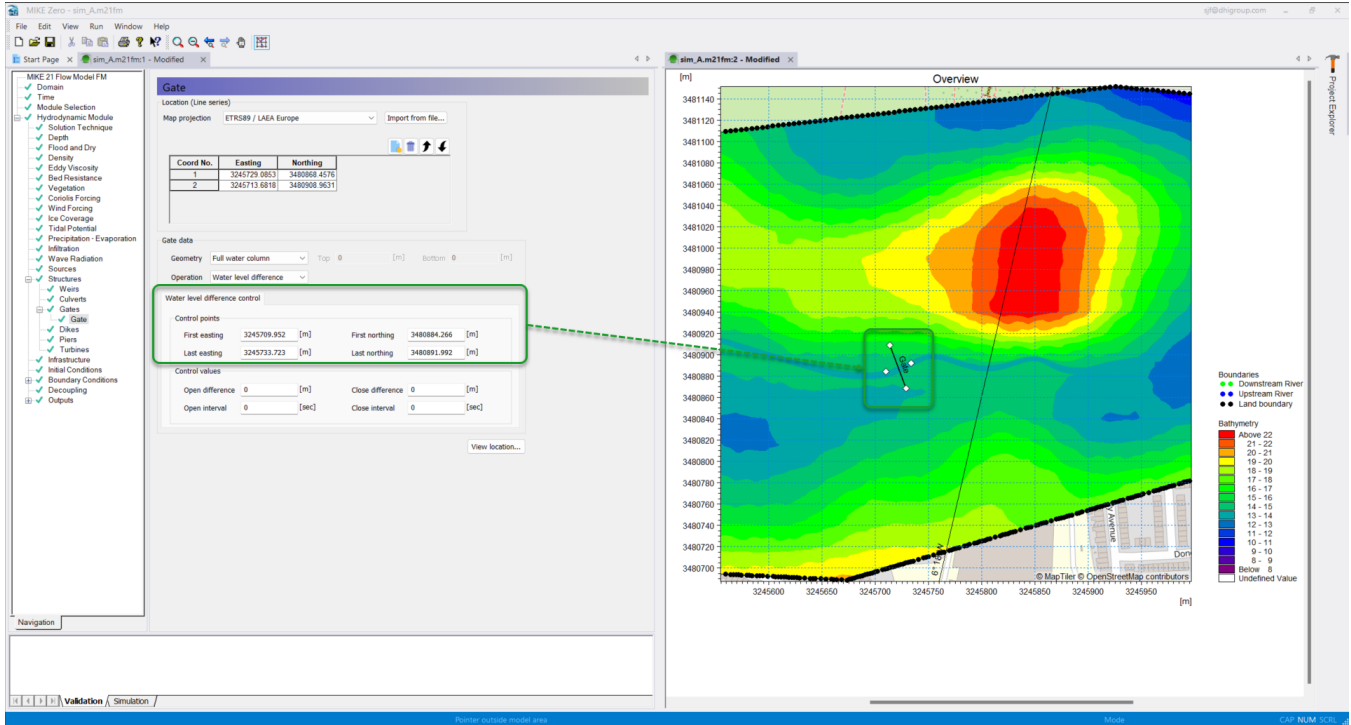


Figure 7– Gate control points are now visible in the Graphical Overview

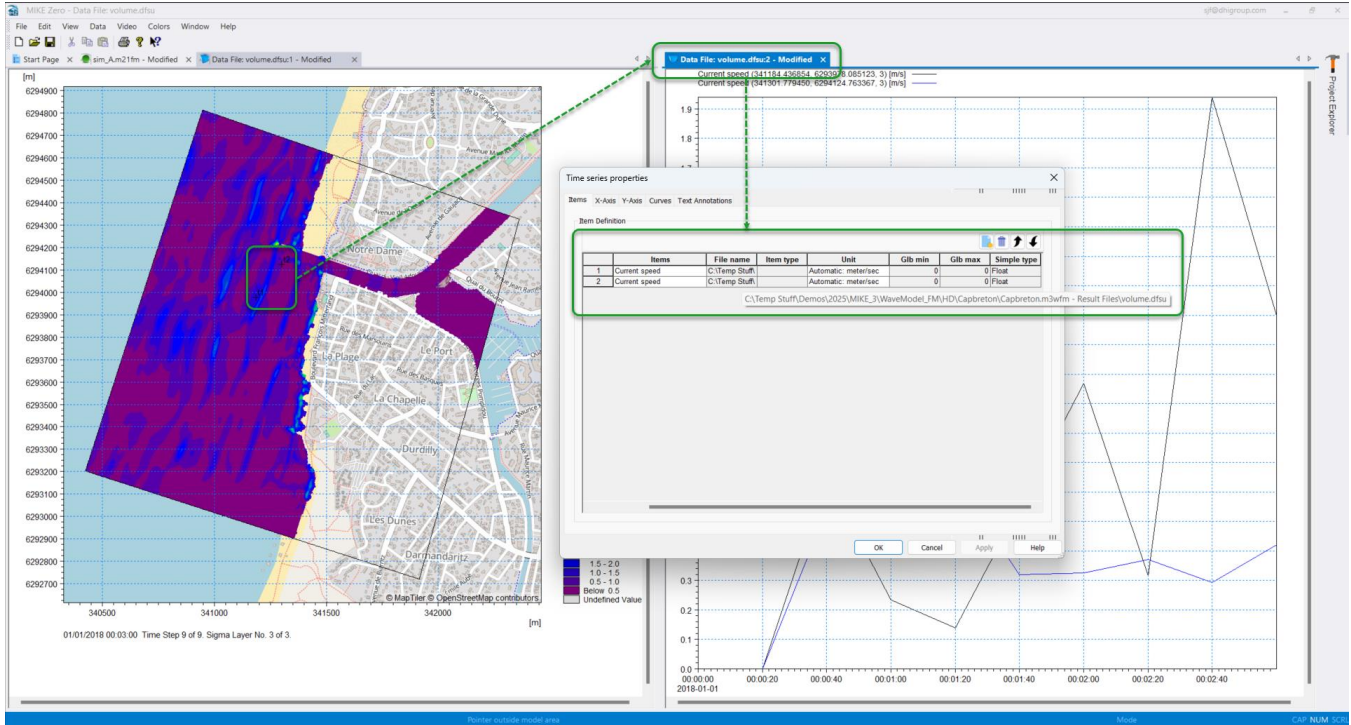


Figure 8 – Improved Properties dialogs for Time Series Plot and Profile Plot

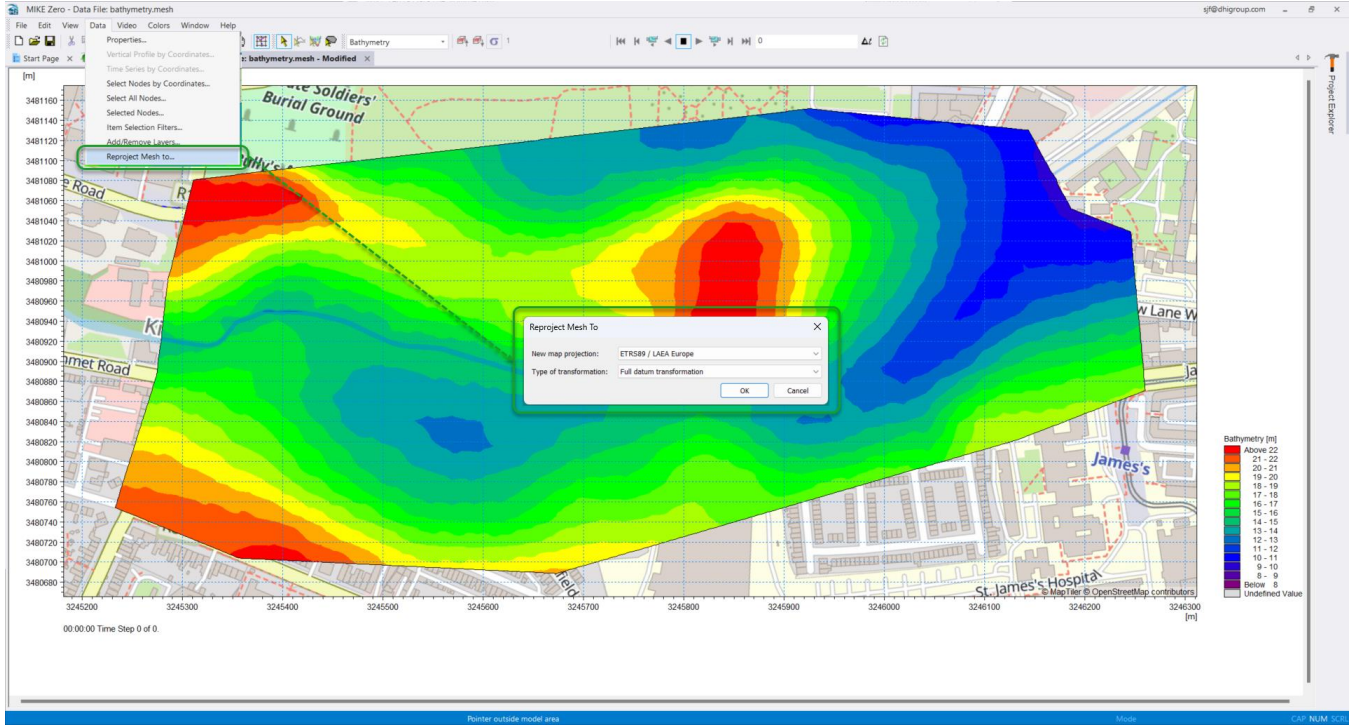


Figure 9 – Reproject mesh files from within Data Viewer

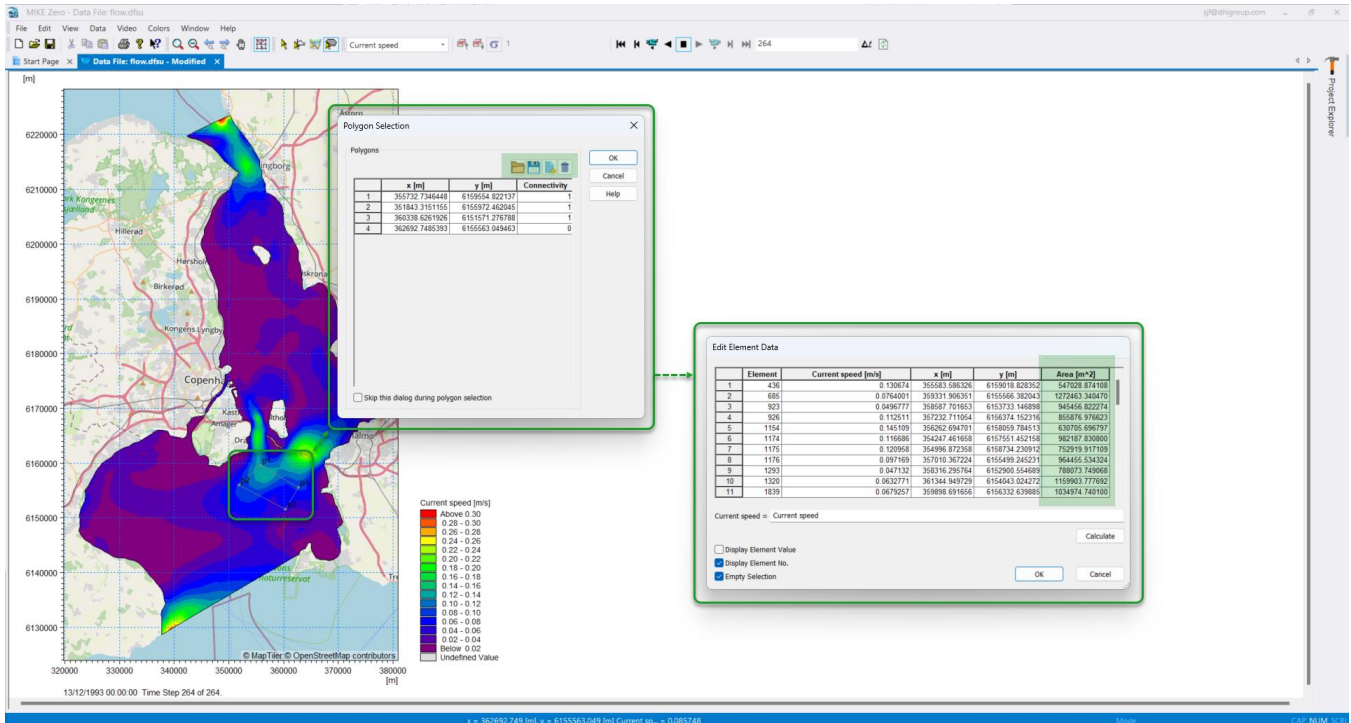


Figure 10 – Save and load polygon selections, and view element area, in Data Viewer

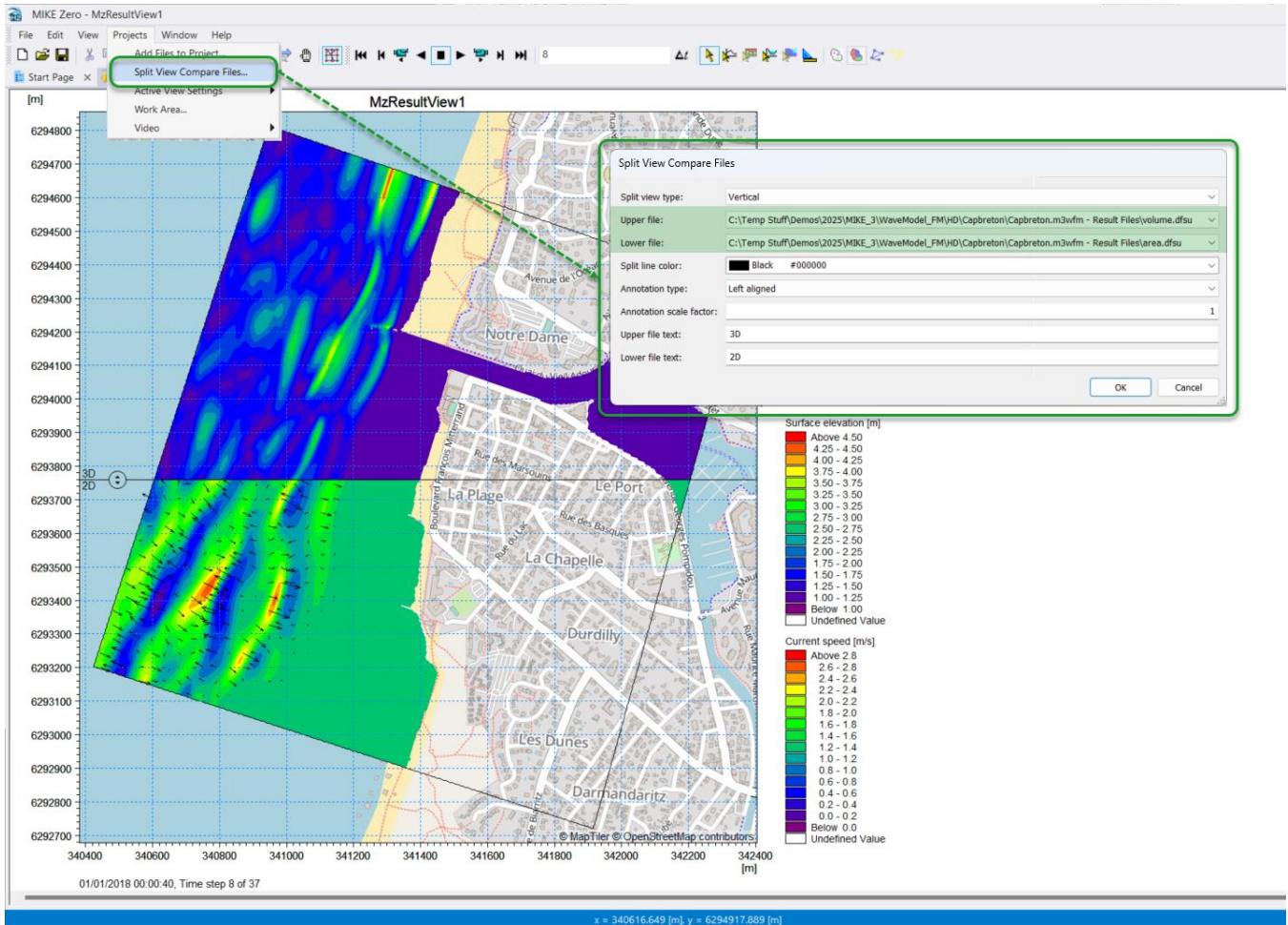


Figure 11 – Compare two files side-by-side in the Results Viewer using the slider-based ‘Split View Compare Files...’ function