Release Notes 2024

MIKE SHE

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Introduction

Welcome to MIKE SHE 2024 Update 1.

In this Release Note you will find information about new features of MIKE SHE, and what you need to know in order to install and get started with Release 2024.

MIKE SHE is a modelling system for integrated catchment hydrology. MIKE SHE covers all aspects of the entire land phase of the hydrological cycle with specific strength in the dynamic interaction between surface water and sub-surface water (ground water).

System requirements

Operating systems

Fully supported Windows operating systems *	Windows 11 Pro, version 23H2 (64 bit) Windows 10 Pro, version 22H2 (64 bit) Windows Server 2022, version 21H2 Windows Server 2019 Standard, version 1809
Non-supported but partially tested operating systems **	Windows Server 2016 Standard, version 1607

*   Fully supported operating systems are systems that have been tested in accordance with MIKE's Quality Assurance procedures and where warranty and software maintenance agreement conditions apply.

** Non-supported but partially tested operating systems are systems, which are not officially supported by the MIKE software products. These operating systems have only undergone very limited testing for the purpose of MIKE software, but the software and key features are likely to work. Installation of MIKE software on a non-supported operating system is done so at the user's own risk. The MIKE software warranty and software maintenance agreement conditions do not apply for unsupported operating systems and DHI is under no obligation to provide assistance or troubleshooting for cases where the software is being used on a non-supported operating system.

Please note that 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.)

Installation

To install MIKE SHE, please go to the 'MIKE SHE' product folder and execute the setup.exe file either on the MIKE 2024 USB or from the downloaded, un-zipped installation files. Press the 'Install' button to begin installation.

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 installed separately.
- all licensed applications included in MIKE 2024 require a 2024 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 SHE in licensed mode, please refer to the DHI License Manager Release Notes (License Manager Release Notes).

Product invocation

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

Starting MIKE SHE without a DHI configured hardware key and valid licence files will cause the program to run in demo mode. If this happens, a message box will inform you during program initialisation. When running in demo mode, MIKE SHE 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.

Note to users of MIKE 11 and MIKE HYDRO River

The products MIKE 11 and MIKE HYDRO River have been decommissioned and are no longer part of MIKE software as of release 2024.

However, it's still possible to use models developed in MIKE 11 and MIKE HYDRO River as the river model component in MIKE SHE. Both the .sim11 and .mhydro extensions are supported. If you plan to use a MIKE 11 or MIKE HYDRO River model with MIKE SHE release 2024, you will need to install an older version of MIKE software if you would like to make changes to your river model.

In addition, the MIKE 11 engine is no longer supported in release 2024. Therefore, if you're using a MIKE 11 river setup in a MIKE SHE simulation, the river model will use the MIKE 1D engine.

Users of MIKE 11 and MIKE HYDRO River are encouraged to convert to MIKE+ for river simulations. Conversion tools are available in MIKE+ for both MIKE 11 and MIKE HYDRO River. If using a MIKE+ river setup with MIKE SHE, the setup must be exported to the .m1dx format before selecting in MIKE SHE.

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.

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 SHE 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.

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New features

Module/type	New feature
Results	A slider has been added to the divider between the list of Detailed Water Movement timeseries plots and the map overview, enabling the user to adjust the relative sizes of the two windows.
MIKE Zero Results Viewer	Now possible to save vertical profiles in the Results Viewer and to preview saved profiles before selection.
MIKE+ collection system coupling	Added the option of computing the exchange between MIKE SHE and MIKE 1D at the MIKE SHE overland time step, instead of the MIKE SHE unsaturated zone time step.
Water quality	Added possibility of running a water quality simulation without running the overland flow module.
Results	Now possible to control the x- and y-axis ranges of Detailed Water Movement timeseries plots. This includes an option to re-size all plots to the same y-axis range.
Python scripting	Added support for python version 3.12.

Fixed issues

Module/type	Fixed issue
River coupling	Enabled creation of river model output file when river model simulation period doesn't overlap with MIKE SHE simulation period (TT64725).
River coupling	Corrected alignment between river links and OL cells when calculating overland/river exchange using the Manning approach and the 'ignore bank levels' option (TT64956).

Results	Renamed shapefile of simulation statistics to make it easier to find.
MIKE Zero toolbox	Fixed bug in pre-processing of temporal data (TT64607)
Results	Fixed html plot display bug (TT64618).
Land use	Fixed time type for newly-created LAI time series (59778).
Saturated zone	Removed duplicate entries in data type combo box (TT63388).
Water quality	Removed inconsistency in check of modification time when reading HD output file in water quality simulations (TT64393).
Unsaturated zone	Fixed error in estimation of storing time step at end of day (TT64454).
Land use	Fixed error occurring when vegetation input data does not cover simulation period (TT64493).
Particle tracking	Fixed bug in particle tracking sources editor (TT64551).
General	Enabled conversion of double-precision input data to single (TT64597).

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New features

Module/type	New feature
Collection system coupling	Now possible to link MIKE SHE to a MIKE+ collection system model. The new coupling enables simulation of drainage to collection systems along with leakage from collection systems to groundwater.
Results	Now possible to position detailed water movement time series locations by layer, as an alternative to depth.
Results	Enabled automatic extraction, post-processing, and display of water balance outputs in the MIKE SHE results tab.
Unsaturated zone	Enabled logging of information about unsaturated zone simulation in grid file output, including number of iterations and number of instances of time step length reduction.
Well editor	Added display of layer hydraulic conductivity values in vertical profile.
Python scripting	Added support for python version 3.11.
Water quality in flood codes	Solute transfer through flood code cells is now supported (TT60585).
Overland flow	Extended parallelization of overland flow drainage to models without an unsaturated zone component (TT62205).
Irrigation	Changed default setting for irrigation log files to "None". (TT62410).

Particle tracking	Enabled re-registration of particles after each change of registration zone (TT62980).
Logging	Enabled logging of floating point exception crashes (TT62249).

Fixed issues

Module/type	Fixed issue
Well editor	Fixed display of geological and computational layer names in vertical profile.
Saturated zone	Fixed bug that enabled infiltration to an unconfined aquifer to pressurize saturated zone after the water table reached the ground surface (TT60643).
Results	Fixed bug preventing selection of river detailed timeseries results when using .m1dx (MIKE+) as the river model (TT62517).
Irrigation	Fixed error in merging of sources when using more than one coupling reach per branch (TT62826).
Overland flow	Fixed error in transport of AD components when using distributed drainage (TT63519).
Results	Fixed error when opening MIKE Zero Results Viewer from MIKE SHE Results (TT63845).
Water quality	Fixed error preventing saving changes to ECO Lab template when accompanying MIKE SHE model is open (TT63846).