

Release Notes 2022



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Introduction

Welcome to MIKE HYDRO 2022 Update 1.

In this Release Note, you will find information about new features of MIKE HYDRO, and what you need to know in order to install and get started with Release 2022.

MIKE HYDRO is our common Graphical User Interface framework for some of the MIKE Water resources software products. Featuring a map based and easy-to-use Graphical User Interface, MIKE HYDRO is a MIKE Zero component which includes:

- MIKE HYDRO Basin: a modelling package for water resources planning and management in river basins
- MIKE HYDRO River: a one-dimensional modelling package for comprehensive river network modelling.

System requirements

Operating systems

Fully supported Windows operating systems *	Windows 11 Pro, version 21H2 (64 bit) Windows 10 Pro, version 21H2 (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

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DHI License Management - If you are installing on a computer or server where you will also install the license file, please also install the DHI License Manager. It must be downloaded separately.

To install MIKE HYDRO, please go to the MIKE Zero product folder and execute the setup.exe file either on the MIKE 2022 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.

License file and dongle

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

- the DHI License Manager must be installed separately.
- all licensed applications included in MIKE 2022 require a 2022 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. ([License Manager Release Notes](#))

Product invocation

Launch 'MIKE Zero' from the Windows Start menu. Then you can select MIKE HYDRO 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 [FAQ](#).

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. You can find the list [here](#).

New features and fixed issues

Every new release of MIKE HYDRO 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
MIKE HYDRO River	MIKE ECO Lab simulations now support multiple MIKE ECO Lab templates used simultaneously. State variables having the same name in different templates are considered shared variables between these templates.
MIKE HYDRO River	The boundary condition ID can now be shown as label on the map.
MIKE HYDRO River	When exporting cross sections to a text file, the 'Datum' value was rounded to centimeters. It is now rounded to millimeters.
MIKE HYDRO Basin	A new 'Control rules' editor has been added. The Control rules module enables users to modify model inputs based on the model state or external time series values.
MIKE HYDRO Basin	Runoff hotstart files were saved in .dfs0 file format, preventing from actually using them as hotstart. They are now saved in .res1d file format (TT58656).

Fixed issues

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Module/type	Error/Inconvenience
MIKE HYDRO River	Some changes applied in the cross sections editor were not immediately reflected on the map.
MIKE HYDRO River	The tool 'Auto generate cross sections' created cross sections twice as long as requested, when no DEM was provided.
MIKE HYDRO River	The global value for the 'Bed resistance factors' was not properly imported from MIKE 11.
MIKE HYDRO River	An unexpected validation message about cross sections coordinates being defined in the wrong direction was sometimes returned, when there was a significant mismatch between the location defined by these coordinates and the cross section's chainage.

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MIKE HYDRO River	The value for 'Angle correction' was not correctly saved to the MIKE HYDRO file, even though it was correctly used to compute the processed data.
MIKE HYDRO River	An unexpected validation message was sometimes provided, complaining about a missing branch name for boundary conditions with 'Global' location type, where no branch information is actually required.
MIKE HYDRO River	The unit used for the 'Erosion coefficient' parameter, in the Sediment Transport module, was fixed. It can now be customised in the Unit Base Group.
MIKE HYDRO River	Cross section information was sometimes lost in the definition of 'Weirs' using the 'Cross section DB' geometry type, when opening MIKE HYDRO files from older versions.
MIKE HYDRO River	Cross sections extended on the map using the 'Extend' functionality, sometimes obtained elevations deviating from the input DEM's elevations.
MIKE HYDRO Basin	The unit type for the reservoir output variable 'Storage change' was wrongly defined as Discharge (57677).
MIKE HYDRO Basin	Rainfall-runoff result files were sometimes not saved in the requested folder (TT58746).
MIKE BASIN engine	Fixed error in application of reduction level time series in reservoir operations (TT5744).
MIKE 1D engine	Fixed error occurring when interpolating flood maps from cross sections to grids with small cell sizes (TT57259).
MIKE 1D engine	Fixed error reading hotstart files (TT59178).
AUTOCAL	Fixed bug that prevented using .mzt files in an AUTOCAL simulation sequence (TT5926).

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New features

Module/type	New feature
MIKE HYDRO Basin	Control rules have been extended to apply to all types of river nodes (not only priority nodes) to and water users.
MIKE HYDRO Basin	The functionality to import or export data to shape files has been extended, so that the 'Identifier' and the 'Category' of water users is also transferred.
MIKE HYDRO River	A new selection of 'Computational method' has been added for computation of head loss in broad crested weirs, culverts, bridges, overflow/underflow gates and energy losses. Besides the energy equation solution which was used in previous versions, a new method based on the shallow water equation is available. This new solution is designed for scenarios where the structure geometry leads to a very small head loss for low water levels, as e.g. in overarching bridges.
MIKE HYDRO River	The Simulation Launcher is a new MIKE Zero tool for execution of simulations in the cloud. It offers a credit-based solution to run simulations on different types of virtual machines with the option to automatically download results locally at the end of the simulation, all from within MIKE Zero.

Fixed issues

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Module/type	Error/Inconvenience
General	An unexpected message was popping up when measuring distances on the map, with description "You are trying to use a default style and the custom styles collection". This message does not show up anymore.
MIKE HYDRO River	In the 'Data assimilation' module, in the 'Observations definitions' page, it was not possible to select and save a branch name for the location of a state variable used as equation parameter.
MIKE HYDRO River	'Alignment change' angles used by Energy loss structures were wrongly showing a unit in radians whereas the actual unit is degrees.
MIKE HYDRO River	Validation of control rules data sometimes reported errors about Variables being undefined even in case their definition was correct.
MIKE HYDRO River	An unexpected error message was shown in the results viewing window when trying to plot some time series of results from couplings to MIKE SHE.
MIKE HYDRO River	The geometry of the breach for a Dambreak structure was not imported, when importing a MIKE 11 model setup into MIKE HYDRO River.
MIKE BASIN engine	Corrected error with updating initial conditions from hotstart when using the engine programming interface (TT60923).
MIKE BASIN engine	Corrected GW recharge to account for NAM Carea parameter when estimating recharge to MIKE BASIN GW model (TT60011).
MIKE 1D engine	Fixed error occurring when importing a MIKE 11 setup with control structures to MIKE HYDRO River (TT60378).
MIKE 1D engine	Fixed bug in resistance factor formulation (TT60351).
MIKE 1D engine	Fixed error in the handling of pump outlet level values (TT60207).
MIKE 1D engine	Fixed error occurring when using time series as forcings in data assimilation simulations (TT60209).
MIKE 1D engine	Fixed error occurring when using state variables as forcings in data assimilation simulations (TT60210).
MIKE 1D engine	Fixed errors in calculation of Q-h relations for culverts (TT3510, 13846, 19912).
MIKE 1D engine	Fixed error occurring in control structures using user-defined time series (TT60146).

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