

1D/2D modelling suite for integral water solutions

SOBEK

Deltares systems



Overview New Features

SOBEK release 2.14

Overview of new features and improvements

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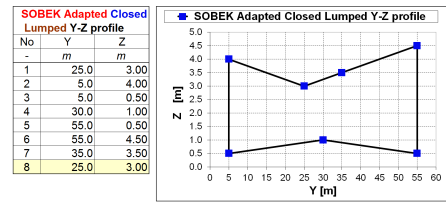
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1 Overview of new features and improvements 2.14.001

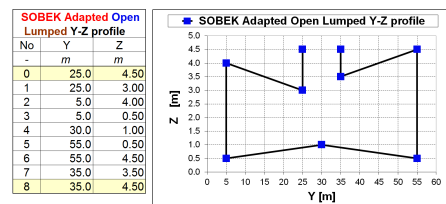
1.1 User-defined Closed Lumped Y-Z profile

For modelling small urban closed drainage channels, SOBEK 2.14 offers the User-defined Closed Lumped Y-Z profile. Cross-sections of this type use the tabulated lumped conveyance approach. More details about this cross-section type and this conveyance approach are available in the SOBEK User Manual.



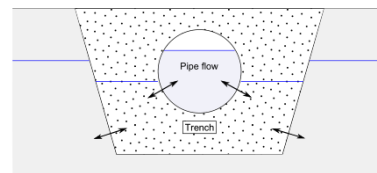
1.2 User-defined Open Lumped Y-Z profile

For modelling small urban open channels, it is now possible to use the User-defined Open Lumped Y-Z profile. Cross-sections of this type use also the tabulated lumped conveyance approach. Note that for wide open channels, we recommend to use the Open vertically segmented Y-Z type which uses the vertically segmented conveyance approach.



1.3 Pipe with Infiltration

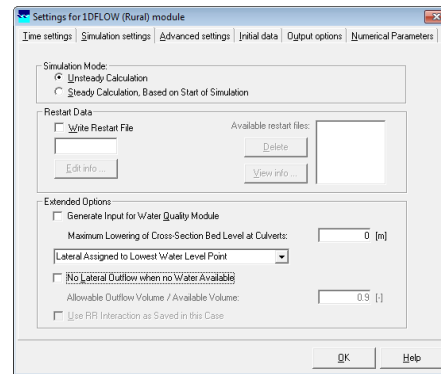
In SOBEK 2.14 the functionality 'Pipe with Infiltration' is available. A pipe with infiltration refers to a drainage pipe fully located inside a trench. A pipe with infiltration allows for the exchange of water in the pipe towards the trench (and vice versa) as well as for the exchange of water in the trench towards the groundwater (and vice versa).



1.4 Maximum Automatic Lowering of Cross-Section Bed Level at Culverts

Automatic lowering of cross-section bed levels for reach segments containing culverts with invert levels below the cross-sectional bed level in front of the culvert is disabled by default in SOBEK 2.14. Users that still wish to make use of this functionality in SOBEK 2.14 can use the new setting 'Maximum Lowering of Cross-Section Bed Level at Culverts' in the 1D Flow 'Simulation settings' tab.

For models containing culverts with invert levels below the bed level of the (interpolated) cross-section, we recommend to modify the schematisation so that culvert invert levels are no longer placed below cross-section bed levels. You may also re-enable automatic lowering of bed levels by setting an appropriate value in meters in the setting 'Maximum Lowering of Cross-Section Bed Level at Culverts'.

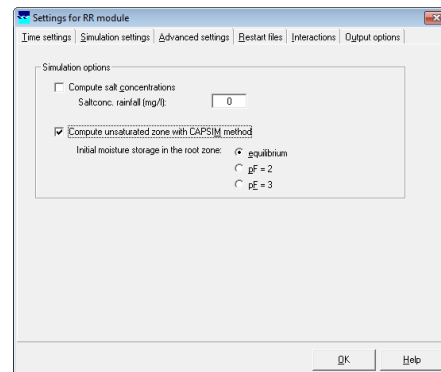


1.5 Unsaturated zone modelling using CAPSIM method improved

SOBEK 2.14 offers major conceptual RR Unpaved CAPSIM improvements in modelling the unsaturated zone regarding the percolation of water from root zone to groundwater. As a result the modelling results will be more realistic, smooth and stable. This improvement is especially visible during extreme rainfall conditions.

Remarks:

- ◇ The user should be aware that this improvement can result in large differences in model results in comparison with previous SOBEK-versions;
- ◇ CAPSIM should only be used in combination with the Ernst drainage concept.



1.6 Supported Operating Systems

SOBEK 2.14 supports the following operating systems (32 and 64 bits):

- ◇ Windows Server 2003
- ◇ Windows Server 2008
- ◇ Windows Server 2012
- ◇ Windows Vista
- ◇ Windows 7
- ◇ Windows 8





Photo's by: BeeldbankVenW.nl, Rijkswaterstaat / Joop van Houdt.

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