

Overview of new features and improvements

SOBEK release 2.13.002

May 10, 2013

Contents

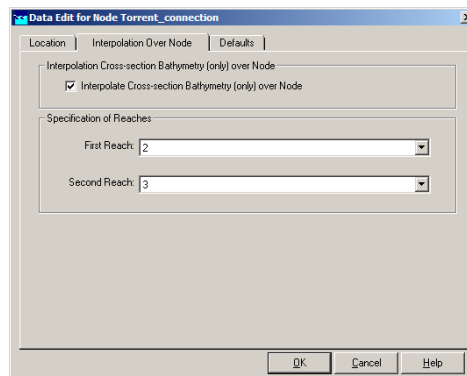
| | | |
|----------|---|----------|
| 1 | Interpolation Cross-Section data over Connection Node | 2 |
| 2 | Negative lateral discharge correctly taken into account during simulation | 2 |
| 3 | Automatically reduce time-step in case lateral inflow > volume in reach segment | 3 |
| 4 | Detailed Pump Output Data (PUMP.HIS) | 3 |
| 5 | Detailed Measurement Station Output (MEASSTAT.HIS) | 3 |
| 6 | Flow 1D/2D Clean Up Utility | 4 |
| 7 | Supported Operating Systems | 4 |

1 Interpolation Cross-Section data over Connection Node

The issue "Incorrect flow results in case of bifurcation using Flow - Linkage Node" has been solved in SOBEK 2.13 with a new functionality to allow interpolation of Cross-Section data over a "Flow - Connection Node".

Note that the Flow - Linkage Node option was not designed for modelling bifurcations. This option is available to easily add and remove tributaries or affluents for modelling flows into a parent river. Thus, for inflows from rivers with discharges of a magnitude lower than the parent river.

As many users requested the functionality to interpolate Flow - Cross Section data across a Flow - Connection Node, similar to the functionality of the Flow - Linkage Node, we are happy to announce this functionality is now available in SOBEK 2.13. See also the Tutorial Hydrodynamics in open water.



2 Negative lateral discharge correctly taken into account during simulation

The issue where a negative lateral discharge is set to zero during a model simulation while there is enough water available at that location has been solved. This issue was caused by an incorrect check on available volume of water. It was possible that no lateral discharge was withdrawn on nodes where a negative lateral discharge was set by the user, even if there was enough water available.

As result of these improvements, SOBEK 2.13 results might differ from the ones computed by SOBEK 2.12.

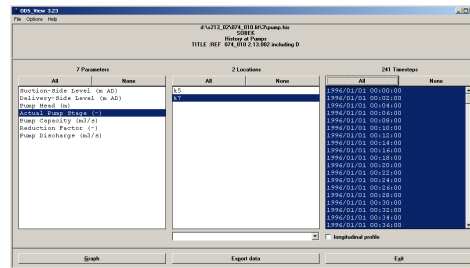
3 Automatically reduce time-step in case lateral inflow > volume in reach segment

In SOBEK 2.13 the calculation time step is automatically reduced when the lateral inflow at a reach-segment is larger than the volume stored in this reach segment. This is done in order to avoid numerical instabilities and/or unrealistically high water levels. The time step will not be reduced below the "minimum timestep" defined in Settings. As result of these improvements, SOBEK 2.13 results might differ from the ones computed by SOBEK 2.12.

4 Detailed Pump Output Data (PUMP.HIS)

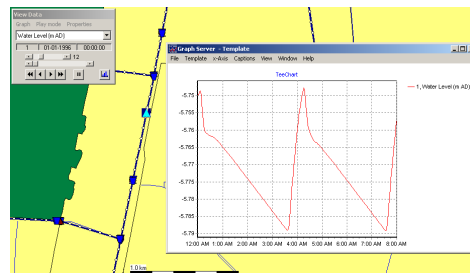
The following detailed pump output data is now available:

- Actual Pump Stage (-)
- Pump Capacity (m^3/s)
- Pump Discharge (m^3/s)
- Pump Head (m)
- Reduction Factor (-)
- Suction-Side Level (m AD)
- Delivery-Side Level (m AD)



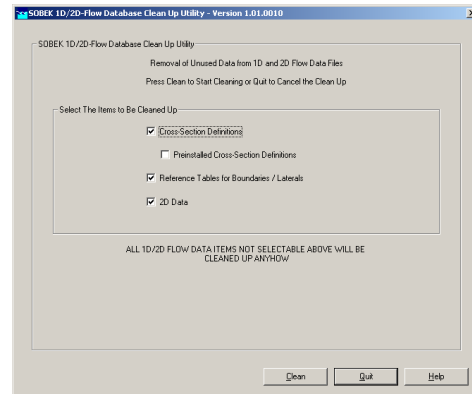
5 Detailed Measurement Station Output (MEASSTAT.HIS)

It is now possible to analyze all output on the Flow - Measurement Station Node.



6 Flow 1D/2D Clean Up Utility

The limited clean up functionality of the SOBEK Check Flow Model program has been replaced by a full Flow 1D/2D Clean Up Utility.



7 Supported Operating Systems

SOBEK 2.13 supports the following operating systems (32 and 64 bits):

- Windows Server 2003
- Windows Server 2008
- Windows XP
- Windows Vista
- Windows 7



Note that Windows 2000 is not supported anymore.