

HYDRO_AS-2D Model Interface Enhancements

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Software Solutions & Engineering Services

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SMS Development Highlights

- Options for Merging Meshes
- Mesh Building Enhancements
- New Tools in Dataset Toolbox
- 1D Summary Tables
- Dynamic Model Interface for HYDRO_AS-2D
- Performance and Display Optimization



Merging Meshes



Merge Methods:

- Automatic
- Overlapping
- Non-Overlapping

Mesh Merge Options
Merge method:
Automatic 👻
Base mesh:
Mesh
Delete nodes in overlap area from base mesh
Help OK Cancel



Mesh Building Enhancements

Redistribute Vertices on Arcs

- Size Function
- Source Arc
- Arc Offsetting
- Arc Smoothing
- Convert Elements to Arcs



Redistribute Vertices Based on Source Arc





Arc Smoothing



Redistribute Existing Vertices Based on Self-Weighting and Neighbor Arcs

Smooth Arcs Tool						
Smoothing options						
Coverage to smooth:	Planen (2)					
Number of neighbors:	4					
Self weight:	0.25					
 Smooth only selected arcs 						
C Smooth all arcs in coverage						
Help	OK Cancel					



Convert Elements to Arcs





Dataset Toolbox



Compare Datasets on Different Geometry



1D Summary Tables



Extract from 2D Solution

- Summary Tables
- Compare with 1D Models



1D Summary Tables

Ill cross-section		1					Selec	t defaults		
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Developments Coming Soon

- Dynamic Model Interface for HYDRO_AS-2D
- Expanded Online Data Sources
- SMS Performance
 - Parallelization and Utilization of Multiple CPU Cores
 - Better GPU Hardware Utilization
- Display Refinement with Anti-Aliasing



Future: Dynamic Model Interface (DMI)

- Successor to the "Generic Model Interface" in SMS
- No need to load .2dm
- Interface defined in XML
- Simulation based approach







Future: Online Data Sources

- New Maps and Aerial Images
- Elevation and Bathymetry Data
- Land Use Data

Topographic Lidar	
Topobathy Shoreline Lidar	
IfSAR Data	
Bathymetric Lidar	
NOAA Hydrographic Surveys	
USACE Dredge Surveys	
Trackline Bathymetry	\bigcirc





NO Anti-Aliasing

Anti-Aliasing (New)

















NO Anti-Aliasing

Anti-Aliasing (New)





Thank You! We appreciate feedback from the HYDRO_AS-2D Community

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