

SMS 8.0

Model Uses	SMS is used for one, two and three dimensional finite hydrodynamic modeling associated with surface elevations and flow velocities for shallow-water flow problems.	
Major Categories	Hydrology and Water Use	<u>Subject Knowledge Level</u> Intermediate
Minor Categories	Flow; Surface Water	<u>Technical Difficulty Level</u> Intermediate
Model Type	Physical Model	<u>Geographic in Nature?</u> Semi

Abstract

SMS (Surface-water Modeling System) is a comprehensive environment for one-, two-, and three-dimensional hydrodynamic modeling. A pre- and post-processor for surface water modeling and design, SMS includes 2D finite element, 2D finite difference, 3D finite element and 1D backwater modeling tools. Supported models include the USACE-WES supported TABS-MD (GFGEN, RMA2, RMA4, SED2D-WES), ADCIRC, CGWAVE, STWAVE, M2D, HIVEL2D, and HEC-RAS models. Comprehensive interfaces have also been developed for facilitating the use of the FHWA commissioned analysis packages FESWMS and Bri-Stars. SMS also includes a generic model interface, which can be used to support models which have not been officially incorporated into the system.

The numeric models supported in SMS compute a variety of information applicable to surface water modeling. Primary applications of the models include calculation of water surface elevations and flow velocities for shallow water flow problems, for both steady-state or dynamic conditions. Additional applications include the modeling of contaminant migration, salinity intrusion, sediment transport (scour and deposition), wave energy dispersion, wave properties (directions, magnitudes and amplitudes) and others.

Future Developments

Unknown

Model Limitations

Unknown

Model Features

- Graphical User Interface
- Graphics and Visualization
- Map Module
- Mesh Module
- Cartesian Grid Module
- Boundary Fitted Grid Module
- Scatter Point Module
- 1D Hydraulics Module

Required Data Types

Several different data types are supported and are entered into one or more of the following modules: 2D Mesh Module, 2D Boundary, Fitted Grid Module, 2D Cartesian Grid Module, 2D Scatter Point Module, Map Module, 1D River Hydraulics Module.

Model Outputs

Outputs into graphics built into model software. Capable of visualizations and animations.

Hardware Requirements

Pentium class processors
128 MB RAM
1024x768 w/ High Color (min.)
100 MB disk space

	Supported Platforms			
DOS	<input type="checkbox"/>	UNIX	<input type="checkbox"/>	
Windows	<input checked="" type="checkbox"/>	Macintosh	<input type="checkbox"/>	

Software Requirements

None specified.

Cost, Licensing and Availability

Based on desired modules, but can be purchased with all modules for \$9,250.
More info available at http://www.ems-i.com/SMS/SMS_Pricing/sms_pricing.html.

Source

Environmental Modeling Systems, Inc.

Source URL

<http://www.ems-i.com/SMS/sms.html>