

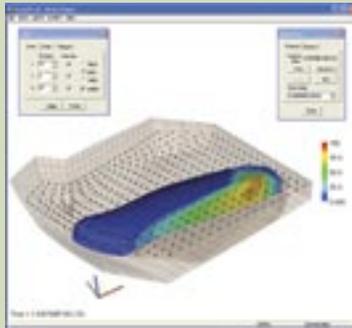
Review of Model Viewer

Evan R. Anderman, Ph.D. – Calibra Consulting LLC, and Eileen Poeter, Ph.D. – IGWMC

Model Viewer is a public-domain U.S. Geological Survey (USGS) program that displays the results of USGS three-dimensional groundwater models. Written by Paul Hsieh and Richard Winston, Model Viewer is straightforward to use and performs its limited functions well. The visualization engine is the Visualization ToolKit, an open-source, freely available software system for three-dimensional computer graphics, image processing, and visualization. Model Viewer allows scalar data such as hydraulic head or concentration to be displayed as a solid or a set of isosurfaces. Directional data, such as velocity or specific discharge, can be displayed as vectors representing direction and magnitude. Model Viewer also displays pathlines, cells or nodes that represent model features such as streams and wells, and auxiliary graphic objects such as grid lines and coordinate axes. Users may crop the model grid in different orientations to examine the interior structure of the data. For transient simulations, Model Viewer animates the time evolution of the simulated quantities. Output can be sent to a printer or to bitmap files at user-defined resolution for further processing or animation. The user manual is concisely written and offers a brief introduction to the concepts. The detailed help system picks up where the user manual leaves off.

Model Viewer is an excellent way to visualize complex three-dimensional model results and allows users to rotate the model view and consider it from many perspectives. While the trackball method of changing the model view takes some getting used to, it changes the view rapidly. The various viewing tools can be left up on the screen so that options can be quickly selected. This flexible visualization tool aids understanding of the simulated system. Unfortunately, the software is limited in its function and no option exists for annotating the viewer window or the surfaces or tracks being displayed. The user needs to postprocess the output for final presentation.

Model Viewer Software Review

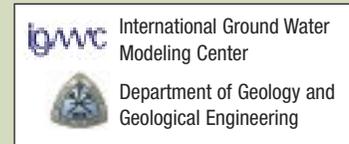


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Ease of Use:	████████	Best Feature:	3D Graphics
GUI:	████████	Worst Feature:	Trackball
Application:	██████	OVERALL RATING:	████████
Output/Plotting:	████		
Documentation:	██████		
Speed:	██████		

Rating System for graphics:

████████	Excellent	████	Satisfactory
██████	Very Good	████	Poor
████	Good		



The current version of Model Viewer runs on Microsoft Windows 95, 98, NT, 2000 and XP operating systems and supports the following models: MODFLOW-2000, MODFLOW-2000 with the Ground-Water Transport Process, MODFLOW-96, MOC3D (Version 3.5), MODPATH, MT3DMS, and SUTRA (Version 2D3D.1).

Model Viewer is designed to read input and output files directly from these models, thus minimizing the need for additional postprocessing.

Model Viewer is available for download from the USGS website at water.usgs.gov/nrp/gwsoftware/modelviewer/ModelViewer.html.

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