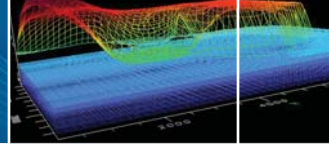
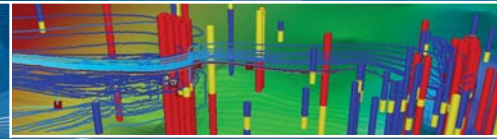


Multi-Node Well Package
 Improved Wells Manager GUI
 Support for MODFLOW-SURFACT 3
 Enhanced Support for Multi-Processors for MT3DMS
 Import Concentrations for Transport Boundary Conditions
 Uncoupled SEAWAT-2000 Simulation

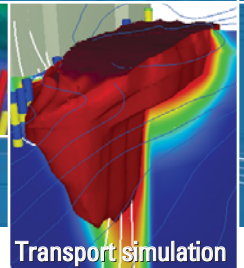
Compelling 3D imaging



Visual MODFLOW Premium 4.3



True representation of multi-layered wells



Transport simulation

Enjoy more options with Visual MODFLOW Premium* 4.3. An industry standard in dynamic groundwater flow and contaminant transport modeling, Visual MODFLOW Premium now integrates new and enhanced features including the Multi-Node Well (MNW) package, support for MODFLOW-SURFACT 3**, MT3DMS multi-processor support, improved Wells Manager, and two numeric engine updates. Version 4.3 provides the highest level of accuracy to help you deliver complex groundwater projects while minimizing uncertainty.

Version 4.3 Highlights

- Define and modify properties for pumping and observation wells with ease with a dramatically improved Wells Manager
- Leverage the power of multiple processors on your PC with MT3DMS' multi-processor support for transport variants that involve multiple species
- Two numeric engine updates: MODFLOW-2000 1.18.00 and MODFLOW 1.4.00

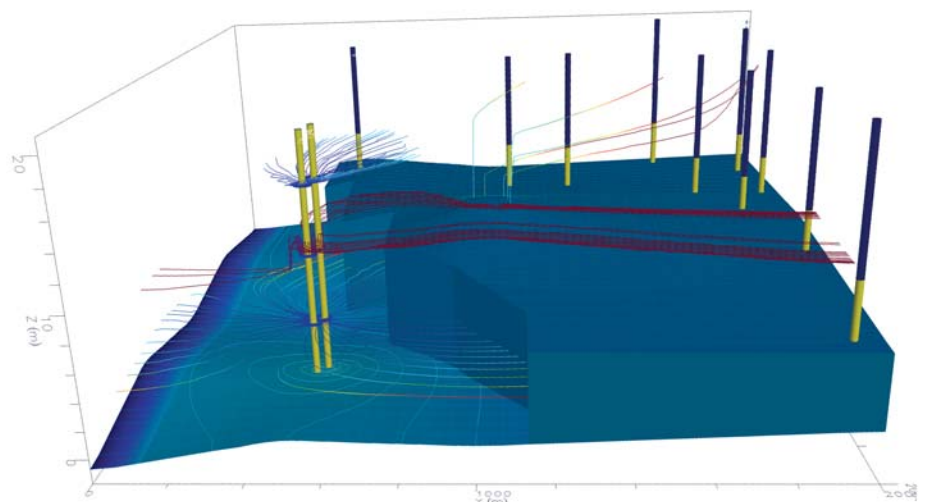
MODFLOW-SURFACT 3

- The new PCG-5 solver can dramatically reduce run times
- The Recharge Package (RSF4) has been enhanced to include input of recharge with zonal recharge values via a separate recharge time-series (RTS) file
- The ET packages EVT and ETS1 have been modified to include zonal input of ETmax values provided via a separate ET time-series (ETS) file

The Multi-Node Well package allows for true representation of wells screened over multiple layers

The simulation of pumpage by wells is a fundamental and widely used feature of groundwater models such as MODFLOW. Visual MODFLOW's new addition incorporates the Multi-Node Well Package and is designed to help simulate wells with well screens spanning multiple layers.

- Accurately simulate pumping wells screened vertically across multiple aquifers
- Analyze the intra-borehole flow in pumping or injection wells and evaluate the dynamic changes in the distribution of wellbore inflow
- Simulate three types of well losses: linear, non-linear, and skin-effects
- Simulate the development of well skin over time - with transient skin radius and transmissivity
- Simulate Well Impact Assessments, Well Impairment, and Well Underperformance



Visit
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Visual MODFLOW Premium

Featuring upgraded numeric engines, analysis tools, and an easy-to-use graphical interface, Visual MODFLOW Premium's three-dimensional modeling capabilities are recognized throughout the world.

Integrated Simulation Capabilities

- **MODFLOW-2000/2005**, the standard for 3D groundwater flow
- **SEAWAT-2000**, for 3D variable-density groundwater flow
- **MODPATH**, the standard package for particle tracking
- **MT3D99**, an enhanced version of MT3DMS, that includes support for implicit solver, TVD Solution scheme, dual-porosity advection-diffusion, Non-equilibrium Sorption and Monod Kinetics, and Multispecies Reactions, including First-Order Parent-Daughter chain reactions, and Instantaneous Reactions among species.
- **PHT3D**, multi-component reactive transport model
- **GMG**, the latest USGS Geometric Multi-Grid solver
- **SAMG Solver**, for fast convergence of complex models
- **RT3D**, for reactive transport simulations
- **MNW**, for accurately simulating wells with well screens that span multiple aquifers
- **MGO**, for advanced pumping well optimization
- **WinPEST**, automated calibration and predictive analysis
- **VMOD 3D-Explorer**, 3D visualization and animations
- **MIKE 11****, surface water/groundwater interactions
- **MODFLOW-SURFACT****, for complex saturated/unsaturated flow

Data Input

- Easy-to-use and powerful graphical user interface
- Streamlined Project Wizard for quick and easy project setup
- Point-and-click functionality for assigning model properties
- Interactive properties display in plan, cross-section, or in 3D
- Flexible basemap import with georeferencing (DXF, BMP, SHP, GIF, JPG, TIF)
- Quick creation and optimization of model grids
- Import and interpolate sparse elevation directly to the grid
- Import MODFLOW-96/2000/2005 data sets
- Import layer surface data: ASCII (X,Y,Z), Surfer (GRD), USGS DEM (.DEM), ESRI (.GRD), MapInfo (.GRD). Import and interpolate layer elevation data: XYZ ASCII files (TXT), MS Access Database (MDB), MS Excel (XLS), and ESRI Point Shape files (SHP)
- Import model layers generated in Hydro GeoAnalyst
- Import recharge and hydraulic properties directly from Shapefiles (SHP)
- Forward or reverse particle tracking as a particle, line or circle
- Import transient time schedules for boundary conditions
- Import PHT3D concentrations generated in AquaChem

Pumping Well Optimization

- Minimize *pump/treat costs* of a groundwater remediation system while maintaining capture of the contaminant plume
- Minimize the *mass removal cost* of a pump-and-treat groundwater remediation system while maintaining capture of the contaminant plume
- Maximize pumping rate at one or more water supply wells while maintaining a minimum water level in the aquifer
- Maximize the pumping rate at one or more water supply wells while keeping the concentration of an identified pollutant below a specified level

3D Graphics, Reporting, and Exporting

- VMOD 3D Explorer - Integrated 3D visualization and animations
- 3D rendering of pumping/injection wells, concentration plumes, water tables, particle tracks, soil property zones, layer elevations, basemaps, etc.
- Flexible image resolution and size for presentations
- Adjustable background color, palette, and image dimensions
- Adjustable map transparencies for viewing multiple layers
- Enhanced color management and shading with RGB schemes
- Fully customized reports with company logo and project descriptions
- Export to a variety of common graphical file formats (GIF, JPG, TIF, PNG, BMP, EMF, DXF) and gridded file formats (ASCII XYZV, ASCII TXT, Surfer Grid GRD, TecPlot DAT)

Choose Your Level of Convenience...

Module	Visual MODFLOW	Visual MODFLOW Professional	Visual MODFLOW Premium
MODFLOW 96/2000/2005	✓	✓	✓
MODPATH	✓	✓	✓
ZoneBudget	✓	✓	✓
MT3DMS	✓	✓	✓
RT3D 1.0/2.5	✓	✓	✓
Stream Routing Package	✓	✓	✓
MNW	✓	✓	✓
MGO		✓	✓
WinPest		✓	✓
VMOD 3D Explorer		✓	✓
SEAWAT-2000		✓	✓
GMG		✓	✓
PHT3D		✓	✓
SAMG			✓
MT3D99**	add-on	add-on	✓
MODFLOW-SURFACT**	add-on	add-on	add-on
MIKE 11**		add-on	add-on

** - sold separately

Call (519) 746-1798 or visit www.swstechnology/software to download a complimentary demo today.