Visual MODFLOW Flex

Groundwater Flow & Contaminant Transport Modeling

Why VISUAL MODFLOW Flex?

VISUAL MODFLOW Flex brings together industry-standard codes for groundwater flow and contaminant transport, essential analysis and calibration tools, and 3D visualization capabilities in an easy-to-use software environment.

- By integrating raw data handling and analysis, numerical model construction and calibration, conceptual model development, and visualization; Visual MODFLOW Flex dramatically reduces the time it takes to build and interpret groundwater models
- Efficient model-building workflows, essential analysis and calibration tools, and stunning 3D visualization capabilities.
- Integrated 3D conceptual modeling allows you to adjust model inputs and grid design at any point in the modeling process - you never to rebuild your model again.

"We build models using Visual MODFLOW Flex to test remediation design systems for contaminated sites. Besides being quick and effective, we are able to use the visual capabilities of Visual MODFLOW to show our clients how our systems will help them at their sites. It's a win-win for us"
-Sharon Wadley, Geosyntec Consultants Inc.

Features & Benefits

All-In-One Integrated Conceptual Modeling

Build faster and more efficiently: You'll never have to rebuild your model again!

Extensive Model Engine Support

- MODFLOW-2000, 2005, NWT
- MODFLOW-USG
- MODFLOW-LGR
- MODFLOW-SURFACT
- SEAWET
- MT3DMS
- RT3D
- MODPATH
- Zone Budget
- PEST

Full GIS Integration

- Point, Polygon & Polyline data (.SHP, .XLS, .DXF, .TXT, .CSV, .MDB)
- 3D Surfaces (.DEM, .ASC, .GRD, .TXT)
- Site maps, aerial and satellite imagery (.JPG, .BMP, .TIF, .GIF)
- Borehole data, time schedules and cross-sections from Hydro GeoAnalyst
- MODFLOW Files from Groundwater Vistas, GMS, ModelMuse and PMWIN
- Native MODFLOW files
- Existing Visual MODFLOW Projects (.VMF)
- 3D Gridded Data (.HDS and .DAT)

Efficiently Manage Multiple Models

- Manage multiple model scenarios in a single project
- Easily generate multiple models in parallel for evaluating alternate hydrogeologic interpretations and hypotheses
- Make direct visual and numerical comparison between different modeling scenarios
- Calculate head differences between multiple model runs, with the same or different grid size
- Compare and analyze multiple modeling scenarios for selecting the best, most realistic model

Powerful Data Visualization

- Visualize all data in 2D, 3D, and multi-view displays
- Create cut-away and cross-sectional views
- Generate 3D animations and movies
- Display isolines, contours, pathlines, and coloring shading
- Drape raster images over 3D surfaces
- OpenGL graphics for enhanced hardware rendering

Flexible Grid Options

- Uniform & Non-Uniform Rectilinear Grid
- Finite Element Meshes
- Localized Child Grids (MODFLOW-LGR)
- Unstructured Grids(MODFLOW-USG)

Flexible Modeling

Conceptual Modeling Approach

- Build your 3D Conceptual model using existing GIS data and wells/boreholes.
- From one conceptual model, users can generate multiple numerical models of different grid types and modeling scenarios, & update or modify the model as needed.

Classical Numerical Modeling Approach

- Ideal for models with simple geology, basic Properties & boundary conditions.
- The grid can then be manually populated with properties and boundary conditions using traditional techniques.

Power & Performance

- Visual MODFLOW Flex is equipped to handle vast quantities of detailed, high resolution data.
- With 64-bit support, you can leverage the extra memory available on 64-bit computer and simulate large and complex regional-scale groundwater systems. Build larger more complex groundwater models with Visual MODFLOW Flex.

Visual MODFLOW Flex Premium Feature

- **MODFLOW-2000, 2005, NWT**
- **MODFLOW – USG (Unstructured Grids)**
- **ZoneBudget**
- **MODPATH (Particle Tracking)**
- **Enhanced 3D Visualization**
- **MT3DMS**
- **RT3D**
- **Local Grid Refinement (MODFLOW-LGR)**
- **Conceptual Modeling**
- **Multiple Grid Types**
- **Compare results from multiple model runs**
- **Modeling Scenarios in a Project**
- **Build and run bigger models (Native 64-bit Support)**
- **3D Animation and Movie Generation**
- **PEST**
- **SEAWAT**
- **PHT3D**
- **MGO**
- **MT3D99**
- **SAMG**
- **FEFLOW Model Generation (.FEM file)**
- **MODFLOW-SURFACT**