Steady-state and Transient-state
Groundwater Flow
SVFLUX™GE is designed to model groundwater seepage in unsaturated or saturated soils and rock. It is offered as a comprehensive 1D, 2D and 3D finite-element program for calculating steady-state and transient-state groundwater flow. The package includes powerful features such as automatic mesh refinement, climatic coupling and calculation of actual evaporation from the ground surface.

PREMIERE GROUNDWATER SEEPAGE PACKAGE CONTINUES TO EVOLVE

The SVOFFICE™5/GE release of SVFLUX™ software contains the following specific improvements...

- **NEW High-Performance Graphics Engine:** the new 3D CAD graphics engine provides measurably faster overall operation, with the biggest performance increases in the areas of...
  - creation and manipulation of larger, more complex models
  - quicker rotation and translation of objects
  - high quality / print-ready client visuals
  - improved CAD editing controls and responsiveness.

- **Improved Charting:** High quality, exportable charts.

- **NEW SVDESIGNER™ Conceptual Modeling Software Package:** This brand new software program is tightly integrated with SVOFFICE™5/GE and allows for the representation and manipulation of complex 3D geometry and takes 3D modeling to a whole new level.

- **Re-organized Menu:** the menu system within the software has been reorganized to be more clear. Primary functions are organized in a left to right format along the menu.

- **New SVOFFICE™5/GE Manager:** the project manager dialog has been redesigned to greatly simplify its usage. Models can easily be grouped by project and stored anywhere on the user’s disk drive.

Our SVFLUX™GE software package continues to be a market-leading saturated / unsaturated flow finite element analysis package which offers 1D, 2D and 3D analysis. The package represents powerful and stable finite element groundwater modeling software, including climatic coupling and calculation of actual evaporation from the ground surface.

Unsaturated soil flow problems of increased complexity can be modeled with advanced features such as automatic mesh refinement. SVFLUX™GE can be applied to geotechnical, civil, hydrological and mining engineering projects.

Our CAD-based front end and automated solver allow you to spend time solving your problem, not designing your mesh. Seepage pore-water pressures can be easily accommodated in our slope stability software. Groundwater models may be built as a series of surfaces and layers and the software can accommodate pinch-outs. Borehole or soil survey data may be used to build 3D groundwater models resulting in the possibility of extremely complex models. Our comprehensive documentation will get you modeling quickly!
Key features and capabilities of SVFLUX™ GE:

- **Easy to Use:** Featuring a familiar user interface with easy to understand icons and functions. The software tools behave exactly how you would expect with a short learning curve. You will be able to start modeling right away.

- **1D, 2D and 3D solutions** handle any type of modeling problem.

- **Unsaturated flow:** Stable analysis of unsaturated soils. Import soils from SVSOILS™ (formerly SOILVISION®) database of over 6200 soils.

- **Fully automatic mesh generation and mesh refinement.**

- **Comprehensive climatic interface** allows handling of crusts, wet and dry conditions, and even snow!

- **Coupling** brings the power of seepage modeling to slope stability, contaminant transport, stress / deformation, air flow, and geothermal problems.

- **Simple and powerful user interface** allows rapid creation of effective models.

- **Easily generate 3D models** from 2D cross-sections, or slice 3D models into 2D cross-sections.

- **Extensive QAQC program**

Common Applications:
The following list is a collection of the most common applications for SVFLUX™ GE. Most of these are included as downloadable sample models from the cloud.

**Geotechnical:**

- Perform climatic analysis in the unsaturated/vadose zone.
- Perform seepage analysis of cutoff walls.
- Analyze rapid drawdown of reservoir levels by coupling SVFLUX™ GE with SVSLOPE®.
- Design earth cover, earth dam/levee models.
- Study impacts of climate change on slope stability when combined with SVSLOPE®.
- Model waste rock piles.
- Design and analyze roadways. Couple your model with SVHEAT™ to determine the location of the interface between ice and water for extreme climates.
- Analyze geomembranes for stability and geotextiles to examine the impact of leakage via piping failure.
- Design of heap leach pad drainage systems. Model the movement of the liquid solution in the leach pad by coupling your model with SVCHEM™.
- Design of heap columns and retaining walls.
- Model mine sites and mine tailings and consider contaminant movement by coupling with SVCHEM™.
- Model lysimeters, spillways, and trenches.
- Combine seepage and geothermal analysis by coupling with SVHEAT™.
- Drainage and dewatering plans for various soil conditions.
- Embankment and earth dam design and analysis.
- Geotechnical considerations for lateral land development on poorly drained and well drained soils.

**Hydrogeology:**

- Design of canals by modeling pumping, water tables, or general flow.
- Regional flow modeling.
- Perform a well-pumping analysis to examine the resulting cone of depression.
- Model rivers and general water flow.
- Model pond infiltration and couple with SVHEAT™ to model thermal regimes around the pond.
THE MOST VERSATILE SUITE OF MULTI-DIMENSIONAL GEOTECHNICAL ANALYSIS TOOLS WE HAVE EVER DEVELOPED.

WE HAVE REDEFINED THE "NEW" STANDARD... AGAIN.

EXCITING NEW FEATURES!
SVOFFICE™ 5 introduces new features, speed, precision and functionality that have not been available in any other geotechnical analysis software until now.

SVOFFICE™ 5 boasts a completely new Manager with “Learning” and “Expert” user modes to get you up and running even faster; a completely reimagined and modern Soil Properties database application; a new user friendly 3D model geometry builder and visualizer... SVDESIGNER™; improved user interface for a more intuitive streamlined workflow; an entirely new graphics subsystem to handle more complex geometry, speed up workflows and allow for high resolution output of visuals.

What we haven’t changed is our commitment to keep developing leading-edge software at a breakneck pace, exceptional technical support and user training.