

Introducing *Slide* 6.0

It's been a long time since the release of *Slide* version 5 (seven years in fact!). In that time, *Slide* has been adopted by thousands of engineers around the world as their primary slope stability analysis program. Its ease of use, solution accuracy and plethora of useful features has endeared the program to many. Over the last seven years however, engineering design has become more complex and new solution methods that were once considered advanced are now standard practice. Also in that time, the Windows operating system has advanced through two new versions and users now expect a higher level of program interactivity. It is time for a new version of *Slide*. Rocscience is now proud to introduce *Slide* version 6.0.

New Features

Version 6.0 is a giant step forward for slope stability analysis. Its new features and improved interface bring the program up to modern day expectations and beyond – with the introduction of transient groundwater analysis, rapid drawdown, new innovative search methods, material types and advanced CAD capabilities. We hope that as you read about the new features that you will be as excited about this new release as we are.

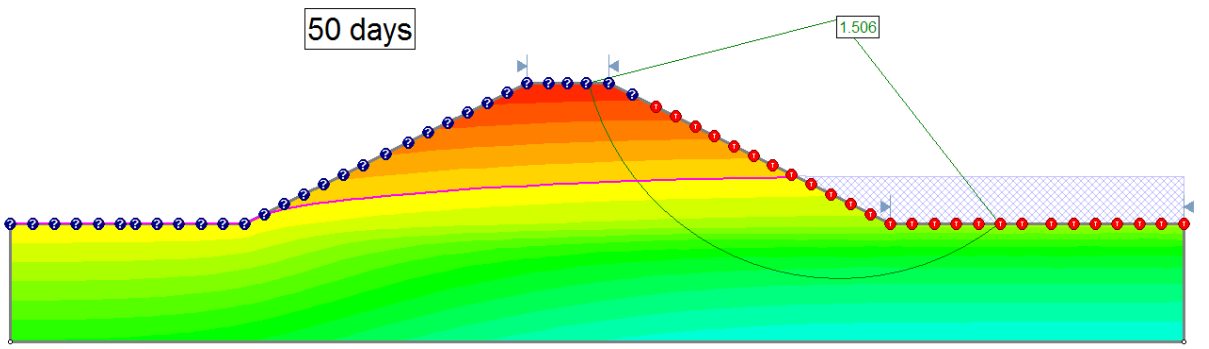
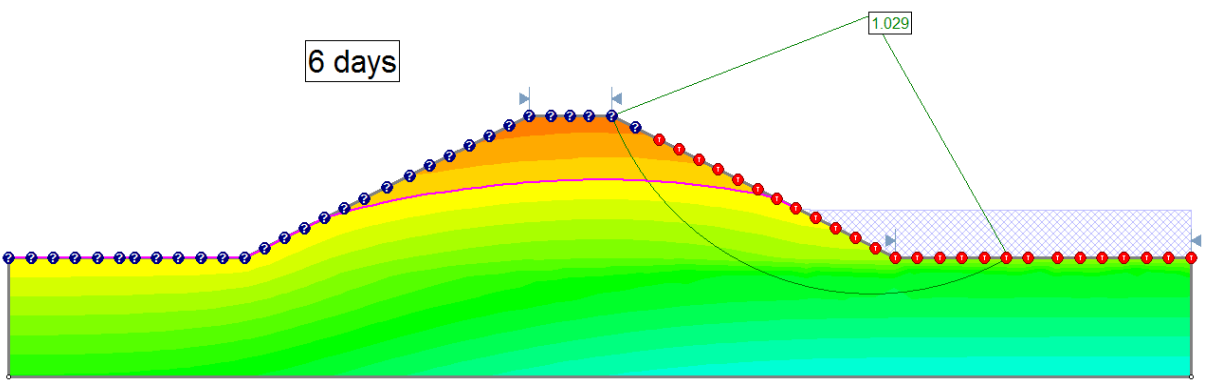
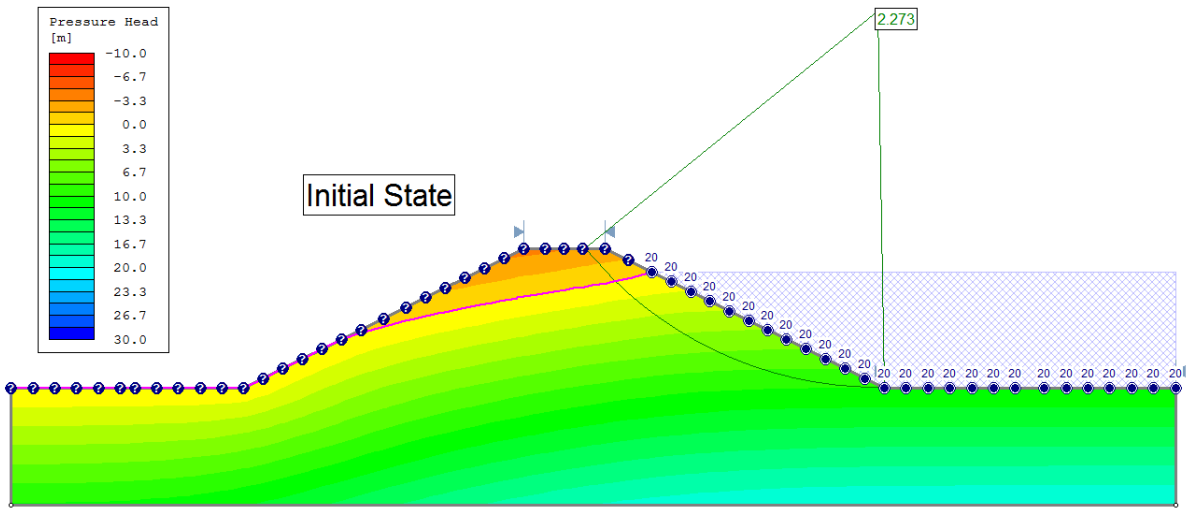
Transient Groundwater Analysis

If you have a low permeability material, then your excess pore pressure due to loading or changing boundary conditions will dissipate slowly. This elevated pore pressure can have a dramatic effect on the stability of your slope. To accurately simulate these effects you need a transient groundwater analysis.

Slide 6.0 now includes transient (as well as steady-state) groundwater analysis. A simple example is shown below. The water level on the right side of the dam is quickly lowered. The pressure head contours and the critical failure surfaces are shown at different times. It is clear that for this example, a steady-state analysis would overestimate the factor of safety.

In addition to the transient analysis, the finite element groundwater analysis capabilities have been enhanced with the following new features:

- Multi-segment discharge sections
- Pore pressure boundary conditions
- Improved and expanded mesh generation capabilities

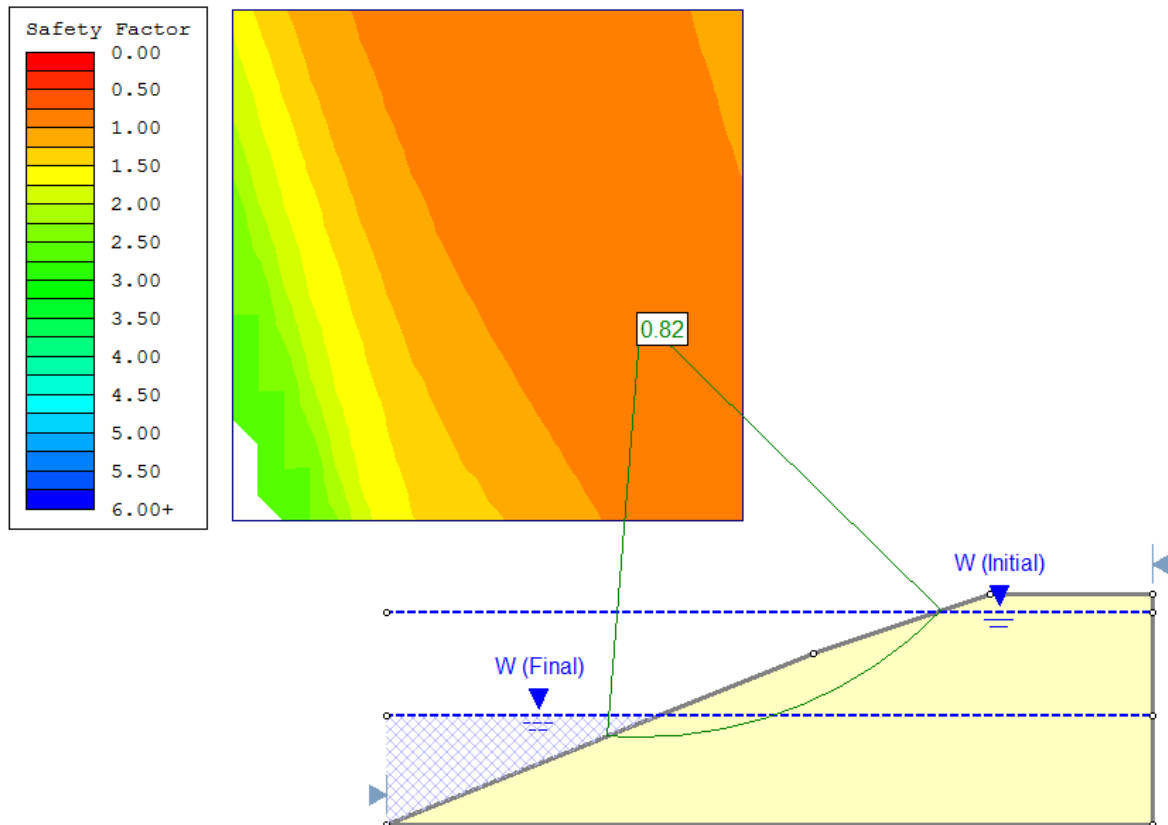


Rapid Drawdown

If you don't want to perform a full transient groundwater analysis, you can perform the same types of analyses with simpler rapid drawdown techniques. *Slide 6.0* includes the most popular methods for analysis of rapid drawdown:

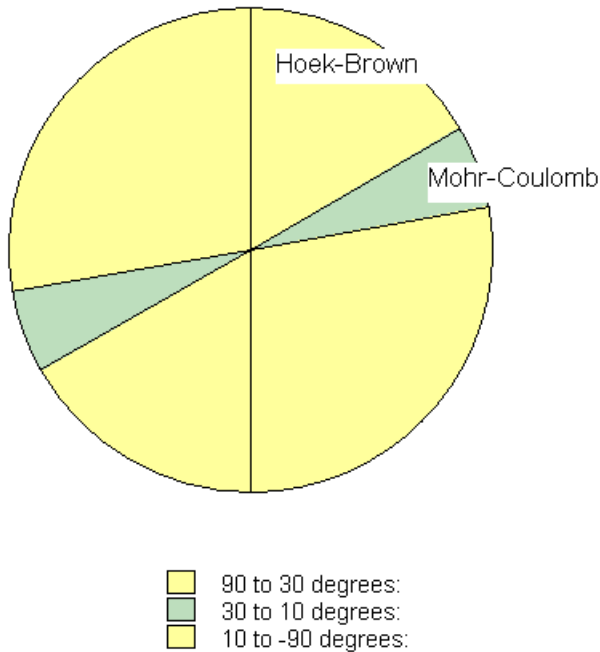
- Duncan, Wright and Wong
- Lowe and Karafiath
- Army Corps of Engineers

With these methods you can specify undrained material properties and then give an initial and final water level to obtain the minimum factor of safety. As with all Rocscience software the interface is intuitive and the rapid drawdown analysis can be quickly and easily performed.



New and Improved Material Properties

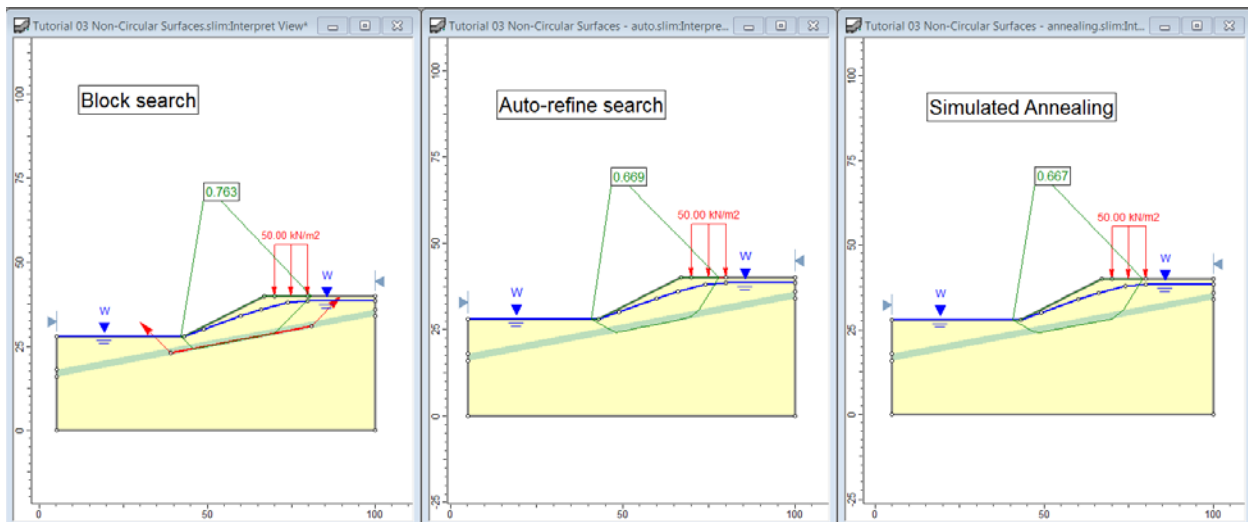
Slide 6.0 adds the most flexible material type yet. The Generalized Anisotropic strength model allows you to assign any combination of strength models to any ranges of orientation (e.g. you could create a single material with Hoek-Brown, Mohr-Coulomb and Barton-Bandis strength models assigned to different orientations).



Other improvements include a direct link from the material properties to [RocData](#) or [RocLab](#) for easy input of material parameters, and a simple one-click permeability model definition based on soil type.

New Search Methods

Two new methods greatly simplify the search for non-circular failure surfaces. With the **auto refine search for non-circular surfaces** you no longer have to specify potential paths and angles – the search for the critical non-circular surface will be performed automatically. The **simulated annealing** method also enables easy analysis of non-circular failure paths and is the result of much research at Rocscience. Click on the [Simulated Annealing Method](#), for a report on this new research method, written by Xiao Su.

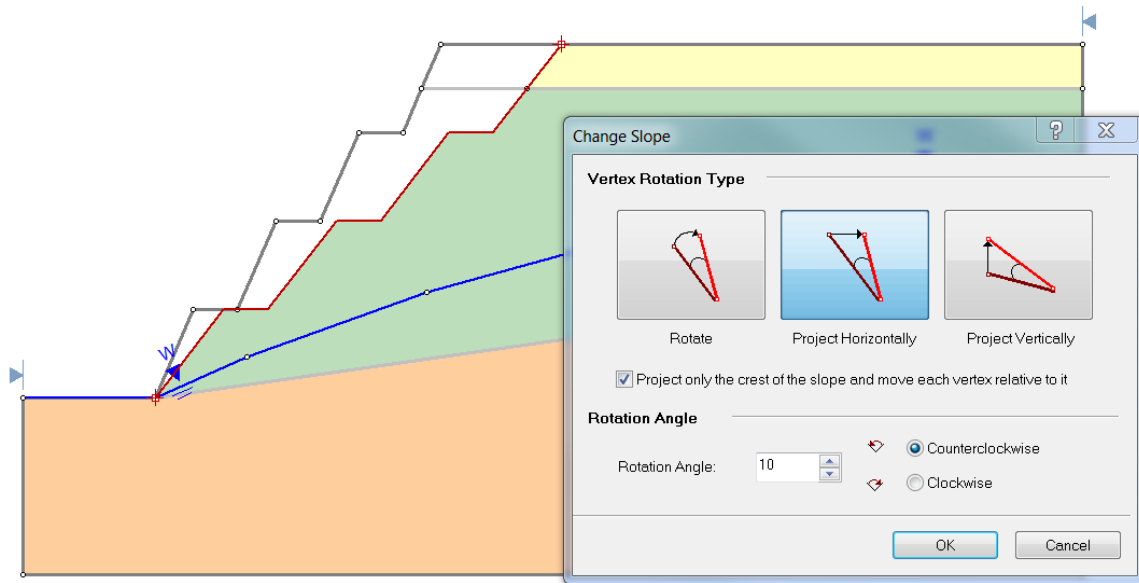


Editing, drawing and interpretation tools

Significant improvements have been made to the modelling and interpretation process including:

- Copy, scale and rotate boundaries
- Coordinate table for entering / editing coordinates
- Geometry cleanup option for merging close vertices
- Drawing tools now available in the modeller
- Save current view state (queries, flow lines, contours etc)

One very valuable addition is the ability to change the slope angle. This is useful if you want to change the overall slope angle for models with complicated geometry, for example slopes with multiple material layers, or benched slopes. This allows you to easily carry out a sensitivity analysis of the overall slope angle.



And Much More!

There are many other improvements and additions including:

- Enhanced support properties (tiebacks, soil nails and piles)
- Eurocode 7 design standard
- New compressed file format
- Customizable info viewer for more flexible report generation
- Various interface improvements

Slide 6.0 is available today

We hope this article has whetted your appetite for Version 6. More information and a full list of new features can be found in [What's New in Slide 6.0](#).

Download a trial version and start solving your slope stability problems today.