

RocFall version 6.0 is due to be released this Fall 2016, and some of the new analysis features you can look forward to include:

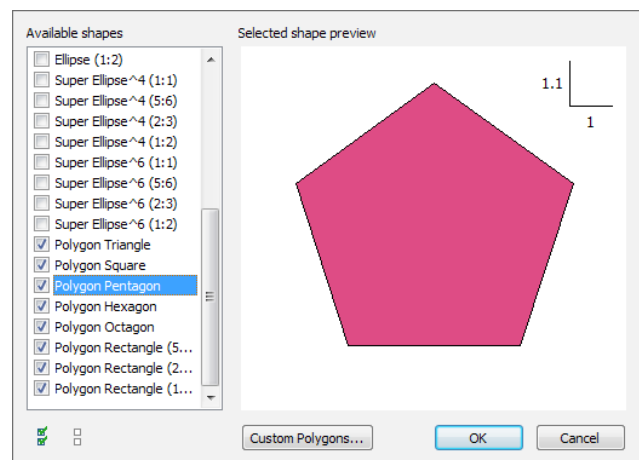
- Polygonal rock shapes, including custom polygons
- Barrier / berm sensitivity analysis
- Forest damping for treed slopes
- Variable friction according to sliding distance

If you would like to sign up to become a beta tester for RocFall 6.0 see the last page of this article.

Polygonal Rock Shapes

In the previous version of RocFall (5.0) we introduced rigid body rock shapes, which were modeled by smooth rounded shapes (e.g. ovals, ellipses, etc). In RocFall 6.0 you can now also define polygonal rock shapes with sharp corners.

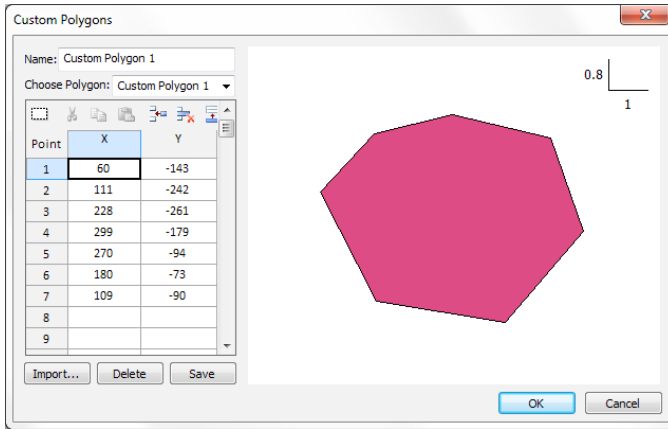
You can choose from pre-defined regular polygons, ranging from triangles to octagons. You can also define custom polygons with any number of vertices.



Dialog for choosing rock shapes

Rocks modeled as polygons can improve the rockfall simulation results, compared to smooth shapes, by more accurately modeling the impact and rolling behaviour of angular shaped rocks.

Rock shapes can be drawn graphically, entered in a coordinate table, or imported from a DXF or text file. Import from DXF file allows actual rock shapes obtained



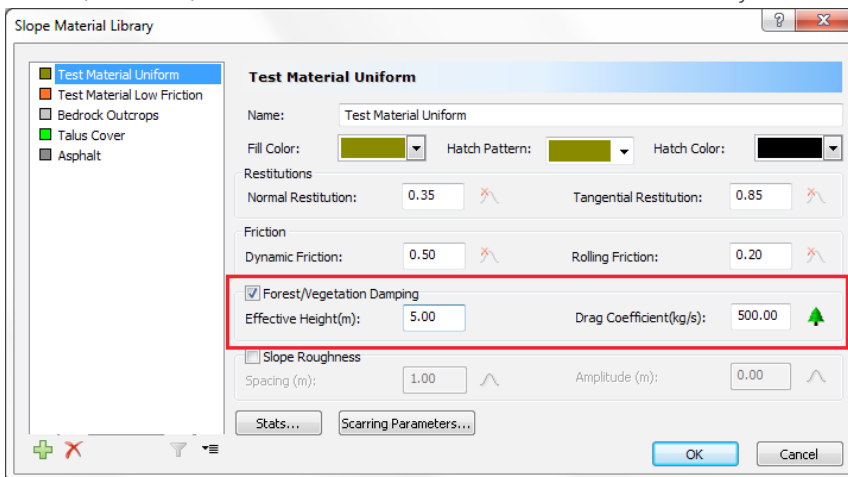
Dialog for defining custom polygon shapes

from laser scanning to be imported as a 2D profile. Custom rock shapes can be automatically scaled or defined as an exact size and mass.

Forest Damping

An often requested feature is now available in RocFall 6.0 – forest (tree) damping. When rockfalls occur on a forested slope, impacts of rocks with trees or vegetation can reduce the speed and energy of rocks traveling down the slope.

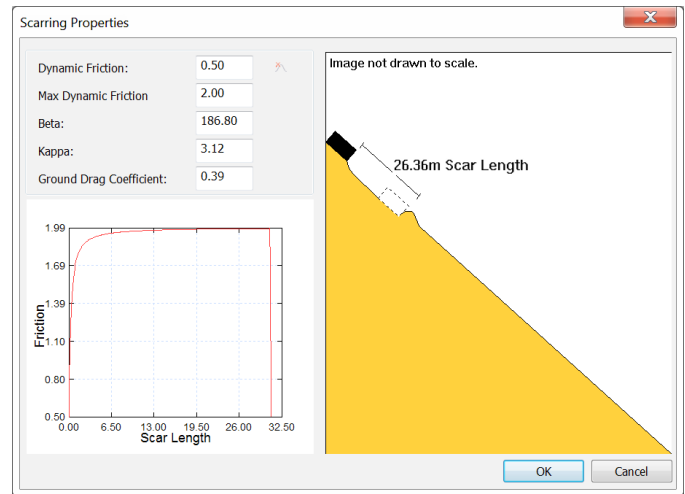
Forest damping is implemented as a slope material property (drag coefficient) as shown below. You can define and assign different coefficients to different segments of the slope, as required.



Slope material properties now include tree damping coefficient

Variable friction based on sliding distance

Another new feature models the phenomenon of the increase in friction with sliding distance, which may occur when a rock slides on soft ground and builds up material in front of the rock as it slides. This creates a “scar” in the ground and effectively increases friction with distance, which may result in the rock coming to a stop, or flipping the rock back into the air.



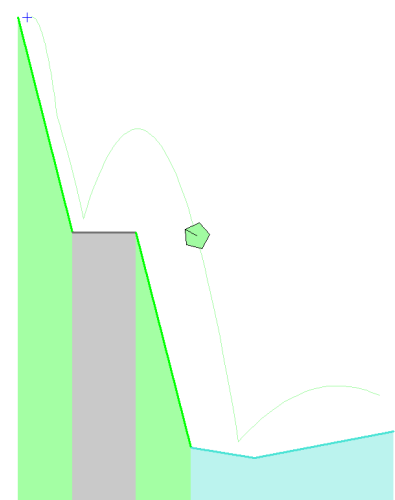
Variable friction (scarring) dialog

This is an advanced modeling feature, and is implemented within the slope material properties dialog.

Barrier / Berm Sensitivity Analysis

This feature allows you to automatically vary the location, height or angle of rockfall barriers or berms. Results can be plotted as sensitivity plots, allowing you to determine the optimum location, height or angle of rockfall barriers within a single rockfall analysis file, without the need to edit and re-compute multiple files.

This feature is currently under development, if you have any comments or suggestions we would welcome any requests or feedback.



Rock fall path of 5-sided polygon

RocFall 6.0 Beta Testing

If you would like to become a beta-tester for RocFall 6.0, please [click here to register](#). If you have any suggestions for the upcoming version of RocFall, contact software@rocscience.com with “RocFall 6.0 Beta Program” in the subject line.