

Input/parameter	Description	Input data or value(s)
dem	Digital elevation model – 2.5-D surface for modelling	1 m grid DEM from lidar data (merged TLS and ALS data from October 2016)
rockdensity	Density of the rock	2700 kg m ³ (assumed to be constant for the entire slope)
$d1, d2, d3$	Dimensions of falling block in metres	Assumed that $d1 = d2 = d3$ (cube shaped rockfall). Different models run with volumes of 0.01, 0.1, 1, 10 m ³ .
blshape	Shape of the rock block – choice between rectangular, ellipsoidal, spherical or disk shaped	“Rectangular” – will be cubic as $d1 = d2 = d3$. Selected based on highly angular nature of rocks in the White Canyon.
rg70, rg20, rg10	Defines surface roughness within each 1 m DEM cell, used to determine tangential restitution	Based on GSI for areas of rock outcrop. Values for each GSI estimated from high-resolution photos (Fig. 6). Assumed a constant roughness ($rg70 = rg20 = rg10$) of 0.15 m for talus channels.
soiltype	Values used to determine normal restitution. Selected from a list of seven values each corresponding to a different coefficient of restitution (COR).	Assigned based on ground cover and lithology classification. Talus assigned lowest value, gneiss and granodiorite assigned intermediate value, and more competent intrusions and dykes assigned highest value. Range between soiltype 4–6 (COR range from 0.38 to 0.53).