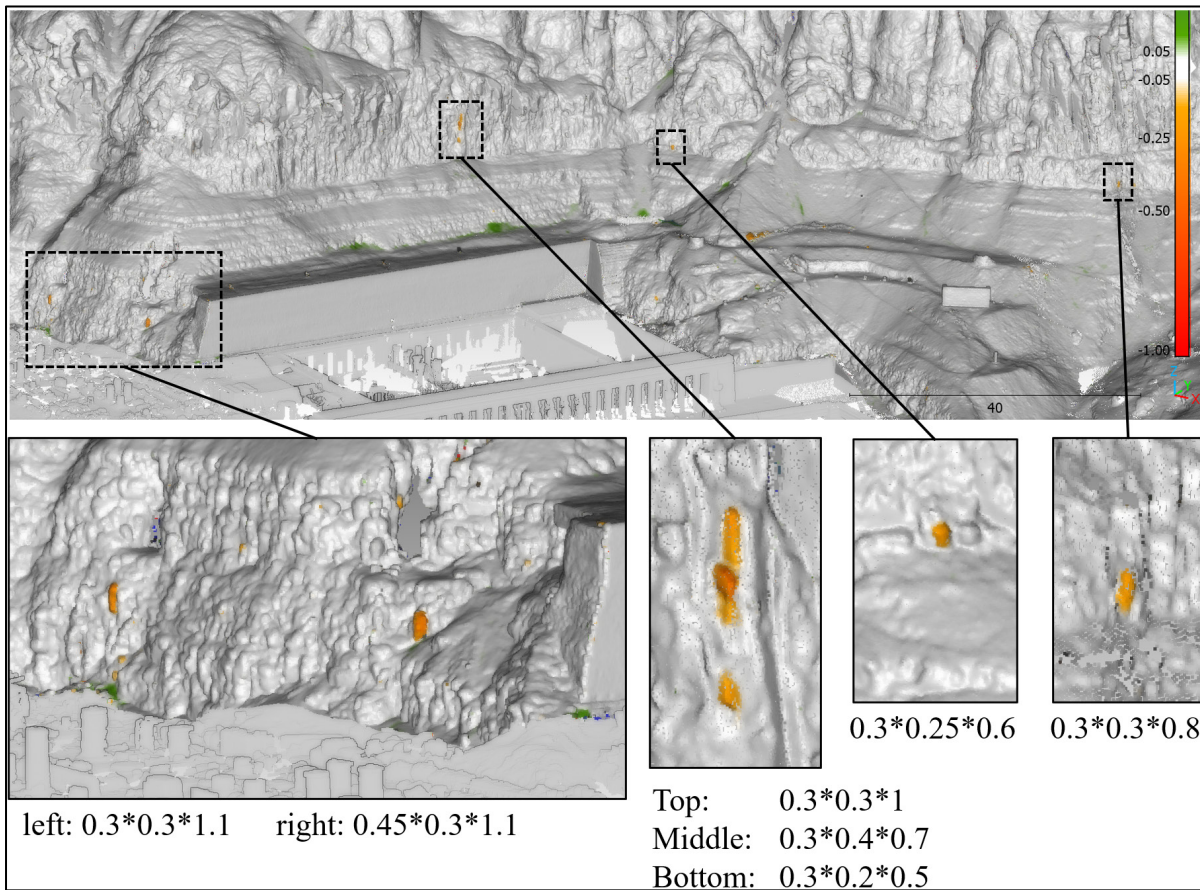
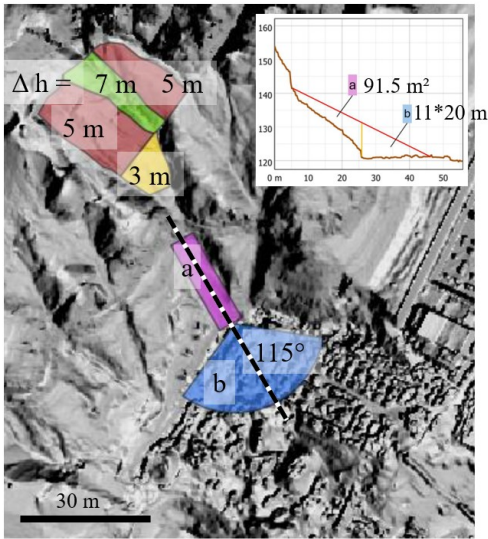
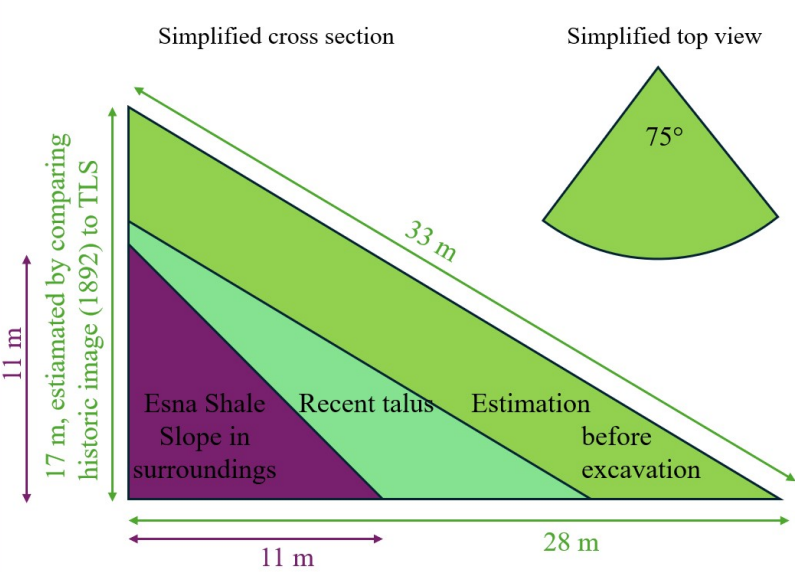
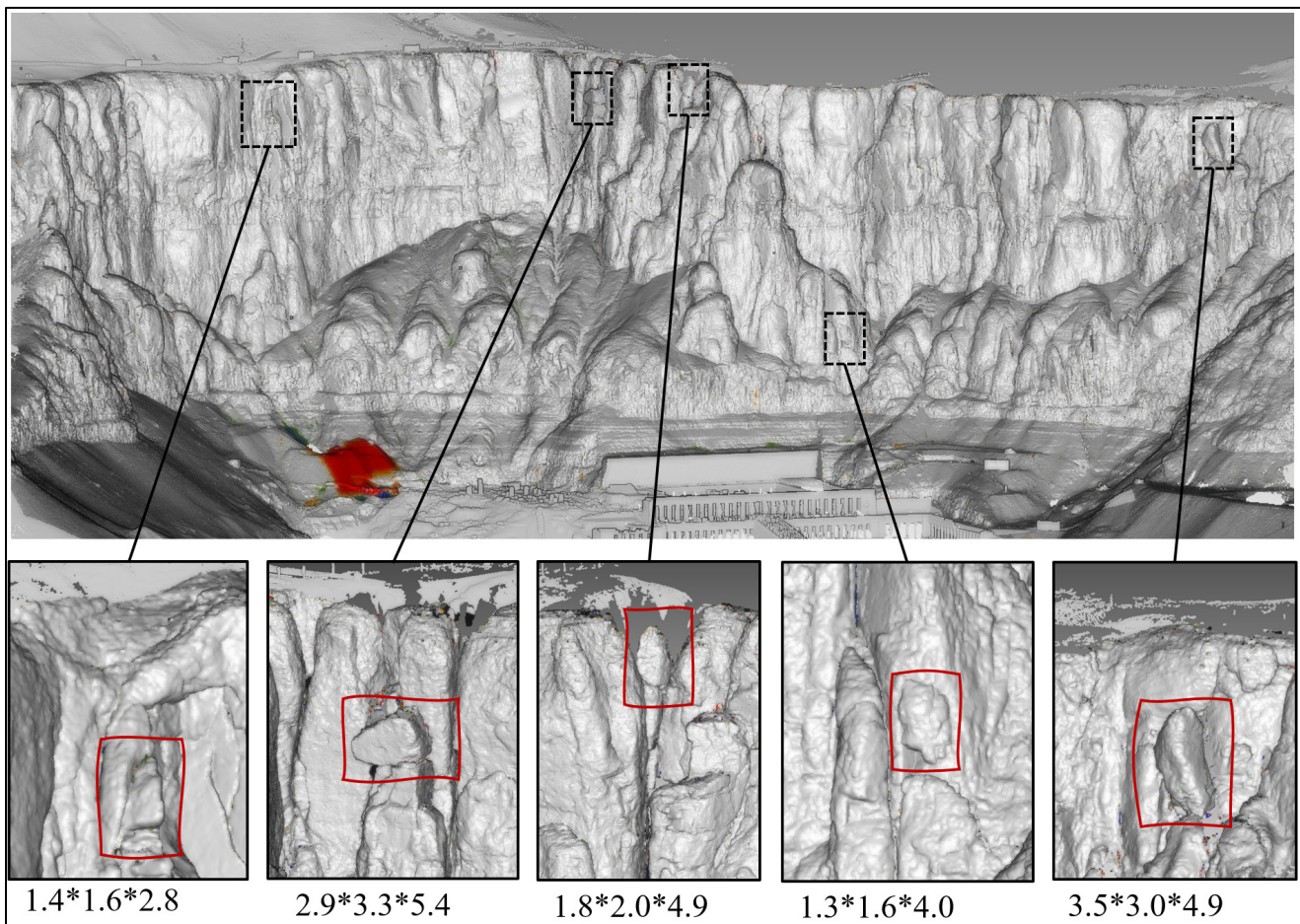
S1: Block shape dimensions (X / Y / Y (m)) from the TLS change detection.

left: 0.3*0.3*1.1   right: 0.45*0.3*1.1

0.3*0.25*0.6   0.3*0.3*0.8

Top: 0.3*0.3*1
Middle: 0.3*0.4*0.7
Bottom: 0.3*0.2*0.5

S2: Block shape dimensions (X / Y / Y (m)) of potential larger rockfall from the TLS point cloud.

1.4*1.6*2.8   2.9*3.3*5.4   1.8*2.0*4.9   1.3*1.6*4.0   3.5*3.0*4.9

S3: RAMMS::ROCKFALL parameters in Addition to Fig. 2 and 4

Variable parameters			
0.01 m³	**0.1 m³**	**2.0 m³**	**25.0 m³**
Shape X / Y / Z (m) 0.32 / 0.19 / 0.16	Shape X / Y / Z (m) 0.75 / 0.45 / 0.38	Shape X / Y / Z (m) 2.07 / 1.24 / 1.03	Shape X / Y / Z (m) 4.78 / 2.87 / 2.39
Terrain ER: Extra hard SC: Hard	Terrain ER: Extra hard SC: Hard	Terrain ER: Extra hard SC: Hard	Terrain ER: Extra hard SC: Med. hard

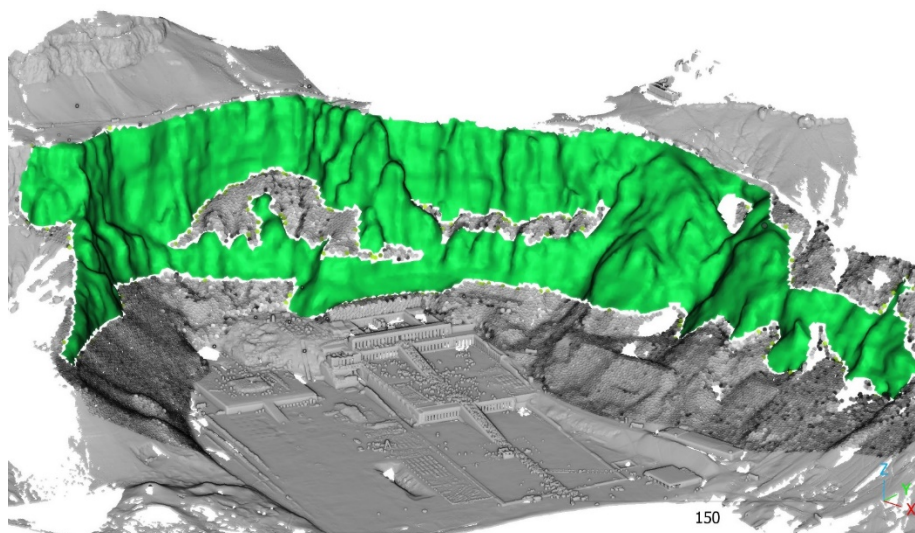
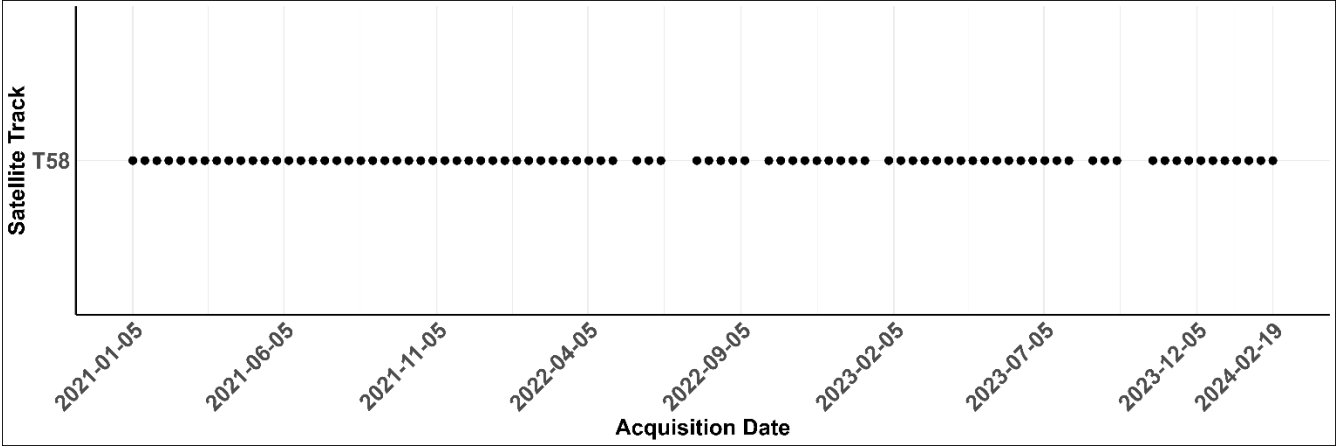
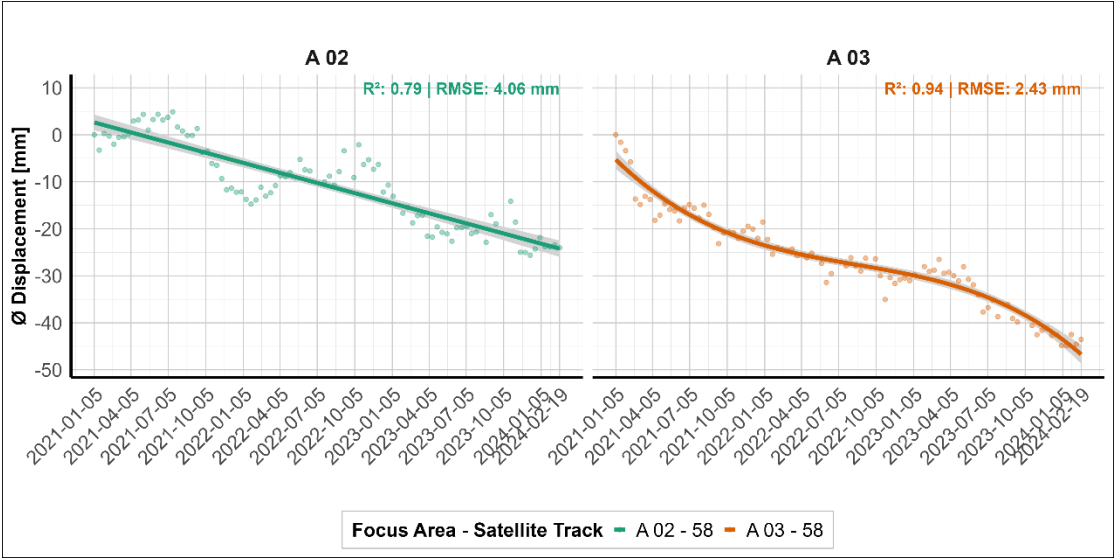
Constant parameters	
DSM grid res. (m)	0.5
Dump step (s)	0.02
Stop criterion	Min. kinetic energy
Rock shape	Long_2.0
Density (kg/m³)	2700
Nr. Random orientations	20
Use every xth grid point	6
Initial (rotational) velocity (m/s)	0
Rock Z-offset (m)	automatic

S4: Release volume estimation for granular flow simulations with RAMMS::DEBRISFLOW. Runout lengths and deposits heights were estimated by comparing typical terrain features from the 1892 (Naville, 1894) image to the TLS point cloud model.

Event A: deposits Thutmose III temple	**Event B:** cone-shaped deposits N' Temple of Hatshepsut
$5*400 + 7*130 + 3*80 = 3150$ m³ $5*91{,}5 + 115/360*\pi/3*20\wedge2*11 = 1928.0$ m³ $\sim \mathbf{5080}$ **m³**	$75/360* (\pi/3*28\wedge2*17 - \pi/3*11\wedge2*11) = \mathbf{2617.0}$ **m³**

S5: RAMMS::DEBRISFLOW parameters table from Log file.

Event A	Event B
Simulation stopped after 30.0000s Calculation time (min.): 2.72 Simulation resolution (m): 0.50 SIMULATION RESULTS Calculated Release Volume (m3): 5130.00 Overall MAX velocity (m/s): 16.8820 Overall MAX flowheight (m): 13.4501 Overall MAX pressure (kPa): 513.001 RAMMS::DEBRIS FLOW 1.8.0 INPUT LOGFILE DEM resolution (m): 0.50 GENERAL SIMULATION PARAMETERS: Simulation time (s): 1000.00 Dump interval (s): 1.00 Stopping criteria (momentum threshold) (%): 10 Center-of-Mass vel threshold (m/s): 1.00 Constant density (kg/m3): 1800 Lambda (): 1.0 NUMERICS: Numerical scheme: SecondOrder H cutoff (m): 0.000001 Curvature effects are ON! RELEASE: Hydrograph Hydrograph volume: 5130.00 m3 InFlow direction: 0 Nr of hydrograph points: 3 t0: 0.000000 [s] Q0: 0.000000 [m3/s] v0: 0.000000 [m/s] t1: 0.500000 [s] Q1: 2052.00 [m3/s] v1: 0.000000 [m/s] t2: 5.00000 [s] Q2: 0.000000 [m3/s] v2: 0.000000 [m/s] Hydrograph end time: 5.00000 FRICTION MUXI: Mu (): 0.650 Xi (m/s2): 800 COHESION: No COHESION specified.	Simulation stopped after 14.0000s Calculation time (min.): 0.72 Simulation resolution (m): 0.50 SIMULATION RESULTS Calculated Release Volume (m3): 2600.00 Overall MAX velocity (m/s): 39.9211 Overall MAX flowheight (m): 12.0633 Overall MAX pressure (kPa): 2868.66 RAMMS::DEBRIS FLOW 1.8.0 INPUT LOGFILE DEM resolution (m): 0.50 GENERAL SIMULATION PARAMETERS: Simulation time (s): 1000.00 Dump interval (s): 1.00 Stopping criteria (momentum threshold) (%): 10 Center-of-Mass vel threshold (m/s): 1.00 Constant density (kg/m3): 1800 Lambda (): 1.0 NUMERICS: Numerical scheme: SecondOrder H cutoff (m): 0.000001 Curvature effects are ON! RELEASE: Hydrograph Hydrograph volume: 2600.00 m3 InFlow direction: 290 Nr of hydrograph points: 3 t0: 0.000000 [s] Q0: 0.000000 [m3/s] v0: 15.0000 [m/s] t1: 0.500000 [s] Q1: 1040.00 [m3/s] v1: 15.0000 [m/s] t2: 5.00000 [s] Q2: 0.000000 [m3/s] v2: 15.0000 [m/s] Hydrograph end time: 5.00000 FRICTION MUXI: Mu (): 0.650 Xi (m/s2): 800 COHESION: No COHESION specified.

S6: Section of rock face used for retreat rate area calculation. Area calculation is based on subsampled point cloud (1 m point spacing) and a poisson surface reconstruction (Kazhdan et al., 2006).

S7: Temporal distribution of InSAR data acquisition.

S8: Temporal InSAR persistent scatterer displacements for AOIs / RAMMS::ROCKFALL release areas A 02 and A03.

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Kazhdan, M., Bolitho, M., and Hoppe, H.: Poisson surface reconstruction, in: SGP 2006: Symposium on geometry proceesing 2006, Cagliari, Sardinia, Italy, June 26 - 28, 2006, 61–70, 2006.

Naville, E.: The Temple of Deir El Bahari: Its Plan, its Founders, and its first Explorers, Offices of the Egypt exploration fund, 1894.