Supplementary Material

Table S1. Outline of workflow and processing parameters for Agisoft Metashape (MS) v1.6.5 and CloudCompare (CC) v2.11.3.

MS	Parameters	Values
General	Coordinate system	Local coordinates (m)
	Image Quality	> 0.7
Align photos	Accuracy	Highest
	Generic preselection	Source
	Key/tie point limit	40,000/4,000
	Adaptive camera model fitting	False
Gradual selection	Reconstruction uncertainty	15
	Projection accuracy	5
	Reprojection error	0.4
Camera alignment	Optimization parameters	F, cx, cy, k1, k2, k3, p1, p2
Build dense cloud	Quality	High
	Depth filtering	Mild
Export data	Reference data	GCP
	Point cloud	Dense cloud
CC		
Rasterize	Grid (step)	0.001
	Grid (Active layer)	Height grid values
	Projection (Direction)	Z
	Projection (Cell height)	Average
	Projection (Interpolate)	Average value

Table S2. The root-mean-squared error (RMSE) for the check and control points of each molehill averaged over the 12 monitoring periods (mean ± SD), and the minimum level of detection (LoD) for each molehill.

Molehill	$RMSE_{xy}$ Check (mm)	$RMSE_Z$ Check (mm)	$RMSE_{xy}$ Control (mm)	$RMSE_Z$ (Control) mm	Minimum Level of Detection (mm))
MA	0.33 ± 0.11	0.23 ± 0.13	0.25 ± 0.11	0.19 ± 0.06	0.61
MB	0.26 ± 0.09	0.21 ± 0.07	0.23 ± 0.10	0.18 ± 0.08	0.41
MC	0.31 ± 0.16	0.24 ± 0.10	0.26 ± 0.14	0.19 ± 0.08	0.48
MD	0.29 ± 0.08	0.24 ± 0.08	0.24 ± 0.06	0.18 ± 0.03	0.44
ME	0.29 ± 0.08	0.23 ± 0.08	0.24 ± 0.08	0.19 ± 0.06	0.44
MF	0.32 ± 0.10	0.23 ± 0.10	0.25 ± 0.08	0.17 ± 0.05	0.49
MG	0.31 ± 0.10	0.29 ± 0.13	0.28 ± 0.09	0.20 ± 0.06	0.70
MH	0.25 ± 0.06	0.18 ± 0.03	0.20 ± 0.04	0.15 ± 0.04	0.30

S3. Morphological Metrics

Relative to the flat/ compacted surfaces that surrounding the molehills, the outer extent (i.e. perimeter) of each molehill was identified by determining areas of increased elevation in the topographic models. The maximum height (h_{max}, m), mean height (h_{avg}, m), perimeter (P, m), 2D planar area (A_{plan}, m^2), 3D surface area (S_m) and volume (V_m, m^3) of each topographic model was then recorded. In addition, to evaluate changes in surface roughness, the Arc-Chord Ratio (ACR) of 1-mm^2 cells in each topographic model (n = 10,000's of cells per model) was calculated using the Benthic Terrain Modeller (BTM) v3.0 add-on in ArcMap v10.8 (Walbridge et al., 2018). ACR evaluates rugosity using a ratio of contoured area (i.e. 3D surface area) to the area of a plane of best fit (POBF), where the POBF is a function of the local boundary data (i.e. 3 × 3 cell neighbourhoods). By using a POBF rather than a horizontal plane to determine planar area, rugosity is decoupled from slope at the local scale, providing an improved measure of surface roughness compared to alternative measures, such as surface gradient (Du Preez, 2015). Mean ACR values were determined for each topographic model by averaging local ACR values calculated for each cell, with higher values indicating greater variability in mm-scale surface topography.

Two scores were used to evaluate the roundness/compactness of A_{plan} for each topographic model: the Reock degree of compactness (R) and the Polsby-Popper score (PP). Originally developed to quantify the degree of gerrymandering of political districts, both scores provide a mathematical measure of compactness between 0 and 1, with 1 indicating maximum roundness/compactness and 0 indicating a complete lack of compactness. The R score is defined as the ratio of A_{plan} to the area of a minimum bounding circle (A_{MBC}) that completely encloses it (Reock, 1961):

$$R = \frac{A_{plan}}{A_{MBC}}$$

As R values are sensitive to the orientation of an area's extremities, PP values were also calculated as an additional measure of compactness. The PP score is the ratio of A_{plan} to the area of a circle with the same perimeter:

$$PP = \frac{4\pi A_{plan}}{P_{plan}^{2}}$$

where P_{plan} is the perimeter of the planar area (Cox, 1927; Polsby and Poppertt, 1991). To ensure that PP scores were not dominated by fractal effects (i.e. complex mm-scale patterns), the planar area of each model was first smoothed using the Polynomial Approximation with Exponential Kernel (PAEK) method (tolerance = 0.01 m), available in the Smooth Polygon (Cartography) Tool in ArcMap v10.8.

Sphericity is a measure of how closely the shape of an object resembles that of a perfect sphere. Proposed by Wadell (1935), the sphericity (Ψ) of an object is defined as the ratio of the surface area of an equal-volume sphere (i.e. nominal surface area, S_n) to the actual surface area of the object:

$$\Psi = \frac{S_n}{S} = \frac{\sqrt[3]{36\pi V^2}}{S}$$

where V is the volume of the object and S is the surface area of the object. By adapting this formula, we created a measure of hemi-sphericity (HS) for determining how closely the shape of each topographic model resembles that of a perfect hemisphere (i.e. half-sphere). Here, the HS of an object is defined as the ratio of the curved/domed surface area of an equal-volume hemisphere to the actual surface area of a model:

$$HS = \frac{S_n}{S_m} = \frac{\sqrt[3]{18\pi V_m^{2}}}{S_m}$$

where V_m is the volume of the topographic model, S_m is the surface area of the model, and HS is an index of hemi-sphericity with a value between 0 and 1, with 1 indicating a perfectly hemispherical shape.

S4.

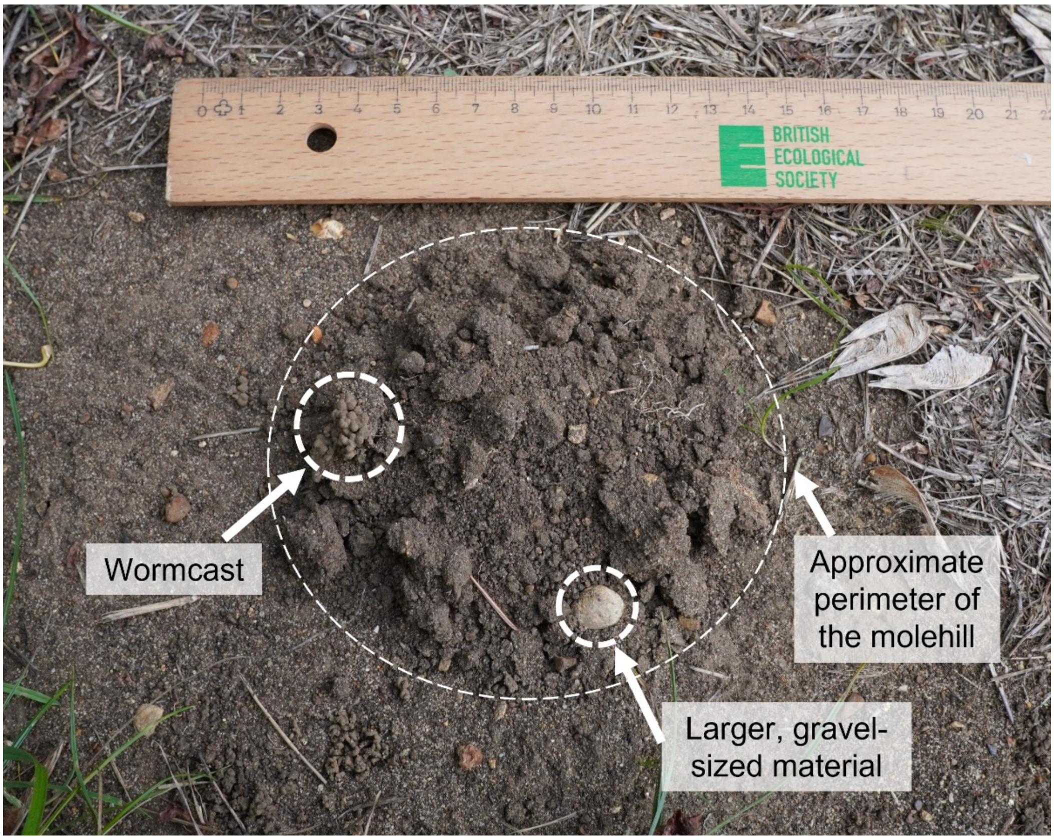

Figure S4. Top-down image of molehill MG on 7th October 2022 showing the approximate perimeter of the molehill and key features on its surface including a wormcast and larger, gravel-sized material.

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	V_{MA} = -4.1(d) + 2085.5	42.34	(1, 10)	0.809	70.3635	< 0.001	***
MB	V_{MB} = 16.5(d) + 7349.6	2.72	(1, 10)	0.214	1119.9189	0.1300	(NS)
MC	V_{MC} = -1.4(d) + 284.9	15.04	(1, 9)	0.626	37.8646	0.0037	**
MD	V_{MD} = 2.1(d) + 539.7	1.18	(1, 9)	0.116	192.8706	0.3059	(NS)
ME	V_{ME} = -0.9(d) + 3426.0	0.87	(1, 10)	0.080	109.6531	0.3724	(NS)
MF	V_{MF} = -3.4(d) + 2443.7	5.73	(1, 10)	0.364	160.2775	0.0378	*
MG	V_{MG} = 3.1(d) + 969.7	0.91	(1, 9)	0.092	333.4122	0.3655	(NS)
MH	V_{MH} = -3.0(d) + 6701.3	7.55	(1, 10)	0.430	122.8745	0.0205	*
Mean	V_{mean} = 6.3(d) + 2832.5	13.23	(1, 10)	0.569	194.1272	0.0046	**

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	V_{MA} = -4.2(d) + 2093.6	33.96	(1, 9)	0.791	73.5332	< 0.001	**
MB	V_{MB} = 2.3(d) + 8314.9	1.11	(1, 9)	0.110	222.5473	0.3186	(NS)
MC	V_{MC} = -1.1(d) + 266.6	10.64	(1, 8)	0.571	32.8737	0.0115	*
MD	V_{MD} = 0.2(d) + 655.3	0.02	(1, 8)	0.003	142.4614	0.8829	(NS)
ME	V_{ME} = -1.2(d) + 3446.6	1.21	(1, 9)	0.118	112.8933	0.3004	(NS)
MF	V_{MF} = -1.5(d) + 2315.7	5.02	(1, 9)	0.358	160.2775	0.0519	(NS)
MG	V_{MG} = -1.1(d) + 1234.7	0.82	(1, 8)	0.093	108.6964	0.3918	(NS)
MH	V_{MH} = -3.7(d) + 6750.4	10.90	(1, 9)	0.548	115.3118	0.0092	**
Mean	V_{mean} = 4.6(d) + 2946.7	9.62	(1, 9)	0.517	151.9366	0.0127	*

Table S5. The results of regression analysis exploring the relationship between molehill volume (V, cm^3) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (*** < 0.001, ** < 0.01, * < 0.05, NS > 0.05).

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	h_{MA} = -0.005(d) + 5.8	28.14	(1, 10)	0.738	0.0010	< 0.001	***
MB	h_{MB} = -0.004(d) + 13.4	0.11	(1, 10)	0.011	0.0134	0.7497	(NS)
MC	h_{MC} = -0.015(d) + 4.2	14.89	(1, 9)	0.623	0.0041	0.0039	**
MD	h_{MD} = 0.002(d) + 5.2	0.13	(1, 9)	0.014	0.0070	0.7277	(NS)
ME	h_{ME} = -0.0010(d) + 8.8	23.88	(1, 10)	0.705	0.0023	< 0.001	***
MF	h_{MF} = -0.007(d) + 9.6	0.46	(1, 10)	0.044	0.0115	0.5142	(NS)
MG	h_{MG} = 0.004(d) + 6.0	0.17	(1, 9)	0.019	0.0091	0.6869	(NS)
MH	h_{MH} = -0.003(d) + 10.4	1.71	(1, 10)	0.146	0.0024	0.2208	(NS)
Mean	h_{mean} = 0.0003(d) + 7.8	0.02	(1, 10)	0.002	0.0025	0.8923	(NS)

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	h_{MA} = -0.004(d) + 5.7	74.79	(1, 9)	0.893	0.0004	< 0.001	***
MB	h_{MB} = -0.019(d) + 14.5	7.72	(1, 9)	0.462	0.0069	0.0214	*
MC	h_{MC} = -0.015(d) + 4.2	10.70	(1, 8)	0.572	0.0044	0.0113	*
MD	h_{MD} = -0.006(d) + 5.8	9.90	(1, 8)	0.553	0.0019	0.0137	*
ME	h_{ME} = -0.010(d) + 8.8	18.15	(1, 9)	0.669	0.0024	0.0021	**
MF	h_{MF} = 0.004(d) + 8.9	0.27	(1, 9)	0.029	0.0115	0.6152	(NS)
MG	h_{MG} = -0.008(d) + 6.7	9.50	(1, 8)	0.543	0.0024	0.0151	**
MH	h_{MH} = -0.003(d) + 10.3	1.11	(1, 9)	0.109	0.0025	0.3203	(NS)
Mean	h_{mean} = -0.002(d) + 7.9	0.87	(1, 9)	0.088	0.0019	0.3755	(NS)

Table S6. The results of regression analysis exploring the relationship between molehill height (h, cm) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (*** < 0.001, ** < 0.01, * < 0.05, NS > 0.05).

Table S7. The results of regression analysis exploring the relationship between molehill surface area (SA, cm^2) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (*** < 0.001, ** < 0.01, * < 0.05, NS > 0.05).

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	SA_{MA} = -0.98(d) + 668.22	15.96	(1, 10)	0.615	0.0028	0.0025	**
MB	SA_{MB} = 1.36(d) + 1090.33	3.87	(1, 10)	0.279	0.0078	0.0775	(NS)
MC	SA_{MC} = -0.49(d) + 123.93	12.64	(1, 9)	0.584	0.0015	0.0062	**
MD	SA_{MD} = 0.64(d) + 166.59	1.95	(1, 9)	0.178	0.0047	0.1957	(NS)
ME	SA_{ME} = 0.05(d) + 818.34	0.06	(1, 10)	0.006	0.0025	0.8118	(NS)
MF	SA_{MF} = -0.36(d) + 554.66	2.26	(1, 10)	0.184	0.0027	0.1638	(NS)
MG	SA_{MG} = 1.18(d) + 275.37	1.96	(1, 9)	0.179	0.0086	0.1946	(NS)
MH	SA_{MH} = 0.18(d) + 1141.43	6.65	(1, 10)	0.399	0.0008	0.0275	*
Mean	SA_{mean} = 1.04(d) + 582.01	26.79	(1, 10)	0.728	0.0022	< 0.001	***

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	SA_{MA} = -1.13(d) + 678.52	19.29	(1, 9)	0.682	0.0026	0.0025	**
MB	SA_{MB} = 0.53(d) + 1147.33	1.42	(1, 9)	0.137	0.0045	0.2633	(NS)
MC	SA_{MC} = -0.41(d) + 118.67	8.03	(1, 8)	0.501	0.0014	0.0220	*
MD	SA_{MD} = 0.20(d) + 194.96	0.29	(1, 8)	0.034	0.0034	0.6078	(NS)
ME	SA_{ME} = -0.02(d) + 823.54	0.01	(1, 9)	0.001	0.0026	0.9340	(NS)
MF	SA_{MF} = -0.13(d) + 538.84	0.38	(1, 9)	0.041	0.0027	0.5524	(NS)
MG	SA_{MG} = 0.11(d) + 343.33	0.12	(1, 8)	0.015	0.0029	0.7341	(NS)
MH	SA_{MH} = 0.10(d) + 1146.63	3.91	(1, 9)	0.303	0.0005	0.0794	(NS)
Mean	SA_{mean} = 0.86(d) + 593.81	21.54	(1, 9)	0.705	0.0019	0.0012	**

Table S8. The results of regression analysis exploring the relationship between Polsby-Popper scores (PP) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (*** < 0.001, ** < 0.01, * < 0.05, NS > 0.05).

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	PP_{MA} = -0.00090(d) + 0.98	5.26	(1, 10)	0.345	0.0390	0.0447	*
MB	PP_{MB} = 0.00019(d) + 0.91	0.53	(1, 10)	0.050	0.0298	0.4835	(NS)
MC	PP_{MC} = -0.00065(d) + 0.93	12.87	(1, 9)	0.588	0.0192	0.0059	**
MD	PP_{MD} = 0.00025(d) + 0.96	3.80	(1, 9)	0.297	0.0133	0.0832	(NS)
ME	PP_{ME} = 0.00014(d) + 0.93	0.57	(1, 10)	0.054	0.0204	0.4684	(NS)
MF	PP_{MF} = -0.00015(d) + 0.97	1.27	(1, 10)	0.113	0.0145	0.2852	(NS)
MG	PP_{MG} = -0.00161(d) + 0.99	24.70	(1, 9)	0.733	0.0330	0.0008	***
MH	PP_{MH} = -0.00003(d) + 0.98	0.52	(1, 10)	0.049	0.0040	0.4885	(NS)
Mean	PP_{mean} = -0.00028(d) + 0.95	3.95	(1, 10)	0.283	0.0160	0.0750	(NS)

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	PP_{MA} = -0.00092(d) + 0.98	5.52	(1, 9)	0.380	0.0399	0.0447	*
MB	PP_{MB} = -0.00009(d) + 0.93	0.18	(1, 9)	0.019	0.0214	0.6838	(NS)
MC	PP_{MC} = -0.00083(d) + 0.94	33.95	(1, 8)	0.809	0.0138	0.0004	***
MD	PP_{MD} = 0.00013(d) + 0.97	1.49	(1, 8)	0.157	0.0096	0.2570	(NS)
ME	PP_{ME} = 0.00003(d) + 0.94	0.02	(1, 9)	0.002	0.0196	0.8843	(NS)
MF	PP_{MF} = -0.00023(d) + 0.98	2.90	(1, 9)	0.244	0.0145	0.1228	(NS)
MG	PP_{MG} = -0.00176(d) + 1.00	25.45	(1, 8)	0.761	0.0326	0.0010	***
MH	PP_{MH} = -0.00005(d) + 0.98	1.50	(1, 9)	0.143	0.0039	0.2521	(NS)
Mean	PP_{mean} = -0.00041(d) + 0.96	9.45	(1, 9)	0.512	0.0135	0.0132	*

Table S9. The results of regression analysis exploring the relationship between Roeck scores (R) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (*** < 0.001, ** < 0.01, * < 0.05, NS > 0.05).

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	$R_{MA} = -0.00123(d) + 0.81$	28.83	(1, 10)	0.742	0.0257	< 0.001	***
MB	$R_{MB} = -0.00043(d) + 0.75$	1.04	(1, 10)	0.094	0.0468	0.3311	(NS)
MC	$R_{MC} = -0.00125(d) + 0.63$	12.44	(1, 9)	0.580	0.0376	0.0065	**
MD	$R_{MD} = 0.00131(d) + 0.68$	4.40	(1, 9)	0.329	0.0636	0.0653	(NS)
ME	$R_{ME} = 0.00051(d) + 0.67$	3.78	(1, 10)	0.274	0.0296	0.0806	(NS)
MF	$R_{MF} = -0.00023(d) + 0.79$	0.71	(1, 10)	0.066	0.0303	0.4207	(NS)
MG	$R_{MG} = -0.00127(d) + 0.72$	6.94	(1, 9)	0.435	0.0494	0.0272	*
MH	$R_{MH} = 0.0000001(d) + 0.82$	7.2×10^{-6}	(1, 10)	0.000	0.0045	0.9979	(NS)
Mean	$R_{mean} = -0.00026(d) + 0.73$	1.56	(1, 10)	0.135	0.0230	0.2401	(NS)

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	$R_{MA} = -0.00144(d) + 0.82$	51.17	(1, 9)	0.850	0.0206	< 0.001	***
MB	$R_{MB} = -0.00089(d) + 0.78$	8.22	(1, 9)	0.477	0.0316	0.0186	*
MC	$R_{MC} = -0.00125(d) + 0.63$	9.27	(1, 8)	0.537	0.0399	0.0160	*
MD	$R_{MD} = 0.00071(d) + 0.72$	1.97	(1, 8)	0.197	0.0473	0.1986	(NS)
ME	$R_{ME} = 0.00033(d) + 0.68$	1.51	(1, 9)	0.144	0.0274	0.2497	(NS)
MF	$R_{MF} = -0.00030(d) + 0.80$	0.96	(1, 9)	0.097	0.0303	0.3516	(NS)
MG	$R_{MG} = -0.00172(d) + 0.75$	17.36	(1, 8)	0.685	0.0384	0.0031	**
MH	$R_{MH} = 0.000009(d) + 0.82$	0.03	(1, 9)	0.004	0.0047	0.8576	(NS)
Mean	$R_{mean} = -0.00049(d) + 0.75$	10.34	(1, 9)	0.535	0.0154	0.0106	*

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	$HS_{MA} = -0.00081(d) + 0.51$	14.24	(1, 10)	0.587	0.0241	0.0036	**
MB	$HS_{MB} = 0.00065(d) + 0.70$	1.22	(1, 10)	0.108	0.0658	0.2960	(NS)
MC	$HS_{MC} = -0.00045(d) + 0.47$	35.87	(1, 9)	0.799	0.0081	< 0.001	***
MD	$HS_{MD} = 0.00065(d) + 0.59$	2.17	(1, 9)	0.194	0.0450	0.1747	(NS)
ME	$HS_{ME} = -0.00064(d) + 0.60$	9.71	(1, 10)	0.493	0.0231	0.0109	*
MF	$HS_{MF} = -0.00063(d) + 0.62$	10.46	(1, 10)	0.511	0.0218	0.0089	**
MG	$HS_{MG} = -0.00170(d) + 0.64$	12.11	(1, 9)	0.574	0.0498	0.0069	**
MH	$HS_{MH} = -0.00209(d) + 0.77$	115.83	(1, 10)	0.921	0.0218	< 0.001	***
Mean	$HS_{mean} = -0.00060(d) + 0.61$	8.14	(1, 10)	0.449	0.0237	0.0171	*

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	$HS_{MA} = -0.00075(d) + 0.50$	9.38	(1, 9)	0.510	0.0249	0.0036	**
MB	$HS_{MB} = 0.00013(d) + 0.74$	0.06	(1, 9)	0.006	0.0548	0.8175	(NS)
MC	$HS_{MC} = -0.00045(d) + 0.47$	25.72	(1, 8)	0.763	0.0085	< 0.001	***
MD	$HS_{MD} = 0.00027(d) + 0.62$	0.48	(1, 8)	0.056	0.0367	0.5098	(NS)
ME	$HS_{ME} = -0.00062(d) + 0.60$	6.87	(1, 9)	0.433	0.0243	0.0277	*
MF	$HS_{MF} = -0.00070(d) + 0.63$	10.43	(1, 9)	0.537	0.0218	0.0103	**
MG	$HS_{MG} = -0.00229(d) + 0.67$	92.98	(1, 8)	0.921	0.0222	< 0.001	***
MH	$HS_{MH} = -0.00230(d) + 0.79$	231.20	(1, 9)	0.963	0.0154	< 0.001	***
Mean	$HS_{mean} = -0.00080(d) + 0.63$	19.16	(1, 9)	0.680	0.0187	0.0018	**

Table S10. The results of regression analysis exploring the relationship between half-sphericity values (HS) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (*** < 0.001, ** < 0.01, * < 0.05, NS > 0.05).

Table S11. The results of regression analysis exploring the relationship between ACR rugosity values (ACR) and time (days, d) for each molehill across the entire study period and with the first measurement removed (i.e. between the second and last measurements). The regression equation is provided for each model as well as the *F* statistic, degrees of freedom (*df*), R^2 value, standard error, and *p*-value (* * * < 0.001, * * < 0.01, * < 0.05, NS > 0.05). ACR rugosity

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	$ACR_{MA} = 0.00020(d) + 1.04$	14.96	(1, 10)	0.599	0.0057	0.003	* *
MB	$ACR_{MB} = 0.00001(d) + 1.08$	0.03	(1, 10)	0.003	0.0090	0.866	*(NS)*
MC	$ACR_{MC} = 0.00016(d) + 1.07$	5.71	(1, 9)	0.388	0.0069	0.041	*
MD	$ACR_{MD} = -0.00019(d) + 1.08$	3.63	(1, 9)	0.287	0.0103	0.089	*(NS)*
ME	$ACR_{ME} = 0.00010(d) + 1.05$	2.80	(1, 10)	0.219	0.0069	0.125	*(NS)*
MF	$ACR_{MF} = 0.00015(d) + 1.07$	2.38	(1, 10)	0.192	0.0106	0.154	*(NS)*
MG	$ACR_{MG} = 0.00055(d) + 1.05$	19.01	(1, 9)	0.679	0.0129	0.002	* *
MH	$ACR_{MH} = 0.00057(d) + 1.04$	56.03	(1, 10)	0.849	0.0085	< 0.001	* * *
Mean	$ACR_{mean} = 0.00018(d) + 1.06$	18.33	(1, 10)	0.647	0.0047	0.002	* *

First measurement removed from the regression analysis:

Molehill	Regression Equation	*F*	*df*	R^2	Standard error	*p*-value	
MA	$ACR_{MA} = 0.00020(d) + 1.04$	11.65	(1, 9)	0.564	0.0060	0.008	* *
MB	$ACR_{MB} = -0.00002(d) + 1.08$	0.07	(1, 9)	0.009	0.0089	0.795	*(NS)*
MC	$ACR_{MC} = 0.00022(d) +1.07$	20.24	(1, 8)	0.717	0.0048	0.002	* *
MD	$ACR_{MD} = -0.00023(d) + 1.09$	4.036	(1, 8)	0.335	0.0106	0.079	*(NS)*
ME	$ACR_{ME} = 0.00010(d) + 1.06$	1.84	(1, 9)	0.170	0.0073	0.208	*(NS)*
MF	$ACR_{MF} = 0.00025(d) + 1.06$	11.50	(1, 9)	0.561	0.0074	0.008	* *
MG	$ACR_{MG} = 0.00070(d) + 1.03$	105.47	(1, 8)	0.929	0.0064	< 0.001	* * *
MH	$ACR_{MH} = 0.00058(d) + 1.04$	44.91	(1, 9)	0.833	0.0089	< 0.001	* * *
Mean	$ACR_{mean} = 0.00021(d) + 1.06$	24.33	(1, 9)	0.730	0.0043	< 0.001	* * *

S12. The location (i.e. country and region; C = central, S = southern, W = western, E = eastern, etc.), environmental setting, and research focus of the studies included in Table 1. Dashes (-) indicate where no data was available. The table also indicates where the availability of data is unknown (Unk.) due to problems accessing the primary source material and/or an English translation.

		Study Site				
Reference	Year	Location	Environment	Study area (m^2)	No. molehills sampled	Research focus
This study	2023	England (C.)	Grassland	12.5 [2,680]	8 [313]	Formation, morphology and/or denudation of molehills
Ramzaev and Barkovsky	2018	Russia (S.W.)	Grassland, Pasture	-	-	Redistribution of soil-based radionuclides by mole
Napierała et al.	2016	Poland (C.)	Grassland	-	210	Mole nest ecology (arachnids)
De Reu et al.	2016	Belgium (N.W.)	Grassland	35000	5500	Methods to detect archaeological features
Kiełtyk and Mirek	2015	Poland (S.)	Grassland, Pasture	1425	177	Molehill ecology (invasive plants), EE
Katzerke et al.	2010	Germany (N.E.)	Grassland, Pasture	600	95	Molehill ecology (ant nests), EE
Rastvoraova	2007	Russia (W.)	Woodland	-	-	Soil formation by moles
Bliss et al.	2006	Germany (N.E.)	Grassland, Pasture	950	11	Molehill ecology (ant nests), EE
Wijnhoven et al.	2006	Netherlands (C.)	Grassland, Pasture	1600000	(mass measurements, n = 120) (height measurements, n = 132)	Redistribution of soil-based heavy metals by moles
Dennis	2004	England (W.)	Grassland, Woodland	12538	962	Molehill ecology (butterflies), EE
Canals and Sebastià	2002	Spain (N.)	Grassland	2400	-	Molehill ecology (plant assemblages)
Edwards et al.	1999	England (S.)	Grassland	4608	1062 [a]	Pest control methods
Milton et al.	1997	Germany (C.)	Grassland (Hillslope)	15740	-	Molehill ecology (plant assemblages)
Skoczeń et al.	1983	Poland (S.)	Grassland	Unk.	Unk.	Unk.
Goszczyńska et al.	1977	Poland (W.)	Grassland, Arable land	2400	-	Molehill ecology (plants assemblages); soil formation
Funmilayo	1977	Scotland (S.E.)	Grassland, Pasture (Hillslope)	134000	-	Mole habitat and food supply
Skoczeń et al.	1976	Poland (S.)	Grassland	500000	-	Influence of moles on soil moisture
Imeson	1976	Luxembourg (W.)	Woodland (Hillslope)	1650	268 (mass measurements, n = 5)	Formation, morphology and/or denudation of molehills
Abaturov	1972	Russia (W.)	Woodland	-	-	Redistribution of soil-based minerals by moles
Jońca	1972	Poland (S.W.)	Pasture (Hillslope)	-	-	Formation, morphology and/or denudation of molehills
Haeck	1969	Netherlands (N.)	Pasture	-	-	Mole colonisation patterns
Abaturov	1968	Russia (W.)	Woodland	-	-	Redistribution of soil-based minerals by moles
Ennik	1967	Netherlands (C.)	Pasture	21240	1657	Pest control methods
Turćek	1965	Slovakia (S.)	Grassland, Pasture, Woodland	-	-	Moles as geomorphic agents in karst landscapes
Olszewski and Skoczeń	1965	Poland (S.)	Pasture, Woodland	800000	-	Ventilation of mole nests and burrows
Jońca	1964	Unk.	Unk.	Unk.	Unk.	Unk.
Grulich	1959	Czech. Republic (S.E.)	Grassland	10000 [1]	7380 [1]	Unk.
Skoczeń	1958	Poland (S.)	Grassland	-	6	Tunnelling activity of moles
Grulich	1958	Czech. Republic (S.E.)	Grassland	Varied	-	Formation, morphology and/or denudation of molehills; molehill ecology (plants)

[1] As reported in Skoczen et al. 1976.
[a] Over a two-year period.