

Agisoft Metashape

Processing Report

24 June 2024



Survey Data

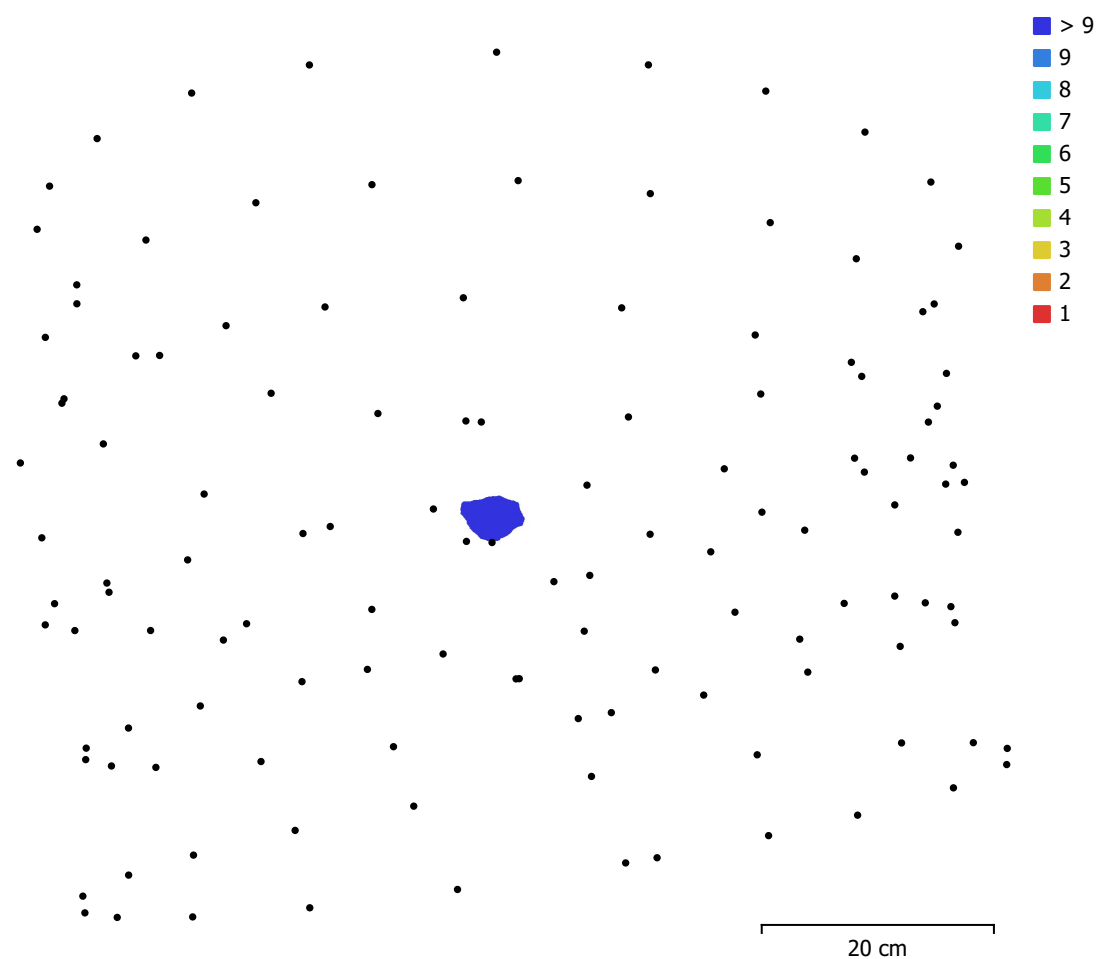


Fig. 1. Camera locations and image overlap.

Number of images:	126	Camera stations:	126
Flying altitude:	39.2 cm	Tie points:	132,998
Ground resolution:	0.0389 mm/pix	Projections:	410,832
Coverage area:	15.4 cm ²	Reprojection error:	0.808 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
DMC-G7 (38mm)	4592 x 2584	38 mm	3.81 x 3.81 μm	No
DMC-G7 (38mm)	4592 x 2584	38 mm	3.81 x 3.81 μm	No

Table 1. Cameras.

Camera Calibration

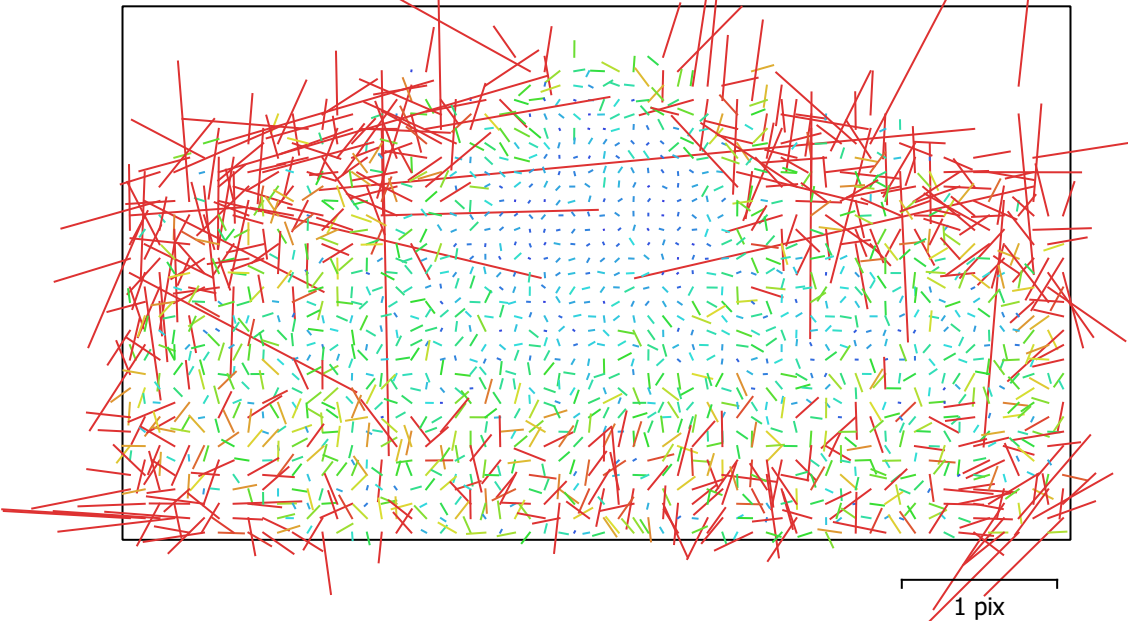


Fig. 2. Image residuals for DMC-G7 (38mm).

DMC-G7 (38mm)

63 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	38 mm	3.81 x 3.81 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	10421.5	2.1	1.00	-0.02	-0.72	-0.24	0.15	-0.10	-0.03	-0.22
Cx	-136.739	4		1.00	0.02	0.00	-0.09	0.15	0.98	0.01
Cy	-102.344	4.3			1.00	0.00	0.03	-0.03	0.02	0.69
K1	0.021991	0.0032				1.00	-0.93	0.85	0.02	-0.15
K2	-0.389063	0.1					1.00	-0.97	-0.12	0.05
K3	6.92938	1.1						1.00	0.16	-0.02
P1	-0.0034754	0.00014							1.00	0.03
P2	-0.00413826	0.00012								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

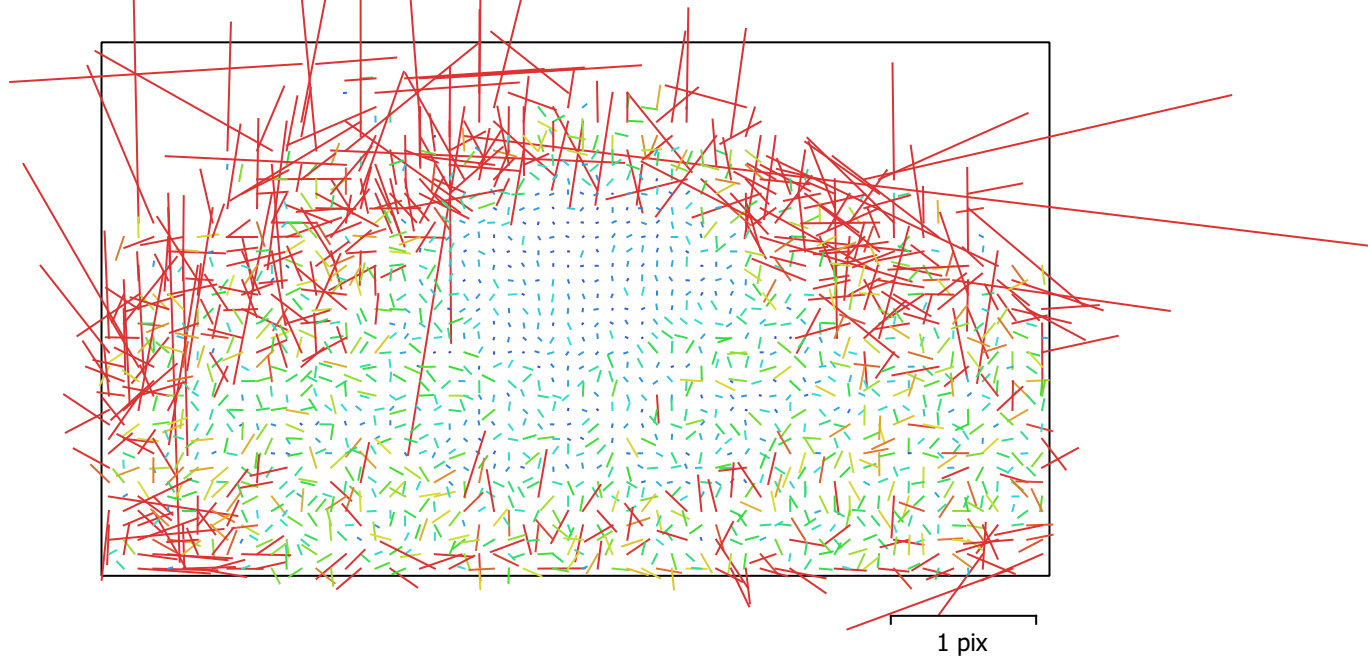


Fig. 3. Image residuals for DMC-G7 (38mm).

DMC-G7 (38mm)

63 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	38 mm	3.81 x 3.81 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	10068.4	2	1.00	0.12	-0.60	-0.28	0.18	-0.12	0.11	-0.27
Cx	107.339	4.3		1.00	0.02	-0.03	0.02	-0.00	0.99	-0.00
Cy	363.188	3.7			1.00	-0.03	-0.01	0.02	0.04	0.71
K1	0.051869	0.0037				1.00	-0.92	0.81	-0.03	0.05
K2	0.122303	0.13					1.00	-0.97	0.02	-0.06
K3	-3.02997	1.4						1.00	0.01	0.06
P1	0.00598515	0.00016							1.00	-0.00
P2	-0.0015548	0.00012								1.00

Table 3. Calibration coefficients and correlation matrix.

Ground Control Points

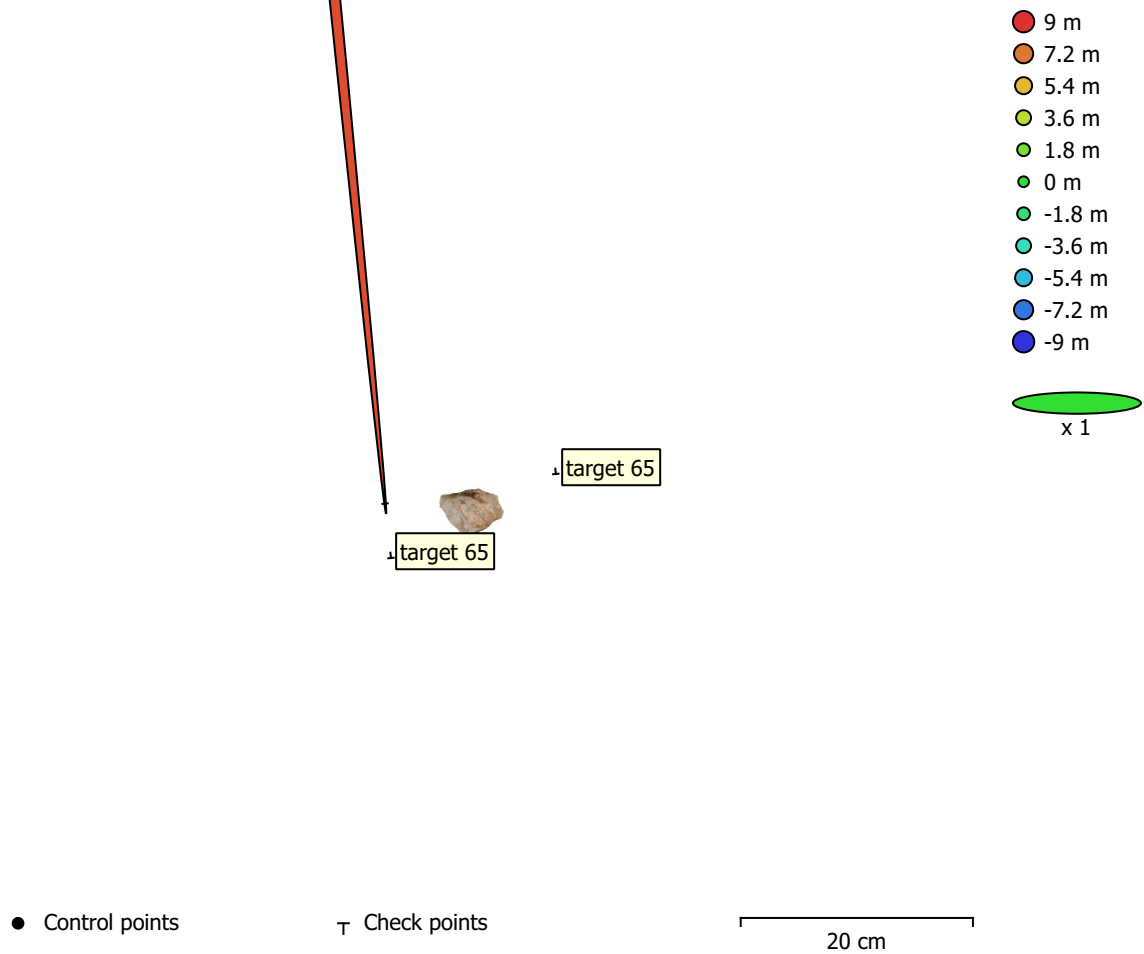


Fig. 4. GCP locations and error estimates.

Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.

Estimated GCP locations are marked with a dot or crossing.

Count	X error (m)	Y error (m)	Z error (m)	XY error (m)	Total (m)
1	0.613533	6.16183	8.30288	6.19229	10.3577

Table 4. Check points RMSE.

Label	X error (m)	Y error (m)	Z error (m)	Total (m)	Image (pix)
point 1	0.613533	-6.16183	8.30288	10.3577	0.000 (56)
target 65					0.895 (10)
target 65					0.666 (11)
Total	0.613533	6.16183	8.30288	10.3577	0.000

Table 5. Check points.

Scale Bars

Label	Distance (m)	Error (m)
target 65_point 1	0.15	-3.17801e-14
Total		3.17801e-14

Table 6. Control scale bars.

Digital Elevation Model

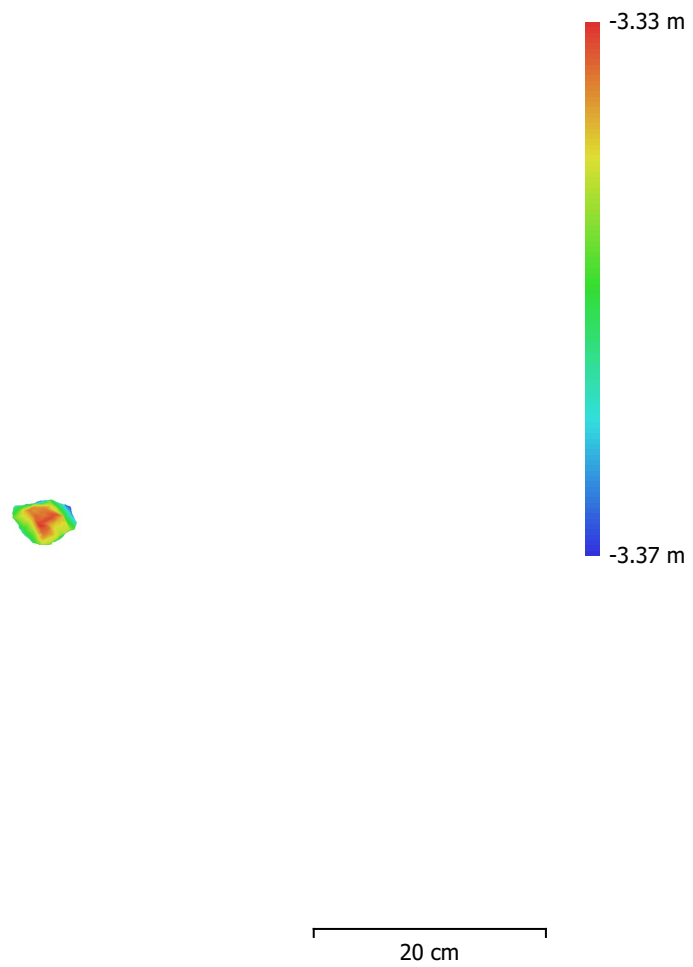


Fig. 5. Reconstructed digital elevation model.

Resolution: 0.188 mm/pix
Point density: 28.2 points/mm²

Processing Parameters

General

Cameras	126
Aligned cameras	126
Markers	3
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	132,998 of 161,064
RMS reprojection error	0.19922 (0.807897 pix)
Max reprojection error	0.612681 (27.7676 pix)
Mean key point size	3.3195 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.33088
File size	11.71 MB

Depth Maps

Count	126
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	2 minutes 27 seconds
Memory usage	2.51 GB
Date created	2024:06:15 13:33:19
Software version	1.8.4.14671
File size	41.80 MB

Model

Faces	247,024
Vertices	123,514
Vertex colors	3 bands, uint8
Texture	16,000 x 16,000 x 2, 4 bands, uint8

Texturing parameters

Mapping mode	Generic
Blending mode	Mosaic
Texture size	16,000
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	20 seconds
UV mapping memory usage	637.34 MB
Blending time	1 minutes 18 seconds
Blending memory usage	13.17 GB
Blending GPU memory usage	11.90 GB
File size	178.75 MB

System

Software name	Agisoft Metashape Professional
Software version	1.8.4 build 14671
OS	Windows 64 bit
RAM	127.71 GB
CPU	Intel(R) Core(TM) i9-10940X CPU @ 3.30GHz

GPU(s)

Quadro RTX 5000