

Agisoft Metashape

Processing Report

24 June 2024



Survey Data

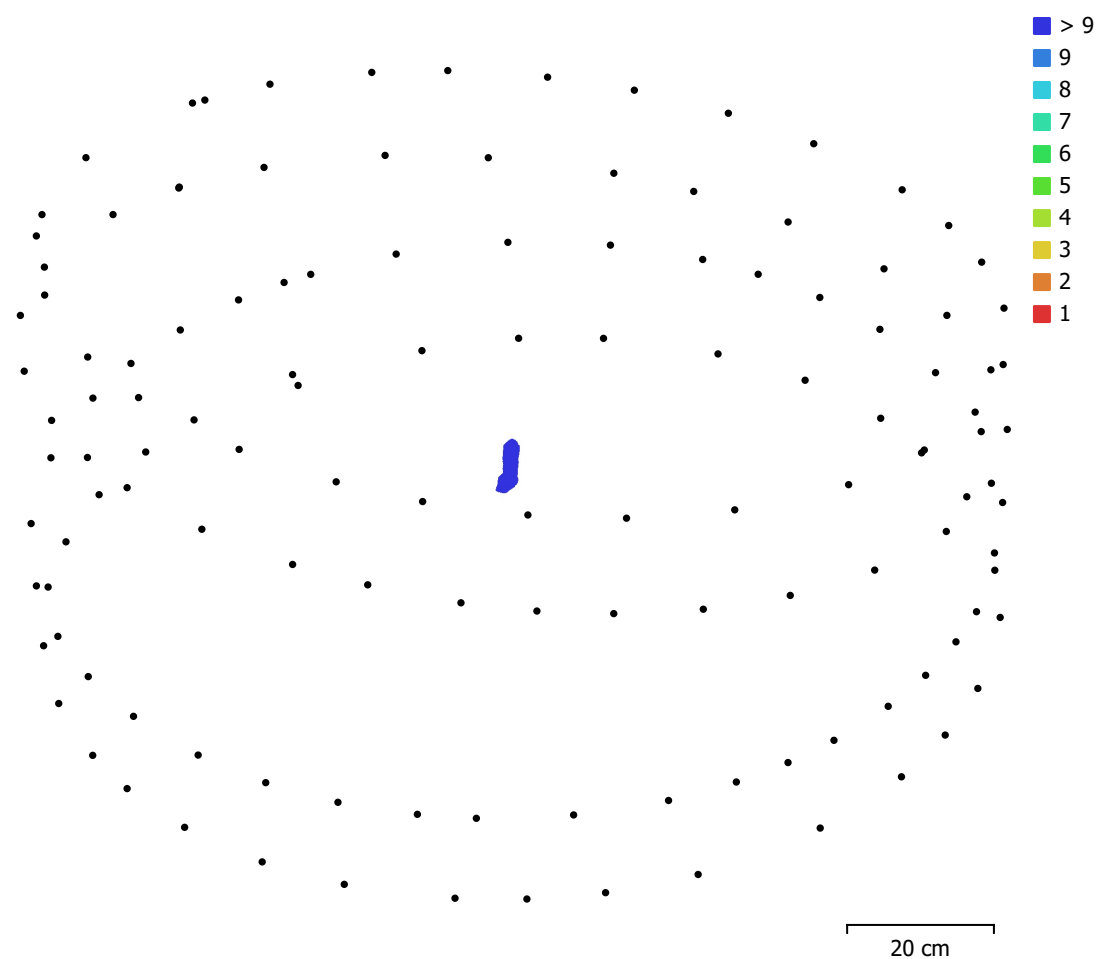


Fig. 1. Camera locations and image overlap.

Number of images:	128	Camera stations:	128
Flying altitude:	67 cm	Tie points:	84,962
Ground resolution:	0.0425 mm/pix	Projections:	268,291
Coverage area:	15.8 cm ²	Reprojection error:	0.815 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
DMC-G7 (60mm)	4592 x 2584	60 mm	3.79 x 3.79 μm	No
DMC-G7 (60mm)	4592 x 2584	60 mm	3.79 x 3.79 μm	No

Table 1. Cameras.

Camera Calibration

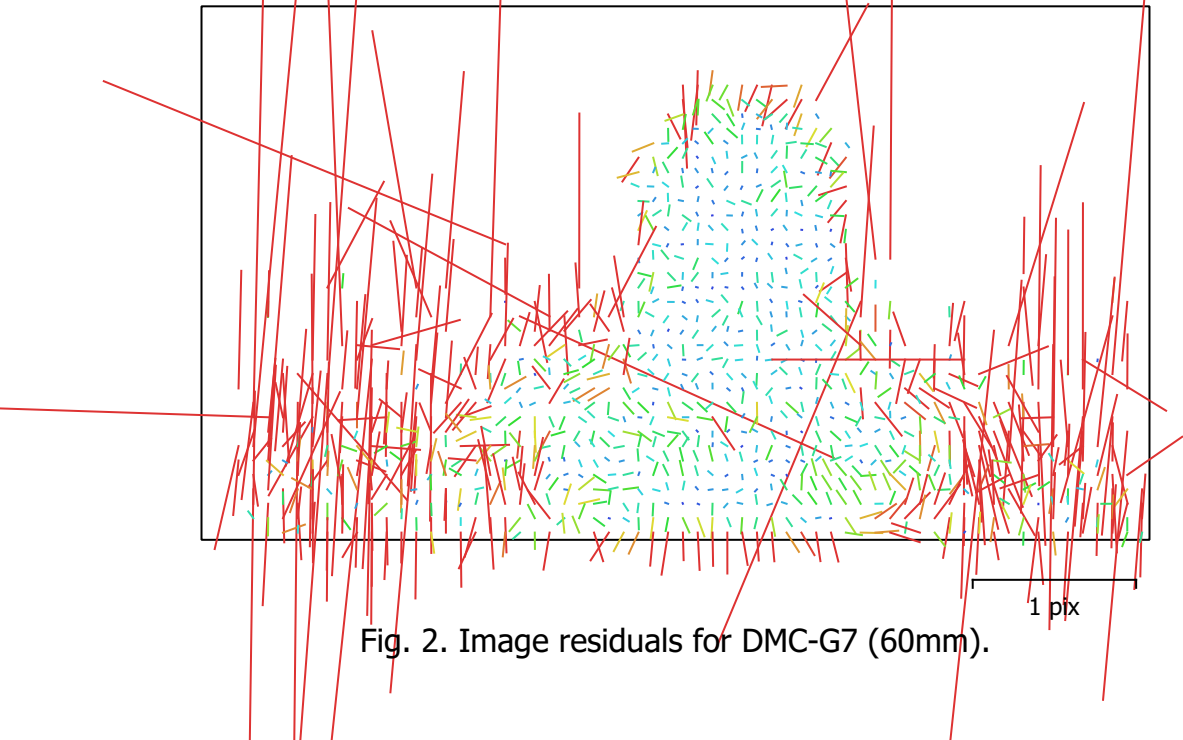


Fig. 2. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

59 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	60 mm	3.79 x 3.79 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	15905.6	14	1.00	-0.21	0.08	-0.45	0.21	-0.17	-0.43	0.66
Cx	675.918	19		1.00	-0.43	0.52	-0.48	0.52	0.77	-0.57
Cy	-1147.81	23			1.00	-0.60	0.63	-0.70	-0.32	0.55
K1	-0.681599	0.023				1.00	-0.90	0.84	0.65	-0.83
K2	10.6536	0.64					1.00	-0.98	-0.44	0.59
K3	-117.301	8.6						1.00	0.41	-0.58
P1	0.00513532	0.00026							1.00	-0.73
P2	0.0383382	0.001								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

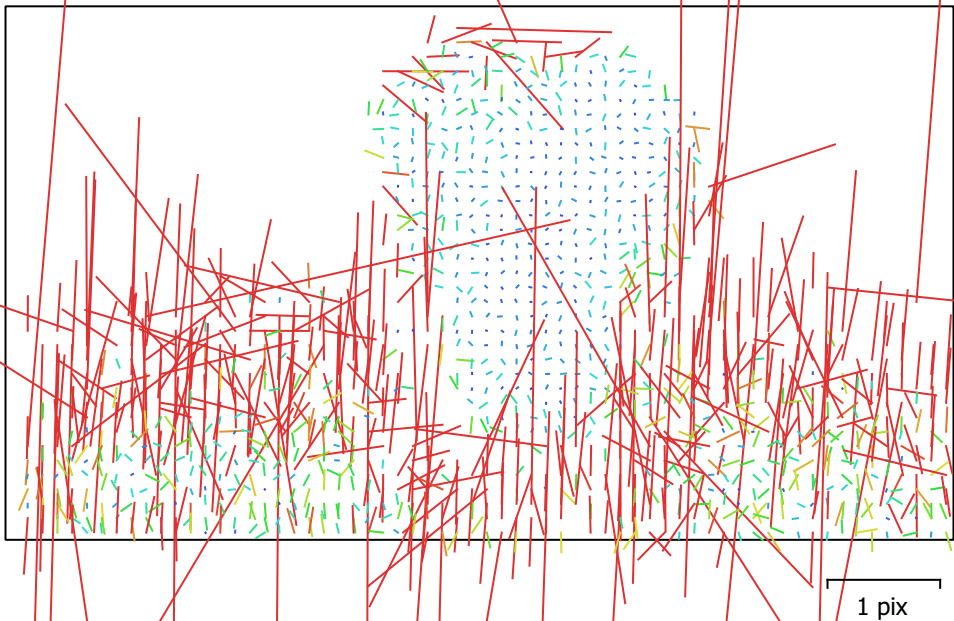


Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

69 images

Type

Frame

Resolution

4592 x 2584

Focal Length

60 mm

Pixel Size

3.79 x 3.79 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	15708.8	20	1.00	0.02	-0.43	0.12	-0.14	0.13	-0.06	0.07
Cx	-45.826	37		1.00	0.11	-0.12	0.18	-0.27	0.88	0.14
Cy	508.848	51			1.00	-0.53	0.40	-0.33	0.26	0.52
K1	-0.0743338	0.025				1.00	-0.88	0.68	-0.26	-0.11
K2	7.31755	2					1.00	-0.92	0.27	0.18
K3	-309.283	73						1.00	-0.36	-0.27
P1	-0.000914869	0.00071							1.00	0.15
P2	-0.00411641	0.00056								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.05	-8.9026e-15
Total		8.9026e-15

Table 4. Control scale bars.

Digital Elevation Model

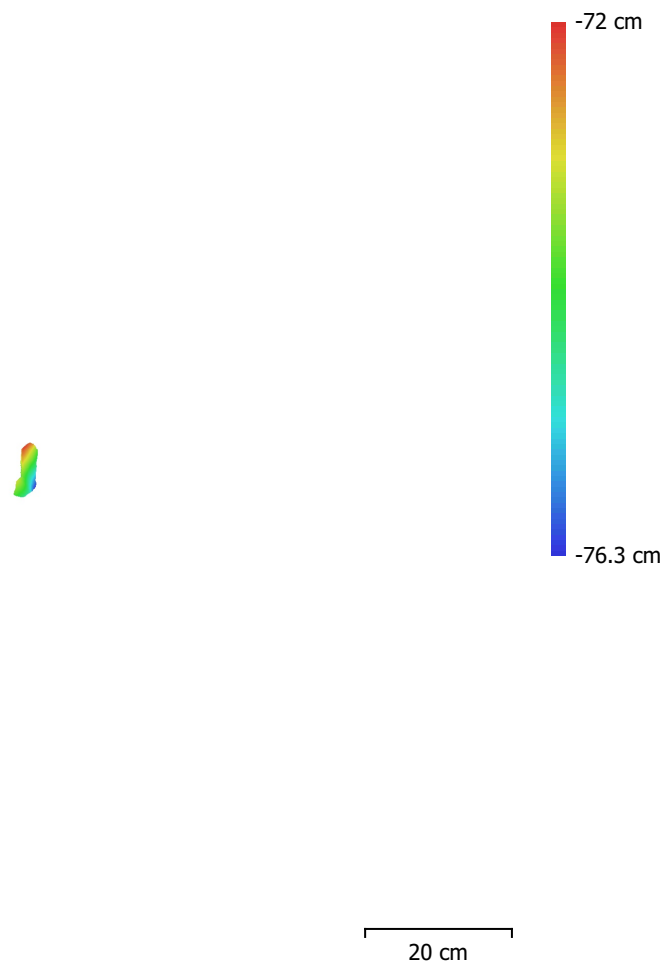


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.108 mm/pix
Point density: 85.3 points/mm²

Processing Parameters

General

Cameras	128
Aligned cameras	128
Markers	6
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	84,962 of 111,782
RMS reprojection error	0.233729 (0.815041 pix)
Max reprojection error	0.724205 (32.1727 pix)
Mean key point size	3.16667 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.48935
File size	8.23 MB

Depth Maps

Count	128
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	7 minutes 0 seconds
Memory usage	5.83 GB
Date created	2024:06:01 09:57:35
Software version	1.8.4.14671
File size	130.59 MB

Model

Faces	631,532
Vertices	315,769
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	29 seconds
UV mapping memory usage	876.35 MB
Blending time	1 minutes 17 seconds
Blending memory usage	14.17 GB
Blending GPU memory usage	11.92 GB
File size	181.03 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