

Agisoft Metashape

Processing Report

24 June 2024



Survey Data

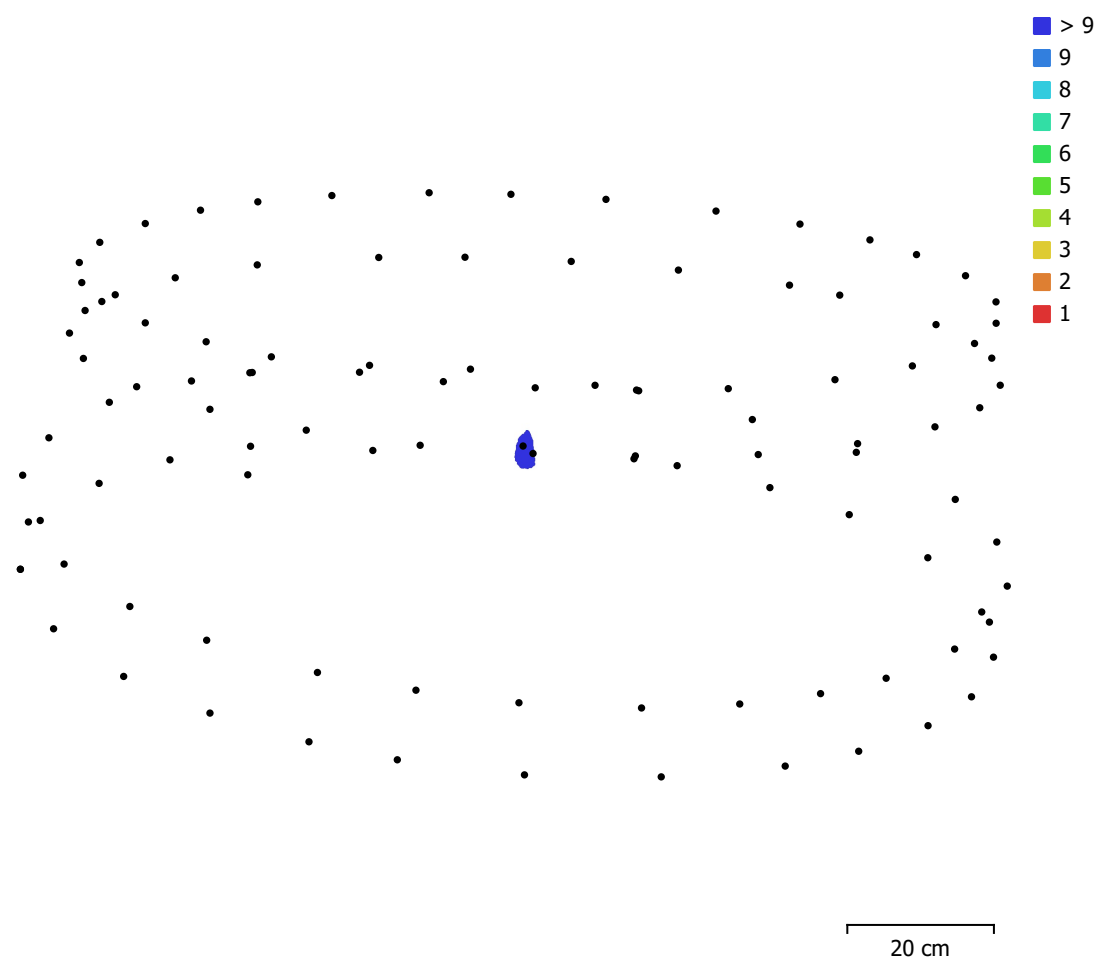


Fig. 1. Camera locations and image overlap.

Number of images:	109	Camera stations:	109
Flying altitude:	65.4 cm	Tie points:	87,250
Ground resolution:	0.0412 mm/pix	Projections:	291,741
Coverage area:	11.1 cm ²	Reprojection error:	1.31 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

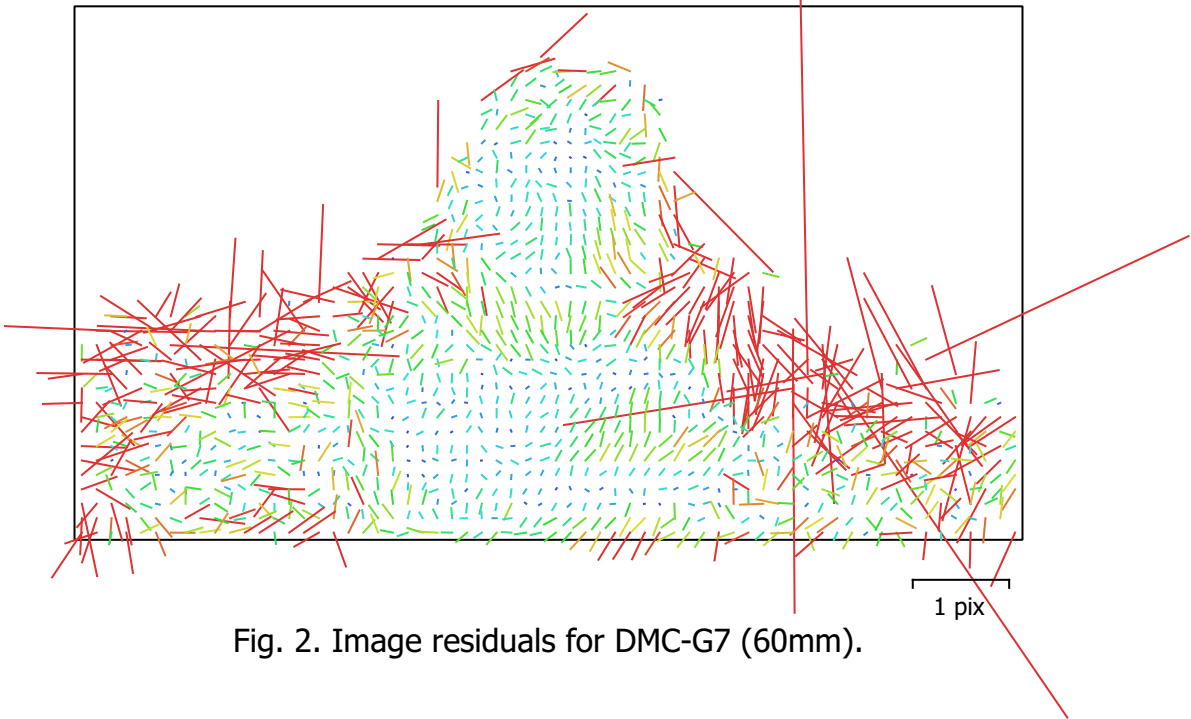


Fig. 2. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

56 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	15532.6	13	1.00	-0.09	-0.18	0.04	-0.18	0.24	-0.05	0.29
Cx	44.6734	4		1.00	-0.12	-0.02	0.36	-0.43	0.76	-0.26
Cy	-226.103	5.4			1.00	-0.25	-0.44	0.54	-0.06	0.73
K1	0.937598	0.0087				1.00	-0.61	0.43	0.07	-0.33
K2	-57.2991	0.78					1.00	-0.97	0.23	-0.45
K3	1032.46	20						1.00	-0.30	0.59
P1	0.00790343	0.00018							1.00	-0.25
P2	0.0102877	0.00035								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

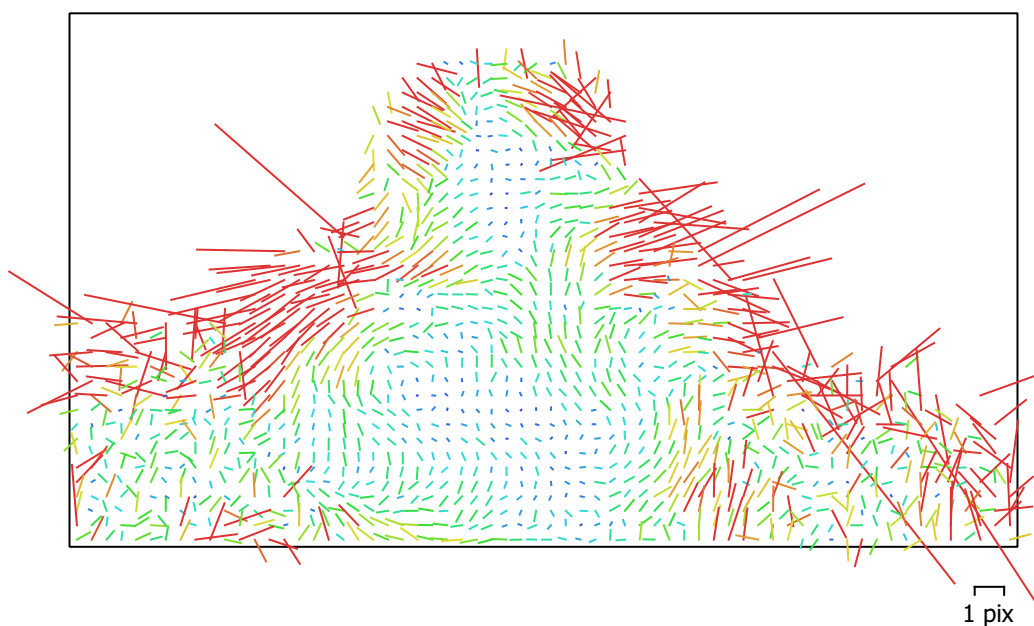


Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

53 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	16491.4	30	1.00	-0.08	-0.19	0.11	-0.11	0.06	-0.09	0.16
Cx	-1539.97	46		1.00	0.27	0.19	-0.56	0.67	-0.14	-0.13
Cy	-1035.67	60			1.00	-0.21	-0.48	0.60	0.57	0.09
K1	-0.105076	0.018				1.00	-0.62	0.40	-0.73	-0.84
K2	-4.26515	0.38					1.00	-0.96	0.10	0.39
K3	36.7125	4.2						1.00	0.06	-0.21
P1	0.00130579	0.00059							1.00	0.64
P2	-0.0124712	0.0007								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.05	-7.56339e-16
Total		7.56339e-16

Table 4. Control scale bars.

Digital Elevation Model

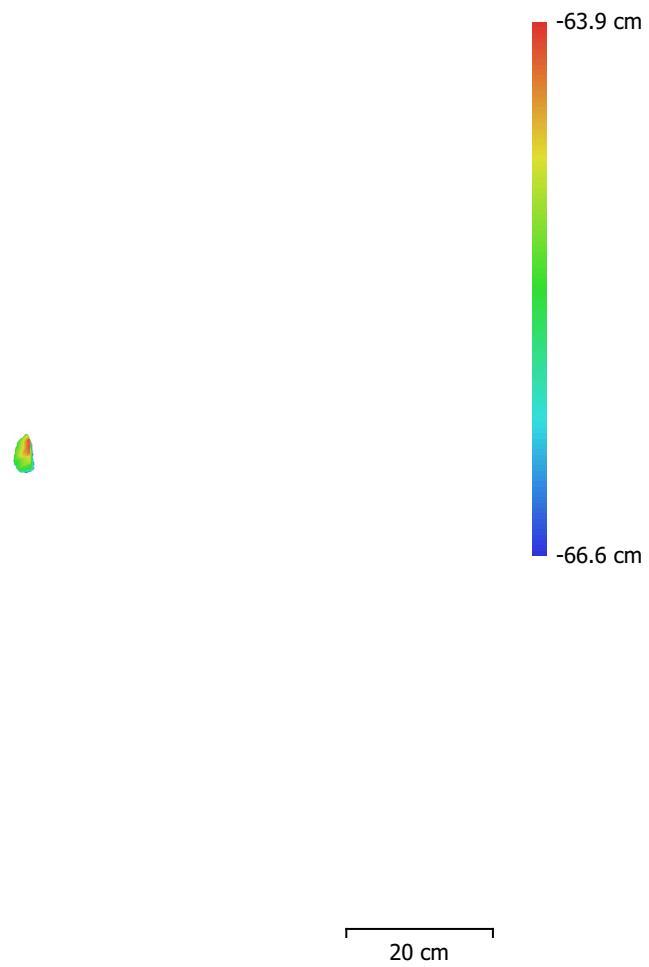


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.101 mm/pix
Point density: 97.9 points/mm²

Processing Parameters

General

Cameras	109
Aligned cameras	109
Markers	8
Scale bars	2
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	87,250 of 125,257
RMS reprojection error	0.434477 (1.31134 pix)
Max reprojection error	1.71705 (96.3665 pix)
Mean key point size	2.95698 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.76398
File size	9.56 MB

Depth Maps

Count	109
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	6 minutes 18 seconds
Memory usage	4.43 GB
Date created	2024:06:01 12:31:25
Software version	1.8.4.14671
File size	82.38 MB

Model

Faces	501,597
Vertices	250,846
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	53 seconds
UV mapping memory usage	299.40 MB
Blending time	1 minutes 17 seconds
Blending memory usage	13.83 GB
Blending GPU memory usage	11.91 GB
File size	173.69 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