

Agisoft Metashape

Processing Report

24 June 2024



Survey Data

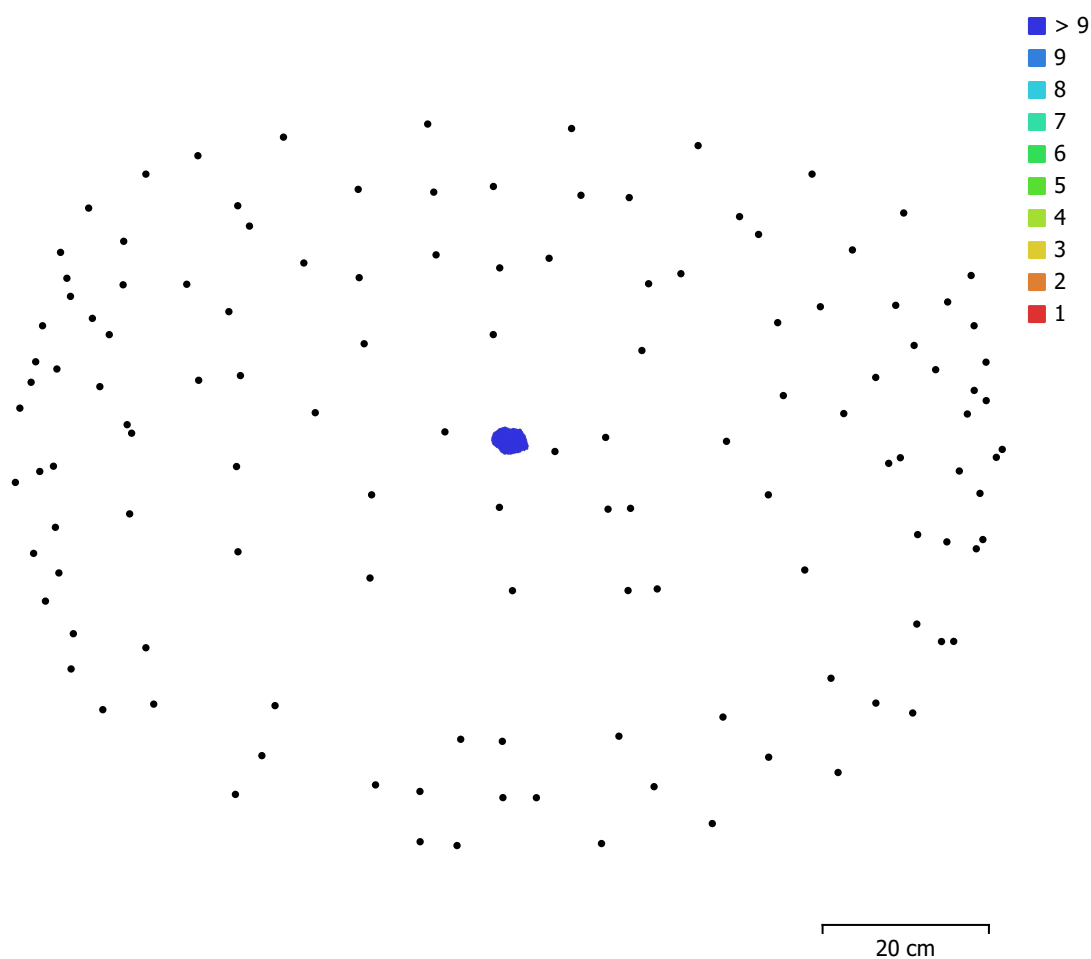


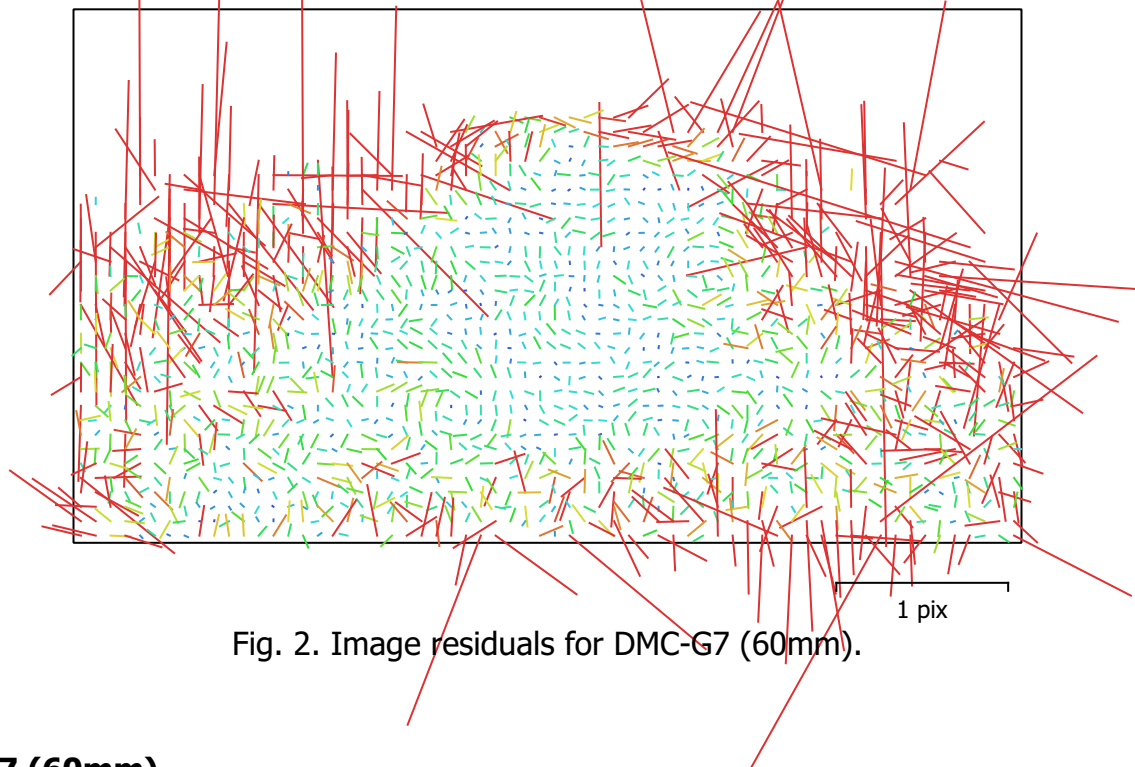
Fig. 1. Camera locations and image overlap.

Number of images:	127	Camera stations:	127
Flying altitude:	56.3 cm	Tie points:	127,621
Ground resolution:	0.0358 mm/pix	Projections:	429,055
Coverage area:	11.4 cm ²	Reprojection error:	0.855 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



DMC-G7 (60mm)

62 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	15690.1	6.4	1.00	-0.29	-0.23	0.04	-0.00	-0.07	-0.26	-0.20
Cx	-175.27	16		1.00	0.11	0.05	-0.20	0.45	0.98	0.05
Cy	-134.481	13			1.00	-0.10	-0.00	0.15	0.07	0.89
K1	0.0664649	0.0048				1.00	-0.88	0.70	0.04	-0.24
K2	-3.76128	0.4					1.00	-0.92	-0.20	0.05
K3	136.736	11						1.00	0.44	0.10
P1	-0.00517718	0.00036							1.00	0.03
P2	-0.00452379	0.00026								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

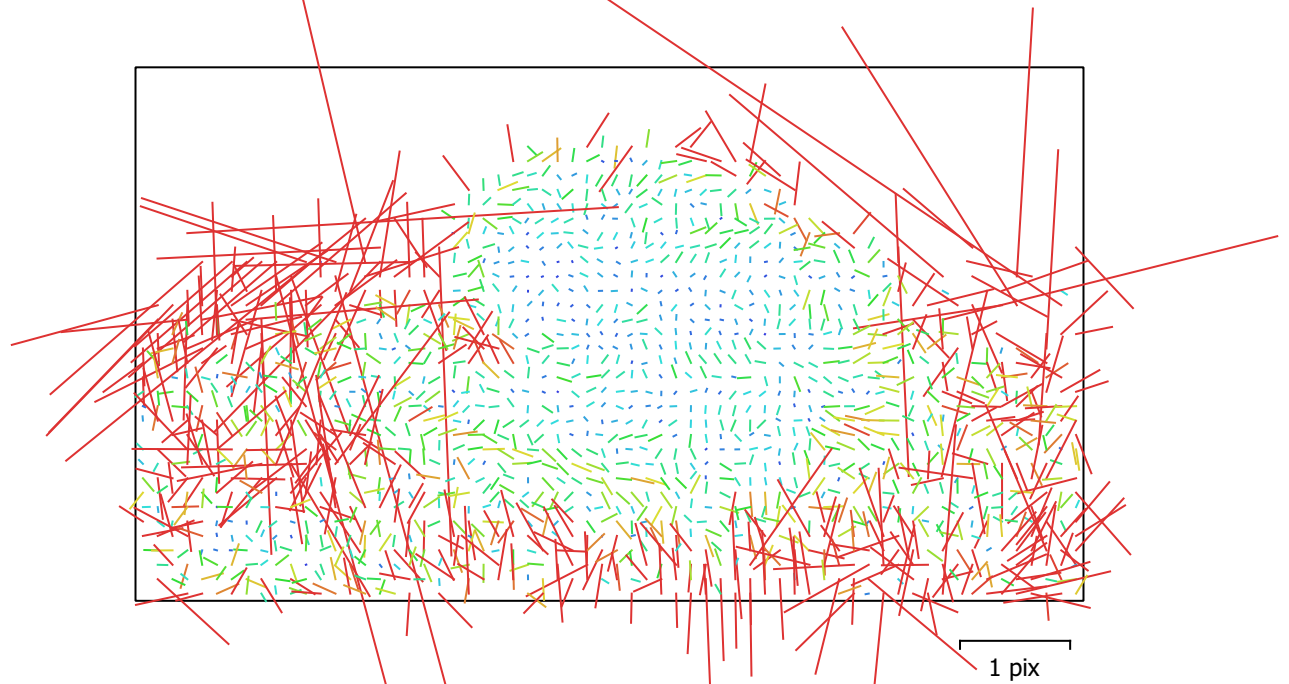


Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

65 images

Type

Resolution

Focal Length

Pixel Size

Frame

4592 x 2584

60 mm

3.79 x 3.79 μ m

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	15790.8	8.4	1.00	0.15	-0.15	0.11	-0.19	0.20	0.17	-0.05
Cx	834.84	14		1.00	0.22	0.13	-0.18	0.26	0.93	0.20
Cy	-543.326	13			1.00	0.07	-0.05	0.06	0.36	0.73
K1	0.0957957	0.0046				1.00	-0.77	0.65	0.24	-0.22
K2	0.948498	0.24					1.00	-0.97	-0.14	-0.04
K3	-22.7703	3.5						1.00	0.19	0.08
P1	0.0207875	0.00036							1.00	0.23
P2	-0.0165003	0.00028								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.0499932	-6.81851e-06
target 19_target 20	0.0500068	6.8161e-06
Total		6.81731e-06

Table 4. Control scale bars.

Digital Elevation Model

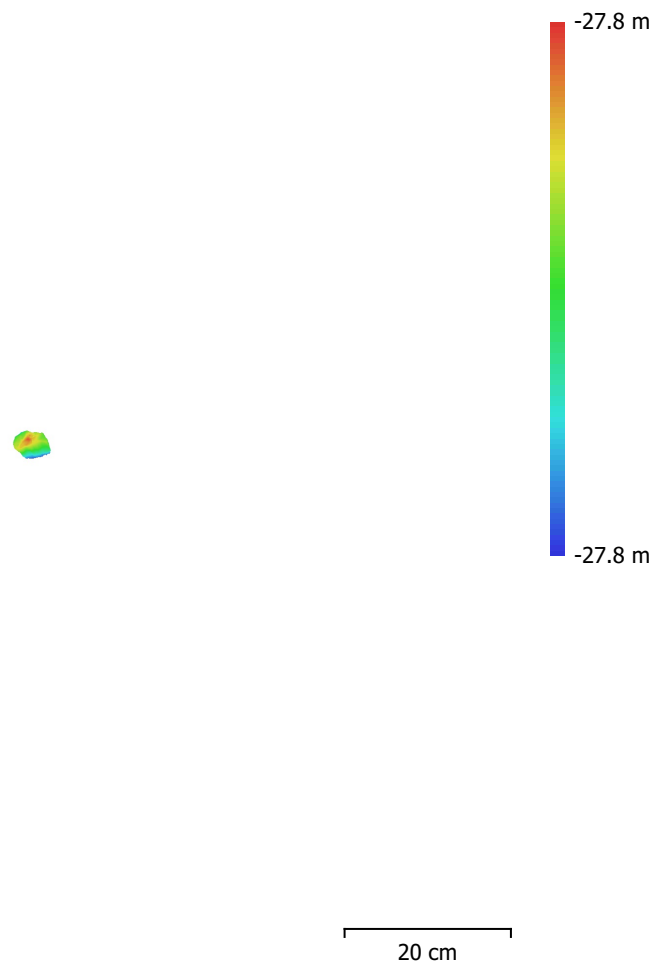


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.0959 mm/pix
Point density: 109 points/mm²

Processing Parameters

General

Cameras	127
Aligned cameras	127
Markers	8
Scale bars	2
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	127,621 of 154,992
RMS reprojection error	0.232587 (0.854594 pix)
Max reprojection error	0.800709 (41.2153 pix)
Mean key point size	3.12744 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.81413
File size	12.40 MB

Depth Maps

Count	126
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	7 minutes 21 seconds
Memory usage	6.74 GB
Date created	2024:05:24 16:42:52
Software version	1.8.4.14671
File size	108.85 MB

Model

Faces	530,156
Vertices	265,080
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	14 seconds
UV mapping memory usage	878.11 MB
Blending time	1 minutes 16 seconds
Blending memory usage	13.54 GB
Blending GPU memory usage	11.92 GB
File size	174.42 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