

Agisoft Metashape

Processing Report

24 June 2024



Survey Data

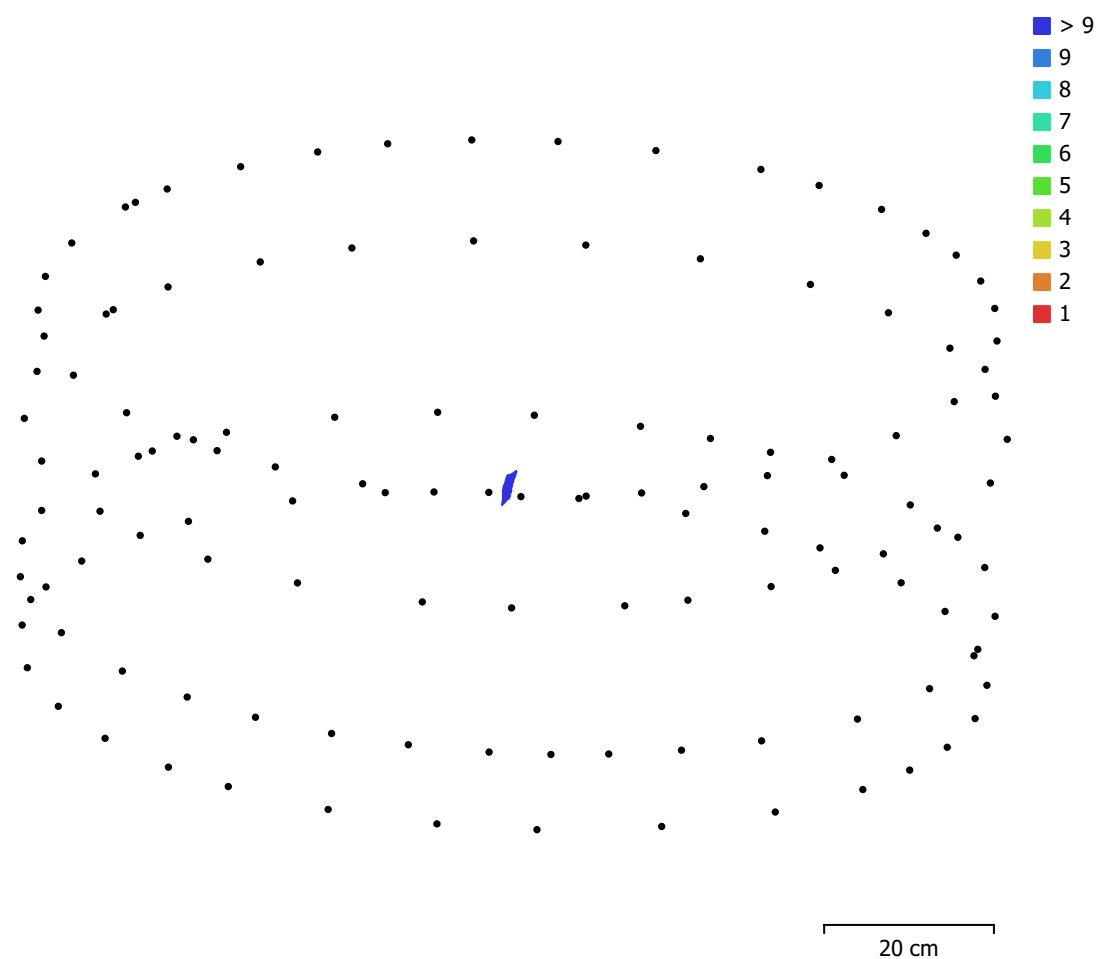


Fig. 1. Camera locations and image overlap.

Number of images:	129	Camera stations:	129
Flying altitude:	58.3 cm	Tie points:	80,078
Ground resolution:	0.0374 mm/pix	Projections:	242,513
Coverage area:	4 cm ²	Reprojection error:	0.639 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

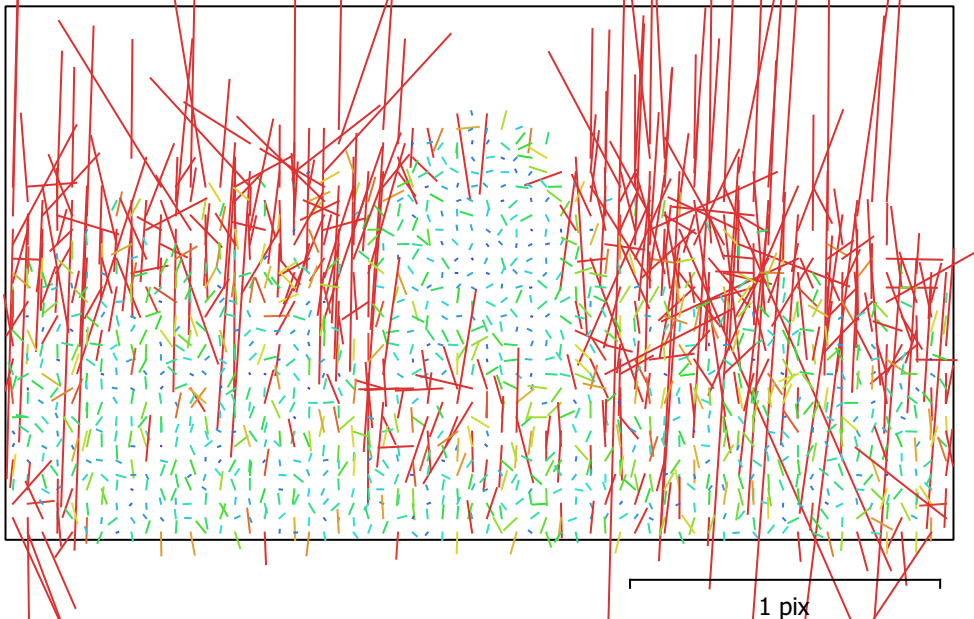


Fig. 2. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

65 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	15541.4	6.5	1.00	0.20	-0.85	0.33	-0.21	0.17	0.16	-0.35
Cx	235.378	15		1.00	-0.04	0.01	0.02	-0.04	0.98	0.12
Cy	221.846	17			1.00	-0.38	0.20	-0.15	-0.02	0.56
K1	0.0391692	0.0081				1.00	-0.89	0.81	-0.03	-0.09
K2	-1.03397	0.62					1.00	-0.98	0.08	-0.10
K3	26.2287	14						1.00	-0.08	0.12
P1	0.00708664	0.00035							1.00	0.09
P2	-0.00357701	0.00018								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

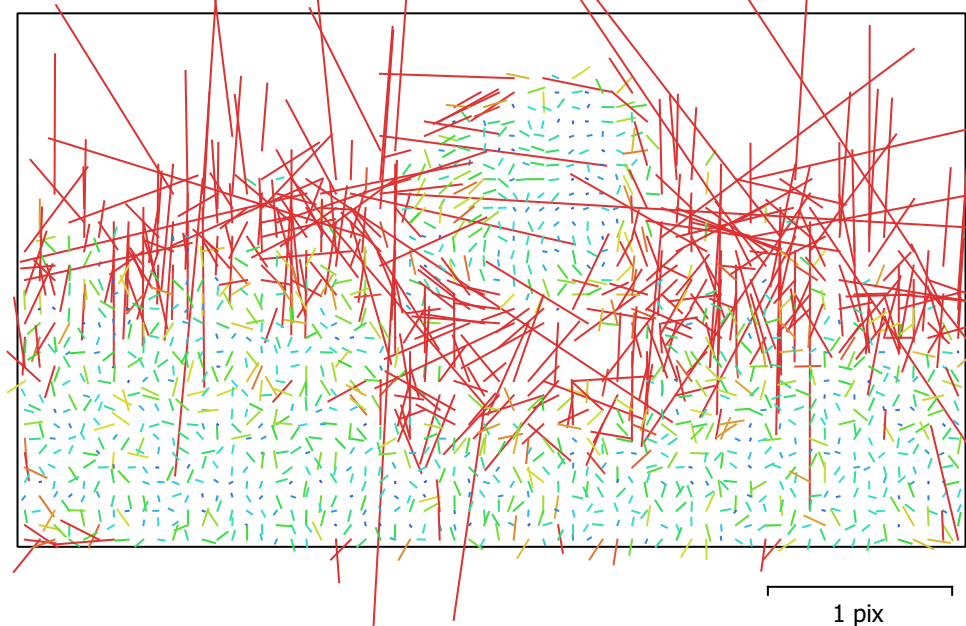


Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

64 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	15652.4	6.3	1.00	0.24	-0.67	-0.15	0.13	-0.12	0.22	-0.37
Cx	126.486	15		1.00	-0.09	0.07	-0.03	0.01	0.99	0.06
Cy	152.733	14			1.00	0.07	-0.07	0.08	-0.05	0.77
K1	0.0929104	0.0072				1.00	-0.93	0.85	0.07	0.05
K2	-1.3298	0.52					1.00	-0.98	-0.02	-0.12
K3	23.0689	12						1.00	0.01	0.14
P1	0.00448664	0.00037							1.00	0.07
P2	-0.00858994	0.00025								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.0499738	-2.62153e-05
target 19_target 20	0.0500262	2.61926e-05
Total		2.62039e-05

Table 4. Control scale bars.

Digital Elevation Model

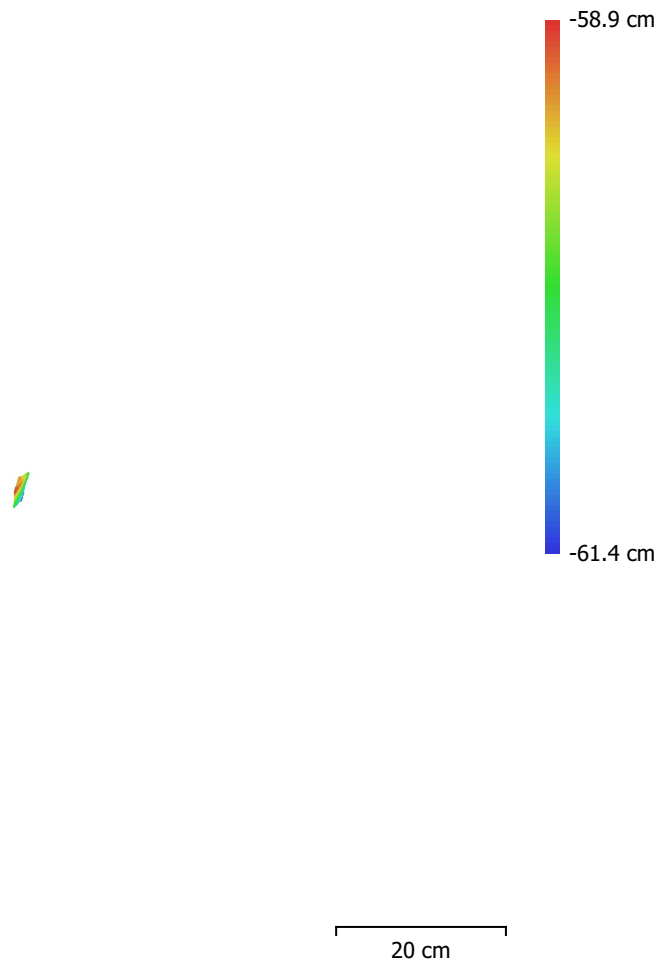


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.0968 mm/pix
Point density: 107 points/mm²

Processing Parameters

General

Cameras	129
Aligned cameras	129
Markers	8
Scale bars	2
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	80,078 of 104,280
RMS reprojection error	0.162614 (0.638616 pix)
Max reprojection error	0.553954 (31.4396 pix)
Mean key point size	3.05506 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.52567
File size	7.76 MB

Depth Maps

Count	127
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	7 minutes 9 seconds
Memory usage	5.97 GB
Date created	2024:05:31 13:05:18
Software version	1.8.4.14671
File size	56.25 MB

Model

Faces	264,144
Vertices	132,074
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	605.05 MB
Blending time	1 minutes 18 seconds
Blending memory usage	13.37 GB
Blending GPU memory usage	11.90 GB
File size	196.35 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