

Agisoft Metashape

Processing Report

24 June 2024



Survey Data

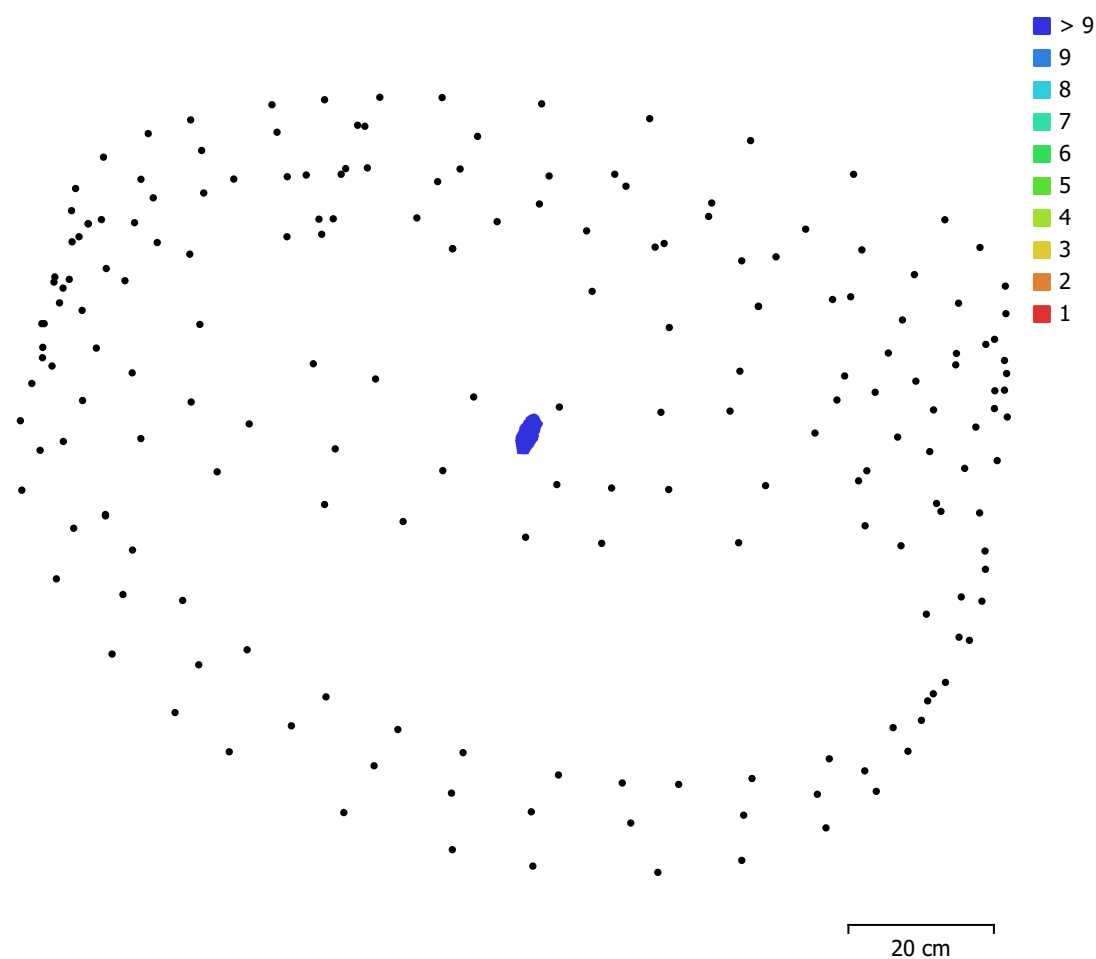


Fig. 1. Camera locations and image overlap.

Number of images:	192	Camera stations:	192
Flying altitude:	65.5 cm	Tie points:	189,339
Ground resolution:	0.042 mm/pix	Projections:	723,104
Coverage area:	13.8 cm ²	Reprojection error:	0.755 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

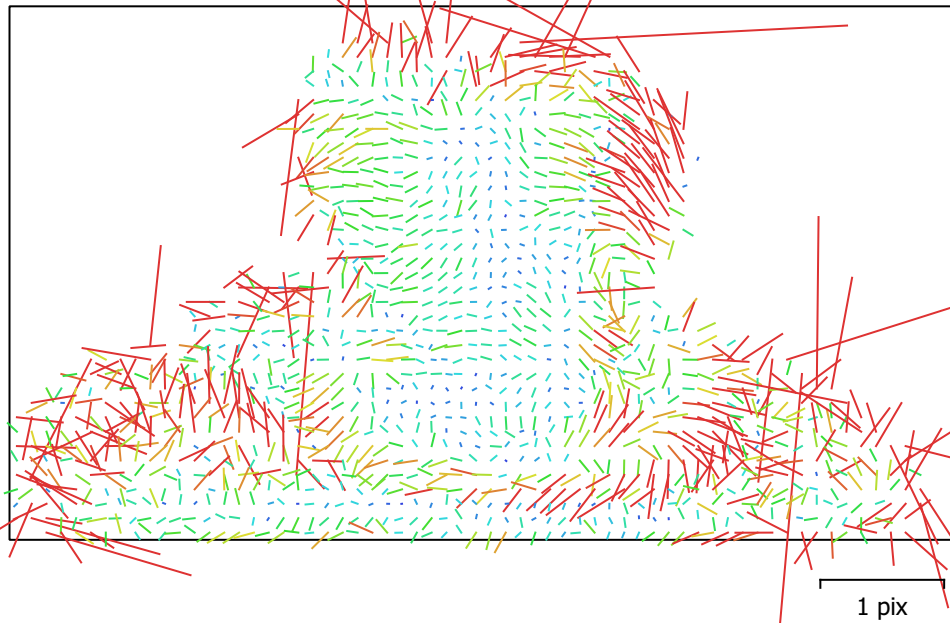


Fig. 2. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

92 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	15510.1	5.9	1.00	0.04	-0.39	-0.16	0.09	-0.10	-0.03	-0.16
Cx	54.3235	4.4		1.00	-0.01	-0.13	0.15	-0.17	0.91	-0.03
Cy	-901.389	14			1.00	0.02	-0.05	0.23	0.12	0.73
K1	0.112453	0.0064				1.00	-0.88	0.74	-0.06	-0.40
K2	-2.27557	0.3					1.00	-0.95	0.10	0.16
K3	81.7046	5.2						1.00	-0.10	0.06
P1	0.00307081	0.0001							1.00	0.00
P2	-0.0306843	0.0003								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

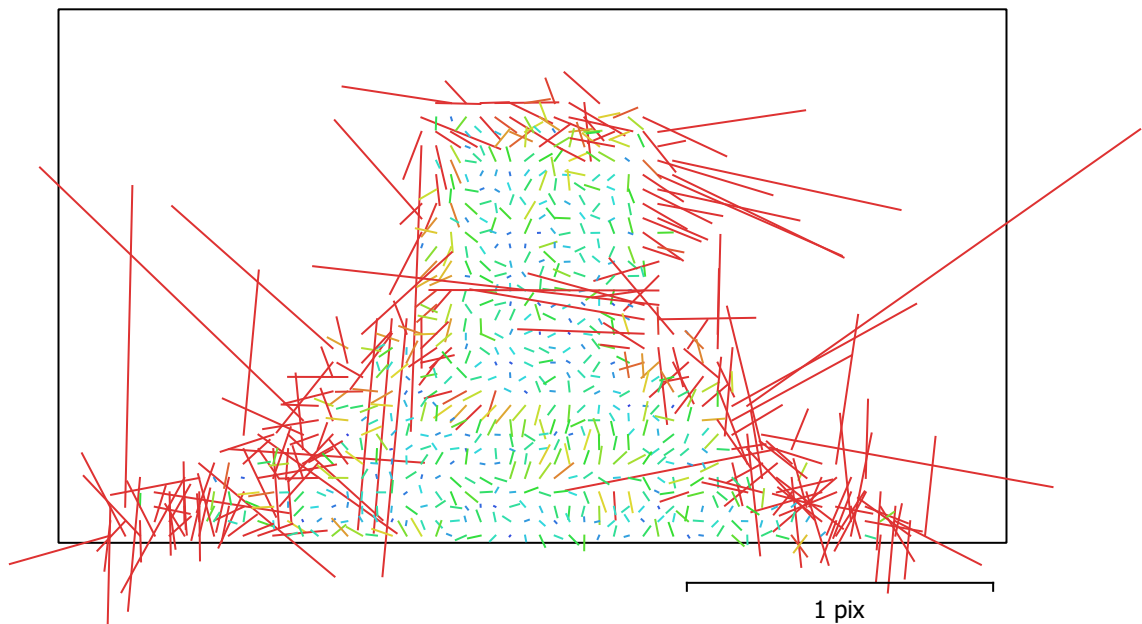


Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

100 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	15600.9	5.2	1.00	-0.20	-0.24	-0.04	-0.15	0.17	-0.13	-0.03
Cx	-403.576	14		1.00	0.23	-0.02	0.13	-0.13	0.90	0.17
Cy	239.845	17			1.00	-0.09	0.26	-0.24	0.12	0.62
K1	-0.0839881	0.0098				1.00	-0.85	0.71	-0.18	-0.30
K2	8.35886	1.1					1.00	-0.95	0.12	0.23
K3	-171.841	41						1.00	-0.08	-0.21
P1	-0.00699482	0.00032							1.00	0.13
P2	-0.00175261	0.00022								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 19_target 20	0.05	1.64056e-13
Total		1.64056e-13

Table 4. Control scale bars.

Digital Elevation Model

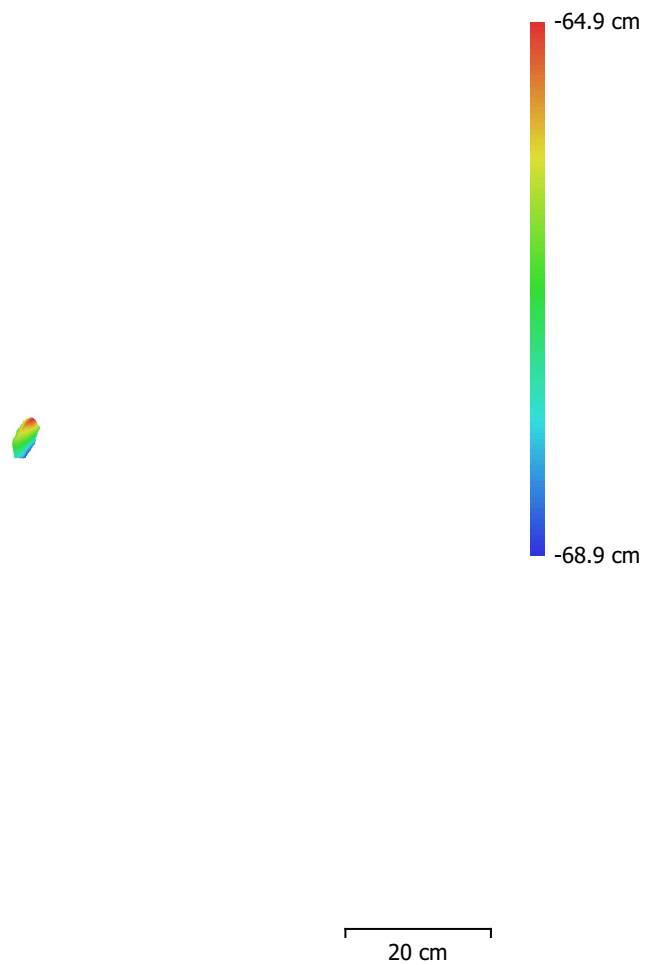


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.132 mm/pix
Point density: 57.4 points/mm²

Processing Parameters

General

Cameras	192
Aligned cameras	192
Markers	3
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	189,339 of 234,012
RMS reprojection error	0.24245 (0.754851 pix)
Max reprojection error	0.777714 (43.5503 pix)
Mean key point size	2.91892 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.69996
File size	21.81 MB

Depth Maps

Count	192
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	12 minutes 1 seconds
Memory usage	6.36 GB
Date created	2024:06:14 19:16:18
Software version	1.8.4.14671
File size	159.30 MB

Model

Faces	221,138
Vertices	110,571
Vertex colors	3 bands, uint8
Texture	16,000 x 16,000 x 2, 4 bands, uint8

Depth maps generation parameters

Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	12 minutes 1 seconds
Memory usage	6.36 GB

Reconstruction parameters

Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	2 minutes 4 seconds
Memory usage	8.50 GB

Texturing parameters

Mapping mode	Generic
Blending mode	Mosaic
Texture size	16,000
Enable hole filling	Yes

Enable ghosting filter	Yes
UV mapping time	21 seconds
UV mapping memory usage	661.04 MB
Blending time	1 minutes 24 seconds
Blending memory usage	13.80 GB
Blending GPU memory usage	11.90 GB
Date created	2024:06:14 19:18:22
Software version	1.8.4.14671
File size	156.82 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