

Agisoft Metashape

Processing Report

12 July 2024



Survey Data

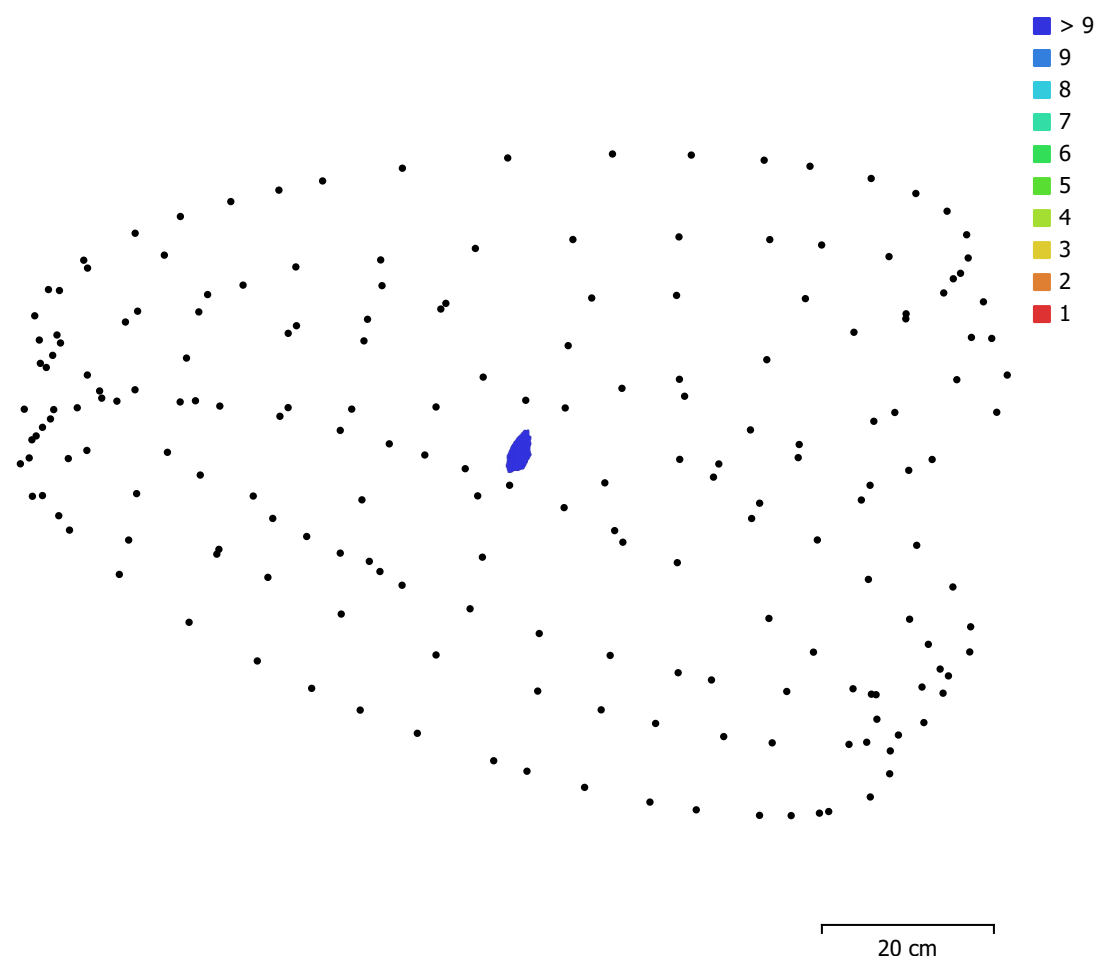


Fig. 1. Camera locations and image overlap.

Number of images:	193	Camera stations:	193
Flying altitude:	55.6 cm	Tie points:	879,296
Ground resolution:	0.0353 mm/pix	Projections:	2,386,203
Coverage area:	10.1 cm ²	Reprojection error:	0.713 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

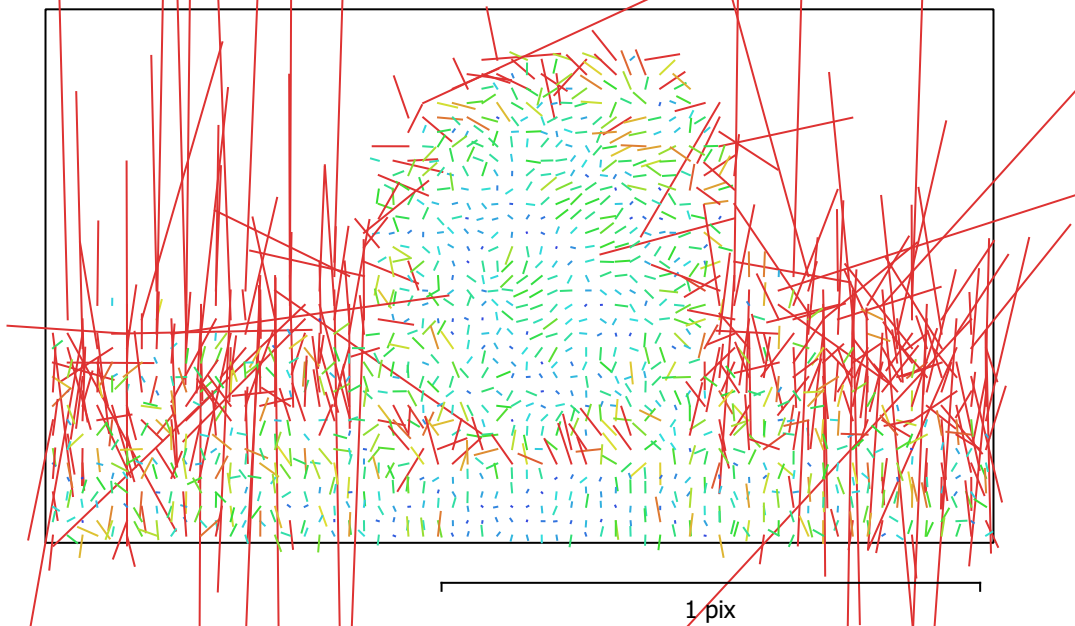


Fig. 2. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

106 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	15657.8	3.2	1.00	0.12	-0.45	0.02	0.01	-0.00	0.10	-0.33
Cx	294.731	5.1		1.00	-0.14	0.11	-0.09	0.11	0.93	-0.14
Cy	463.607	6.9			1.00	-0.27	0.07	-0.04	-0.09	0.79
K1	-0.0330528	0.0034				1.00	-0.91	0.80	0.08	0.04
K2	6.52174	0.34					1.00	-0.96	-0.03	-0.14
K3	-146.433	8.6						1.00	0.07	0.11
P1	0.0086781	0.00013							1.00	-0.10
P2	-2.86386e-05	9.6e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

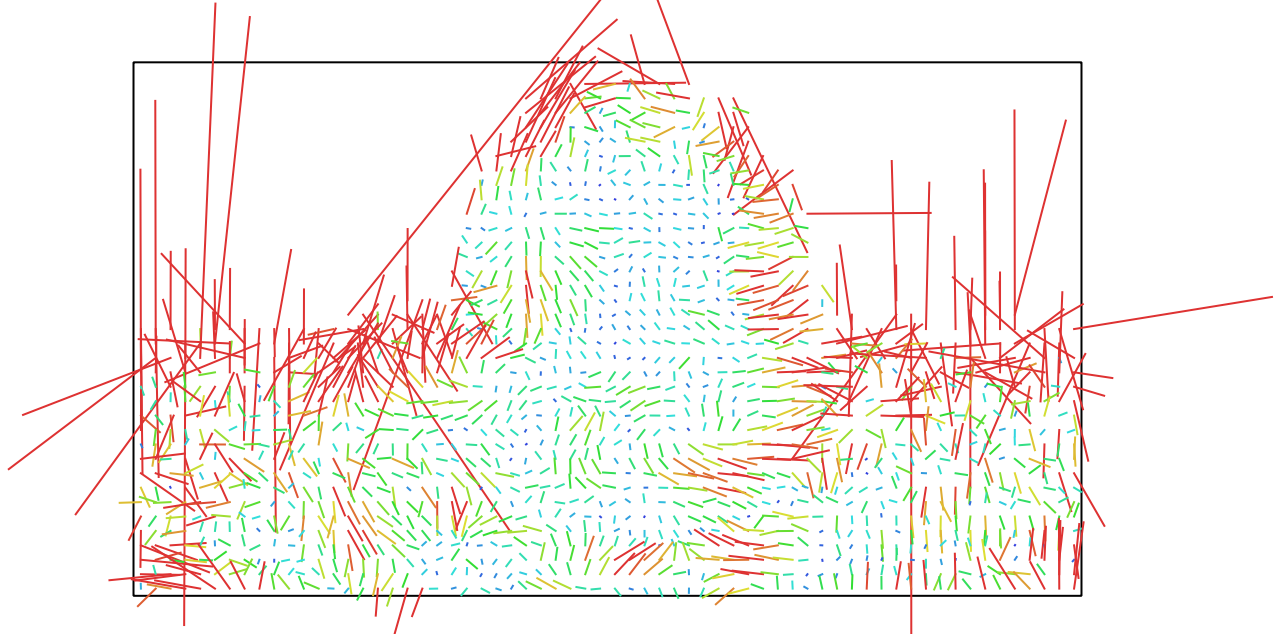


Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

87 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	15964.7	5.4	1.00	0.17	-0.14	-0.12	0.11	-0.10	0.09	0.08
Cx	526.511	5.6		1.00	-0.37	-0.22	0.63	-0.67	0.83	-0.34
Cy	-576.261	7			1.00	-0.07	-0.61	0.66	-0.30	0.75
K1	0.24983	0.004				1.00	-0.62	0.49	0.00	-0.53
K2	-14.719	0.23					1.00	-0.98	0.49	-0.28
K3	190.422	4.2						1.00	-0.54	0.38
P1	0.00955475	0.00012							1.00	-0.44
P2	0.0101491	0.0002								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.05	-2.76862e-15
Total		2.76862e-15

Table 4. Control scale bars.

Digital Elevation Model

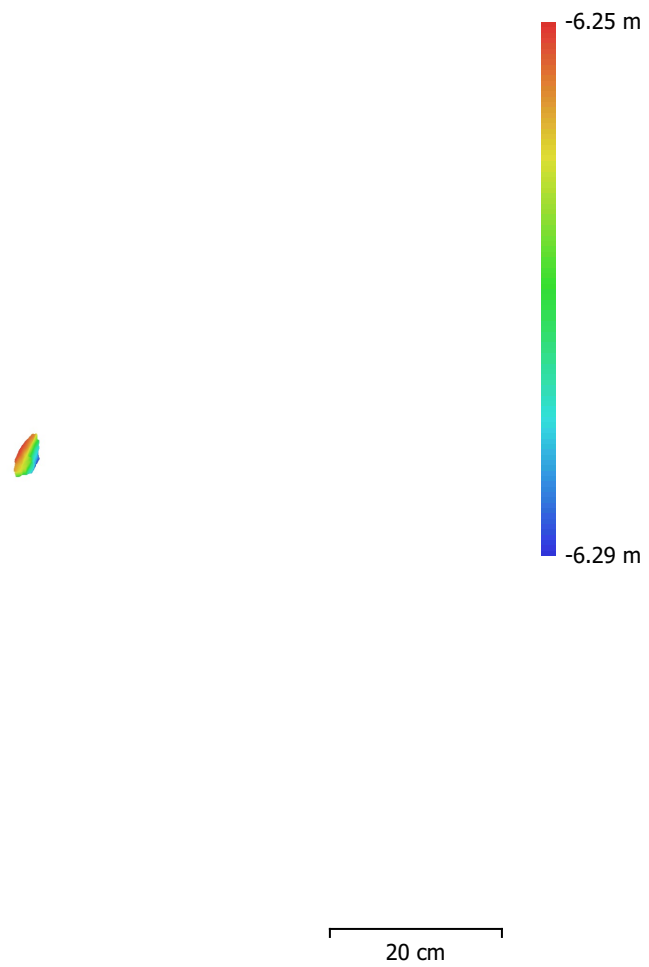


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.0994 mm/pix
Point density: 101 points/mm²

Processing Parameters

General

Cameras	193
Aligned cameras	193
Markers	8
Scale bars	2
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	879,296 of 1,239,124
RMS reprojection error	0.328967 (0.713072 pix)
Max reprojection error	1.25087 (44.4215 pix)
Mean key point size	2.00213 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.00207
File size	80.46 MB

Depth Maps

Count	188
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	1 minutes 18 seconds
Memory usage	1.07 GB
Date created	2024:07:12 12:35:27
Software version	1.8.4.14671
File size	15.87 MB

Model

Faces	756,214
Vertices	378,109
Vertex colors	3 bands, uint8
Texture	16,384 x 16,384, 4 bands, uint8

Texturing parameters

Mapping mode	Generic
Blending mode	Mosaic
Texture size	16,384
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	23 seconds
UV mapping memory usage	633.81 MB
Blending time	1 minutes 1 seconds
Blending memory usage	7.30 GB
Blending GPU memory usage	6.43 GB
File size	136.38 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