Agisoft Metashape

Processing Report
24 June 2024

Survey Data
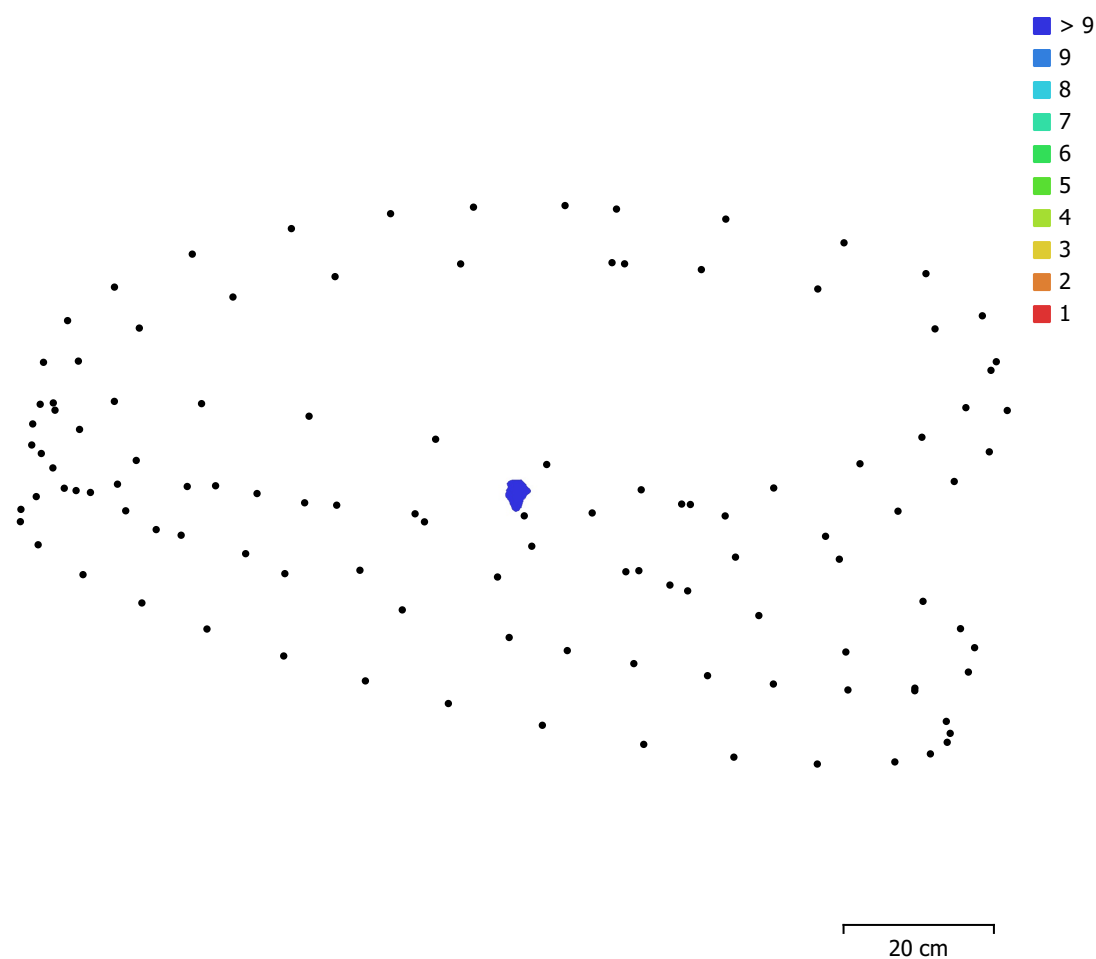
Fig. 1. Camera locations and image overlap.

Number of images:	113	Camera stations:	113
Flying altitude:	63.3 cm	Tie points:	54,748
Ground resolution:	0.0396 mm/pix	Projections:	179,096
Coverage area:	9.4 cm²	Reprojection error:	0.799 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
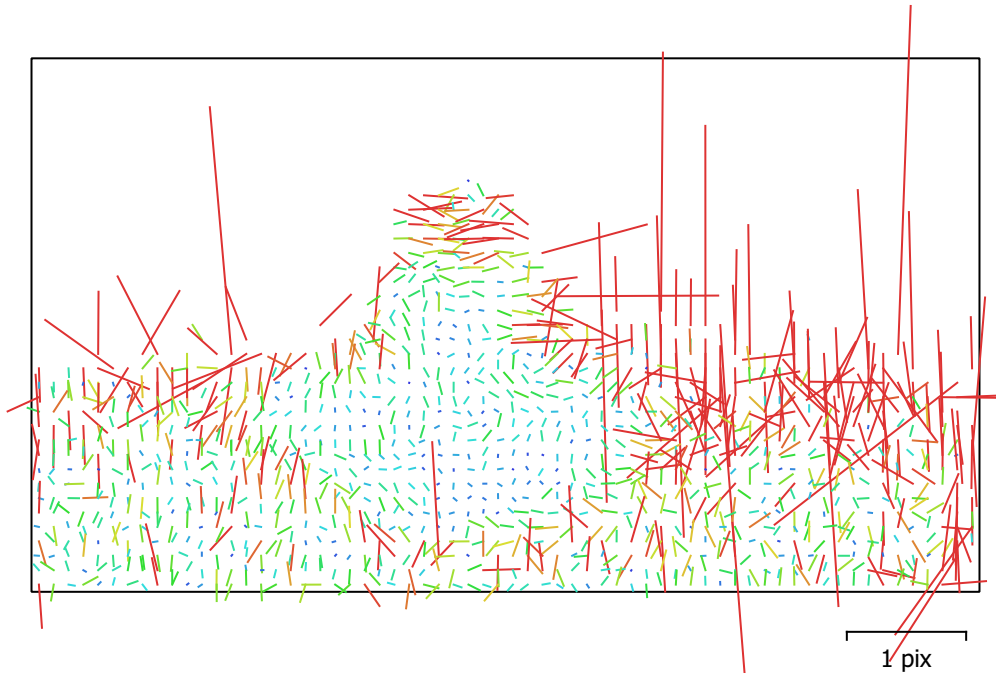
Fig. 2. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

61 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	**16000.7**	14	1.00	0.43	-0.45	-0.04	0.12	-0.19	0.17	0.02
Cx	**1014.26**	20		1.00	-0.37	0.00	0.64	-0.77	0.78	-0.05
Cy	**315.715**	13			1.00	0.01	-0.20	0.28	-0.14	0.29
K1	**0.376236**	0.0095				1.00	-0.54	0.37	0.39	-0.20
K2	**-15.8365**	0.51					1.00	-0.97	0.50	-0.11
K3	**197.815**	9.4						1.00	-0.63	0.13
P1	**0.0223827**	0.00069							1.00	-0.18
P2	**-0.0033311**	0.00026								1.00

Table 2. Calibration coefficients and correlation matrix.

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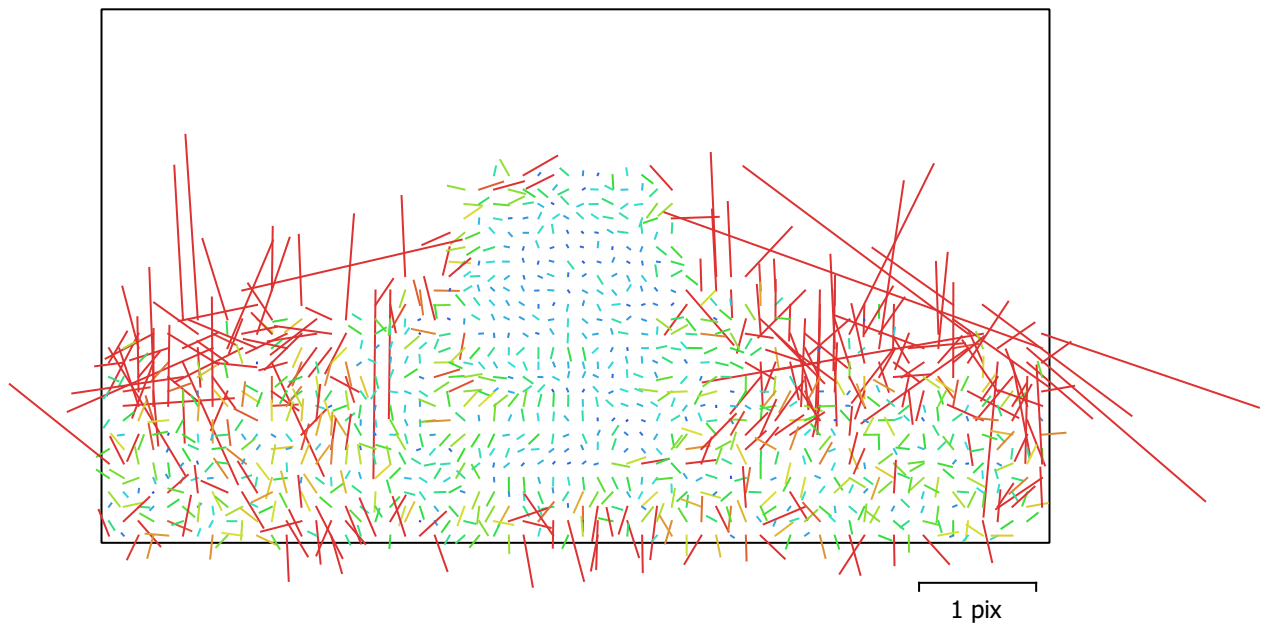
Fig. 3. Image residuals for DMC-G7 (60mm).

DMC-G7 (60mm)

52 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	**15915.1**	10	1.00	0.02	-0.45	-0.28	0.06	0.10	0.03	0.11
Cx	**68.5136**	14		1.00	-0.03	0.21	-0.34	0.37	0.94	-0.06
Cy	**-1029.5**	20			1.00	-0.11	0.38	-0.61	-0.03	0.45
K1	**-0.224864**	0.016				1.00	-0.83	0.66	0.32	-0.71
K2	**12.7263**	0.55					1.00	-0.95	-0.37	0.46
K3	**-198.906**	9.6						1.00	0.39	-0.45
P1	**0.00346824**	0.00029							1.00	-0.17
P2	**-0.00908133**	0.00083								1.00

Table 3. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.0498187	-0.000181284
target 19_target 20	0.0501816	0.000181613
Total		**0.000181448**

Table 4. Control scale bars.

Digital Elevation Model

-6.03 m

-6.05 m

20 cm
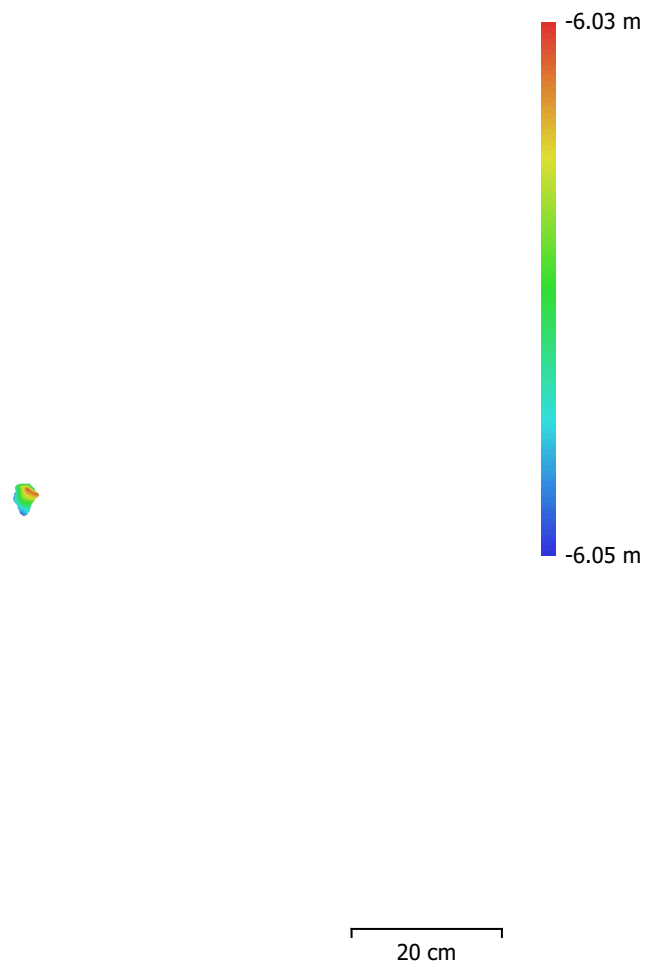
Fig. 4. Reconstructed digital elevation model.

Resolution: 0.104 mm/pix
Point density: 91.6 points/mm²

Processing Parameters

General

Cameras	113
Aligned cameras	113
Markers	8
Scale bars	2
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	54,748 of 90,466
RMS reprojection error	0.219323 (0.798801 pix)
Max reprojection error	0.710841 (45.4566 pix)
Mean key point size	2.89016 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.59451
File size	6.49 MB

Depth Maps

Count	113

Depth maps generation parameters

Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	5 minutes 53 seconds
Memory usage	5.02 GB
Date created	2024:06:01 17:04:41
Software version	1.8.4.14671
File size	57.33 MB

Model

Faces	351,280
Vertices	175,642
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	23 seconds
UV mapping memory usage	614.23 MB
Blending time	1 minutes 20 seconds
Blending memory usage	13.42 GB
Blending GPU memory usage	11.91 GB
File size	170.03 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