

# **Agisoft Metashape**

**Processing Report**

**24 June 2024**



# Survey Data

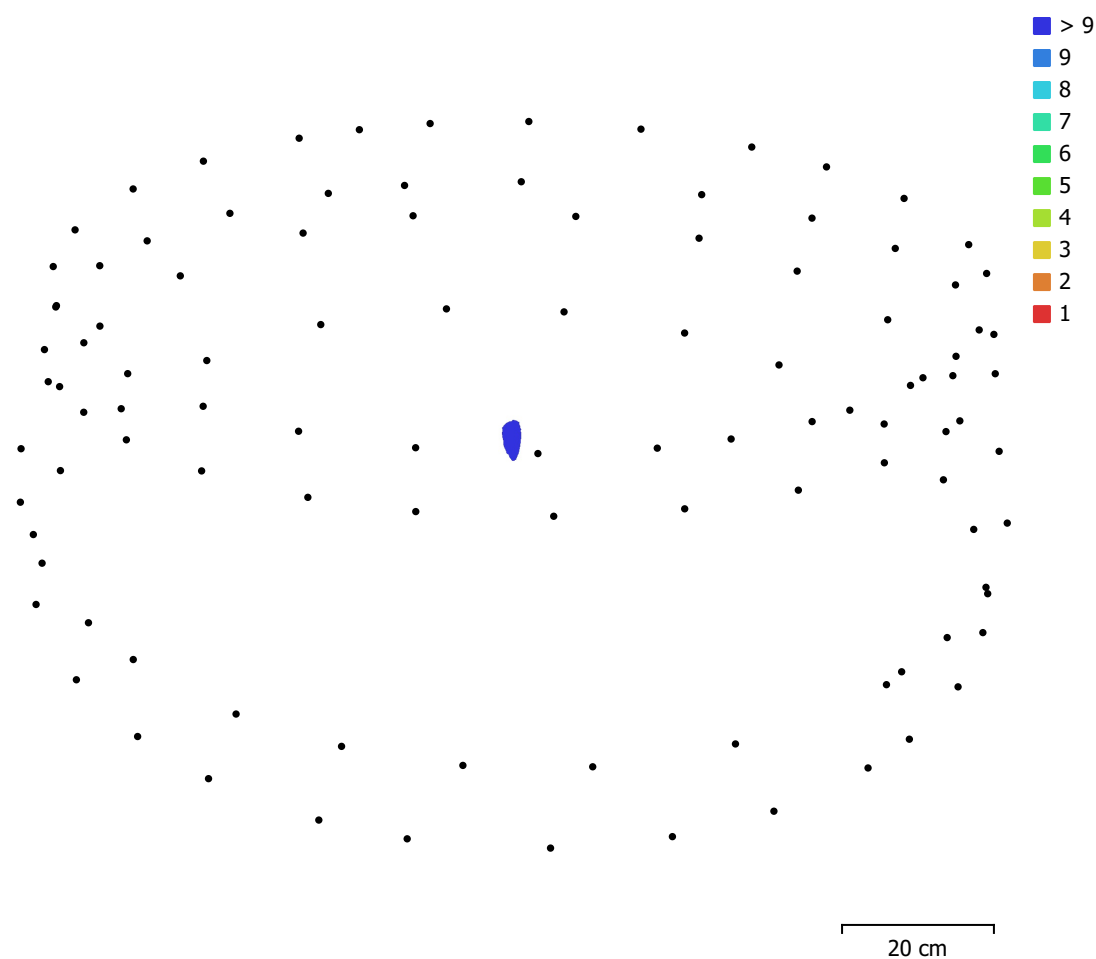


Fig. 1. Camera locations and image overlap.

Number of images:	107	Camera stations:	107
Flying altitude:	64.1 cm	Tie points:	94,247
Ground resolution:	0.0408 mm/pix	Projections:	303,716
Coverage area:	10.2 cm <sup>2</sup>	Reprojection error:	0.845 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

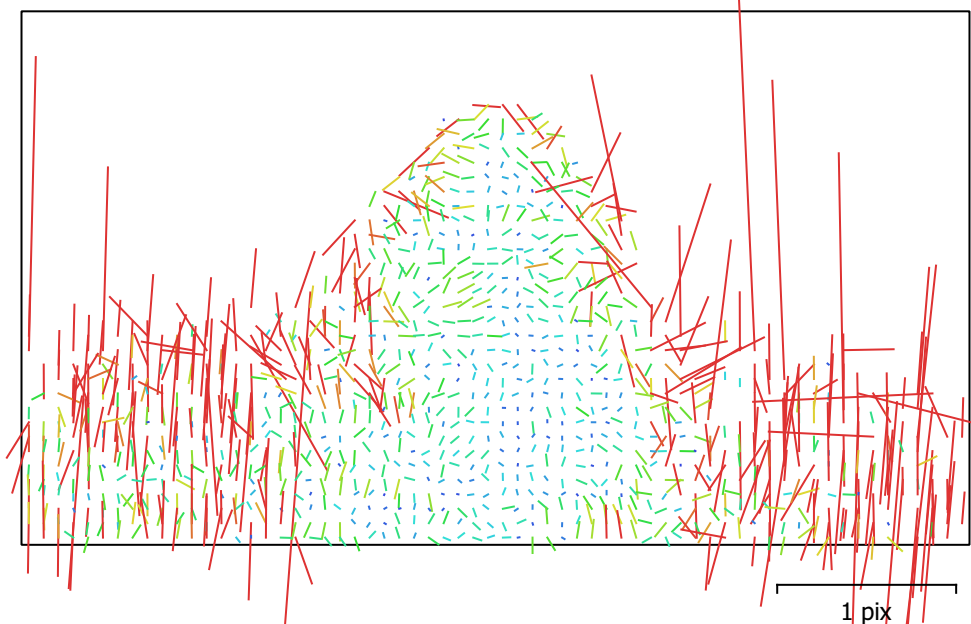


Fig. 2. Image residuals for DMC-G7 (60mm).

## DMC-G7 (60mm)

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	15751	13	1.00	0.43	-0.22	0.12	0.16	-0.15	0.48	-0.25
Cx	380.919	18		1.00	-0.61	-0.31	0.73	-0.76	0.96	-0.57
Cy	279.591	12			1.00	0.41	-0.71	0.69	-0.59	0.86
K1	0.285585	0.0089				1.00	-0.78	0.71	-0.23	0.38
K2	-28.713	1.7					1.00	-0.98	0.71	-0.64
K3	607.367	49						1.00	-0.74	0.60
P1	0.00989429	0.00052							1.00	-0.54
P2	0.00626173	0.00028								1.00

Table 2. Calibration coefficients and correlation matrix.

# Camera Calibration

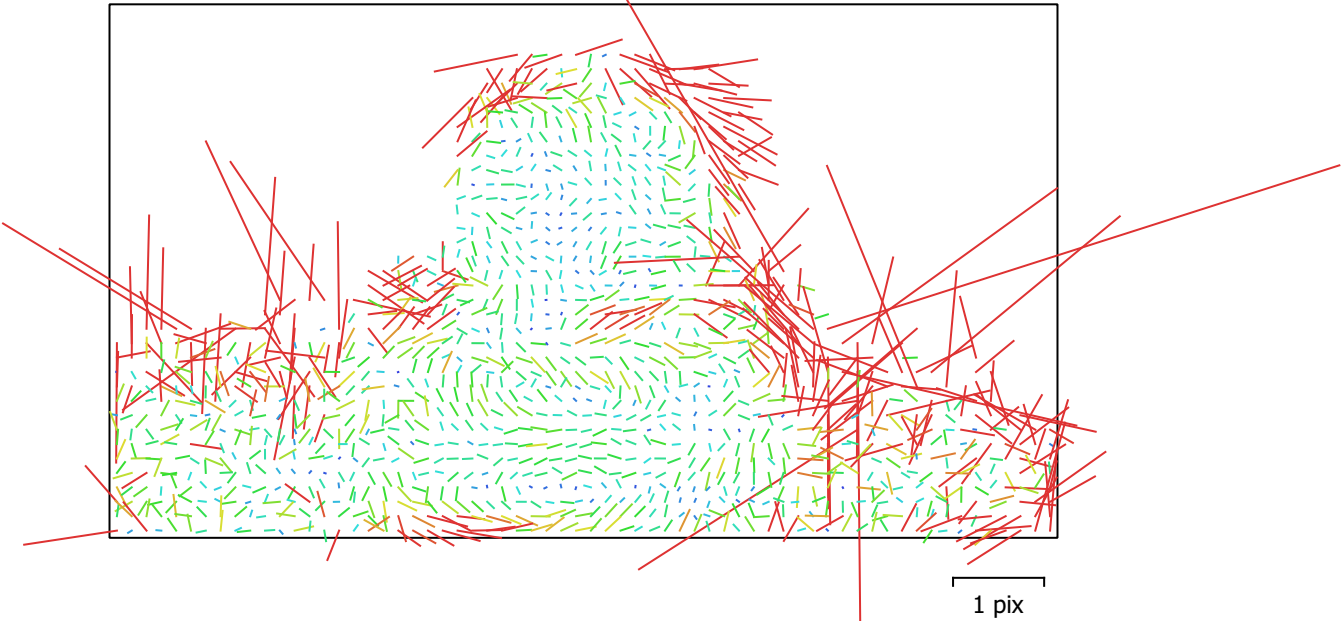


Fig. 3. Image residuals for DMC-G7 (60mm).

## DMC-G7 (60mm)

55 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	15464	11	1.00	0.22	-0.25	-0.43	0.05	0.05	0.09	0.58
Cx	-211.447	4.7		1.00	0.17	-0.35	0.38	-0.33	0.23	0.00
Cy	-416.921	8.1			1.00	0.18	0.66	-0.76	0.09	-0.62
K1	-0.860766	0.01				1.00	-0.54	0.35	-0.16	-0.55
K2	48.1507	0.79					1.00	-0.97	0.11	-0.22
K3	-788.084	19						1.00	-0.09	0.35
P1	0.00119895	0.00011							1.00	-0.04
P2	-0.0213351	0.00035								1.00

Table 3. Calibration coefficients and correlation matrix.

# Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.05	1.41455e-11
Total		<b>1.41455e-11</b>

Table 4. Control scale bars.

# Digital Elevation Model

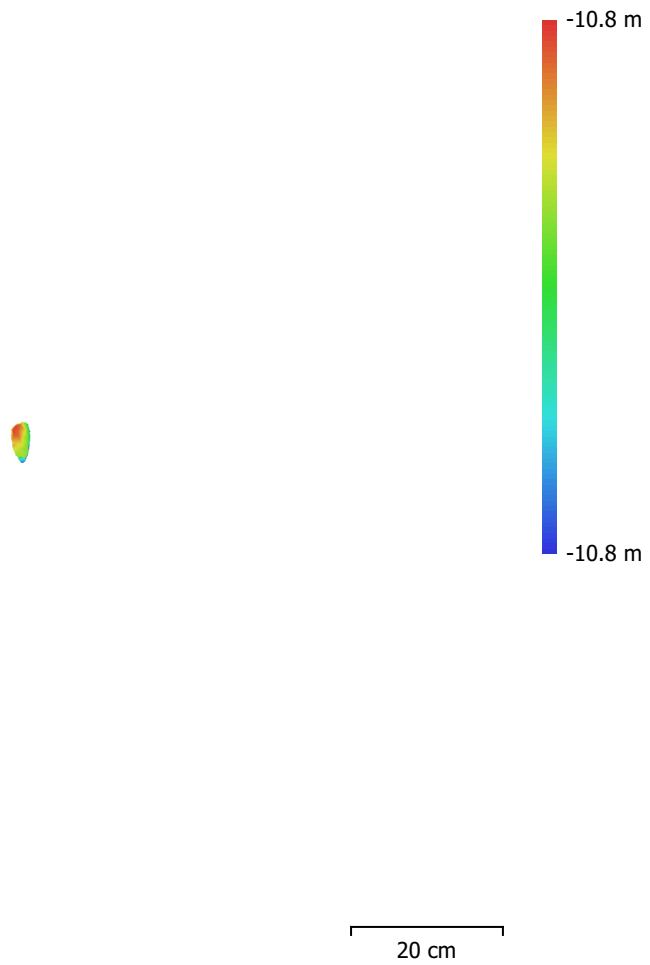


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.106 mm/pix  
Point density: 88.2 points/mm<sup>2</sup>

# Processing Parameters

## General

Cameras	107
Aligned cameras	107
Markers	6
Scale bars	2
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	94,247 of 126,726
RMS reprojection error	0.250982 (0.844784 pix)
Max reprojection error	0.857879 (52.9527 pix)
Mean key point size	3.00013 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.69971
File size	9.69 MB

## Depth Maps

Count	107
<b>Depth maps generation parameters</b>	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	6 minutes 2 seconds
Memory usage	4.14 GB
Date created	2024:06:01 13:13:58
Software version	1.8.4.14671
File size	107.88 MB

## Model

Faces	623,632
Vertices	311,818
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	30 seconds
UV mapping memory usage	701.88 MB
Blending time	1 minutes 16 seconds
Blending memory usage	13.26 GB
Blending GPU memory usage	11.92 GB
File size	189.70 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