

# **Agisoft Metashape**

**Processing Report**

**24 June 2024**



# Survey Data

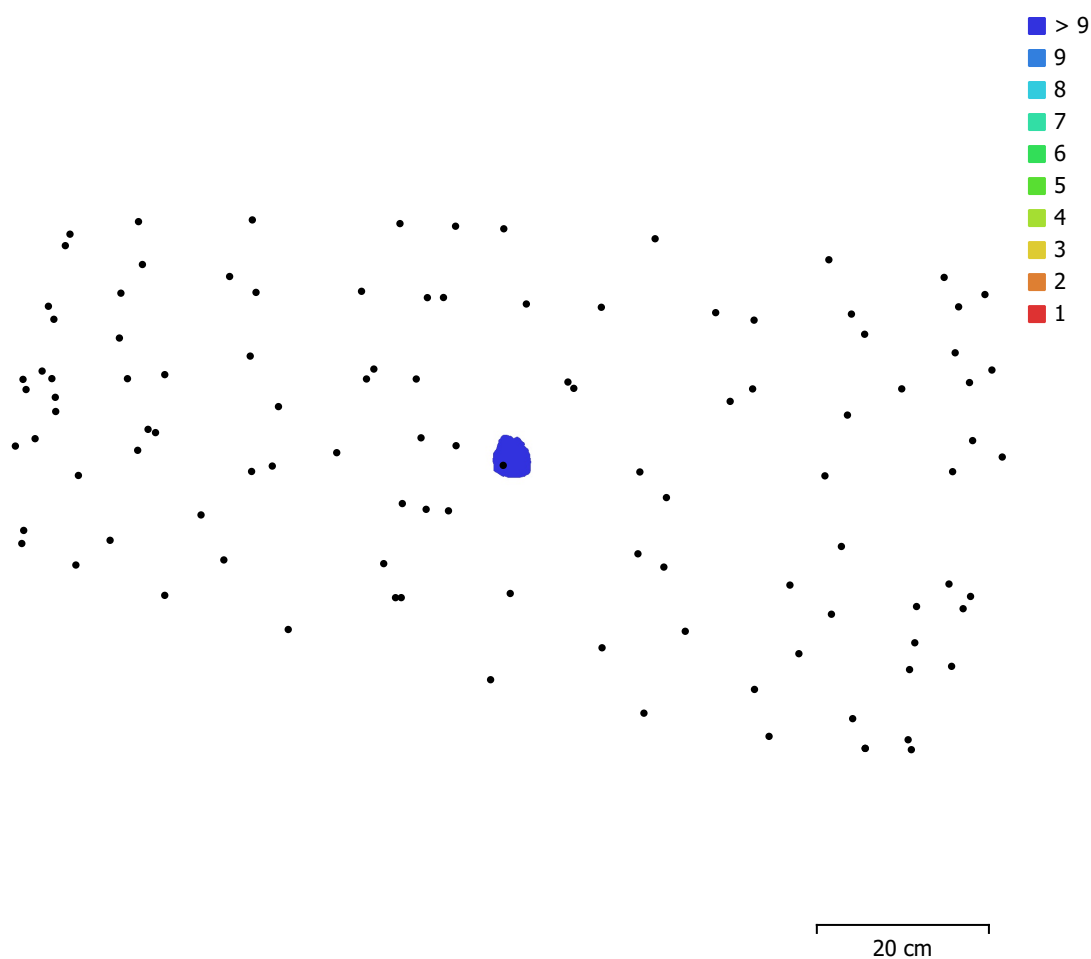


Fig. 1. Camera locations and image overlap.

Number of images:	107	Camera stations:	107
Flying altitude:	55.4 cm	Tie points:	159,404
Ground resolution:	0.035 mm/pix	Projections:	655,838
Coverage area:	17.8 cm <sup>2</sup>	Reprojection error:	0.869 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

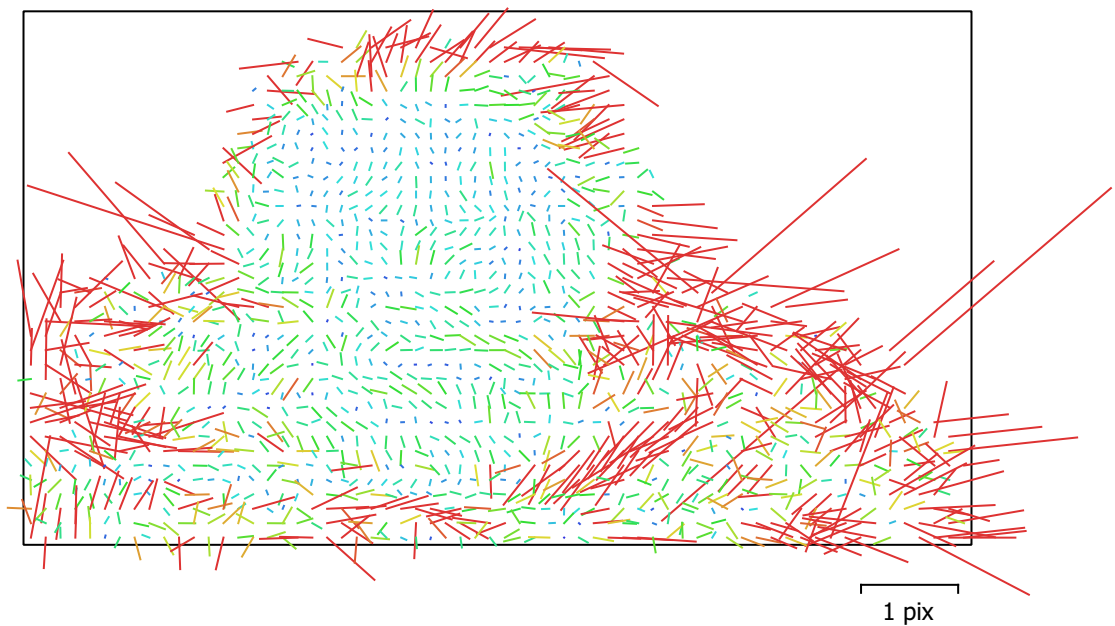


Fig. 2. Image residuals for DMC-G7 (60mm).

## DMC-G7 (60mm)

53 images

Type

Resolution

Focal Length

Pixel Size

**Frame**

**4592 x 2584**

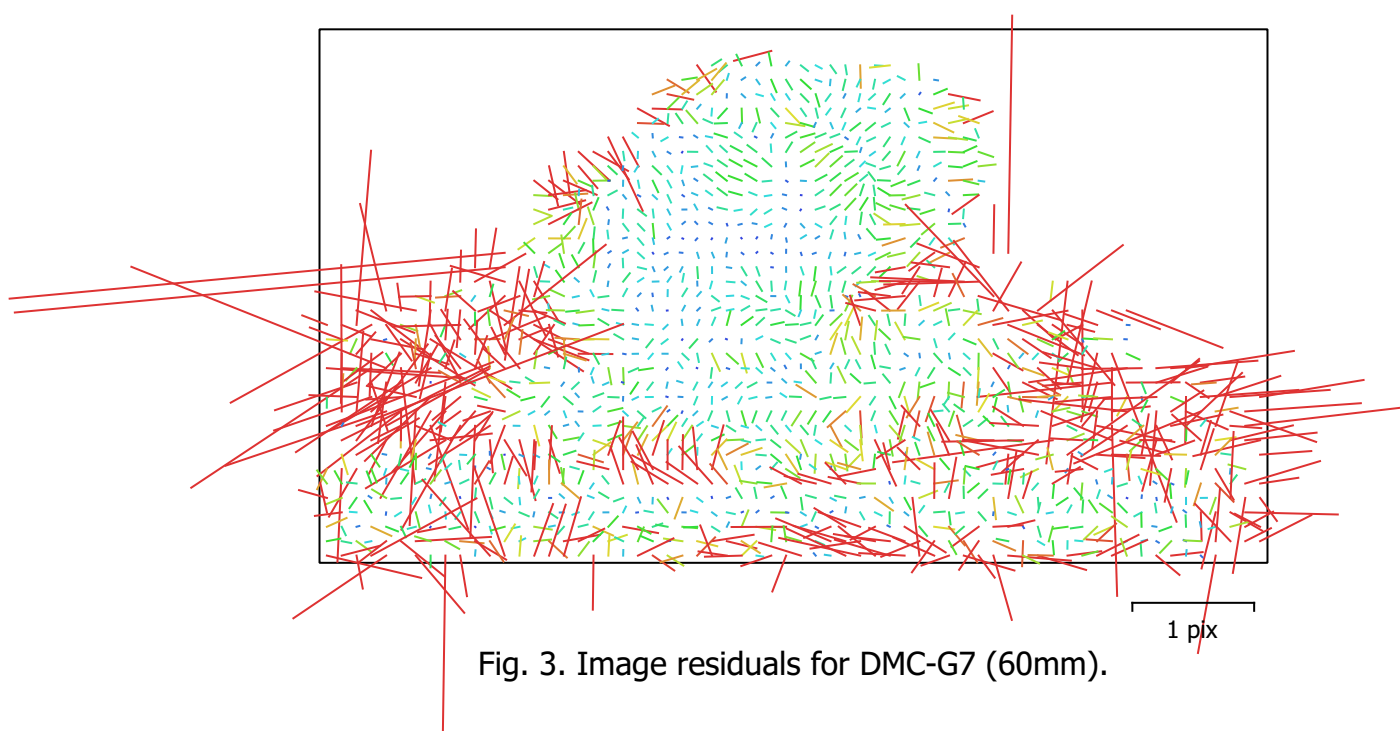
**60 mm**

**3.79 x 3.79  $\mu\text{m}$**

	Value	Error	K1	P1	P2
<b>F</b>	<b>15831.7</b>				
<b>K1</b>	<b>0.0931728</b>	0.0015	1.00	0.40	-0.17
<b>P1</b>	<b>-0.00182387</b>	0.00011		1.00	0.02
<b>P2</b>	<b>-0.00929854</b>	0.00012			1.00

Table 2. Calibration coefficients and correlation matrix.

# Camera Calibration



## DMC-G7 (60mm)

54 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	60 mm	3.79 x 3.79 μm

	Value	Error	K1	P1	P2
F	15831.7				
K1	0.0365988	0.0014	1.00	0.27	0.21
P1	0.00632465	7.2e-05		1.00	0.11
P2	-0.00778138	8.1e-05			1.00

Table 3. Calibration coefficients and correlation matrix.

# Scale Bars

Label	Distance (m)	Error (m)
target 19_target 20	0.05	2.70617e-16
Total		<b>2.70617e-16</b>

Table 4. Control scale bars.

# Digital Elevation Model

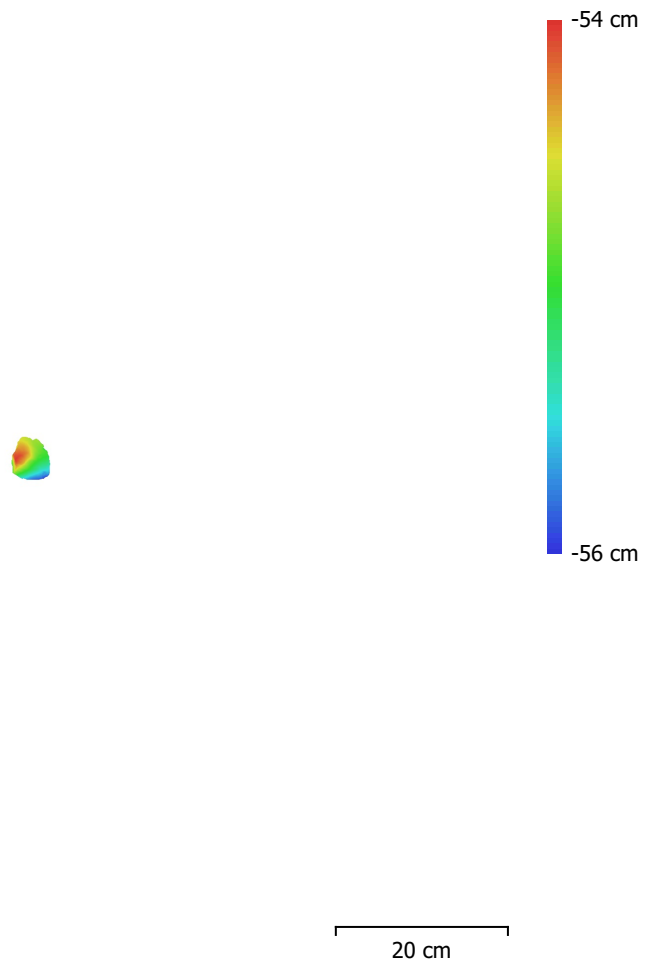


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.138 mm/pix  
Point density: 52.5 points/mm<sup>2</sup>

# Processing Parameters

## General

Cameras	107
Aligned cameras	107
Markers	4
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	159,404 of 192,025
RMS reprojection error	0.285468 (0.869064 pix)
Max reprojection error	0.978023 (37.1982 pix)
Mean key point size	3.0044 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.54331
File size	17.52 MB

## Depth Maps

Count	107
<b>Depth maps generation parameters</b>	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	7 minutes 6 seconds
Memory usage	4.78 GB
Date created	2024:06:14 10:44:28
Software version	1.8.4.14671
File size	120.92 MB

## Model

Faces	210,244
Vertices	105,124
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	7 minutes 6 seconds
Memory usage	4.78 GB

## Reconstruction parameters

Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	1 minutes 20 seconds
Memory usage	7.76 GB

## Texturing parameters

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

Enable ghosting filter	Yes
UV mapping time	13 seconds
UV mapping memory usage	660.77 MB
Blending time	1 minutes 20 seconds
Blending memory usage	13.47 GB
Blending GPU memory usage	11.90 GB
Date created	2024:06:14 10:45:48
Software version	1.8.4.14671
File size	238.85 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