

# **Agisoft Metashape**

**Processing Report**

**27 June 2024**



# Survey Data

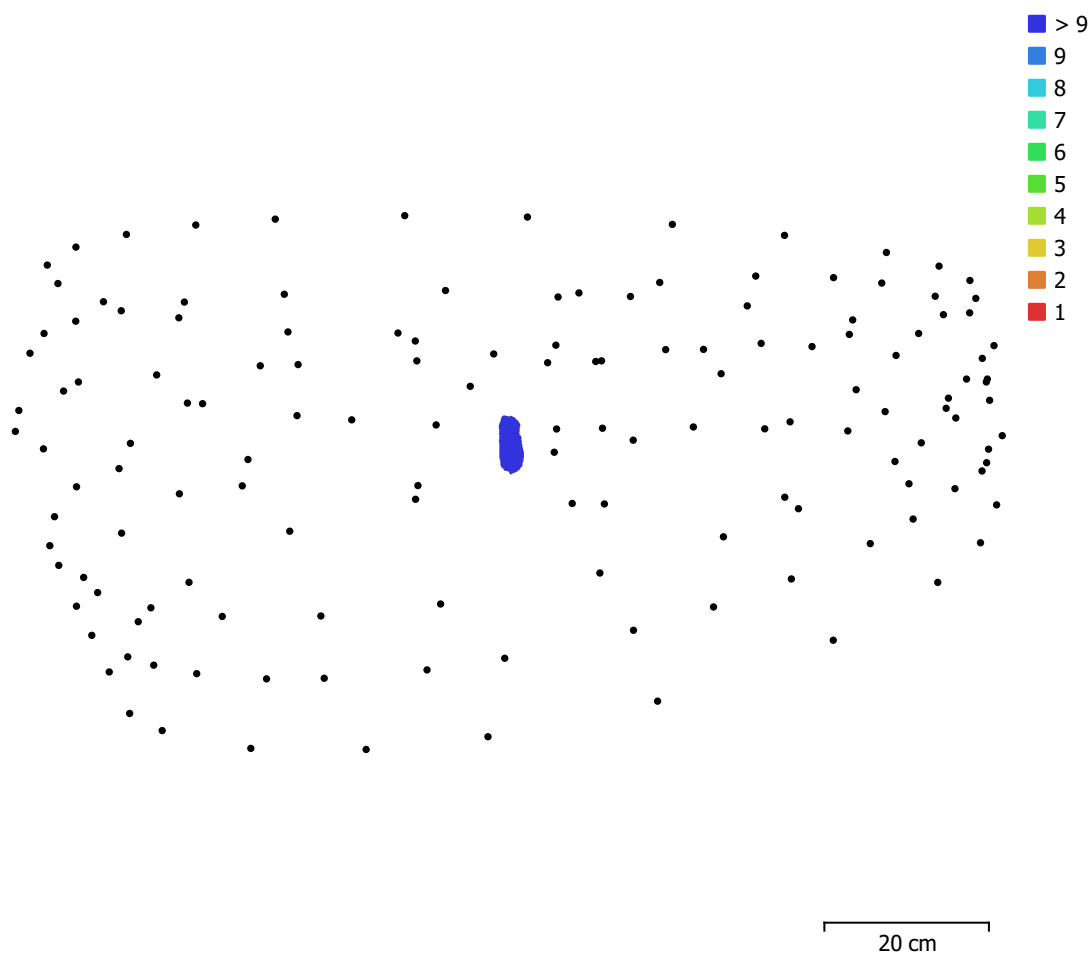


Fig. 1. Camera locations and image overlap.

Number of images:	145	Camera stations:	145
Flying altitude:	56.9 cm	Tie points:	200,697
Ground resolution:	0.0363 mm/pix	Projections:	665,011
Coverage area:	17.4 cm <sup>2</sup>	Reprojection error:	0.812 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

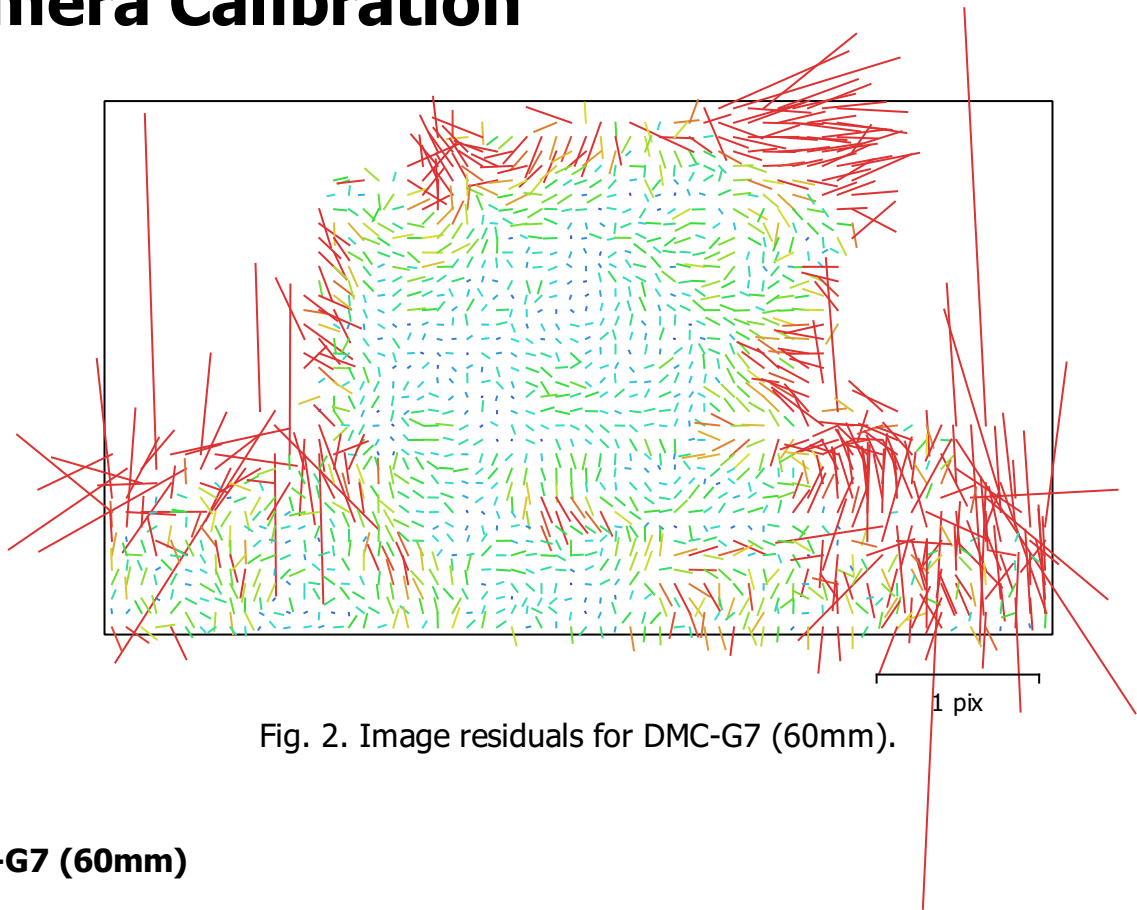


Fig. 2. Image residuals for DMC-G7 (60mm).

## DMC-G7 (60mm)

78 images

Type	Resolution	Focal Length	Pixel Size
<b>Frame</b>	<b>4592 x 2584</b>	<b>60 mm</b>	<b>3.79 x 3.79 <math>\mu\text{m}</math></b>

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
<b>F</b>	<b>15392.4</b>	5.1	1.00	-0.04	-0.27	0.09	0.00	-0.02	0.03	-0.13
<b>Cx</b>	<b>279.485</b>	5.6		1.00	-0.10	-0.14	0.48	-0.52	0.94	-0.01
<b>Cy</b>	<b>-611.559</b>	5.4			1.00	-0.09	-0.30	0.36	-0.15	0.90
<b>K1</b>	<b>0.323062</b>	0.0023				1.00	-0.77	0.66	-0.07	-0.25
<b>K2</b>	<b>-9.0998</b>	0.14					1.00	-0.98	0.48	-0.17
<b>K3</b>	<b>116.67</b>	2.8						1.00	-0.52	0.24
<b>P1</b>	<b>0.00601804</b>	0.00016							1.00	-0.08
<b>P2</b>	<b>-0.0191375</b>	0.00016								1.00

Table 2. Calibration coefficients and correlation matrix.

# Camera Calibration

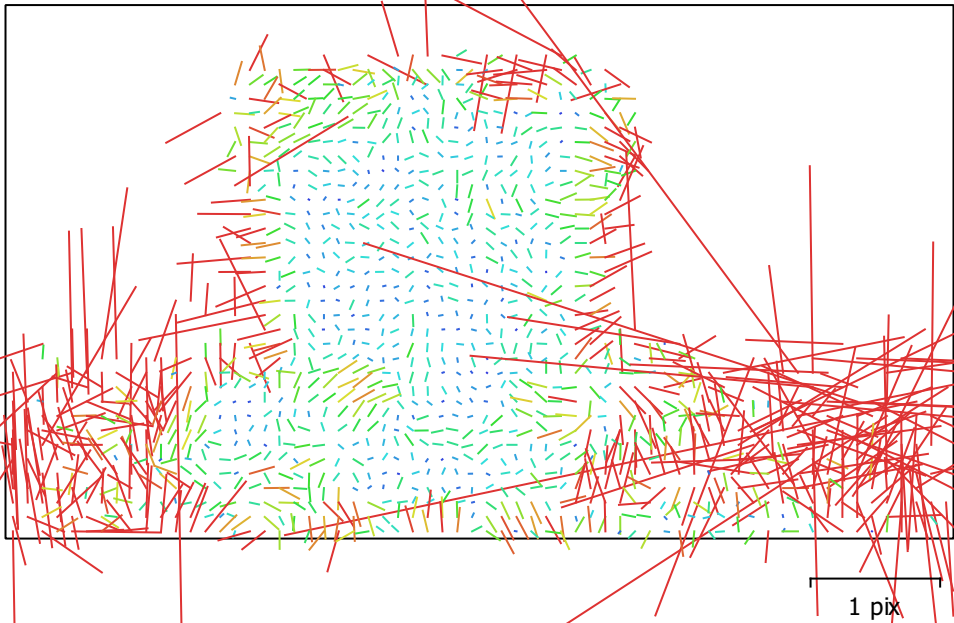


Fig. 3. Image residuals for DMC-G7 (60mm).

## DMC-G7 (60mm)

67 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	15937.5	9	1.00	0.21	0.06	-0.18	-0.02	0.05	-0.14	0.19
Cx	1514.72	10		1.00	-0.11	0.02	-0.79	0.88	0.07	-0.27
Cy	185.72	5.7			1.00	-0.11	0.26	-0.26	0.03	0.01
K1	-0.498331	0.0054				1.00	-0.52	0.35	0.77	-0.23
K2	15.994	0.21					1.00	-0.97	-0.28	0.31
K3	-158.126	3.2						1.00	0.19	-0.30
P1	0.023421	0.00032							1.00	-0.16
P2	-0.00340966	8.8e-05								1.00

Table 3. Calibration coefficients and correlation matrix.

# Scale Bars

Label	Distance (m)	Error (m)
target 15_target 16	0.05	-6.93889e-16
target 15_target 16	0.05	-6.93889e-16
Total		6.93889e-16

Table 4. Control scale bars.

# Digital Elevation Model

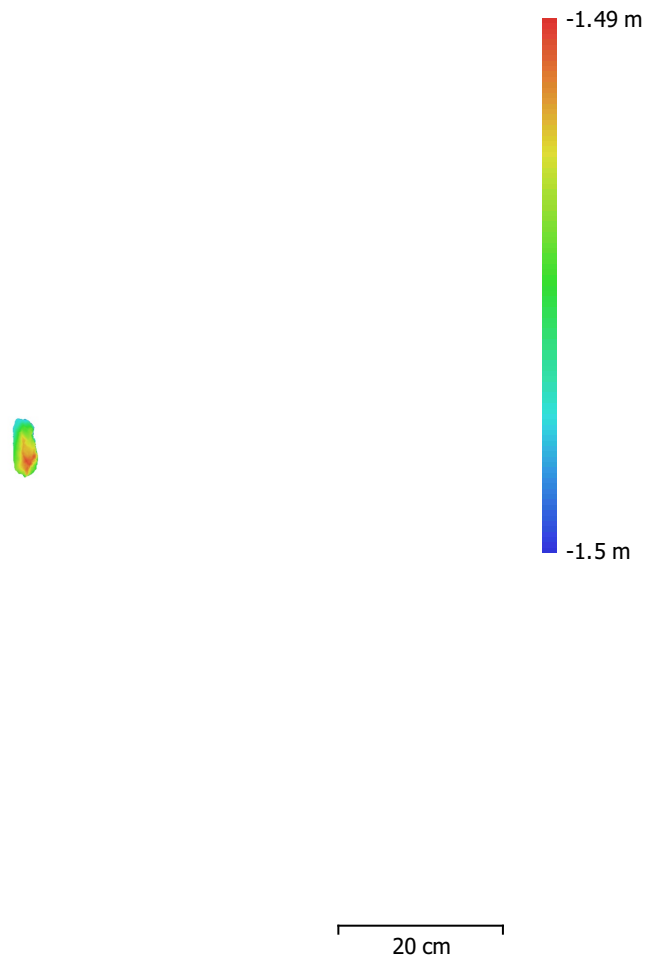


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.346 mm/pix  
Point density: 8.33 points/mm<sup>2</sup>

# Processing Parameters

## General

Cameras	145
Aligned cameras	145
Markers	8
Scale bars	2

## Tie Points

Points	200,697 of 274,236
RMS reprojection error	0.233306 (0.811613 pix)
Max reprojection error	0.811302 (86.5737 pix)
Mean key point size	2.9429 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.80901
File size	21.34 MB

## Model

Faces	50,000
Vertices	25,002
Vertex colors	3 bands, uint8
Texture	8,192 x 8,192, 4 bands, uint8

## Texturing parameters

Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	3 seconds
UV mapping memory usage	29.83 MB
Blending time	39 seconds
Blending memory usage	2.83 GB
Blending GPU memory usage	1.87 GB
File size	40.32 MB

## System

Software name	Agisoft Metashape Standard
Software version	2.1.1 build 17821
OS	Windows 64 bit
RAM	15.70 GB
CPU	Intel(R) Core(TM) i9-9980HK CPU @ 2.40GHz
GPU(s)	Quadro T2000