

# Agisoft Metashape

Processing Report  
03 July 2024



# Survey Data

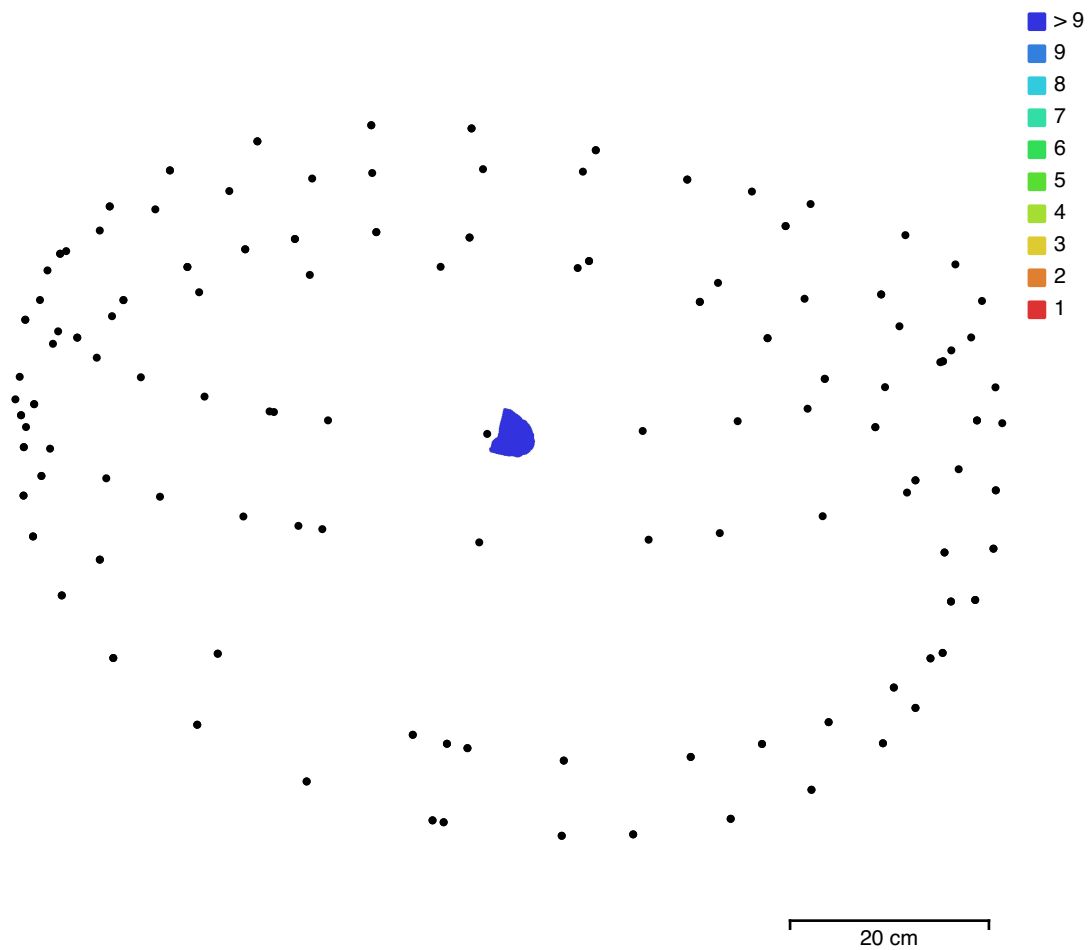


Fig. 1. Camera locations and image overlap.

Number of images:	178	Camera stations:	178
Flying altitude:	45.4 cm	Tie points:	291,068
Ground resolution:	0.0336 mm/pix	Projections:	1,018,950
Coverage area:	14.8 cm <sup>2</sup>	Reprojection error:	0.486 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
DMC-G7 (50mm)	4592 x 2584	50 mm	3.8 x 3.8 $\mu$ m	No
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Table 1. Cameras.

# Camera Calibration

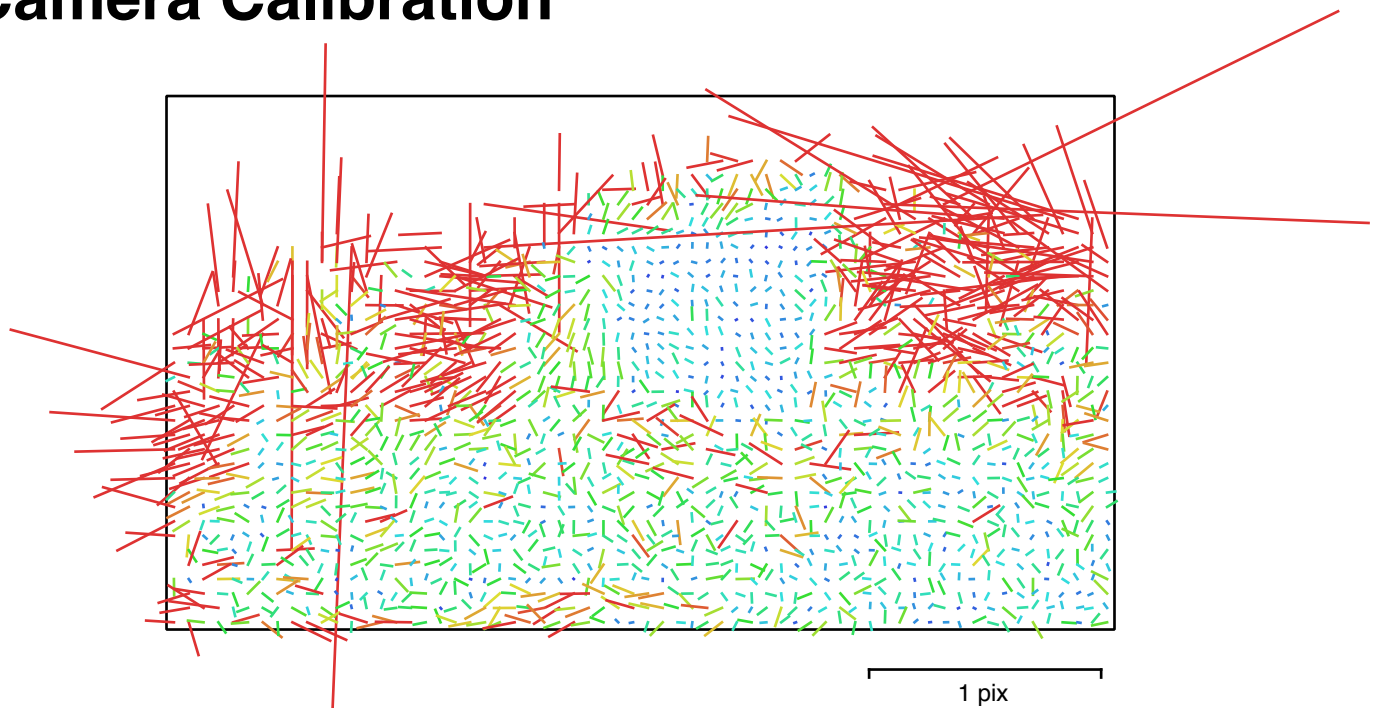


Fig. 2. Image residuals for DMC-G7 (50mm).

## DMC-G7 (50mm)

56 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	50 mm	3.8 x 3.8 $\mu\text{m}$

	Value	Error	F	B2	K1	P1	P2
F	13499.7	1.8	1.00	0.23	0.07	-0.22	-0.18
B2	-12.1305	0.4		1.00	-0.06	-0.52	-0.43
K1	0.0562581	0.00033			1.00	-0.05	-0.42
P1	0.00234485	4e-05				1.00	0.31
P2	-0.00336872	4.9e-05					1.00

Table 2. Calibration coefficients and correlation matrix.

# Camera Calibration

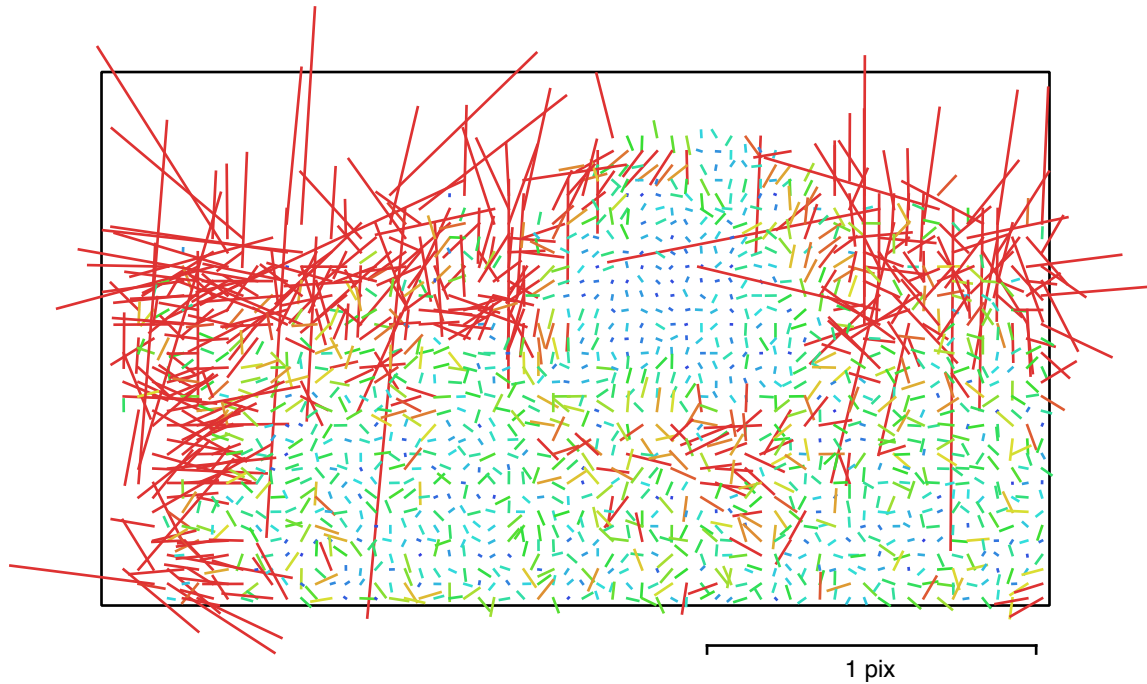


Fig. 3. Image residuals for DMC-G7 (50mm).

## DMC-G7 (50mm)

61 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	50 mm	3.8 x 3.8 $\mu\text{m}$

	Value	Error	F	B2	K1	K2	P1	P2
F	13514.8	1.3	1.00	0.21	-0.03	-0.11	0.13	-0.22
B2	-6.6177	0.31		1.00	-0.07	-0.00	-0.31	-0.45
K1	0.12377	0.0011			1.00	-0.86	-0.16	0.06
K2	-0.681477	0.03				1.00	-0.02	-0.17
P1	0.000713648	3.5e-05					1.00	0.20
P2	-0.00367028	4.8e-05						1.00

Table 3. Calibration coefficients and correlation matrix.

# Camera Calibration

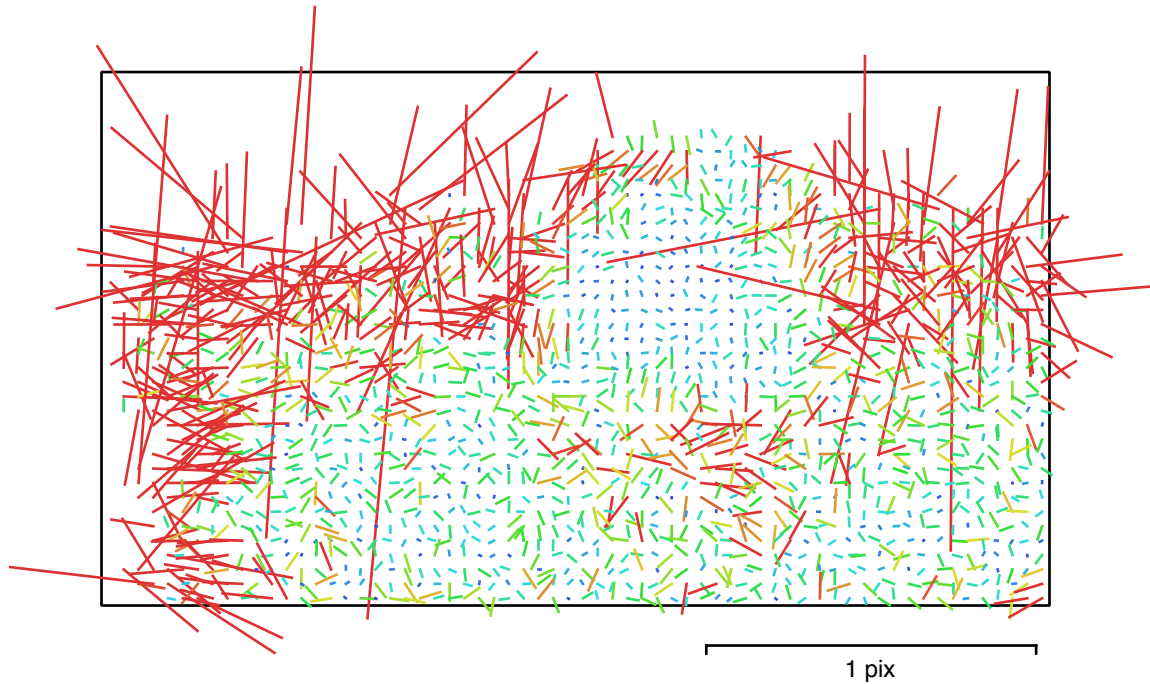


Fig. 4. Image residuals for DMC-G7 (50mm).

## DMC-G7 (50mm)

61 images

Type	Resolution	Focal Length	Pixel Size
Frame	4592 x 2584	50 mm	3.8 x 3.8 $\mu\text{m}$

	Value	Error	F	B2	K1	K2	P1	P2
F	13514.8	1.3	1.00	0.21	-0.03	-0.11	0.13	-0.22
B2	-6.62117	0.31		1.00	-0.07	-0.00	-0.31	-0.45
K1	0.123863	0.0011			1.00	-0.86	-0.16	0.06
K2	-0.684205	0.03				1.00	-0.02	-0.17
P1	0.000713691	3.5e-05					1.00	0.20
P2	-0.00366929	4.8e-05						1.00

Table 4. Calibration coefficients and correlation matrix.

# Scale Bars

Label	Distance (m)	Error (m)
point 1_point 2	0.05	-2.158e-15
<b>Total</b>		<b>2.158e-15</b>

Table 5. Control scale bars.

# Digital Elevation Model

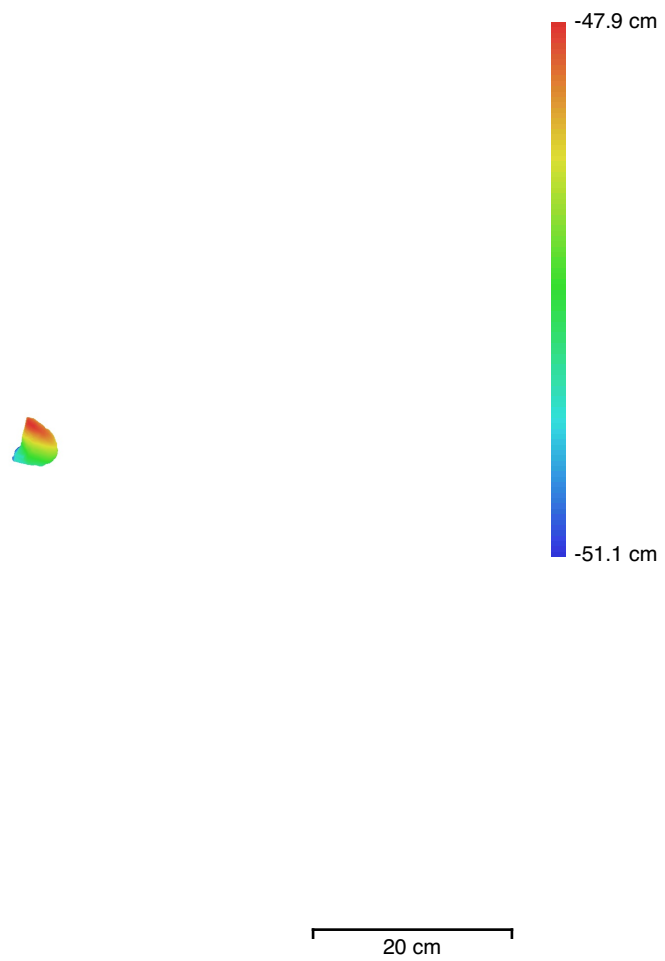


Fig. 5. Reconstructed digital elevation model.

Resolution: 0.0948 mm/pix  
Point density: 111 points/mm<sup>2</sup>

# Processing Parameters

## General

Images	178
Aligned images	178
Markers	2
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Tie Points

Points	291,068 of 360,712
RMS reprojection error	0.190784 (0.486035 pix)
Max reprojection error	0.677243 (16.9779 pix)
Mean key point size	2.31076 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.89737
File size	29.17 MB

## Depth Maps

Count	178
<b>Depth maps generation parameters</b>	
Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	9 minutes 38 seconds
Memory usage	2.36 GB
Date created	2024:07:01 21:23:08
Software version	2.1.1.17821
File size	32.43 MB

## Model

Faces	756,320
Vertices	378,162
Vertex colors	3 bands, uint8
Texture	8,192 x 8,192 x 2, 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	39 seconds
UV mapping memory usage	639.86 MB
Blending time	10 minutes 48 seconds
Blending memory usage	7.16 GB
File size	108.35 MB

## System

Software name	Agisoft Metashape Professional
Software version	2.1.2 build 18358
OS	Mac OS 64 bit
RAM	8.00 GB
CPU	
GPU(s)	Apple M1