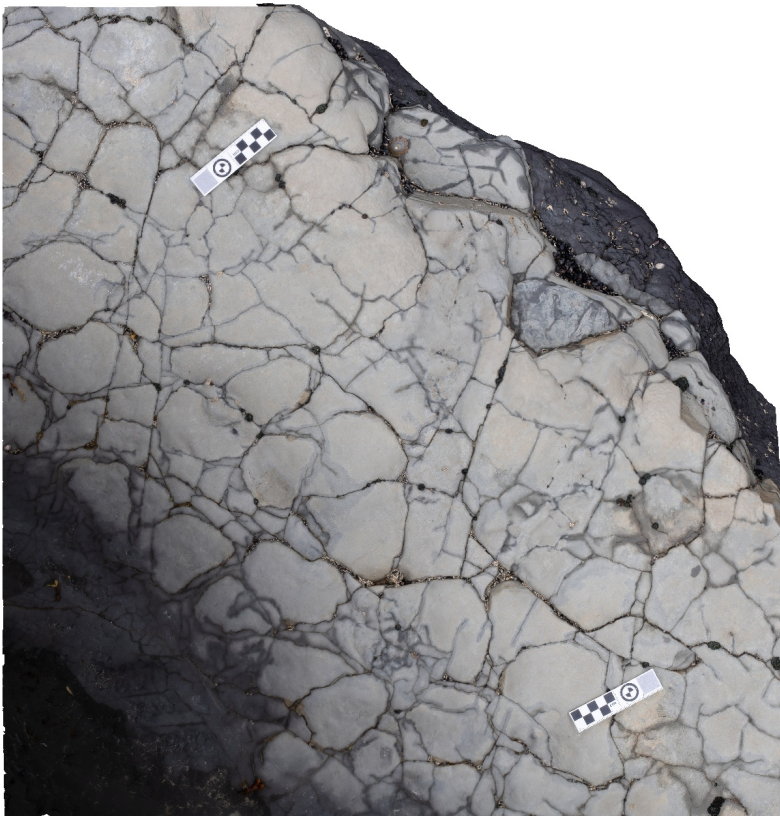


Agisoft Metashape

Processing Report
10 July 2024



Survey Data

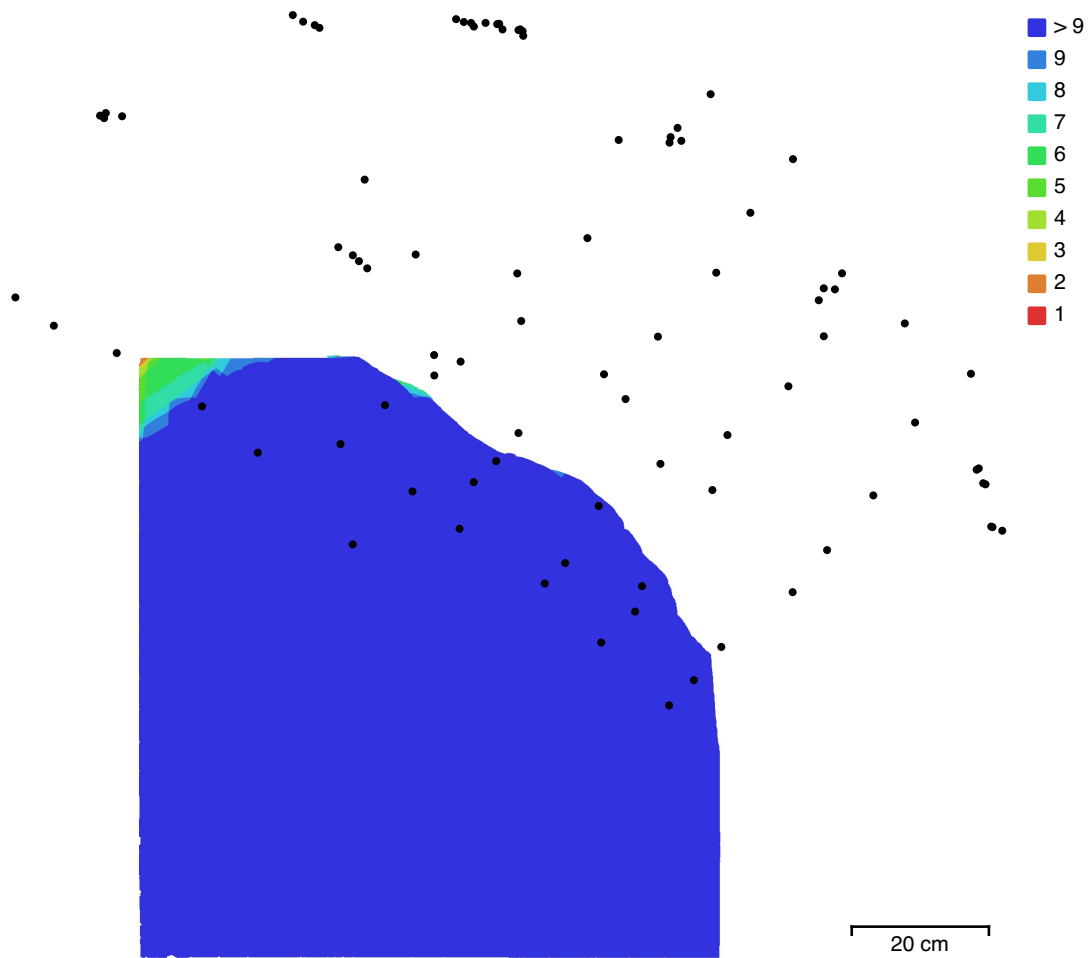


Fig. 1. Camera locations and image overlap.

Number of images:	88	Camera stations:	88
Flying altitude:	87 cm	Tie points:	40,673
Ground resolution:	0.0891 mm/pix	Projections:	323,059
Coverage area:	6.45e+03 cm ²	Reprojection error:	1.89 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 5D Mark IV, E...	6720 x 4480	50 mm	5.36 x 5.36 μm	No

Table 1. Cameras.

Camera Calibration

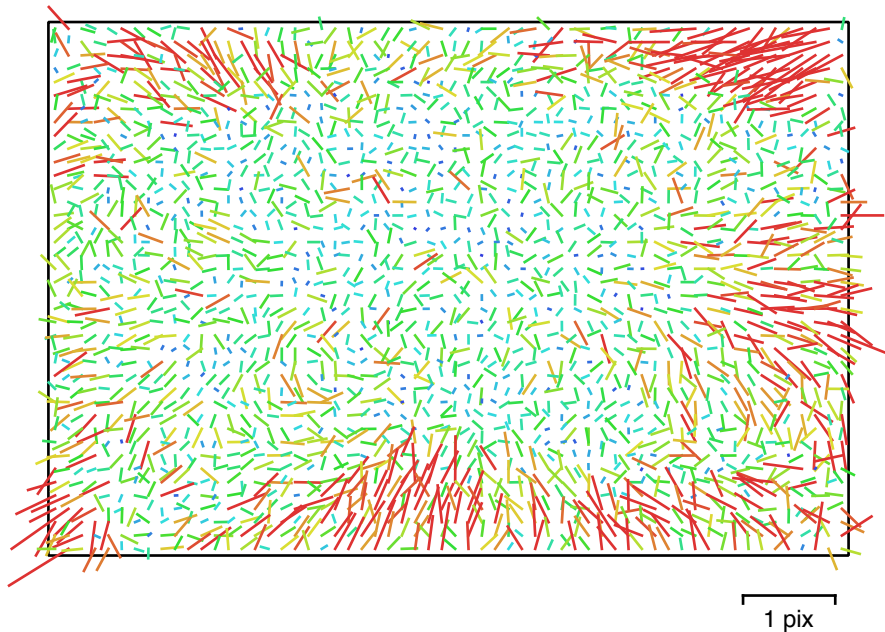


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF50mm f/2.5 Compact Macro (50mm).

Canon EOS 5D Mark IV, EF50mm f/2.5 Compact Macro (50mm)

88 images

Type	Resolution	Focal Length	Pixel Size
Frame	6720 x 4480	50 mm	5.36 x 5.36 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	9769.26	0.34	1.00	0.10	-0.28	-0.13	0.16	-0.13	0.12	-0.04
Cx	19.0049	0.43		1.00	0.03	-0.01	0.02	-0.03	0.94	0.01
Cy	-14.0472	0.39			1.00	-0.05	0.03	-0.04	0.03	0.81
K1	-0.0482045	0.0003				1.00	-0.97	0.92	-0.00	-0.09
K2	0.159563	0.0041					1.00	-0.98	0.01	0.05
K3	0.578837	0.017						1.00	-0.02	-0.05
P1	0.00143191	1.4e-05							1.00	0.03
P2	-0.000380999	1.3e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Ground Control Points

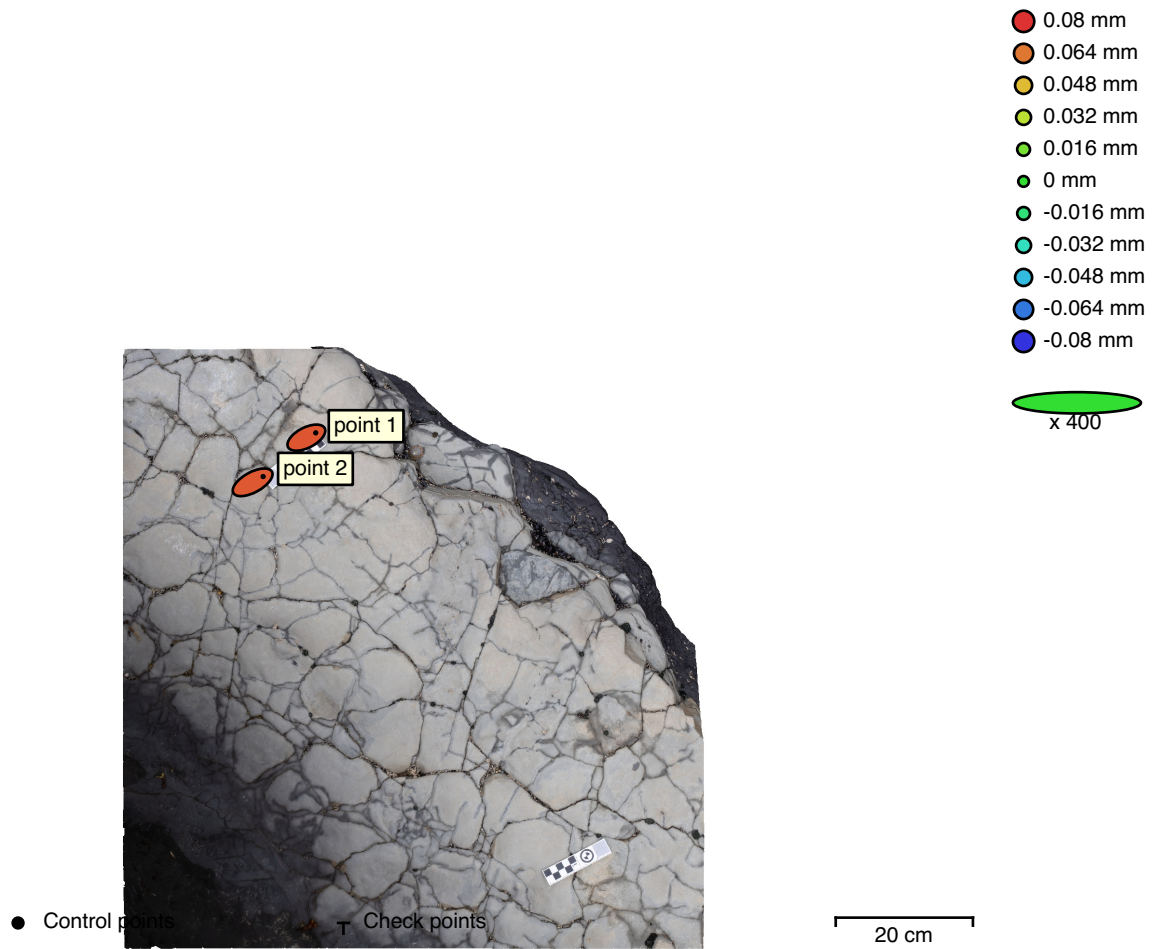


Fig. 3. GCP locations and error estimates.
 Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
 Estimated GCP locations are marked with a dot or crossing.

Count	X error (mm)	Y error (mm)	Z error (mm)	XY error (mm)	Total (mm)
2	0.0723033	0.0387631	0.0715236	0.0820387	0.108839

Table 3. Control points RMSE.

Label	X error (mm)	Y error (mm)	Z error (mm)	Total (mm)	Image (pix)
point 1	0.067957	0.0350965	0.0719725	0.105024	0.000 (32)
point 2	0.0764027	0.0421117	0.0710718	0.112525	0.000 (36)
Total	0.0723033	0.0387631	0.0715236	0.108839	0.000

Table 4. Control points.

Scale Bars

Label	Distance (m)	Error (m)
point 1_point 2	0.1	4.35148e-11
Total		4.35148e-11

Table 5. Control scale bars.

Digital Elevation Model

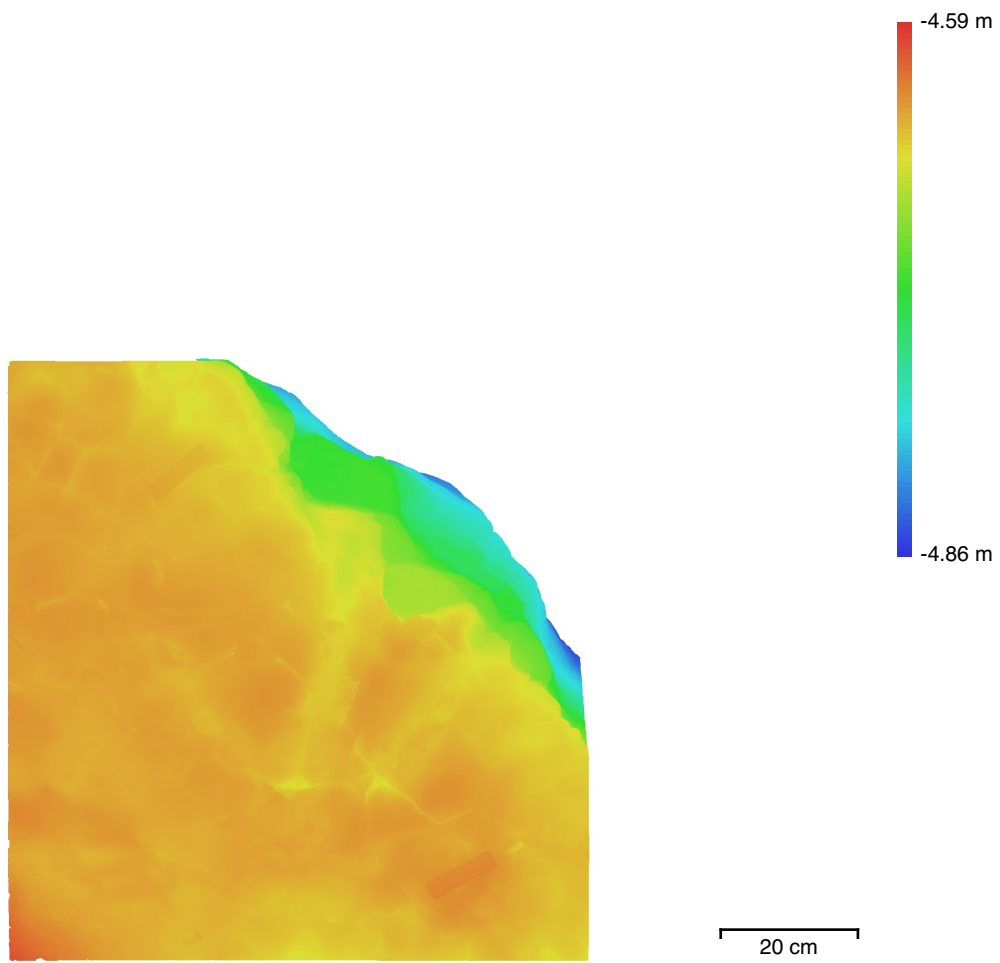


Fig. 4. Reconstructed digital elevation model.

Resolution: 0.458 mm/pix
Point density: 4.76 points/mm²

Processing Parameters

General

Cameras	88
Aligned cameras	88
Markers	2
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Tie Points

Points	40,673 of 53,542
RMS reprojection error	0.221958 (1.88973 pix)
Max reprojection error	0.673126 (71.9249 pix)
Mean key point size	7.49114 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	9.09335

Alignment parameters

Accuracy	Medium
Generic preselection	Yes
Reference preselection	No
Key point limit	40,000
Key point limit per Mpx	1,000
Tie point limit	4,000
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	30 seconds
Matching memory usage	1.09 GB
Alignment time	14 seconds
Alignment memory usage	8.30 MB
Date created	2024:06:28 03:54:00
Software version	2.0.3.16960
File size	8.52 MB

Depth Maps

Count	88
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	17 minutes 55 seconds
Memory usage	4.37 GB
Date created	2024:06:28 04:31:02
Software version	2.0.3.16960
File size	853.98 MB

Model

Faces	2,184,334
Vertices	1,096,009
Vertex colors	3 bands, uint8
Texture	8,192 x 8,192, 4 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild

Max neighbors	16
Processing time	17 minutes 55 seconds
Memory usage	4.37 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	3 minutes 23 seconds
Memory usage	3.90 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	30 seconds
UV mapping memory usage	1.56 GB
Blending time	3 minutes 24 seconds
Blending memory usage	15.30 GB
Date created	2024:06:28 05:15:25
Software version	2.0.3.16960
File size	168.96 MB
System	
Software name	Agisoft Metashape Professional
Software version	2.0.3 build 16960
OS	Mac OS 64 bit
RAM	64.00 GB
CPU	
GPU(s)	Apple M1 Max