

Agisoft Metashape

Processing Report

12 July 2023



Survey Data

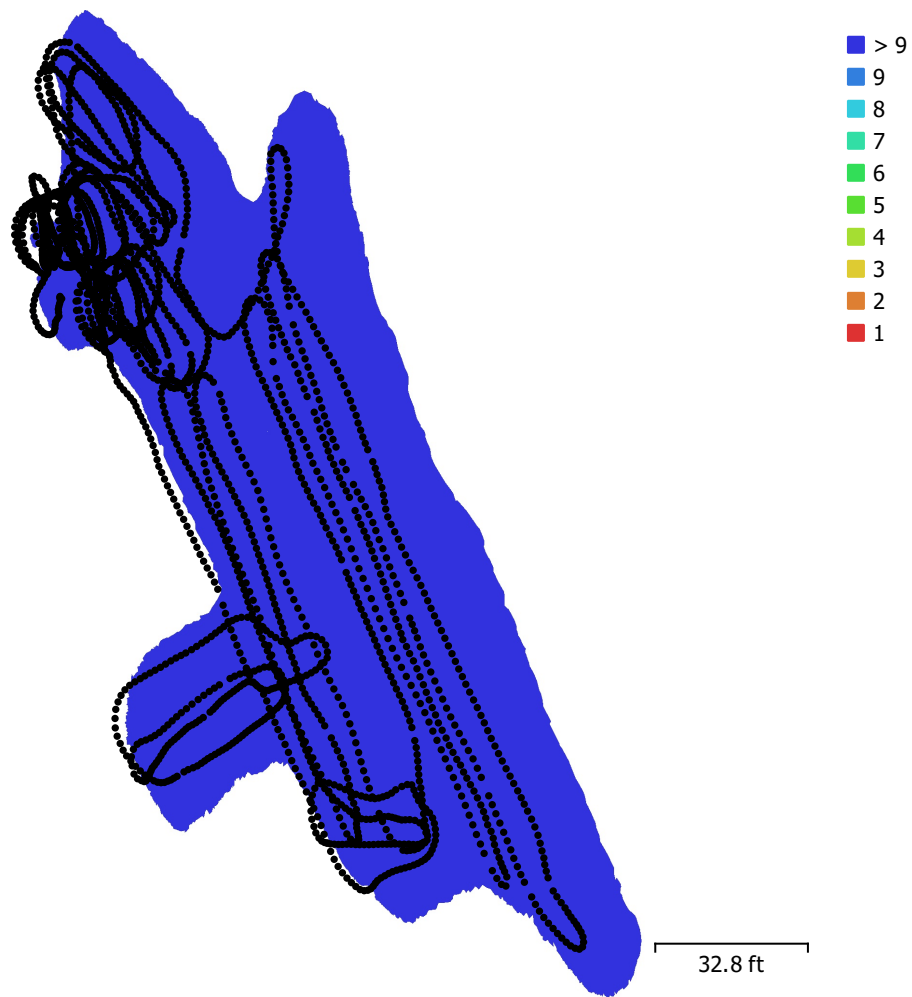


Fig. 1. Camera locations and image overlap.

Number of images:	2,299	Camera stations:	2,299
Flying altitude:	7.87 ft	Tie points:	1,560,263
Ground resolution:	0.00255 ft/pix	Projections:	4,766,578
Coverage area:	1.2e+04 ft ²	Reprojection error:	1.34 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 5D Mark IV, ...	6720 x 4480	15 mm	5.36 x 5.36 μ m	No

Table 1. Cameras.

Camera Calibration

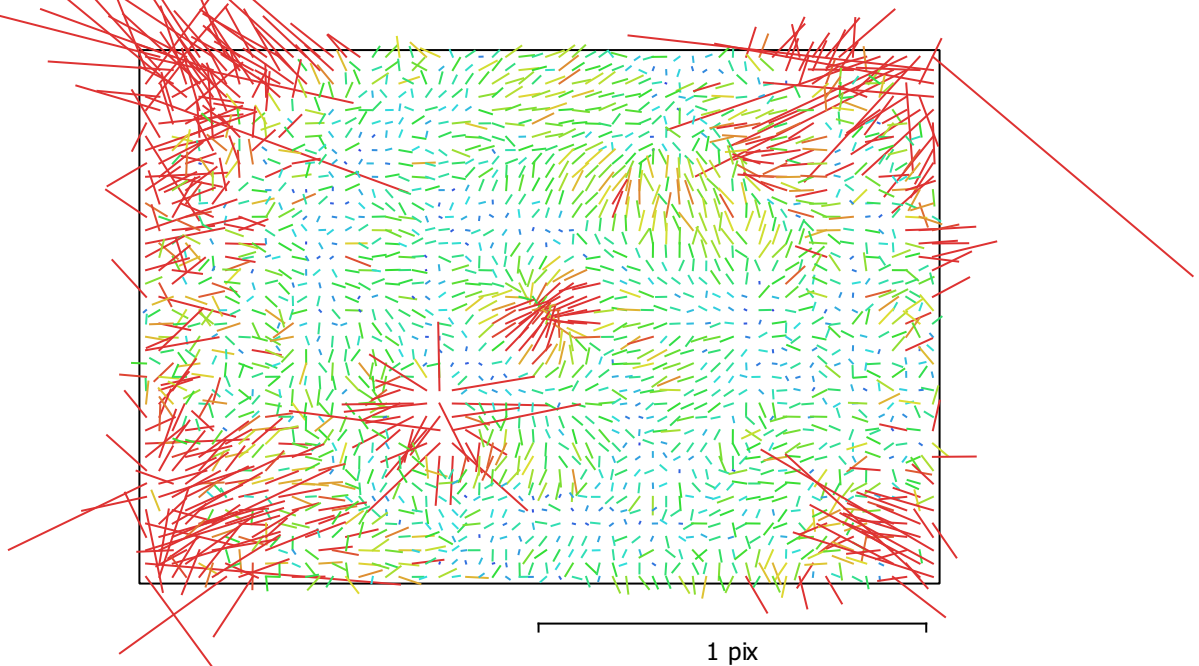


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm).

Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm)

2299 images

Type	Resolution	Focal Length	Pixel Size
Fisheye	6720 x 4480	15 mm	5.36 x 5.36 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	3087.79	0.021	1.00	-0.44	0.16	-0.49	0.28	-0.22	0.29	-0.15
Cx	-2.84394	0.016		1.00	-0.11	0.02	0.01	0.00	-0.65	0.04
Cy	-30.2784	0.016			1.00	-0.02	0.00	-0.00	0.07	-0.69
K1	-0.0472096	9.2e-06				1.00	-0.92	0.83	-0.05	0.04
K2	0.00615235	1.3e-05					1.00	-0.97	-0.03	-0.00
K3	-0.00152293	5.9e-06						1.00	0.02	-0.01
P1	-0.000297613	7.6e-07							1.00	-0.06
P2	-0.000112894	8.1e-07								1.00

Table 2. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 155_target 156	0.9144	-4.61525e-11
Total		4.61525e-11

Table 3. Control scale bars.

Digital Elevation Model

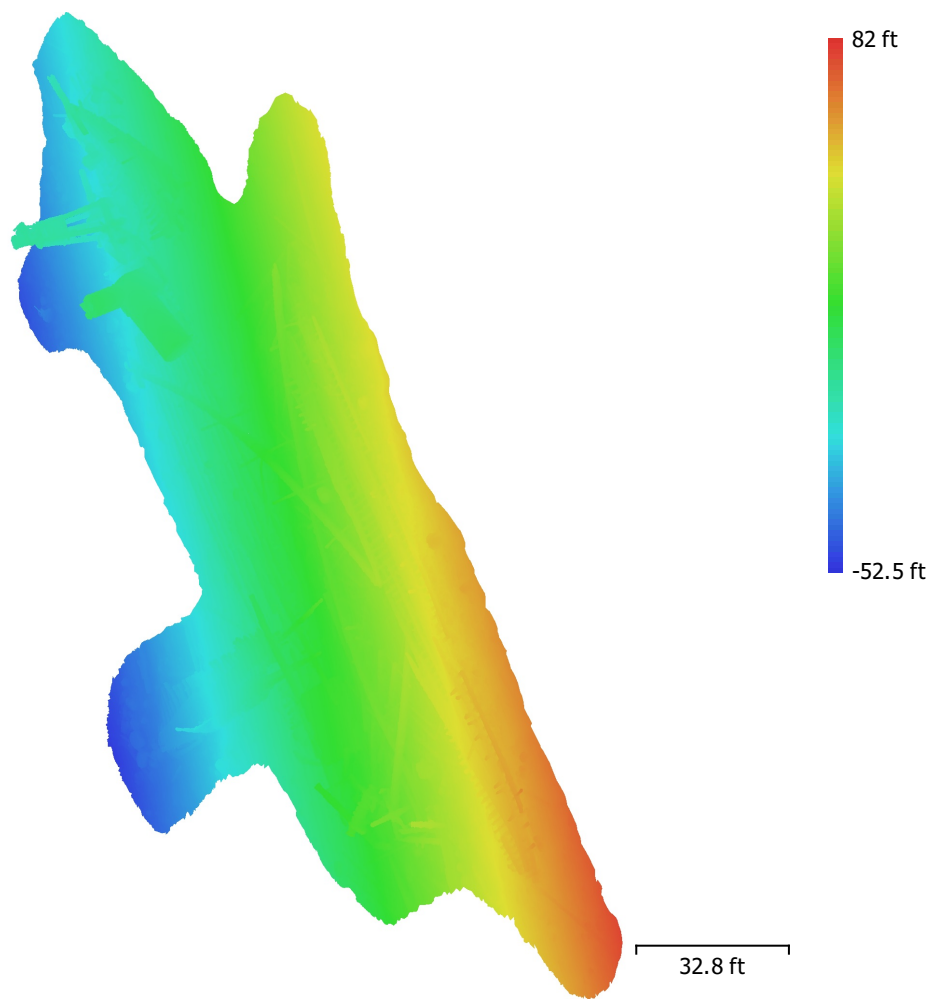


Fig. 3. Reconstructed digital elevation model.

Resolution: unknown
Point density: unknown

Processing Parameters

General

Cameras	2299
Aligned cameras	2299
Markers	2
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	1,560,263 of 1,707,824
RMS reprojection error	0.170037 (1.34412 pix)
Max reprojection error	0.656971 (64.1979 pix)
Mean key point size	5.88503 pix
Point colors	3 bands, uint8
Key points	5.63 GB
Average tie point multiplicity	3.30636

Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	No
Key point limit	30,000
Key point limit per Mpx	1,000
Tie point limit	2,500
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	50 minutes 57 seconds
Matching memory usage	1.34 GB
Alignment time	13 minutes 55 seconds
Alignment memory usage	1.32 GB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	16 seconds
Date created	2023:07:04 01:53:49
Software version	1.8.0.13794
File size	148.65 MB

Depth Maps

Count	2299
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Depth maps generation parameters

Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	55 minutes 57 seconds
Memory usage	2.00 GB
Date created	2023:07:11 12:50:59
Software version	1.8.0.13794
File size	4.97 GB

Dense Point Cloud

Points	348,011,833
Point colors	3 bands, uint8

Depth maps generation parameters	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	55 minutes 57 seconds
Memory usage	2.00 GB
Dense cloud generation parameters	
Processing time	8 hours 12 minutes
Memory usage	16.82 GB
Date created	2023:07:12 06:21:13
Software version	1.8.0.13794
File size	4.51 GB
Model	
Faces	8,000,000
Vertices	4,000,355
Vertex colors	3 bands, uint8
Texture	8,192 x 8,192, 4 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	55 minutes 57 seconds
Memory usage	2.00 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	25 minutes 4 seconds
Memory usage	11.12 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	No
UV mapping time	2 minutes 22 seconds
UV mapping memory usage	2.96 GB
Blending time	12 minutes 13 seconds
Blending memory usage	5.37 GB
Blending GPU memory usage	2.43 GB
Date created	2023:07:11 13:15:20
Software version	1.8.0.13794
File size	429.98 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.8.0 build 13794
OS	Windows 64 bit
RAM	63.92 GB
CPU	Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GPU(s)	NVIDIA GeForce RTX 2060 SUPER