

Agisoft Metashape

Processing Report

04 July 2023



Survey Data

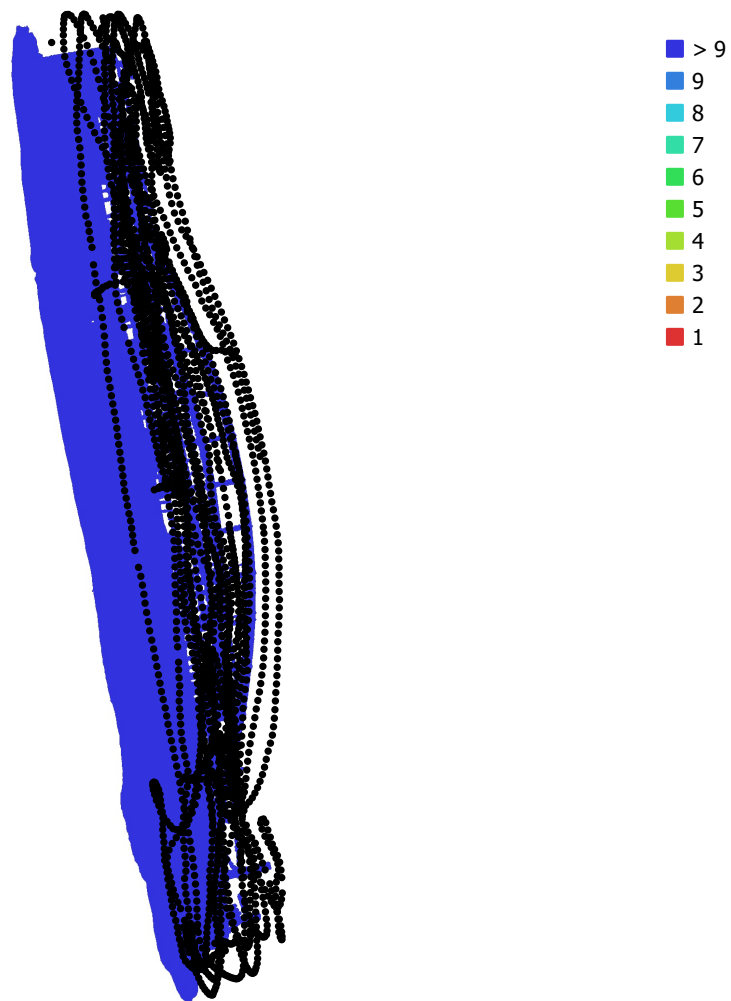


Fig. 1. Camera locations and image overlap.

Number of images: 3,629

Camera stations: 3,064

Tie points: 1,537,991

Projections: 3,767,383

Reprojection error: 1.02 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 5D Mark IV, ...	6720 x 4480	15 mm	5.36 x 5.36 μm	No
unknown	5312 x 2988	unknown	unknown	No

Table 1. Cameras.

Camera Calibration

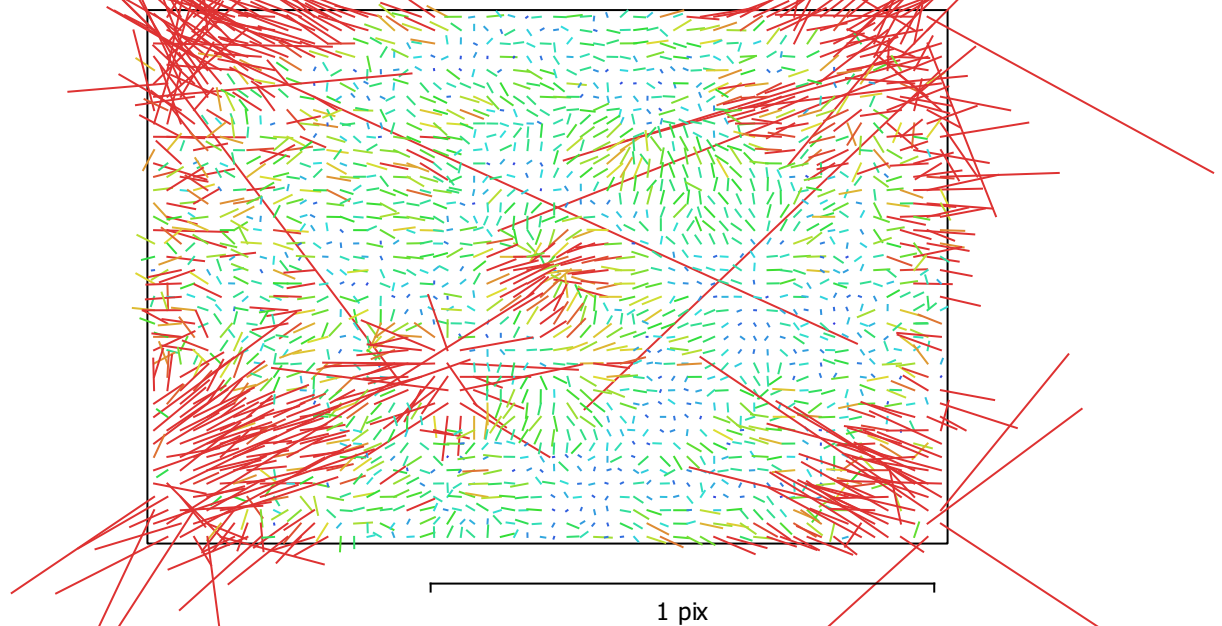


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm).

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

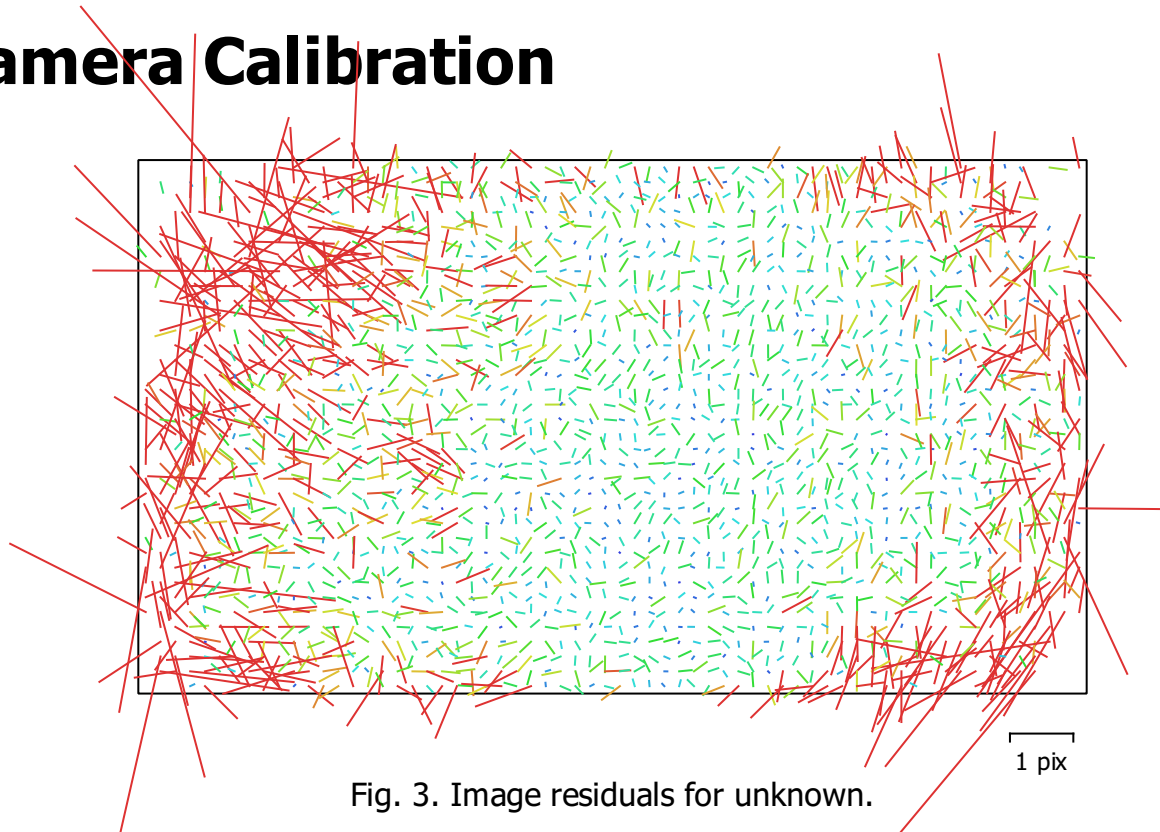
2865 images

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	3091.2	0.023	1.00	-0.37	-0.00	-0.51	0.28	-0.21	0.30	-0.03
Cx	-3.34281	0.022		1.00	-0.03	0.05	0.02	-0.02	-0.73	-0.01
Cy	-24.3885	0.025			1.00	-0.00	0.00	0.00	0.02	-0.71
K1	-0.0479103	1.1e-05				1.00	-0.93	0.84	-0.10	0.01
K2	0.00669951	1.7e-05					1.00	-0.97	-0.01	-0.01
K3	-0.00156791	8.3e-06						1.00	0.02	-0.00
P1	-0.000260299	1.2e-06							1.00	0.00
P2	-0.000215181	1.1e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration



unknown

764 images

Type	Resolution	Focal Length	Pixel Size
Frame	5312 x 2988	unknown	unknown

	Value	Error	F	Cx	Cy	K1	P1	P2
F	2614.94	2.2	1.00	0.13	0.05	0.76	0.14	0.00
Cx	36.41	3.1		1.00	-0.04	0.12	0.91	-0.06
Cy	-70.6911	3.5			1.00	0.11	-0.01	0.93
K1	0.0828513	0.00069				1.00	0.16	0.05
P1	0.00989631	0.00044					1.00	-0.03
P2	-0.0157615	0.00047						1.00

Table 3. Calibration coefficients and correlation matrix.

Digital Elevation Model

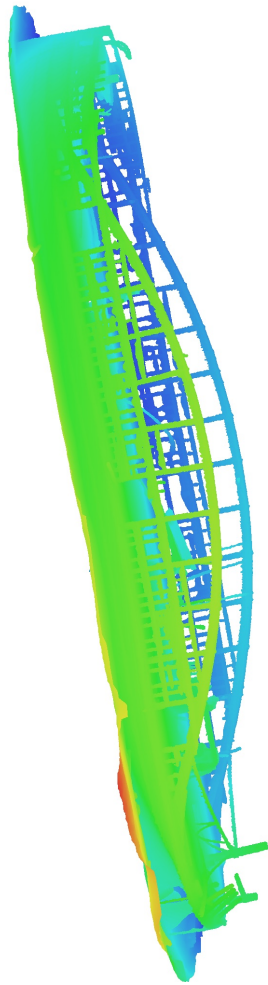


Fig. 4. Reconstructed digital elevation model.

Processing Parameters

General

Cameras	3629
Aligned cameras	3064
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	1,537,991 of 1,941,602
RMS reprojection error	0.126282 (1.02128 pix)
Max reprojection error	0.387592 (43.2867 pix)
Mean key point size	5.03673 pix
Point colors	3 bands, uint8
Key points	8.90 GB
Average tie point multiplicity	2.53749

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	34 minutes 35 seconds
Matching memory usage	7.99 GB
Alignment time	13 minutes 35 seconds
Alignment memory usage	626.96 MB
Date created	2023:07:03 05:56:15
Software version	1.8.0.13794
File size	135.27 MB

Depth Maps

Count	3016
Depth maps generation parameters	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	54 minutes 18 seconds
Memory usage	2.04 GB
Date created	2023:07:03 20:16:06
Software version	1.8.0.13794
File size	3.86 GB

Dense Point Cloud

Points	333,929,441
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	54 minutes 18 seconds
Memory usage	2.04 GB

Dense cloud generation parameters

Processing time	4 hours 27 minutes
Memory usage	11.91 GB
Date created	2023:07:04 08:54:15
Software version	1.8.0.13794
File size	4.28 GB

Model

Faces	7,999,999
Vertices	3,999,412
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	54 minutes 18 seconds
Memory usage	2.04 GB

Reconstruction parameters

Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	23 minutes 3 seconds
Memory usage	9.26 GB

Texturing parameters

Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	No
UV mapping time	1 minutes 54 seconds
UV mapping memory usage	2.64 GB
Blending time	12 minutes 17 seconds
Blending memory usage	4.96 GB
Blending GPU memory usage	2.43 GB
Date created	2023:07:03 20:38:19
Software version	1.8.0.13794
File size	444.06 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