

# Agisoft Metashape Report

Processing Report

02 August 2021



# Survey Data

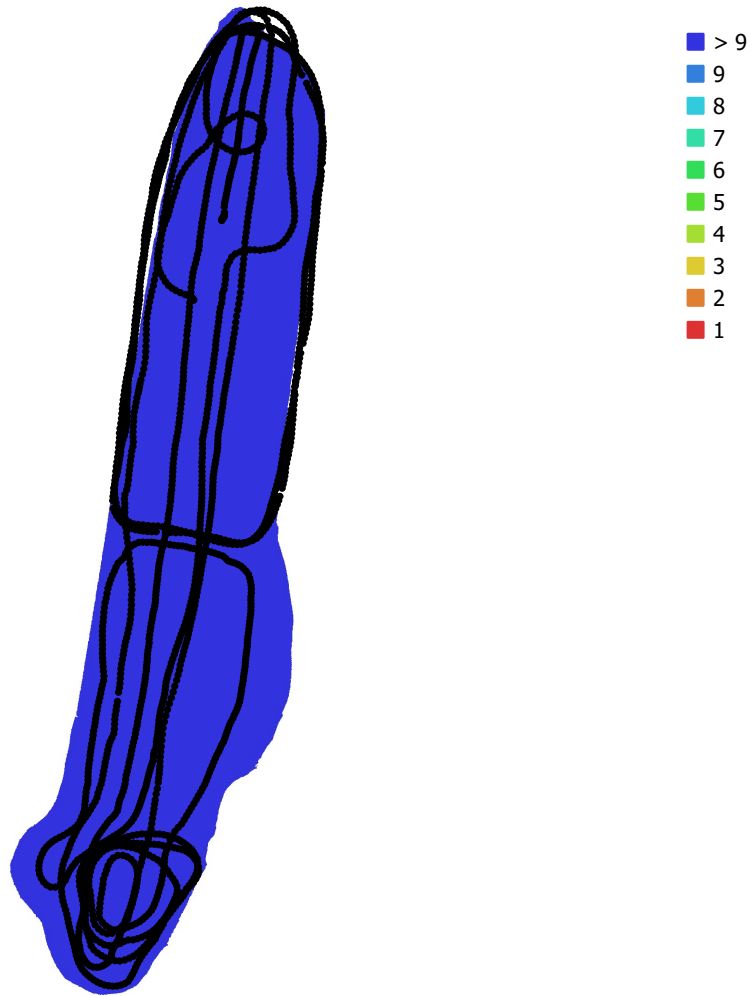


Fig. 1. Camera locations and image overlap.

Number of images: 2,122

Camera stations: 2,122

Tie points: 2,154,910

Projections: 6,108,678

Reprojection error: 1.19 pix

Model	Resolution	Focal Length	Pixel Size	Precal
DS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm)	6720 x 4480	15 mm	5.36 x 5.36 $\mu\text{m}$	No

Table 1. Cameras.

# Camera Calibration

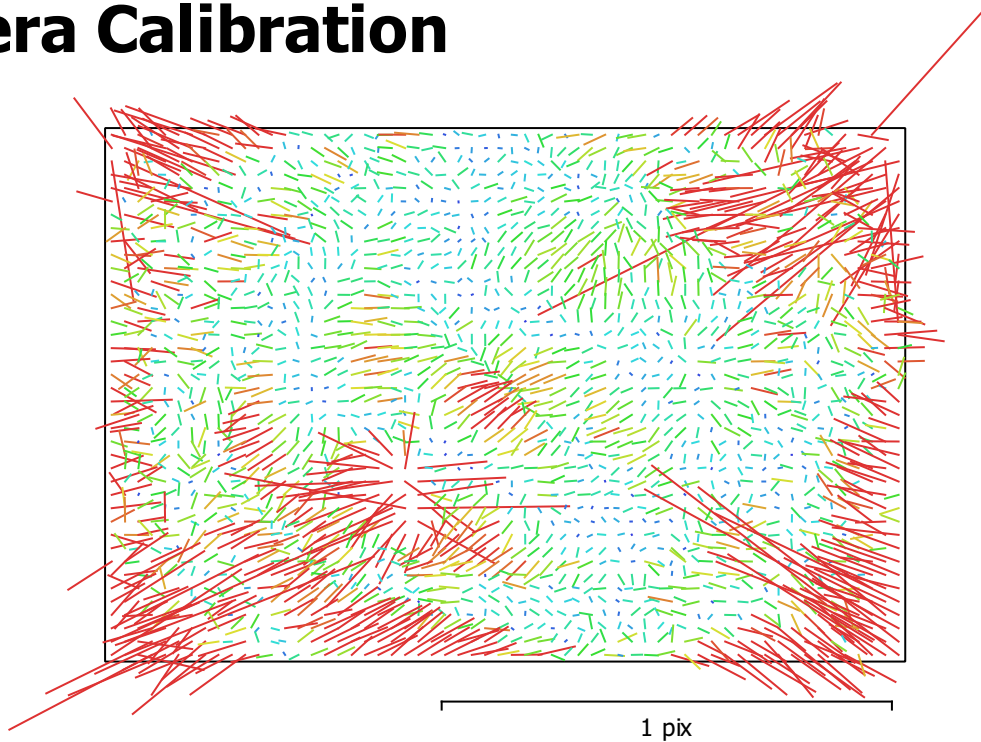


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm).

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

2122 images

Type	Resolution	Focal Length	Pixel Size
<b>Fisheye</b>	<b>6720 x 4480</b>	<b>15 mm</b>	<b>5.36 x 5.36 <math>\mu\text{m}</math></b>

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
<b>F</b>	<b>3081.02</b>	0.027	1.00	-0.34	0.02	-0.70	0.36	-0.23	0.36	-0.09
<b>Cx</b>	<b>-9.5211</b>	0.022		1.00	-0.06	0.11	-0.02	0.02	-0.78	0.07
<b>Cy</b>	<b>-22.871</b>	0.028			1.00	0.01	-0.03	0.03	0.06	-0.72
<b>K1</b>	<b>-0.0467185</b>	1.1e-05				1.00	-0.87	0.74	-0.18	0.03
<b>K2</b>	<b>0.00626694</b>	1.3e-05					1.00	-0.96	0.03	0.02
<b>K3</b>	<b>-0.00168626</b>	5.7e-06						1.00	-0.01	-0.05
<b>P1</b>	<b>-6.85097e-05</b>	1.5e-06							1.00	-0.11
<b>P2</b>	<b>0.000135967</b>	1.3e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

# Digital Elevation Model

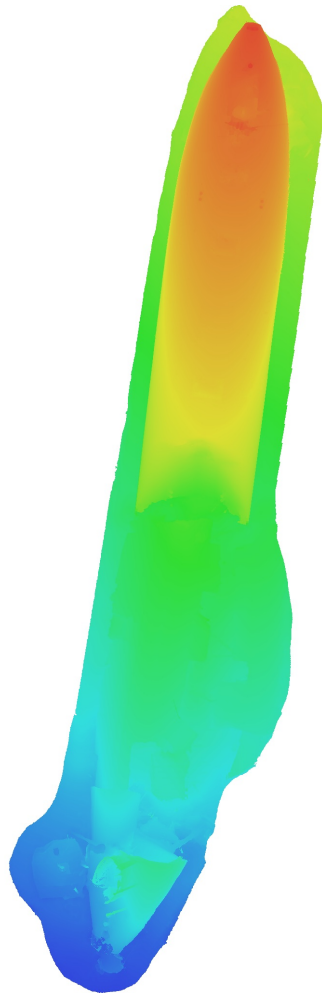


Fig. 3. Reconstructed digital elevation model.

# Processing Parameters

## General

Cameras	2122
Aligned cameras	2122

## Point Cloud

Points	2,154,910 of 2,324,945
RMS reprojection error	0.144926 (1.19331 pix)
Max reprojection error	0.439202 (47.7958 pix)
Mean key point size	6.53985 pix
Point colors	3 bands, uint8
Key points	5.19 GB
Average tie point multiplicity	2.98441

## Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	No
Key point limit	30,000
Tie point limit	4,000
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	1 hours 19 minutes
Matching memory usage	1.24 GB
Alignment time	19 minutes 56 seconds
Alignment memory usage	936.15 MB
Software version	1.7.1.11797
File size	188.64 MB

## Depth Maps

Count	2115
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## Depth maps generation parameters

Quality	Low
Filtering mode	Mild
Processing time	26 minutes 29 seconds
Memory usage	2.42 GB
Software version	1.7.1.11797
File size	1.28 GB

## Dense Point Cloud

Points	108,472,587
Point colors	3 bands, uint8

## Depth maps generation parameters

Quality	Low
Filtering mode	Mild
Processing time	26 minutes 29 seconds
Memory usage	2.42 GB

## Dense cloud generation parameters

Processing time	1 hours 24 minutes
Memory usage	5.09 GB
Software version	1.7.1.11797
File size	1.49 GB

## Model

Faces	7,996,434
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Vertices	4,013,285
Vertex colors	3 bands, uint8
Texture	4,096 x 4,096, 4 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	Low
Filtering mode	Mild
Processing time	26 minutes 29 seconds
Memory usage	2.42 GB
<b>Reconstruction parameters</b>	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Extrapolated
Strict volumetric masks	No
Processing time	4 hours 24 minutes
Memory usage	25.39 GB
<b>Texturing parameters</b>	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	No
UV mapping time	29 minutes 34 seconds
UV mapping memory usage	4.35 GB
Blending time	21 minutes 5 seconds
Blending memory usage	4.13 GB
Software version	1.7.1.11797
File size	367.41 MB
<b>System</b>	
Software name	Agisoft Metashape Standard
Software version	1.7.1 build 11797
OS	Windows 64 bit
RAM	31.92 GB
CPU	Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GPU(s)	NVIDIA GeForce RTX 2060 SUPER