

# Agisoft Metashape

Processing Report

06 February 2024



# Survey Data

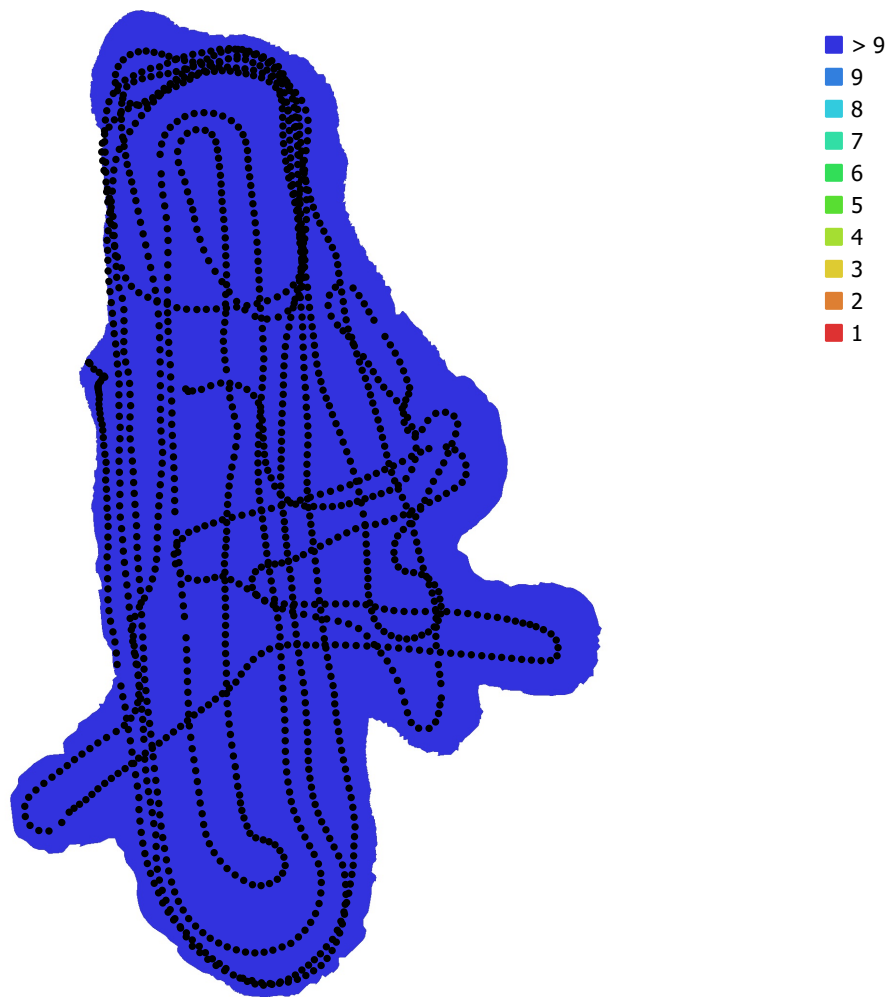


Fig. 1. Camera locations and image overlap.

Number of images: 1,475

Camera stations: 1,475

Tie points: 1,268,749

Projections: 3,213,354

Reprojection error: 1.42 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 5D Mark IV, ...	6720 x 4480	15 mm	5.36 x 5.36 $\mu\text{m}$	No

Table 1. Cameras.

# Camera Calibration

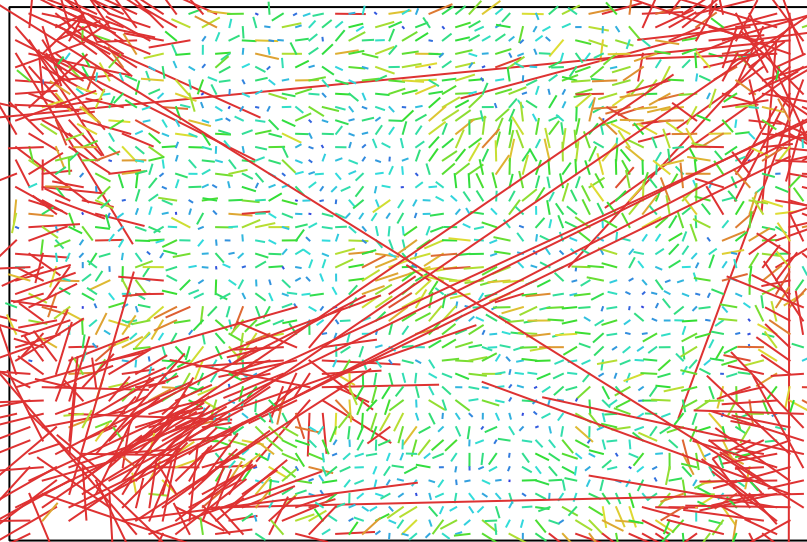


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm).

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

1475 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</math>m</b>

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
<b>F</b>	<b>3089.99</b>	0.039	1.00	-0.56	0.05	-0.49	0.26	-0.20	0.43	-0.09
<b>Cx</b>	<b>-5.62693</b>	0.036		1.00	-0.04	0.09	0.02	-0.02	-0.75	0.04
<b>Cy</b>	<b>-31.0936</b>	0.038			1.00	-0.01	0.00	-0.00	0.05	-0.74
<b>K1</b>	<b>-0.0476385</b>	1.6e-05				1.00	-0.93	0.84	-0.13	0.03
<b>K2</b>	<b>0.00643325</b>	2.5e-05					1.00	-0.97	-0.02	-0.01
<b>K3</b>	<b>-0.00159962</b>	1.2e-05						1.00	0.02	0.01
<b>P1</b>	<b>-3.96562e-05</b>	1.8e-06							1.00	-0.07
<b>P2</b>	<b>-0.000150103</b>	1.7e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

# Digital Elevation Model

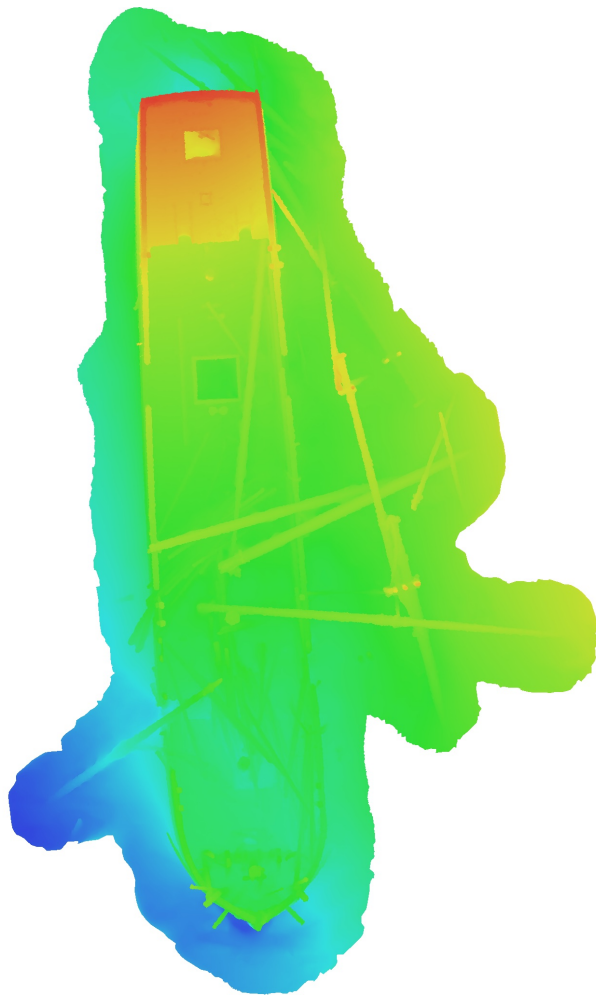


Fig. 3. Reconstructed digital elevation model.

# Processing Parameters

## General

Cameras	1475
Aligned cameras	1475
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	1,268,749 of 1,397,763
RMS reprojection error	0.15213 (1.42017 pix)
Max reprojection error	0.461431 (49.7095 pix)
Mean key point size	6.69694 pix
Point colors	3 bands, uint8
Key points	4.74 GB
Average tie point multiplicity	2.63507

## Alignment parameters

Accuracy	High
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	56 minutes 15 seconds
Matching memory usage	1.97 GB
Alignment time	9 minutes 27 seconds
Alignment memory usage	429.90 MB
Date created	2024:02:06 03:46:15
Software version	1.8.0.13794
File size	117.34 MB

## Depth Maps

Count	1475
<b>Depth maps generation parameters</b>	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	29 minutes 21 seconds
Memory usage	1.92 GB
Date created	2024:02:06 04:36:27
Software version	1.8.0.13794
File size	1.80 GB

## Dense Point Cloud

Points	230,826,445
Point colors	3 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	29 minutes 21 seconds
Memory usage	1.92 GB

**Dense cloud generation parameters**

Processing time 2 hours 3 minutes  
Memory usage 5.94 GB  
Date created 2024:02:06 07:40:28  
Software version 1.8.0.13794  
File size 2.95 GB

**Model**

Faces 7,999,999  
Vertices 4,000,806  
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 29 minutes 21 seconds  
Memory usage 1.92 GB

**Reconstruction parameters**

Surface type Arbitrary  
Source data Depth maps  
Interpolation Enabled  
Strict volumetric masks No  
Processing time 12 minutes 7 seconds  
Memory usage 5.90 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 49 seconds  
UV mapping memory usage 2.72 GB  
Blending time 6 minutes 1 seconds  
Blending memory usage 4.83 GB  
Blending GPU memory usage 2.43 GB  
Date created 2024:02:06 04:47:52  
Software version 1.8.0.13794  
File size 421.32 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