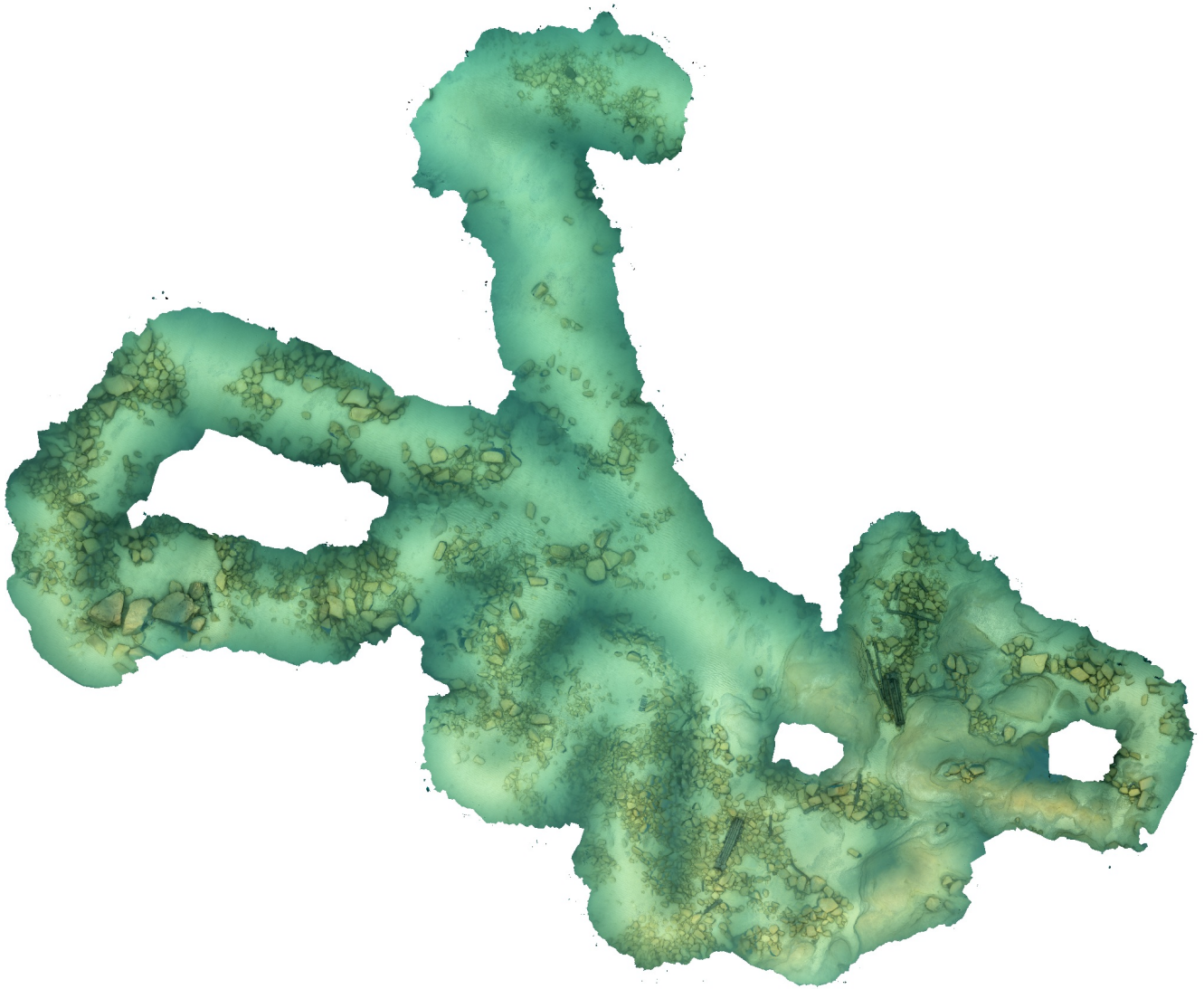


# Agisoft Metashape

Processing Report  
05 September 2023



# Survey Data

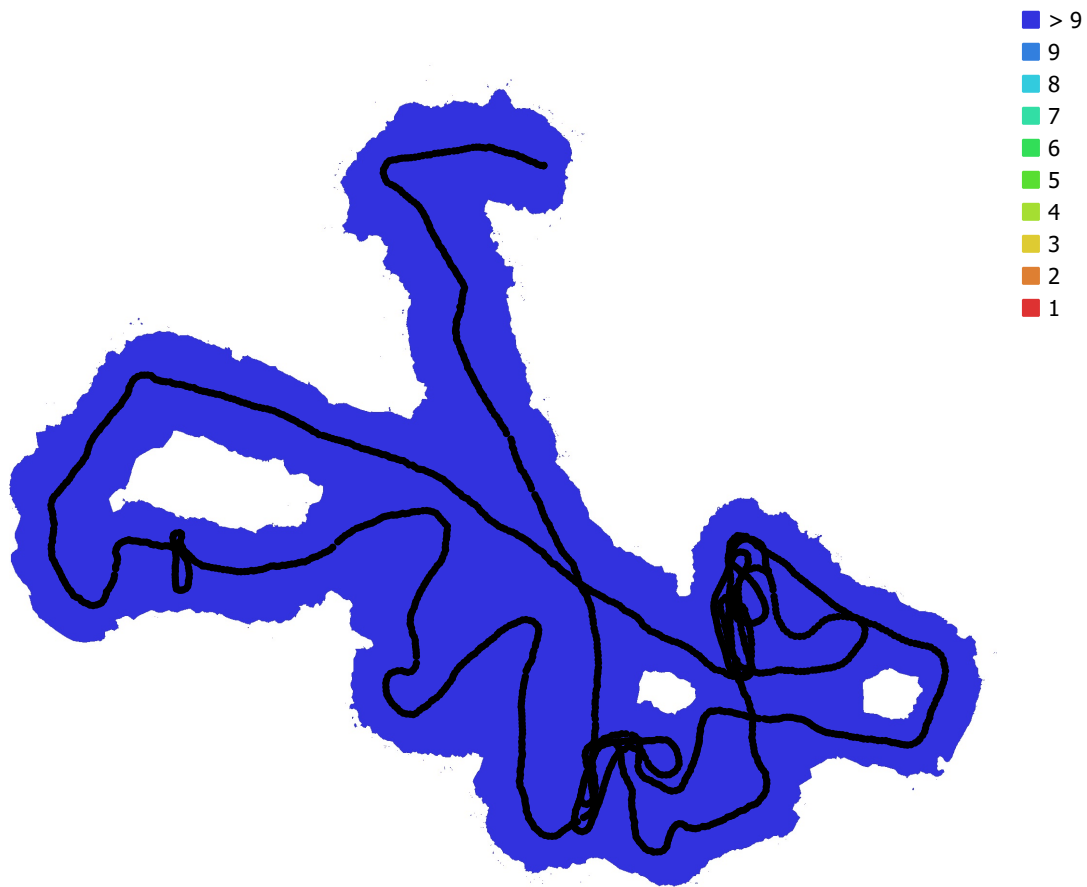


Fig. 1. Camera locations and image overlap.

Number of images: 1,776

Camera stations: 1,776

Tie points: 907,658

Projections: 3,671,270

Reprojection error: 2.33 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

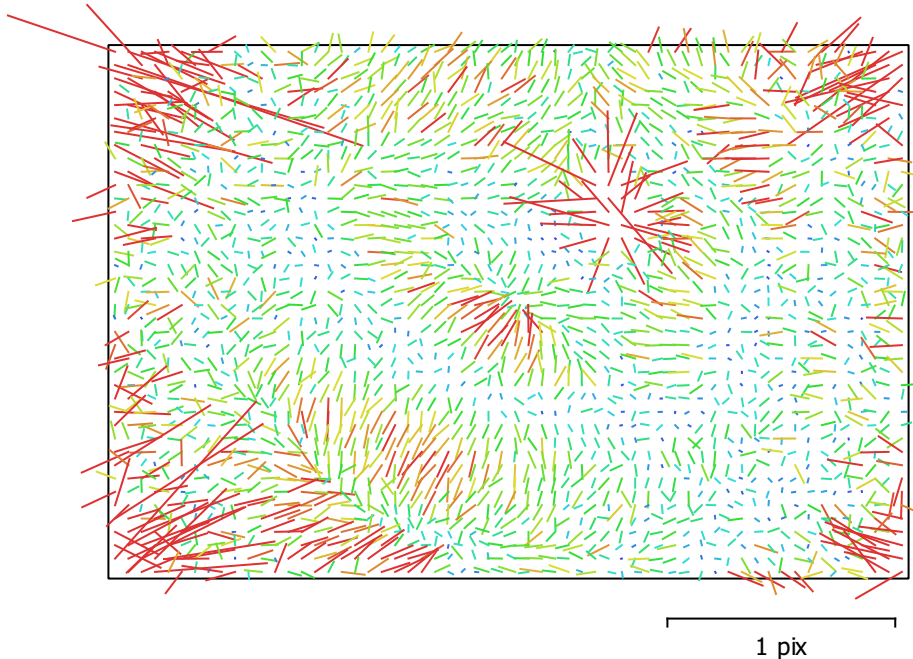


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm).

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

1776 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>3086.34</b>	0.045	1.00	-0.48	0.03	-0.65	0.29	-0.20	0.43	-0.05
<b>Cx</b>	<b>-10.6178</b>	0.023		1.00	-0.05	0.18	-0.04	0.04	-0.73	0.04
<b>Cy</b>	<b>-31.0014</b>	0.02			1.00	-0.02	0.01	-0.01	0.04	-0.68
<b>K1</b>	<b>-0.0464458</b>	1.5e-05				1.00	-0.84	0.73	-0.25	0.03
<b>K2</b>	<b>0.00573945</b>	1.7e-05					1.00	-0.97	0.03	-0.02
<b>K3</b>	<b>-0.00158709</b>	7.4e-06						1.00	-0.02	0.01
<b>P1</b>	<b>-6.02793e-05</b>	1.5e-06							1.00	-0.05
<b>P2</b>	<b>8.97969e-06</b>	1.3e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

# Digital Elevation Model

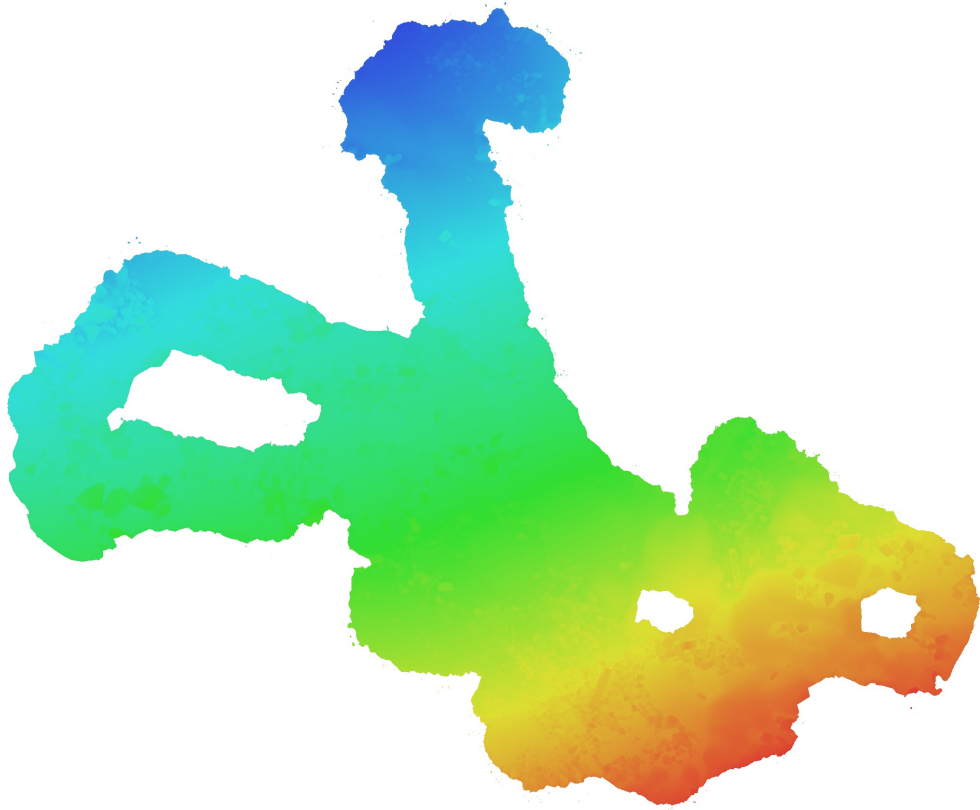


Fig. 3. Reconstructed digital elevation model.

# Processing Parameters

## General

Cameras	1776
Aligned cameras	1776
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	907,658 of 1,082,975
RMS reprojection error	0.213782 (2.33439 pix)
Max reprojection error	0.654497 (62.635 pix)
Mean key point size	8.737 pix
Point colors	3 bands, uint8
Key points	4.35 GB
Average tie point multiplicity	4.43208

## 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	24 minutes 35 seconds
Matching memory usage	9.90 GB
Alignment time	12 minutes 4 seconds
Alignment memory usage	704.46 MB
Date created	2023:08:26 23:33:56
Software version	1.8.0.13794
File size	115.69 MB

## Depth Maps

Count	1776
<b>Depth maps generation parameters</b>	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	43 minutes 36 seconds
Memory usage	2.02 GB
Date created	2023:08:27 00:42:40
Software version	1.8.0.13794
File size	3.99 GB

## Dense Point Cloud

Points	526,028,409
Point colors	3 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	43 minutes 36 seconds
Memory usage	2.02 GB

**Dense cloud generation parameters**

Processing time	4 hours 2 minutes
Memory usage	6.82 GB
Date created	2023:08:27 05:41:12
Software version	1.8.0.13794
File size	6.81 GB

**Model**

Faces	7,999,999
Vertices	4,003,148
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	43 minutes 36 seconds
Memory usage	2.02 GB

**Reconstruction parameters**

Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	1 hours 33 minutes
Memory usage	19.88 GB

**Texturing parameters**

Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	No
UV mapping time	3 minutes 29 seconds
UV mapping memory usage	3.23 GB
Blending time	9 minutes 25 seconds
Blending memory usage	5.01 GB
Blending GPU memory usage	2.43 GB
Date created	2023:08:27 12:59:09
Software version	1.8.0.13794
File size	405.91 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