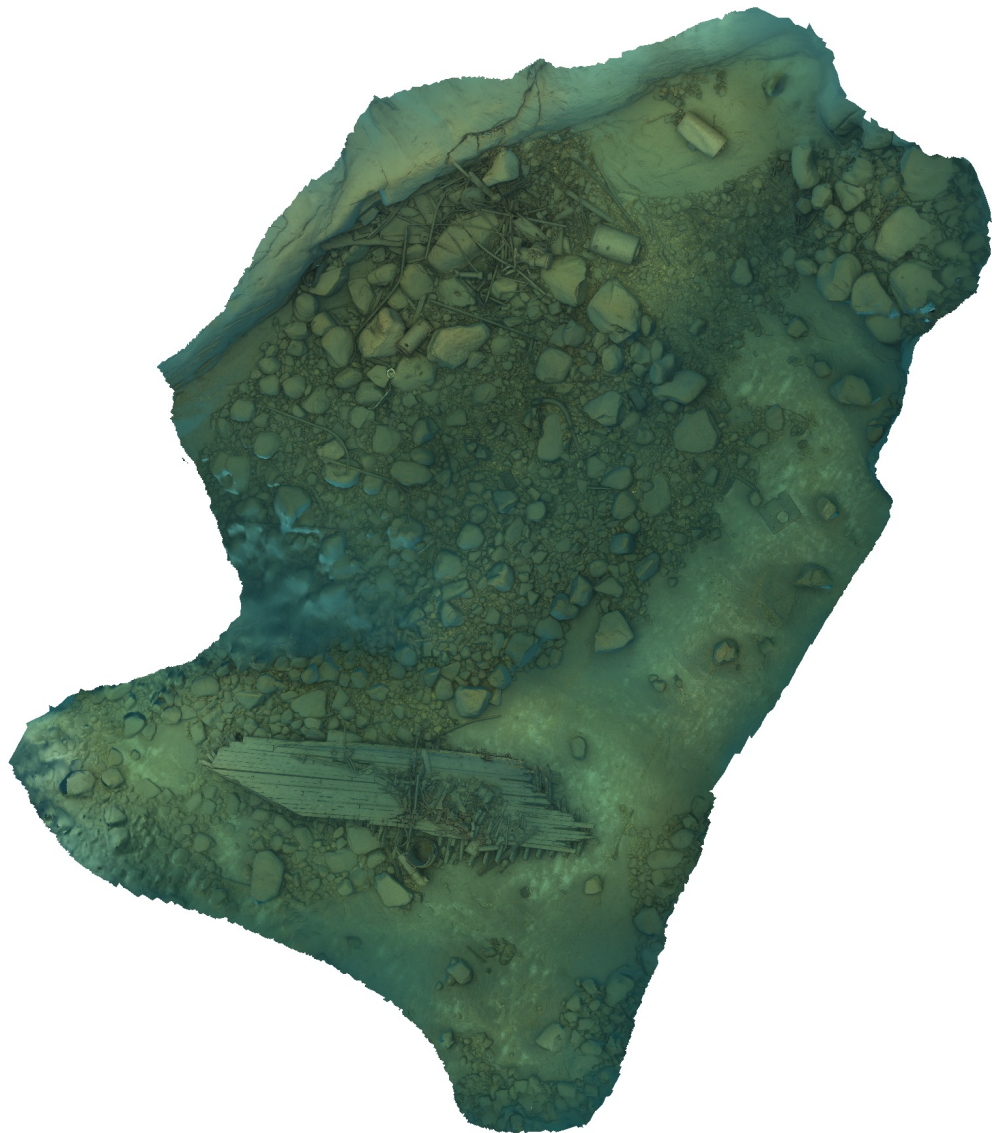


# Agisoft Metashape

Processing Report

23 August 2023



# Survey Data

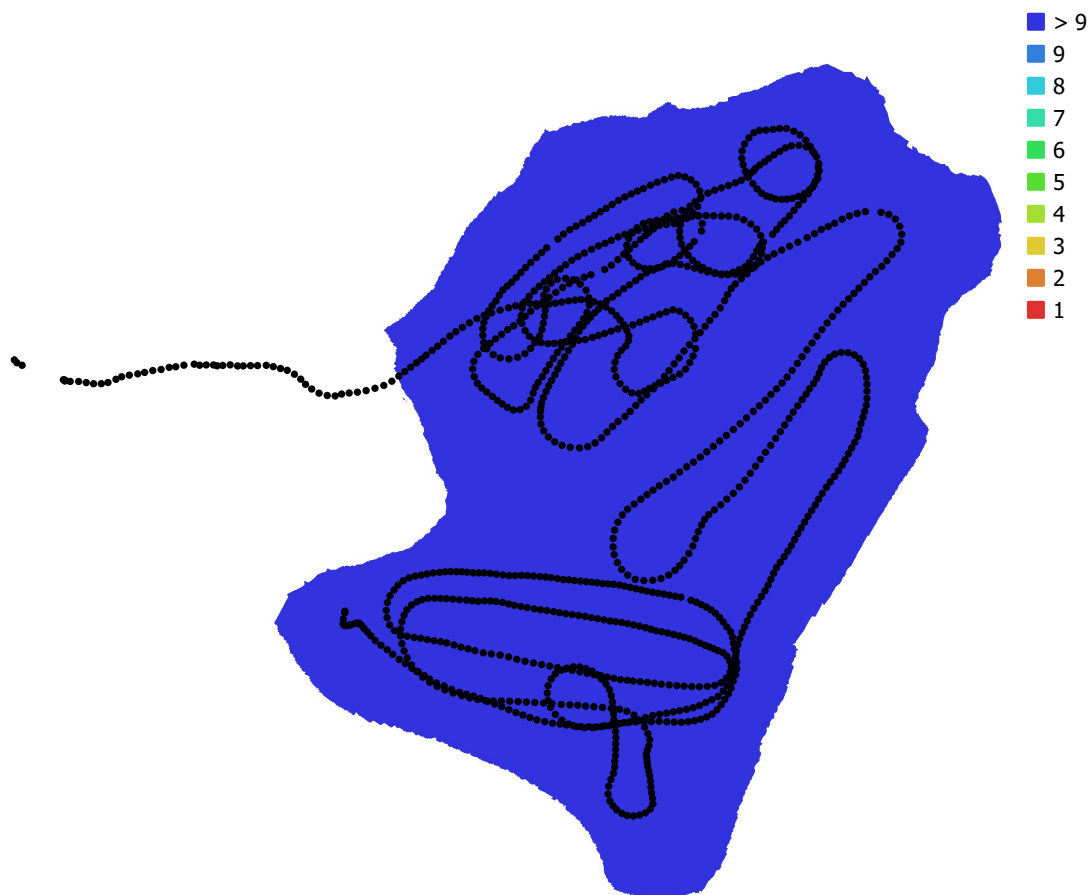


Fig. 1. Camera locations and image overlap.

Number of images: 2,424

Camera stations: 1,075

Tie points: 472,515

Projections: 2,138,159

Reprojection error: 2.26 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

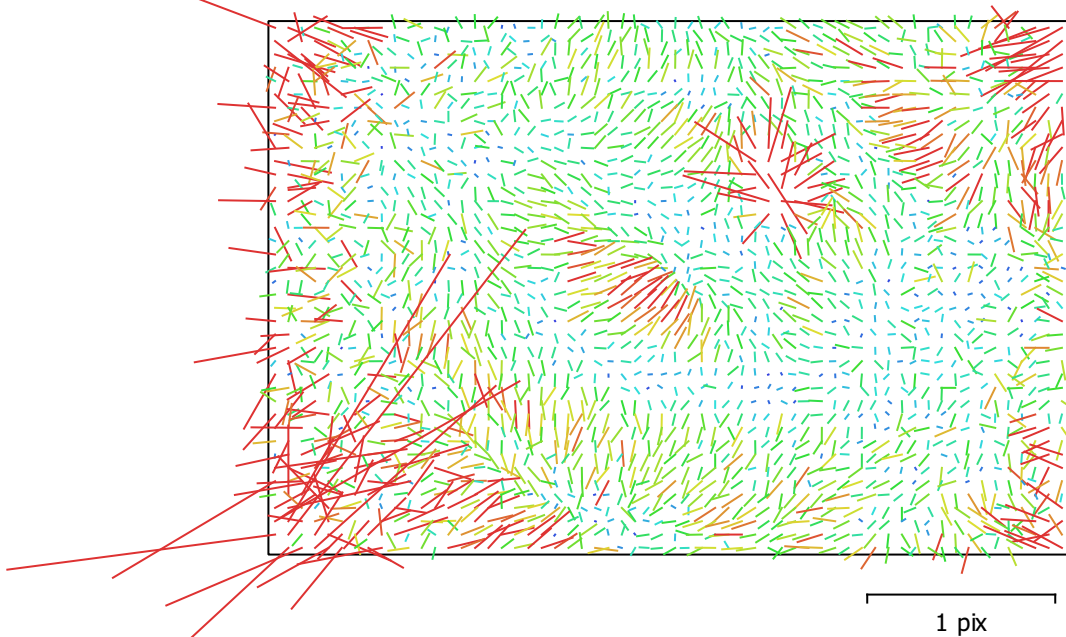


Fig. 2. Image residuals for Canon EOS 5D Mark IV, EF8-15mm f/4L FISHEYE USM (15mm).

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

2424 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>3085.19</b>	0.023	1.00	-0.51	0.19	-0.64	0.31	-0.23	0.52	-0.23
<b>Cx</b>	<b>-9.45028</b>	0.014		1.00	-0.13	0.17	-0.03	0.03	-0.73	0.12
<b>Cy</b>	<b>-30.2816</b>	0.011			1.00	-0.07	0.03	-0.02	0.12	-0.67
<b>K1</b>	<b>-0.0461783</b>	8.8e-06				1.00	-0.88	0.78	-0.25	0.11
<b>K2</b>	<b>0.00547716</b>	1.1e-05					1.00	-0.97	0.01	-0.02
<b>K3</b>	<b>-0.00144581</b>	4.2e-06						1.00	-0.00	0.01
<b>P1</b>	<b>-0.000100513</b>	9.7e-07							1.00	-0.17
<b>P2</b>	<b>-2.41488e-05</b>	7.4e-07								1.00

Table 2. Calibration coefficients and correlation matrix.

# Digital Elevation Model

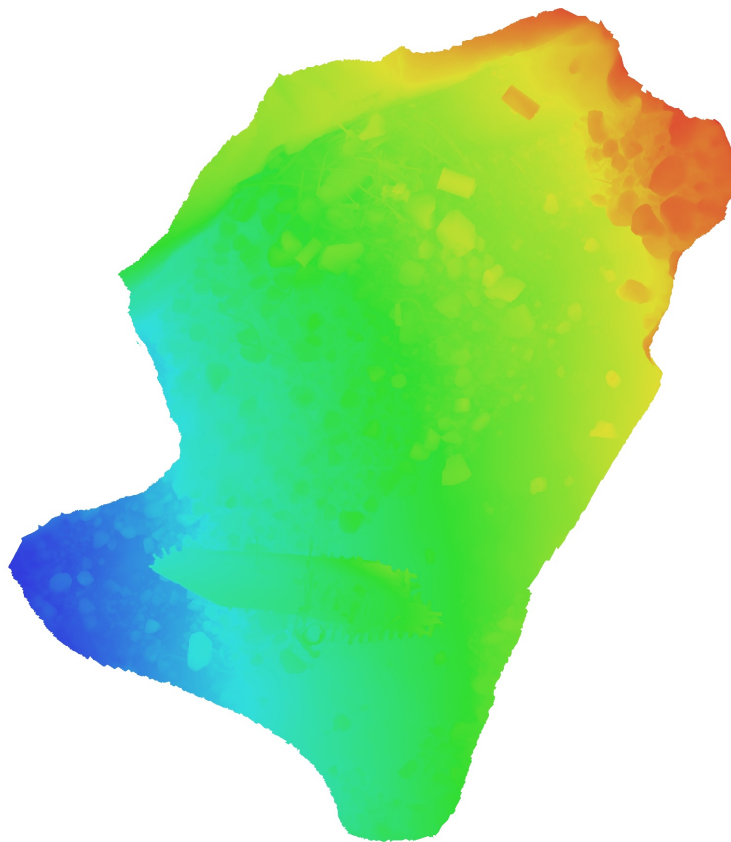


Fig. 3. Reconstructed digital elevation model.

# Processing Parameters

## General

Cameras	2424
Aligned cameras	1075
Markers	2
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	472,515 of 1,238,565
RMS reprojection error	0.221035 (2.25857 pix)
Max reprojection error	0.803805 (67.2266 pix)
Mean key point size	7.91342 pix
Point colors	3 bands, uint8
Key points	5.93 GB
Average tie point multiplicity	5.36962

## 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	21 seconds
Matching memory usage	4.09 MB
Alignment time	28 minutes 10 seconds
Alignment memory usage	1.11 GB

## Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	20 seconds
Date created	2023:08:23 03:35:33
Software version	1.8.0.13794
File size	154.33 MB

## Depth Maps

Count	1075
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## Depth maps generation parameters

Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	28 minutes 36 seconds
Memory usage	2.32 GB
Date created	2023:08:23 16:34:41
Software version	1.8.0.13794
File size	2.82 GB

## Model

Faces	6,296,528
Vertices	3,149,811

Vertex colors	3 bands, uint8
Texture	8,192 x 8,192, 4 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	Medium
Filtering mode	Moderate
Max neighbors	16
Processing time	28 minutes 36 seconds
Memory usage	2.32 GB
<b>Reconstruction parameters</b>	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	16 minutes 38 seconds
Memory usage	6.60 GB
<b>Texturing parameters</b>	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	No
UV mapping time	2 minutes 12 seconds
UV mapping memory usage	2.74 GB
Blending time	3 minutes 45 seconds
Blending memory usage	4.42 GB
Blending GPU memory usage	2.34 GB
Date created	2023:08:23 20:29:00
Software version	1.8.0.13794
File size	340.72 MB
<b>System</b>	
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