

# Agisoft Metashape

Processing Report  
05 October 2022



# Survey Data

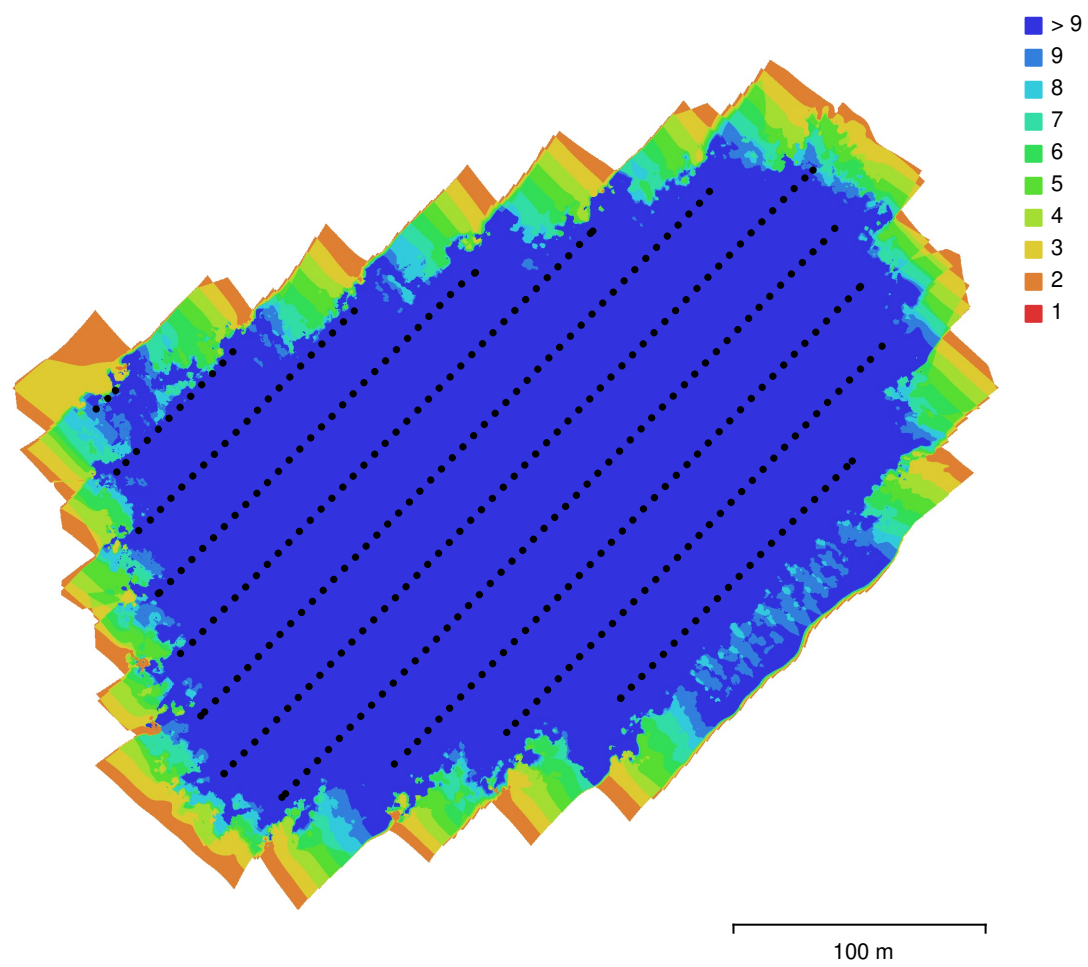


Fig. 1. Camera locations and image overlap.

Number of images:	372	Camera stations:	372
Flying altitude:	73.2 m	Tie points:	200,095
Ground resolution:	3.71 cm/pix	Projections:	445,261
Coverage area:	0.0796 km²	Reprojection error:	0.909 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC6360 (5.74mm)	1600 x 1300	5.74 mm	3.01 x 3.01 µm	Yes

Table 1. Cameras.

# Camera Calibration

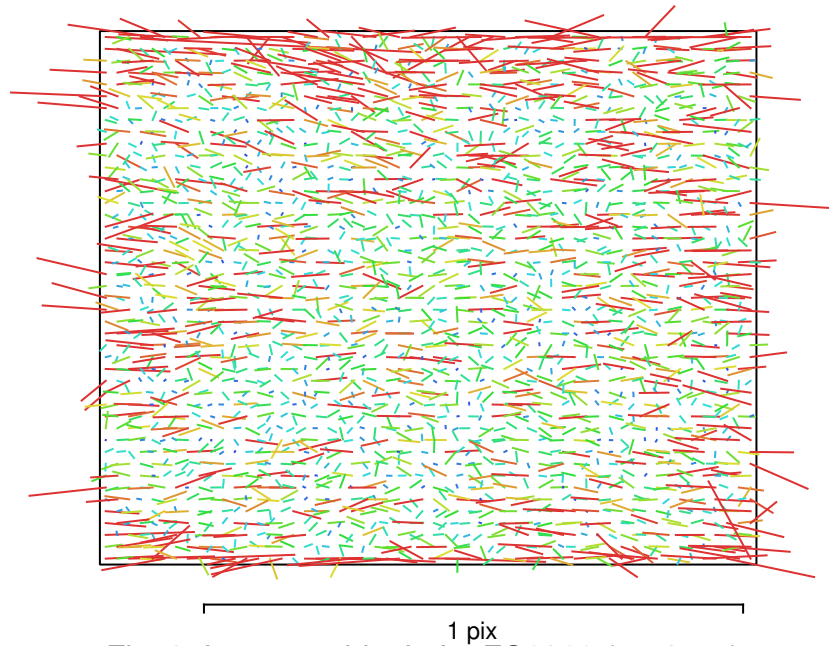


Fig. 2. Image residuals for FC6360 (5.74mm).

## FC6360 (5.74mm)

372 images, precalibrated

Type  
**Frame**

Resolution  
**1600 x 1300**

Focal Length  
**5.74 mm**

Pixel Size  
**3.01 x 3.01  $\mu\text{m}$**

	Value	Error	K1	K2	K3	P1	P2
<b>F</b>	<b>1944.73</b>						
<b>Cx</b>	<b>19.492</b>						
<b>Cy</b>	<b>-34.046</b>						
<b>K1</b>	<b>-0.408333</b>	0.00058	1.00	-0.92	0.84	0.01	-0.02
<b>K2</b>	<b>0.29129</b>	0.0035		1.00	-0.98	-0.02	0.02
<b>K3</b>	<b>-0.209517</b>	0.0068			1.00	0.04	-0.04
<b>P1</b>	<b>0.000551485</b>	3.1e-05				1.00	-0.14
<b>P2</b>	<b>0.000577612</b>	4.1e-05					1.00

Table 2. Calibration coefficients and correlation matrix.



# Camera Locations

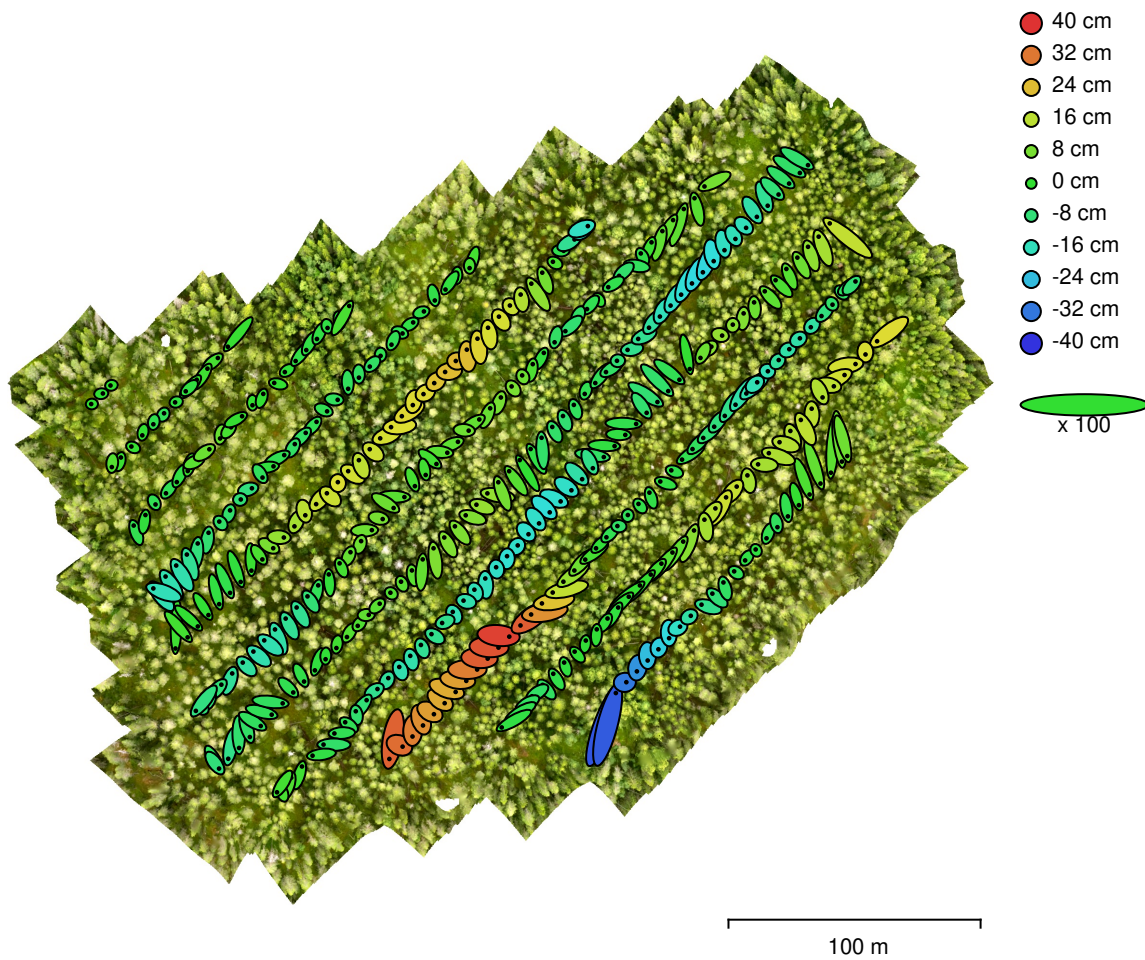


Fig. 3. Camera locations and error estimates.  
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.  
Estimated camera locations are marked with a black dot.

X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total error (cm)
4.11104	5.39283	12.0828	6.7811	13.8556

Table 3. Average camera location error.  
X - Easting, Y - Northing, Z - Altitude.

# Digital Elevation Model

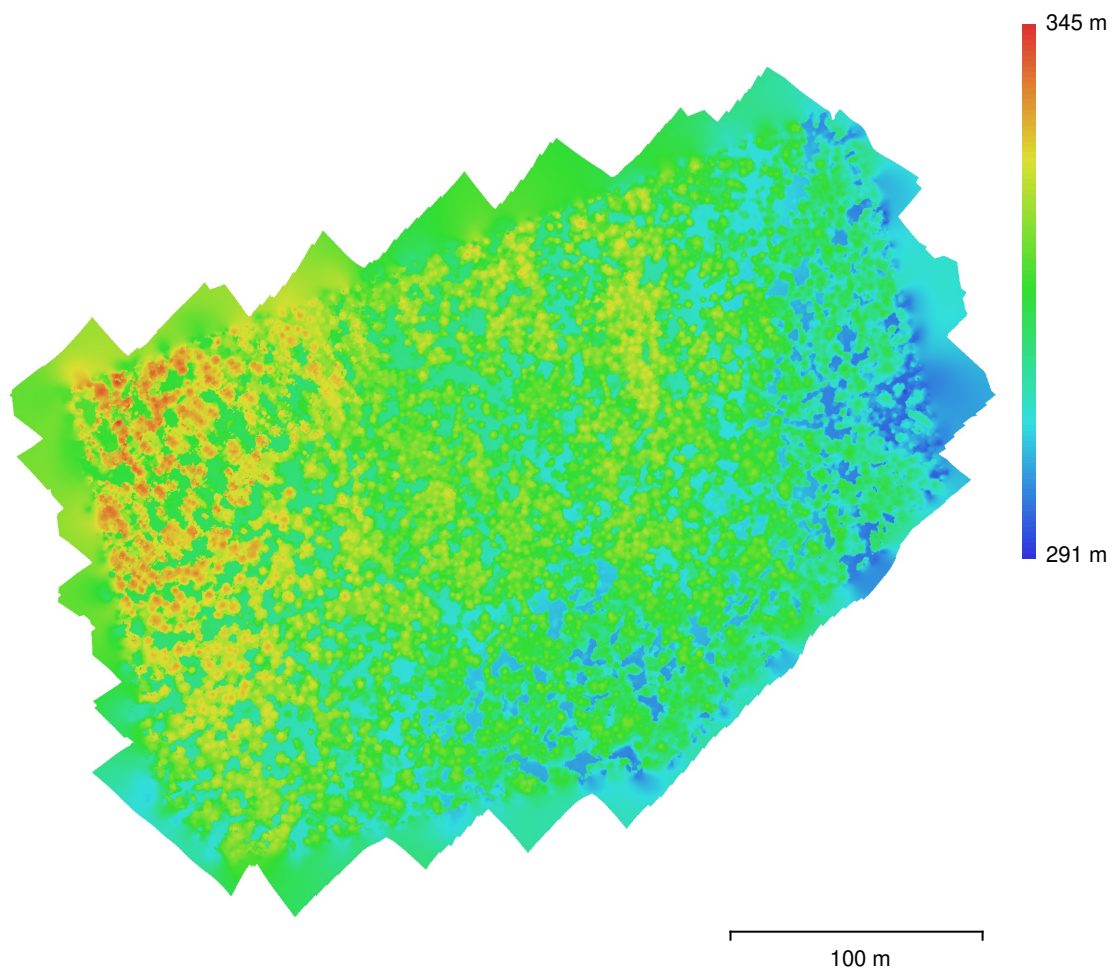


Fig. 4. Reconstructed digital elevation model.

Resolution: 7.43 cm/pix  
Point density: 181 points/m<sup>2</sup>

# Processing Parameters

## General

Cameras	372
Aligned cameras	372
Coordinate system	SWEREF99 TM (EPSG::3006)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	200,095 of 223,876
RMS reprojection error	0.121536 (0.90856 pix)
Max reprojection error	0.366343 (15.8572 pix)
Mean key point size	5.98523 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	2.23253

### Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	Source
Key point limit	40,000
Tie point limit	10,000
Guided image matching	Yes
Adaptive camera model fitting	Yes
Matching time	55 seconds
Matching memory usage	646.34 MB
Alignment time	59 seconds
Alignment memory usage	105.09 MB
Software version	1.6.2.10247

## Depth Maps

Count	372
<b>Depth maps generation parameters</b>	
Quality	High
Filtering mode	Mild
Processing time	2 minutes 55 seconds
Software version	1.6.2.10247

## Dense Point Cloud

Points	59,005,892
Point colors	3 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	High
Filtering mode	Mild
Processing time	2 minutes 55 seconds
<b>Dense cloud generation parameters</b>	
Processing time	4 minutes 1 seconds
Software version	1.6.2.10247

## DEM

Size	7,971 x 7,275
Coordinate system	SWEREF99 TM (EPSG::3006)
<b>Reconstruction parameters</b>	
Source data	Dense cloud
Interpolation	Enabled
Processing time	57 seconds
Software version	1.6.2.10247

**Orthomosaic**

Size	10,539 x 9,079
Coordinate system	SWEREF99 TM (EPSG::3006)
Colors	3 bands, uint8

**Reconstruction parameters**

Blending mode	Mosaic
Surface	DEM
Enable hole filling	Yes
Processing time	6 minutes 15 seconds
Software version	1.6.2.10247

**System**

Software name	Agisoft Metashape Professional
Software version	1.6.2 build 10247
OS	Linux 64 bit
RAM	503.30 GB
CPU	Intel(R) Xeon(R) Gold 6326 CPU @ 2.90GHz
GPU(s)	NVIDIA A40