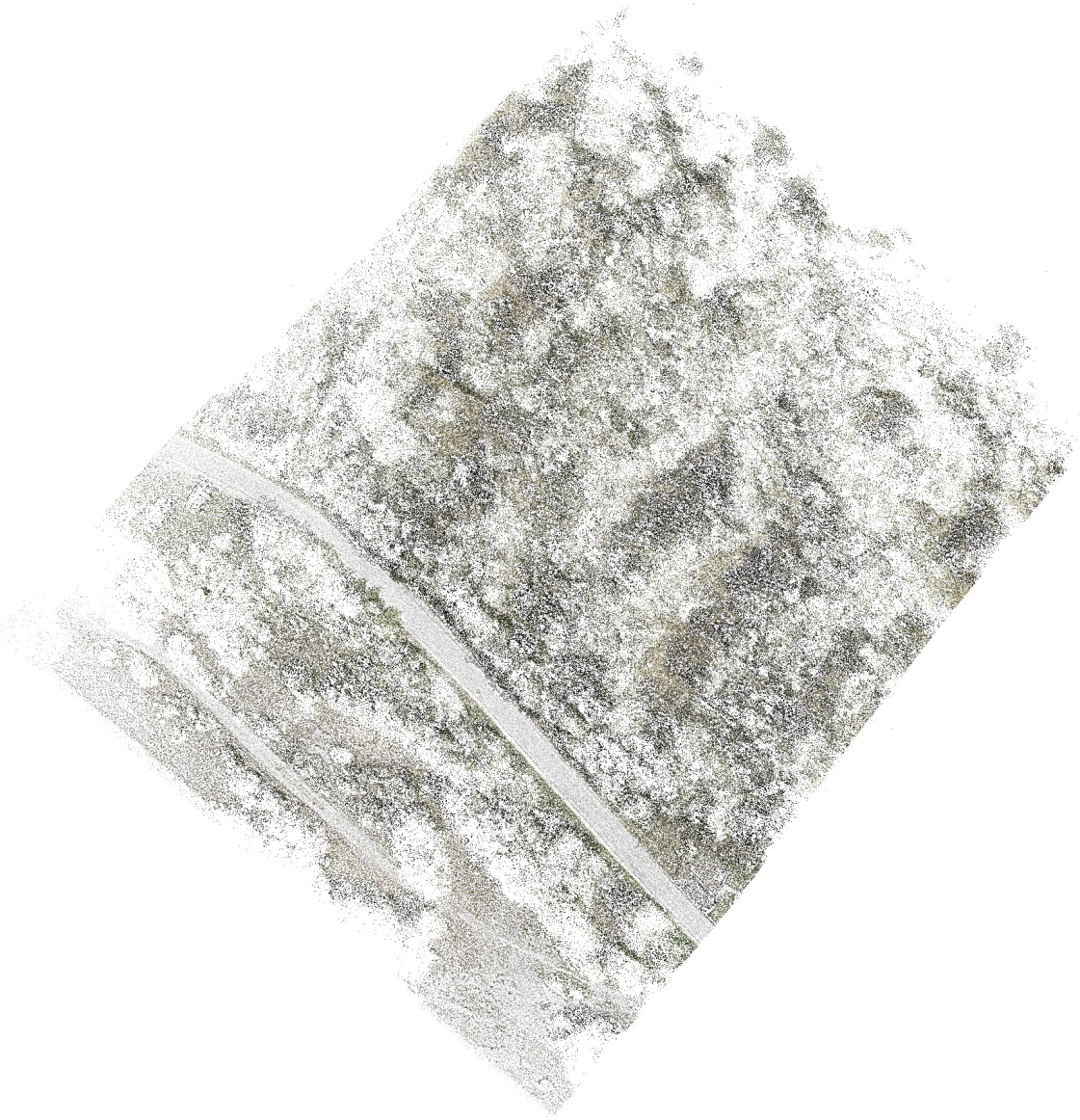
Agisoft Metashape

Processing Report

11 August 2026



Survey Data

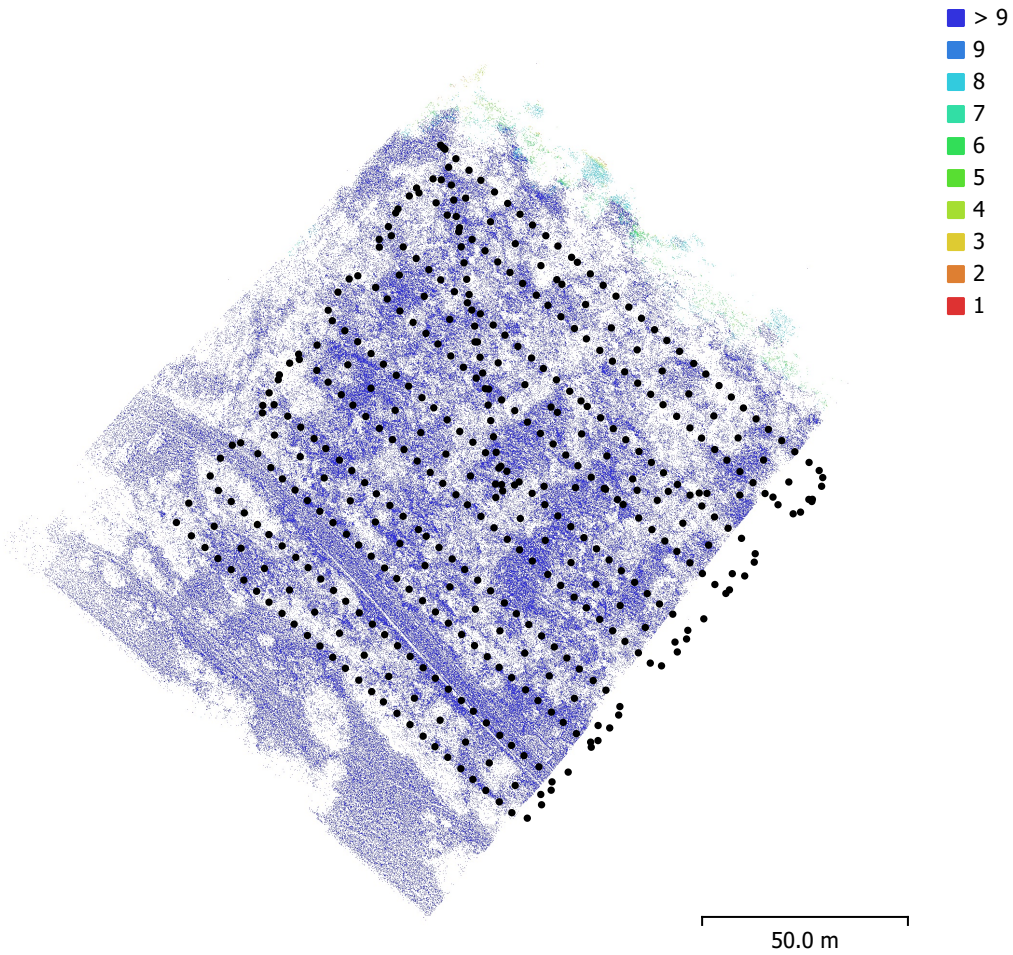


Fig. 1. Camera locations and image overlap.

Number of images:	440	Camera stations:	440
Flying altitude:	59.6 m	Tie points:	1,000,489
Ground resolution:	7.27 mm/pix	Projections:	2,730,536
Coverage area:	6422 m²	Reprojection error:	1.39 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
ZenmuseP1 (35mm)	8192 x 5460	35 mm	unknown	No

Table 1. Cameras.

Camera Calibration

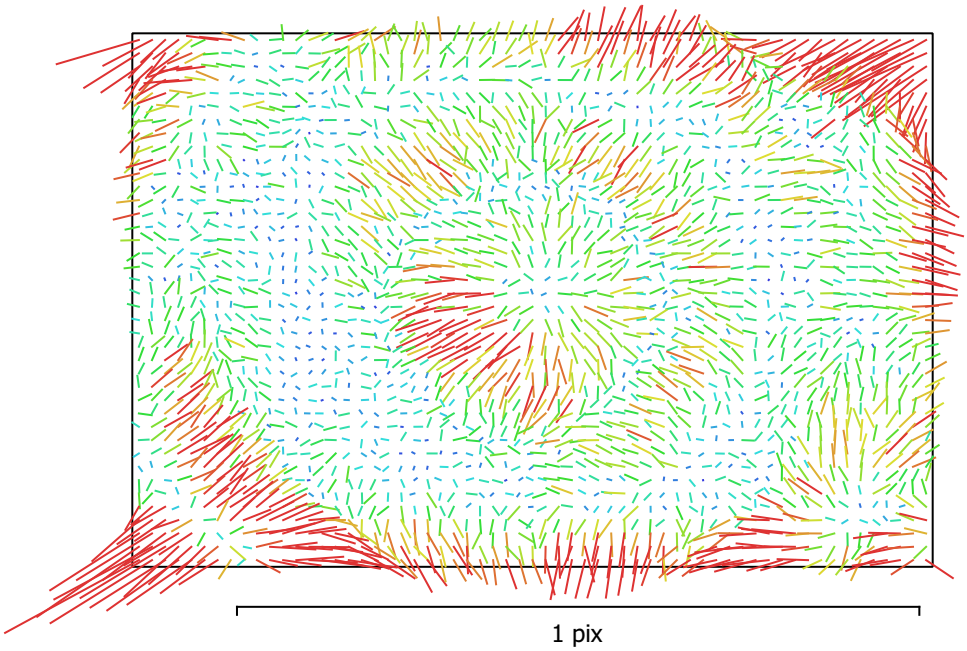


Fig. 2. Image residuals for ZenmuseP1 (35mm).

ZenmuseP1 (35mm)

440 images

Type	Resolution	Focal Length	Pixel Size
Frame	**8192 x 5460**	**35 mm**	**unknown**

	Value	Error	F	Cx	Cy	B1	B2	K1	K2	K3	K4	P1	P2
F	**8197.56**	0.19	1.00	-0.13	0.26	-0.02	0.03	-0.04	0.07	-0.07	0.06	-0.03	0.11
Cx	**-11.4513**	0.017		1.00	-0.04	0.01	-0.15	-0.02	0.01	0.00	-0.00	0.75	-0.03
Cy	**44.8964**	0.017			1.00	0.16	0.01	-0.00	0.01	-0.01	0.01	0.01	0.75
B1	**0.947581**	0.0056				1.00	0.00	0.01	-0.02	0.02	-0.02	0.04	0.01
B2	**-0.00983508**	0.0058					1.00	-0.01	0.01	-0.01	0.01	-0.02	0.01
K1	**-0.0523947**	3.3e-05						1.00	-0.96	0.91	-0.85	-0.04	0.02
K2	**0.0659365**	0.00031							1.00	-0.98	0.95	0.02	0.01
K3	**-0.263999**	0.0012								1.00	-0.99	-0.02	-0.01
K4	**0.212164**	0.0016									1.00	0.01	0.01
P1	**-0.000635404**	6.3e-07										1.00	-0.01
P2	**0.0024304**	5.3e-07											1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

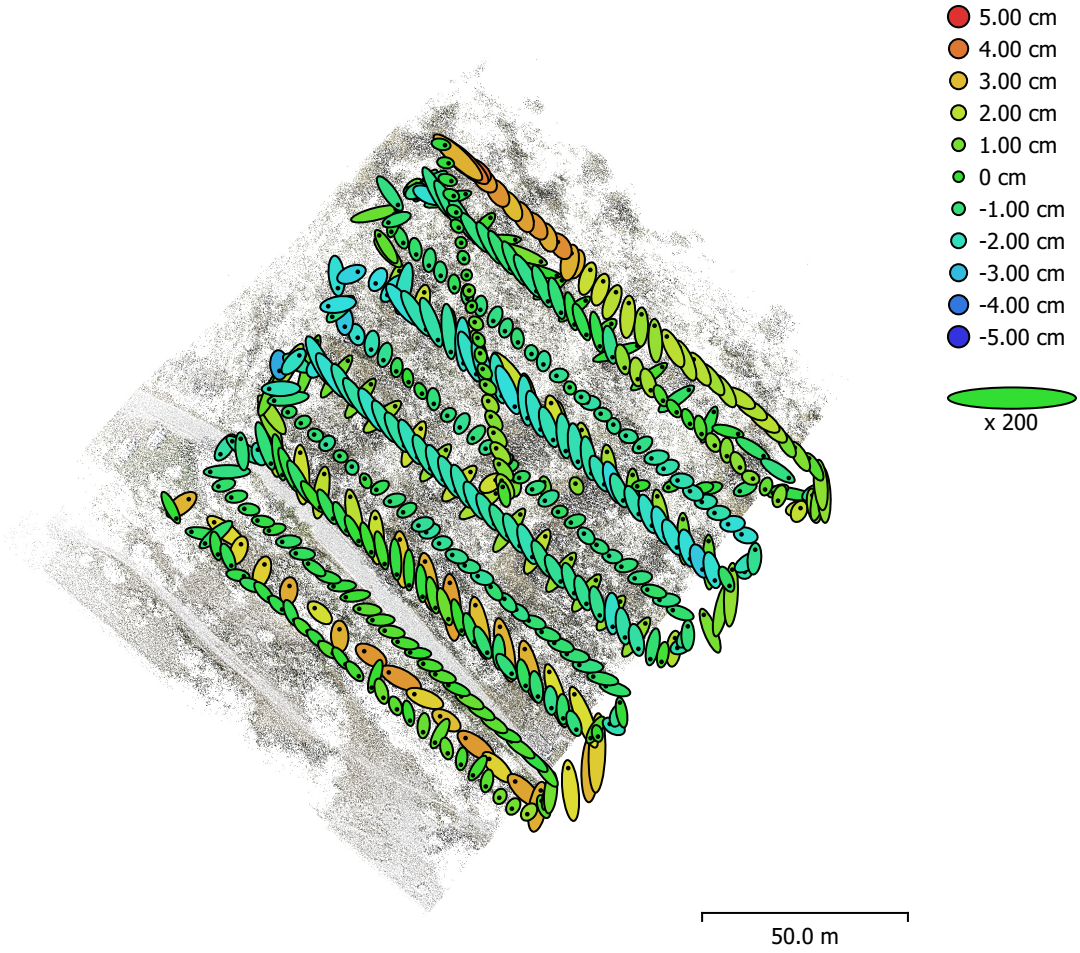


Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total error (cm)
1.48958	2.44972	1.57277	2.86705	3.2701

Table 3. Average camera location error.
X - Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

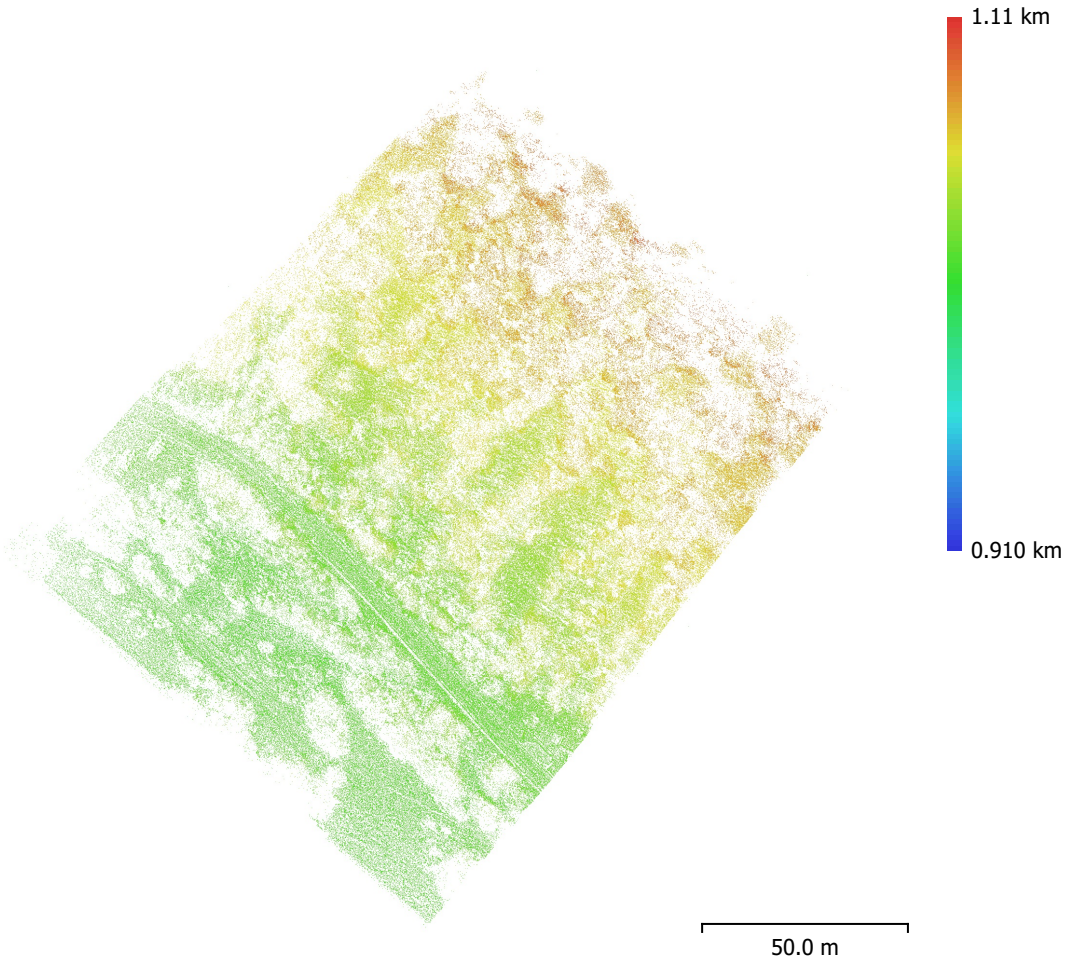


Fig. 4. Reconstructed digital elevation model.

Resolution:	unknown
Point density:	unknown

Laser Scans

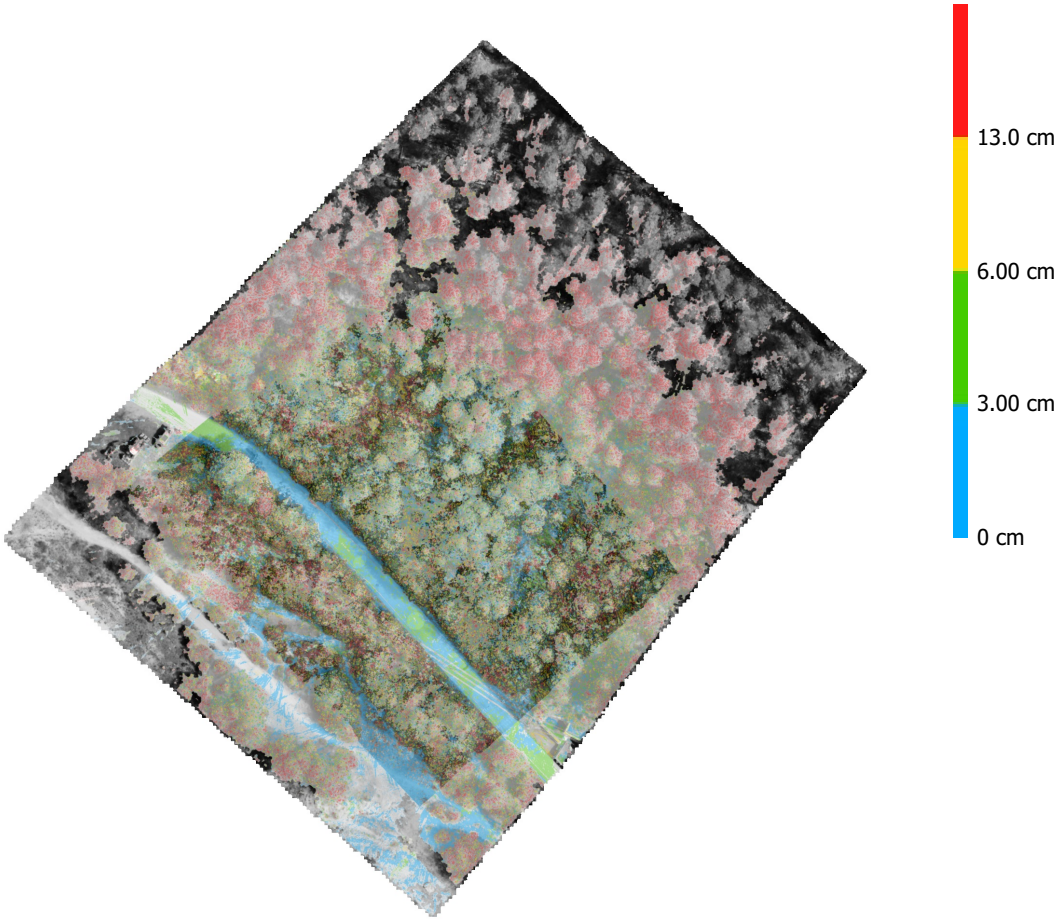


Fig. 5. Lidar swath separation.

Name	Points	Precision	Spacing	Noise level
scharnitz_simu_l2	163198854	1.00 mm	2.78 cm	6.81 cm
Scharnitz_05_26_5mm	602804992	0.250 mm	8.70 mm	2.07 cm

Table 4. Laser scans.

Processing Parameters

General	
Images	440
Aligned images	440
Laser scans	2
Aligned laser scans	2
Markers	8
Coordinate system	WGS 84 (EPSG::4326)
Marker coordinate system	WGS 84 / UTM zone 32N (EPSG::32632)
Rotation angles	Yaw, Pitch, Roll
Shapes	
Polygon	1
Coordinate system	WGS 84 (EPSG::4326)
Tie Points	
Points	1,000,489 of 1,668,935
Point colors	3 bands, uint8
RMS reprojection error	0.19013 (1.39325 pix)
Max reprojection error	0.860403 (37.773 pix)
Mean key point size	3.66085 pix
Key points	No
Average tie point multiplicity	2.78742
Alignment parameters	
Accuracy	Highest
Generic preselection	Yes
Reference preselection	Source
Key point limit	60,000
Key point limit per Mpx	1,500
Tie point limit	0
Exclude stationary tie points	Yes
Guided image matching	Yes
Adaptive camera model fitting	No
Matching time	14 minutes 39 seconds
Matching memory usage	1.05 GB
Alignment time	5 minutes 0 seconds
Alignment memory usage	2.87 GB
Optimization parameters	
Parameters	f, b1, b2, cx, cy, k1-k4, p1, p2
Adaptive camera model fitting	No
Exclude corners	No
Optimization time	9 seconds
Date created	2026:05:20 11:26:30
Software version	2.3.1.22446
File size	98.72 MB
System	
Software name	Agisoft Metashape Professional
Software version	2.3.1 build 22446
OS	Windows 64 bit
RAM	511.50 GB
CPU	Intel(R) Xeon(R) w5-3425
GPU(s)	NVIDIA GeForce RTX 4090