

Agisoft Metashape

Processing Report

14 November 2025



Survey Data

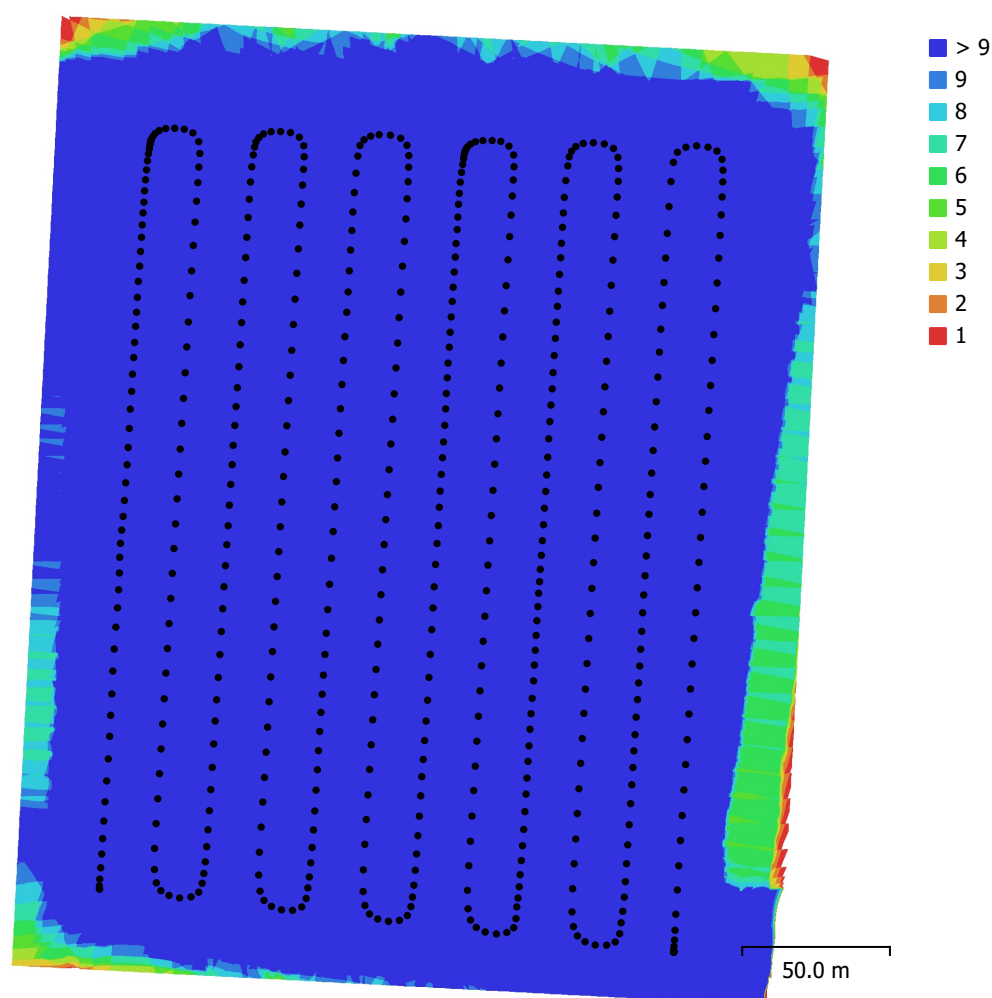


Fig. 1. Camera locations and image overlap.

Number of images:	545	Camera stations:	545
Flying altitude:	53.0 m	Tie points:	854,846
Ground resolution:	1.41 cm/pix	Projections:	5,700,369
Coverage area:	0.0834 km²	Reprojection error:	0.59 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
M3E (12.29mm)	5280 x 3956	12.29 mm	3.36 x 3.36 µm	Yes

Table 1. Cameras.

Camera Calibration

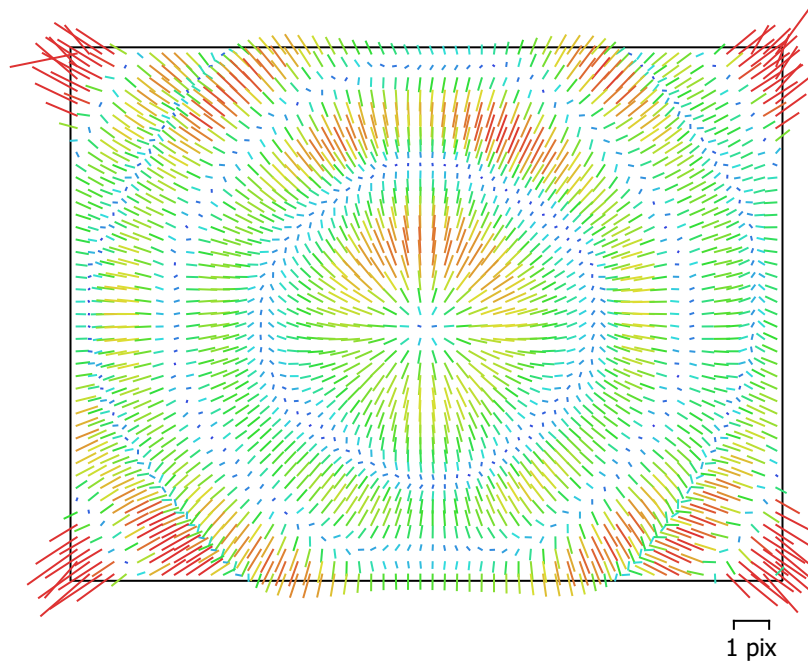


Fig. 2. Image residuals for M3E (12.29mm).

M3E (12.29mm)

545 images, precalibrated

Type	Resolution	Focal Length	Pixel Size
Frame	5280 x 3956	12.29 mm	3.36 x 3.36 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	3754.46	0.64	1.00	0.03	0.66	-0.86	-0.21	-0.55	0.06	-0.60
Cx	1.33453	0.017		1.00	0.02	-0.00	-0.05	0.02	-0.72	-0.01
Cy	-8.45581	0.021			1.00	-0.58	-0.13	-0.36	0.03	-0.82
K1	-0.108037	4e-05				1.00	-0.09	0.55	-0.04	0.65
K2	-0.00655105	2.3e-05					1.00	-0.63	-0.03	0.08
K3	-0.0111061	2.2e-05						1.00	-0.03	0.28
P1	0.000281693	6.3e-07							1.00	-0.02
P2	-1.64374e-05	7.6e-07								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

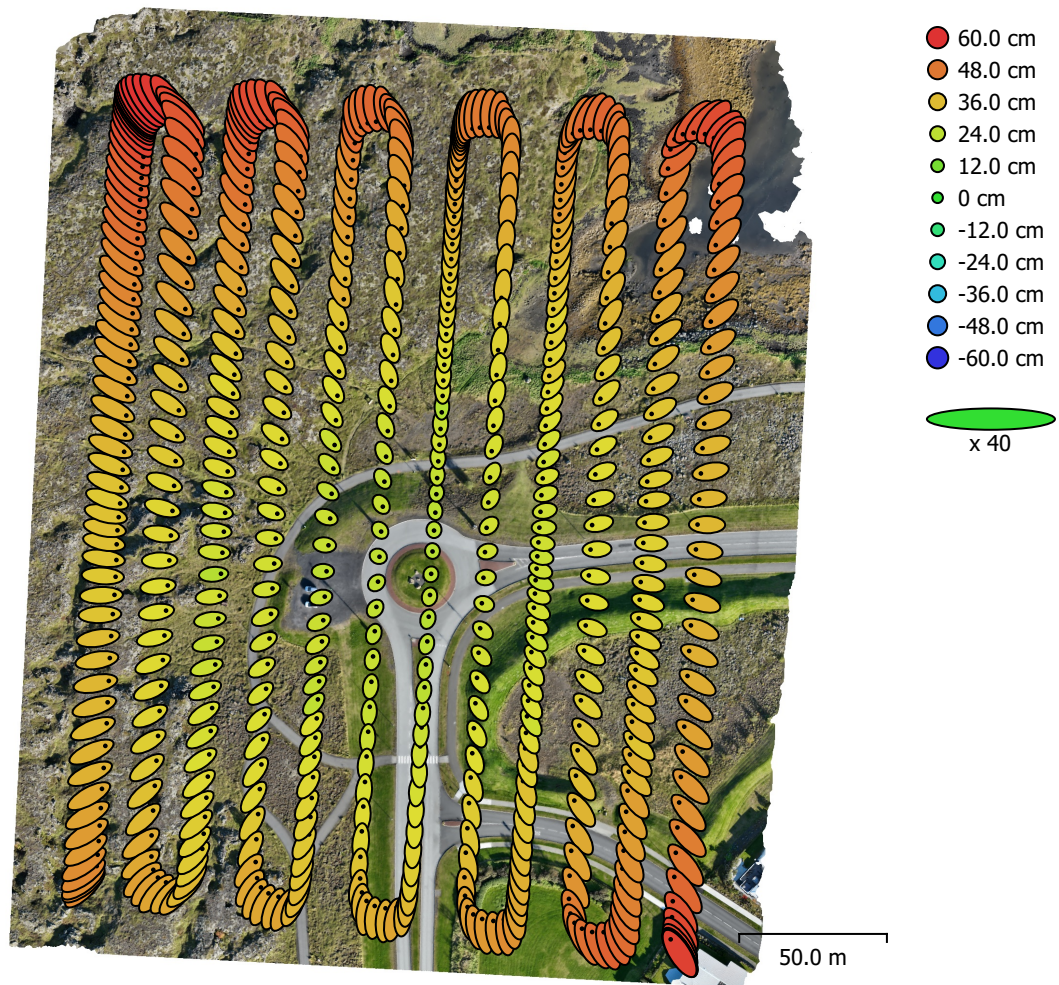


Fig. 3. Camera locations and error estimates.

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)
12.4544	15.5487	39.2732	19.9217	44.037

Table 3. Average camera location error.

X - Easting, Y - Northing, Z - Altitude.

Ground Control Points

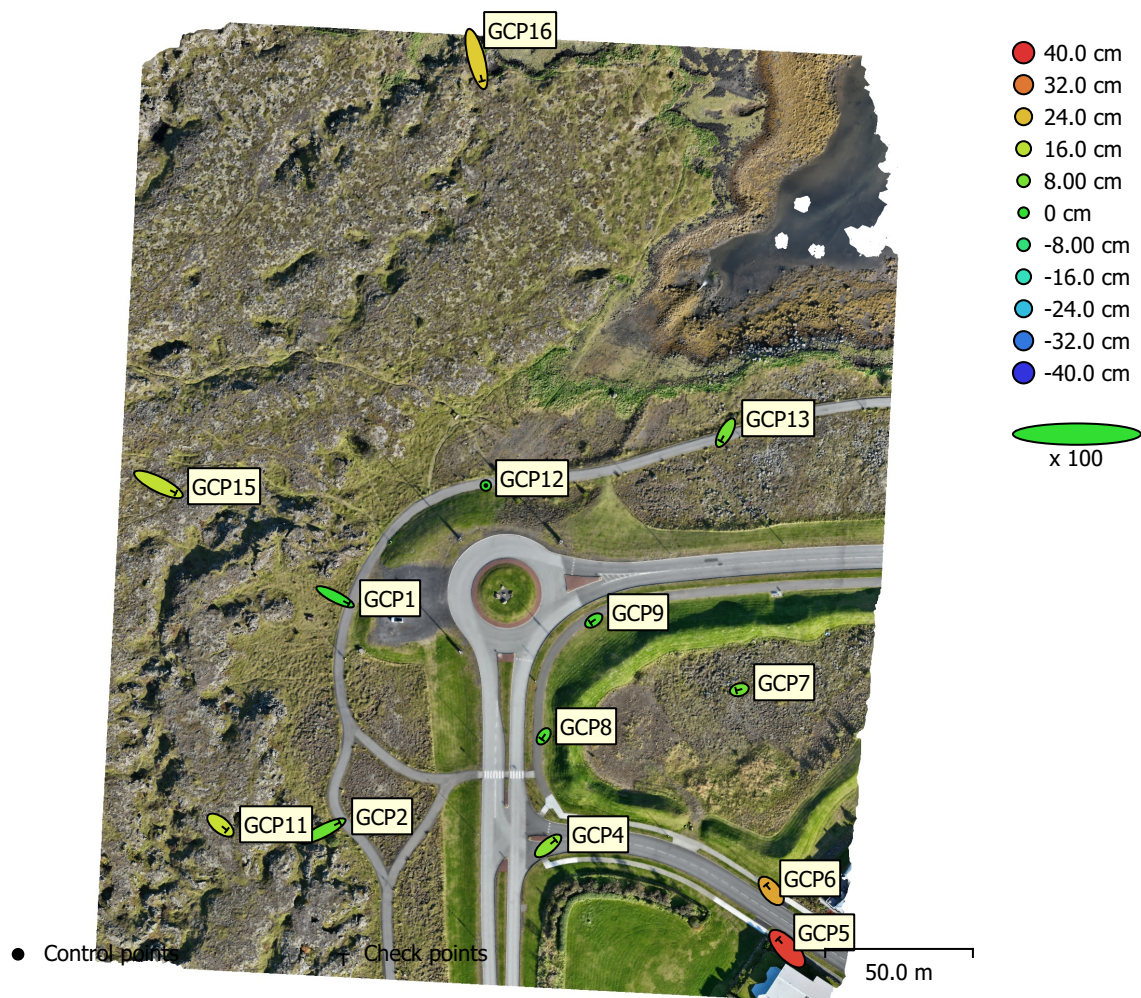


Fig. 4. GCP locations and error estimates.

Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.

Estimated GCP locations are marked with a dot or crossing.

Count	X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total (cm)
1	1.34202e-05	1.45312e-05	0.000208231	1.97802e-05	0.000209168

Table 4. Control points RMSE.

X - Easting, Y - Northing, Z - Altitude.

Count	X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total (cm)
12	6.37803	6.07649	17.1664	8.80925	19.2947

Table 5. Check points RMSE.

X - Easting, Y - Northing, Z - Altitude.

Label	X error (cm)	Y error (cm)	Z error (cm)	Total (cm)	Image (pix)
GCP12	-1.34202e-05	1.45312e-05	-0.000208231	0.000209168	1.366 (35)
Total	1.34202e-05	1.45312e-05	0.000208231	0.000209168	1.366

Table 6. Control points.
X - Easting, Y - Northing, Z - Altitude.

Label	X error (cm)	Y error (cm)	Z error (cm)	Total (cm)	Image (pix)
GCP16	3.82716	-14.919	22.081	26.922	1.205 (22)
GCP15	11.7514	-5.85575	16.6271	21.186	1.065 (16)
GCP13	-3.26606	-5.73468	7.68809	10.1321	1.172 (34)
GCP11	4.3326	-3.45301	17.4074	18.2678	2.465 (30)
GCP9	-2.28436	-1.55504	2.4628	3.7016	2.612 (34)
GCP8	-1.36575	-1.93741	2.84287	3.70145	1.369 (32)
GCP7	-2.18865	-0.555633	7.09261	7.44339	0.984 (22)
GCP6	-3.40451	4.1964	26.7118	27.2529	1.762 (25)
GCP5	-6.15176	6.623	38.514	39.5605	1.258 (19)
GCP4	4.95874	4.0134	10.2302	12.0563	1.706 (45)
GCP2	11.4985	5.86227	6.6382	14.5137	1.554 (40)
GCP1	9.37331	-4.79364	0.160729	10.5292	1.163 (30)
Total	6.37803	6.07649	17.1664	19.2947	1.665

Table 7. Check points.
X - Easting, Y - Northing, Z - Altitude.

Digital Elevation Model

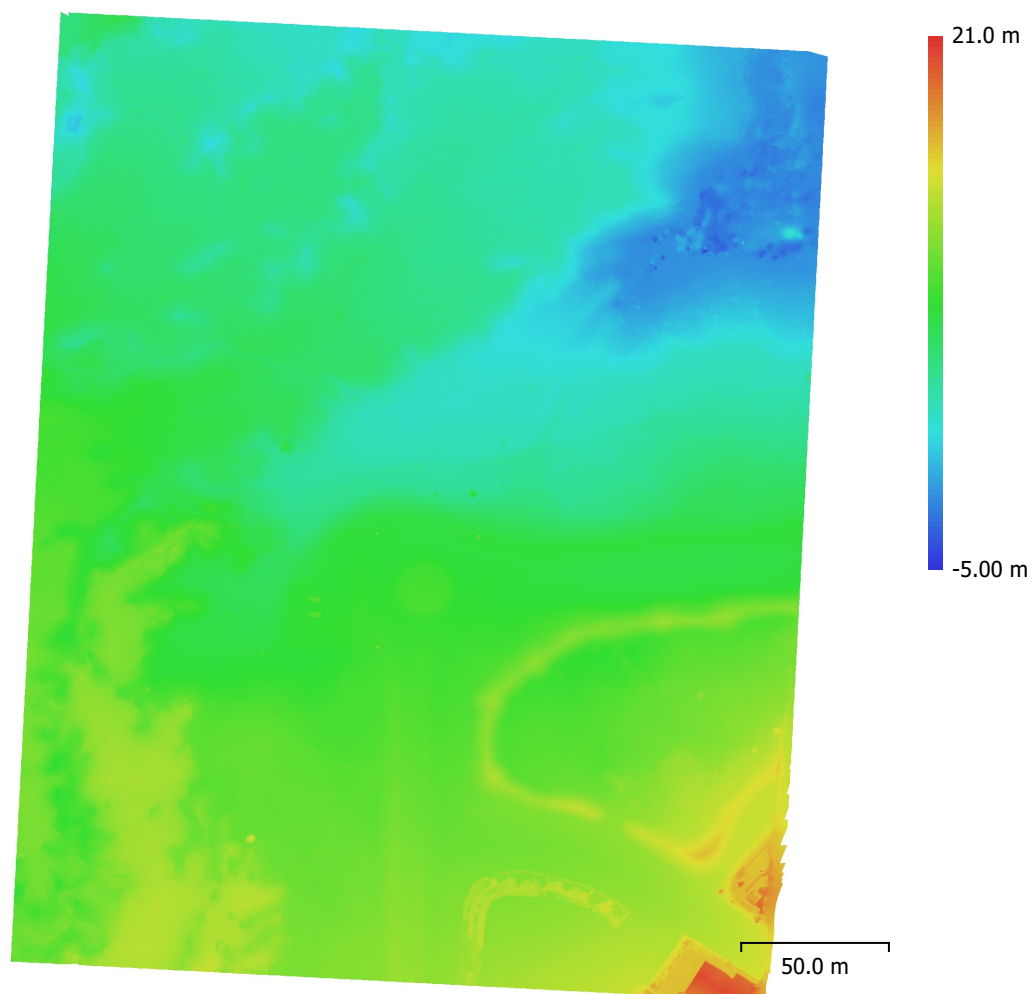


Fig. 5. Reconstructed digital elevation model.

Resolution: 10.5 cm/pix
Point density: 91.3 points/m²

Processing Parameters

General

Images	545
Aligned images	545
Markers	16
Coordinate system	ISN2016 + ISH2004
Rotation angles	Yaw, Pitch, Roll

Tie Points

Points	854,846 of 2,703,885
RMS reprojection error	0.290415 (0.590172 pix)
Max reprojection error	1.94069 (3.96533 pix)
Mean key point size	2.03201 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	7.68293

Alignment parameters

Accuracy	High
Generic preselection	No
Reference preselection	Source
Key point limit	60,000
Key point limit per Mpx	1,000
Tie point limit	0
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	20 minutes 51 seconds
Matching memory usage	2.20 GB
Alignment time	13 minutes 48 seconds
Alignment memory usage	5.63 GB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Exclude corners	No
Optimization time	14 seconds
Date created	2025:11:14 13:25:12
Software version	2.3.0.21427
File size	1.11 GB

Model

Faces	6,740,729
Vertices	3,377,118
Vertex colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	25 minutes 12 seconds
Memory usage	6.85 GB

Reconstruction parameters

Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled

Strict volumetric masks	No
Processing time	18 minutes 46 seconds
Memory usage	13.56 GB
Date created	2025:11:14 12:00:28
Software version	2.3.0.21427
File size	144.76 MB
DEM	
Size	2,647 x 3,207
Resolution	10.5 cm/pix
Coordinate system	ISN2016 + ISH2004
Reconstruction parameters	
Source data	Model
Interpolation	Enabled
Processing time	6 seconds
Memory usage	398.05 MB
Date created	2025:11:14 13:01:06
Software version	2.3.0.21427
File size	39.68 MB
System	
Software name	Agisoft Metashape Professional
Software version	2.3.0 build 21427
OS	Windows 64 bit
RAM	127.76 GB
CPU	12th Gen Intel(R) Core(TM) i9-12900K
GPU(s)	NVIDIA GeForce RTX 3070 Ti