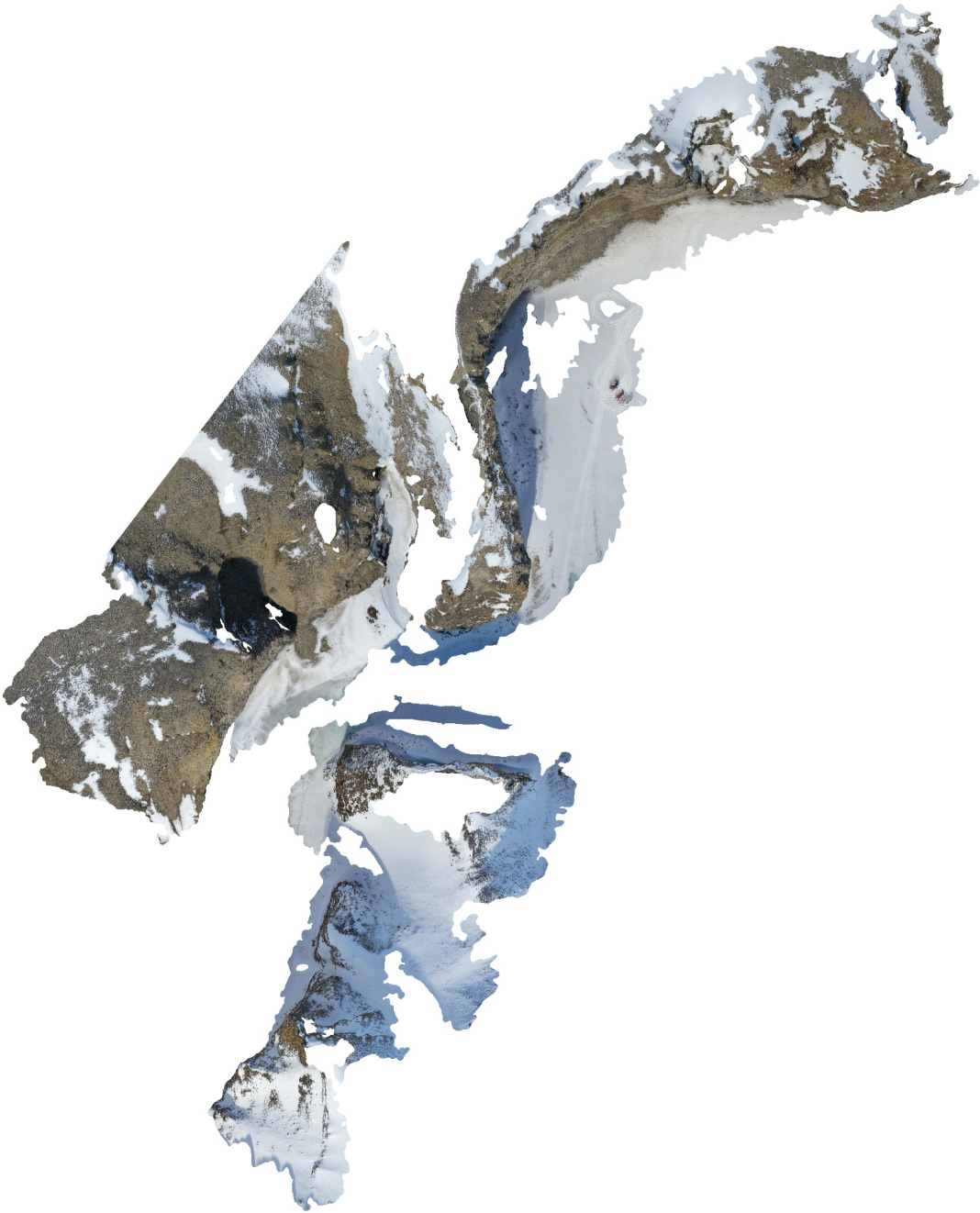


Storgjelet

Processing Report
02 February 2022



Survey Data

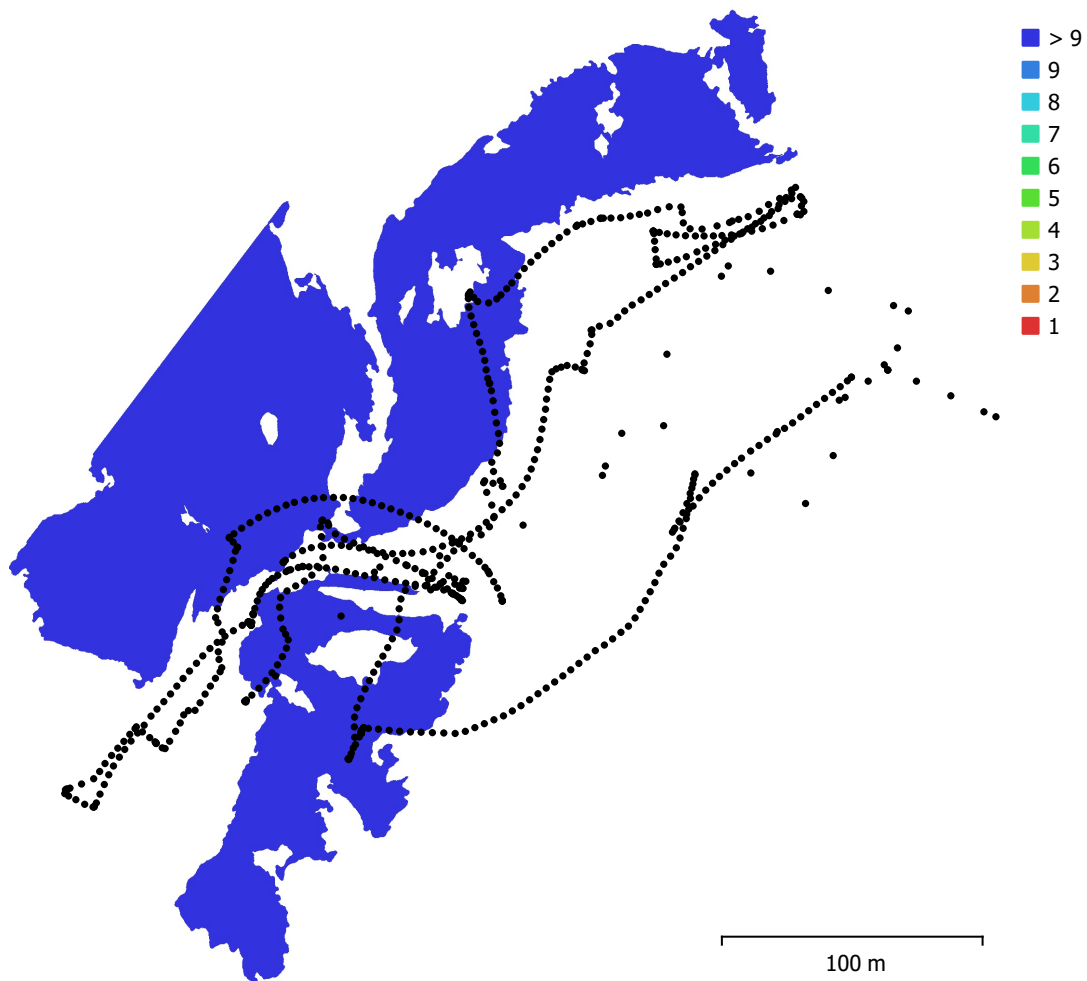


Fig. 1. Camera locations and image overlap.

Number of images:	640	Camera stations:	640
Flying altitude:	67.7 m	Tie points:	203,491
Ground resolution:	1.45 cm/pix	Projections:	1,693,621
Coverage area:	0.0298 km ²	Reprojection error:	0.932 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Test_Pro (10.26mm)	5472 x 3648	10.26 mm	2.41 x 2.41 μ m	No

Table 1. Cameras.

Camera Calibration

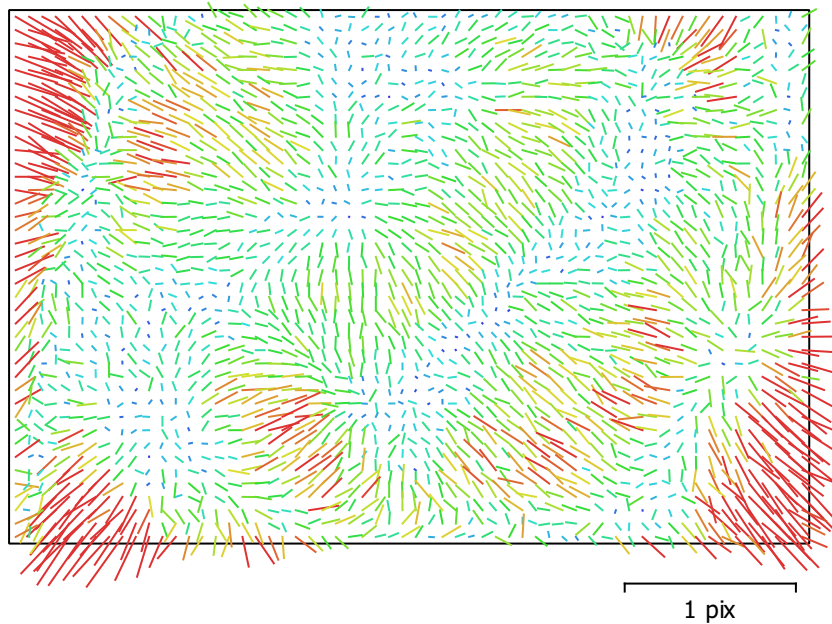


Fig. 2. Image residuals for Test_Pro (10.26mm).

Test_Pro (10.26mm)

640 images

Type **Frame** Resolution **5472 x 3648** Focal Length **10.26 mm** Pixel Size **2.41 x 2.41 μm**

	Value	Error	F	Cx	Cy	B1	B2	K1	K2	K3	P1	P2
F	4347.96	0.066	1.00	0.05	0.20	-0.83	0.01	-0.02	0.08	-0.08	0.04	-0.13
Cx	6.86082	0.061		1.00	-0.04	-0.04	0.12	0.01	-0.01	0.01	0.91	-0.06
Cy	-51.7588	0.067			1.00	-0.45	0.02	-0.02	-0.01	0.01	-0.06	0.81
B1	3.33983	0.063				1.00	-0.01	-0.05	0.04	-0.03	-0.03	-0.04
B2	-1.81047	0.042					1.00	-0.01	0.01	-0.01	-0.16	0.02
K1	0.00490034	2.8e-05						1.00	-0.96	0.90	0.01	-0.05
K2	0.0423362	0.00012							1.00	-0.98	-0.01	0.01
K3	-0.043604	0.00015								1.00	0.01	-0.01
P1	1.36545e-05	4.2e-06									1.00	-0.08
P2	-0.00378363	3.4e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

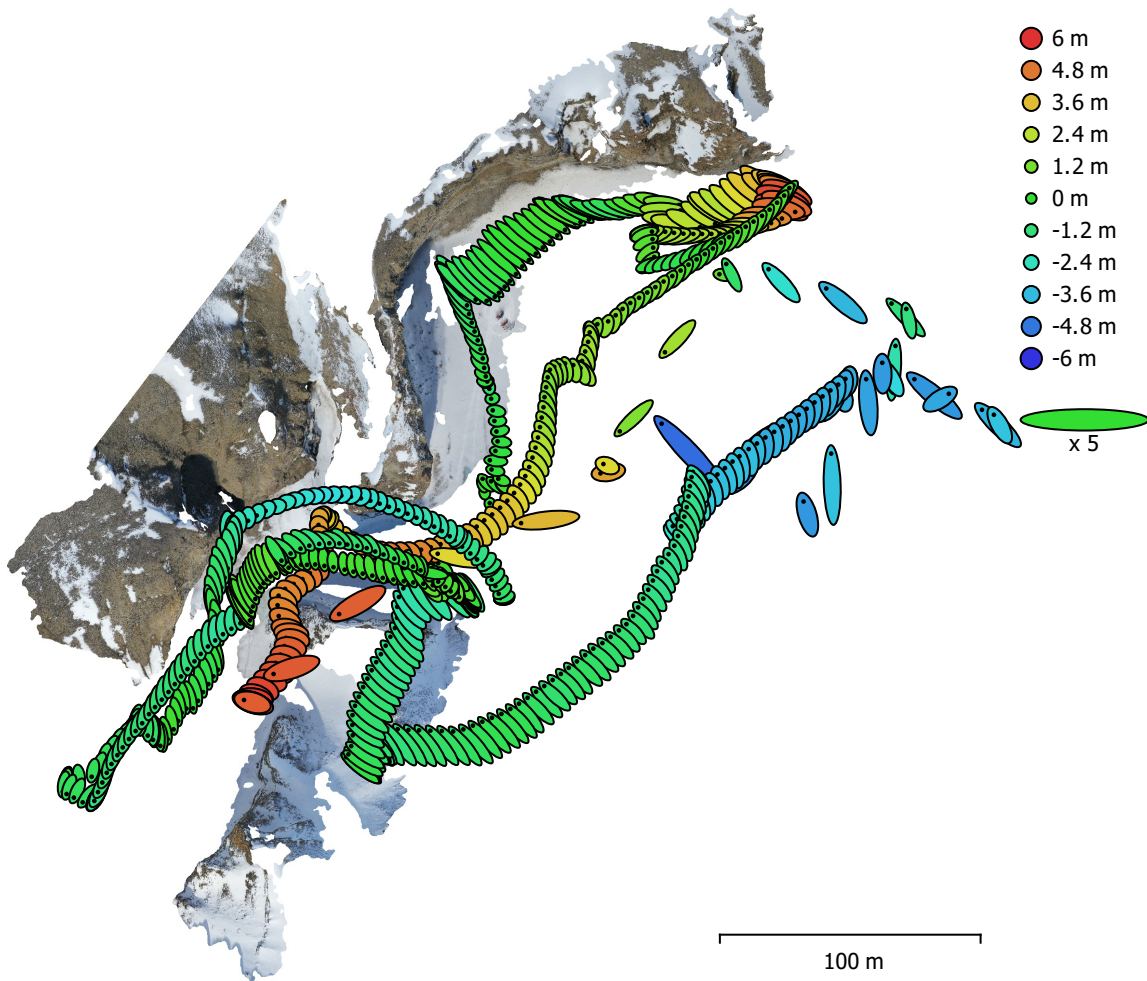


Fig. 3. Camera locations and error estimates.

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 (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
1.21946	1.33327	2.12094	1.80685	2.78623

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

Digital Elevation Model

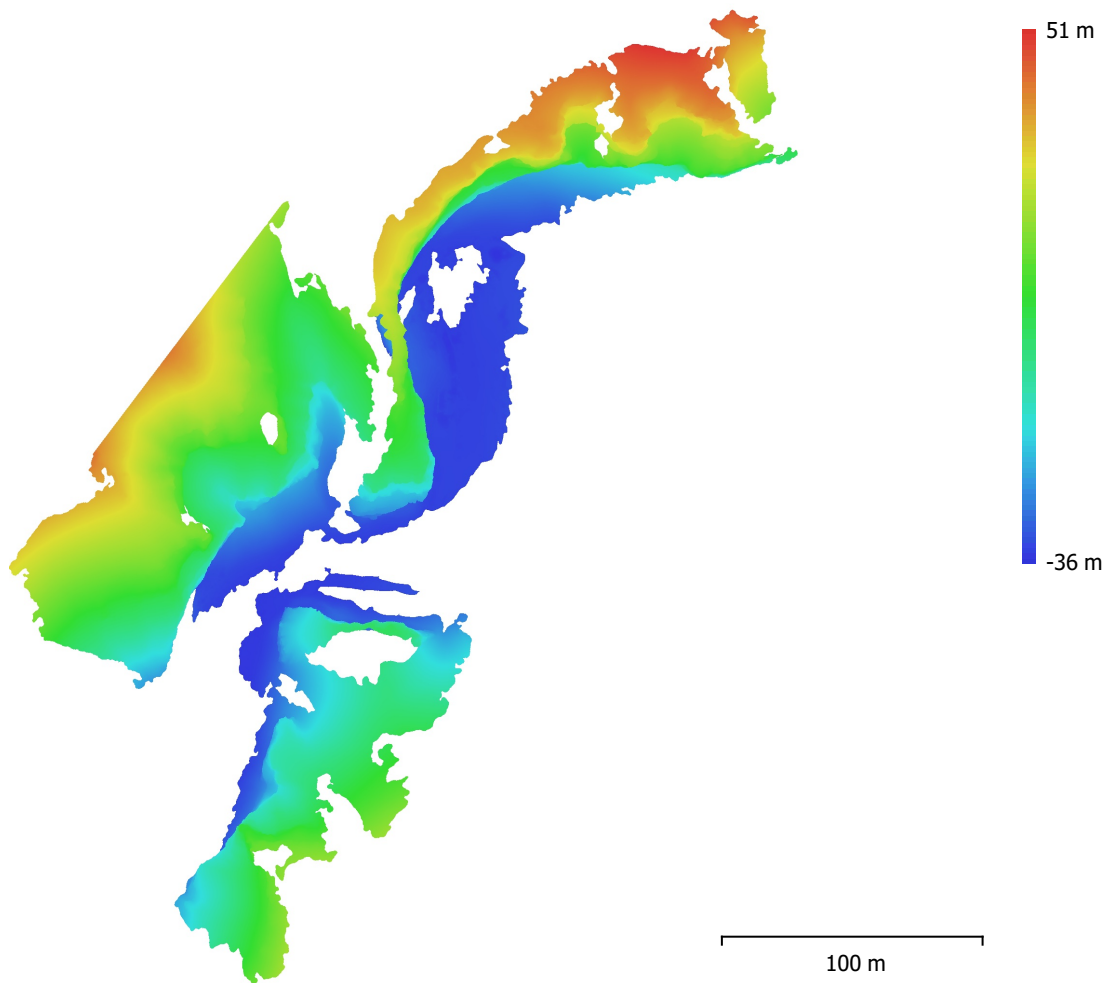


Fig. 4. Reconstructed digital elevation model.

Resolution: 2.9 cm/pix
Point density: 0.119 points/cm²

Processing Parameters

General

Cameras	640
Aligned cameras	640
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	203,491 of 299,750
RMS reprojection error	0.417227 (0.931579 pix)
Max reprojection error	1.8102 (54.9013 pix)
Mean key point size	2.08726 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	10.8997

Alignment parameters

Accuracy	Highest
Generic preselection	Yes
Reference preselection	Source
Key point limit	40,000
Tie point limit	4,000
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	Yes
Matching time	6 minutes 21 seconds
Matching memory usage	840.64 MB
Alignment time	10 minutes 22 seconds
Alignment memory usage	667.61 MB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	Yes
Optimization time	22 seconds
Software version	1.7.3.12473
File size	55.45 MB

Depth Maps

Count	640
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	45 minutes 57 seconds
Memory usage	11.89 GB
Software version	1.7.3.12473
File size	4.70 GB

Dense Point Cloud

Points	51,567,346
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	45 minutes 57 seconds

Memory usage	11.89 GB
Dense cloud generation parameters	
Processing time	4 hours 32 minutes
Memory usage	21.37 GB
Software version	1.7.3.12473
File size	2.39 GB
Model	
Faces	10,267,225
Vertices	5,152,704
Vertex colors	3 bands, uint8
Texture	4,096 x 4,096 x 10, 4 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	45 minutes 57 seconds
Memory usage	11.89 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	23 minutes 45 seconds
Memory usage	30.95 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	4 minutes 18 seconds
UV mapping memory usage	3.52 GB
Blending time	47 minutes 28 seconds
Blending memory usage	7.32 GB
Software version	1.7.3.12473
File size	697.08 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	45 minutes 57 seconds
Memory usage	11.89 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	128
Face count	Low
Enable ghosting filter	No
Processing time	49 minutes 2 seconds
Memory usage	2.64 GB
Software version	1.7.3.12473
File size	636.21 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.2 build 12040

OS
RAM
CPU
GPU(s)

Windows 64 bit
127.78 GB
Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GeForce RTX 2080