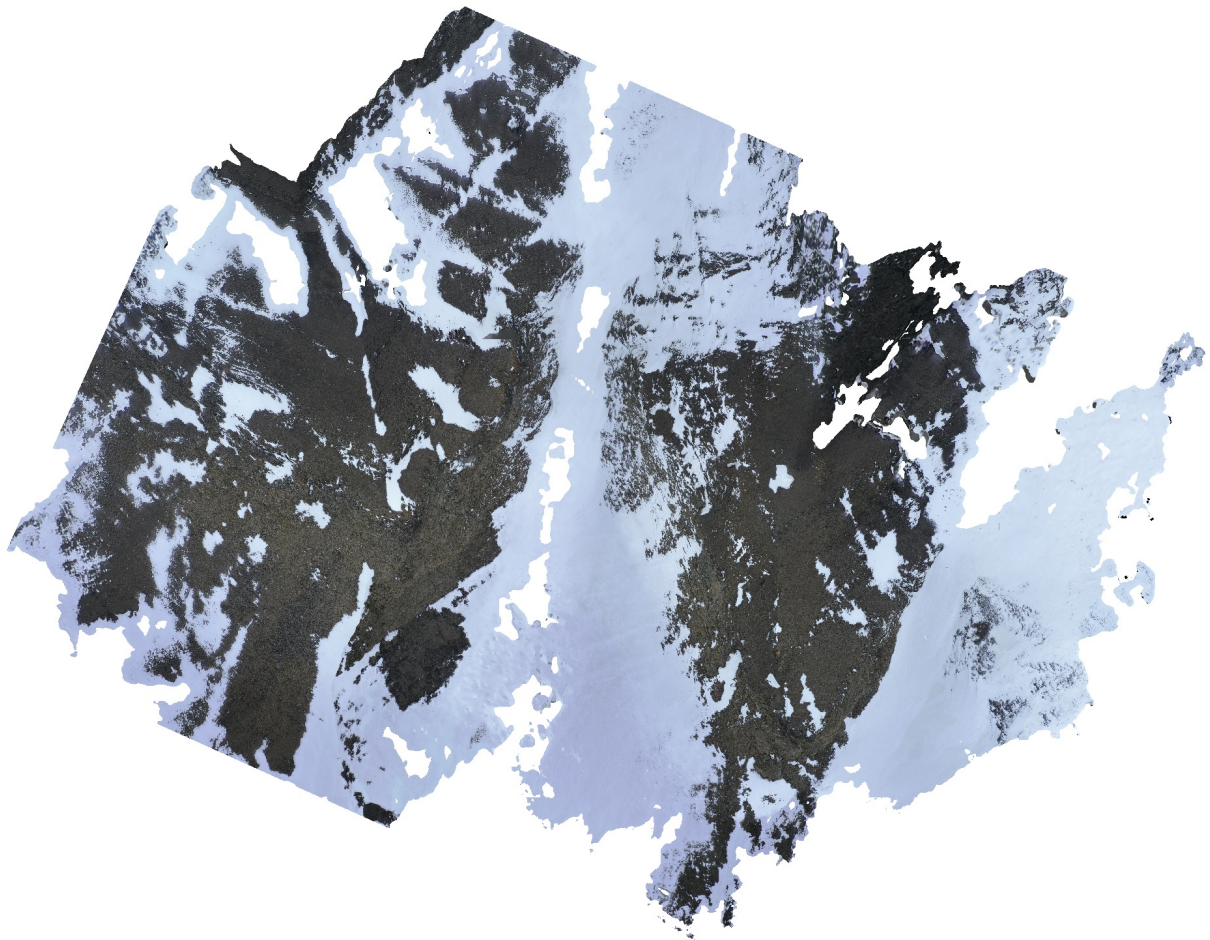


Haagfjellet

Filtering:

- dense cloud confidence: 2-255
- mesh connected comp. size: 99%

21 February 2022



Survey Data

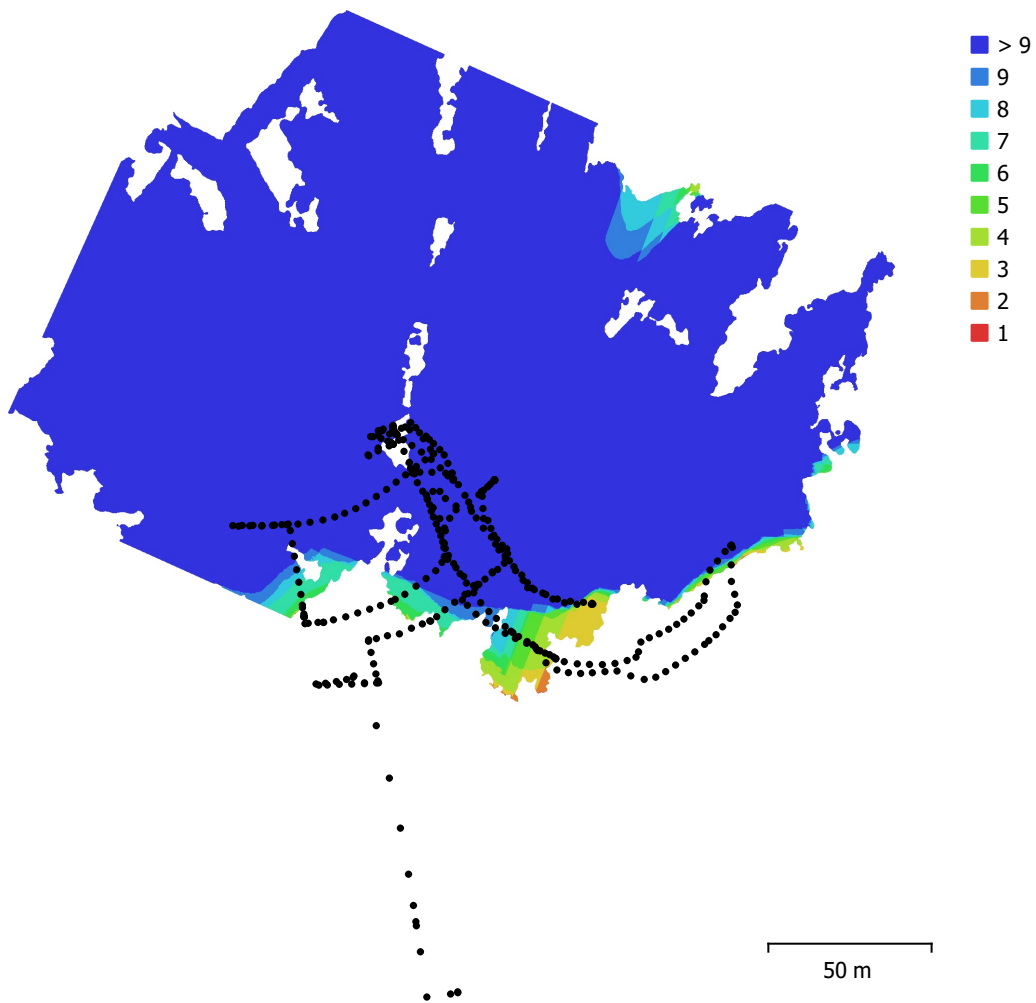


Fig. 1. Camera locations and image overlap.

Number of images:	364	Camera stations:	364
Flying altitude:	60.1 m	Tie points:	80,952
Ground resolution:	1.27 cm/pix	Projections:	1,008,082
Coverage area:	0.0313 km ²	Reprojection error:	0.905 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

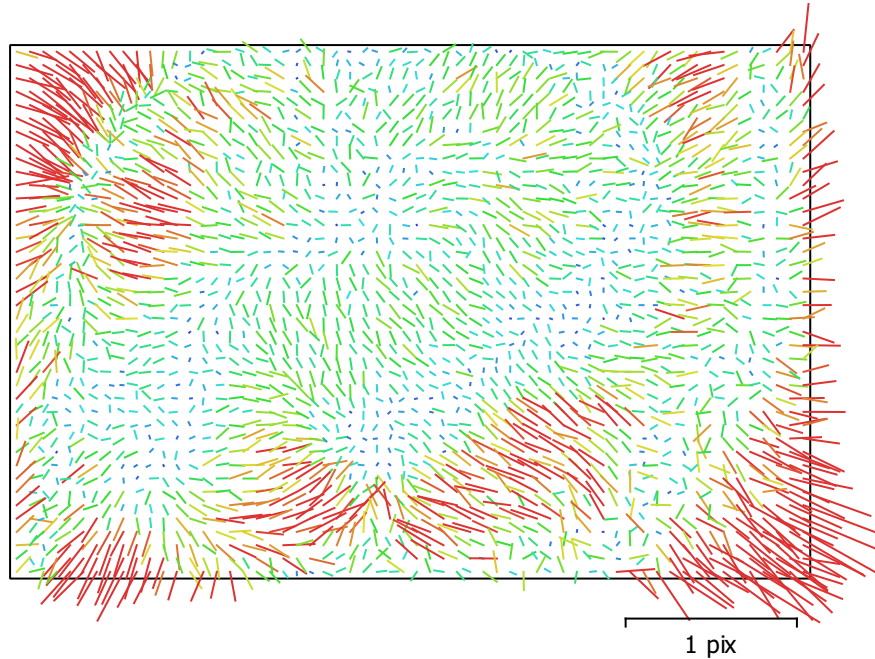


Fig. 2. Image residuals for Test_Pro (10.26mm).

Test_Pro (10.26mm)

364 images

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

	Value	Error	F	Cx	Cy	B1	B2	K1	K2	K3	P1	P2
F	4350.12	0.05	1.00	-0.01	-0.04	-0.47	0.07	-0.07	0.16	-0.14	-0.02	-0.07
Cx	11.3838	0.09		1.00	-0.04	0.01	0.20	0.01	-0.02	0.02	0.96	-0.03
Cy	-46.8707	0.082			1.00	-0.34	0.02	-0.04	0.00	-0.01	-0.03	0.90
B1	-1.43495	0.04				1.00	-0.08	-0.04	0.04	-0.03	0.04	-0.19
B2	5.90354	0.038					1.00	0.00	0.00	-0.00	0.08	0.05
K1	0.00523607	3.5e-05						1.00	-0.95	0.89	0.01	-0.07
K2	0.0383886	0.00015							1.00	-0.98	-0.01	0.02
K3	-0.0387394	0.00019								1.00	0.02	-0.02
P1	-2.05144e-05	6.2e-06									1.00	-0.03
P2	-0.00349983	4.9e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

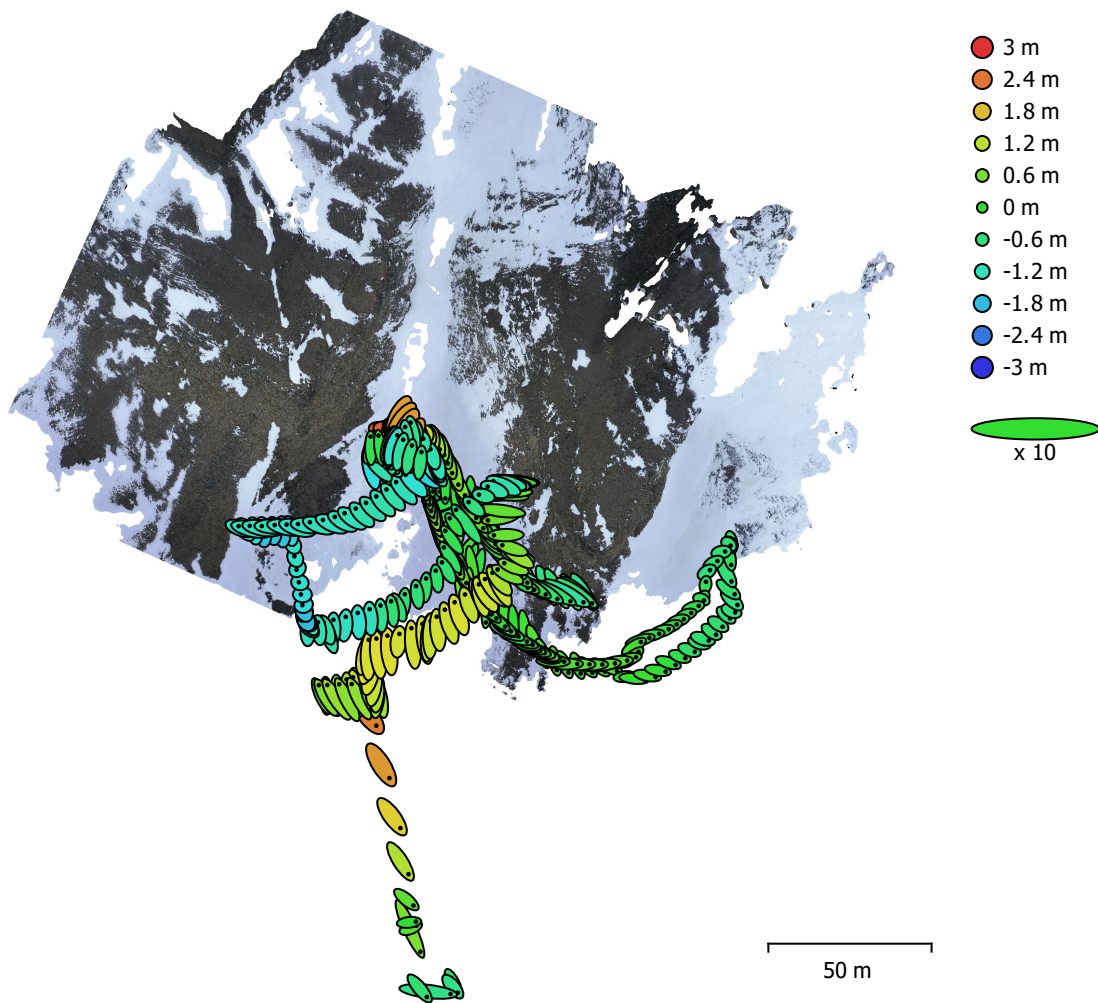


Fig. 3. Camera locations and error estimates.

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)
0.435775	0.554013	1.00344	0.704862	1.22626

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

Digital Elevation Model

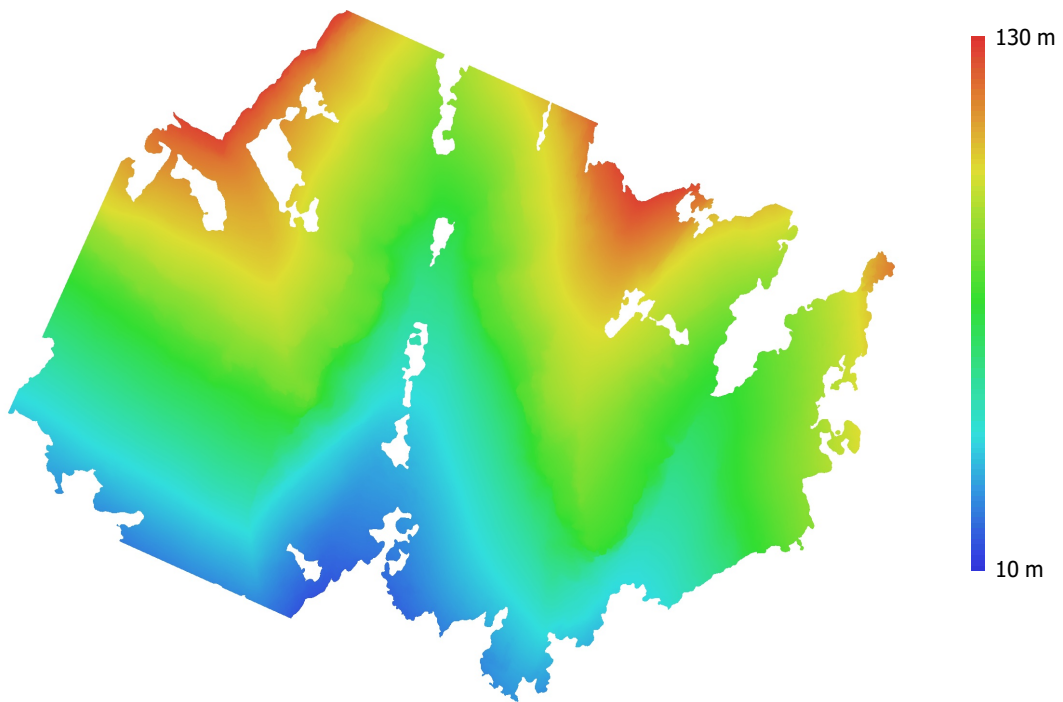


Fig. 4. Reconstructed digital elevation model.

Resolution: 2.54 cm/pix
Point density: 0.156 points/cm²

Processing Parameters

General

Cameras	364
Aligned cameras	364
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	80,952 of 116,111
RMS reprojection error	0.388666 (0.905195 pix)
Max reprojection error	2.07318 (28.0204 pix)
Mean key point size	2.32707 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	14.9119

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	9 minutes 28 seconds
Matching memory usage	488.82 MB
Alignment time	5 minutes 33 seconds
Alignment memory usage	323.40 MB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	Yes
Optimization time	10 seconds
Software version	1.7.3.12473
File size	28.65 MB

Depth Maps

Count	364
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Depth maps generation parameters

Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	43 minutes 33 seconds
Memory usage	14.00 GB
Software version	1.7.3.12473
File size	2.56 GB

Dense Point Cloud

Points	77,622,061
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	43 minutes 33 seconds

Memory usage	14.00 GB
Dense cloud generation parameters	
Processing time	2 hours 39 minutes
Memory usage	19.08 GB
Software version	1.7.3.12473
File size	1.47 GB
Model	
Faces	5,136,296
Vertices	2,583,093
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	43 minutes 33 seconds
Memory usage	14.00 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	31 minutes 39 seconds
Memory usage	38.54 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 1 seconds
UV mapping memory usage	3.38 GB
Blending time	25 minutes 51 seconds
Blending memory usage	4.89 GB
Software version	1.7.2.12040
File size	440.41 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	43 minutes 33 seconds
Memory usage	14.00 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	8 hours 36 minutes
Memory usage	4.12 GB
Software version	1.7.2.12040
File size	409.40 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.2 build 12070

OS
RAM
CPU
GPU(s)

Windows 64 bit
63.71 GB
Intel(R) Core(TM) i7-9850H CPU @ 2.60GHz
Quadro T2000