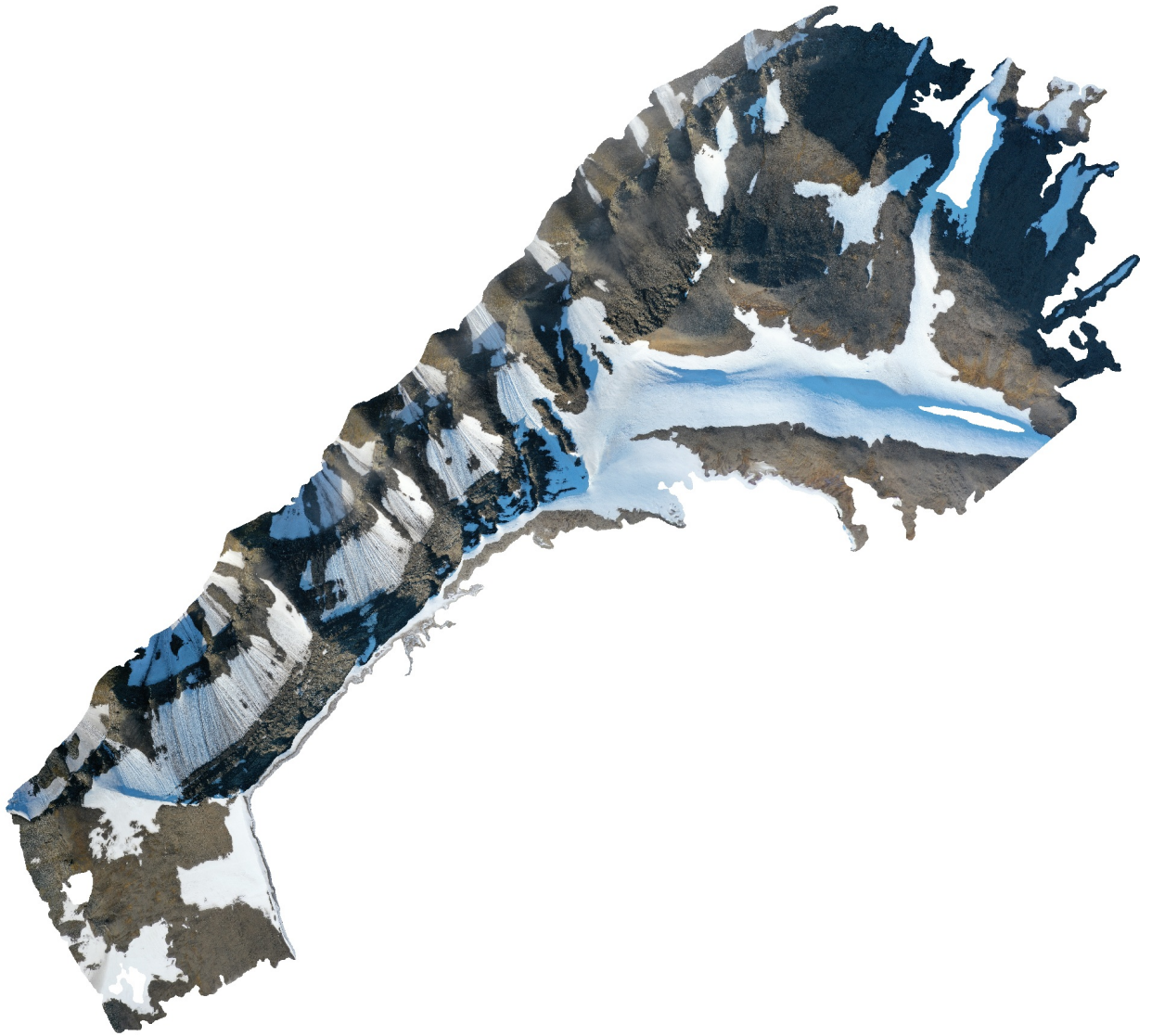


Réaumurfjellet

Processing Report
06 December 2021



Survey Data

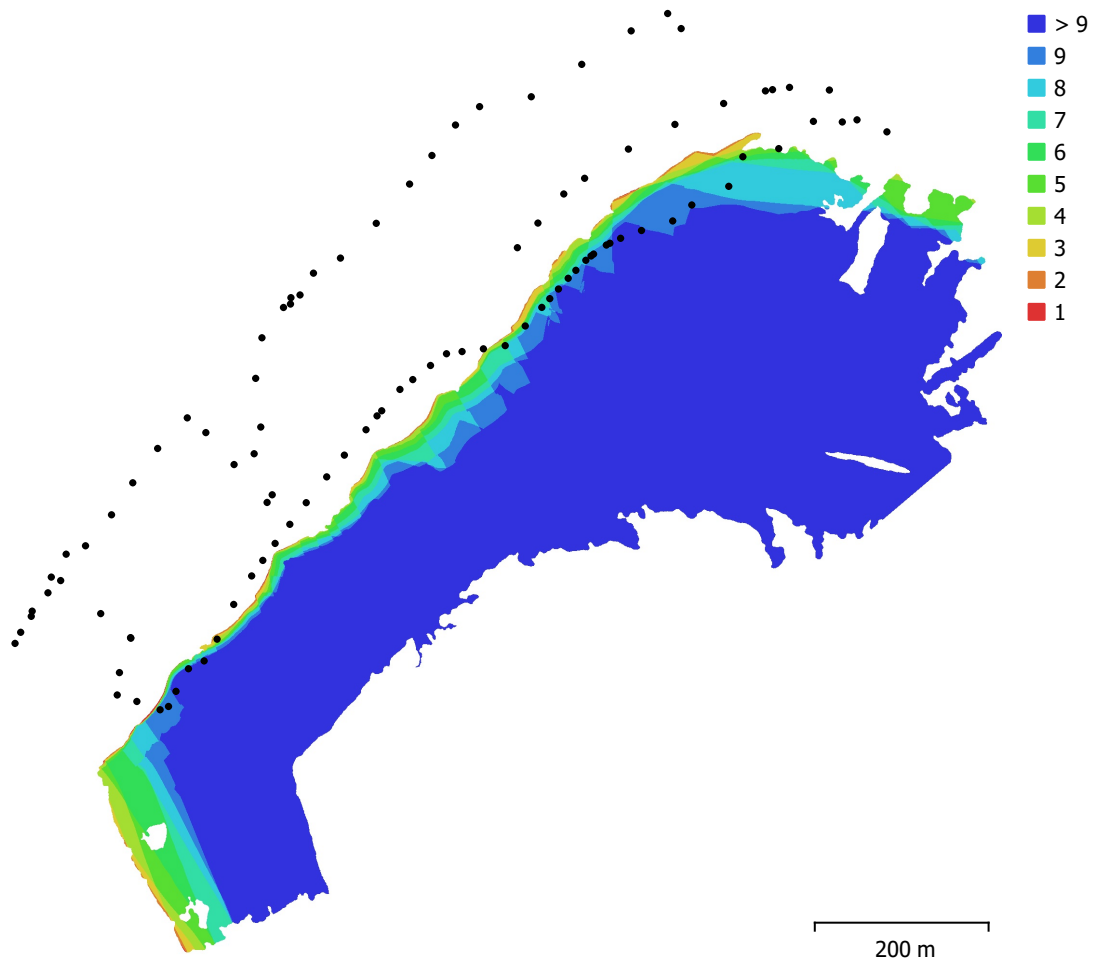


Fig. 1. Camera locations and image overlap.

Number of images:	100	Camera stations:	100
Flying altitude:	253 m	Tie points:	40,815
Ground resolution:	5.34 cm/pix	Projections:	357,424
Coverage area:	0.32 km ²	Reprojection error:	1.04 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
L1D-20c (10.26mm)	5472 x 3648	10.26 mm	2.41 x 2.41 μ m	No

Table 1. Cameras.

Camera Calibration

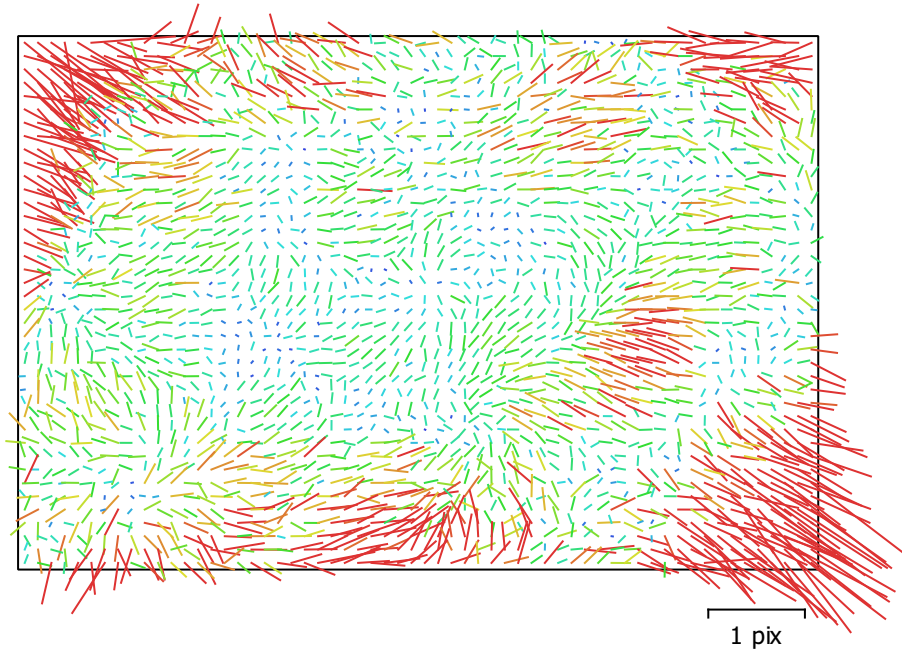


Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

100 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	4370.2	0.23	1.00	-0.03	0.38	-0.80	0.20	-0.07	0.10	-0.09	-0.04	0.18
Cx	-23.5298	0.25		1.00	0.23	-0.02	0.76	0.01	-0.02	0.03	0.81	0.04
Cy	-20.65	0.27			1.00	-0.77	0.32	-0.05	0.03	-0.02	0.13	0.60
B1	-8.91617	0.22				1.00	-0.21	0.05	-0.05	0.04	0.01	-0.33
B2	-35.1819	0.19					1.00	-0.00	-0.00	0.01	0.35	0.08
K1	0.00762429	7e-05						1.00	-0.96	0.90	0.01	-0.05
K2	0.0548875	0.00031							1.00	-0.98	-0.01	0.04
K3	-0.058427	0.00041								1.00	0.02	-0.03
P1	-0.000221658	1.2e-05									1.00	0.04
P2	-0.00277427	6.6e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

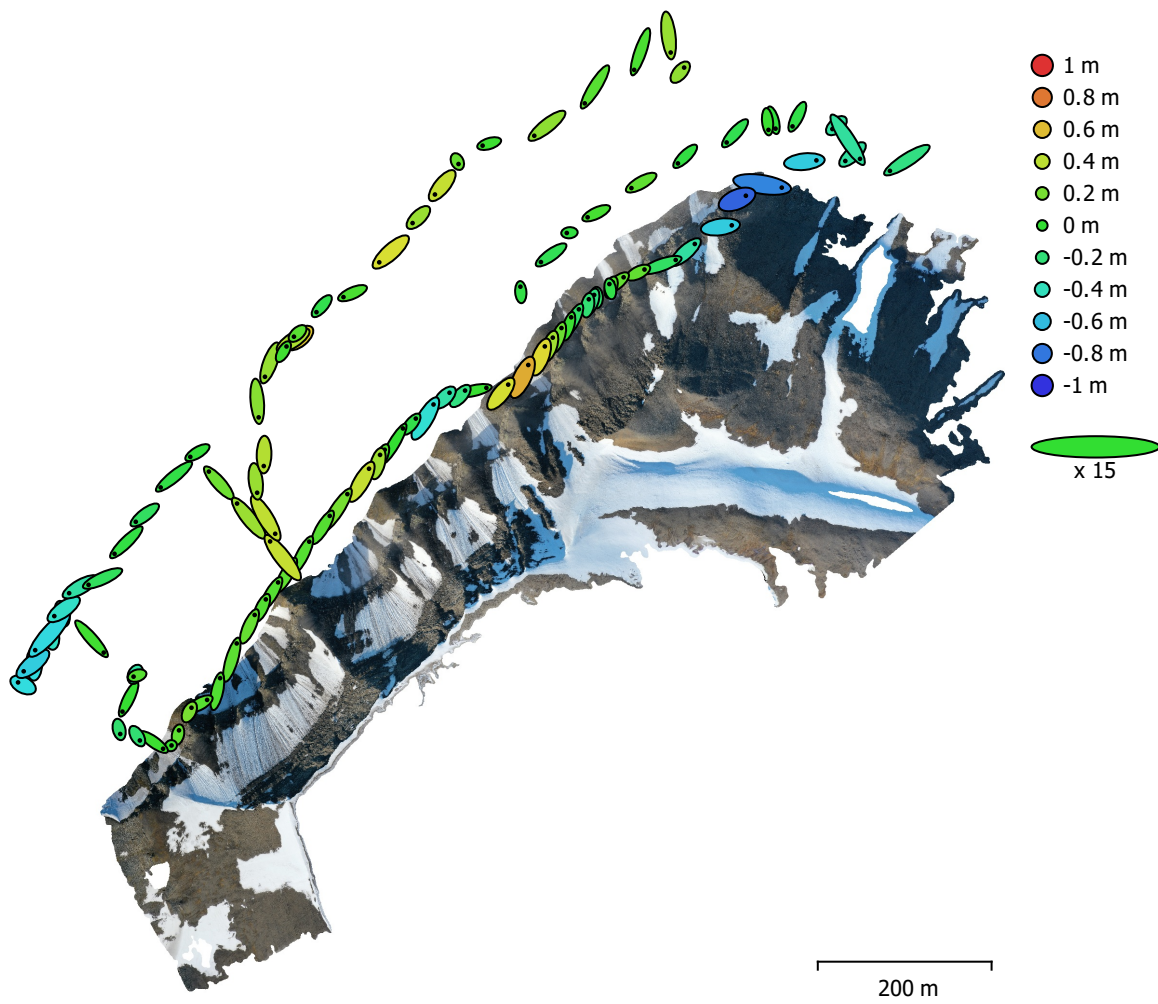


Fig. 3. Camera locations and error estimates.

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)
1.18225	1.42975	0.292638	1.85524	1.87817

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

Digital Elevation Model

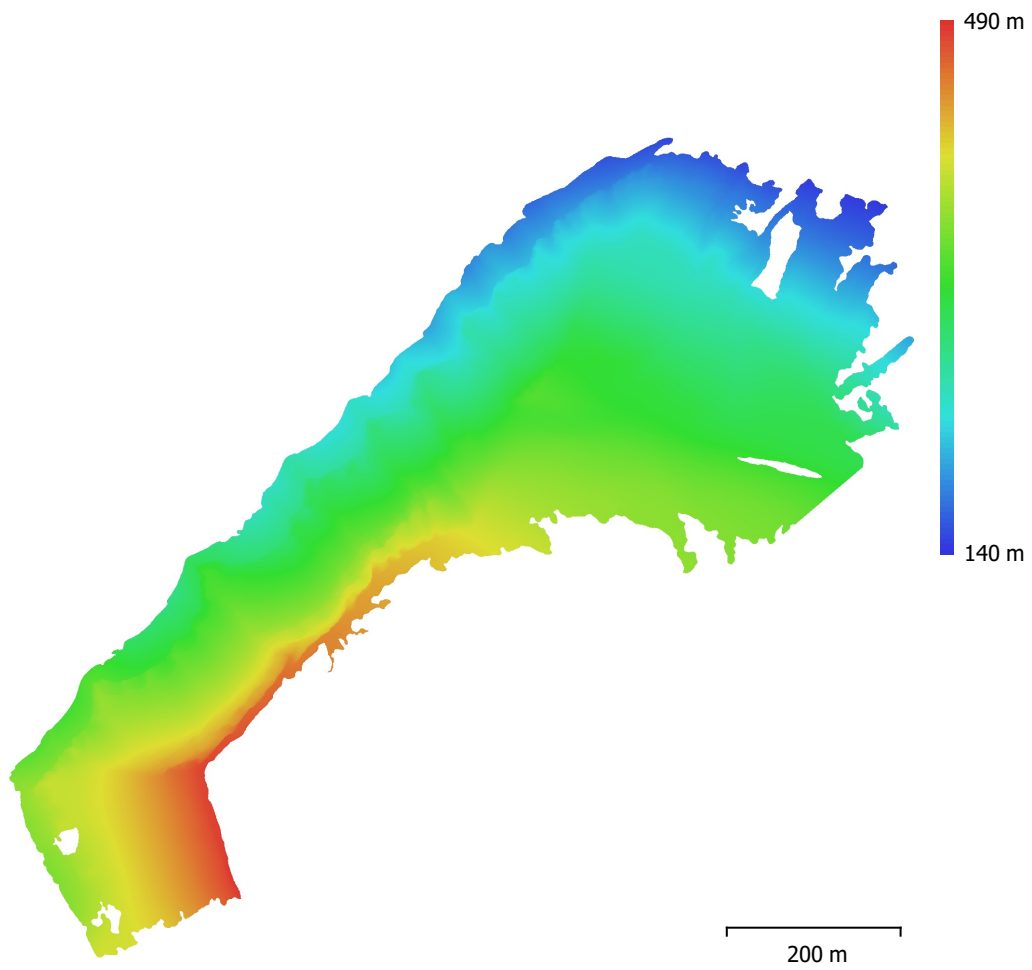


Fig. 4. Reconstructed digital elevation model.

Resolution: 10.7 cm/pix
Point density: 87.5 points/m²

Processing Parameters

General

Cameras	100
Aligned cameras	100
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	40,815 of 50,411
RMS reprojection error	0.562402 (1.04349 pix)
Max reprojection error	3.43734 (46.8152 pix)
Mean key point size	1.73042 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	9.33915

Alignment parameters

Accuracy	Highest
Generic preselection	No
Reference preselection	No
Key point limit	40,000
Tie point limit	4,000
Exclude stationary tie points	No
Guided image matching	No
Adaptive camera model fitting	Yes
Matching time	2 seconds
Matching memory usage	488.08 MB
Alignment time	12 seconds
Alignment memory usage	62.89 MB

Optimization parameters

Parameters	f, b1, b2, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	1 seconds
Software version	1.7.2.12040
File size	8.28 MB

Depth Maps

Count	100
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Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	0 seconds
Memory usage	3.55 GB
Software version	1.7.2.12040
File size	743.65 MB

Dense Point Cloud

Points	33,358,375
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	0 seconds
Memory usage	3.55 GB

Dense cloud generation parameters

Processing time	24 seconds
Memory usage	7.96 GB
Software version	1.7.2.12040
File size	665.10 MB
Model	
Faces	2,205,897
Vertices	1,111,511
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
Processing time	0 seconds
Memory usage	3.55 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	20 minutes 59 seconds
Memory usage	18.34 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 48 seconds
UV mapping memory usage	3.68 GB
Blending time	2 minutes 21 seconds
Blending memory usage	5.75 GB
Software version	1.7.2.12040
File size	335.36 MB
Tiled Model	
Texture	3 bands, uint8
Reconstruction parameters	
Source data	Mesh
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	42 minutes 46 seconds
Memory usage	2.45 GB
Software version	1.7.2.12040
File size	205.14 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.2 build 12040
OS	Windows 64 bit
RAM	127.78 GB
CPU	Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GPU(s)	GeForce RTX 2080