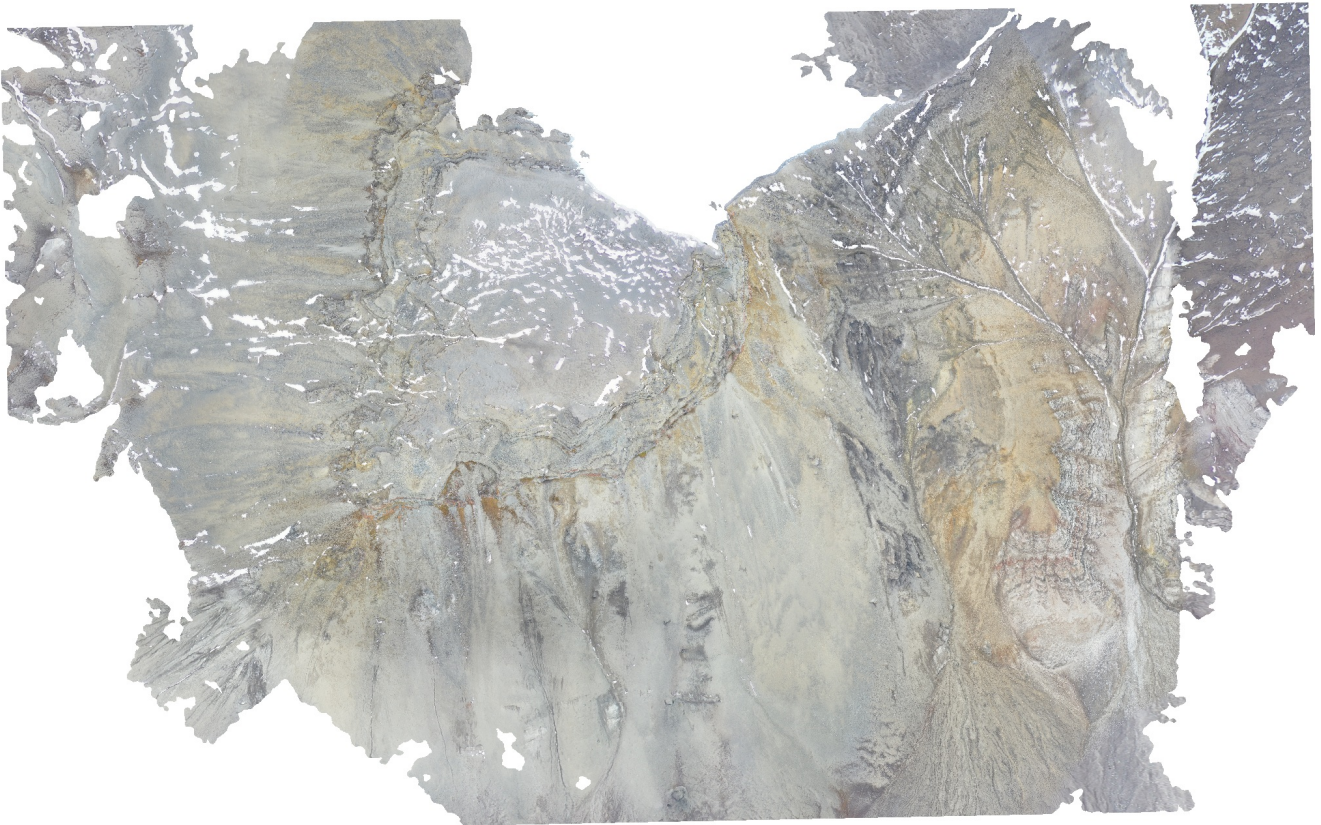


Løvehovden

Processing Report
15 February 2022



Survey Data

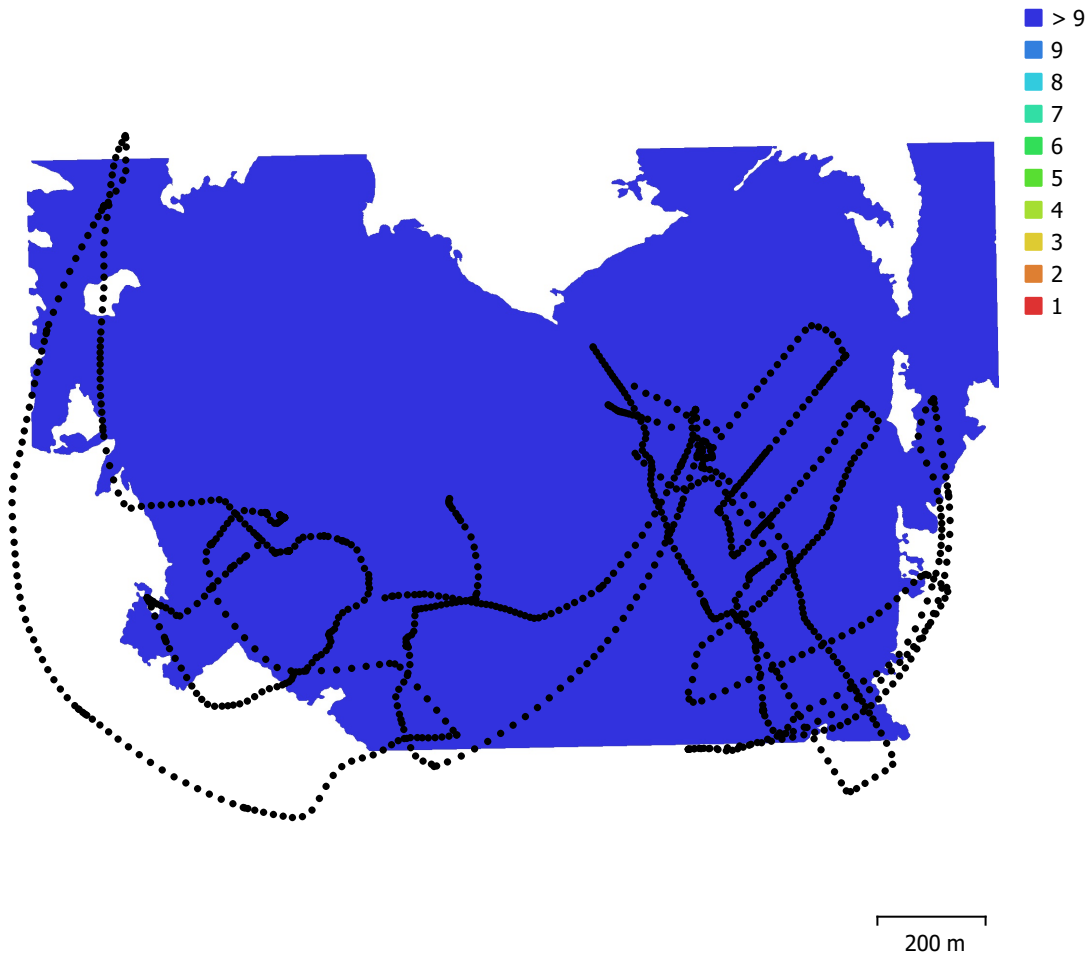


Fig. 1. Camera locations and image overlap.

Number of images:	1,147	Camera stations:	1,146
Flying altitude:	286 m	Tie points:	253,314
Ground resolution:	7.12 cm/pix	Projections:	892,883
Coverage area:	1.54 km ²	Reprojection error:	0.234 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

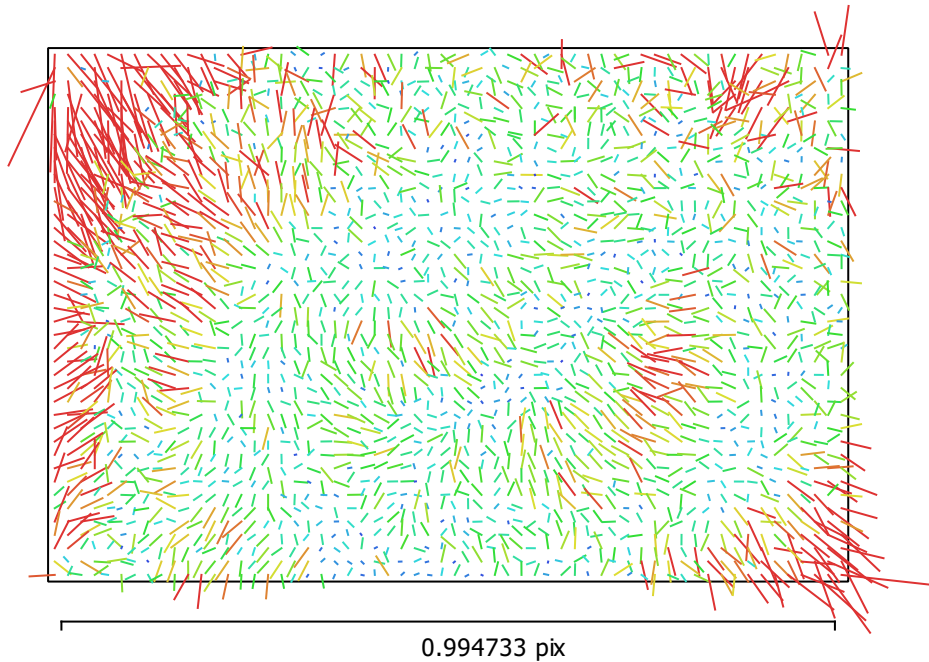


Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

1147 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	K1	K2	K3	P1	P2
F	4348.38	0.041	1.00	-0.02	-0.58	0.04	0.07	-0.07	0.02	-0.34
Cx	1.96144	0.052		1.00	0.01	0.01	0.01	-0.00	0.88	-0.05
Cy	-59.8574	0.062			1.00	-0.13	0.04	-0.02	-0.05	0.71
K1	0.00616468	2.1e-05				1.00	-0.93	0.86	0.00	-0.18
K2	0.0251628	8.4e-05					1.00	-0.98	0.01	0.04
K3	-0.0252945	0.00011						1.00	-0.01	-0.03
P1	-0.000467422	3.4e-06							1.00	-0.08
P2	-0.00337411	3e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

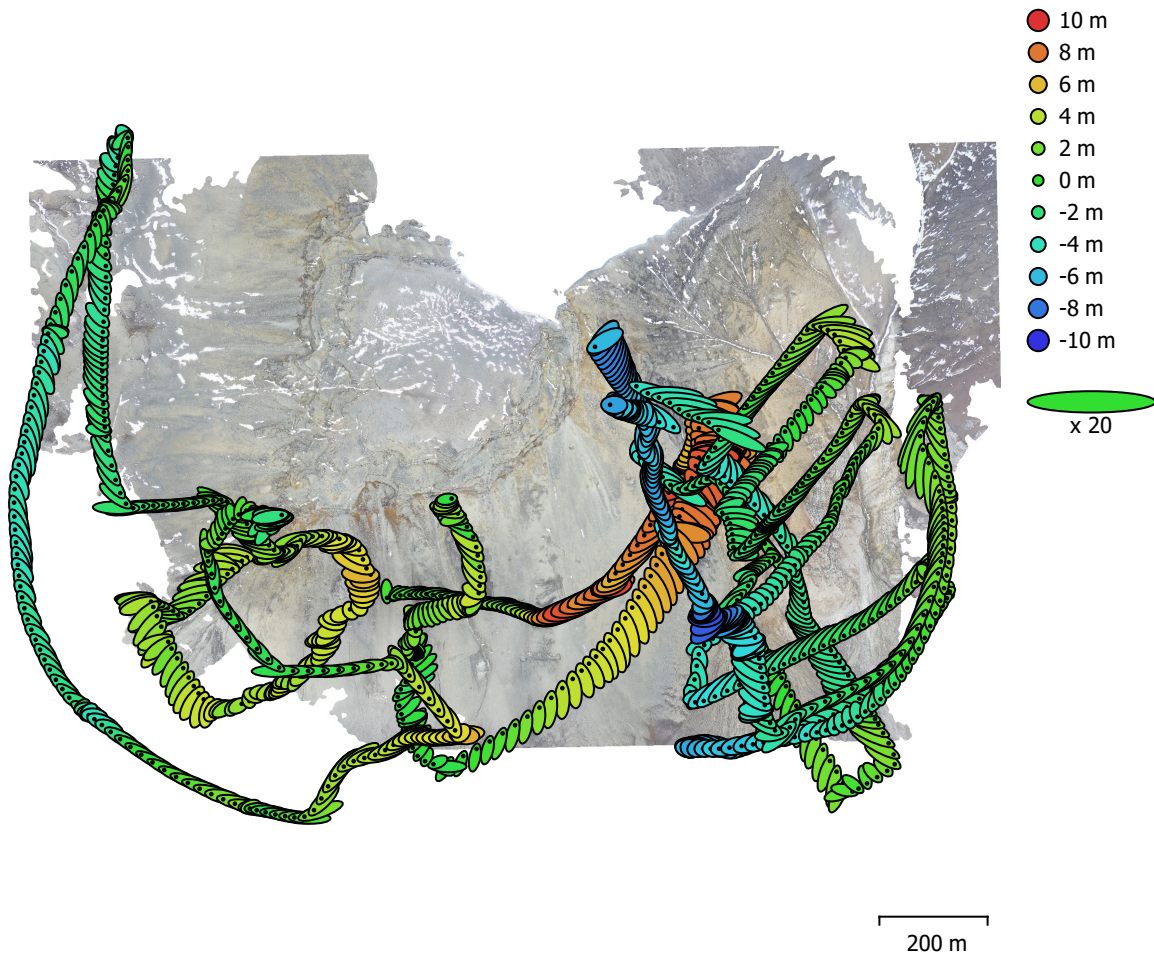


Fig. 3. Camera locations and error estimates.

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)
1.7662	1.3906	3.89131	2.24794	4.49394

Table 3. Average camera location error.

X - Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

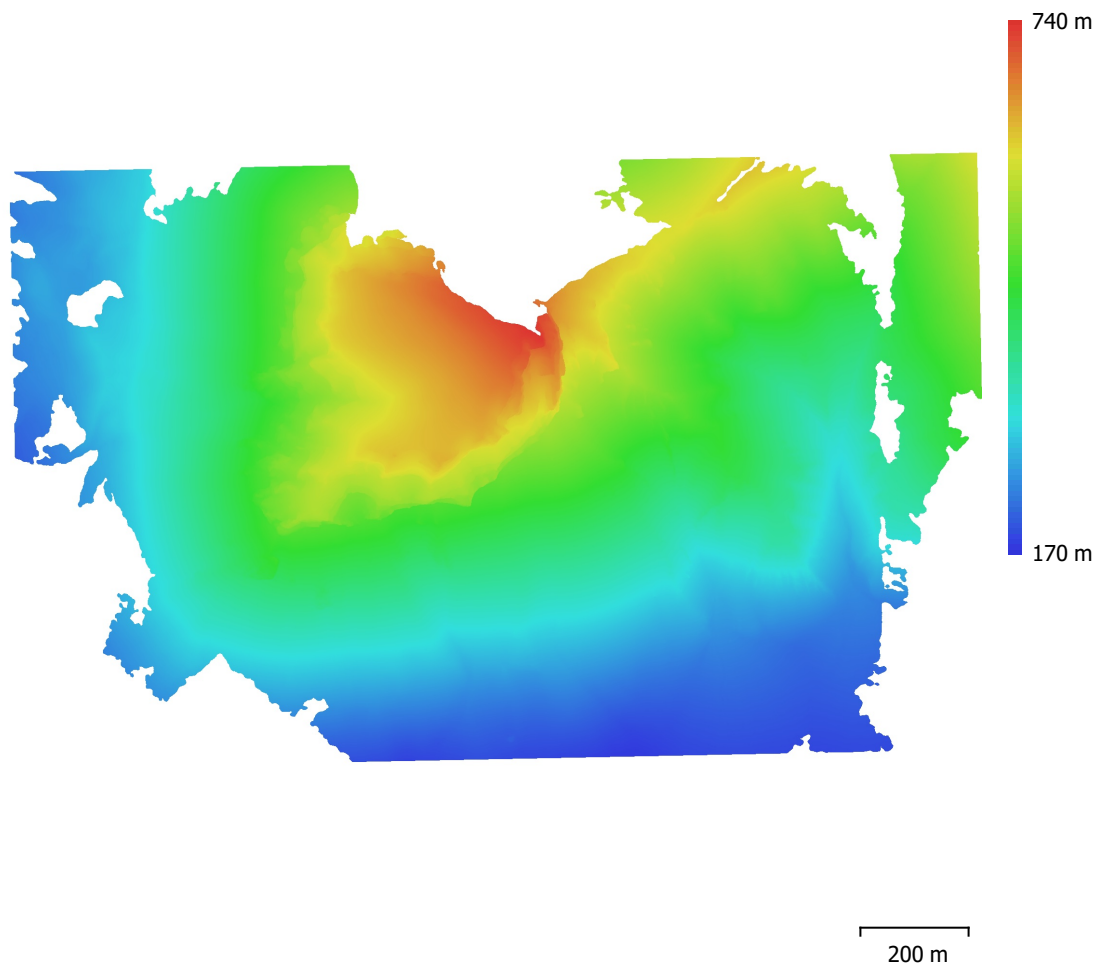


Fig. 4. Reconstructed digital elevation model.

Resolution: 14.2 cm/pix
Point density: 49.3 points/m²

Processing Parameters

General

Cameras	1147
Aligned cameras	1146
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	253,314 of 5,004,340
RMS reprojection error	0.146382 (0.233763 pix)
Max reprojection error	0.741853 (2.37744 pix)
Mean key point size	1.53673 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	7.73758

Alignment parameters

Accuracy	Highest
Generic preselection	Yes
Reference preselection	No
Key point limit	60,000
Tie point limit	0
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	7 hours 13 minutes
Matching memory usage	4.03 GB
Alignment time	3 hours 29 minutes
Alignment memory usage	4.18 GB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	26 seconds
Software version	1.7.2.12040
File size	611.11 MB

Depth Maps

Count	991
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Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	1 hours 23 minutes
Memory usage	4.23 GB
Software version	1.7.2.12040
File size	7.05 GB

Dense Point Cloud

Points	98,707,509
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	1 hours 23 minutes
Memory usage	4.23 GB

Dense cloud generation parameters

Processing time	10 hours 15 minutes
Memory usage	36.38 GB
Software version	1.7.2.12040
File size	1.92 GB
Model	
Faces	19,376,931
Vertices	9,702,289
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	1 hours 23 minutes
Memory usage	4.23 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	38 minutes 25 seconds
Memory usage	51.41 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	2 minutes 33 seconds
UV mapping memory usage	4.78 GB
Blending time	18 minutes 24 seconds
Blending memory usage	8.58 GB
Software version	1.7.2.12040
File size	1.02 GB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	1 hours 23 minutes
Memory usage	4.23 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	High
Enable ghosting filter	No
Processing time	4 hours 2 minutes
Memory usage	6.01 GB
Software version	1.7.2.12040
File size	1.57 GB
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) i9-10900 CPU @ 2.80GHz
GPU(s)	NVIDIA GeForce RTX 2080 SUPER