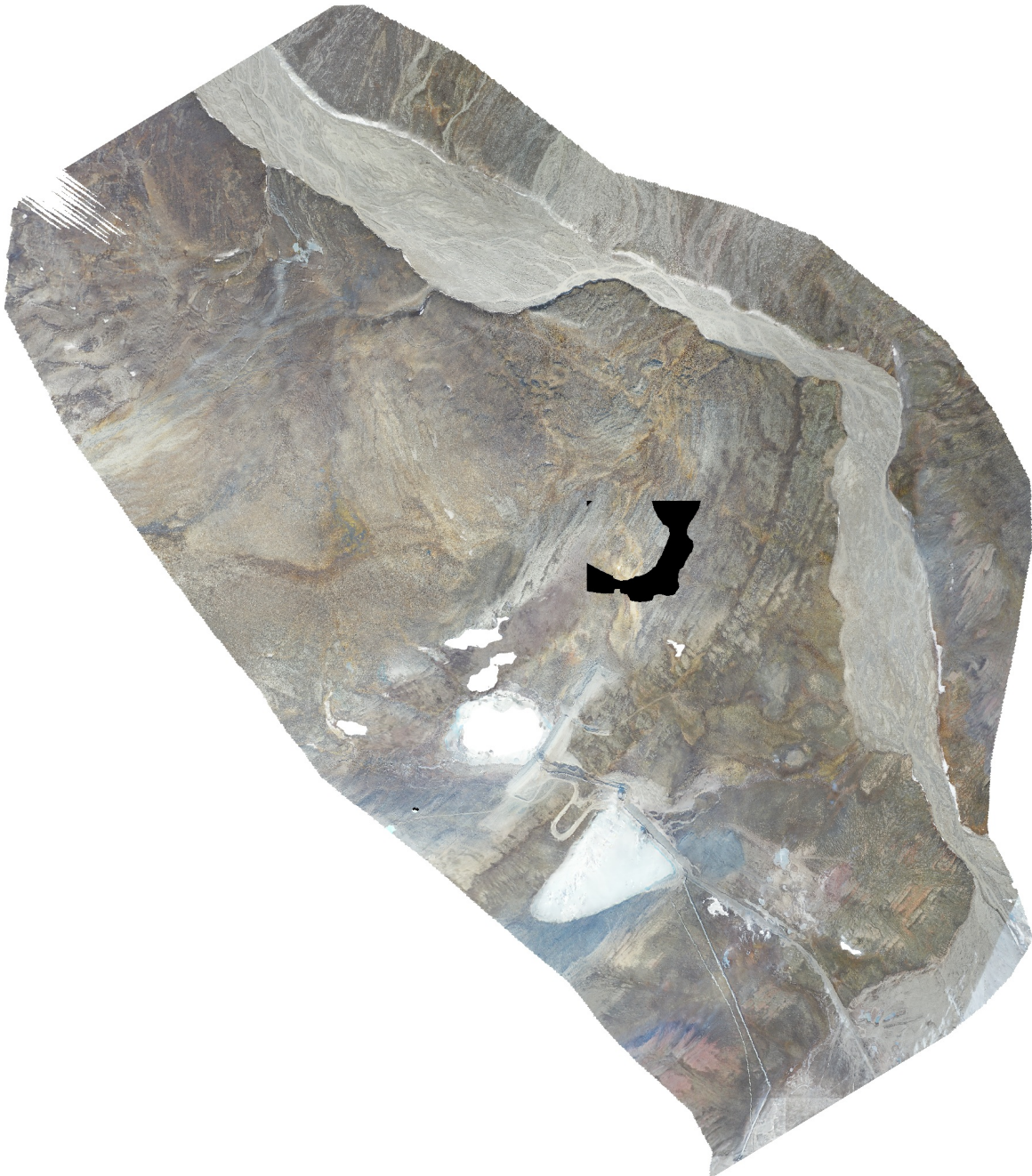


Overview Munindalen

Processing Report
26 February 2021



Survey Data

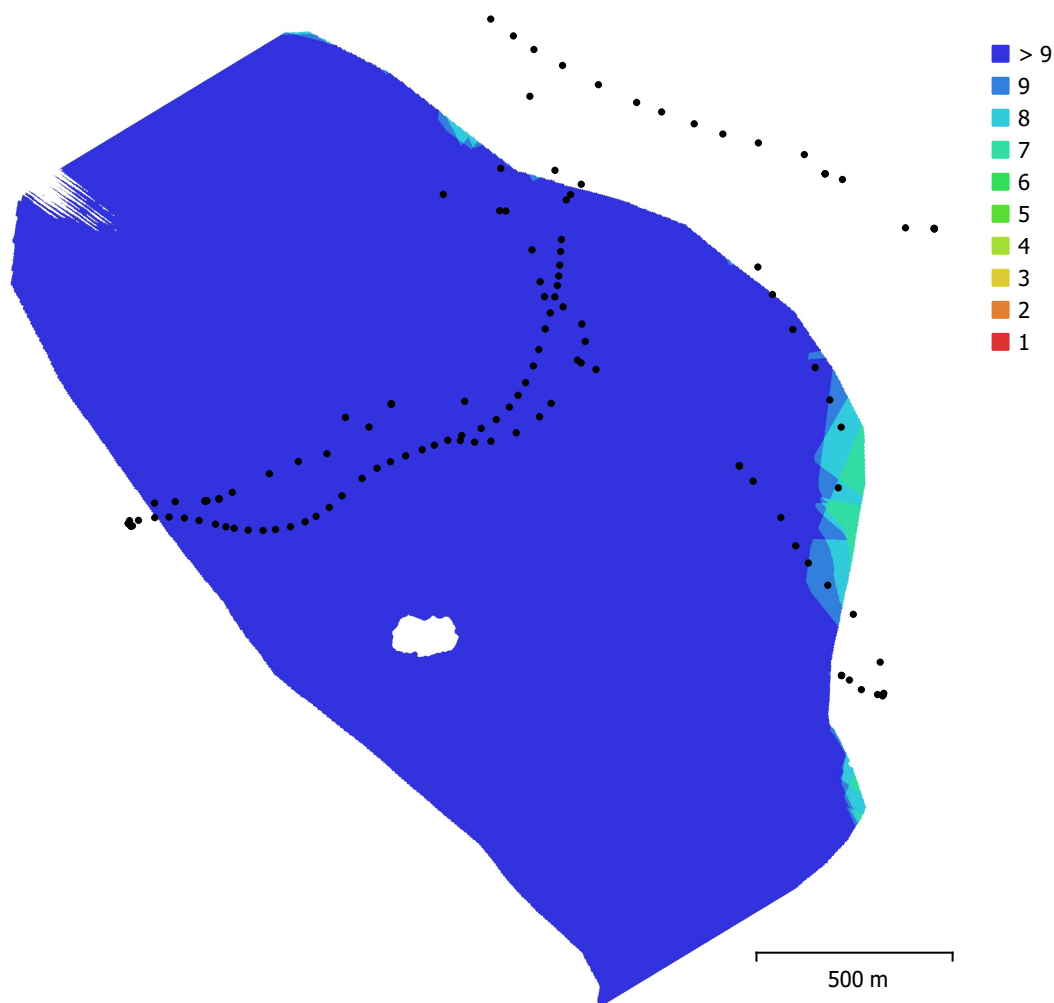


Fig. 1. Camera locations and image overlap.

Number of images:	141	Camera stations:	141
Flying altitude:	796 m	Tie points:	134,228
Ground resolution:	10.3 cm/pix	Projections:	445,159
Coverage area:	3.18 km ²	Reprojection error:	0.506 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

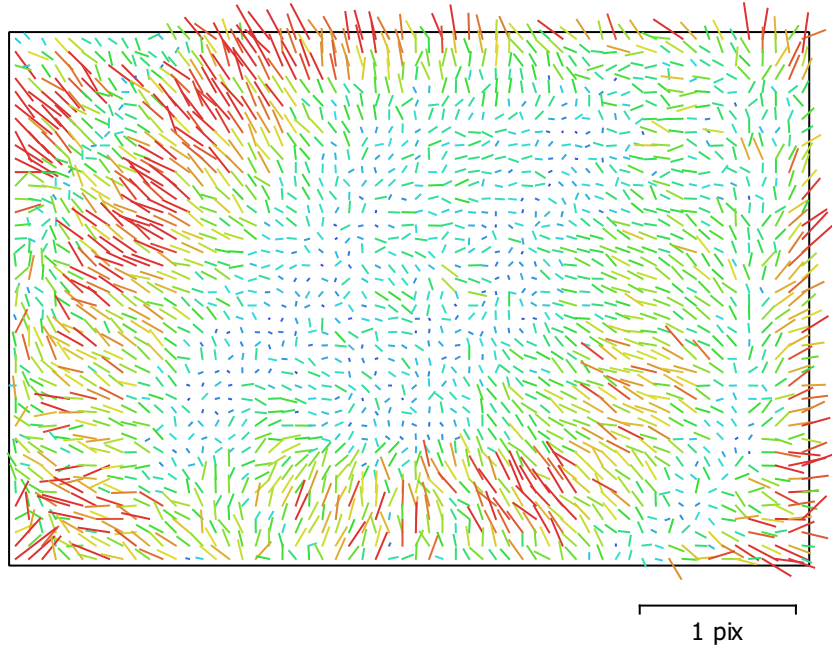


Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

141 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	4348.9	0.1	1.00	0.01	-0.50	0.09	0.15	-0.16	0.02	-0.28
Cx	-3.37536	0.16		1.00	-0.04	0.01	-0.01	0.00	0.99	-0.02
Cy	-45.6335	0.18			1.00	-0.10	0.03	-0.01	-0.06	0.68
K1	0.00416136	5.4e-05				1.00	-0.92	0.86	0.01	-0.14
K2	0.0381612	0.00022					1.00	-0.98	-0.00	0.03
K3	-0.0424629	0.00028						1.00	-0.00	-0.01
P1	-0.000914221	1.3e-05							1.00	-0.02
P2	-0.00314928	8.6e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

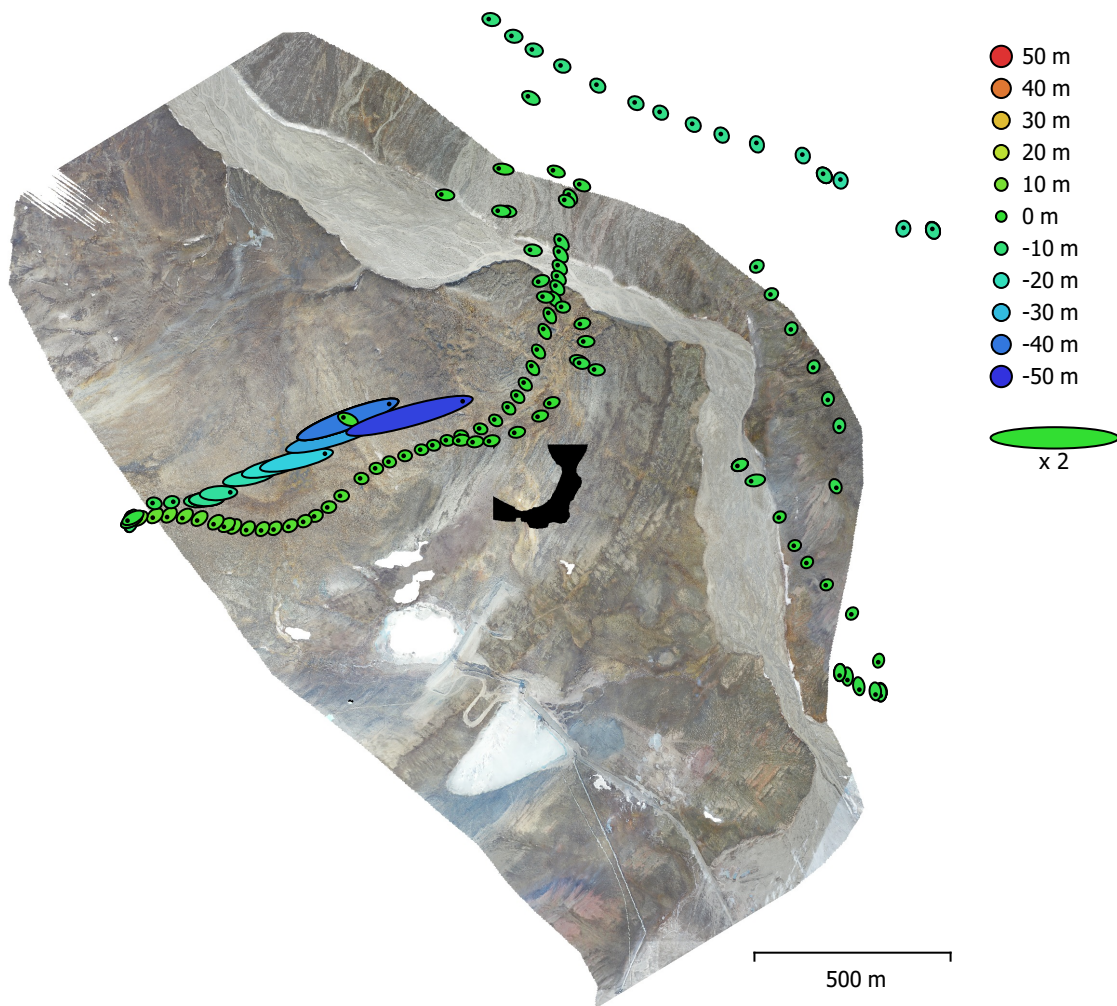


Fig. 3. Camera locations and error estimates.

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)
26.9151	9.5668	11.5942	28.5648	30.8281

Table 3. Average camera location error.

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

Digital Elevation Model

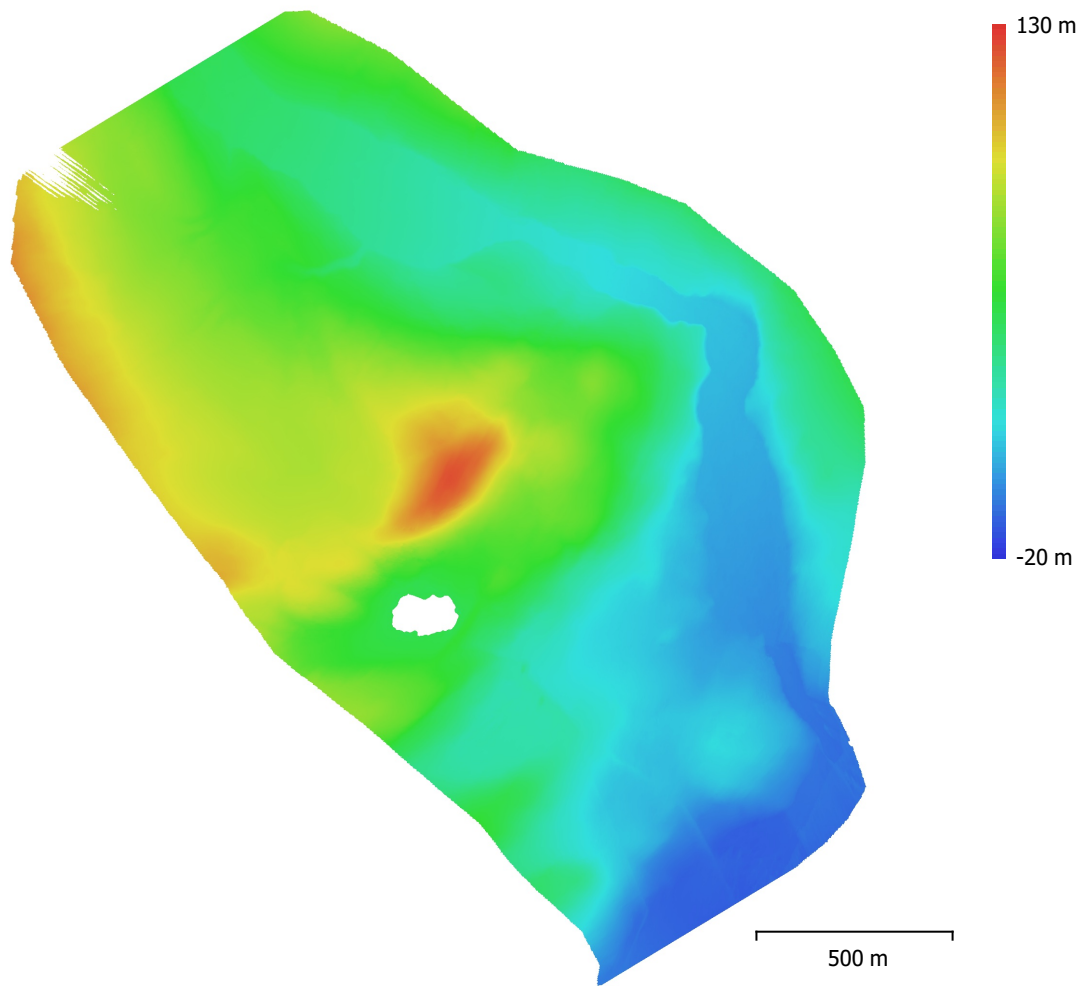


Fig. 4. Reconstructed digital elevation model.

Resolution: 20.6 cm/pix
Point density: 23.6 points/m²

Processing Parameters

General

Cameras	141
Aligned cameras	141
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	134,228 of 170,615
RMS reprojection error	0.153461 (0.506353 pix)
Max reprojection error	0.449545 (15.8966 pix)
Mean key point size	3.11388 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.33946

Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	Source
Key point limit	40,000
Tie point limit	4,000
Guided image matching	No
Adaptive camera model fitting	No
Matching time	14 minutes 3 seconds
Matching memory usage	318.08 MB
Alignment time	29 minutes 36 seconds
Alignment memory usage	73.32 MB
Software version	1.6.1.10009
File size	12.27 MB

Depth Maps

Count	137
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Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	31 minutes 32 seconds
Memory usage	1.57 GB
Software version	1.6.1.10009
File size	673.10 MB

Dense Point Cloud

Points	104,747,285
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	31 minutes 32 seconds
Memory usage	1.57 GB

Dense cloud generation parameters

Processing time	1 hours 49 minutes
Memory usage	8.55 GB
Software version	1.6.1.10009
File size	1.41 GB

Model

Faces	2,000,000
Vertices	1,006,524
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	31 minutes 32 seconds
Memory usage	1.57 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	1 hours 22 minutes
Memory usage	54.82 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	3 minutes 45 seconds
Blending time	10 minutes 40 seconds
Software version	1.6.1.10009
File size	333.18 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	31 minutes 32 seconds
Memory usage	1.57 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	1 hours 8 minutes
Memory usage	5.68 GB
Software version	1.7.1.11797
File size	876.20 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.1 build 11797
OS	Windows 64 bit
RAM	127.78 GB
CPU	Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GPU(s)	GeForce RTX 2080