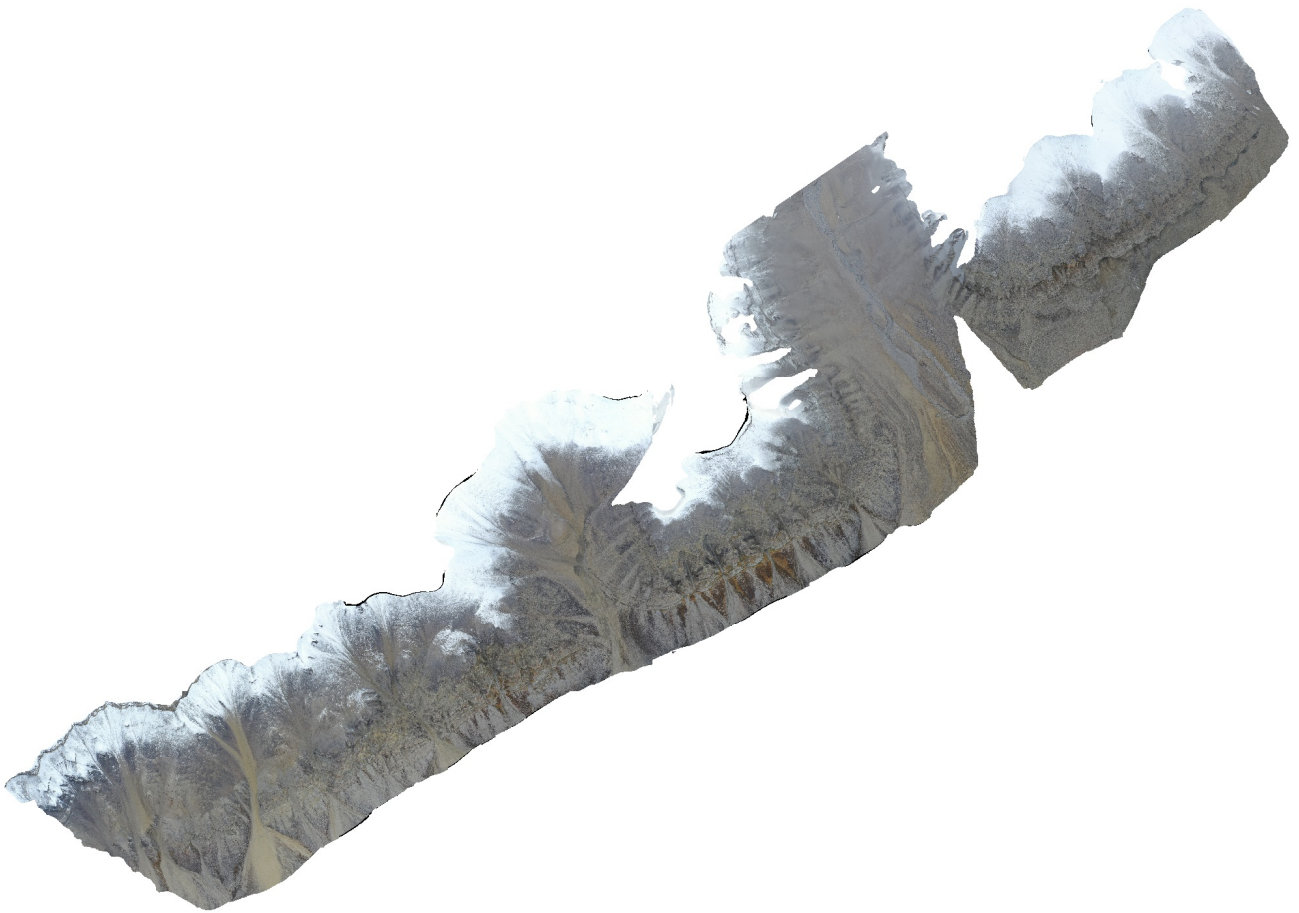


Gerardfjella

Processing Report
09 February 2022



Survey Data

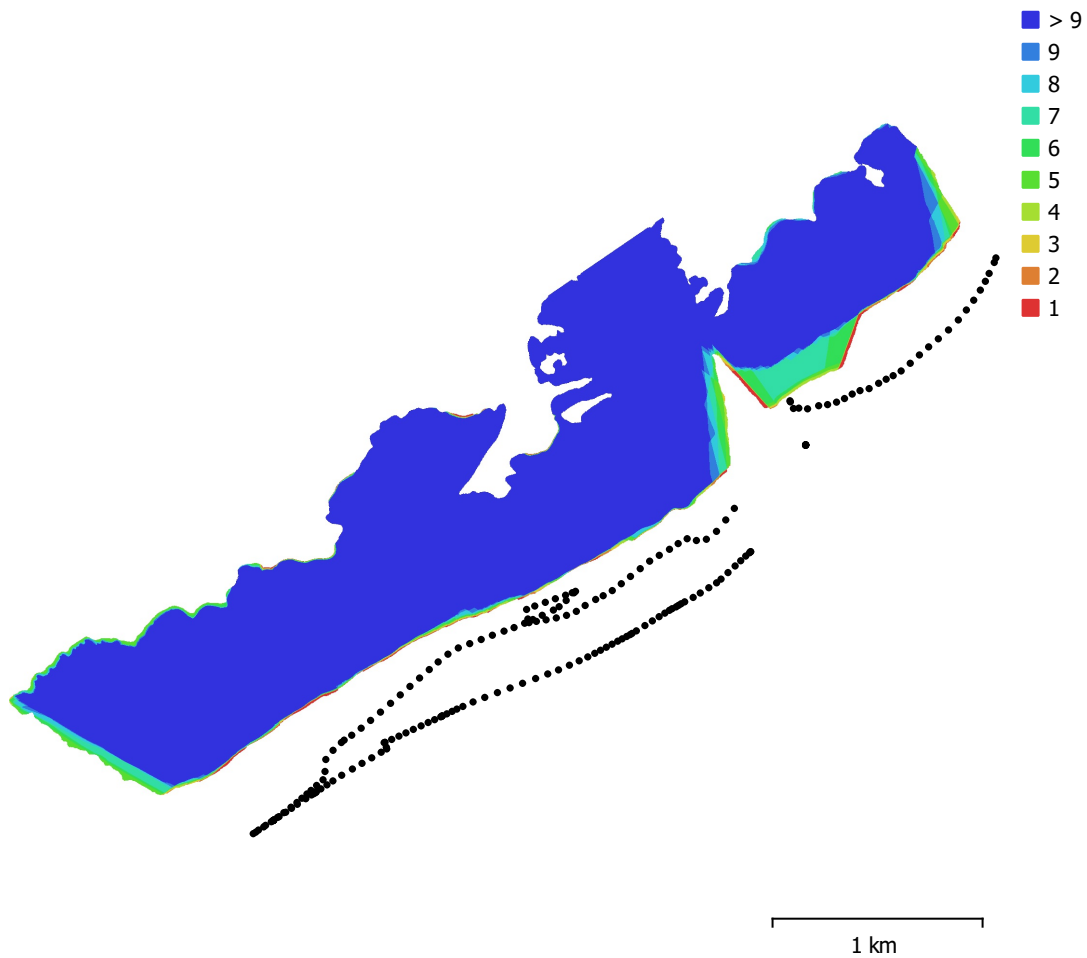


Fig. 1. Camera locations and image overlap.

Number of images:	199	Camera stations:	199
Flying altitude:	577 m	Tie points:	60,104
Ground resolution:	13.5 cm/pix	Projections:	777,544
Coverage area:	3.78 km ²	Reprojection error:	0.52 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

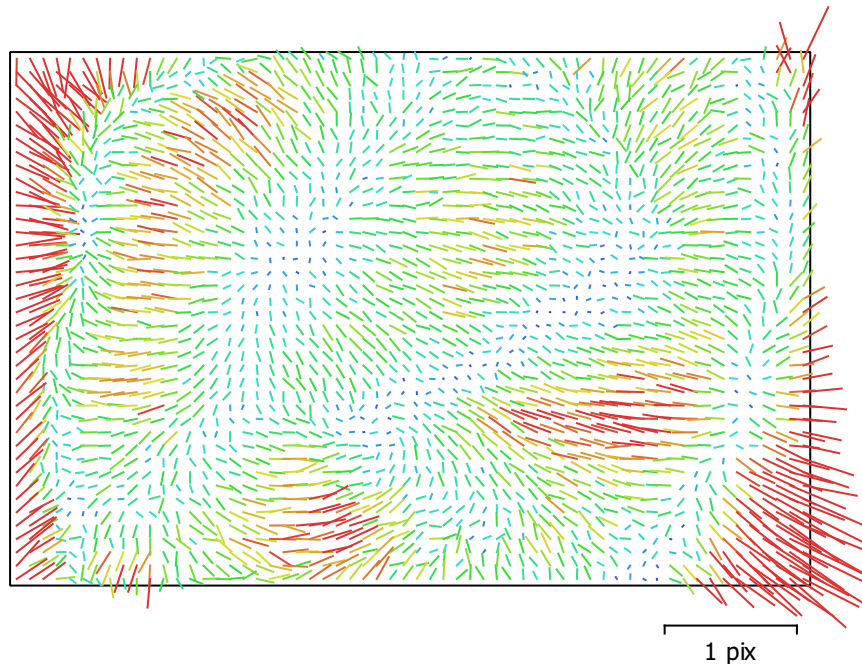


Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

199 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	4333.38	0.08	1.00	0.04	0.05	-0.72	0.05	-0.06	0.04	-0.03	0.02	-0.14
Cx	32.2549	0.093		1.00	-0.01	0.00	0.19	0.01	-0.01	0.01	0.89	0.04
Cy	-60.0913	0.12			1.00	-0.59	0.01	-0.03	-0.02	0.01	-0.03	0.59
B1	18.3115	0.091				1.00	-0.07	0.03	0.04	-0.04	0.05	-0.08
B2	25.0478	0.074					1.00	-0.01	-0.01	0.01	-0.17	0.02
K1	0.00435364	2.5e-05						1.00	-0.94	0.89	0.01	-0.09
K2	0.0311312	0.0001							1.00	-0.98	-0.00	0.02
K3	-0.0313561	0.00013								1.00	0.00	-0.02
P1	0.000447152	6.6e-06									1.00	0.03
P2	-0.0034637	3.7e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

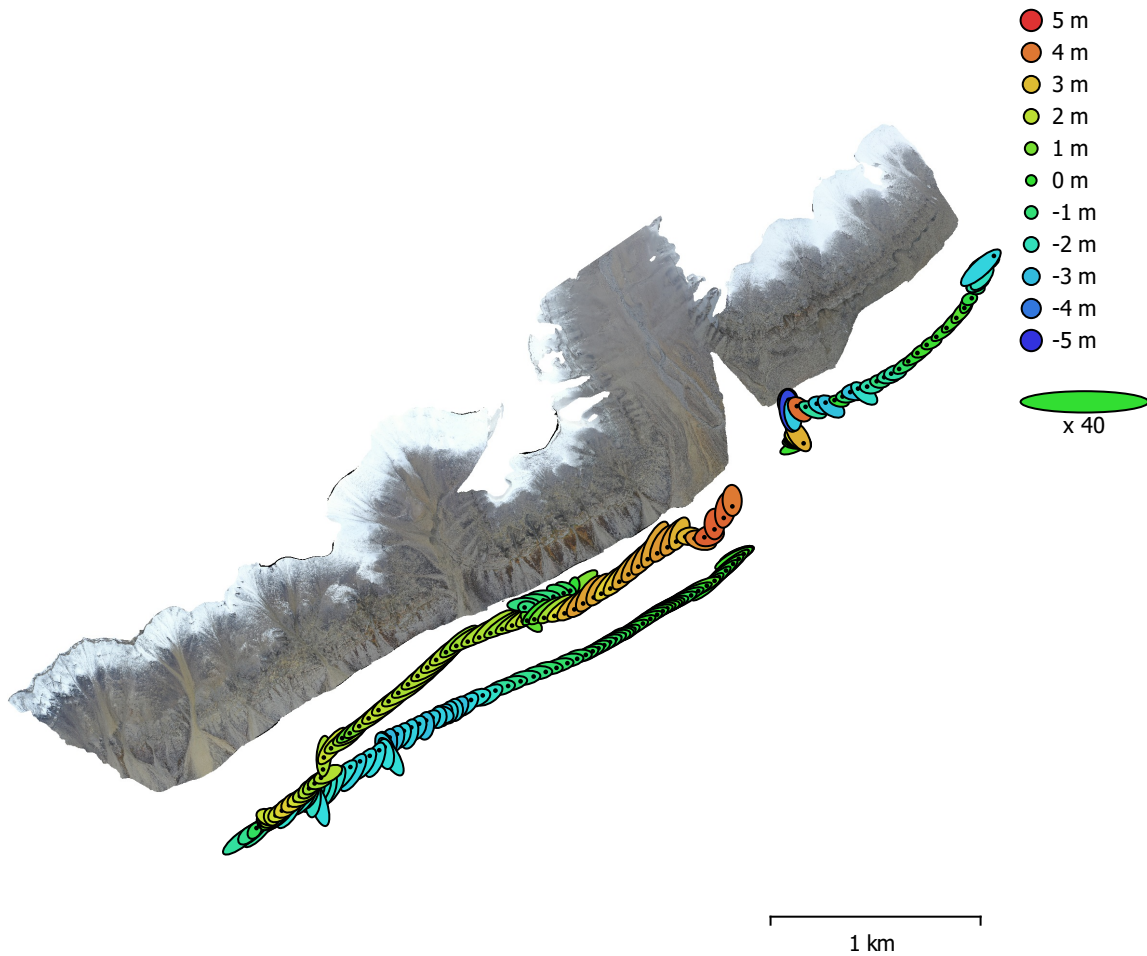


Fig. 3. Camera locations and error estimates.

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)
1.97998	1.60805	2.02663	2.55071	3.25781

Table 3. Average camera location error.

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

Digital Elevation Model

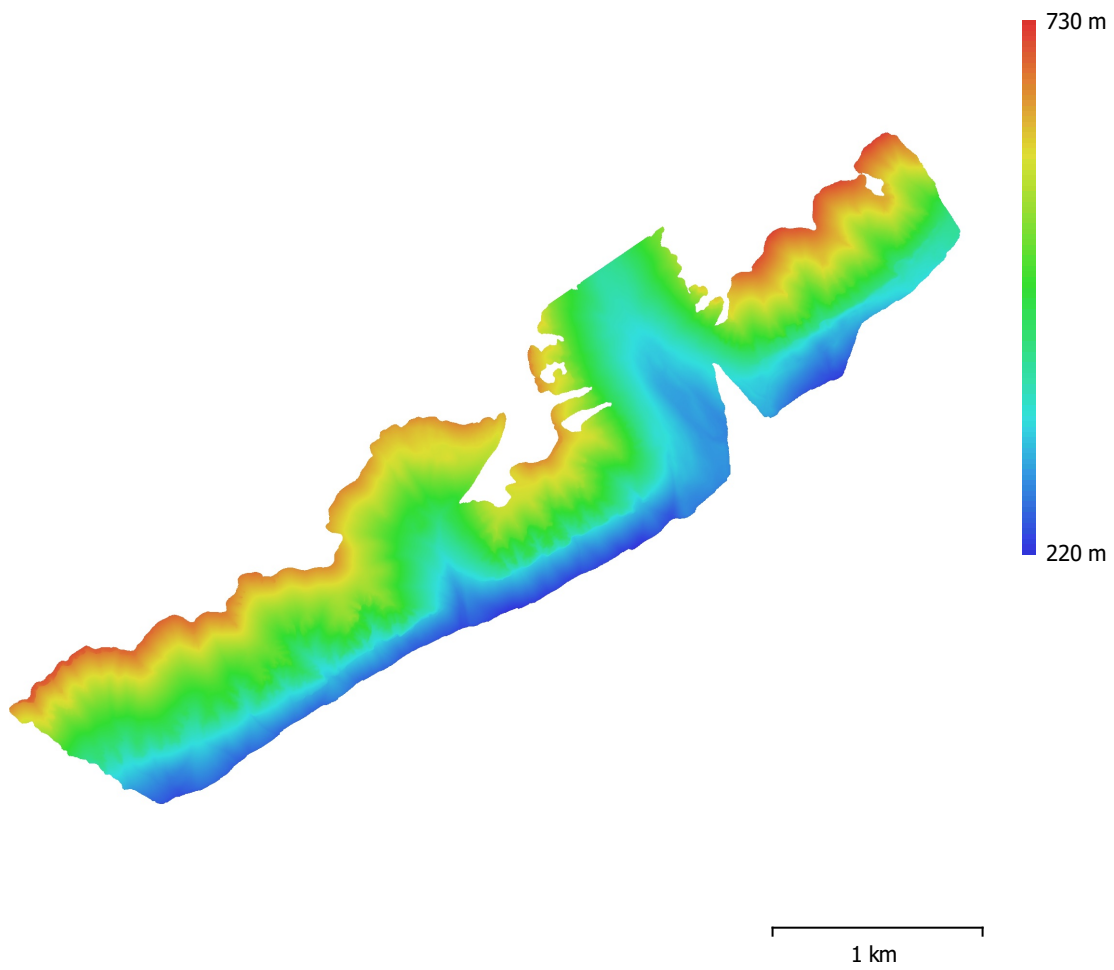


Fig. 4. Reconstructed digital elevation model.

Resolution: 53.9 cm/pix
Point density: 3.44 points/m²

Processing Parameters

General

Cameras	199
Aligned cameras	199
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	60,104 of 76,674
RMS reprojection error	0.370334 (0.519916 pix)
Max reprojection error	1.34184 (23.0426 pix)
Mean key point size	1.34237 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	14.7897

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	49 minutes 54 seconds
Matching memory usage	892.41 MB
Alignment time	1 minutes 48 seconds
Alignment memory usage	76.65 MB

Optimization parameters

Parameters	f, b1, b2, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	4 seconds
Software version	1.7.2.12040
File size	18.92 MB

Depth Maps

Count	199
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 40 seconds
Memory usage	1.44 GB
Software version	1.7.2.12040
File size	371.76 MB

Dense Point Cloud

Points	16,976,266
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 40 seconds
Memory usage	1.44 GB
Dense cloud generation parameters	

Processing time	17 minutes 31 seconds
Memory usage	3.86 GB
Software version	1.7.2.12040
File size	291.30 MB
Model	
Faces	1,129,288
Vertices	569,795
Vertex colors	3 bands, uint8
Texture	4,096 x 4,096 x 10, 4 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 40 seconds
Memory usage	1.44 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	7 minutes 6 seconds
Memory usage	8.95 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	2 minutes 39 seconds
UV mapping memory usage	3.60 GB
Blending time	10 minutes 25 seconds
Blending memory usage	5.29 GB
Software version	1.7.2.12040
File size	257.47 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 40 seconds
Memory usage	1.44 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	38 minutes 40 seconds
Memory usage	2.90 GB
Software version	1.7.2.12040
File size	368.51 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