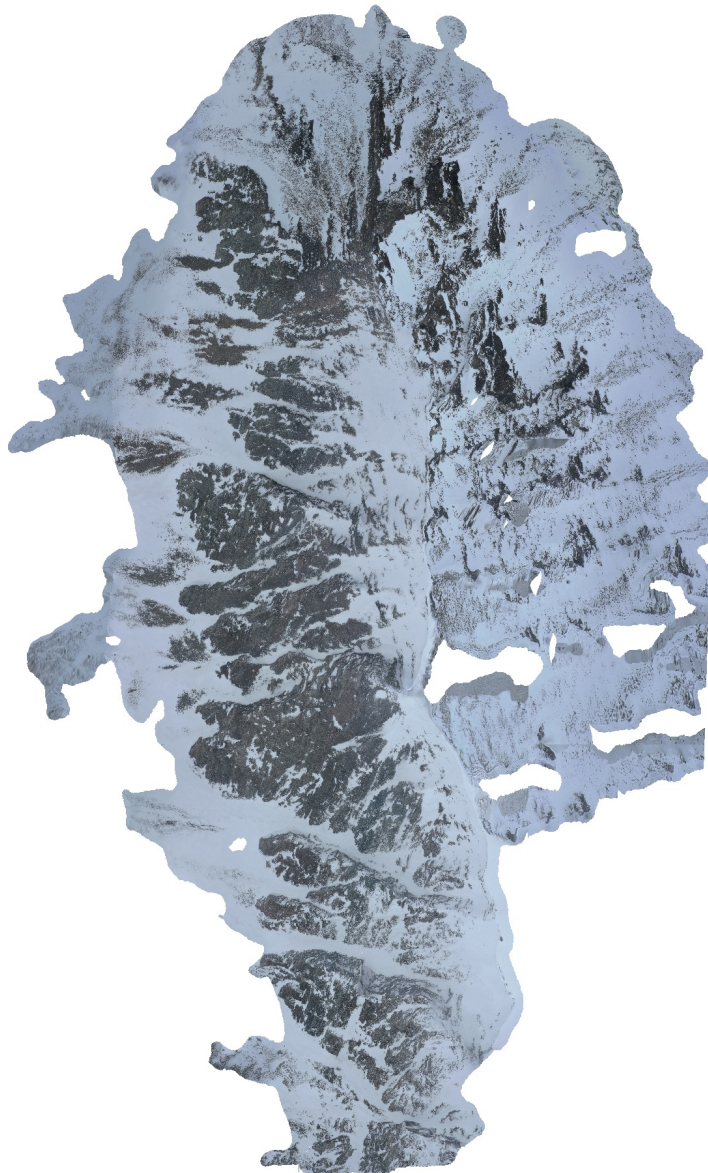


Griegaksla

Reconstruction uncertainty 15
Projection accuracy 3
Reprojection error 0.4
Dense Cloud Confidence 5-255
Filter component size 99%
31 March 2022



Survey Data

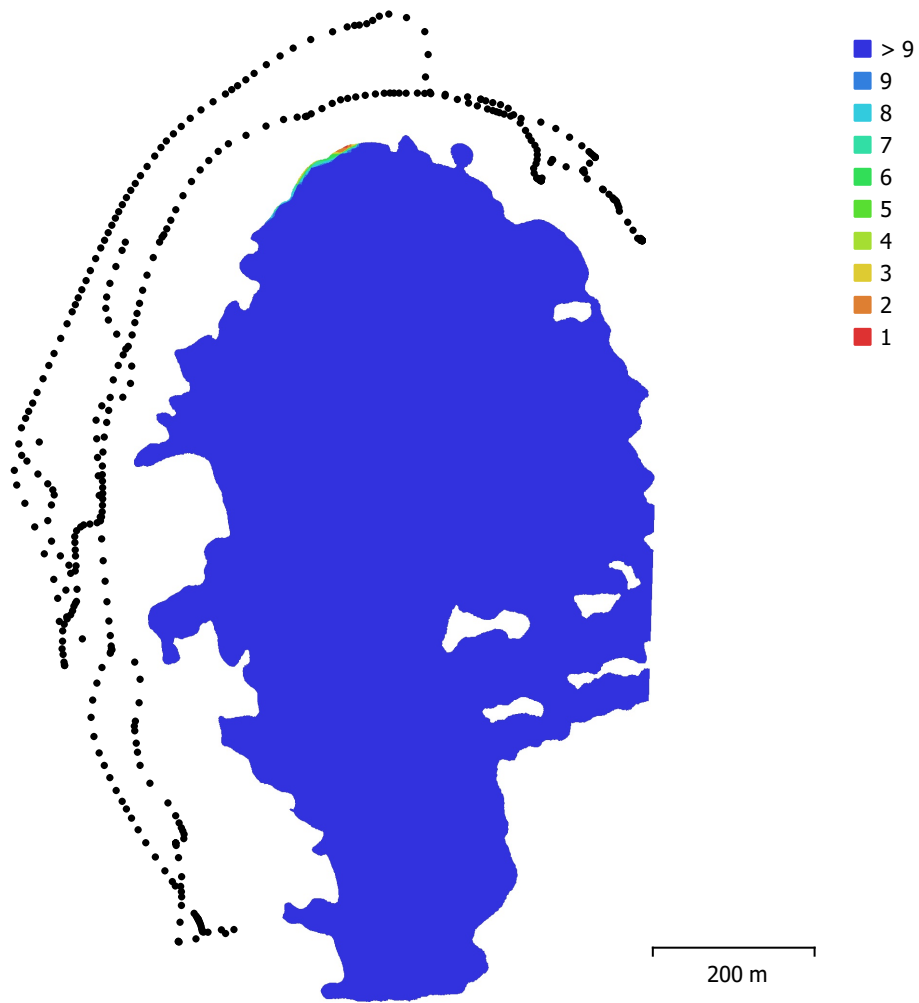


Fig. 1. Camera locations and image overlap.

Number of images:	360	Camera stations:	360
Flying altitude:	297 m	Tie points:	13,147
Ground resolution:	6.82 cm/pix	Projections:	118,795
Coverage area:	0.42 km ²	Reprojection error:	0.333 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

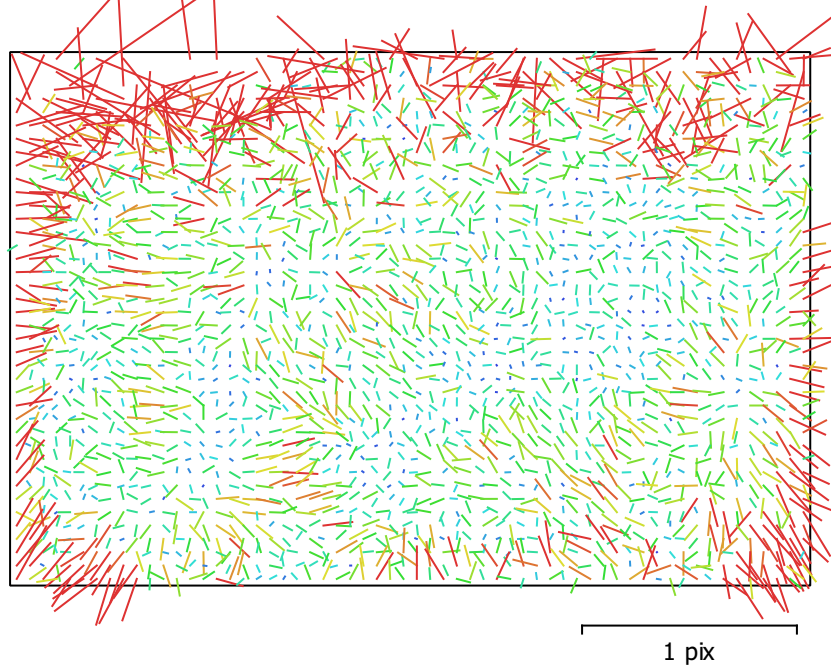


Fig. 2. Image residuals for Test_Pro (10.26mm).

Test_Pro (10.26mm)

360 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	4351.26	0.055	1.00	0.04	0.07	-0.59	0.14	-0.15	0.17	-0.14	0.07	-0.10
Cx	-3.74162	0.093		1.00	0.04	-0.08	0.02	-0.01	0.00	-0.00	0.94	0.01
Cy	-72.4411	0.11			1.00	-0.67	0.15	-0.09	0.07	-0.06	-0.00	0.70
B1	3.23023	0.069				1.00	-0.18	0.10	-0.06	0.05	-0.07	-0.25
B2	-2.64366	0.04					1.00	-0.05	0.02	-0.02	-0.10	0.08
K1	0.00586701	3e-05						1.00	-0.94	0.88	-0.02	-0.19
K2	0.0379853	0.00012							1.00	-0.98	0.01	0.08
K3	-0.0408663	0.00015								1.00	-0.00	-0.07
P1	-0.000459685	6.7e-06									1.00	0.00
P2	-0.0038168	4.3e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

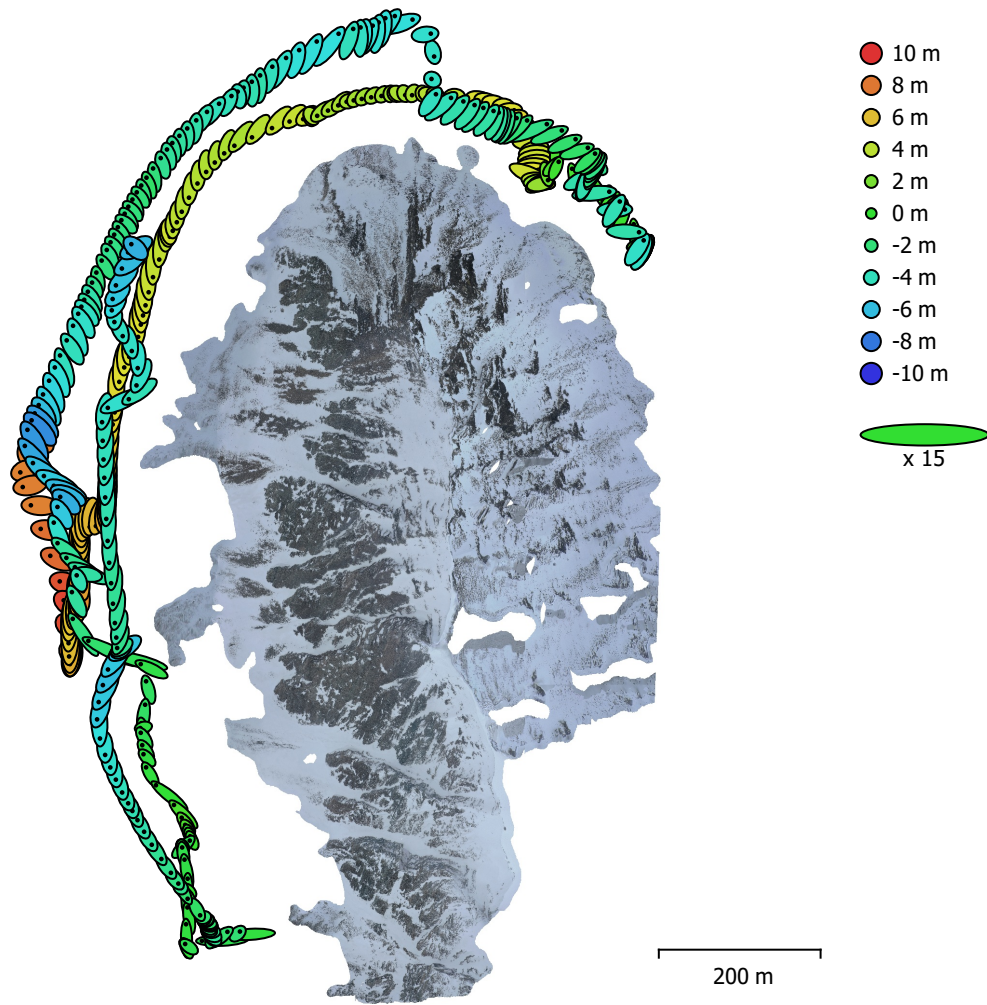


Fig. 3. Camera locations and error estimates.

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)
0.93762	1.36984	4.20446	1.66	4.5203

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

Digital Elevation Model

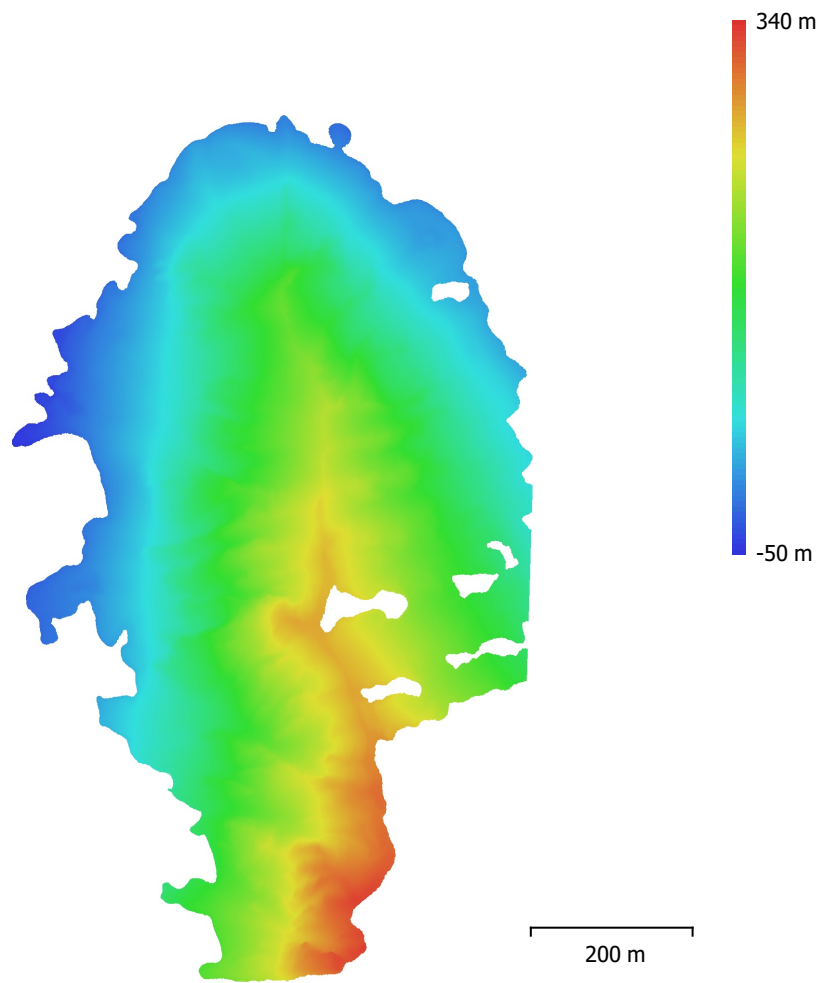


Fig. 4. Reconstructed digital elevation model.

Resolution: 27.3 cm/pix
Point density: 13.4 points/m²

Processing Parameters

General

Cameras	360
Aligned cameras	360
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	13,147 of 112,822
RMS reprojection error	0.175732 (0.332861 pix)
Max reprojection error	0.39998 (1.81186 pix)
Mean key point size	1.91012 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	15.2335

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	5 minutes 2 seconds
Matching memory usage	559.75 MB
Alignment time	4 minutes 30 seconds
Alignment memory usage	364.62 MB

Optimization parameters

Parameters	f, b1, b2, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	9 seconds
Software version	1.7.3.12473
File size	28.40 MB

Depth Maps

Count	360
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Depth maps generation parameters

Quality	Medium
Filtering mode	Mild
Processing time	19 minutes 51 seconds
Memory usage	1.31 GB
Software version	1.7.2.12040
File size	605.37 MB

Dense Point Cloud

Points	8,544,435
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	Medium
Filtering mode	Mild
Processing time	19 minutes 51 seconds
Memory usage	1.31 GB

Dense cloud generation parameters

Processing time	37 minutes 40 seconds
Memory usage	6.95 GB
Software version	1.7.2.12040
File size	163.22 MB
Model	
Faces	548,592
Vertices	277,293
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	19 minutes 51 seconds
Memory usage	1.31 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	3 minutes 17 seconds
Memory usage	4.20 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 4 seconds
UV mapping memory usage	3.63 GB
Blending time	22 minutes 27 seconds
Blending memory usage	5.41 GB
Software version	1.7.2.12040
File size	214.40 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	19 minutes 51 seconds
Memory usage	1.31 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	2 hours 5 minutes
Memory usage	2.45 GB
Software version	1.7.2.12040
File size	188.01 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