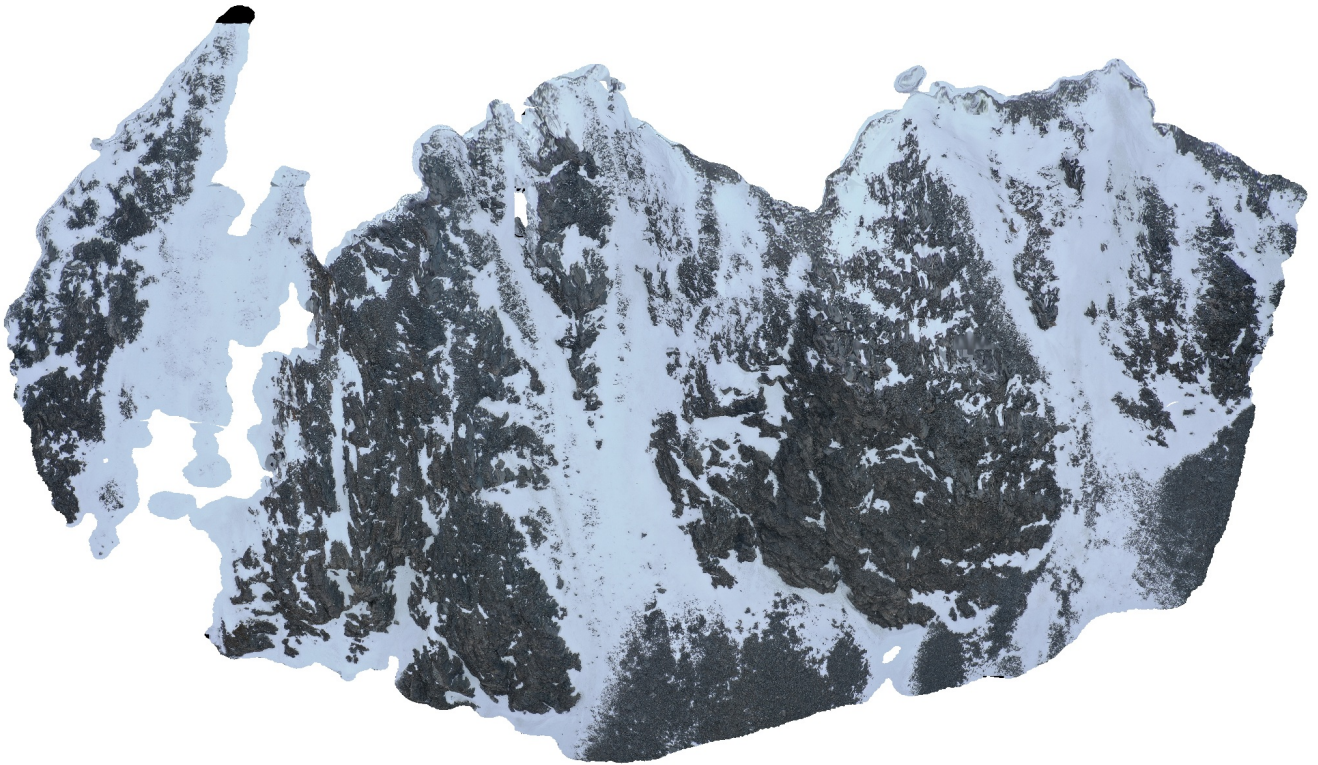


Systemafjellet

Dense Cloud Confidence 20-255
Filter Component Size: 99%

04 March 2022



Survey Data

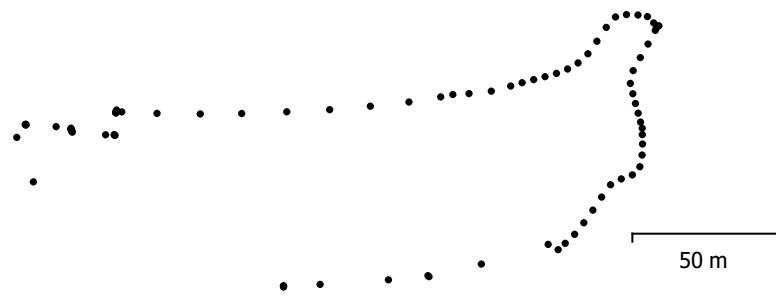
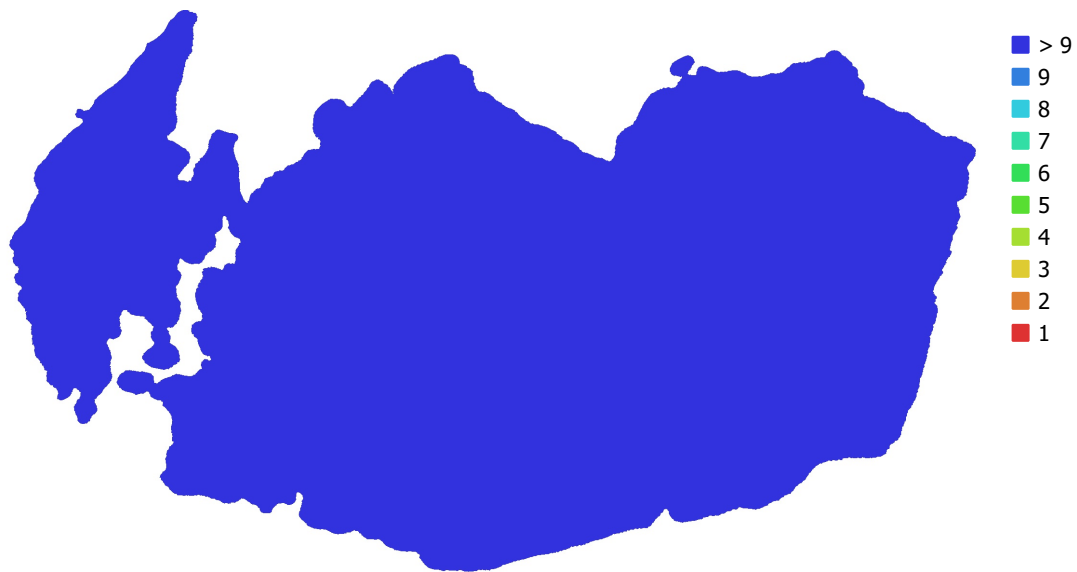


Fig. 1. Camera locations and image overlap.

Number of images:	91	Camera stations:	91
Flying altitude:	174 m	Tie points:	16,765
Ground resolution:	3.89 cm/pix	Projections:	215,001
Coverage area:	0.0408 km ²	Reprojection error:	0.577 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Test_Pro (10.26mm)	5472 x 3648	10.26 mm	2.41 x 2.41 μm	No

Table 1. Cameras.

Camera Calibration

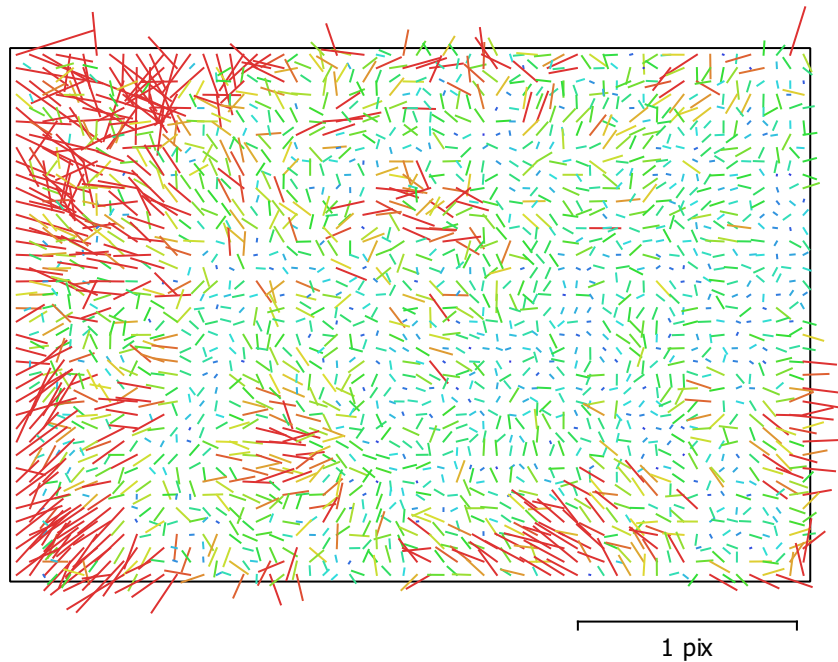


Fig. 2. Image residuals for Test_Pro (10.26mm).

Test_Pro (10.26mm)

91 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	4345.41	0.13	1.00	-0.13	0.08	-0.51	-0.20	0.07	0.06	-0.07	-0.12	0.25
Cx	6.30655	0.19		1.00	-0.15	0.10	0.55	-0.10	0.07	-0.06	0.93	-0.11
Cy	-51.3155	0.21			1.00	-0.69	-0.08	0.03	-0.04	0.03	-0.15	0.65
B1	9.28225	0.12				1.00	0.05	-0.16	0.08	-0.05	0.11	-0.42
B2	0.424856	0.1					1.00	-0.01	0.01	-0.01	0.47	-0.09
K1	0.00610391	5.5e-05						1.00	-0.94	0.87	-0.09	-0.09
K2	0.0352664	0.0002							1.00	-0.98	0.06	0.04
K3	-0.0380146	0.00024								1.00	-0.06	-0.04
P1	-6.53618e-05	1.2e-05									1.00	-0.10
P2	-0.00392125	8.3e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

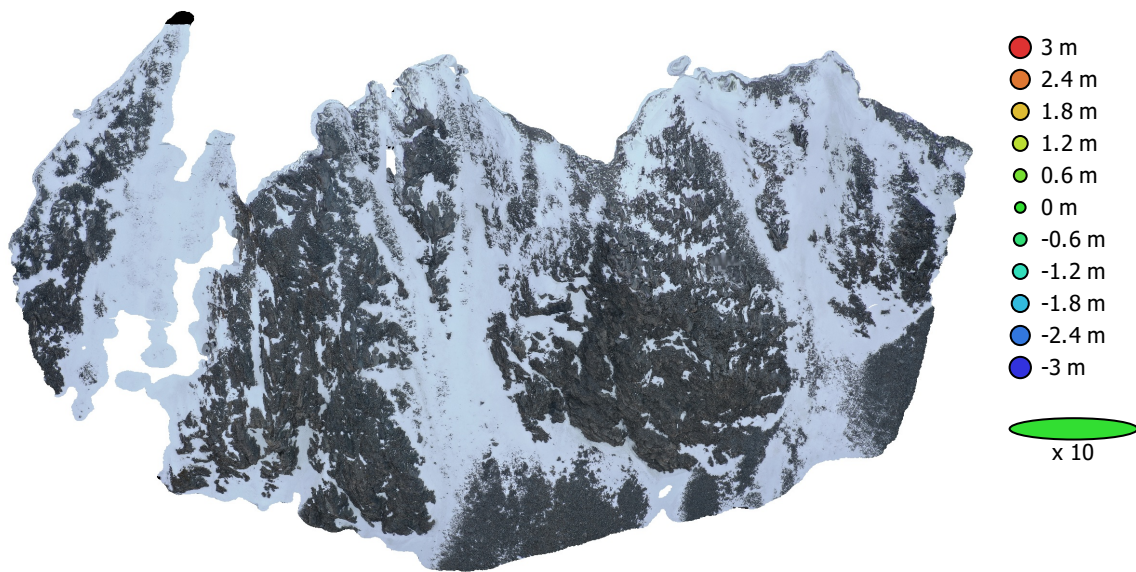


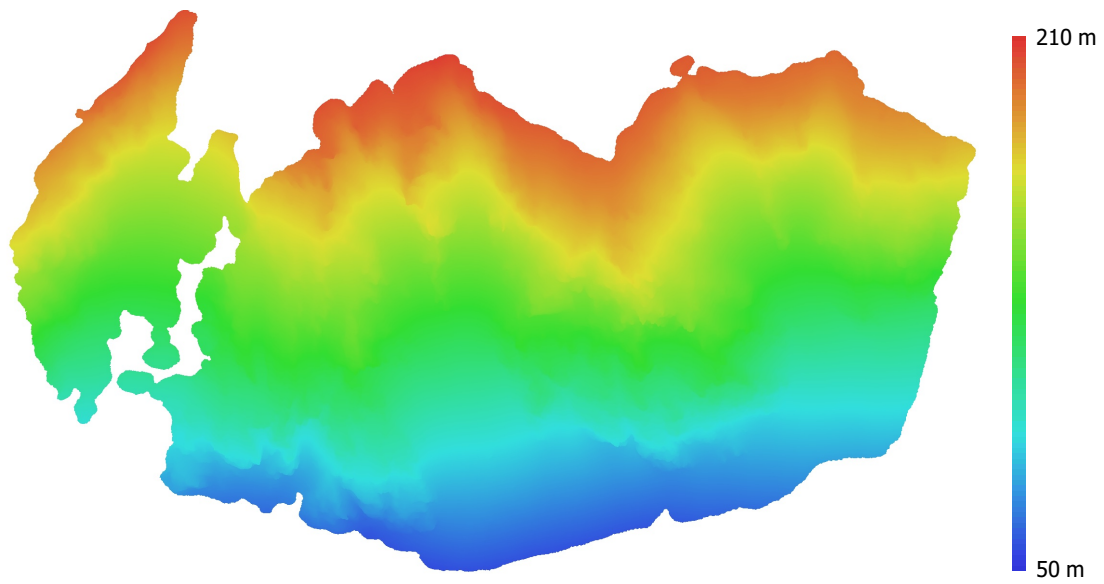
Fig. 3. Camera locations and error estimates.

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)
0.480227	0.551516	1.03071	0.731292	1.26379

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

Digital Elevation Model



50 m

Fig. 4. Reconstructed digital elevation model.

Resolution: 7.78 cm/pix
Point density: 165 points/m²

Processing Parameters

General

Cameras	91
Aligned cameras	91
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	16,765 of 26,075
RMS reprojection error	0.223914 (0.576674 pix)
Max reprojection error	0.872073 (23.2451 pix)
Mean key point size	2.36718 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	17.3442

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	2 minutes 21 seconds
Matching memory usage	417.68 MB
Alignment time	41 seconds
Alignment memory usage	38.54 MB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	Yes
Optimization time	2 seconds
Software version	1.7.3.12473
File size	7.37 MB

Depth Maps

Count	91
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Depth maps generation parameters

Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	11 minutes 6 seconds
Memory usage	6.24 GB
Software version	1.7.3.12473
File size	622.19 MB

Dense Point Cloud

Points	10,139,952
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	11 minutes 6 seconds

Memory usage	6.24 GB
Dense cloud generation parameters	
Processing time	35 minutes 3 seconds
Memory usage	7.19 GB
Software version	1.7.3.12473
File size	318.54 MB
Model	
Faces	2,027,703
Vertices	1,017,106
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
Max neighbors	100
Processing time	11 minutes 6 seconds
Memory usage	6.24 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	8 minutes 3 seconds
Memory usage	3.37 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 54 seconds
UV mapping memory usage	3.34 GB
Blending time	1 minutes 6 seconds
Blending memory usage	5.80 GB
Software version	1.7.3.12473
File size	269.87 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	11 minutes 6 seconds
Memory usage	6.24 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	128
Face count	Low
Enable ghosting filter	No
Processing time	44 minutes 30 seconds
Memory usage	3.28 GB
Software version	1.7.3.12473
File size	584.18 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) i9-10900 CPU @ 2.80GHz
GPU(s)	NVIDIA GeForce RTX 2080 SUPER