

Seipfjellet

Reconstruction uncertainty 30

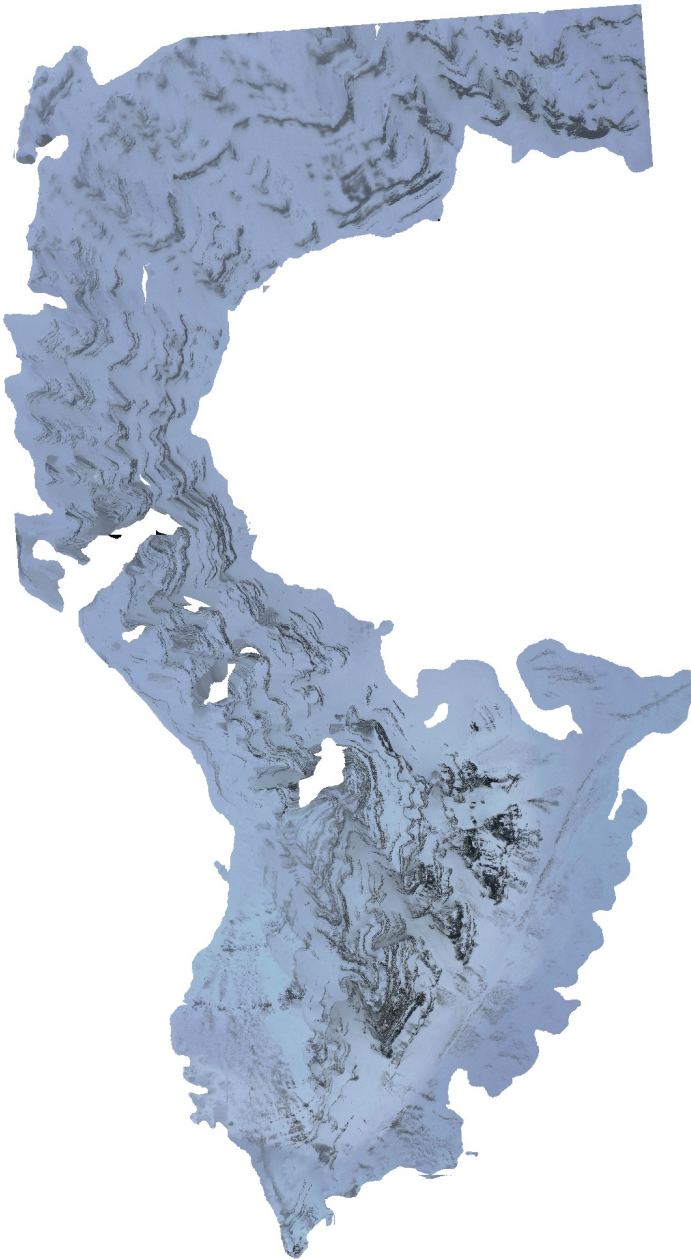
Projection accuracy 3

Reprojection error 0,3

Dense Cloud Confidence 2-255

Filter Component Size: 99%

16 March 2022



Survey Data

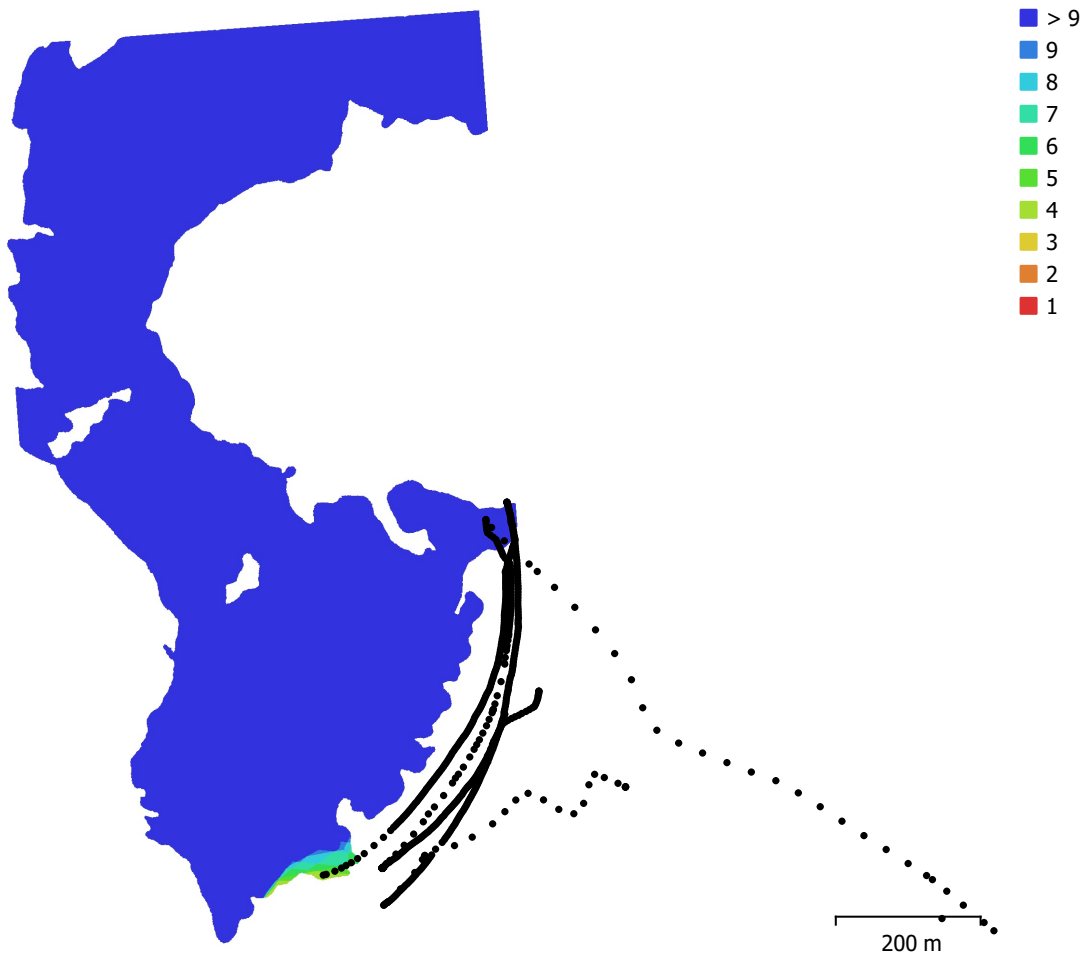


Fig. 1. Camera locations and image overlap.

Number of images:	618	Camera stations:	617
Flying altitude:	365 m	Tie points:	11,987
Ground resolution:	7.09 cm/pix	Projections:	100,947
Coverage area:	0.427 km ²	Reprojection error:	0.247 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

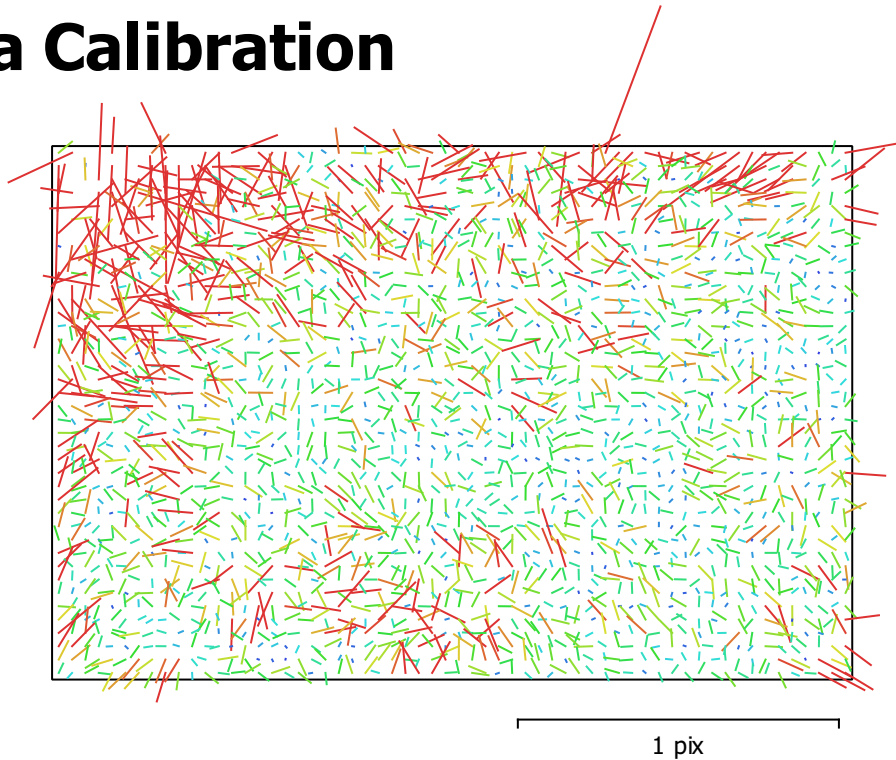


Fig. 2. Image residuals for Test_Pro (10.26mm).

Test_Pro (10.26mm)

617 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	K4	P1	P2
F	4350.84	0.041	1.00	0.01	-0.01	-0.41	-0.13	-0.17	0.20	-0.19	0.18	0.04	-0.10
Cx	8.85275	0.081		1.00	-0.23	0.01	0.33	0.01	0.02	-0.02	0.01	0.95	-0.27
Cy	-53.9881	0.07			1.00	-0.44	-0.29	-0.04	0.02	-0.02	0.02	-0.20	0.84
B1	0.811267	0.039				1.00	0.21	-0.02	0.01	-0.00	-0.00	-0.07	-0.23
B2	2.74682	0.031					1.00	0.00	0.00	-0.00	-0.00	0.29	-0.27
K1	0.00447725	4.9e-05						1.00	-0.96	0.91	-0.86	0.01	-0.08
K2	0.0506476	0.00032							1.00	-0.99	0.95	0.02	0.02
K3	-0.0880476	0.00085								1.00	-0.99	-0.02	-0.02
K4	0.0510142	0.00076									1.00	0.01	0.02
P1	-0.000118907	5.5e-06										1.00	-0.26
P2	-0.00382401	4e-06											1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

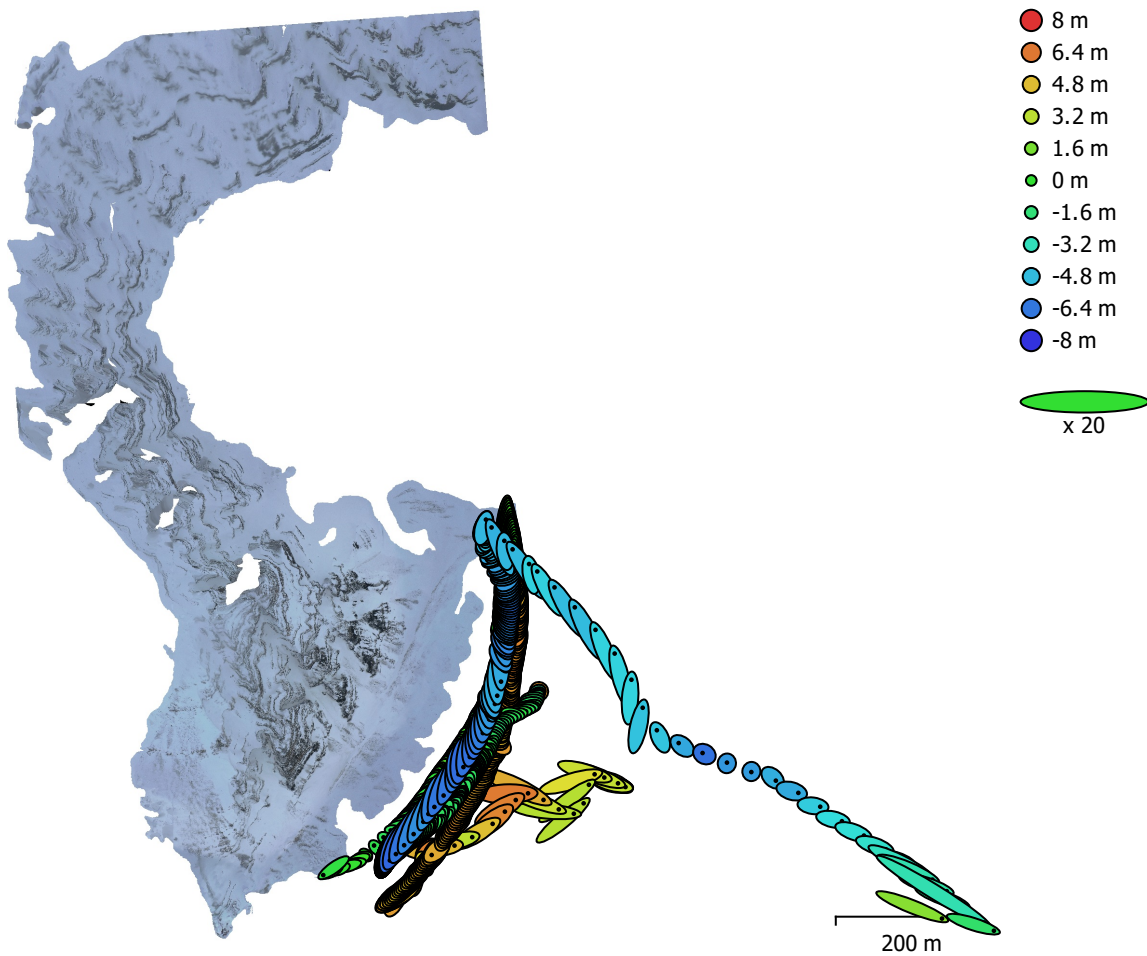


Fig. 3. Camera locations and error estimates.

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)
0.840012	1.12812	4.0469	1.40651	4.28435

Table 3. Average camera location error.

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

Digital Elevation Model

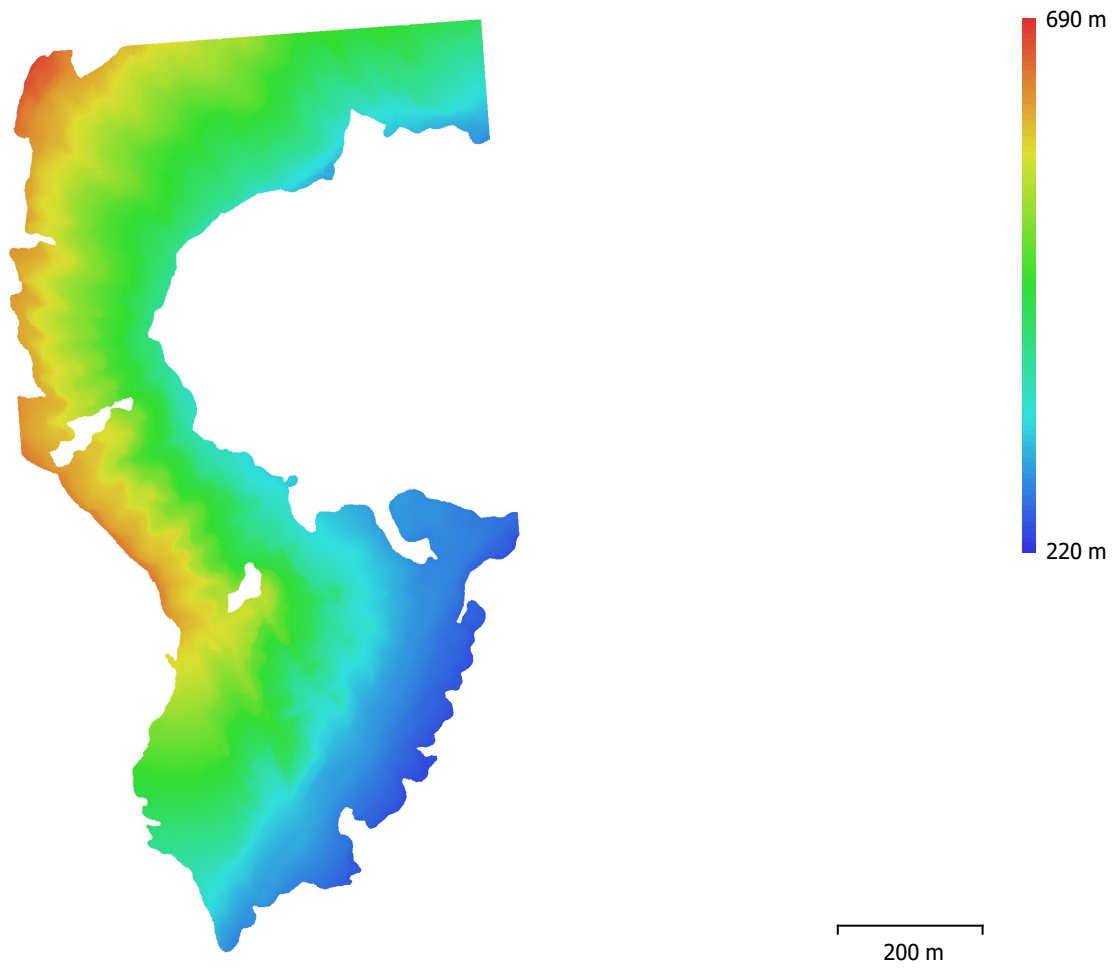


Fig. 4. Reconstructed digital elevation model.

Resolution: 28.4 cm/pix
Point density: 12.4 points/m²

Processing Parameters

General

Cameras	618
Aligned cameras	617
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	11,987 of 99,967
RMS reprojection error	0.132351 (0.246964 pix)
Max reprojection error	0.299993 (1.60664 pix)
Mean key point size	1.90628 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	33.5076

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 6 seconds
Matching memory usage	687.60 MB
Alignment time	15 minutes 32 seconds
Alignment memory usage	716.13 MB

Optimization parameters

Parameters	f, b1, b2, cx, cy, k1-k4, p1, p2
Adaptive camera model fitting	No
Optimization time	10 seconds
Software version	1.7.3.12473
File size	52.92 MB

Depth Maps

Count	503
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Depth maps generation parameters

Quality	Medium
Filtering mode	Mild
Processing time	10 minutes 55 seconds
Memory usage	1.45 GB
Software version	1.7.2.12040
File size	785.60 MB

Dense Point Cloud

Points	8,054,555
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	Medium
Filtering mode	Mild
Processing time	10 minutes 55 seconds
Memory usage	1.45 GB

Dense cloud generation parameters

Processing time	39 minutes 9 seconds
Memory usage	9.08 GB
Software version	1.7.2.12040
File size	169.11 MB
Model	
Faces	521,338
Vertices	264,182
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	10 minutes 55 seconds
Memory usage	1.45 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	2 minutes 56 seconds
Memory usage	4.12 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 26 seconds
UV mapping memory usage	3.35 GB
Blending time	5 minutes 10 seconds
Blending memory usage	5.78 GB
Software version	1.7.2.12040
File size	186.90 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	10 minutes 55 seconds
Memory usage	1.45 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	31 minutes 31 seconds
Memory usage	2.90 GB
Software version	1.7.2.12040
File size	181.38 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