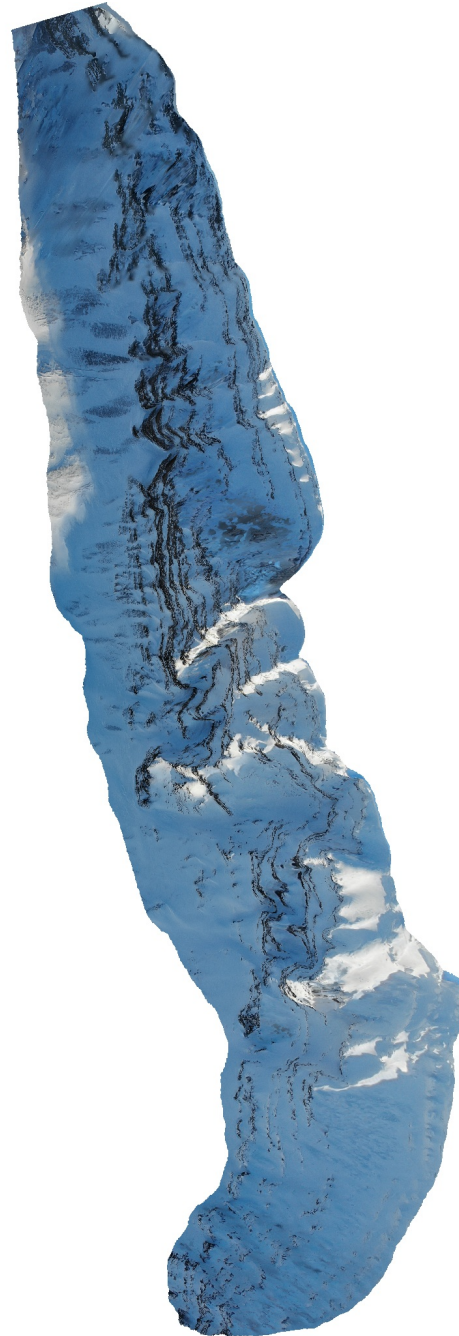


Vardeborg

Processing Report
28 February 2021



Survey Data

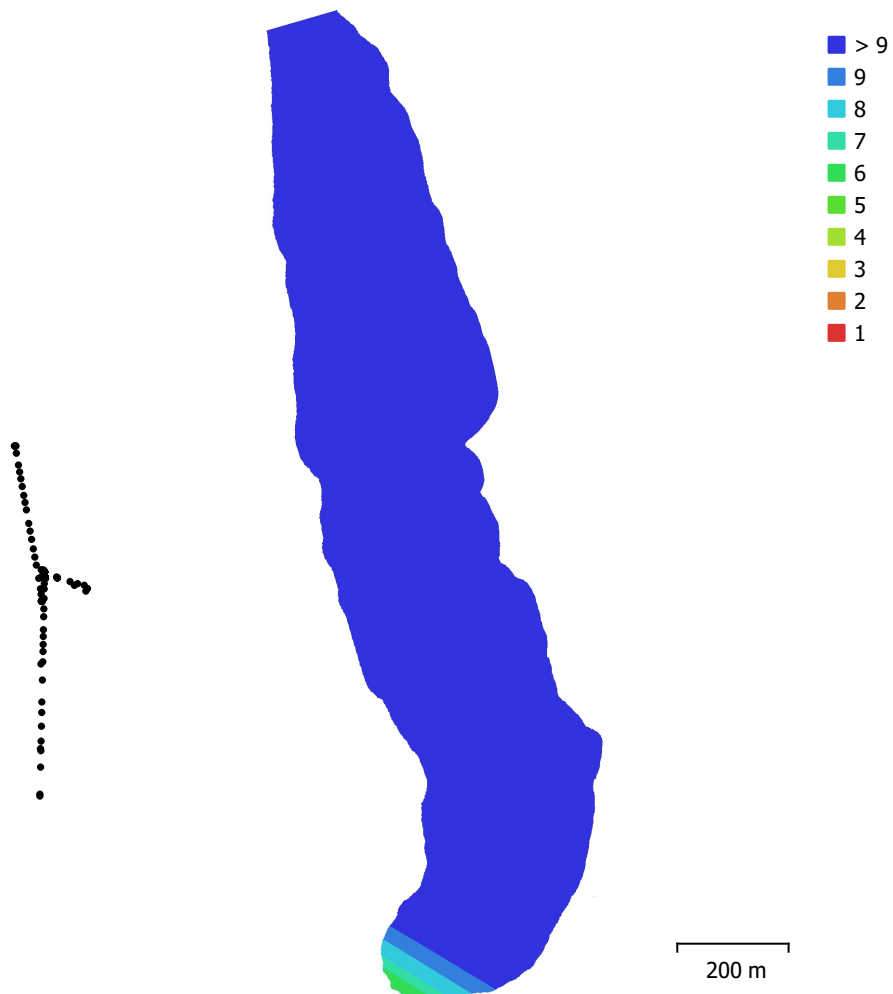


Fig. 1. Camera locations and image overlap.

Number of images:	116	Camera stations:	110
Flying altitude:	532 m	Tie points:	34,061
Ground resolution:	17 cm/pix	Projections:	267,903
Coverage area:	0.528 km ²	Reprojection error:	1.32 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC2103 (4.5mm)	4056 x 3040	4.5 mm	1.6 x 1.6 μ m	No

Table 1. Cameras.

Camera Calibration

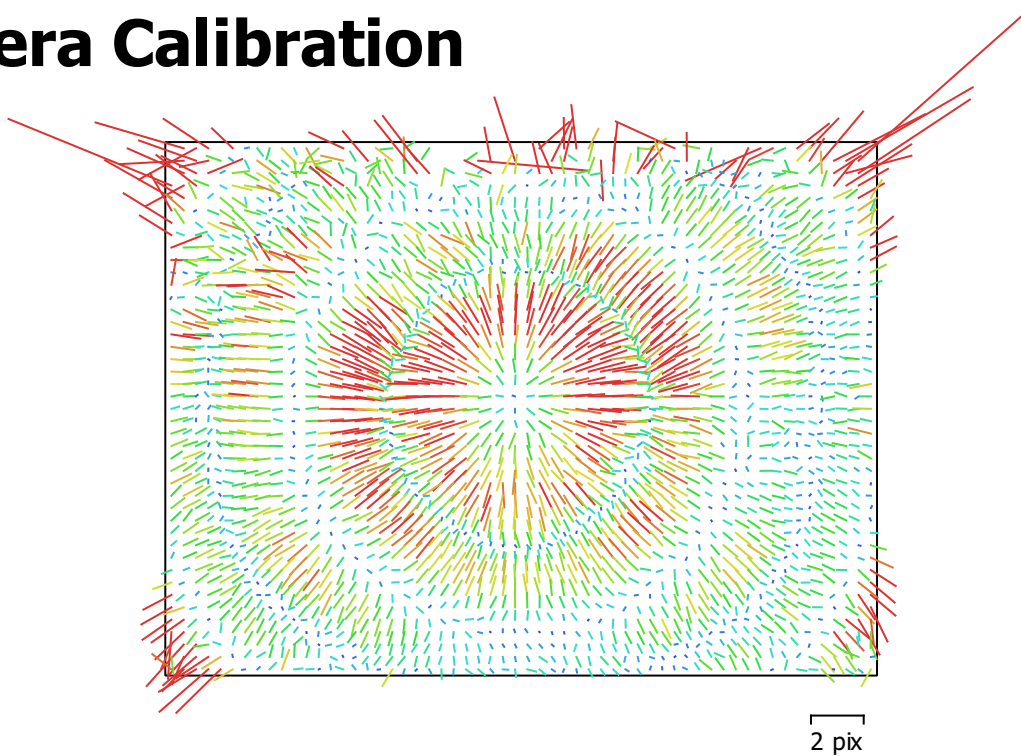


Fig. 2. Image residuals for FC2103 (4.5mm).

FC2103 (4.5mm)

116 images

Type
Frame

Resolution
4056 x 3040

Focal Length
4.5 mm

Pixel Size
1.6 x 1.6 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	2917.25	0.19	1.00	-0.09	-0.39	0.34	-0.25	0.23	-0.08	-0.08
Cx	-24.0741	0.094		1.00	0.12	-0.03	0.03	-0.04	0.81	-0.03
Cy	-9.25548	0.16			1.00	-0.18	0.12	-0.11	0.03	0.26
K1	0.203976	0.00016				1.00	-0.97	0.92	-0.02	-0.08
K2	-0.61726	0.00052					1.00	-0.99	0.02	0.02
K3	0.437229	0.00054						1.00	-0.03	-0.01
P1	0.000162238	9.5e-06							1.00	0.10
P2	0.000429933	1.3e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

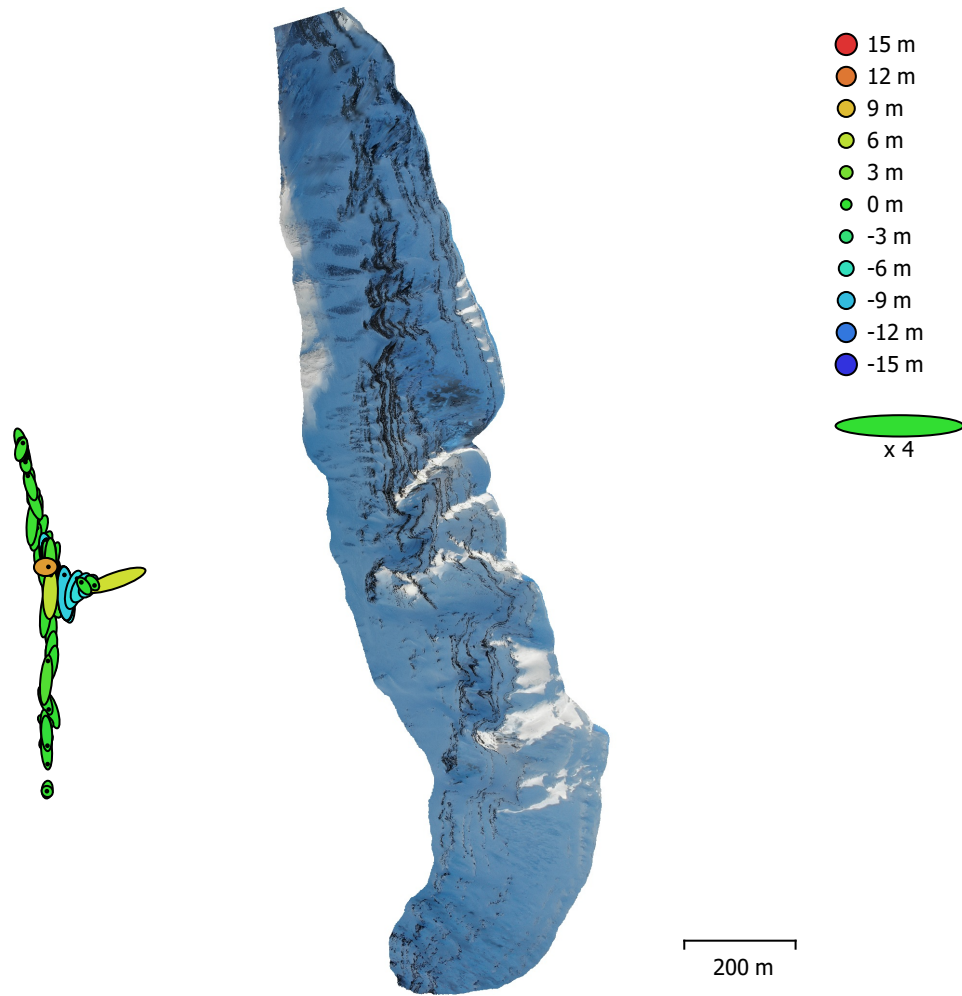


Fig. 3. Camera locations and error estimates.

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)
2.77638	9.84728	4.12199	10.2312	11.0303

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

Digital Elevation Model

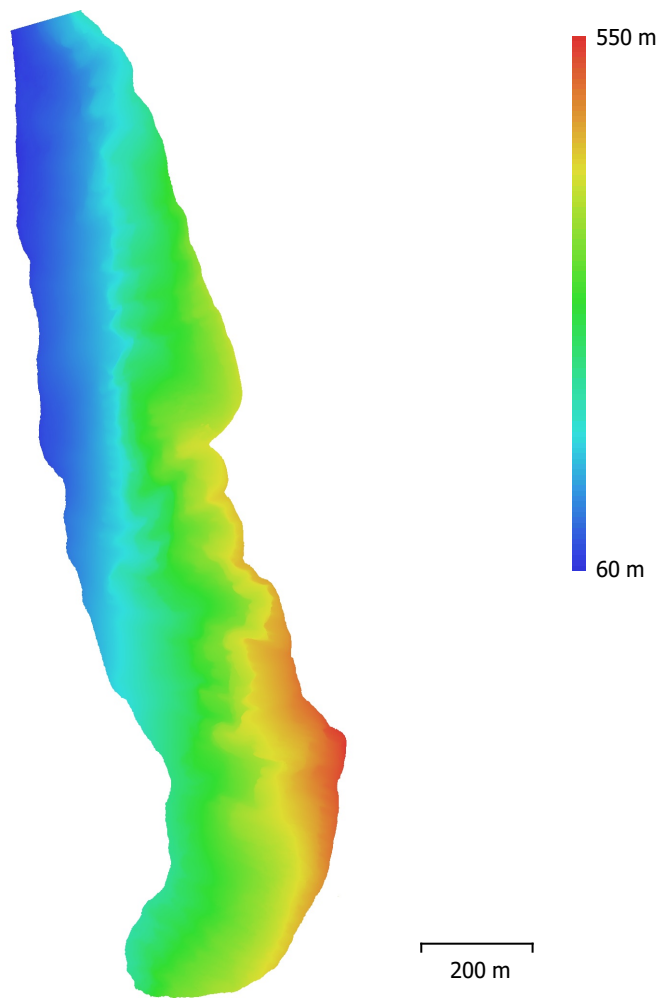


Fig. 4. Reconstructed digital elevation model.

Resolution: 34 cm/pix
Point density: 8.67 points/m²

Processing Parameters

General

Cameras	116
Aligned cameras	110
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	34,061 of 57,688
RMS reprojection error	0.316291 (1.32202 pix)
Max reprojection error	0.977133 (30.8405 pix)
Mean key point size	4.75501 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	10.4233

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	12 minutes 37 seconds
Matching memory usage	327.80 MB
Alignment time	3 minutes 21 seconds
Alignment memory usage	68.25 MB
Software version	1.6.1.10009
File size	10.13 MB

Depth Maps

Count	110
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Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	2 hours 10 minutes
Memory usage	3.58 GB
Software version	1.6.1.10009
File size	422.98 MB

Dense Point Cloud

Points	8,532,933
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	2 hours 10 minutes
Memory usage	3.58 GB

Dense cloud generation parameters

Processing time	1 hours 22 minutes
Memory usage	6.87 GB
Software version	1.6.1.10009
File size	270.30 MB

Model

Faces	1,706,578
Vertices	855,376
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	2 hours 10 minutes
Memory usage	3.58 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	3 minutes 57 seconds
Memory usage	4.11 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 59 seconds
Blending time	4 minutes 11 seconds
Software version	1.6.1.10009
File size	208.44 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Processing time	2 hours 10 minutes
Memory usage	3.58 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	4 minutes 35 seconds
Memory usage	1.84 GB
Software version	1.7.1.11797
File size	39.83 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