

Mefjellet

Connected component size 99%

24 February 2022



Survey Data

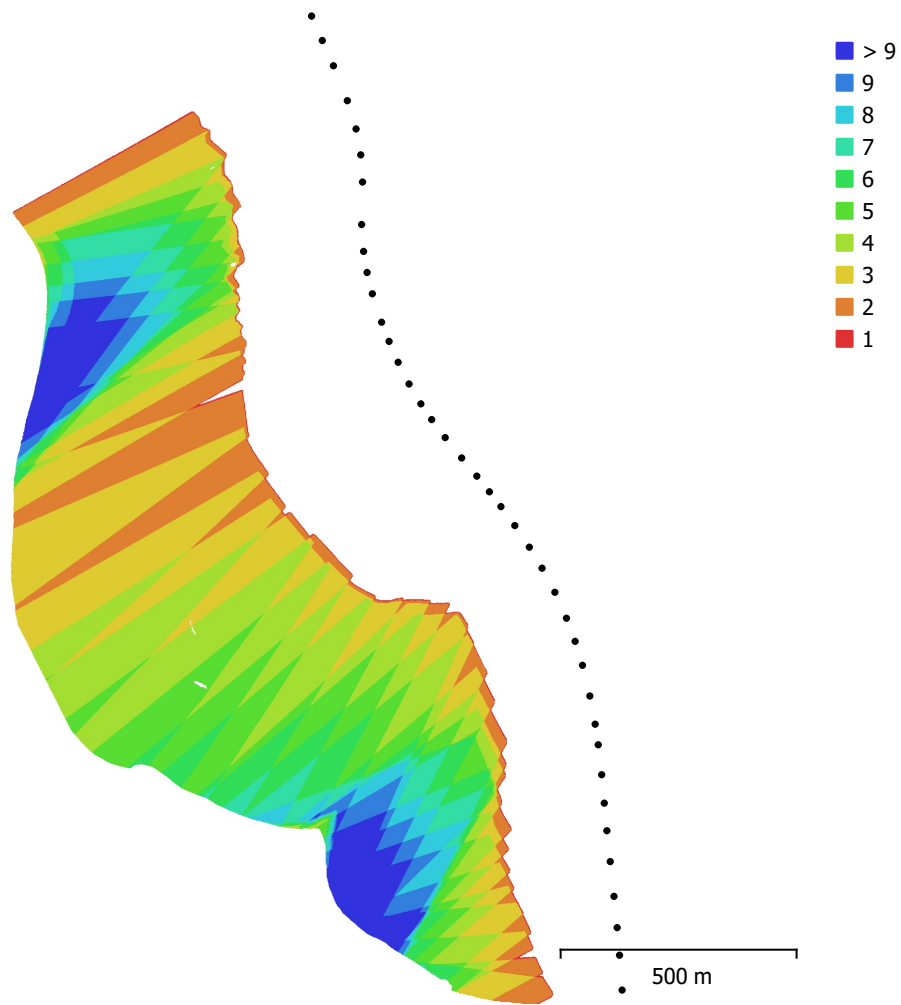


Fig. 1. Camera locations and image overlap.

Number of images:	40	Camera stations:	40
Flying altitude:	462 m	Tie points:	100,303
Ground resolution:	4.55 cm/pix	Projections:	307,368
Coverage area:	0.998 km ²	Reprojection error:	0.298 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
NIKON D800 (50mm)	4924 x 7374	50 mm	4.88 x 4.88 μ m	No

Table 1. Cameras.

Camera Calibration

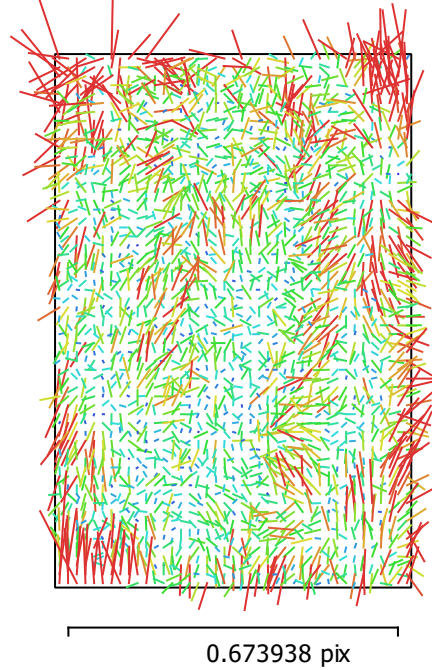


Fig. 2. Image residuals for NIKON D800 (50mm).

NIKON D800 (50mm)

40 images

Type	Resolution	Focal Length	Pixel Size
Frame	4924 x 7374	50 mm	4.88 x 4.88 μm

	Value	Error	F	B1	B2	K1	K2	K3	P1	P2
F	10549.2	0.63	1.00	-0.76	0.30	0.06	0.07	-0.04	-0.04	-0.18
B1	24.6775	0.52		1.00	-0.14	-0.02	-0.02	0.01	-0.10	0.23
B2	-23.2468	0.47			1.00	0.03	0.01	-0.02	-0.35	0.02
K1	-0.109129	8.2e-05				1.00	-0.92	0.86	0.01	-0.03
K2	0.0778475	0.001					1.00	-0.98	-0.07	-0.05
K3	0.178184	0.004						1.00	0.06	0.02
P1	0.000367804	7.8e-06							1.00	0.38
P2	0.000380827	1e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

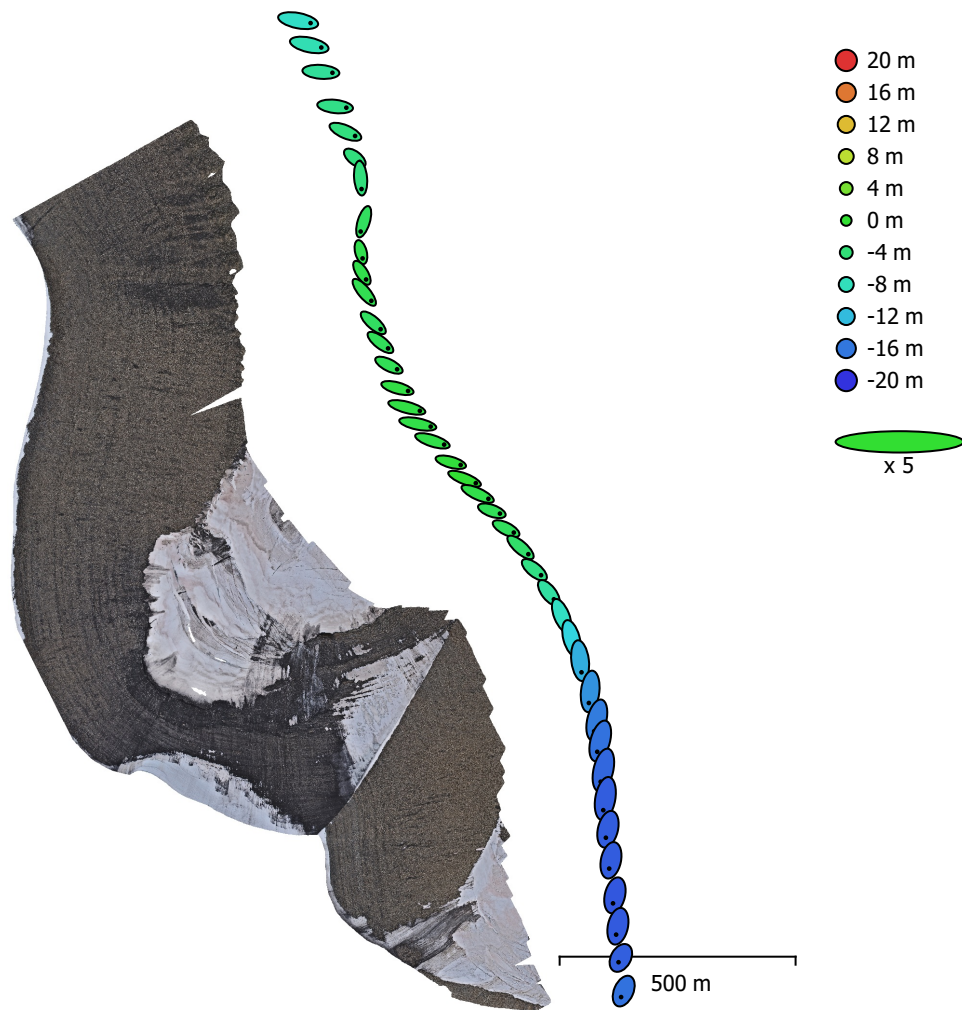


Fig. 3. Camera locations and error estimates.

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)
6.28389	6.0606	9.81139	8.7303	13.1332

Table 3. Average camera location error.

X - Easting, Y - Northing, Z - Altitude.

Digital Elevation Model

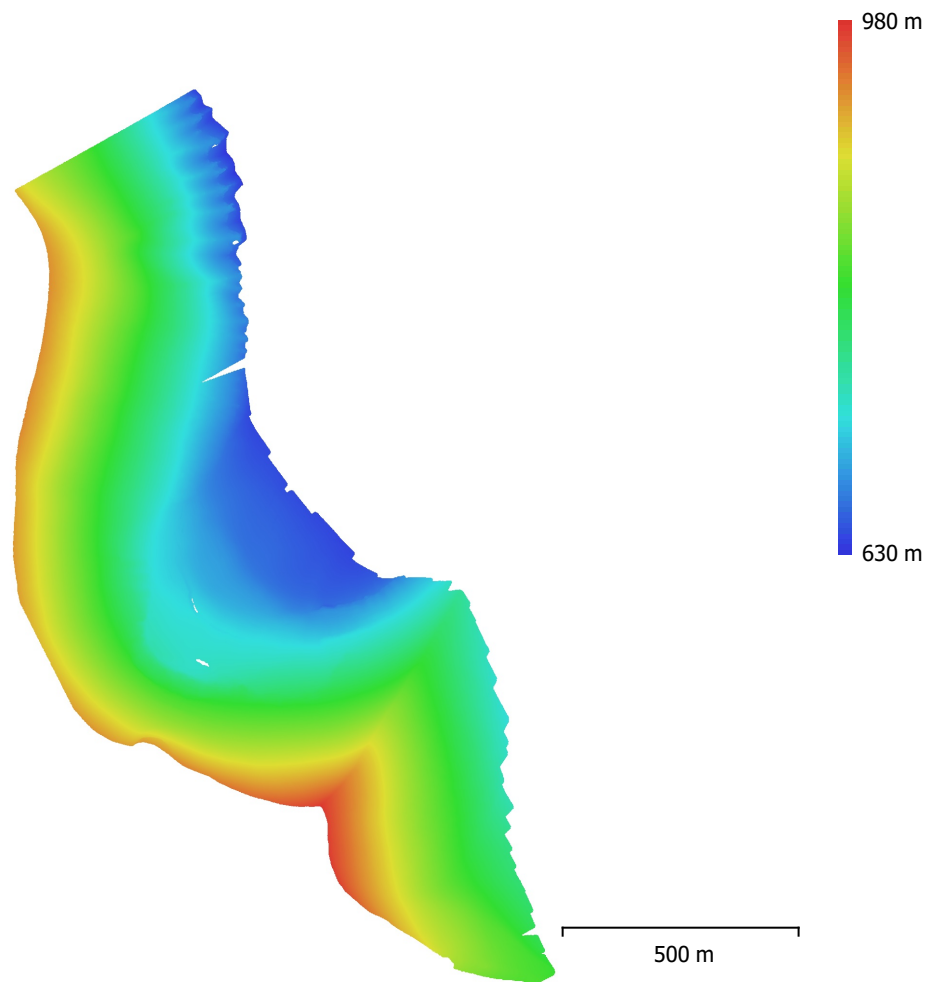


Fig. 4. Reconstructed digital elevation model.

Resolution: 2.35 m/pix
Point density: 0.182 points/m²

Processing Parameters

General

Cameras	40
Aligned cameras	40
Coordinate system	WGS 84 / UTM zone 33N (EPSG::32633)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	100,303 of 106,807
RMS reprojection error	0.106852 (0.298416 pix)
Max reprojection error	0.321651 (8.96303 pix)
Mean key point size	2.5811 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.08361

Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	Source
Key point limit	80,000
Tie point limit	8,000
Guided image matching	No
Adaptive camera model fitting	Yes
Matching time	1 minutes 21 seconds
Matching memory usage	1.57 GB
Alignment time	30 seconds
Alignment memory usage	93.10 MB
Software version	1.6.4.10928
File size	7.63 MB

Depth Maps

Count	40
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Aggressive
Processing time	21 minutes 15 seconds
File size	1.19 GB

Dense Point Cloud

Points	702,181,605
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Aggressive
Processing time	21 minutes 15 seconds
Dense cloud generation parameters	
Max neighbors	20
Processing time	30 minutes 37 seconds
Memory usage	13.38 GB
Software version	1.6.4.10928
File size	10.03 GB

Model

Faces	300,000
Vertices	152,726

Vertex colors	3 bands, uint8
Texture	4,096 x 4,096 x 10, 4 bands, uint8
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 43 seconds
UV mapping memory usage	3.31 GB
Blending time	2 minutes 47 seconds
Blending memory usage	5.92 GB
File size	225.29 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Aggressive
Processing time	21 minutes 15 seconds
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	8 hours 1 minutes
Memory usage	14.54 GB
Software version	1.7.2.12040
File size	970.28 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