Brattlidalen-Kolldalen

Processing Report
28 January 2022

Survey Data

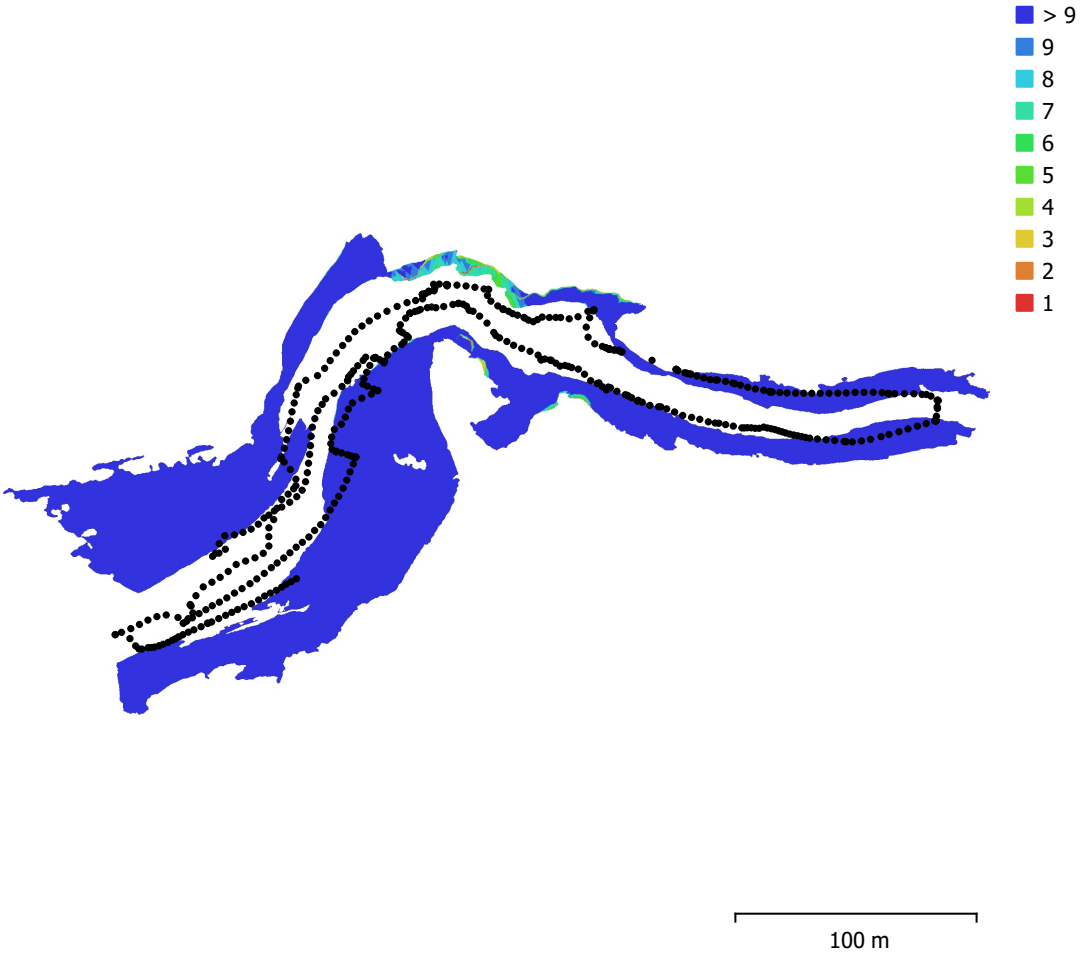

Fig. 1. Camera locations and image overlap.

Number of images:	452	Camera stations:	452
Flying altitude:	24.8 m	Tie points:	244,271
Ground resolution:	5.45 mm/pix	Projections:	1,705,419
Coverage area:	0.0163 km²	Reprojection error:	1.56 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
L1D-20c (10.26mm)	5472 x 3648	10.26 mm	2.41 x 2.41 µm	No

Table 1. Cameras.

Camera Calibration

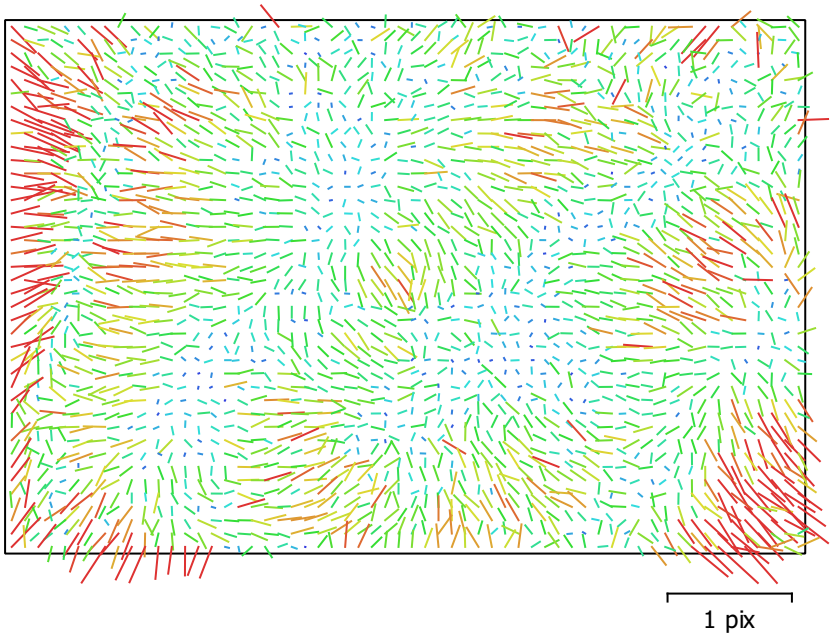

Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

452 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	K1	K2	K3	P1	P2
F	**4345.8**	0.11	1.00	0.06	0.02	-0.01	0.13	-0.12	0.07	0.00
Cx	**26.5467**	0.23		1.00	0.01	-0.00	0.00	0.00	0.96	-0.00
Cy	**-48.3715**	0.15			1.00	0.01	0.02	-0.02	0.00	0.90
K1	**0.00553918**	5.3e-05				1.00	-0.95	0.89	-0.00	0.00
K2	**0.0241409**	0.00022					1.00	-0.98	0.00	0.02
K3	**-0.0271776**	0.00028						1.00	-0.00	-0.03
P1	**0.00112149**	1.4e-05							1.00	-0.00
P2	**-0.00386803**	8.3e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

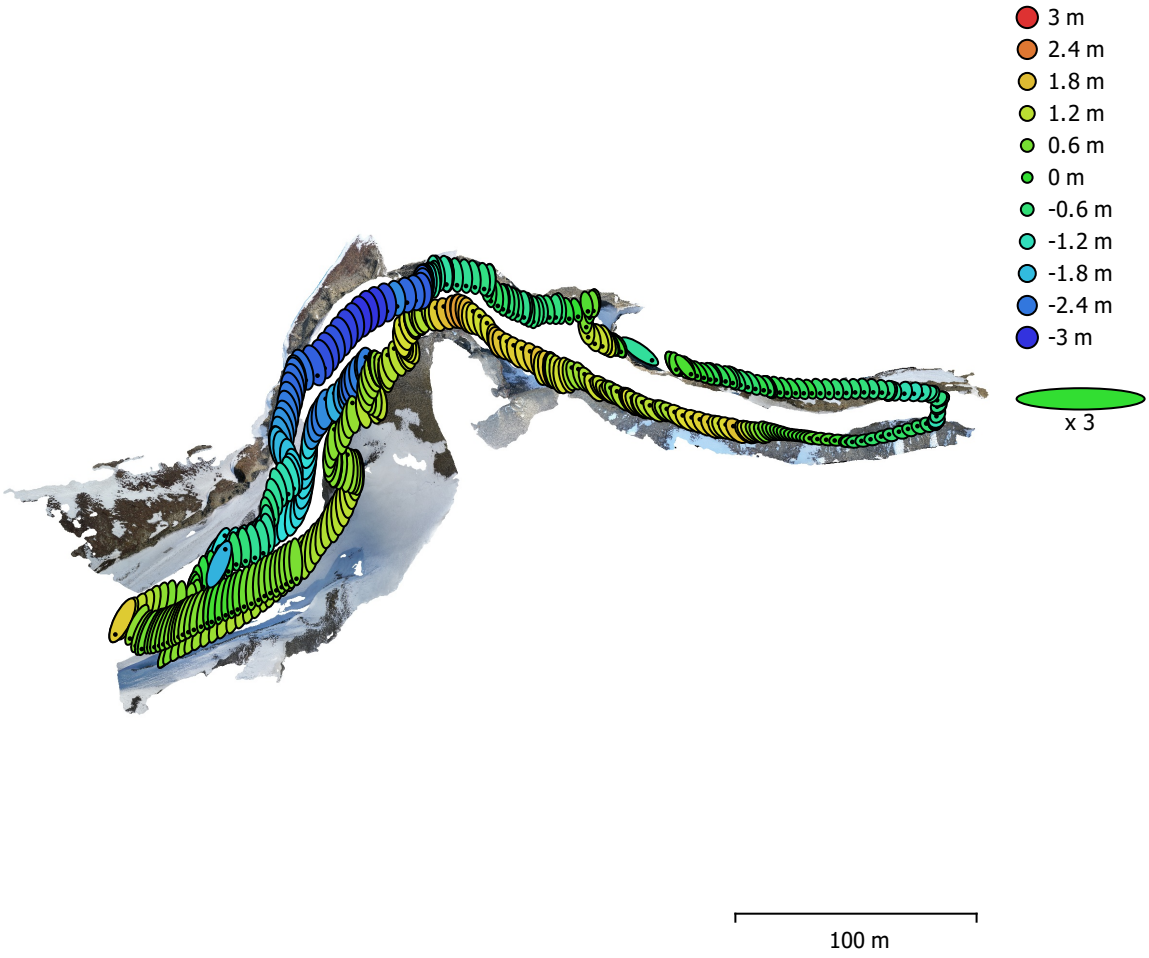

Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
0.812313	2.92246	1.21283	3.03325	3.26673

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

Digital Elevation Model

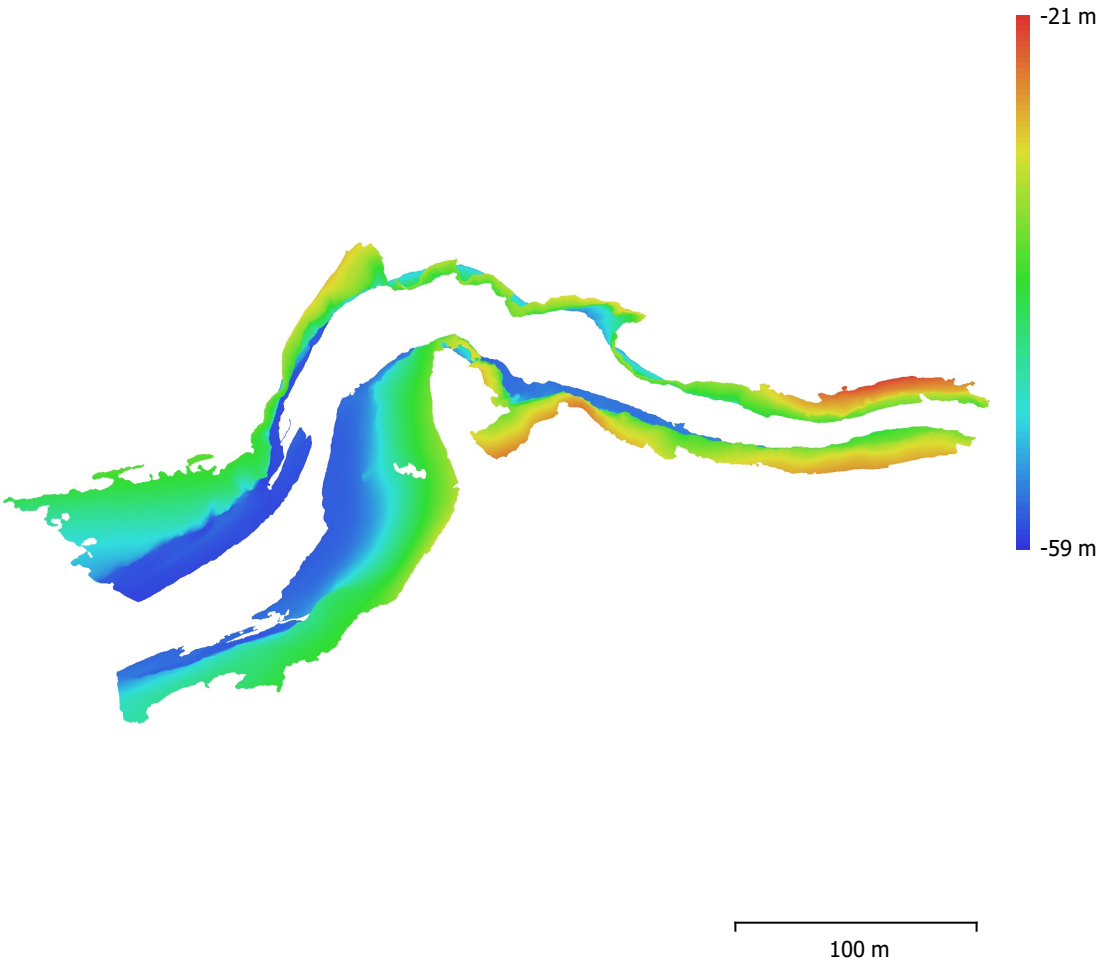

Fig. 4. Reconstructed digital elevation model.

Resolution:	2.18 cm/pix
Point density:	0.21 points/cm²

Processing Parameters

General	
Cameras	452
Aligned cameras	452
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	244,271 of 289,277
RMS reprojection error	0.252318 (1.56319 pix)
Max reprojection error	1.15985 (54.2644 pix)
Mean key point size	5.85686 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	7.26384
Alignment parameters	
Accuracy	Medium
Generic preselection	No
Reference preselection	No
Key point limit	40,000
Tie point limit	4,000
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	1 hours 5 minutes
Matching memory usage	1.23 GB
Alignment time	4 minutes 28 seconds
Alignment memory usage	127.96 MB
Optimization parameters	
Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	8 seconds
Software version	1.7.2.12040
File size	38.54 MB
Depth Maps	
Count	452
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 2 seconds
Memory usage	1.01 GB
Software version	1.7.2.12040
File size	884.18 MB
Dense Point Cloud	
Points	52,058,238
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 2 seconds
Memory usage	1.01 GB
Dense cloud generation parameters	

Processing time	18 minutes 47 seconds
Memory usage	4.98 GB
Software version	1.7.2.12040
File size	1.20 GB
Model	
Faces	3,452,819
Vertices	1,744,406
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	8 minutes 2 seconds
Memory usage	1.01 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	24 minutes 24 seconds
Memory usage	30.83 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 29 seconds
UV mapping memory usage	3.12 GB
Blending time	33 minutes 29 seconds
Blending memory usage	5.69 GB
Software version	1.7.2.12040
File size	405.76 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	8 minutes 2 seconds
Memory usage	1.01 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	4 hours 13 minutes
Memory usage	4.65 GB
Software version	1.7.2.12040
File size	1.44 GB
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