Stjerthogda

Filtering:
Dense cloud: 4-255
Connected mesh: 99%

19 February 2022

Survey Data

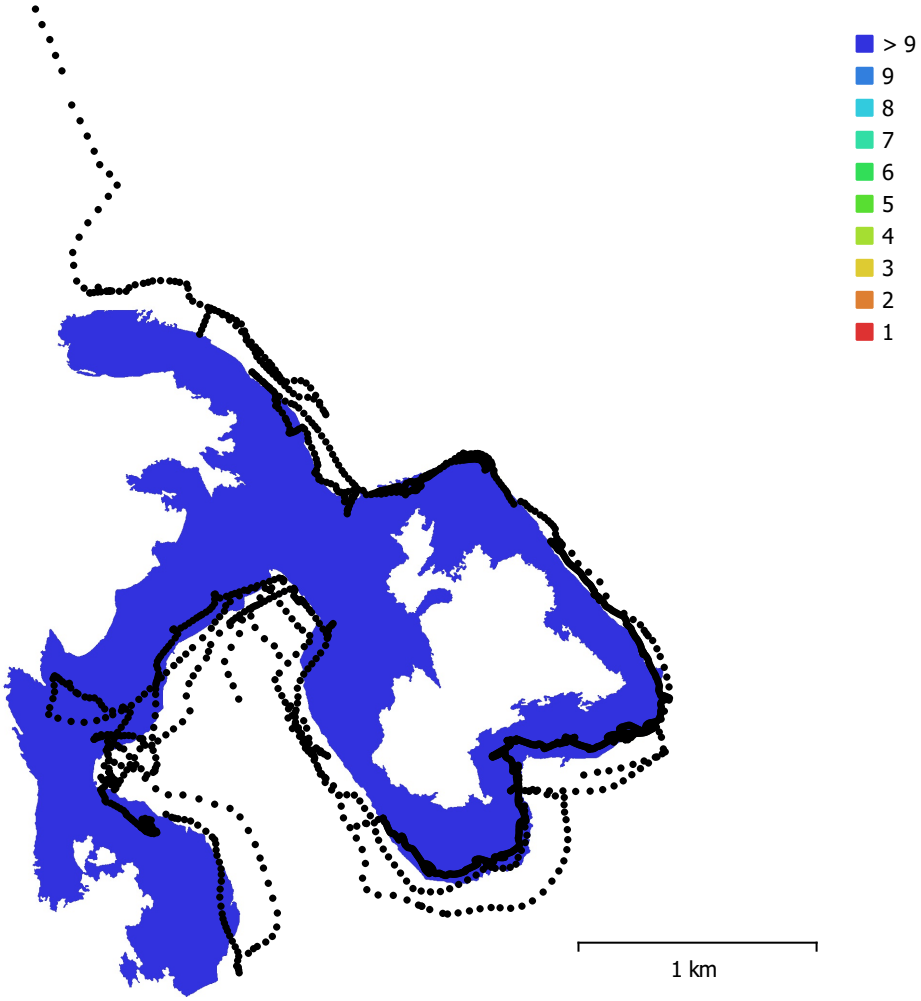

Fig. 1. Camera locations and image overlap.

Number of images:	1,713	Camera stations:	1,710
Flying altitude:	121 m	Tie points:	1,056,813
Ground resolution:	2.84 cm/pix	Projections:	5,250,856
Coverage area:	2.55 km²	Reprojection error:	0.804 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

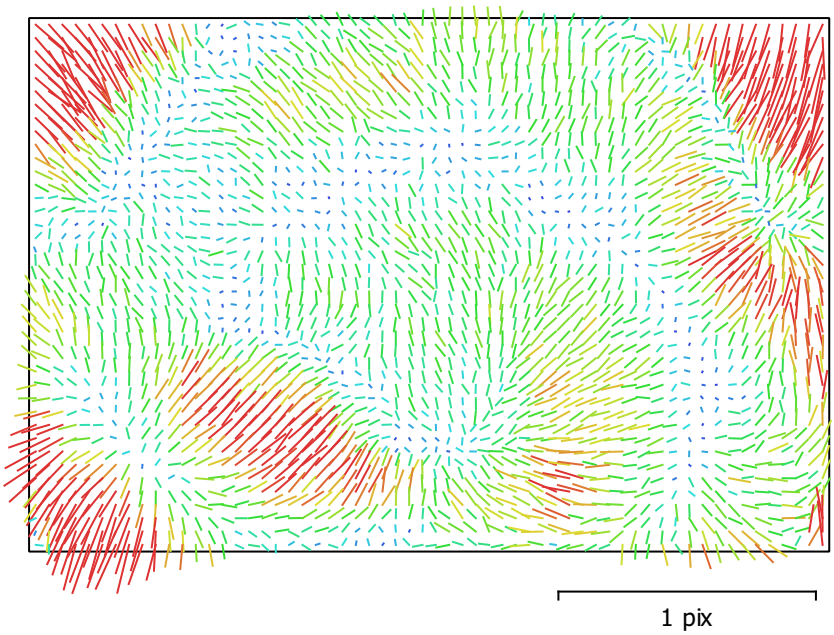

Fig. 2. Image residuals for L1D-20c (10.26mm).

L1D-20c (10.26mm)

1713 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	**4325.3**	0.081	1.00	-0.02	0.83	-0.96	-0.02	-0.05	0.04	-0.03	0.02	-0.02	0.06
Cx	**17.0872**	0.041		1.00	-0.03	0.02	0.61	0.00	0.00	-0.00	0.01	0.72	-0.02
Cy	**-51.2724**	0.085			1.00	-0.93	-0.02	0.01	-0.02	0.02	-0.03	-0.02	0.33
B1	**7.81776**	0.095				1.00	0.02	-0.01	0.01	-0.02	0.02	0.02	-0.12
B2	**-0.937097**	0.039					1.00	0.00	0.00	-0.00	0.00	-0.02	-0.01
K1	**0.00358862**	2.7e-05						1.00	-0.97	0.92	-0.87	0.00	-0.02
K2	**-0.00822285**	0.00019							1.00	-0.99	0.96	0.00	-0.01
K3	**0.0421321**	0.0005								1.00	-0.99	-0.00	0.02
K4	**-0.0583686**	0.00047									1.00	0.00	-0.02
P1	**0.0014115**	2.1e-06										1.00	-0.02
P2	**-0.00264232**	1.2e-06											1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

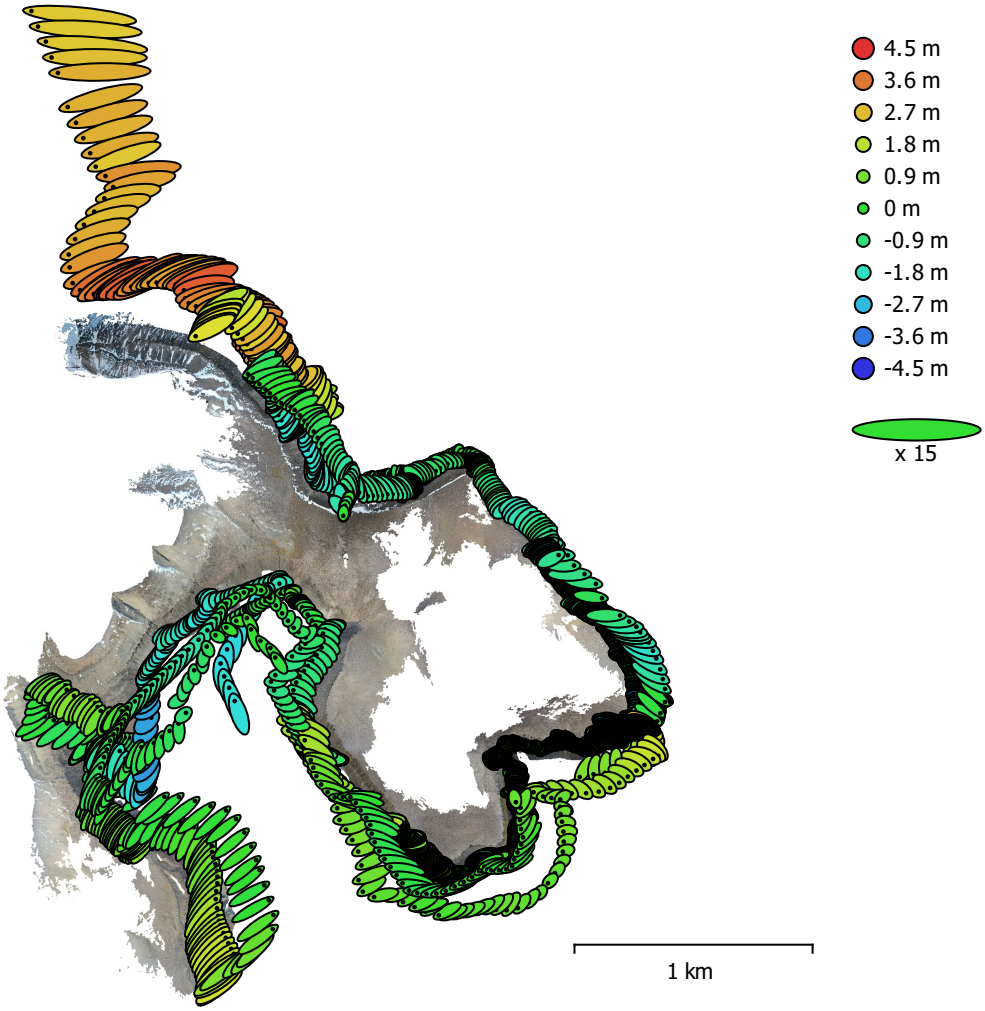

Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
4.97126	3.32786	1.33135	5.98231	6.12867

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

Digital Elevation Model

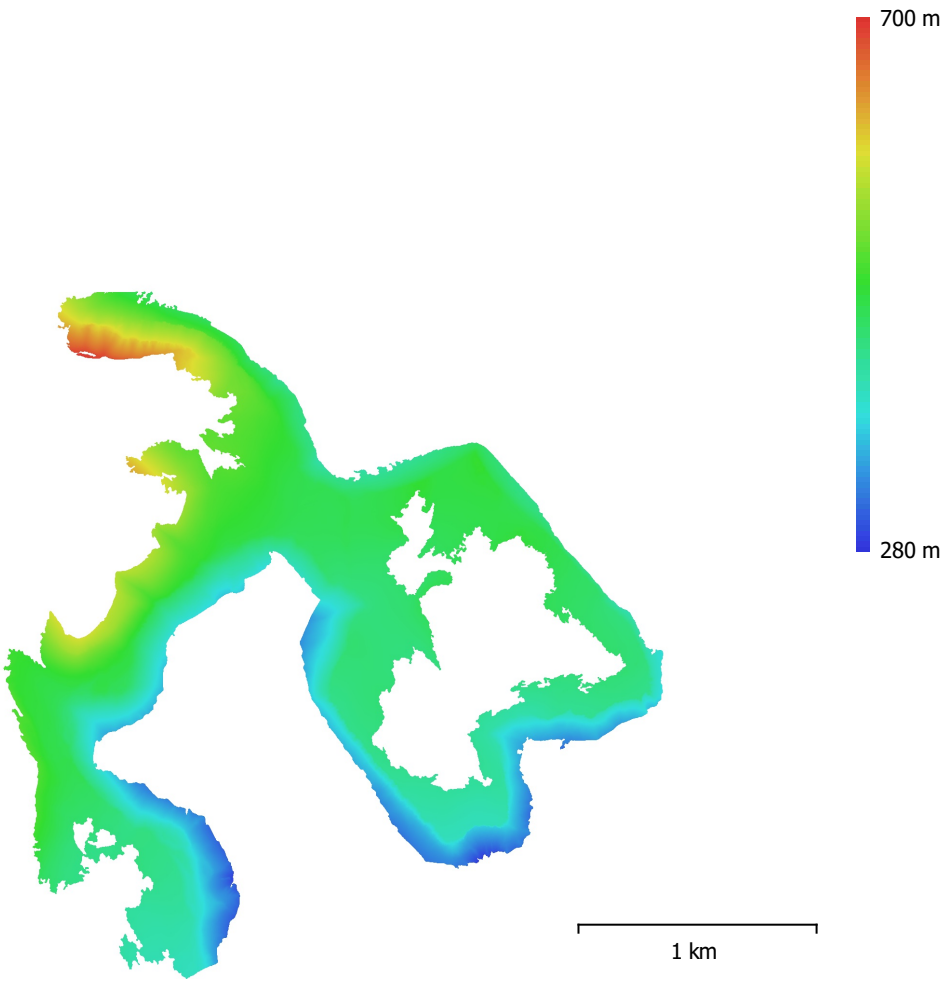

Fig. 4. Reconstructed digital elevation model.

Resolution:	12.1 cm/pix
Point density:	68.8 points/m²

Processing Parameters

General	
Cameras	1713
Aligned cameras	1710
Shapes	
LineString	6
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	1,056,813 of 1,348,718
RMS reprojection error	0.345188 (0.803884 pix)
Max reprojection error	1.91809 (36.5603 pix)
Mean key point size	1.95224 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	5.78557
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	19 minutes 36 seconds
Matching memory usage	2.06 GB
Alignment time	32 minutes 35 seconds
Alignment memory usage	772.86 MB
Optimization parameters	
Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	Yes
Optimization time	24 seconds
Software version	1.7.0.11736
File size	147.34 MB
Dense Point Cloud	
Points	486,128,308
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	1 hours 53 minutes
Memory usage	8.40 GB
Dense cloud generation parameters	
Processing time	7 hours 54 minutes
Memory usage	16.69 GB
Software version	1.7.0.11736
File size	17.01 GB
Model	
Faces	96,768,626

Vertices	48,416,538
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	1 hours 53 minutes
Memory usage	8.40 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	1 hours 28 minutes
Memory usage	84.49 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	5 minutes 34 seconds
UV mapping memory usage	15.17 GB
Blending time	4 hours 0 minutes
Blending memory usage	34.85 GB
Software version	1.7.0.11736
File size	4.27 GB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Mild
Max neighbors	100
Processing time	1 hours 53 minutes
Memory usage	8.40 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	128
Face count	Low
Enable ghosting filter	No
Processing time	6 hours 47 minutes
Memory usage	23.43 GB
Software version	1.7.1.11797
File size	376.37 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.7.2 build 12040
OS	Windows 64 bit
RAM	127.71 GB
CPU	Intel(R) Xeon(R) Gold 5122 CPU @ 3.60GHz
GPU(s)	Quadro P5000