Scott Keltiefjellet High Res

Reconstruction uncertainty: 10
Projection accuracy: 2.4
Reprojection error: 0.3
Dense Cloud Confidence: 5
Connected component size 99%

09 July 2024

Survey Data

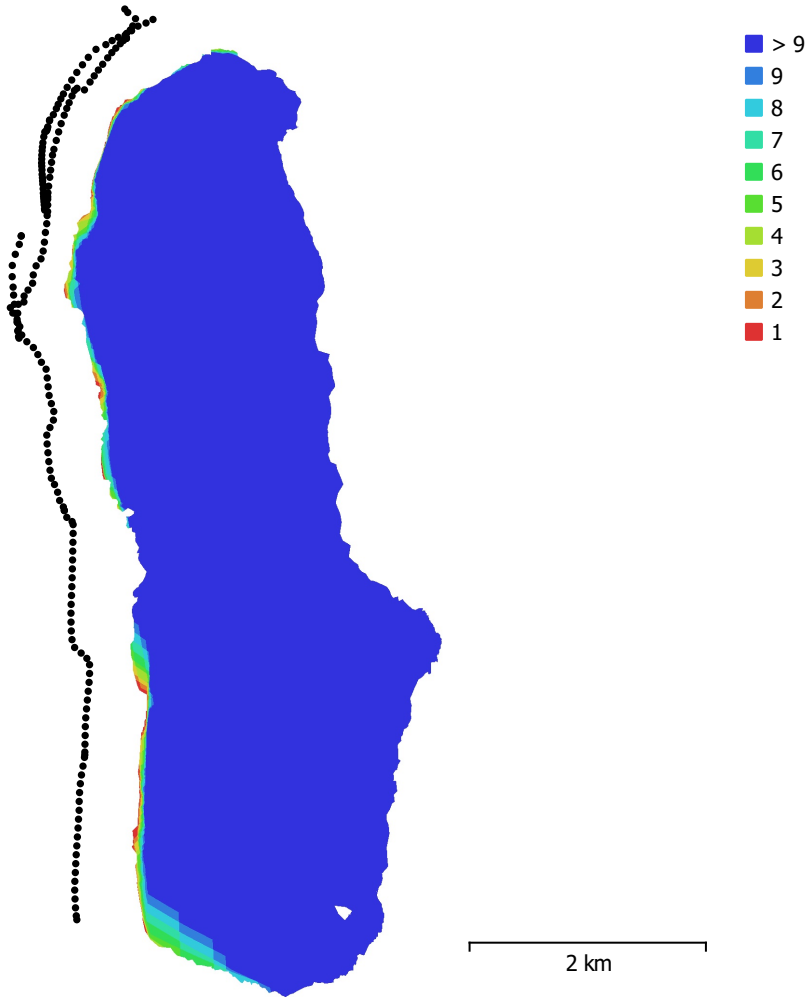

Fig. 1. Camera locations and image overlap.

Number of images:	197	Camera stations:	197
Flying altitude:	785 m	Tie points:	3,783
Ground resolution:	26.3 cm/pix	Projections:	35,363
Coverage area:	15.2 km²	Reprojection error:	0.318 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
L2D-20c (12.29mm)	5280 x 3956	12.29 mm	3.36 x 3.36 µm	No
Test_Pro (10.26mm)	5472 x 3648	10.26 mm	2.41 x 2.41 µm	No

Table 1. Cameras.

Camera Calibration

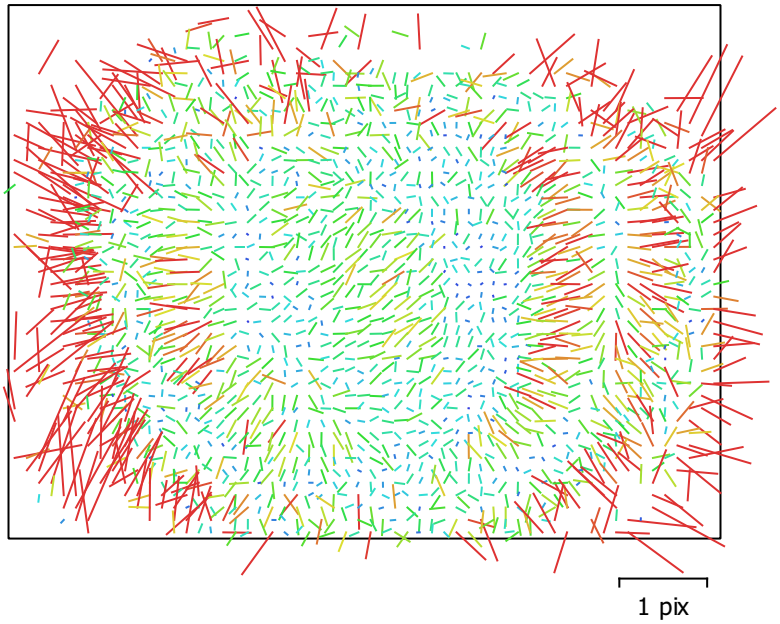

Fig. 2. Image residuals for L2D-20c (12.29mm).

L2D-20c (12.29mm)

80 images

Type	Resolution	Focal Length	Pixel Size
Frame	**5280 x 3956**	**12.29 mm**	**3.36 x 3.36 µm**

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	**3710.43**	0.51	1.00	0.09	-0.76	-0.02	0.04	-0.00	0.02	-0.08
Cx	**-24.2757**	0.47		1.00	-0.02	-0.04	0.02	0.04	0.87	0.04
Cy	**3.42705**	0.84			1.00	-0.01	-0.02	0.01	0.02	0.31
K1	**0.0260256**	0.00015				1.00	-0.94	0.88	-0.05	-0.11
K2	**-0.0883783**	0.00055					1.00	-0.98	0.02	0.00
K3	**0.117645**	0.00066						1.00	0.03	0.02
P1	**0.000402436**	3.9e-05							1.00	0.06
P2	**-0.000480874**	2.4e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

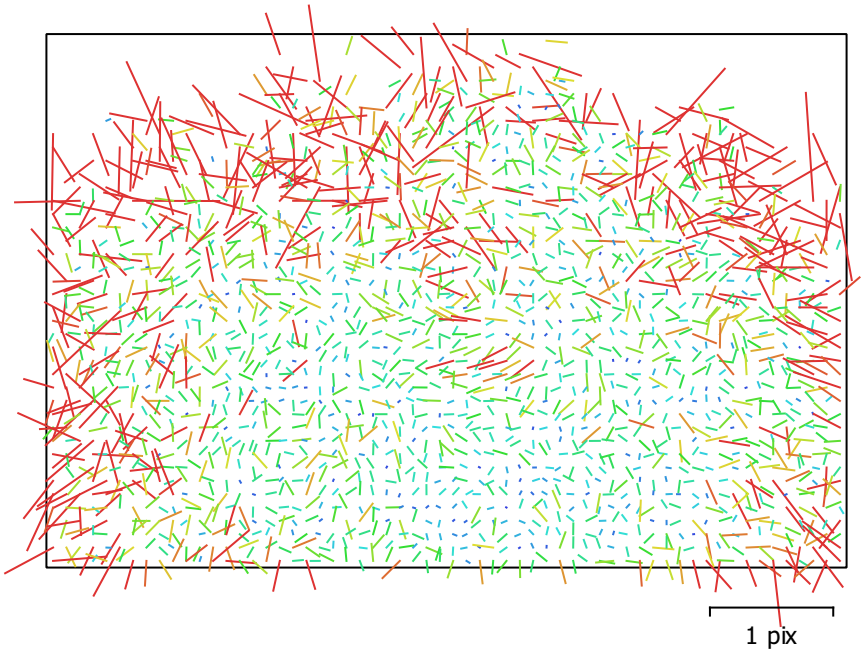

Fig. 3. Image residuals for Test_Pro (10.26mm).

Test_Pro (10.26mm)

117 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	**4340.1**	0.49	1.00	0.09	-0.71	0.10	0.04	-0.04	0.09	-0.23
Cx	**16.7386**	0.7		1.00	-0.10	0.05	-0.01	-0.00	0.95	-0.02
Cy	**-51.2612**	0.92			1.00	-0.10	0.04	-0.04	-0.09	0.56
K1	**0.000541535**	0.00017				1.00	-0.91	0.85	0.05	-0.26
K2	**0.0218005**	0.00065					1.00	-0.98	-0.01	0.10
K3	**-0.0273706**	0.00084						1.00	-0.01	-0.08
P1	**0.00075292**	5.2e-05							1.00	-0.02
P2	**-0.00350224**	3.5e-05								1.00

Table 3. Calibration coefficients and correlation matrix.

Camera Locations

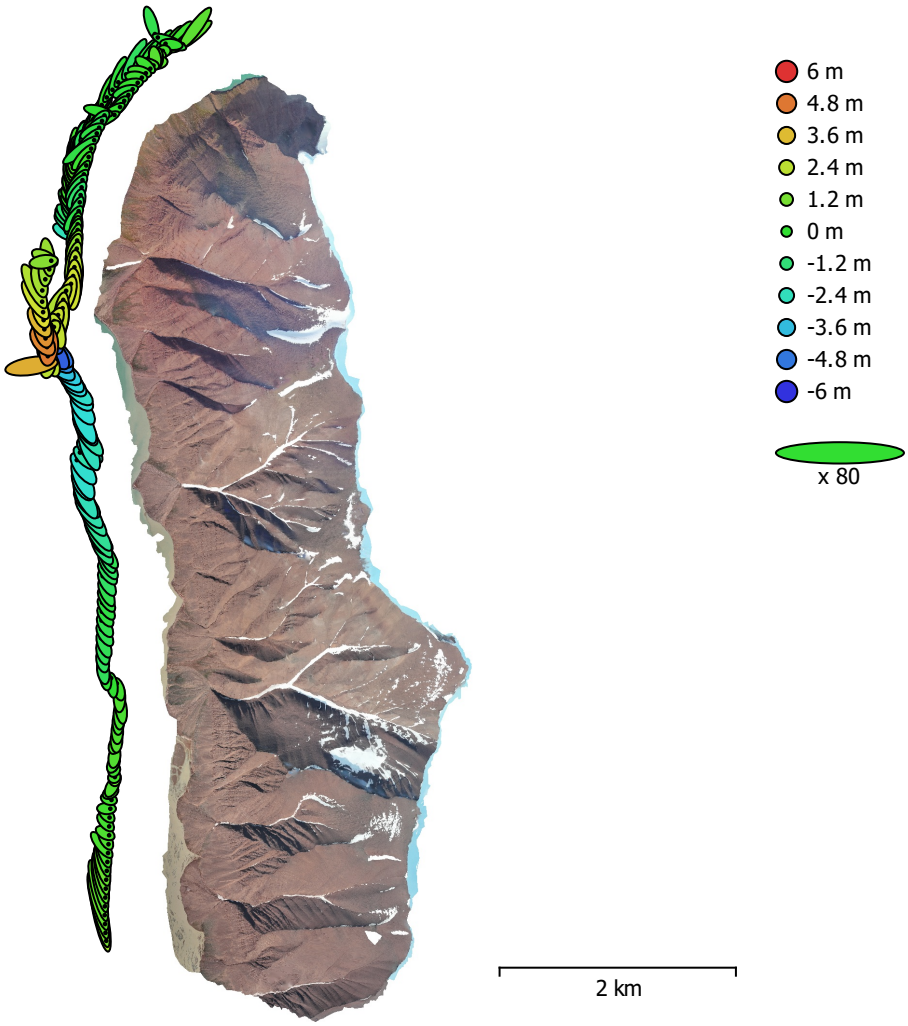

Fig. 4. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
1.19357	2.06724	1.62766	2.38707	2.88918

Table 4. Average camera location error.
X - Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

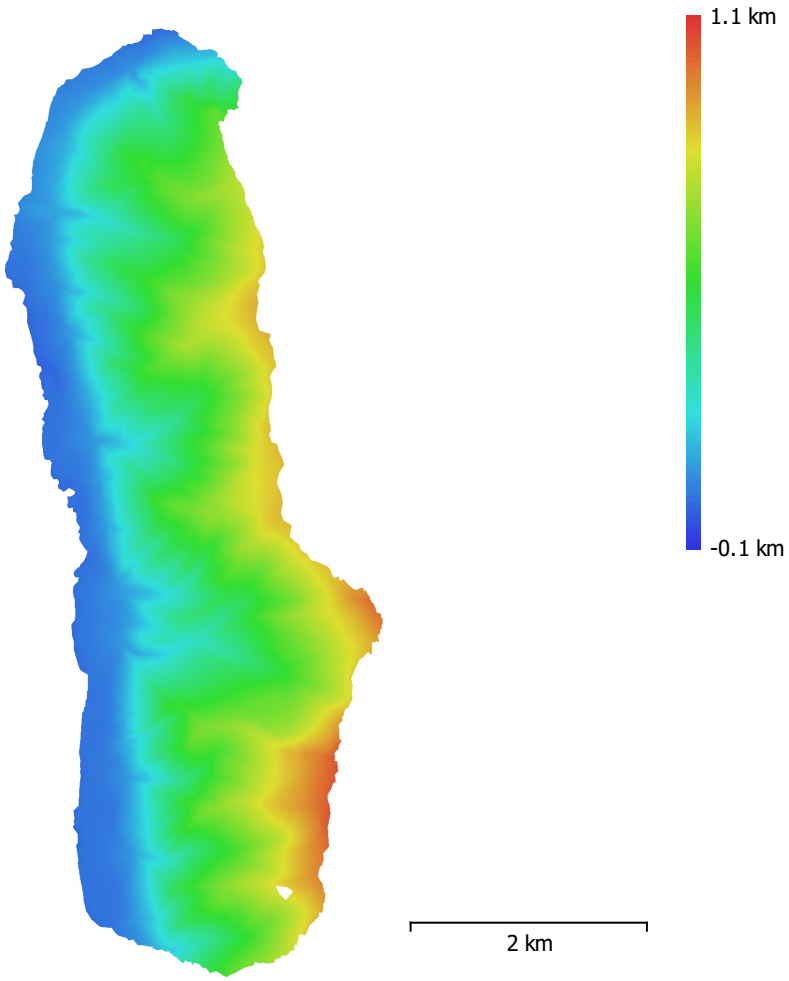

Fig. 5. Reconstructed digital elevation model.

Resolution:	1.05 m/pix
Point density:	0.906 points/m²

Processing Parameters

General	
Cameras	197
Aligned cameras	197
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Tie Points	
Points	3,783 of 82,082
RMS reprojection error	0.149352 (0.318011 pix)
Max reprojection error	0.575092 (1.50379 pix)
Mean key point size	2.11509 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	10.6903
Alignment parameters	
Accuracy	High
Generic preselection	Yes
Reference preselection	Source
Key point limit	40,000
Key point limit per Mpx	1,000
Tie point limit	4,000
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	Yes
Matching time	4 minutes 4 seconds
Matching memory usage	434.33 MB
Alignment time	4 minutes 49 seconds
Alignment memory usage	277.17 MB
Optimization parameters	
Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	2 seconds
Date created	2023:07:25 17:31:50
Software version	2.0.2.16334
File size	13.74 MB
Depth Maps	
Count	183
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	3 minutes 32 seconds
Memory usage	1.89 GB
Date created	2024:07:09 10:28:57
Software version	2.1.0.17532
File size	332.08 MB
Point Cloud	
Points	15,365,879
Point attributes	
Color	3 bands, uint8
Normal	

Confidence	6 - 100
Point classes	
Created (never classified)	15,365,879
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	3 minutes 32 seconds
Memory usage	1.89 GB
Point cloud generation parameters	
Processing time	8 minutes 51 seconds
Memory usage	4.50 GB
Date created	2024:07:09 10:37:49
Software version	2.1.0.17532
File size	275.43 MB
Model	
Faces	1,977,294
Vertices	988,985
Vertex colors	3 bands, uint8
Texture	8,192 x 8,192 x 10, 4 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	3 minutes 32 seconds
Memory usage	1.89 GB
Point cloud generation parameters	
Processing time	8 minutes 51 seconds
Memory usage	4.50 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Point cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	4 minutes 9 seconds
Memory usage	5.93 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	1 minutes 2 seconds
UV mapping memory usage	2.80 GB
Blending time	17 minutes 55 seconds
Blending memory usage	49.05 GB
Date created	2024:07:09 10:50:47
Software version	2.1.0.17532
File size	575.97 MB
System	
Software name	Agisoft Metashape Professional
Software version	2.1.0 build 17532
OS	Windows 64 bit
RAM	127.78 GB
CPU	Intel(R) Core(TM) i9-9900K CPU @ 3.60GHz
GPU(s)	GeForce RTX 2080

Intel(R) UHD Graphics 630