

Lagmannstoppen East

Processing Report
10 March 2021



Survey Data

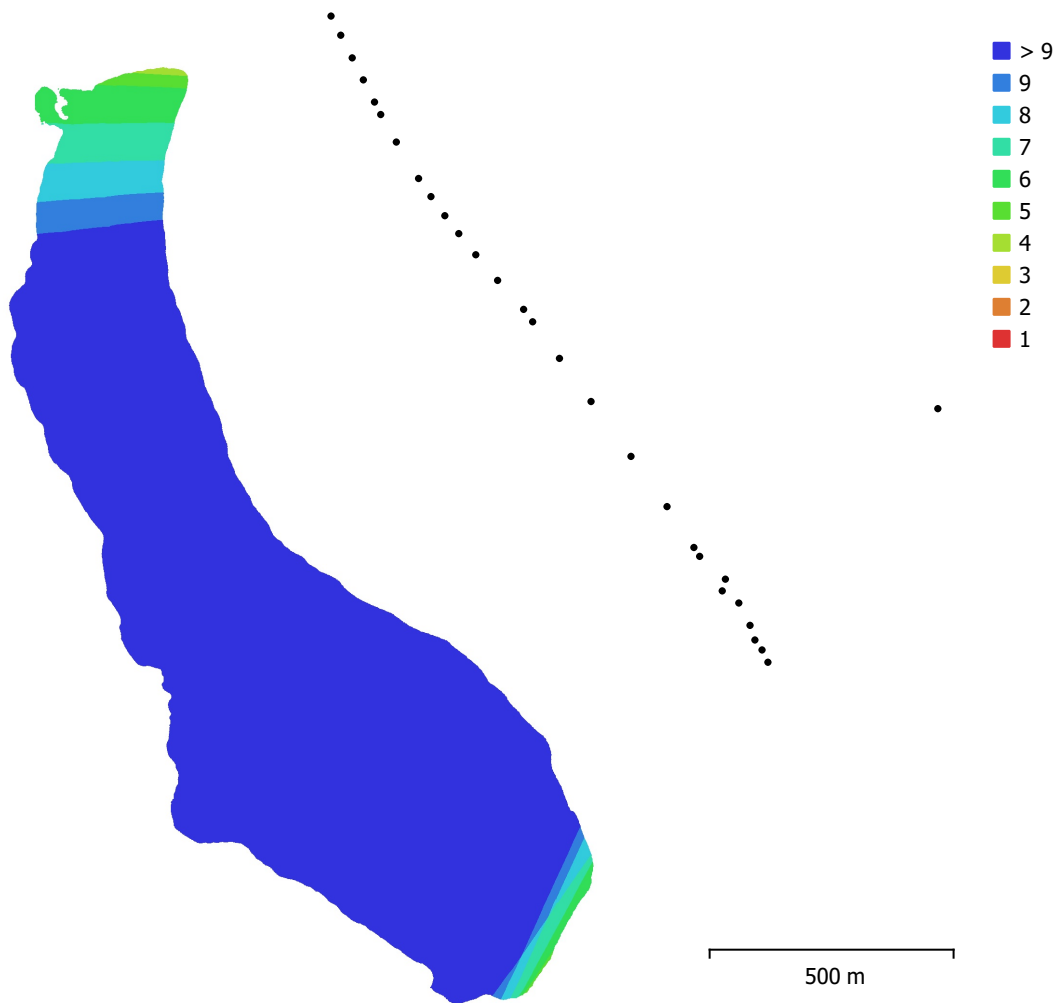


Fig. 1. Camera locations and image overlap.

Number of images:	29	Camera stations:	29
Flying altitude:	724 m	Tie points:	25,787
Ground resolution:	22.9 cm/pix	Projections:	112,774
Coverage area:	0.852 km ²	Reprojection error:	0.437 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC3170 (4.5mm)	4000 x 3000	4.5 mm	1.62 x 1.62 μm	No

Table 1. Cameras.

Camera Calibration

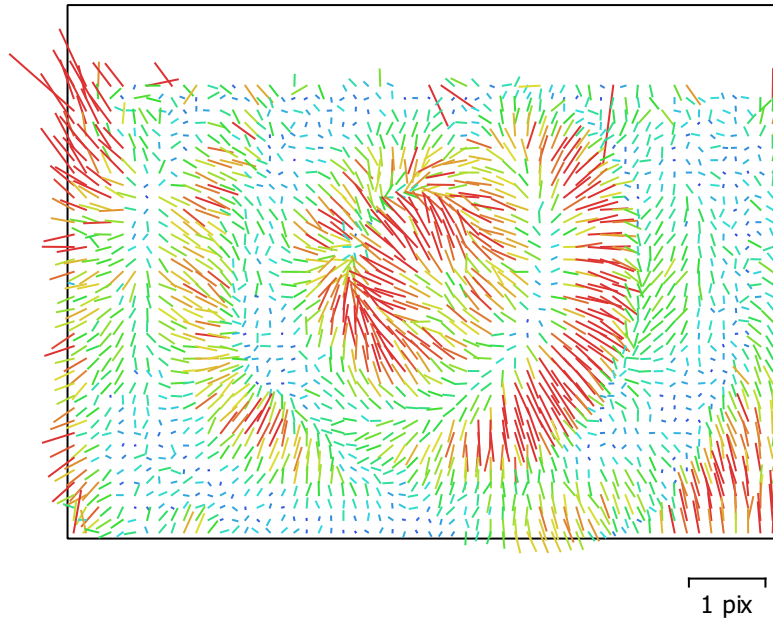


Fig. 2. Image residuals for FC3170 (4.5mm).

FC3170 (4.5mm)

29 images

Type
Frame

Resolution
4000 x 3000

Focal Length
4.5 mm

Pixel Size
1.62 x 1.62 μ m

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	2959.55	0.32	1.00	-0.02	-0.75	0.21	0.03	-0.05	0.08	-0.23
Cx	13.9699	0.19		1.00	0.04	0.08	-0.06	0.06	0.82	-0.01
Cy	8.37707	0.52			1.00	-0.22	0.24	-0.31	-0.12	0.48
K1	-0.03118	0.00011				1.00	-0.82	0.70	0.06	-0.35
K2	0.183878	0.00032					1.00	-0.97	-0.10	0.25
K3	-0.195526	0.00034						1.00	0.11	-0.30
P1	-2.70293e-06	2.5e-05							1.00	-0.01
P2	-0.000131019	2.3e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

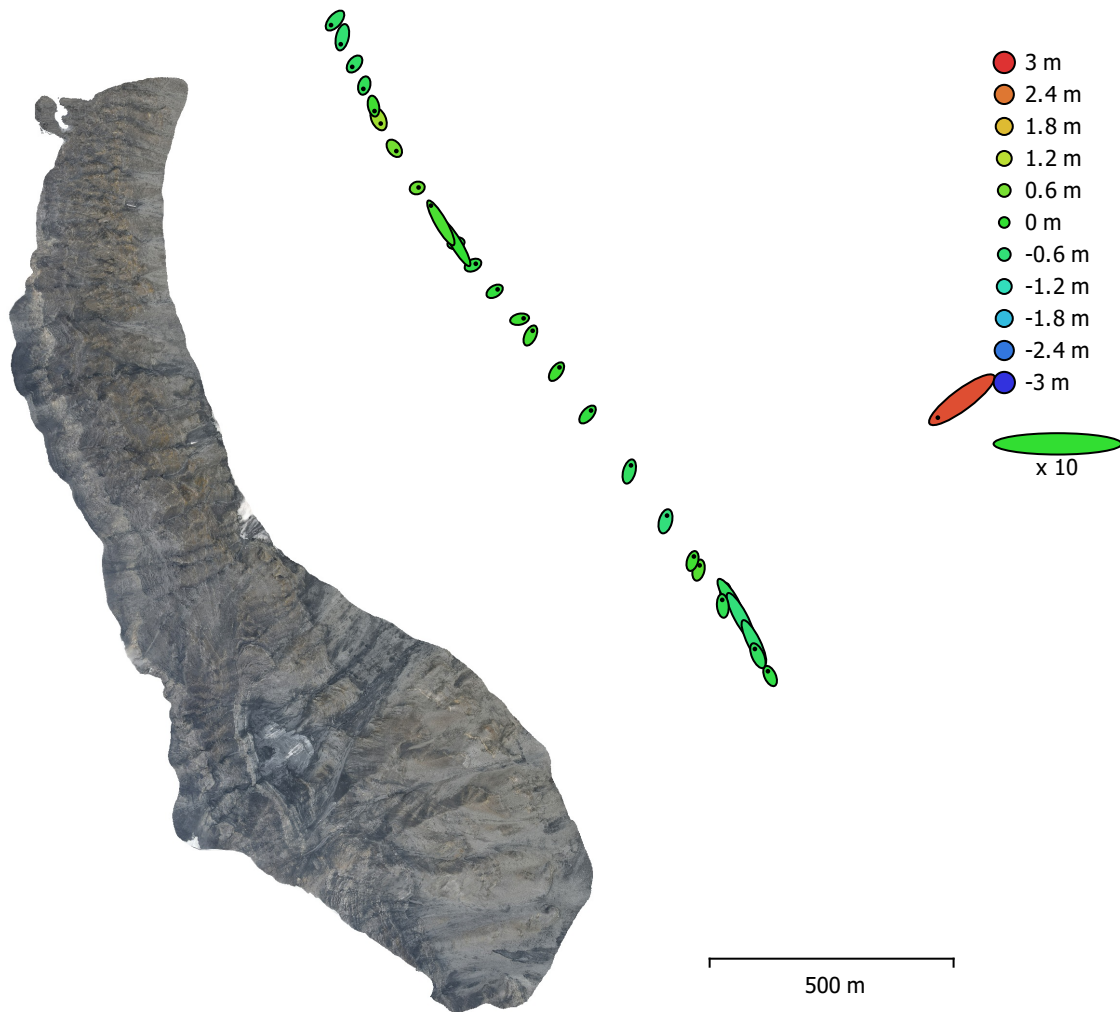


Fig. 3. Camera locations and error estimates.

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)
2.5847	3.54425	0.642894	4.38661	4.43347

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

Digital Elevation Model

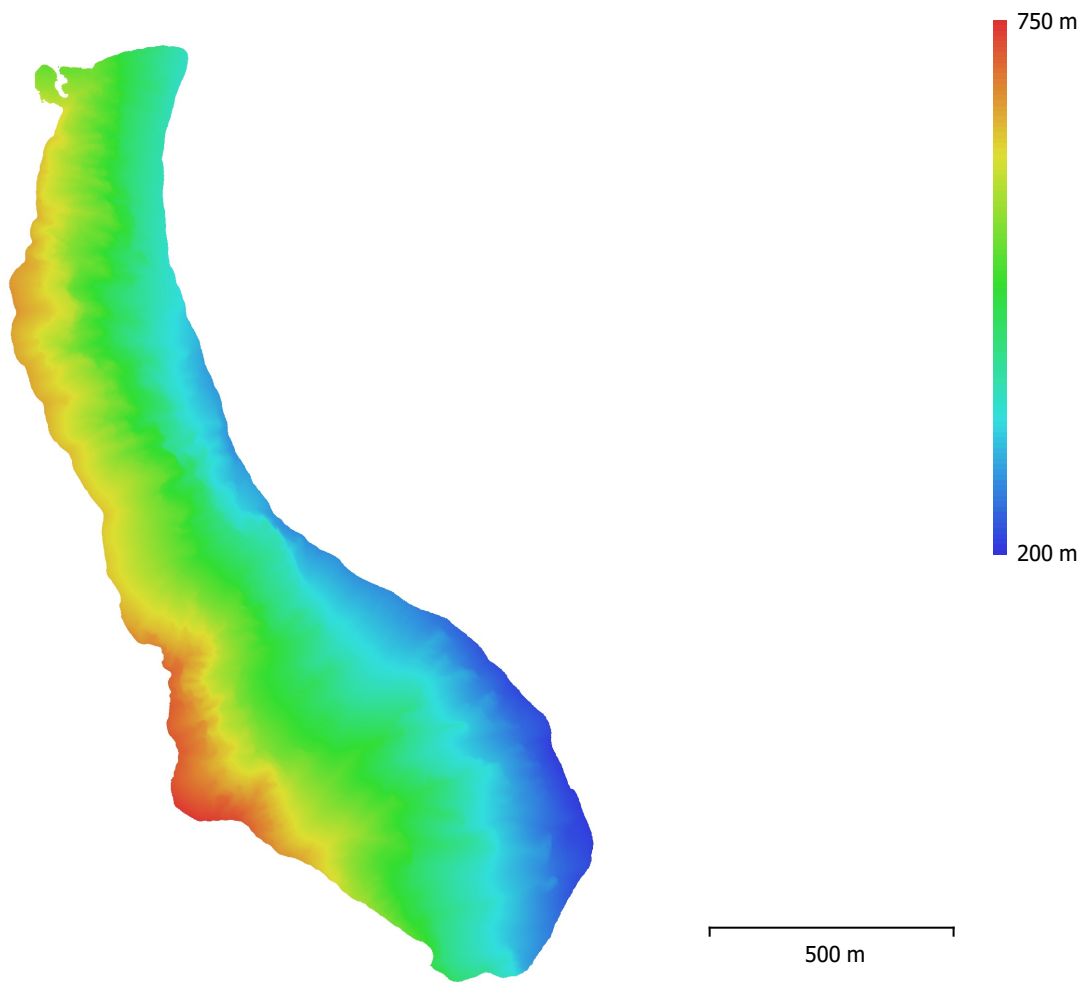


Fig. 4. Reconstructed digital elevation model.

Resolution: 22.9 cm/pix
Point density: 19.1 points/m²

Processing Parameters

General

Cameras	29
Aligned cameras	29
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	25,787 of 27,764
RMS reprojection error	0.298525 (0.43666 pix)
Max reprojection error	0.891941 (6.93352 pix)
Mean key point size	1.5194 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.42634

Alignment parameters

Accuracy	Highest
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	25 seconds
Matching memory usage	288.14 MB
Alignment time	6 seconds
Alignment memory usage	19.58 MB
Software version	1.6.3.10732
File size	2.55 MB

Depth Maps

Count	29
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Processing time	23 minutes 41 seconds
Memory usage	4.44 GB
Software version	1.6.3.10732
File size	317.14 MB

Dense Point Cloud

Points	33,405,827
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Processing time	23 minutes 41 seconds
Memory usage	4.44 GB
Dense cloud generation parameters	
Processing time	8 minutes 3 seconds
Memory usage	6.45 GB
Software version	1.6.3.10732
File size	611.13 MB

Model

Faces	1,999,999
Vertices	1,003,950
Vertex colors	3 bands, uint8
Texture	4,096 x 4,096, 4 bands, uint8
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Processing time	23 minutes 41 seconds
Memory usage	4.44 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	1 hours 11 minutes
Memory usage	16.11 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 20 seconds
Blending time	15 seconds
Software version	1.6.3.10732
File size	107.82 MB
Tiled Model	
Texture	3 bands, uint8
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Processing time	23 minutes 41 seconds
Memory usage	4.44 GB
Reconstruction parameters	
Source data	Dense cloud
Tile size	256
Face count	Medium
Enable ghosting filter	No
Processing time	16 minutes 25 seconds
Memory usage	6.71 GB
Software version	1.7.1.11797
File size	38.40 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