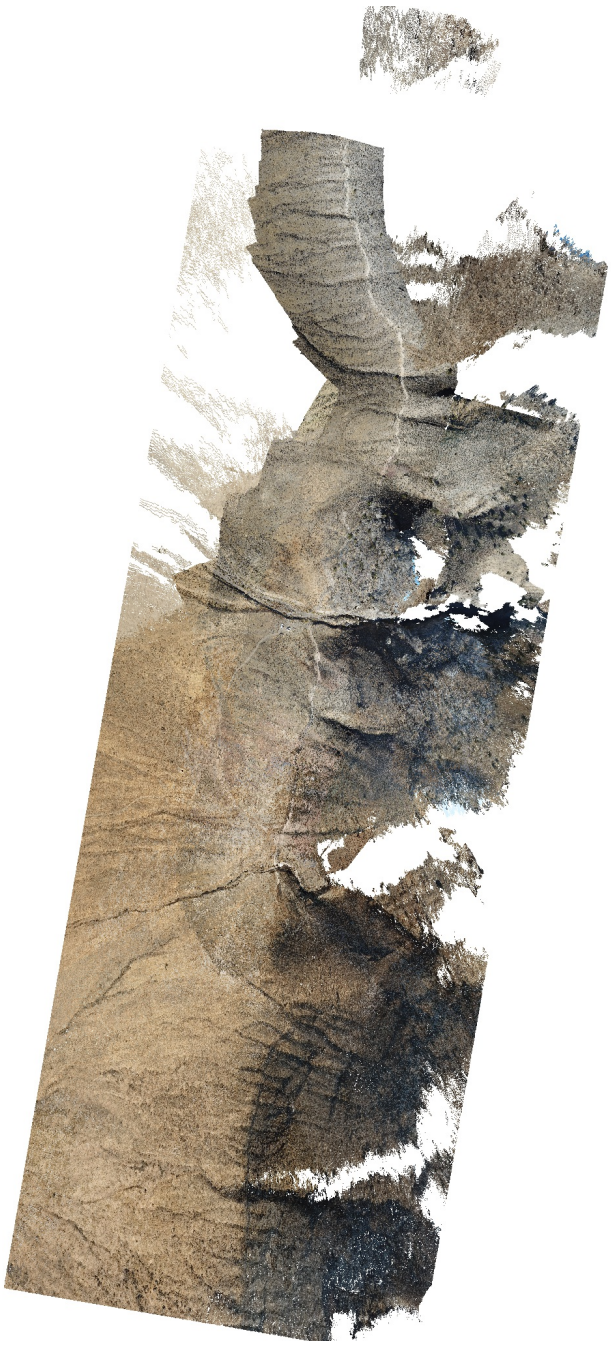
Agisoft PhotoScan

Processing Report

07 February 2019



Survey Data

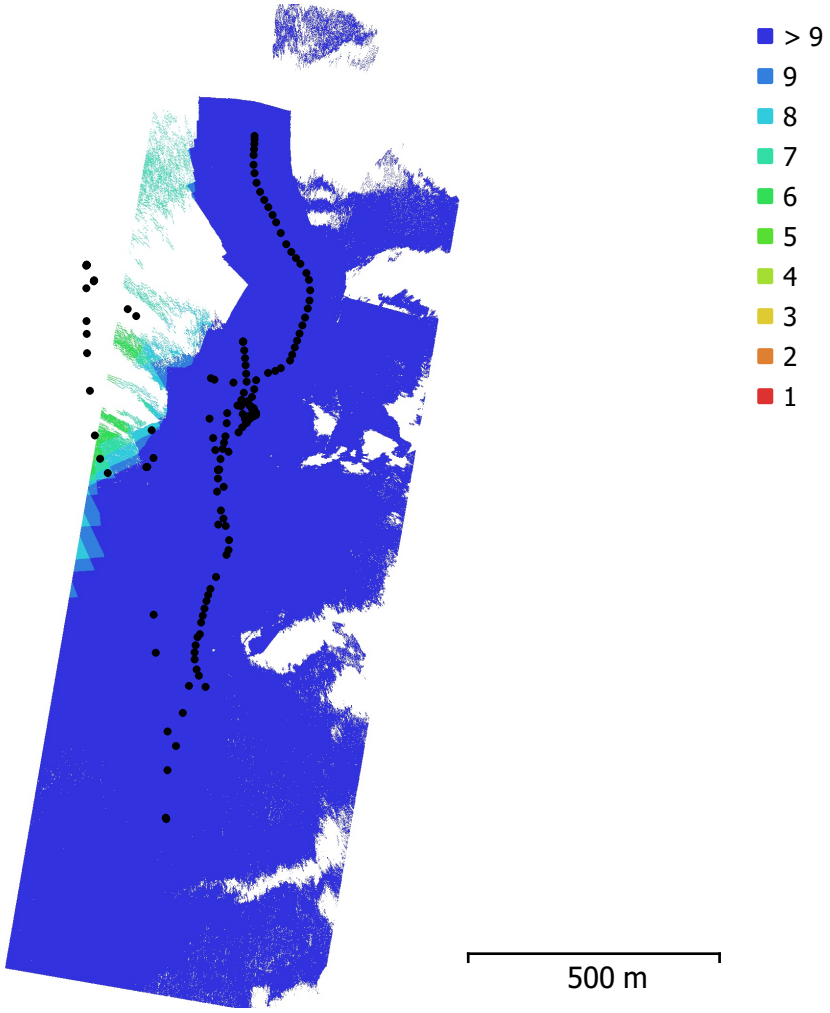


Fig. 1. Camera locations and image overlap.

Number of images:	152	Camera stations:	150
Flying altitude:	271 m	Tie points:	126,246
Ground resolution:	5.66 cm/pix	Projections:	502,440
Coverage area:	0.914 km²	Reprojection error:	0.882 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC220 (4.7mm)	4000 x 3000	4.7 mm	1.56 x 1.56 µm	No

Table 1. Cameras.

Camera Calibration

Fig. 2. Image residuals for FC220 (4.7mm).

FC220 (4.7mm)

152 images

Type	Resolution	Focal Length	Pixel Size
Frame	**4000 x 3000**	**4.7 mm**	**1.56 x 1.56 µm**

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	**3069.37**	0.19	1.00	-0.03	-0.09	0.22	-0.01	0.04	-0.01	-0.01
Cx	**-59.6218**	0.2		1.00	0.05	0.07	-0.07	0.09	0.92	0.08
Cy	**15.9161**	0.19			1.00	-0.05	-0.00	0.00	0.05	0.84
K1	**0.0379062**	0.00012				1.00	-0.93	0.89	0.06	-0.05
K2	**-0.110841**	0.00041					1.00	-0.98	-0.06	-0.01
K3	**0.105343**	0.00044						1.00	0.07	0.01
P1	**-0.00341178**	2.1e-05							1.00	0.03
P2	**-0.001068**	2e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

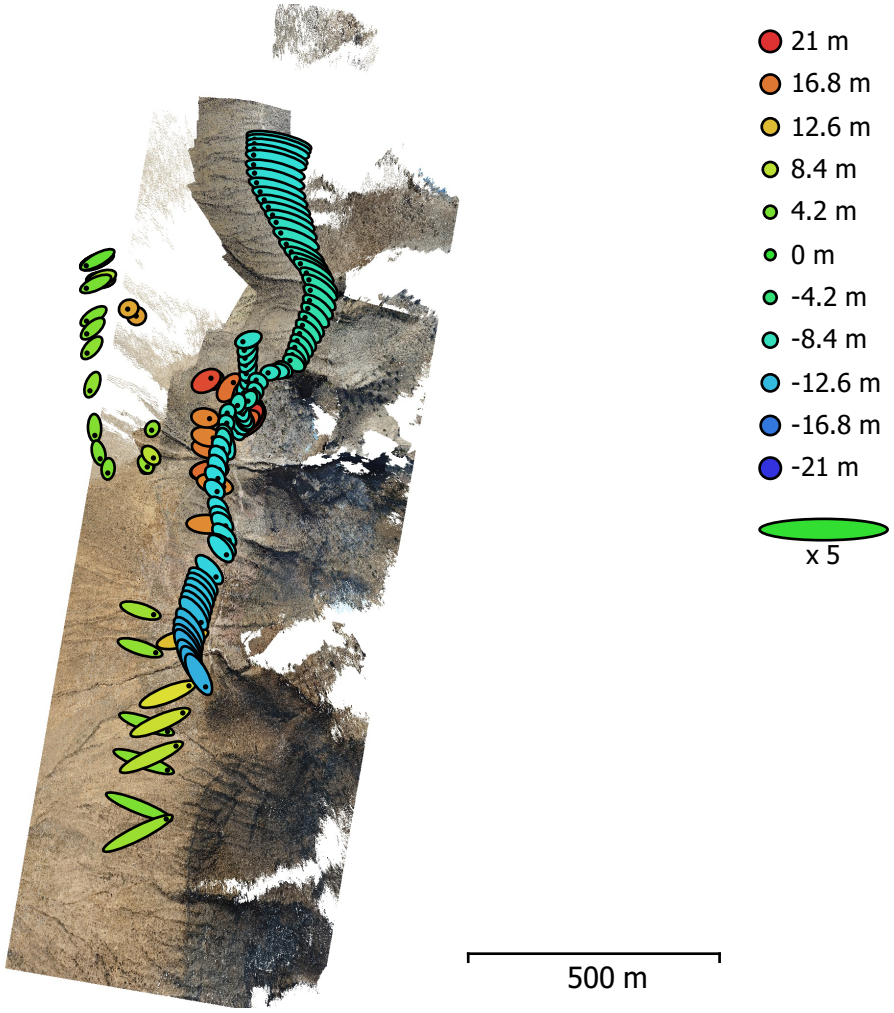


Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
8.03411	4.45855	11.9181	9.18834	15.0488

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

Camera Orientations

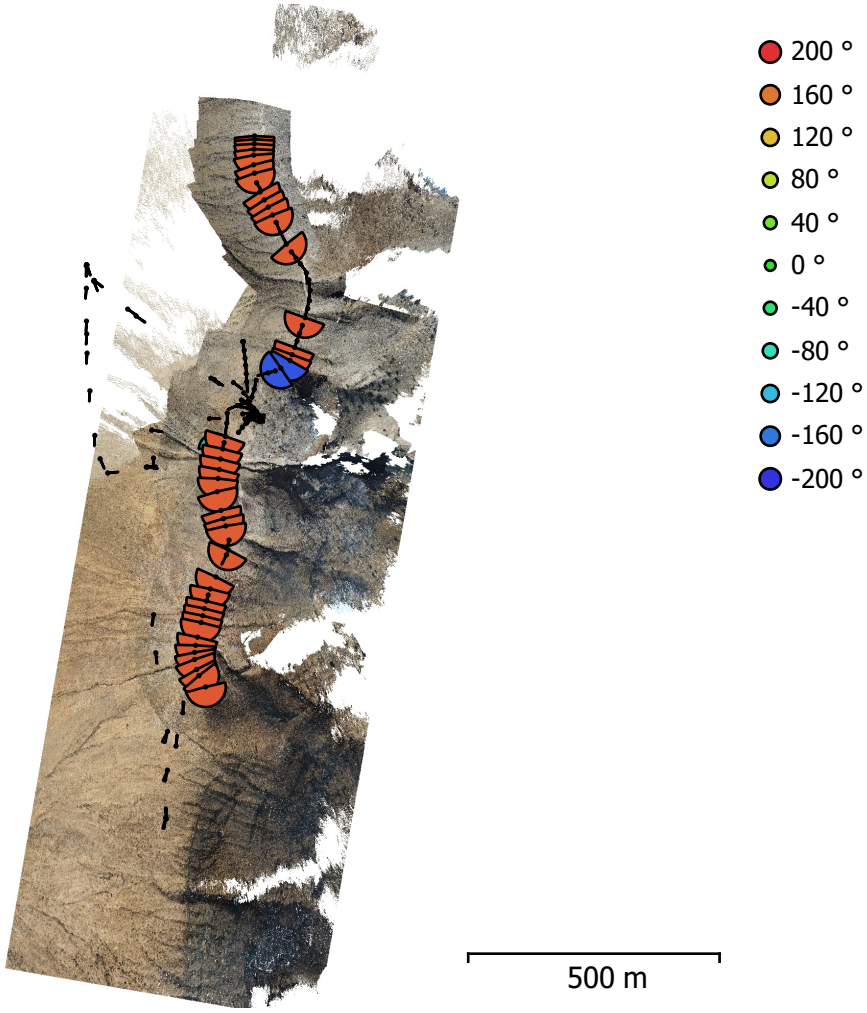


Fig. 4. Camera orientations and error estimates.
Arcs represent yaw error estimates.

Yaw error (°)	Pitch error (°)	Roll error (°)	Total error (°)
91.4901	1.57827	9.45369	91.9908

Table 4. Average camera rotation error.

Digital Elevation Model

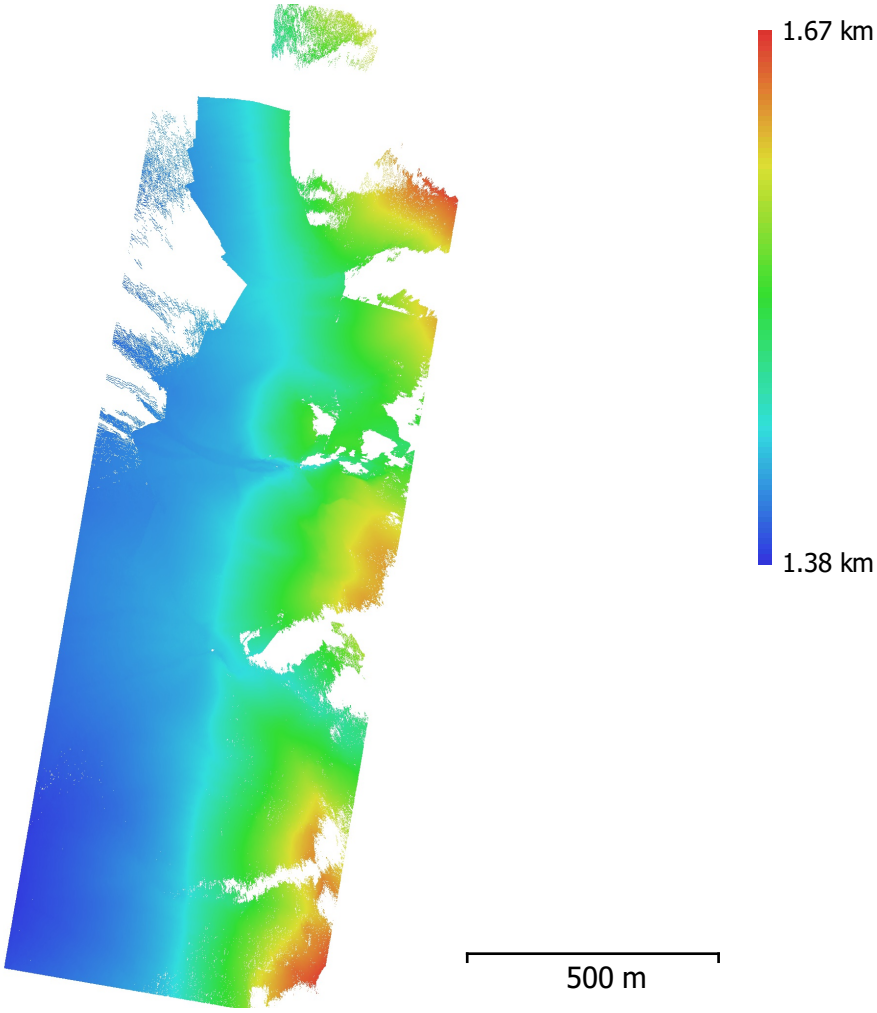


Fig. 5. Reconstructed digital elevation model.

Resolution:	unknown
Point density:	unknown

Processing Parameters

General	
Cameras	152
Aligned cameras	150
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	126,246 of 139,898
RMS reprojection error	0.317727 (0.882045 pix)
Max reprojection error	0.968833 (28.2973 pix)
Mean key point size	2.89376 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.21955
Alignment parameters	
Accuracy	High
Generic preselection	No
Reference preselection	Yes
Key point limit	40,000
Tie point limit	4,000
Adaptive camera model fitting	No
Matching time	8 minutes 42 seconds
Alignment time	2 minutes 3 seconds
Depth Maps	
Count	150
Reconstruction parameters	
Quality	High
Filtering mode	Aggressive
Processing time	11 minutes 7 seconds
Dense Point Cloud	
Points	47,986,206
Point colors	3 bands, uint8
Reconstruction parameters	
Quality	High
Depth filtering	Aggressive
Depth maps generation time	11 minutes 7 seconds
Dense cloud generation time	16 days 20 hours
Software	
Version	1.4.4 build 6848
Platform	Windows 64