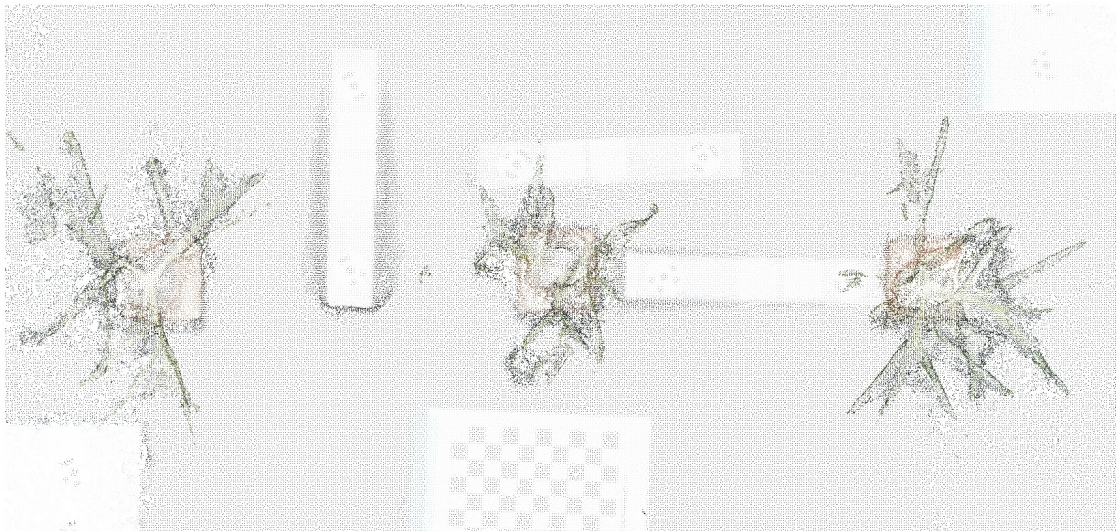


Agisoft Metashape

Processing Report

08 August 2020



Survey Data

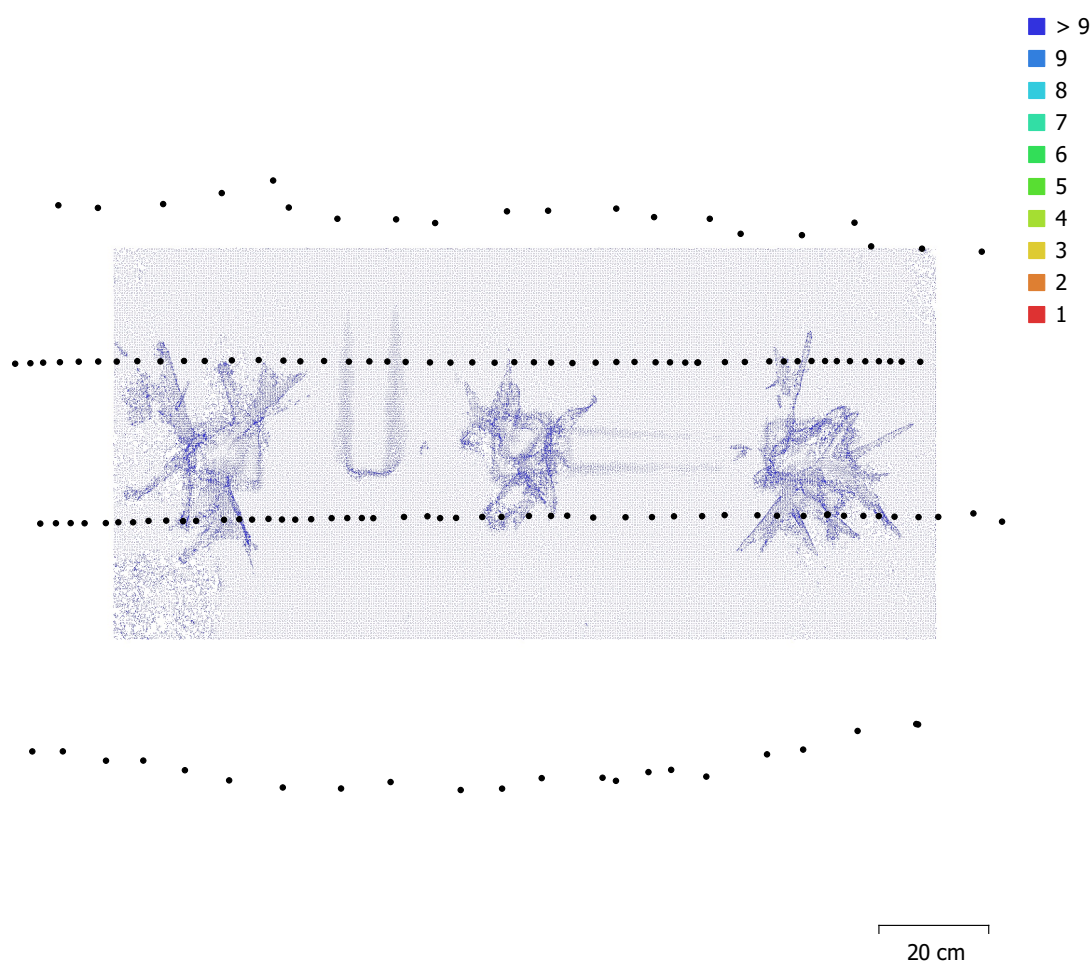


Fig. 1. Camera locations and image overlap.

Number of images:	142	Camera stations:	142
Flying altitude:	1.17 m	Tie points:	12,880
Ground resolution:	0.191 mm/pix	Projections:	49,840
Coverage area:	1.19e+03 cm ²	Reprojection error:	4.62 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibration
EOS Kiss X7, EF-S18-55mm f/3.5-5.6 IS STM (24mm)	5184 x 3456	24 mm	4.38 x 4.38 μm	No

Table 1. Cameras.

Camera Calibration

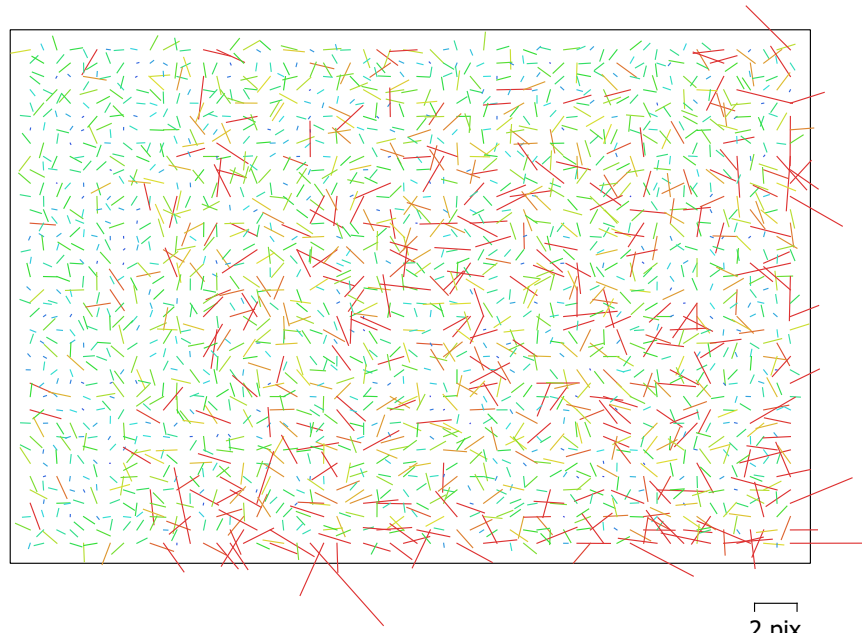


Fig. 2. Image residuals for Canon EOS Kiss X7, EF-S18-55mm f/3.5-5.6 IS STM (24mm).

Canon EOS Kiss X7, EF-S18-55mm f/3.5-5.6 IS STM (24mm)

142 images

Type	Resolution	Focal Length	Pixel Size
Frame	5184 x 3456	24 mm	4.38 x 4.38 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	5515.37	1.6	1.00	-0.20	-0.55	-0.00	-0.00	0.02	-0.26	-0.17
Cx	-8.09834	0.85		1.00	0.35	-0.11	0.05	-0.05	0.85	0.26
Cy	20.7833	0.85			1.00	-0.17	0.09	-0.08	0.36	0.64
K1	-0.128152	0.00068				1.00	-0.95	0.89	-0.03	-0.18
K2	0.115512	0.0054					1.00	-0.98	-0.02	0.08
K3	0.047083	0.013						1.00	0.01	-0.07
P1	0.00102928	3.7e-05							1.00	0.25
P2	0.00153483	3.5e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Scale Bars

Label	Distance (m)	Error (m)
target 1_target 2	0.0852698	0.000269763
target 1_target 3	0.127035	0.001035
target 1_target 4	0.152971	-0.00102852
target 2_target 3	0.153091	-0.000909048
target 2_target 4	0.127047	0.00104665
target 3_target 4	0.0853731	0.000373091
target 5_target 6	0.0852146	0.000214588
target 5_target 7	0.127008	0.00100795
target 5_target 8	0.152899	-0.00110105
target 6_target 7	0.153015	-0.000985126
target 6_target 8	0.127011	0.00101126
target 7_target 8	0.0852502	0.000250238
Total		0.000846215

Table 3. Control scale bars.

Digital Elevation Model

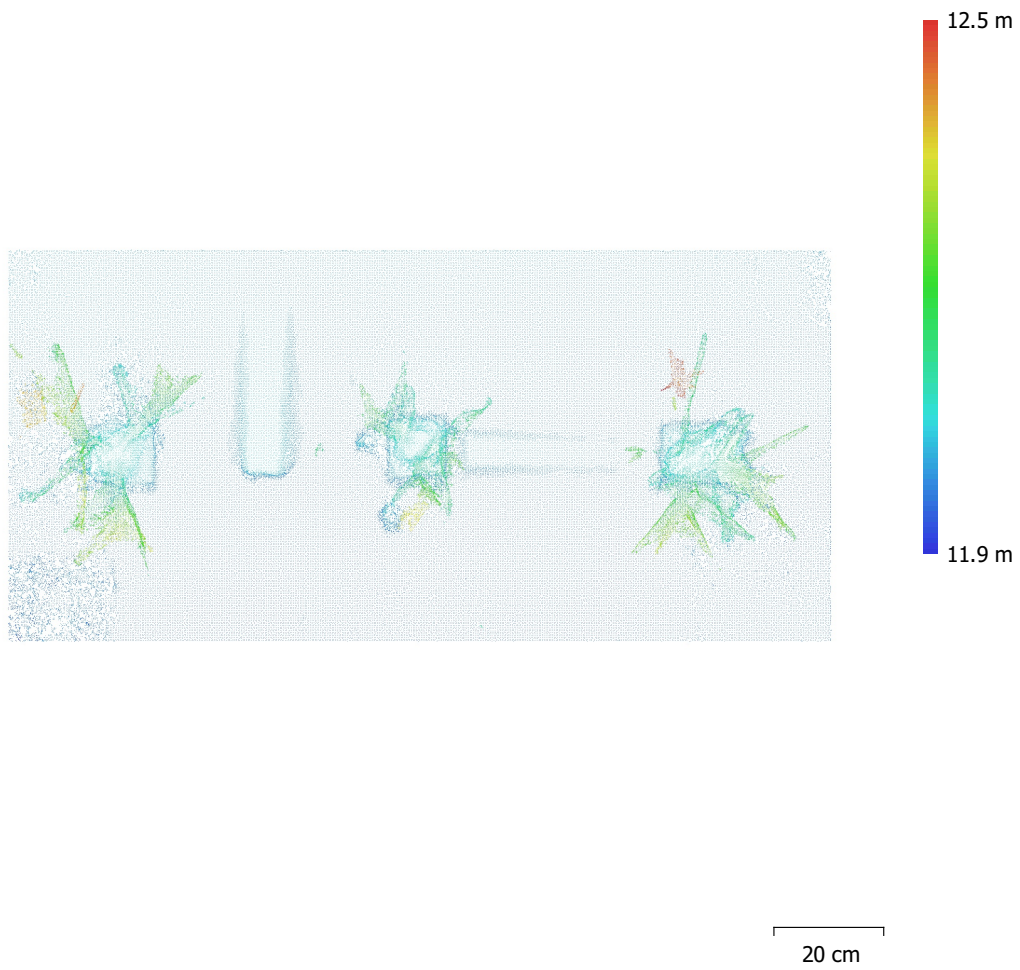


Fig. 3. Reconstructed digital elevation model.

Resolution: unknown
Point density: unknown

Processing Parameters

General

Cameras	142
Aligned cameras	142
Markers	14
Scale bars	12
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	12,880 of 16,612
RMS reprojection error	0.160741 (4.61657 pix)
Max reprojection error	0.605051 (88.2768 pix)
Mean key point size	26.9109 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.50957

Alignment parameters

Accuracy	Lowest
Generic preselection	No
Reference preselection	Sequential
Key point limit	40,000
Tie point limit	4,000
Guided image matching	No
Adaptive camera model fitting	No
Matching time	59 seconds
Matching memory usage	429.12 MB
Alignment time	19 seconds
Alignment memory usage	44.51 MB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	1 seconds
Software version	1.6.3.10732

Depth Maps

Count	124
Depth maps generation parameters	
Quality	Lowest
Filtering mode	Mild
Processing time	17 seconds
Software version	1.6.3.10732

Dense Point Cloud

Points	186,197
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	Lowest
Filtering mode	Mild
Processing time	17 seconds

Dense cloud generation parameters

Processing time	20 seconds
Software version	1.6.3.10732

System

Software name	Agisoft Metashape Professional
Software version	1.6.3 build 10732
OS	Windows 64 bit
RAM	127.68 GB
CPU	Intel(R) Core(TM) i9-9940X CPU @ 3.30GHz
GPU(s)	GeForce GTX 1080 Ti GeForce RTX 2080 Ti