

Agisoft PhotoScan

Processing Report

16 April 2018



Survey Data

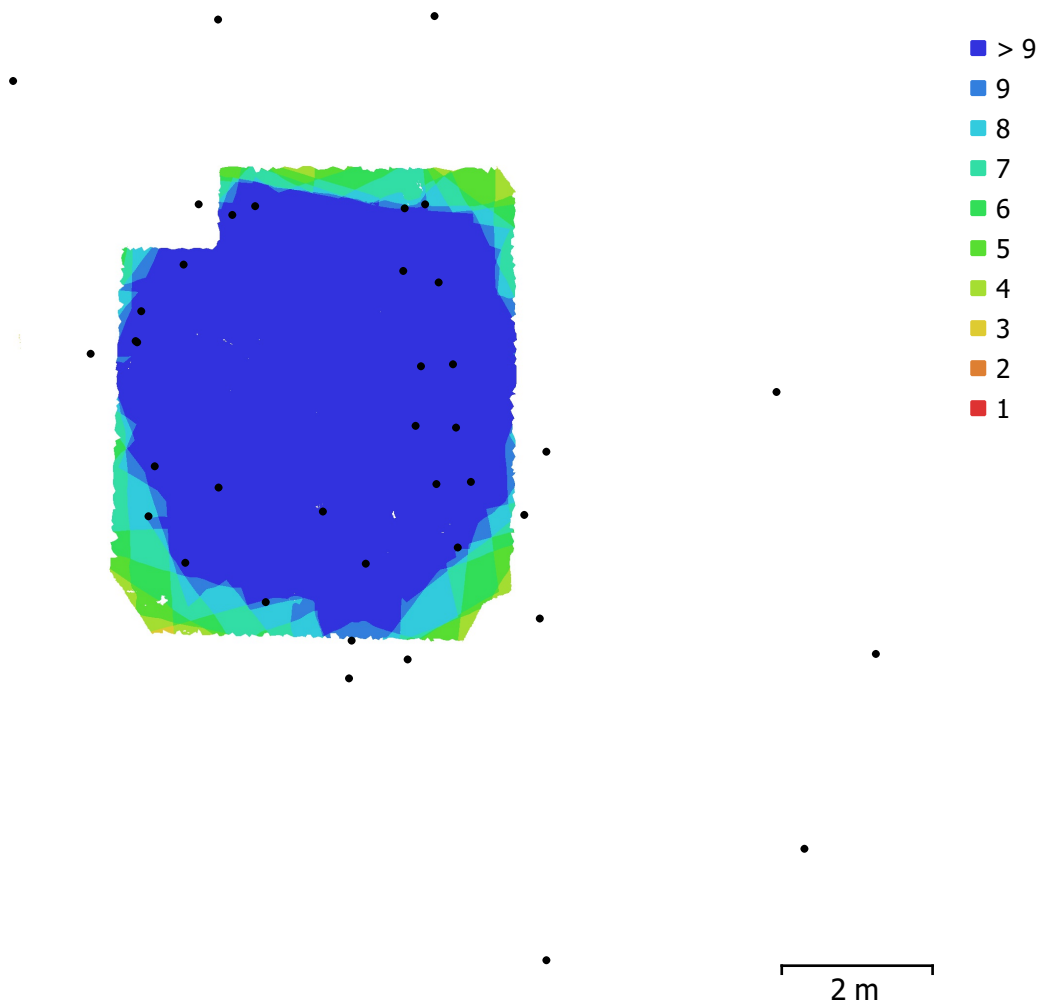


Fig. 1. Camera locations and image overlap.

Number of images:	72	Camera stations:	40
Flying altitude:	4.22 m	Tie points:	85,963
Ground resolution:	0.894 mm/pix	Projections:	182,837
Coverage area:	30.7 m ²	Reprojection error:	0.193 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
NIKON D80 (35 mm)	3872 x 2592	35 mm	6.25 x 6.25 μ m	No
NIKON D80 (18 mm)	3872 x 2592	18 mm	6.19 x 6.19 μ m	No

Table 1. Cameras.

Camera Calibration

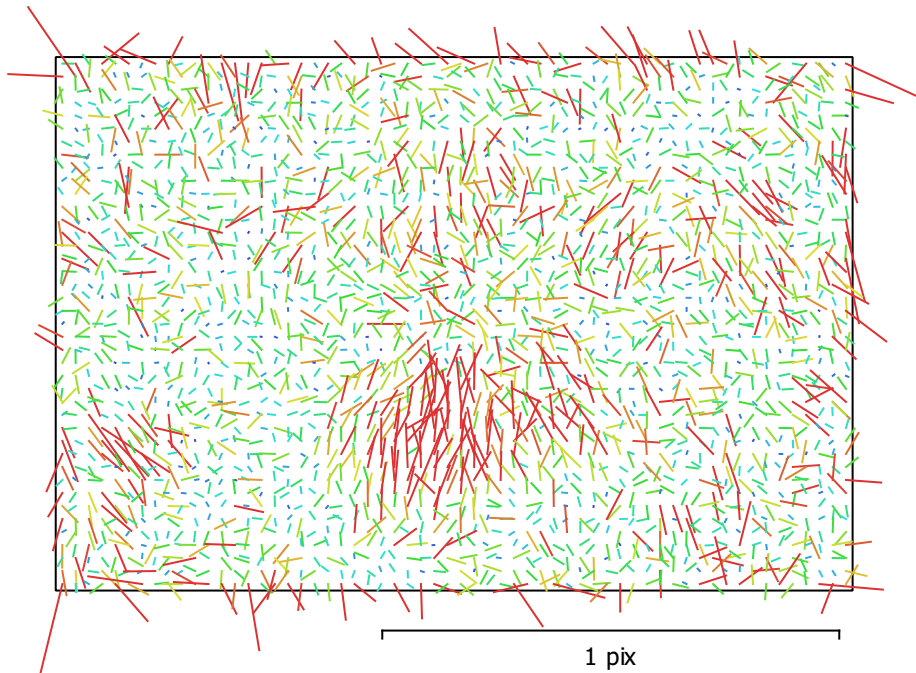


Fig. 2. Image residuals for NIKON D80 (35 mm).

NIKON D80 (35 mm)

18 images

Type	Resolution	Focal Length	Pixel Size
Frame	3872 x 2592	35 mm	6.25 x 6.25 μm
F:	5778.01		
Cx:	44.7613	B1:	1.6554
Cy:	-6.68893	B2:	1.82541
K1:	-0.00491091	P1:	0.000182433
K2:	-0.215775	P2:	0.000584332
K3:	0.981508	P3:	0
K4:	0	P4:	0

Camera Calibration

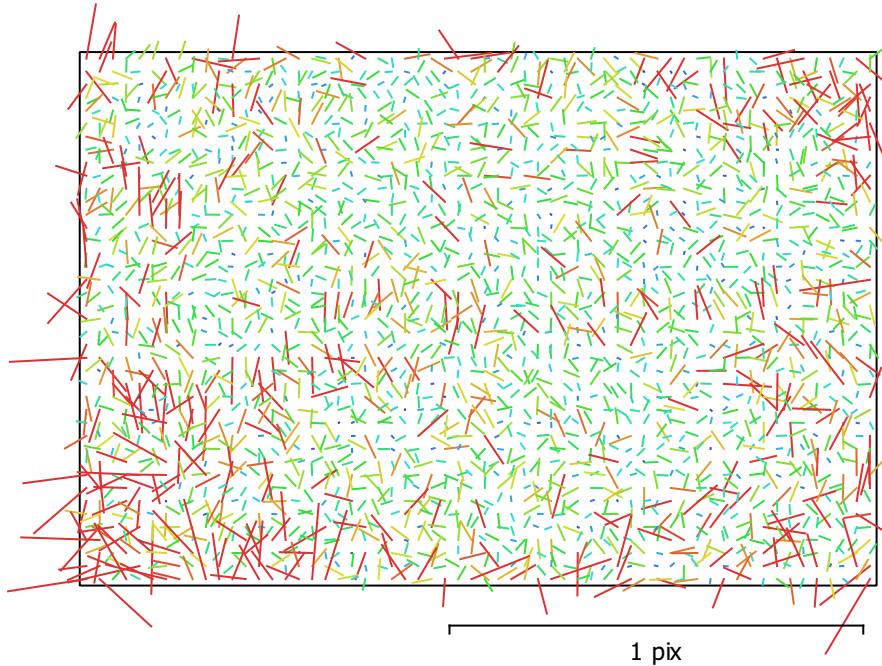


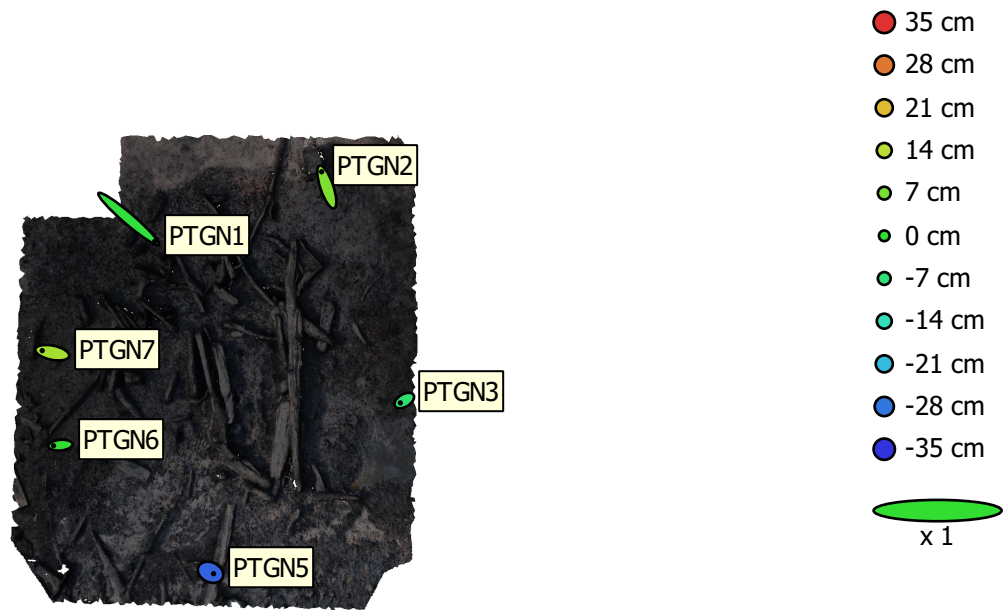
Fig. 3. Image residuals for NIKON D80 (18 mm).

NIKON D80 (18 mm)

28 images

Type	Resolution	Focal Length	Pixel Size
Frame	3872 x 2592	18 mm	6.19 x 6.19 μm
F:	3048.74		
Cx:	23.6137	B1:	1.51819
Cy:	-10.7188	B2:	1.3244
K1:	-0.0831453	P1:	-0.000226617
K2:	0.00434289	P2:	0.000177367
K3:	0.0115116	P3:	0
K4:	0	P4:	0

Ground Control Points



● Control points † Check points 2 m

Fig. 4. GCP locations and error estimates.

Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.

Estimated GCP locations are marked with a dot or crossing.

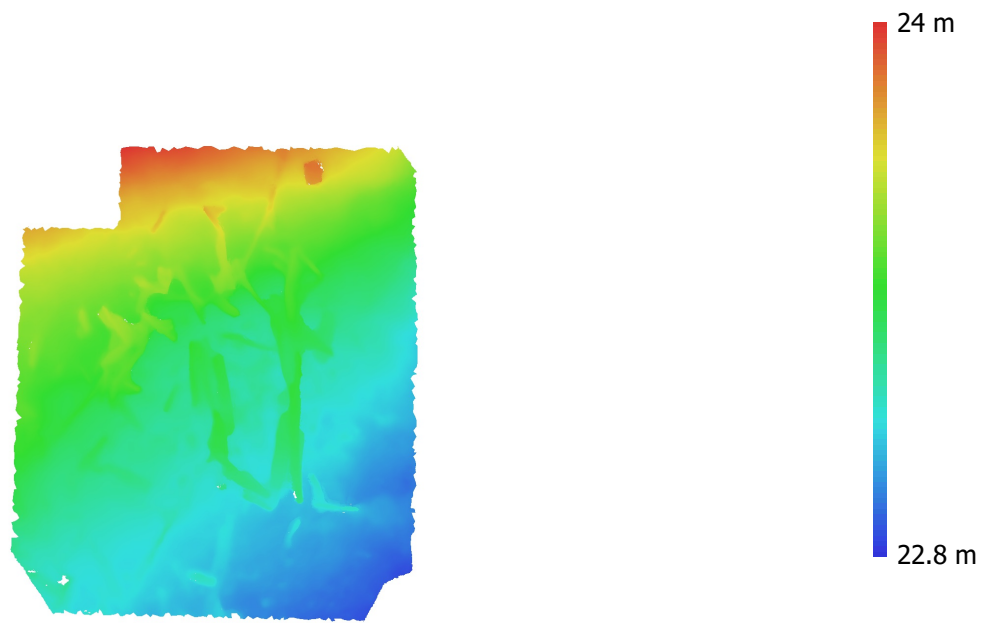
Count	X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total (cm)
6	32.0677	29.4809	13.8014	43.5599	45.694

Table 2. Control points RMSE.

Label	X error (cm)	Y error (cm)	Z error (cm)	Total (cm)	Image (pix)
PTGN1	69.0891	-59.0982	-1.0536	90.9231	0.138 (2)
PTGN2	-13.705	40.448	7.77833	43.4093	0.147 (4)
PTGN3	-10.4039	-6.31545	-6.23251	13.6737	0.000 (1)
PTGN5	8.0767	-3.78758	-30.1299	31.4228	0.000 (1)
PTGN6	-18.1966	-1.54994	0.0145004	18.2625	0.048 (2)
PTGN7	-26.5388	5.42935	11.6016	29.4683	0.120 (3)
Total	32.0677	29.4809	13.8014	45.694	0.115

Table 3. Control points.

Digital Elevation Model



2 m

Fig. 5. Reconstructed digital elevation model.

Resolution: 7.15 mm/pix
Point density: 196 points/cm²

Processing Parameters

General

Cameras	72
Aligned cameras	40
Markers	7
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	85,963 of 172,756
Point colors	3 bands, uint8
Reprojection error	0.192833 (3.27865 max)
Effective overlap	2.40622

Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	No
Key point limit	40,000
Filter points by mask	Yes
Matching time	1 minutes 59 seconds
Alignment time	16 seconds

Dense Point Cloud

Points	916,504
Point colors	3 bands, uint8

Reconstruction parameters

Quality	Low
Depth filtering	Moderate
Dense cloud generation time	6 seconds

Model

Faces	48,217
Vertices	29,490
Vertex colors	3 bands, uint8
Texture	3,000 x 3,000, 4 bands, uint8

Reconstruction parameters

Surface type	Arbitrary
Source data	Dense
Interpolation	Disabled
Quality	Low
Depth filtering	Moderate
Face count	61,334
Processing time	13 seconds

Texturing parameters

Blending mode	Min intensity
Texture size	3,000 x 3,000
Processing time	3 minutes 34 seconds

Software

Version	1.4.1 build 5925
Platform	Windows 64