

House in Shenshrah, Syria

Institute for Digital Archaeology
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Survey Data

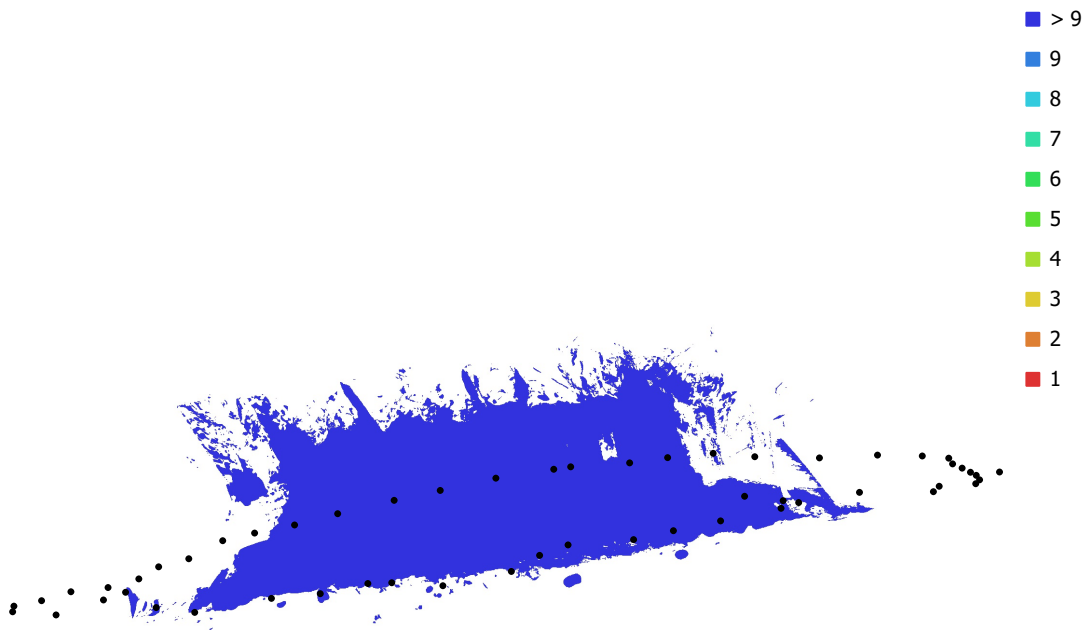


Fig. 1. Camera locations and image overlap.

Number of images: 55

Camera stations: 55

Tie points: 35,102

Projections: 150,512

Reprojection error: 0.782 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 70D (27mm)	5472 x 3648	27 mm	4.17 x 4.17 μm	No
Canon EOS 70D (29mm)	5472 x 3648	29 mm	4.17 x 4.17 μm	No
Canon EOS 70D (24mm)	5472 x 3648	24 mm	4.17 x 4.17 μm	No
Canon EOS 70D (22mm)	5472 x 3648	22 mm	4.17 x 4.17 μm	No
Canon EOS 70D (19mm)	5472 x 3648	19 mm	4.17 x 4.17 μm	No

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 70D (18mm)	5472 x 3648	18 mm	4.17 x 4.17 μm	No
Canon EOS 70D (20mm)	5472 x 3648	20 mm	4.17 x 4.17 μm	No

Table 1. Cameras.

Camera Calibration

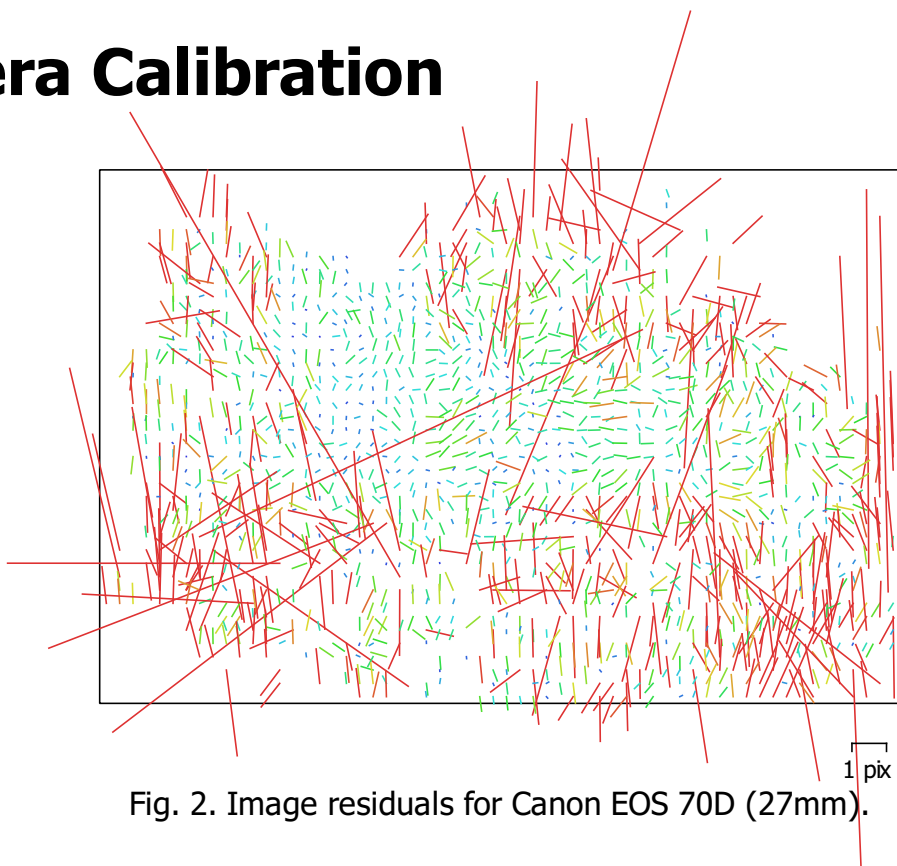


Fig. 2. Image residuals for Canon EOS 70D (27mm).

Canon EOS 70D (27mm)

9 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	27 mm	4.17 x 4.17 μm
F:	6149.9		
Cx:	0	B1:	0.066222
Cy:	0	B2:	-6.31531
K1:	-0.0236009	P1:	-0.000920677
K2:	0	P2:	-0.00148808
K3:	0	P3:	0
K4:	0	P4:	0

Camera Calibration

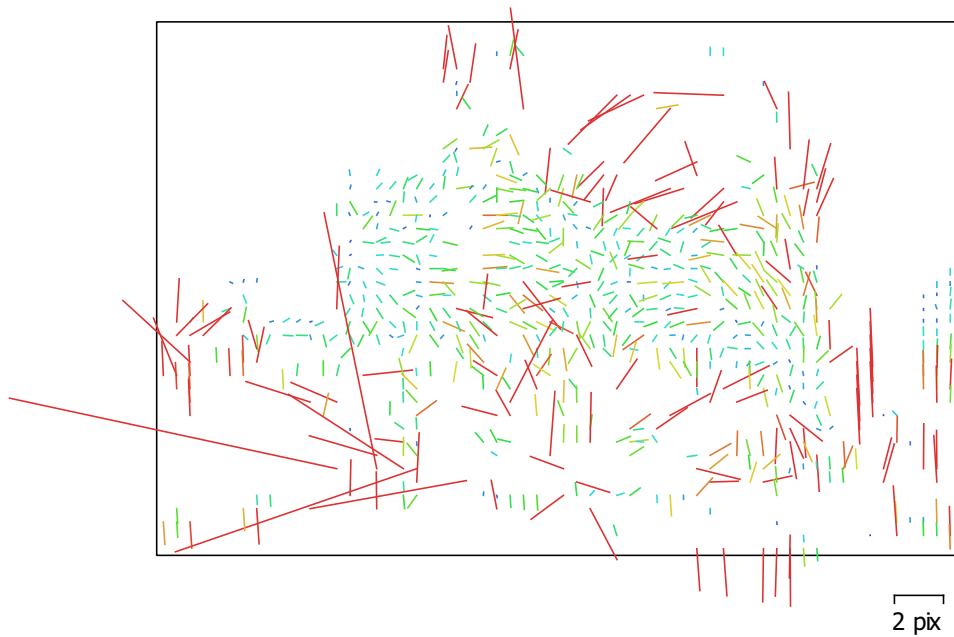


Fig. 3. Image residuals for Canon EOS 70D (29mm).

Canon EOS 70D (29mm)

1 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	29 mm	4.17 x 4.17 μm
F:	6951.39		
Cx:	0	B1:	0
Cy:	0	B2:	-4.17044
K1:	0.0348759	P1:	-0.00119738
K2:	0	P2:	-0.00337175
K3:	0	P3:	0
K4:	0	P4:	0

Camera Calibration

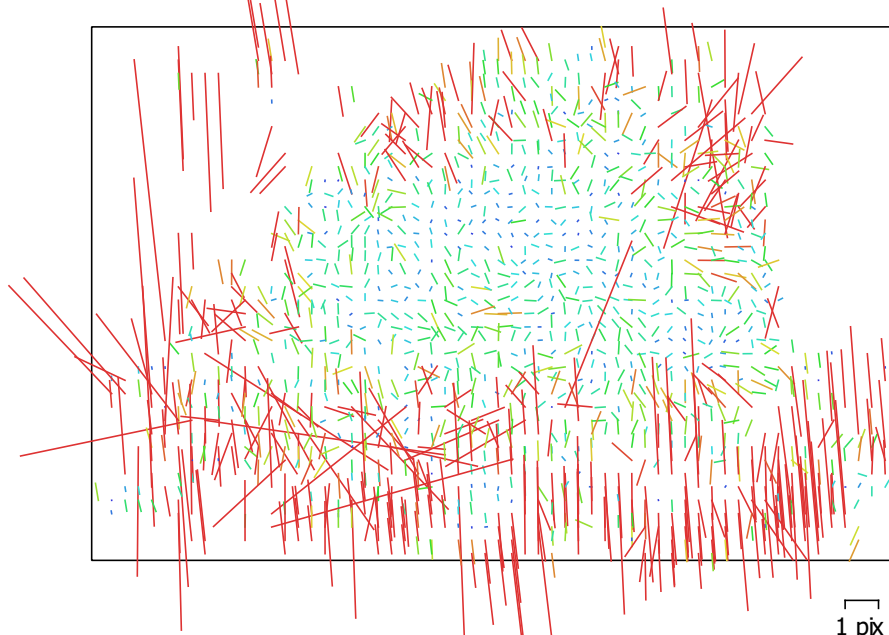


Fig. 4. Image residuals for Canon EOS 70D (24mm).

Canon EOS 70D (24mm)

6 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	24 mm	4.17 x 4.17 μm
F:	5753.48		
Cx:	0	B1:	1.15095
Cy:	0	B2:	0
K1:	-0.0652949	P1:	-0.00110216
K2:	0	P2:	0.000893706
K3:	0	P3:	0
K4:	0	P4:	0

Camera Calibration

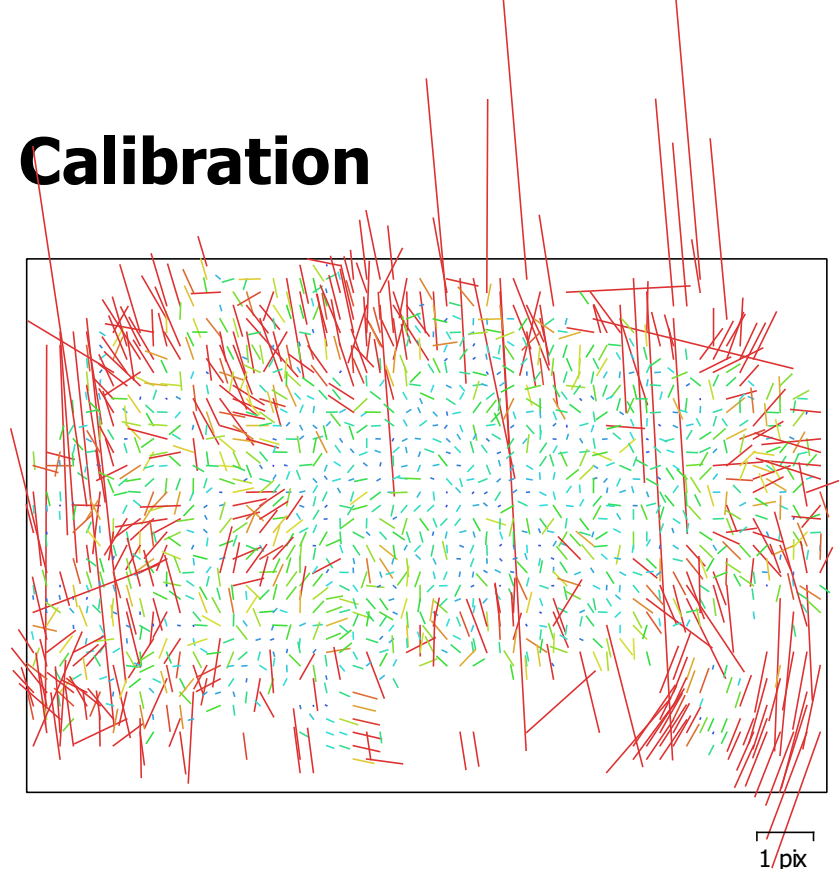


Fig. 5. Image residuals for Canon EOS 70D (22mm).

Canon EOS 70D (22mm)

7 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	22 mm	4.17 x 4.17 μm
F:	5253.31		
Cx:	0	B1:	0
Cy:	0	B2:	-9.45363
K1:	-0.122899	P1:	-0.0012367
K2:	0.196136	P2:	-0.00108166
K3:	0	P3:	0
K4:	0	P4:	0

Camera Calibration

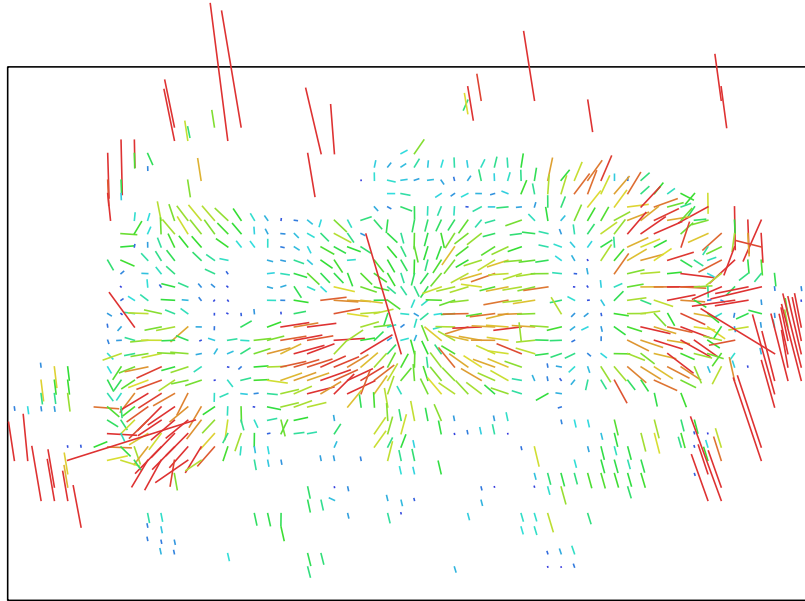


Fig. 6. Image residuals for Canon EOS 70D (19mm). 2 pix

Canon EOS 70D (19mm)

1 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	19 mm	4.17 x 4.17 μm
F:	4638.63		
Cx:	0	B1:	0.502205
Cy:	0	B2:	-9.15923
K1:	-0.122035	P1:	0.000180894
K2:	0	P2:	-0.000839454
K3:	0	P3:	0
K4:	0	P4:	0

Camera Calibration

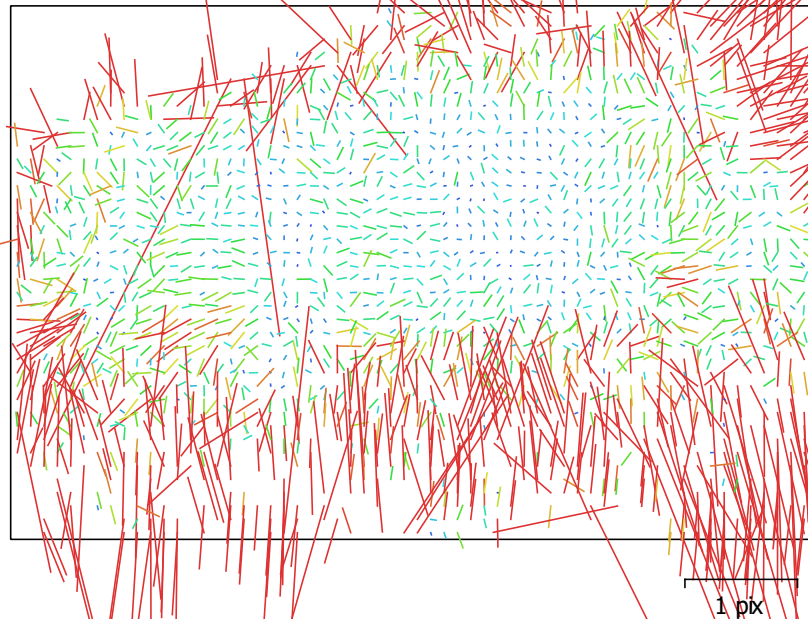


Fig. 7. Image residuals for Canon EOS 70D (18mm).

Canon EOS 70D (18mm)

30 images

Type	Resolution	Focal Length	Pixel Size
Frame	5472 x 3648	18 mm	4.17 x 4.17 μm
F:	4417.41		
Cx:	0	B1:	3.1663
Cy:	0	B2:	-8.53526
K1:	-0.184789	P1:	0.000126973
K2:	0.152323	P2:	-0.00177999
K3:	0	P3:	0
K4:	0	P4:	0

Camera Calibration

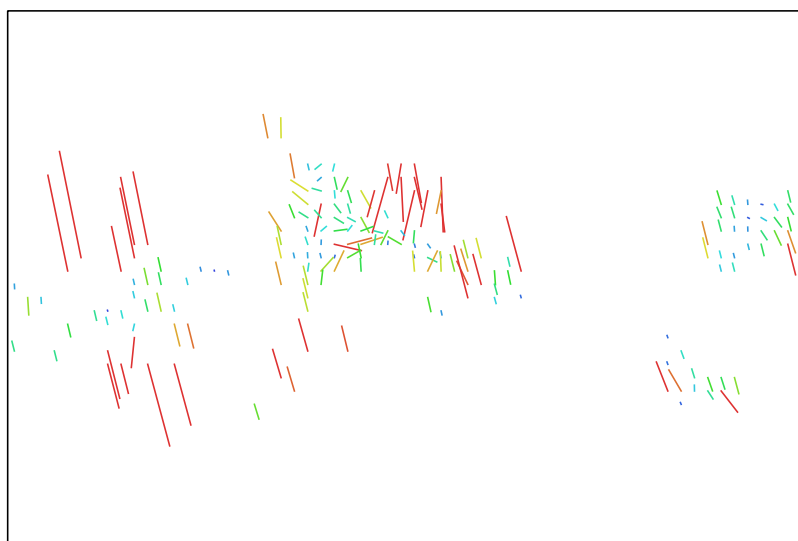


Fig. 8. Image residuals for Canon EOS 70D (20mm). 2 pix

Canon EOS 70D (20mm)

1 images

Type
Frame

Resolution
5472 x 3648

Focal Length
20 mm

Pixel Size
4.17 x 4.17 μm

	Value	Error	F	P1	P2
F	4654.02	0.82	1.00	0.11	0.23
P1	-0.0131757	0.00012		1.00	-0.39
P2	0.00652899	0.0001			1.00

Table 2. Calibration coefficients and correlation matrix.

Digital Elevation Model

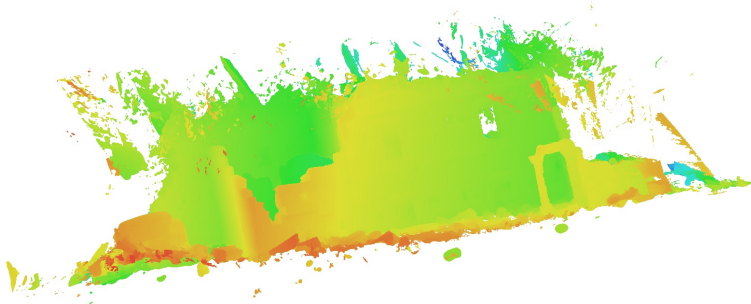


Fig. 9. Reconstructed digital elevation model.

Processing Parameters

General

Cameras	55
Aligned cameras	55

Point Cloud

Points	35,102 of 49,928
RMS reprojection error	0.18833 (0.782326 pix)
Max reprojection error	0.658734 (22.1933 pix)
Mean key point size	3.44342 pix
Point colors	3 bands, uint8
Key points	Yes
Average tie point multiplicity	4.37915

Alignment parameters

Accuracy	High
Generic preselection	No
Key point limit	40,000
Tie point limit	4,000
Adaptive camera model fitting	Yes
Matching time	22 minutes 10 seconds
Alignment time	1 minutes 28 seconds

Depth Maps

Count	55
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Reconstruction parameters

Quality	High
Filtering mode	Moderate
Processing time	53 minutes 38 seconds

Dense Point Cloud

Points	25,454,236
Point colors	3 bands, uint8

Reconstruction parameters

Quality	High
Depth filtering	Moderate
Depth maps generation time	53 minutes 38 seconds
Dense cloud generation time	28 minutes 48 seconds

Model

Faces	5,090,808
Vertices	2,568,875
Vertex colors	3 bands, uint8

Reconstruction parameters

Surface type	Arbitrary
Source data	Dense
Interpolation	Enabled
Quality	High
Depth filtering	Moderate
Face count	5,090,808
Processing time	4 hours 54 minutes

Software

Version	1.5.1 build 7618
Platform	Windows 64