

Shiraz DEM

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Survey Data

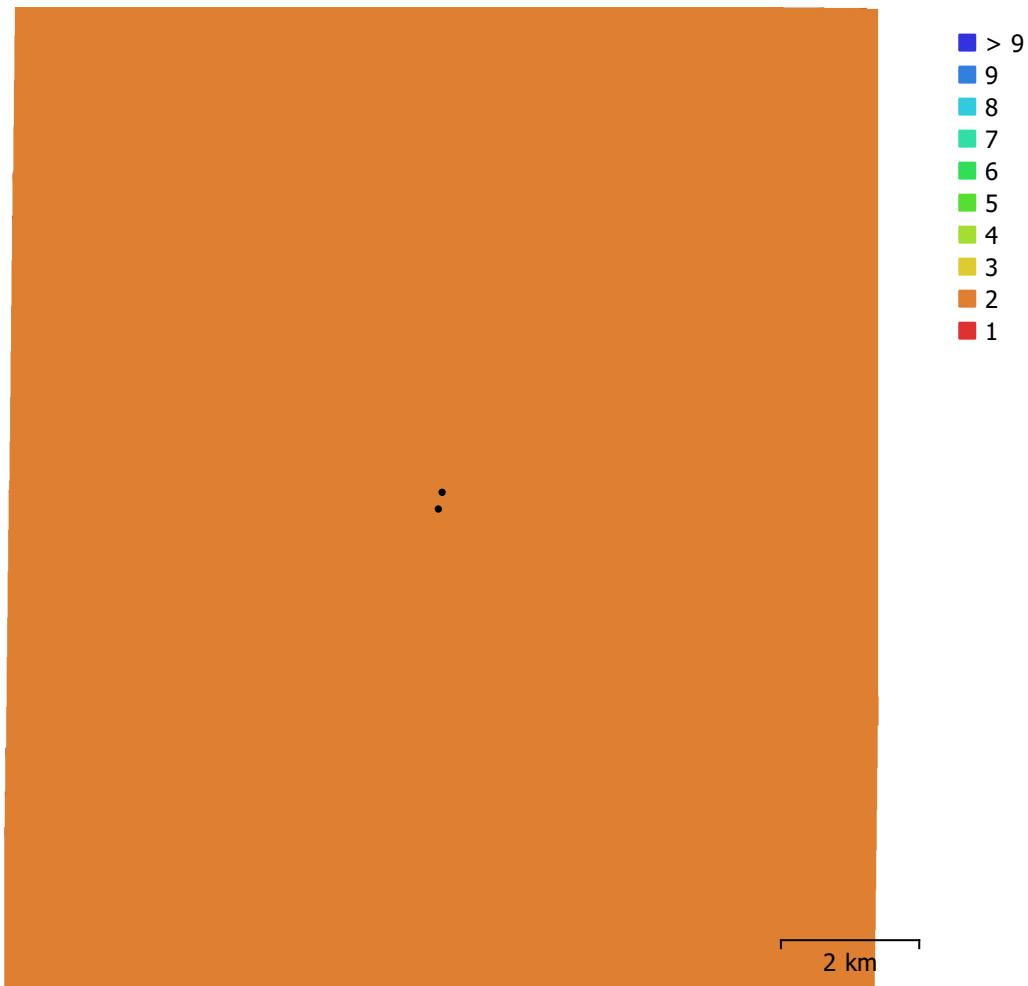


Fig. 1. Camera locations and image overlap.

Number of images:	2	Camera stations:	2
Flying altitude:	4.23 km	Tie points:	400
Ground resolution:	48 cm/pix	Projections:	800
Coverage area:	179 km ²	Reprojection error:	3.91 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
unknown	25109 x 28626	unknown	unknown	RPC

Table 1. Cameras.

Camera Locations

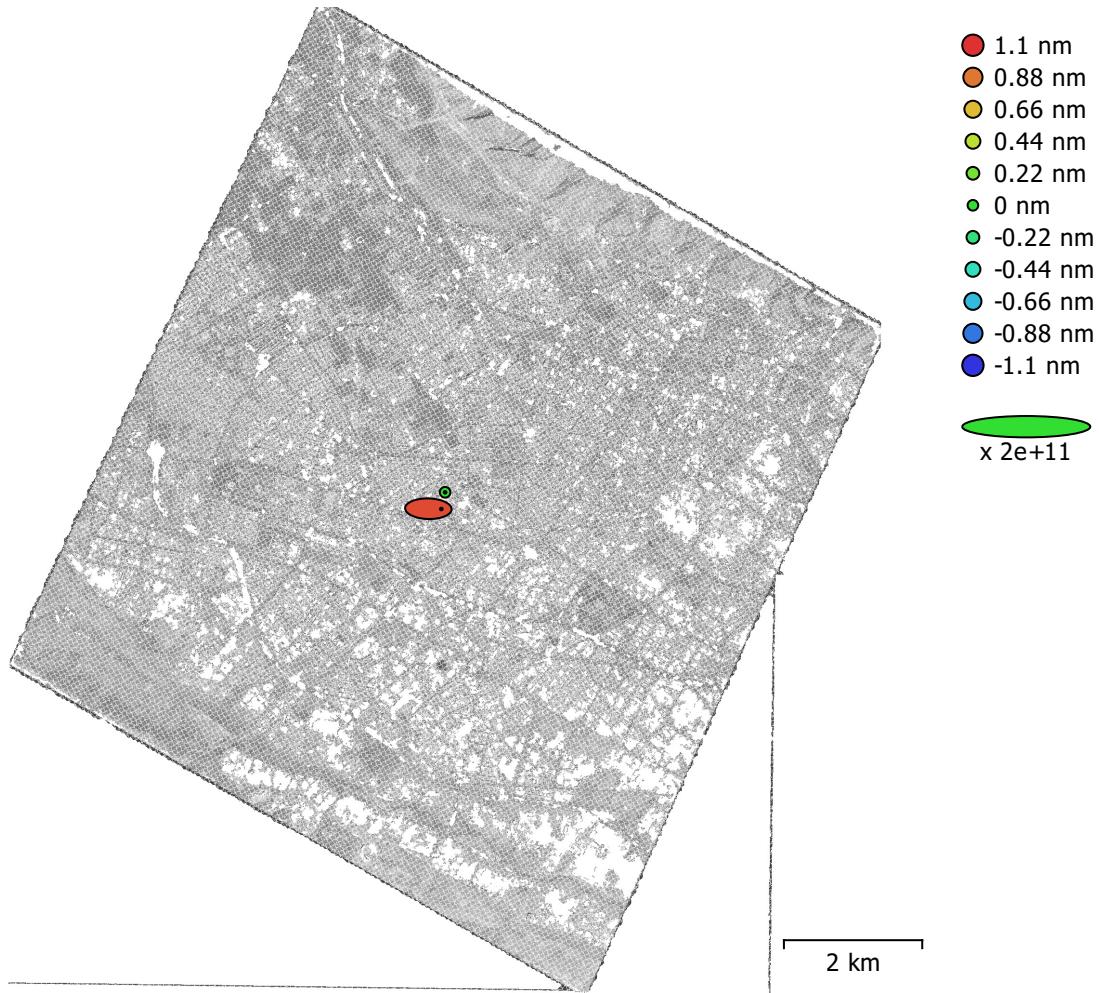


Fig. 2. Camera locations and error estimates.

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 (nm)	Y error (nm)	Z error (nm)	XY error (nm)	Total error (nm)
1.32423	0.0319578	0.722653	1.32461	1.50892

Table 2. Average camera location error.

X - Longitude, Y - Latitude, Z - Altitude.

Camera Orientations

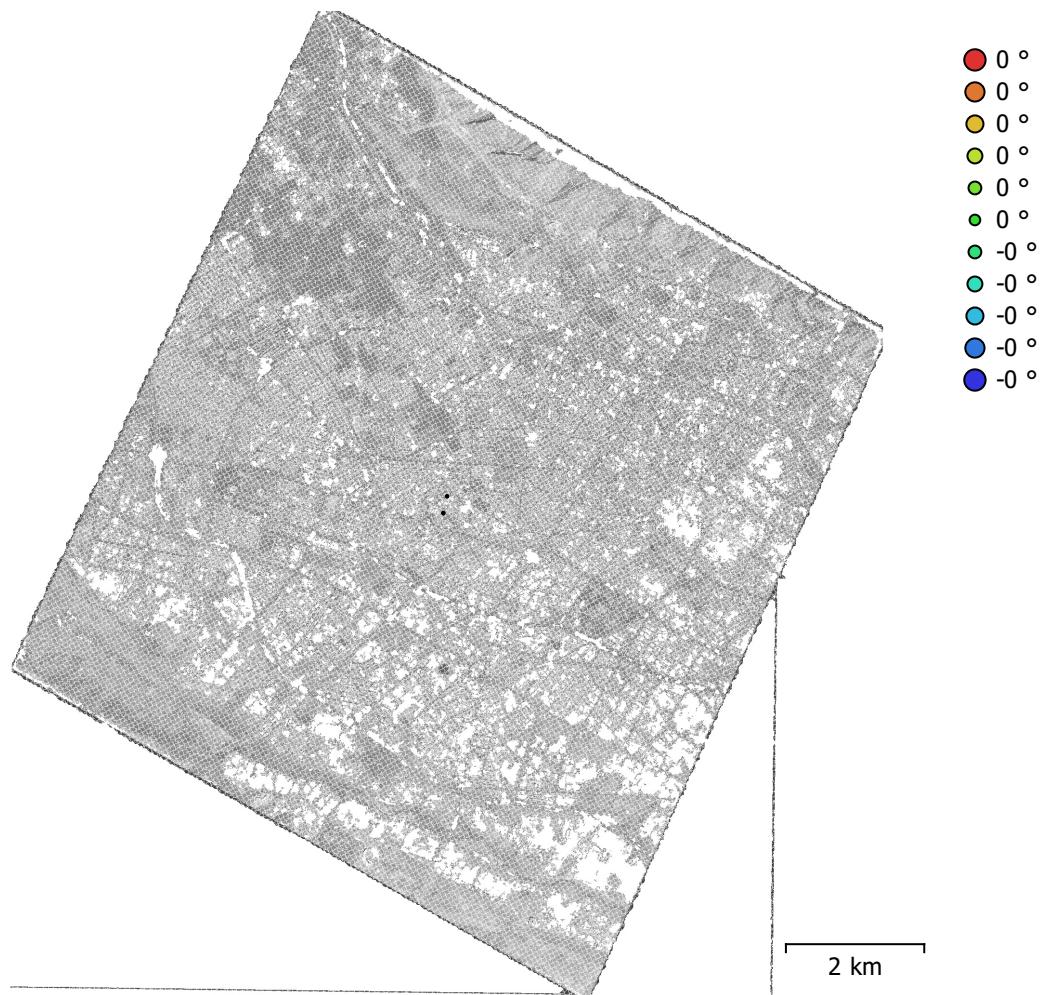


Fig. 3. Camera orientations and error estimates.

Arcs represent yaw error estimates.

Yaw error (°)	Pitch error (°)	Roll error (°)	Total error (°)
0	1.1245e-14	5.52267e-16	1.12585e-14

Table 3. Average camera rotation error.

Ground Control Points

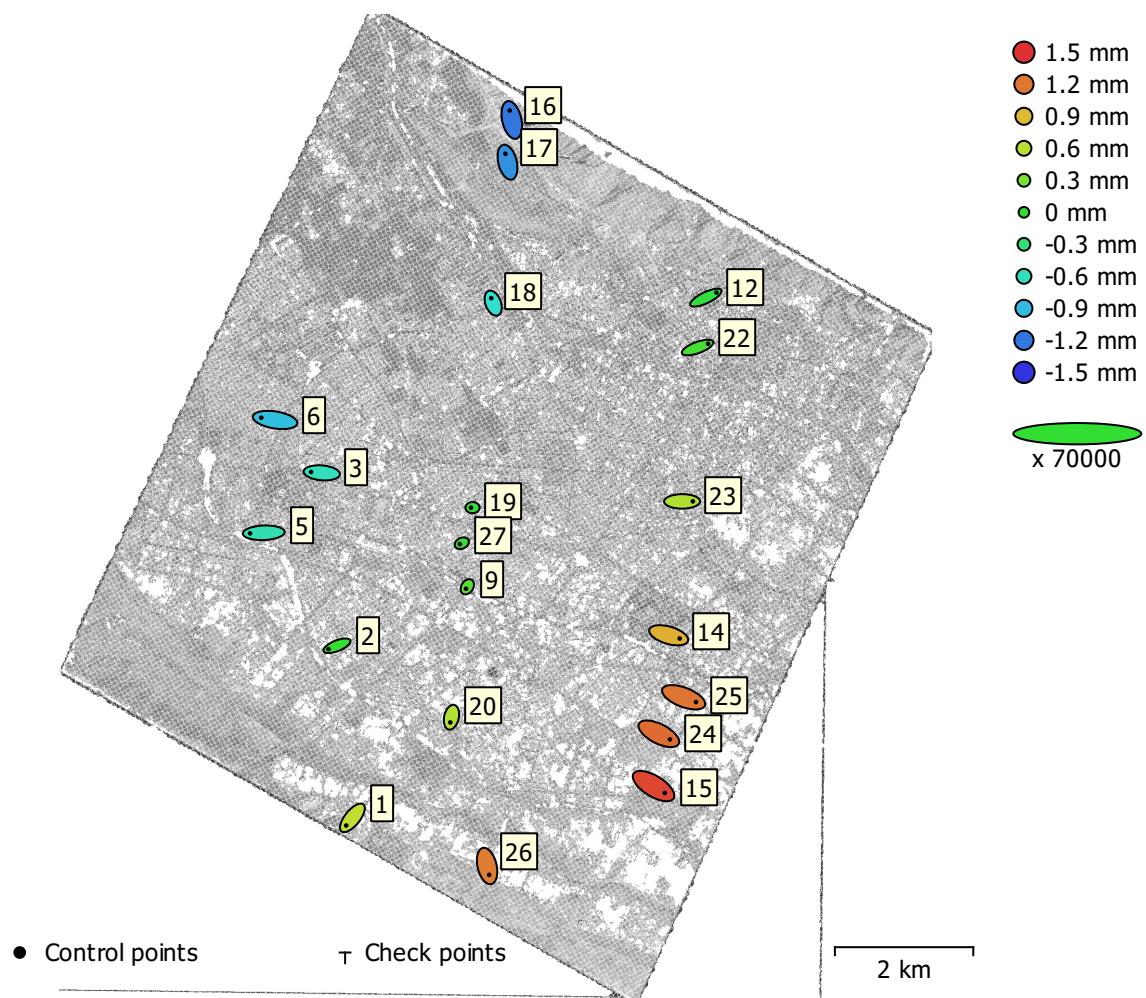


Fig. 4. GCP locations and error estimates.

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 (mm)	Y error (mm)	Z error (mm)	XY error (mm)	Total (mm)
20	3.56373	2.11192	0.803573	4.14251	4.21973

Table 4. Control points RMSE.

X - Longitude, Y - Latitude, Z - Altitude.

Label	X error (mm)	Y error (mm)	Z error (mm)	Total (mm)	Image (pix)
1	-2.55442	-3.14641	0.62987	4.10142	20.320 (1)
2	-3.4905	-1.39063	0.00964071	3.75733	18.860 (1)
3	-4.41572	0.367266	-0.598599	4.47122	22.253 (1)
5	-5.63352	-0.233484	-0.552253	5.66534	28.315 (1)
6	-5.71985	0.910828	-0.889759	5.85986	29.088 (1)
9	-0.514392	-0.809942	0.17429	0.975184	4.810 (1)
12	4.36201	2.08356	-0.05567	4.83441	24.261 (1)
14	4.53955	-1.33768	0.949891	4.82692	23.767 (1)
15	4.65118	-2.86279	1.41349	5.64155	27.420 (1)
16	-0.892912	3.89415	-1.20412	4.17272	20.020 (1)
17	-0.881035	3.48061	-1.08804	3.75163	17.994 (1)
18	-0.791147	2.06273	-0.680514	2.31169	11.075 (1)
19	-0.635517	-0.011633	-0.0708347	0.639558	3.192 (1)
20	-0.479836	-2.13249	0.565241	2.25771	10.952 (1)
22	4.3206	1.57957	0.0815625	4.60101	23.093 (1)
23	4.43593	0.0202563	0.542352	4.46901	22.278 (1)
24	4.61149	-2.33294	1.25153	5.31741	25.950 (1)
25	5.09903	-1.96738	1.20756	5.59722	27.446 (1)
26	0.868636	-3.65256	1.17563	3.93419	18.817 (1)
27	-0.781536	-0.371659	0.0162499	0.865559	4.343 (1)
Total	3.56373	2.11192	0.803573	4.21973	20.793

Table 5. Control points.

X - Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

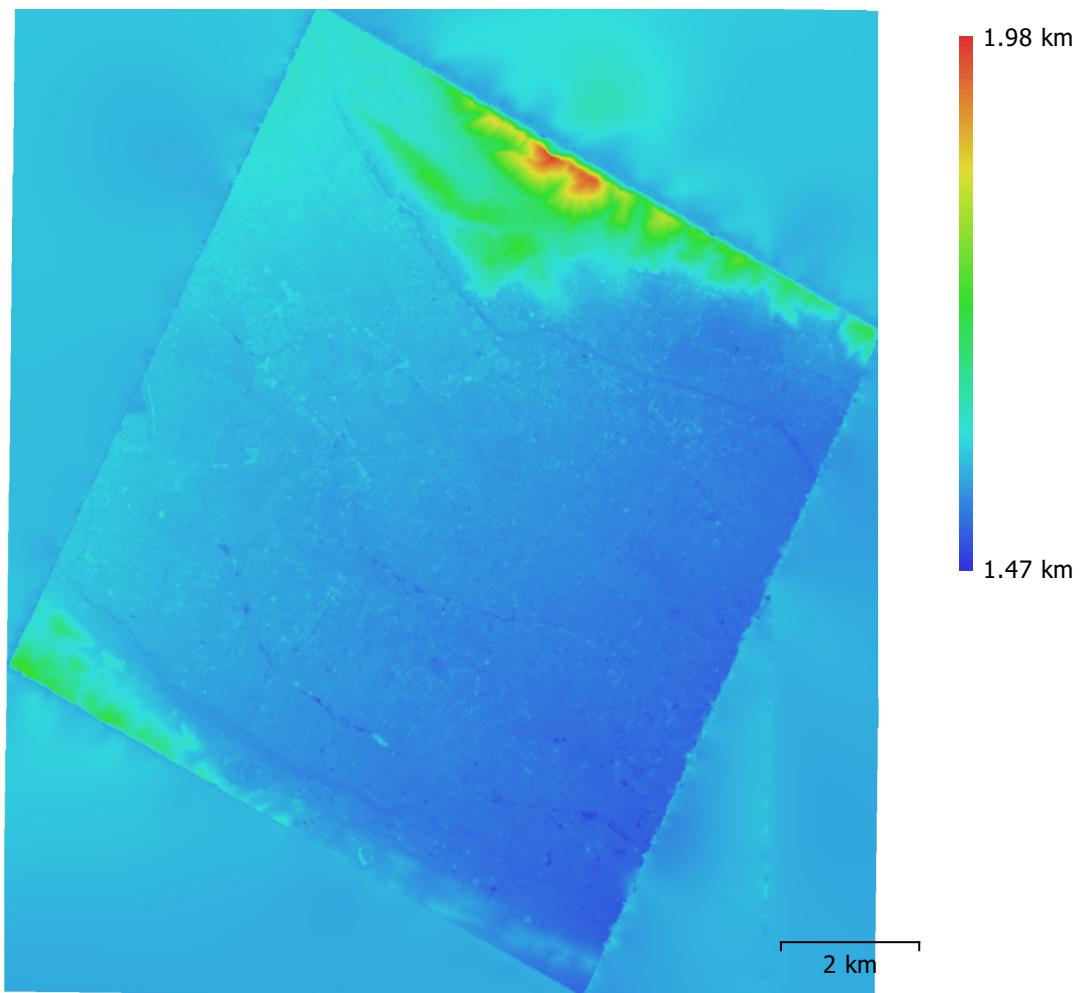


Fig. 5. Reconstructed digital elevation model.

Resolution: 7.67 m/pix

Point density: 0.017 points/m²

Processing Parameters

General

Cameras	2
Aligned cameras	2
Markers	20
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Point Cloud

Points	400 of 433
RMS reprojection error	0.156902 (3.91367 pix)
Max reprojection error	0.477371 (21.5281 pix)
Mean key point size	24.0579 pix
Point colors	1 bands, uint8
Key points	No
Average tie point multiplicity	2

Alignment parameters

Accuracy	Lowest
Generic preselection	Yes
Reference preselection	Source
Key point limit	40,000
Key point limit per Mpx	1,000
Tie point limit	4,000
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	20 seconds
Matching memory usage	3.67 GB
Alignment time	0 seconds
Alignment memory usage	40.00 KB

Optimization parameters

Parameters	f, b1, b2, cx, cy
Adaptive camera model fitting	No
Optimization time	0 seconds
Date created	2023:08:16 18:37:49
Software version	1.8.5.15709
File size	23.59 KB

Depth Maps

Count	2
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Depth maps generation parameters

Quality	Lowest
Filtering mode	Mild
Max neighbors	16
Processing time	7 minutes 24 seconds
File size	7.23 MB

Dense Point Cloud

Points	1,703,927
Point colors	1 bands, uint8

Depth maps generation parameters

Quality	Lowest
Filtering mode	Mild
Max neighbors	16
Processing time	7 minutes 24 seconds
Dense cloud generation parameters	
Processing time	18 seconds
Date created	2023:08:16 18:54:07
Software version	1.8.5.15709
File size	18.14 MB
DEM	
Size	1,645 x 1,868
Coordinate system	WGS 84 (EPSG::4326)
Reconstruction parameters	
Source data	Dense cloud
Interpolation	Enabled
Processing time	3 seconds
Memory usage	63.95 MB
Date created	2023:08:16 18:55:49
Software version	1.8.5.15709
File size	11.94 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.8.5 build 15709
OS	Windows 64 bit
RAM	7.88 GB
CPU	Intel(R) Core(TM) i5-3230M CPU @ 2.60GHz
GPU(s)	None