

Parque Baroffio

Reporte de procesamiento

08 August 2024



Survey Data

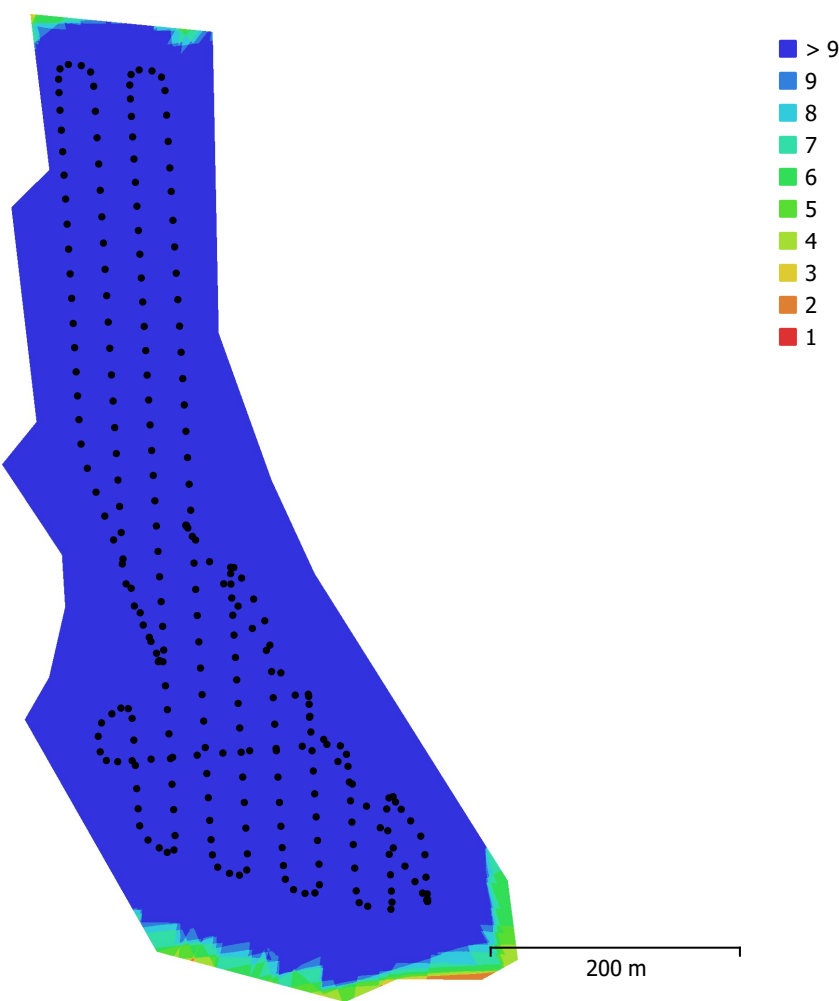


Fig. 1. Camera locations and image overlap.

Number of images:	253	Camera stations:	253
Flying altitude:	106 m	Tie points:	108,411
Ground resolution:	2.82 cm/pix	Projections:	848,061
Coverage area:	0.165 km ²	Reprojection error:	1.03 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
M3E (12.29mm)	5280 x 3956	12.29 mm	3.36 x 3.36 μm	Yes

Table 1. Cameras.

Camera Calibration

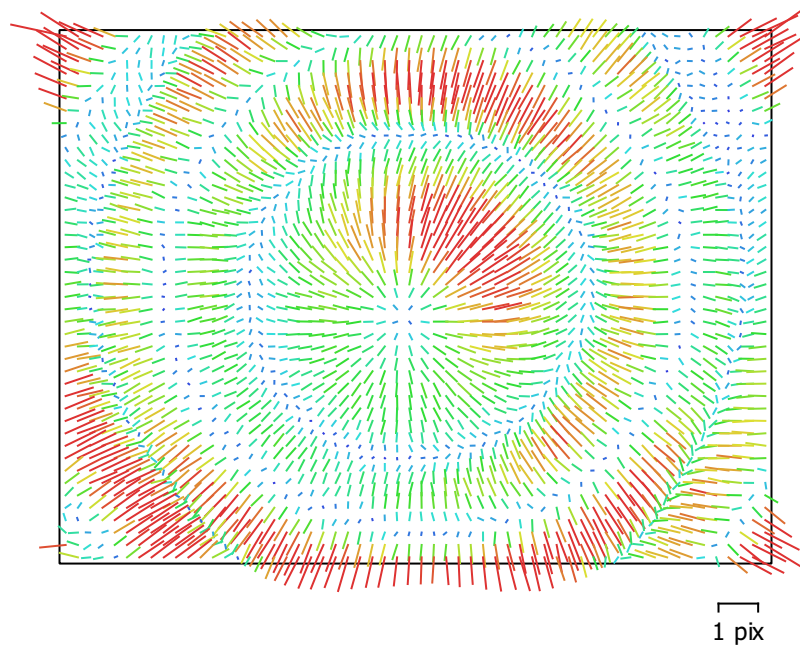


Fig. 2. Image residuals for M3E (12.29mm).

M3E (12.29mm)

253 images, precalibrated

Type	Resolution	Focal Length	Pixel Size
Frame	5280 x 3956	12.29 mm	3.36 x 3.36 μm

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	3708.52	0.028	1.00	-0.04	-0.05	-0.33	0.24	-0.24	0.03	0.04
Cx	23.9375	0.016		1.00	0.01	-0.01	0.00	0.00	0.44	-0.00
Cy	-63.4588	0.016			1.00	-0.01	0.03	-0.04	0.01	0.19
K1	-0.106807	2e-05				1.00	-0.97	0.91	-0.01	-0.05
K2	0.00142867	5.1e-05					1.00	-0.98	0.01	0.04
K3	-0.0178883	3.8e-05						1.00	-0.00	-0.05
P1	1.96333e-05	7.8e-07							1.00	-0.01
P2	-0.000245494	7.7e-07								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

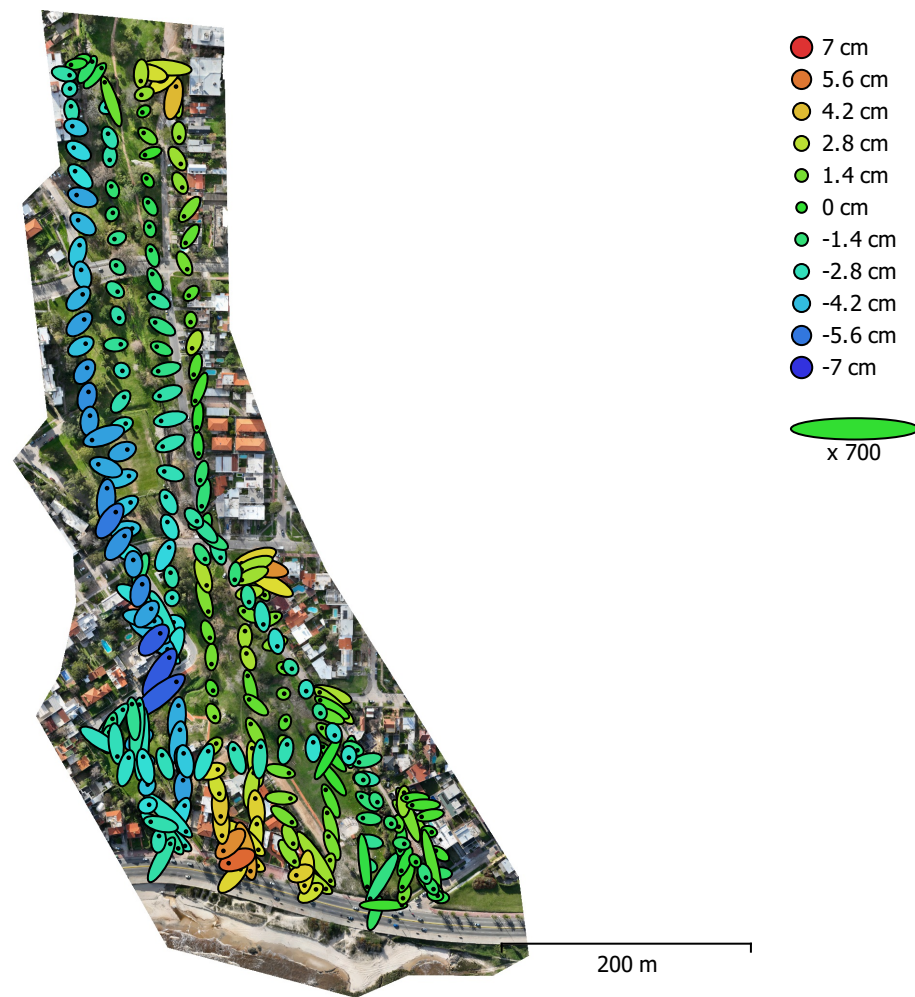


Fig. 3. Camera locations and error estimates.

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 (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total error (cm)
1.44773	1.89758	2.75283	2.38678	3.64346

Table 3. Average camera location error.

X - Easting, Y - Northing, Z - Altitude.

Ground Control Points

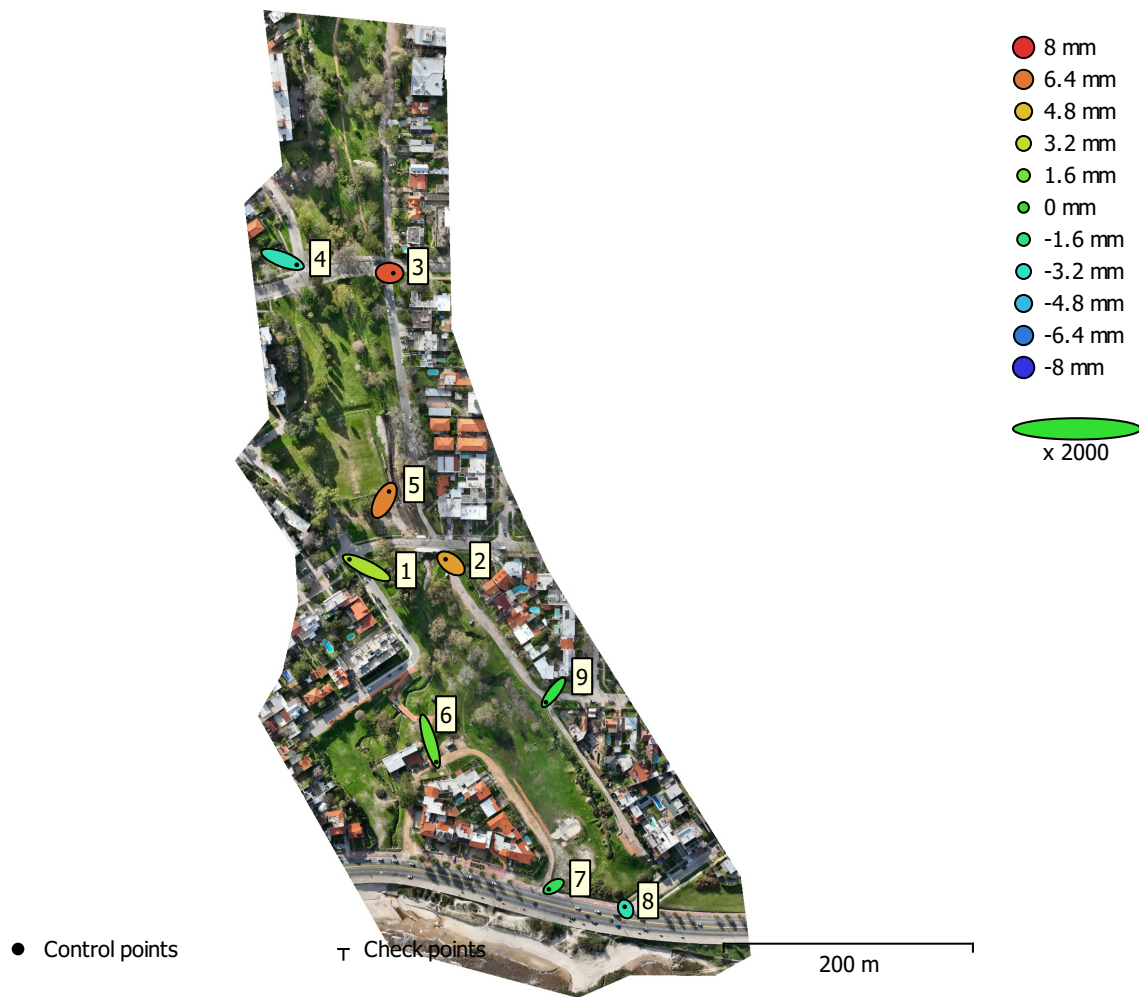


Fig. 4. GCP locations and error estimates.

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 (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total (cm)
9	0.699061	0.728254	0.404815	1.00947	1.08762

Table 4. Control points RMSE.

X - Easting, Y - Northing, Z - Altitude.

Label	X error (cm)	Y error (cm)	Z error (cm)	Total (cm)	Image (pix)
1	-1.37334	0.67979	0.275695	1.55698	0.755 (28)
2	-0.437823	0.33167	0.548206	0.776031	0.707 (37)
3	0.299001	-0.0120707	0.718212	0.778059	0.933 (19)
4	1.14218	-0.43512	-0.305873	1.25995	0.632 (14)
5	0.391249	0.706315	0.611395	1.0128	0.755 (28)
6	0.504005	-1.67111	0.120165	1.74959	0.905 (49)
7	-0.376654	-0.221774	-0.087443	0.445755	0.753 (30)
8	-0.073264	0.179042	-0.302488	0.359058	0.534 (23)
9	-0.610003	-0.799289	-0.0395464	1.00625	0.753 (24)
Total	0.699061	0.728254	0.404815	1.08762	0.771

Table 5. Control points.
X - Easting, Y - Northing, Z - Altitude.

Digital Elevation Model

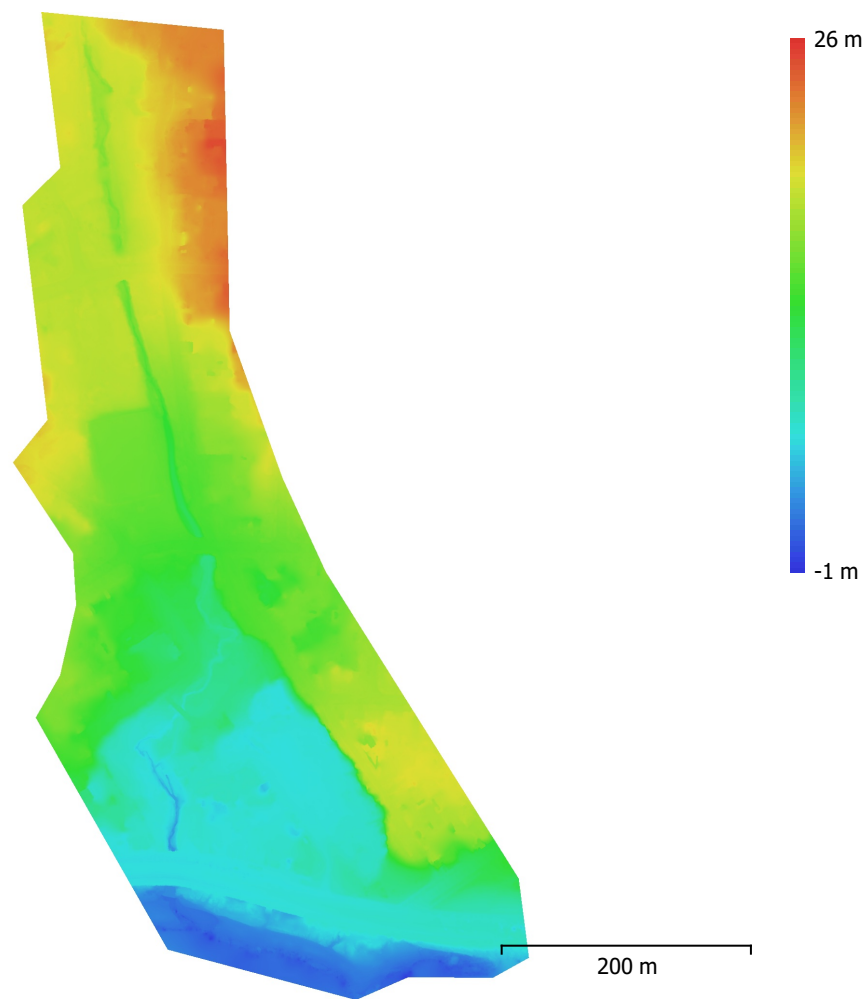


Fig. 5. Reconstructed digital elevation model.

Resolution: 5.63 cm/pix
Point density: 315 points/m²

Processing Parameters

General

Cameras	253
Aligned cameras	253
Markers	9
Shapes	
Polygon	1
Coordinate system	WGS 84 / UTM zone 21S EGM08
Rotation angles	Yaw, Pitch, Roll

Tie Points

Points	108,411 of 132,036
RMS reprojection error	0.278377 (1.02511 pix)
Max reprojection error	0.99269 (63.1469 pix)
Mean key point size	3.08305 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	8.48618

Alignment parameters

Accuracy	High
Generic preselection	No
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	Yes
Matching time	58 minutes 39 seconds
Matching memory usage	2.95 GB
Alignment time	1 minutes 45 seconds
Alignment memory usage	191.97 MB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Optimization time	2 seconds
Date created	2024:06:24 18:23:45
Software version	2.1.0.17532
File size	19.99 MB

Depth Maps

Count	253
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Depth maps generation parameters

Quality	High
Filtering mode	Aggressive
Max neighbors	16
Processing time	2 hours 56 minutes
Memory usage	6.08 GB
Date created	2024:06:25 21:02:44
Software version	2.1.0.17532
File size	1.74 GB

Point Cloud

Points	92,557,891
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Coordinate precision	1.41 cm
Point attributes	
Color	3 bands, uint8
Normal	
Confidence	1 - 58
Point classes	
Created (never classified)	53,948,803
Unclassified	35,506
Ground	38,130,482
Low Point (noise)	443,100
Depth maps generation parameters	
Quality	High
Filtering mode	Aggressive
Max neighbors	16
Processing time	2 hours 56 minutes
Memory usage	6.08 GB
Point cloud generation parameters	
Processing time	56 minutes 17 seconds
Memory usage	10.47 GB
Ground points classification parameters	
Max angle (°)	15
Max terrain slope (deg)	5
Max distance (m)	0.2
Cell size (m)	50
Classification time	11 minutes 29 seconds
Classification memory usage	3.86 GB
Date created	2024:06:27 13:04:50
Software version	2.1.0.17532
File size	1.31 GB
Model	
Faces	15,292,007
Vertices	7,648,216
Vertex colors	3 bands, uint8
Depth maps generation parameters	
Quality	High
Filtering mode	Aggressive
Max neighbors	16
Processing time	2 hours 56 minutes
Memory usage	6.08 GB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	32 minutes 36 seconds
Memory usage	13.87 GB
Date created	2024:06:25 21:34:54
Software version	2.1.0.17532
File size	328.17 MB
DEM	
Size	9,721 x 14,658
Coordinate system	WGS 84 / UTM zone 21S EGM08
Reconstruction parameters	
Source data	Point cloud
Interpolation	Enabled
Source classes	Ground

Processing time	1 minutes 1 seconds
Memory usage	283.22 MB
Date created	2024:06:28 18:02:54
Software version	2.1.0.17532
File size	429.15 MB
Orthomosaic	
Size	19,643 x 29,353
Coordinate system	WGS 84 / UTM zone 21S EGM08
Colors	3 bands, uint8
Reconstruction parameters	
Blending mode	Mosaic
Surface	DEM
Enable hole filling	Yes
Enable ghosting filter	No
Processing time	8 minutes 44 seconds
Memory usage	2.25 GB
Date created	2024:06:28 16:50:48
Software version	2.1.0.17532
File size	6.46 GB
System	
Software name	Agisoft Metashape Professional
Software version	2.1.0 build 17532
OS	Windows 64 bit
RAM	63.93 GB
CPU	Intel(R) Core(TM) i7-9700F CPU @ 3.00GHz
GPU(s)	Intel(R) FPGA Emulation Device Radeon(TM) RX 460 Graphics (Baffin)