

Acosta y Lara 27/09/2024

Reporte de procesamiento
02 October 2024



Survey Data

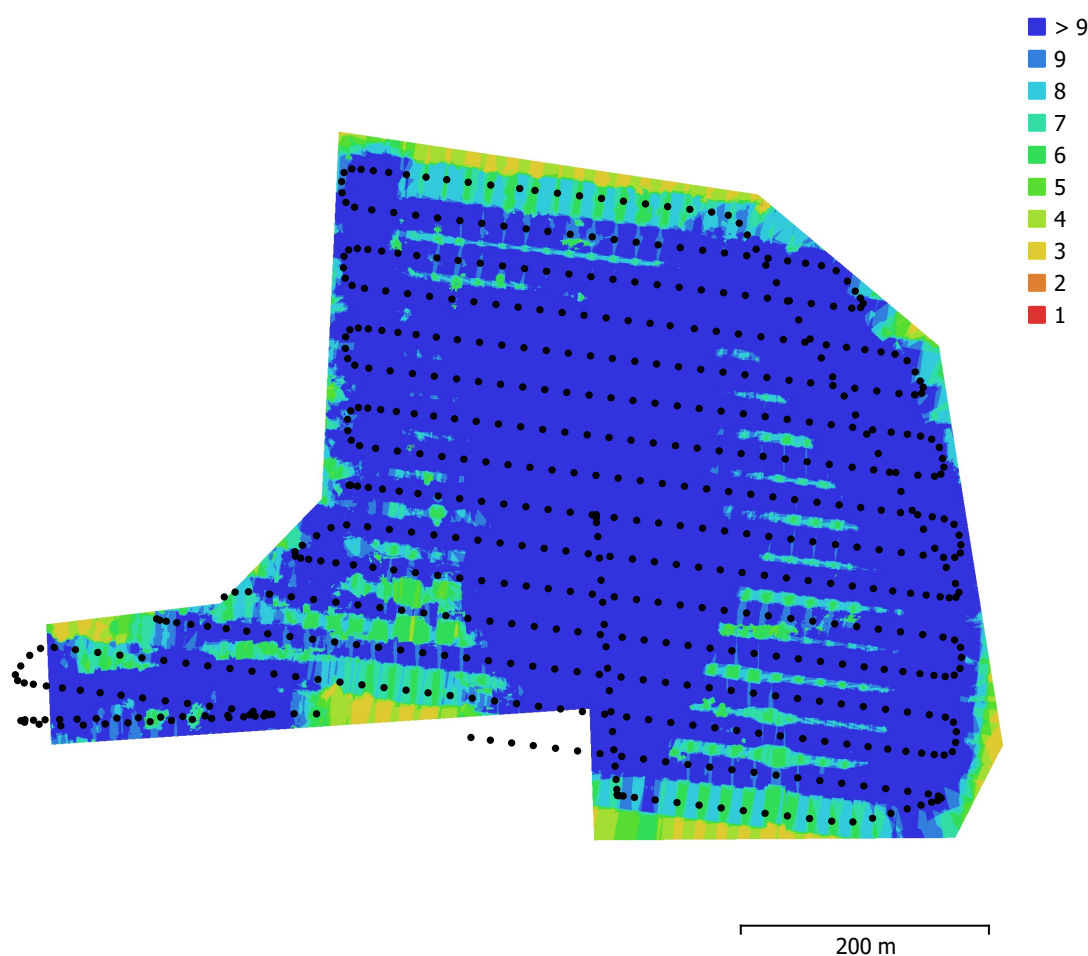


Fig. 1. Camera locations and image overlap.

Number of images:	611	Camera stations:	611
Flying altitude:	58.7 m	Tie points:	555,489
Ground resolution:	1.53 cm/pix	Projections:	2,430,257
Coverage area:	0.271 km ²	Reprojection error:	0.777 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

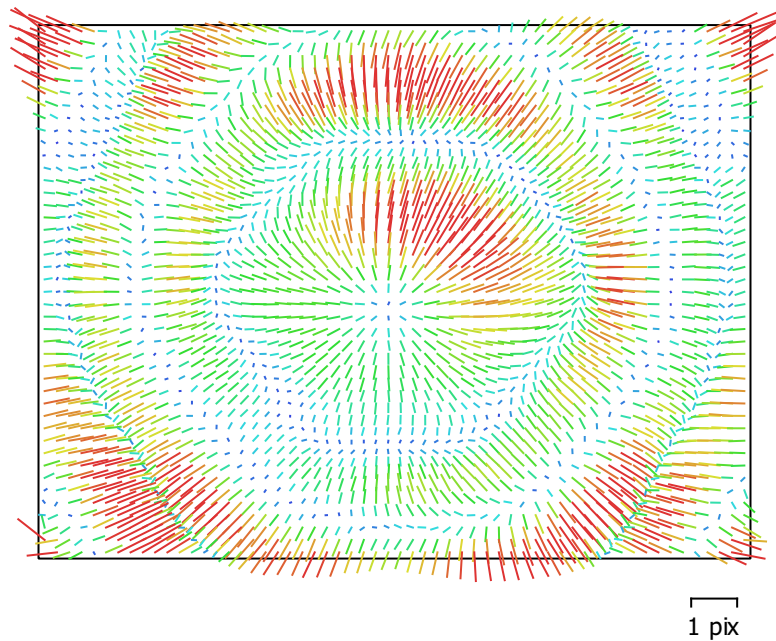


Fig. 2. Image residuals for M3E (12.29mm).

M3E (12.29mm)

611 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	3709.62	0.041	1.00	0.02	0.00	-0.28	0.10	-0.14	-0.01	0.02
Cx	23.5833	0.013		1.00	-0.02	0.01	-0.02	0.02	0.03	0.00
Cy	-62.8877	0.012			1.00	-0.02	0.03	-0.04	-0.01	0.20
K1	-0.105872	1.2e-05				1.00	-0.95	0.91	0.01	-0.04
K2	0.000599665	3.1e-05					1.00	-0.98	-0.01	0.04
K3	-0.0182073	2.4e-05						1.00	0.01	-0.05
P1	-4.42495e-06	5.9e-07							1.00	-0.02
P2	-0.000242004	6e-07								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

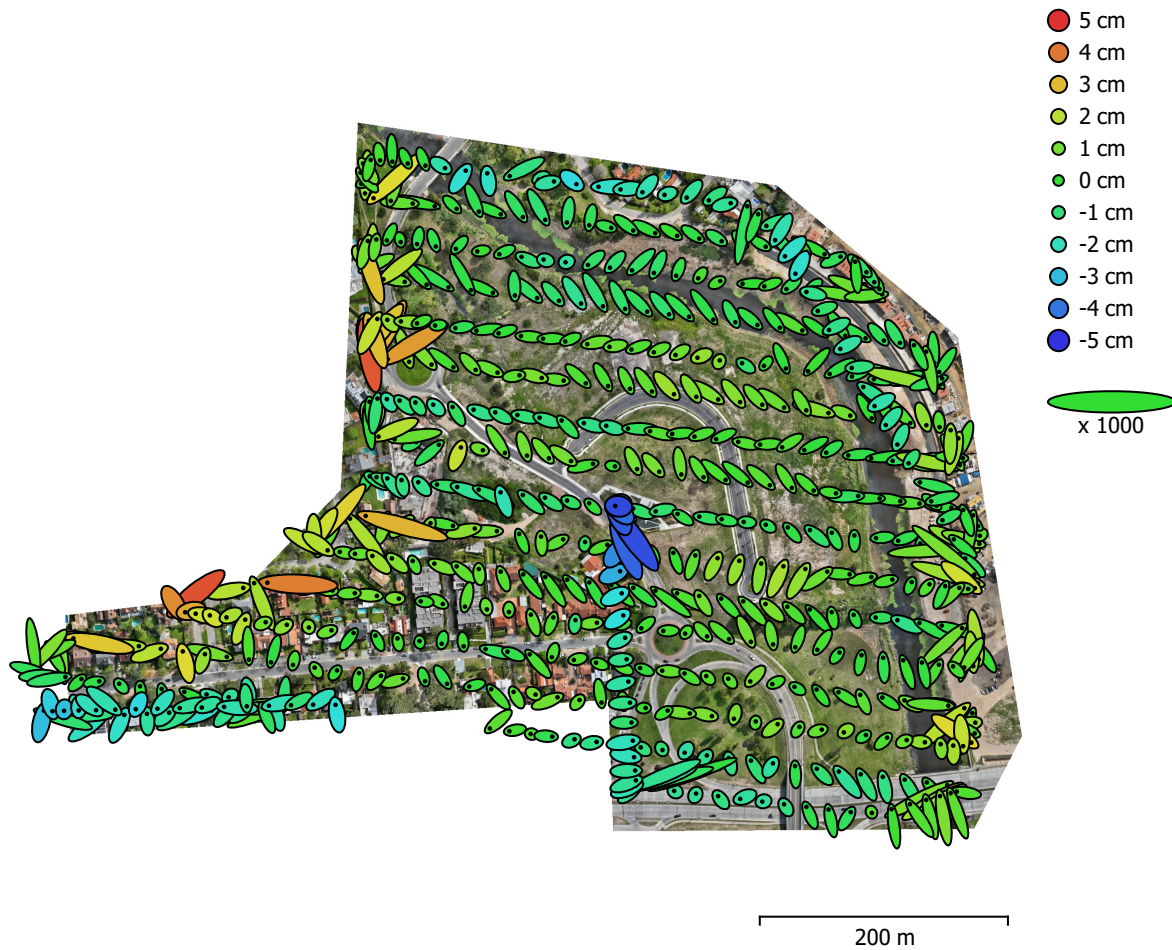


Fig. 3. Camera locations and error estimates.

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)
1.4871	1.25504	1.22403	1.94592	2.29888

Table 3. Average camera location error.

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

Digital Elevation Model

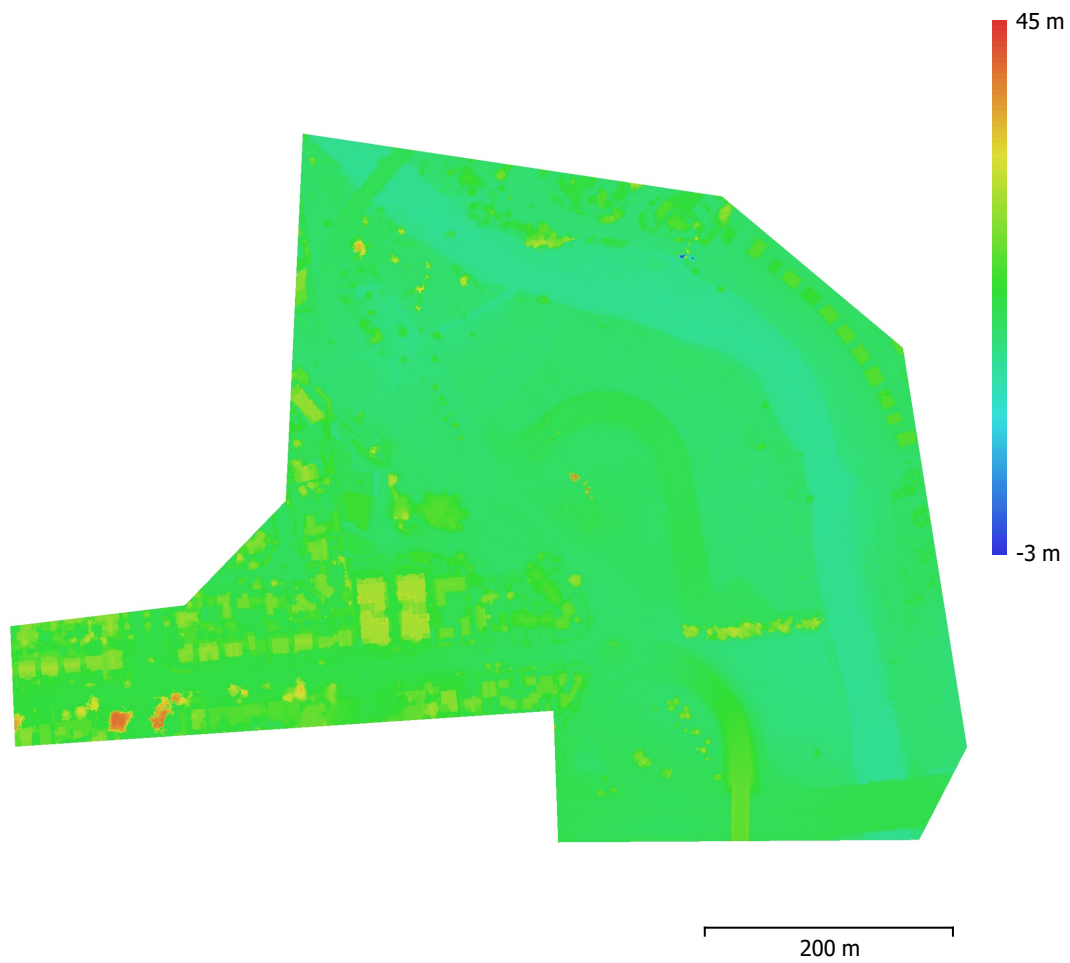


Fig. 4. Reconstructed digital elevation model.

Resolution: 3.06 cm/pix
Point density: 0.107 points/cm²

Processing Parameters

General

Cameras 611

Aligned cameras 611

Shapes

Polygon 1

Coordinate system WGS 84 / UTM zone 21S (EPSG::32721)

Coordinate system WGS 84 (EPSG::4326)

Rotation angles Yaw, Pitch, Roll

Tie Points

Points 555,489 of 590,212

RMS reprojection error 0.228869 (0.776684 pix)

Max reprojection error 0.687507 (55.0424 pix)

Mean key point size 3.10004 pix

Point colors 3 bands, uint8

Key points No

Average tie point multiplicity 4.44769

Alignment parameters

Accuracy High

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 Yes

Matching time 27 minutes 11 seconds

Matching memory usage 4.61 GB

Alignment time 4 minutes 44 seconds

Alignment memory usage 467.58 MB

Date created 2024:10:01 11:35:07

Software version 2.1.0.17532

File size 54.54 MB

Depth Maps

Count 611

Depth maps generation parameters

Quality High

Filtering mode Aggressive

Max neighbors 16

Processing time 2 hours 49 minutes

File size 4.22 GB

Point Cloud

Points 397,185,835

Coordinate precision 7.65 mm

Point attributes

Color 3 bands, uint8

Normal

Confidence 1 - 23

Point classes

Created (never classified) 397,185,835

Depth maps generation parameters	
Quality	High
Filtering mode	Aggressive
Max neighbors	16
Processing time	2 hours 49 minutes
Point cloud generation parameters	
Processing time	2 hours 42 minutes
Date created	2024:10:01 18:54:25
Software version	2.1.0.17532
File size	5.61 GB
DEM	
Size	27,737 x 20,041
Coordinate system	WGS 84 / UTM zone 21S (EPSG::32721)
Reconstruction parameters	
Source data	Point cloud
Interpolation	Enabled
Processing time	4 minutes 24 seconds
Memory usage	322.68 MB
Date created	2024:10:02 10:23:46
Software version	2.1.0.17532
File size	1.47 GB
Orthomosaic	
Size	55,474 x 40,082
Coordinate system	WGS 84 / UTM zone 21S (EPSG::32721)
Colors	3 bands, uint8
Reconstruction parameters	
Blending mode	Mosaic
Surface	DEM
Enable hole filling	Yes
Enable ghosting filter	No
Processing time	18 minutes 44 seconds
Memory usage	2.40 GB
Date created	2024:10:02 10:39:23
Software version	2.1.0.17532
File size	16.49 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)