

Agisoft Metashape

Processing Report TAMANJAYA Medium

24 January 2024



Survey Data

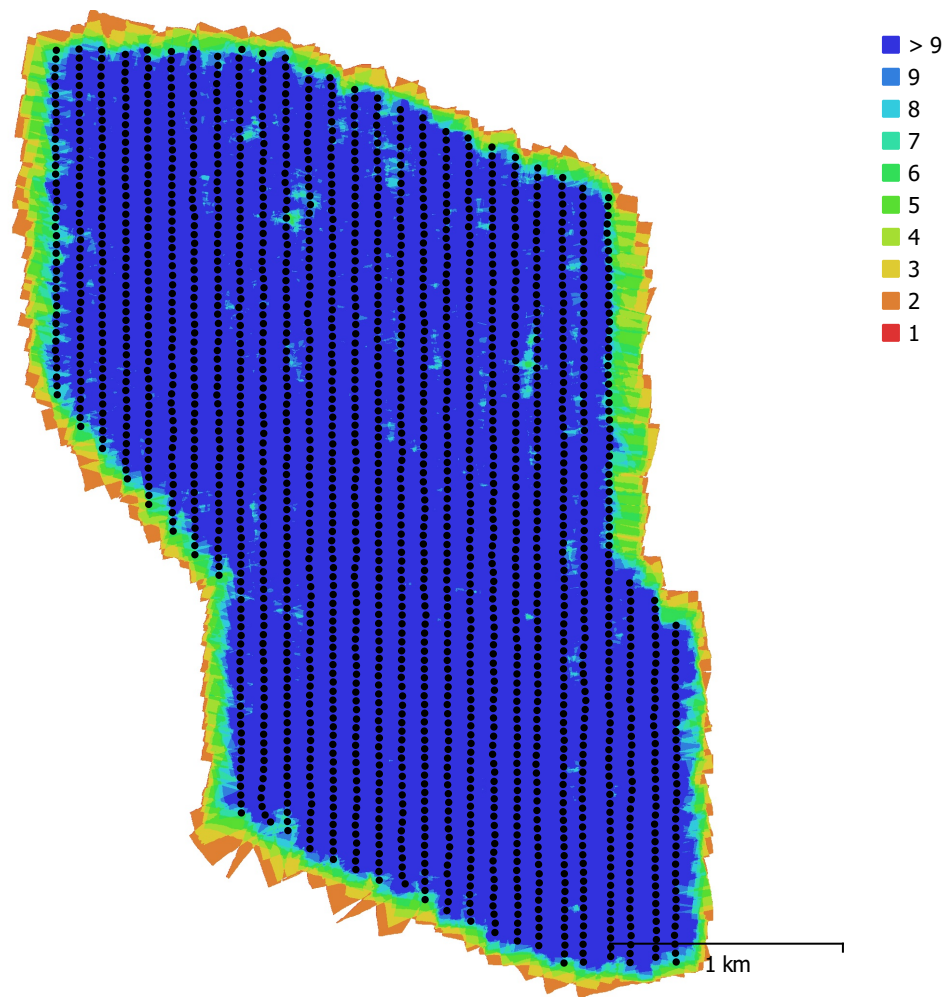


Fig. 1. Camera locations and image overlap.

Number of images:	2,017	Camera stations:	2,017
Flying altitude:	301 m	Tie points:	2,114,813
Ground resolution:	4.72 cm/pix	Projections:	7,611,051
Coverage area:	8.85 km ²	Reprojection error:	1.59 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
ILCE-5100, ----	6000 x 4000	unknown	unknown	No

Table 1. Cameras.

Camera Calibration

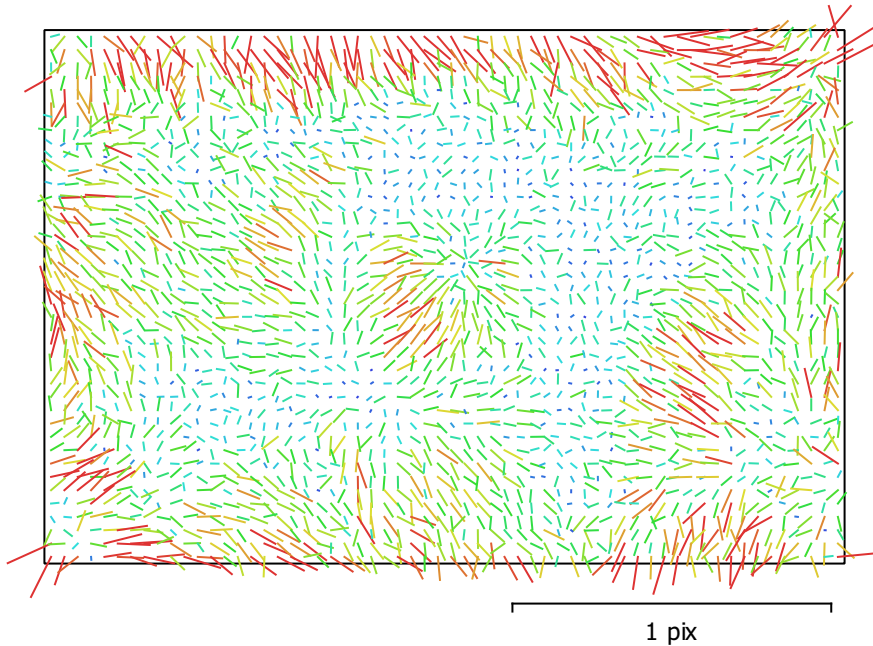


Fig. 2. Image residuals for ILCE-5100, ----.

ILCE-5100, ----

2017 images

Type	Resolution	Focal Length	Pixel Size
Frame	6000 x 4000	unknown	unknown

	Value	Error	F	Cx	Cy	B1	B2	K1	K2	K3	K4	P1	P2
F	6561.23	0.054	1.00	-0.06	0.10	-0.11	-0.03	-0.29	0.25	-0.22	0.20	0.04	-0.02
Cx	7.08362	0.035		1.00	-0.02	0.03	-0.04	0.01	-0.00	0.00	-0.00	0.89	-0.01
Cy	-57.6892	0.026			1.00	0.02	0.01	-0.01	0.01	-0.01	0.02	-0.01	0.79
B1	-1.4246	0.0081				1.00	0.00	0.02	-0.03	0.03	-0.02	0.01	0.03
B2	-0.909968	0.0084					1.00	-0.00	-0.00	0.00	-0.00	-0.05	0.01
K1	-0.134034	8.9e-05						1.00	-0.97	0.93	-0.88	0.00	-0.00
K2	0.102075	0.0011							1.00	-0.99	0.96	-0.00	0.00
K3	0.0650962	0.0056								1.00	-0.99	0.00	0.00
K4	0.2493	0.0094									1.00	-0.01	-0.00
P1	0.000806035	1.5e-06										1.00	-0.01
P2	-0.000892543	1.2e-06											1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

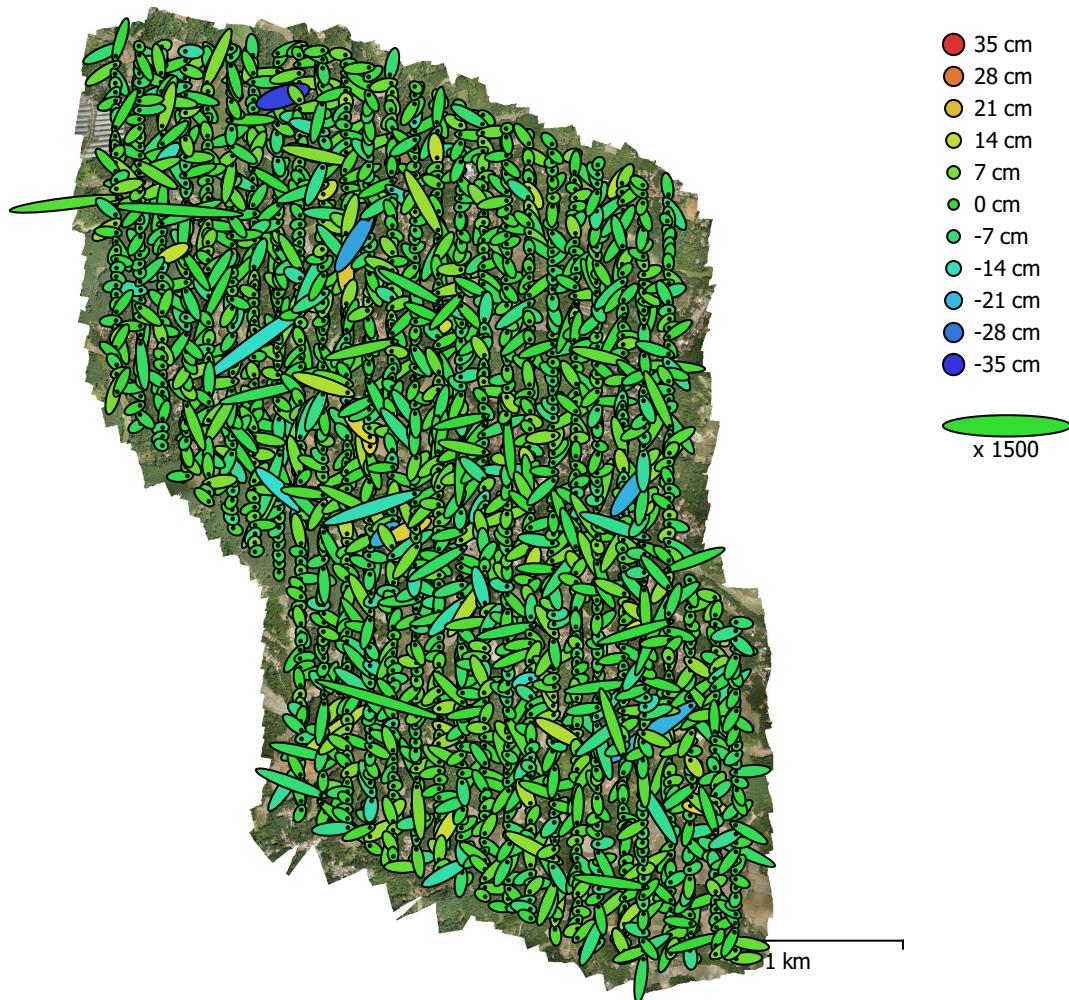


Fig. 3. Camera locations and error estimates.

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)
4.55667	4.42718	4.83863	6.3532	7.98596

Table 3. Average camera location error.

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

Digital Elevation Model

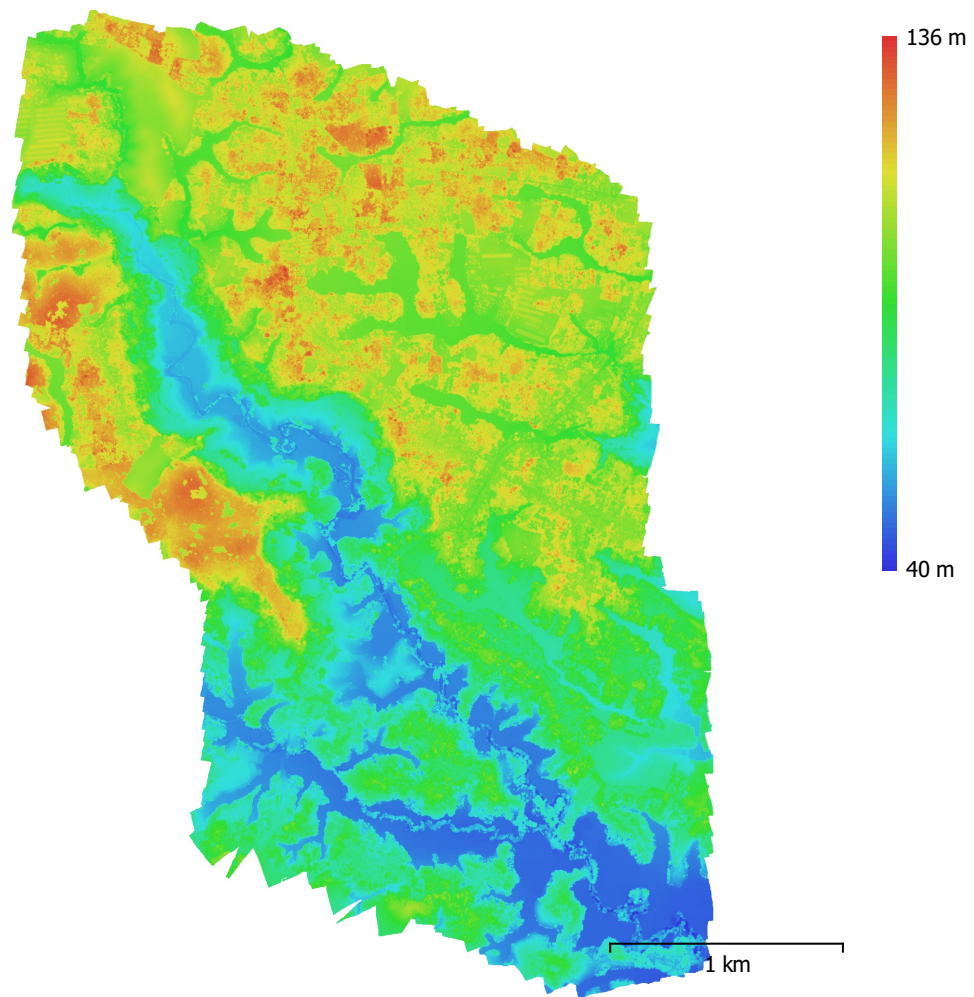


Fig. 4. Reconstructed digital elevation model.

Resolution: 18.9 cm/pix
Point density: 28.1 points/m²

Processing Parameters

General

Cameras	2017
Aligned cameras	2017
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

Tie Points

Points	2,114,813 of 2,278,105
RMS reprojection error	0.208808 (1.5908 pix)
Max reprojection error	0.821104 (69.5939 pix)
Mean key point size	6.79585 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.80847

Alignment parameters

Accuracy	Medium
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	11 minutes 42 seconds
Matching memory usage	14.21 GB
Alignment time	5 minutes 18 seconds
Alignment memory usage	1.46 GB

Optimization parameters

Parameters	f, b1, b2, cx, cy, k1-k4, p1, p2
Adaptive camera model fitting	No
Optimization time	8 seconds
Date created	2024:01:24 07:20:35
Software version	2.0.1.15925
File size	187.57 MB

Depth Maps

Count	2017
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	28 minutes 9 seconds
File size	4.46 GB

Point Cloud

Points	434,563,647
Point attributes	
Position	4.72 cm
Color	3 bands, uint8
Normal	
Point classes	
Created (never classified)	434,563,647

Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	28 minutes 9 seconds
Point cloud generation parameters	
Processing time	27 minutes 28 seconds
Date created	2024:01:24 08:34:35
Software version	2.0.1.15925
File size	5.51 GB
Model	
Faces	28,870,789
Vertices	14,445,294
Vertex colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Max neighbors	16
Processing time	28 minutes 9 seconds
Point cloud generation parameters	
Processing time	27 minutes 28 seconds
Reconstruction parameters	
Surface type	Height field
Source data	Point cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	6 minutes 41 seconds
Memory usage	8.18 GB
Date created	2024:01:24 10:37:42
Software version	2.0.1.15925
File size	660.95 MB
DEM	
Size	15,944 x 22,464
Coordinate system	WGS 84 (EPSG::4326)
Reconstruction parameters	
Source data	Point cloud
Interpolation	Enabled
Processing time	1 minutes 22 seconds
Memory usage	318.06 MB
Date created	2024:01:24 10:51:03
Software version	2.0.1.15925
File size	1.10 GB
Orthomosaic	
Size	63,776 x 89,860
Coordinate system	WGS 84 (EPSG::4326)
Colors	3 bands, uint8
Reconstruction parameters	
Blending mode	Mosaic
Surface	DEM
Enable hole filling	Yes
Enable ghosting filter	No
Processing time	26 minutes 43 seconds
Memory usage	2.20 GB
Date created	2024:01:24 11:02:51
Software version	2.0.1.15925
File size	61.38 GB

System

Software name	Agisoft Metashape Professional
Software version	2.0.1 build 15925
OS	Windows 64 bit
RAM	63.75 GB
CPU	Intel(R) Core(TM) i9-14900K
GPU(s)	NVIDIA GeForce RTX 3060